NEGOH-OP
TECHNOLOGIES

Key features:

- Frequency Bands- 8GHz,15GHz,18GHz,20GHz
- Excellent Phase Noise
- 5VDc supply with D9 connector
- Pre and Post amplifier (option)
- LED and management diagnostic.
- RS-232 or Ethernet interfaces Optical Bit
- Friendly GUI installed on any PC.

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.

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Modules Typical Specifications (Preliminary- can be changed)

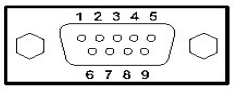
Parameter RF	15 GHz Band	18GHz Band	20 GHz Band	Unit
Frequency Range [1]	0.1-15	0.1-18	2-20	GHz
RF Gain[2]	-33			dB
Gain Flatness within entire bandwidth	±3.5 (max) ±2 (typ.) ±0.2 at any 36 MHz			dB
1dB compression point	+15			dBm
Maximum RF input level no damage	23			dBm
VSWR	1.8:1 (typ.)			-
Noise Figure[3]	40			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	1550			nm
Laser diode operating output power [5]	2 ±1			dBm
Receiver Photodiode operating wavelength	900 – 1650			nm
Power Supply [6]	5			V DC
Mechanical and Environmental				
Dimensions Rx-Tx[7]	150*215*33.5			mm
RF input and output connectors	SMA			-
Optical connectors	FC/APC			-
Operating temperature range[8]	0 to 50			^0C
Storage Temperature range	-40 to +85			^0C
Communication	RS232			-
LED status indicators	1 LED (2 colors)			-

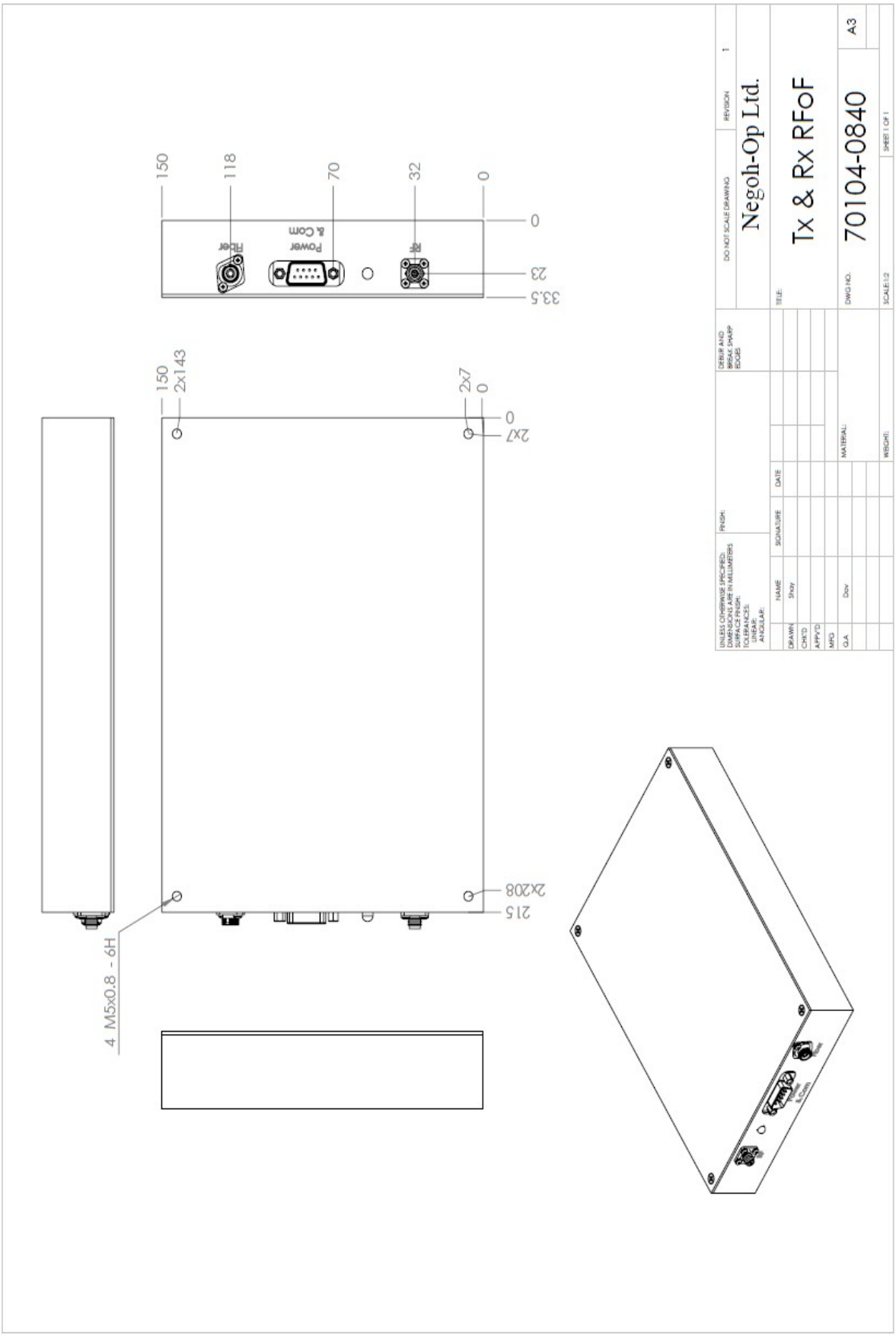
[1] Any frequency band between 0.01GHz to 20 GHz
[2] Can be adjusted with pre/post amplifiers to the desired request
[3]Can be improved by pre amplifier
[4] At 1 KHz
[5] Pending customer application – fiber link loss
[6] Through D9 connector
[7] can be installed in 1U or outdoors enclosure.
[8] -20 – 60 ^0C version is optional
[9] provides info on module status

Connector Pin Out

Pin Number	Value	Usage Tx
1+2+3	+5 VDC	Operating voltage for RFoF Tx and Rx
4+5+6	GND	Ground
7	RS-232 In	
8	RS-232 Out	
9	NC	

D9 Male Layout




150
118
70
32
0
Fiber
Power & Com
RF
0
23
33.5
150
2x143
2x7
0
0
2x7
2x208
215
4 M5x0.8 - 6H
DO NOT SCALE DRAWING
REVISION 1
Negoh-Op Ltd.
TITLE:
Tx & Rx RFoF
DWG NO. 70104-0840
A3
SCALE:1:2
SHEET 1 OF 1
DEBUR AND BREAK SHARP EDGES
UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN MILLIMETERS
SURFACE FINISH:
TOLERANCES:
LINEAR:
ANGULAR:
FINISH:
MATERIAL:
WEIGHT:
NAME
SIGNATURE
DATE
DRAWN
shay
CHK'D
APP'D
MFG
Q.A.
Dov