



## Features

- 50 to 3000 MHz optimized for IF, L and S band satellite signals
- 30dB adjustable gain range provides perfect level match for signal distribution
- Unique peak optimizer and SmartGain™ control
- 50 & 75 Ohm BNC or 50 Ohm SMA
- Tx & Rx RF power monitors via LED, SMA & remote
- LNB power
- SNMP monitoring and control
- High-dynamic-range, optically-isolated DFB lasers run cooler and require less power
- Fits in Optiva® enclosures, which support Daisy Chain™ video, audio and data links.
- Hot swap redundant power supplies virtually eliminate downtime
- 16, 4, 2, & 1 slot enclosures available
- CE & CSA Certified Device

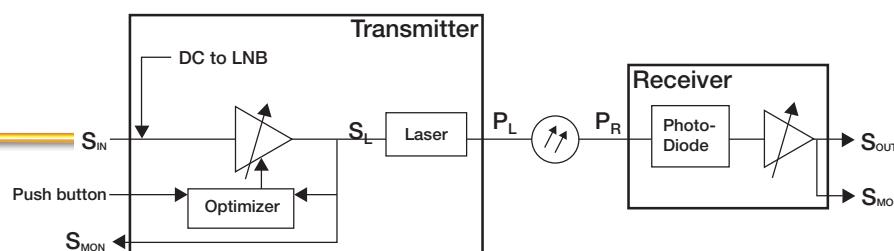
## 50MHz to 3000MHz Wideband Optical Link

Optiva® Wideband fiber-optic links are optimized to perform in the 50 to 3000 MHz frequency range providing transparent signal transportation for satellite antenna applications. The unique features of the OTS-1LT series include simple push button peaking for optimum performance and our patent-pending SmartGain™ Control, which ensures consistent performance over varied signal conditions. As with all Emcore optical products, the highest quality components and modern production techniques insure that intra-facility links provide the highest performance as a cost-effective alternative to coaxial cable. They provide much longer transmission distances than copper cables, simplify network design, ease installation and even enhance immunity from EMI, RFI and lightning. These transmitters and receivers take the high RF performance and diverse features of Emcore's Ortel technology and combine them into a compact package compatible with the Optiva® OT-CC-16 chassis.



## System Design

Optiva® is a completely modular hot-swappable platform. Both 19" rack mount and compact tabletop or wall-mountable enclosures are available. The 19" rack-mount enclosure (Model OT-CC-16) can support up to 16 insert cards and provides a single power supply (Model PS-200), or a dual-redundant, hot-swappable power supply option. Compact enclosures are available with 1, 2 or 4 slots. The one slot (OT-DTCR-1) and two slot (OT-DTCR-2) enclosures both use an external power supply (PS-9012) and optionally have a standard 2-pin DC power connector for more custom applications. The four-slot 1 RU enclosure (OT-CC-4) uses an integrated power supply. The Optiva® family's existing wide range of video, audio and data transport products include a unique Daisy-Chain™ feature that multiplexes multiple electrical inputs onto a single fiber, thus resulting in an extremely capable, yet conveniently flexible, signal transport system.



