

RF over Glass (RFoG)

RFoG SDU R-ONU

with 42/54, 65/87, 85/105, and 204/258 MHz Options

FEATURES

- AGC controlled receiver with -6 to +2dBm optical input range
- 18 dBmV RF output level for single subscriber (SDU) applications
- Burst mode is supported
- Input optical level test points (1V/mW)
- 54/87/105/258–1218MHz forward on 1550 nm and 5–42/65/85/204MHz return on 1610 nm wavelengths
- 1610nm DFB laser transmitter supports full DOCSIS® 3.0 operation
- DC power supported via RF port or dedicated power port
- 10/10, 10/1, 2/1, 1/1Gbps PON pass-through and no PON pass-through options

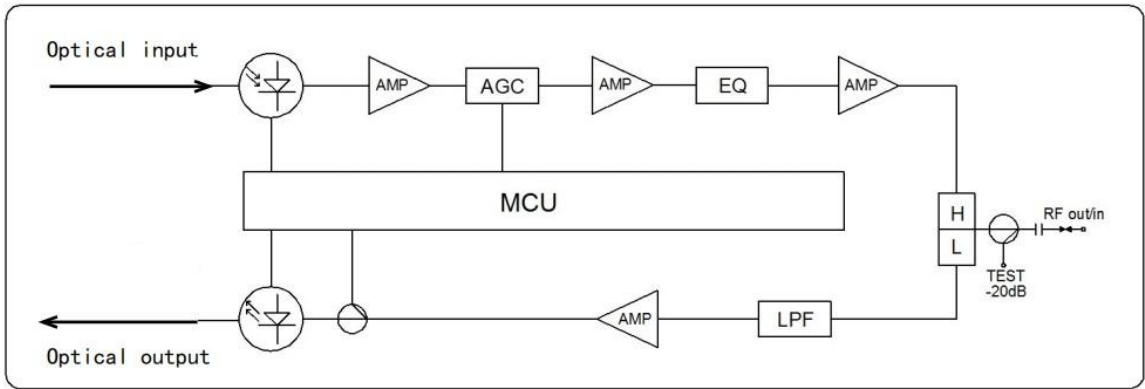


PRODUCT OVERVIEW

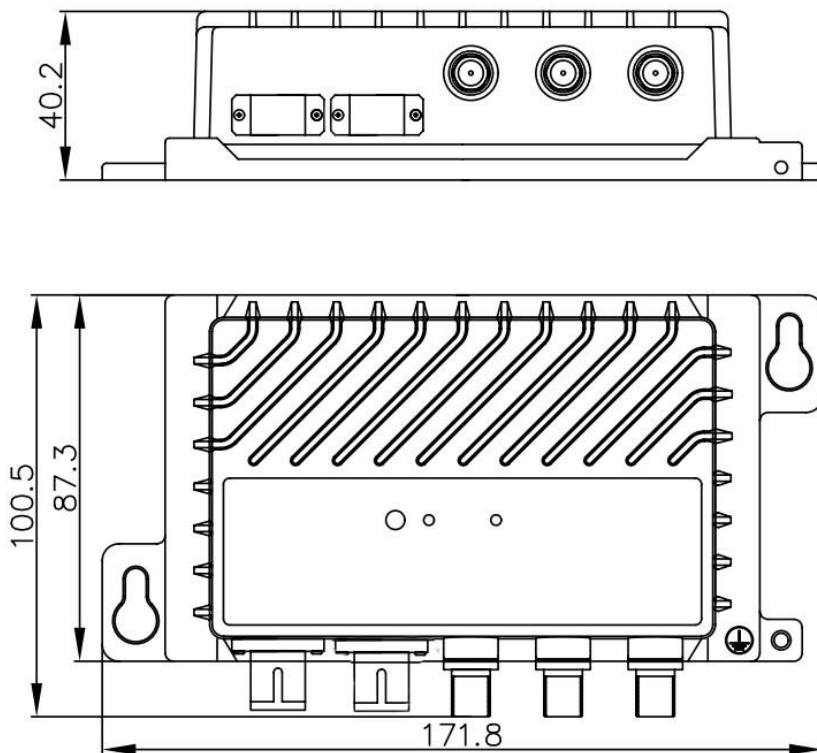
The SANLAND SDU RFoG D024 Optical Network Unit (R-ONU) for Single Dwelling Unit (SDU) applications support cost-effective deployment of full interactive video, voice, and data services over an RFoG network. SDU RFoG D024 enables multiple simultaneous upstream RF channel transmissions, enabling multiple MAC domains and full DOCSIS 3.0 channel usage to efficiently coexist.

The 18 dBmV RF output with AGC (Automatic Gain Control) supports a wide array of SDU designs, with a 5–42/65/85/204MHz return path using 1610 nm wavelength optics and a 54/87/105/258–1218MHz forward path on 1550 nm wavelength optics.

