ADVANTEST®

ADVANTEST CORPORATION

R4870

Radio Communication Tester

Operation Manual

MANUAL NUMBER FOE-8440040F00

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Safety Summary

To ensure thorough understanding of all functions and to ensure efficient use of this instrument, please read the manual carefully before using. Note that Advantest bears absolutely no responsibility for the result of operations caused due to incorrect or inappropriate use of this instrument.

If the equipment is used in a manner not specified by Advantest, the protection provided by the equipment may be impaired.

- **Warning Labels**

  Warning labels are applied to Advantest products in locations where specific dangers exist. Pay careful attention to these labels during handling. Do not remove or tear these labels. If you have any questions regarding warning labels, please ask your nearest Advantest dealer. Our address and phone number are listed at the end of this manual.

  Symbols of those warning labels are shown below together with their meaning.

  DANGER: Indicates an imminently hazardous situation which will result in death or serious personal injury.

  WARNING: Indicates a potentially hazardous situation which will result in death or serious personal injury.

  CAUTION: Indicates a potentially hazardous situation which will result in personal injury or a damage to property including the product.

- **Basic Precautions**

  Please observe the following precautions to prevent fire, burn, electric shock, and personal injury.

  - Use a power cable rated for the voltage in question. Be sure however to use a power cable conforming to safety standards of your nation when using a product overseas.
  - When inserting the plug into the electrical outlet, first turn the power switch OFF and then insert the plug as far as it will go.
  - When removing the plug from the electrical outlet, first turn the power switch OFF and then pull it out by gripping the plug. Do not pull on the power cable itself. Make sure your hands are dry at this time.
  - Before turning on the power, be sure to check that the supply voltage matches the voltage requirements of the instrument.
  - Connect the power cable to a power outlet that is connected to a protected ground terminal. Grounding will be defeated if you use an extension cord which does not include a protected ground terminal.
  - Be sure to use fuses rated for the voltage in question.
  - Do not use this instrument with the case open.
  - Do not place anything on the product and do not apply excessive pressure to the product. Also, do not place flower pots or other containers containing liquid such as chemicals near this

product.

- When the product has ventilation outlets, do not stick or drop metal or easily flammable objects into the ventilation outlets.
- When using the product on a cart, fix it with belts to avoid its drop.
- When connecting the product to peripheral equipment, turn the power off.

- **Caution Symbols Used Within this Manual**

Symbols indicating items requiring caution which are used in this manual are shown below together with their meaning.

DANGER: Indicates an item where there is a danger of serious personal injury (death or serious injury).

WARNING: Indicates an item relating to personal safety or health.

CAUTION: Indicates an item relating to possible damage to the product or instrument or relating to a restriction on operation.

- **Safety Marks on the Product**

The following safety marks can be found on Advantest products.

 : ATTENTION - Refer to manual.

 : Protective ground (earth) terminal.

 : DANGER - High voltage.

 : CAUTION - Risk of electric shock.

- **Replacing Parts with Limited Life**

The following parts used in the instrument are main parts with limited life.
Replace the parts listed below before their expected lifespan has expired to maintain the performance and function of the instrument.
Note that the estimated lifespan for the parts listed below may be shortened by factors such as the environment where the instrument is stored or used, and how often the instrument is used.
The parts inside are not user-replaceable. For a part replacement, please contact the Advantest sales office for servicing.

Each product may use parts with limited life.
For more information, refer to the section in this document where the parts with limited life are described.

Main Parts with Limited Life

Part name	Life
Unit power supply	5 years
Fan motor	5 years
Electrolytic capacitor	5 years
LCD display	6 years
LCD backlight	2.5 years
Floppy disk drive	5 years
Memory backup battery	5 years

- **Hard Disk Mounted Products**

The operational warnings are listed below.

- Do not move, shock and vibrate the product while the power is turned on.
  Reading or writing data in the hard disk unit is performed with the memory disk turning at a high speed. It is a very delicate process.

- Store and operate the products under the following environmental conditions.
  An area with no sudden temperature changes.
  An area away from shock or vibrations.
  An area free from moisture, dirt, or dust.
  An area away from magnets or an instrument which generates a magnetic field.

- Make back-ups of important data.
  The data stored in the disk may become damaged if the product is mishandled. The hard disc has a limited life span which depends on the operational conditions. Note that there is no guarantee for any loss of data.

- **Precautions when Disposing of this Instrument**

When disposing of harmful substances, be sure dispose of them properly with abiding by the state-provided law.

Harmful substances: (1) PCB (polycarbon biphenyl)
(2) Mercury
(3) Ni-Cd (nickel cadmium)
(4) Other
Items possessing cyan, organic phosphorous and hexadic chromium and items which may leak cadmium or arsenic (excluding lead in solder).

Example: fluorescent tubes, batteries

Environmental Conditions

This instrument should be only be used in an area which satisfies the following conditions:

- An area free from corrosive gas
- An area away from direct sunlight
- A dust-free area
- An area free from vibrations
- Altitude of up to 2000 m

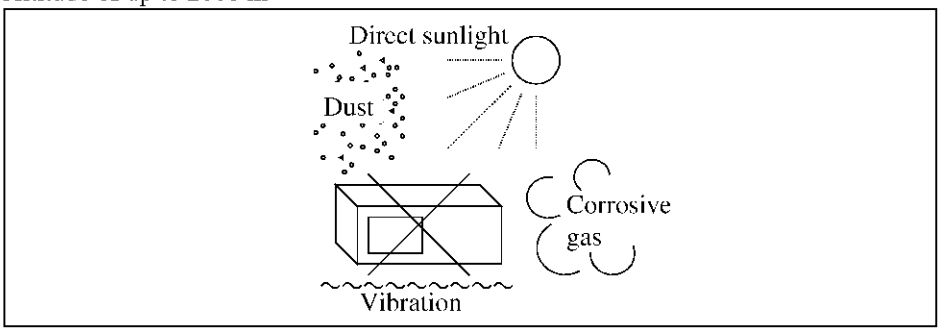


Figure-1 Environmental Conditions

- Operating position

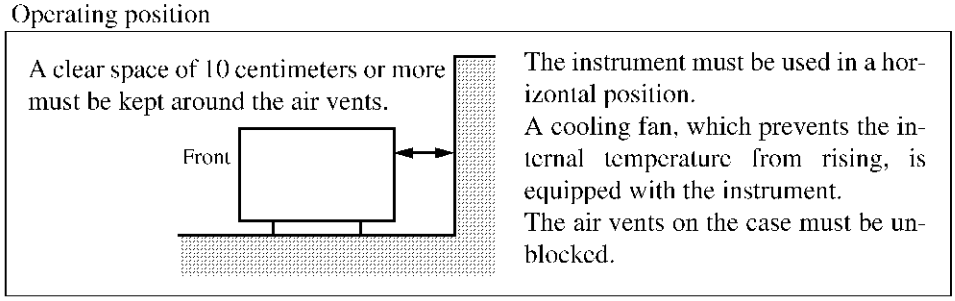


Figure-2 Operating Position

- Storage position

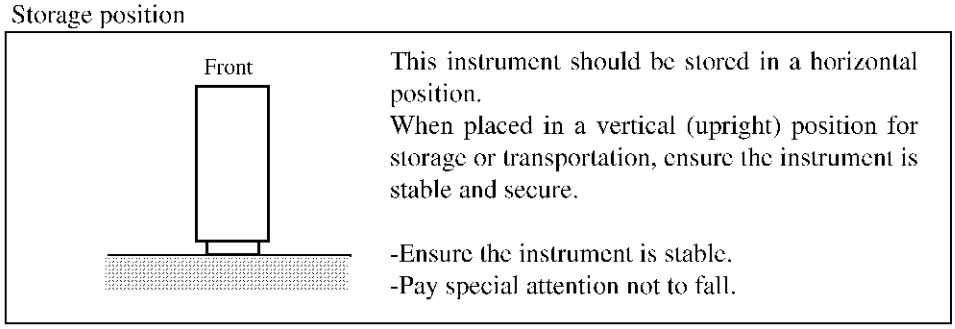


Figure-3 Storage Position

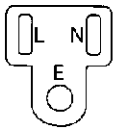
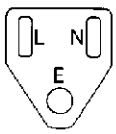
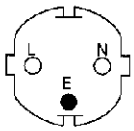
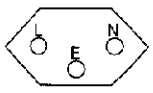
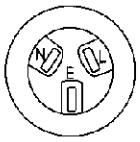
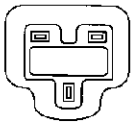
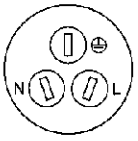
- The classification of the transient over-voltage, which exists typically in the main power supply, and the pollution degree is defined by IEC61010-1 and described below.

  Impulse withstand voltage (over-voltage) category II defined by IEC60364-4-443

  Pollution Degree 2

Types of Power Cable

Replace any references to the power cable type, according to the following table, with the appropriate power cable type for your country.

Plug configuration	Standards	Rating, color and length	Model number (Option number)
	PSE: Japan Electrical Appliance and Material Safety Law	125 V at 7 A Black 2 m (6 ft)	Straight: A01402 Angled: A01412
	UL: United States of America CSA: Canada	125 V at 7 A Black 2 m (6 ft)	Straight: A01403 (Option 95) Angled: A01413
	CEE: Europe DEMKO: Denmark NEMKO: Norway VDE: Germany KEMA: The Netherlands CEBEC: Belgium OVE: Austria FIMKO: Finland SEMKO: Sweden	250 V at 6 A Gray 2 m (6 ft)	Straight: A01404 (Option 96) Angled: A01414
	SEV: Switzerland	250 V at 6 A Gray 2 m (6 ft)	Straight: A01405 (Option 97) Angled: A01415
	SAA: Australia, New Zealand	250 V at 6 A Gray 2 m (6 ft)	Straight: A01406 (Option 98) Angled: ---------
	BS: United Kingdom	250 V at 6 A Black 2 m (6 ft)	Straight: A01407 (Option 99) Angled: A01417
	CCC:China	250 V at 10 A Black 2 m (6 ft)	Straight: A114009 (Option 94) Angled: A114109

CAUTIONS ON USING THE R4870

1. HANDLING TEST RESULTS

- Test results are displayed on the system screen.
- Test results include test data and a PASS or FAIL evaluation result.

  If the test parameter is changed in the test result display after the test is completed, the change is reflected only in the test data. In this situation, the test data does not match the PASS or FAIL evaluation result, and the test data and evaluation result become invalid.
- The test data includes errors due to the measurement accuracy described in Chapter 6, "SPECIFICATIONS." Note that errors may also occur because the R4870 is not from an authorized institution.

2. SAFETY PRECAUTIONS

The R4870 Component Analyzer has Microsoft Windows NT Embedded pre-installed.

The measuring function of the R4870 is dependent on the Windows environment. Do not alter the Windows operating environment in any way other than described in this manual.

Furthermore, the R4870 is not a data processor. Operate it only as described in this manual.

1. Non-permitted actions:
   - Installing other application programs.
   - Changing or deleting items in the control panel (except for A.4, "Network Setting").
   - Opening or operating the existing files in C drive.
   - Operating other application programs during the measurement.
   - Upgrading the Windows operating system.
   - If the R4870 does not function correctly due to any of the above, reinstall the system using the system recovery disk.

     For information on system recovery method, see section A.3, "R4870 System Recovery Procedure").
2. Computer viruses

   Depending on the operating environment and method, the system can be contaminated by a computer virus. To use the system securely, it is recommended to take the following counter measures:
   - Run a virus check before loading a file or media from an outside source.
   - Make sure that any network has safety measures against computer viruses before connecting.
   - If infected with a computer virus:

     Delete all files in the D drive. Re-install the system using the recovery disk.

     For information on system recovery method, see section A.3, "R4870 System Recovery Procedure").

3. Application software:

   When executing application programs on R4870, some operations may differ due to the Windows environment.

   The R4870 has Windows NT (English) preinstalled. Create application software programs using the same operation environment.

4. If trouble occurs and the cooling fan in the rear side of the unit stops, the alarm sounds continuously. When the alarm goes off, immediately check what is causing the fan to stop and remove the obstruction. If the fan still does not move, turn off the R4870, following the normal procedure, and contact the ADVANTEST Sales Office.

5. Trigger output:

   The trigger output function is unavailable in the R4870. The trigger timing is different depending on the measuring item.

3. Limitations Imposed when Using Windows NT

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- IMPORTANT-READ CAREFULLY:
  - ❖ You have acquired a device ("INSTRUMENT") that includes software licensed by [*ADVANTEST*] from Microsoft Licensing Inc. or its affiliates ("MS"). Those installed software products of MS origin, as well as associated media, printed materials, and "online" or electronic documentation ("SOFTWARE") are protected by international intellectual property laws and treaties. The SOFTWARE is licensed, not sold. All rights reserved.
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Certificate of Conformity

CE

This is to certify, that

Radio Communication Tester

R4870 Series

instrument, type, designation

complies with the provisions of the EMC Directive 89/336/EEC in accordance with EN61326 and Low Voltage Directive 73/23/EEC in accordance with EN61010.

ADVANTEST Corp.

Tokyo, Japan

ROHDE&SCHWARZ

Engineering and Sales GmbH
Munich, Germany

4870.01

PREFACE

This manual describes the R4870 Radio Communication Tester operations and functions.

1. This manual consists of the following chapters and sections.

Safety Summary	Safety precautions. Read before using the R4870.
CAUTIONS ON USING THE R4870	
1. INTRODUCTION	This chapter describes the R4870 operational environment and accessories, and explains how to run the system initialization check.
2. OPERATIONS	This chapter describes the front and rear panel part names, functions, and screen. System operations can be learned using the basic operations and test examples in this chapter.
3. REFERENCE	This chapter describes the listed operation menus, structures, and functions.
4. TEST METHODS	This chapter describes the test setting conditions and results.
5. REMOTE CONTROL	This chapter describes how to control the R4870 by using a remote PC.
6. SPECIFICATIONS	This chapter describes the system specifications.
APPENDIX A.1 Troubleshooting	Read if a problem occurs.
A.2 Error Messages	Error numbers and messages are listed and explained.
A.3 R4870 System Recovery Procedure	Read if necessary.
A.4 Network Setting	
A.5 Bluetooth Terminology	The Radio Communication Tester terminology used in this manual is explained.
DIMENSIONAL OUTLINE DRAWING	The dimensional outline drawing of the R4870 is described.
IMPORTANT INFORMATION FOR ADVANTEST SOFTWARE	Be sure to read before using the R4870.
LIMITED WARRANTY	
CUSTOMER SERVICE DESCRIPTION	

2. Notation rule

- The panel keys and soft keys are noted in this manual as described below.

  The panel keys include buttons and numeric keys on the front panel.
  The soft keys include menus, drop down menus, side menus, and tabs displayed on the screen.

  Panel key: example: **A1**, **POWER**

  Soft key: example: **SIG RF**, **Mode**

- A → separates successive keystrokes in key operations.

3. Trademarks

- Bluetooth and the Bluetooth logos are trademarks owned by the Bluetooth SIG, Inc.
- Windows NT is trademark or registered trademark of Microsoft Corporation.
- VisualBasic6.0 is trademark of Microsoft Corporation.
- VisualC++6.0 is trademark of Microsoft Corporation.

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LIST OF ILLUSTRATIONS

LIST OF TABLES

1. INTRODUCTION

This chapter provides the following information:

- Product Description
- Accessories
- Operating Environment
- Precautions in Use
- System Checkout
- Cleaning, Storing and Transporting the R4870
- Warm up
- Calibration
- Replacing Parts with Limited Life

1.1 Product Description

The R4870 Radio Communication Tester allows evaluations of RF performance and communication testing to be performed on IUTs (Implementation Under Test) and products which conform to Bluetooth™ SIG* Core.

The product features are listed below.

- RF main item evaluations

Transmitter evaluations	Output Power
	Modulation Characteristics
	Initial Carrier Frequency Tolerance
	Carrier Frequency Drift
Receiver evaluations	Sensitivity (single slot & multi slot packets)
	Maximum Input Level

- Communication test evaluations

  Communication test equivalent to the Blue Unit Test Cases

- Remote Loopback evaluations

1.2 Accessories

The table below lists the standard accessories shipped with the R4870. If any of the accessories are damaged or missing, contact the nearest ADVANTEST Field Office or representative. Additional accessories should be referred to by model name when ordered.

Table 1-1 Standard Accessories List

Name	Model name	Quantity	Remarks
Power cable	A01412	1	*1
Input cable	A01002	1	
Front cover	MME-100328A001A-1	1	
Touch pen	AHN-STPEN-1	1	
System Recovery Disk	WPU-DRVIMG4+RSTR	1	Floppy disk
R4870 Operation manual	ER4870	1	

* 1: The cable supplied with the R4870 depends on what type (specified by model number above) was ordered when the R4870 was purchased (see Table 1-2).

Table 1-2 Power Cable Options (1 of 2)

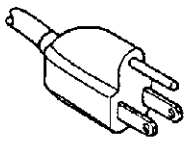
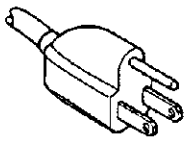
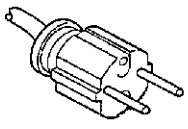
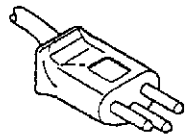
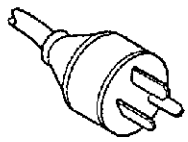
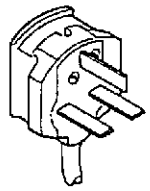
Plug configuration	Standards	Rating, color and length	Model number (Option number)
	JIS: Japan Law on Electrical Appliances	125 V at 7 A Black 2 m (6 ft)	Straight: A01402 Angled: A01412
	UL: United States of America CSA: Canada	125 V at 7 A Black 2 m (6 ft)	Straight: A01403 (Option 95) Angled: A01413
	CEE: Europe DEMKO: Denmark NEMKO: Norway VDE: Germany KEMA: The Netherlands CEBEC: Belgium OVE: Austria FIMKO: Finland SEMKO: Sweden	250 V at 6 A Gray 2 m (6 ft)	Straight: A01404 (Option 96) Angled: A01414

Table 1-2 Power Cable Options (2 of 2)

Plug configuration	Standards	Rating, color and length	Model number (Option number)
	SEV: Switzerland	250 V at 6 A Gray 2 m (6 ft)	Straight: A01405 (Option 97) Angled: A01415
	SAA: Australia, New Zealand	250 V at 6 A Gray 2 m (6 ft)	Straight: A01406 (Option 98) Angled: ---------
	BS: United Kingdom	250 V at 6 A Black 2 m (6 ft)	Straight: A01407 (Option 99) Angled: A01417

1.3 Operating Environment

This section describes the environmental conditions and power requirements necessary to use the R4870.

1.3.1 Environmental Conditions

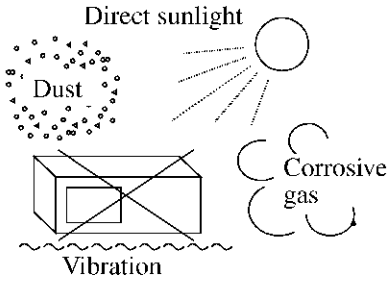
The R4870 should be only be used in an area which satisfies the following conditions:

- Ambient temperature: +5°C to +40°C (operating temperature)
- Relative humidity: 80% or less (without condensation)
- An area free from corrosive gas
- An area away from direct sunlight
- A dust-free area
- An area free from vibrations
- A low noise area

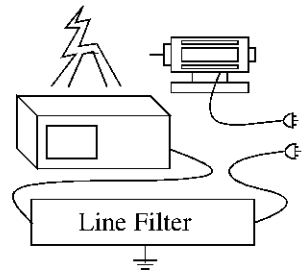
  Although the R4870 has been designed to withstand a certain amount of noise riding on the AC power line, it should be used in an area of low noise. Use a noise cut filter when ambient noise is unavoidable.
- An area allowing unobstructed air flow

  There is an exhaust cooling fan on the rear panel and exhaust vents on both sides and the bottom (toward the front) of the R4870. Never block the fan and these vents.

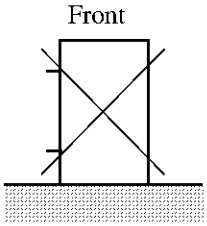
  Keep the rear panel 10 centimeters away from the wall. In addition, do not use the R4870 upright turned the rear panel side down. The resulting internal temperature rise will affect measurement accuracy.



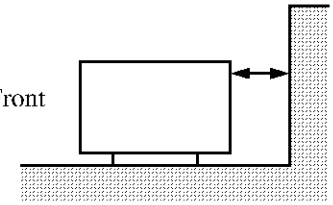
- Avoid operation in the following areas.



- Use a noise cut filter when there is a large amount of noise riding on the power line.



- Do not use the R4870 upright turned the rear panel side down.



- Keep the rear panel 10 centimeters away from the wall

Figure 1-1 Operating Environment

The R4870 can be used safely under the following conditions:

- Altitude of up to 2000 m
- Installation Categories II
- Pollution Degree 2

1.3.2 Power Supply Specifications

The power supply specifications of the R4870 are listed in Table 1-3.

Table 1-3 Power Supply Specifications

	100 VAC Operation	200 VAC Operation	Remarks
Input voltage range	90 V to 132 V	198 V to 250 V	Automatically switches between input levels of 100 VAC and 200 VAC.
Frequency range	48Hz-66Hz		
Power consumption	200 VA or below		

CAUTION: ***To prevent damage, operate the R4870 within the specified input voltage and frequency ranges.***

1.3.3 Power Fuse

CAUTION:

1. ***When a fuse blows, there may be some problem with the R4870. Contact a sales representative before replacing the fuse.***
2. ***For fire prevention, use only fuses with the same rating and same type.***

The power fuse is placed in a fuse holder which is mounted on the rear panel. A spare fuse is located in the fuse holder.
To check or replace the power fuse, use the following procedure:

1. Check to see that the power is turned off.

   NOTE: ***When the R4870 is on, turn off the power using the Screen menu*** **Power Off** ***button.***

2. Disconnect the power cable from the AC power outlet.
3. Remove the fuse holder located on the rear panel using a screwdriver (Refer to Figure 1-2, 1-3, and 1-4).
4. Check and/or replace the fuse and put the holder back in.

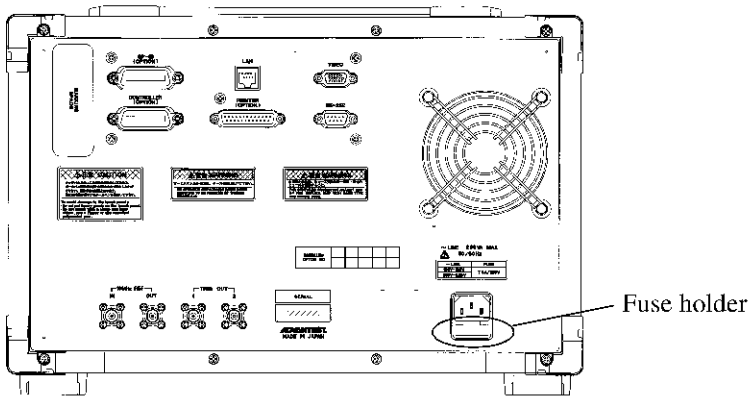


Figure 1-2 Fuse Holder Location

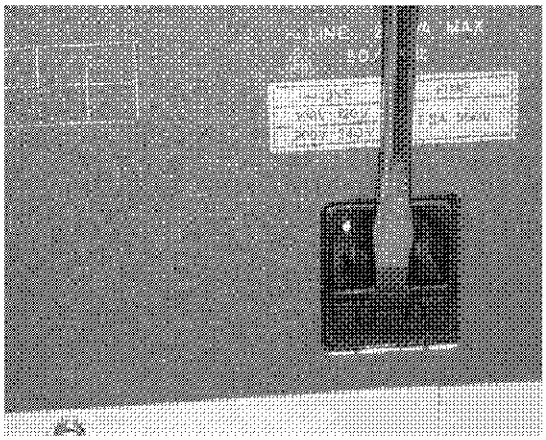


Figure 1-3 Power Fuse Replacement

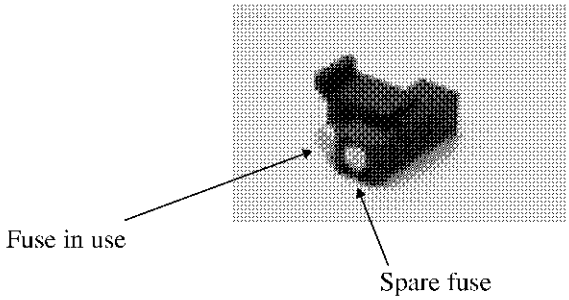


Figure 1-4 Fuse Holder

1.3.4 Power Cable

CAUTION:

1. ***Use a power cable rated for the voltage in question. Be sure however to use a power cable conforming to safety standards of your nation when using a product overseas.***
2. ***Be sure to plug the power cable into an electrical outlet which has a safety ground terminal. Grounding will be defeated if you use an extension cord which dose not include a safety ground terminal.***
3. ***Turn off the R4870 when connecting the power cable. If the R4870 is on, use the screen menu*** **Power Off** ***button to turn off the power.***

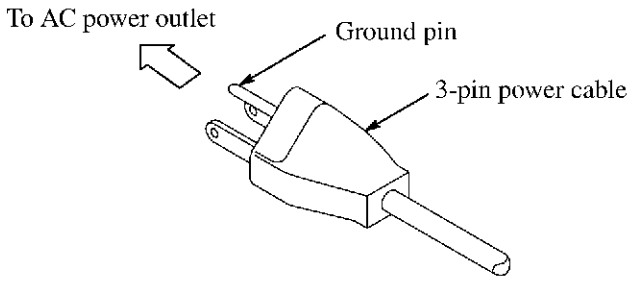


Figure 1-5 Precautions in Use

1.4 Precautions in Use

1. Before starting the test
   - When turning on the power, don't connect DUT.
   - Before starting the test, check to see the output power level.
   - Remove all cables connected to the front panel.
2. Removing of case

   Do not open the case to one except service engineer of our company.

   The R4870 has a high temperature part and a high pressure part.
3. When abnormality occurs

   When smoke rises from the R4870, smell nastily, or rear unusual sound feel, turn off the **POWER** switch. Pull out power cable from the outlet. And contact to our company.

   The address and the telephone number of our company are in the end of this manual.
4. Panel buttons and keys do not respond
   - When the Explorer or Network Config is closed, panel buttons and keys may become unresponsive. In such case, touch the screen once.
   - Panel buttons, keys, and the touch screen are unavailable while the auto calibration is performed. The R4870 performs auto calibration periodically to maintain system accuracy.
5. The touch screen

   The touch screen of the R4870 includes a panel of glass. Do not use excessive force when using the touch screen because it may be damaged. Only use an appropriate type of pen (not ball point or mechanical pencils) with the display.
6. Attaching and detaching the panel

   The front panel can be detached from the main unit.

   The R4870 can be used with the detached front panel.

   Read the following precautions before detaching the front panel.

CAUTION: ***An optional cable is required when using the R4870 with the panel detached.***

- If the power is ON, turn the power OFF and remove the power cable from the R4870 to ensure that the R4870 is not operating.
- Be careful not to catch your fingers when attaching or detaching the panel.
- Place the R4870 on a stable and horizontal workbench when attaching or detaching the front panel.
- Remove the screws from the four locations indicated on the front sides of the R4870.
- Hold the panel firmly when removing the screws to prevent it from falling.
- Pull the panel forward after removing all the screws from the four locations.
- Remove the cable connected between the front panel and the main unit.
- Use the R4870 only after replacing the connection cable with a different connection cable suited to the application.
- Use the following types of screws when screws are lost.

  Two screws on the right side: Flat-head screws M4X35 (iron or stainless steel)

  Two screws on the left side: Flat-head screws M4X14 (iron or stainless steel)

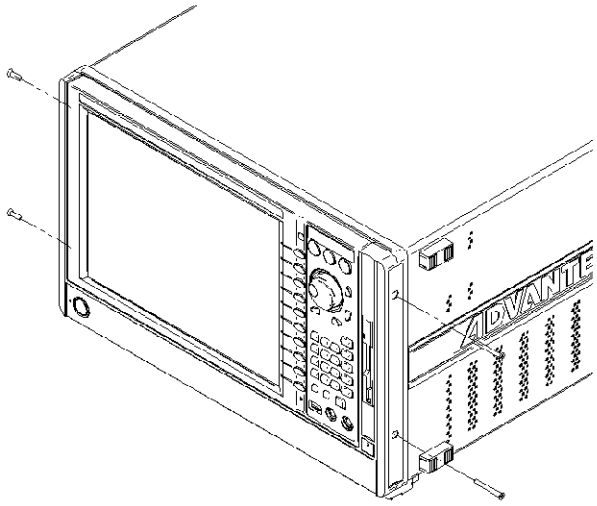


Figure 1-6 Precautions for Attaching and Detaching the Panel

7. Electromagnetic interference.

   Electromagnetic interference may be caused to the television or the radio.

   If the R4870 power is turned off and the electromagnetic interference is reduced, then the R4870 has caused the problem.

   Prevent electromagnetic interference by the following procedure.

   - Change the direction of antenna of the television or the radio.
   - Place the R4870 the other side of the television or the radio.
   - Place the R4870 away from the television or the radio.
   - Use another line of power source for the television or the radio than the R4870.

8. Prevention of Electrostatic Buildup

   To prevent damages to semiconductor parts from electrostatic discharge (ESD), the precautions shown below should be taken. We recommend that two or more measures be combined to provide adequate protection from ESD. (Friction between insulation material, such as clothing, may generate static electricity easily.)

   Countermeasure example

Human body:	Use of a wrist strap (see Figure 1-7).
Floor in the work area:	Installation of a conductive mat, the use of conductive shoes, and grounding (see Figure 1-8).
Benchboard:	Installation of a conductive mat and grounding (see Figure 1-9).

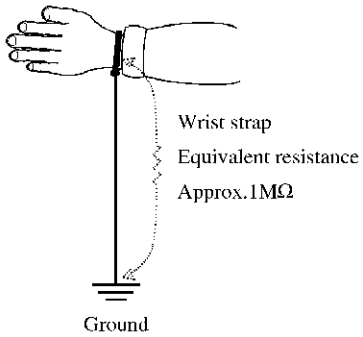


Figure 1-7 Countermeasures for Static Electricity of Human Bodies

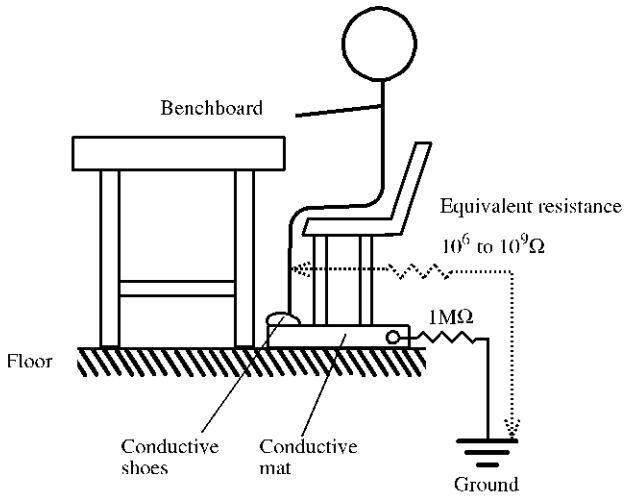


Figure 1-8 Countermeasures for Electrostatic on Work Floor

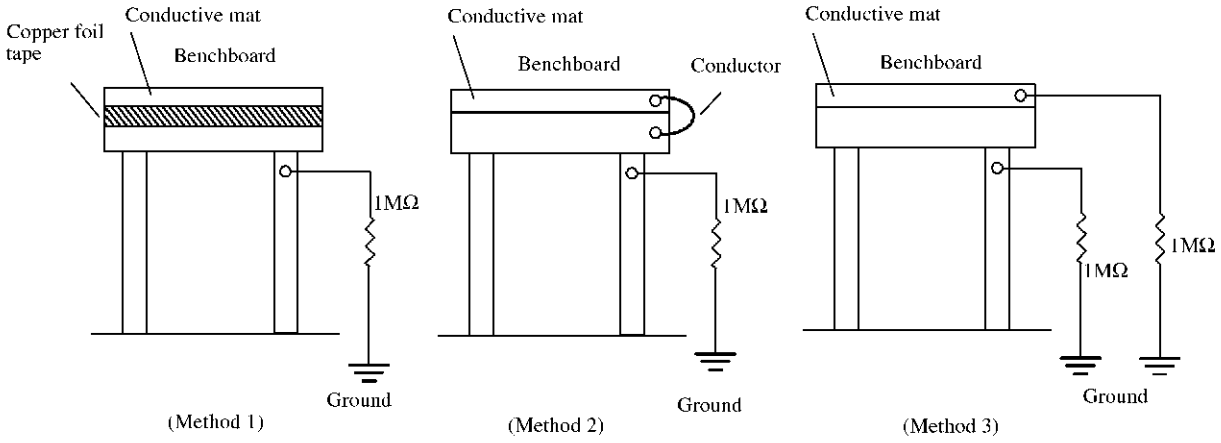


Figure 1-9 Countermeasures for Electrostatic on Work Bench

1.5 System Checkout

This section describes the Selftest which must be performed when operating the R4870 for the first time. Follow the procedure below:

1. Check to see that the power is turned off.
2. Connect the power cable provided to the AC power supply connector on the rear panel.

CAUTION: ***To prevent damage, operate the R4870 within specified input voltage and frequency ranges.***

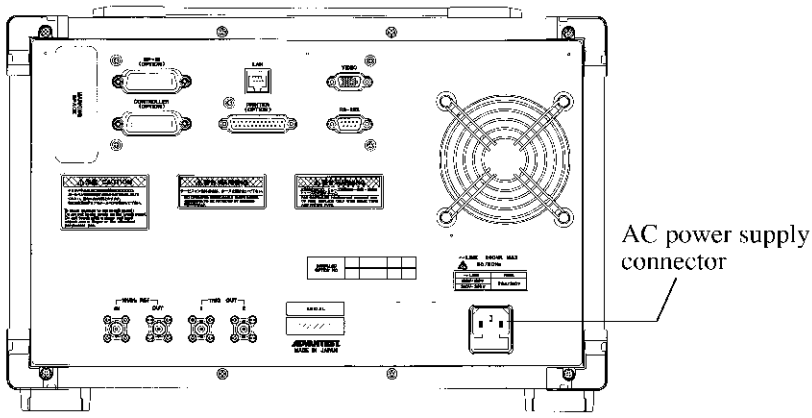


Figure 1-10 Connecting the Power Supply Cable

3. Connect the power cable to the outlet.
4. Turn on the **POWER** switch (on the front panel).

   The R4870 performs the Initial test (processing time: approximately 120 seconds).

   The start-up screen is displayed as shown in Figure 1-11.

NOTE: ***An error message will be displayed when an abnormal condition is detected. Refer to the list of error messages to solve the problem.***

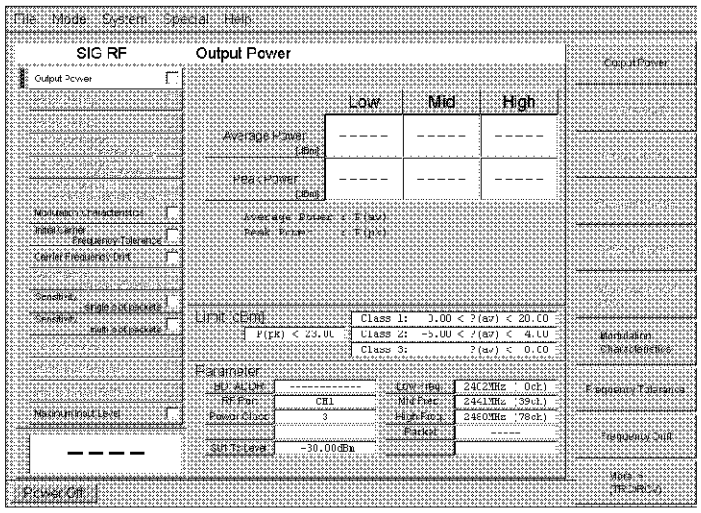


Figure 1-11 Start-up Screen

NOTE: Due to the R4870 back-up function, the R4870 starts up using the previous setting conditions used when the R4870 was turned off.

1.6 Cleaning, Storing and Transporting the R4870

1.6.1 Cleaning

Remove dust from the outside of the R4870 by wiping or brushing the surface with a soft cloth or small brush. Use a brush to remove dust from around the panel keys. Hardened dirt can be removed by using a cloth which has been dampened in water containing a mild detergent.

CAUTION:

1. ***Do not allow water to get inside the R4870.***
2. ***Do not use organic cleaning solvents, such as benzene, toluene, xylene, acetone or similar compounds, since these solvents may damage the plastic parts.***
3. ***Do not use cleanser.***

1.6.2 Storing

Store the R4870 in an area which has a temperature from -20 °C to +60 °C. If you plan to store the R4870 for a long period (more than 90 days), put the R4870 in a vapor-barrier bag with a drying agent and store the R4870 in a dust-free location out of direct sunlight.

1.6.3 Transporting

When you ship the R4870, use the original container and packing material. If the original packaging is not available, use the following repackaging guidelines:

1. To allow for cushioning, use a corrugated cardboard container that is at least 15 centimeters larger than those of the R4870.
2. Surround the R4870 with protective sheeting.
3. Cushion the R4870 on all sides with packing material.
4. Seal the corrugated cardboard container with shipping tape or an industrial stapler.

If you are shipping the R4870 to a sales representative for service or repair, attach a tag to the R4870 that shows the following information:

- Owner and address
- Name of a contact person at your location
- Serial number of the R4870 (located on the rear panel)
- Description of the service requested

1.7 Warm up

After the R4870 reaches the ambient temperature, turn on the R4870 power and allow it to warm up for at least 30 minutes.

NOTE: ***If condensation is seen on the R4870 system surface, do not turn the unit on until it is completely dry.***

1.8 Calibration

Calibration work should be performed at an ADVANTEST CORPORATION site.
When you want to calibrate the R4870, please contact a sales representative.

Desirable Period	1 year

1.9 Replacing Parts with Limited Life

The R4870 uses the following parts with limited life that are not listed in Safety Summary.
Replace the parts listed below after their expected lifespan has expired.

Part name	Life
Panel key switch	500,000 times operating life (reference value)
LCD (liquid crystal display) back light	40,000 hours operating life (reference value)
Rotary encoder	2,500,000 operations (typical value)

2. OPERATIONS

This chapter provides the following information:

- Panel Description
- Screen Operations
- Basic Operation Example
- Test Example

2.1 Panel Description

2.1.1 Front Panel

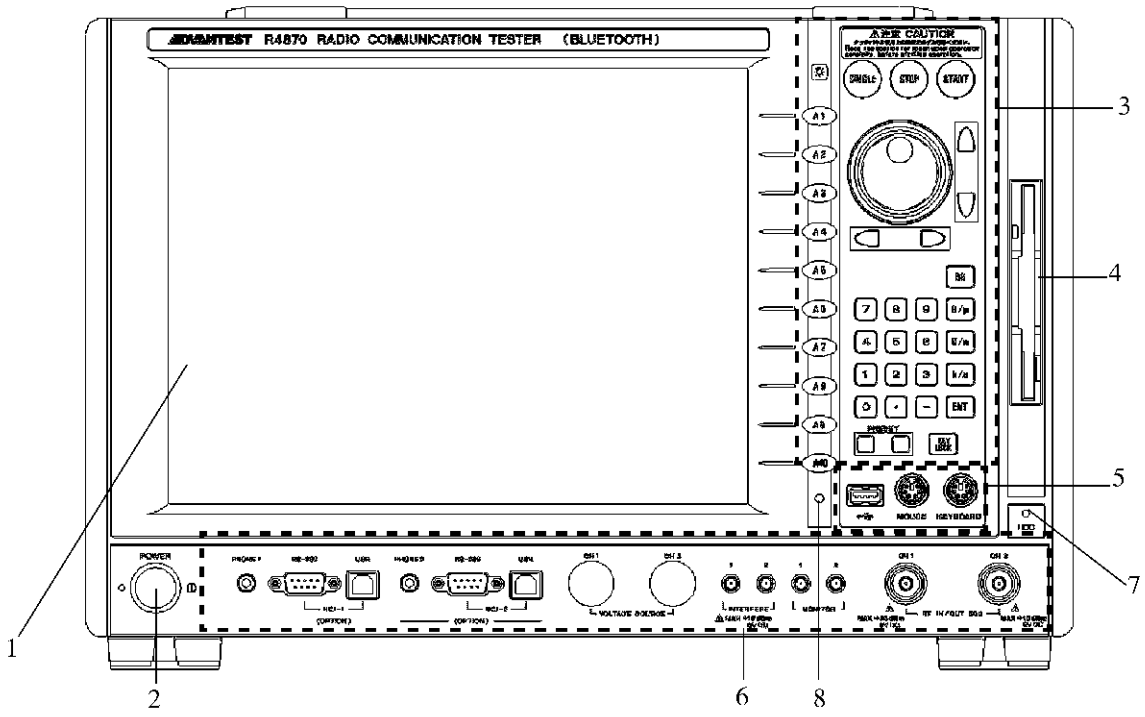


Figure 2-1 Front Panel

1. Touch screen — Displays test data, setting conditions, and other information. The touch screen functions allow set conditions to be changed using the display.

2. POWER switch — Turns the power on. Use this switch to turn off the power only in case of an emergency.

3. Entry buttons and keys — Used to change settings (refer to Section 2.1.1.1.)

4. Floppy disk drive — Reads data from and writes data to 3.5-inch floppy disks.
5. I/F connectors — Keyboard, mouse, and USB I/F connectors (refer to Section 2.1.1.2.)
6. Test Panel — Contains test port (refer to Section 2.1.1.3.)
7. HDD access light — Turns on when the HDD is accessed.
8. Power light — Comes on when the power is turned on.

2.1.1.1 Entry Buttons and Keys

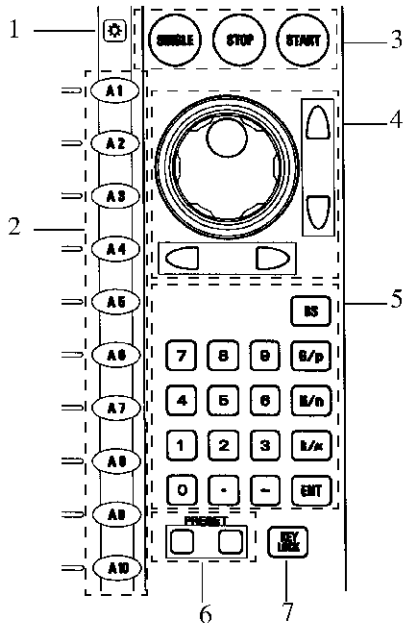


Figure 2-2 Entry Buttons and Keys

1. Back light switch — Turns the touch screen back light ON or OFF.
2. Application buttons — Selects a touch screen side menu.
3. Program buttons — Controls the testing process.
   - SINGLE: Tests the first item in the list.
   - STOP: Terminates the test.
   - START: Starts the testing of items in the list.

4. Data knob, Arrow keys

Data knob:Used to increase or decrease values.

Arrow keys:

△ ▽ Used to move between text boxes.

◁ ▷ Moves the cursor inside the text box when inputting a value.

5. Numeric keypad

Enters values using the numeric keys.

BS:	Backspace key.
G/p:	Used to enter units. Inputs GHz for frequencies and psec for time.
M/n:	Used to enter units. Inputs MHz for frequencies and nsec for time.
k/μ:	Used to enter units. Inputs kHz for frequencies and μsec for time.
ENT :	Used to enter units. Inputs Hz for frequencies and sec for time.

6. PRESET button

Initializes the system. Hold down the left key while pressing the right key.

7. KEY LOCK button

Locks the key input.
Does not lock the touch screen key functions.

2.1.1.1.1 Entry Buttons and Keys, and Keyboard Correspondence

The panel key (button) entries and corresponding keyboard key entries are described in the table below. An operation other than key entries is also described.

Table 2-1 Entry Keys and Keyboard Correspondence

Entry key		Keyboard
Application button	A1 to A10	F1 to F10
Program button	SINGLE	Shift + F2
	STOP	Shift + F3
	START	Shift + F4
Data knob and arrow keys	◁ ▷	←, →
	△	Page Up
	▽	Page Down
	Data knob	↑, ↓
Numeric key pad	0 to 9	0 to 9
	. (decimal)	.
	- (negative sign)	-
	k/μ	Shift + F7
	M/n	Shift + F6
	G/p	Shift + F5
	BS	Back space
	ENT	Enter
PRESET buttons (left and right)		Shift + F8
ON/OFF check box located on the touch screen.		Shift + space

2.1.1.2 I/F Connectors

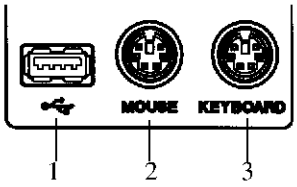


Figure 2-3 I/F Connectors

1. USB connector — When using an accessory.

2. MOUSE connector — When using a mouse, connect the mouse prior to turning on the system.

NOTE:	***The mouse does not function if it is connected after the system is turned on.***

3. KEYBOARD connector — A keyboard can be connected before or after the system is turned on.

NOTE:	***If the keyboard does not respond, turn the R4870 off by using the touch screen or the mouse. Plug the keyboard cable into the KEYBOARD connector and turn the unit on again. The keyboard will now respond.***

2.1.1.3 Test Ports

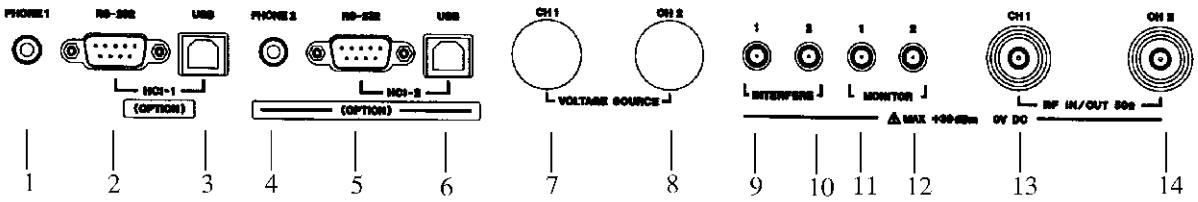


Figure 2-4 Test Ports

1. PHONE 1 connector — Monitors the voice signal.
2. RS-232 (HCI-1) connector — Not used in this system (an optional part is required).
3. USB (HCI-1) connector — Not used in this system (an optional part is required).
4. PHONE 2 connector — Not used in this system (an optional part is required).
5. RS-232 (HCI-2) connector — Not used in this system (an optional part is required).
6. USB (HCI-2) connector — Not used in this system (an optional part is required).
7. VOLTAGE SOURCE CH 1 — Not used in this system (an optional part is required).
8. VOLTAGE SOURCE CH2 — Not used in this system (an optional part is required).
9. INTERFERE 1 connector — Combines and inputs the test signal and externally generated interference signal.
10. INTERFERE 2 connector — Combines and inputs the test signal and externally generated interference signal.
11. MONITOR 1 connector — Monitors the output base signal (IUT* output signal).
12. MONITOR 2 connector — Monitors the output base signal (IUT output signal).
13. CH 1 connector — Inputs and outputs CH1 signal.
14. CH 2 connector — Inputs and outputs CH2 signal.

* IUT: Implementation Under Test

CAUTION: ***If the 5 terminals: INTERFERE 1, INTERFERE 2, MONITOR 1, MONITOR 2, and CH2 are not connected to other measurement devices, terminate them with a supplied 50Ω terminator. If these are used in open (or shorted), the CH1 frequency characteristics may be fluctuate and cause incorrect test results.***

2.1.2 Rear Panel

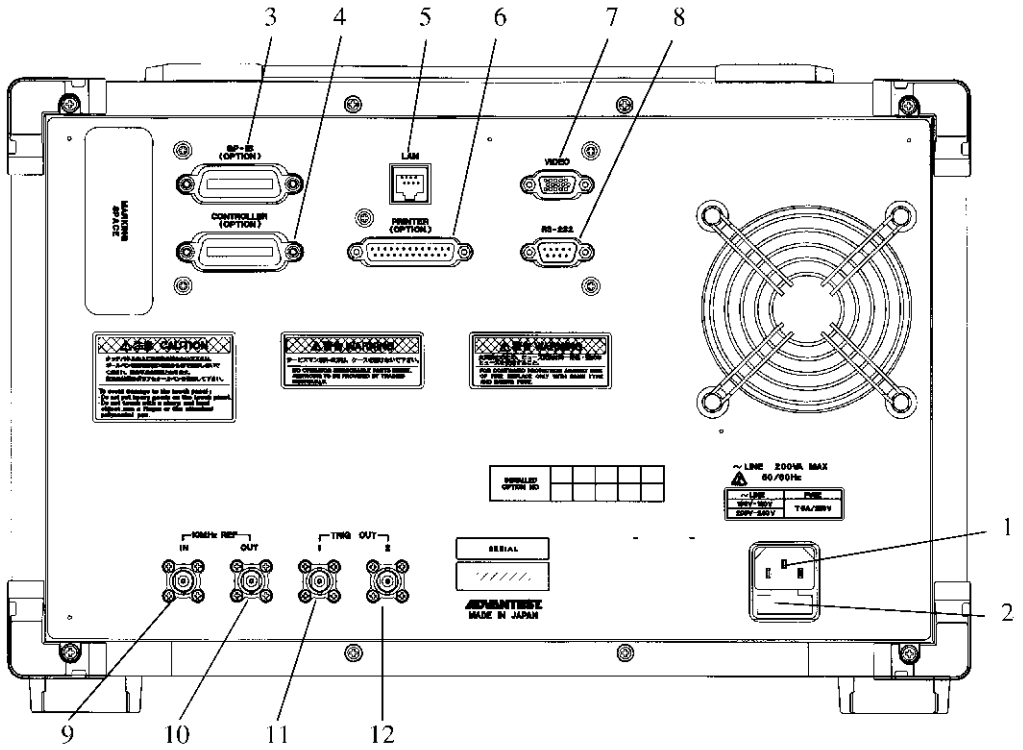


Figure 2-5 Rear Panel

1.	AC power connector	3-pin connector. The middle pin connects to earth.
2.	Fuse holder	Fuse holder containing a fuse. A spare fuse is also included.
3.	GP-IB connector	Not used in this system (an optional part is required).
4.	CONTROLLER connector	Not used in this system (an optional part is required).
5.	LAN connector	10 Base T LAN connector.
6.	PRINTER connector	Not used in this system (an optional part is required).
7.	VIDEO connector	VIDEO VGA output connector.
8.	RS-232 connector	The HCI* connector.
9.	10 MHz REF IN connector	External 10 MHz reference input connector.
10.	10MHz REF OUT connector	10 MHz reference output connector.
11.	TRIG OUT 1 connector	The internal Bluetooth unit trigger output connector.
12.	TRIG OUT 2 connector	Not used in this system (an optional part is required).

*HCI: Host Control Interface

2.2 Screen Operations

2.2.1 Operation Menus

The screen has an information display in the center and operation menus around it. Menus can be operated using the touch screen pen or a mouse.

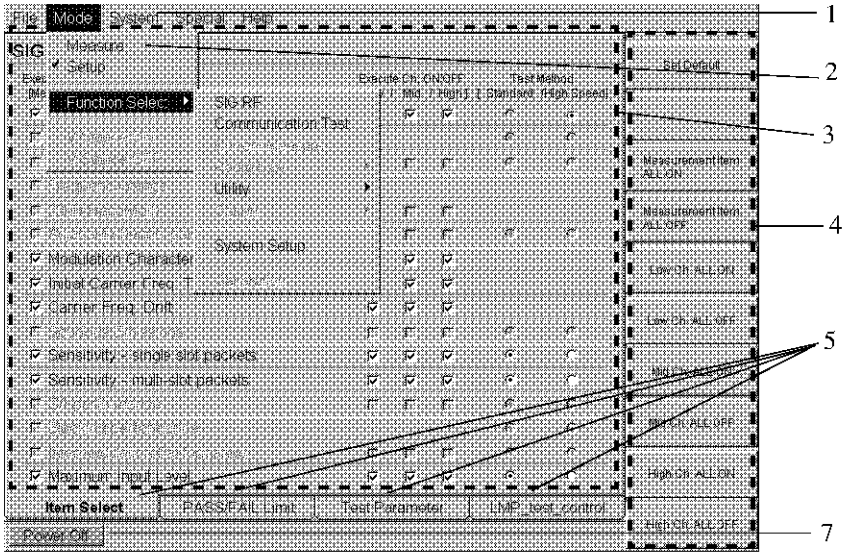


Figure 2-6 Screen Display 1

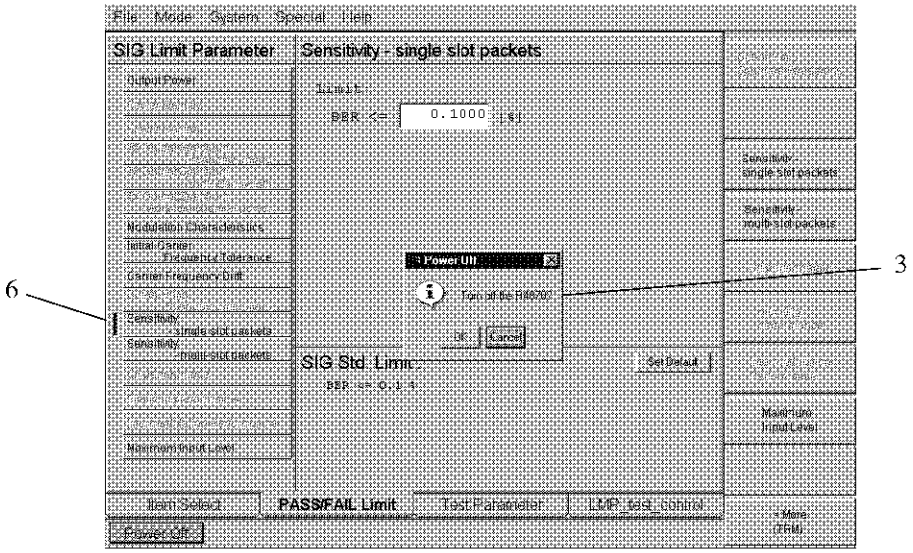


Figure 2-7 Screen Display 2

1.	Main menu	The Mode in the main menu is used to switch the mode. Selecting Mode displays a Drop down menu providing Measurement (test execution), Setup (test conditions), and Function Select (function selection) selections.
2.	Drop down menu	Appears when a main menu is selected. Selecting the main menu displays a Drop down menu.
3.	Dialogue box	The dialogue box for the test conditions setting is displayed in a full screen size below the main menu. A smaller dialogue box is displayed in the center of the screen for system start-up related operations.
4.	Side menu	A side menu, which corresponds to the main display such as the start up screen and test condition settings screen, is displayed. The side menu can be selected by using application buttons (**A1** to **A10**).
5.	Tab	The test conditions are displayed in 3 patterns. The tab titles indicate the 3 display patterns.
6.	Measurement item indicator	Displays all measurement (test) items. The blue bar indicates the currently operating item.
7.	Power Off switch	Used to turn off the system.

