GigaLink 6451e/6651e MMW Transceiver

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High-Capacity Point-to-Point Link for Secure Connectivity

Proxim's GigaLink Series includes an array of full-duplex point-to-point wireless bridges that offer affordable, highly reliable, secure, outdoor links in the 57-64 GHz unlicensed frequency band and the 71-76 GHz licensed E-band. Available in Gigabit Ethernet interfaces, GigaLink systems offer the performance of fiber at a fraction of the costs. As the first FCC Part 15.255-certified millimeter wavelength system operating in the 57.05 to 64 GHz band, these field-proven millimeter wave transceivers represent one of the most reliable wireless solutions available today.

Gigalink System Features:

High Reliability

- Third-generation, mature product line
- Extremely high link availability up to 99.999% with direct fiber interface
- Lower latency than physical fiber at equivalent distances

Extensive Security

- Narrow beam width increases security and enables virtually interference-free operation
- Highly cost-effective Patented Direct Digital Modulation transparent to any encryption technique
- Physical layer interface transports only binary data bits

Reduces Total Cost of Ownership (TCO) with Ease of Installation and Management

- Compact size and weight designed for outdoor deployments
- Direct network interface at terminal eliminates the need for an IDU
- Custom network planning and link deployment tools
- GUI-based integrated management and SNMP capabilities

License-Free Bands for Short and Medium Range Links

Operating in the 57-64 GHz frequency band, the GigaLink license-free models are available in short and medium ranges with up to Gigabit speeds. With no requirement for license purchase, the GigaLink 60 GHz links enable quick and easy deployment – delivering fiber capacity at a fraction of the cost and time. Due to the unique oxygen absorption properties of the 60 GHz spectrum, many same frequency systems can be co-located in the same area without interference. GigaLink 60 GHz License-free models feature:

- Gigabit Ethernet (1.25 Gbps) full-duplex bandwidths
- Short and medium range support up to 1 km
- Integrated Parabolic Antenna

Licensed E-Band for Extended Range

Operating in the 71-76 GHz E-band, the GigaLink 7451e provides a solution for longer link requirements beyond the reliable range of the license-free 60 GHz models. Delivering the capacity and simplicity of fiber, Model 7451e provides high capacity full-duplex, true wire speed connectivity up to 1.25 Gbps at ranges in excess of 3km[1]. GigaLink 74 GHz Licensed models feature:

- Gigabit Ethernet (1.25 Gbps) full-duplex bandwidths
- Long range support in excess of 3km
- Integrated 44 dBi Parabolic Antenna

[1] Under ideal operating conditions, Maximum Range at 99.9% availability, Crane region D2. See Maximum Link Range chart at www.proxim.com/products/gigalink

High-Capacity Wireless Backhaul

Proxim Wireless offers extremely reliable, secure and easily-deployed solutions for interconnecting corporate and telecommunications networks.
This portfolio includes:

- **GigaLink® –** Alternative to fiber, up to a Gigabit speed
- **Lynx.GX® –** Cellular voice and data backhaul, up to DS3 interface
- **Tsunami.GX® -** Carrier-class IP Ethernet bridge for voice and data backhaul for service providers and enterprise applications
- **TeraBridge™ –** Ethernet backhaul or traditional telecommunications converged voice and data networks
- **QuickBridge® –** Complete "hop-in-a-box" Ethernet bridge for campus and small business networks

Proxim Wireless is a global provider of end-to-end broadband wireless systems that deliver the quadruple play. From Wi-Fi to wireless Gigabit Ethernet – our WLAN, mesh, point-to-multipoint and point-to-point products are available through our extensive global channel networks.

