

WAVEHUNTER™

The Most Advanced and Fastest Cellular
Antenna for Seamless Connectivity

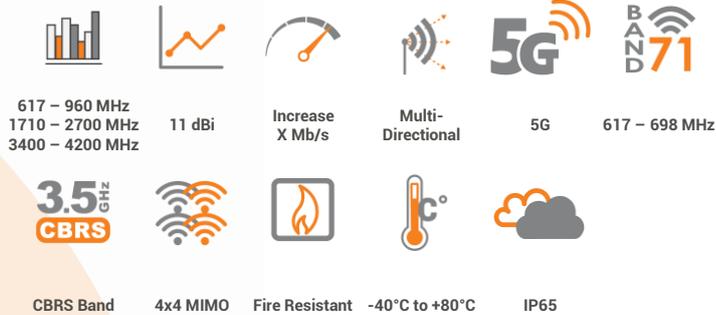


POYNTING

ANTENNAS | WAVEHUNTER SERIES

X-POLARISED, HIGH GAIN, MULTI-DIRECTIONAL 5G/LTE 24X24 MULTI MIMO ANTENNA ARRAY

617 – 960 MHz & 1710 – 4200 MHz, 11dBi, 6x (4x4 MIMO) + 4x4 MIMO Dual Band Wi-Fi + 2x2 GPS/Glonass



APPLICATION AREAS

- Antenna enclosure with high performance antennas
- New advanced metamaterial technology
- Exceptional high gain performance over the main 4G/5G bands
- Cross-polarised antennas for improved performance
- IP65 weather/dust resistant enclosure

Product Overview

Poynting Antennas introduces its all-new antenna enclosure range, the WaveHunter™ series. The WaveHunter™ enclosure is designed to fit a variety of router and networking modules, transforming the antenna enclosure into a CPE (Customer Premises Equipment) – just add your own LTE/5G routers and networking equipment. The WaveHunter™ enclosure can accommodate two routers up to the size of 250 x 150 x 50 mm³ mounted directly to the base. Additional equipment can be added within a stacked customised user supplied frame. The WaveHunter™ antenna enclosure uses our world renowned Artificial Magnetic Conductor (AMC) technology from our XPOL-2-5G antenna. The antenna array consists of 12 cross-polarised, high gain, 2x2 MIMO directional antennas arranged in two stacked arrays offset at 60° increments. This provides 360° wideband coverage from 617 to 960 MHz and 1710 to 4200 MHz, with a peak gain of 11 dBi, making it ideal for Multi-router LTE & 5G bonded and aggregated deployments. The enclosure was also designed to withstand adverse weather condition, making the antenna weatherproof and waterproof with an IP65 rating.

Features

- Ultra-wideband coverage from 617- 960 & 1710 - 4200 MHz
- High gain directional antennas, with a peak gain of 11 dBi
- Dual-band Wi-Fi
- Can accommodate up to 6 routers for optimal throughput
- Purpose built antenna for marine and coastal applications
- Weatherproof and water-resistant enclosure (IP65)
- UV and saltwater resistant
- Aluminium heatsink base with excellent thermal properties for devices integrated within the WaveHunter™