BLOCK DIAGRAM



DIMENSIONS



SPECIFICATIONS

1) Physical

Item	Specification
Dimensions	172×100.5×40.2mm
Weight	0.25Kg

2) Environmental

Item	Specification
Operating Temperature Range	-40℃~60℃
Storage Temperature Range	-40℃~65℃
Protection Class	IP41
Humidity	5% to 95% non-condensing

3) Power Requirement

Item	Specification
Input Voltage Range	AC(90~265)V
Power Consumption, max	4W

4) Connectors

Item	Specification
Optical Interface	IEC 61754-4 compliant SC/APC recessed female fiber connector
Optical Interface (PON pass-through model only)	IEC 61754-4 compliant SC/APC recessed female fiber connector for 1490/1310nm or 1577/1270nm GE PON
RF Interface	75 ohm coax "F-female" connector
DC power Interface	75 ohm coax "F-female" connector
Forward Path RF -20 dB Test Point	75 ohm coax "F-female" connector

5) Downstream

Item	Specification
Optical Receiver	
Input Wavelength	1535-1565nm
Input Power Range	+2~-8dBm
RF Performance	
RF Passband	54/87/105/258-1218MHz

Channel Loading	Analog PAL-D(up to 550MHz), 64QAM(550-1GHz)
AGC Range	+2~-6dBm(LED lights green within AGC range, otherwise red)
RF Output Level	18±1dBmV at DS22
Slope	3~5dB
Flatness(excluding Slope)	±1dB
Output Return Loss	<-16dB
Output Level Stability	±2.0dB (over +1 to -5 dBm input power)
CSO	<-58dB(at 0 dBm input power)
CTB	<-62dB(at 0 dBm input power)
C/N	≥47dB(at -5 dBm input power)

6) UPSTREAM

Item	Specification
Optical Transmitter	
Transmission Wavelength	1610±10nm
Output Power	2.5±0.5mW
RF Performance	
Upstream Passband	5-42/65/85/204MHz
Flatness in Band	±0.75dB
RF input Return Loss	<-16dB
RF Input Range	15-45dBmV
Laser on Level	10±1dBmV
Laser off Level	5±1dBmV
Maximum Delay from Monitoring RF Power on to Laser on	1.3us
Maximum Delay from Monitoring RF Power off to Laser off	1.6us

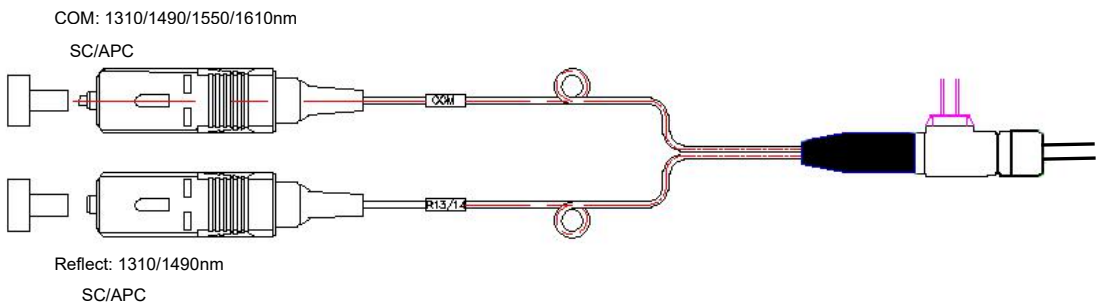
7) Optical Characteristics (WDM)

Parameter		Symbol	Min	Type	Max	Unit	Test Condition
WDM	Pass Channel Wavelength Range	λ	1530	-	1625	nm	
	Reflect Channel Wavelength	λ	1290	1310	1350	nm	
			1470	1490	1510	nm	
	Insert loss	IL	-	0.7	1	dB	

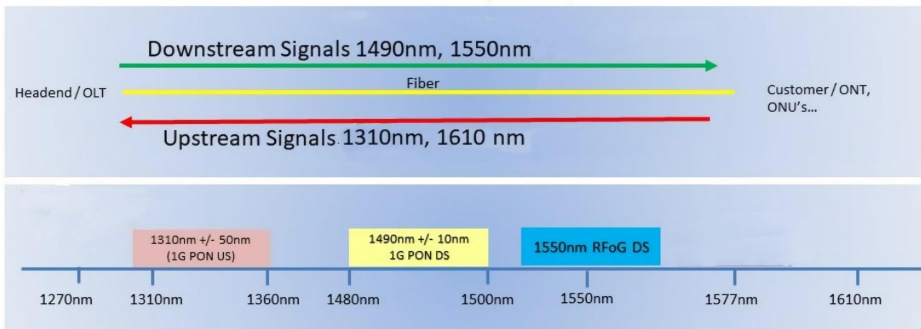
SDU R-ONU

SDU-RFoG-D024

Isolation	Reflect Channel	ISO	20	-	-	dB	$\lambda=1550\text{nm}\&1610\text{nm}$
	Pass Channel	ISO	30	35	-	dB	$\lambda=1310\text{nm}\&1490\text{nm}$



WAVELENGTH DETAIL for GPON, and RFoG:



Built-in WDM

