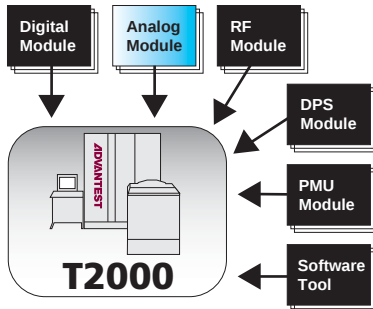


Analog Module

16ch AAWGD & BBWGD Mixed Signal Modules

Cost Effective, High Performance 16 channel DC to 100MHz



Base Band Waveform Generator Digitizer (BBWGD) module:

- 8 differential 16bit@400Msps AWGs + 8 differential 16bit@128Msps Digitizers per module
- Enables cost-effective testing of multi-site, multi-channel consumer SOC used in mobile phones, set top boxes, DVDs, WLAN baseband, DSL, cable modems, HDTV, and video graphics

Audio Waveform Generator Digitizer (AAWGD) module:

- 8 differential 24bit@200Ksps AWGs + 8 differential 18bit@820Ksps Digitizers per module
- Digitizer DSP filtering improves audio to 20.5 effective bits

Both AAWGD & BBWGD modules:

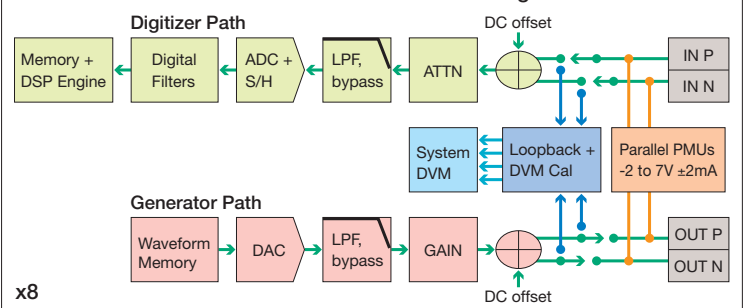
- DSP based architecture offers higher integration and performance, while lowering cost and calibration
- x4 DUT independent triggering allows capturing fewer samples in today's asynchronous designs
- 4 channel independent clocking allows parallel testing of 4 domains per module for faster test times

AAWGD & BBWGD Module Function

Internal Clock 1 for Generator	Generator	DUT 1 Trigger	Digitizer	DSP	Internal Clock 3 for Digitizer
	Generator		Digitizer		
	Generator	DUT 2 Trigger	Digitizer	DSP	
	Generator		Digitizer		
Internal Clock 2 for Generator	Generator	DUT 3 Trigger	Digitizer	DSP	Internal Clock 4 for Digitizer
	Generator		Digitizer		
	Generator	DUT 4 Trigger	Digitizer	DSP	
	Generator		Digitizer		



16ch AAWGD & BBWGD Block Diagram



T2000 16ch Audio Waveform Generator/Digitizer Module Specifications

T2000 16ch Baseband Waveform Generator/Digitizer Module Specifications

	16ch AAWGD Specifications		16ch BBWGD Specifications	
	Generator	Digitizer	Generator	Digitizer
Channels	8 Differential	8 Differential	8 Differential	8 Differential
Resolution	24 bit	18 bit (20.5 effective w/digital filter)	16 bit	16 bit
Sample Rate	200Ksps to 180Ksps	820Ksps to 32Ksps	400Msps to 1Msps	128Msps to 1Msps 256Msps max. (high speed mode)
Low Pass Filters	1KHz, Bypass	100KHz, Bypass	100MHz, Bypass	50MHz, Bypass
Digital Filter		Decimation 1/4 - 1/32 (LPF_BW=Fclk/10) - (LPF_BW=Fclk/80)		Decimation 1/4 - 1/16 (LPF_BW=Fclk/10) - (LPF_BW=Fclk/40)
Signal Bandwidth	>50KHz	>300KHz	>100MHz	>100MHz (normal), >300MHz (direct)
Voltage Ranges (single ended)	±4V to ±1mV	±4V to ±100mV	±1V to ±3.90625mV	±2.8V to ±0.25V
Maximum Voltage	-4V to +4V	-4V to +4V	-2V to +3V	-2.8V to +3V
Impedance	50Ω ±3Ω	1MΩ ±10KΩ	50Ω ±3Ω	50Ω ±3Ω, 1MΩ ±50KΩ
Coupling	DC	AC (22nF), DC	AC (0.01μF), DC	AC (220pF), DC
Amplitude Accuracy	<±0.08dB (≤1KHz) <±0.7dB (1K - 20KHz)	<±0.07dB (≤1KHz) <±0.23dB (1K - 20KHz)	<±0.5dB (1M - 5MHz) <±0.8dB (5M - 20MHz)	<±0.5dB (1M - 5MHz) <±0.6dB (5M - 20MHz)
I/Q Skew (typical)			< 0.2ns	< 0.2ns
I/Q Amplitude balance (typical)			<0.3dB	<0.3dB
IMD 950kHz+1050kHz			<-78dBc	<-80dBc
9.9MHz+10MHz			<-70dBc	<-70dBc
THD & SFDR @ 1Vpp w/LPF				
f=1KHz @ 2Vpp	<-113dBc typ. THD, <-114dBc typ. SFDR	<-110dBc typ. THD, <-110dBFS typ. SFDR		
0.1MHz = f ≤ 1MHz			<-78dBc max. HD, <-75dBc SFDR	<-80dBc max. HD, <-70dBFS SFDR
1MHz < f ≤ 10MHz			<-68dBc max. HD, <-65dBc SFDR	<-70dBc max. HD, <-70dBFS SFDR
10MHz < f ≤ 20MHz			<-60dBc max. HD, <-65dBc SFDR	<-65dBc max. HD, <-70dBFS SFDR
20MHz < f ≤ 50MHz			<-40dBc max. HD, <-50dBc SFDR	
DC Offset P&N Common Mode	-4V to +4V	-4V to +4V	-1V to +3V	-1V to +2.8V
DC Voltage Accuracy	±(0.5% + 6mV)	±(0.5% + 1.9mV)	± (2.5% + 5mV)	±(0.2% meas + 0.2% range + 4mV)
DC Voltage Linearity	±0.015% of Full Scale	±0.006% of Full Scale	±0.1% of Full Scale	±0.1% of Full Scale
PPMU Voltage range	-2V to +7V		-2V to +7V	
PPMU Current ranges	±2mA to ±20μA		±2mA to ±20μA	
Waveform Size	1Mw to 1w	1Mw	16Mw to 1024w	16Mw
# Waveforms	1 to 1024	1	1 to 1024	1
waveform control	waveform start, change, looping	external trigger/retrigger/arming, waveform trigger	waveform start, change, looping	external trigger/retrigger/arming, waveform trigger
local FFT & DSP	N/A	None	N/A	4 total (1 per 2 Digitizers)
Independent Clock Generators	4 total (1 per 4 Generators, 1 per 4 Digitizers)		4 total (1 per 4 Generators, 1 per 4 Digitizers)	
Range	180KHz to 200KHz	32KHz to 820KHz	1MHz to 400MHz	1MHz to 128MHz
Resolution	<1mHz	<1mHz	<1mHz	<1mHz
Triggers	4 total (1 per Generator & Digitizer Pair)		4 total (1 per Generator & Digitizer Pair)	

- OPENSTAR is a registered trademark in the United States, Japan and other countries.
- Please refer to product manual for complete system specifications.
- Specifications may change without notification.

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