



G I G A B E A M

● Gi-Flex -F Point-to-Point Link

6 to 40 GHz Wireless System



Technology Summary

The Gi-FLEX -F is a split architecture high capacity microwave PTP solution for mobile and private network backhaul applications comprised of a software defined Indoor unit (IDU) with supply and an outdoor unit (ODU). The IDU design includes a modem/IF, Switch/Framing, I/O framing, a network processor and power supply. The ODU operates at frequencies between 6 and 40 GHz with up to 248 Mb/s* data throughput and a 50 MHz channel bandwidth. The details below document our standard offering available in the Middle East.

Features

- Data throughput up to 248 Mb/s in 50 MHz channel bandwidth
- Wideband Modem/IF/Telemetry module
 - Forward-error-correction encoding/decoding
 - PSK/QAM modulation and demodulation
 - Carrier Recovery
 - Timing Recovery
 - Equalization
 - 10 MHz to 50 MHz bandwidths
- IF chain:
 - Transmit: 350 MHz carrier
 - Receive: 140 MHz carrier
- Telemetry
 - Multiplexer function built-in
- Switch/Framing
 - Ethernet Switch
- I/O Processing
 - Gigabit Ethernet Master I/O capability
 - 2 x E1/T1
 - 4 x 10/100/1000 Base -TX
 - SFP Slot (1000 Base-TX)
 - Voice Orderwire
 - Data Orderwire
 - Additional I/O capabilities
 - Additional 16 x E1/T1
- Power Supply
 - Accepts -48 Vdc
- Provides power to both SDIDU and ODU



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Technical Specifications

IDU:



- Power Supply:
 - Requires isolated input of $-48 \text{ Vdc} \pm 10\%$ (recommended power input is -40 to -60 Vdc at 2 amps)
 - Pin 1 is connected to unit chassis ground internally
 - Screw clamp terminals –accommodate 24 AWG–12 AWG wire
- Controller Module:
 - NMS
 - 10/100Base-TX RJ-45 modular local port connections
 - Port 1: Access to SNMP and GUI
 - Port 2: Access to SNMP; used for consecutive point networks
 - Alarms/Serial
 - DB-15HD female connector
 - 2 Form-C reley alarm outputs: rated load: $1\text{A}@24\text{Vdc}$; can be configured to emulate TTL alarm outputs
 - 2 TTL alarm outputs; 2 TTL alarm inputs
 - USB – future use
 - Ground Lug – ground connection for IDU
- Gigabit Ethernet Master I/O Module
 - User Payload Data: Ethernet
 - 4 x 10/100/1000Base –TX RJ-45 modular local port connectors
 - SFP Slot (1000Base-TX, 1000BASE-SX, 1000Base-LX)
 - Voice Orderwire
 - RJ-45 modular port connector
 - Provides a PtP connection via a PTT handset and buzzer
 - Call button
 - Initiates a Voice Orderwire ring; only IDU link partner received ring (PtP mode);all IDUs in consecutive point network received ring
 - Data Orderwire
 - RJ-45 modular port connector
 - RS-422 up to 64 kbps
 - RS-232 up to 19.2 kbps
 - T1/E1 Channels
 - 2 T1/E1 interface connections
 - Single Molex 60 pin connector containing



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ODU:

- Frequency choice: 6 to 40 GHz*
- Modulation mode: QPSK, 16QAM, 32QAM, 64QAM, 128QAM
- Transmit Power:
 - QPSK 25.5 dBm
 - 16/32 QAM 22.0 dBm
 - 64/128 QAM 17.0 dBm
- Receiver Threshold: meets ETSI requirements
- Channel Bandwidth: 50 MHz
- Data Rate: up to 248 Mb/s in 50 MHz channel bandwidth
- Antenna gains:
 - 38.7 (+/- 0.4) dBi - 2 ft antenna
 - 44.7 (+/- 0.4) dBi - 4 ft antenna

Gi-FLEX Outdoor Unit (ODU)

ODU Weight: (lbs/kg): $\leq 10.1/4.6$
ODU Size (inch/cm): 1.05 O.D. x 3.5 H/26.7 O.D. x 8.9 H



Gi-FLEX Indoor Unit (IDU)



*some variations in data throughput may apply depending on frequency; specific information for desired bandwidth is available upon request.