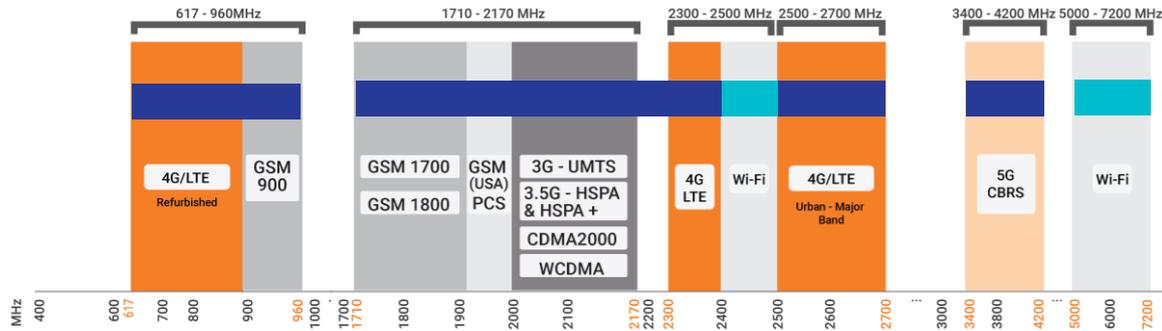
Application Area

- Marine applications: Super yachts, commercial vessels, cruise ships, ferries, private yachts, and towing vessels
- Harsh environments such as harbour buildings, and buoys
- Enhanced LTE/4G and 5G reception
- Increase system transmission reliability



Frequency Band

The WAVEHUNTER is a circular array of uni-directional antennas that operates in the following frequency bands: 617 – 960 MHz | 1710 – 2700 MHz | 3400 – 4200 MHz as well as the Wi-Fi frequency bands | 2400 – 2500 MHz | and | 5000 – 7200 MHz



■ Indicates the 5G/LTE bands on which WAVEHUNTER works

■ Indicates the Wi-Fi bands on which WAVEHUNTER works

ANTENNA DERIVATIVES

Product Order Code (SKU)	A-WHUNTER-001-V3-101	A-WHUNTER-001-V3-102
Mounting Option	Use provided pedestal	No pedestal
Ports	LTE: Vertical Polarised (x 6), Horizontal Polarised (x 6), Slanted +45° (x 6) & Slanted -45° (x 6) Wi-Fi: Vertical Polarised (x 2) & Horizontal Polarised (x 2) GPS: Circular Polarised (x 2)	LTE: Vertical Polarised (x 6), Horizontal Polarised (x 6), Slanted +45° (x 6) & Slanted -45° (x 6) Wi-Fi: Vertical Polarised (x 2) & Horizontal Polarised (x 2) GPS: Circular Polarised (x 2)
SISO / MIMO	2x2 or 4x4 MIMO – LTE, 2 x (2x2 MIMO)– Wi-Fi & 2 x (SISO) - GPS	2x2 or 4x4 MIMO – LTE, 2 x (2x2 MIMO)– Wi-Fi & 2 x (SISO) - GPS
Frequency Bands	617 – 4200 MHz – LTE, 2.4-2.5 GHz & 5 – 7.2 GHz – Wi-Fi & 1575.42 MHz / 1600 MHz - GPS	617 – 4200 MHz – LTE, 2.4-2.5 GHz & 5 – 7.2 GHz – Wi-Fi & 1575.42 MHz / 1600 MHz - GPS
Polarisation	Vertical, Horizontal & ±45° - LTE, Linear – Wi-Fi & Circular - GPS	Vertical, Horizontal & ±45° - LTE, Linear – Wi-Fi & Circular - GPS
Peak Gain	11 dBi – LTE, 7.5 dBi – Wi-Fi & 21 dBi - GPS	11 dBi – LTE, 7.5 dBi – Wi-Fi & 21 dBi - GPS
Connector Type	24 x SMA (F) – LTE, 4 x SMA (M) – Wi-Fi & 2 x SMA (M) - GPS	24 x SMA (F) – LTE, 4 x SMA (M) – Wi-Fi & 2 x SMA (M) - GPS
Weight	51 kg	46 kg
Packaged Weight	89 kg	82 kg
Antenna Dimensions (L x W x H)	650 mm x 650 mm x 893 mm	650 mm x 650 mm x 750 mm
Packaged Dimensions (L x W x H)	684 mm x 684 mm x 1080 mm	684 mm x 684 mm x 938 mm
EAN	6009710925980	6009710926000

*The connectors are factory mounted to the antenna

Additional pigtails(not supplied) are required to connect the antenna to the router