2.3 Basic Operation Example

The basic system operations are explained.

2.3.1 Turning On the System

1. Ensure that the system power is turned off.
2. Plug the enclosed power cable into the AC power supply connector on the rear panel.
3. Plug the power socket into the electrical outlet.
4. Turn on the **POWER** switch on the front panel.

NOTE: Do not turn on the system with a floppy disk inserted in the disk drive.

When the initial test is completed, the program is loaded (process time: approximately 120 seconds).

If the initial test is completed correctly, a Measure display similar to the example in Figure 2-8 appears.

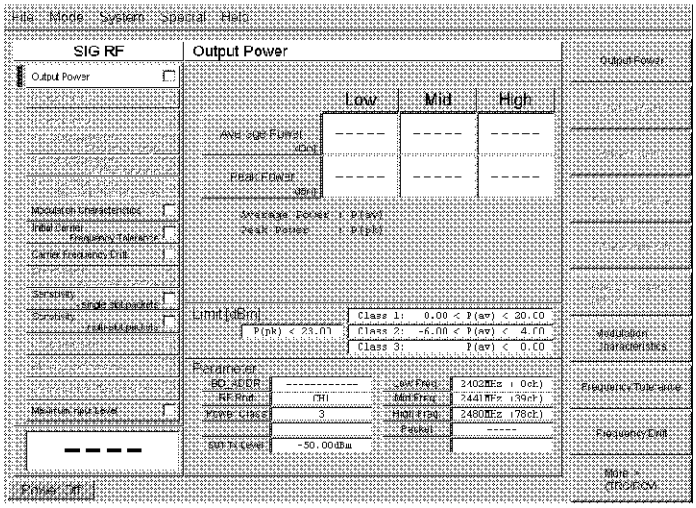


Figure 2-8 Start Up Display Example (Measure Display)

NOTE:

1. ***Due to the system back-up function, the system starts in the same state that it was in the last time the system was turned off.***
2. ***If test items and their check boxes appear faded in the display, the tests are not supported by the R4870 system. If the items are displayed in the list, however their evaluation result boxes appear faded, the items are not selected as test items.***

2.3.2 Setting the Main Menu and Drop Down Menu

File, Mode, System, Special, and Help drop down menus can be selected from the main menu.

Selecting a drop down menu from the main menu

In the following example, a drop down menu is selected from the Measure display shown in Figure 2-8.

1. Select **Mode** in the main menu and **Function Select** → **Communication Test** in the drop down menu.

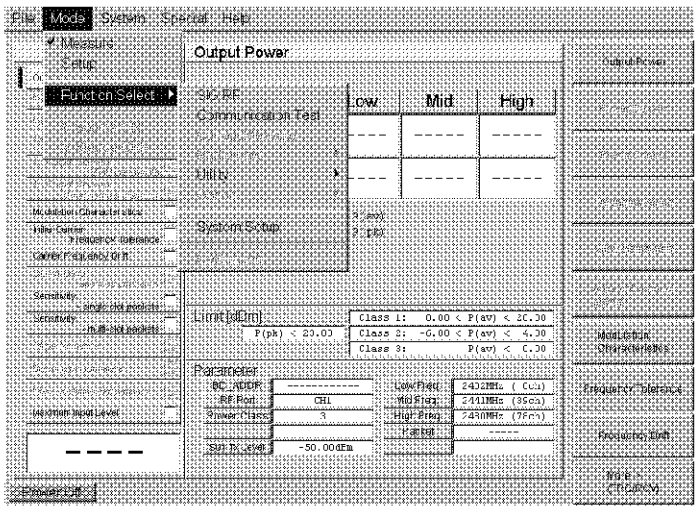


Figure 2-9 Selecting a Drop Down Menu From the Main Menu

NOTE: The Function Select drop down menu allows all menus regarding functions to be selected. For more details, refer to 3.2.1 and 3.3.1.

2.3.3 Setting the Side Menu

Selecting a drop down menu displays the corresponding side menu.

Selecting a side menu

In the following example, all Measurement Item settings are set to their default settings by using the SIG Item Select display.

1. Select **Mode** in the main menu and select **Setup** from the drop down menu.
   The SIG Item Select screen is displayed.

NOTE: If the screen shown in Figure 2-10 is not displayed when the above menus are selected, select **Mode** *in the main menu, and select* **Function Select** → **SIG RF** *from the drop down menu.*

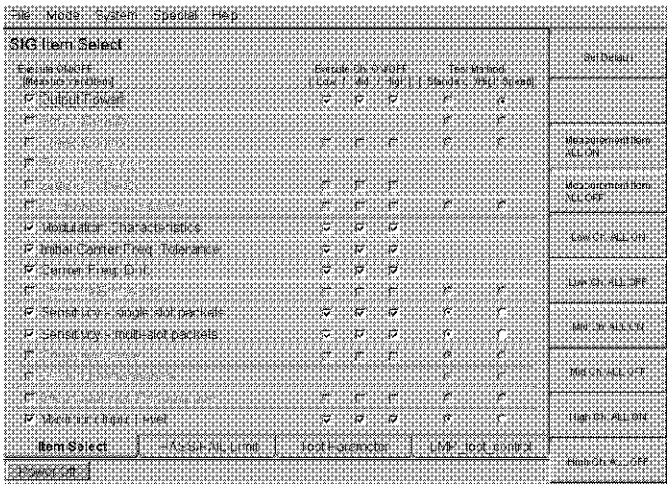


Figure 2-10 Selecting an Item From the Side Menu

2. Select **Set Default** in the side menu.
   All items are returned to their initial (Default) settings.

NOTE: To return to the default settings, the application button, **A1** *can be pressed instead of selecting* **Set Default**.
The **A1** *to* **A10** *application buttons correspond to the side menus. Pressing an application button makes no sound.*

2.3.4 Selecting a Tab to Switch Screen

Selecting a tab switches between test condition displays.

1. Item Select
   Displays the test item selection menu.
2. PASS/FAIL Limit
   Displays the PASS/FAIL limit setting menus.
3. Test Parameter
   Displays the test parameter setting menus.
4. LMP_test_control
   Displays the transmission condition setting menu while testing.

Selecting a Tab to Switch Screen

In the following example, the SIG Limit Parameter display is switched to the SIG Item Select display.

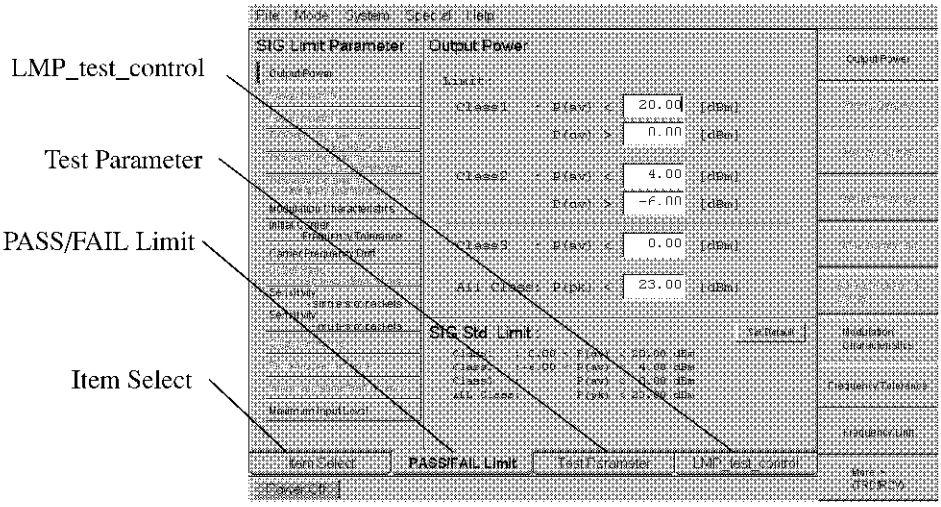


Figure 2-11 Selecting a Tab to Switch Screen - 1

1. Select the **Item Select** tab.
   The screen changes from SIG Limit Parameter to SIG Item Select (see Figure 2-12).
   In the SIG Item Select screen, SIG measurement item(s) can be selected.

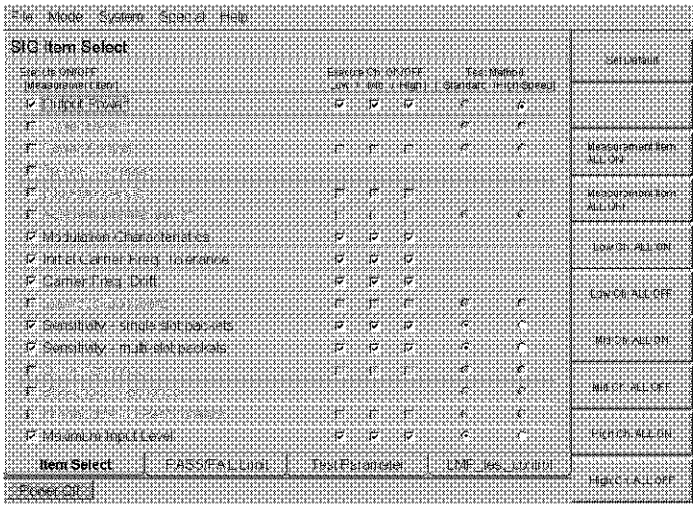


Figure 2-12 Selecting a Tab to Switch Screen - 2

NOTE: ***Tabs appear with the SIG RF Test display while in the Setup mode only.***

2.3.5 Check Box Setting

Test items and conditions can be set by selecting appropriate check boxes.

Removing check mark(s)

1. Select a checked box.
   The check is removed.
2. To remove check marks from other boxes, repeat the above process.

Adding check mark(s)

1. Select a box to insert a check.
   The box is checked.
2. To add check marks to other boxes, repeat the above process.

Removing all check marks at the same time

In the following example, checks are removed from all Measurement Items listed in the SIG Item Select display at once.

1. Select **Measurement Item ALL OFF** in the side menu.
   Check marks are removed from all items in the Measurement Item.

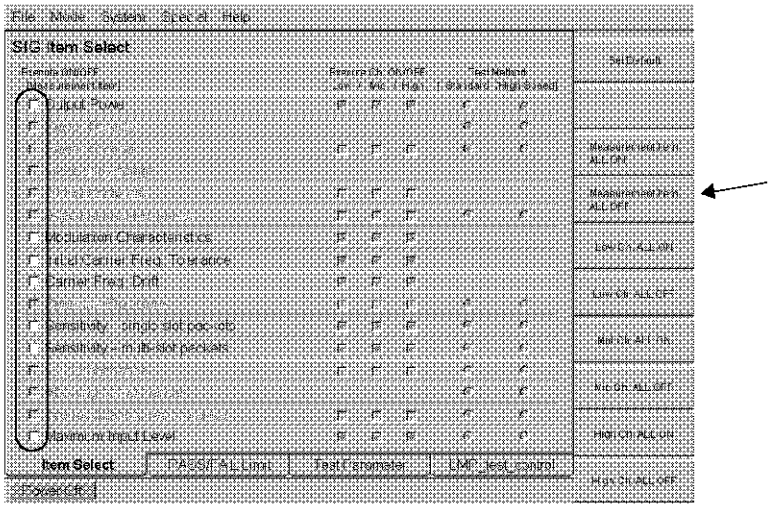


Figure 2-13 Removing All Check Marks at The Same Time

Checking all boxes at the same time

In the following example, all Execute Channel Middle boxes in the SIG Item Select display are checked at once.

1. Select **Mid Ch. ALL ON** in the side menu.
   All Execute Ch. Mid boxes are checked.

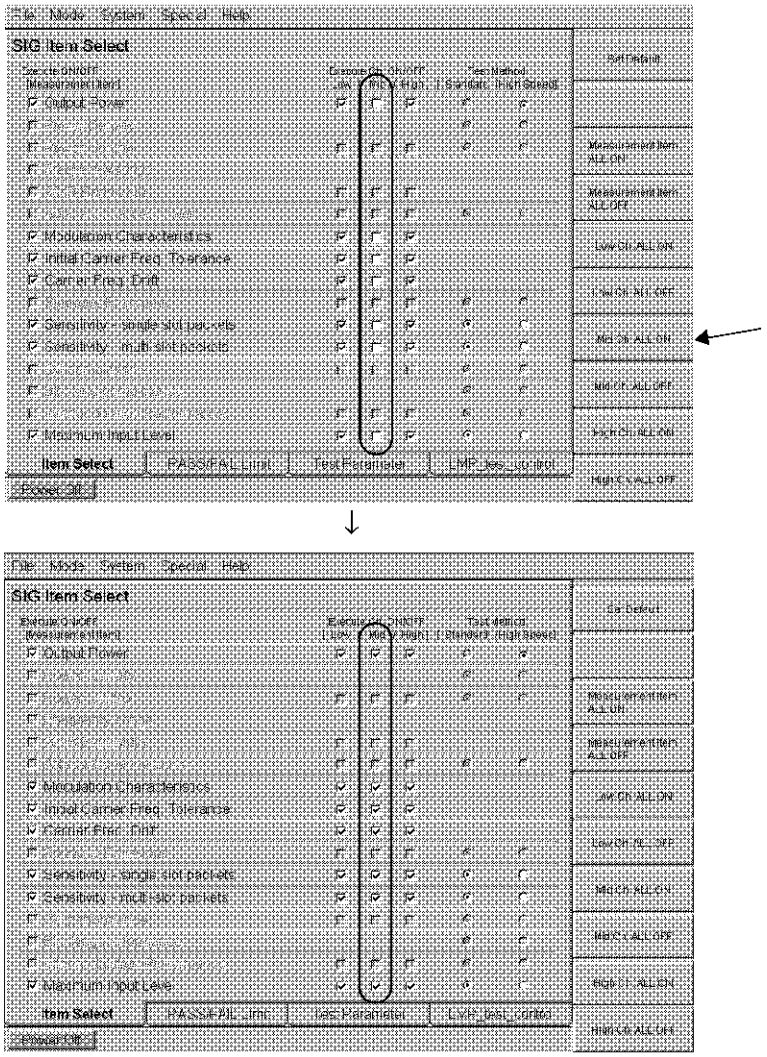


Figure 2-14 Checking All Boxes at The Same Time

2.3.6 Option Button Setting

Optional buttons can be set to switch the selection between 2 settings.

In the following example, the Test Method for the Sensitivity-single slot packets is switched from the Standard to High Speed in the SIG Item Select display.

1. Select the High Speed option button for the Sensitivity-single slot packets.
   The High Speed option button is selected and the button for the Standard speed is cleared.

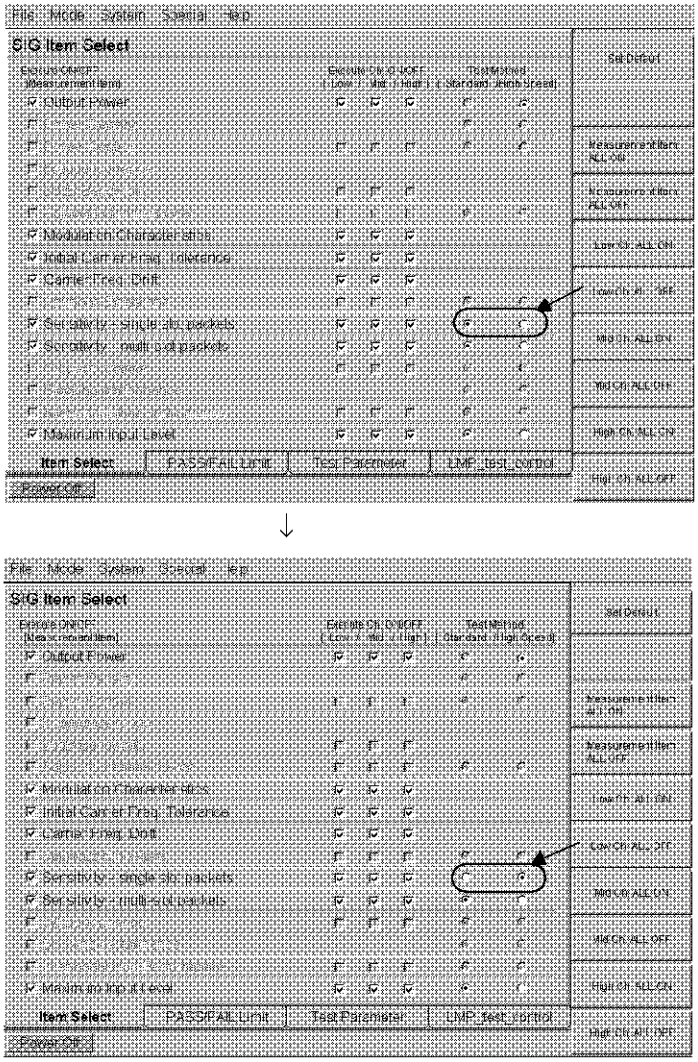


Figure 2-15 Option Button Setting

2.3.7 Saving, Loading and Deleting Data

2.3.7.1 Saving Data

The following data can be saved on the system hard disk or a floppy disk.

- Test conditions and PASS/FAIL conditions
- Test results and PASS/FAIL results

The file formats include an R4870 system specific format file, a text file (with the TXT extension), and a CSV file (with the CSV extension), both of which can be used in remote computers. These can be created when the above stated data is saved.

Use these files when necessary by reading them out in remote applications.

Saving data onto the hard disk

1. Select **File** in the main menu. Then, select **Save...** in the drop down menu.
   The Save dialog box is displayed (see Figure 2-16).

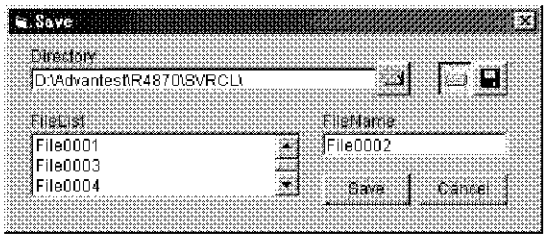


Figure 2-16 Save Dialog Box

2. Select the HDD button .

NOTE: ***To save data into a floppy disk, select*** .

---

3. Select the directory view button .
   The Browse for Folder dialog box is displayed.

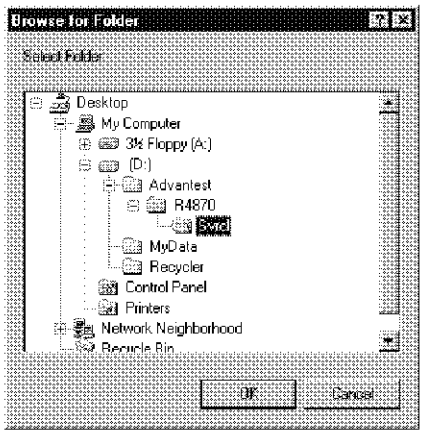


Figure 2-17 Browse for Folder Dialog Box

4. Confirm the folder to save the data into and select **OK**.
   The Browse for Folder dialog box closes.

To select another folder, input the directory name.

5. Input the directory name in the Directory text box.
   Inputting \ confirms the directory.

CAUTION: ***The created file is saved in the drive D. Do not save any files in drive C. It may cause problems with system operations.***

Input the file name in the File Name text box.

6. Existing file names are listed in the File List box. Input the file name into the File List text box (see Figure 2-18).
   For example, input "Test1."

NOTE: ***The extension is automatically added to the file name.***

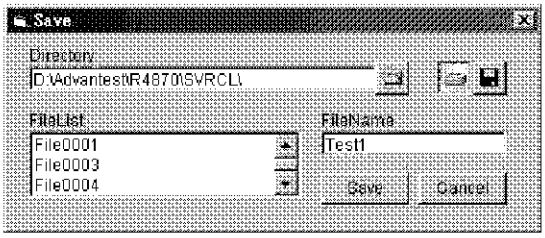


Figure 2-18 Data Save

NOTE:

1. ***When replacing an existing data file with new data, selecting a file in the File List display box copies the file name to the File Name text box and replaces the existing data with new data.***
2. ***When loading an existing data file and saving the data with a different file name, input the new file name in the File Name text box as explained in step 6.***

7. Select **Save**.
   Data is saved in the specified directory.

2.3.7.2 Data Load

The following data can be loaded from the system hard disk or a floppy disk.

- Test conditions and PASS/FAIL conditions.
- Test results and PASS/FAIL results.

Data load

1. Select **File** in the main menu. Then, select **Load...** in the drop down menu.
   The Load dialog box is displayed (see Figure 2-19).

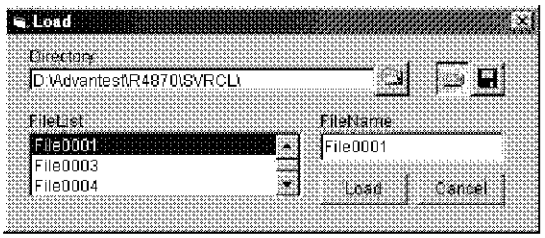


Figure 2-19 Data Load

2. Select the HDD button.

NOTE: To load data from a floppy disk, select .

3. Select the directory view button.
   The Browse for Folder dialog box is displayed.

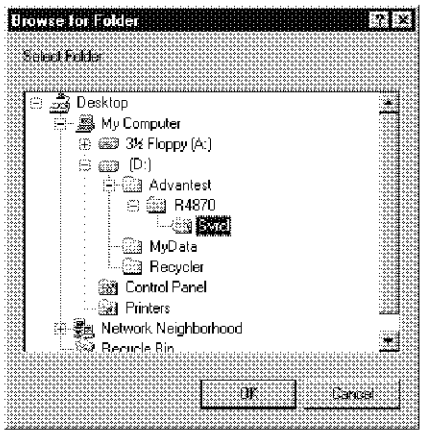


Figure 2-20 Browse for Folder Dialog Box

4. Confirm which directory to load the data file from and select **OK**.
   The Browse for Folder dialog box closes.

File names which can be loaded are displayed in the File List box. Select a file to load.

5. Select File0004.
   The selected file name is displayed in the File Name text box.

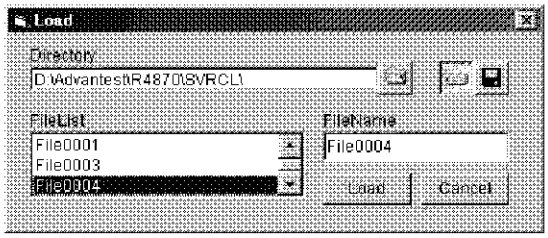


Figure 2-21 Data Load

6. Select **Load**.
   The selected file is loaded.

2.3.7.3 Data Delete

The files containing the following information can be deleted from the system hard disk drive or a floppy disk.

- Test conditions and PASS/FAIL conditions.
- Test results and PASS/FAIL results.

Both the text files (with the TXT extension) and CSV files (with the CSV extension), both of which are created when the data is saved, are deleted.

Data delete

1. Select **File** in the main menu. Then, select **Delete...** in the drop down menu.
   The Delete dialog box is displayed (see Figure 2-22).

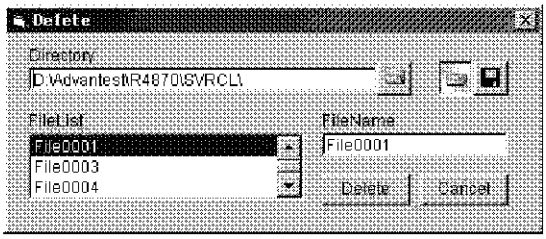


Figure 2-22 Delete Dialog Box

2. Select the HDD button .

NOTE: To delete data from a floppy disk, select .

---

3. Select the directory view button .
   The Browse for Folder dialog box is displayed.

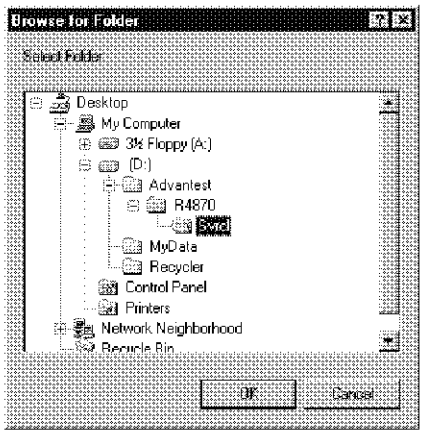


Figure 2-23 Browse for Folder Dialog Box

4. Confirm which directory to delete the data file from and select **OK**.
   The Browse for Folder dialog box closes.
5. Existing file names are listed in the File List box on the left. Select a file to delete.
   The selected file name is displayed in the File Name text box.

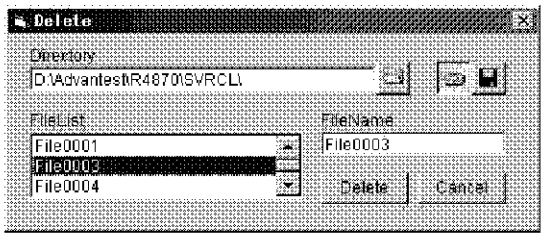


Figure 2-24 Data Delete

6. Select **Delete**.
   A message confirming file deletion is displayed.

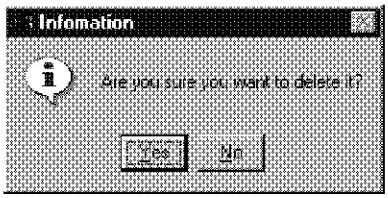


Figure 2-25 Delete Confirmation Message

7. Select **Yes**.
   The selected file is deleted.

2.3.8 Preset

Press the left **PRESET** button while pressing the right **PRESET** button. The PRESET dialog box is displayed.

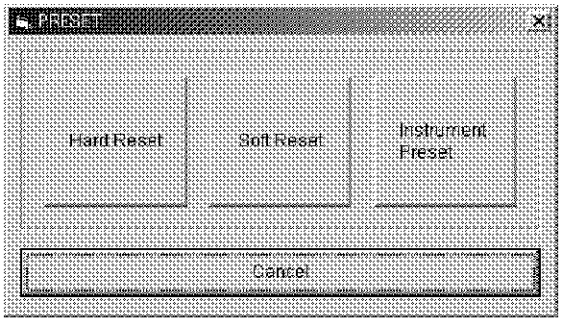


Figure 2-26 PRESET Dialog Box

1. Hard Reset
   Resets the R4870 system and calibrates the system to guarantee frequency measurement accuracy. (The parameter settings are not changed.)
2. Soft Reset
   Resets the R4870 system and returns to the settings when the system was turned on.
3. Instrument Preset
   Resets the R4870 system and returns to the factory settings.

2.3.9 Turning Off the System

To turn off the system correctly, use the touch screen **Power Off** button. The system backs up the settings (setting items and setting parameters) and test menu.

CAUTION: ***Do not turn off the R4870 while a floppy disk is inserted in the disk drive.***

1. Select the **Power Off** button.
   The Power Down dialogue box is displayed.

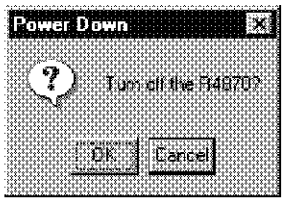


Figure 2-27 Turning Off the System

2. Select **OK**.

NOTE: ***In case of an emergency or when the system cannot be turned off by the above operations, the POWER switch can be pressed to shut down the system. In this situation, the operating data may be lost.***

2.3.10 Setting System Clock

Time Zone, Date, and Time can be changed or modified by using this dialog box.

Setting the system clock

1. Select **System** in the main menu. Then, select **Time Adjust** in the drop down menu.
   The Date/Time Properties dialog box is displayed.

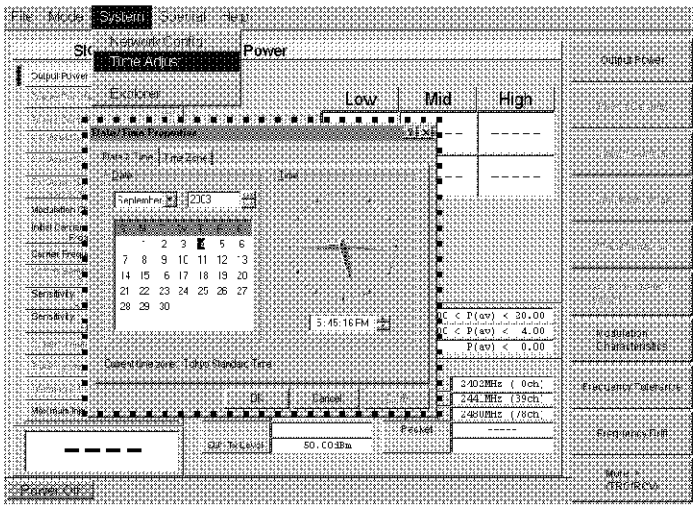


Figure 2-28 Date/Time Properties Dialog Box

CAUTION:

1. ***The date and time set in the Date/Time Properties is saved as the time stamp in the test file. Enter the correct date and time.***
2. ***If the system clock is used for a long period of time, the time set in it may be inaccurate. Check the displayed time when using the system.***
3. ***Even after the time is corrected, if the time returns to the previously set time after the system is turned off, the built-in CPU backup battery may need replacing. In this situation, contact the nearest ADVANTEST or sales representative.***

2.3.11 Displaying Explorer

When Explorer is displayed, operations of files, which are stored in the R4870 built-in memory, can be performed. Also, files stored in other computers can be accessed through the network.

1. Select **System** in the main menu. Then, select **Explorer** in the drop down menu. The Explorer dialog box is displayed.

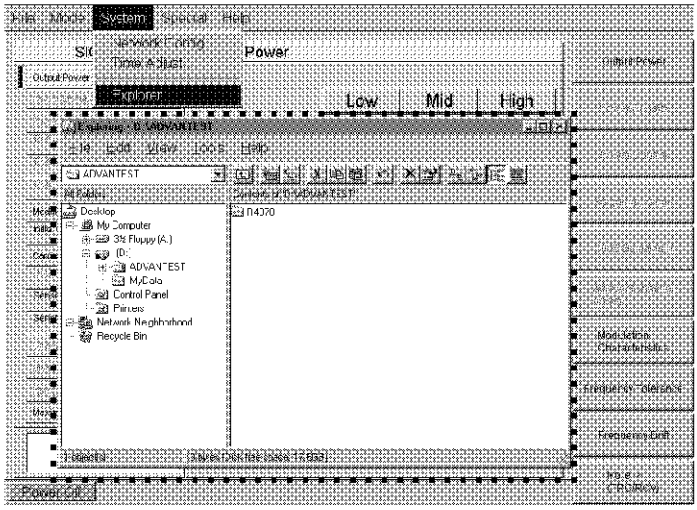


Figure 2-29 Explorer Dialog Box

CAUTION:

1. ***Do not delete or change the names of the D:Advantest directory and the directories in it. If the Advantest directory is accidentally deleted and then the drop down menu is clicked, the error message shown inFigure 2-30 is displayed. Explorer is not displayed.***

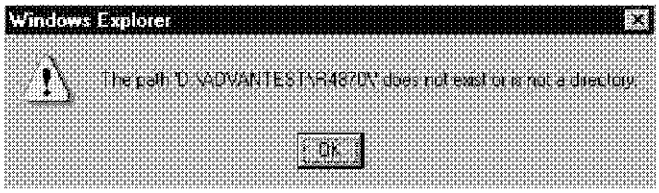


Figure 2-30 Explorer Error Message

2. ***If the Advantest directory is accidentally deleted or the name is changed, turn off the R4870 system and then turn it on again. The directory is recreated. Note that if the directory is deleted, the files which are already created in it and the files which are provided to create measurement applications by remote control, are also deleted.***

2.4 Condition Settings for Measuring

2.4.1 Setting the RS-232 (for the HCI Control)

If the HCI control Baud Rate is incorrectly set, the IUT does not respond.
Therefore, the RS-232 setting in the R4870 system, which corresponds to the tested device, must be set.

Selecting the RS-232 Port

1. Select **Mode** in the main menu. Then, select **Function Select** → **System Setup** in the drop down menu.

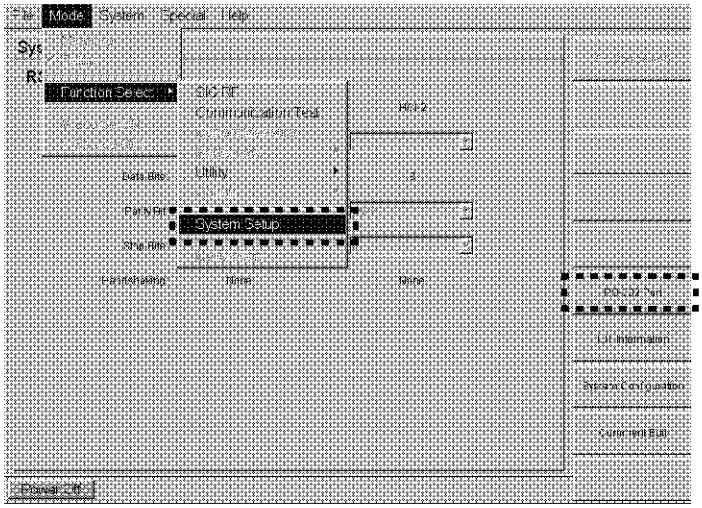


Figure 2-31 Selecting the RS-232 Port

2. Select **RS-232 Port** in the side menu.

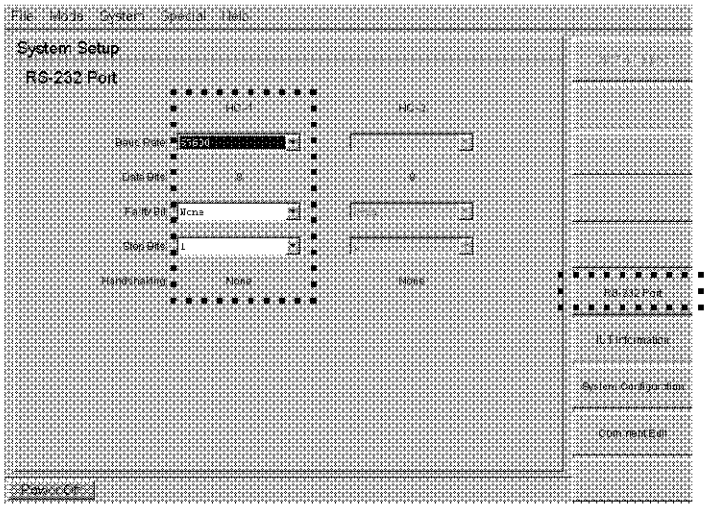


Figure 2-32 RS-232 Port - HCI-1 Setting

Setting the HCI-1

3. Set the Baud Rate, Parity Bit, and Stop Bits to the IUT.

Item	Setting value
Baud Rate	1200/2400/4800/9600/14400/19200/38400/57600/115200
Parity Bit	Even/Odd/None
Stop Bits	1/1.5/2

2.4.2 Setting IUT Information

The IUT Information ((1) to (5) in Figure 2-33) is used to specify the settings that correspond with the IUT.

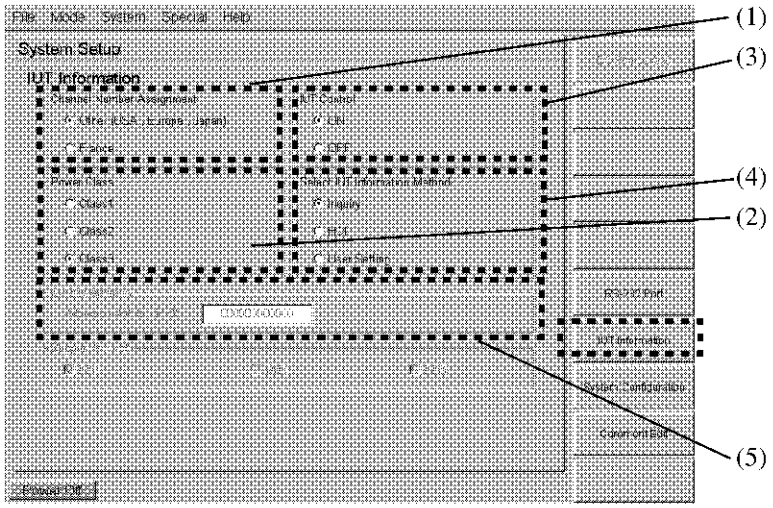


Figure 2-33 IUT Information

Channel Number Assignment

There are 2 items, either of which can be selected depending on the hopping channels.

1. Select either channel 79 or 23. ((1) in Figure 2-33.)
   Other (USA, Europe, Japan): Channel 79
   France: Channel 23

Power Class

2. Select the maximum RF transmission-power output class which is defined in the SIG. ((2) in Figure 2-33.)
   Class 1: 100 mW (Max) to 1 mW (Min)
   Class 2: 2.5 mW (Max) to 1 mW to 0.25 mW (Min)
   Class 3: 1 mW (Max)

IUT Control

3. Select a tested device control (IUT control) method by using the RS-232 port on the R4870 rear panel. ((3) in Figure 2-33.)
   ON: Controls the IUT by using the HCI.
   (The HCI check box setting (4) is valid.)
   OFF: Does not control the IUT by using the HCI and cannot execute the Communication Test.
   (The HCI check box setting (4) is invalid.)

Select IUT Information Method

4. Select whether to set the board address of the tested device and the support packet information automatically or manually. ((4) in Figure 2-33.)

   Inquiry: Acquires the IUT information by using Inquiry (RF communication).

   HCI: Acquires the IUT information by using HCI (wire communication).

   User Setting: Sets the IUT information in the R4870 system. (Refer to step 5.)

IUT BD Address

5. If the User Setting is selected in step 4, enter the board address of the tested device. ((5) in Figure 2-33.)

Support Packet

6. If the User Setting is selected in step 4, multiple DH1, DH3, and DH5 packet types can be selected arbitrarily. ((5) in Figure 2-33.)

2.4.3 Setting System Configuration

This section describes the System Configuration settings ((1) to (6) in Figure 2-34).

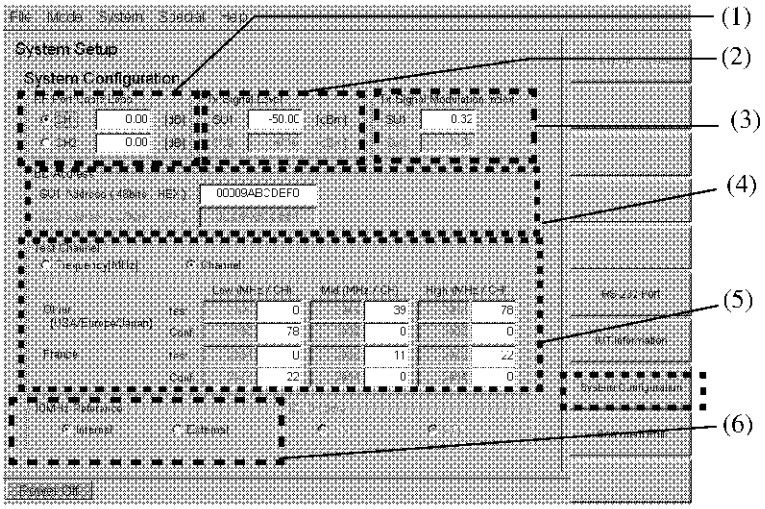


Figure 2-34 System Configuration Setting

RF Port Cable Loss

The R4870 system has 2 RF IN/OUT ports.

CH1: Port used for standard tests such as the SIG or TELEC standard test.

CH2: Port with a reduced loss between the built-in unit and the IUT.

1. Enter the cable loss when the IUT is connected to the CH1 or CH2. ((1) in Figure 2-34.)

   Input range of the cable loss: 0 to 30 [dB]

   The displayed value contains the RF transmission power test result and the cable loss. At the maximum output level, (2), the transmission power level is corrected with a 1 dB resolution to the input cable loss.

   Maximum output = -13 dBm -cable loss (1 dB step)

NOTE: The Port Cable Loss for the RX and TX is described as follows:

- ***Output Power test***

  The cable loss is added to the measurement result and the result is displayed on the screen.

- ***Tx Signal Level setting***

  The set value is rounded off to the nearest whole number and used as the output value. The Tx Level sometimes exceeds the range of the specified accuracy of the product because of rounding errors.

Tx Signal Level

2. Set the RF transmission output level of the R4870 system. ((2) in Figure 2-34.)
   Output level range: -15 to -85 [dBm] (1 dB step)

   The maximum output level setting value is as low as the cable loss set in step 1.

Tx Signal Modulation Index

3. Set the modulation index of the R4870 built-in communication unit. ((3) in Figure 2-34.)
   Modulation index: 0.2 to 0.4 (0.01 step)

BD Address

4. Set the BD Address of the R4870 built-in communication unit. ((4) in Figure 2-34.)
   Use the external keyboard to enter the address. ((3) in Figure 2-34.)
   BD Address: 000000000000 to FFFFFFFFFFFF (h)

Test Channel

5. Set the frequency or channel conditions of the RF communication test. (See (5) in Figure 2-34.)
   Text boxes are arranged into Low, Mid, and High frequency bands, and test and conf. for Other (USA/Europe/Japan) and France.
   In a Test text box, set IUT to the frequency or channel of the test.
   In the relevant Conf. (System Configuration) text box, set the confront frequency (or channel) only when Loopback Mode is set.
   (When TX Mode is set, neither the frequency nor channel condition can be set.)
   In other words, the IUT receiver frequency when the transmitter test was performed and the IUT transmission frequency when the receiver test was performed are set.
   Setting ranges for the test frequency (or channel) are as follows:

   Other (USA/Europe/Japan):
   2402 to 2480 [MHz]
   0 to 78 [ch]

   France: 2454 to 2476 [MHz]
   0 to 22 [ch]

10 MHz Reference

6. Select the reference frequency source (10 MHz). ((6) in Figure 2-34.)
   Internal: R4870 built-in reference source
   (The 10MHz REF OUT outputs the R4870 reference signal.)

External: External reference source
(The 10MHz REF OUT outputs the external reference signal.)

NOTE: For information on the input range of the external reference signal, refer to Chapter 6, "SPECIFICATIONS."

2.4.4 Setting Comment Edit

The R4870 system can store test data and comments in its memory.

Entering comments

1. Enter comments for each text box by using the external keyboard. Then, press ENT.

Data entry specifications for each text box.

Unit Name/Lot Number: 20 characters

Device Number: 20 characters

Device Number Auto Increment: ON/OFF

NOTE: If the Device Number Auto Increment is set to ON, 1 is automatically incremented in the Device Number everytime a file is saved.

User Comment - Item: 20 characters × 8 items

User Comment - Comment: 40 characters × 8 items

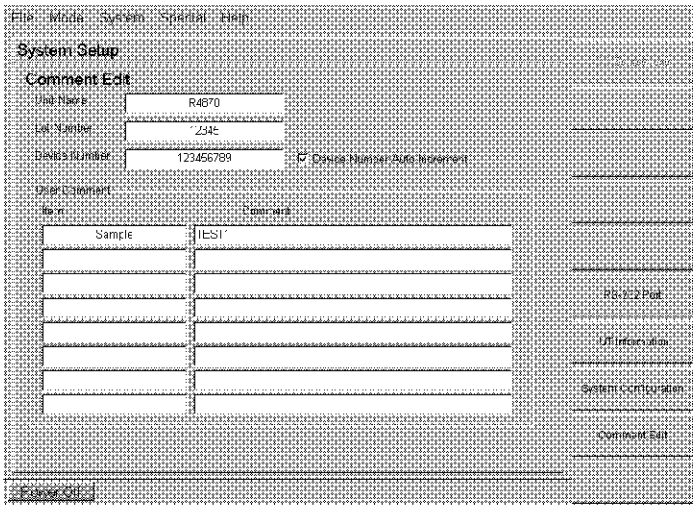


Figure 2-35 Comment Edit Setting

2.4.5 Changing Test Parameter

The following parameters can be changed while performing tests.

- Sample Packets, Gain of Frequency Deviation, and Average Frequency Calculation of the modulation characteristics measurement
- Sample Packets and Select Hopping Mode of the frequency tolerance measurement
- Sample Packets and Select Hopping Mode of the carrier frequency drift measurement
- BER Sample Bit and PER Calculation of the receiver test (BER, PER)
- Dirty ON/OFF, TX Level of the sensitivity-single/multi
- TX Level of Maximum Input Level

2.4.5.1 Modulation Characteristics

In the modulation characteristics measurement, the number of sample packets, frequency deviation ratio, and the method used to calculate the average frequency are set.

- Sample Packets

  The number of measured packets: 1 to 200 (10 by default)

- Integration Average, Peak Average

  Δf1 gain: Sets the Gain for the deviation result of the 11110000-bit pattern. (0.001 to 2.000: initial value 1.000)

  Δf2 gain: Sets the Gain for the deviation result of the 10101010-bit pattern. (0.001 to 2.000: initial value 1.000)

- Select Pattern

  Sets the Δf1 (11110000) and Δf2 (10101010) measurement items to ON or OFF.

---

*NOTE: **Δf1 and Δf2 can be simultaneously set to OFF by using two methods: 1: In Select Pattern in Test Parameter and 2: in Modulation Characteristics in Item Select. However, the screen, which is displayed after Δf1 and Δf2 are set to OFF, is the same regardless of which method the user used. Which method; Select Pattern or Item Select, is used can be recognized by the color of the test item box located on the left side of the window: The color is gray when setting OFF in Item Select. The color is white when setting OFF in Select Pattern.***

- Average Frequency Calculation

  Selects a method used to calculate the average frequency.

  Integration Average: Calculates an average frequency that meets the SIG standard.

  Peak Average: Calculates the average based on the half-value of the maximum and minimum values which are 8 consecutive bits. (Only available for Δf2 max)

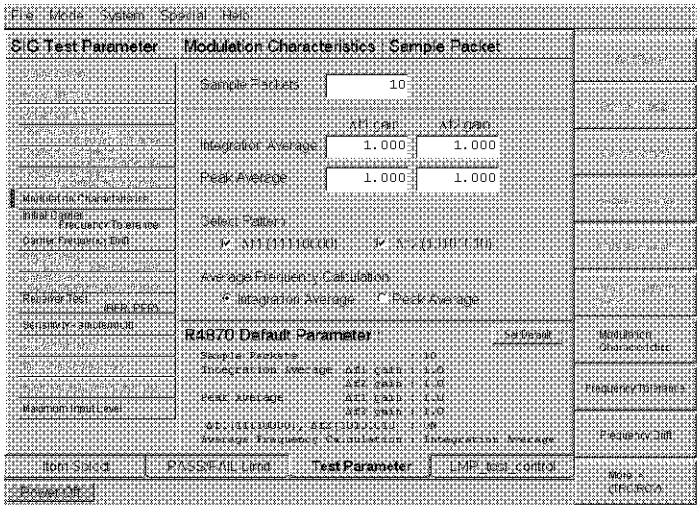


Figure 2-36 Modulation Characteristics Setting

2.4.5.2 Initial Carrier Frequency Tolerance and Carrier Frequency Drift

Frequency tolerance and carrier frequency drift tests parameters can be set. The data is the same for these parameters. (See Figure 2-37.)

- Sample Packets
  The number of acquired packets 1 to 200 (10 by default)
- Select Hopping Mode
  Sets the frequency hopping mode to ON and/or OFF.
  The operations for each setting are shown in the table below.

Type	ON	OFF	Operation
1	✓	✓	Performs the measurement according to the SIG standard settings.
2	✓	-	Measures in the hopping mode.
3	-	✓	Measures at a single frequency.
4	-	-	No measurement is performed.

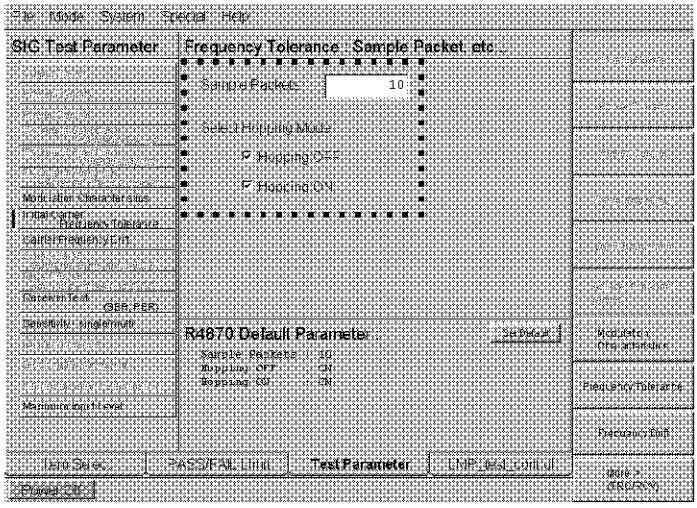


Figure 2-37 Frequency Tolerance Setting

2.4.5.3 Receiver Test (BER, PER)

- Standard and High Speed

  In the IUT receiving characteristics test, the number of Standard acquired bits and High Speed acquired bits can be entered in the BER (Bit Error Rate).

  Allowable setting ranges are shown below.

  Standard: SIG standard based.
  1,600,000 to 9,999,999

  High Speed: High speed measurement.
  1 to 1,600,000

- PER Calculation

  In the PER Calculation (Packet Error Rate Calculation), either of the 2 modes: HEC and Access Code or HEC, Access Code and include Data payload error packets can be selected during measurement.

  HEC and Access Code: Calculates only the packet loss.

  HEC, Access Code and include Data payload error packets:
  Calculates an error as a packet error if it exists in the payload data.

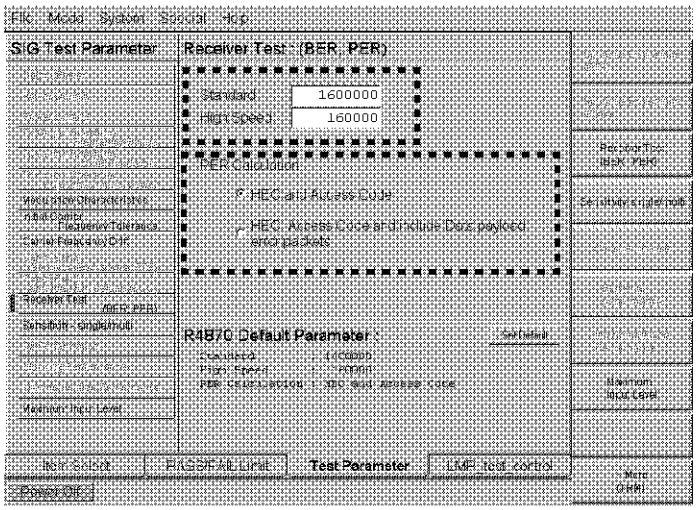


Figure 2-38 BER Sample Bits Setting

2.4.5.4 Sensitivity - single/multi

- Dirty (TX Signal)

  The Dirty (TX Signal) is a function which sets the Dirty Transmitter signal, which meets the SIG standard when performing the receiving sensitivity test of the IUT (refer to Section 6.1), to ON or OFF.

- TX Level (IUT Input Level)

  The TX Level (IUT Input Level) is used to set the transmission output level from the R4870 system to the IUT.

  Default value: -70 |dBm|

  TX Level: -15 to -85 [dBm] (1 dB step)

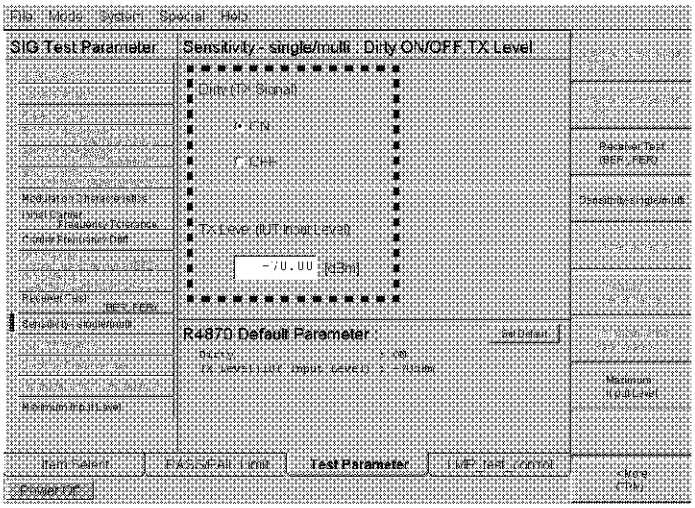


Figure 2-39 Dirty and TX Level Settings

2.4.5.5 Maximum Input Level

In the Maximum Input Level test, the maximum RF signal input level from the R4870 system to the IUT can be set.

Default value: -20 [dBm] (Defined by the SIG standard.)

