ADVANTEST

Evolutionary Value Added
Measurement System

EVA100

Powerful Support for Characteristics Evaluation, Functional Evaluation, and Productivity Evaluation

In recent years the number of smart devices we use has increased significantly. The role of analog / sensor ICs has become critically important. More than ever, higher performance, tighter accuracy and longer reliability are required for these devices. To address these challenges measurement systems need to have many features while maintaining a very low test cost, and engineers tasked with developing test programs require very good coding skills plus in-depth operation knowledge of the test system.

Our new highly integrated measurement system “EVA100” is supporting Power Supplies, SMU(4 quadrant DC Signal Measurement Units), Pattern Generators, Arbitrary Waveform Generators, Digitizers and Oscilloscopes necessary for complete analog / mixed-signal device evaluation and measurement.

Our newly developed Software GUI is extremely intuitive, requiring only drag & drop operation, enabling engineers to create device focused measurement set ups in a very fast and simple manner. Automatic report functions dramatically improve the efficiency of desk work, providing clear documentation and data ready for publishing in device data sheets.

Features

Our new measurement system EVA100 enables easy, rapid characterization, functional evaluation and mass production evaluations of low pin count analog(*1) and mixed signal(*2) devices.

(*1): DC-DC Converter or Voltage regulator ICs
(*2): AD Converter DA Converter ICs

Small

All necessary functions are integrated into the compact body (363mm x 472mm x 205mm) which has VI sources (AVI, MVI), General Control Module(GCM) and Signal Capture(SCAP).

High Performance

The Event Master Sequencer (EMS) controls the hardware with high timing accuracy and high precision enabling superior repeatability. Analog VI source, General Control Module and Signal Capture instruments provide versatile and comprehensive measurement capability.

Intuitive

“No programming language environment” offers very intuitive operation for users, so that everyone from beginners to experts is able to use the system quickly. Automatic report generation tools reduce the need for additional desk work, improving the efficiency of evaluation and measurement tasks dramatically.

Scalable

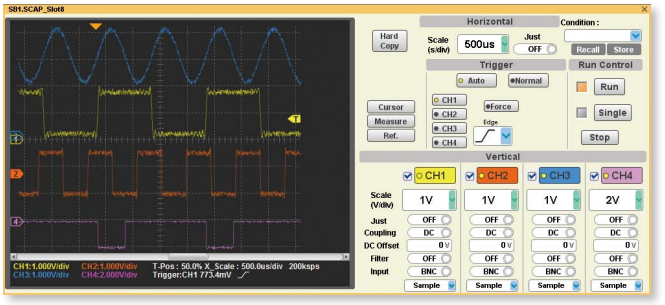
Scalable architecture supports many scenarios from design to production for analog and mixed signal devices.
Supporting external instruments, customized measurement systems can also be created according to more specific requirements and needs.

Main Functions

Characteristics Evaluation

4 channels high frequency sampling digitizer to observe and measure transient response waveforms or behavior of device under test(DUT).

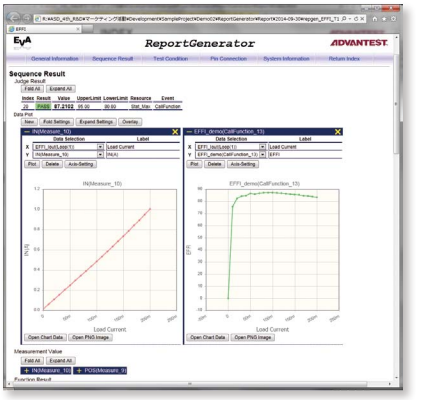
■ Signal Capture module(SCAP)



Productivity

The Test Conditions and Results for each measurement are reported in HTML format which can include graphical data. Automatic report generation frees users from taking notes each time during debug sessions in Exporting data, in formats such as CSV allows, further analysis and documentation to be performed seamlessly.

