



XTND-OMNI Base Station with Doodle Labs Mesh Rider® Radio

Version: 1.0

Product Code: XTND-C020

see ordering information on page 2 for P/Ns



Product Description:

The XTND™ base station product family delivers enhanced long-range performance for its integrated Doodle Labs Mesh Rider Mini OEM 2x2 MIMO Radio. Offering the convenience of an IP-65 base station energized with PoE (802.3 af/at/bt), the XTND-C010 has a single IP-67 rated RJ-45 connector for both power and Fast Ethernet (100 Mbps) connectivity. Internal cross-polarized antennas deliver superior omnidirectional performance.

For radio relay or geographic overlay applications at different frequencies use two co-located XTND base stations. Contact Cyntony for details.

Specifications:

Electrical	
Frequency Range	902-928 & 1625-2500 MHz
Radio Type	DL Mini OEM Unlicensed or Helix
Radiation Pattern	Omnidirectional
Number of Sectors/Radios	One
Antenna Gain	2-3 dBi max, generally omni
Polarization	Cross Polarized for 2 x 2 MIMO

Mechanical	
Dimensions	10.5 x 10.25 x 6.75 inches
Weight	2.95 lbs
Cooling	Internal Stirring
Radome	UV Stable ASA

Environmental	
Temperature Range	-40 to +60°C non-condensing
Ingress Rating	IP-65
Wind Rating	135 mph

Features:

- Robust high-throughput wireless networking
- Ultra-reliable low-latency channel for control
- Easy mast-mounting
- Energized by PoE (802.3 af/at/bt)
- Fully integrated and tested

Applications:

- Robotic and autonomous system communications
- Resilient private MANET networking

Mesh Rider is a registered trademark of Doodle Labs LLC

XTND-OMNI Base Station

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Ordering Information

XTND-C020-1700

includes 1 x mini-OEM Mesh Rider Radio for ISM (RM-1700-22M3), 902-928 & 2400-2500 MHz

XTND-C020-2025

includes 1 x mini-OEM Mesh Rider Radio for Helix M1-M6 (RM-2025-62M3), 1625-2500 MHz