TX Level (IUT Input Level) : -15 to -85 [dBm] (1 dB step)

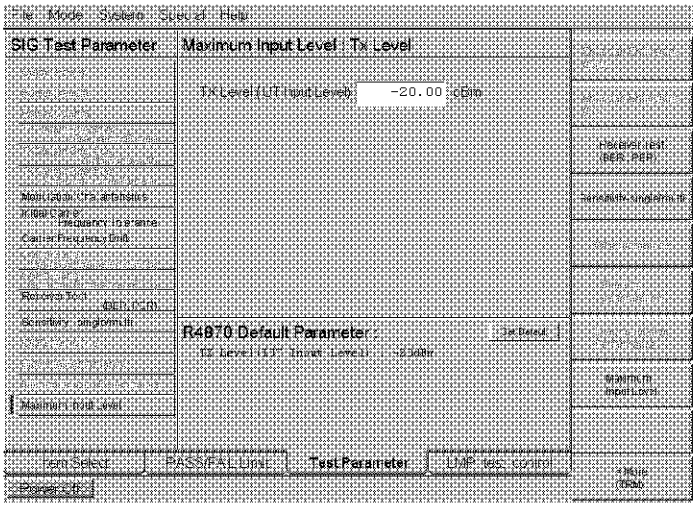


Figure 2-40 Maximum Input Level Setting

2.4.6 LMP_test_control

The following parameters can be changed while performing tests.

- Packets

  Measures one of the IUT transmission packet types selected from DH1, DH3, or DH5. However, in the Carrier Frequency Drift test, one or more Packets can be selected and measured. (See (1) in Figure 2-41)

- Test scenario

  Sets the RF communication conditions during the transmitter test. (See (2) in Figure 2-41)

  - TX Mode: the transmission is established with Poll packet and Test Packet.
  - Loop back: the IUT returns the same packet to the R4870 as the one transmitted by the R4870.

- Poll Period

  Sets the value of Poll Period, which is one of the LMP test control parameters that R4870 system transmits to IUT during transmitter test (in the TX Mode). However, if the value is set, the Poll Period is not changed.

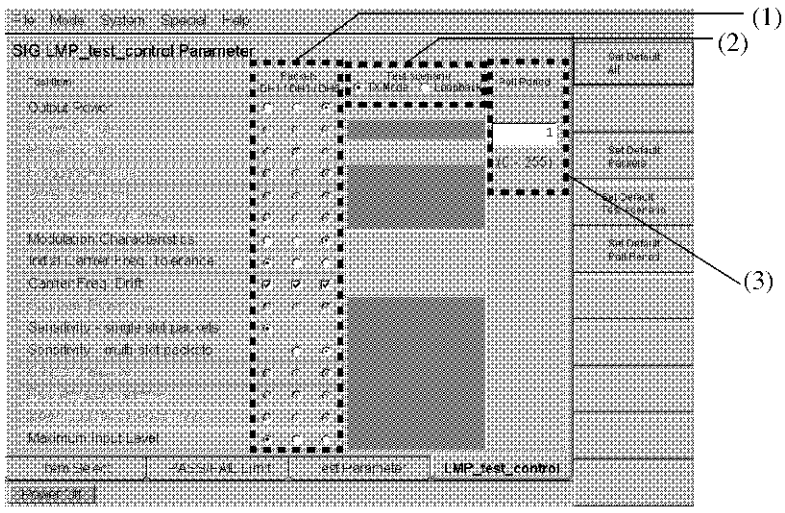


Figure 2-41 LMP_test_control Settings

2.4.7 Remote Loopback (SCO) Evaluation

This section describes the SCO remote loopback evaluation.

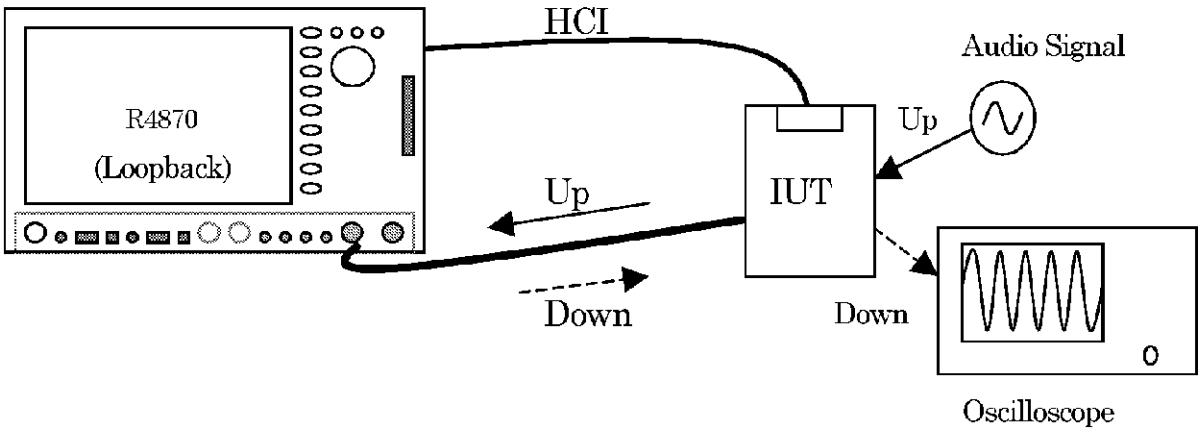


Figure 2-42 Remote Loopback Evaluation

The remote loopback evaluation function is used to evaluate the output signal from the IUT after the Audio signal is input and the loopbacked voice data is demodulated by using the R4870 as shown in Figure 2-42.

If the R4870 is in the SCO remote loop back state, ACL link is in the remote loop back state as well. Therefore, the ACL loop back is evaluated by setting the IUT control to OFF (see Section 2.3.2), and transmitting to and receiving the ACL data from the IUT after executing the SCO remote loop back evaluation (see Section 2.4.7.2).

2.4.7.1 Setting the Remote Loopback (Loopback ON) Evaluation

1. Select **Mode** in the main menu and **Function Select** → **Utility** → **Remote Loopback** in the drop down menu.
   The Loopback evaluation window is displayed.

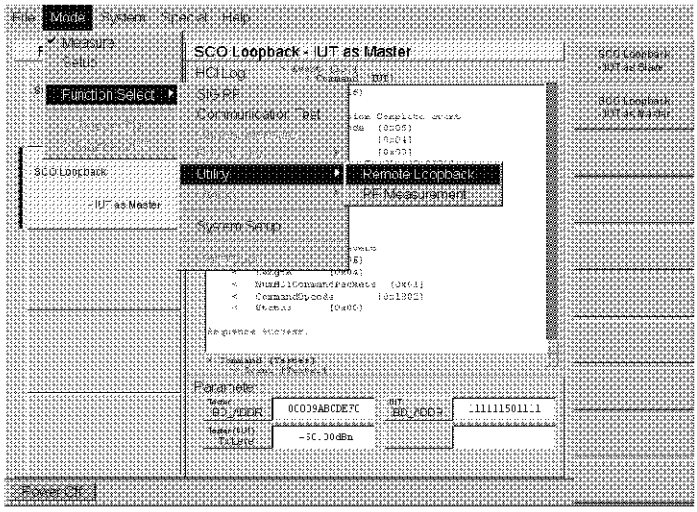


Figure 2-43 Loopback Evaluation Window

Displaying the SCO settings window

The SCO loopback settings must be set before performing the evaluation.

2. When the Remote Loopback evaluation window is displayed, select **Mode** in the main menu and then select **Setup** in the drop down menu to display the setting window. (Figure 2-44)

NOTE: *To view the evaluation window after setting is complete, select* **Mode** *in the main menu, and then select* **Measure** *in the drop down menu.*

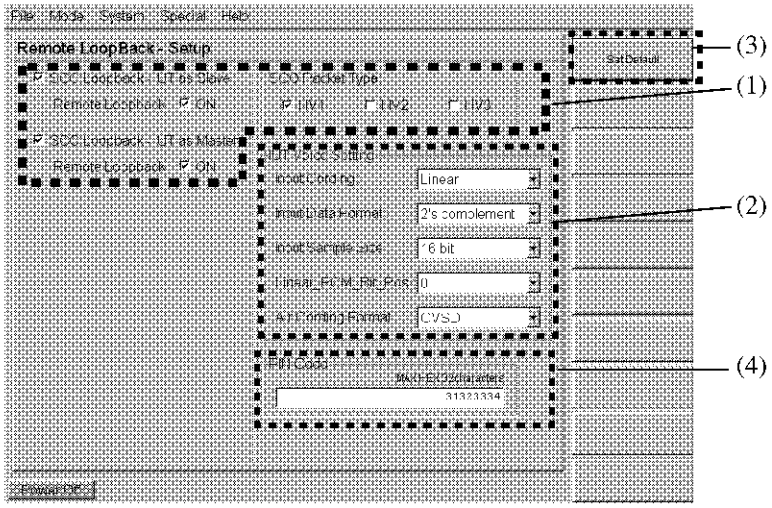


Figure 2-44 Remote Loopback Setup Window (Default Setting)

Figure 2-44 shows the default setting.

Selecting **Set Default** (3) sets all of the items in (1) and (2) their default settings.

Setting the SCO (Figure 2-44 (1))

3. Ensure that either SCO Loopback - IUT as Slave or SCO Loopback - IUT as Master is checked. Also ensure that Remote Loopback is set to ON.

NOTE:

1. ***The evaluation is not performed if SCO Loopback - IUT as Slave or SCO Loopback - IUT as Master is unchecked.***
2. ***If Remote Loopback is set to OFF, the confront test can be performed against the IUT. The confront test of the Audio input/output from PHONE 1 of the R4870 against the Audio input/output from the IUT is performed.***

---

4. Ensure that one of the SCO Packet Types is checked.

NOTE: The evaluation is not performed if no SCO Packet Type items are checked.

Setting the IUT voice (Figure 2-44 (2))

5. Set the IUT voice.

Input Cording:	Linear u-law A-law
Input Data Format:	1's complement 2's complement Sign - Magnitude
Input Sample Size:	8 bit 16 bit
Linear_PCM_Bit_Pos:	0/1/2/3/4/5/6/7
Air Cording Format:	CVSD u-law A-law

PIN Code (Figure 2-44 (4))

6. Used when authentication is given to the IUT.
   Enter PIN Code in hexadecimal.

   Example:
   If the IUT PIN Code is in ASCII, enter the following:
   "0" (ASCII 0) → enter "30" (Hexadecimal).

NOTE: After the instrument is disconnected (or when re-connecting), clear the Link-key of the IUT. If the Link-key of the IUT cannot be cleared, change the BD-ADDR of the R4870 to a new BD-ADDR (the value which is not used previously) and connect the instrument.

2.4.7.2 Remote Loopback Evaluation Execution Example

Evaluating SCO Loopback - IUT as Master

1. Connect the IUT to the R4870 as shown in Figure 2-42.
2. Select an item to be evaluated from the side menu.
3. Press the [SINGLE] for the Program button. *1

   Evaluation is performed.

   The evaluation execution window of the SCO Loopback - IUT as Master is displayed.

   The test item located on the left in the window is displayed in blue during the evaluation execution.

   When the loopback connection is made between the IUT and the R4870, a dialog box, in which the loopback connection can be cleared, is displayed in the center of the window.

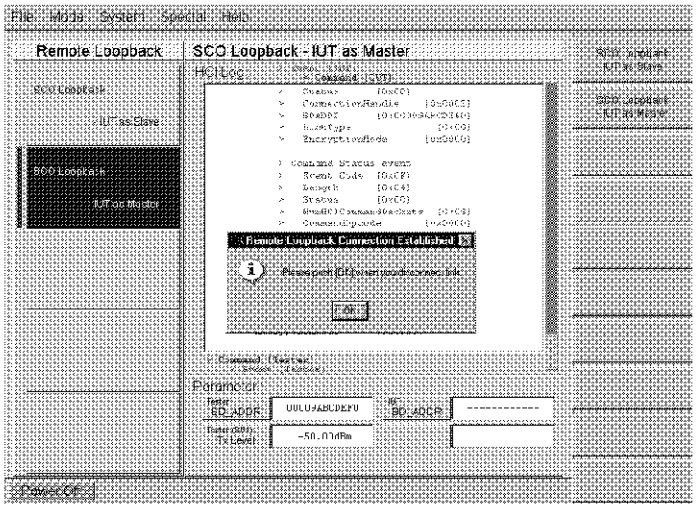


Figure 2-45 Remote Loopback Evaluation Execution

*1: To execute all evaluation items continuously, press the [START] for the Program button. The evaluation starts from the SCO Loopback - IUT as Slave, which is located at the top.

Disconnecting the loopback

4. Select **OK** in the message box to disconnect the loopback.
   The sequence for the disconnection is executed and the evaluation is terminated.

NOTE: ***The evaluation is performed to check the IUT operations. PASS or FAIL is not displayed.***

2.4.8 RF Measurement

This section describes the characteristics of the RF Measurement function and how to use the function.

2.4.8.1 RF Measurement Point of View

- Unlike the SIG RF measurement function, this function performs the measurement on a single channel only.
- The connection/disconnection sequence is separated from the measurement sequence. Therefore, the instrument must be connected or disconnected.
- In the FM Deviation measurement, this function substantially reduces the measurement time by measuring multiple RF Parameters with one type of packet. (Modulation Characteristics, Frequency Drift, Frequency Tolerance, and others)
- In the BER measurement, the frequency hopping state can be used. Then the BER can be measured under conditions similar to operating conditions.

2.4.8.2 Setting the RF Measurement

2.4.8.2.1 Changing to the RF Measurement Screen

1. Select **Mode** in the main menu and **Function Select** → **Utility** → **RF Measurement** in the drop down menu.
   The RF Measurement screen is displayed.

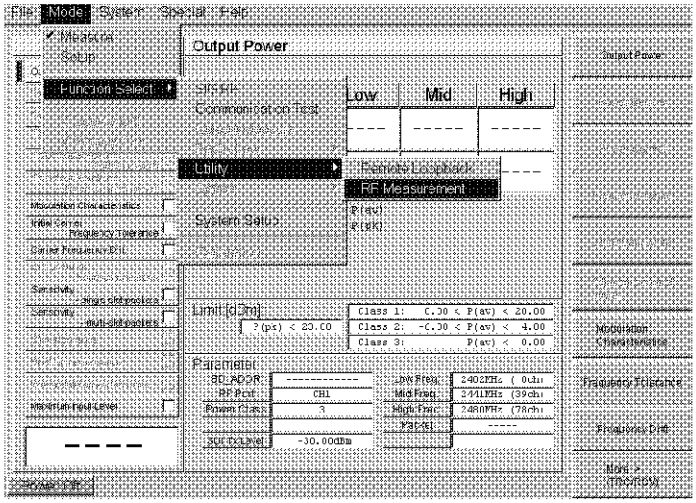


Figure 2-46 How to Change to the RF Measurement Screen

NOTE: The Connection screen is displayed in the factory setting. The most recently-used measurement screen or the setting screen is displayed from the second time the RF Measurement function is used.

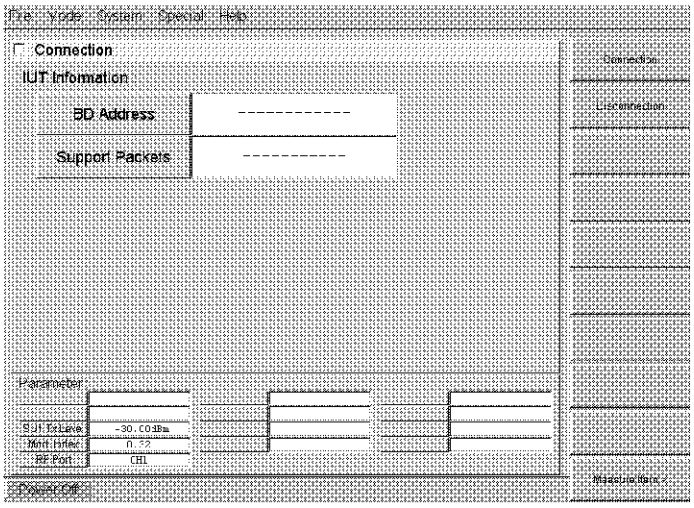


Figure 2-47 Connection Screen

2.4.8.2.2 Setting Each Measurement Item

1. Click **Mode** on the main menu and select **Setup** from the dropdown menu. The screen switches to the setting screen.

2. Select **FM Deviation** or **BER** from the side menu. The screen switches to the FM Deviation or BER setting screen.

NOTE: The PASS/FAIL Limit and Test Parameter setting conditions specified here are not applied to the SIG RF measurement. However, only the Channel Number Assignment setting in System Setup is applied.

2.4.8.2.3 Setting the PASS/FAIL Limit of the FM Deviation

The Pass/Fail limit of Output Power, Modulation Characteristics, Frequency Drift, and Frequency Tolerance can be changed.

To change Pass/Fail limits, select the text box, enter an arbitrary number, and then press the **ENT** key. To return all the Pass/Fail limits to the SIG values, click **Set Default**. (If the Pass/Fail limit exceeds the specified limit, the color of the measurement result box turns red.)

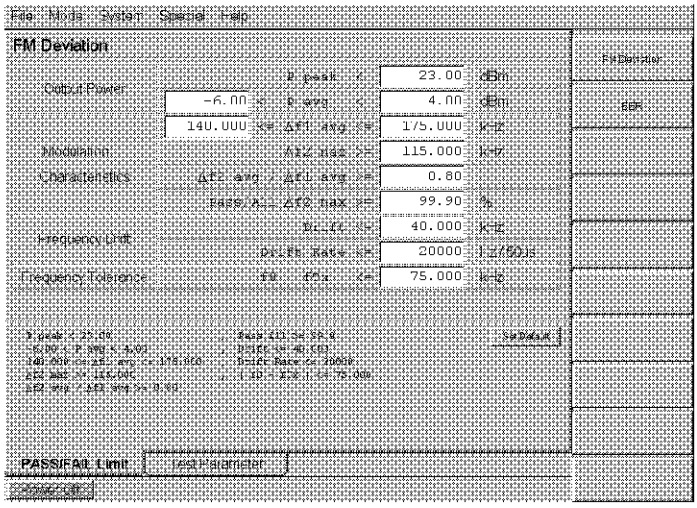


Figure 2-48 PASS/FAIL Limit Setting Screen

2.4.8.2.4 Setting Test Parameter of the FM Deviation

Frequency (or Channel), Packet, Sample Packets, and Average Frequency (Modulation characteristics) Calculation parameters can be set.

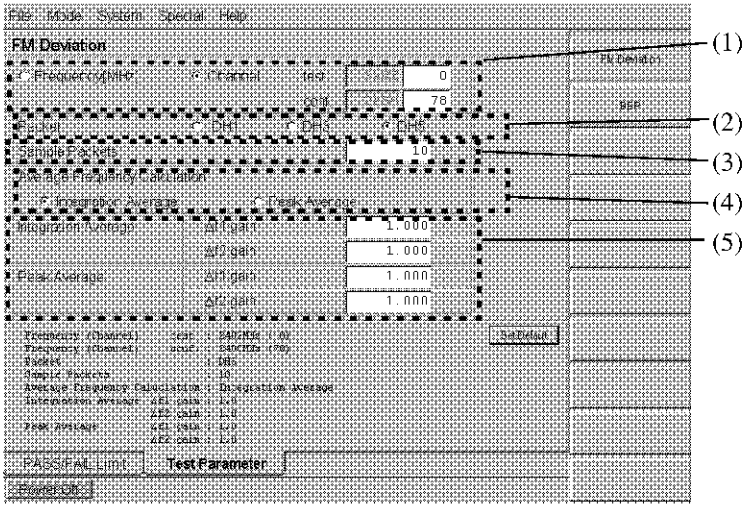


Figure 2-49 FM Deviation Test Parameter Setting Screen

1. Frequency[MHz]/Channel

   Selects Frequency or Channel to specify the measurement point.

   The following describes the meaning of each input item:

   - test : Test frequency (or channel) of the IUT
   - conf.: Received frequency (or channel) of the IUT in the transmission test (Loopback Mode)
     Transmission frequency (or channel) of the IUT in the receiver test

---

NOTE: ***Only the other (USA/Europe/Japan) or France setting, which is selected from System Setup→ IUT Information→Channel Number Assignment applies. (The frequency or channel setting does not apply.)***

- ***Other (USA/Europe/Japan):*** ***2402 to 2480 [MHz]***
  0 to 78 [ch]
- ***France:*** ***2454 to 2476 [MHz]***
  0 to 22 [ch]

---

2. Packet

   Selects one test packet type from DH1, DH3, and DH5.

3. Sample Packets

   Specifies the number of acquired packets in the measurement.

   The number of acquired packets: 1 to 200

4. Average Frequency (Modulation characteristics) Calculation

   Selects a method used to calculate the average frequency.

   Integration Average: Calculates the average frequency which complies with the SIG standard.

   Peak Average: Calculates the average based on the half-value of the maximum and minimum values which are 8 consecutive bits.
   (Only Δf2 max is applied.)

5. Integration Average/Peak Average
   Sets the Gain that is required to obtain the Δf1 and Δf2 deviations.
   Δf1gain: 0.001 to 2.000
   Δf2gain: 0.001 to 2.000

2.4.8.2.5 Setting the PASS/FAIL Limit of the BER

The Pass/Fail limit of the BER measurement can be set.

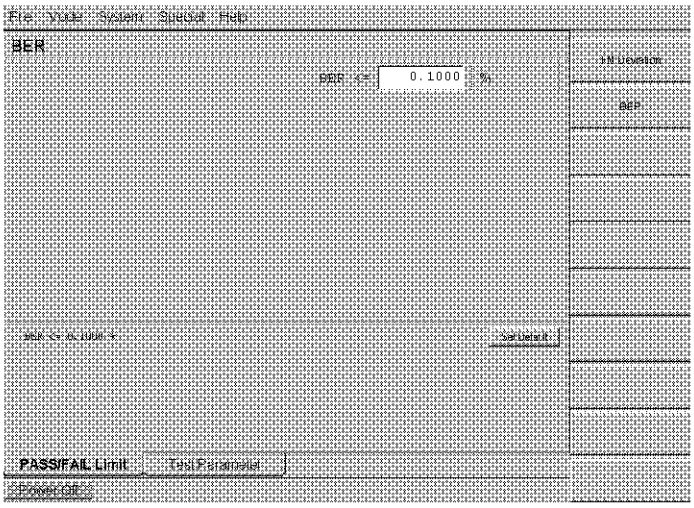


Figure 2-50 BER PASS/FAIL Limit Setting Screen

2.4.8.2.6 Setting Test Parameter of the BER

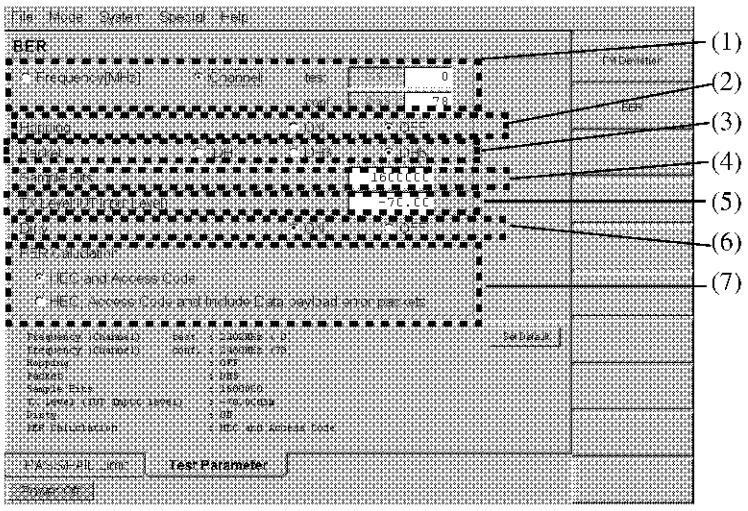


Figure 2-51 BER Test Parameter Setting Screen

1. Frequency[MHz]/Channel

   Selects Frequency or Channel to specify the measurement point. The following describes the meaning of each input item:

   - test : Test frequency (or channel) of the IUT
   - conf.: The received frequency (or channel) of the IUT in the transmission test (Loopback Mode)
     Transmission frequency (or channel) of the IUT in the receiver test

---

NOTE: ***Only the other (USA/Europe/Japan) or France setting, which is selected from System Setup→ IUT Information → Channel Number Assignment applies. (The frequency or channel setting does not apply.)***

- ***Other (USA/Europe/Japan):*** ***2402 to 2480 [MHz]***
  0 to 78 [ch]
- ***France:*** ***2454 to 2476 [MHz]***
  0 to 22 [ch]

---

2. Hopping

   Specifies whether to set frequency hopping in the measurement.

3. Packet

   Selects one test packet type from DH1, DH3, and DH5.

4. Sample Bits

   Specifies the number measured bits.

   The number of measured bits: 1 to 9999999

5. TX Level (IUT Input Level)

   Sets the signal transmission level to the IUT.

   Setting range: -13 dBm to -93 dBm

6. Dirty

   Sets the Dirty signal, which complies with the SIG standard against the transmission signal to the IUT, to ON or OFF.

7. PER Calculation

   The following two modes can be selected in PER (Packet Error Rate):

   - HEC and Access Code:
     Calculates only the packet loss.
   - HEC, Access Code include Data payload error packets:
     Calculates an error as a packet error if it exists in the payload data

2.4.8.3 Example of RF Measurement Evaluation Execution

1. Connection

After ensuring that the R4870 is connected to the IUT, select **Connection** from the side menu. Pressing the **SINGLE** key connects the R4870 to the IUT.

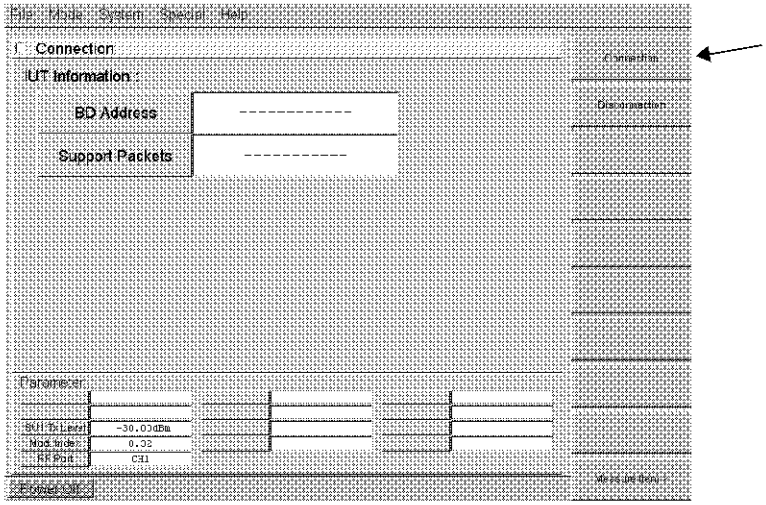


Figure 2-52 Connection Screen

If the R4870 is connected to the IUT correctly, the IUT BD address and support packets are displayed as shown in Figure 2-53, and the color of the box under the main menu turns green. (If the R4870 cannot be connected, the color of the box under the main menu turns red, and no IUT information is displayed in BD Address and Support Packets.)

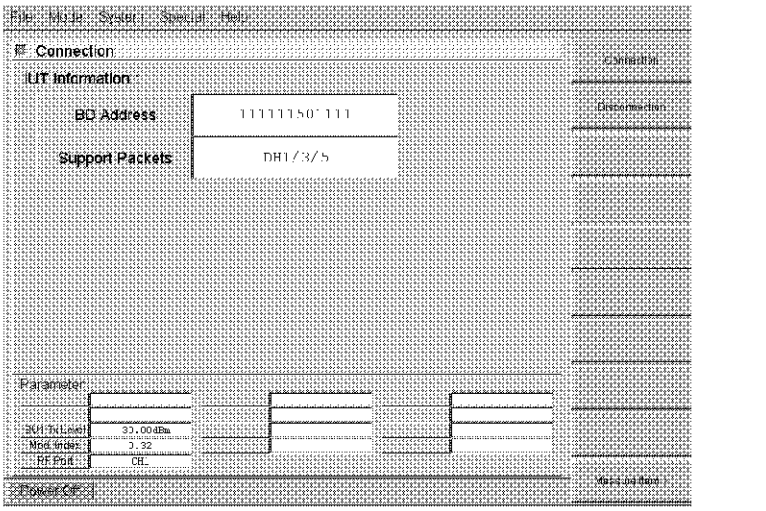


Figure 2-53 Connection with the IUT is Complete

2. Measuring the FM Deviation

Clicking **Measure Item>** from the side menu displays the **FM Deviation** and **BER** measurement items in the side menu.

Selecting **FM Deviation** switches the screen to the measurement screen as shown in Figure 2-54.

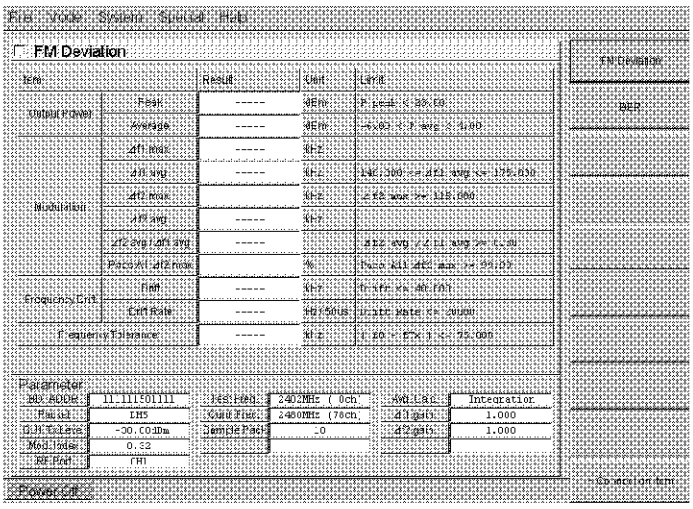


Figure 2-54 Measurement Screen (FM Deviation)

If all measurement results are within the limits, the color of the box under the main menu turns green. If any of the measurement results are fail, the relevant measurement boxes turn red and the box under the main menu also turns red.

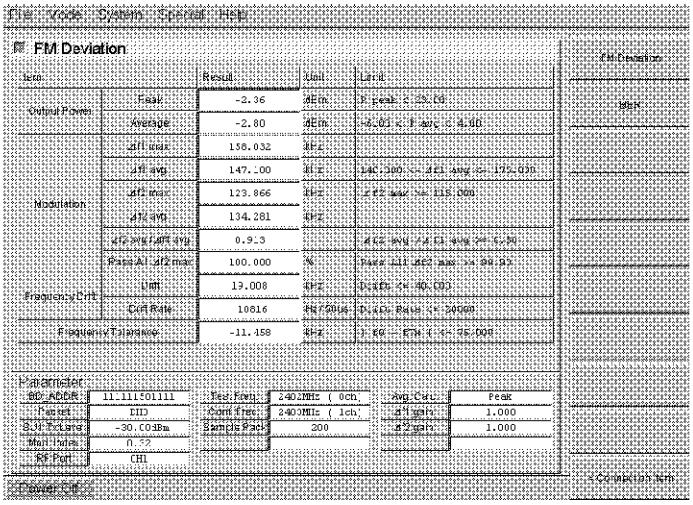


Figure 2-55 FM Deviation Measurement Result Display

3. Measuring the BER

Selecting **BER** from the side menu switches the screen to the screen as shown in Figure 2-56.

Pressing the **SINGLE** key starts the measurement.

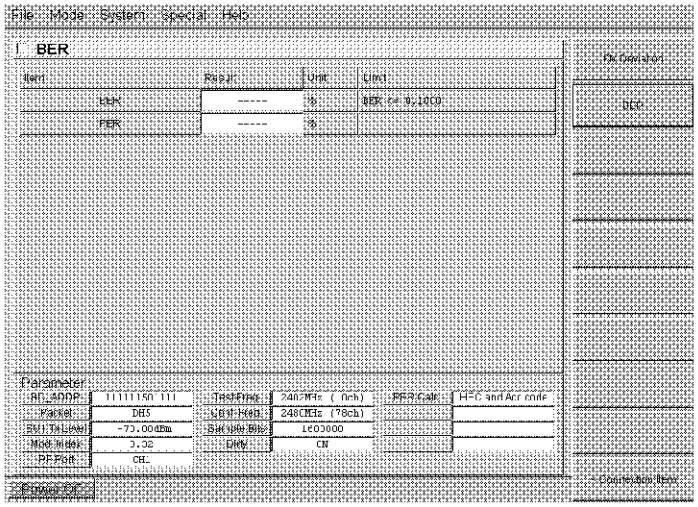


Figure 2-56 Measurement Screen (BER)

If measurement results are within the limits, the color of the box under the main menu turns green. If any of the measurement results are fail, the relevant measurement boxes turn red and the box under the main menu also turns red.

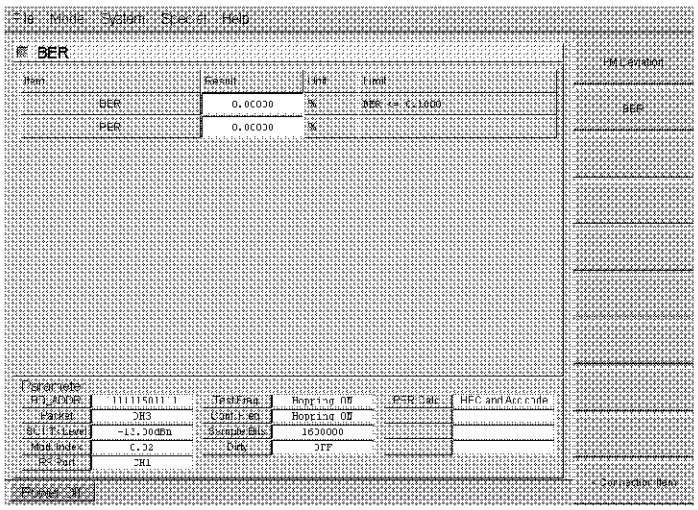


Figure 2-57 BER Measurement Result Display

2.5 Test Example

2.5.1 SIG RF Test

The following example shows the IUT (Implementation Under Test) Output Power and Sensitivity-single slot packets test.

Test conditions:

Test items:	Output Power and Sensitivity - single slot packets	
Frequency band:	Low (0 ch) and High (78 ch)	
Test method:	Output Power	High speed
	Sensitivity	Standard
PASS Conditions:		
Output Power	Average power:	Class 3: P(av) < -1.00
	Peak power:	All Class: P(pk) < 22.00
Sensitivity	BER	0.08%
	PER Calculation	HEC and Access code

Basic test parameters:

BER sample bits (RCV ALL)	Standard	1650000
Sensitivity Dirty ON/OFF	Dirty	ON

Instrument preparation

1. Check to see that the power is turned off.
2. Mount the IUT on the test fixture.
3. Plug the enclosed power cable into the AC power supply connector on the rear panel.

CAUTION: ***To avoid damaging the unit, do not apply a voltage or frequency exceeding the specified values.***

---

4. Plug the power socket into the electrical outlet.

Turning on the R4870

NOTE: ***Do not turn on the system with a floppy disk inserted in the disk drive.***

---

5. Turn on the **POWER** switch on the front panel.

   When the initial test is completed, the program is loaded (process time: approximately 120 seconds).

   If the initial test is completed correctly, a Measure display similar to the example in Figure 2-58 appears.

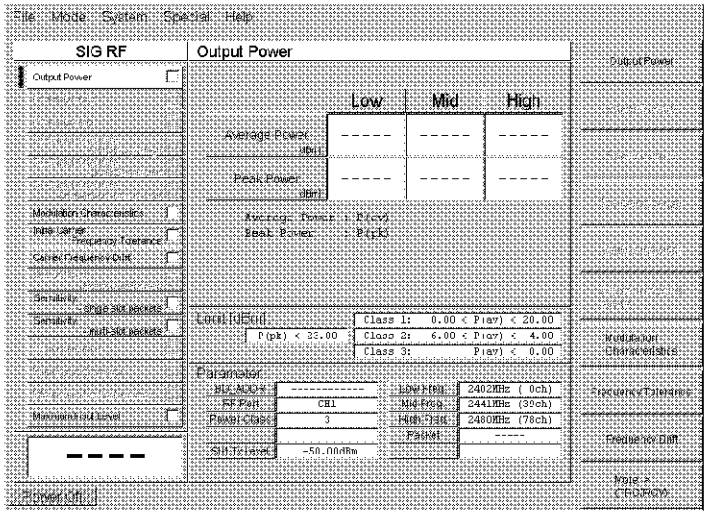


Figure 2-58 Start-up Screen (Measure Display)

NOTE: Due to the system back-up function, the system starts in the same state that it was in the last time the system was turned off.

Executing the Instrument Preset

Execute the Instrument Preset.

6. While pressing the right **PRESET** button in the entry key block, press the left **PRESET** button.

   The dialog box is displayed as shown in Figure 2-59.

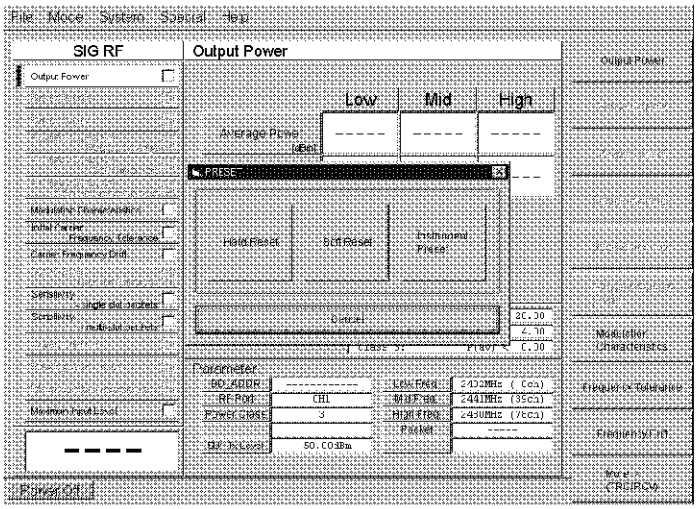
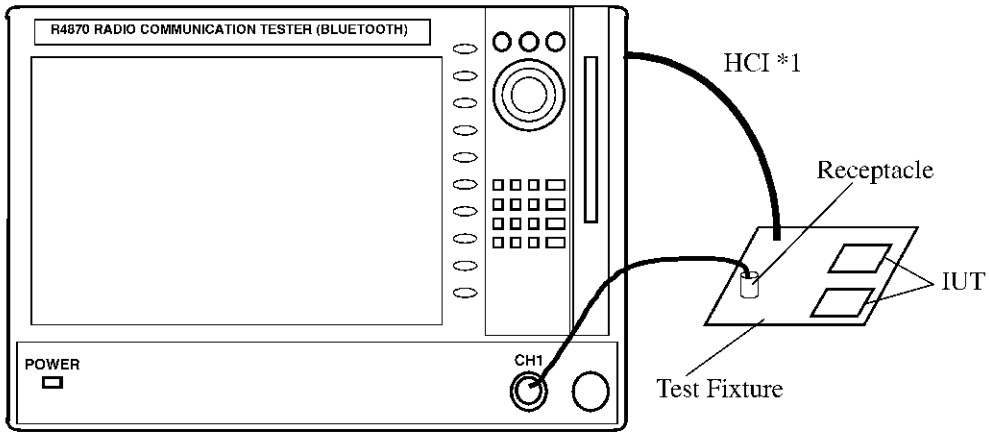


Figure 2-59 Instrument Preset Screen

7. Press the **Instrument Preset**.

8. Using the enclosed input cable, connect CH1 on the front panel to the receptacle of the IUT test fixture.



*1: If the optional HCI is applied to the IUT test fixture, connect the HCI to RS-232 connector located in the rear panel of the unit.

Figure 2-60 The Connection of the IUT and the R4870

9. Activate the IUT.

Selecting the SIG measurement item

10. Select **Mode** in the main menu and then, select **Function Select** → **SIG RF** in the drop down menu.

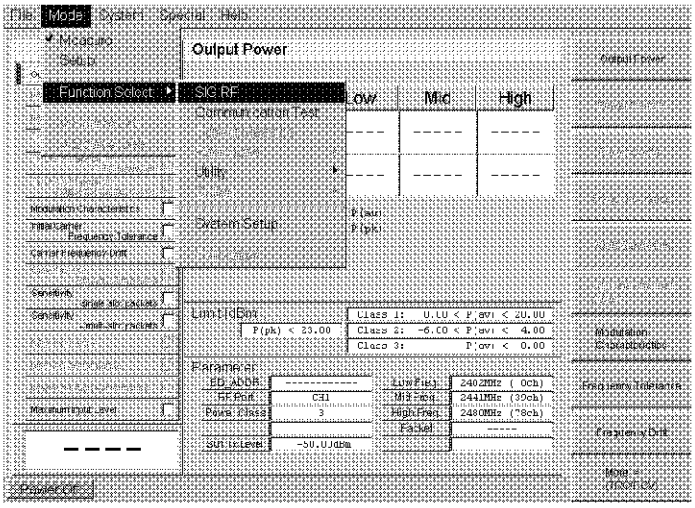


Figure 2-61 SIG RF Setup Screen

11. Select **Mode** in the main menu and then, select **Setup** in the drop down menu.

12. Select the **Item Select** tab.
The SIG Item Select screen is displayed.

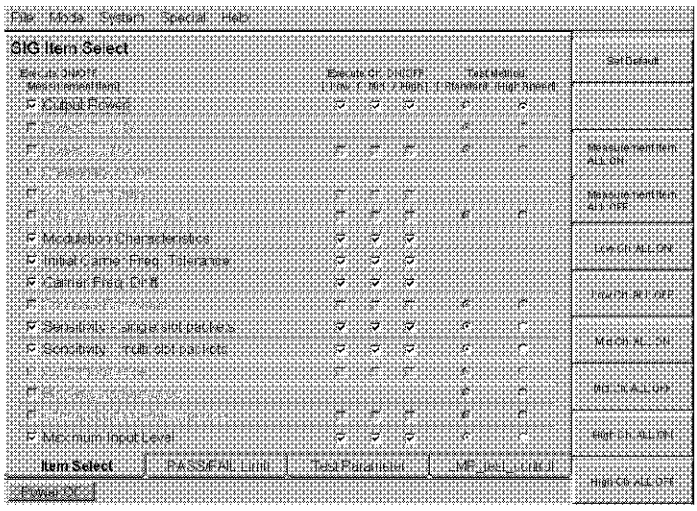


Figure 2-62 SIG Item Select Screen

13. Select **Measurement Item ALL OFF** in the side menu.
The check marks are removed from all test items.

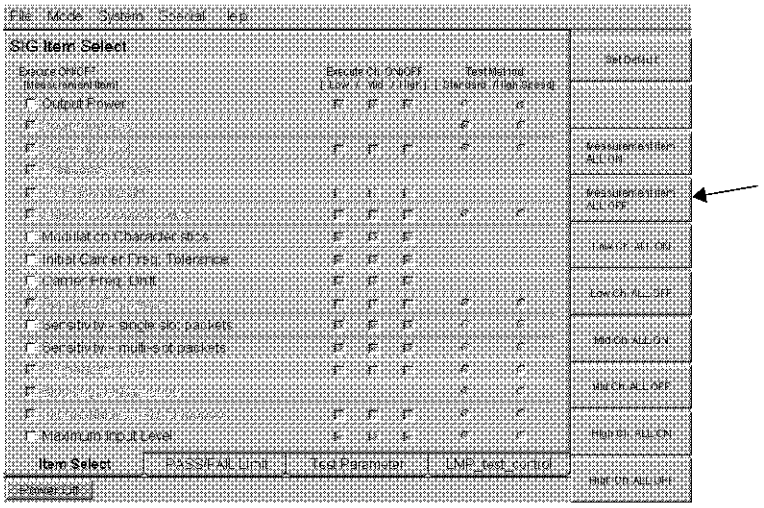


Figure 2-63 Measurement Item ALL OFF Screen

14. Press or click the Output Power and Sensitivity - single slot packets check boxes.
Output Power and Sensitivity - single slot packets are now selected.

15. Select **Mid Ch. ALL OFF** in the side menu.
The check mark is removed from the check box of the middle frequency band.

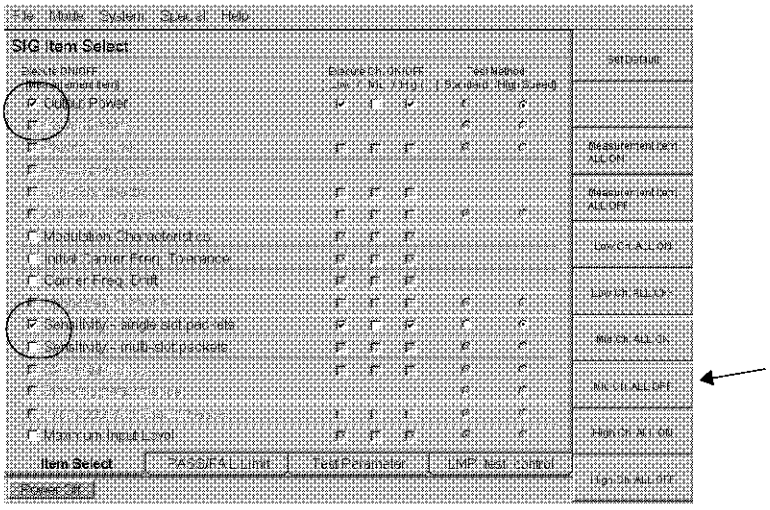


Figure 2-64 Mid Ch. ALL OFF Screen

The limit setting: Output Power

16. Select the **PASS/FAIL Limit** tab.
The SIG Limit Parameter is displayed.

17. Select **Output Power** in the side menu.

    If the Output Power selection is not found in the side menu, select **< More (TRM)**.

    The blue indicator bar is displayed next to the Output Power in the SIG Limit Parameter list.

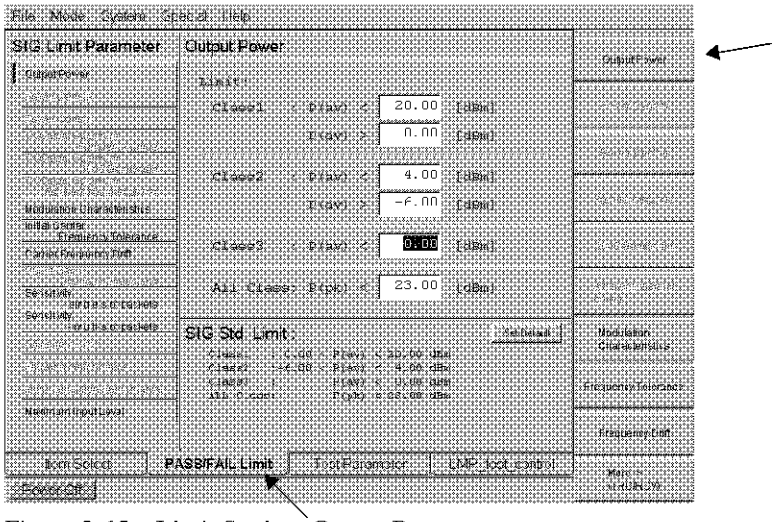


Figure 2-65 Limit Setting: Output Power

The limit setting change: Output Power

Change the Limit: Class 3 Average Power to -1.00 dBm.

18. While selecting 0.00, press [-], [1], [.], [0], [0], and [ENT].
    0.00 dBm is replaced with -1.00 dBm.

Change the ALL Class Peak Power to 22.00 dBm.

19. While selecting 23, press [2], [2], and [ENT].
    23.00 dBm is replaced with 22.00 dBm.

The limit setting: Sensitivity - single slot packets

Changing the BER.

20. Select **More > (TRC/RCV)** in the side menu.

    A new side menu for selecting a SIG item for the RCV (= receiver test) is displayed.

21. Select **Sensitivity - single slot packets** in the side menu.

    The blue indicator bar is displayed next to the Sensitivity - single slot packets in the SIG Limit Parameter list.

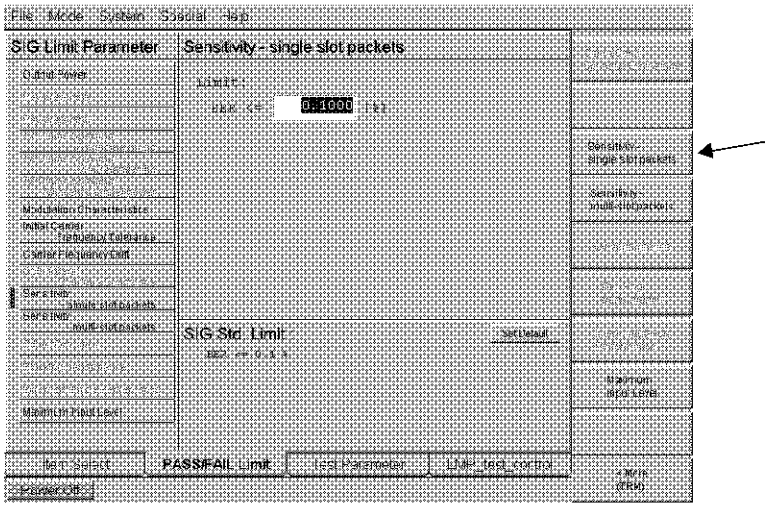


Figure 2-66 Limit Setting: Sensitivity - single slot packets

The limit setting change: Sensitivity - single slot packets

Change the Limit:BER<= to 0.0800%.

22. While selecting 0.1000, press [0], [.], [0], [8], [0], [0], and [ENT].
    0.1000% is replaced with 0.0800%.

The basic parameter settings

23. Select the **Test Parameter** tab.
    The SIG Test Parameter screen is displayed.

24. Select **Receiver Test (BER, PER)** in the side menu.
    The blue indicator bar is displayed next to the Receiver Test (BER, PER) in the SIG Test Parameter list.

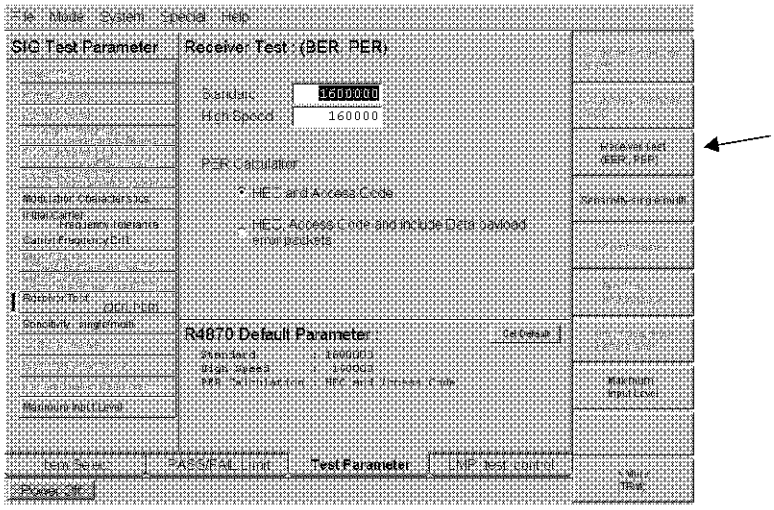


Figure 2-67 Basic Parameter Setting: Receiver Test:(BER, PER)

25. Select the Standard text box.

26. While selecting 1600000, press [1], [6], [5], [0], [0], [0], [0], and [ENT].
The value of the standard becomes 1650000.

27. Select **Sensitivity - single/multi** in the side menu.
The blue indicator bar is displayed next to the Sensitivity - single/multi in the SIG Test Parameter list.

28. Select the ON option button for the Dirty (TX Signal).

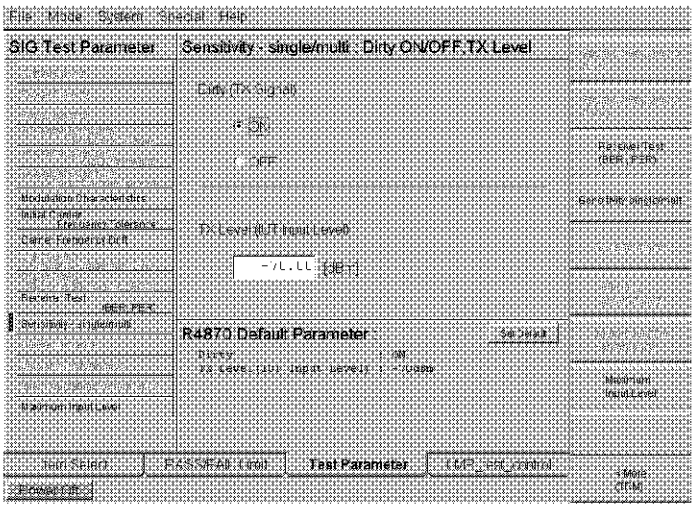


Figure 2-68 Basic Parameter Setting: Sensitivity - single/multi: Dirty ON/OFF,TX Level

Executing the test: Output Power

Changes from the Setup mode to the Measure mode.

29. Select **Mode** in the main menu and then, select **Measure** in the drop down menu.

    The Measure screen is displayed.

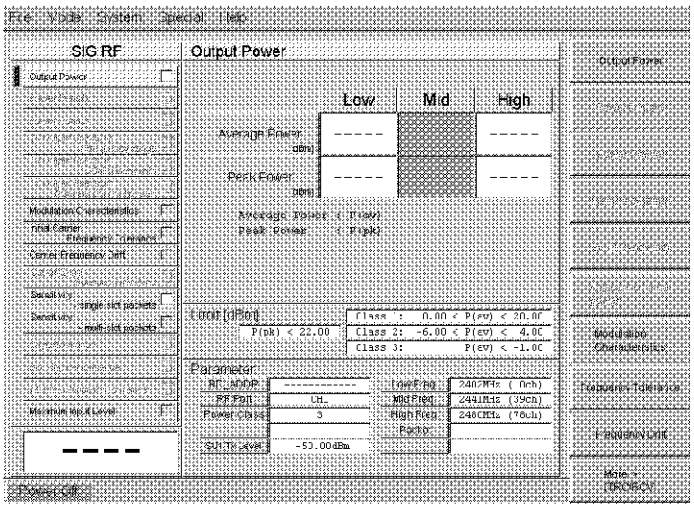


Figure 2-69 SIG RF - Measure Screen

30. Select **< More (TRM)** → **Output Power** in the side menu.

    Confirm that the blue indicator bar is appearing next to the Output Power in the SIG RF list.

