DATA SHEET

RFoF

Dual RX / TX, 7.125GHz, 2 RF IN / OUT, 2 FO IN / OUT, WDM 1310nm

RS-RFoF08-13T2R2W

Properties

- Dual transceiver RFoF module with two optical transmitters and receivers.
- High optical output power for quality links.
- RF frequency range: 0.4 – 7.125 GHz.
- Adjustable RF gain.
- Monitors RF, optical levels, and temperature.
- Fits 3RU (9 slots) and 1RU (2 slots) CUBO chassis.
- CUBO rack NIC with WebGUI, SNMP, and RESTCONF



General data	
Suitable products	RS-RFoF08-DUP, 85225216 RS-CH3U-0, 85095578 RS-MO-2, 85264606 RS-AC460-1 EU, 85238554 RS-AC460-1 US, 85238555 RS-DC460-1, 85274092
Product family	RFoF Lab automation
Module type	modular line card system in 3RU or 1RU

RF data	
RF bandwidth	400 …7125 MHz
Gain variation range	-61 … +29 dB
Nominal link gain (back-to-back)	0 dB
Max. recommended RF signal level at nominal link gain	+7 dBm
Noise figure (at highest sensitivity)	< 12 dB (400 … 3500 MHz) < 15 dB (3500 … 6000 MHz)
1 dB compression point @TX preamp off, minimum attenuation	17 dBm
Spur-free dynamic range at optimum TX and RX gain	113 dB/Hz$^{2/3}$ (400 … 3500 MHz) 106 dB/Hz$^{2/3}$ (3500 … 7125 MHz)
RF isolation between RX/TX modules (max. gain)	70 dB

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Transmitter data	
RF bandwidth	400 …7125 MHz
RF input impedance	50 Ω
Max. RF input power with no damage	24 dBm
Input return loss (typical)	10 dB
Nominal RF input level range Lower level possible by use of Tx preamp Higher levels possible by ATT 1 (negative link gain)	-35 … +5 dBm
Attenuation range (ATT 1)	0 … 30 dB
Attenuation range (ATT 2)	0 … 15 dB
Gain step size	0.5 dB
Optical wavelength of 1310 nm TX	1310 ±10 nm
Nominal optical output power	7.0 … 9.5 dBm
Laser safety	Class 1M

Receiver data	
Optical input wavelength range	1290 … 1600 nm
Optical input return loss	> 40 dB
Typical optical input power	+3 …+9.5 dBm
Max. optical input power	+10 dBm
RF bandwidth	400 …7125 MHz
Output RF impedance	50 Ω
Output RF return loss (typical)	10 dB
Max. RF (reverse) input power with no damage	24 dBm
Nominal RF output level range	-50 …+7 dBm
Attenuation range (ATT 1)	0 … 15 dB
Attenuation range (ATT 2)	0 … 30 dB
Gain step size	0.5 dB

WDM Filter Parameter	
Insertion loss (common port – pass / reflection port)	< 0.7 dB
Isolation (common port – pass / reflection port)	> 15 dB
Directivity isolation (pass port – reflection port)	> 45 dB

Electrical data	
Supply voltage (internal on backplane)	-48 VDC
Power consumption	12 W
ESD rating	8 kV (contact voltage acc. to IEC 61000-4-2)
DC isolation on RF interfaces	50 V

Mechanical data	
Dimensions (W x H x D)	37.5 x 110 x 211.6 mm
Weight	490 g
Mechanics	Compatible to CUBOchassis RS-CH3U-0, RS-CH1U

Environmental data	
Operation temperature range (ambient Cubo chassis temperature)	-5 … +45°C
Storage temperature	-40°C … 85°C

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RF connections	
Product family RF connector	SMA
Gender	female
Amount of RF connectors	4 (2x RF IN, 2x RF OUT)

FO connections	
Product family FO connector	LC APC
Gender	Plug
Amount of FO connectors	4 (2x FO IN, 2x FO OUT)
Fiber type	Singlemode

Transmitter Management Parameter	
Not responding	alarm
Optical output power out of range	alarm
RF input power out of range	alarm
Temperature out of range	alarm
Total OMI too high	alarm
Internal failure (e.g. voltage out of range)	alarm
Autosetup	configuration
Nominal RF input power	configuration
Headroom	configuration
Attenuation 1	configuration
Attenuation 2	configuration
Preamplifier used	configuration
Laser enabled	configuration
Pilot tone used	configuration
Pilot tone frequency	configuration
Detector frequency	configuration
Optical output wavelength (read only)	configuration
Optical output power	measurement
Laser current	measurement
Temperature	measurement
RF input power	measurement
OMI RMS	measurement
Resulting gain	measurement