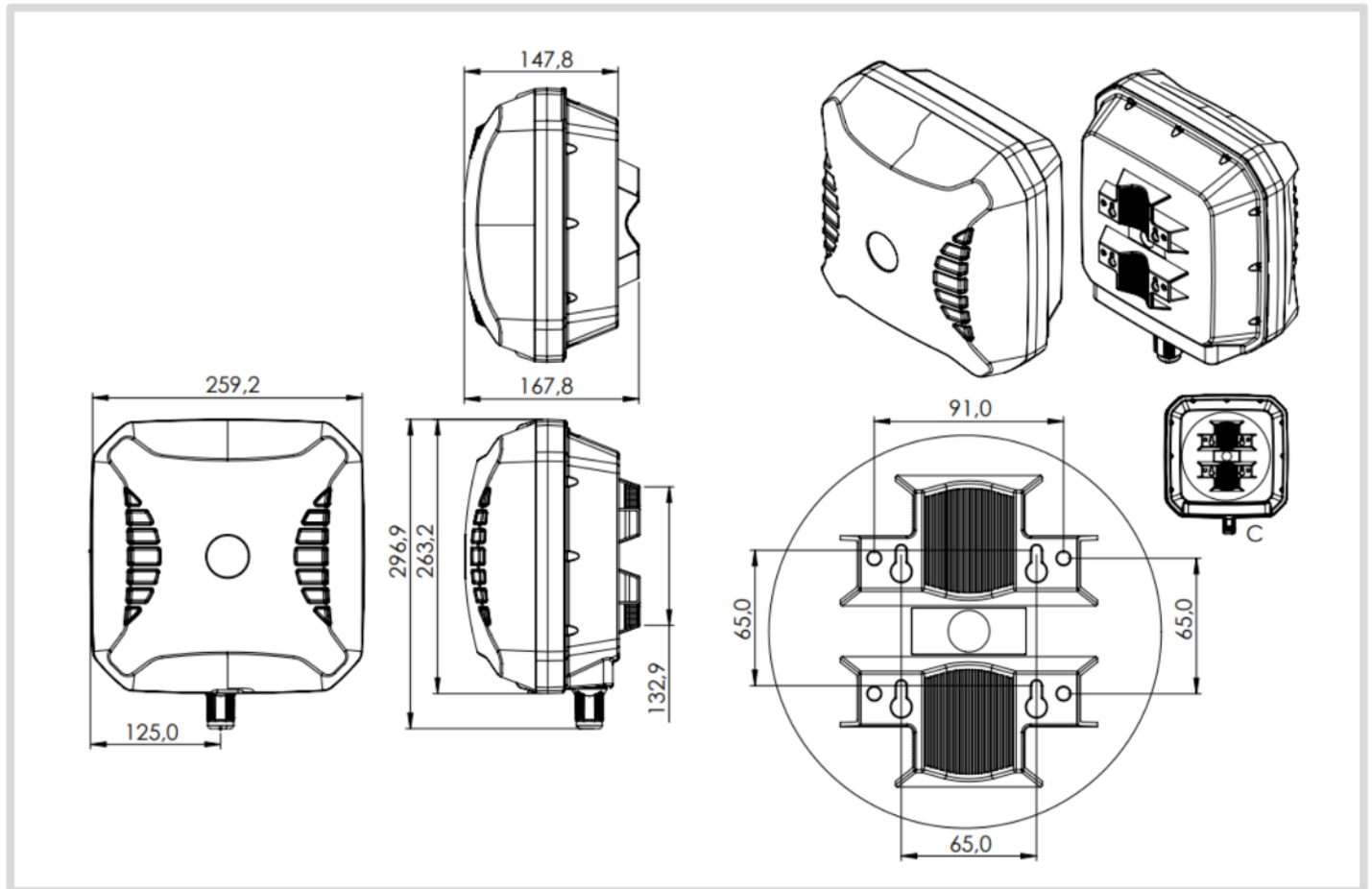
XTND-C020-2100

includes 1 x mini-OEM Mesh Rider Radio for Helix L&S (RM-2100-42M3), 1350-1390 & 2200-2500 MHz

XTND-C020-2450

includes 1 x mini-OEM Mesh Rider Radio for Helix ISM (RM-2450-12M3), 2400-2500 MHz

Mechanical dimensions (mm)



EIRP Statement

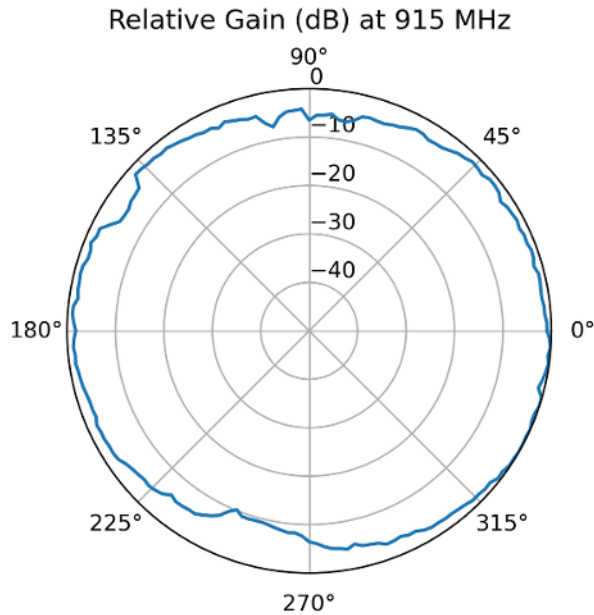
Cyntony recommends limiting the radio's Tx power to stay within local regulatory EIRP limits. This will help run the wireless link at higher modulation rates, and has an added benefit of lower power consumption.