31. Press the **SINGLE** for the Program button.

    Wait for a PASS or FAIL result to appear on the screen.

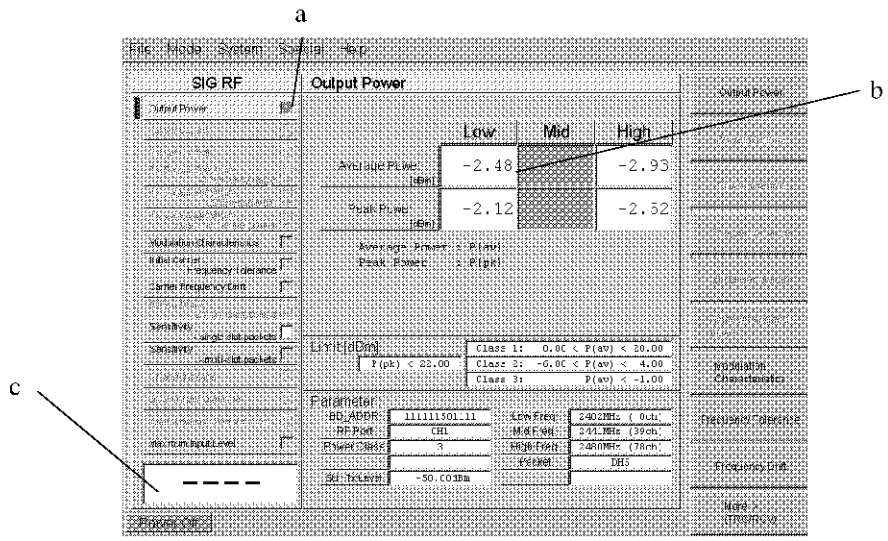


Figure 2-70 The Result of the Output Power Test

a. The PASS and FAIL results are indicated in different colors.
PASS: green, FAIL: red

b. The average power and peak power in the high and low frequency band are displayed as the test data.
If the value is outside of the PASS range, the box appears in red. If data cannot be obtained, "Error" is displayed.

c. Shows the overall result as PASS or FAIL.

Executing the test: Sensitivity - single slot packets

32. Select **More > (TRC/RCV)** in the side menu.
A new side menu for selecting a SIG item for the RCV (= receiver test) is displayed.

33. Select **Sensitivity - single slot packets** in the side menu.
The blue indicator bar is displayed next to the Sensitivity - single slot packets in the SIG RF list.

34. Press or click the **SINGLE** for the Program button.
Wait for a PASS or FAIL result to appear on the screen.

2.5.1 SIG RF Test

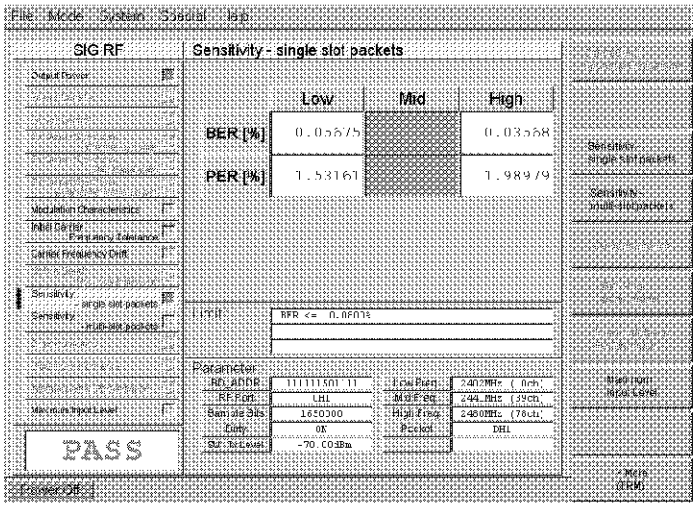


Figure 2-71 The Result of the Sensitivity - single slot packets Test

2.5.2 Communication Test

In the following example, two items are tested for the IUT (Implementation Under Test) communication test.

Test conditions:

Test items: Inquiry and Inquiry Scan

PASS conditions:

Inquiry: 20[HEX] (x 1.28 sec)

Inquiry Scan 20[HEX] (x 1.28 sec)

Instrument preparation

1. Check to see that the power is turned off.
2. Mount the IUT on the test fixture.
3. Plug the enclosed power cable into the AC power supply connector on the rear panel.

CAUTION: ***To avoid damaging the unit, do not apply a voltage or frequency exceeding the specified values.***

---

4. Plug the power socket into the electrical outlet.

Turning on the R4870

NOTE: ***Do not turn on the system with a floppy disk inserted in the disk drive.***

---

5. Turn on the **POWER** switch on the front panel.

   When the initial test is completed, the program is loaded (process time: approximately 120 seconds).

   If the initial test is completed correctly, a Measure display similar to the example in Figure 2-72 appears.

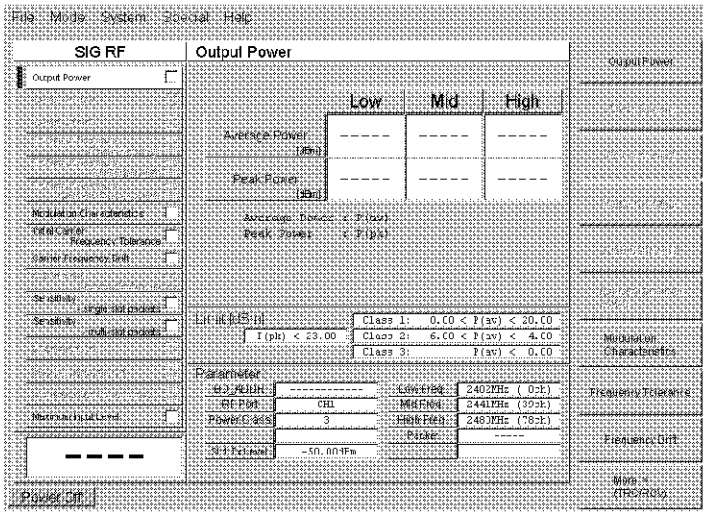


Figure 2-72 Start-up Screen (Measure Display)

NOTE: Due to the system back-up function, the system starts in the same state that it was in the last time the system was turned off.

Executing the Instrument Preset

Execute the Instrument Preset.

6. While pressing the right **PRESET** button in the entry key block, press the left **PRESET** button.
   The dialog box is displayed as shown in Figure 2-73.

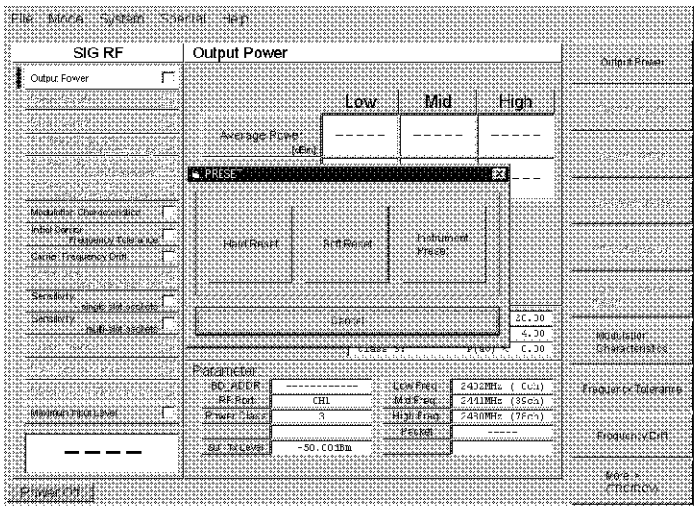
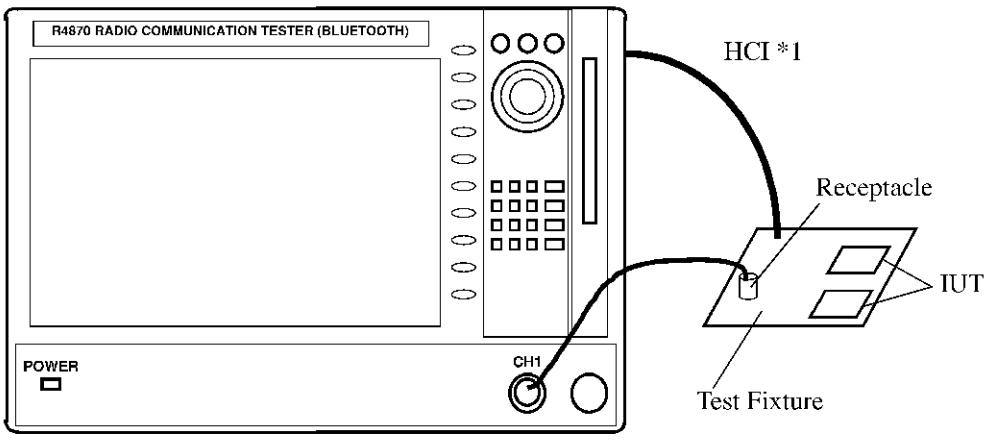


Figure 2-73 Instrument Preset Screen

7. Press the **Instrument Preset**.

8. Using the enclosed input cable, connect CH1 on the front panel to the receptacle of the IUT test fixture.



*1: If the optional HCI is applied to the IUT test fixture, connect the HCI to RS-232 connector located in the rear panel of the unit.

Figure 2-74 The Connection Between the IUT and the Test System

9. Activate the IUT.

Selecting a communication test

10. Select **Mode** in the main menu, and then select **Function Select** → **Communication Test** in the drop down menu.

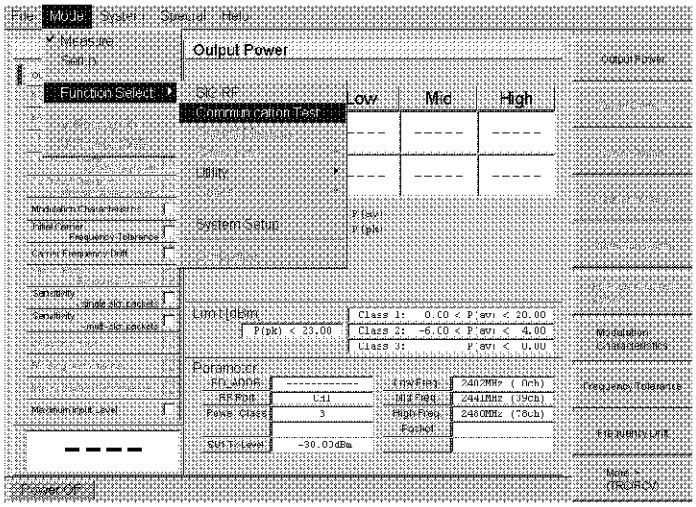


Figure 2-75 Communication Test Setup Screen

11. Select **Mode** in the main menu, and then select **Setup** in the drop down menu.
    The Communication Test - Setup screen is displayed.

12. Select **Item ALL OFF** in the side menu.
    The check marks are removed from all test items.

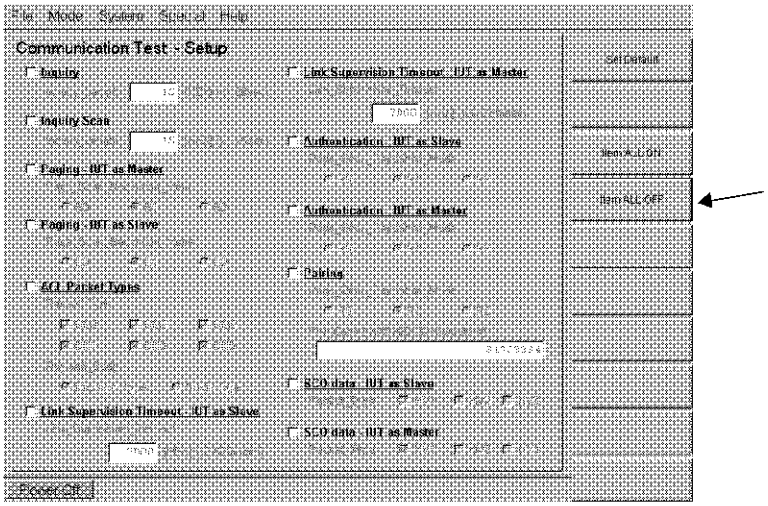


Figure 2-76 Item ALL OFF Screen

Setting Inquiry and Inquiry Scan

13. Select the Inquiry check box.

Change the Inquiry_Length to 20[HEX] (x1.28sec).

14. While selecting 15, press **2**, **0**, and **ENT**.
    The Inquiry_Length is set to 20[HEX] (x1.28sec).

15. Select the Inquiry Scan check box.

Change the Inquiry Scan to 20|HEX| (x1.28sec).

16. While selecting 15, press **2**, **0**, and **ENT**.
    The Inquiry_Length is set to 20[HEX] (x1.28sec).

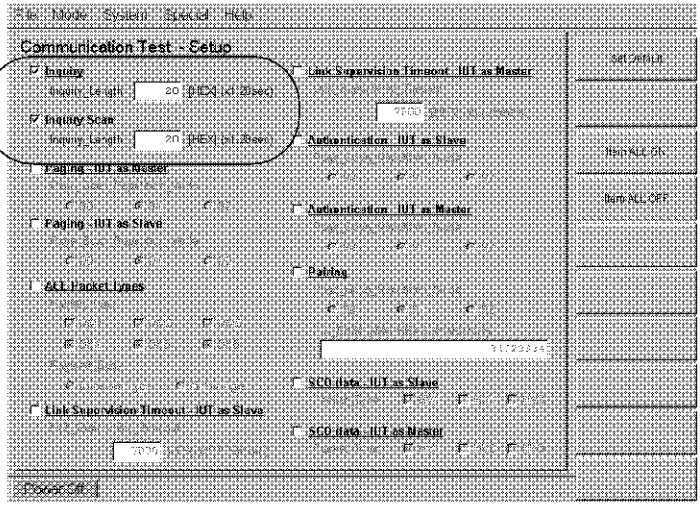


Figure 2-77 Communication Test Set-up Conditions

Inquiry, Inquiry Scan test

Change from the Setup mode to the Measure mode.

17. Select **Mode** in the main menu, and then select **Measure** in the drop down menu.

    The Measure screen is displayed.

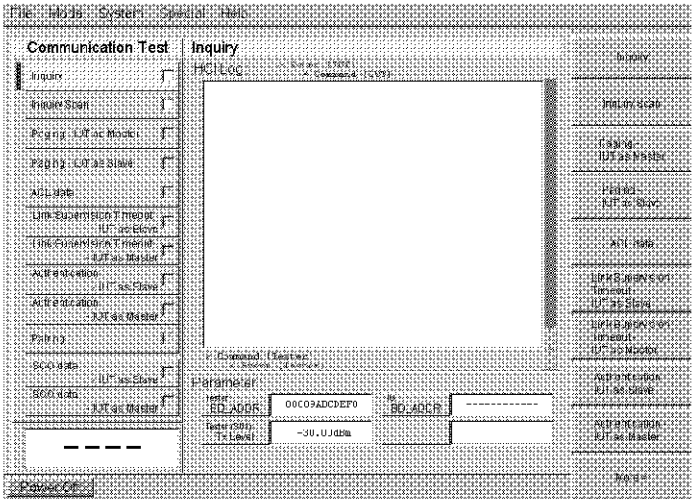


Figure 2-78 Communication Test Measure Screen

18. Press the **START** for the Program button.

    Following the script display of the test result detail, the PASS or FAIL result for the Inquiry and Inquiry Scan is displayed.
    PASS: green, FAIL: red

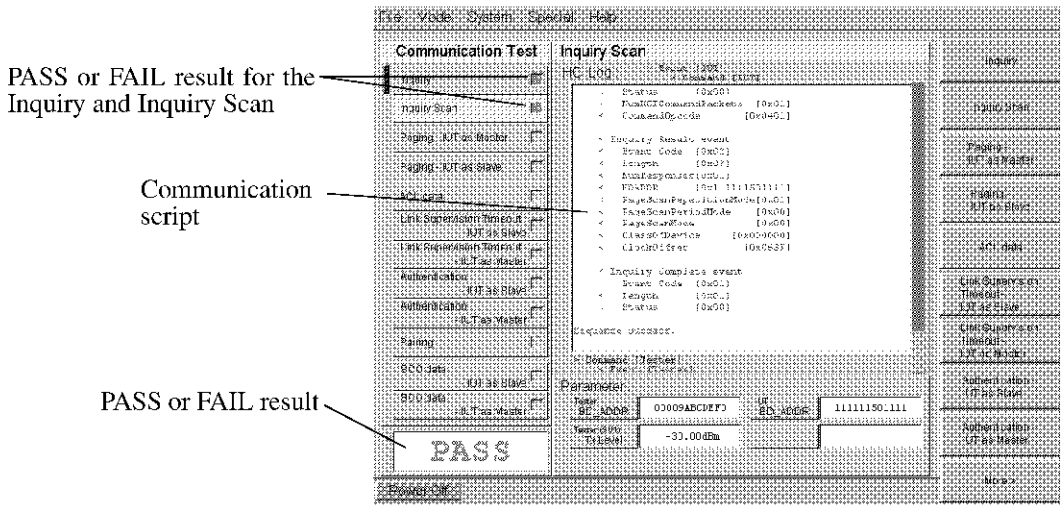


Figure 2-79 PASS or FAIL Result

3. REFERENCE

This chapter describes the menu configurations and functions.

- Menu Index: This section can be referred to as the index for Chapter 3.
- Menu Map: The menu configurations.
- Functional Descriptions: The menu item functions.

3.1 Menu Index

3.2 Menu Map

This section describes the configurations of the main menu, drop down menus, side menus, and tab menu.

NOTE:

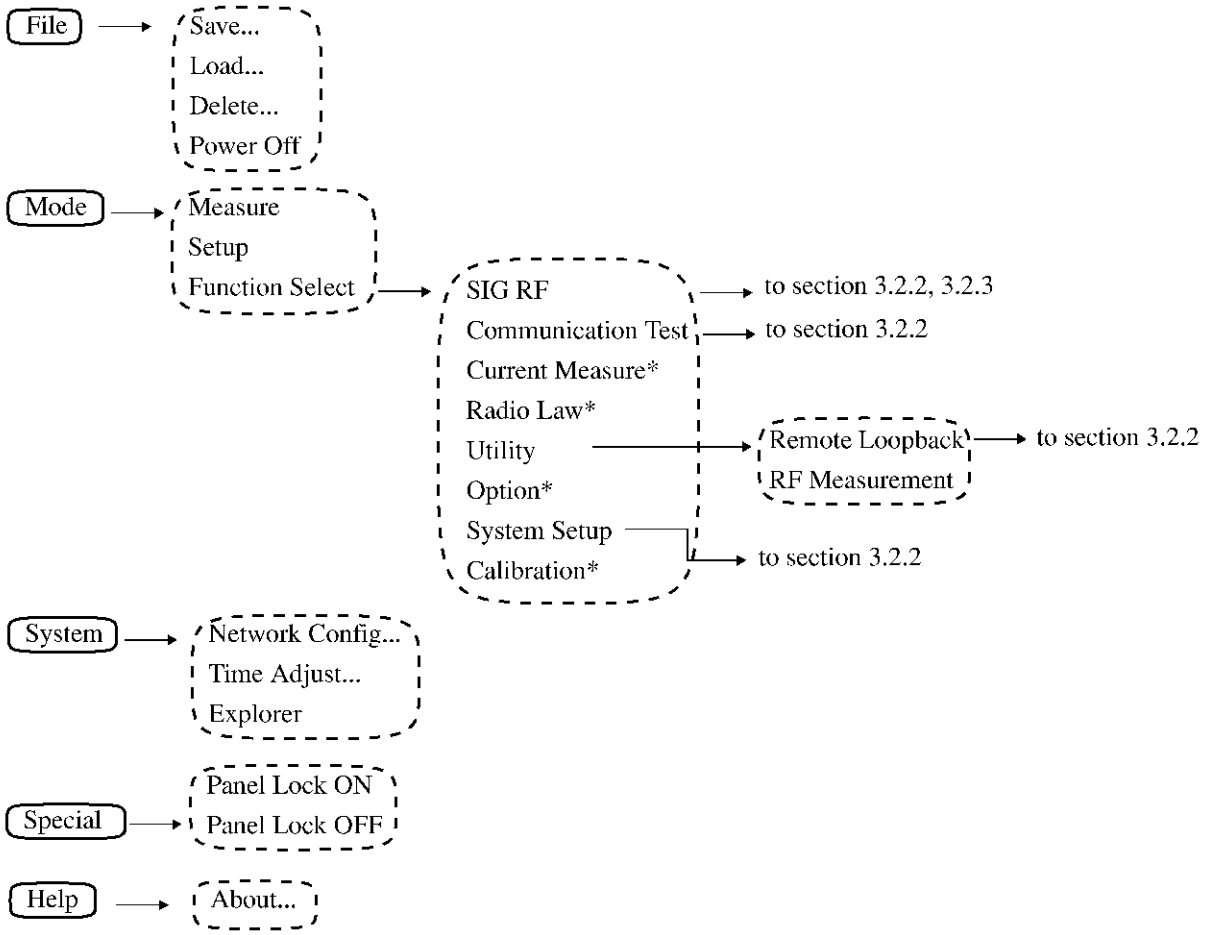
Describes the main menu.

Describes drop down menus.

Describes dialog boxes.

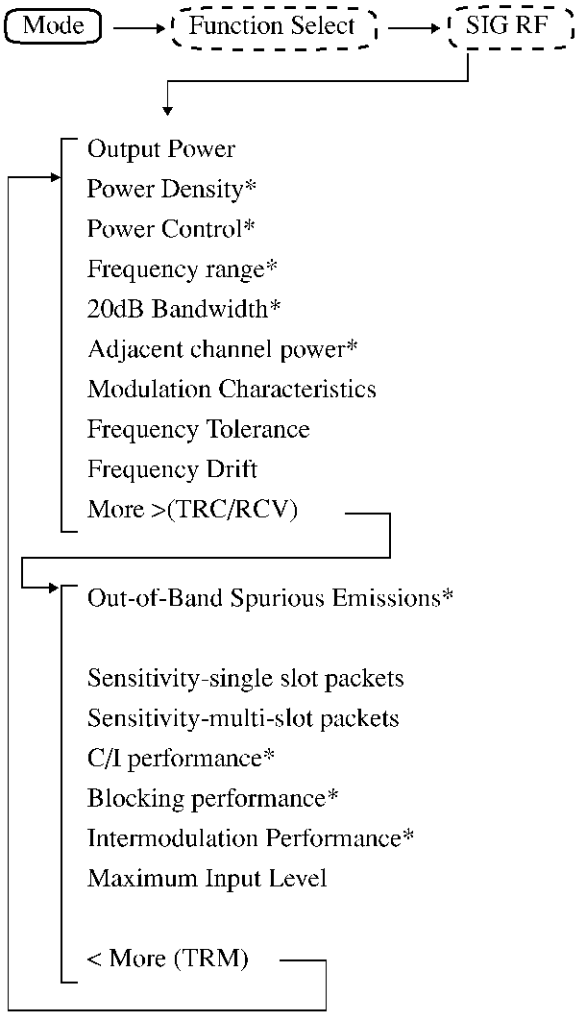
Functions marked with "*" are currently unavailable.

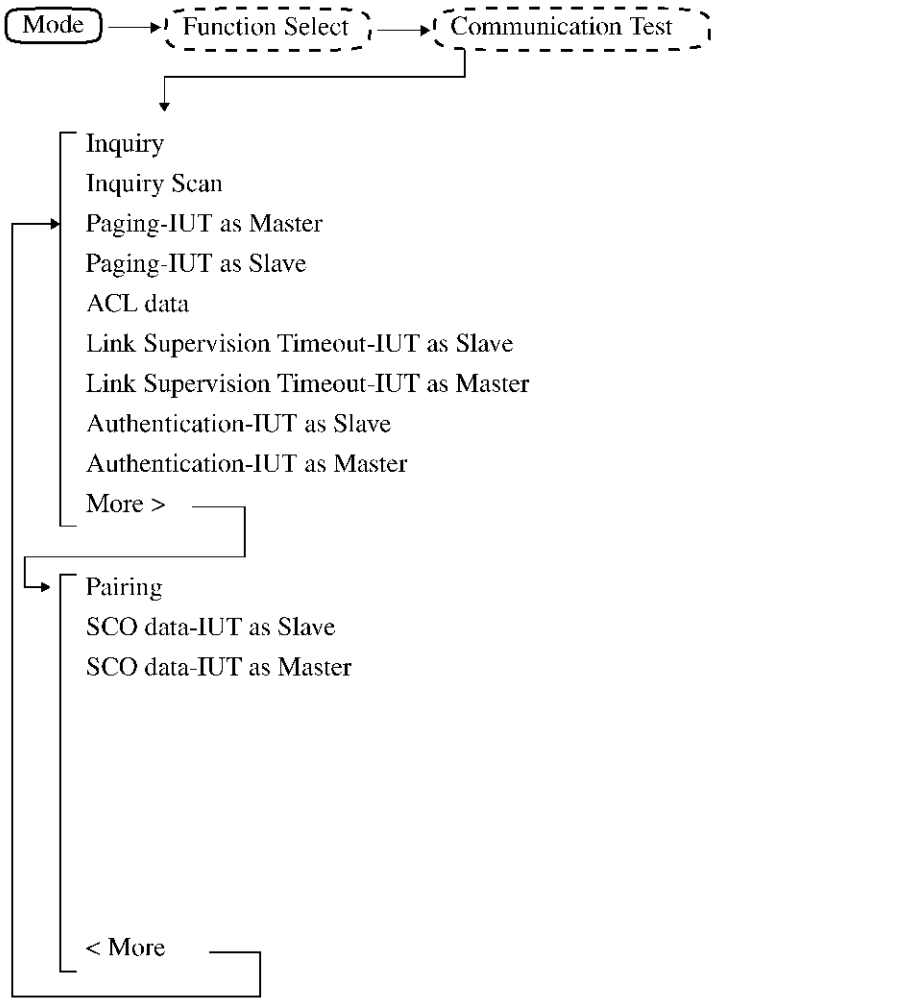
3.2.1 Main Menu and Drop Down Menu

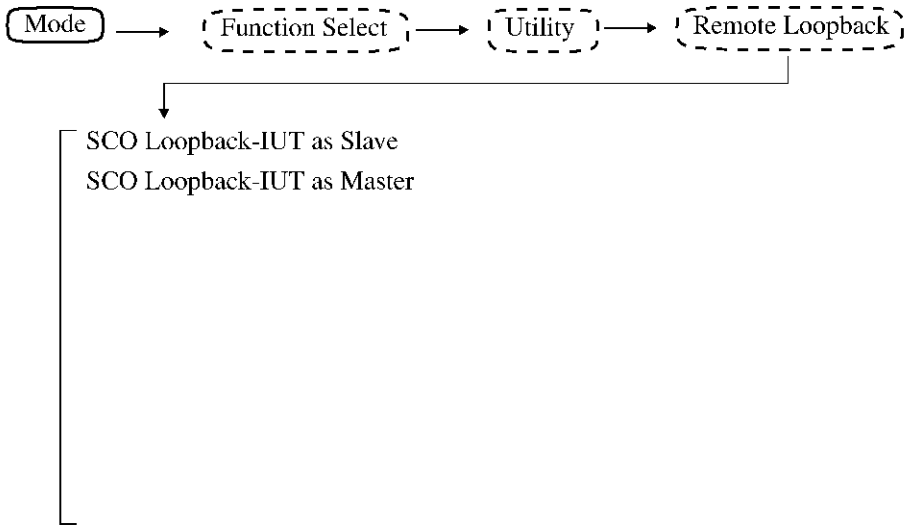


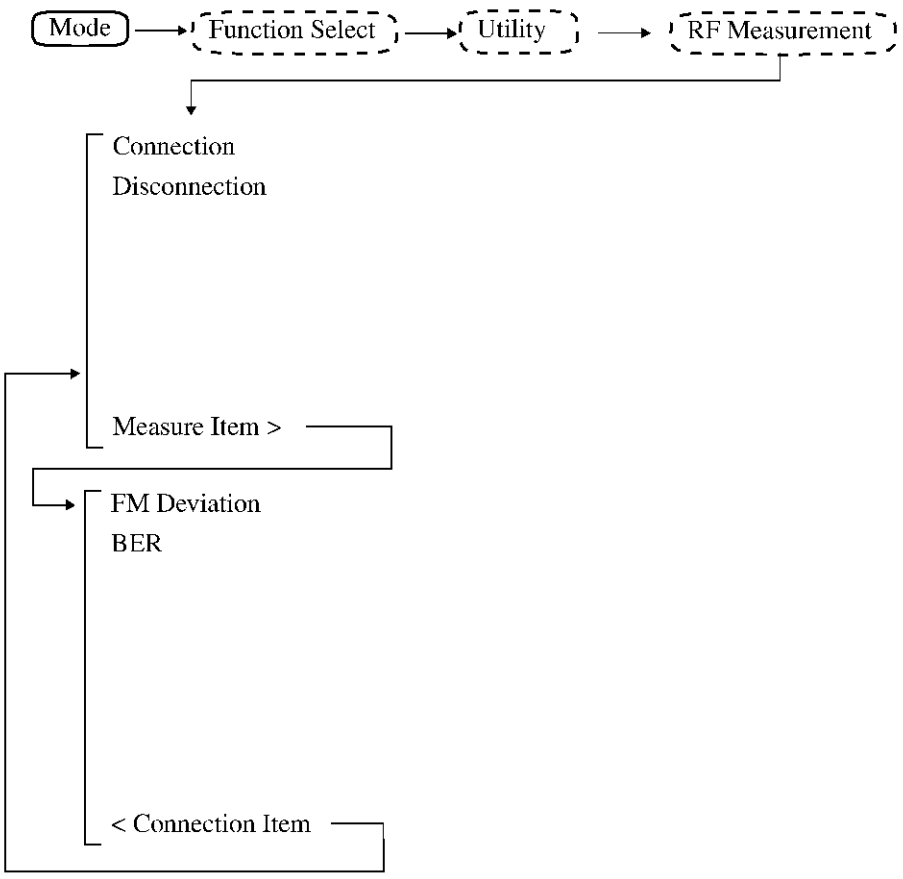
3.2.2 Side Menu

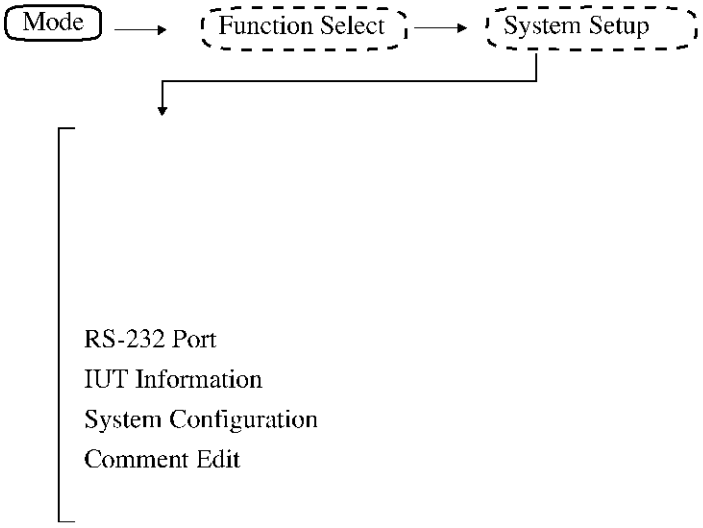
1. Measurement mode menu



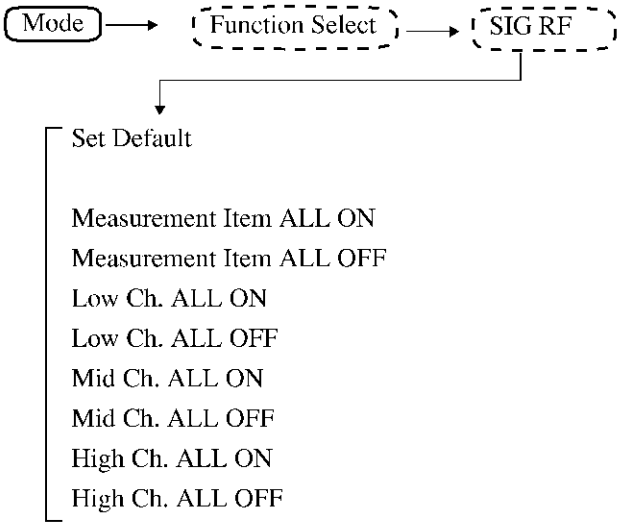

Mode
Function Select
Communication Test
Inquiry
Inquiry Scan
Paging-IUT as Master
Paging-IUT as Slave
ACL data
Link Supervision Timeout-IUT as Slave
Link Supervision Timeout-IUT as Master
Authentication-IUT as Slave
Authentication-IUT as Master
More >
Pairing
SCO data-IUT as Slave
SCO data-IUT as Master
< More

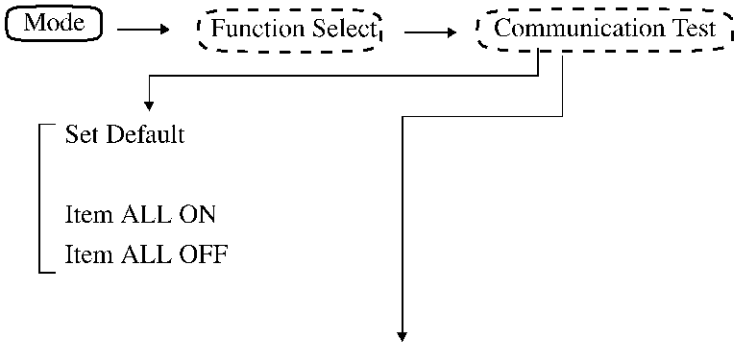

Mode
Function Select
Utility
Remote Loopback
SCO Loopback-IUT as Slave
SCO Loopback-IUT as Master


Mode
Function Select
Utility
RF Measurement
Connection
Disconnection
Measure Item >
FM Deviation
BER
< Connection Item


Mode
Function Select
System Setup
RS-232 Port
IUT Information
System Configuration
Comment Edit

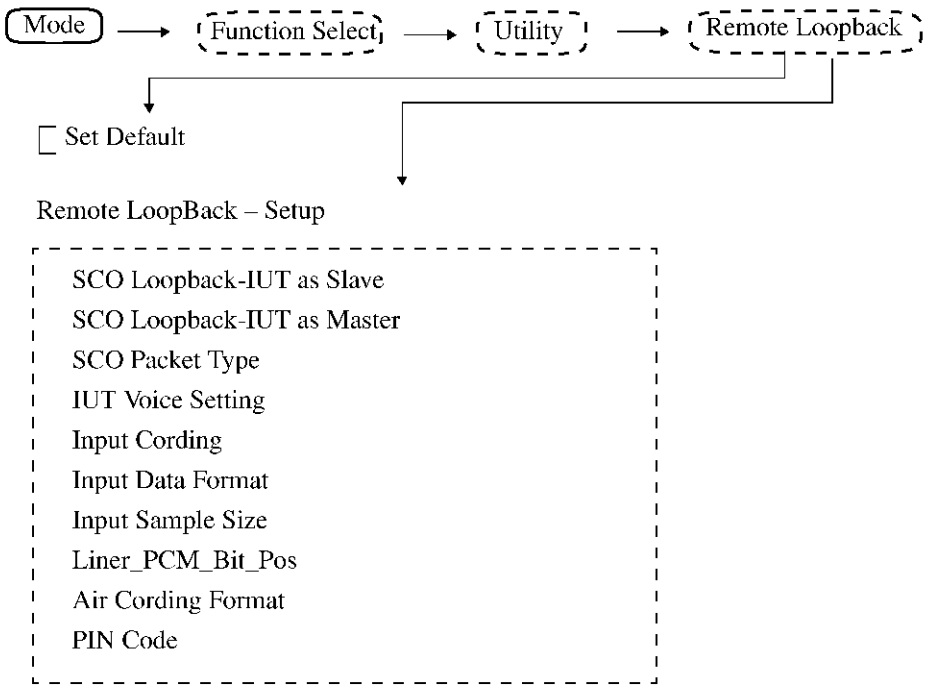
2. Setup mode menu

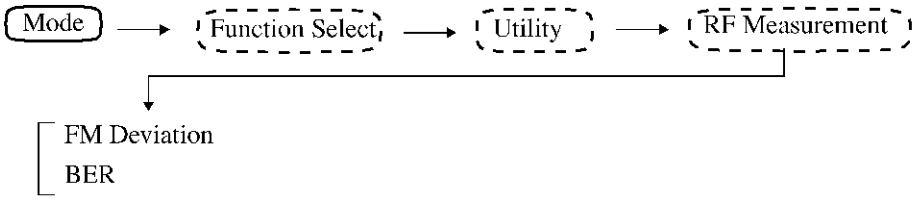


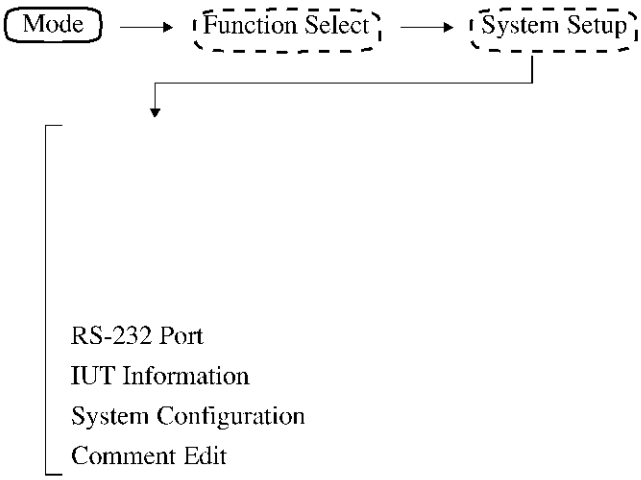


Communication Test – Setup

- Inquiry
  - Inquiry_Length
- Inquiry Scan
  - Inquiry_Length
- Paging- IUT as Master
  - Page_Scan_Repetition_Mode
- Paging- IUT as Slave
  - Page_Scan_Repetition_Mode
- ACL Packet Types
  - Packet_Type
  - Payload_Body
- Link Supervision Timeout-IUT as Slave
  - Link_Supervision_Timeout
- Link Supervision Timeout-IUT as Master
  - Link_Supervision_Timeout
- Authentication-IUT as Slave
  - Page_Scan_Repetition_Mode
- Authentication-IUT as Master
  - Page_Scan_Repetition_Mode
- Pairing
  - Page_Scan_Repetition_Mode
  - PIN_Code(MAX HEX 32characters)
- SCO data-IUT as Slave
  - Packet_Type
- SCO data-IUT as Master
  - Packet_Type

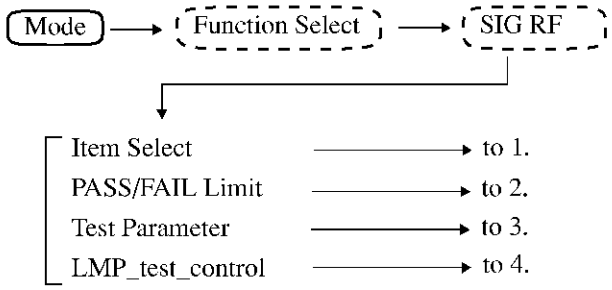

Mode
Function Select
Utility
Remote Loopback
Set Default
Remote LoopBack – Setup
SCO Loopback-IUT as Slave
SCO Loopback-IUT as Master
SCO Packet Type
IUT Voice Setting
Input Cording
Input Data Format
Input Sample Size
Liner_PCM_Bit_Pos
Air Cording Format
PIN Code


Mode
Function Select
Utility
RF Measurement
FM Deviation
BER

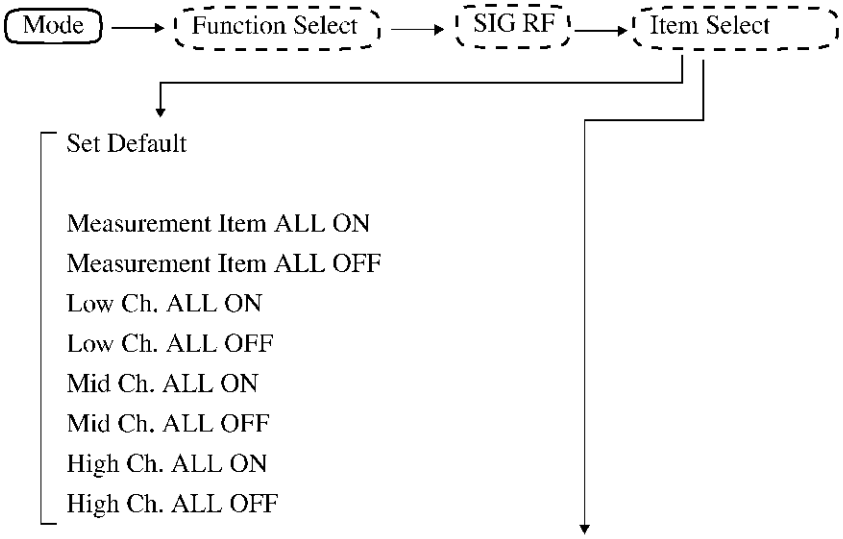

Mode
Function Select
System Setup
RS-232 Port
IUT Information
System Configuration
Comment Edit

3.2.3 Tab

3.2.3.1 SIG RF



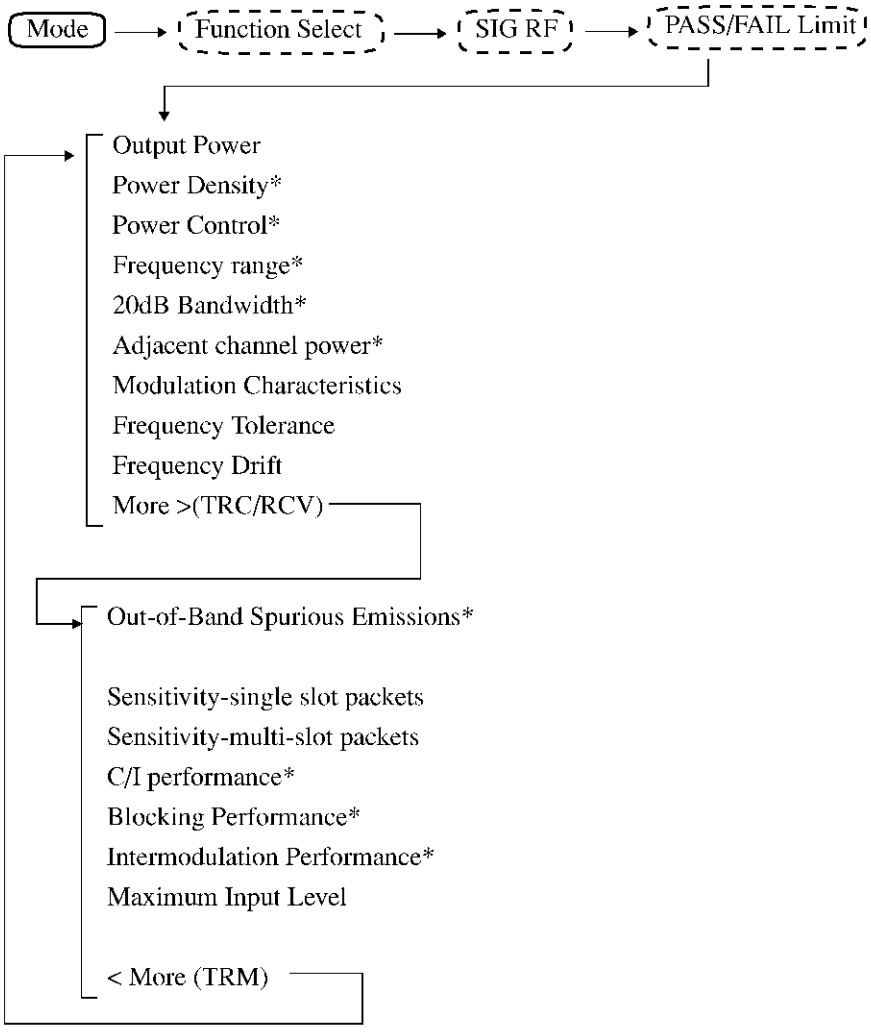
1. Item Select tab



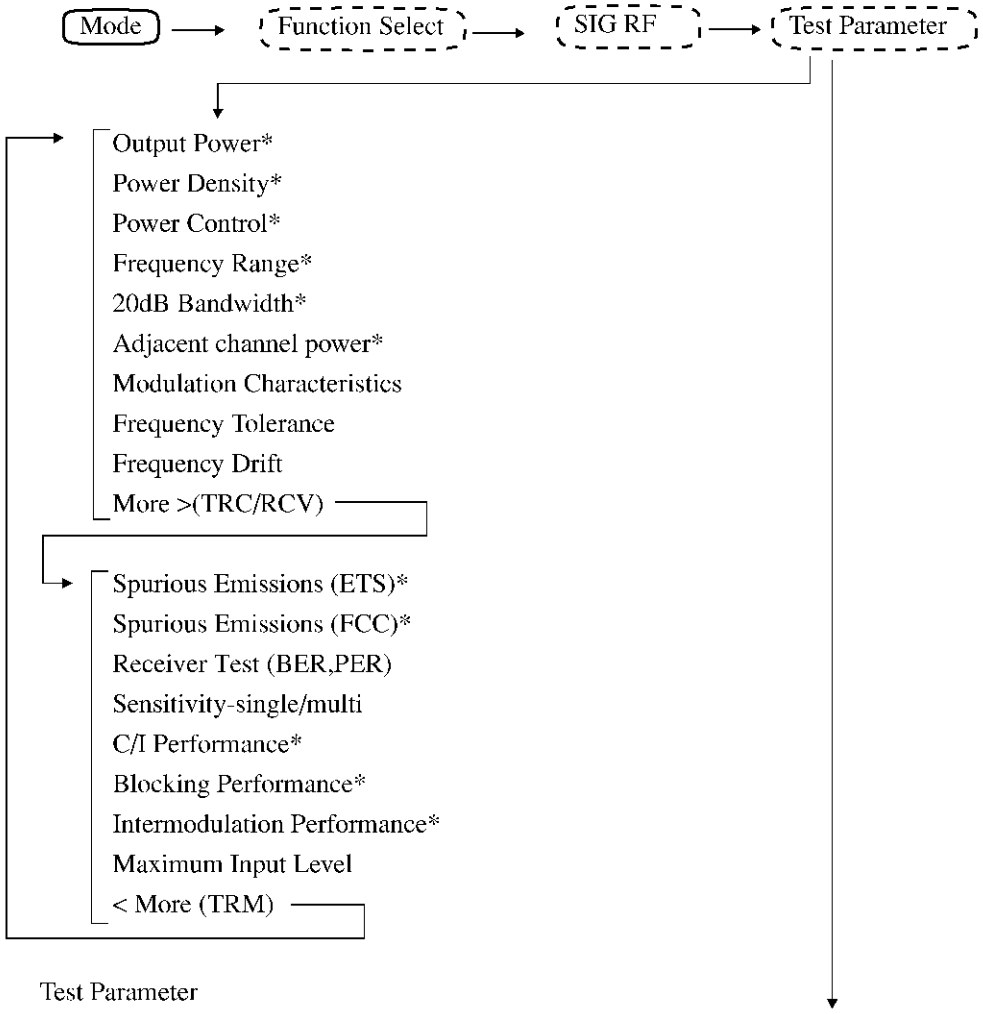
SIG Item Select

Execute On/Off [Measurement Item]	Execute Ch. On/Off [Low/Mid/High]	Test Method [Standard/High Speed]
Output Power		
Power Density*		
Power Control*		
Frequency range*		
20dB Bandwidth*		
Adjacent channel power*		
Modulation Characteristics		
Initial Carrier Freq. Tolerance		
Carrier Freq. Drift		
Spurious Emissions*		
Sensitivity-single slot packets		
Sensitivity-multi-slot packets		
C/I performance*		
Blocking performance*		
Intermodulation Performance*		
Maximum Input Level		

2. PASS / FAIL Limit tab



3. Test Parameter tab



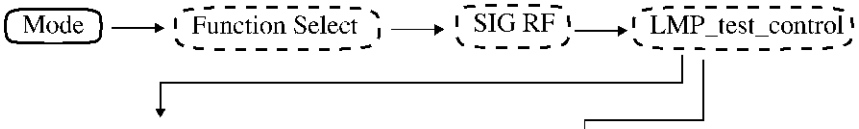
Test Parameter

Output Power*	Start Point, Stop Point, Leading and Trading Point, Average Count
Power Density*	(Standard: Peak Frequency, Peak Level), (High: Peak Frequency, Peak Level)
Power Control*	Step Number, Minimum Level (Standard, High Speed), Wait Time Out, Judgement (Step Number, Minimum Number)
Frequency Range*	Frequency Range Level, Sweep Count
20dB Bandwidth*	Band Width Level
Adjacent channel power*	Number of Adjacent Channel
Modulation Characteristics	Sample Packets, Gain of frequency deviation, Average Frequency Calculation
Frequency Tolerance	Sample Packets, Select Hopping Mode
Frequency Drift	Sample Packets, Select Hopping Mode

Test Parameter (Continued)

Spurious Emissions (ETS)*	Test Frequency (for High Speed)
Spurious Emissions (FCC)*	Test Frequency (for High Speed)
Receiver Test (BER,PER)	Sample Bits, PER Calculation
Sensitivity single/multi	Dirty ON/OFF, TX Level
C/I Performance*	Image Frequency, Interfering Signal Level, Wanted Signal Level
Blocking Performance*	Wanted Signal Level, Interfering Signal Level 1/2/3
Intermodulation Performance*	Wanted Signal Level, f1 Signal Level, f2 Signal Level
Maximum Input Level	TX Level

4. LMP_test_control tab



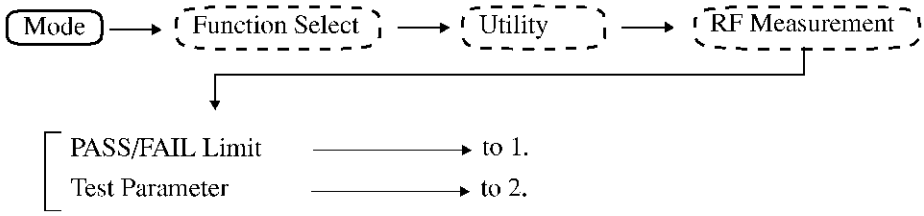
Set Default All

Set Default Packets
Set Default Test scenario
Set Default Poll Period

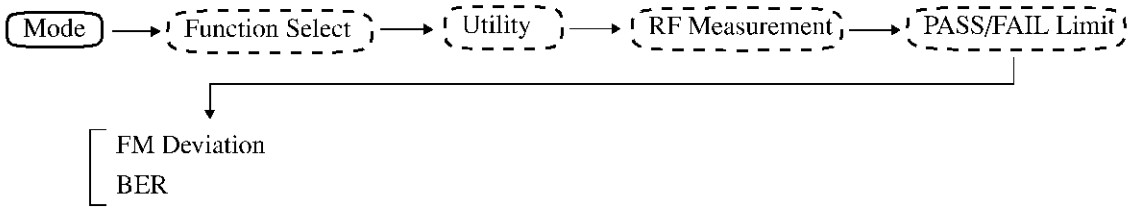
SIG LMP_test_control Parameter

Test Item	Packets	Test scenario	Poll Period
	DH1/DH3/DH5	TX Mode Loopback	
Output Power			
Power Density*			
Power Control*			
Frequency range*			
20dB Bandwidth*			
Adjacent channel power*			
Modulation Characteristics			
Initial Carrier Freq. Tolerance			
Carrier Freq. Drift			
Spurious Emissions*			
Sensitivity-single slot packets			
Sensitivity-multi-slot packets			
C/I performance*			
Blocking performance*			
Intermodulation Performance*			
Maximum Input Level			

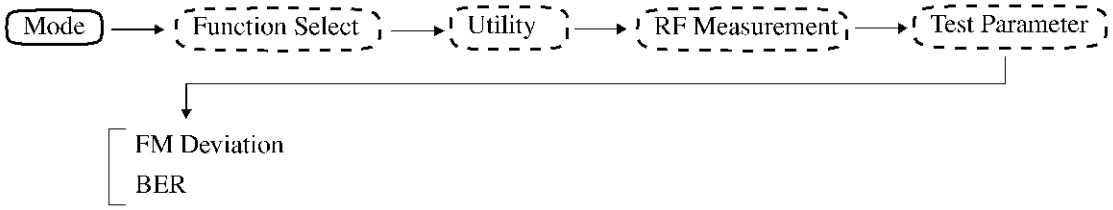
3.2.3.2 RF Measurement



1. PASS/FAIL Limit tab



2. Test Parameter tab



3.3 Functional Descriptions

This section describes the each menu function. The main menu function is described in 3.3.1 and the Measurement mode and Setup mode functions are described separately in 3.3.2.

