

## Cloud-managed Outdoor or Indoor Gigabit Ethernet to Coax bridge with reverse Power feed



The IgniteNet GLinq is a powerful ethernet over coax converter that enables service providers to deliver gigabit speeds via existing and new coax cabling infrastructure. The GLinq system is ideal for both providing bandwidth to buildings with outdoor coax as well as delivering gigabit speeds within buildings using existing coax cabling infrastructure. Operators can already easily deliver gigabit speeds to customers wirelessly using IgniteNet's 60GHz MetroLinq products - now they can also easily share that delivered capacity throughout the whole building. The unique GLinq + MetroLinq combination provides a clean, simple, fast installation of gigabit connections.

GLinq is available in two different models - an indoor and an outdoor versions.

Both the indoor and the outdoor models have an integrated 2.4GHz radio which can provide Wi-Fi connectivity as well as easy setup and management using the same device.

Up to 15 client converters can be connected to each GLinq master device (software configuration) for sharing gigabit connectivity throughout the building using coaxial splitters.

The GLinq also includes a DC jack and/or DC terminal block which allows each client to provide reverse power through the coax system and can be used to power the remote rooftop converter(s) and backhaul using the same coax system for both data and power. This eliminates the need for a separate power circuit to be run to the rooftop to power the system.

## FEATURES

### HIGHEST PERFORMANCE PHY DATA RATES

- › Up to 2Gbps PHY rate
- › Supports all G.hn baseband bandplans 25, 50, 100, 200 MHz

### RELIABILITY AND ROBUSTNESS

- › LDPC forward error correction provides enhanced FEC over all wire media
- › Automated PHY block level error detection and retransmission

### SECURITY

- › 128-bit AES CCMP encryption
- › End to End encryption pair wise keys
- › Strict authentication rules

### ENHANCED HARDWARE SUPPORT

- › Enhanced Traffic handling
- › Hardware packet inspection for IPv4 IGMP snooping and IPv6 MLD
- › Hardware based Bandwidth limitation
- › 8 levels of packet prioritized QoS
- › Power Management

### AVAILABLE INTERFACES

- › 1000 Base-T Ethernet
- › G. hn 2 Gbps coax PHY with F-type female connector

### WI-FI FEATURES

- › Supports Service Provider and Enterprise type networks
- › Stand-alone or Cloud-controlled operating modes
- › Bridged AP WDS mode
- › 802.11b/g/n, 2x2 (2.4GHz)
- › Supports up to 8 SSIDs per radio
- › IEEE 802.11e Wi-Fi Multimedia (WMM-QoS)
- › WPA,WPA2-PSK,WPA2-AES, PSK and Enterprise
- › Admission control by client MAC address

### RF PERFORMANCE (TX)

- › 2.4 GHz: 25 dBm @ 6Mbps, 18 dBm @ 300Mbps

### RF PERFORMANCE (RX)

- › 2.4 GHz: -90 dBm @ 6Mbps, -72 dBm @ 300Mbps

### ANTENNA INDOOR

- › 2.4 GHz: 3 dBi omni-directional

### ANTENNA OUTDOOR

- › 2.4 GHz: 2 dBi omni-directional

### LEDS

- › Power, WiFi, Ethernet, G.hn

### MECHANICAL

#### Outdoor:

- › Weather rating IP-55
- › Temperature rating -40 to 70 C° / -40 to 158 F
- › Store temperature -40 to 70 C° / -40 to 158 F
- › Mounting options Wall or pole (25 – 100 mm/ 0.98 to 3.94 inch)

#### Indoor:

- › Temperature rating 0 to 50 C° / 32 to 122 F
- › Store temperature -40 to 70 C° / -40 to 158 F
- › Mounting options Wall

### DIMENSIONS

- › **Outdoor:** 185 x 119 x 44 mm/ 7.28 x 4.69 x 1.73 inch)
- › **Indoor:** 131 x 26 x 100 mm/ 5.16 x 1.02 x 3.94 inch

### WEIGHT

- › Outdoor: 490 g (1.08 lb)
- › Indoor: 220 g (0.48 lb)

### POWER

- › Operation voltage 12 – 54 V
- › Power consumption 6.5 W max
- › DC jack (central pin 2.0 mm, diameter 5.5 mm)
- › Screw terminal block (5 mm pin spacing) (outdoor model only)
- › Power through coaxial cable optional
- › Max current 2.5A on coaxial power system

## ORDERING INFORMATION

### Part Number

### Description

GL-O-1GE-1C-XX

Outdoor cloud-managed Gigabit Ethernet to Coax bridge with reverse power feed and integrated 2.4GHz Wi-Fi

GL-I-1GE-1C-XX

Indoor cloud-managed Gigabit Ethernet to Coax bridge with reverse power feed and integrated 2.4GHz Wi-Fi

**\*\*XX IS USED TO DENOTE LOCALIZATION (US, EU, AU, CN)**



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## MeshLinq™

### Cloud-Enabled Outdoor Switch

IgniteNet™'s MeshLinq™ is the first of its kind: a cloud-managed, Trill-enabled, managed switch with power over ethernet output purpose built for flexible, redundant, future-proof network deployments. The MeshLinq™ brings proven, high-end datacenter technology to ISP worldwide by bringing the Trill mesh protocol at an affordable price-point. The sleek design of the MeshLinq™ allows it to be placed inconspicuously indoors or outdoors, bringing simplified, easy to install network management to any location. When paired with the MetroLinq platform, blazingly fast, secure, and robust networks are a breeze to deploy.

#### Cloud-Enabled Networking

The IgniteNet™ MeshLinq™ is cloud-enabled out of the box allowing for easy, highly scalable installation, configuration, and management.

#### Powerful Trill Bridge Deployments

The MeshLinq™ brings the first low-cost Trill-enabled switch to market for robust, simple, powerful, and extremely scalable network designs.

