



Key features:

- ❖ Frequency Bands- L,S & C
- ❖ Excellent Phase Noise
- ❖ 5VDC supply with D9 connector
- ❖ Pre and Post amplifier (option)
- ❖ LED and management diagnostic.
- ❖ Optical Bit

Applications:

- ❖ Telecommunication – Remote Antennas.
- ❖ Satcom applications.
- ❖ Radio Telescopes
- ❖ Distributed Antenna
- ❖ EW applications

Configurations

- ❖ Outdoors enclosure
- ❖ Stand alone
- ❖ CWDM Grid
- ❖ Uni or bidirection
- ❖ Removable panel up to 2 units.

Negoh-Op's analog RFoF modules convert RF signals to optical signals and back. One unit has an optical transmitter converts RF to Optical signal, and second receiver unit converts Optical to RF signal. The two units are connected by an optical fiber of the customer.

Negoh-Op'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. Radar system houses can easily connect remote antenna elements using economical fiber. Phased array antennas can also use fiber to connect to their RF systems.

Modules Typical Specifications (Preliminary- can be changed)

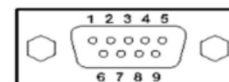
Parameter RF	L Band	S Band	C Band	Unit
Frequency Range ^[1]	0.1 – 2.4	2 - 4	4 – 8	GHz
RF Gain ^[2]	0	0	0	dB
Gain Flatness		±1.5 (max) ±0.9 (typ.) ±0.2 at any 36 MHz	±2 (max) ±1.2 (typ.) ±0.2 at any 36 MHz	dB
Gain stability (@ 24hrs)		0.25 (typ.)		dB
1dB compression point		0		dBm
Maximum RF input level no damage		+10		dBm
VSWR (S11)		1.7 :1 (typ.)		-
Noise Figure ^[3]	20 (typ.)	26 (typ.)	30 (typ.)	dB
SFDR		100		dB/Hz ^{2/3}
Spurious level		< -80		dBm
Phase Noise ^[4]		-115		(dBc/Hz)
Input and output impedance		50		Ohm
Optical and Electrical				
Laser diode operating wavelength		1310 / 1550		nm
Laser diode operating output power		2 ±1		dBm
Receiver Photodiode operating wavelength		1200 – 1650		nm
Power Supply	+5	± 5	± 5	V DC
Mechanical and Environmental				
Dimensions ^[5]		80*55*22		mm
RF input and output connectors		SMA		-
Optical connectors		FC/APC		-
Operating temperature range ^[6]		0 to 50		°C
Storage Temperature range		-40 to +85		°C
LED status indicators		Green LED		-