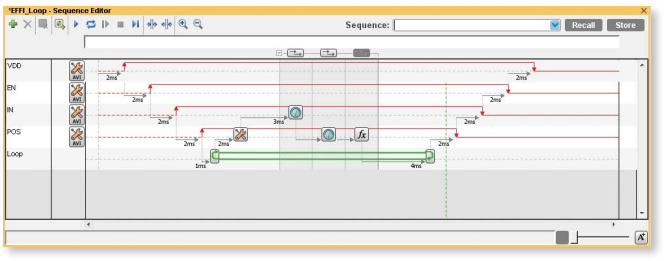
■ Documentation (Report Generator)



Functional Evaluation

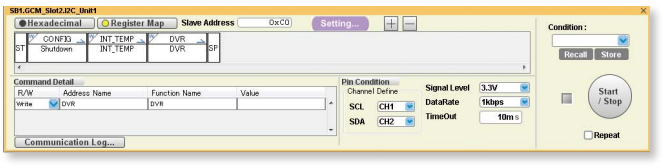
Sequence Editor makes it easy to synchronize multiple hardware channels based on how the user determines when events occur. The Sequence Editor also supports continuous measurement or conditional loop settings enabling greater control of automated measurements.

■ Synchronized Sequence Control (Sequence Editor)

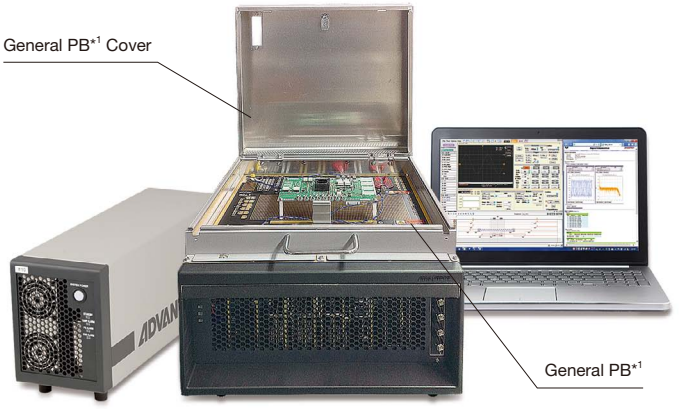


I2C, SPI, and JTAG I/F are supported by protocol based control. By preparing the Register Map, we can use the register name for digital patterns instead of mnemonics so that Register Map gives you a clear overview for the digital pattern and improve the readability and efficiency of digital pattern debug.

■ Protocol Support (Register Map)



Specifications



*1: General Performance Board: universal load board

∗ PC not included.

∗ Image of measurement unit for reference purposes only.

