ETL Systems

Excelling in RF Engineering

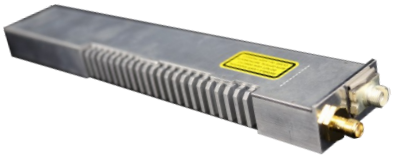
Model Number:
SRY-G1S-TB3-171-xxxx
SRY-G1S-RB3-172-xxxx

StingRay RF Over Fibre Genus Module Broadband modules with 22KHz and 13V/18V switchable LNB power

Typical applications:
- Teleports & Earth Stations
- Satellite Operations
- Government & Defence applications
- Telemetry, Tracking & Command
- High Resilience applications

StingRay Broadband Transmit and Receive RF Over Fibre modules to fit Genus 1U chassis. The transmit module can provide LNB power 13/18VDC, 22kHz tone up to 500 mA. When fitted with a 10 MHz distributing module the TX/RX module can inject an external or internal 10 MHz tone onto the L-band feed.

Fibre Module



Fibre Module Compact form factor allowing multiple modules to be housed in the Genus chassis. Each module occupies 1 slot in the chassis.

TX & RX module options to transmit and receive signals up to 10 km

50 - 3150 MHz operating frequency range

Hot Swap & replaceable RF module

LNB Powering 13/18V on TX modules only

High isolation between modules for signal quality

Chassis Options

Local control & monitoring via HMI high resolution touchscreen

Resilience from dual redundant hot -swap power supplies & field replaceable CPU & HMI

Compact indoor & outdoor chassis options, which can be part populated

Secure protocols with SNMPv3 and HTTPS

Flexible Module Configurations choose from a mixture of fibre modules with different operating frequencies.

Remote control & monitoring via RJ45 Ethernet port with SNMP & web browser interface

Field replaceable Internal 10MHz reference source and external reference inject port with auto detection (optional)

Indoor Chassis

Outdoor Unit

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StingRay TX & RX Module - RF Parameters					
Model Numbers		SRY-G1S-TB3-171		SRY-G1S-RB3-172	
Frequency Range		50-3150 MHz			
Flatness (dB)	850 to 2150 MHz	±1.5 dB, Fixed gain mode, input -10 dBm, output -10 dBm. with 1m fibre link			
	50 to 3150 MHz	±2.0 dB, Fixed gain mode, input -10 dBm, output -10 dBm. with 1m fibre link			
	any 36MHz	±0.25 dB, Fixed gain mode, input -10 dBm, output -10 dBm. with 1m fibre link			
	Output AGC Flatness	±2.0dB over 200-2450MHz with Input -10 to -40 dBm			
		±3.0dB over 50-200MHz with Input -10 to -40 dBm			
		±2.5dB over 2450-3150 with Input -10 to -40 dBm			
Return Loss (dB)	50 ohm SMA	14 dB typ., 10dB min (50 - 200MHz)	18 dB typ., 14 dB min (200 - 3150MHz)	18 dB typ., 14 dB min	
	50 ohm BNC	14 dB typ., 10dB min (50 - 200MHz)	18 dB typ., 14 dB min (200 - 3150MHz)	18 dB typ., 14 dB min	
	75ohm BNC	14 dB typ., 10 dB min (50 - 2450MHz)	8 dB min (2450 - 3150MHz)	16 dB typ., 12 dB min (50 - 2450MHz)	8 dB min (2450 - 3150MHz)
	75 ohm F-type	14 dB typ., 10 dB min (50 - 2450MHz)	8 dB min (2450 - 3150MHz)	16 dB typ., 12 dB min (50 - 2450MHz)	8 dB min (2450 - 3150MHz)
Gain Setting Modes		Manual Gain Control (MGC) Automatic Gain Control (AGC) Fixed Gain (FG)			
Manual Gain Range		60dB in 0.5dB steps			
OIP3	850 –2150MHz	Typical 23 dBm, Worst Case 20 dBm **Test condition:** 1m fibre, 10dB gain, -23 dBm tones, -10dBm RF o/p total power			
	50-3150MHz	Typical 20 dBm, Worst Case 17 dBm **Test condition:** 1m fibre, 10dB gain, -23 dBm tones, -10dBm RF o/p total power			
CNR (in any 36 MHz)		Typical –50 dBm, Worst Case -45 dBm **Test condition:** 1m fibre, -10 dBm RF i/p power, -10 dBm RF o/p total power.			
Noise Figure		Typical 9 dB, Worst Case 12 dB **Test condition:** 1m fibre, -50 dBm RF i/p power, -10 dBm o/p power			
Group Delay Variation		<2ns over full band. <0.5ns over any 36MHz.			
SFDR	850 –2150MHz	107 dB/Hz$^{2/3}$ typ., 102 dB/Hz$^{2/3}$ min **Test condition:** 1m fibre, 10dB gain, -23 dBm tones, -10dBm RF o/p total power			
	50-3150MHz	103 dB/Hz$^{2/3}$ typ., 98 dB/Hz$^{2/3}$ min **Test condition:** 1m fibre, 10dB gain, -23 dBm tones, -10dBm RF o/p total power			
RF Signal Range		**Input:** -70 to -10dBm (total power) Operational i/p range (Note that all Specifications are only 'typical' between -60 & -70dBm unless otherwise detailed).		**Output:** -70dBm to -10dBm (total power) o/p range available under all i/p conditions. (Note that all Specifications are only 'typical' between -60 & -70dBm unless otherwise detailed).	
Max RF input		16dBm total power. Damage level, NOT operational.		-	
10 MHz level at output		-10 to +6 dBm. User settable level via the chassis. Accuracy ±2dB		-10 to +4 dBm. User settable level via the chassis. Accuracy ±2dB	
10MHz isolation		-40 dB. Between adjacent modules in same chassis			
Laser Type		DFB. Optical isolator for improved performance		-	
Optical Wavelength		1310 ± 10 nm		1100 to 1650nm. Optimised for 1310nm and 1550 nm	
Optical Power		**Output:** 4.5 ±2.5 dBm. 3.8 dBm typical		**Input:** 0 to 4.5dBm. Max 10 dBm	
Optical Connectors		FC/APC , SC/APC Single mode fibre. Use angle polish connectors only			
Module Dimensions		19mm x 38mm x 250mm. 0.2kg. Genus 1U series mountable.			
LNB Power		18/13V ±5 %, 500 mA max (Short circuit current 750 mA max.)		-	
Power Consumption		15W Typical. (With 18V 500 mA LNB Power).		4 W Typical	
Module Swap		Hot swap		Hot swap	
MTBF		>200,000 hours.		>200,000 hours.	
Spec Version		1.0		1.1	

LNB Power	
Number of Single modules fitted	Total power available for LNB powering @ 18V
16	115 W
14	120 W
≤ 13	Limited by module specifications

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.
Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.

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