See accessories section at the end of this document for pigtail options offered

Electrical Specification

Frequency bands:	617 – 960 MHz 1710 – 2700 MHz 3400 – 4200 MHz
Gain (max):	11 dBi
VSWR:	<2.5:1 Over 90% of the band
Feed power handling:	10 W
Input impedance:	50 Ohm (nominal)
Polarisation:	Vertical, Horizontal & ±45°
Coax cable loss:	N/A
DC short:	Yes

Electrical Specifications - GPS/Glonass Antenna

Frequency Range (GPS):	1575.42MHz/1600MHz
Gain (Max):	21+/-2dBi
VSWR:	≤1.5:1
DC Voltage:	2.7-3.3 V
DC Current:	5-15mA
Noise Figure:	≤1.5 dB
Nominal Impedance:	50 Ω
Polarisation:	RHCP
Filter Out Band Attenuation:	12dB Min f0+50MHz, 16dBi Min f0-50MHz
Voltage:	2.7 - 3.3V
Max. Power-W:	50W

Electrical Specifications – Wi-Fi

Frequency:	2400-2500 MHz 5000–7200 MHz
Gain (Max) Port 1 & 2:	5 dBi @ 2400-2500 MHz 7.5 dBi @ 5000–7200 MHz
VSWR Port 1 & 2:	≤2:1 over 95% of the band
Feed power handling:	10 W
Nominal input impedance:	50 Ohm (nominal)
Polarisation:	Linear Vertical
Path to Ground:	Yes

Product Box Content

Antenna:	A-WHUNTER-001-V3
Mounting bracket:	See Mounting Options

Mechanical Specification

Packaged type:	ClipLok™ Padded Container
Radome material:	UV Stable E-Glass
Radome colour:	Brilliant White Pantone P 179-1 C
Mounting Type:	See Mounting Options

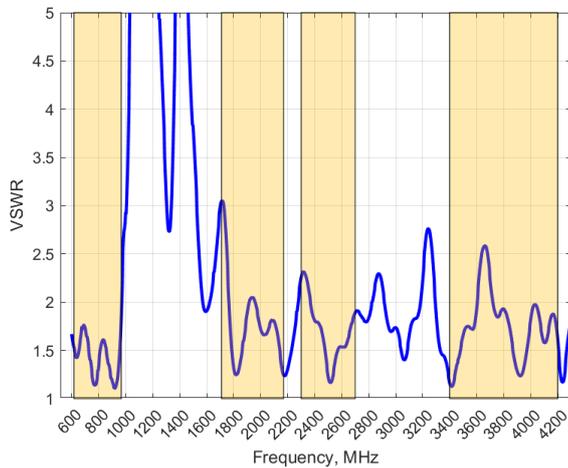
Environmental Specifications, Certification & Approvals

Wind Survival:	≤186 km/h
Temperature Range (Operating, Antenna Array only):	-40°C to +80°C
Environmental Conditions:	Outdoor
Water ingress protection ratio/standard:	IP 65
Salt Spray:	MIL-STD 810G/ASTM B117
Operating Relative Humidity:	Up to 98%
Storage Humidity:	5% to 95% - non-condensing
Storage Temperature:	-40°C to +80°C
Enclosure Flammability Rating:	UL 94-HB
Impact resistance:	IK 08
Product Safety & Environmental:	Complies with CE and RoHS standards Conforms to IEC 60945



