ETL Systems
New technologies
in RF distribution

Model Number:
SRY-G2S-TS2-327-xxxxxx
SRY-G2S-RS2-328-xxxxxx

StingRay RF Over Fibre Genus Module L-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 L-band Transmit and Receive RF Over Fibre modules to fit Genus 2U chassis or ODU. 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.

850 - 2450 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

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

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

ETL SYSTEMS LIMITED
Coldwell Radio Station
Madley
Hereford
England HR2 9NE

TELEPHONE
+44 (0)1981 259020

EMAIL
info@etlsystems.com

FACSIMILE
+44 (0)1981 259021

WEB
www.etlsystems.com

V 1.0 E&OE

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StingRay TX & RX Module - RF Parameters			
Model Numbers		SRY-G2S-TS2-327	SRY-G2S-RS2-328
Module Width		1 chassis slot	1 chassis slot
Frequency Range		850-2450 MHz	
Flatness (dB)	850 to 2150 MHz	±1.5 dB, Fixed gain mode	
	2150 to 2450 MHz	±2.0 dB, Fixed gain mode	
	any 36MHz	±0.25 dB, Fixed gain mode	
	Output AGC Flatness	-	±2.0 dB over full band with Input -10 to -40 dBm
Return Loss (dB)	50 ohm SMA	18 dB typ., 14 dB min	
	50 ohm BNC	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		60 dB in 0.5 dB steps (The MGC gain mode allows link optimisation for better Noise or Distortion performance)	
Monitor Port (SMA 50 Ohm Connector)		-20 dBc +/-3 dB	
OIP3	850-2150 MHz	Typical 23 dBm, Worst Case 20 dBm **Test condition:** 1m fibre, 10dB gain, -20 dBm I/P Power, -10dBm O/P Power. –22dBm Tones	
	2150-2450 MHz	Typical 20 dBm, Worst Case 17 dBm **Test condition:** 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 **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 36 MHz.	
SFDR	850-2150 MHz	107 dB/Hz$^{2/3}$ typ., 102 dB/Hz$^{2/3}$ min **Test condition:** 1m fibre, 10 dB gain, -22 dBm tones	
	2150-2450 MHz	103 dB/Hz$^{2/3}$ typ., 98 dB/Hz$^{2/3}$ min **Test condition:** 1m fibre, 10 dB gain, -22 dBm tones	
RF Signal Range		**Input:** -70 to -10 dBm (total power) Operational i/p range (Note that all Specifications are only 'typical' between -60 & -70 dBm unless otherwise detailed).	**Output:** -70 dBm to -10 dBm (total power) o/p range available under all i/p conditions. (Note that all Specifications are only 'typical' between -60 & -70 dBm unless otherwise detailed).
Max RF input		16 dBm total power. Damage level, NOT operational.	-
10 MHz level at output		-10 to +10 dBm. User settable level via the chassis. Accuracy ±2 dB	-10 to +10 dBm. User settable level via the chassis. Accuracy ±2dB
10MHz isolation		-40 dB. Between adjacent modules in same chassis	-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 4.5 dBm. Max 10 dBm
LNB Power		18/13V ± 5%, 500mA max	-
Optical Connectors		FC/APC , SC/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.	

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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Madley
Hereford
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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	
Spec Version	1.0	1.0

Connector Options	
Connector Type	SRY-G2S-TS2-327-xxxxxx & SRY-G2S-RS2-328-xxxxxx
SMA 50 Ohm & SC/APC	SRY-G2S-TS2-327-S5SAS5 & SRY-G2S-RS2-328-S5SAS5
BNC 50 Ohm & SC/APC	SRY-G2S-TS2-327-B5SAS5 & SRY-G2S-RS2-328-B5SAS5
BNC 75 Ohm & SC/APC	SRY-G2S-TS2-327-B7SAS5 & SRY-G2S-RS2-328-B7SAS5
F-Type 75 Ohm & SC/APC	SRY-G2S-TS2-327-F7SAS5 & SRY-G2S-RS2-328-F7SAS5
SMA 50 Ohm & FC/APC	SRY-G2S-TS2-327-S5FAS5 & SRY-G2S-RS2-328-S5FAS5
BNC 50 Ohm & FC/APC	SRY-G2S-TS2-327-B5FAS5 & SRY-G2S-RS2-328-B5FAS5
BNC 75 Ohm & FC/APC	SRY-G2S-TS2-327-B7FAS5 & SRY-G2S-RS2-328-B7FAS5
F-Type 75 Ohm & FC/APC	SRY-G2S-TS2-327-F7FAS5 & SRY-G2S-RS2-328-F7FAS5

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RoHS COMPLIANT
Pb-Free
ISO 9001 QUALITY MANAGEMENT
UKAS MANAGEMENT SYSTEMS 015