#### Power Management

The MeshLinq™ has flexible power output configuration and can provide passive PoE output via software control to each of the 1Gbps ports (based on power input to the STB).

#### Robust Yet Simple Mounting Options

The MeshLinq™ can be wall or pole mounted in both indoors and outdoors, greatly simplifying installations in both offices, homes, parks, smart cities and many other applications.

## Features

### HARDWARE FEATURES

- › 1x 2.5Gbps Ethernet Port (PoE IN)
- › 4x Gigabit Ethernet Port (PoE OUT)
- › Dual flash image support
- › DC Input Screw Terminal
- › IP55 standards rated enclosure

### LEDs

- › Power, Ethernet

### DIMENSIONS (L X W X H )

- › 240x150x49 mm/ 9.45x5.90x1.93 in

### WEIGHT

- › 720 g (1.59 lb)

### POWER

- › 24-56V DC
- › 24-48V PoE
- › 10W
- › PoE Out (1A per port)

### OPERATING ENVIRONMENT

- › Operating Temperature: -30 to 55C° (-22 to 131F)
- › Store Temperature: -40 to 70C° (-40 to 158F)

### REGULATORY / STANDARDS COMPLIANCE

- › FCC/IC
- › CE

### KEY FEATURES

- › Support Service Provider and Enterprise type networks
- › Stand-alone or Cloud-controlled operating modes
- › PoE output on 1G ports to power radios and cameras and other PoE devices.
- › Software controllable PoE out
- › TRILL layer 2 mesh routing
- › 2.5Gbps port for trunking LEDs or access modes

### APPLICATIONS

- › Fixed link mesh networks
- › Video surveillance
- › Outdoor switching

## Ordering Information

Part Number	Description
ML-S-4GE-1MGE-XX	Outdoor switch, 4x1000Mbps + 1x2500Mbps Ethernet, PoE + DC Power

\*\*XX is used to denote localization (US, EU, AU, CN)



19cm size w/ 60GHz + 5GHz+2.4GHz

35cm size w/ 60GHz + 5GHz+2.4GHz

## MetroLinq™ One 60

### Cloud-Enabled Outdoor 60GHz PTP + 5GHz + 2.4GHz

IgniteNet™'s MetroLinq™ One 60 is a cost-effective high capacity 60GHz PTP radio enabling high performance, interference-free connections worldwide. The MetroLinq™ One 60 has an added advantage of being license-free in most markets globally, allowing ultra fast deployment and without the hassle of other frequency bands requiring a license. The MetroLinq™ One 60 also includes a second 5GHz radio which can be configured as PTP (backup) to provide integrated redundancy without any additional hardware or complexity and additional 2.4GHz radio for management and configuration\*. The IP55 standards rated enclosure, allows MetroLinq™ One 60 to withstand harsh environments and bring fast wireless connections to hard-to-reach locations.

#### Interference-Free & Unlicensed Band

The IgniteNet™ MetroLinq™ One 60 offers unprecedented performance - combining both the benefits of unlicensed band operation with no interference!

#### Tri Band 60GHz & 5GHz & 2.4GHz Operation

The MetroLinq™ One 60 includes a second 5GHz radio which can be configured as a backup to the 60GHz to provide automatic failover during adverse conditions. This allows links to be extended further without effecting link availability and 2.4GHz radio for management and configuration\*.

#### Powerful, Flexible Configuration

The MetroLinq™ One 60 can operate either as a stand-alone device or as a coordinated, cloud-managed device, easily meeting the requirements of any installation.

#### Robust Weather-Resistant Design

The MetroLinq™ One 60 features a hybrid metal/plastic design built to withstand the harshest environments including precipitation, hot/cold weather and high/low humidities.

\*For 2.4GHz radio, an external antenna with x2 RP-SMA male connectors is required. (Radio has x2 RP-SMA female connectors).

## PRODUCT VARIANTS

- › 35cm size w/ 60GHz + 5GHz + 2.4GHz
- › 19cm size w/ 60GHz + 5GHz + 2.4GHz

## FEATURES

### HARDWARE FEATURES

- › 2x RPSMA connectors for external 2.4GHz antenna
- › 1x Gigabit Ethernet Port (PoE IN)
- › 1x SFP port
- › 1x Screw Terminal (Power IN/OUT)
- › 1x USB 2.0 Port
- › Dual flash image support
- › IP55 standards rated enclosure

### LEDs

- › Power, Ethernet, SFP, 2.4/5GHz, 60GHz

### DIMENSIONS (L x W x H )

- › 350 x 350 x 200 mm/ 13.78 x 13.78 x 7.87 in (ML1-60-35)
- › 190 x 190 x 120 mm/ 7.48 x 7.48 x 4.72 in (ML1-60-19)

### WEIGHT

- › 2.8 kg/ 6.17 lb without mount (ML1-60-35)
- › 1.25 kg/ 2.76 lb without mount (ML1-60-19)

### POWER

- › 24-48V/1A passive Gigabit PoE
- › 17.5W max power consumption

### OPERATING ENVIRONMENT

- › Operating Temperature: -30 to 55°C/ -22 to 131°F
- › Store Temperature: -40 to 70°C/ -40 to 158°F
- › Operating Humidity: 10 to 90% non-condensing (RH)

### REGULATORY / STANDARDS COMPLIANCE

- › FCC/IC
- › CE

### RF PERFORMANCE (TX)

- › 60GHz: 14dBm @ MCS9 OTA (1Gbps aggregate)
- › 5GHz: 26dBm @ MCS0 OTA; 21dBm @ MCS15
- › 2.4GHz: 24dBm @MCS0 OTA; 21dBm @ MCS15

### RF PERFORMANCE (RX)

- › 60GHz: -74dBm @ MCS1; -60dBm @ MCS9
- › 5GHz: -92dBm @ MCS0; -70dBm @ MCS15
- › 2.4GHz: -92dBm @ MCS0; -70dBm @ MCS15