Antenna Performance Plots

VSWR: Cellular Antenna



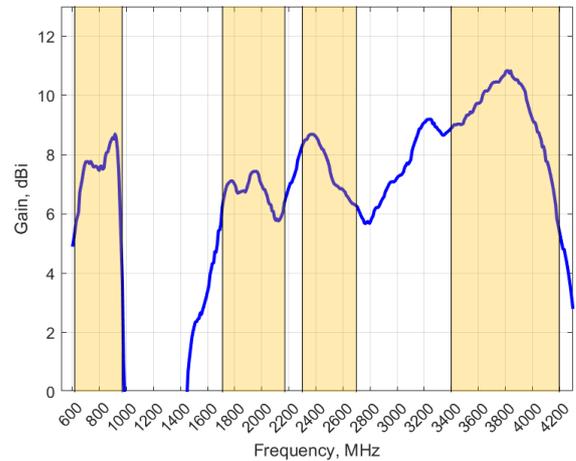
Voltage Standing Wave Ratio (VSWR)*

VSWR is a measure of how efficiently radio-frequency power is transmitted from a power source, through a transmission line, into a load. In an ideal system, 100% of the energy is transmitted which corresponds to a VSWR of 1:1.

The WAVEHUNTER delivers superior performance across all bands with a VSWR of 2.5:1 or better across 90% of the bands.

*VSWR measured without a cable.

GAIN (Excluding Cable Loss): Cellular Antenna



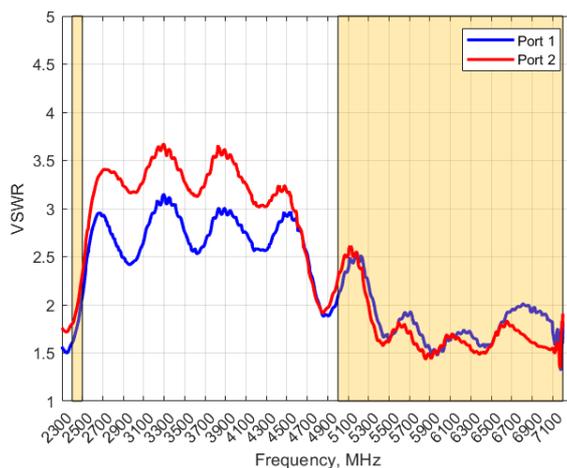
Gain* in dBi

11 dBi is the peak gain across all bands from 617 – 4200 MHz

Gain @ 617 – 960 MHz:	9 dBi
Gain @ 1710 – 2700 MHz:	9 dBi
Gain @ 3400 – 4200 MHz:	11 dBi

*Antenna gain measured with polarisation aligned standard antenna

VSWR: Wi-Fi Antenna



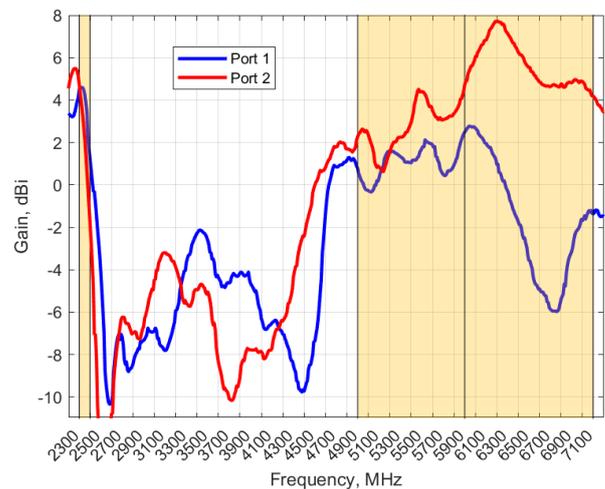
Voltage Standing Wave Ratio (VSWR)*

VSWR is a measure of how efficiently radio-frequency power is transmitted from a power source, through a transmission line, into a load. In an ideal system, 100% of the energy is transmitted which corresponds to a VSWR of 1:1.

The PUCK delivers superior performance across all bands with a VSWR of $\leq 2:1$ across 95% of the bands.

*Measured with 2m low loss cable, 650 x 650 mm ground plane, and unused ports terminated with 50Ω load.