PRODUCT MODEL	MODEL 6451E-AC / MODEL 6451E-DC	MODEL 6651E-AC / MODEL 6651E-DC	MODEL 7451E-AC / MODEL 7451E-DC
DESCRIPTION	GigaLink 6451e-AC 60 GHz link, 1.25 Gbps, 1000SX, Integral 13 in Parabolic Antenna for short ranges, AC Power (Part # 605-906451-101) GigaLink 6451e-DC 60 GHz link, 1.25 Gbps, 1000SX, Integral 13 in Parabolic Antenna for short ranges, DC Power (Part# 605-906451-201)	GigaLink 6651e-AC 60 GHz, Link, 1.25 Gbps, 1000SX, Integral 13 in Parabolic Antenna for medium ranges, AC Power (Part # 605-906651-101) GigaLink 6651e-DC 60 GHz Link, 1.25 Gbps, 1000SX, Integral 13 in Parabolic Antenna for medium ranges, DC Power (Part# 605-906651-201)	GigaLink 7451e-AC 71-76 GHz, Link, 1.25 Gbps, 1000SX, Integral 13 in Parabolic Antenna for long ranges, AC Power, (Part # 605-907451-101) GigaLink 751e-DC 71-76 GHz, Link, 1.25 Gbps, 1000SX, Integral 13 in Parabolic Antenna for long ranges, DC Power, (Part# 605-907451-201)
RADIO/SYSTEM SPECS			
FREQUENCY BAND	57.05 to 64 GHz	57.05 to 64 GHz	71-76 GHz "Light Licensed" E-band
FULL-DUPLEX BANDWIDTH	1.25 Gbps	1.25 Gbps	1.25 Gbps
RANGE[1]	20 to 440 m (66 to 1,430 ft)	300 to 1,142 m (975 to 3,711 ft)	600 m to 4,500 m (1,950 to 14,625 ft)
RF INJECTION POWER INTO ANTENNA	8 mW	10 mW	10 mW
ANTENNA GAIN	40 dBi Integral 13 in Parabolic	41 dBi Integral 13 in Parabolic	44 dBi Integral 13 in Parabolic
3 DB BEAM WIDTH	1.0 degree	0.9 degree	0.8 degree
MOUNTING	Adjustable Precision Azimuth and Elevation Mount	Adjustable Precison Azimuth and Elevation Mount	Adjustable Precison Azimuth and Elevation Mount
STANDARD MOUNT	2.75 to 4.5 in OD Pipe Mount only	2.75 to 4.5 in OD Pipe Mount only	2.75 in to 4.5 in OD Pipe Mount only
INTERFACES			
DATA	MMF 850 nm, compatible with 1000 Base-SX, FC Connectors	MMF 850 nm, compatible with 1000 Base-SX, FC Connectors	MMF 850 nm, compatible with 1000 Base-SX, FC connectors
MANAGEMENT	100 Base-FX, MMF 1310 nm, FC connector	100 Base-FX, MMF 1310 nm, FC connector	100 Base-FX, MMF 1310 nm, FC connectors
INSTALLATION	100 Base-T, RJ-45 Modular (with adapter cable)	100 Base-T, RJ-45 Modular (with adapter cable)	100 Base-T, RJ-45 Modular (with adapter cable)
POWER	MIL-C-5015-type connector (accepts 12 to 16-AWG three conductor power cable)	MIL-C-5015-type connector (accepts 12 to 16-AWG three conductor power cable)	MIL-C-5015-type connector (accepts 12 to 16-AWG three conductor power cable)
ENVIRONMENTAL			
TEMPERATURE			
OPERATING	-30° to 60°C	-30° to 60°C	-30° to 60°C
STORAGE	-40° to 85°C	-40° to 85°C	-40° to 85°C
RELATIVE HUMIDITY	95% (non-condensing)	95% (non-condensing)	95% (non-condensing)
ELECTRICAL			
INPUT VOLTAGE	6451e-AC: 100 to 230 VAC, 50/60 GHz; 6451e-DC: -48 VDC nominal (-40 to -57 VDC)[2]	6651e-AC: 94 to 264 VAC, 50/60 Hz; 6651e-DC: -48 VDC nominal (-40 to -57 VDC)[2]	7451e-AC: 94 to 264 VAC, 50/60 Hz; 7451e-DC: -48 VDC nominal (-40 to -57 VDC)[2]