### KEY FEATURES

- › Support channel 4.5
- › 1+ Gbps Aggregate throughput dynamically allocated (60GHz)
- › 600Mbps Aggregate throughput dynamically allocated (5GHz)
- › 300Mbps Aggregate throughput dynamically allocated (2.4GHz)
- › Jumbo packet support (up to 7900bytes)
- › Management VLAN support and VLAN pass-through
- › Supports Service Provider and Enterprise type networks
- › Stand-alone or Cloud-controlled operating modes
- › Link failover/backup (60GHz + 5GHz) Per Client
- › 128bit AES Encryption (standard; 5GHz and 60GHz)
- › SNMP Monitoring with Private MIB

### APPLICATIONS

- › Fixed Wireless Access (broadband)
- › 3G/4G Backhaul
- › Metro Wi-Fi
- › Campus Interconnection
- › Hybrid Fiber/Wireless Networks

## ORDERING INFORMATION

Part Number	Description
ML1-60-35-XX	60GHz Outdoor + 5GHz w/ Int 42dBi (60GHz) & 22dBi (5GHz) antenna, 1Gbps + SFP
ML1-60-19-XX	60GHz Outdoor + 5GHz w/ Int 36dBi (60GHz) & 16dBi (5GHz) antenna, 1Gbps + SFP

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## MetroLinq™ 2.5G 60 Beamforming sector

Cloud-managed Multi-Gigabit Outdoor Base Station 60GHz PTP + 5GHz

MetroLinq™ 2.5G 60 Beamforming Sector is a powerful 60 GHz MultiPoint base-station packed with the latest technologies from IgniteNet. This new radio can achieve 2.5 Gbps capacity allowing the construction of multi-gigabit, future-proof hybrid fiber wireless networks quickly and cost-effectively. Using the latest phased array beamforming antenna design allows 120° area coverage with an improved performance when focusing the signal to a specific client when data is transmitted and received. The MetroLinq™ 2.5G 60 base-station also includes a second 5GHz radio which acts as a backup on a client by client basis to provide integrated redundancy without any additional hardware or complexity! It also has multiple client device options to choose from depending on distance, performance, and other application specific requirements.

### Inteference-Free & Unlicensed Band

MetroLinq™ Base Station offers unprecedented performance - combining both the benefits of unlicensed band operation with no interference!

### Dual Band 60GHz + 5GHz Operation

MetroLinq™ Base Station includes a second 5GHz radio which can be configured as a backup to the 60GHz

### Ultra high capacity and beamforming

2.5 Gbps capacity and 120° beamforming sector antenna allow simple and secure extension of existing fiber networks at unmatched speed and cost.

### Powerful, Flexible Configuration

MetroLinq™ Base Station can operate either as a stand-alone device or as a coordinated, cloud-managed device, easily meeting the requirements of any installation.

### Robust Weather-Resistant Design

MetroLinq™ Base Station features a hybrid metal/plastic design built to withstand the harshest environments including precipitation, hot/cold weather and high/low humidities.

## Client Options (Sold Separately)



MetroLinq 60-35/ 2.5G 60-35  
60GHz + 5GHz  
up to 700m (0.43 mi)



MetroLinq 60-19/ 2.5G 60-19  
60GHz + 5GHz  
up to 400m (0.25 mi)



MetroLinq LW  
60GHz + 5GHz + 2.4GHz  
up to 150m (0.1 mi)

## Features

### HARDWARE FEATURES

- › 1x 2.5 Gigabit Ethernet Port (PoE IN 24-48v)
- › 1x SFP Port
- › 1x Screw Terminal Block (DC Power IN 24-48v)
- › 1x USB 3.0 Port
- › Dual flash image support
- › IP55 standards rated enclosure

### LEDs

- › Power, Ethernet, Wireless, Health/Status

### DIMENSIONS (L x W x H)

- › 190 x 190 x 60 mm/ 7.48 x 7.48 x 2.36 in

### WEIGHT

- › 2 kg/ 4.41 lb with mount

### POWER

- › 24-48V/1A passive Gigabit PoE or DC

### OPERATING ENVIRONMENT

- › Operating Temperature:  
-30 to 55 C°/ -22 to 131 F°
- › Store Temperature:  
-40 to 70 C°/ -40 to 158 F°
- › Operating Humidity:  
10 to 90% non-condensing (RH)

### REGULATORY / STANDARDS COMPLIANCE

- › FCC/IC
- › CE

### RANGE

- › Up to 150m (0.09 mi)  
(BF to LW, location dependent)
- › Up to 400m (0.25 mi)  
(BF to 19cm, location dependent)
- › Up to 700m (0.43 mi)  
(BF to 35cm, location dependent)

### RF PERFORMANCE (TX)

- › 60GHz: 14dBm @ MCS9
- › 5GHz: 27dBm @ MCS0;  
23dBm @ MCS15

### RF PERFORMANCE (RX)

- › 60GHz: -74dBm @ MCS1;  
-60dBm @ MCS9
- › 5GHz: -94dBm @ MCS0;  
-72dBm @ MCS15

### ANTENNA

- › 60GHz:  
18dBi, 120 degrees
- › 5GHz:  
15dBi, 120 degrees

### KEY FEATURES

- › Support channel 4.5
- › 2.5 Gbps Aggregate throughput; dynamically allocated (60GHz)
- › Advanced 60GHz beam forming for easy alignment
- › 600Mbps Aggregate throughput; dynamically allocated (5GHz)
- › Management VLAN support and VLAN pass-through
- › Supports Service Provider and Enterprise type networks
- › Stand-alone or Cloud-controlled operating modes
- › Base Station mode and up to 8 endpoints
- › Link failover/backup (60GHz + 5GHz)
- › 128bit AES Encryption (standard; 5GHz and 60GHz)
- › SNMP Monitoring with Private MIB