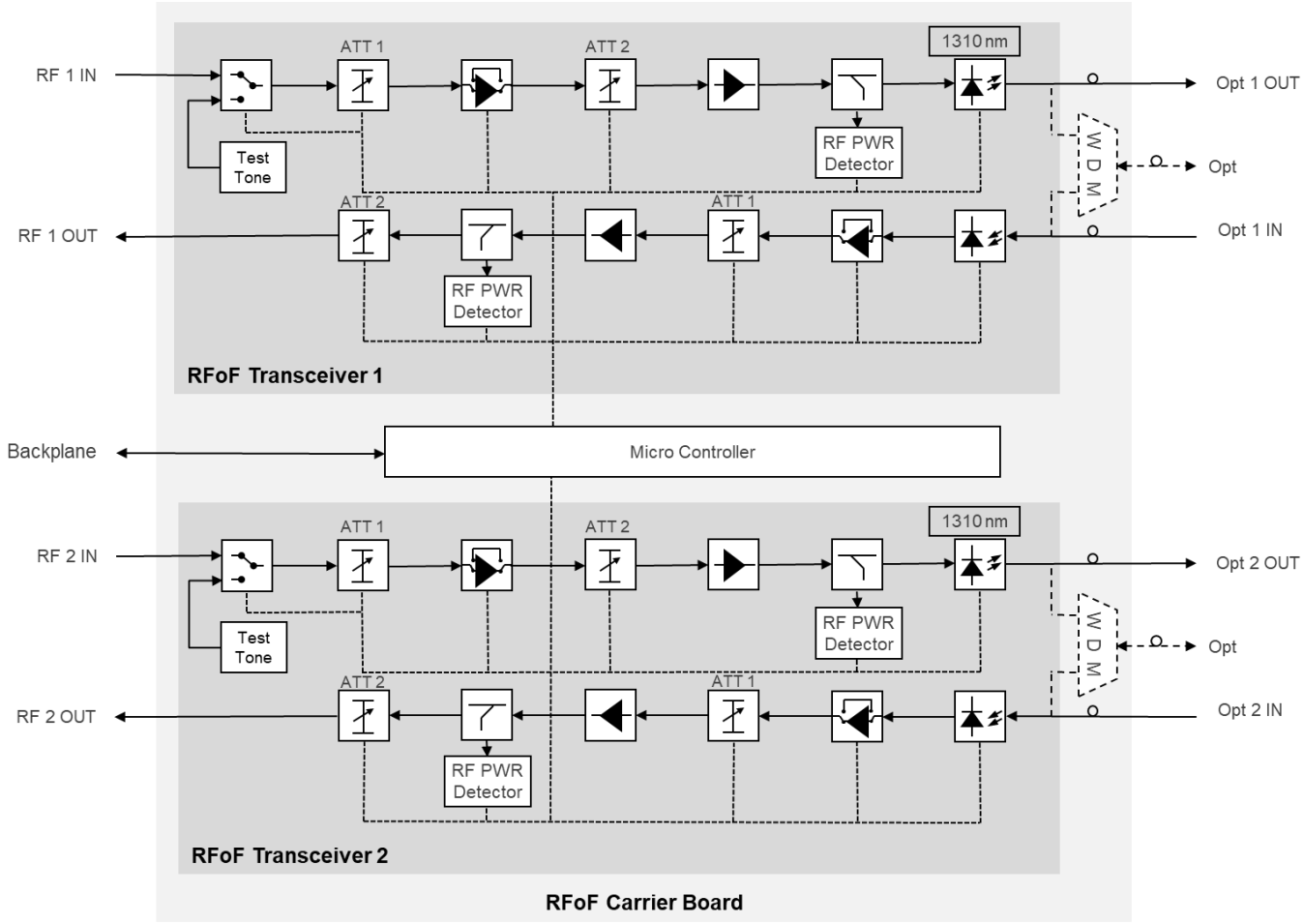
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Receiver Management Parameter	
Not responding	alarm
RF output power out of range	alarm
Optical input power out of range	alarm
Temperature out of range	alarm
Internal failure (e.g. voltage out of range)	alarm
Autosetup	configuration
Nominal RF output power	configuration
Headroom	configuration
Attenuation 1	configuration
Attenuation 2	configuration
Preamplifier used	configuration
Detector frequency	configuration
Optical input wavelength	configuration
RF output power	measurement
Optical input power	measurement
Temperature	measurement
Resulting gain	measurement

Module Management Parameter	
Not responding	alarm
Card power supply failure	alarm
Temperature out of range	alarm
Firmware version (read only)	configuration
Part number (read only)	configuration
Serial number (read only)	configuration
Card assembly (read only)	configuration
Restore factory settings	configuration
Temperature	measurement
Current consumption	measurement

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Block diagram



Order Information Table		
Item number	Item description	Notes
85252241	RS-RFoF08-13T2R2W	Tx1 1310nm and 1st Rx1 coupled by WDM1, Tx2 1310nm and 2nd Rx2 coupled by WDM2

HUBER+SUHNER is certified by ISO 9001, ISO 14001, ISO 45001, IATF 16949, AS/ EN 9100 and ISO/TS 22163-IRIS.
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