3.3.1 Main Menu

File		Displays the following file related selections and system shutdown menu in a drop down menu.
	Save...	Displays the file save window.
	Load...	Displays the file load window.
	Delete...	Displays the file delete window.
	Power Off	Displays the system shutdown dialog box.
Mode		Displays the following test related selections in a drop down menu.
	Measure	Displays the test execution screen.
	Setup	Displays the test condition set up screen.
	Function Select	Displays the test and system setting selection menu.
		SIG RF Displays the Bluetooth™ SIG RF Test Specification test menu.
		Communication Test Displays Bluetooth™ SIG Blue Unit Test Cases dialog box menus.
		Current Measure* Currently unavailable.
		Radio Law* Currently unavailable.
		Utility
		Remote Loopback Displays the Remote Loopback evaluation menu.
		RF Measurement Displays the RF Measurement test menu.
		Option* Currently unavailable.
		System Setup Displays the test set up menu for the main system and IUT.
		Calibration* Currently unavailable.
System		Displays the following system set up selections in a drop down menu.
	Network Config...	Displays the Network Config dialog box.
	Time Adjust...	Displays the Time Adjust dialog box.
	Explorer	Displays the file operation environment (Explorer).
Special		
	Panel Lock ON	Locks the panel.
	Panel Lock OFF	Unlocks the panel.

Help

About...	Displays the system information menu.

3.3.2 Side Menu

1. Measurement mode

SIG RF	Displays the Bluetooth™ SIG RF Test Specification test menu.
Output Power	Performs a power output test.
Power Density*	Currently unavailable.
Power Control*	Currently unavailable.
Frequency range*	Currently unavailable.
20dB Bandwidth*	Currently unavailable.
Adjacent channel power*	Currently unavailable.
Modulation Characteristics	Performs a modulation characteristics test.
Frequency Tolerance	Performs an initial carrier frequency tolerance test.
Frequency Drift	Performs a carrier frequency drift test.
More >(TRC/RCV)	Displays the transmission/reception and reception test menu sequel.
Out-of-Band Spurious Emissions*	Currently unavailable.
Sensitivity-single slot packets	Performs a sensitivity - single slot packets test.
Sensitivity-multi-slot packets	Performs a sensitivity - multi slot packets test.
C/I Performance*	Currently unavailable.
Blocking Performance*	Currently unavailable.
Intermodulation Performance*	Currently unavailable.
Maximum Input Level	Performs a maximum input level test.
< More (TRM)	Returns to the transmission test menu.

Communication Test	Displays the Bluetooth™ SIG Blue Unit Test Cases test menu.
Inquiry	Performs an inquiry test on the Bluetooth™ SIG Blue Unit Test Cases.
Inquiry Scan	Performs an inquiry scan test on the Bluetooth™ SIG Blue Unit Test Cases.
Paging-IUT as Master	Performs a paging - IUT as master test on the Bluetooth™ SIG Blue Unit Test Cases.
Paging-IUT as Slave	Performs a paging - IUT as slave test on the Bluetooth™ SIG Blue Unit Test Cases.
ACL data	Performs an ACL packet types test on the Bluetooth™ SIG Blue

Unit Test Cases.

Link Supervision Timeout-IUT as Slave
Performs a link supervision timeout - IUT as slave test on the Bluetooth™ SIG Blue Unit Test Cases.

Link Supervision Timeout-IUT as Master
Performs a link supervision timeout - IUT as master test on the Bluetooth™ SIG Blue Unit Test Cases.

Authentication-IUT as Slave Performs an authentication - IUT as slave test on the Bluetooth™ SIG Blue Unit Test Cases.

Authentication-IUT as Master Performs an authentication - IUT as master test on the Bluetooth™ SIG Blue Unit Test Cases.

More > Displays the rest of the Bluetooth™ SIG Blue Unit Test Cases menu.

Pairing Performs a pairing test on the Bluetooth™ SIG Blue Unit Test Cases.

SCO data-IUT as Slave Performs an SCO data - IUT as slave test on the Bluetooth™ SIG Blue Unit Test Cases.

SCO data-IUT as Master Performs an SCO data - IUT as master test on the Bluetooth™ SIG Blue Unit Test Cases.

<More Returns to the Bluetooth™ SIG Blue Unit Test Cases initial menu.

Utility

Remote Loopback Displays the menu related Remote Loopback.

SCO Loopback-IUT as Slave
Performs an SCO Loopback-IUT as Slave test.

SCO Loopback-IUT as Master
Performs an SCO Loopback-IUT as Master test.

RF Measurement Displays the RF Measurement test menu.

Connection Connects the R4870 to the IUT.

Disconnection Disconnects the R4870 from the IUT.

Measure Item > Displays the Measure Item menu.

FM Deviation Measures the FM Deviation.

BER Measures the BER.

< Connection Item Displays the Connection Item menu.

System Setup Displays the test set up menu for the main system and IUT.

RS-232 Port Displays the HCI (Host Control Interface) settings menu.

IUT Information Displays IUT Information dialog box menus.

Channel Number Assignment:
Selects either channel 79 or 23.

Power Class: Selects the maximum RF transmission-

power output class.

IUT Control: Sets the control method of the IUT.
When the control is set to ON, use the RS-232 line on the R4870 rear panel as an HCI for the IUT.
When the control is set to OFF, the RS-232 I/F is not used to control the IUT.

Select IUT Information Method:
Sets the Bluetooth Address acquisition method for the IUT.

IUT BD Address: When the Select IUT Information Method is set to User Setting, input is enabled.

Support Packet: When the Select IUT Information Method is set to User Setting, input is enabled.

System Configuration

Displays System Setup dialog box menus.

Setting item

RFCH1 External Cable Loss

RFCH2 External Cable Loss

Tx Signal Level

Tx Signal Modulation Index

Internal Signaling Unit 1 BD Address

Test Channel (Frequency or Channel)

Test Channel Low/Mid/High

10 MHz Reference

Comment Edit

The following comments can be added to the test data.

Unit Name

Lot Number

Device Number

Device Number Auto Increment

User Comment

2. Setup mode

SIG RF Displays Bluetooth™ SIG RF Test Specification measurement set up menus. Select one of the following menus to set the configuration.

Item Select Displays the test item selection menu.
This tab is used to switch the test condition screen.

NOTE: ***The test conditions are displayed only when testing Bluetooth™ SIG RF Test Specifications.***

Set Default The 7 item settings for the Bluetooth™ SIG RF Test Specification are set as the Default values.

Measurement Item ALL ON Sets all Bluetooth™ SIG RF Test Specification test items to ON.

Measurement Item ALL OFF Sets all Bluetooth™ SIG RF Test Specification test items to OFF.

Low Ch. ALL ON Sets all the Bluetooth™ SIG RF Test Execute Ch. to Low.

Low Ch. ALL OFF Removes all the Bluetooth™ SIG RF Test Execute Ch. Low settings.

Mid Ch. ALL ON Sets all the Bluetooth™ SIG RF Test Execute Ch. to Mid.

Mid Ch. ALL OFF Removes all the Bluetooth™ SIG RF Test Execute Ch. Mid settings.

High Ch. ALL ON Sets all the Bluetooth™ SIG RF Test Execute Ch. to High.

High Ch. ALL OFF Removes all the Bluetooth™ SIG RF Test Execute Ch. High settings.

PASS/FAIL Limit Displays the PASS/FAIL limit settings menu.
This tab is used to switch the test condition screen.

NOTE: ***The test conditions are displayed only when testing Bluetooth™ SIG RF Test Specifications.***

Output Power Sets the Pass/Fail limit of the Output Power.

Power Density* Currently unavailable.

Power Control* Currently unavailable.

Frequency Range* Currently unavailable.

20dB Bandwidth* Currently unavailable.

Adjacent Channel Power* Currently unavailable.

Modulation Characteristics Sets the Pass/Fail limit of the Modulation Characteristics.

Frequency Tolerance Sets the Pass/Fail limit of the Frequency Tolerance.

Frequency Drift Sets the Pass/Fail limit of the Frequency Drift.

Out-of-band Spurious Emissions* Currently unavailable.

Sensitivity-single slot packets Sets the Pass/Fail limit of the Sensitivity-single slot packets.

Sensitivity-multi-slot packets	Sets the Pass/Fail limit of the Sensitivity-multi-slot packets.
C/I performance*	Currently unavailable.
Blocking performance*	Currently unavailable.
Intermodulation performance*	Currently unavailable.
Maximum Input Level	Sets the Pass/Fail limit of the Maximum Input Level.
Test Parameter	Displays the test parameter settings menu. This tab is used to switch the test condition screen.

NOTE: ***The test conditions are displayed only when testing Bluetooth™ SIG RF Test Specifications.***

Output Power*	Currently unavailable.
Power Density*	Currently unavailable.
Power Control*	Currently unavailable.
Frequency Range*	Currently unavailable.
20dB Bandwidth*	Currently unavailable.
Adjacent Channel Power*	Currently unavailable.
Modulation Characteristics	Sets the test parameter of the Modulation Characteristics.
Frequency Tolerance	Sets the test parameter of the Frequency Tolerance.
Frequency Drift	Sets the test parameter of the Frequency Drift.
Spurious Emissions (ETS)*	Currently unavailable.
Spurious Emissions (FCC)*	Currently unavailable.
Receiver Test (BER/PER)	Sets the test parameter of the Receiver Test.
Sensitivity-single/multi	Sets the test parameter of the Sensitivity-single/multi.
C/I performance*	Currently unavailable.
Blocking performance*	Currently unavailable.
Intermodulation performance*	Currently unavailable.
Maximum Input Level	Sets the test parameter of the Maximum Input Level
LMP test control	Sets the transmission condition of Bluetooth™ SIG RF measurement.
Set Default All	Reset all the Packet Type, Test scenario, and Poll Period to the Default value.
Set Default Packets	Resets the Packet Type to the Default value.
Set Default Test scenario	Rests the Test scenario to the Default value.
Set Default Poll Period	Rests the Poll Period to the Default value.

Communication Test — Displays Bluetooth™ SIG Blue Unit Test Cases dialog box menus.

Setting item

- Item Select
- Inquiry_Length
- Page_Scan_Repetition_Mode
- Packet_Type
- Payload_Body
- Link_Supervision_Timeout
- PIN_Code

Set Default — The 7 item settings for the Bluetooth™ SIG Blue Unit Test Cases are set as the Default values.

Item ALL ON — Sets all Bluetooth™ SIG Blue Unit Test Cases test items to ON.

Item ALL OFF — Sets all Bluetooth™ SIG Blue Unit Test Cases test items to OFF.

Utility

Remote Loopback — Displays the Remote Loopback menu.

Setting item

SCO Loopback-IUT as Slave ON/OFF
Remote Loopback ON/OFF
SCO Loopback-IUT as Master ON/OFF
Remote Loopback ON/OFF
SCO Packet Type
Input Coding
Input Data Format
Input Sample Size
Linear_PCM_Bit_Pos
Air Cording Format
PIN Code

RF Measurement — Displays the RF Measurement menu.

PASS/FAIL Limit — Displays the PASS/FAIL limit settings menu.
This tab is used to switch the test condition screen.

NOTE: ***The test conditions are displayed only when testing RF Measurement for Utility.***

FM Deviation — Sets the Pass/Fail limit of the FM Deviation.

BER — Sets the Pass/Fail limit of the BER.

Test Parameter — Displays the test parameter settings menu.
This tab is used to switch the test condition screen.

NOTE: ***The test conditions are displayed only when testing RF Measurement for Utility.***

FM Deviation Sets the test parameter of the FM Deviation.

BER Sets the test parameter of the BER.

System Setup Displays the test set up menu for the main system and IUT.

RS-232 Port Displays the HCI (Host Control Interface) settings menu.

IUT Information Displays IUT Information dialog box menus.

Channel Number Assignment:
Selects either channel 79 or 23.

Power Class: Selects the maximum RF transmission-power output class.

IUT Control: Sets the control method of the IUT.
When the control is set to ON, use the RS-232 line on the R4870 rear panel as an HCI for the IUT.
When the control is set to OFF, the RS-232 I/F is not used to control the IUT.

Select IUT Information Method:
Sets the Bluetooth Address acquisition method for the IUT.

IUT BD Address: When the Select IUT Information Method is set to User Setting, input is enabled.

Support Packet: When the Select IUT Information Method is set to User Setting, input is enabled.

System Configuration Displays System Setup dialog box menus.

Setting item
- RFCH1 External Cable Loss
- RFCH2 External Cable Loss
- Tx Signal Level
- Tx Signal modulation Index
- Internal Signaling Unit 1 BD Address
- Test Channel (Frequency or Channel)
- Test Channel Low/Mid/High
- 10 MHz Reference

Comment Edit The following comments can be added to the test data.

Unit Name

Lot Number

Device Number

Device Number Auto Increment

User Comment

3.4 Bluetooth SIG RF Test Items and Passing Ranges

1. RF port - CH 1

Table 3-1 Bluetooth SIG RF Test Items and Passing Ranges - CH 1

Specification	Test item	Setting range		Note-1	Note-2
TRM/CA/01/C	Output power	Average Power	+25 dBm to -33 dBm	Same for class 1 - 3	EXT ATT range can be changed between 0 dB and 30 dB
		Peak Power	+25 dBm to -30 dBm	Same for class 1 - 3	EXT ATT range can be changed between 0 dB and 30 dB
TRM/CA/07/C	Modulation Characteristics	$\Delta f1_{avg}$	0 kHz to 300 kHz		
		$\Delta f2_{max}$	0 kHz to 300 kHz		
		PASS/All$\Delta f2_{max}$	0% to 100%		
		Ratio ($\Delta f2_{avg}/\Delta f1_{avg}$)	0 to 1.0		
TRM/CA/08/C	Initial Carrier Frequency Tolerance	Initial Carrier Frequency Tolerance	0 kHz to 300 kHz		
TRM/CA/09/C	Carrier Frequency Drift	DH1 Drift	0 kHz to 300 kHz		
		DH3 Drift	0 kHz to 300 kHz		
		DH5 Drift	0 kHz to 300 kHz		
		Drift Rate	0 Hz to 300000 Hz/50µs		
RCV/CA/01/C	Sensitivity-single slot packets	BER	0% to 100%	Resolution 0.0001%	
RCV/CA/02/C	Sensitivity-multi slot packets	BER	0% to 100%	Resolution 0.0001%	
RCV/CA/06/C	Maximum Input Level	BER	0% to 100%	Resolution 0.0001%	

2. RF port - CH 2

Table 3-2 Bluetooth SIG RF Test Items and Passing Ranges - CH 2

Specification	Test item	Setting range		Note-1	Note-2
TRM/CA/01/C	Output power	Average Power	+8 dBm to -50 dBm	Same for class 1 - 3	EXT ATT range can be changed between 0 dB and 30 dB
		Peak Power	+8 dBm to -50 dBm	Same for class 1 - 3	EXT ATT range can be changed between 0 dB and 30 dB
TRM/CA/07/C	Modulation Characteristics	$\Delta f1_{avg}$	0 kHz to 300 kHz		
		$\Delta f2_{max}$	0 kHz to 300 kHz		
		PASS/All$\Delta f2_{max}$	0% to 100%		
		Ratio ($\Delta f2_{avg}/\Delta f1_{avg}$)	0 to 1.0		
TRM/CA/08/C	Initial Carrier Frequency Tolerance	Initial Carrier Frequency Tolerance	0 kHz to 300 kHz		
TRM/CA/09/C	Carrier Frequency Drift	DH1 Drift	0 kHz to 300 kHz		
		DH3 Drift	0 kHz to 300 kHz		
		DH5 Drift	0 kHz to 300 kHz		
		Drift Rate	0 Hz to 300000 Hz/50µs		
RCV/CA/01/C	Sensitivity-single slot packets	BER	0% to 100%	Resolution 0.0001%	
RCV/CA/02/C	Sensitivity-multi slot packets	BER	0% to 100%	Resolution 0.0001%	
RCV/CA/06/C	Maximum Input Level	BER	0% to 100%	Resolution 0.0001%	

4. TEST METHODS

This chapter describes internal system operations which perform the Bluetooth SIG RF tests. Each section in this chapter explains one of the 7 tests that the system performs.

- Output Power
- Modulation Characteristics
- Initial Carrier Frequency Tolerance
- Carrier Frequency Drift
- Sensitivity (single slot packets)
- Sensitivity (multi-slot packets)
- Maximum Input Level

4.1 Output Power

Bluetooth IUT transmission output is measured under the following conditions:

NOTE: ***The internal test method is set to the High Speed mode in this test.***

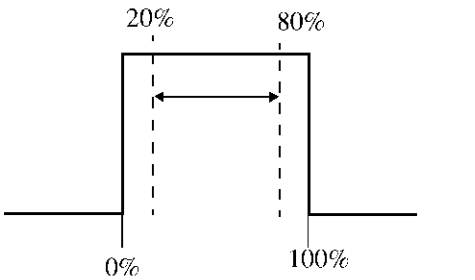
---

1. Transmission conditions
   - Hopping: OFF
   - Test mode: ON
   - TX Mode or Loopback Mode
   - Payload: PRBS 9
   - Packet type: DH1, DH3, or DH5 is selected and measured.
   - Received frequency: For more information, refer to 2.4.3, "Setting System Configuration".
2. Measurement items
   - Average Power
   - Peak Power

NOTE: ***Average powers and peak powers of DH1, DH3, and DH5 packet types transmission burst waveforms that are 20% or less and 80% or higher*[*1] *are measured.***

---

*1:



4.2 Modulation Characteristics

Bluetooth IUT modulation characteristics are measured under the following conditions:

1. Transmission conditions
   - Hopping: OFF
   - Test mode: ON
   - TX Mode or Loopback Mode
   - Payload: 01010101 and 00001111
   - Packet type: DH1, DH3, or DH5 is selected and measured.
   - Received frequency: For more information, refer to 2.4.3, “Setting System Configuration”.
2. Measurement items
   - Δf1avg
   - Δf1max
   - Δf2avg
   - Δf2max
   - Pass/AllΔf2max
   - Δf2avg /Δf1avg

4.3 Initial Carrier Frequency Tolerance

Bluetooth IUT initial carrier frequency tolerance is measured under the following conditions:

1. Transmission conditions
   - Hopping: ON and OFF *1
   - Test mode: ON
   - TX Mode or Loopback Mode
   - Payload: PRBS 9
   - Packet type: DH1, DH3, or DH5 is selected and measured.
   - Received frequency: For more information, refer to 2.4.3, "Setting System Configuration".
2. Measurement items
   - Initial Carrier Frequency Tolerance (hopping On)
   - Initial Carrier Frequency Tolerance (hopping Off)

*1: Combinations of ON and OFF can be selected for Hopping.
If neither is selected, the measurement is not performed.

4.4 Carrier Frequency Drift

Bluetooth IUT carrier frequency drift is measured under the following conditions:

1. Transmission conditions
   - Hopping: ON and OFF *1
   - Test mode: ON
   - TX Mode or Loopback Mode
   - Payload: 01010101
   - Packet type: One or more are selected from DH1, DH3, and DH5, and measured.
   - Received frequency: For more information, refer to 2.4.3, "Setting System Configuration".
2. Measurement items
   - Carrier Frequency Drift (hopping On)
   - Carrier Frequency Drift (hopping Off)
   - Drift Rate (hopping On)
   - Drift Rate (hopping Off)

*1: Combinations of ON and OFF can be selected for Hopping.
If neither is selected, the measurement is not performed.

4.5 Sensitivity (single slot packets)

Bluetooth IUT sensitivity (single slot packets) is measured under the following conditions:

1. Transmission conditions
   - Hopping: OFF
   - Test mode: ON
   - Loopback Mode
   - Dirty Transmitter or Normal
   - Payload: PRBS 9
   - Packet type: DH1
   - Verification bit number: 1600000 bits (NOTE 1)
   - IUT input level: -70 dBm (NOTE 2)
   - Transmision frequency: For more information, refer to 2.4.3, "Setting System Configuration".

NOTE:

1. ***The verification bit number for the High Speed mode or Standard mode internal test method can be set to any number within the following ranges.***
   High Speed mode: 1 to 1600000 bits
   Standard mode: 1600000 to 9999999 bits
2. ***IUT input level information can be changed using the following.***
   The sensitivity TX Level (IUT Input Level) in the SIG Test Parameter setting.

---

2. Measurement items
   - BER (Bit Error Rate)
   - PER (Packet Error Rate)

NOTE: The system corresponds to the Delayed Loopback method.
Specifying Delayed or Normal is not necessary in either case.

4.6 Sensitivity (multi-slot packets)

Bluetooth IUT sensitivity (multi slot packets) is measured under the following conditions:

1. Transmission conditions
   - Hopping: OFF
   - Test mode: ON
   - Loopback Mode
   - Dirty Transmitter or Normal
   - Payload: PRBS 9
   - Packet type: Either DH3 or DH5 is selected and measured.
   - Verification bit number: 1600000 bits (NOTE 1)
   - IUT input level: -70 dBm (NOTE 2)
   - Transmision frequency: For more information, refer to 2.4.3, "Setting System Configuration".

NOTE:

1. ***The verification bit number for the High Speed mode or Standard mode internal test method can be set to any number within the following ranges.***
   High Speed mode: 1 to 1600000 bits
   Standard mode: 1600000 to 9999999 bits
2. ***IUT input level information can be changed using the following.***
   The sensitivity TX Level (IUT Input Level) in the SIG Test Parameter setting.

---

2. Measurement items
   - BER (Bit Error Rate)
   - PER (Packet Error Rate)

NOTE: The system corresponds to the Delayed Loopback method.
Specifying Delayed or Normal is not necessary in either case.

4.7 Maximum Input Level

Bluetooth IUT maximum input level is measured under the following conditions:

1. Transmission conditions
   - Hopping: OFF
   - Test mode: ON
   - Loopback Mode
   - Normal
   - Payload: PRBS 9
   - Packet type: DH1, DH3, or DH5 is selected and measured.
   - Verification bit number: 1600000 bits (NOTE 1)
   - IUT input level: -20 dBm (NOTE 2)
   - Transmission frequency: For more information, refer to 2.4.3, "Setting System Configuration".

NOTE:

1. ***The verification bit number for the High Speed mode or Standard mode internal test method can be set to any number within the following ranges.***
   High Speed mode: 1 to 1600000 bits
   Standard mode: 1600000 to 9999999 bits
2. ***IUT input level information can be changed using the following.***
   The TX Level (IUT Input Level) for Maximum Input Level in the SIG Test Parameter setting.

---

2. Measurement items
   - BER (Bit Error Rate)
   - PER (Packet Error Rate)

NOTE: The system corresponds to the Delayed Loopback method.
Specifying Delayed or Normal is not necessary in either case.

4.8 FM Deviation

Bluetooth IUT transmission items are measured under the following conditions:

1. Transmission conditions
   - Hopping: OFF
   - Test mode: ON
   - Loopback Mode
   - Payload: 01010101 and 00001111
   - Packet type: DH1, DH3, or DH5 is selected and measured.
   - Received frequency: Sets in Test Parameter in Setup

---

*NOTE: **The Channel (Frequency) can be set according to the Channel Number Assignment setting in System Setup and System Configuration.***

---

2. Measurement items
   - Output Power: Average Power, Peak Power
   - Modulation Characteristics: Δf1max, Δf1avg, Δf2max, Δf2avg, Δf2avg/Δf1avg, Pass All Δf2max
   - Frequency Drift: Drift, Drift Rate
   - Frequency Tolerance

---

*NOTE: **The measurement is performed by using the Advantest method, which is different from the SIG standard method.***

4.9 BER

Bluetooth IUT maximum input level is measured under the following conditions:

1. Transmission conditions
   - Hopping: ON or OFF
   - Test mode: ON
   - Loopback Mode
   - Dirty Transmitter or Normal
   - Payload: PRBS 9
   - Packet type: DH1, DH3, or DH5 is selected and measured.
   - Verification bit number: 1 to 9999999
   - IUT input level: -13 to -93 dBm
   - Transmission frequency: Sets in Test Parameter in Setup

NOTE: ***The Channel (Frequency) can be set according to the Channel Number Assignment setting in System Setup and System Configuration.***

---

2. Measurement items
   - BER (Bit Error Rate)
   - PER (Packet Error Rate)

NOTE: ***The system corresponds to the Delayed Loopback method. Specifying Delayed or Normal is not necessary in either case.***

---

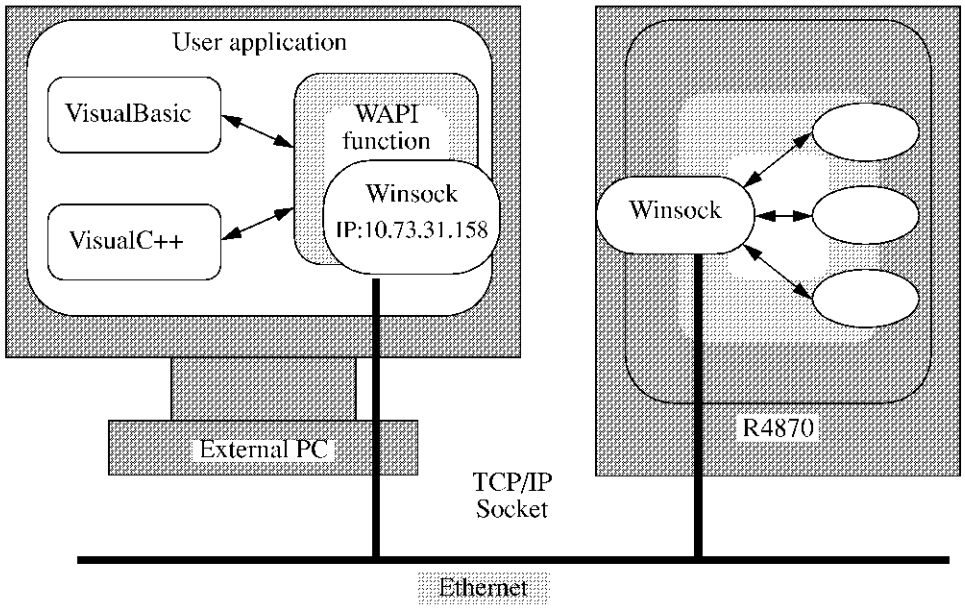
5. REMOTE CONTROL

5.1 How to Control and Preparation

This section describes how to control the R4870 through an Ethernet network by using a remote PC. (The procedure for creating measurement applications by using VisualBasic6.0 is shown.)

The R4870 can be controlled by using an API function (WAPI function), which is used exclusively by the Windows operating system. Control is possible by establishing communication between the remote PC and the R4870. The Winsock 1.1 socket communication which uses the TCP/IP protocol is used to communicate between processes.

The following shows the image.



- About the WAPI function:

  The API function is provided as a window's DLL file exclusively to acquire measurement data by controlling the R4870 from the measurement application. This API function is called the WAPI function.

- Preparing to Develop External Measurement Application:

  The following describes the preparatory procedures used to create measurement application to control the R4870, which uses the WAPI function from the remote PC.
  (The developing environment (OS) is Windows 98SE or Windows 2000 and the language used is VisualBasic6.0.)

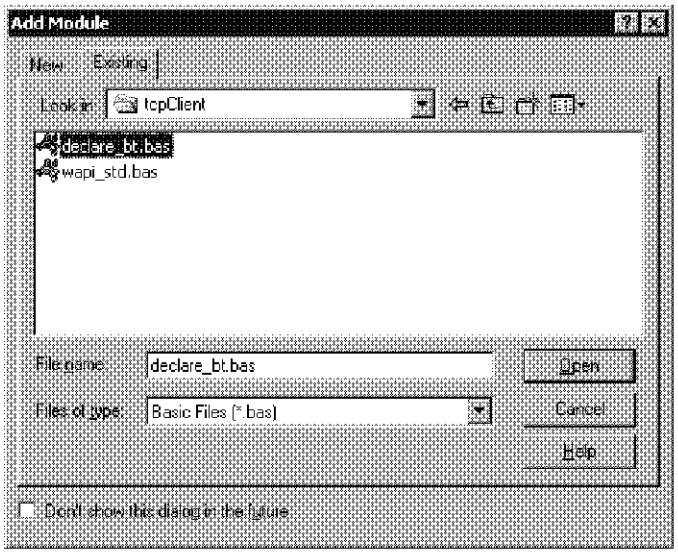
1. The WAPI function used is "bt.dll" (Win32 Dynamic Link Library).
   Make sure to store this WAPI function in the same folder as the measurement application.
2. The declaration statement is necessary to call an API function from VisualBasic6.0. Advantest offer the definition file which contains declaration sentences that include "bt.dll".
   The bt.dll file and the definition files are saved in the D:\Advantest\R4870 drive of the R4870 system. When using these files, copy them to the floppy disk by using Windows Explorer.

NOTE: ***The bt.dll file may not be displayed depending on Explorer's settings. To change Explorer's setting, click*** **View** ***from the Explorer's main menu and then select*** **Options...** ***from the drop down menu. The Options dialog box is displayed. Select*** **Show all files** ***in*** **View** ***tab and then click*** **OK** ***.***

Definition files to be used are as follows:

declare_bt.bas
declare_loopback.bas
declare_telec.bas
declare_vsim.bas
declare_butc.bas
declare_sig.bas
declare_rfmeas.bas
wapi_std.bas

Store the definition file in the same folder as the measurement application and add it to the project file.



In the above example, declare_bt.bas is being added.

3. The above processes complete the preparation of the measurement application creating environment.

5.2 Macro Definitions

ON/OFF

Macro name	Value	Function
WMT_OFF	0	OFF
WMT_ON	1	ON

TRUE/FALSE

Macro name	Value	Function
WMT_TRUE	0	Normal completion (normal value)
WMT_FALSE	1	An error exists.

5.3 Error Code List

Error mnemonic	Code	Description
ERR_SOCKET_COM	256	A socket communication error has occurred.
ERR_SEND_SIZE	257	The number of data items that were transmitted is incorrect.
ERR_RECV_SIZE	258	The number of data items that were received is incorrect.
ERR_PACKET_ATTR	259	The packet property is incorrect.
ERR_ILLEGAL_COM	260	The response is incorrect for the transmission command.
ERR_QUERY_BUF	261	The query buffer is either empty or is unspecified.
ERR_PARAM_NUM	262	When the data is received, the number of variables in the storing location and number of parameter received do not match.
ERR_NO_TYPE	263	When the data is received, the data type is inappropriate.
ERR_TYPE_SIZE	264	When the LONG, SINGLE, or DOUBLE type data is received, the data size is incorrect.
ERR_ALLOC	265	The area for receiving data cannot be secured internally.
WMT_FALSE	1	Other error.
WMT_TRUE	0	Normal completion.

5.4 Communication Control Basic Functions

5.4.1 Communication Control Basic Functions List

The following communication control basic functions are used to create the measurement application.

1. WmtOpenPacket( ) — Always call this function to secure a communication pathway to the measuring instrument when starting the application.
2. WmtGetIpStr( ) — Acquires an IP address from the host name. The acquired IP address is stored as a character string.
3. WmtClosePacket( ) — Call this function to release the communication pathway to the measuring instrument when quitting the application.

5.4.2 WmtOpenPacket

Function name	long WmtOpenPacket
Function	Securing a communication pathway to the measuring instrument.

Argument	[IN] char * strIP // The character string which indicates the IP address
	// (ex. "192.100.0.1").
	// "xxx.xxx.xxx.xxx": The IP address used when connected to
	// the LAN.
	char * strBD // The character string which indicates information such as the
	// board identifier (ex. "BD1").
	// When an identifier is not necessary, indicates as "".
	[OUT] long * lngID // The connection identifier. Specifies this value as the number
	// one argument for each API function and identifies where to
	// connect to.

Return value	0: Normal completion. Other than 0: Error occurrence. (For more information, refer to Section 5.3, "Error Code List.")
Description	Always call this function to secure a communication pathway to the measuring instrument when starting the application. No supplied API functions can be operated correctly without first executing WmtOpenPacket( ).

Sample	`Public Declare Function WmtOpenPacket Lib "bt.dll" _`
	`(ByVal strIP As String, ByVal strBD As String, ByRef lngID As Long) As Long`
	
	`Private Sub cmdOpen_Click()`
	`Dim lngID As Long`
	`Dim lngErr As Long`
	
	`lngErr = WmtOpenPacket("192.100.0.1", "", lngID) ' When the IP address of the R4870 is`
	`' 192.100.0.1".`
	`If (lngErr <> 0) Then`
	`MsgBox "Invalid open the Communication Port.("`
	`& Str(lngErr) & ")", vbOKOnly`
	`End If`
	`End Sub`

5.4.3 WmtGetIpStr

Function name	long WmtGetIpStr
Function	Acquiring an IP address from the host name.
Argument	[IN] char * strHost // The character string which indicates the host name. char **strIpAddr // The pointer which specifies the character string that is used to // store the IP address.
Return value	0: Normal completion.
Description	The function acquires an IP address from the host name. The acquired IP address is stored in the character string variable which is specified by *strIpAddr*. Example : When IP address is 192.10.100.1 strIpAddr = "192.10.100.1"

Sample	`Public Declare Function WmtOpenPacket Lib " bt.dll" _`
	`(ByVal strIP As String, ByVal strID As String, ByRef lngID As Long) As Long`
	`Public Declare Function WmtGetIpStr Lib " bt.dll" _`
	`(ByVal strHost As String, ByRef strIpAddr As String) As Long`
	
	`Private Sub cmdOpen_Click()  '' Secures the communication pathway by using the IP address`
	`which was acquired.`
	`Dim lngErr As Long`
	`Dim strIpAddr As String * 16  '' Always secure by using the fixed string length of 16`
	`characters or more.!!`
	
	`WmtGetIpStr("R4870", strIpAddr)`
	`lngErr = WmtOpenPacket(strIpAddr, "", lngID)`
	`If (lngErr <> 0) Then`
	`MsgBox "Invalid open the Communication Port.(" _`
	`& Str(lngErr) & ")", vbOKOnly`
	`End If`
	`End Sub`

5.4.4 WmtClosePacket

Function name	long WmtClosePacket
Function	Releasing the communication pathway to the measuring instrument.
Argument	[IN] long lngID // The connection identifier obtained by using // WmtOpenPacket( ).
Return value	0: Normal completion.
Description	Call this function to release the communication pathway to the measuring instrument when quitting the application.

Sample	`Public Declare Function WmtClosePacket Lib "bt.dll" (ByVal lngID As Long) As Long`
	
	`Private Sub cmdClose_Click()`
	`Dim lngErr As Long`
	
	`lngErr = WmtClosePacket(lngID)`
	`End Sub`

5.5 Programming Method for the Measurement Application

This section describes the procedures used to program the R4870 measurement application which uses the WAPI function from the remote PC. (Developing environment (OS): Windows 98SE or Windows 2000, and Language: VisualBasic6.0)

The measurement application controls the R4870 by using TCP/IP communication. However, the communication section can be controlled without recognition due to the WAPI function.

1. When starting the measurement application, the communication pathway to the R4870 must be secured by calling WmtGetIpStr( ) and WmtOpenPacket( ).
2. Once the communication is established at the time the application is started, lngID obtained by using WmtOpenPacket( ) will always be necessary in subsequent cases when using a WAPI function.
   The TCP/IP communication between the external PC and the R4870 is conducted by using lngID.

   The following describes how to establish a connection.
3. The R4870 can be controlled by embedding the WAPI function in the measurement application. For other uses of the WAPI function, refer to Section 5.6, "Programming Examples" and Section 5.7, "Function Specifications."
4. When quitting the measurement application, the secured communication pathway must be released by calling WmtClosePacket( ).
5. Execute this function when the measurement program is created.

   When debugging the measurement application, no reference settings are necessary.
6. When debugging is complete, compile the program. The work is complete.

5.6 Programming Examples

The following describes typical programming examples such as the data setting to the R4870 and reading query data.

1. Setting conditions to the R4870.

Case	In the SIG measurement, set the Output Power measurement to ON, and set the Pass/Fail limit values of the Class1 Average to 0 to 20 dBm, and the Pass/Fail limit value of Peak to 23 dBm.
Sample	(see code below)

```
Public Declare Function WmtConfSigOutpPow Lib "ot.dll" _
                        (ByVal lngID As Long, ByVal lngPoint As Long, ByVal lngOnOff As Long) As Long
Public Declare Function WmtConfSigOutpPowClas1AvgUp Lib "bt.dll" _
                           (ByVal lngID As Long, ByVal dblLimit As Double) As Long
Public Declare Function WmtConfSigOutpPowClas1AvgLo Lib "bt.dll" _
                           (ByVal lngID As Long, ByVal dblLimit As Double) As Long
Public Declare Function WmtConfSigOutpPowPeakUp Lib "ot.dll" _
                           (ByVal lngID As Long, ByVal dblLimit As Double) As Long

Private Sub SigOutpPowSetupConfig(ByVal lngID As Long)
    Dim lngPoint          As Long

    '' Setting the execution of the Output Power test to ON. (FREQ_ALL = 0, WMT_ON = 1/ WMT_OFF = 0)
    Call WmtConfSigOutpPow(lngID,FREQ_ALL,WMT_ON)

    '' Setting the Low, Mid, and High measurement points to ON. (FREQ_LOW=1 , FREQ_MID = 2 , FREQ_HIGH=3)
    For lngPoint=FREQ_LOW To FREQ_HIGH
        Call WmtConfSigOutpPow( lngID, lngPoint, WMT_ON)
    Next lngPoint

    '' Setting the Pass/Fail limit values.
    Call WmtConfSigOutpPowClas1AvgUp( lngID, 20#)     ' The upper limit value of Class1 Average
    Call WmtConfSigOutpPowClas1AvgLo( lngID, 0#)      ' The lower limit value of Class1 Average
    Call WmtConfSigOutpPowPeakUp(lngID, 23#)          ' The upper limit value of Peak

End Sub
```

2. Reading out the conditions from the R4870.

Case	In the SIG measurement, read out and display the Output Power measurement setting (ON/OFF) and the Pass/Fail limit values of the Class1 Average and the Peak.
Sample	

```
Public Declare Function QryConfSigOutpPow Lib "bt.dll"
                      (ByVal lngID As Long, ByVal lngPoint As Long, ByRef lngOnOff As Long) As Long
Public Declare Function QryConfSigOutpPowClas1AvgUp Lib "bt.dll"
                        (ByVal lngID As Long, ByRef dblLimit As Double) As Long
Public Declare Function QryConfSigOutpPowClas1AvgLo Lib "bt.dll"
                        (ByVal lngID As Long, ByRef dblLimit As Double) As Long
Public Declare Function QryConfSigOutpPowPeakUp Lib "bt.dll"
                        (ByVal lngID As Long, ByRef dblLimit As Double) As Long

Private Sub SigOutpPowSetupPreview(ByVal lngID As Long)
    Dim lngPoint          As Long
    Dim lngOnOff(0 To 3)  As Long     '0:All, 1:Low, 2:Mid, 3:High
    Dim dblLimPeak        As Double
    Dim dblLimAvg(0 To 2) As Double   '0:Up, 1:Low
    Dim strMsg            As String

    '' Reading out the execution of the Output Power test.
    Call QryConfSigOutpPow(lngID, FREQ_ALL, lngOnOff(FREQ_ALL))

    '' Reading out the execution of the Low, Mid, and High measurement points.
    For lngPoint   FREQ_LOW To FREQ_HIGH
        Call QryConfSigOutpPow(lngID, lngPoint, lngOnOff(lngPoint))
    Next lngPoint

    '' Reading out the Pass/Fail limit values.
    Call QryConfSigOutpPowClas1AvgUp(lngID, dblLimAvg(0))     'Set the upper limit value of Class1 Average.
    Call QryConfSigOutpPowClas1AvgLo(lngID, dblLimAvg(1))     'Set the lower limit value of Class1 Average.
    Call QryConfSigOutpPowPeakUp(lngID, dblLimPeak)           'Set the upper limit value of Peak.

    If (lngOnOff(FREQ_ALL)   WMT ON) Then
       strMsg   "Output Power Excecute : Low   " & IIf(lngOnOff(FREQ_LOW)   WMT ON, "On", "Off")
                                   & ", Mid   " & IIf(lngOnOff(FREQ_MID)   WMT ON, "On", "Off")
                                   & ", High   " & IIf(lngOnOff(FREQ_HIGH)   WMT ON, "On", "Off")
    Else
        strMsg   "Output Power Excecute : Off"
    End If

    strMsg   strMsg & vbCrLf & "Class1 Up  : " & Str(dblLimAvg(0))
    strMsg   strMsg & vbCrLf & "Class1 Low : " & Str(dblLimAvg(1))
    strMsg   strMsg & vbCrLf & "Peak       : " & Str(dblLimPeak)

    Call MsgBox(strMsg, vbOKOnly, "Output Power Info.")

End Sub
```

3. Executing the R4870 measurement and reading out the measurement result.

Case	In the SIG measurement, execute the Output Power measurement, and read out and display the Low, Mid, and High measurement points values. (When performing the measurement, connect the IUT by using the WmtProcSignConn( ).)
Sample	

```
Public Declare Function WmtProcSigOutpPow Lib "bt.a l" _
                        (ByVal  rgID As Long, ByVal lngPoint As Long) As Long
Public Declare Function QryStatMeas Lib "bt.a l" _
                        (ByVal  rgID As Long, ByRef lngStat As Long) As Long
Public Declare Function QryFetcSigOutpPowAvg Lib "bt.a l" _
                       (ByVal lngID As Long, ByVal  rgPoint As Long, ByRef dblPow As Double) As Long
Public Declare Function QryFetcSigOutpPowPk Lib "bt.dl " _
                       (ByVal lngID As Long, ByVal  rgPoint As Long, ByRef dblPow As Double) As Long

Private Sub SigOutpPowMeasure(ByVal  lngID As Long)
    Dim  rgPoint            As Long
    Dim dblAvg(1 To 3)  As Double
    Dim dblPeak(1 To 3) As Double
    Dim  rgStat         As Long
    Dim strMsg          As String

    ' Performing the measurement.
    If (WmtProcSigOutpPow(lngID, FREQ_ALL) = WMT_ROK) Then
        ' Monitoring the measurement completion.

        Do
            If (QryStatMeas( rgID, lngStat) = WMT_TRUE) Then
                If ( rgStat = 0) Then ' Exiting the loop when the status indicates the measurement is complete.
                    Exit Do
                End If
            End If

            DoEvents

            Call Sleep(100)             ' 100ms wait
        Loop

        ' Reading out the measurement results at the Low, Mid, and High measurement points.
        For lngPoint = FREQ_LOW To FREQ_HIGH
            Call QryFetcSigOutpPowAvg(lngID,  rgPoint, dblAvg( rgPoint))     ' Average
            Call QryFetcSigOutpPowPk( rgID, lngPoint, dblPeak( rgPoint))     ' Peak
        Next lngPoint

        strMsg = "Output Power" & vbCrLf & _
                 " [Average] Low  = " & Str(dblAvg(FREQ_LOW)) & vbCrLf & _
                 "           Mid  = " & Str(dblAvg(FREQ_MID)) & vbCrLf & _
                 "           High = " & Str(dblAvg(FREQ_HIGH)) & vbCrLf & _
                 " [Peak]    Low  = " & Str(dblPeak(FREQ_LOW)) & vbCrLf & _
                 "           Mid  = " & Str(dblPeak(FREQ_MID)) & vbCrLf & _
                 "           High = " & Str(dblPeak(FREQ_HIGH))

        Call  MsgBox(strMsg, vbOKOnly, "Result")
    Else
        Call  MsgBox("Execution failed : Output Power.", vbOKOnly, "Error")
    End If

End Sub
```

4. Setting and reading out character string (STRING) data to the R4870.

Case	Sets and reads the character string (String type) by using Visual Basic.

Sample	`Public Declare Function WmtConfUnitName Lib "bt.dll" _`
	`  (ByVal lngID As Long, ByVal strName As String) As Long`
	
	`Public Declare Function QryConfUnitName Lib "bt.dll" _`
	`  (ByVal lngID As Long, ByRef strName As String) As Long`
	
	`Private Sub cmdSetRead_Click()`
	`  '' Secure the region including NULL in the fixed length String.`
	`  Dim strName As String * 22`
	
	`  strName = "Test of StrName"`
	`  lngErr = WmtConfUnitName(lng_D, strName)  '' During the transmission, strName is the ByVal specification.`
	`  lngErr = QryConfUnitName(lng_D, strName)  '' During the reception, strName is the ByRef specification.`
	`  '' The API function writes to strName.`
	`  MsgBox "The unit appellative is " & strName & "."`
	`End Sub`

5. Setting and reading out array (Byte type) data (setting and reading out the BD Address of the R4870).

Case	Sets and reads the array (Byte type) by using Visual Basic. This example sets and reads out BD Address of the R4870 built-in communication unit. (Example: BD Address=0x481F203DAB59.)

Sample	`Public Declare Function WmtConfBdAddrSU Lib "bt.dll" (ByVal lngID As Long,`
	`  ByVal lngType As Long, ByRef bytAddr As Any, ByVal lngNum As Long) As Long`
	
	`Public Declare Function QryConfBdAddrSU Lib "bt.dll" (ByVal lngID As Long,`
	`  ByVal lngType As Long, ByRef bytAddr As Any) As Long`
	
	`Private Sub cmdSetRead_Click()`
	`  '' Secures more than the necessary size.`
	`  Dim bytAddr(6) As Byte`
	`  '' The R4870 built-in communication unit number.`
	`  lngType  1`
	`  '' BD ADDR 0x481F203D1B59`
	`  bytAddr(0)  &H48  '' The initializing method is not queried.`
	`  bytAddr(1)  &H1F`
	`  bytAddr(2)  &H20`
	`  bytAddr(3)  &H3D`
	`  bytAddr(4)  &HAB`
	`  bytAddr(5)  &H59`
	`  lngErr  WmtConfBdAddrSU(lngID, lngType, bytAddr(0), 6)`
	`  '' When handing over array data, hand over the array and its number of bytes as a set.`
	`  '' Any is used as the array data type for declarations (Declare).`
	
	`  lngErr  QryConfBdAddrSU(lngID, lngType, bytAddr(0))`
	
	`  MsgBox "The R4870 board address is" &`
	`  Hex(bytAddr(0)) & Hex(bytAddr(1)) & Hex(bytAddr(2)) &`
	`  Hex(bytAddr(3)) & Hex(bytAddr(4)) & Hex(bytAddr(5)) & "."`
	`End Sub`

5.7 Function Specifications

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5.7.1 SYSTem Subsystem

5.7.1.1 WmtSystPres

Function name	long WmtSystPres
Function	Initializing the system.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngMode // 0: Instrument Preset // 1: Software Reset (Resets the condition to when the power was // turned on.) // 2: Hardware Reset (Resets Signaling Unit.)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function initializes the system. The condition to which the system is reset to, can be specified by using the variable *lngMode*.

5.7.1.2 QrySystIden

Function name	long QrySystIden
Function	Reading out the system information.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] char ** strIdn // Stores a character string.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the system information and stores the value in the variable specified by *strIdn*. For the argument, hand over a pointer which indicates the character string. VB hands over the String type data by using ByRef.
Caution	Secure sufficient memory space for the storing side (the application side). The API function does not check the memory capacity of the storing side.

5.7.1.3 QrySystVers

Function name	long QrySystVers
Function	Reading out the version information.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] char ** strVers // Stores a character string.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the version information and stores the value in the variable specified by *strVers*. For the argument, hand over a pointer which indicates the character string. VB hands over the String type data by using ByRef.
Caution	Secure sufficient memory space for the storing side (the application side). The API function does not check the memory capacity of the storing side.

5.7.1.4 QrySystInfoOpt

Function name	long QrySystInfoOpt
Function	Reading out the option information.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] char ** strOpt // Stores a character string.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the system information and stores the value in the variable specified by *strOpt*. For the argument, hand over a pointer which indicates the character string. VB hands over the String type data by using ByRef.
Caution	Secure sufficient memory space for the storing side (the application side). The API function does not check the memory capacity of the storing side.

5.7.1.5 QrySystErr

Function name	long QrySystErr
Function	Reading out the updated error number and error message.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngNo // Error number char ** strMsgs // Stores a character string.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the updated error number and error message and stores values in variables specified by *lngNo* for the error number and *strMsgs* for the error message. For the argument, hand over a pointer which indicates the character string. VB hands over the String type data by using ByRef. For the error message, refer to Section A.2, "Error Messages."
Caution	Secure sufficient memory space for the storing side (the application side). The API function does not check the memory capacity of the storing side.

5.7.2 STATus Subsystem

5.7.2.1 QryStatMeas

Function name	long QryStatMeas
Function	Inquiring the measurement status.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngStat // 0: Measurement suspended. // 1: Measurement in process.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function inquires whether or not the measurement is in process. The value is stored in the variable, *lngStat*.

5.7.3 SIGNaling Subsystem

5.7.3.1 WmtProcSignConn

Function name	long WmtProcSignConn
Function	Connects the R4870 to the IUT (the Test Mode connection in the RF testing).
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function connects the R4870 to the IUT (the Test Mode connection in the RF testing).

5.7.3.2 WmtProcSignDisc

Function name	long WmtProcSignDisc
Function	Disconnects the R4870 from the IUT (the Test Mode connection in the RF testing).
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function disconnects the R4870 from the IUT (the Test Mode connection in the RF testing).

5.7.4 MMEMory Subsystem

5.7.4.1 WmtMmemStor

Function name	long WmtMmemStor
Function	Storing data.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). char * strFile // File name
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function stores the measurement data or measurement result in the *strFile*. It is unnecessary to specify an extension for the file name. (The *strFile* can be specified by using an absolute path that includes a folder name. If the strFile is not specified by using an absolute path, it is stored under D:\Advantest\R4870\SVRCL in the R4870.)

5.7.4.2 WmtMmemLoad

Function name	long WmtMmemLoad
Function	Loading data.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). char * strFile // File name
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function loads the measurement data or measurement result from the *strFile*. It is unnecessary to specify an extension for the file name. (The *strFile* can be specified by using an absolute path that includes a folder name. If the strFile is not specified by using an absolute path, it is loaded from D:\Advantest\R4870\SVRCL of the R4870.)

5.7.4.3 WmtMmemDel

Function name	long WmtMmemDel
Function	Deleting a data file.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). char * strFile // File name
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function deletes the stored *strFile* data file. It is unnecessary to specify an extension. (The *strFile* can be specified by using an absolute path that includes a folder name. If the strFile is not specified by using an absolute path, it is deleted from D:\Advantest\R4870\SVRCL of the R4870.)

5.7.5 CONFigure Subsystem - SYSTEM

5.7.5.1 WmtConfHopMode

Function name	long WmtConfHopMode
Function	Setting the IUT supported hopping mode.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngGeog // 0: For USA, Europe or Japan // 1: For France only
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the hopping mode which is supported by the IUT. The initial value is 0.

5.7.5.2 QryConfHopMode

Function name	long QryConfHopMode
Function	Reading out the supporting condition for the IUT-supported hopping mode.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngGeog
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the supporting condition of the hopping mode which is supported by the IUT and stores the value in the variable specified by *lngGeog*.

5.7.5.3 WmtConfInpTypeFreq

Function name	long WmtConfInpTypeFreq
Function	Setting an input method for the operation frequency.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // 0: frequency // 1: CH
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets an input method for the operation frequency. The initial value is 1.

5.7.5.4 QryConfInpTypeFreq

Function name	long QryConfInpTypeFreq
Function	Reading out the input method for the operation frequency.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngType
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the input method set for the operation frequency and stores the value in the variable specified by *lngType*.

5.7.5.5 WmtConfOperFreq

Function name	long WmtConfOperFreq
Function	Setting operation frequencies at the lowest, mid, and highest points.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngGeog // 0: Test frequency - For USA, Europe or Japan // 1: Test frequency - For France only // 10: Confront frequency - For USA, Europe or Japan // 11: Confront frequency - For France only long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) double dblFreq // Operation frequency (Hz)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets operation frequencies at the lowest, mid, and highest points.

5.7.5.6 QryConfOperFreq

Function name	long QryConfOperFreq
Function	Reading out operation frequencies at the lowest, mid, and highest points.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngGeog // 0: Test frequency - For USA, Europe or Japan // 1: Test frequency - For France only // 10: Confront frequency - For USA, Europe or Japan // 11: Confront frequency - For France only long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) [OUT] double * dblFreq // Operation frequency (Hz)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out operation frequencies at the lowest, mid, and highest points and stores values in the variable specified by *dblFreq*.

5.7.5.7 WmtConfOperCH

Function name	long WmtConfOperCH
Function	Setting operation channels at the lowest, mid, and highest points.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngGeog // 0: Test channel - For USA, Europe or Japan // 1: Test channel - For France only // 10: Confront channel - For USA, Europe or Japan // 11: Confront channel - For France only long lngPoint // Operation channel specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) long lngCh // Operation channel
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets operation channels at the lowest, mid, and highest points.

5.7.5.8 QryConfOperCH

Function name	long QryConfOperCH
Function	Reading out operation channels at the lowest, mid, and highest points.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngGeog // 0: Test channel - For USA, Europe or Japan // 1: Test channel - For France only // 10: Confront channel - For USA, Europe or Japan // 11: Confront channel - For France only long lngPoint // Operation channel specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) [OUT] long * lngCh // Operation channel
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out operation channels at the lowest, mid, and highest points and stores values in the variable specified by *lngCh*.

5.7.5.9 WmtConfBdAddrSU

Function name	long WmtConfBdAddrSU
Function	Setting the BD Address of the R4870 built-in communication unit (Signaling Unit).
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // 1: UNIT1 // 2: UNIT2 (It is currently unusable.) char bytAddr[6] // BD Address (48 bits) long lngNum // Total number of bytes for the array (in this case, 6 bytes).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets BD Address of the R4870 built-in communication unit (Signaling Unit).

5.7.5.10 QryConfBdAddrSU

Function name	long QryConfBdAddrSU
Function	Reading out BD Address of the R4870 built-in communication unit (Signaling Unit).
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // 1: UNIT1 // 2: UNIT2 (It is currently unusable.) [OUT] char * bytAddr // BD Address (48 bits)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out BD Address of the R4870 built-in communication unit (Signaling Unit) and stores the value in the variable specified by *bytAddr*.