### APPLICATIONS

- › Fixed Wireless Access (broadband)
- › Metro Wi-Fi
- › Campus Interconnection
- › Hybrid Fiber/Wireless Networks

## Ordering Information

### Part Number

### Description

ML2.5-60-BF-18-XX

2.5Gbps Outdoor Base Station 60GHz (18dBi) + 5GHz (15dBi) 120° coverage

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35cm size w/ 60GHz + 5GHz



19cm size w/ 60GHz + 5GHz

## MetroLinq™ 2.5G 60

### Cloud-Enabled Outdoor 60GHz PTP + 5GHz

IgniteNet's™ MetroLinq™ 2.5G 60 is a cost-effective high capacity 60GHz PTP radio enabling high performance, interference-free connections worldwide. The MetroLinq™ 2.5G 60 has an added advantage of being license-free in most markets globally, allowing ultra fast deployment and without the hassle of other frequency bands requiring a license. The MetroLinq™ also includes a second 5GHz radio which can be configured as PtP (backup) to provide integrated redundancy without additional hardware or complexity. The IP55 standards rated enclosure, allows MetroLinq™ 2.5G 60 to withstand harsh environments and bring fast wireless connections to hard-to-reach locations.

#### Interference-Free & Unlicensed Band

The IgniteNet™ MetroLinq™ 2.5G 60 offers unprecedented performance - combining both the benefits of unlicensed band operation with no interference!

#### Dual Band 60GHz & 5GHz Operation

The MetroLinq™ 2.5G 60 includes a second 5GHz radio which can be configured as a backup to the 60GHz to provide automatic failover during adverse conditions. This allows links to be extended further without effecting link availability

#### Powerful, Flexible Configuration

The MetroLinq™ 2.5G 60 can operate either as a stand-alone device or as a coordinated, cloud-managed device, easily meeting the requirements of any installation.

#### Robust Weather-Resistant Design

The MetroLinq™ 2.5G 60 features a hybrid metal/plastic design built to withstand the harshest environments including precipitation, hot/cold weather and high/low humidities.

## Product Variants

- > 35cm size/ 60GHz + 5GHz
- > 19cm size/ 60GHz + 5GHz

## Features

### HARDWARE FEATURES

- > 1x 2.5 Gigabit Ethernet Port (PoE IN 24-48v)
- > 1x SFP Port
- > 1x Screw Terminal Block (DC Power IN 24-48v)
- > 1x USB 3.0 Port
- > Dual flash image support
- > IP55 standards rated enclosure

### LEDs

- > Power, Ethernet, Wireless, Health/Status

### DIMENSIONS (L x W x H )

- > 350 x 350 x 200 mm/ 13.78 x 13.78 x 7.87 in (ML2.5-60-35)
- > 190 x 190 x 120 mm/ 7.48 x 7.48 x 4.72 in (ML2.5-60-19)

### WEIGHT

- > 2.8 kg/ 6.17 lb without mount (ML2.5-60-35)
- > 1.25 kg/ 2.76 lb without mount (ML2.5-60-19)

### POWER

- > 24-48V/1.5A passive Gigabit PoE or DC
- > 20W max power consumption

### OPERATING ENVIRONMENT

- > Operating Temperature: -30 to 55 C°/ -22 to 131 F°
- > Store Temperature: -40 to 70 C°/ -40 to 158 F°
- > Operating Humidity: 10 to 90% non-condensing (RH)

### REGULATORY / STANDARDS COMPLIANCE

- > FCC/IC
- > CE

### RF PERFORMANCE (TX)

- > 60GHz: 14dBm @ MCS9
- > 5GHz: 27dBm @ MCS0; 23dBm @ MCS15

### RF PERFORMANCE (RX)

- > 60GHz: -74dBm @MCS1; -60dBm @ MCS9
- > 5GHz: -94dBm @MCS0; -72dBm @ MCS15

### KEY FEATURES

- > Support channel 4.5
- > 2.5 Gbps Aggregate throughput; dynamically allocated (60GHz)
- > Management VLAN support and VLAN pass-through
- > Supports Service Provider and Enterprise type networks
- > Stand-alone or Cloud-controlled operating modes
- > Link failover/backup (60GHz + 5GHz) Per Client
- > 128bit AES Encryption (standard; 5GHz, and 60GHz)
- > SNMP Monitoring with Private MIB

### APPLICATIONS

- > Fixed Wireless Access (broadband)
- > 3G/4G Backhaul
- > Metro Wi-Fi
- > Campus Interconnection
- > Hybrid Fiber/Wireless Networks

## Ordering Information

Part Number	Description
ML2.5-60-35-XX	60GHz Outdoor + 5GHz w/ Int 42dBi (60GHz) & 22dBi (5GHz) antenna, 2500Mbps + SFP
ML2.5-60-19-XX	60GHz Outdoor + 5GHz w/ Int 36dBi (60GHz) & 16dBi (5GHz) antenna, 2500Mbps + SFP

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## MetroLinq™ 10G Tri-Band Omni

Cloud-Enabled Outdoor  
60 + 5 + 2.4 GHz base-station

MetroLinq™ 10G Tri-band Omni is a cost-effective 60GHz + 5GHz + 2.4GHz PTMP base station enabling high performance, interference-free connections worldwide up to 10Gbps. With a total OTA capacity of 16.393Gbps, MetroLinq™ 10G is the first AP capable of providing fiber-like connections to many clients simultaneously. It also has an added advantage of being license-free in most markets, allowing ultra-fast deployment and without the hassle of other frequency bands. MetroLinq™ 10G also includes both 2.4 & 5GHz 802.11ac Wave 2 radios which can be used to provide access in harder to reach nLOS applications ranging from hotspots to fixed broadband and many more. The innovative IP55 standards rated enclosure, allows MetroLinq™ 10G 60 to withstand harsh environments and bring fast wireless connections to hard-to-reach locations.

