



HIGH DENSITY AUDIO VIDEO OPTION HDAVO

The HDAVO is an optional mixed-signal module that can provide source and capture test capabilities with Arbitrary Waveform Generator (AWG) and Digitizer (DGT) functions when integrated into the 3680 SoC test system. The module has 8 AWG and 8 digitizers on an instrument board which can be allocated to any universal slot in the 3680 SoC system. With a maximum of 120MHz instrument bandwidth and density, it can meet the performance required by a wide range of device types. Building either in audio or video band on each channel, the module can accomplish multisite testing with lower cost.

The HDAVO achieves the I/Q phase and amplitude matching with better 25ps channel to channel skew through a dedicate external calibration board. This enables the system to test a wide range of I/Q modulator standards such as 802.11a/b/g/n wireless LAN and cellular baseband processor.

The CRISPro software environment provides a powerful tool for the user to setup the HDAVO via a Graphic User Interface (GUI). The coding based with user friendly environment can produce test programs quickly and easily to implement concurrent functions for complex and multi-function SoC device with lower cost of test (CoT) requirement.

HDAVO

KEY FEATURES

- 8 channels of arbitrary waveform generator (AWG) and 8 channels of digitizer (DGT) per board
- Provide high frequency mode and high resolution mode for both AWG and DGT
- AWG
 - 16 bits high frequency DAC with 400MSPS
 - 24 bits high resolution DAC with 2MSPS
- DGT
 - 16 bits high frequency ADC with 250MSPS
 - 24 bits high resolution ADC with 1.5MSPS
- V Reference Source
 - Individual two channels per rider
 - 20 bits resolution, voltage range from -1V ~ 6V
 - Settling time: 1ms;
 - Max output current: 10mA
 - Four wires connection
- Build in precision PLL clock per rider with 250fs Jitter
- Selectable filter range
- 120MHz bandwidth for high frequency mode
- Four channels of precision measurement unit (PMU) per board
- Can be allocated to any universal slot
- Support external trigger input per rider
- Support on 3680 SoC System
- GUI Setup and programmable in CRISPro software environment

TARGET APPLICATION

- Consumer/portable audio, STB, digital TV, video converter, xDSL/cable modem, baseband



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SPECIFICATIONS

Item	Description	
AWG	Low Frequency Arbitrary Waveform Generator (LF)	High Frequency Arbitrary Waveform Generator (HF)
Sampling Rate	DC to 2Msps	DC to 400Msps
Resolution	24 bits	16 bits
Waveform Memory	16M Byte 4M depth at 24 bits	16M Byte 8M depth at 16 bits
Bandwidth	500kHz	120MHz
Output Range	6Vpp, 3Vpp, 1.5Vpp	5Vpp, 2.5Vpp, 1.25Vpp
DC Offset Range	±5V	±2.5V
Output Level (AC+DC)	-8V < AC+DC < +8V	-5V < AC+DC < +5V @ 50Ohm to Gnd
DC Accuracy	±(60uV + 15ppm of range)	±(500uV + 0.08% of range)
Non Linearity	±6ppm of range (3ppm typical)	±30ppm of range
Output Impedance	< 1.5Ohm	50Ohm
Filter	200kHz, 22kHz, 1.2kHz	60MHz, 30MHz, 1.5MHz
THD	-120dBc @ 1kHz, 5Vpp, 1.2kHz filter -110dBc @ 1kHz, 5Vpp, no filter	-95dBc @ 1MHz, 2Vpp, 1.5MHz filter -85dBc @ 1MHz, 2Vpp, no filter -75dBc @ 10MHz, 2Vpp, no filter
SFDR	-110dBc @ 1kHz, 5Vpp, no filter	-86dBc @ 1MHz, 2Vpp, no filter
SNR	105dBc @ 1kHz, 6Vpp, BW=20Hz-20kHz A-weighted 95dBc @ 1kHz, 6Vpp, BW=500kHz	71dBc @ 1MHz, 2Vpp, no filter, BW=100MHz

Digitizer	Low Frequency Waveform Digitizer (LF)	High Frequency Waveform Digitizer (HF)
Sampling Rate	DC to 1.5Msps	200ksps to 250Msps
Resolution	24 bits	16 bits
Waveform Memory	16M Byte 4M depth at 24 bits	16M Byte 8M depth at 16 bits
Bandwidth	1MHz	120MHz
Input Range	6Vpp, 3Vpp, 1.5Vpp	5Vpp, 2.5Vpp, 1.25Vpp
DC Offset Range	±5V	±2.5V
Input Level (AC+DC)	-8V < AC+DC < +8V	-5V < AC+DC < +5V @ 50Ohm to Gnd
DC accuracy	±(60uV + 15ppm of range)	±(500uV + 0.08% of range)
Non Linearity	±6ppm of range (3ppm typical)	±150ppm of range
Input Impedance	1M-Ohm//25pF	50Ohm or 10k-Ohm
Filter	250kHz, 22kHz	60MHz, 30MHz, 1.5MHz
THD	-112dBc @ 1kHz, 5Vpp, no filter	-87dBc @ 1MHz, 2Vpp, no filter -82dBc @ 10MHz, 2Vpp, no filter
SFDR	-110dBc @ 1kHz, 5Vpp, no filter	-88dBc @ 1MHz, 2Vpp, no filter
SNR	108dBc @ 1kHz, 6Vpp, BW=20Hz-20kHz A-weighted 98dBc @ 1kHz, 6Vpp, BW=500kHz	71dBc @ 1MHz, 2Vpp, no filter, BW=100MHz

Precision Measurement Unit (PMU)	
VF Range	±10V
VF Resolution	16 bits
IF Range	±20 μA / ±200 μA / ±2 mA / ±25 mA
IF Resolution	16 bits
VM Range	±10V
VM Resolution	16 bits
IM Range	±20 μA / ±200 μA / ±2 mA / ±25 mA
IM Resolution	16 bits

* All specifications are subject to change without notice.

ORDERING INFORMATION

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