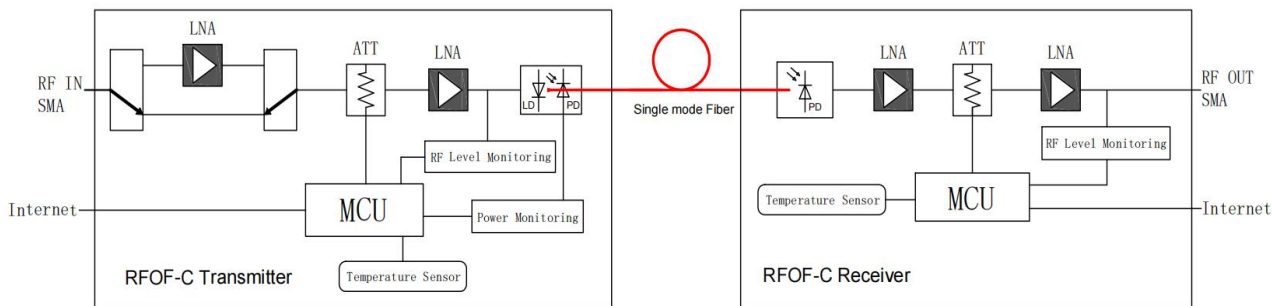


FEATURES

- Supports up to 6.0GHz
- Better linearity, excellent gain flatness
- Internal microcontroller allows RF and Optical control, enabled by software.
- Analog RF signal conversion to optical and back
- Impedance of 50 Ohm
- Enables remote computer control via an RJ45 Ethernet connector
- RoHS compliant



Functional Block Diagram



APPLICATIONS

- Remote Antennas Communication
- Satcom
- 4G LTE
- Broadcast
- Distributed Antenna
- Radio telescopes

DESCRIPTION

SANLAND's innovative RFoF-C product line consists of palm-size analog RF over Fiber modules designed to convert RF signals to optical signals for long-distance transmission over single-mode fiber. The Tx unit converts RF to optical signals via an integrated optical transmitter, while the Rx unit converts optical signals back to RF format. Equipped with an internal microcontroller, low-noise amplifiers and programmable variable attenuators, the modules support software-controlled RF and optical parameter adjustment, featuring excellent linearity, gain flatness and temperature-stable performance up to 6.0 GHz with 50 Ohm impedance. Remote PC software control over module functions including gain adjustment, RF level monitoring and temperature monitoring is enabled via the RJ45 Ethernet connector. simplifying deployment, operation and on-site maintenance for applications including remote antenna communication, Satcom, 4G LTE, broadcast and distributed antenna systems.

LIMITING VALUES

In accordance with the Absolute Maximum Rating System

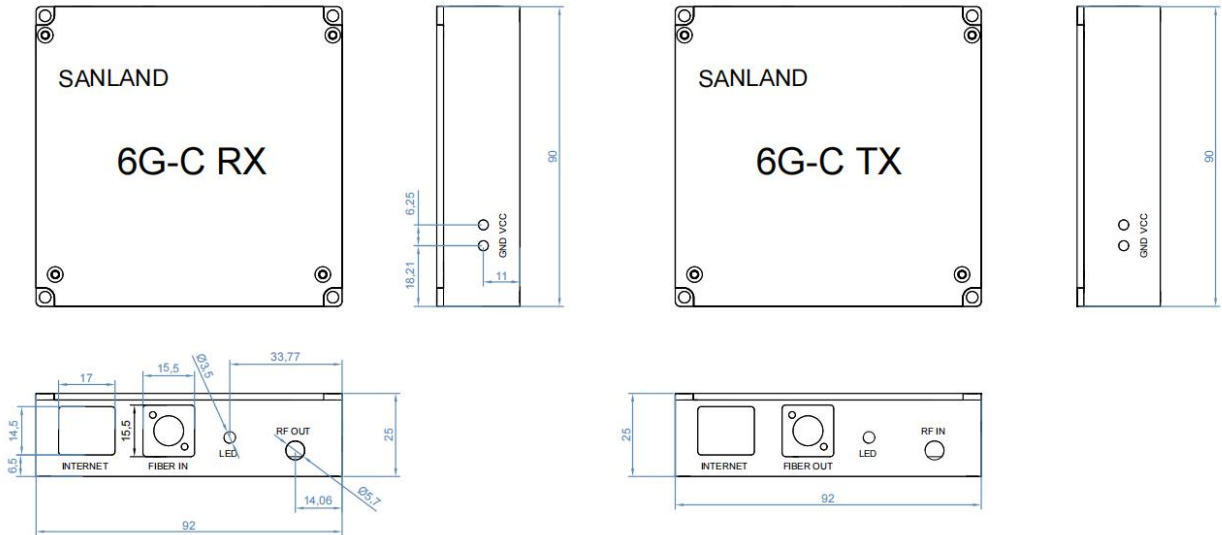
SYMBOL	PARAMETER	MIN.	MAX.	UNITS
T _s	Storage temperature	-40	+85	°C
T _o	Operating temperature	-20	+75	°C
R _{HS}	Relative Humidity-storage	5	95	%

