



## StingRay RF Over Fibre

### 100 series L-band modules with 18V LNB powering (on TX module)

The StingRay 100 Series L-band 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 with automatic link optimisation ensuring high quality L-band signals. 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



**850-2450 MHz** operating frequency range



**High isolation** between modules for signal quality



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



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

#### 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





RF Parameters (TX & RX Modules)				
Model Number		SRY-TX-L1-103 (transmit)		SRY-RX-L1-104 (receive)
Frequency Range		850-2450 MHz (Extended L-band)		
Flatness (Fixed gain mode)	850-2150MHz	±1.0 dB		
	850-2450 MHz	±1.5 dB		
	Any 36MHz i/p >-50dBm	±0.25 dB		
	Any 36MHz i/p <-50dBm	±0.5 dB		
Return Loss	Typical	18 dB 50Ω SMA	18 dB 50Ω BNC	16 dB 75Ω BNC 16 dB 75Ω F-type
	Minimum	12 dB 50Ω SMA	12 dB 50Ω BNC	12 dB 75Ω BNC 12 dB 75Ω F-type
Output AGC Flatness		- ±1.5 dB over full band (Input -10 to -40 dBm)		
OIP3		18 dBm typical, 14 dBm minimum (Test conditions: 1m fibre, 10 dB gain, -22 dBm tones at 2150 and 2152 MHz)		
CNR (in any 36 MHz)		-38 dB typical, -35 dB minimum (Test conditions: 1m fibre, -10 dBm RF i/p power, -10 dBm RF o/p total power)		
Group Delay Variation	±2ns over full band			
	±1ns any 36MHz			
SFDR		105 dB/Hz <sup>2/3</sup> typ., 100 dB/Hz <sup>2/3</sup> min (Test condition: 1m fibre, 10 dB gain, -22 dBm tones at 2150 and 2152 MHz)		
IMD3		-65 dBc typ., -60 dBc min.(Test condition: 1m fibre, 10 dB gain, -22 dBm tones at 2150 and 2152 MHz)		
RF Signal Range		Input: -60 to -10 dBm (total power) Operational I/P range		Output: -30 to -10 dBm (total power)
Max RF Input		16 dBm total power (Damage level, NOT operational)		-
Gain Control		-		AGC -30 dBm to -10 dBm output levels
AGC / MSG		Factory set. Once AGC level set gain can be fixed.		Settable output power level. Once AGC level set gain can be fixed.
Noise Figure		10 dB typical, 12dB maximum (Test conditions: 1m fibre, -50 dBm RF i/p power, -10dBm o/p power)		
Laser Type		DFB (Optical isolator for improved performance)		-
Optical Wavelength		1310 ± 10 nm	1100 to 1650 nm	Optimised for 1310 nm and 1550 nm
Optical Power		Output: 4.5 ± 2.5 dBm		Input: 0-4.5 dBm, Max 10 dBm
Power Consumption		3.5W		2W
LNB Power		18V Dependant on chassis - see chassis specifications		None
MTBF		211,600 hours		292,550 hours
RF Connectors		BNC 50 Ω - B5 / BNC 75 Ω - B7 / F-type 75 Ω - F7 / SMA 50 Ω		
Optical Connectors		S5/ FA - FC/APC or SA - SC/APC		
Environmental Conditions				
Operating Temperature		0 to 50°C		
Storage Temperature		-20°C to +75°C		
Location		Indoor use only		
Humidity		20 to 90% non-condensing (relative humidity)		
Altitude		10,000 ft AMSL (above mean sea level)		
Mass		0.18kg		
Size		43.5 x 18 x 209.5 mm		

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.

Please see separate datasheet for 100 series chassis options.



**Esatcom Inc**  
[www.esatcom.com](http://www.esatcom.com)  
 Tel: 718.276.0800  
 Email: [sales@esatcom.com](mailto:sales@esatcom.com)