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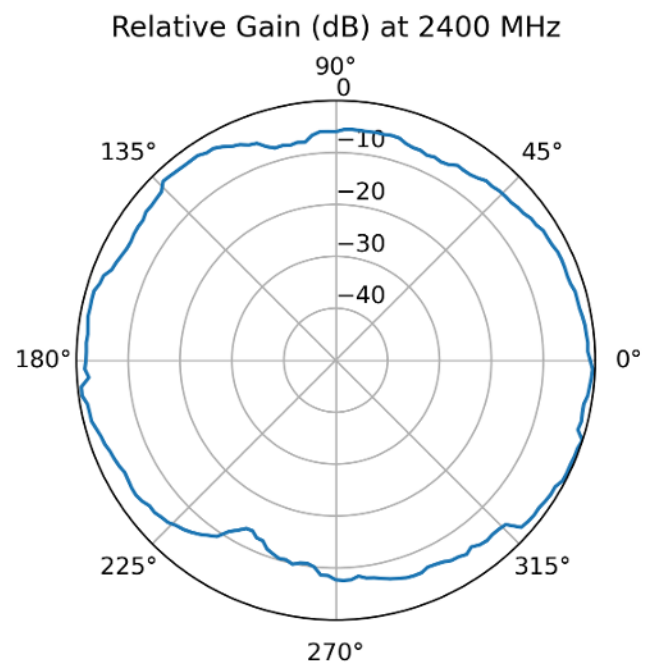
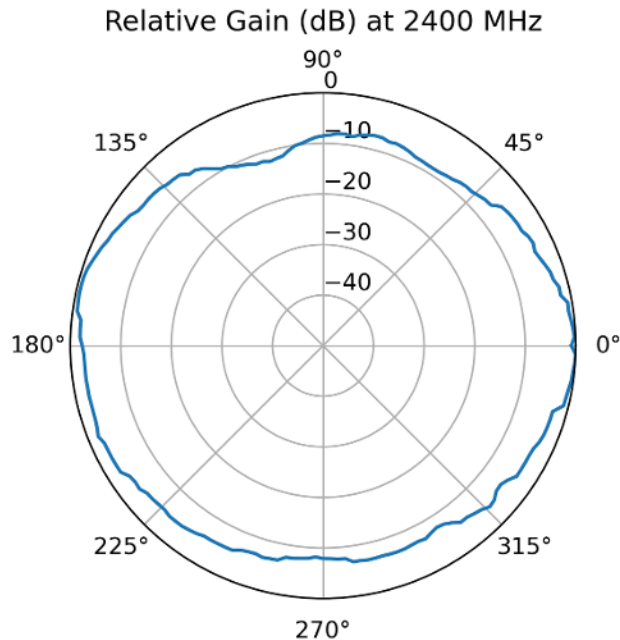
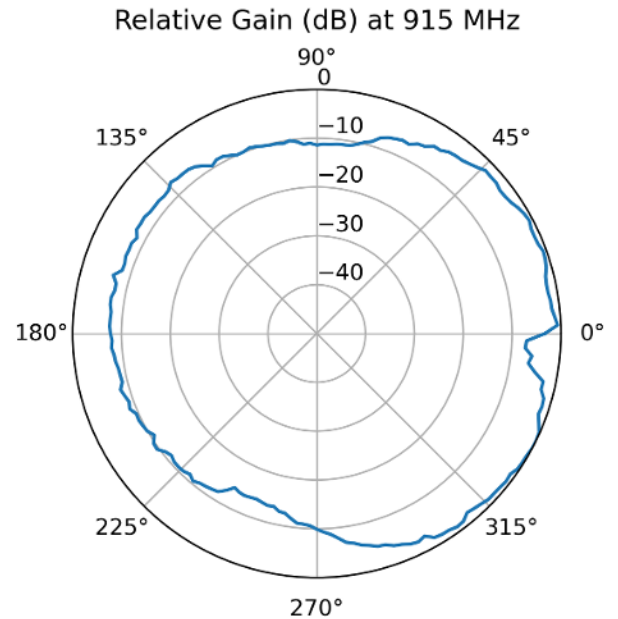
Azimuth patterns (dB)

at zero degrees elevation



Elevation patterns (dB)

at zero degrees Azimuth



Test Scenario

XTND-C020 was tested at Cyntony by placing on 2 meter mast 20 meters from a Doodle Labs Mesh Rider Wearable radio at 2m with 20 dB attenuators and Trival AD-62/DB-915-2450 antennas. An automated test system rotated the XTND-C020 in 2 degree steps, calculating the average of 20 RSSI measurements at each step. Data was then normalized for plotting on a 0 to -50 dB polar plot.

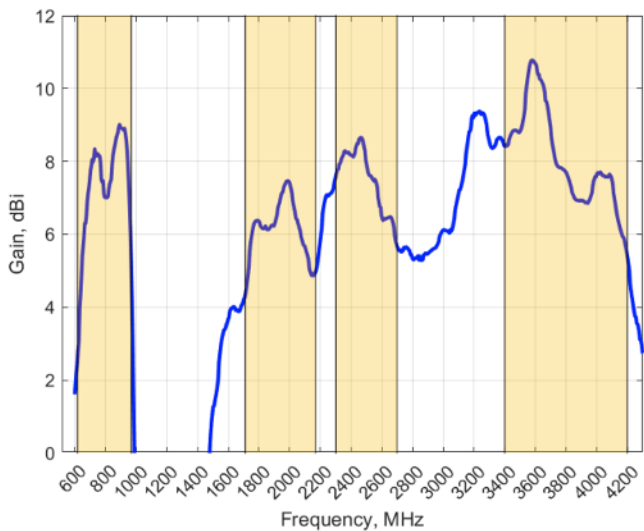
XTND-OMNI Base Station

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Internal Antenna Specifications