CHARACTERISTICS

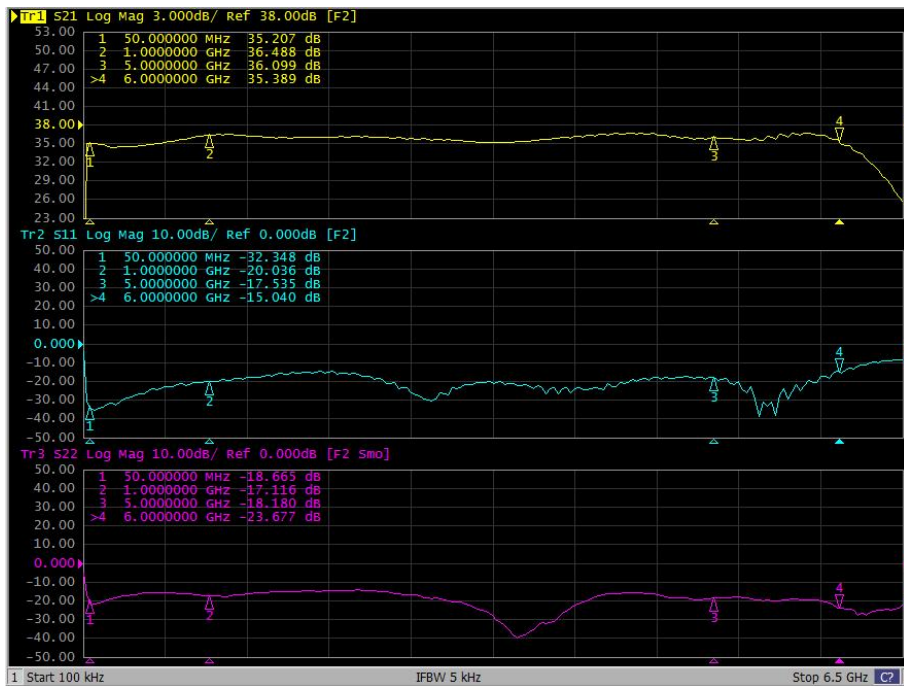
(Bandwidth 5 to 6000MHz ; T_{mb} = 25°C, V_B = 5V, Z_S = Z_L = 50Ω)

Electrical	UNIT	LNA “OFF”	LNA “ON”
Frequency Range	MHz	5-6000	5-6000
Adjustable Link Gain (nominal value)	dB	6	36
Gain Flatness	dB	±2.5	±2.5
Input P1 dB	dBm	-5	-35
Noise Figure	dB	29	8
SFDR	dB·Hz ^{2/3}	103	98
Gain Flatness any 36 MHz	dB	±0.5	±0.5
Maximum Input No damage	dBm	7	7
VSWR Input / Output	-	2.0:1	2.0:1
Input / Output impedance	Ohm	50	50
Current consumption of Tx unit (at 12VDC)	mA	310	385
Current consumption of Rx unit (at 12VDC)	mA	310	310
Optical and Electrical	UNIT		
LED status indicators (Tx/Rx)	-	RGB	RGB
Optical Power in the fiber	mW	2 ±0.5	2 ±0.5
Dimensions (L*W*H)	MM	92x 90 x 25	92x 90 x 25
Transmitter wavelength typical	nm	1550	1550
Product family FO connector	-	FC/APC	FC/APC