GAIN (Excluding Cable Loss): Wi-Fi Antenna



Gain* in dBi

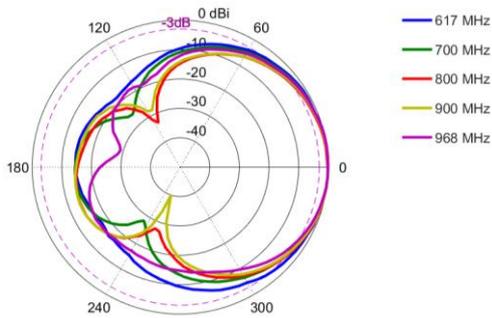
7.5 dBi is the peak gain across all bands from 2400 – 2500 MHz & 5000 – 7200 MHz

Gain @ 2400 – 2500 MHz:	5 dBi
Gain @ 5000 – 7200 MHz:	7.5 dBi

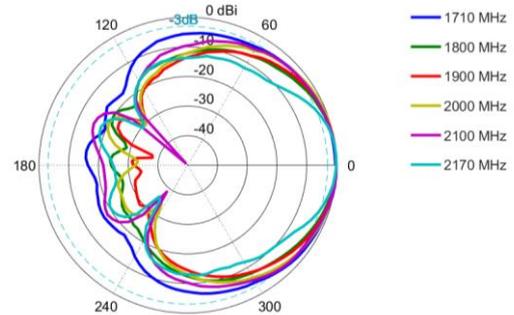
*Antenna gain measured with polarisation aligned standard antenna