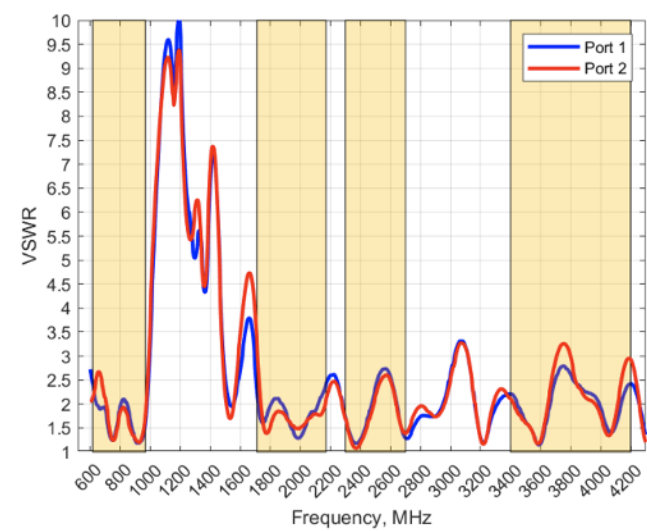
Boresight Gain* (dBi)

GAIN (EXCLUDING CABLE LOSS): Cellular Antenna

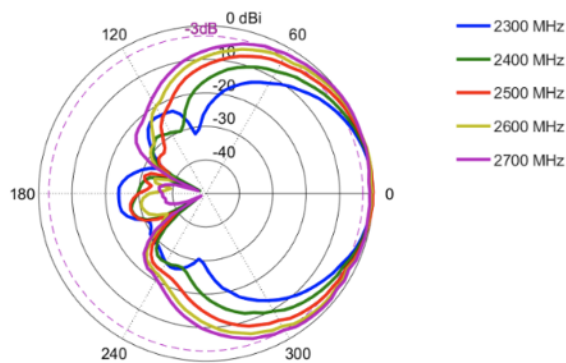


VSWR (x:1)