### Interference-Free & Unlicensed Band

MetroLinq™ 10G offers unprecedented performance - combining both the benefits of unlicensed band operation with no interference!

### Tri Band 60GHz + 5GHz + 2.4 GHz Operation

MetroLinq™ 10G includes both additional 2.4 & 5GHz radios which can be to provide both supplemental connectivity to hard to reach places as well as carrier offload, hotspot, and mobile roaming capabilities.

### Powerful, Flexible Configuration

MetroLinq™ 10G can operate either as a stand-alone device or as a coordinated, cloud-managed device, easily meeting the requirements of any installation.

### Robust Weather-Resistant Design

MetroLinq™ 10G features a hybrid metal/plastic design built to withstand the harshest environments including precipitation, hot/cold weather and high/low humidities.

## Features

### HARDWARE FEATURES

- › 1x 1Gbps Base-T Ethernet Port (PoE IN)
- › 1x SFP+ (10Gbps) Port
- › 1x Screw Terminal Block (Power IN)
- › Dual flash image support
- › IP55 standards rated enclosure

### ANTENNAS

- › 3 x 17dBi (60GHz) 120°
- › 4 x 12dBi (5GHz) 90°
- › 4 x 9dBi (2.4GHz) 90°

### LEDs

- › Power, 60GHz, 5GHz, 2.4GHz, SFP

### DIMENSIONS (L X W X H)

- › 217.4 x 179.5 x 455.3 mm/ 8.6 x 7.1 x 17.9 in

### WEIGHT

- › 4,060 g (8.95 lb)

### POWER

- › 48V Passive PoE IN or DC

### REGULATORY / STANDARDS COMPLIANCE

- › FCC/IC
- › CE

### RANGE

- › Up to 150m (0.09 mi) (Omni to LW, location dependent)
- › Up to 400m (0.25 mi) (19cm to Omni, location dependent)
- › Up to 700m (0.43 mi) (35cm to Omni, location dependent)

### RF PERFORMANCE (TX)

- › 60GHz: 14dBm @ MCS9 (x3)
- › 5GHz: 30dBm @ MCS0; 24dBm @ MCS9
- › 2.4GHz: 30dBm @ MCS0; 26dBm @ MCS9

### RF PERFORMANCE (RX)

- › 60GHz: -74dBm @ MCS1; -60dBm @ MCS9
- › 5GHz: -90dBm @ MCS0; -60dBm @ MCS9
- › 2.4GHz: -90dBm @ MCS0; -64dBm @ MCS9

### OPERATING ENVIRONMENT

- › Operating Temperature: -30C° to 50C° (-22 to 122F)
- › Store Temperature: -40C° to 70C° (-40 to 158F)
- › Operating Humidity: 10 to 90% non-condensing (RH)

### KEY FEATURES

- › Support channel 4.5
- › Management VLAN support and VLAN pass-through
- › Supports Service Provider and Enterprise type networks
- › Stand-alone or Cloud-controlled operating modes
- › Base Station mode and up to 24 endpoints
- › Link failover/backup (60GHz + 5GHz) Per Client
- › 128bit AES Encryption (standard; 2.4GHz, 5GHz, and 60GHz)
- › SNMP Monitoring with Private MIB

### SUPPORTED TRANSCEIVERS

- › Edgecore 10G SFP+ Transceiver: ET5402-RJ45  
ET5402-LR  
ET5402-SR

### APPLICATIONS

- › Fixed Wireless Access (broadband)
- › 3G/4G Backhaul
- › Metro Wi-Fi
- › Campus Interconnection
- › Hybrid Fiber/Wireless Networks

## Ordering Information

### Part Number

### Description

ML-60-10G-360-XX Cloud-Enabled Outdoor 60GHz PTMP + 5GHz + 2.4GHz

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## Client Options (Sold Separately)



MetroLinq 1-60-35/ 2.5G 60-35  
60GHz + 5GHz  
up to 700m (0.43 mi)



MetroLinq 1-60-19/ 2.5G 60-19  
60GHz + 5GHz  
up to 400m (0.25 mi)



MetroLinq LW  
60GHz + 5GHz + 2.4GHz  
up to 150m (0.1 mi)

### Worldwide

### Asia



## MetroLinq™ 60 LW

### Cloud-Enabled Outdoor 60 + 5 + 2.4GHz PTP/PTMP

IgniteNet's MetroLinq™ 60 LW changes the economics of low-cost 60GHz PTP and PTMP connections. With a 60GHz range of up to 150m (0.1mi) as well as built-in 5GHz failover, it can provide reliable high throughput in the harshest conditions. It also has the advantage of being license-free in most markets, allowing ultra-fast deployment and without the hassle of other frequency bands. MetroLinq™ 60 LW also includes a third 2.4 GHz radio which can be configured a multi-tenant AP for applications ranging from hotspots to maintenance and many more. MetroLinq™ 60 LW is available in 2 different variants - one in which the 5GHz radio is connected to a directional antenna for backup purposes and another where it is connected to a omni for access purposes.

#### Inteference-Free & Unlicensed Band

MetroLinq™ 60 LW offers unprecedented performance - combining both the benefits of unlicensed band operation with no interference!

#### Tri Band 60GHz + 5GHz + 2.4 GHz Operation

MetroLinq™ 60 LW includes a second 5GHz radio which can be configured as a backup to the 60GHz as well as a 2.4GHz WiFi AP to be used for a variety of applications like maintenance, hotspot, and other uses.

#### Powerful, Flexible Configuration

MetroLinq™ 60 LW can operate either as a stand-alone device or as a coordinated, cloudmanaged device, easily meeting the requirements of any installation.

#### Robust Weather-Resistant Design

MetroLinq™ 60 LW features a hybrid metal/plastic design and IP55 rated enclosure built to withstand the harshest environments including precipitation, hot/cold weather and high/low humidities.

