



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

Version: 1.1

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 basestation 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

Product Code: XTND-C020

## 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

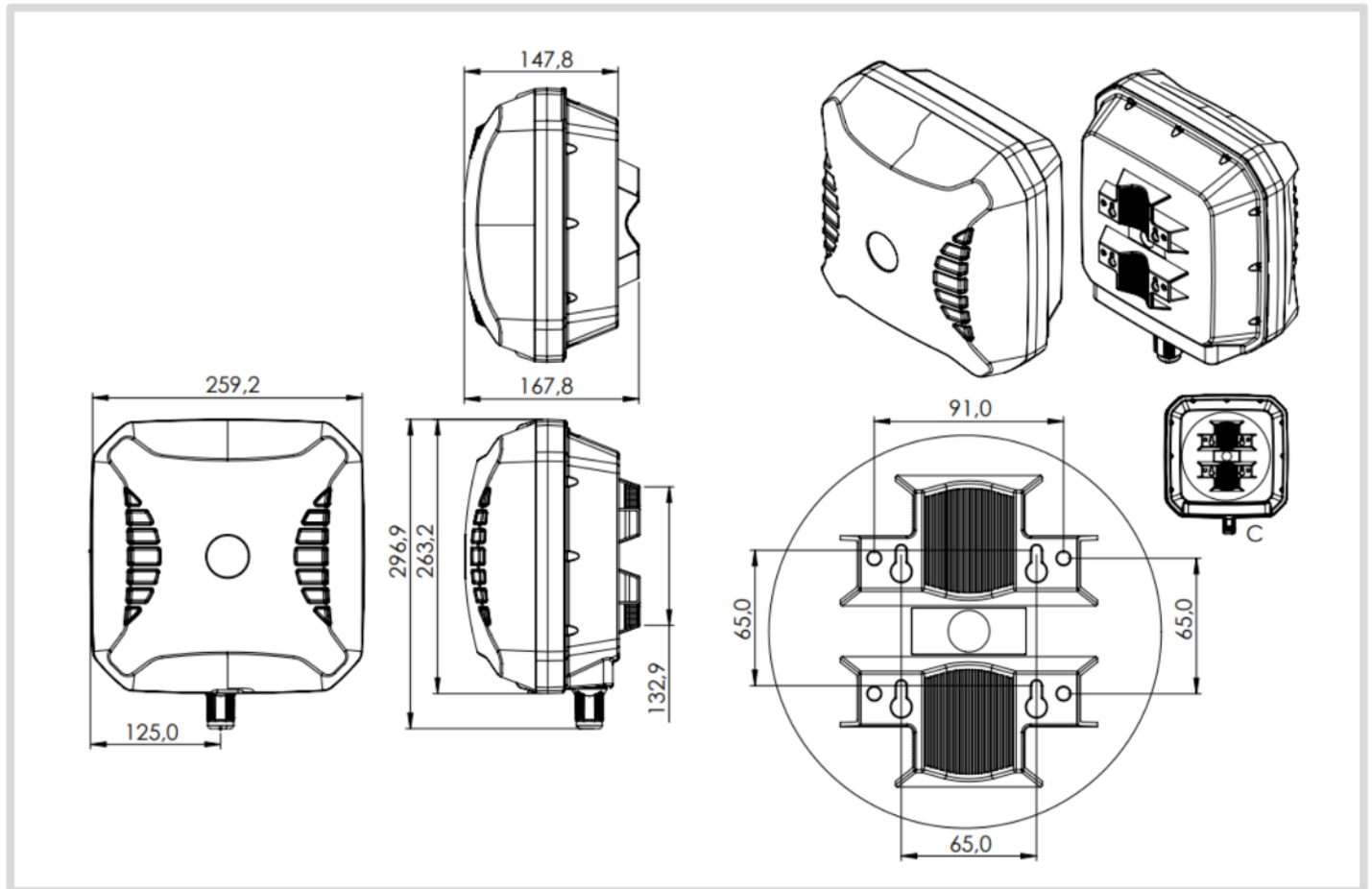
### XTND-C020-2100

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

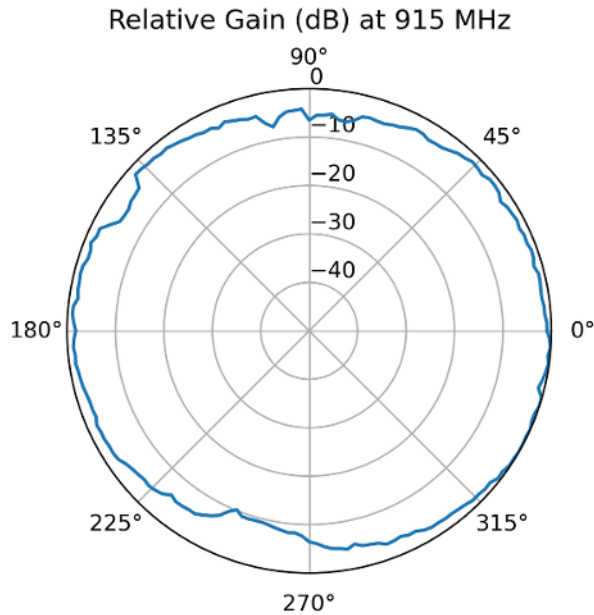
