FMC 4-Channel SFP+ Adapter

DFMC-SFP4

HIGHLIGHTS

- Up to 12.5 Gbps operation
- On-board clock generator
- Stand alone operation, Frequency selectable via DIP switch
- Indicator LEDs for module (2 channel version)
- 1.8V, 2.5V, 3.3V Vadj support

FEATURES

- **High-Pin-Count FMC Module** with LPC compatibility for SFP/SFP+ applications
- Vita 57.1 compatible
- Available
  - 4-Channel Version (no FMC Front Panel)
  - 2-Channel Version (with Front Panel)
- Fits on any standard FMC carrier
- Wide I/O operating voltage range: Vadj can vary from 3.3V down to 1.5V
- True level conversion of all SFP+ module pins including I2C bus lines
- Direct connection of all MGT links and optimized trace layout for maximum performance
- I2C-Controlled oscillator (10-280MHz)
- Option for stand-alone operation
- Integrated FRU EEPROM and Serial Number IC
- Individual module status via LEDs

The DFMC-SFP4 is a cost-efficient FPGA mezzanine card (FMC) designed for electrical compatibility to ANSI/VITA 75.1 standard.

It offers 2 or four SFP+ module slots. All module pins are translated to the FMC Carrier Voltage Vadj) that can be in the range of 1.5V to 3.3V. With this low operating voltage it can be used on almost all carriers.
The module is designed as an HPC module but can also be operated on an LPC carrier (one channel + clock). The components are placed to be compatible with carriers that have components under the FMC module.

The SFP+ Cage is placed to fit to all carriers without front panel modification The module features an I2C-controlled LVDS oscillator chip (adjustable via DIP switch or I2C) that operates in the range from 10 to 280 MHz.

Automatic configuration of clock oscillator and modules for stand-alone operation is provided.

DESY offers the DFMC-SFP4 for licensing to industry. DESY can modify this product to meet special customer requirements.

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MicroTCA TECHNOLOGY LAB
A HELMHOLTZ INNOVATION LAB

DESY.

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TECHNICAL SPECIFICATIONS

ARCHITECTURE		
Physical	Dimensions	Single-width 10mm stacking height
		Regions 1,2 and 3 occupied
		Size: 84 x 69 mm
Standards	ANSI/VITA 75.1	FPGA mezzanine card (FMC)
	Module management	IPMI Version 2.0
	FMC standard	low pin count, only one SFP+ module
		high pin count; 2 or 4 SFP+ modules
	compatible products	DAMC-FMC20, DAMC-FMC25, DAMC-FMC2ZUP, DAMC-FMC1Z7IO, DAMC02 and many others
FEATURES		
SFP+ slots	Number of channels	2 or 4
	max. data rate	12.5 Gbps
I/O standard	supported I/O voltages	1.5V, 1.8 V, 2.5 V, 3.3 V
	voltage translation type	true voltage translators on all channels including I2C
Operation mode	stand alone operation	all SFP+ pins set on board
	carrier controlled operation	all SFP+ pins set via carrier
Clocking	on board clock generator	any-frequency clock Synthesizer Si570
	frequencies (stand alone)	125 MHz, 156.25 MHz, 200 MHz 250 MHz, 312.5 MHz
	frequencies (carrier controlled)	any frequency programmed via carrier I2C
Front panel indicators		RX Loss of Signal, TX fault, module presence
Environmental	Operating temperature	0 … 70 °C
	Storage temperature	- 40 … + 90 °C
	Relative humidity	5 … 90 percent, non-condensing
	Weight	0.3 kg

OTHER	
Compliance	RoHS
Standards	ANSI/VITA 75.1
Licensing to industry	Yes / Deutsches Elektronen-Synchrotron - Notkestr. 85, 22607 Hamburg - Germany - Email: mtca-techlab@desy.de

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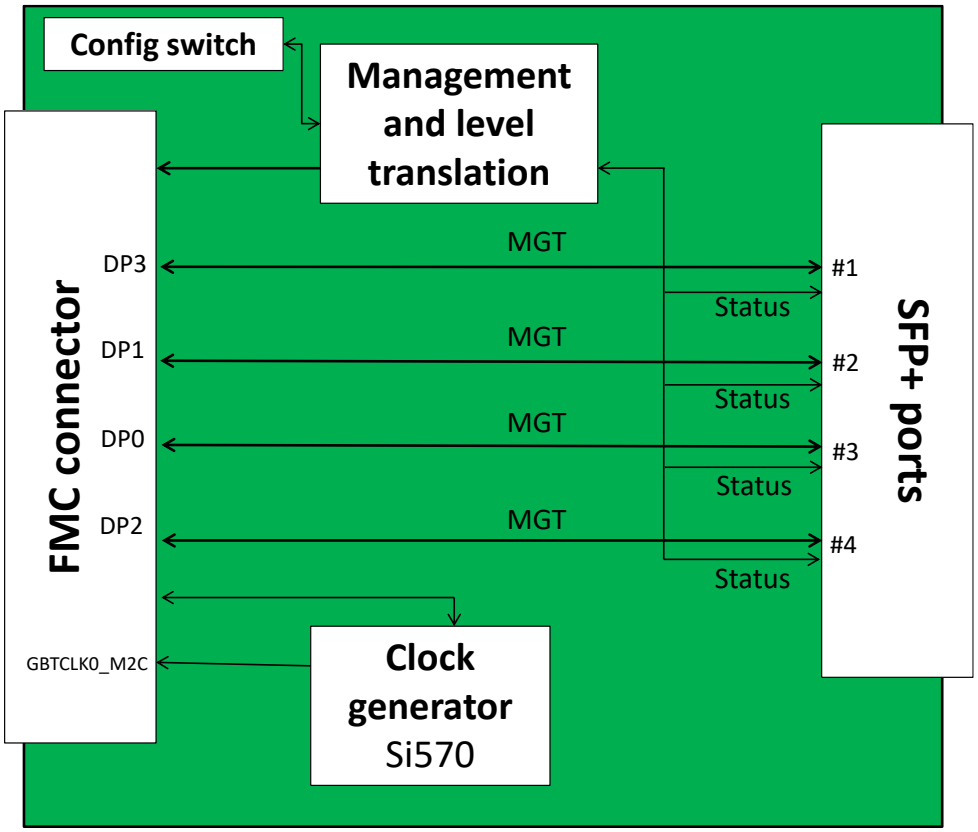
FUNCTIONAL BLOCK DIAGRAM



OPTIONS

FMC-2SFP+ -4SFP+

2SFP+	Option with 2 SFP+ slots, Including indicator LEDs
4SFP+	Options with 4 SFP+ slots No indicator LEDs included

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