



## 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 2U 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 broadband 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.



**50 - 3150 MHz** operating frequency range



**Hot Swap & replaceable** RF module



**LNB Powering** 13/18V on TX modules only



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

### Chassis Options



**Local control & monitoring** via HMI high resolution touchscreen



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



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



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



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



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



**Secure protocols** with SNMPv3



Indoor Chassis



Outdoor Unit



Preliminary Specification

StingRay TX & RX Module - RF Parameters			
Model Numbers	SRY-G2S-TB3-317	SRY-G2S-RB3-318	
Frequency Range	50-3150 MHz		
Flatness (dB)	850 to 2150 MHz	±1.5 dB, Fixed gain mode, input -10 dBm, output -10 dBm.	
	50 to 3150 MHz	±2.0 dB, Fixed gain mode, input -10 dBm, output -10 dBm.	
	any 36MHz	±0.25 dB Fixed gain mode, input -10 dBm, output -10 dBm.	
	Output AGC Flatness	-	±2.0dB over full band with Input -10 to -40 dBm
Return Loss (dB)	50 ohm SMA	18 dB typ., 14 dB min	18 dB typ., 14 dB min
	50 ohm BNC	18 dB typ., 14 dB min	18 dB typ., 14 dB min
	75ohm BNC	14 dB typ., 10 dB min	16 dB typ., 12 dB min
	75 ohm F-type	14 dB typ., 10 dB min	16 dB typ., 12 dB min
	Any connector type below 200 MHz	14 dB typ., 10 dB min	14 dB typ., 10 dB min
Gain Setting Modes	Manual Gain Control (MGC), Automatic Gain Control (AGC), Fixed Gain (FG)		
Manual Gain Range	60dB in 0.5dB steps (The MGC gain mode allows link optimisation for better Noise or Distortion performance)		
Monitor Port SMA 50 Ohm Connector	-20dBc +/-3dB		
OIP3	Full Band	Typical 20 dBm, Worst Case 17 dBm <b>Test condition:</b> 1m fibre, 10dB gain, -20 dBm I/P Power, -10dBm O/P Power. -22dBm Tones	
	850-2150MHz	Typical 23 dBm, Worst Case 20 dBm <b>Test condition:</b> 1m fibre, 10dB gain, -20 dBm I/P Power, -10dBm O/P Power. -22dBm Tones	
CNR (in any 36 MHz)	Typical -50 dB, Worst Case -45 dB <b>Test condition:</b> 1m fibre, -10 dBm RF i/p power, -10 dBm RF o/p total power.		
Noise Figure	Typical 9 dB, Worst Case 12 dB <b>Test condition:</b> 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	Full Band	103 dB/Hz <sup>2/3</sup> typ., 98 dB/Hz <sup>2/3</sup> min <b>Test condition:</b> 1m fibre, 10dB gain, -22 dBm tones	
	850-2150MHz	107 dB/Hz <sup>2/3</sup> typ., 102 dB/Hz <sup>2/3</sup> min <b>Test condition:</b> 1m fibre, 10dB gain, -22 dBm tones	
RF Signal Range	<b>Input:</b> -70 to -10dBm (total power) Operational i/p range (Note that all Specifications are only 'typical' between -60 & -70dBm unless otherwise detailed).	<b>Output:</b> -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 ±1dB		
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	<b>Output:</b> 4.5 ±2.5 dBm. 3.8 dBm typical	<b>Input:</b> 0 to 4.5dBm. Max 10 dBm	
LNB Power	18/13V ± 5%, 500mA max	-	
Optical Connectors	FC/APC, SC/APC, E2000/APC, Single mode fibre. Use angle polish connectors only		
Power Consumption	15W Typical. With 18V 500 mA LNB Power.	4 W Typical	
Module Swap	Hot swap		
MTBF	>200,000 hours.		
Spec Version	0.3	0.3	
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.