## Features

### HARDWARE FEATURES

- › 1x Gigabit Ethernet Port (PoE IN)
- › 1x SFP Port
- › 1x Screw Terminal Block (Power IN)
- › 1x USB 2.0 Port
- › Dual flash image support
- › IP55 standards rated enclosure

### LEDs

- › Power, Ethernet, SFP, 2.4/5 GHz, 60 GHz

### DIMENSIONS (L x W x H)

- › 202.7 x 239.8 x 48 mm (7.98 x 9.44 x 1.89 in)

### WEIGHT

- › 650 g (1.43 lb)

### POWER

- › 24-48V/1A passive Gigabit PoE

### ANTENNA

- › 5GHz
  - Elevation beamwidth : 28°
  - Azimuth beamwidth : 30°
  - Gain: 15 dBi
- › 2.4GHz
  - 360° Omni Antenna
  - Gain: 7 dBi

### OPERATING ENVIRONMENT

- › Operating Temperature: -30 to 55°C (-22 to 131°F)
- › Store Temperature: -40 to 70°C (-40 to 158°F)
- › Operating Humidity: 10 to 90% non-condensing (RH)

### REGULATORY / STANDARDS COMPLIANCE

- › FCC/IC
- › CE

### RANGE

- › Up to 150m (0.1mi) LW to LW, location dependent
- › Up to 150m (0.1mi) LW to Omni, location dependent
- › Up to 400m (0.25mi) LW to 19cm, location dependent
- › Up to 700m (0.43mi) LW to 35cm, location dependent

### RF PERFORMANCE (TX)

- › 60GHz: 14dBm @ MCS9
- › 5GHz: 26dBm @ MCS0; 21dBm @ MCS15
- › 2.4GHz: 24dBm @ MCS0; 21dBm @ MCS15

### RF PERFORMANCE (RX)

- › 60GHz: -74dBm @ MCS1; -60dBm @ MCS9
- › 5GHz: -92dBm @ MCS0; -70dBm @ MCS15
- › 2.4GHz: -90dBm @ MCS0; -70dBm @ MCS15

### KEY FEATURES

- › Support channel 4.5
- › 1+Gbps Aggregate throughput; dynamically allocated (60GHz)
- › Advanced 60GHz beam forming for easy alignment
- › 600Mbps Aggregate throughput; dynamically allocated (5GHz)
- › 300Mbps Aggregate throughput; dynamically allocated (2.4GHz)
- › Management VLAN support and VLAN pass-through
- › Supports Service Provider and Enterprise type networks
- › Stand-alone or Cloud-controlled operating modes
- › Base Station mode and up to 8 endpoints
- › Link failover/backup (60GHz + 5GHz)
- › 128bit AES Encryption (standard: 5GHz and 60GHz)
- › SNMP Monitoring with Private MIB

### APPLICATIONS

- › Fixed Wireless Access (broadband)
- › 3G/4G Backhaul
- › Metro Wi-Fi
- › Campus Interconnection
- › Hybrid Fiber/Wireless Networks

## Ordering Information

Part Number	Description
ML-60-LW-XX	Cloud-Enabled Outdoor 60GHz + 5GHz + 2.4GHz PTP/PTMP
ML-60-LW-DO-XX	Cloud-Enabled Outdoor 60GHz + 5GHz + 2.4GHz PTP/PTMP (Dualband omni configuration)

\*\*XX is used to denote localization (US, EU, AU, CN)



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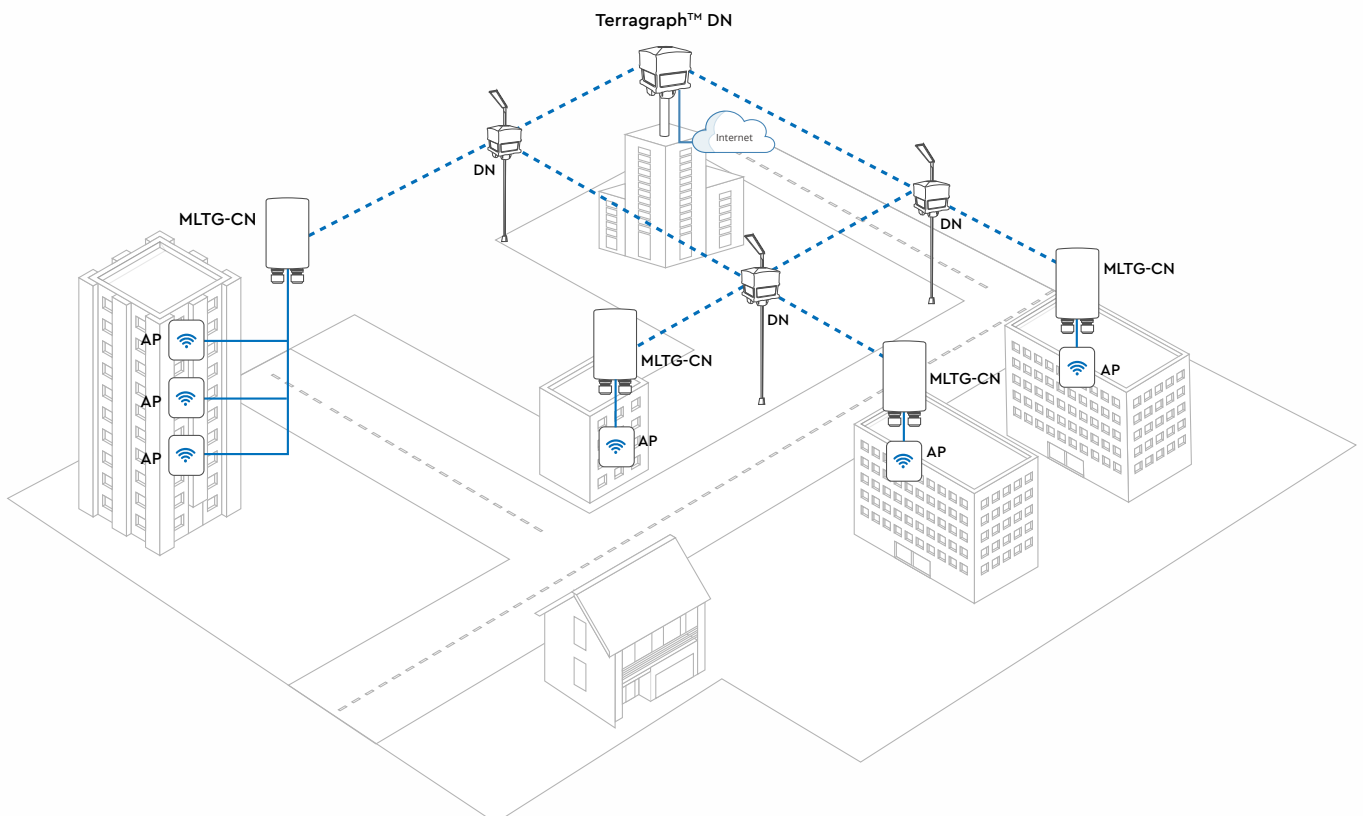
# MLTG-CN