Standard system set up

Function	Module name	Description
Core Module		
Synchronization	EMS	System Bus and Synchronization; External Instruments Control and Synchronization (Incl. Thermal Unit) 4ch: Utility Power Supply: +5V, +12V, +15V, -15V
General Control	GCM	8ch: I2C, SPI, JTAG and Custom Interface; 100Mbps Pattern Generator; Digital Function Test; 4 Quadrant Per Pin Parametric Measurement Unit 64ch: Relay Control bit 0 to 5V Time Measurement Unit (1ch): DC to 100MHz Frequency; TPD Tr / Tf; Period
Measurement Module		
Multi Channel (6ch) Voltage/Current Source Measurement	AVI	6ch: Voltage Source: 4.5 digits, +/- 64V or -32V to +96V; Resolution: 62.5µV to 4mV Current Source: +/-500mA at +/-2V to +/-8V Range, +/-200mA at +/-16V Range, +/-80mA at +/-32V to +/-64V Range, +/-30mA at -32V to +96V Range; Resolution: 0.25nA to 25µA Voltage Measurement: Max 5.5 digits Display; Min Resolution: 15.625µV Current Measurement: Max 500mA Display; Min Resolution: 62.5pA 4 Quadrant VI; Ramp / Program Generation; Parallel / Stack Connection; Digitizer; Arbitrary Waveform Generator
Middle Power (2ch) Voltage/Current Source Measurement	MVI	2ch: Voltage Source: 4.5 digits, +/-128V; Min Resolution: 62.5µV Current Source: +/-5 A (Pulse); Min Resolution: 0.25 nA Voltage Measurement: Max 5.5 digits Display; Min Resolution: 15.625µV Current Measurement: Max 5A Display; Min Resolution: 62.5pA 4 Quadrant VI; Ramp / Program Generation; Parallel Connection; Digitizer; Arbitrary Waveform Generator
Pattern Generator (32ch)	DM	32ch: 100Mbps Pattern Generator; Digital Function Test; 4 Quadrant Per Pin Parametric Measurement Unit; Low Jitter Clock (8ch) Time Measurement Unit (4ch): DC to 100MHz Frequency; TPD Tr / Tf; Period
Arbitrary Waveform Generator (4ch) Digitizer	LF	4ch: Arbitrary Waveform Generator: 200ksps/24bit, 80kHz Band Width Digitizer: 625ksps/24bit, 200kHz Band Width 4 Quadrant Per Pin Parametric Measurement Unit
Oscilloscope (2Gsps)	SCAP	500MHz Band Width (PB Direct Input: 50 ohm), 300MHz Band Width (BNC Input: 1M ohm); 2Gsps (2ch) or 4ch 1Gsps (4ch); 8,000 Point per channel
Others		
Recommended PC		2.2GHz, 64bit 4-Core Processor, Memory: 8GB, Display resolution: 1366x768, or better Interface: USB2.0x1, or better; ExpressCard/34 or ExpressCard/54
Operation Software		Microsoft Windows* 7 (64bit) Service Pack 1
System size		
Main Frame		363 mm (W) x 472 mm (D) x 205 mm (H) weight: Approximately 11kg (minimum configuration)
ACDC BOX		140 mm (W) x 472 mm (D) x 205 mm (H)

At a Glance

System package

Model Number	Module configuration *EMS (Event Master Sequencer) is included in standard configuration					
	GCM (General Control Module)	AVI (Analog VI Source)	MVI (Middle Power VI Source)	SCAP (Signal Capture Module)	DM (Digital Module)	LF (Low Frequency AWG/DGT)
EVA100-E1-A21	8ch	6ch	—	4ch	—	—
EVA100-E1-A22	8ch	12ch	2ch	4ch	—	—
EVA100-E1-A23	8ch	18ch	4ch	4ch	—	—
EVA100-E1-A24	8ch	12ch	8ch	—	—	—
EVA100-E1-A25	8ch	36ch	—	—	—	—
EVA100-E1-A31	8ch	6ch	—	4ch	—	4ch
EVA100-E1-A33	8ch	12ch	—	4ch	—	4ch
EVA100-E1-A35	8ch	24ch	—	—	—	8ch
EVA100-E1-A38	8ch	12ch	4ch	4ch	—	4ch
EVA100-E1-M20	8ch	6ch	—	—	32ch	—
EVA100-E1-M21	8ch	6ch	—	4ch	32ch	4ch
EVA100-E1-M23	8ch	18ch	—	4ch	32ch	4ch
EVA100-E1-M25	8ch	18ch	—	—	32ch	8ch
EVA100-E1-M27	8ch	30ch	—	—	32ch	—
EVA100-E1-M33	8ch	12ch	2ch	4ch	32ch	4ch

Power source cable

Model Number	Plug Type
EVA100-ACCBL-01	PSE/UL/CSA
EVA100-ACCBL-02	CEE
EVA100-ACCBL-03	CCC
EVA100-ACCBL-04	EU-SEV
EVA100-ACCBL-05	UK

Other accessories

Model Number	
EVA100-PB-0101	Additional General PB
R16904	Wheeled rack

- Basic system configuration: mainframe, ACDC box, connection cable, General PB, General PB cover, software suite, operating manual.
- Power source cable is not included in basic system configuration. Please select the appropriate cable from the list above.
- All specifications and images in this catalog are correct at the time of publication, but may change without notice.
  Please contact us to ensure you have the most up-to-date information on our products and services.

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