5.7.5.11 WmtConfRFCablLoss

Function name	long WmtConfRFCablLoss
Function	Setting an offset value for the external loss in the connection to the RF connector.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngRf // 1: RF1 // 2: RF2 double dblLoss // Loss offset value (dB)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets an offset value for the external loss in the connection to the RF connector. The initial value is 0 dB.

5.7.5.12 QryConfRFCablLoss

Function name	long QryConfRFCablLoss
Function	Reading out the offset value for the external loss in the connection to the RF connector.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngRf // 1: RF1 // 2: RF2 [OUT] double * dblLoss
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	Reading out the offset value for the external loss in the connection to the RF connector and stores the value in the variable specified by *dblLoss*.

5.7.5.13 WmtSensRoscExtEnab

Function name	long WmtSensRoscExtEnab
Function	Setting the external 10 MHz reference source to Valid or Invalid.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // 1: Valid/ 0: Invalid
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the external 10 MHz reference source to Valid or Invalid.

5.7.5.14 QrySensRoscExtEnab

Function name	long QrySensRoscExtEnab
Function	Reading out the Valid or Invalid setting condition of the external 10 MHz reference source.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current Valid or Invalid setting condition of the external 10 MHz reference source and stores the value in the variable specified by *lngOnoff*.

5.7.5.15 QrySensRoscExtStat

Function name	long QrySensRoscExtStat
Function	Reading out the external 10 MHz reference signal status.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngStat
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out whether or not the external 10 MHz reference signal is supplied and stores the value in the variable specified by *lngStat*.

5.7.5.16 WmtConfUnitName

Function name	long WmtConfUnitName
Function	Setting the user set system name for the instrument.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] char * strName // System name (For VB, specify by using ByVal)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the system name which is specified by the user for the instrument by using a character string of up to 20 characters. The initial value is "R4870". The application hands over only the normal character string (only the fixed length). VB hands over the String type data by using ByVal.

5.7.5.17 QryConfUnitName

Function name	long QryConfUnitName
Function	Reading out the user set system name for the instrument.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] char ** strName // System name (For VB, specify by using ByRef)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the system name which is specified by the user for the instrument and stores it in the variable specified by *strName*. It is necessary to secure space which is large enough to store the number of characters contained in the specified system name + NULL for the application side. For the argument, hand over a pointer which indicates the character string. VB hands over the String type data by using ByRef.

5.7.5.18 WmtConfLotNumb

Function name	long WmtConfLotNumb
Function	Setting a lot number for the test device.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). char * strLot // Lot number (For VB, specify by using ByVal)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets a lot number for the test device by using a character string of up to 20 characters. The application hands over only the normal character string (only the fixed length). VB hands over the String type data by using ByVal.

5.7.5.19 QryConfLotNumb

Function name	long QryConfLotNumb
Function	Reading out the test device lot number.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] char ** strLot // Lot number (For VB, specify by using ByRef)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the test device lot number as a character string and stores the value in the variable specified by *strLot*. It is necessary to secure space which is large enough to store the number of characters contained in the specified system name + NULL for the application side. For the argument, hand over a pointer which indicates the character string. VB hands over the String type data by using ByRef.

5.7.5.20 WmtConfDevNumb

Function name	long WmtConfDevNumb
Function	Setting a test number for the test device.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). char * strDev // Device number (For VB, specify by using ByVal)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets a test number for the test device by using a character string of up to 20 characters. The application hands over only the normal character string (only the fixed length). VB hands over the String type data by using ByVal.

5.7.5.21 QryConfDevNumb

Function name	long QryConfDevNumb
Function	Reading out the device number for the test device.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] char ** strDev // Device number (For VB, specify by using ByRef)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the test device number as a character string and stores the value in the variable specified by *strDev*. It is necessary to secure the space which is large enough to store the number of characters contained in the specified system name + NULL for the application side. For the argument, hand over a pointer which indicates the character string. VB hands over the String type data by using ByRef.

5.7.5.22 WmtConfDevNumbIncr

Function name	long WmtConfDevNumbIncr
Function	Setting whether or not to increase the test device number at every execution of the test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // 0: No increase // 1: Increase
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets whether or not to increase the device number every time the test is executed.

5.7.5.23 QryConfDevNumbIncr

Function name	long QryConfDevNumbIncr
Function	Reading out the condition set for whether or not to increase the test device number at every execution of the test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the condition set for whether or not to increase the device number every time the test is executed and stores the value in the variable specified by *lngOnoff*.

5.7.5.24 WmtConfUserInfoItem

Function name	long WmtConfUserInfoItem
Function	Setting an item name for the optional comment input by the user.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngNum // Element number for the array. char * strName // Item name (For VB, specify by using ByVal)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets an item name for the comment which the user chooses to input by using a character string of up to 20 characters. The application hands over only the normal character string (only the fixed length). VB hands over the String type data by using ByVal.

5.7.5.25 QryConfUserInfoItem

Function name	long QryConfUserInfoItem
Function	Reading out the item name for the user input optional comment.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngNum // Element number for the array. [OUT] char ** strName // Item name (For VB, specify by using ByRef)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the name for the comment which the user chose to input and stores it in the variable specified by *strName*. It is necessary to secure space which is large enough to store the number of characters contained in the specified system name + NULL for the application side. For the argument, hand over a pointer which indicates the character string. VB hands over the String type data by using ByRef.

5.7.5.26 WmtConfUserInfoComm

Function name	long WmtConfUserInfoComm
Function	Setting comment which the user chooses to input.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngNum // Element number for the array. char * strComm // Comment (For VB, specify by using ByVal)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets comment which the user chooses to input by using a character string of up to 40 characters. The application hands over only the normal character string (only the fixed length). VB hands over the String type data by using ByVal.

5.7.5.27 QryConfUserInfoComm

Function name	long QryConfUserInfoComm
Function	Reading out the comment which the user chose to input.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngNum // Element number for the array. [OUT] char ** strComm // Comment (For VB, specify by using ByRef)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the comment which the user chose to input and stores it in the variable specified by *strComm*. It is necessary to secure space which is large enough to store the number of characters contained in the specified system name + NULL for the application side. For the argument, hand over a pointer which indicates the character string. VB hands over the String type data by using ByRef.

5.7.5.28 WmtConfIUTContMod

Function name	long WmtConfIUTContMod
Function	Setting the IUT control to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // 0:OFF / 1: ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the IUT control to ON or OFF. The initial value is 1.

5.7.5.29 QryConfIUTContMod

Function name	long QryConfIUTContMod
Function	Reading out the IUT control ON or OFF setting condition.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current IUT control setting and stores the value in the variable specified by *lngOnoff*.

5.7.5.30 WmtConfPowClasIUT

Function name	long WmtConfPowClasIUT
Function	Setting the IUT power class.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // 1: CLASS1 // 2: CLASS2 // 3: CLASS3
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the IUT power class. The initial value is 3.

5.7.5.31 QryConfPowClasIUT

Function name	long QryConfPowClasIUT
Function	Reading out the IUT power class setting condition.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngType
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current IUT power control setting and stores the value in the variable specified by *lngType*.

5.7.5.32 WmtConfTxPowLev

Function name	long WmtConfTxPowLev
Function	Setting the R4870 built-in communication unit (Signaling Unit) transmission output level.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // 0: SU1 / 1: SU2 (It is currently unusable.) double dblLev // Output level
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the R4870 built-in communication unit (Signaling Unit) transmission output level. The basic setting range is -13 to -93 dBm with the Cable Loss value subtracted from it and 17 dB added in case CH2 is specified for the RF Port setting. Ex.) Cable Loss = 5 dB. The input range is -1 to -81 dBm in case CH2 is selected.

5.7.5.33 QryConfTxPowLev

Function name	long QryConfTxPowLev
Function	Reading out the R4870 built-in communication unit (Signaling Unit) transmission output level.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // 0: SU1 / 1: SU2 (It is currently unusable.) [OUT] double * dblLev
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the R4870 built-in communication unit (Signaling Unit) transmission output level and stores the value in the variable specified by *dblLev*.

5.7.5.34 WmtConfTxModIdx

Function name	long WmtConfTxModIdx
Function	Setting the R4870 built-in communication unit (Signaling Unit) modulation index.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // 0: SU1 / 1: SU2 (It is currently unusable.) double dblIdx // Modulation index
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the R4870 built-in communication unit (Signaling Unit) modulation index.

5.7.5.35 QryConfTxModIdx

Function name	long QryConfTxModIdx
Function	Reading out the R4870 built-in communication unit (Signaling Unit) modulation index.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // 0: SU1 / 1: SU2 (It is currently unusable.) [OUT] double * dblIdx
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the R4870 built-in communication unit (Signaling Unit) modulation index and stores the value in the variable specified by *dblIdx*.

5.7.5.36 WmtConfHciRs232

Function name	long WmtConfHciRs232
Function	Setting the transmission condition of the RS232 port for HCI.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPort // Port number (0: PORT-A / 1:PORT-B It is currently unusable.) long lngBaud // Baud rate // 115200/57600/38400/19200/14400/9600/7200/4800/2400/ // 1200 long lngData // Data unit length (8: fixed) long lngParity // Parity bit (0:EVEN / 1:ODD / 2:NONE) long lngStop // Stop bit (0:1bits / 1:1.5bits / 2:2bits) long lngHand // Handshake (0: fixed to NONE)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the transmission condition of the RS232 port for HCI.

5.7.5.37 QryConfHciRs232

Function name	long QryConfHciRs232
Function	Reading out the transmission condition of the RS232 port for HCI.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPort // Port number (0: PORT-A / 1:PORT-B It is currently unusable.) [OUT] long * lngBaud // Baud rate long * lngData // Data unit length long * lngParity // Parity bit long * lngStop // Stop bit long * lngHand // Handshake method
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the transmission condition of the RS232 port for HCI and stores values in the variable.

5.7.5.38 WmtConfUseIUTPara

Function name	long WmtConfUseIUTPara
Function	Setting the method for obtaining the IUT information.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngMethod // 0: Inquiry // 1: HCI // 2: User set information
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the method for obtaining the IUT information. The initial value is 0.

5.7.5.39 QryConfUseIUTPara

Function name	long QryConfUseIUTPara
Function	Reading out the method set for obtaining the IUT information.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngMethod
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the method which is set for obtaining the IUT information and stores the value in the variable specified by *lngMethod*.

5.7.5.40 WmtConfBdAddrIUT

Function name	long WmtConfBdAddrIUT
Function	Setting BD Address for the IUT.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). char bytAddr[6] // BD Address (48 bits). long lngNum // Total number of bytes for the array (in this case, 6 bytes).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets BD Address for the IUT.

5.7.5.41 QryConfBdAddrIUT

Function name	long QryConfBdAddrIUT
Function	Reading out BD Address for the IUT.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] char * bytAddr // BD Address (48 bits)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out BD Address for the IUT and stores the value in the variable specified by *bytAddr*.

5.7.5.42 WmtConfSuppPackType

Function name	long WmtConfSuppPackType
Function	Setting the IUT support packet.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // 0x0001: DH1 / 0x0002: DH3 / 0x0004: DH5 / 0x0000: ALL long lngData // WMT_OFF(0):OFF/WMT_ON(1):ON // When 0x0000: ALL is specified, the support packet's // (0x0001:DH1,0x0002:DH3,0x0004:DH5) OR data is set.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the support packet for the IUT. The packets can be set individually or all packets can be set at one time. To set all packets at one time, specify ALL in *lngType* and set the OR data, which correspond to the support packets, in *lngData*. Ex.) To support DH1(0x0001) and DH3(0x0002), set the relevant OR data, 0x0003.

5.7.5.43 QryConfSuppPackType

Function name	long QryConfSuppPackType
Function	Reading out the IUT support packet.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // 0x0001: DH1 / 0x0002: DH3 / 0x0004: DH5 / 0x0000: ALL [OUT] long * lngData
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the support packet for the IUT and stores the value in the variable specified by *lngData*. For more information, refer to WmtConfSuppPackType.

5.7.5.44 WmtConfRfPort

Function name	long WmtConfRfPort
Function	Specifying which channel between CH1 and CH2 of RF Port is used for the connection to the IUT signal line.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngConn // 1: CH1 // 2: CH2
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function specifies which channel between CH1 and CH2 of RF Port is used for the connection to the IUT signal line.

5.7.5.45 QryConfRfPort

Function name	long QryConfRfPort
Function	Reading out which channel between CH1 and CH2 of RF Port is used for the connection to the IUT signal line.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngConn
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out which channel between CH1 and CH2 of RF Port which is used for the connection to the IUT signal line and stores the value in the variable specified by *lngConn*.

5.7.5.46 WmtConfPaneLock

Function name	long WmtConfPaneLock
Function	Setting the lock status (ON/OFF) of the panel operation.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // 0: OFF // 1: ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets whether the status can be changed by using the R4870 touch panel and the panel key.

5.7.5.47 QryConfPaneLock

Function name	long QryConfPaneLock
Function	Reading out the lock status (ON/OFF) of the panel operation.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out whether the status can be changed by using the R4870 touch panel and the panel key.

5.7.6 CONFigure Subsystem - SIG RF

5.7.6.1 WmtConfSigOutpPow

Function name	long WmtConfSigOutpPow
Function	Setting the Output Power test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Test item setting 0x00: Setting the testing item to ON or OFF. // Operation frequency setting // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) long lngOnOff // WMT_OFF(0): OFF / WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Output Power test to ON or OFF. ON is set to the initial values of the test items and all operation frequencies.

5.7.6.2 QryConfSigOutpPow

Function name	long QryConfSigOutpPow
Function	Reading out the ON or OFF setting of the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Test item setting 0x00: Setting the testing item to ON or OFF. // Operation frequency setting // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Output Power test and stores the value in the variable specified by *lngOnOff*.

5.7.6.3 WmtConfSigModChar

Function name	long WmtConfSigModChar
Function	Setting the Modulation Characteristics test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Test item setting 0x00: Setting the testing item to ON or OFF. // Operation frequency setting // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) long lngOnOff // WMT_OFF(0): OFF / WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Modulation Characteristics test to ON or OFF. ON is set to the initial values of the test items and all operation frequencies.

5.7.6.4 QryConfSigModChar

Function name	long QryConfSigModChar
Function	Reading out the ON or OFF setting of the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Test item setting 0x00: Setting the testing item to ON or OFF. // Operation frequency setting // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Modulation Characteristics test and stores the value in the variable specified by *lngOnOff*.

5.7.6.5 WmtConfSigFreqTole

Function name	long WmtConfSigFreqTole
Function	Setting the Initial Carrier Frequency Tolerance test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Test item setting 0x00: Setting the testing item to ON or OFF. // Operation frequency setting // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) long lngOnOff // WMT_OFF(0): OFF / WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets Initial Carrier Frequency Tolerance test to ON or OFF. ON is set to the initial values of the test items and all operation frequencies.

5.7.6.6 QryConfSigFreqTole

Function name	long QryConfSigFreqTole
Function	Reading out the ON or OFF setting of the Initial Carrier Frequency Tolerance test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Test item setting 0x00: Setting the testing item to ON or OFF. // Operation frequency setting // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Initial Carrier Frequency Tolerance test and stores the value in the variable specified by *lngOnOff*.

5.7.6.7 WmtConfSigFreqDrif

Function name	long WmtConfSigFreqDrif
Function	Setting the Carrier Frequency Drift test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Test item setting 0x00: Setting the testing item to ON or OFF. // Operation frequency setting // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) long lngOnOff // WMT_OFF(0): OFF / WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Carrier Frequency Drift test to ON or OFF. ON is set to the initial values of the test items and all operation frequencies.

5.7.6.8 QryConfSigFreqDrif

Function name	long QryConfSigFreqDrif
Function	Reading out the ON or OFF setting of the Carrier Frequency Drift test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Test item setting 0x00: Setting the testing item to ON or OFF. // Operation frequency setting // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Carrier Frequency Drift test and stores the value in the variable specified by *lngOnOff*.

5.7.6.9 WmtConfSigSensSing

Function name	long WmtConfSigSensSing
Function	Setting the Sensitivity (Single Slot Packets) test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Test item setting 0x00: Setting the testing item to ON or OFF. // Operation frequency setting // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) long lngOnOff // WMT_OFF(0): OFF / WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Sensitivity (Single Slot Packets) test to ON or OFF. ON is set to the initial values of the test items and all operation frequencies.

5.7.6.10 QryConfSigSensSing

Function name	long QryConfSigSensSing
Function	Reading out the ON or OFF setting of the Sensitivity (Single Slot Packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Test item setting 0x00: Setting the testing item to ON or OFF. // Operation frequency setting // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Sensitivity (Single Slot Packets) test and stores the value in the variable specified by *lngOnOff*.

5.7.6.11 WmtConfSigSensMult

Function name	long WmtConfSigSensMult
Function	Setting the Sensitivity (Multi Slot Packets) test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Test item setting 0x00: Setting the testing item to ON or OFF. // Operation frequency setting // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) long lngOnOff // WMT_OFF(0): OFF / WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Sensitivity (Multi Slot Packets) test to ON or OFF. ON is set to the initial values of the test items and all operation frequencies.

5.7.6.12 QryConfSigSensMult

Function name	long QryConfSigSensMult
Function	Reading out the ON or OFF setting of the Sensitivity (Multi Slot Packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Test item setting 0x00: Setting the testing item to ON or OFF. // Operation frequency setting // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Sensitivity (Multi Slot Packets) test and stores the value in the variable specified by *lngOnOff*.

5.7.6.13 WmtConfSigMaxInp

Function name	long WmtConfSigMaxInp
Function	Setting the Maximum Input Level test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Test item setting 0x00: Setting the testing item to ON or OFF. // Operation frequency setting // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) long lngOnOff // WMT_OFF(0): OFF / WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Maximum Input Level test to ON or OFF. ON is set to the initial values of the test items and all operation frequencies.

5.7.6.14 QryConfSigMaxInp

Function name	long QryConfSigMaxInp
Function	Reading out the ON or OFF setting of the Maximum Input Level test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Test item setting 0x00: Setting the testing item to ON or OFF. // Operation frequency setting // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Maximum Input Level test and stores the value in the variable specified by *lngOnOff*.

5.7.6.15 WmtConfSigSensSingTestType

Function name	long WmtConfSigSensSingTestType
Function	Selecting a test method in the Sensitivity (Single slot packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // Measurement type // 0x00: STANDARD (complies to the SIG standard). // 0x01: HIGH SPEED (highspeed/simple version).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the test method in the Sensitivity (Single slot packets) test. The initial value is 0 (complies to the SIG standard).

5.7.6.16 QryConfSigSensSingTestType

Function name	long QryConfSigSensSingTestType
Function	Reading out the test method in the Sensitivity (Single slot packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngType
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current test method for the Sensitivity (Single slot packets) test and stores the value in the variable specified by *lngType*.

5.7.6.17 WmtConfSigSensMultTestType

Function name	long WmtConfSigSensMultTestType
Function	Selecting a test method in the Sensitivity (Multi slot packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // Measurement type // 0x00: STANDARD (complies to the SIG standard). // 0x01: HIGH SPEED (highspeed/simple version).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the test method in the Sensitivity (Multi slot packets) test. The initial value is 0 (complies to the SIG standard).

5.7.6.18 QryConfSigSensMultTestType

Function name	long QryConfSigSensMultTestType
Function	Reading out the test method in the Sensitivity (Multi slot packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngType
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current test method for the Sensitivity (Multi slot packets) test and stores the value in the variable specified by *lngType*.

5.7.6.19 WmtConfSigMaxInpTestType

Function name	long WmtConfSigMaxInpTestType
Function	Selecting a test method in the Maximum Input Level test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // Measurement type // 0x00: STANDARD (complies to the SIG standard). // 0x01: HIGH SPEED (highspeed/simple version).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the test method in the Maximum Input Level test. The initial value is 0 (complies to the SIG standard).

5.7.6.20 QryConfSigMaxInpTestType

Function name	long QryConfSigMaxInpTestType
Function	Reading out the test method in the Maximum Input Level test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngType
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current test method for the Maximum Input Level test and stores the value in the variable specified by *lngType*.

5.7.6.21 WmtConfSigBERbitsHspd

Function name	long WmtConfSigBERbitsHspd
Function	Setting the number of sample bits for the BER Measurement in the HIGH SPEED mode setting.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngBits // number of sample bits: 1 to 1600000
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the number of sample bits for the BER Measurement in the HIGH SPEED mode setting. The initial value is 160000.

5.7.6.22 QryConfSigBERbitsHspd

Function name	long QryConfSigBERbitsHspd
Function	Reading out the number of sample bits for the BER measurement in the HIGH SPEED mode setting.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngBits
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current number of sample bits which is set for the BER measurement in the HIGH SPEED mode setting and stores the value in the variable specified by *lngBits*.

5.7.6.23 WmtConfSigBERbitsStd

Function name	long WmtConfSigBERbitsStd
Function	Setting the number of sample bits for the BER measurement in the STANDARD mode setting.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngBits // number of sample bits: 1600000 to 9999999
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the number of sample bits for the BER measurement in the STANDARD mode setting. The initial value is 1600000.

5.7.6.24 QryConfSigBERbitsStd

Function name	long QryConfSigBERbitsStd
Function	Reading out the number of sample bits for the BER measurement in the STANDARD mode setting.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngBits
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current number of sample bits for the BER measurement in the STANDARD mode setting and stores the value in the variable specified by *lngBits*.

5.7.6.25 WmtConfSigOutpPowClas1AvgUp

Function name	long WmtConfSigOutpPowClas1AvgUp
Function	Setting an upper limit which is used to evaluate the average power in Class1 of the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // -33.0 to 25.0 (dBm) However, the value cannot be set equal to // or less than the lower limit.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the upper limit which is used to evaluate the average power in Class1 of the Output Power test. The initial value is 20.0.

5.7.6.26 QryConfSigOutpPowClas1AvgUp

Function name	long QryConfSigOutpPowClas1AvgUp
Function	Reading out the upper limit which is used to evaluate the average power in Class1 of the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current upper limit which is used to evaluate the average power in Class1 of the Output Power test and stores the value in the variable specified by *dblLimit*.

5.7.6.27 WmtConfSigOutpPowClas1AvgLo

Function name	long WmtConfSigOutpPowClas1AvgLo
Function	Setting a lower limit which is used to evaluate the average power in Class1 of the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // -33.0 to 25.0 (dBm) However, the value cannot be set equal to // or more than the upper limit.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the lower limit which is used to evaluate the average power in Class1 of the Output Power test. The initial value is 0.0.

5.7.6.28 QryConfSigOutpPowClas1AvgLo

Function name	long QryConfSigOutpPowClas1AvgLo
Function	Reading out the lower limit which is used to evaluate the average power in Class1 of the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current lower limit which is used to evaluate the average power in Class1 of the Output Power test and stores the value in the variable specified by *dblLimit*.

5.7.6.29 WmtConfSigOutpPowClas2AvgUp

Function name	long WmtConfSigOutpPowClas2AvgUp
Function	Setting an upper limit which is used to evaluate the average power in Class2 of the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // -33.0 to 25.0 (dBm) However, the value cannot be set equal to // or less than the lower limit.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the upper limit which is used to evaluate the average power in Class2 of the Output Power test. The initial value is 4.0.

5.7.6.30 QryConfSigOutpPowClas2AvgUp

Function name	long QryConfSigOutpPowClas2AvgUp
Function	Reading out the upper limit which is used to evaluate the average power in Class2 of the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current upper limit which is used to evaluate the average power in Class2 of the Output Power test and stores the value in the variable specified by *dblLimit*.

5.7.6.31 WmtConfSigOutpPowClas2AvgLo

Function name	long WmtConfSigOutpPowClas2AvgLo
Function	Setting a lower limit which is used to evaluate the average power in Class2 of the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // -33.0 to 25.0 (dBm) However, the value cannot be set equal to // or more than the upper limit.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the current lower limit which is used to evaluate the average power in Class2 of the Output Power test. The initial value is -6.0.

5.7.6.32 QryConfSigOutpPowClas2AvgLo

Function name	long QryConfSigOutpPowClas2AvgLo
Function	Reading out the lower limit which is used to evaluate the average power in Class2 of the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current lower limit which is used to evaluate the average power in Class2 of the Output Power test and stores the value in the variable specified by *dblLimit*.

5.7.6.33 WmtConfSigOutpPowClas3AvgUp

Function name	long WmtConfSigOutpPowClas3AvgUp
Function	Setting an upper limit which is used to evaluate the average power in Class3 of the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // -33.0 to 25.0 (dBm)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the upper limit which is used to evaluate the average power in Class3 of the Output Power test. The initial value is 0.0.

5.7.6.34 QryConfSigOutpPowClas3AvgUp

Function name	long QryConfSigOutpPowClas3AvgUp
Function	Reading out the upper limit which is used to evaluate the average power in Class3 of the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current upper limit which is used to evaluate the average power in Class3 of the Output Power test and stores the value in the variable specified by *dblLimit*.

5.7.6.35 WmtConfSigOutpPowPeakUp

Function name	long WmtConfSigOutpPowPeakUp
Function	Setting an upper limit which is used to evaluate the peak power in the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // -30.0 to 25.0 (dBm)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the upper limit which is used to evaluate the peak power in the Output Power test. The initial value is 23.0.

5.7.6.36 QryConfSigOutpPowPeakUp

Function name	long QryConfSigOutpPowPeakUp
Function	Reading out the upper limit which is used to evaluate the peak power in the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current upper limit which is used to evaluate the peak power in the Output Power test and stores the value in the variable specified by *dblLimit*.

5.7.6.37 WmtConfSigModCharF1avgUp

Function name	long WmtConfSigModCharF1avgUp
Function	Setting an upper limit which is used for the Δf1avg evaluation in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0 to 300000 (Hz) However, the value cannot be set to less than // the lower limit.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the upper limit which is used for the Δf1avg evaluation in the Modulation Characteristics test. The initial value is 175000.

5.7.6.38 QryConfSigModCharF1avgUp

Function name	long QryConfSigModCharF1avgUp
Function	Reading out the upper limit which is used for the Δf1avg evaluation in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current upper limit which is used for the Δf1avg evaluation in the Modulation Characteristics test and stores the value in the variable specified by *dblLimit*.

5.7.6.39 WmtConfSigModCharF1avgLo

Function name	long WmtConfSigModCharF1avgLo
Function	Setting a lower limit which is used for the Δf1avg evaluation in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0 to 300000 (Hz) However, the value cannot be set to exceed // the upper limit.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the lower limit which is used for the Δf1avg evaluation in the Modulation Characteristics test. The initial value is 140000.

5.7.6.40 QryConfSigModCharF1avgLo

Function name	long QryConfSigModCharF1avgLo
Function	Reading out the lower limit which is used for the Δf1avg evaluation in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current lower limit which is used for the Δf1avg evaluation in the Modulation Characteristics test and stores the value in the variable specified by *dblLimit*.

5.7.6.41 WmtConfSigModCharF2maxUp

Function name	long WmtConfSigModCharF2maxUp
Function	Setting a lower limit which is used for the Δf2max evaluation in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0 to 300000 (Hz)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the lower limit which is used for the Δf2max evaluation in the Modulation Characteristics test. The initial value is 115000.

5.7.6.42 QryConfSigModCharF2maxUp

Function name	long QryConfSigModCharF2maxUp
Function	Reading out the lower limit which is used for the Δf2max evaluation in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current lower limit which is used for the Δf2max evaluation in the Modulation Characteristics test and stores the value in the variable specified by *dblLimit*.

5.7.6.43 WmtConfSigModCharF2F1Up

Function name	long WmtConfSigModCharF2F1Up
Function	Setting a lower limit which is used for the Δf2avg /Δf1avg evaluation in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0.00 to 1.00
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the lower limit which is used for the Δf2avg /Δf1avg evaluation in the Modulation Characteristics test. The initial value is 0.80.

5.7.6.44 QryConfSigModCharF2F1Up

Function name	long QryConfSigModCharF2F1Up
Function	Reading out the lower limit which is used for the Δf2avg /Δf1avg evaluation in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current lower limit which is used for the Δf2avg /Δf1avg evaluation in the Modulation Characteristics test and stores the value in the variable specified by *dblLimit*.

5.7.6.45 WmtConfSigModCharSampNum

Function name	long WmtConfSigModCharSampNum
Function	Setting the number of sample packets used in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngNum // 1 to 200 [packets]
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the number of sample packets used in the Modulation Characteristics test. The initial value is 10 [packets]. The minimum SIG standard value is 10 [packets].

5.7.6.46 QryConfSigModCharSampNum

Function name	long QryConfSigModCharSampNum
Function	Reading out the number of sample packets used in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngNum
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current number of sample packets, in the Modulation Characteristics test, and stores the value in the variable specified by *lngNum*.

5.7.6.47 WmtConfSigFreqToleFreqUp

Function name	long WmtConfSigFreqToleFreqUp
Function	Setting a tolerance range for the Initial Carrier Frequency Tolerance test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0 to 300000 (Hz)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the tolerance range of the Initial Carrier Frequency Tolerance test. The initial value is 75000.

5.7.6.48 QryConfSigFreqToleFreqUp

Function name	long QryConfSigFreqToleFreqUp
Function	Reading out the tolerance range of the Initial Carrier Frequency Tolerance test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current tolerance range of the Initial Carrier Frequency Tolerance test and stores the value in the variable specified by *dblLimit*.

5.7.6.49 WmtConfSigFreqDrifDH1DrifUp

Function name	long WmtConfSigFreqDrifDH1DrifUp
Function	Setting a tolerance range for the Carrier Frequency Drift test in the DH1-packet case.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0 to 300000 (Hz)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the tolerance range of the Carrier Frequency Drift test in the DH1-packet case. The initial value is 25000.

5.7.6.50 QryConfSigFreqDrifDH1DrifUp

Function name	long QryConfSigFreqDrifDH1DrifUp
Function	Reading out the tolerance range of the Carrier Frequency Drift test in the DH1-packet case.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current tolerance range of the Carrier Frequency Drift test in the DH1-packet case and stores the value in the variable specified by *dblLimit*.

5.7.6.51 WmtConfSigFreqDrifDH3DrifUp

Function name	long WmtConfSigFreqDrifDH3DrifUp
Function	Setting a tolerance range for the Carrier Frequency Drift test in the DH3-packet case.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0 to 300000 (Hz)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the tolerance range of the Carrier Frequency Drift test in the DH3-packet case. The initial value is 40000.

5.7.6.52 QryConfSigFreqDrifDH3DrifUp

Function name	long QryConfSigFreqDrifDH3DrifUp
Function	Reading out the tolerance range of the Carrier Frequency Drift test in the DH3-packet case.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current tolerance range of the Carrier Frequency Drift test in the DH3-packet case and stores the value in the variable specified by *dblLimit*.

5.7.6.53 WmtConfSigFreqDrifDH5DrifUp

Function name	long WmtConfSigFreqDrifDH5DrifUp
Function	Setting a tolerance range for the Carrier Frequency Drift test in the DH5-packet case.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0 to 300000 (Hz)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the tolerance range of the Carrier Frequency Drift test in the DH5-packet case. The initial value is 40000.

5.7.6.54 QryConfSigFreqDrifDH5DrifUp

Function name	long QryConfSigFreqDrifDH5DrifUp
Function	Reading out the tolerance range of the Carrier Frequency Drift test in the DH5-packet case.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current tolerance range of the Carrier Frequency Drift test in the DH5-packet case and stores the value in the variable specified by *dblLimit*.

5.7.6.55 WmtConfSigFreqDrifRateUp

Function name	long WmtConfSigFreqDrifRateUp
Function	Setting a tolerance range for | f (k+5) - f (k) | in the Carrier Frequency Drift test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0 to 300000 (Hz)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the tolerance range of | f (k+5) - f (k) | in the Carrier Frequency Drift test. The initial value is 20000.

5.7.6.56 QryConfSigFreqDrifRateUp

Function name	long QryConfSigFreqDrifRateUp
Function	Reading out the tolerance range of | f (k+5) - f (k) | in the Carrier Frequency Drift test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current tolerance range of | f (k+5) - f (k) | in the Carrier Frequency Drift test and stores the value in the variable specified by *dblLimit*.

5.7.6.57 WmtConfSigSensSingBerUp

Function name	long WmtConfSigSensSingBerUp
Function	Setting an upper limit for BER (Bit Error Rate) tolerance of the Sensitivity test (Single slot packets).
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0.0000 to 100.0000[%]
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the upper limit of BER (Bit Error Rate) tolerance of the Sensitivity test (Single slot packets). The initial value is 0.1000.

5.7.6.58 QryConfSigSensSingBerUp

Function name	long QryConfSigSensSingBerUp
Function	Reading out the upper limit of BER (Bit Error Rate) tolerance of the Sensitivity test (Single slot packets).
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current upper limit of BER (Bit Error Rate) tolerance of the Sensitivity test (Single slot packets) and stores the value in the variable specified by *dblLimit*.

5.7.6.59 WmtConfSigSensMultBerUp

Function name	long WmtConfSigSensMultBerUp
Function	Setting an upper limit for BER (Bit Error Rate) tolerance of the Sensitivity test (Multi slot packets).
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0.0000 to 100.0000[%]
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the upper limit of BER (Bit Error Rate) tolerance of the Sensitivity test (Multi slot packets). The initial value is 0.1000.

5.7.6.60 QryConfSigSensMultBerUp

Function name	long QryConfSigSensMultBerUp
Function	Reading out the upper limit of BER (Bit Error Rate) tolerance of the Sensitivity test (Multi slot packets).
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current upper limit of BER (Bit Error Rate) tolerance of the Sensitivity test (Multi slot packets) and stores the value in the variable specified by *dblLimit*.

5.7.6.61 WmtConfSigMaxInpBerUp

Function name	long WmtConfSigMaxInpBerUp
Function	Setting an upper limit of BER (Bit Error Rate) tolerance for the Maximum Input Level test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0.0000 to 100.0000 [%]
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the upper limit of BER (Bit Error Rate) tolerance of the Maximum Input Level test. The initial value is 0.1000.

5.7.6.62 QryConfSigMaxInpBerUp

Function name	long QryConfSigMaxInpBerUp
Function	Reading out the upper limit of BER (Bit Error Rate) tolerance for the Maximum Input Level test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current upper limit of BER (Bit Error Rate) tolerance of the Maximum Input Level test and stores the value in the variable specified by *dblLimit*.

5.7.6.63 WmtConfSigTxDirt

Function name	long WmtConfSigTxDirt
Function	Setting the Dirty function of the Sensitivity test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnOff // WMT_OFF(0): OFF / WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Dirty function of the Sensitivity test to ON or OFF. The initial setting is ON.

5.7.6.64 QryConfSigTxDirt

Function name	long QryConfSigTxDirt
Function	Reading out the ON or OFF setting of the Sensitivity test Dirty function.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Dirty function of the Sensitivity test and stores the value in the variable specified by *lngOnOff*.

5.7.6.65 WmtConfSigSensTxLev

Function name	long WmtConfSigSensTxLev
Function	Setting a Tx Level (IUT Input Level) for the Sensitivity test.

Argument	[IN] long lngID // The identifier for the relevant instrument
	// (the ID obtained when the connection was secured).
	double dblLev // Signal level
	// <CH1> (-93.00 - (Cable Loss))
	// to (-13.00 - (Cable Loss)) [dBm]
	// <CH2> (-76.00 - (Cable Loss))
	// to (+4.00 - (Cable Loss)) [dBm]

Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Tx Level (IUT Input Level) of the the Sensitivity test. The level is set with a value between -13.00 and -93.00 dBm as the base with the amount of the cable loss subtracted from the value and 17 dB is added if CH2 is specified in the RF Port setting. The initial value is -70.00 dBm. Ex.) Cable loss = 5 dB, and the input range is -1 to -81 dBm when CH2 is selected.

5.7.6.66 QryConfSigSensTxLev

Function name	long QryConfSigSensTxLev
Function	Reading out the Tx Level (IUT Input Level) of the Sensitivity test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLev
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current Tx Level (IUT Input Level) of the Sensitivity test and stores the value in the variable specified by *dblLev*.

5.7.6.67 WmtConfSigFreqToleSampNum

Function name	long WmtConfSigFreqToleSampNum
Function	Setting the number of sample packets used in the Initial Carrier Frequency Tolerance test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngSampNum // 1 to 200 [packets]
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the number of sample packets used in the Initial Carrier Frequency Tolerance test. The initial value is 10 [packets]. The minimum SIG standard value is 10 [packets].

5.7.6.68 QryConfSigFreqToleSampNum

Function name	long QryConfSigFreqToleSampNum
Function	Reading the number of sample packets used in the Initial Carrier Frequency Tolerance test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngSampNum
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current number of sample packets used in the Initial Carrier Frequency Tolerance test and stores the value in the variable specified by *lngSampNum*.

5.7.6.69 WmtConfSigFreqToleHopOn

Function name	long WmtConfSigFreqToleHopOn
Function	Setting the Initial Carrier Frequency Tolerance test Hopping On measurement to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnOff // WMT_OFF(0): OFF / WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Initial Carrier Frequency Tolerance test Hopping On measurement setting to ON or OFF. The initial value is ON. The SIG standard uses the ON setting.

5.7.6.70 QryConfSigFreqToleHopOn

Function name	long QryConfSigFreqToleHopOn
Function	Reading out the ON or OFF setting of the Initial Carrier Frequency Tolerance test Hopping On measurement.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting used in the Initial Carrier Frequency Tolerance test Hopping On measurement and stores the value in the variable specified by *lngOnOff*.

5.7.6.71 WmtConfSigFreqToleHopOf

Function name	long WmtConfSigFreqToleHopOf
Function	Setting the Initial Carrier Frequency Tolerance test Hopping Off measurement to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnOff // WMT_OFF(0): OFF / WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Initial Carrier Frequency Tolerance test Hopping Off measurement setting to ON or OFF. The initial value is ON. The SIG standard uses the ON setting.

5.7.6.72 QryConfSigFreqToleHopOf

Function name	long QryConfSigFreqToleHopOf
Function	Reading out the ON or OFF setting of the Initial Carrier Frequency Tolerance test Hopping Off measurement.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting used in the Initial Carrier Frequency Tolerance test Hopping Off measurement and stores the value in the variable specified by *lngOnOff*.

5.7.6.73 WmtConfSigFreqDrifSampNum

Function name	long WmtConfSigFreqDrifSampNum
Function	Setting the number of sample packets used in the Carrier Frequency Drift test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngSampNum // 1 to 200 [packets]
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the number of sample packets used in the Carrier Frequency Drift test. The initial value is 10 [packets]. The minimum SIG standard value is 10 [packets].

5.7.6.74 QryConfSigFreqDrifSampNum

Function name	long QryConfSigFreqDrifSampNum
Function	Reading the number of sample packets used in the Carrier Frequency Drift test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngSampNum
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current number of sample packets used in the Carrier Frequency Drift test and stores the value in the variable specified by *lngSampNum*.

5.7.6.75 WmtConfSigFreqDrifHopOn

Function name	long WmtConfSigFreqDrifHopOn
Function	Setting the Carrier Frequency Drift test Hopping On measurement to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnOff // WMT_OFF(0): OFF / WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Carrier Frequency Drift test Hopping On measurement setting to ON or OFF. The initial value is ON. The SIG standard uses the ON setting.

5.7.6.76 QryConfSigFreqDrifHopOn

Function name	long QryConfSigFreqDrifHopOn
Function	Reading out the ON or OFF setting of the Carrier Frequency Drift test Hopping On measurement.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Carrier Frequency Drift test Hopping On measurement and stores the value in the variable specified by *lngOnOff*.

5.7.6.77 WmtConfSigFreqDrifHopOf

Function name	long WmtConfSigFreqDrifHopOf
Function	Setting the Carrier Frequency Drift test Hopping Off measurement to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnOff // WMT_OFF(0): OFF / WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Carrier Frequency Drift test Hopping Off measurement setting to ON or OFF. The initial value is ON. The SIG standard uses the ON setting.

5.7.6.78 QryConfSigFreqDrifHopOf

Function name	long QryConfSigFreqDrifHopOf
Function	Reading out the ON or OFF setting of the Carrier Frequency Drift test Hopping Off measurement.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Carrier Frequency Drift test Hopping Off measurement and stores the value in the variable specified by *lngOnOff*.

5.7.6.79 WmtConfSigMaxInpTxLev

Function name	long WmtConfSigMaxInpTxLev
Function	Setting TX Level for Maximum Input Level test.

Argument	[IN] long lngID // The identifier for the relevant instrument
	// (the ID obtained when the connection was secured).
	double dblTxLev // Signal level.
	// <CH1> (-93.00 - (Cable Loss))
	// to (-13.00 - (Cable Loss)) [dBm]
	// <CH2> (-76.00 - (Cable Loss))
	// to (+4.00 - (Cable Loss)) [dBm]

Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets TX Level for Maximum Input Level test. The initial value is -20.00 [dBm]. The basic setting ranges from -13.00 to -93.00 [dBm] with the Cable Loss value subtracted from it and 17 [dB] added in case CH2 is specified for the RF Port setting. The initial value is -20 [dBm] in the SIG specification. Ex.) Cable Loss = 5 dB. The input range is -1 to -81 dBm in case CH2 is selected.

5.7.6.80 QryConfSigMaxInpTxLev

Function name	long QryConfSigMaxInpTxLev
Function	Reading out TX Level for Maximum Input Level test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblTxLev
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current TX Level in the Maximum Input Level test and stores the value in the variable specified by *dblTxLev*.

5.7.6.81 WmtConfSigModCharF2PassLo

Function name	long WmtConfSigModCharF2PassLo
Function	Setting the lower limit value used to determine the Δf2max PASS ratio in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0.000 to 100.000 [%]
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the lower limit value used to determine the Δf2max PASS ratio in the Modulation Characteristics test. The initial value is 99.900.

5.7.6.82 QryConfSigModCharF2PassLo

Function name	long QryConfSigModCharF2PassLo
Function	Reading out the lower limit value used to determine the Δf2max PASS ratio in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current lower limit value, which is used to determine the Δf2max PASS ratio in the Modulation Characteristics test, and stores the value in the variable specified by *dblLimit*.

5.7.6.83 WmtConfSigAvgFreqCalc

Function name	long WmtConfSigAvgFreqCalc
Function	Selecting the modulation frequency calculation method for the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngSelect // The modulation frequency calculation method // 0: Integration // 1: Peak
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the modulation frequency calculation method for the Modulation Characteristics test. The initial value is 0 (Integration).

5.7.6.84 QryConfSigAvgFreqCalc

Function name	long QryConfSigAvgFreqCalc
Function	Reading out the modulation frequency calculation method setting of the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngSelect
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out current selection for the modulation frequency calculation method of the Modulation Characteristics test and stores the value in the variable specified by *lngSelect*.

5.7.6.85 WmtConfSigPerCalcSele

Function name	long WmtConfSigPerCalcSele
Function	Selecting the calculation method for the PER measurement.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngSelect // PER Calculation 0: HEC and Access Code // 1: HEC, Access Code and include // Data payload error Packets
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the calculation method for the PER measurement. The initial value is 0 (HEC and Access Code).

5.7.6.86 QryConfSigPerCalcSele

Function name	long QryConfSigPerCalcSele
Function	Reading out the calculation method setting of the PER measurement.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngSelect
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current calculation method selection of the PER measurement and stores the value in the variable specified by *lngSelect*.

5.7.6.87 WmtConfSigTestScen

Function name	long WmtConfSigTestScen
Function	Selecting the test scenario (TX mode or Loopback).
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngScen // Test scenario selecting 0: TX mode // 1: Loopback
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the transmission conditions of the SIG RF test. The initial value is 0 (TX mode).

5.7.6.88 QryConfSigTestScen

Function name	long QryConfSigTestScen
Function	Reading out the test scenario (TX mode or Loopback).
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngScen
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current transmission condition of the SIG RF test and stores the value in the variable specified by *lngScen*.

5.7.6.89 WmtConfSigOutpPowTestPack

Function name	long WmtConfSigOutpPowTestPack
Function	Setting the packet used in the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPack // Packet type setting 0x00000001: DH1 // 0x00000002: DH3 // 0x00000004: DH5
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the packet used in the Output Power test. The initial value is 0x00000004 (DH5).

5.7.6.90 QryConfSigOutpPowTestPack

Function name	long QryConfSigOutpPowTestPack
Function	Reading out the packet used in the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPack
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current packet used in the Output Power test and stores the value in the variable specified by *lngPack*.

5.7.6.91 WmtConfSigModCharTestPack

Function name	long WmtConfSigModCharTestPack
Function	Setting the packet used in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPack // Packet type setting 0x00000001: DH1 // 0x00000002: DH3 // 0x00000004: DH5
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the current packet used in the Modulation Characteristics test. The initial value is 0x00000004 (DH5).

5.7.6.92 QryConfSigModCharTestPack

Function name	long QryConfSigModCharTestPack
Function	Reading out the packet used in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPack
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current packet used in the Modulation Characteristics test and stores the value in the variable specified by *lngPack*.

5.7.6.93 WmtConfSigFreqToleTestPack

Function name	long WmtConfSigFreqToleTestPack
Function	Setting the packet used in the Initial Carrier Frequency Tolerance test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPack // Packet type setting 0x00000001: DH1 // 0x00000002: DH3 // 0x00000004: DH5
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the packet used in the Initial Carrier Frequency Tolerance test. The initial value is 0x00000001 (DH1).

5.7.6.94 QryConfSigFreqToleTestPack

Function name	long QryConfSigFreqToleTestPack
Function	Reading out the packet used in the Initial Carrier Frequency Tolerance test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPack
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current packet used in the Initial Carrier Frequency Tolerance test and stores the value in the variable specified by *lngPack*.

5.7.6.95 WmtConfSigFreqDrifTestPack

Function name	long WmtConfSigFreqDrifTestPack
Function	Setting the packet used in the Carrier Frequency Drift test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPack // Packet type setting 0x00000001: DH1 // 0x00000002: DH3 // 0x00000004: DH5
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the packet used in the Carrier Frequency Drift test. The initial value is 0x00000007 (DH1/3/5).

5.7.6.96 QryConfSigFreqDrifTestPack

Function name	long QryConfSigFreqDrifTestPack
Function	Reading out the packet used in the Carrier Frequency Drift test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPack
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current packet used in the Carrier Frequency Drift test and stores the value in the variable specified by *lngPack*.

5.7.6.97 WmtConfSigSensSingTestPack

Function name	long WmtConfSigSensSingTestPack
Function	Setting the packet used in the Sensitivity (Single slot packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPack // Packet type setting 0x00000001: DH1
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the packet used in the Sensitivity (Single slot packets) test. The initial value is 0x00000001 (DH1).

5.7.6.98 QryConfSigSensSingTestPack

Function name	long QryConfSigSensSingTestPack
Function	Reading out the packet used in the Sensitivity (Single slot packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPack
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current packet used in the Sensitivity (Single slot packets) test and stores the value in the variable specified by *lngPack*.

5.7.6.99 WmtConfSigSensMultTestPack

Function name	long WmtConfSigSensMultTestPack
Function	Setting the packet used in the Sensitivity (Multi slot packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPack // Packet type setting 0x00000002: DH3 // 0x00000004: DH5
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the packet used in the Sensitivity (Multi slot packets) test. The initial value is 0x00000004 (DH5).

5.7.6.100 QryConfSigSensMultTestPack

Function name	long QryConfSigSensMultTestPack
Function	Reading out the packet used in the Sensitivity (Multi slot packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPack
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current packet used in the Sensitivity (Multi slot packets) test and stores the value in the variable specified by *lngPack*.

5.7.6.101 WmtConfSigMaxInpTestPack

Function name	long WmtConfSigMaxInpTestPack
Function	Setting the packet used in the Maximum Input Level test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPack // Packet type setting 0x00000001: DH1 // 0x00000002: DH3 // 0x00000004: DH5
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the packet used in the Maximum Input Level test. The initial value is 0x00000001 (DH1).

5.7.6.102 QryConfSigMaxInpTestPack

Function name	long QryConfSigMaxInpTestPack
Function	Reading out the packet used in the Maximum Input Level test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPack
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current packet used in the Maximum Input Level test and stores the value in the variable specified by *lngPack*.

5.7.6.103 WmtConfInteDevF1Gain

Function name	long WmtConfInteDevF1Gain
Function	Setting the gain used in the Integration Average calculation of Δf1 in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblGain // Gain
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the gain of Δf1 if the Integration Average is specified as the calculation method in the Modulation Characteristics test. The initial value is 1.0.

5.7.6.104 QryConfInteDevF1Gain

Function name	long QryConfInteDevF1Gain
Function	Reading out the gain used in the Integration Average calculation of Δf1 in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double *dblGain // Gain
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current gain of Δf1 and stores the value in the variable specified by *dblGain* if the Integration Average is specified as the calculation method used in the Modulation Characteristics test.

5.7.6.105 WmtConfInteDevF2Gain

Function name	long WmtConfInteDevF2Gain
Function	Setting the gain used in the Integration Average calculation of Δf2 in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblGain // Gain
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the gain of Δf2 if the Integration Average is specified as the calculation method used in the Modulation Characteristics test. The initial value is 1.0.

5.7.6.106 QryConfInteDevF2Gain

Function name	long QryConfInteDevF2Gain
Function	Reading out the gain used in the Integration Average calculation of Δf2 in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblGain // Gain
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current gain of Δf2 and stores the value in the variable specified by *dblGain* if the Integration Average is specified as the calculation method used in the Modulation Characteristics test.

5.7.6.107 WmtConfPeakDevF1Gain

Function name	long WmtConfPeakDevF1Gain
Function	Setting the gain used in the Peak Average calculation of Δf1 in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblGain // Gain
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the gain of Δf1 if the Peak Average is specified as the calculation method used in the Modulation Characteristics test. The initial value is 1.0.

5.7.6.108 QryConfPeakDevF1Gain

Function name	long QryConfPeakDevF1Gain
Function	Reading out the gain used in the Peak Average calculation of Δf1 in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblGain // Gain
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current gain of Δf1 and stores the value in the variable specified by *dblGain* if the Peak Average is specified as the calculation method used in the Modulation Characteristics test.

5.7.6.109 WmtConfPeakDevF2Gain

Function name	long WmtConfPeakDevF2Gain
Function	Setting the gain used in the Peak Average calculation of Δf2 in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblGain // Gain
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the gain of Δf2 if the Peak Average is specified as the calculation method of the Modulation Characteristics test.

5.7.6.110 QryConfPeakDevF2Gain

Function name	long QryConfPeakDevF2Gain
Function	Reading out the gain used in the Peak Average calculation of Δf2 in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double *dblGain // Gain
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current gain of Δf2 and stores the value in the variable specified by *dblGain* if the Peak Average is specified as the calculation method used in the Modulation Characteristics test.

5.7.6.111 WmtConfSigModCharF1

Function name	long WmtConfSigModCharF1
Function	Setting the measurement with Δf1 in the Modulation Characteristics test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the measurement with Δf1 in the Modulation Characteristics test to ON or OFF. The value is either 1(WMT_ON) or 0(WMT_OFF). The initial value is 1.

5.7.6.112 QryConfSigModCharF1

Function name	long QryConfSigModCharF1
Function	Reading out the setting of the measurement with Δf1 in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of Δf1 in the Modulation Characteristics test and stores the value in the variable specified by *lngOnOff*.

5.7.6.113 WmtConfSigModCharF2

Function name	long WmtConfSigModCharF2
Function	Setting the measurement with Δf2 in the Modulation Characteristics test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the measurement with Δf2 in the Modulation Characteristics test to ON or OFF. The value is either 1(WMT_ON) or 0(WMT_OFF). The initial value is 1.

5.7.6.114 QryConfSigModCharF2

Function name	long QryConfSigModCharF2
Function	Reading out the setting of the measurement with Δf2 in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of Δf2 in the Modulation Characteristics test and stores the value in the variable specified by *lngOnOff*.

5.7.6.115 WmtConfSigPollPeri

Function name	long WmtConfSigPollPeri
Function	Setting the Poll period used in the SIG RF test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoll // 0 to 255
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Poll period used in the SIG RF test. The initial value is 1.

5.7.6.116 QryConfSigPollPeri

Function name	long QryConfSigPollPeri
Function	Reading out the Poll period used for the SIG RF test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPoll
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current Poll period used in the SIG RF test and stores the value in the variable specified by *lngPoll*.

5.7.7 CONFigure Subsystem - Communication Test

5.7.7.1 WmtConfButcInq

Function name	long WmtConfButcInq
Function	Setting the Inquiry test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // 0: OFF // 1: ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Inquiry test to ON or OFF. The initial value is 1 (ON).

5.7.7.2 QryConfButcInq

Function name	long QryConfButcInq
Function	Reading out the ON or OFF setting condition of the Inquiry test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting condition of the Inquiry test and stores the value in the variable specified by *lngOnoff*.

5.7.7.3 WmtConfButcInqInqLeng

Function name	long WmtConfButcInqInqLeng
Function	Setting the maximum endurance time before the Inquiry process stops in the Inquiry test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngLen // 0x01 to 0x30 (Time = lngLen × 1.28 seconds)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the maximum endurance time before the Inquiry test stops. The initial value is 0x15 (26.88 seconds).

5.7.7.4 QryConfButcInqInqLeng

Function name	long QryConfButcInqInqLeng
Function	Reading out the current setting of the maximum endurance time before the Inquiry process stops in the Inquiry test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngLen
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current setting of the maximum endurance time before the Inquiry test stops and stores the value in the variable specified by *lngLen*. The store value is between 0x01 and 0x30 and is not the actual time (Time = lngLen × 1.28 seconds).

5.7.7.5 WmtConfButcSinq

Function name	long WmtConfButcSinq
Function	Setting the Inquiry Scan test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // 0: OFF // 1: ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Inquiry Scan test to ON or OFF. The initial value is 1 (ON).

