

Comparison of SIGMA2 and OMEGA logic analyzers

Parameter	SIGMA2	OMEGA
Standard mode (with advanced trigger logic)	16 inputs / 50 MSPS	16 inputs / 200 MSPS
Accelerated mode (with simple triggering)	8 inputs / 100 MSPS 4 inputs / 200 MSPS	8 inputs / 400 MSPS
PC interface	USB 2.0 Full Speed (12 Mbps) powered from USB, no external supply required	USB 2.0 High Speed (480 Mbps) powered from USB, no external supply required
Sample memory size (1)	14.7 million	29.8 million
Typical number of samples (2)	2 millions input signal changes	20 to 30 millions input signal changes
Max. test length / max. test time (3)	128 G / 45 min.	862 G / 77 min.
Worst condition test length	0.29 s	0.15 s
Maximum compressed data flow	915 Mbps	3.6 Gbps
Synchronization	N/A	2 analyzers (up to 32 inputs): ±5 ns 3 analyzers (up to 48 inputs): ±10 ns more: possible but without timing specification
On the market	Since 2011 (SIGMA since 2007)	Since 2012
Price (end user, for 1 unit, w/o VAT)	EUR 198.-	EUR 298.-

(1) Maximal test length - each successive sample differs (data cannot be compressed).

(2) Tested with I2C, SPI or UART serial protocols.

(3) Test length / time with no signal changes on the inputs.

Technical details

Parameter	SIGMA2	OMEGA
Number of inputs	16	
Input logic level	TTL	
Input buffers	74LVC245, TSSOP	
ESD protection	27 Ohm serial input resistor + built-in CMOS ESD protection	
Trigger conditions in standard mode	Advanced, 3 masks Resolution: 1 sample (20 ns)	Advanced, 3 masks Resolution: 2 samples (10 ns)
FPGA	Xilinx Spartan-3	Xilinx Spartan-3A
Memory	SDRAM, 256 Mbit, 16-bit bus, ~66 MHz	SDRAM, 512 Mbit, 32-bit bus, ~133 MHz
Compression method	RLE	RLE + Huffman coding
Max. RLE run count	64 K	32 K
External Trigger-In	LVTTTL (max. 3.3 V)	
External Trigger-Out	LVC MOS (3.3 V) with 1 kOhm serial resistor or open collector with pull-up	LVC MOS (3.3 V)
Auxiliary power output	On Trigger-In pin, 2.7 to 3.3 V, max. 100 mA	
Target cables	SIGMACAB (colored wires with individual numbered sockets) 20-pin header (16 channels) 10-pin header (8 and 4 channels)	SIGMACAB (colored wires with individual numbered sockets) 20-pin header (16 channels) 10-pin header (8 and 4 channels) Synchronization cable
User interface	2 LEDs (green/yellow and red/yellow) GO button (test → trigger → stop)	
Software	All-in-one package: Logic analyzer + utilities + USB Driver + documentation	
Protocol analyzers	Free: UART, SPI, I2C Optional: USB Full Speed (12 Mbps)	

This specification is subject to change without any prior notification. Ver. 2, 2012-11-27

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