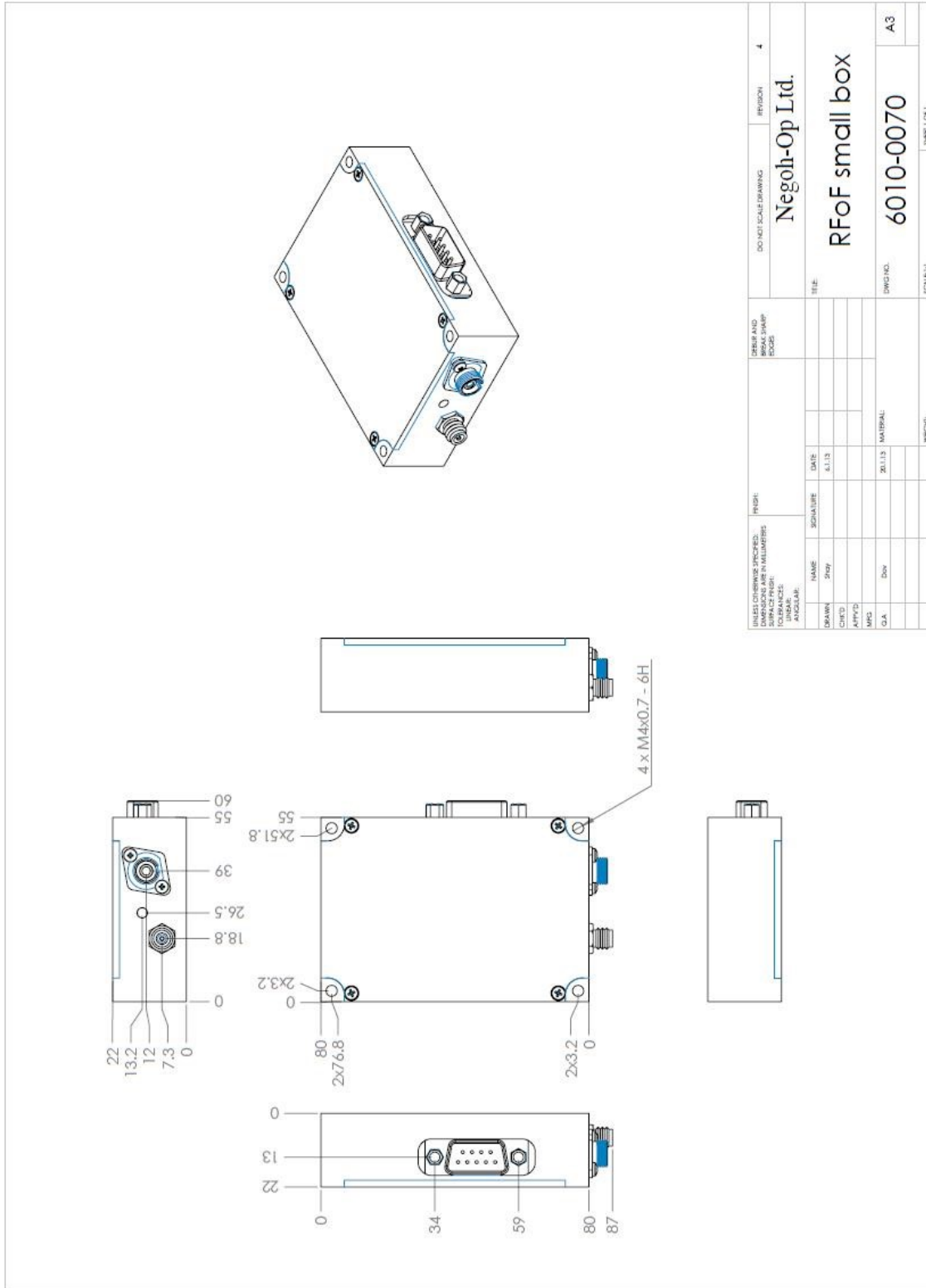
- [1] Any frequency band between 0.01GHz to 8 GHz
 [2] Can be adjusted with pre/post amplifiers to the desired request
 [3] Can be improved by pre amplifier
 [4] At 1 KHz
 [5] can be installed in 1U
 [6] -20 – 60 °C version is optional

Connector Pin Out

Pin Number	Value	
1+2	+5 VDC	Operating voltage for RFoF Tx and Rx
3	-5 VDC	Only for S & C band
4+5	GND	Ground
6	NC	
7	Optical Power	Photo diode Voltage RX, Optical power TX.
8	LED Out	Customer's external LED Cathode, Anode connected to +5V
9	Laser Shutdown	High input shutdown the laser output (TX Unit only)

D9 Male Layout





PLEASE COMPLETE THESE DIMENSIONS ARE IN MILLIMETERS		HIGH		DO NOT SCALE DRAWING		REVISION	
NAME	SIGNATURE	DATE	DATE	NO.	DESCRIPTION	DATE	BY
DRAWN	Shay	4.1.13					
CHECKED							
APPROVED							
MFG							
QA	DoV						
MATERIAL:		20.1.13		DRAWING NO.		6010-0070	
WEIGHT:				SCALE(S)		1:1 (1/1)	
				TITLE		Negoh-Op Ltd. RFoF small box	
				SHEET		4	
				SHEET		A3	