5.7.7.6 QryConfButcSinq

Function name	long QryConfButcSinq
Function	Reading out the ON or OFF setting condition of the Inquiry Scan test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting condition of the Inquiry Scan test and stores the value in the variable specified by *lngOnoff*.

5.7.7.7 WmtConfButcSinqInqLeng

Function name	long WmtConfButcSinqInqLeng
Function	Setting the maximum endurance time before the Inquiry process stops in the Inquiry Scan test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngLen // 0x01 to 0x30 (Time = lngLen × 1.28 seconds)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the maximum endurance time before the Inquiry Scan test stops. The initial value is 0x15 (26.88 seconds).

5.7.7.8 QryConfButcSinqInqLeng

Function name	long QryConfButcSinqInqLeng
Function	Reading out the current setting of the maximum endurance time before the Inquiry process stops in the Inquiry Scan test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngLen
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current setting of the maximum endurance time before the Inquiry test stops and stores the value in the variable specified by *lngLen*. The stored value is between 0x01 and 0x30 (Time = lngLen × 1.28 seconds).

5.7.7.9 WmtConfButcMpag

Function name	long WmtConfButcMpag
Function	Setting the Paging - IUT as Master test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // 0: OFF // 1: ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Paging - IUT as Master test to ON or OFF. The initial value is 1 (ON).

5.7.7.10 QryConfButcMpag

Function name	long QryConfButcMpag
Function	Reading out the ON or OFF setting of the Paging - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Paging - IUT as Master test and stores the value in the variable specified by *lngOnoff*.

5.7.7.11 WmtConfButcMpagPageScanRepMode

Function name	long WmtConfButcMpagPageScanRepMode
Function	Setting the opponent device Page Scan cycle classification of the Paging - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngMode // 0x00: R0 (continuous) // 0x01: R1 (1.28 seconds) // 0x02: R2 (2.56 seconds)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the opponent device Page Scan cycle classification. The initial value is 0x01(R1).

5.7.7.12 QryConfButcMpagPageScanRepMode

Function name	long QryConfButcMpagPageScanRepMode
Function	Reading out the opponent device Page Scan cycle classification of the Paging - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngMode
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current setting of the opponent device Page Scan cycle classification and stores the value in the variable specified by *lngMode*.

5.7.7.13 WmtConfButcSpag

Function name	long WmtConfButcSpag
Function	Setting the Paging - IUT as Slave test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // 0: OFF // 1: ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Paging - IUT as Slave test to ON or OFF. The initial value is 1 (ON).

5.7.7.14 QryConfButcSpag

Function name	long QryConfButcSpag
Function	Reading out the ON or OFF setting of the Paging - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Paging - IUT as Slave test and stores the value in the variable specified by *lngOnoff*.

5.7.7.15 WmtConfButcSpagPageScanRepMode

Function name	long WmtConfButcSpagPageScanRepMode
Function	Setting the opponent device Page Scan cycle classification of the Paging - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngMode // 0x00: R0 (continuous) // 0x01: R1 (1.28 seconds) // 0x02: R2 (2.56 seconds)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the opponent device Page Scan cycle classification. The initial value is 0x01(R1).

5.7.7.16 QryConfButcSpagPageScanRepMode

Function name	long QryConfButcSpagPageScanRepMode
Function	Reading out the opponent device Page Scan cycle classification of the Paging - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngMode
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current setting of the opponent device Page Scan cycle classification and stores the value in the variable specified by *lngMode*.

5.7.7.17 WmtConfButcAcl

Function name	long WmtConfButcAcl
Function	Setting an ACL Data test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // 0: OFF // 1: ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets an ACL Data test to ON or OFF. The initial value is 1 (ON).

5.7.7.18 QryConfButcAcl

Function name	long QryConfButcAcl
Function	Reading out the ON or OFF setting of the ACL Data test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting condition of the ACL Data test and stores the value in the variable specified by *lngOnoff*.

5.7.7.19 WmtConfButcAclPackTypeIUTSupp

Function name	long WmtConfButcAclPackTypeIUTSupp
Function	Setting packet types which are supported by the IUT (for ACL data transfer) in the ACL Data test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // 0x0008: DM1 // 0x0010: DH1 // 0x0400: DM3 // 0x0800: DH3 // 0x4000: DM5 // 0x8000: DH5
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the packet type which is supported by the IUT, by using logical OR. The initial value is 0xCC18(all packets).

5.7.7.20 QryConfButcAclPackTypeIUTSupp

Function name	long QryConfButcAclPackTypeIUTSupp
Function	Reading out packet types which are supported by the IUT in the ACL Data test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngType
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current setting of packet types which are supported by the IUT and stores values in the variable specified by *lngType*.

5.7.7.21 WmtConfButcAclPaylBody

Function name	long WmtConfButcAclPaylBody
Function	Setting the ACL Data Payload Body type of the ACL Packet Types test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // Payload Body Type // 0: Ericsson Type / 1: Nokia Type
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets an ACL Data Payload Body type. The initial value is 0 (Ericsson).

5.7.7.22 QryConfButcAclPaylBody

Function name	long QryConfButcAclPaylBody
Function	Reading out the ACL Data Payload Body type of the ACL Data test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngType
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current setting of the ACL Data Payload Body type and stores the value in the variable specified by *lngType*.

5.7.7.23 WmtConfButcSlin

Function name	long WmtConfButcSlin
Function	Setting the Link Supervision Timeout - IUT as Slave test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // 0: OFF // 1: ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Link Supervision Timeout - IUT as Slave test to ON or OFF. The initial value is 1(ON).

5.7.7.24 QryConfButcSlin

Function name	long QryConfButcSlin
Function	Reading out the ON or OFF setting of the Link Supervision Timeout - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Link Supervision Timeout - IUT as Slave test and stores the value in the variable specified by *lngOnoff*.

5.7.7.25 WmtConfButcSlinLinkSupeTout

Function name	long WmtConfButcSlinLinkSupeTout
Function	Setting the Link loss supervising time of the Link Supervision Timeout - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngTime // Supervising time (0x0001 to 0xFFFF)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the supervising time of the Link loss. The initial value is 0x7D00 (20 seconds).

5.7.7.26 QryConfButcSlinLinkSupeTout

Function name	long QryConfButcSlinLinkSupeTout
Function	Reading out the Link loss supervising time of the Link Supervision Timeout - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngTime
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current setting of the Link loss supervising time and stores the value in the variable specified by *lngTime*.

5.7.7.27 WmtConfButcMlin

Function name	long WmtConfButcMlin
Function	Setting the Link Supervision Timeout - IUT as Master test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // 0: OFF // 1: ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Link Supervision Timeout - IUT as Master test to ON or OFF. The initial value is 1 (ON).

5.7.7.28 QryConfButcMlin

Function name	long QryConfButcMlin
Function	Reading out the ON or OFF setting of the Link Supervision Timeout - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Link Supervision Timeout - IUT as Master test and stores the value in the variable specified by *lngOnoff*.

5.7.7.29 WmtConfButcMlinLinkSupeTout

Function name	long WmtConfButcMlinLinkSupeTout
Function	Setting the Link loss supervising time of the Link Supervision Timeout - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngTime // Supervising time (0x0001 to 0xFFFF)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the supervising time of the Link loss. The initial value is 0x7D00 (20 seconds).

5.7.7.30 QryConfButcMlinLinkSupeTout

Function name	long QryConfButcMlinLinkSupeTout
Function	Reading out the Link loss supervising time of the Link Supervision Timeout - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngTime
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current setting of the Link loss supervising time and stores the value in the variable specified by *lngTime*.

5.7.7.31 WmtConfButcSaut

Function name	long WmtConfButcSaut
Function	Setting the Authentication - IUT as Slave test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // 0: OFF // 1: ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Authentication - IUT as Slave test to ON or OFF. The initial value is 1 (ON).

5.7.7.32 QryConfButcSaut

Function name	long QryConfButcSaut
Function	Reading out the ON or OFF setting of the Authentication - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Authentication - IUT as Slave test and stores the value in the variable specified by *lngOnoff*.

5.7.7.33 WmtConfButcSautPageScanRepMode

Function name	long WmtConfButcSautPageScanRepMode
Function	Setting the opponent device Page Scan cycle classification of the Authentication - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngMode // 0x00: R0 (continuous) // 0x01: R1 (1.28 seconds) // 0x02: R2 (2.56 seconds)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the opponent device Page Scan cycle classification. The initial value is 0x01(R1).

5.7.7.34 QryConfButcSautPageScanRepMode

Function name	long QryConfButcSautPageScanRepMode
Function	Reading out the opponent device Page Scan cycle classification of the Authentication - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngMode
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current setting of the opponent device Page Scan cycle classification and stores the value in the variable specified by *lngMode*.

5.7.7.35 WmtConfButcMaut

Function name	long WmtConfButcMaut
Function	Setting the Authentication - IUT as Master test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // 0: OFF // 1: ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Authentication - IUT as Master test to ON or OFF. The initial value is 1 (ON).

5.7.7.36 QryConfButcMaut

Function name	long QryConfButcMaut
Function	Reading out the ON or OFF setting of the Authentication - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Authentication - IUT as Slave test and stores the value in the variable specified by *lngOnoff*.

5.7.7.37 WmtConfButcMautPageScanRepMode

Function name	long WmtConfButcMautPageScanRepMode
Function	Setting the opponent device Page Scan cycle classification of the Authentication - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngMode // 0x00: R0 (continuous) // 0x01: R1 (1.28 seconds) // 0x02: R2 (2.56 seconds)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the opponent device Page Scan cycle classification. The initial value is 0x01(R1).

5.7.7.38 QryConfButcMautPageScanRepMode

Function name	long QryConfButcMautPageScanRepMode
Function	Reading out the opponent device Page Scan cycle classification of the Authentication - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngMode
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current setting of the opponent device Page Scan cycle classification and stores the value in the variable specified by *lngMode*.

5.7.7.39 WmtConfButcPair

Function name	long WmtConfButcPair
Function	Setting the Pairing test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // 0: OFF // 1: ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Pairing test to ON or OFF. The initial value is 1 (ON).

5.7.7.40 QryConfButcPair

Function name	long QryConfButcPair
Function	Reading out the ON or OFF setting of the Pairing test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Pairing test and stores the value in the variable specified by *lngOnoff*.

5.7.7.41 WmtConfButcPairPageScanRepMode

Function name	long WmtConfButcPairPageScanRepMode
Function	Setting the opponent device Page Scan cycle classification of the Pairing test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngMode // 0x00: R0 (continuous) // 0x01: R1 (1.28 seconds) // 0x02: R2 (2.56 seconds)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the opponent device Page Scan cycle classification. The initial value is 0x01(R1).

5.7.7.42 QryConfButcPairPageScanRepMode

Function name	long QryConfButcPairPageScanRepMode
Function	Reading out the opponent device Page Scan cycle classification of the Pairing test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngMode
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current setting of the opponent device Page Scan cycle classification and stores the value in the variable specified by *lngMode*.

5.7.7.43 WmtConfButcPairPinCode

Function name	long WmtConfButcPairPinCode
Function	Setting PIN Code of the Pairing test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngLen // PIN Code length. unsigned char * bytCode // PIN Code (maximum of 16 bytes) long lngNum // The total number of bytes (= lngLen) to be sent by bytCode[].
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets PIN Code.
Caution	PIN Code is stored in the *bytCode* array and is necessary to hand over the total number of bytes to the last variable. The function does not operate correctly without this information.

5.7.7.44 QryConfButcPairPinCode

Function name	long QryConfButcPairPinCode
Function	Reading out PIN Code of the Pairing test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngLen // PIN Code length. unsigned char * bytCode // PIN Code (maximum of 16 bytes)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the PIN Code and stores the value in the array specified by *bytCode*. The data length is read out to the variable specified by *lngLen*.
Caution	Secure sufficient space size for the *bytCode* array. This function does not check the capacity of the *bytCode* array. Therefore, the memory may be damaged if the space available is less than the data to be written.

5.7.7.45 WmtConfButcSsco

Function name	long WmtConfButcSsco
Function	Setting the SCO data - IUT as Slave test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // 0: OFF // 1: ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the SCO data - IUT as Slave test to ON or OFF. The initial value is 1(ON).

5.7.7.46 QryConfButcSsco

Function name	long QryConfButcSsco
Function	Reading out the ON or OFF setting condition of the SCO data - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting condition of the SCO data - IUT as Slave test and stores the value in the variable specified by *lngOnoff*.

5.7.7.47 WmtConfButcSscoPackTypeSco

Function name	long WmtConfButcSscoPackTypeSco
Function	Setting the packet type used for the SCO connection in the SCO data - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // 0x0020: HV1 // 0x0040: HV2 // 0x0080: HV3
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the packet type, which is used in the SCO connection, by using logical OR. The initial value is 0x0020 (HV1).

5.7.7.48 QryConfButcSscoPackTypeSco

Function name	long QryConfButcSscoPackTypeSco
Function	Reading out the packet type used for the SCO connection in the SCO data - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngType
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current setting of the packet type used for the SCO connection and stores the value in the variable specified by *lngType*.

5.7.7.49 WmtConfButcMsco

Function name	long WmtConfButcMsco
Function	Setting the SCO data - IUT as Master test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // 0: OFF // 1: ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the SCO data - IUT as Master test to ON or OFF. The initial value is 1(ON).

5.7.7.50 QryConfButcMsco

Function name	long QryConfButcMsco
Function	Reading out the ON or OFF setting condition of the SCO data - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting condition of the SCO data - IUT as Master test and stores the value in the variable specified by *lngOnoff*.

5.7.7.51 WmtConfButcMscoPackTypeSco

Function name	long WmtConfButcMscoPackTypeSco
Function	Setting a packet type used for the SCO connection in the SCO data - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // 0x0020: HV1 // 0x0040: HV2 // 0x0080: HV3
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets a packet type, which is used in the SCO connection, by using logical OR. The initial value is 0x0020 (HV1).

5.7.7.52 QryConfButcMscoPackTypeSco

Function name	long QryConfButcMscoPackTypeSco
Function	Reading out the packet type used for the SCO connection in the SCO data - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngType
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current setting of the packet type used for the SCO connection and stores the value in the variable specified by *lngType*.

5.7.8 CONFigure Subsystem - Remote Loopback

5.7.8.1 WmtConfLoopSsco

Function name	long WmtConfLoopSsco
Function	Setting the SCO Loopback - IUT as Slave sequence to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // WMT_OFF(0): OFF / WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the SCO Loopback - IUT as Slave sequence to ON or OFF. The initial value is 1(ON).

5.7.8.2 QryConfLoopSsco

Function name	long QryConfLoopSsco
Function	Reading the ON or OFF setting of the SCO Loopback - IUT as Slave sequence.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the SCO Loopback - IUT as Slave sequence and stores the value in the variable specified by *lngOnoff*.

5.7.8.3 WmtConfLoopMsco

Function name	long WmtConfLoopMsco
Function	Setting the SCO Loopback - IUT as Master sequence to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // WMT_OFF(0): OFF / WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the SCO Loopback - IUT as Master sequence to ON or OFF. The initial value is 1(ON).

5.7.8.4 QryConfLoopMsco

Function name	long QryConfLoopMsco
Function	Reading the ON or OFF setting of the SCO Loopback - IUT as Master sequence.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the SCO Loopback - IUT as Master sequence and stores the value in the variable specified by *lngOnoff*.

5.7.8.5 WmtConfLoopScoVoicSett

Function name	long WmtConfLoopScoVoicSett
Function	Setting the voice data parameter in the SCO connection (SCO Loopback - IUT as Slave or Master).

Argument	[IN] long lngID // The identifier for the relevant instrument
	// (the ID obtained when the connection was secured).
	long lngSet // XXXXXXXXXX Valid for 10 bits.
	// XX Inputting encodes (0: linear, 1:μ principle, 2: A principle, 3: reserved)
	// XX Inputting data formats (0: complement of 1, 1: complement of 2, 2: encoding absolute value, 3: unused)
	// X Inputting sample size (0: 8 bits, 1: 16 bits)
	// XXX Linear_PCM_Bit_Pos (The bit position from the MSB:linear PCM)
	// XX Radio encoding format (0: CVSD, 1: μ principle, 2: A principle, 3: reserved)

Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the voice data parameter in the SCO connection (SCO Loopback - IUT as Slave or Master). The initial value is 0x0060.

5.7.8.6 QryConfLoopScoVoicSett

Function name	long QryConfLoopScoVoicSett
Function	Reading out the parameter setting of the voice data in the SCO connection (SCO Loopback - IUT as Slave or Master).
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngSet
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current setting of the voice data parameters in the SCO connection (SCO Loopback - IUT as Slave or Master) and stores the value in the variable specified by *lngSet*.

5.7.8.7 WmtConfLoopScoPackTypeSco

Function name	long WmtConfLoopScoPackTypeSco
Function	Setting a packet type to be used for the SCO connection (SCO Loopback - IUT as Slave or Master).
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngType // 0x0020:HV1 0x0040:HV2 0x0080:HV3
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets a packet type, which is used in the SCO connection (SCO Loopback - IUT as Slave or Master), by using logical OR. The initial value is 0x0020(HV1).

5.7.8.8 QryConfLoopScoPackTypeSco

Function name	long QryConfLoopScoPackTypeSco
Function	Reading out the setting for the packet type which is to be used for the SCO connection (SCO Loopback - IUT as Slave or Master).
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngType
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current packet type, which is used in the SCO connection (SCO Loopback - IUT as Slave or Master), and stores the value in the variable specified by *lngType*.

5.7.8.9 WmtConfLoopScoPinCode

Function name	long WmtConfLoopScoPinCode
Function	Setting PIN Code
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngLen // PIN Code length. unsigned char * bytCode // PIN Code (maximum of 16 bytes) long lngNum // The total number of bytes (= lngLen) to be sent by bytCode[].
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets PIN Code.
Caution	PIN Code is stored in the *bytCode* array and the total number of bytes must be passed to the last variable. The function does not operate correctly without this information.

5.7.8.10 QryConfLoopScoPinCode

Function name	long QryConfLoopScoPinCode
Function	Reading out PIN Code.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngLen // PIN Code length. unsigned char * bytCode // PIN Code (maximum of 16 bytes)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current PIN Code and stores the value in the array specified by *bytCode*. The data length is read out to the variable specified by *lngLen*.
Caution	Secure sufficient space size for the *bytCode* array. This function does not check the capacity of the *bytCode* array. Therefore, the memory leak may occur if the space available is less than the data to be written.

5.7.8.11 WmtConfLoopSscoLoopOnOff

Function name	long WmtConfLoopSscoLoopOnOff
Function	Setting the Remote Loopback of the SCO Loopback - IUT as Slave sequence to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // WMT_OFF(0): OFF // WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Remote Loopback of the SCO Loopback - IUT as Slave sequence to ON or OFF. The initial value is 1(ON).

5.7.8.12 QryConfLoopSscoLoopOnOff

Function name	long QryConfLoopSscoLoopOnOff
Function	Reading out the setting of the Remote Loopback of the SCO Loopback - IUT as Slave sequence.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Remote Loopback of the SCO Loopback - IUT as Slave sequence and stores the value in the variable specified by *lngOnoff*.

5.7.8.13 WmtConfLoopMscoLoopOnOff

Function name	long WmtConfLoopMscoLoopOnOff
Function	Setting the Remote Loopback of the SCO Loopback - IUT as Master sequence to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnoff // WMT_OFF(0): OFF // WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Remote Loopback of the SCO Loopback - IUT as Master sequence to ON or OFF. The initial value is 1(ON).

5.7.8.14 QryConfLoopMscoLoopOnOff

Function name	long QryConfLoopMscoLoopOnOff
Function	Reading out the setting of the Remote Loopback of the SCO Loopback - IUT as Master sequence.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnoff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Remote Loopback of the SCO Loopback - IUT as Master sequence and stores the value in the variable specified by *lngOnoff*.

5.7.9 CONFigure Subsystem - RF Measurement

5.7.9.1 WmtConfRfFmDevPowAvgUp

Function name	long WmtConfRfFmDevPowAvgUp
Function	Setting the upper limit which is used to evaluate the average output power.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit //
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the upper limit which is used to evaluate the average output power. The initial value is 4.00 dBm.

5.7.9.2 QryConfRfFmDevPowAvgUp

Function name	long QryConfRfFmDevPowAvgUp
Function	Reading out the upper limit which is used to evaluate the average output power.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current upper limit which is used to evaluate the average output power, and stores the value in the variable specified by *dblLimit*.

5.7.9.3 WmtConfRfFmDevPowAvgLo

Function name	long WmtConfRfFmDevPowAvgLo
Function	Setting the lower limit which is used to evaluate the average output power.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit //
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the lower limit which is used to evaluate the average output power. The initial value is -6.00 dBm.

5.7.9.4 QryConfRfFmDevPowAvgLo

Function name	long QryConfRfFmDevPowAvgLo
Function	Reading out the lower limit which is used to evaluate the average output power.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current lower limit which is used to evaluate the average output power, and stores the value in the variable specified by *dblLimit*.

5.7.9.5 WmtConfRfFmDevPowPeakUp

Function name	long WmtConfRfFmDevPowPeakUp
Function	Setting the upper limit which is used to evaluate the peak output power.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit //
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the upper limit which is used to evaluate the peak output power. The initial value is 23.00 dBm.

5.7.9.6 QryConfRfFmDevPowPeakUp

Function name	long QryConfRfFmDevPowPeakUp
Function	Reading out the upper limit which is used to evaluate the peak output power.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current upper limit which is used to evaluate the peak output power, and stores the value in the variable specified by *dblLimit*.

5.7.9.7 WmtConfRfFmDevF1avgUp

Function name	long WmtConfRfFmDevF1avgUp
Function	Setting the upper limit, which is used to evaluate Δf1avg.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0 to 300000 (Hz) However, the value cannot be set lower than the lower limit.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the upper limit, which is used to evaluate Δf1avg. The initial value is 175000 (Hz).

5.7.9.8 QryConfRfFmDevF1avgUp

Function name	long QryConfRfFmDevF1avgUp
Function	Reading out the upper limit, which is used to evaluate Δf1avg.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current upper limit, which is used to evaluate Δf1avg, and stores the value in the variable specified by *dblLimit*.

5.7.9.9 WmtConfRfFmDevF1avgLo

Function name	long WmtConfRfFmDevF1avgLo
Function	Setting the lower limit, which is used to evaluate Δf1avg.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0 to 300000 (Hz) However, the value cannot be set higher than the upper limit.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the lower limit, which is used to evaluate Δf1avg. The initial value is 140000 (Hz).

5.7.9.10 QryConfRfFmDevF1avgLo

Function name	long QryConfRfFmDevF1avgLo
Function	Reading out the lower limit, which is used to evaluate Δf1avg.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current lower limit, which is used to evaluate Δf1avg, and stores the value in the variable specified by *dblLimit*.

5.7.9.11 WmtConfRfFmDevF2maxUp

Function name	long WmtConfRfFmDevF2maxUp
Function	Setting the lower limit, which is used to evaluate Δf2max.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0 to 300000 (Hz)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the lower limit, which is used to evaluate Δf2max. The initial value is 115000 (Hz).

5.7.9.12 QryConfRfFmDevF2maxUp

Function name	long QryConfRfFmDevF2maxUp
Function	Reading out the lower limit, which is used to evaluate Δf2max.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current lower limit, which is used to evaluate Δf2max, and stores the value in the variable specified by *dblLimit*.

5.7.9.13 WmtConfRfFmDevF2F1Up

Function name	long WmtConfRfFmDevF2F1Up
Function	Setting the lower limit, which is used to evaluate Δf2avg/Δf1avg.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0.01 to 1.00
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the lower limit, which is used to evaluate Δf2avg/Δf1avg.

5.7.9.14 QryConfRfFmDevF2F1Up

Function name	long QryConfRfFmDevF2F1Up
Function	Reading out the lower limit, which is used to evaluate Δf2avg/Δf1avg.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current lower limit, which is used to evaluate Δf2avg/Δf1avg, and stores the value in the variable specified by *dblLimit*.

5.7.9.15 WmtConfRfFmDevF2PassLo

Function name	long WmtConfRfFmDevF2PassLo
Function	Setting the lower limit, which is used to evaluate Δf2max PASS ratio.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0.001 to 100.000 |%|
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	TThis function sets the lower limit, which is used to evaluate Δf2max PASS ratio. The initial value is 99.9.

5.7.9.16 QryConfRfFmDevF2PassLo

Function name	long QryConfRfFmDevF2PassLo
Function	Reading out the lower limit, which is used to evaluate Δf2max PASS ratio.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current lower limit, which is used to evaluate Δf2max PASS ratio and stores the value in the variable specified by *dblLimit*.

5.7.9.17 WmtConfRfFmDevFreqToleUp

Function name	long WmtConfRfFmDevFreqToleUp
Function	Setting the Pass/Fail limit in the tolerance of the initial carrier frequency.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0 to 300000 (Hz)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Pass/Fail limit in the tolerance of the initial carrier frequency. The initial value is 75000 (Hz).

5.7.9.18 QryConfRfFmDevFreqToleUp

Function name	long QryConfRfFmDevFreqToleUp
Function	Reading out the Pass/Fail limit in the tolerance of the initial carrier frequency.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current Pass/Fail limit in the tolerance of the initial carrier frequency, and stores the value in the variable specified by *dblLimit*.

5.7.9.19 WmtConfRfFmDevFreqDrifUp

Function name	long WmtConfRfFmDevFreqDrifUp
Function	Setting the Pass/Fail limit in the tolerance for the carrier frequency drift.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0 to 300000 (Hz)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Pass/Fail limit in the tolerance for 1 slot in the carrier frequency drift test. The initial value is 40000 (Hz).

5.7.9.20 QryConfRfFmDevFreqDrifUp

Function name	long QryConfRfFmDevFreqDrifUp
Function	Reading out the Pass/Fail limit in the tolerance for the carrier frequency drift.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current Pass/Fail limit in the tolerance for 1 slot in the carrier frequency drift test, and stores the value in the variable specified by *dblLimit*.

5.7.9.21 WmtConfRfFmDevDrifRateUp

Function name	long WmtConfRfFmDevDrifRateUp
Function	Setting the Pass/Fail limit of the tolerance for the carrier frequency drift rate.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0 to 300000 (Hz)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Pass/Fail limit of the tolerance for the carrier frequency drift rate. The initial value is 20000 (Hz).

5.7.9.22 QryConfRfFmDevDrifRateUp

Function name	long QryConfRfFmDevDrifRateUp
Function	Reading out the Pass/Fail limit of the tolerance for the carrier frequency drift rate.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current Pass/Fail limit of the tolerance for the carrier frequency drift rate and stores the value in the variable specified by *dblLimit*.

5.7.9.23 WmtConfRfFmDevTestFreq

Function name	long WmtConfRfFmDevTestFreq
Function	Setting the operation frequency to be measured in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblFreq // 2402E+6 to 2480E+6 (2454E+6 to 2476E+6) (Hz)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the operation frequency to be measured in the FM Deviation test. The initial value is 2402E+6 (2454E+6) (Hz).

5.7.9.24 QryConfRfFmDevTestFreq

Function name	long QryConfRfFmDevTestFreq
Function	Reading out the set value of the operation frequency to be measured in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current operation frequency to be measured in the FM Deviation test and stores the value in the variable specified by *dblFreq*.

5.7.9.25 WmtConfRfFmDevConfFreq

Function name	long WmtConfRfFmDevConfFreq
Function	Setting the confront frequency used in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblFreq // 2402E+6 to 2480E+6 (2454E+6 to 2476E+6) (Hz)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the confront frequency used in the FM Deviation test. The initial value is 2480E+6 (2476E+6) (Hz).

5.7.9.26 QryConfRfFmDevConfFreq

Function name	long QryConfRfFmDevConfFreq
Function	Reading out the set value of the confront frequency used in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current confront frequency used in the FM Deviation test and stores the value in the variable specified by *dblFreq*.

5.7.9.27 WmtConfRfFmDevTestCH

Function name	long WmtConfRfFmDevTestCH
Function	Setting the operating channel to be measured in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngCH // 0 to 78 (0 to 22)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the operating channel to be measured in the FM Deviation test. The initial value is 0.

5.7.9.28 QryConfRfFmDevTestCH

Function name	long QryConfRfFmDevTestCH
Function	Reading out the setting of the operating channel to be measured in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngCH
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current setting of the operating channel to be measured in the FM Deviation test and stores the value in the variable specified by *lngCH*.

5.7.9.29 WmtConfRfFmDevConfCH

Function name	long WmtConfRfFmDevConfCH
Function	Setting the confront channel used in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngCH // 0 to 78 (0 to 22)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the confront channel used in the FM Deviation test. The initial value is 78.

5.7.9.30 QryConfRfFmDevConfCH

Function name	long QryConfRfFmDevConfCH
Function	Reading out the confront channel setting used in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngCH
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current confront channel used in the FM Deviation test and stores the value in the variable specified by *lngCH*.

5.7.9.31 WmtConfRfFmDevTestPack

Function name	long WmtConfRfFmDevTestPack
Function	Setting the measurement packet used in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPack // 0x00000001 : DH1 // 0x00000002 : DH3 // 0x00000004 : DH5
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	Set the parameter to 0x00000001, 0x00000002, or 0x00000004. The initial value is 0x00000004.

5.7.9.32 QryConfRfFmDevTestPack

Function name	long QryConfRfFmDevTestPack
Function	Reading out the measurement packet used in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPack // 0x00000001 : DH1 // 0x00000002 : DH3 // 0x00000004 : DH5
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current measurement packet used in the FM Deviation test and stores the value in the variable specified by *lngPack*.

5.7.9.33 WmtConfRfFmDevSampPack

Function name	long WmtConfRfFmDevSampPack
Function	Setting the number of sample packets used in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngNum // 1 to 200 [packets]
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the number of sample packets used in the FM Deviation test. The initial value is 10.

5.7.9.34 QryConfRfFmDevSampPack

Function name	long QryConfRfFmDevSampPack
Function	Reading out the number of sample packets used in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngNum
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current number of sample packets used in the FM Deviation test and stores the value in the variable specified by *lngNum*.

5.7.9.35 WmtConfRfFmDevAvgFreqCalc

Function name	long WmtConfRfFmDevAvgFreqCalc
Function	Selecting the modulation frequency calculation method.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngSelect // The modulation frequency calculation method // 0: Integration // 1: Peak Average
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function selects the modulation frequency calculation method. The initial value is 0 (Integration).

5.7.9.36 QryConfRfFmDevAvgFreqCalc

Function name	long QryConfRfFmDevAvgFreqCalc
Function	Reading out the selected modulation frequency calculation method.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngSelect
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current selected modulation frequency calculation method and stores the value in the variable specified by *lngSelect*.

5.7.9.37 WmtConfRfFmDevInteF1Gain

Function name	long WmtConfRfFmDevInteF1Gain
Function	Setting the gain for the Δf1 used in the Integration Average calculation.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblGain // Gain
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the gain of the Δf1 if the Integration Average is specified as the calculation method in the modulation characteristics. The initial value is 1.0.

5.7.9.38 QryConfRfFmDevInteF1Gain

Function name	long QryConfRfFmDevInteF1Gain
Function	Reading out the gain for the Δf1 used in the Integration Average calculation.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblGain // Gain
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current gain of Δf1 and stores the value in the variable specified by *dblGain* if the Integration Average is specified as the calculation method in the modulation characteristics.

5.7.9.39 WmtConfRfFmDevInteF2Gain

Function name	long WmtConfRfFmDevInteF2Gain
Function	Setting the gain for the Δf2 used in the Integration Average calculation.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblGain // Gain
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the gain of Δf2 if the Integration Average is specified as the calculation method in the modulation characteristics. The initial value is 1.0.

5.7.9.40 QryConfRfFmDevInteF2Gain

Function name	long QryConfRfFmDevInteF2Gain
Function	Reading out the gain for the Δf2 used in the Integration Average calculation.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblGain // Gain
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current gain of Δf2 and stores the value in the variable specified by *dblGain* if the Integration Average is specified as the calculation method in the modulation characteristics.

5.7.9.41 WmtConfRfFmDevPeakF1Gain

Function name	long WmtConfRfFmDevPeakF1Gain
Function	Setting the gain for the Δf1 used in the Peak Average calculation.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblGain // Gain
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the gain of Δf1 if the Peak Average is specified as the calculation method in the modulation characteristics. The initial value is 1.0.

5.7.9.42 QryConfRfFmDevPeakF1Gain

Function name	long QryConfRfFmDevPeakF1Gain
Function	Reading out the gain for the Δf1 used in the Peak Average calculation.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblGain // Gain
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current gain of Δf1 and stores the value in the variable specified by *dblGain* if the Peak Average is specified as the calculation method in the modulation characteristics.

5.7.9.43 WmtConfRfFmDevPeakF2Gain

Function name	long WmtConfRfFmDevPeakF2Gain
Function	Setting the gain for the Δf2 used in the Peak Average calculation.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblGain // Gain
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the gain of Δf2 if the Peak Average is specified as the calculation method in the modulation characteristics. The initial value is 1.0.

5.7.9.44 QryConfRfFmDevPeakF2Gain

Function name	long QryConfRfFmDevPeakF2Gain
Function	Reading out the gain for the Δf2 used in the Peak Average calculation.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblGain // Gain
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current gain of Δf2 and stores the value in the variable specified by *dblGain* if the Peak Average is specified as the calculation method in the modulation characteristics.

5.7.9.45 WmtConfRfBerBerUp

Function name	long WmtConfRfBerBerUp
Function	Setting the upper limit of the BER (Bit Error Rate) tolerance in the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLimit // 0 to 100[%]
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the upper limit of the BER (Bit Error Rate) tolerance in the BER test. The initial value is 0.1000.

5.7.9.46 QryConfRfBerBerUp

Function name	long QryConfRfBerBerUp
Function	Reading out the upper limit of the BER (Bit Error Rate) tolerance in the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLimit
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current upper limit of the BER (Bit Error Rate) tolerance in the BER test, and stores the value in the variable specified by *dblLimit*.

5.7.9.47 WmtConfRfBerTestFreq

Function name	long WmtConfRfBerTestFreq
Function	Setting the operation frequency to be measured in the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblFreq // 2402E+6 to 2480E+6 (2454E+6 to 2476E+6) (Hz)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the operation frequency to be measured in the BER test. The initial value is 2402E+6(2454E+6) (Hz).

5.7.9.48 QryConfRfBerTestFreq

Function name	long QryConfRfBerTestFreq
Function	Reading out the set value of the operation frequency to be measured in the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current operation frequency to be measured in the BER test, and stores the value in the variable specified by *dblFreq*.

5.7.9.49 WmtConfRfBerConfFreq

Function name	long WmtConfRfBerConfFreq
Function	Setting the confront frequency used in the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblFreq // 2402E+6 to 2480E+6 (2454E+6 to 2476E+6) (Hz)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the confront frequency used in the BER test. The initial value is 2480E+6(2476E+6) (Hz).

5.7.9.50 QryConfRfBerConfFreq

Function name	long QryConfRfBerConfFreq
Function	Reading out the set value of the confront frequency used in the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current confront frequency used in the BER test and stores the value in the variable specified by *dblFreq*.

5.7.9.51 WmtConfRfBerTestCH

Function name	long WmtConfRfBerTestCH
Function	Setting the operating channel to be measured in the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngCH // 0 to 78 (0 to 22)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	Setting the operating channel to be measured in the BER test. The initial value is 0.

5.7.9.52 QryConfRfBerTestCH

Function name	long QryConfRfBerTestCH
Function	Reading out the setting of the operating channel to be measured in the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngCH
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current operating channel to be measured in the BER test, and stores the value in the variable specified by *lngCH*.

5.7.9.53 WmtConfRfBerConfCH

Function name	long WmtConfRfBerConfCH
Function	Setting the confront channel used in the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngCH // 0 to 78 (0 to 22)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the confront channel used in the BER test. The initial value is 78.

5.7.9.54 QryConfRfBerConfCH

Function name	long QryConfRfBerConfCH
Function	Reading out the confront channel setting used in the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngCH
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current confront channel used in the BER test and stores the value in the variable specified by *lngCH*.

5.7.9.55 WmtConfRfBerTestPack

Function name	long WmtConfRfBerTestPack
Function	Setting the measurement packet used in the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPack // 0x00000001: DH1 // 0x00000002: DH3 // 0x00000004: DH5
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the measurement packet used in the BER test. Set the parameter to 0x00000001, 0x00000002, or 0x00000004. The initial value is 0x00000004.

5.7.9.56 QryConfRfBerTestPack

Function name	long QryConfRfBerTestPack
Function	Reading out the measurement packet used in the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPack // 0x00000001: DH1 // 0x00000002: DH3 // 0x00000004: DH5
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current measurement packet used in the BER test and stores the value in the variable specified by *lngPack*.

5.7.9.57 WmtConfRfBerHop

Function name	long WmtConfRfBerHop
Function	Setting the frequency hopping in the BER test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnOff // WMT_OFF(0): OFF / WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the frequency hopping in the BER test to ON or OFF. The initial setting is OFF.

5.7.9.58 QryConfRfBerHop

Function name	long QryConfRfBerHop
Function	Reading out the setting of the frequency hopping in the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the frequency hopping in the BER test and stores the value in the variable specified by *lngOnOff*.

5.7.9.59 WmtConfRfBerTestBits

Function name	long WmtConfRfBerTestBits
Function	Setting the number of sample bits of the BER measurement
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngBits // number of sample bits: 1 to 9999999
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the number of sample bits of the BER measurement The initial value is 1600000.

5.7.9.60 QryConfRfBerTestBits

Function name	long QryConfRfBerTestBits
Function	Reading out the number of sample bits of the BER measurement.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngBits
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current number of sample bits of the BER measurement, and stores the value in the variable specified by *lngBits*.

5.7.9.61 WmtConfRfBerTxLev

Function name	long WmtConfRfBerTxLev
Function	Setting the Tx Level (IUT Input Level) in the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). double dblLev // Tx Level (dBm)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Tx Level (IUT Input Level) in the BER test. The basic setting range is -13 dBm to -93 dBm. The cable loss is subtracted from the value. If CH2 is specified to the RF port, 17 dB is added. Ex.) Cable Loss = 5 dB. If CH2 is selected, the input range is -1 dB to -81 dBm.

5.7.9.62 QryConfRfBerTxLev

Function name	long QryConfRfBerTxLev
Function	Reading out the Tx Level (IUT Input Level) in the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblLev
Return value	normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current Tx Level (IUT Input Level) in the BER test and stores the value in the variable specified by *dblLev*.

5.7.9.63 WmtConfRfBerTxDirt

Function name	long WmtConfRfBerTxDirt
Function	Setting the Dirty function in the BER test to ON or OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngOnOff // WMT_OFF(0): OFF / WMT_ON(1): ON
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function sets the Dirty function in the BER test to ON or OFF.

5.7.9.64 QryConfRfBerTxDirt

Function name	long QryConfRfBerTxDirt
Function	Reading out the ON or OFF setting of the Dirty function in the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngOnOff
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current ON or OFF setting of the Dirty function in the BER test and stores the value in the variable specified by *lngOnOff*.

5.7.9.65 WmtConfRfBerPerCalc

Function name	long WmtConfRfBerPerCalc
Function	Selecting the PER calculation method.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngSelect // PER Calculation 0: HEC and Access Code // 1: HEC, Access Code and include // Data payload error Packets
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function selects the PER calculation method. The initial value is 0 (HEC and Access Code).

5.7.9.66 QryConfRfBerPerCalc

Function name	long QryConfRfBerPerCalc
Function	Reading out the selected PER calculation method.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngSelect
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the current selected PER calculation method and stores the value in the variable specified by *lngSelect*.

5.7.10 FETCh Subsystem - SIG RF

5.7.10.1 QryFetcSigOutpPowAvg

Function name	long QryFetcSigOutpPowAvg
Function	Reading out the measurement result (average power) of the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblPow
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (average power) of the Output Power test and stores the value in the variable specified by *dblPow*.

5.7.10.2 QryFetcSigOutpPowPk

Function name	long QryFetcSigOutpPowPk
Function	Reading out the measurement result (peak power) of the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblPow
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (peak power) of the Output Power test and stores the value in the variable specified by *dblPow*.

5.7.10.3 QryFetcSigModCharF2Id

Function name	long QryFetcSigModCharF2Id
Function	Reading out the measurement result (Pass/All Δf2max for when Δf2 is measured) of the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblPassF2 //
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (Pass/All Δf2max for when Δf2 is measured) of the Modulation Characteristics test and stores the value in the variable specified by *dblPassF2*.

5.7.10.4 QryFetcSigModCharF2max_min

Function name	long QryFetcSigModCharF2max_min
Function	Reading out the measurement result (Δf2max-min) of the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (Δf2max-min) of the Modulation Characteristics test and stores the value in the variable specified by *dblFreq*.

5.7.10.5 QryFetcSigModCharF2avg

Function name	long QryFetcSigModCharF2avg
Function	Reading out the measurement result (Δf2avg) of the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (Δf2avg) of the Modulation Characteristics test and stores the value in the variable specified by *dblFreq*.

5.7.10.6 QryFetcSigModCharF2max_max

Function name	long QryFetcSigModCharF2max_max
Function	Reading out the Δf2 max-max value of the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the Δf2 max-max value of the Modulation Characteristics test and stores the value in the variable specified by *dblFreq*.

5.7.10.7 QryFetcSigModCharF2stddev

Function name	long QryFetcSigModCharF2stddev
Function	Reading out the standard deviation of the Δf2 value of the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the standard deviation of the Δf2 value of the Modulation Characteristics test and stores the value in the variable specified by *dblFreq*.

5.7.10.8 QryFetcSigModCharF1max_max

Function name	long QryFetcSigModCharF1max_max
Function	Reading out the measurement result (Δf1max-max) of the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (Δf1max-max) of the Modulation Characteristics test and stores the value in the variable specified by *dblFreq*.

5.7.10.9 QryFetcSigModCharF1avg

Function name	long QryFetcSigModCharF1avg
Function	Reading out the measurement result (Δf1avg) of the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (Δf1avg) of the Modulation Characteristics test and stores the value in the variable specified by *dblFreq*.

5.7.10.10 QryFetcSigModCharF1max_min

Function name	long QryFetcSigModCharF1max_min
Function	Reading out the Δf1 max-min value of the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the Δf1 max-min value of the Modulation Characteristics test and stores the value in the variable specified by *dblFreq*.

5.7.10.11 QryFetcSigModCharF1stddev

Function name	long QryFetcSigModCharF1stddev
Function	Reading out the standard deviation of the Δf1 value of the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the standard deviation of the Δf1 value of the Modulation Characteristics test and stores the value in the variable specified by *dblFreq*.

5.7.10.12 QryFetcSigFreqToleHopOffMax

Function name	long QryFetcSigFreqToleHopOffMax
Function	Reading out the measurement result (the maximum value of Hopping OFF) of the Initial Carrier Frequency Tolerance test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (the maximum value of Hopping OFF) of the Initial Carrier Frequency Tolerance test and stores the value in the variable specified by *dblFreq*.

5.7.10.13 QryFetcSigFreqToleHopOnMax

Function name	long QryFetcSigFreqToleHopOnMax
Function	Reading out the measurement result (the maximum value of Hopping ON) of the Initial Carrier Frequency Tolerance test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (the maximum value of Hopping ON) of the Initial Carrier Frequency Tolerance test and stores the value in the variable specified by *dblFreq*.

5.7.10.14 QryFetcSigFreqToleHopOffAvg

Function name	long QryFetcSigFreqToleHopOffAvg
Function	Reading out the initial carrier frequency (average) when Hopping is OFF in the Initial Carrier Frequency Tolerance test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the initial carrier frequency (average) when Hopping is OFF in the Initial Carrier Frequency Tolerance test, and stores the value in the variable specified by *dblFreq*.

5.7.10.15 QryFetcSigFreqToleHopOnAvg

Function name	long QryFetcSigFreqToleHopOnAvg
Function	Reading out the initial carrier frequency (average) when Hopping is ON in the Initial Carrier Frequency Tolerance test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the initial carrier frequency (average) when Hopping is ON in the Initial Carrier Frequency Tolerance test and stores the value in the variable specified by *dblFreq*.

5.7.10.16 QryFetcSigFreqToleHopOffMin

Function name	long QryFetcSigFreqToleHopOffMin
Function	Reading out the initial carrier frequency (minimum) when Hopping is OFF in the Initial Carrier Frequency Tolerance test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the initial carrier frequency (minimum) when Hopping is OFF in the Initial Carrier Frequency Tolerance test and stores the value in the variable specified by *dblFreq*.

5.7.10.17 QryFetcSigFreqToleHopOnMin

Function name	long QryFetcSigFreqToleHopOnMin
Function	Reading out the initial carrier frequency (minimum) when Hopping is ON in the Initial Carrier Frequency Tolerance test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the initial carrier frequency (minimum) when Hopping is ON in the Initial Carrier Frequency Tolerance test and stores the value in the variable specified by *dblFreq*.

5.7.10.18 QryFetcSigFreqToleHopOffStddev

Function name	long QryFetcSigFreqToleHopOffStddev
Function	Reading out the initial carrier frequency (standard deviation) for the initial carrier when Hopping is OFF in the Initial Carrier Frequency Tolerance test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the initial carrier frequency (standard deviation) when Hopping is OFF in the Initial Carrier Frequency Tolerance test and stores the value in the variable specified by *dblFreq*.

5.7.10.19 QryFetcSigFreqToleHopOnStddev

Function name	long QryFetcSigFreqToleHopOnStddev
Function	Reading out the initial carrier frequency (standard deviation) when Hopping is ON in the Initial Carrier Frequency Tolerance test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the initial carrier frequency (standard deviation) when Hopping is ON in the Initial Carrier Frequency Tolerance test and stores the value in the variable specified by *dblFreq*.

5.7.10.20 QryFetcSigFreqDrifHopOffDrifMax

Function name	long QryFetcSigFreqDrifHopOffDrifMax
Function	Reading out the measurement result (the maximum value of frequency drift when Hopping is OFF) of the Carrier Frequency Drift test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. long lngSlot // Measurement packet type1: (DH1-packet) // 3: (DH3-packet) // 5: (DH5-packet) [OUT] double * dblFreq // Store with the 1 Hz unit.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (the maximum value of frequency drift when Hopping is OFF) of the Carrier Frequency Drift test and stores the value in the variable specified by *dblFreq*.

5.7.10.21 QryFetcSigFreqDrifHopOffDrifAvg

Function name	long QryFetcSigFreqDrifHopOffDrifAvg
Function	Reading out the average frequency drift value of the Carrier Frequency Drift test when Hopping is OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. long lngSlot // Measurement packet type1: (DH1-packet) // 3: (DH3-packet) // 5: (DH5-packet) [OUT] double * dblFreq // Store with the 1 Hz unit.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the average frequency drift value of the Carrier Frequency Drift test at when Hopping is OFF and stores the value in the variable specified by *dblFreq*.

5.7.10.22 QryFetcSigFreqDrifHopOffDrifStddev

Function name	long QryFetcSigFreqDrifHopOffDrifStddev
Function	Reading out the standard deviation for the frequency drift value of the Carrier Frequency Drift test when Hopping is OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. long lngSlot // Measurement packet type1: (DH1-packet) // 3: (DH3-packet) // 5: (DH5-packet) [OUT] double * dblFreq // Store with the 1 Hz unit.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the standard deviation for the frequency drift value of the Carrier Frequency Drift test when Hopping is OFF and stores the value in the variable specified by *dblFreq*.

5.7.10.23 QryFetcSigFreqDrifHopOffRateMax

Function name	long QryFetcSigFreqDrifHopOffRateMax
Function	Reading out the measurement result (the maximum value of the frequency drift rate when Hopping is OFF) of the Carrier Frequency Drift test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. long lngSlot // Measurement packet type1: (DH1-packet) // 3: (DH3-packet) // 5: (DH5-packet) [OUT] double * dblFreq // Store with the 1 Hz / 50 µs unit.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (the maximum value of the frequency drift rate when Hopping is OFF) of the Carrier Frequency Drift test and stores the value in the variable specified by *dblFreq*.

5.7.10.24 QryFetcSigFreqDrifHopOffRateAvg

Function name	long QryFetcSigFreqDrifHopOffRateAvg
Function	Reading out the average frequency drift rate of the Carrier Frequency Drift test when Hopping is OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. long lngSlot // Measurement packet type1: (DH1-packet) // 3: (DH3-packet) // 5: (DH5-packet) [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the average frequency drift rate of the Carrier Frequency Drift test when Hopping is OFF and stores the value in the variable specified by *dblFreq*.

5.7.10.25 QryFetcSigFreqDrifHopOffRateStddev

Function name	long QryFetcSigFreqDrifHopOffRateStddev
Function	Reading out the standard deviation for the frequency drift rate of the Carrier Frequency Drift test when Hopping is OFF.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. long lngSlot // Measurement packet type1: (DH1-packet) // 3: (DH3-packet) // 5: (DH5-packet) [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the standard deviation for the frequency drift rate of the Carrier Frequency Drift test when Hopping is OFF and stores the value in the variable specified by *dblFreq*.

5.7.10.26 QryFetcSigFreqDrifHopOnDrifMax

Function name	long QryFetcSigFreqDrifHopOnDrifMax
Function	Reading out the measurement result (the maximum value of the frequency drift when Hopping is ON) of the Carrier Frequency Drift test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. long lngSlot // Measurement packet type1: (DH1-packet) // 3: (DH3-packet) // 5: (DH5-packet) [OUT] double * dblFreq // Store with the 1 Hz unit.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (the maximum value of the frequency drift when Hopping is ON) of the Carrier Frequency Drift test and stores the value in the variable specified by *dblFreq*.

5.7.10.27 QryFetcSigFreqDrifHopOnDrifAvg

Function name	long QryFetcSigFreqDrifHopOnDrifAvg
Function	Reading out the average frequency drift value of the Carrier Frequency Drift test when Hopping is ON.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. long lngSlot // Measurement packet type1: (DH1-packet) // 3: (DH3-packet) // 5: (DH5-packet) [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the average frequency drift value of the Carrier Frequency Drift test when Hopping is ON and stores the value in the variable specified by *dblFreq*.

5.7.10.28 QryFetcSigFreqDrifHopOnDrifStddev

Function name	long QryFetcSigFreqDrifHopOnDrifStddev
Function	Reading out the standard deviation for the frequency drift value of the Carrier Frequency Drift test when Hopping is ON.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. long lngSlot // Measurement packet type1: (DH1-packet) // 3: (DH3-packet) // 5: (DH5-packet) [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the standard deviation for the frequency drift value of the Carrier Frequency Drift test when Hopping is ON and stores the value in the variable specified by *dblFreq*.

5.7.10.29 QryFetcSigFreqDrifHopOnRateMax

Function name	long QryFetcSigFreqDrifHopOnRateMax
Function	Reading out the measurement result (the maximum value of the frequency drift rate when Hopping is ON) of the Carrier Frequency Drift test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. long lngSlot // Measurement packet type1: (DH1-packet) // 3: (DH3-packet) // 5: (DH5-packet) [OUT] double * dblFreq // Store with the 1 Hz / 50 µs unit.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (the maximum value of the frequency drift rate when Hopping is ON) of the Carrier Frequency Drift test and stores the value in the variable specified by *dblFreq*.

5.7.10.30 QryFetcSigFreqDrifHopOnRateAvg

Function name	long QryFetcSigFreqDrifHopOnRateAvg
Function	Reading out the average frequency drift rate of the Carrier Frequency Drift test when Hopping is ON.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. long lngSlot // Measurement packet type1: (DH1-packet) // 3: (DH3-packet) // 5: (DH5-packet) [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the average frequency drift rate of the Carrier Frequency Drift test when Hopping is ON and stores the value in the variable specified by *dblFreq*.

5.7.10.31 QryFetcSigFreqDrifHopOnRateStddev

Function name	long QryFetcSigFreqDrifHopOnRateStddev
Function	Reading out the standard deviation for the frequency drift rate of the Carrier Frequency Drift test when Hopping is ON.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. long lngSlot // Measurement packet type1: (DH1-packet) // 3: (DH3-packet) // 5: (DH5-packet) [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the standard deviation for the frequency drift rate of the Carrier Frequency Drift test when Hopping is ON and stores the value in the variable specified by *dblFreq*.

5.7.10.32 QryFetcSigSensSingBer

Function name	long QryFetcSigSensSingBer
Function	Reading out the measurement result (BER) of the Sensitivity (Single slot packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblBer
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (BER) of the Sensitivity (Single slot packets) test and stores the value in the variable specified by *dblBer*.

5.7.10.33 QryFetcSigSensSingPer

Function name	long QryFetcSigSensSingPer
Function	Reading out the measurement result (PER) of the Sensitivity (Single slot packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblPer
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (PER) of the Sensitivity (Single slot packets) test and stores the value in the variable specified by *dblPer*.

5.7.10.34 QryFetcSigSensMultBer

Function name	long QryFetcSigSensMultBer
Function	Reading out the measurement result (BER) of the Sensitivity (Multi slot packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblBer
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (BER) of the Sensitivity (Multi slot packets) test and stores the value in the variable specified by *dblBer*.

5.7.10.35 QryFetcSigSensMultPer

Function name	long QryFetcSigSensMultPer
Function	Reading out the measurement result (PER) of the Sensitivity (Multi slot packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblPer
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (PER) of the Sensitivity (Multi slot packets) test and stores the value in the variable specified by *dblPer*.

5.7.10.36 QryFetcSigMaxInpBer

Function name	long QryFetcSigMaxInpBer
Function	Reading out the measurement result (BER) of the Maximum Input Level test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblBer
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (BER) of the Maximum Input Level test and stores the value in the variable specified by *dblBer*.