Radiation Patterns - Cellular

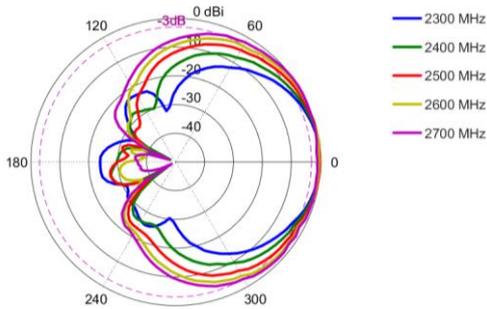
Azimuth: 617 – 960 MHz



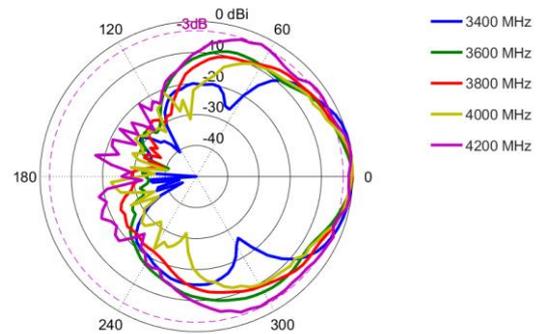
Azimuth: 1710 – 2170 MHz



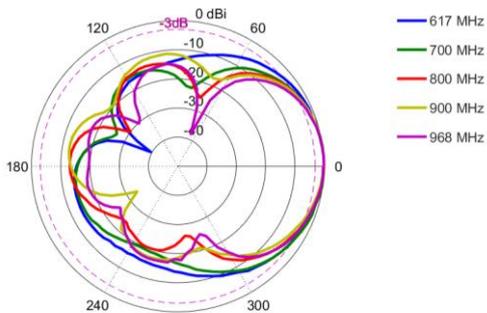
Azimuth: 2300 – 2700 MHz



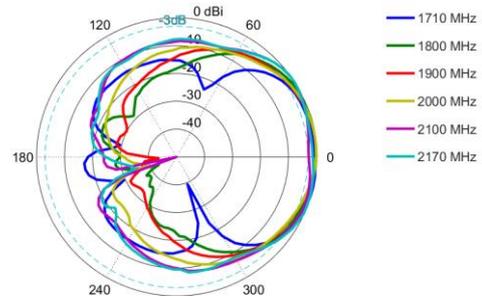
Azimuth: 3400 – 4200 MHz



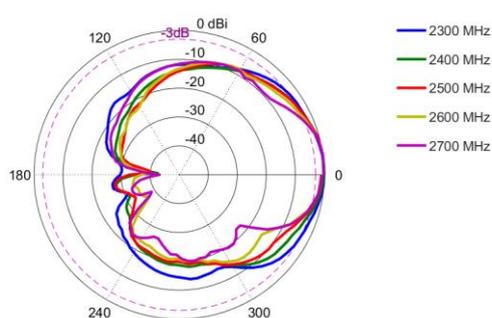
Elevation: 617 – 960 MHz



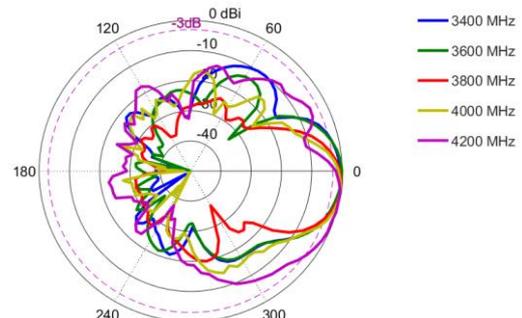
Elevation: 1710 – 2170 MHz



Elevation: 2300 – 2700 MHz



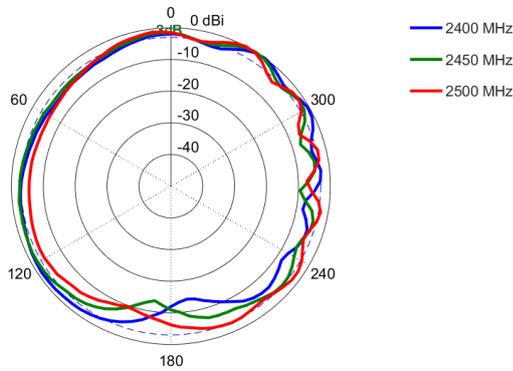
Elevation: 3400 – 4200 MHz



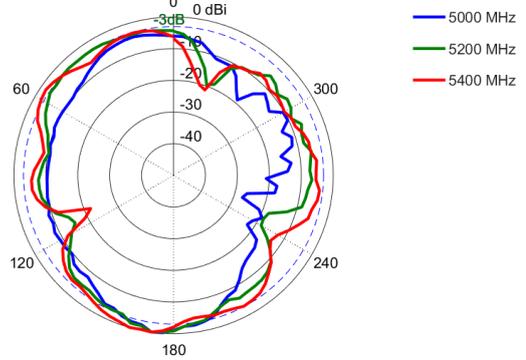
*Radiation Patterns illustrated are for a single antenna element out of the 24 antenna elements that are inside

