ETL Systems

Excelling in RF Engineering

Model Number:
SRY-G1S-TS6-161
SRY-G1S-RS6-162

StingRay RF Over Fibre Genus Module S-band 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 S-band 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 module can inject an external or internal 10 MHz tone onto the L-band feed.

Local control & monitoring via HMI high resolution touchscreen

Compact housed in a 1U high chassis with capacity for up to 17 modules

Variable voltage 13/18VDC, 22 kHz tone up to 500mA to LNBs

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

Hot Swap & replaceable modules

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

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

Chassis - Specification	
Dimensions / Weight / Colour	1U high x 550mm deep x 19" wide / <10 kg / RAL9003—White (Semi-matte)
Capacity	Total of 17 module slots. Note that 1 slot may be used for fan (if required) and 1 slot may be used for 10 MHz EXT inject module (if required). Note actual modules may require >1 slot. Refer to required module spec table.
Temperature	Operating: 0˚C to +45˚C / Storage: -20˚C to +75˚C
Location / Humidity / Altitude	Indoor use only / 20 to 90% non-condensing / 10,000 feet AMSL (Operational) 30,000 feet AMSL (Storage) *Above Mean Sea Level*
Control & Monitoring	Local: HMI touch screen Remote: Ethernet via RJ45, 10BaseT/100 BaseTx. TCP/IP, SNMP V3 & HTTPS & Web browser interface HMI and CPU field replaceable. Each module independently monitored and reported.
MTTR	20 minutes (15 minutes to retrieve spare part and 5 mins to replace) Applies to LRUs only and assumed in house stock
AC Input / Consumption	85-264Vac 50/60Hz / 150W
PSU Redundancy	Dual redundant and alarmed Diode OR. Hot swappable
Input & Output ports	Dependant upon module fitted

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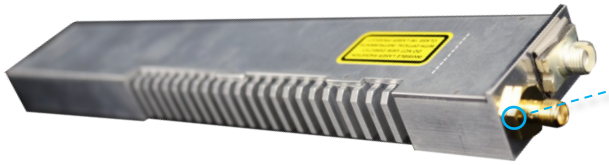

StingRay Module

Compact form factor allowing multiple modules to be housed in 1U chassis. Each module uses 1 slot in the chassis.

StingRay TX & RX Module - RF Parameters			
Model Numbers		SRY-G1S-TS6-161	SRY-G1S-RS6-162
Frequency Range		500-3150 MHz	
Flatness (dB)	850 to 2150 MHz	±1.5 dB, Fixed gain mode, input -10 dBm, output -10 dBm.	
	500 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.	
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
Gain Setting Modes		Manual Gain Control (MGC) Automatic Gain Control (AGC) Fixed Gain (FG)	
Manual Gain Range		60dB in 0.5dB steps	
OIP3		Typical 20 dBm, Worst Case 17 dBm **Test condition:** 1m fibre, 10dB gain, -22 dBm tones at 2150 and 2152 MHz	
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 dBm, Worst Case 12 dBm **Test condition:** 1m fibre, -50 dBm RF i/p power, -10 dBm o/p power	
Group Delay Variation		2ns over full band. 1ns over any 36MHz.	
SFDR		107 dB/Hz$^{2/3}$ typ., 102 dB/Hz$^{2/3}$ min **Test condition:** 1m fibre, 10dB gain, -22 dBm tones at 2150 and 2152 MHz	
IMD3		-64 dBc typ., -58 dBc min. **Test condition:** 1m fibre, 10dB gain, -22 dBm tones at 2150 and 2152 MHz	
RF Signal Range		**Input:** -60 to -10dBm (total power) Operational i/p range	**Output:** -30dBm to -10dBm (total power) o/p range available under all i/p conditions
Max RF input		16dBm total power. Damage level, NOT operational.	-
10 MHz level at output		-10 to +10 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		**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.	
Power Consumption		15W Typical. With 18V 500 mA LNB Power.	4 W Typical
Module Swap		Hot swap	
MTBF		>200,000 hours.	
Spec Version		1.1	1.1

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.
Note 3: All specs are for 50 Ohm connectors unless detailed otherwise.

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