5.7.10.37 QryFetcSigMaxInpPer

Function name	long QryFetcSigMaxInpPer
Function	Reading out the measurement result (PER) of the Maximum Input Level test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency specification // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency) // ALL cannot be specified. [OUT] double * dblPer
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (PER) of the Maximum Input Level test and stores the value in the variable specified by *dblPer*.

5.7.10.38 QryFetcSigOutpPowPack

Function name	long QryFetcSigOutpPowPack
Function	Reading out the test packet in the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPack
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the test packet in the Output Power test and stores the value in the variable specified by *lngPack*.

5.7.10.39 QryFetcSigModCharPack

Function name	long QryFetcSigModCharPack
Function	Reading out the test packet in the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPack
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the test packet in the Modulation Characteristics test and stores the value in the variable specified by *lngPack*.

5.7.10.40 QryFetcSigFreqTolePack

Function name	long QryFetcSigFreqTolePack
Function	Reading out the test packet in the Initial Carrier Frequency Tolerance test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPack
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the test packet in the Initial Carrier Frequency Tolerance test and stores the value in the variable specified by *lngPack*.

5.7.10.41 QryFetcSigFreqDrifPack

Function name	long QryFetcSigFreqDrifPack
Function	Reading out the test packet in the Carrier Frequency Drift test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPack
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the test packet in the Carrier Frequency Drift test and stores the value in the variable specified by *lngPack*.

5.7.10.42 QryFetcSigSensSingPack

Function name	long QryFetcSigSensSingPack
Function	Reading out the test packet in the Sensitivity (Single slot packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPack
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the test packet in the Sensitivity (Single slot packets) test and stores the value in the variable specified by *lngPack*.

5.7.10.43 QryFetcSigSensMultiPack

Function name	long QryFetcSigSensMultiPack
Function	Reading out the test packet in the Sensitivity (Multi slot packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPack
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the test packet in the Sensitivity (Multi slot packets) test and stores the value in the variable specified by *lngPack*.

5.7.10.44 QryFetcSigMaxInpPack

Function name	long QryFetcSigMaxInpPack
Function	Reading out the test packet in the Maximum Input Level test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngPack
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the test packet in the Maximum Input Level test and stores the value in the variable specified by *lngPack*.

5.7.11 FETCh Subsystem - Communication Test

5.7.11.1 QryFetcButcInqErrStat

Function name	long QryFetcButcInqErrStat
Function	Reading out Error Status of the Inquiry test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long * lngStat
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out Error Status after the Inquiry test sequence execution and stores the value in the variable specified by *lngStat*.

5.7.11.2 QryFetcButcSinqErrStat

Function name	long QryFetcButcSinqErrStat
Function	Reading out Error Status of the Inquiry Scan test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngStat
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out Error Status after the Inquiry Scan test sequence execution and stores the value in the variable specified by *lngStat*.

5.7.11.3 QryFetcButcMpagErrStat

Function name	long QryFetcButcMpagErrStat
Function	Reading out Error Status of the Paging - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngStat
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out Error Status after the Paging - IUT as Master test sequence execution and stores the value in the variable specified by *lngStat*.

5.7.11.4 QryFetcButcSpagErrStat

Function name	long QryFetcButcSpagErrStat
Function	Reading out Error Status of the Paging - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngStat
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out Error Status after the Paging - IUT as Slave test sequence execution and stores the value in the variable specified by *lngStat*.

5.7.11.5 QryFetcButcAclErrStat

Function name	long QryFetcButcAclErrStat
Function	Reading out the error status of the ACL Data test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngStat
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the ACL Data error status after the sequence execution and stores the value in the variable specified by *lngStat*.

5.7.11.6 QryFetcButcSlinErrStat

Function name	long QryFetcButcSlinErrStat
Function	Reading out the error status of the Link Supervision Timeout - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngStat
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the error status of the Link Supervision Timeout - IUT as Slave test after the sequence execution and stores the value in the variable specified by *lngStat*.

5.7.11.7 QryFetcButcMlinErrStat

Function name	long QryFetcButcMlinErrStat
Function	Reading out the error status of the Link Supervision Timeout - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngStat
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the error status of the Link Supervision Timeout - IUT as Master test after the sequence execution and stores the value in the variable specified by *lngStat*.

5.7.11.8 QryFetcButcSautErrStat

Function name	long QryFetcButcSautErrStat
Function	Reading out the error status of the Authentication - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngStat
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the error status of the Authentication - IUT as Slave test after the sequence execution and stores the value in the variable specified by *lngStat*.

5.7.11.9 QryFetcButcMautErrStat

Function name	long QryFetcButcMautErrStat
Function	Reading out the error status of the Authentication - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngStat
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the error status of the Authentication - IUT as Master test after the sequence execution and stores the value in the variable specified by *lngStat*.

5.7.11.10 QryFetcButcPairErrStat

Function name	long QryFetcButcPairErrStat
Function	Reading out the error status of the Pairing test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngStat
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the error status of the Pairing test after the sequence execution and stores the value in the variable specified by *lngStat*.

5.7.11.11 QryFetcButcSscoErrStat

Function name	long QryFetcButcSscoErrStat
Function	Reading out the error status of the SCO Data - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngStat
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the error status of the SCO Data - IUT as Slave test after the sequence execution and stores the value in the variable specified by *lngStat*.

5.7.11.12 QryFetcButcMscoErrStat

Function name	long QryFetcButcMscoErrStat
Function	Reading out the error status of the SCO Data - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngStat
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the error status of the SCO Data - IUT as Master test after the sequence execution and stores the value in the variable specified by *lngStat*.

5.7.12 FETCh Subsystem - Remote Loopback

5.7.12.1 QryFetcLoopSscoErrStat

Function name	long QryFetcLoopSscoErrStat
Function	Reading out the error status of after the SCO Loopback - IUT as Slave sequence execution.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngStat
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the error status after the execution of the SCO Loopback - IUT as Slave sequence and stores the value in the variable specified by *lngStat*.

5.7.12.2 QryFetcLoopMscoErrStat

Function name	long QryFetcLoopMscoErrStat
Function	Reading out the error status of after the SCO Loopback - IUT as Master sequence execution.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngStat
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the error status after the execution of the SCO Loopback - IUT as Master sequence and stores the value in the variable specified by *lngStat*.

5.7.13 FETCh Subsystem - RF Measurement

5.7.13.1 QryFetcRfFmDevPowAvg

Function name	long QryFetcRfFmDevPowAvg
Function	Reading out the measurement result (average power) of the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblPow
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (average power) of the FM Deviation test and stores the value in the variable specified by *dblPow*.

5.7.13.2 QryFetcRfFmDevPowPk

Function name	long QryFetcRfFmDevPowPk
Function	Reading out the measurement result (peak power) of the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblPow
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (peak power) of the FM Deviation test and stores the value in the variable specified by *dblPow*.

5.7.13.3 QryFetcRfFmDevF2Id

Function name	long QryFetcRfFmDevF2Id
Function	Reading out the measurement result (Pass/All Δf2max) of the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblPassF2
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (Pass/All Δf2max) of the FM Deviation test and stores the value in the variable specified by *dblPassF2*.

5.7.13.4 QryFetcRfFmDevF2max_min

Function name	long QryFetcRfFmDevF2max_min
Function	Reading out the measurement result (Δf2max-min) of the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (Δf2max-min) of the FM Deviation test, and stores the value in the variable specified by *dblFreq*.

5.7.13.5 QryFetcRfFmDevF2avg

Function name	long QryFetcRfFmDevF2avg
Function	Reading out the measurement result (Δf2avg) of the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (Δf2avg) of the FM Deviation test, and stores the value in the variable specified by *dblFreq*.

5.7.13.6 QryFetcRfFmDevF2max_max

Function name	long QryFetcRfFmDevF2max_max
Function	Reading out Δf2max-max in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out Δf2max-max in the FM Deviation test and stores the value in the variable specified by *dblFreq*.

5.7.13.7 QryFetcRfFmDevF2stddev

Function name	long QryFetcRfFmDevF2stddev
Function	Reading out the Δf2 standard deviation in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the Δf2 standard deviation in the FM Deviation test, and stores the value in the variable specified by *dblFreq*.

5.7.13.8 QryFetcRfFmDevF1max_max

Function name	long QryFetcRfFmDevF1max_max
Function	Reading out the measurement result (Δf1max-max) of the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (Δf1max-max) of the FM Deviation test, and stores the value in the variable specified by *dblFreq*.

5.7.13.9 QryFetcRfFmDevF1avg

Function name	long QryFetcRfFmDevF1avg
Function	Reading out the measurement result (Δf1avg) of the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (Δf1avg) of the FM Deviation test, and stores the value in the variable specified by *dblFreq*.

5.7.13.10 QryFetcRfFmDevF1max_min

Function name	long QryFetcRfFmDevF1max_min
Function	Reading out Δf1max-min in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out Δf1max-min in the FM Deviation test and stores the value in the variable specified by *dblFreq*.

5.7.13.11 QryFetcRfFmDevF1stddev

Function name	long QryFetcRfFmDevF1stddev
Function	Reading out the Δf1 standard deviation in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the Δf1 standard deviation in the FM Deviation test, and stores the value in the variable specified by *dblFreq*.

5.7.13.12 QryFetcRfFmDevFreqToleMax

Function name	long QryFetcRfFmDevFreqToleMax
Function	Reading out the measurement result (the maximum value of the initial carrier frequency) of the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (the maximum value of the initial carrier frequency) of the FM Deviation test and stores the value in the variable specified by *dblFreq*.

5.7.13.13 QryFetcRfFmDevFreqToleAvg

Function name	long QryFetcRfFmDevFreqToleAvg
Function	Reading out the initial carrier frequency (average) in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the initial carrier frequency (average) in the FM Deviation test and stores the value in the variable specified by *dblFreq*.

5.7.13.14 QryFetcRfFmDevFreqToleMin

Function name	long QryFetcRfFmDevFreqToleMin
Function	Reading out the initial carrier frequency (minimum) in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the initial carrier frequency (minimum) in the FM Deviation test and stores the value in the variable specified by *dblFreq*.

5.7.13.15 QryFetcRfFmDevFreqToleStddev

Function name	long QryFetcRfFmDevFreqToleStddev
Function	Reading out the initial carrier frequency (Standard Deviation) in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the initial carrier frequency (Standard Deviation) in the FM Deviation test, and stores the value in the variable specified by *dblFreq*.

5.7.13.16 QryFetcRfFmDevFreqDrifMax

Function name	long QryFetcRfFmDevFreqDrifMax
Function	Reading out the measurement result (the maximum value of the frequency drift) of the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq // Store with the 1 Hz unit.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (the maximum value of the frequency drift) of the FM Deviation test and stores the value in the variable specified by *dblFreq*.

5.7.13.17 QryFetcRfFmDevFreqDrifAvg

Function name	long QryFetcRfFmDevFreqDrifAvg
Function	Reading out the frequency drift (average) in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the frequency drift (average) in the FM Deviation test and stores the value in the variable specified by *dblFreq*.

5.7.13.18 QryFetcRfFmDevFreqDrifStddev

Function name	long QryFetcRfFmDevFreqDrifStddev
Function	Reading out the frequency drift (Standard Deviation) in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the frequency drift (Standard Deviation) in the FM Deviation test, and stores the value in the variable specified by *dblFreq*.

5.7.13.19 QryFetcRfFmDevDrifRateMax

Function name	long QryFetcRfFmDevDrifRateMax
Function	Reading out the measurement result (the maximum value of the frequency drift rate) of the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq // Store with the 1 Hz/50 µs unit.
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (the maximum value of the frequency drift rate) of the FM Deviation test and stores the value in the variable specified by *dblFreq*.

5.7.13.20 QryFetcRfFmDevDrifRateAvg

Function name	long QryFetcRfFmDevDrifRateAvg
Function	Reading out the frequency drift rate (average) in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the frequency drift rate (average) in the FM Deviation test and stores the value in the variable specified by *dblFreq*.

5.7.13.21 QryFetcRfFmDevDrifRateStddev

Function name	long QryFetcRfFmDevDrifRateStddev
Function	Reading out the frequency drift rate (Standard Deviation) in the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the frequency drift rate (Standard Deviation) in the FM Deviation test, and stores the value in the variable specified by *dblFreq*.

5.7.13.22 QryFetcRfBerBer

Function name	long QryFetcRfBerBer
Function	Reading out the measurement result (BER) of the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblBer
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (BER) of the BER test, and stores the value in the variable specified by *dblBer*.

5.7.13.23 QryFetcRfBerPer

Function name	long QryFetcRfBerPer
Function	Reading out the measurement result (PER) of the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] double * dblFreq
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the measurement result (PER) of the BER test and stores the value in the variable specified by *dblPer*.

5.7.14 FETCh Subsystem - Waveform

5.7.14.1 QryFetcWaveFormCoun

Function name	long QryFetcWaveFormCoun
Function	Reading out the number of waveforms.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). [OUT] long * lngWaveformcount // The number of waveforms
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function reads out the number of waveforms which are obtained in the following measurements: the Modulation Characteristics test, the Initial Carrier Frequency Tolerance test, the Carrier Frequency Drift test, and the FM Deviation test.

5.7.14.2 QryFetcWaveFormInfo

Function name	long QryFetcWaveFormInfo
Function	Acquiring the waveform information of the specified Index Number.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long wavenum // Index Number (0, 1, 2.....) [OUT] long * p0index // Index of the p0 data. double * init_freq // Frequency Tolerance (kHz) long * waveform_size // The number of waveform data items
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function acquires the waveform information of the specified Index Number from the data which is obtained in the following measurements: the Modulation Characteristics test, the Initial Carrier Frequency Tolerance test, the Carrier Frequency Drift test, and the FM Deviation test.

5.7.14.3 QryFetcWaveFormData

Function name	long QryFetcWaveFormData
Function	Acquiring the waveform data of the specified Index Number.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long wavenum // Index Number (0, 1, 2.....) long dataindex // Where the data is read from long maxpoint // The maximum number of data items to be read [OUT] float * wavedata // Waveform data (kHz) long * ret_point // The number of acquired waveform data items
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function acquires the waveform data of the specified Index Number from the data which is obtained in the following measurements: the Modulation Characteristics test, the Initial Carrier Frequency Tolerance test, the Carrier Frequency Drift test, and the FM Deviation test.

5.7.15 PROCedure Subsystem - SYSTEM

5.7.15.1 WmtProcStar

Function name	long WmtProcStar
Function	Notifying the event for which the START key is pressed.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function notifies the event for which the START key is pressed.

5.7.15.2 WmtProcSing

Function name	long WmtProcSing
Function	Notifying the event for which the SINGLE key is pressed.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function notifies the event for which the SINGLE key is pressed.

5.7.15.3 WmtProcAbor

Function name	long WmtProcAbor
Function	Notifying the event for which the STOP key is pressed.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function notifies the event for which the STOP key is pressed, causing the measurement to discontinue.

5.7.15.4 WmtCalSUAuto

Function name	long WmtCalSUAuto
Function	Calibrating the R4870 built-in communication unit (Signaling Unit).
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function calibrates the R4870 built-in communication unit (Signaling Unit).

5.7.16 PROCedure Subsystem - SIG RF

5.7.16.1 WmtProcSigOutpPow

Function name	long WmtProcSigOutpPow
Function	Executing the Output Power test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency setting // 0x00: ALL (All 3 points of LOW, MID, and HIGH.) // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the Output Power test. When ALL is selected, the test is not executed for operation frequencies whose test execution is set to OFF by the user.

5.7.16.2 WmtProcSigModChar

Function name	long WmtProcSigModChar
Function	Executing the Modulation Characteristics test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency setting // 0x00: ALL (All 3 points of LOW, MID, and HIGH.) // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the Modulation Characteristics test. When ALL is selected, the test is not executed for operation frequencies whose test execution is set to OFF by the user.

5.7.16.3 WmtProcSigFreqTole

Function name	long WmtProcSigFreqTole		
Function	Executing the Initial Carrier Frequency Tolerance test.		
Argument	[IN]	long lngID	// The identifier for the relevant instrument // (the ID obtained when the connection was secured).
		long lngPoint	// Operation frequency setting // 0x00: ALL (All 3 points of LOW, MID, and HIGH.) // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency)
Return value	Normal (0:WMT_TRUE) / Error (-1)		
Description	The function executes the Initial Carrier Frequency Tolerance test. When ALL is selected, the test is not executed for operation frequencies whose test execution is set to OFF by the user.		

5.7.16.4 WmtProcSigFreqDrif

Function name	long WmtProcSigFreqDrif		
Function	Executing the Carrier Frequency Drift test.		
Argument	[IN]	long lngID	// The identifier for the relevant instrument // (the ID obtained when the connection was secured).
		long lngPoint	// Operation frequency setting // 0x00: ALL (All 3 points of LOW, MID, and HIGH.) // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency)
Return value	Normal (0:WMT_TRUE) / Error (-1)		
Description	The function executes the Carrier Frequency Drift test. When ALL is selected, the test is not executed for operation frequencies whose test execution is set to OFF by the user.		

5.7.16.5 WmtProcSigSensSing

Function name	long WmtProcSigSensSing
Function	Executing the Sensitivity (Single slot packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency setting // 0x00: ALL (All 3 points of LOW, MID, and HIGH.) // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the Sensitivity (Single slot packets) test. When ALL is selected, the test is not executed for operation frequencies whose test execution is set to OFF by the user.

5.7.16.6 WmtProcSigSensMult

Function name	long WmtProcSigSensMult
Function	Executing the Sensitivity (Multi slot packets) test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency setting // 0x00: ALL (All 3 points of LOW, MID, and HIGH.) // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the Sensitivity (Multi slot packets) test. When ALL is selected, the test is not executed for operation frequencies whose test execution is set to OFF by the user.

5.7.16.7 WmtProcSigMaxInp

Function name	long WmtProcSigMaxInp
Function	Executing the Maximum Input Level test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured). long lngPoint // Operation frequency setting // 0x00: ALL (All 3 points of LOW, MID, and HIGH.) // 0x01: LOW (Lowest operating frequency) // 0x02: MID (Mid operating frequency) // 0x03: HIGH (Highest operating frequency)
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the Maximum Input Level test. When ALL is selected, the test is not executed for operation frequencies whose test execution is set to OFF by the user.

5.7.16.8 WmtProcSigAll

Function name	long WmtProcSigAll
Function	Executing all measurements for SIG RF test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes all measurement items for SIG RF test. The test is not executed for items and operation frequencies whose test execution is set to OFF by the user.

5.7.17 PROCedure Subsystem - Communication Test

5.7.17.1 WmtProcButcInq

Function name	long WmtProcButcInq
Function	Executing the Inquiry test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the Inquiry test.

5.7.17.2 WmtProcButcSinq

Function name	long WmtProcButcSinq
Function	Executing the Inquiry Scan test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the Inquiry Scan test.

5.7.17.3 WmtProcButcMpag

Function name	long WmtProcButcMpag
Function	Executing the Paging - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the Paging - IUT as Master test.

5.7.17.4 WmtProcButcSpag

Function name	long WmtProcButcSpag
Function	Executing the Paging - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the Paging - IUT as Slave test.

5.7.17.5 WmtProcButcAcl

Function name	long WmtProcButcAcl
Function	Executing the ACL Data test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the ACL Data test.

5.7.17.6 WmtProcButcSlin

Function name	long WmtProcButcSlin
Function	Executing the Link Supervision Timeout - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the Link Supervision Timeout - IUT as Slave test.

5.7.17.7 WmtProcButcMlin

Function name	long WmtProcButcMlin
Function	Executing the Link Supervision Timeout - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the Link Supervision Timeout - IUT as Master test.

5.7.17.8 WmtProcButcSaut

Function name	long WmtProcButcSaut
Function	Executing the Authentication - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the Authentication - IUT as Slave test.

5.7.17.9 WmtProcButcMaut

Function name	long WmtProcButcMaut
Function	Executing the Authentication - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the Authentication - IUT as Master test.

5.7.17.10 WmtProcButcPair

Function name	long WmtProcButcPair
Function	Executing the Pairing test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the Pairing test.

5.7.17.11 WmtProcButcSsco

Function name	long WmtProcButcSsco
Function	Executing the SCO data - IUT as Slave test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the SCO data - IUT as Slave test.

5.7.17.12 WmtProcButcMsco

Function name	long WmtProcButcMsco
Function	Executing the SCO data - IUT as Master test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the SCO data - IUT as Master test.

5.7.18 PROCedure Subsystem - Remote Loopback

5.7.18.1 WmtProcLoopSsco

Function name	long WmtProcLoopSsco
Function	Executing the SCO Loopback - IUT as Slave sequence link establishment.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the SCO Loopback - IUT as Slave sequence link establishment. Execute WmtProcLoopSscoDisc to disconnect the link.

5.7.18.2 WmtProcLoopMsco

Function name	long WmtProcLoopMsco
Function	Executing the SCO Loopback - IUT as Master sequence link establishment.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the SCO Loopback - IUT as Master sequence link establishment. Execute WmtProcLoopMscoDisc to disconnect the link.

5.7.18.3 WmtProcLoopSscoDisc

Function name	long WmtProcLoopSscoDisc
Function	Breaking the SCO Loopback - IUT as Slave sequence link.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes to break the SCO Loopback - IUT as Slave sequence link.

5.7.18.4 WmtProcLoopMscoDisc

Function name	long WmtProcLoopMscoDisc
Function	Breaking the SCO Loopback - IUT as Master sequence link.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes to break the SCO Loopback - IUT as Master sequence link.

5.7.19 PROCedure Subsystem - RF Measurement

5.7.19.1 WmtProcRfFmDev

Function name	long WmtProcRfFmDev
Function	Executing the FM Deviation test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the FM Deviation test.

5.7.19.2 WmtProcRfBer

Function name	long WmtProcRfBer
Function	Executing the BER test.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes the BER test.

5.7.19.3 WmtProcRfConn

Function name	long WmtProcRfConn
Function	Executing the Connection of RF Measurement.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function executes connection for the RF Measurement and sets the Test Mode after connection establishment between the R4870 and the IUT.

5.7.19.4 WmtProcRfDisc

Function name	long WmtProcRfDisc
Function	Disconnecting the RF Measurement.
Argument	[IN] long lngID // The identifier for the relevant instrument // (the ID obtained when the connection was secured).
Return value	Normal (0:WMT_TRUE) / Error (-1)
Description	The function disconnects the RF Measurement, and closes the communication between the R4870 and the IUT.

5.8 Sample Program

The program establishes a communication pathway to the R4870, performs the Sensitivity test (multi slot packets) on 3 channels: Low, Mid, and High, acquires the measurement data, and opens the communication pathway.

```
' Windows API
Public Declare Sub Sleep Lib "kernel32" (ByVal dwMilliseconds As Long)

' Declaring constants used by the R4870
Global Const WMT_TRUE        As Long = 0
Global Const WMT_FALSE       As Long = 1

Global Const FREQ_ALL        As Long = 0
Global Const FREQ_LOW        As Long = 1
Global Const FREQ_MID        As Long = 2
Global Const FREQ_HIGH       As Long = 3

Global Const WMT_ON          As Long = 1
Global Const WMT_OFF         As Long = 0

Global Const WMT_EOK         As Long = 0
Global Const WMT_EINVAL      As Long = -1

''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''
' Main routine of the measurement
'
'  1. Opens communication to the R4870 and enters the remote control-ready state.
'  2. Creates a communication pathway between the R4870 and the IUT and enters the SIG measurement-ready state.
'  3. Calls a sub routine (MeasSensMult) and measures the Sensitivity-multi slot packets.
'  4. Disconnects the communication pathway between the R4870 and the IUT.
'  5. Closes communication to the R4870 and opens the ports.
'
Sub Measurement()
    Dim lngID            As Long
    Dim strIP            As String
    Dim strPort          As String
    Dim dblBer(1 To 3)   As Double
    Dim dblPer(1 To 3)   As Double

    strIP = "192.168.0.1"          ' The R4870 IP Address
    strPort = "1"                  ' The port number used to connect the R4870 (1 to 3 can be specified.)

    If (WmtOpenPacket(strIP, strPort, lngID) = WMT_TRUE) Then   ' Opens communication to the R4870.
       Call  WmtProcSignConn(lngID)                    ' Creates a communication pathway between the R4870 and the IUT.
         Call MeasSensMult(lngID, dblBer, dblPer)            ' Measures the sensitivity-multi slot packets.

         Call WmtProcSignDisc(lngID)                         ' Disconnects the communication pathway
                                                               between the R4870 and the IUT.
         Call WmtClosePacket(lngID)                          ' Closes communication to the R4870.
    End If

End Sub

''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''
' Measuring the Sensitivity-multi slot packets
'
Function MeasSensMult(ByVal lngR4870 As Long, ByRef dblBer() As Double, ByRef dblPer() As Double) As Long
    Dim lngStat       As Long

    Dim lngErrNo      As Long
    Dim strErrMsg     As String * 256

    ' Setting the execution of Sensitivity-multi slot packet test items to ON.
    Call   WmtConfSigSensMult(lngR4870, FREQ_ALL, WMT_ON)
```

```
    ' Setting the execution of the test on the Low, Mid, and High measurement points to ON.
    Ca l WmtConfSigSensMult(lngR4870, FREQ_LOW, WMT_ON)
    Ca l WmtConfSigSensMult(lngR4870, FREQ_MID, WMT_ON)
    Ca l WmtConfSigSensMult(lngR4870, FREQ_HIGH, WMT_ON)

    ' Setting the Tx Level in the Sensitivity-single/multi slot packets measurement to -70.0 dBm.
    Ca l WmtConfSigSensTxLev(lngR4870, -700#)

    ' Performing the measurement
    If (WmtProcSigSensMult(lngR4870, FREQ_ALL) = WMT_OK) Then

        ' Monitoring the measurement completion
        Do
            If (QryStatMeas(lngR4870, lngStat) = WMT_TRUE) Then
             If (lngStat = 0) Then                          ' Exits the loop when the status indicates the measurement is complete.
                    Exit Do
                End If
            End If

            DoEvents

            Ca l Sleep(100)                                 ' 100 ms weight
        Loop

        GoSub ErrCheck                                      ' Measurement error check

        If (lngErrNo = WMT_TRUE) Then
            ' Acquiring data
            Ca l QryFetcSigSensMultBer(lngR4870, FREQ_LOW, dblBer(FREQ_LOW))    ' Acquires the Low point BER.
            Ca l QryFetcSigSensMultPer(lngR4870, FREQ_LOW, dblPer(FREQ_LOW))    ' Acquires the Low point PER.

            Ca l QryFetcSigSensMultBer(lngR4870, FREQ_MID, dblBer(FREQ_MID))    ' Acquires the Mid point BER.
            Ca l QryFetcSigSensMultPer(lngR4870, FREQ_MID, dblPer(FREQ_MID))    ' Acquires the Mid point PER.

            Ca l QryFetcSigSensMultBer(lngR4870, FREQ_HIGH, dblBer(FREQ_HIGH))  ' Acquires the High point BER.
            Ca l QryFetcSigSensMultPer(lngR4870, FREQ_HIGH, dblPer(FREQ_HIGH))  ' Acquires the High point PER.
        End If

    Else
        MeasSensMult = WMT_RTNVAL                           ' Returns the error, which occurred in the test,
                                                              to the function return value.
    End If

    Exit Function

ErrCheck:
    '-------------------------------------------------------------------------
    If (QrySystErr(lngR4870, lngErrNo, strErrMsg) = WMT_TRUE) Then      ' Acquires an error which occurred
                                                                          in the measurement.
        If (lngErrNo <> WMT_TRUE) Then

            MeasSensMult = lngErrNo
        End If
    End If

    Return

End Function
```

6. SPECIFICATIONS

This chapter provides the following information:

- Transmitter Measurement
- Receiver Measurement
- Reference OSC
- Display
- Connection with External Units
- General Specification

6.1 Transmitter Measurement

- CH1 port

Characteristics	Specification
Frequency and modulation analysis measurement	
Input frequency range	2402 MHz to 2480 MHz
Input level range	+23 dBm to -15 dBm/0 V DC
Resolution	1 kHz
Accuracy	5 kHz: Range of analysis *1 ±200 kHz 7 kHz: Range of analysis *1 ±300 kHz
Output power measurement	
Input frequency range	2402 MHz to 2480 MHz
Input level range	+23 dBm to -15 dBm/0 V DC
Accuracy	± 1.2 dB (+23 dBm to -10 dBm)
Resolution	0.01 dB

*1: The sum of the frequency error and frequency shift is within ± 300 kHz.

- CH2 port

Characteristics	Specification
Frequency and modulation analysis measurement	
Input frequency range	2402 MHz to 2480 MHz
Input level range	+5 dBm to -30 dBm/0 V DC
Resolution	1 kHz
Accuracy	5 kHz: Range of analysis *2 ±200 kHz 7 kHz: Range of analysis *2 ±300 kHz
Output power measurement	
Input frequency range	2402 MHz to 2480 MHz
Input level range	+5 dBm to -30 dBm/0 V DC
Accuracy	± 2.2 dB (+5 dBm to -20 dBm)
Resolution	0.01 dB

*2: The sum of the frequency error and frequency shift is within ± 300 kHz.

6.2 Receiver Measurement

- SG unit - CH1 port

Characteristics	Specification
Frequency	
Output frequency range	2402 MHz to 2480 MHz
Resolution	1 MHz *1
Carrier frequency	
Accuracy	Within 5 kHz (of the specified channel frequency)
Level	
Output level range	-15 dBm to -85 dBm
Resolution	1 dB
Accuracy	± 1.2 dB (-15 dBm to -75 dBm)
Modulation	
Modulation exponent range	0.20 to 0.40 *1
Resolution	0.01
Accuracy	4 kHz: 0.28 to 0.34
Product of BT	0.5 (20 dB bandwidth within 1 MHz)
Transmission rate	1 Mbps *1
Signal purity	
±2 MHz power leak	-30 dB maximum
±3 MHz power leak	-35 dB maximum
BER test	
Measurement bit length Standard High speed	 1600000 bits to 9999999 bits *2 1 bit to 1600000 bits *2
Error rate	0% to 100%
Resolution	0.0001%

*1: For dirty transmitter testing, refer to Table 5-1.

*2: An integer packet number which satisfies the bit size.

- SG unit - CH2 port

Characteristics	Specification
Frequency	
Output frequency range	2402 MHz to 2480 MHz
Resolution	1 MHz *1
Carrier frequency	
Accuracy	Within 5 kHz (of the specified channel frequency)
Level	
Output level range	0 dBm to -65 dBm
Resolution	1 dB
Accuracy	±2.5 dB (0 dBm to -55 dBm)
Modulation	
Modulation exponent range	0.20 to 0.40 *1
Resolution	0.01
Accuracy	4 kHz: 0.28 to 0.34
Product of BT	0.5 (20 dB bandwidth within 1 MHz)
Transmission rate	1 Mbps *1
Signal purity	
±2 MHz power leak	-30 dB maximum
±3 MHz power leak	-35 dB maximum
BER test	
Measurement bit length Standard High speed	 1600000 bits to 9999999 bits *2 1 bit to 1600000 bits *2
Error rate	0% to 100%
Resolution	0.0001%

*1: For dirty transmitter testing, refer to Table 5-1.

*2: An integer packet number which satisfies the bit size.

- Dirty transmitter testing
  The signal outputs correspond to the SIG standard as shown in Table 5-1.

Table 5-1 Dirty Transmitter Slot Packets

Circulation order	Carrier frequency drift	Modulation exponent	Symbol timing error
1	+75 kHz	0.28	-20 ppm
2	+14 kHz	0.30	-20 ppm
3	-2 kHz	0.29	+20 ppm
4	1 kHz	0.32	+20 ppm
5	39 kHz	0.33	+20 ppm
6	0 kHz	0.34	-20 ppm
7	-42 kHz	0.29	-20 ppm
8	+74 kHz	0.31	-20 ppm
9	-19 kHz	0.28	-20 ppm
10	-75 kHz	0.35	+20 ppm

In addition to the above signals, the following conditions are specified for the test packet.

- For DH1 packet
  Modulate the carrier frequency drift that has the 1.6 kHz sinusoidal wave modulation frequency (0 degree packet start) and ±25 kHz frequency shift.
- For DH3 packet
  Modulate the carrier frequency drift that has the 500 Hz sinusoidal wave modulation frequency (0 degree packet start) and ±40 kHz frequency shift.
- For DH5 packet
  Modulate the carrier frequency drift that has the 300 Hz sinusoidal wave modulation frequency (0 degree packet start) and ±40 kHz frequency shift.
- Each circulation is made every 20 msec in order from 1 to 10 and back.

6.3 Reference OSC

Characteristics	Specification
Frequency	10 MHz
Frequency changes with time	3×10^{-8} / day 1×10^{-7} / year
Temperature stability	2×10^{-7} (+5°C to +40°C)

6.4 Display

Characteristics	Specification
Touch screen	12 inch TFT (with back light)

6.5 Connection with External Units

Item	Specification
Front Panel	
Interfere Port1	
Frequency	30 MHz to 12.75 GHz
Compared with the (base/standard) signal (Tester SG).	Approximately 15 dB
Interfere Port2	
Frequency	2.4 GHz to 2.5 GHz
Compared with the (base/standard) signal (Tester SG).	Approximately 18 dB
Monitor Port1	
Frequency	2 GHz to 3 GHz
Output power of the IUT output signal when compared to the base signal.	Approximately 17 dB
Monitor Port2	
Frequency	2.4 GHz to 2.5 GHz
Output power of the IUT output signal when compared to the base signal.	Approximately 6 dB
Audio output	
Keyboard	P/S2 101/106 keyboard
Mouse	PS/2 mouse

Item	Specification
Rear Panel	
External display signal	15-pin D-SUB connector (VGA)
LAN port	10 Base-T
HCI (Host Control Interface)	115.200 kbps
Transmission rate	57.6 kbps, 38.4 kbps, 19.2 kbps, 14.4 kbps, 9.6 kbps, 4.8 kbps, 2.4 kbps, 1.2 kbps
Data bit	8-bit fix
Parity bit	0, 1, none
Stop bit	1, 1.5, 2
10 MHz external reference frequency input	
Input impedance	Typical 50Ω
Input level	0 dBm minimum
10 MHz external reference frequency output	
Output impedance	Typical 50Ω
Output level	0 dBm minimum
External trigger output	
Output level	TTL

6.6 General Specification

Characteristics	Specification
Operation environment	Ambient temperature: +5°C to +40°C Relative humidity: 80% or below (without condensation)
Storage environment	Ambient temperature: -20°C to +60°C Relative humidity: 80% or below (without condensation)
AC input power source	Automatic switching to 100 VAC or 200 VAC For 100 VAC:100 VAC to 120 VAC, 50 Hz or 60 Hz For 200 VAC:220 VAC to 240 VAC, 50 Hz or 60 Hz
Power consumption	200 VA or below
External dimensions	424(W) × 266(H) × 270(D) mm
Mass	15 kg or less

APPENDIX

This chapter provides the following information:

- Troubleshooting
- Error Messages
- R4870 System Recovery Procedure
- Network Setting
- Bluetooth Terminology

A.1 Troubleshooting

If a problem occurs with the system, check the items in the table below for possible causes and solutions before requesting assistance. If the problem is not resolved, contact the ADVANTEST Sales Office or our service representative. The locations and telephone numbers are listed in the back of this manual. Fees also apply to the services and repairs for the problems listed in the table.

Table A-1 Troubleshooting

Problem	Probable Cause	Solution
Power indicator does not light.	The power cable is not connected correctly.	Turn off the system. Connect the power cable to the system AC power connector first and then, plug the cable into the power outlet.
	The fuse has blown.	Remove the power cable. Following the procedure described in Section 1.3.3 and replace the fuse. If the fuse blows again, contact the ADVANTEST sales office.
Test screen is not displayed.	The R4870 may be damage.	Turn off the system immediately. Contact the ADVANTEST sales office.
Buttons do not respond.	The key lock function is on.	Set the **KEY LOCK** button to off.
The test has started and data cannot be taken.	The IUT (device being tested) is not on.	Check if the IUT (testing device) power is on or not.
	The RF cable is not connected correctly to the IUT.	Correctly connect the RF cable to the IUT.

A.2 Error Messages

Table A-2 Error Messages (1 of 5)

Error message	Detail
Bad file name.	The file name is incorrect. Solution: Rename the file name.
Cannot detect signaling board. Please contact a service engineer.	The signaling board cannot be found. Solution: Contact the ADVANTEST sales office.
Communication Error.	An error has occurred when communicating with the IUT or SU. Solution: Check the connections and retry.
Connection Error.	The IUT is incorrectly connected. Solution: Check the connections and retry.
Device is not ready.	The disk being accessed is not set properly. Solution: Check the disk.
Event Code Error.	An unexpected HCI Event has been received. Solution: Check the connection and retry.
Event Parameter Error.	The received HCI Event has a different parameter than expected. Solution: Check the connection and retry.
Event Reception Timeout.	Time out has occurred during HCI Event reception. Solution: Check the connection and retry.
Event Source Error.	An HCI Event has been received from an unknown device. Solution: Check the connection and retry.
Event Status Error. (0x01) Unknown HCI Command.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x02) No Connection.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x03) Hardware Failure.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x04) Page Timeout.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x05) Authentication Failure.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x06) Key Missing.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.

Table A-2 Error Messages (2 of 5)

Error message	Detail
Event Status Error. (0x07) Memory Full.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x08) Connection Timeout.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x09) Max Number Of Connection.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x0A) Max Number Of SCO Connection To A Device.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x0B) ACL connection already exists.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x0C) Command Disallowed.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x0D) Host Rejected due to limited resources.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x0E) Host Rejected due to security reasons.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x0F) Host Rejected due to remote device is only a personal device.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x10) Host Timeout.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x11) Unsupported Feature or Parameter Value.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x12) Invalid HCI Command Parameters.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x13) Other End Terminated Connection: User Ended Connection.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x14) Other End Terminated Connection: Low Resources.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.

Table A-2 Error Messages (3 of 5)

Error message	Detail
Event Status Error. (0x15) Other End Terminated Connection: About to Power Off.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x16) Connection Terminated by Local Host.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x17) Repeated Attempts.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x18) Pairing Not Allowed.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x19) Unknown LMP PDU.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x1A) Unsupported Remote Feature.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x1B) SCO Offset Rejected.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x1C) SCO Interval Rejected.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x1D) SCO Air Mode Rejected.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x1E) Invalid LMP Parameters.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x1F) Unspecified Error.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x20) Unsupported LMP Parameter Value.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x21) Role Change Not Allowed.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x22) LMP Response Timeout.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.

Table A-2 Error Messages (4 of 5)

Error message	Detail
Event Status Error. (0x23) LMP Error Transaction Collision.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x24) LMP PDU Not Allowed.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x25) Encryption Mode Not Acceptable.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x26) Unit Key Used.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x27) QoS is Not Supported.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x28) Instant Passed.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
Event Status Error. (0x29) Pairing with Unit Key Not Supported.	An HCI Event, which is a standard specified error, has been received. Solution: Check the connection and retry.
File read/write error.	A read error or write error has been generated. Solution: Check that the disk is formatted and the files are not damaged.
Invalid correction data.	The correction data is unavailable or damaged. Solution: Contact the ADVANTEST sales office.
Invalid data format.	The data format is incorrect. Solution: Check the data format being saved and the file name extension.
Invalid parameter is in a remote command. [****]	An invalid LAN function parameter is specified. Solution: Read the function description and check whether or not the specified parameter is correct. If the method used is correct, contact the ADVANTEST sales office.
Invalid remote command. [****]	An invalid LAN function is used. Solution: Read the function description and check whether or not the function can be used in the user's system. If the method used is correct, contact the ADVANTEST sales office.
Invalid system information data.	System data is unavailable or damaged. Solution: Contact the ADVANTEST sales office.
No collected data.	The test data cannot be obtained. Solution: Check the connection and retry.

Table A-2 Error Messages (5 of 5)

Error message	Detail
No such file or directory.	The file or directory does not exist. Solution: Check the directory or file name.
Not enough space on the disk.	There is insufficient disk space. Solution: Delete any unnecessary files.
Other Factor Errors.	An error which is due to unknown factor(s) has been generated. Solution: Check the connection and retry.
Permission denied.	File operations are prohibited. Solution: Make sure that the file properties are not set to read only and the disk is not write protected.
Sequence Abort.	The **STOP** button has been pressed interrupting the sequence. Solution: Retry.
Signaling board initialization failure.	An error has occurred during the signaling board initialization. Solution: Contact the ADVANTEST Sales Office. However, even if the errors shown below occur when the R4870 system starts, the system may recover after its 30 minute-warm up. If the system recovers after the 30 minute-warm up, the system can be used. • Signaling Board Initialization Failure. [1,0x00002000] • Signaling Board Initialization Failure. [1,0x00004000] • Signaling Board Initialization Failure. [1,0x00006000] • Signaling Board Initialization Failure. [1,0x00008000] • Signaling Board Initialization Failure. [1,0x0000a000] • Signaling Board Initialization Failure. [1,0x0000c000] • Signaling Board Initialization Failure. [1,0x0000e000] • Signaling Board Initialization Failure. [1,0x00010000] • Signaling Board Initialization Failure. [1,0x00012000] • Signaling Board Initialization Failure. [1,0x00014000] • Signaling Board Initialization Failure. [1,0x00016000] • Signaling Board Initialization Failure. [1,0x00018000] • Signaling Board Initialization Failure. [1,0x0001a000] • Signaling Board Initialization Failure. [1,0x0001c000] • Signaling Board Initialization Failure. [1,0x0001e000]

A.3 R4870 System Recovery Procedure

The R4870 system has Microsoft Windows NT Embedded and Windows applications that are used for testing pre-installed. Necessary system files are stored on the C-drive.

If system files are damaged for any reason during use, the system may not function properly.

In such case, set C-drive to its initial condition using the enclosed R4870 System Recovery Disks.

CAUTION: ***Recovering the system erases all C-drive data. Therefore, any networks set after the system was purchased will be lost.***
Remove the write protections on the system recovery disks. If there is any damage to the data or disk, the system cannot be recovered. Contact the ADVANTEST Sales Office.

Recovery procedure

1. Ensure that the system power is turned off.
   When the system is in operation, turn off the system by pressing the touch screen **Power Off** button.
2. Insert "R4870 System Recovery Disk" in the floppy disk drive.
3. Turn on the **POWER** switch on the front panel.
   The recovery software is read.
   When the recovery software is loaded from the floppy disk, the software runs.

   CAUTION: ***Do not press the eject button while the floppy disk drive access light is on.***

   ---

4. Select Continue by using the data knob and then press **ENT** to start the system recovery.
5. The Reboot dialog box is displayed when system recovery is complete.
6. Remove the floppy disk.
7. Select Reboot by using the data knob and then press **ENT**.
   Firmware operates when the system restarts.

A.4 Network Setting

Connecting the system to a network allows files and folders to be shared with other computers in the network. The following explains how to set up a network.

Setup Procedures

1. Select **System** → **Network Config** in the main menu.
   The network dialog box is displayed.
2. Select the **Identification** tab. Then, select **Change...**.
   The Identification Changes dialog box is displayed.

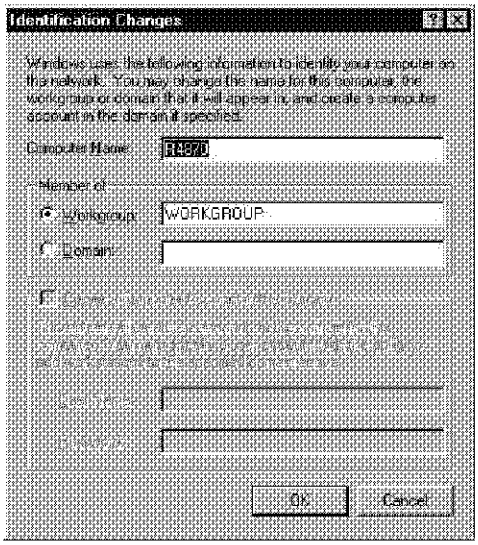


Figure A-1 Identification Changes Dialog Box

3. Input the Computer Name and Workgroup.

NOTE: ***A domain cannot be used.***

4. Select **OK**.
5. Select the **Protocols** tab.
6. Select TCP/IP Protocols. Then, select **Properties**.
   The TCP/IP Properties dialog box is displayed.

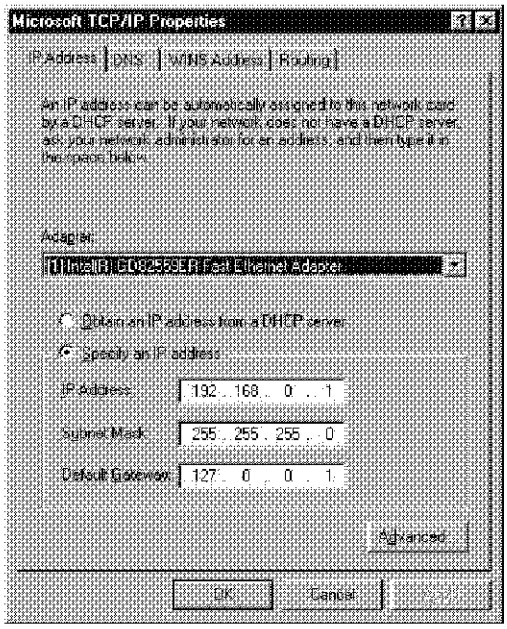


Figure A-2 TCP/IP Properties Dialog Box

IP address specification

7. Select IP Address.
8. Input the IP Address, Subnet Mask, and Default Gateway.

Using a DHCP server

CAUTION:

1. ***If a DHCP server is unavailable in the network, selecting Obtain an IP Address from a DHCP server causes the system to operate incorrectly.***
2. ***Do not remove any items from the Services, Protocols, and Adapters screens. The items deleted cannot be restored.***
3. ***Do not add any items to the Services, Protocols, and Adapters screens as the system may operate incorrectly.***
4. ***Contact the ADVANTEST system manager when setting up the following.***

---

9. Select Obtain an IP Address from a DHCP server.
10. Select **OK**.
11. Select the **Adapter** tab.
12. Select ...Ethernet adapter. Then, select **Properties**.
    The ...Ethernet Adapter Settings dialog box is displayed.

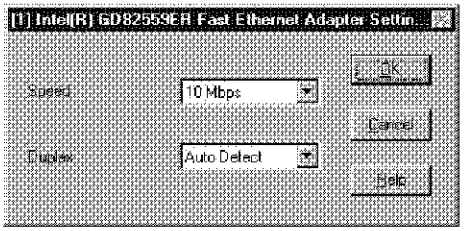


Figure A-3 ...Ethernet Adapter Settings Dialog Box

13. Set Speed and Duplex as necessary.

14. Select **OK**.
    The dialog box closes.
    A dialog box requesting a system restart is displayed.

15. Select **Yes**.

A.5 Bluetooth Terminology

Bluetooth

A short distance communication system for voice and data transmissions in mobile telephones, data communication devices, and household electrical appliances.

Communication is made between devices each having the Master and Slave functions and forming a transmission area (piconet). In a transmission area, 1 Master and up to 7 Slaves can exist at a time. Communication is made using 2.400 GHz - 2.4835 GHz ISM Band with 1 MHz channel space, 1 Mbps transmission rate, TDD, and Hopping sequence.

The maximum communication baud rate is 723 kbps upward and 57 kbps downward (asymmetric).

ISM Band (Industry Scientific and Medical Band):
The band for the Scientific Industry and Medical fields not requiring a license.

TDD (Time division duplex):
The data transmission method which divides the communication in time intervals.

Carrier Frequency drift

The frequency drift of the transmitting packet signal payload.

The Initial Carrier Frequency Tolerance is used as a reference for the drift.

The test measures the payload using 10 bit intervals.

Initial Carrier Frequency Tolerance

The difference between the frequency regulated and the frequency obtained by integrating the burst transmitted signals from the center of the pre-assembled first bit to the center of the first bit after the pre-assembly.

Regulated frequency: Frequency specified by the regulated standard.

Maximum Input Level

The maximum input signal allowed for the receiver to operate.

The power is -20 dBm.

Modulation Characteristics

Modulation characteristics for the data transmission.

The basic patters are 01010101 and 00001111.

Output Power

Maximum output transmission power.

Transmission power is expressed in Average Power and Peak Power.

Average Power: The average power output between 20% - 80% power in a data transmission.

Peak Power: The peak power output for the signal transmitted in TDD.

Sensitivity (multi-slot packets)

Reception sensitivity (for Bluetooth SIG, the sensitivity is -70 dBm).

The loop back is used for testing.

An applicable packet is a longest packet supported by the device (DH3 or DH5).

The Dirty Transmitter is used in the test.

Dirty Transmitter: A signal used in the receiver test. The 4 signal parameters are altered on the time axis. The following is the 4 signal parameters.

Carrier wave frequency

Modulation index

Symbol timing

Modulation deviation

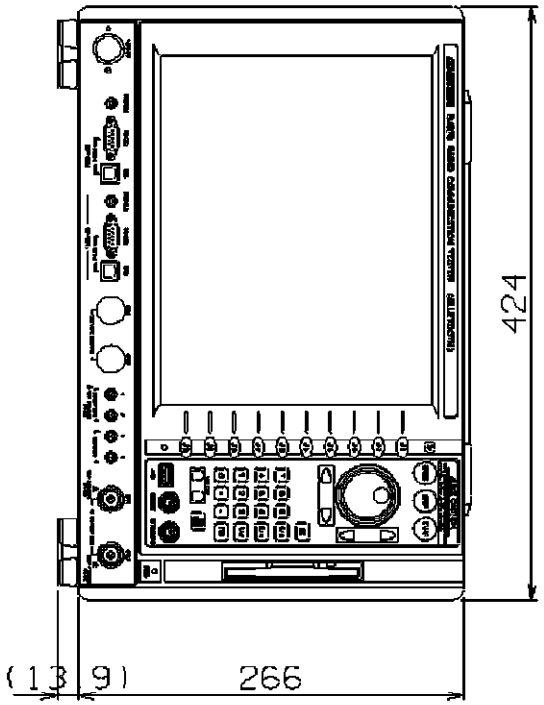
Sensitivity (single slot packets)

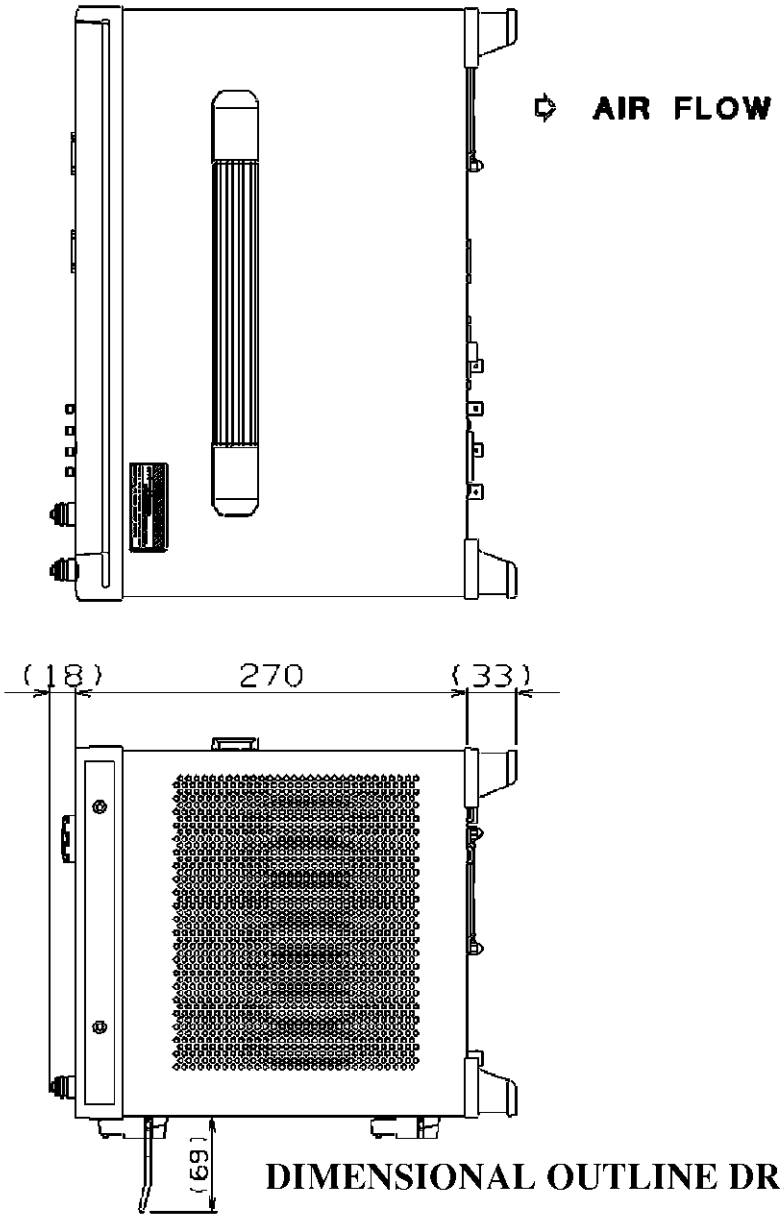
Reception sensitivity (for Bluetooth SIG, the sensitivity is -70 dBm).

The loop back is used for testing.

The applicable packet is DH1.

The Dirty Transmitter is used in the test.





Unit : mm

NOTE
This drawing shows external dimensions of this instrument.
The difference in products and options used can cause a change in the appearance of the instrument.

DIMENSIONAL OUTLINE DRAWING

ALPHABETICAL INDEX

[Symbol]

[Numerics]

[A]

[B]

[C]

[D]

[E]

[F]

[N]

[O]

[P]

[R]

[S]

[T]

[U]

[W]

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