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Infinite Possibilities

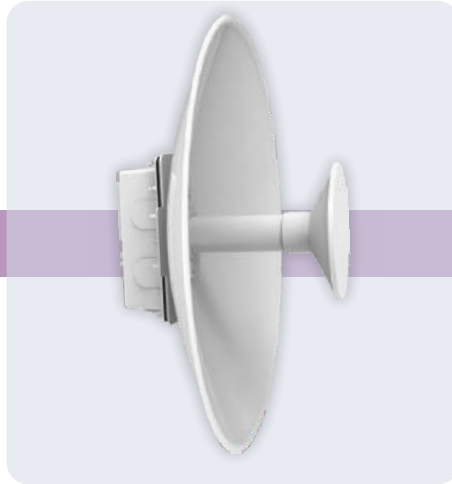**UNLICENSED BAND RADIO 2x2**

ion4lx

PRODUCT DESCRIPTION

IO Enterprise Grade point-to-point and point-to-multipoint solution is optimally designed to support low to medium capacity enterprise applications in the unlicensed 5 GHz spectrum for short to long range links. Its high precision integrated GPS sync technology allows reuse of the same channel at collocated sites, thereby delivering maximum capacity in minimum spectrum.
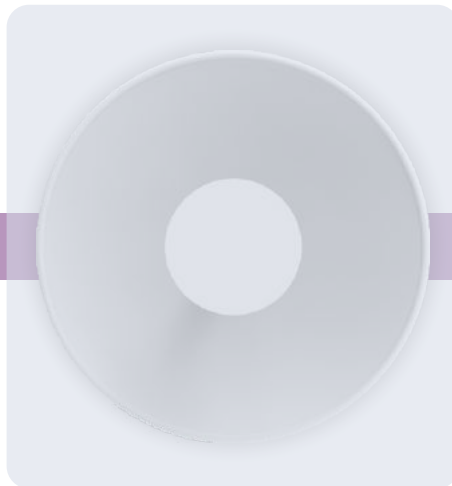