## TERRAGRAPH CLIENT NODE

### INTRODUCTION

MLTG-CN is a Terragraph™ certified client node (CN). MLTG-CN supports IEEE802.11ay standard to deliver high-speed Internet in a noise-free and unlicensed 60GHz spectrum. When connected with Terragraph™ certified distribution node (DN), MLTG-CN can function as Customer Premise Equipment (CPE) to provide last mile wireless gigabit connectivity to the client site, such as warehouse, company building, or residential area.

MLTG-CN can also be paired to deliver Point-to-Point (PtP) wireless gigabit throughput for backhaul or last mile access without the costly installation of cabled fiber.



## SPECIFICATIONS

PHYSICAL	
60GHz Radio	<ul style="list-style-type: none"> <li>♦ Phased array antenna with 64 antenna elements</li> <li>♦ 90 degrees azimuth scan range: -45° to 45°</li> <li>♦ 50 degrees elevation scan range: -25° to 25°</li> </ul>
Interfaces	<ul style="list-style-type: none"> <li>♦ 1x Gigabit Ethernet Port (PoE IN)</li> <li>♦ 1x Gigabit Ethernet Port</li> <li>♦ 1x 60GHz Radio</li> </ul>
Environmental Conditions	<ul style="list-style-type: none"> <li>♦ Operating Temperature: -20°C (-4°F) to 55°C (131°F)</li> <li>♦ Storage Temperature: -20°C (-4°F) to 70°C (158°F)</li> <li>♦ IP66 Rating</li> </ul>
Power	<ul style="list-style-type: none"> <li>♦ 48~55V passive Gigabit PoE</li> </ul>
Power Consumption	<ul style="list-style-type: none"> <li>♦ 15W max.</li> </ul>
Dimensions (L x W x H)	<ul style="list-style-type: none"> <li>♦ 17.7 x 10.6 x 4.3 cm (6.9 x 4.2 x 1.7 in)</li> </ul>
Weight	<ul style="list-style-type: none"> <li>♦ 1.1 kg (2.4 lb)</li> </ul>
Certifications	<ul style="list-style-type: none"> <li>♦ FCC/CE</li> </ul>

PERFORMANCE	
Range	When connected to Edgecore MLTG-360 Terragraph Certified DN, the MLTG-CN supports: <ul style="list-style-type: none"> <li>♦ Up to 100m (0.06 mi) for MCS12</li> <li>♦ Up to 150m (0.09 mi) for MCS9</li> </ul>

KEY FEATURES	
Support channel 1 to channel 4 (57-66GHz)	
Up to 1.8 Gbps wireless throughput in both direction	
Beam forming technology with phased array antenna for easy alignment	
Support TDMA-MAC for dynamic bandwidth allocation	
Support Over-the-Air (OTA) Security with AES128 encryption	
Support QoS with 4 service classes	
Support VLAN tagging	
Support Layer 2 Forwarding	
Support NAT	
IPv6 tunneling	