Cyntony recommends limiting the radio's Tx power to stay within local regulatory EIRP limits. This will help run the wireless link at higher modulation rates, and has an added benefit of lower power consumption.

# XTND-OMNI Base Station

Product Code: XTND-C020-1700

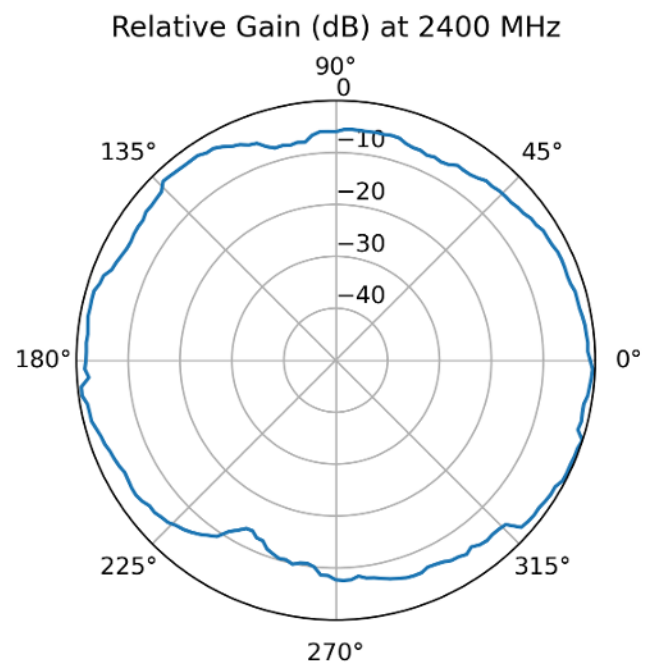
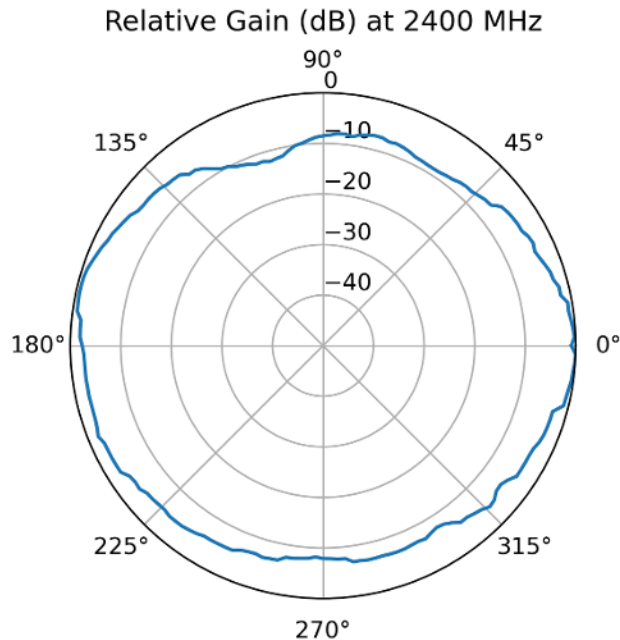
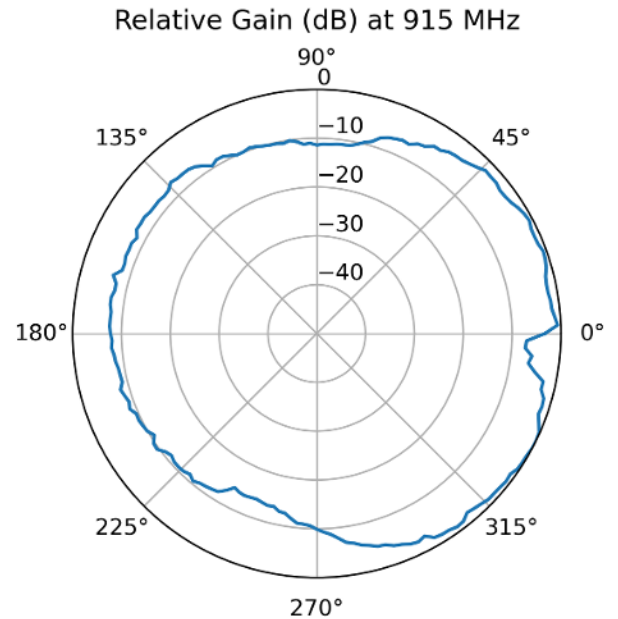
## Azimuth patterns (dB)

