GX2482 SERIES

MARVIN TEST SOLUTIONS

DUAL CHANNEL 180 MS/S DIGITIZER PXI / PXIE CARD

- 180 MS/s Digitizer
- (2) Differential or single ended inputs
- 16-bit Resolution
- Input range 0.256 Vp to 15.36 Vp
- 64 M Sample memory depth
- PXI and PXIe configuration options

DESCRIPTION

The GX2482 series are a high performance, dual differential channel, 16-bit digitizer offering high dynamic range and excellent SFDR. The module's differential inputs, coupled with its low distortion makes it an ideal instrument for analyzing high performance or low level analog signals. Each channel offers 3 selectable low pass filters, a 16 bit, 180 MS/s ADC, and 64 M words of memory for each channel. A PLL clock generator is combined with dedicated clock dividers for each digitizer channel, providing independent clocking and flexibility for each channel. The sample rate can be programmed from 1 MHz to 180 MHz. The module is available as a PXI hybrid slot compatible (GX2482) or PXI express compatible (GX2482e) instrument.

FEATURES

The GX2482 provides two, differential inputs offering the ability to make low level measurements in the presence of common mode or noisy signals. The inputs can also be configured for single-ended operation. The input impedance is selectable for 1M ohm or 50 ohms and can be AC or DC coupled. Each channel can also add an offset to the input signal, providing the ability to maximize the A to D's dynamic range.

Both channels offer two, 3-pole, low pass, input filters providing the ability to band limit signal noise and minimize aliasing effects. The filters can also be bypassed to take advantage of the input amplifier's full bandwidth.

Clocking of the digitizer's two channels is provided by a PLL which uses a 10 MHz reference clock. The PLL can use the on-board, 10 MHz reference, the PXI 10 MHz clock, or an external clock input. Two independent, programmable dividers are driven by the PLL's output and provide independent sampling frequencies to the two digitizer channels. Digitizer triggering can be initiated via a PXI triggers, an external signal, a level on an input signal, or a software trigger.

PROGRAMMING AND SOFTWARE

The board is supplied with a 32/64-bit DLL driver. Various interface files provide access to the DLL from programming tools and languages such as ATEasy, LabVIEW, LabWindows/CVI, C/C++, and more. The available virtual panel can be used to interactively adjust and control the instrument from a window that displays the instrument's current settings and measurements. A PDF User's Guide provides documentation that includes instructions for installing, using and programming the board.

APPLICATIONS

- Aerospace
- Defense
- Automotive testing
- High performance baseband testing
- Medical device and module test
- ATE systems

MEASUREMENT

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SPECIFICATIONS

HARDWARE	
Input Channels	(2) Differential analog (Ch 1+,Ch 1-,Ch 2+,Ch 2-) (1) External clock (1) External trigger
Input Connectors	SMB
A/D CONVERTER	
Resolution	16 bits
Sample Rate	1 MS/s to 180 MS/s
Memory	64M samples per channel
CLOCKING	
Clock Divider	Programmable (one per channel) Range: 1 to 256
Clock Source	Programmable Dividers Internal PLL (2 kHz to 945 MHz) or External Clock (0 to 945 MHz)
PLL Clock Reference	Internal 10 MHz, PXI 10 MHz, External Clock
ANALOG INPUT CHANNELS	
Input Configuration	Differential or single-ended
Input Range	50 Ohm Impedance 0.256, 0.384, 0.512, 0.768, 1.024, 1.536, 2.048, 3.072 Vp
Input Range	1M Ohm Impedance 0.256, 0.384, 0.512, 0.768, 1.024, 1.536, 2.048, 3.072, 5.12, 7.86, 10.24, 15.36 Vp
DC Offset	± input range, 16 bit resolution
Input Impedance	Selectable 50 Ohm, 1M Ohm
Coupling	AC or DC
Accuracy	±(250uV + 0.1% of range + 0.2% of value)
Relative Accuracy	±0.006%
Bandwidth	DC to 95 - 175 MHz (typical, depending on range)
Input Filters	3-pole, selectable: None, 30 MHz, 60 MHz
SFDR	83 dB, 1 MHz input (180 MS/s, 50 Ohm, 4 Vpp diff)
THD	85 dB, 1 MHz input 81 dB, 10 MHz input (180 MS/s, 50 Ohm, 4 Vpp diff)
SNR	69 dB, f-in=1 MHz, DC to 80 MHz BW 67 dB, f-in= 10 MHz, DC to 80 MHz BW (180 MS/s, 50 Ohm, 4 Vpp diff)

TRIGGERING	
Connector	Front panel SMB
Impedance	1k Ohm nominal
Threshold Level	1.02 V, ±5%
Trigger Hysteresis	60 mV, typical
Max Input Level	-0.5 V to + 5.5 V
Triggering Sources	Front panel, PXI trigger 0 -7, PXI Star trigger, software trigger, input signal
Modes	Positive / negative level or edge, Positive / negative edge continuous
EXTERNAL CLOCK	
Connector	Front panel SMB
Input Impedance	50 Ohm nominal
Input Frequency Range	DC to 945 MHz (for direct clocking), 10 MHz as PLL reference
Threshold Level	1.02 V, ±5%
Hysteresis	60 mV, typical
GENERAL	
Current Consumption (Maximum)	+5 V @ 2.3 A +12 V @ 10 mA -12 V @ 110 mA +3.3 V @ 1.8 A
Calibration	Reference voltage: manual, 12 months A/D converters: Auto cal, 3 months
Weight	Approx. 0.55 lbs
Size	3U, single slot
Operating Temperature	0 °C to +50 °C
Storage Temperature	0 °C to +70 °C
Humidity	10% to 80% (Non-Condensing)
Safety	EN61010-1:2001
CE Labeled	Yes EN61000-6-1:2001, EN55011:1998

Note: Specifications are subject to change without notice

MEASUREMENT

ORDERING INFORMATION

GX2482e	PXIe Dual Channel 180 MS/s Digitizer Card
GX2482	PXI Dual Channel 180 MS/s Digitizer Card
ACCESSORY	
GX92104	SMB Plug to BNC-M Cable, 36 inches (RG188 Cable)
GX92105	Dual SMB to BNC Cable, 12 inches
GX92106	SMB Plug to SMA-M Cable, 24 inches (RG188 Cable)

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