RF Optic
Optical RF Solutions

RF over Fiber RFoF-8GHz

RFoF 8GHz Transceiver Mini (L) and Compact (R)

1U Enclosure for RFoF 8GHz

Outdoor Enclosure for RFoF

Applications:	Key features:	Options:
Satcom	Frequency Range: 0.1-8GHz	Various RF Gains, P1dB, noise figure by adding amplifiers
EW	Best Cost Performance	Electrical interface and Dimensions can be tailored per customer request
Radio Telescopes	High P1dB>15dBm	Unidirectional or Bidirectional enclosure
Distributed Antenna	Communications: RS-232 or Ethernet	
Telecommunication: • Antenna Remoting • Long RF links via fiber	Excellent Gain Flatness Excellent Phase Noise	

RFOptic's analog RFoF compact modules convert RF signals to optical signals and back. The Tx unit (using an optical transmitter) converts RF to Optical signal, and the Rx unit converts Optical to RF signal. The two units are connected by the customer's fiber.

RFOptic's RF over Fiber modules (RFoF) are suitable for telecommunications and radar applications. Satellite, Point-to-Point antennas can be connected from several meters to many kilometers away from the control room. Base stations can be connected through fiber to remote sector antennas.

Broadcasters can easily distribute their full RF streams over fiber to remote locations, therefore eliminating the need for complex equipment to be installed in far and hard to reach locations. With our wide-band units, cable operators can centrally locate their broadcasting equipment, and connect the RF through fiber to the remote location, thus reducing significantly the CAPEX and OPEX of their networks.

PHONE: +972 76-540-0180 • FAX: +972 76-540-1771 • KIBBUTZ EINAT, 4880500, P.O.B 312, ISRAEL • WWW.RFOPTIC.COM

Table below describes the typical specifications of the RFoF-8.0GHz Transceiver.		
Parameter	**Unit**	**Specifications**
RF Tx-Rx link		
Frequency Range	GHz	0.01 - 8
RF Gain [1]	dB	-30
Gain Flatness [[2]	dB	±1.5
1dB input compression point [1]	dBm	≥15
Maximum RF input level	dBm	23
VSWR	-	2:1
Noise Figure [1]	dB	40
Spurious free dynamic range [3]	$dB/Hz^{2/3}$	>100
Spurious	dBc	<-80
Phase Noise [at 10kHz Offset]	dBc/Hz	<-100
Input / Output impedance	Ohm	50
Optical and Electrical and Environmental (Tx, Rx)		
Laser diode operating wavelength	nm	1550
Laser diode operating output power (CW) [4]	mW	≤ 20
Receiver Photodiode operating wavelength	nm	1200 - 1650
Operating temperature range	^0C	-20 to 75
Storage Temperature range	^0C	-40 to +85
Communication	-	RS 232
LED status indicators (Tx / Rx)	-	Green
Mechanical (Tx, Rx)		

Parameter	**RFoF-8GHz Mini**	**RFoF-8GHz Compact**	**RFoF-8GHz 1U**	**RFoF-8GHZ Outdoor**
Dimensions (mm) L*W*H	150*215*33.5	150*100*33	350*445*44	330*335*80
RF Input / Output connectors	SMA	SMA	SMA	N Type
Optical Connector	FC/APC	FC/APC	FC/APC	Radiall OPUS.117.200.1420
Power Connector	DB9	DB9	HP Socket	Circular male 5 pins
Power	5 VDC	5 VDC	110/220 VAC	5 VDC *
Data Connector	DB9	DB9	DB9	Circular male 7 pins

*Other DC or AC voltage is available upon request.

(1) Excluding customer's fiber loss. Gain, Noise Figure, P1db can be changed by adding pre/post amplifiers.
(2) Additional ±0.5 dB deviation is considered within spec.
(3) Excluding in-band harmonic.
(4) Laser power is tailored to fit the customer fiber loses.
(5) Lowest frequency of 0.01 GHz is optional.

Ordering Information:

- **RFoF-8G-MINI** - Unidirectional RFoF 8 GHz module, Compact enclosure.
- **RFoF 1U Generic** - 19" 1U Enclosure, with 2 power supplies and HUB, capable of holding Tx and Rx units, for Uni- or Bidirectional applications.
- **RFoF Outdoor HF** - Outdoor RFoF 8 GHz Enclosure, with Mux, capable of holding High Freq. Tx and Rx units, for Uni- or Bidirectional applications.