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.

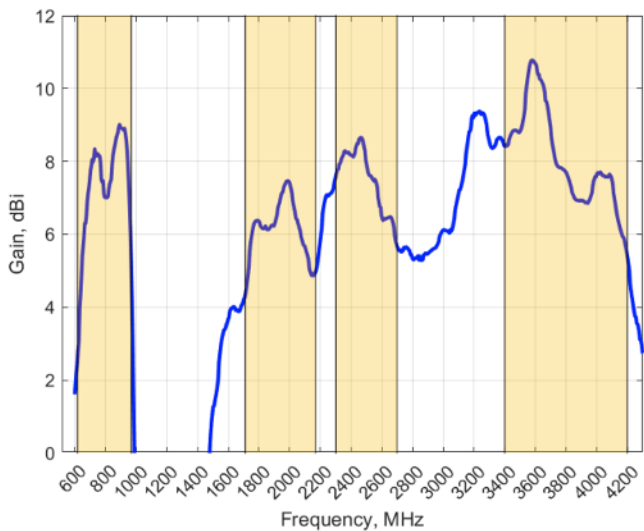
# XTND-OMNI Base Station

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## Internal Antenna Specifications

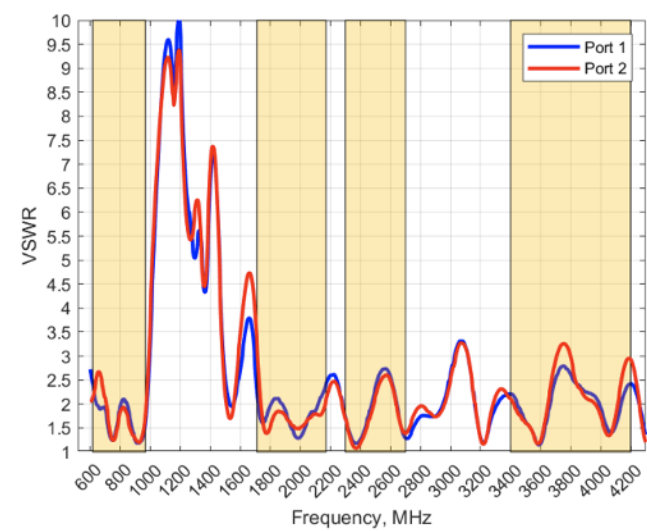
Boresight Gain\* (dBi)