## DATASHEET

## SATCOM

## Performance Highlights

Parameter		Min	Typical	Max	Units
Link	Frequency Range				
	50 Ohm	50	-	3000	MHz
	75 Ohm	50	-	2500	MHz
	Fiber Distance	0	-	20	Km
TXz	Optical Loss	0	-	8	dBo
	Air Temperature	-10	-	50	°C
	RF Input within SGC range <sup>1</sup>	-	0 to -35	-	dBm
	TX Gain (TG) at max, 1 GHz <sup>2</sup>	0	8	-	dB (W/A)
RX	TG Adjustment Range (reduction from max)	30	-	-	dB
	Noise Figure (TG at max, 2150 MHz, 1dBo loss)	19	13	-	dB
	Spur Free Dynamic Range (1dBo loss)	100	103-108	-	dB/Hz <sup>3</sup>
	LNB Voltage	16	17	19	V
	Current	-	-	350	mA
	Optical Power	3	4	5	dBm
	DC Power	-	12	-	V
LNB Off	-	-	350	-	mA
	RF Output (Tx at peak, 1 dBm into Rx)	-	-8 to -25	-	dBm
RX	RX Gain (RG), at max, 1 GHz <sup>2</sup>	20	22	-	dB (A/W)
	RG Adjustment Range (reduction from max)	15	-	-	dB
	Output IP3 (2150 MHz)	20	25	-	dBm
	Output 1dB compression (2150 MHz)	-	15	-	dBm
	Optical Input	-12	-	10	dBm
	Optimal	-6	-	10	dBm
	DC Power	-	12	-	V
LNB Off	-	-	250	-	mA

1. Wider RF inputs are acceptable, but will set the RF amp gain to its limit.

2. Link RF Gain<sub>dB</sub> = TG + RG - 2\*FiberLoss<sub>dBo</sub> (assumes Rin = Rout)

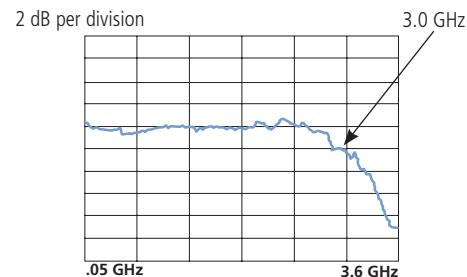
3. dBm &amp; dBo indicate optical power &amp; loss to minimize confusion with RF dBm &amp; dB

## Ordering Information

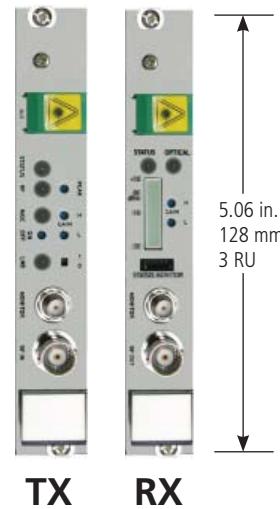
Product Code	Specifications
OTS-1LT/B5-1303-SA-IC	Transmitter, 50-3000 MHz, BNC 50 ohm, 1310 nm, 3dBm (min), SC/APC
OTS-1LT/B7-1303-SA-IC	Transmitter, 50-2500 MHz, BNC 75 ohm, 1310 nm, 3dBm (min), SC/APC
OTS-1LT/S5-1303-SA-IC	Transmitter, 50-3000 MHz, SMA 50 ohm, 1310 nm, 3dBm (min), SC/APC
OTS-1LR/B5-SA-IC	Receiver, 50-3000 MHz, BNC 50 ohm, SC/APC
OTS-1LR/B7-SA-IC	Receiver, 50-2500 MHz, BNC 75 ohm, SC/APC
OTS-1LR/S5-SA-IC	Receiver, 50-3000 MHz, SMA 50 ohm, SC/APC
OPV-CTLR-IC	NMS SNMP Controller Card & MIB for Optiva Family
OTP-1ETR-A2/A2	Optical Tcvr, 1Ch, Ethernet, SM, Dual LC
OT-CC-16-01	Chassis, Rack Mount, 16 Slot, 3RU, Rear Access
PS-200-(xx)	Power Supply, 12 Vdc, 100 to 240 Vac, 50/60 Hz, (Specify power cord (NA, EU, UK))
OT-CC-4-1U-(xx)	Chassis w/ built-in Power Supply, 1 RU, 4 slots, 110- 240 AC input, Power Cord
OT-DTCR-1 / OT-DTCR-2	Chassis, flange-mount, w/ Power Supply, 1 slot / 2 slot

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## Typical S21



## OTS-1L (TX &amp; RX)



## Enclosure Options



OT-CC-16



OT-CC-4



OT-DTCR-2



OT-DTCR-1

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