POINT TO POINT WIRELESS NETWORK

Connects two locations together through line of sight (LOS) or near line of sight (nLOS). P2P wireless link is configured in a master-slave configuration in which the master controls the time slot for communication between the master and the slave.
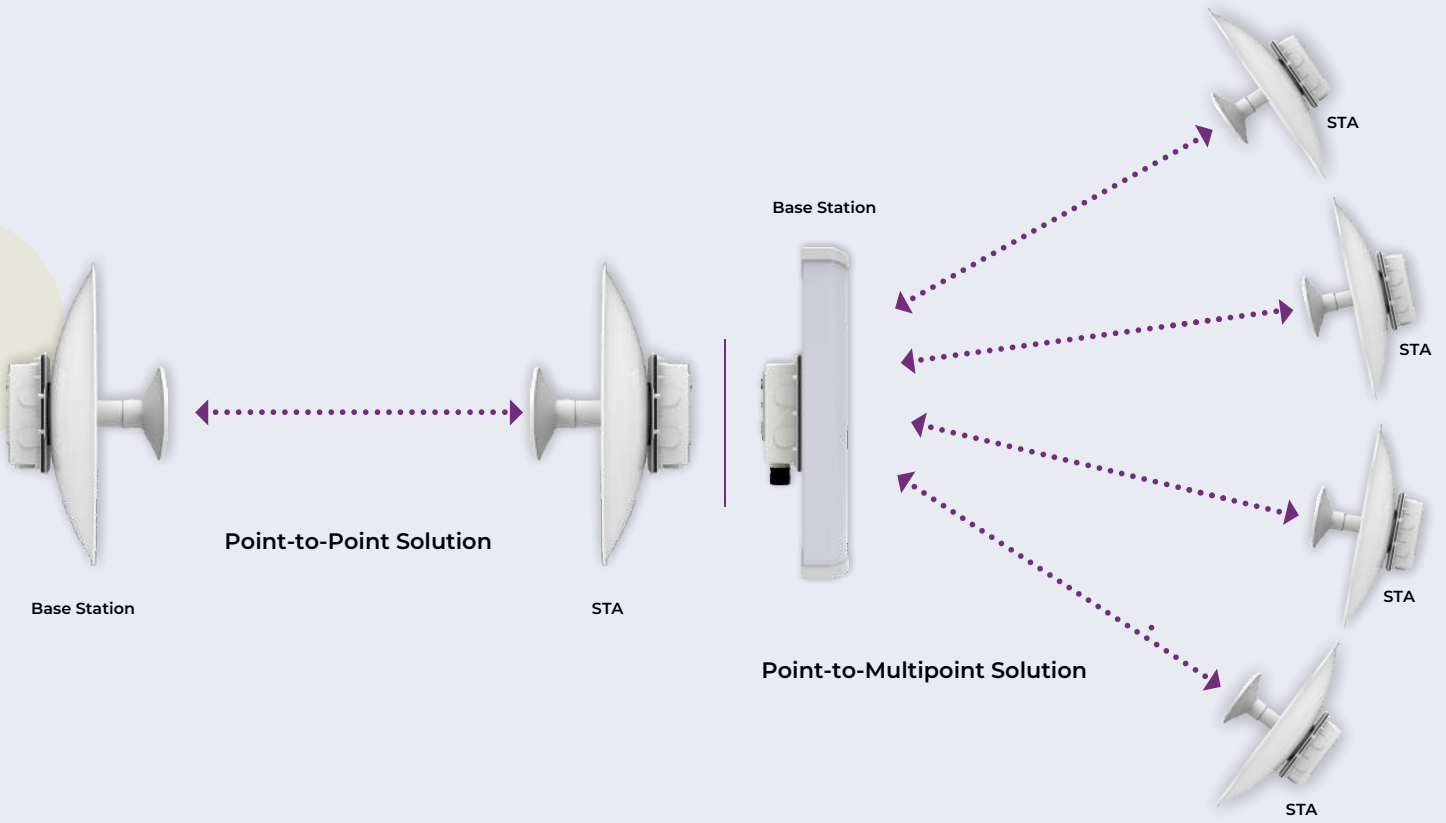
POINT TO MULTIPOINT NETWORKS

In a P2MP wireless network, a single master controls multiple slaves in the network. Each slave can transmit/receive the data to/from the master.

HIGHLIGHTS

- Up to 700 Mbps aggregate UL/DL throughput
- Radio supports 2x2 MIMO and TDMA upto 256 QAM
- GPS Sync support
- Network Management: Through SNMP v1/v2c/v3 or Cloud management
- IPv4 and IPv6 protocols
- 1+0 or 1+1 deployment
- IP 67 rated enclosure

TARGET APPLICATIONS

Point-to-Point Solution

Base Station

STA

Base Station

Point-to-Multipoint Solution

STA

STA

STA

STA

TECHNICAL SPECIFICATIONS

PERFORMANCE

Peak Throughput

- Up to 700 Mbps aggregate UL/DL throughput

RF Power

- Automatic transmit power control (ATPC) for enhanced adaptability to the changing environment

Wireless Protocols

- TDMA

RADIO

MIMO & Modulation

- 2x2 MIMO and TDMA upto 256 QAM

Channel Size

- 10/20/40/80 MHz channels

Radio Frequency Band

- 5 GHz (with extended 5 GHz channel support, country-specific restrictions apply)

Max Transmit Power

- 27 dBm for 5 GHz (will depend on country-specific guidelines)

Receiver Sensitivity

- -84 dBm @ 80 MHz
- -87 dBm @ 40 MHz
- -90 dBm @ 20 MHz

PROCESSOR

- Qualcomm IPQ4019 SOC

POWER

- IEEE 802.3af PoE
- Power Consumption (Max.): 10 W

INTERFACES

- 1 X 10/100/1000BASE-T Ethernet

ANTENNA

- Options for external high performance antenna

SECURITY

- WPA, WPA2, and 128-bit AES PSK with hardware acceleration

HIGH LEVEL FEATURES

- Supports dying gasp feature (optional)