GAIN (EXCLUDING CABLE LOSS): Cellular Antenna

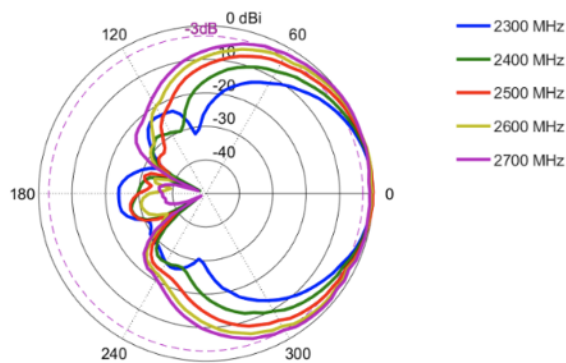


VSWR (x:1)

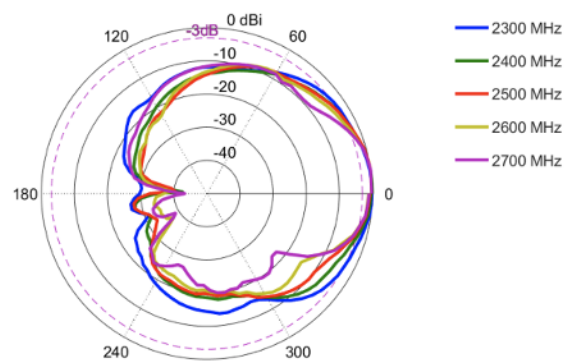
VSWR: Cellular Antenna



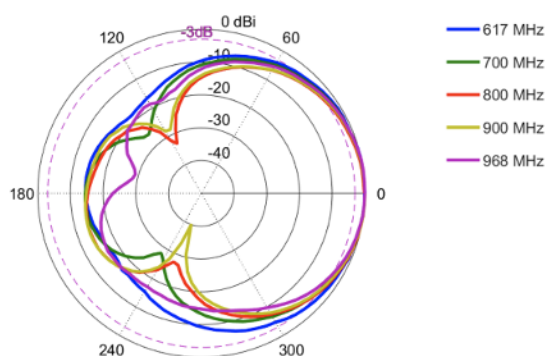
Azimuth: 2300 – 2700 MHz



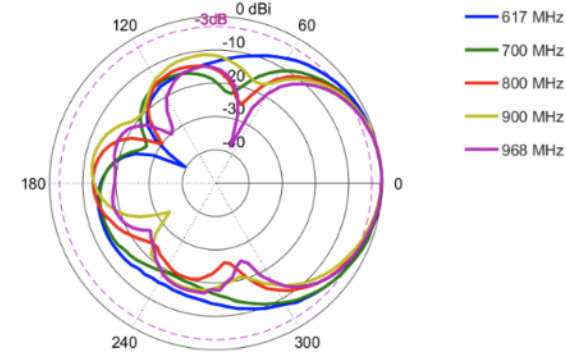
Elevation: 2300 – 2700 MHz



Azimuth: 617 - 968 MHz



Elevation: 617 – 968 MHz

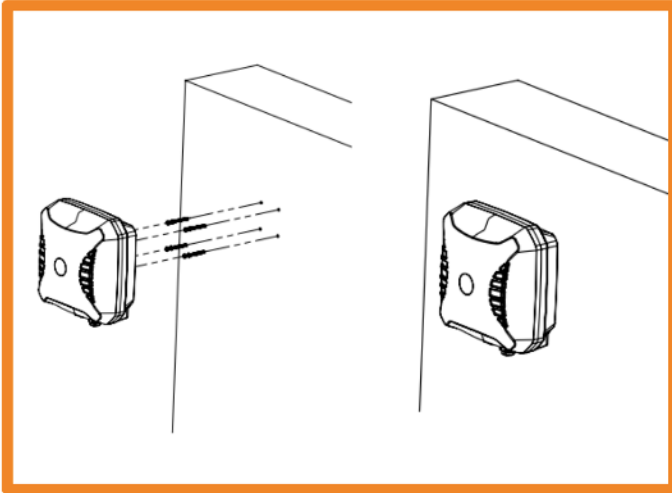


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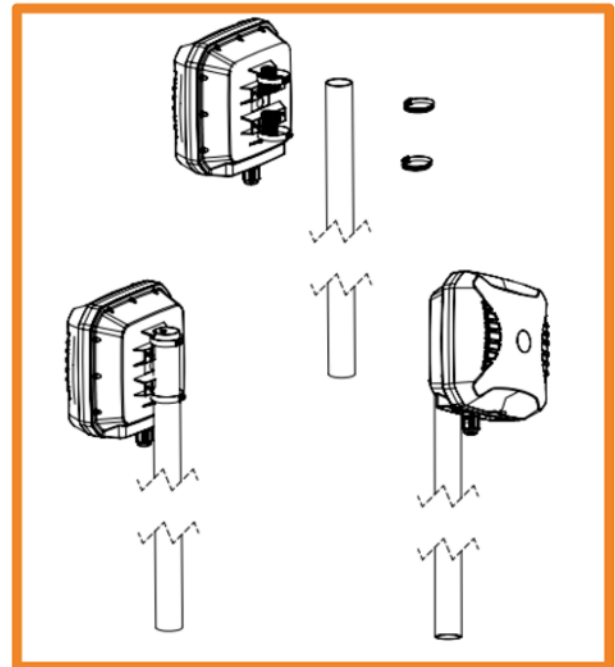
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## Mounting Options

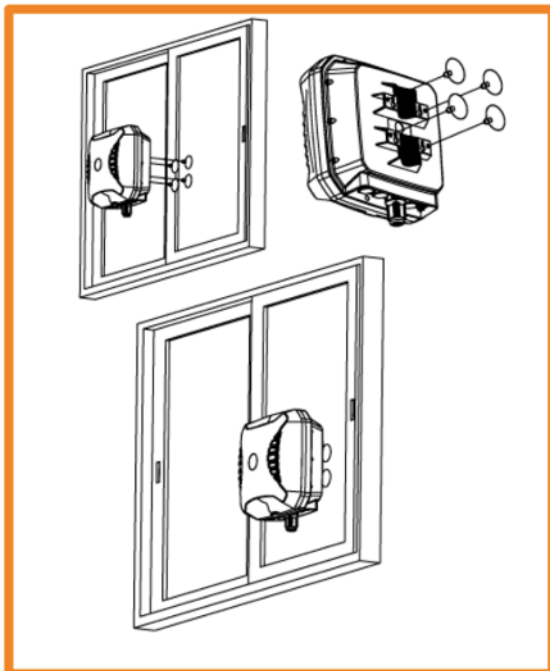


**Wall Mount** with bracket using  
knock-in screws (included)

**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 1.23 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 with sandbags.



### STM

The STM mast series is a family of lightweight manportable/manpack sectionalized tubular masts intended for use with lightweight antennas and equipment. Mast sections are made of composite material (fiberglass) with aluminium joints and painted with the 2 component UV resistant PU paint. All ground mounting accessories for guy-stabilized elevation are included in the strong canvas carrying bag. Various options (section length, number of sections, no. of guying levels, no. of guys, etc.) are available on request.

Standard models:

**STM-3/5-60; STM-5/4-123; STM-6/5-123;  
STM-7/6-123; STM-8/7-123**

STM-x/y-dd LEGEND:

x = height in meters

y = number of sections

dd = length of the section in centimeters

