

# 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

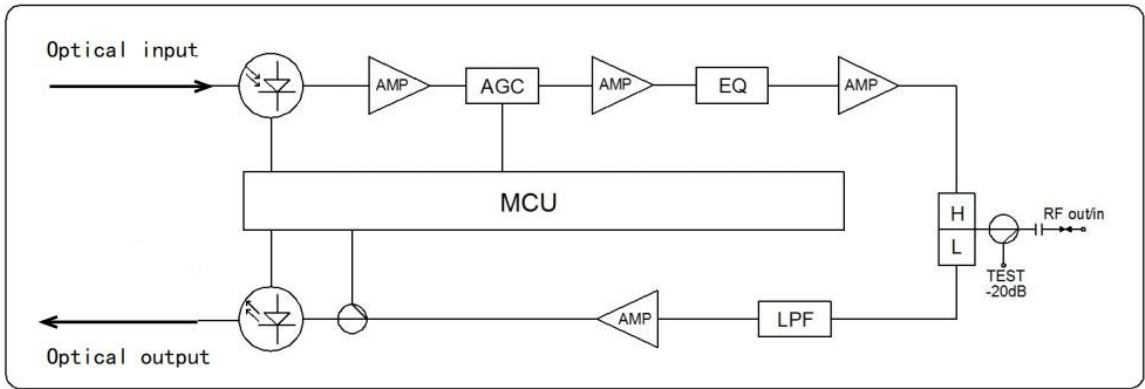


## PRODUCT OVERVIEW

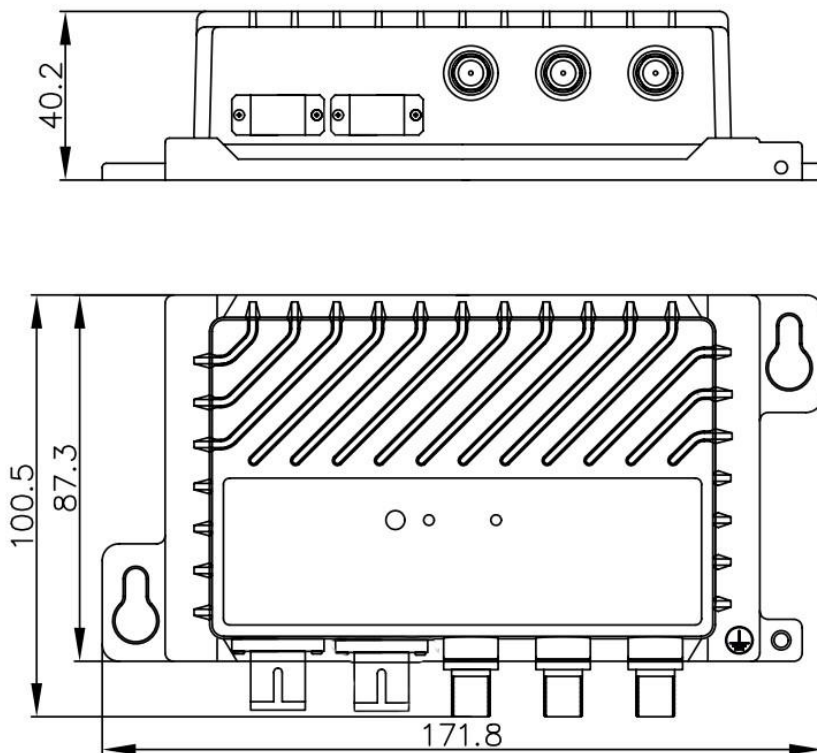
The SANLAND SDU RFoG D02 Optical Network Unit (R-ONU) for Single Dwelling Unit (SDU) applications support cost-effective deployment of full interactive video, voice, and data services over an RFoG network. SDU RFoG D02 enables multiple simultaneous upstream RF channel transmissions, enabling multiple 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
<b>Optical Receiver</b>	
Input Wavelength	1535-1565nm
Input Power Range	+2~-8dBm
<b>RF Performance</b>	
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
<b>Optical Transmitter</b>	
Transmission Wavelength	1610±10nm
Output Power	2.5±0.5mW
<b>RF Performance</b>	
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

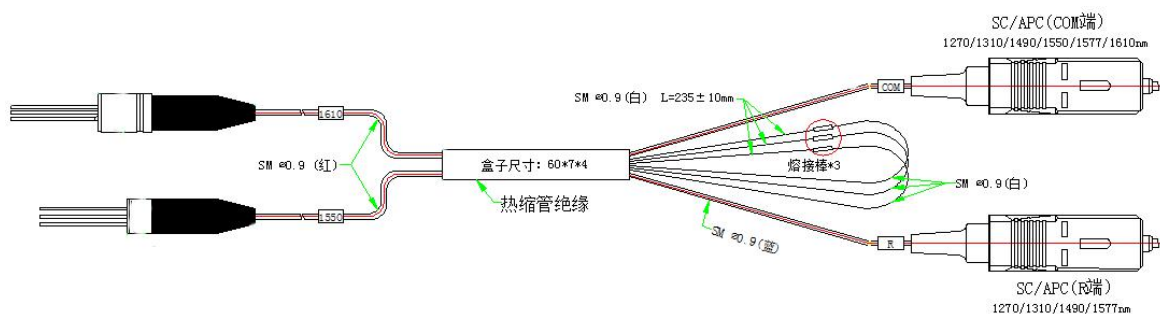
### 7) Optical Characteristics ( WDM )

Parameter		Symbol	Min	Type	Max	Unit	Test Condition
WDM	Pass Channel Wavelength Range	$\lambda$	1535	-	1565	nm	
			1602.5	-	1617.5	nm	
	Reflect Channel Wavelength	$\lambda$	1260	-	1530	nm	
			1570	-	1590	nm	
			1625	-	1650	nm	

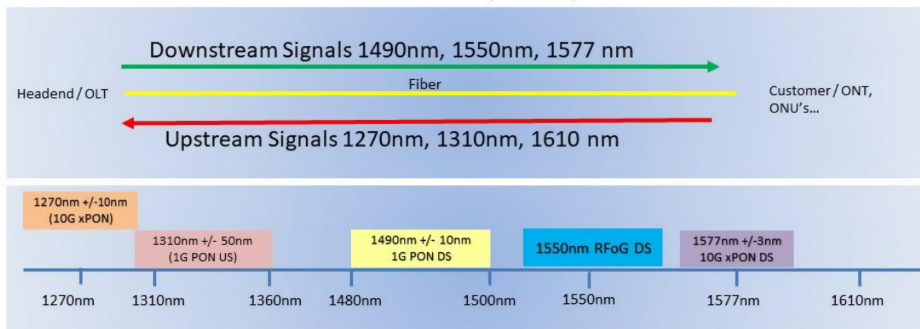
## SDU R-ONU

## SDU-RFoG-D026

	Insert loss	Reflect Channel	IL	-	-	1.5	dB	
		Pass Channel	IL	-	-	1.0	dB	$\lambda=1550\text{nm}\&1610\text{nm}$
	Isolation	Reflect Channel	ISO	30	-	-	dB	$\lambda=1550\text{nm}\&1610\text{nm}$
		Pass Channel	ISO	30	-	-	dB	$\lambda=1310\text{nm} \pm 3\text{nm}$



### WAVELENGTH DETAIL for GPON, xGPON, and RFoG:



### Built-in WDM