MAX INPUT CURRENT	6451e-AC: 0.9 to 0.5 Amps; 6451e-DC: 1.2 Amps	6651e-AC: 0.9 to 0.5 Amps; 6651e-DC: 1.2 Amps	7451e-AC: 0.9 to 0.5 Amps; 7451e-DC: 1.2 Amps
POWER CONSUMPTION	90 Watts	90 Watts	90 Watts
MANAGEMENT			
LOCAL	Lap-top based software provided	Lap-top based software provided	Lap-top based software provided
REMOTE	SNMP v1	SNMP v1	SNMP v1
PHYSICAL			
DIMENSIONS			
PACKAGED	2 Cartons (each): 18 x 20 x 21 in (457 x 508 x 533 mm)	2 Cartons (each): 18 x 20 x 21 in (457 x 508 x 533 mm)	2 Cartons (each): 18 x 20 x 21 in (457 x 508 x 533 mm)
WEIGHTS			
PACKAGED	6451e-AC - 2 Cartons (each): 45 lbs (20.4 kg) 6451e-DC - 2 Cartons (each): 38 lbs (17.2 kg)	6651e-AC - 2 Cartons (each): 45 lbs (20.4 kg) 6651e-DC - 2 Cartons (each): 38 lbs (17.2 kg)	7451e-AC - 2 Cartons (each): 45 lbs (20.4 kg); 7451e-DC - 2 cartons (each): 38 lbs (17.2 kg)
REGULATORY			
ELECTROMAGNETIC	FCC - Part 15.255 (FCCID No. 02700001-30-30) IC - 4505A-00013030	FCC - Part 15.255 (FCCID No. 02700001-30-30) IC - 4505A-00013030	FCC - Part 101, 47CFR
WARRANTY	1 Year on parts and labor	1 Year on parts and labor	1 Year on parts and labor
PACKAGE CONTENTS	• GigaLink 6451e-AC or 6451e-DC radio with integral 13 in parabolic antenna (Qty 2) • DC power connector assembly (Qty 2) • 100 BASE-T adapter cable (Qty 2) • Fiber loop-back jumper cable (Qty 2) • FC/SC adapter cable and SC-SC coupler (Qty 2) • Precision adjustable azimuth and elevation mount (Qty 2) • Gigamon software on CD-Rom (Qty 1) • Field and Installation manual (Qty 1) • Universal AC Power module with DC cable assembly included with 6451e-AC (Qty 2)[2]	• GigaLink 6651e-AC or 6651e-DC radio with integral 13 in parabolic antenna (Qty 2) • DC power connector assembly (Qty 2) • 10BASE-T adapter cable (Qty 2) • Fiber loop-back jumper cable (Qty 2) • FC/SC adapter cable and SC-SC coupler (Qty 2) • Mount arm and associated hardware (Qty 2) • Pole-Mounted gimbal (Qty 2) • Gigamon software on CD-Rom (Qty 1) • Field and Installation manual (Qty 1) • Universal AC Power module with DC cable assembly - included with Model 6651e-AC only (Qty 2)[2]	• GigaLink 7451e-AC or 7451e-DC radio with integral 13 in parabolic antenna (Qty 2) • DC power connector assembly (Qty 2) • 10BASE-T adapter cable (Qty 2) • Fiber loop-back jumper cable (Qty 2) • FC/SC adapter cable and SC-SC coupler (Qty 2) • Mount arm and associated hardware (Qty 2) • Pole-Mounted gimbal (Qty 2) • Gigamon software on CD-Rom (Qty 1) • Field and Installation manual (Qty 1) • Universal AC Power module with DC cable assembly - included with Model 7451e-AC only (Qty 2)[2]

[1]Under ideal operating conditions; Maximum Range at 99.9% availability, Crane Rain Region D2. See Maximum Link Range chart at www.proxim.com/products/gigalink
[2]DC versions do not include power module. Require -48 VDC power source.

For detailed technical specifications, please go to **http://www.proxim.com/products/gigalink**

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