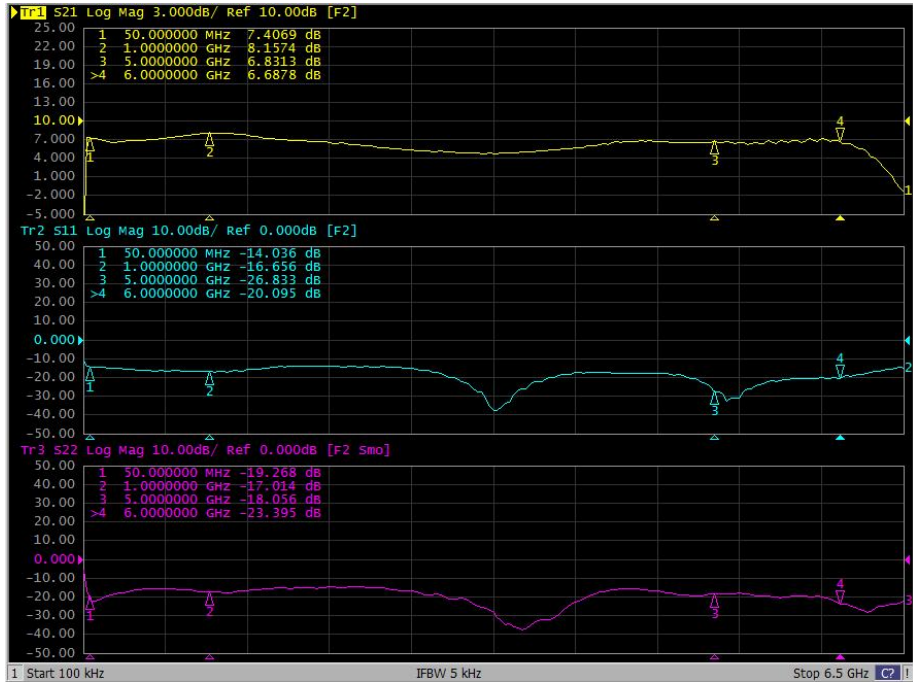
Reference Dimension



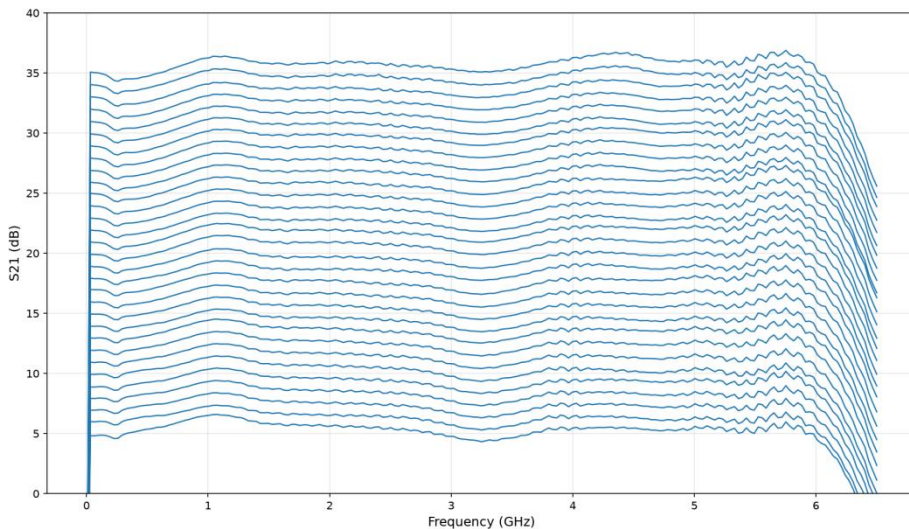
RFoF-C Test Results



RFoF-C "LNA ON" S-parameter plots



RFOF-C "LNA OFF" S-parameter plots



Gain vs. Tx Attenuation value: 0 to 31 dB in 1 dB step,

6.0 GHz RFoF for 'LNA ON' (similar behavior for 'LNA OFF')

Revision	Description	Redactor	Reviewer	Date
V1.0	RFoF-C	Lin Hai	Sam	2026-08-17