

microwave photonic systems

OFW-7500-IFL

MIL TACTICAL SATCOM - L-Band Fiber Optic IFL Subsystem



Tactical Solution: Portable & Harsh Environment Ready

The OFW 7500 / IFL; L-Band Fiber Optic Transceiver Subsystem provides “Best of Breed” optical long-haul transmission of RF signals in the frequency range of 950 MHz to 2250 MHz. The Subsystem can support the transmission of High Density L Band SATCOM traffic over distances of up to 50 km using Mil Tactical Harsh Environment singlemode interconnections.

The OFW 7500 / IFL utilizes an optical conversion process that is adaptable and transparent to the User’s data modulation rate and format. That is, the OFW-7500/IFL is specifically optimized to be integrated with all modern Software Defined Radio (SDR) waveforms. The Subsystem offers many performance advantages including an Ultra-High Spur Free Dynamic Range, 10 MHz Frequency Reference Transport, Embedded Fault & Alarm Status Monitoring over Ethernet, and Harsh Environmental Temperature Range.

In addition, the OFW 7500 / IFL supports a list optional features that enhance SATCOM terminal operation: Uplink / 10 MHz RF Frequency Diplexed Transport, Downlink LNB powering, RF Link Gain Control, Optical Dynamic Range > 10 dBo, and Extended RF Frequency Range up to 7 GHz.

The OFW 7500 / IFL can be packaged in various styles of form factors including: 1RU x 19” rack chassis, 4RU x 19” high-density plug-in card chassis, Harsh Environment / Outdoor Enclosures, and compact flange mount modules.

Information: Call us toll-free at 888-868-8967 or email info@b2bphotonics.com

Applications

- WGS 84 MIL SATCOM / L Band
- Wideband RF Transmission
- VSAT Antenna Remoting
- L / S / C Band Telemetry Remoting
- MIL Tactical SATCOM Uplink / Downlink

Features

- Bandwith, 950 to 2250 MHz, (3000 MHz)
- BUC 10 MHz Frequency Reference
- Optical Automatic Gain Control (Opt)
- Enhanced Low Noise RF Front-end (Opt)
- Adjustable RF Link Gain (Opt)
- LNB Powering (Opt)
- 80 km Extended Range (Opt)

Microwave Photonic Systems, Inc.

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Specifications

RF Uplink Specifications:

Frequency Response	950 MHz to 2250.0 MHz
RF Link Gain (typ)	+0.0 dB, ± 2 dB @ 3.0 dBo Optical Loss(1)
Flatness (max)	± 1.0 dB, 1 to 2 GHz, ± 2.5 dB full bandwidth
VSWR (max)	2.0:1
Noise Figure (max)	25 dB @ 3.0 dBo Optical Loss(1)
1 dB Comp. Level (min)	0.0 dBm(1)
Input IP3 (min)	+15.0 dBm(1)
Spur Free Dynamic Range	+110.0 dBm * Hz(2/ 3)(1)

RF Downlink Specifications:

Frequency Response	950 MHz to 2250.0 MHz
RF Link Gain (typ)	+0.0 dB, ± 2 dB @ 3.0 dBo Optical Loss(1)
Flatness (max)	± 1.0 dB, 1 to 2 GHz, ± 2.5 dB full bandwidth
VSWR (max)	2.0:1
Noise Figure (max)	25 dB @ 3.0 dBo Optical Loss(1)
1 dB Comp. Level (min)	0.0 dBm(1)
Input IP3 (min)	+15.0 dBm(1)
Spur Free Dynamic Range	+110.0 dBm * Hz(2/ 3)(1)

10 MHz Reference Specifications

Frequency Response	10 MHz
RF Link Gain (typ)	+0.0 dB, ± 2 dB @ 3.0 dBo Optical Loss(1)
Noise Figure	30 dB
VSWR (max)	2.0:1
1 dB Comp. Level (min)	+0.0 dBm(1)

Optical Specifications:

Operating Wavelength	1310 nm ± 2 nm, 1550 nm ± 2 nm or CWDM Bands
Output Power (typ)	+3 dBm (output powers available up to +13 dBm)
Allowed Backreflection (max)	45 dB @ full specs
E/O Diff. Eff. (min)	0.12 W/A

General Specifications:

Power Supply, AC Autoranging	85 VAC -264 VAC, 47 Hz to 440 Hz, Single Phase
AC Receptacle	Mil-Circular (customer specified)
Optical Input / Output Port	TFOCA (or as specified)
RF Input / Output Port	N(F) or SMA(F), 50 ohm
Temperature Storage / Operating	-40°C to +85°C / -40°C to +75°C
Local Alarms / Remote Alarms	Panel LEDs / Fault Relay, RS 232, 485 or Ethernet
Packaging Options	Portable: Pelican Case, Environmental Flange Mount Fixed Site: 1RU, 4RU, Outdoor NEMA

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