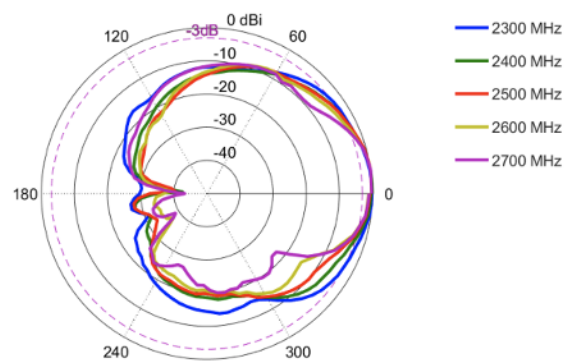
VSWR: Cellular Antenna



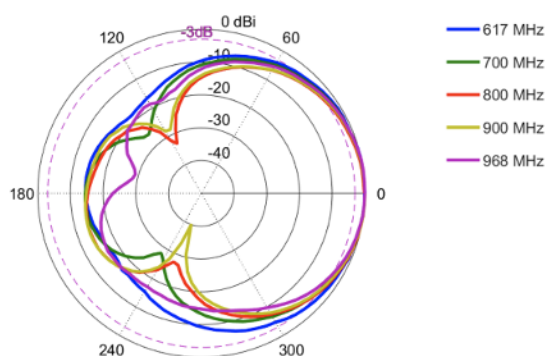
Azimuth: 2300 – 2700 MHz



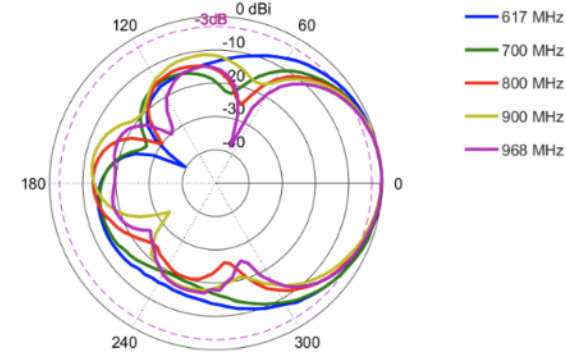
Elevation: 2300 – 2700 MHz



Azimuth: 617 - 968 MHz



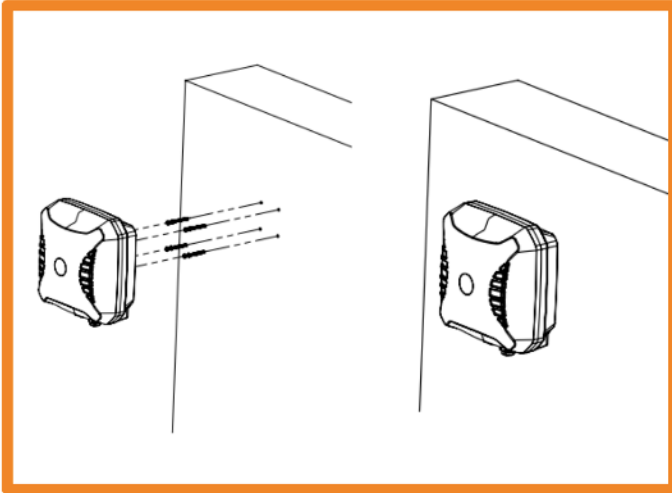
Elevation: 617 – 968 MHz



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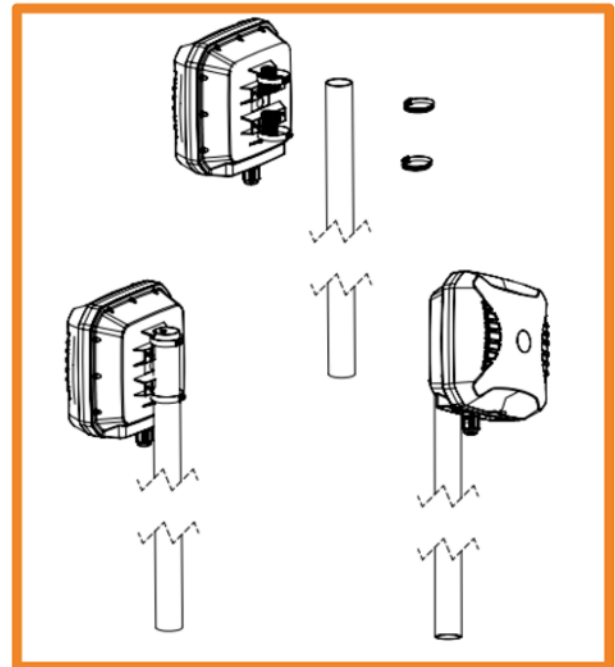
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Mounting Options

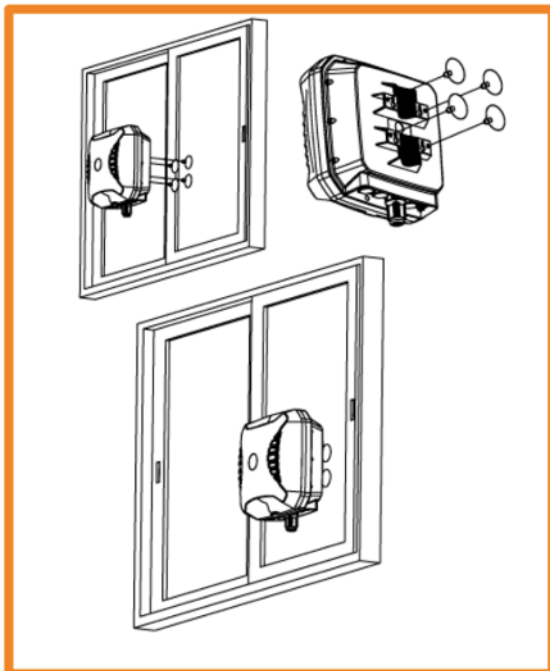


Wall Mount with bracket using knock-in screws (included)

Pole Mount with bracket using pipe clamps (included)



Window Mount Pole/Wall mounting bracket using suction cups (included)



Optional Masts

ST-R

The ST-R antenna mast is primarily designed for raising and mounting lightweight antennas for mobile operations in stationary settings. The base unit features a specialized three-leg tripod constructed from aluminum alloy tubes, with telescopic support legs made of glass-reinforced polyester composite material. Under normal conditions, the mast does not require additional ropes or anchors.

The three-leg tripod is engineered for rapid deployment, even on uneven terrain. The mast comes packaged in a convenient bag. The standard height is 6 meters (comprising 5 sections of 1.2 meters each), but alternative dimensions and additional guy rope kits are available upon request.

In situations where guying is advised but traditional anchors cannot be used (e.g., on hard ground), the tripod legs can be stabilized using sandbags.



RSM-6

The RSM-6 mast is lightweight, man-portable and ideal for elevating lightweight/wire antennas for short to medium term base station or forward command communications applications. The mast is packed complete with all accessories:

- seven mast sections
- baseplate
- guy ropes
- mallet
- anchor pegs
- carry bag
- easily deployed on penetrable ground by one person in less than 5 minutes.