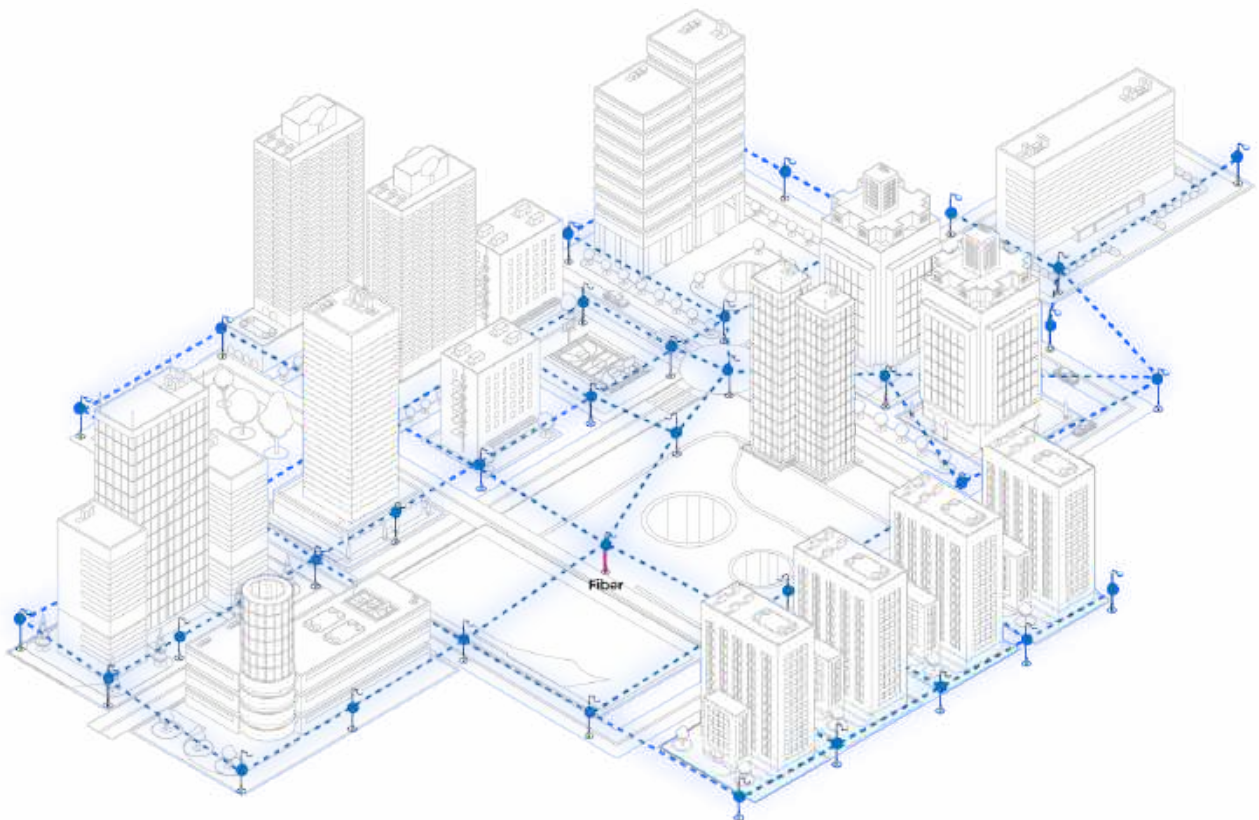
# MLTG-360

## TERRAGRAPH DISTRIBUTION NODE

### INTRODUCTION

MLTG-360 is a Terragraph™ certified distribution node (DN). MLTG-360 has 4 radios, supporting 360° coverage. Each radio of MLTG-360 equipped with a 256-element beamforming phased array antenna, supporting up to 1.8 Gbps bi-directional throughput. In addition, MLTG-360 supports advanced mesh solution to establish a robust wireless network. Resilient mesh can be easily constructed between multiple MLTG-360 to construct the wireless network with high availability.

MLTG-360 provides fiber-like connectivity at a lower cost than fiber which is ideal for fixed wireless access, backhaul of Wi-Fi, or cellular networks.



● MLTG-360 Distribution Nodes

## SPECIFICATIONS

### PHYSICAL

60GHz Radio	<ul style="list-style-type: none"> <li>4 x antenna tiles per radio</li> <li>64 antenna elements for each antenna tile</li> <li>90 degrees azimuth scan range: -45° to 45°</li> <li>50 degrees elevation scan range: -25° to 25°</li> </ul>
Interfaces	<ul style="list-style-type: none"> <li>1x Gigabit Ethernet Port (PoE IN)</li> <li>1x 10 Gigabit SFP+ port</li> <li>4x Gigabit Ethernet Port (PoE OUT)</li> <li>4x 60GHz Radio</li> </ul>
Environmental Conditions	<ul style="list-style-type: none"> <li>Operating Temperature: -20°C (-4°F) to 55°C (131°F)</li> <li>IP66 Rating</li> </ul>
Power	<ul style="list-style-type: none"> <li>Passive PoE (Injector Optional)</li> <li>42.5V~59V DC terminal block</li> </ul>
Dimensions (L x W x H)	<ul style="list-style-type: none"> <li>19.9 x 19.9 x 20.0 cm (7.83 x 7.83 x 7.87 in)</li> </ul>
Weight	<ul style="list-style-type: none"> <li>3.9 kg (8.60 lbs) (with mount)</li> </ul>
Certifications	<ul style="list-style-type: none"> <li>FCC/CE</li> </ul>

### PERFORMANCE

Range	<ul style="list-style-type: none"> <li>Up to 200m for MCS12</li> <li>Up to 250m for MCS9</li> </ul>
RF Performance (TX)	<ul style="list-style-type: none"> <li>EIRP 44dBm for each radio</li> </ul>
RF Performance (RX)	<ul style="list-style-type: none"> <li>-88 dBm @ MCS9</li> <li>-78 dBm @ MCS12</li> </ul>

### KEY FEATURES

Support channel 1 to channel 4 (57-66GHz)
Up to 1.8 Gbps throughput in both direction for each radio
Beam forming technology with phased array antenna for easy alignment
Support TDMA-MAC for dynamic bandwidth allocation
Support Over-the-Air (OTA) Security with AES128 encryption
Mesh network with IPv6 routing
Support IEEE 1588v2 timing synchronization
Support QoS with 4 service classes
Support VLAN tagging and QinQ
Less than 800 microseconds latency per hop for a point-to-point link
Self-recovery & optimization

## ORDERING INFORMATION

PART NUMBER	DESCRIPTION
MLTG-360	<ul style="list-style-type: none"> <li>Terragraph DN with 4 radios, 360° coverage</li> </ul>
MLTG-360-3	<ul style="list-style-type: none"> <li>Terragraph DN with 3 radios, 270° coverage</li> </ul>
MLTG-360-2	<ul style="list-style-type: none"> <li>Terragraph DN with 2 radios, 180° coverage</li> </ul>
MLTG-360-1	<ul style="list-style-type: none"> <li>Terragraph DN with 1 radio, 90° coverage</li> </ul>

## ACCESSORY

PART NUMBER	DESCRIPTION
J-Bracket	<ul style="list-style-type: none"> <li>MLTG-360 Bracket, Pole mount</li> </ul>
PoE Injector	<ul style="list-style-type: none"> <li>90W PoE Injector</li> </ul>