



G I G A B E A M

GigaBeam.com

● Gi-CORE Line

G1.25



Product Description

This product utilizes the licensed upper millimeter wave bands at 71-76GHz and 81-86GHz to deliver Gigabit Ethernet 1.25 Gigabits per second (Gbps full duplex capacity), using a point-to-point line of site configuration. This is an OSI Layer 1 (physical layer) device that is relatively indistinguishable (from a network perspective) from fiber optic cable. This product is lightweight (approximately 50 lbs), easy to install, consumes very little power (less than a small light bulb) and can provide link distance of about a mile. This product is FCC approved, has a CE mark, and has several approvals/certifications for various government programs. It has been widely deployed in over 20 countries. Features include Adaptive Transmitter Power Control (ATPC), forward error correction, and encryption. The device will easily integrate into standard network management systems (NMS) through a MIB-II compliant SNMP agent that allows diagnostics, supervision, and control of the link.

Features

- Full Duplex sustained GigE throughput (Layer 1, low latency, all jumbo frames including 64KB)
- High reliability design with dual input/internally redundant power supplies
- Single field replicable unit with rapid slip-fit antenna mount for low mean time to repair
- Lightweight, small footprint, all outdoor design for ease of installation and commissioning
- Local and remote system management via SNMP
- Automatic Transmit Power Control (ATPC)
- Forward Error Correction
- Security Suite: Encryption, Radius, SSH, Denial of Service Enhancements

System

- Frequency Range: 71-76 GHz paired with 81 – 86 GHz
- TR Spacing: 10 GHz fixed
- Modulation: BPSK
- Frequency Stabilization: + 4 ppm
- Latency (two radios): 9.8 μ s
- Frequency Source: Synthesized, software programmable
- Features: ATPC, Forward Error Correction

Tx/Rx

Transmitter:

- Output power: 20 dBm
- Adjustable Transmitter Range: 45 dB

Receiver:

- Threshold (10⁻⁶ BER): -57 dBm
- System Noise Figure: \leq 7 dB
- Error Correction: Reed-Solomon FEC



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Antenna

- Size and Type: 2 ft (60 cm) parabolic; Weight: 37 lb (17 kg)
- Mounting: Proprietary rapid slip-fit
- Polarization: Vertical or horizontal, field selectable
- Gain: 50 dBi @ 73.5 GHz
- Beamwidth: 0.4" @ 73.5 GHz

Electrical

- Input voltage range: -48 V DC \pm 25%
- Power Consumption: 28 W
- Dual Power Supplies: Redundant, single or independency connected

Customer Data

- Digital Line Rates: 1 Gbps full duplex
- Native Network: GigE
- Data Format: 802.3z Gigabit Ethernet
- Signaling Rate: 1.25 Gbps
- OSI layer: Physical layer 1
- Interface, physical: Fiber: Single mode, 50 μ m or 62.5 μ m multimode

Mechanics

- Size: 12" (30cm) octagonal; 4" (10cm)
- Weight: 11 lbs (5 kg)

Operating Environment

- Operating temperature range: -27 to 131 °F (-33 to + 55 °C)
- Altitude: To 15,000 ft (4,500 m)
- Humidity: to 95% non condensing

Fault and Configuration Management

- Protocol: SNMPV2c
- Interface: RJ-45 10/100baseT
- Management: in-band and out-of-band SSH support, Telnet
- Performance Monitoring: Bit errors, frame errors, local and remote
- Craft Port: RS-232 for local management

Standard Compliance

- FCC Part 101 (47 CFR Part 101.63 to Part 101.147)
- ETSI TS 102 524 v1.1.1
- RF: EN 302 217; EMC: EN 301 489; Environmental: EN 300 019; Safety: EN 60950
- CE Mark
- Water Ingress (pending) IEC 60529 (IPX6)