WAN Protocols

- Static IPv4/v6, DHCP client v4/v6

Management

- Standalone (via GUI) or through appliance-based EMS or cloud-based

Smart Spectrum Management

- Active scan; monitors/logs ongoing RF interference across channels (no service impact); Dynamic auto-optimization of channel and bandwidth used
- Adjustable upstream/downstream bandwidth ratio

QoS

- 802.11e WMM

GPS Location

- GNSS-1 (GPS + GLONASS)

Collocation Synchronization

- 1PPS GPS Tx/Rx synchronization for collocated co-channel radios

Two-Way Active Measurement Protocol (TWAMP)

- Enables measurement of round-trip network performance of links

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ENVIRONMENTAL

Outdoor Ingress Protection Rating

- IP 67

Operating Temperature

- -15°C to 60°C

Operating Humidity

- 5 to 95% (non-condensing)

Operating Altitude

- As per QM333 (3050 meter/10000 feet)

Wind Sustainability

- 150 km/hour (sustained winds)

PHYSICAL

Enclosure

- UV protected ABS+PC for durability even in harsh outdoor conditions with aluminium heat sink at bottom

Dimensions

- 185 X 170 X 65 mm or 7.28 X 6.70 X 2.56 inches (For Integrated antenna variants)
- 189 X 116 X 52 mm or 7.44 X 4.57 X 2.05 inches (For External antenna variants)

Weight

- 0.775 kg (for both Integrated & External antenna variants)

Mounting

- Pole and wall mounting
- Turning angle: 140° H & 60° V
- Weight: 0.185 kg

Visual Indicators

- Link, Alarm, and Power LEDs

CERTIFICATIONS

- FCC Class A, CE

SAFETY & OTHER COMPLIANCES

- Safety Protection as per IEC 60950 and IEC 60215
- Electrostatic Discharge Immunity as per IEC 61000-4-2, Contact L2 and Air Discharge, L3 Level
- DC Surge Immunity as per IEC 61000-4-5, Level 2 (power port + signal port)
- Electrical Fast Transient/Burst Immunity as per IEC 61000-4-4, Level 2
- Radiated susceptibility as per IEC 61000-4-3 Level 2
- Conducted Susceptibility as per IEC 61000-4-6, Level 2
- Bump and vibration as per QM333
- Radiated Emission as per CISPR 22 Class A
- Conducted Emission as per CISPR 22 Class A (power port + signal port)
- Voltage Variation: AC- as per IEC 61000-4-11 and DC- as per IEC 61000-4-29

ORDERING INFORMATION

MODEL NUMBER	PRODUCT DESCRIPTION
ion4le	HFCL IO 2X2 5GHz Unlicensed Band Radio with External Antenna and 700 Mbps aggregated peak throughput
ion4l1_BTS	HFCL IO 2X2 5GHz Unlicensed Band Radio BTS with integrated 17 dBi Sector Antenna and 700 Mbps aggregated peak throughput
ion4l2_CPE	HFCL IO 2X2 5GHz Unlicensed Band Radio CPE with integrated 23 dBi Dish Antenna and 300 Mbps aggregated peak throughput
ion4l3_CPE	HFCL IO 2X2 5GHz Unlicensed Band Radio CPE with integrated 25 dBi DIsh Antenna and 300 Mbps aggregated peak throughput
ion4l2	HFCL IO 2X2 5GHz Unlicensed Band Radio with integrated 23 dBi Dish Antenna and 700 Mbps aggregated peak throughput
ion4l3	HFCL IO 2X2 5GHz Unlicensed Band Radio with integrated 25 dBi Dish Antenna and 700 Mbps aggregated peak throughput

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