

OFW-7300-IFL

# MIL SATCOM RF PHOTONIC L-Band Interfacility Link Transceiver Subsystem



## OFW-7300/IFL Utilizes a Leading Edge Optical Conversion Process

The OFW 7300 / 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 7300 / IFL utilizes a leading edge optical conversion process that is transparent to the User’s data modulation rate and format. 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 7300 / 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 > 6 dBo, and Extended RF Frequency Range up to 3000 MHz.

The OFW 7300 / 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](mailto:info@b2bphotonics.com)

### Applications

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

### Features

- Bandwidth, 950 to 2250 MHz, (3000 MHz)
- RF Freq Refer: 1 MHz, 5MHz to 10 MHz
- Ultra-High Spur Free High Dynamic Range
- Enhanced Low Noise RF Front-end (Opt)
- RF Link Gain Control (Opt)
- LNB Powering (Opt)
- 80 km Extended Range (Opt)

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## Specifications

|                                    |   |
|------------------------------------|---|
| <b>RF Uplink Specifications:</b>   | 950 MHz to 2250.0 MHz                                 |
| RF Link Gain (typ)                 | +0.0 dB, $\pm 2$ dB @ 3.0 dBo Optical Loss(1)         |
| Flatness (max)                     | $\pm 1.5$ dB, 1 to 2 GHz, $\pm 2.5$ dB full bandwidth |
| VSWR (max)                         | 1.5:1   |
| Noise Figure (max)                 | 30 dB @ 3.0 dBo Optical Loss(1)                       |
| 1 dB Comp. Level (min)             | +5.0 dBm(1)   |
| Input IP3 (min)                    | +22.0 dBm(1)  |
| Second Harmonic (min)              | 70 dBc @ 2 GHz w/ -25 dBm Input @ 1 GHz               |
| Spur Free Dynamic Range            | +110.0 dBm * Hz(2/ 3)(1)                              |
| <b>RF Downlink Specifications:</b> | 950 MHz to 2250.0 MHz                                 |
| RF Link Gain (typ)                 | +0.0 dB, $\pm 2$ dB @ 3.0 dBo Optical Loss(1)         |
| Flatness (max)                     | $\pm 1.5$ dB, full bandwidth                          |
| VSWR (max)                         | 1.5:1   |
| Noise Figure (max)                 | 20 dB @ 3.0 dBo Optical Loss(1)                       |
| 1 dB Comp. Level (min)             | +0.0 dBm(1)   |
| Input IP3 (min)                    | +12.0 dBm(1)  |
| Input IP2 (min)                    | +25.0 dBm(1)  |
| Spur Free Dynamic Range            | +110.0 dBm * Hz(2/ 3)(1)                              |
| <b>RF Frequency Response:</b>      |   |
| RF Link Gain (typ)                 | +0.0 dB, $\pm 2$ dB @ 3.0 dBo Optical Loss(1)         |
| 1 dB Comp. Level (min)             | +0.0 dBm(1)   |
| VSWR (max)                         | 1.5:1   |
| Noise Figure (max)                 | 20 dB @ 3.0 dBo Optical Loss(1)                       |
| Phase Noise                        | -145.0 dBc / Hz(1)                                    |
| <b>Optical Specifications:</b>     |   |
| Operating Wavelength               | 1310 nm $\pm 2$ nm, 1550 nm $\pm 2$ 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  |
| <b>General Specifications:</b>     |   |
| Power Supply, AC Autoranging       | 85 VAC -264 VAC, 47 Hz to 440 Hz, Single Phase        |
| AC Receptacle                      | IEC 320   |
| Optical Input / Output Port        | FC/APC, SC/APC, AVIM APC or User Specified            |
| RF Input / Output Port             | SMA(f), 50 ohm or F(f), 75 ohm                        |
| Temperature Storage / Operating    | -40°C to +85°C / -20°C to +65°C                       |
| Local Alarms / Remote Alarms       | Panel LEDs / Fault Relay, RS 232, 485 or Ethernet     |

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