

OCMP/OCM

Optical carrier multi-rate interface with programmable oscillators



Description

The OCM/OCMP is a mezzanine board that pairs with an EDT main board (for PCI or PCI Express) to support 1GbE (electrical or optical), SONET OC3/12/48 (SDH STM1/4/16), or both.

The board has two volt-controlled crystal oscillators (VCXOs), which can be programmed to multiple select frequencies, and two small form pluggable (SFP) transceivers. Each SFP supports 1GbE (electrical or optical) or OC3/12 (STM1/4), and one also supports OC48 (STM16). The board has up to 2 GB of DRAM for snapshot recording and data buffering.

EDT provides FPGA configuration files so you can input and output raw data, detect to a SONET/SDH frame, or descramble a framed signal. Custom configuration files can be requested.

The main board supplies high-speed DMA, plus additional memory and programmable FPGA resources.

Features

Mezzanine board – pairs with an EDT main board (in a PCI, PCI-X, or PCIe slot), which adds high-speed DMA, programmable FPGA resources, and memory

Channel 0: One SFP for 1GbE (electrical or optical) or OC3/12/48 (STM1/4/16), 155.52, 622.08, or 2488.32 Mb/s – 1310 nm

Channel 1: One SFP for 1GbE (electrical or optical), OC3/12 (STM1/4), or OC3/12/48 (STM1/4/16), 155.52, 622.08, or 2488.32 Mb/s – 1310 nm

FPGAs: Two programmable (one Xilinx Spartan 3 XC3S200 and one Xilinx Virtex II Pro XC2VP4)

DRAM: Up to 2 GB (DDR) for snapshot recording and data buffering

Clocks: Two programmable VCXOs (one per channel), 10 to 215 MHz

Applications

Telecommunications network monitoring

Ethernet monitoring

SONET/SDH to Ethernet conversion

Specifications

Product Type	OCMP is an optical carrier multi-rate mezzanine board with programmable oscillators for up to OC48/STM16/1GbE; it requires a main board.		
FPGA Resources	Two programmable FPGAs (one Xilinx Spartan 3 XC3S200 and one Xilinx Virtex II Pro XC2VP4), plus FPGA on main board		
Memory	SRAM	0	
	DRAM (DDR)	0 or optional 512 MB or 2 GB; 2 GB is needed for snapshot recording at rates of OC48/STM16 or faster with PCI SS or PCI GS main board	
Clocks	Two VCXOs (one per channel, for internal reference) are included, as described below.		
	Default option (OCMP)	Two VCXOs; either can be set to 125, 155.52, 156.25, or 166.62857 MHz or programmed to any frequency from 10 to 215 MHz	
	Legacy option (OCM)	Two VCXOs; either can be set to 125, 155.52, 156.25, or 166.62857 MHz	
Data Rates	Data rates are dependent on data format and main board.		
Data Format (I/O)	Channel 0	1GbE (electrical or optical) or SONET OC3/12/48 (SDH STM1/4/16)	
	Channel 1	1GbE (electrical or optical) or SONET OC3/12 (SDH STM1/4) or optional OC3/12/48 (STM1/4/16)	
Transceivers	Two SFPs are included, supporting the data formats and specifications shown below.		
	<u>CHANNEL 0</u> (SFP)	<u>Electrical: 1GbE</u> (1000 Base-T)	<u>Optical: 1GbE or OC3/12/48 (STM1/4/16)</u> 1310 nm
	Output power	–	–9.5 to –3 dBm
	Center wavelength	–	1270 to 1360 nm
	Sensitivity	–	–18 dBm
	Maximum input power	–	0 dBm
	Connector	RJ45	LC
	<u>CHANNEL 1</u> (SFP)	<u>Electrical: 1GbE</u> (1000 Base-T)	<u>Optical: 1GbE or either option below</u> 1310 nm: OC3/12 (STM1/4) 1310 nm: OC3/12/48 (STM1/4/16)
	Output power	–	–15 to –8 dBm –9.5 to –3 dBm
	Center wavelength	–	1270 to 1360 nm 1270 to 1360 nm
	Sensitivity	–	–28 dBm –18 dBm
	Maximum input power	–	0 dBm 0 dBm
	Connector	RJ45	LC LC
Connectors	One RJ45 or LC on each transceiver as shown above		
Cabling	Consult EDT for purchase options.		
Physical	Weight	3.5 oz. typical	
	Dimensions	6.6 x 4.2 x 0.5 in. (with a main board)	
Environmental	Temperature	Operating 0° to 40° C Non-operating –40° to 70° C	
	Humidity	Operating 1% to 90%, non-condensing at 40° C Non-operating 95%, non-condensing at 45° C	
System and Software	For details on system requirements and EDT-provided software driver packages, see specifications for your EDT main board.		

Support

EDT offers engineer-to-engineer customer support, from phone consultation to custom design of hardware, firmware, and software. Contact us for options and details.

Contact

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Ordering Options

- Main board: PCI SS / PCI GS / PCIe8 LX
- DRAM: **0** / 512 MB / 2 GB
- Clocks: **2 (OCMP)** / 0 (OCM)
- Transceivers: 2 SFPs (options above)

Bold is default.
For more options, see main board datasheet.