

Loea

2500



Features

- **Reliable and weather available**
- **High Speed up to 1.25Gbps duplex**
- **Deployment in under a day**
- **Low cost – approximately 1/10th fiber cable**

Applications

- **LAN extension**
- **Access and path diversity**
- **Disaster recovery**
- **Cellular backhaul**
- **Fiber extension**
- **Temporary or transportable bandwidth**

Fast and Cost Effective Bandwidth

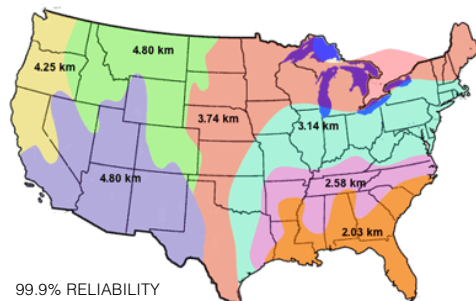
Loea's 70/80GHz fixed wireless solution is a quick and inexpensive means to last mile fiber like capacity. Loea's system is a fixed, point-to-point, line-of-sight wireless product that operates at the OSI-Layer 1 (physical layer) delivering up to 1.25Gbps-duplex of bandwidth, equivalent data to over 600T1 lines.

The L2500 is highly interoperable with Commercial-Off-The-Shelf (COTS) data management solutions for switching, routing or MUX/DEMUX operations making integration into existing networks seamless.

Loea has demonstrated data, voice and video traffic simultaneously across a link and has demonstrated a full link deployment in less than one (1) hour for a temporary application.

High All Weather Availability

Loea's links have the highest weather availability when compared to all alternative Gigabit wireless products. Loea's L2500 is unaffected by snow, dust, fog or small occlusions which would impede Free Space Optics. RF communications in the 60GHz band are not effective beyond 800m in any weather due to high oxygen absorption. Heavy rain affects each of these products including Loea's. At a link distance of 1km, the L2500 can withstand approximately 4in/hour of rain. Based on accepted weather statistics and the L2500's insensitivity to other environmental effects this results in an availability of 99.999% for the L2500 at 1km, neither FSO nor 60GHz can achieve even 99.9% availability at 1km. The L2500 can offer links to 5km pending availability requirements. Availability will vary with distance. Please contact Loea for details on specific requirements.



99.9% RELIABILITY

Technology & Spectrum

Loea's L2500 product operates in the 71.0-86.0GHz wireless spectrum. Loea's technology was derived from advanced research conducted for over 10 years to create highly efficient low noise amplifier devices at high frequencies. With impeccable component performance, Loea was able to build a radio system to take advantage of 70/80GHz low oxygen absorption characteristics which contribute to the product's all weather performance. The beam-widths at 70/80GHz frequencies are narrow so many users can co-exist within a tight geographic area with low likelihood of interference. The band is part 101 regulated for shared use by both government and private sector users. Link registration is inexpensive, quick and easy. Loea is certified by the FCC and NTIA, the respective private sector and federal spectrum regulatory bodies.

Secure Communications

Loea's product offers secure wireless communication via LPILPD (Low Probability of Intercept; Low Probability of Detection) and via demonstrated interoperability with COTS. In a stand alone format, Loea radiates a beam with 10mW of peak power at ~0.4 degree (2 foot antennas). Locating and intercepting such a beam is difficult if not nearly impossible. While LPILPD is a layer of protection, Loea has also demonstrated plug and play operation with COTS encryption hardware that can apply OSI Layer 2+ encryption shells on Loea wireless traffic. This remains transparent to the user and provides user selectable security algorithms. Loea has demonstrated its system with FIPS 140-2 3DES, Type I and other security devices.



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Loea 2500 Link Specifications - Preliminary

System

System Frequency	71.0-76.0 GHz 81.0-86.0 GHz
Capacity / Payload (Duplex)	GigE (IP) 1.25 Gbps OC-12 622 Mbps
Output Power	10 mW digital
Antenna Gain (24")	51.2 dB
BeamWidth (24")	0.43 degree
Modulation Techniques	OOK
Alignment	Type: Fixed Wireless Requirement: Line-of-Sight Topology: Point-to-Point

Regulatory

FCC/NTIA Co-Primary Part 101 licensing	
FCC Call Sign	WQAK476
NTIA ID	J/F12#8138 SPS#13918
Emission Designator	4G80A1D

Data Interface

GigE or OC-12 Single Mode Interface (Standard)	
Connector	LC
Wavelength	1310 nm
GigE Multimode Interface (Option)	
Connector	LC
Wavelength	850 nm

Power/Environment

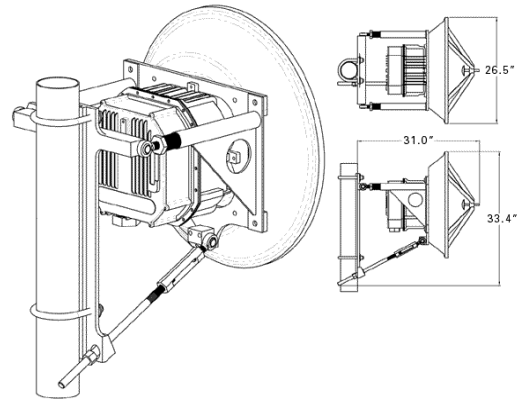
Operational Temperature	
GigE Multimode:	-10 to +50°C
GigE Single Mode:	-20 to +50°C
OC-12 Single Mode:	-20 to +50°C
Humidity	0 to 100% Condensing
AC Power	110V AC, 60 Hz, 50W (Option) 48 VDC
Power Consumption	~50 Watts UPS required

About Loea

Loea Corporation is the pioneer of the 70/80GHz wireless domain and the product, quality and technology leader. Loea was the first company to release and deploy successful product in the 71-86GHz band and has been on the leading edge of technology creation in this space for over 10 years.

Physical Dimensions

Radio Housing ODU	12" X 12" X 14"
Weight	25 lbs
Demarcation Unit	Per site evaluation No Indoor Unit
2 ft. Antenna	
Dimensions	24.8" dia x 5" (12" with SPAR)
Weight	22 lbs
Antenna Type	Parabolic Cassegrain



Auxiliary Connections

Configuration	RJ-45 Ethernet
Network Management	10/100 BaseT
Remote Monitoring	SNMP v.3

Distance Performance

99.999%:	~1.0 km in USA
99.90%:	~3.0 km in USA

Consult Loea for approximation. Performance estimated from rain statistics regionally.

Installation

Mode	4in Mast required
Structure	Consult Loea for stability requirements



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