ETL Systems

Excelling in RF Engineering

Model number: SRY-TX-B2-111
SRY-RX-B2-112

StingRay RF Over Fibre

100 series Broadband modules with fixed gain & high linearity

The StingRay 100 Series broadband RF over fibre chassis are designed to give compact fibre links of up to 10 km (Link budget 4 dB). The transmit modules benefit from a high and wide dynamic range. Resilience is provided by a full hot-swap, modular design.

Other options in the StingRay series: The StingRay range is also available with additional features such as RF monitoring ports, high linearity, switchable 13/18V & 22KHz tone LNB powering, redundancy systems and 10 MHz injection.

Typical applications:

- Ku-band and Ka-band ready for HTS applications
- Distribution of comms traffic across site with minimal loss
- General satcoms– teleports, video head-ends, TVRO
- Compact solution for small quantity links such as tactical HQ
- A resilient solution for satellite teleports with transition distances up to 10km

Fibre Modules

50-2450 MHz operating frequency range

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

Fixed Gain 0 dB, 0 dBm link

High isolation between modules for signal quality

High Linearity with high 1 dB Gain Compression

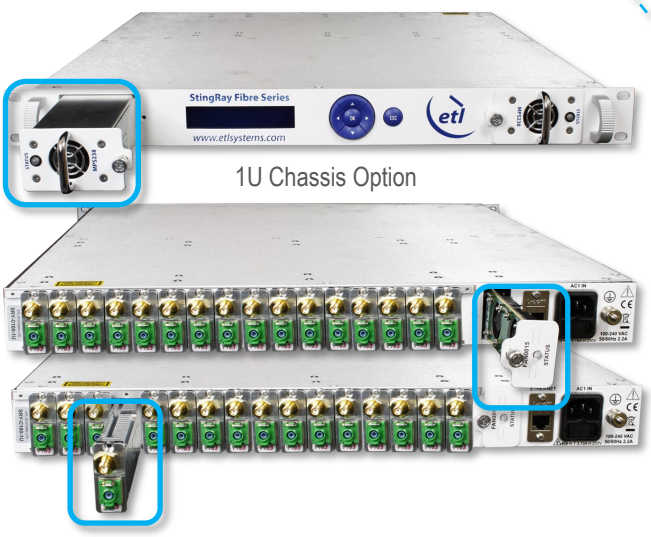
Chassis Options

Compact chassis options, which can be part populated

Resilience from dual redundant hot-swap power supplies, hot-swap fibre modules & fans

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

Local control & monitoring via front panel push buttons & display



1U Chassis Option

Hot-swap Power Supply (available on some chassis options), Fan & Fibre Module

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RF Parameters (TX & RX Fibre Modules)			
Model Number		SRY-TX-B2-111 (Transmit / TX)	SRY-RX-B2-112 (Receive / RX)
Frequency Range		50-2450 MHz (Broadband)	
Output MGC		-	-
Flatness (Fixed gain mode)	850-2150MHz	±1.0 dB	
	850-2450 MHz	±1.5 dB	
	200-850 MHz	±2.0 dB	
	50-200 MHz	±2.0 dB	
	Any 36 MHz i/p >-50 dBm	±0.25 dB	
	Any 36 MHz i/p <-50 dBm	±0.5 dB	
Return Loss	Typical	50Ω SMA 18 dB; 50Ω BNC 18 dB; 75Ω BNC 16 dB; 75 Ω F-Type 16 dB	50Ω SMA 18 dB; 50Ω BNC 18 dB; 75Ω BNC 16 dB; 75 Ω F-Type 16 dB
	Minimum	50Ω SMA 12 dB; 50Ω BNC 12 dB; 75Ω BNC 12 dB; 75 Ω F-Type 12 dB	50Ω SMA 14 dB; 50Ω BNC 14 dB; 75Ω BNC 13 dB; 75 Ω F-Type 13 dB
Link Gain		+4 to 0 dB	
1dB Gain Compression		+6 dBm	
OIP3	Typical	17 dBm (**Test conditions:** 1m fibre, 10 dB gain, -22 dBm tones at 2150 and 2152 MHz)	24 dBm (**Test conditions:** 1m fibre, 0 dBm RF i/p power, 0 dBm o/p power, -3 dBm tones at 2150 and 2152 MHz)
	Worst Case	14 dBm (**Test conditions:** 1m fibre, 10 dB gain, -22 dBm tones at 2150 and 2152 MHz)	22 dBm (**Test conditions:** 1m fibre, 0 dBm RF i/p power, 0 dBm o/p power, -3 dBm tones at 2150 and 2152 MHz)
CNR	Typical	-51 dB (**Test conditions:** 1m fibre, 0 dB RF i/p power, 0 dBm o/p power)	
	Worst Case	-45 dB (**Test conditions:** 1m fibre, 0 dB RF i/p power, 0 dBm o/p power)	
Group Delay Variation	Full Band	±2ns (**Test conditions:** 1m fibre, 0 dBm RF i/p power, 0 dBm RF o/p total power)	
	Any 36 MHz	±1ns (**Test conditions:** 1m fibre, 0 dBm RF i/p power, 0 dBm RF o/p total power)	
SFDR	Typical	113 dB/Hz$^{2/3}$ (**Test conditions:** 1m fibre, 0 dB gain, -22 dBm tones at 2150 and 2152 MHz)	
	Minimum	108 dB/Hz$^{2/3}$ (**Test conditions:** 1m fibre, 0 dB gain, -22 dBm tones at 2150 and 2152 MHz)	
RF Signal Range		Input: <0 dBm (total power) Operational I/P range	Output: 0 dBm maximum
Max RF Input		16 dBm total power (Damage level, NOT operational)	-
AGC/MSG		AGC factory set. Once AGC level set gain can be fixed.	MSG: Settable gain
Noise Figure	Typical	18 dB typical, (**Test conditions:** 1 m fibre, 0 dBm RF i/p power, 0 dBm o/p power)	24 dB typical, (**Test conditions:** 1 m fibre, 0 dBm RF i/p power, 0 dBm o/p power)
	Worst case	21 dB worst case (**Test conditions:** As above)	26 dB worst case (**Test conditions:** As above)
Noise Floor		-156 dBm/Hz typical (**Test conditions:** 1 m fibre, 0 dBm RF i/p power, 0dBm o/p power)	-
Laser Type		DFB (Optical isolator for improved performance)	-
Optical Wavelength		1310 ± 10 nm	1120 to 1650 nm / Optimised for 1310 nm and 1550 nm
Optical Power		Output: +6 ± 2.5 dBm	Input: 0-4.5 dBm, Max 10 dBm
Power Consumption		3.5W	2W
LNB Power		-	
MTBF		211,600 hours	292,550 hours
RF Connectors		BNC 50 Ω - B5 / SMA 50 Ω - S5 (contact ETL for 75 Ω connectors)	
Optical Connectors		FA - FC/APC or SA - SC/APC	
Module Swap		Hot swap	

Please see separate datasheet for 100 series chassis options.

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RoHS COMPLIANT

Pb-Free

ISO 9001 QUALITY MANAGEMENT

UKAS MANAGEMENT SYSTEMS 015

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