Radiation Patterns – Wi-Fi

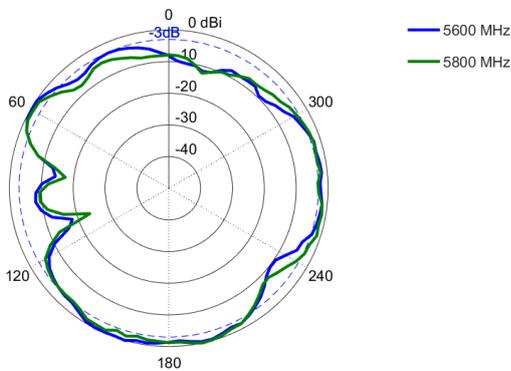
Azimuth: 2400 – 2500 MHz



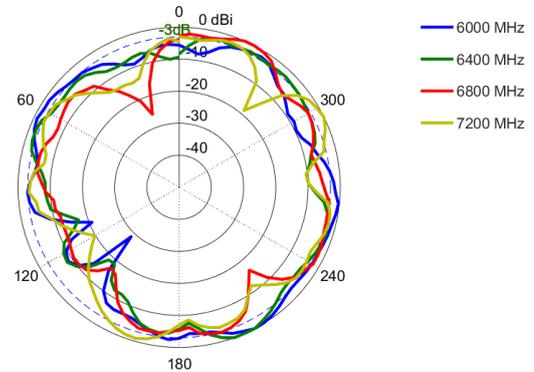
Azimuth: 5000 – 5400 MHz



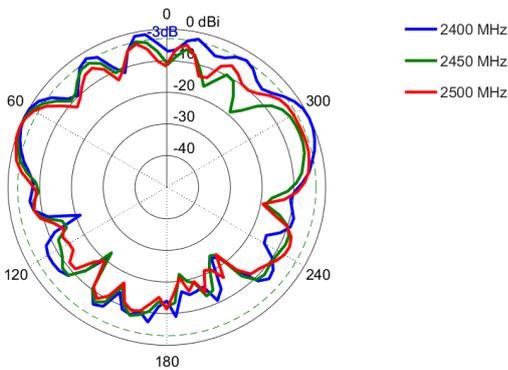
Azimuth: 5600 – 5800 MHz



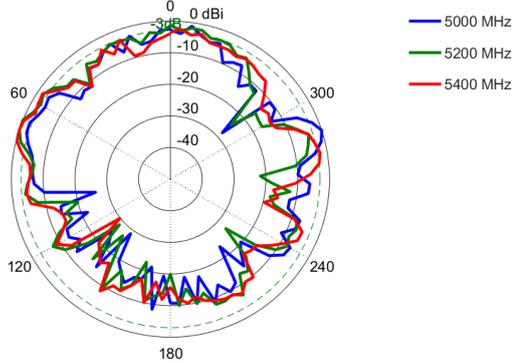
Azimuth: 6000 – 7200 MHz



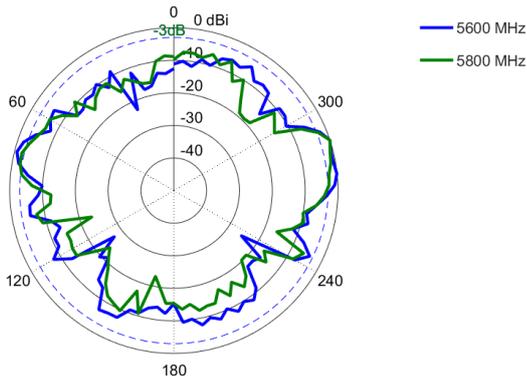
Elevation 1: 2400 – 2500 MHz



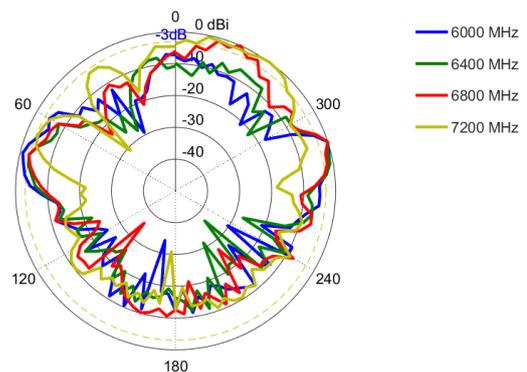
Elevation 1: 5000 – 5400 MHz



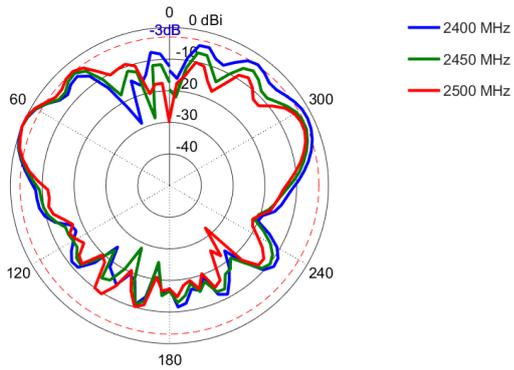
Elevation 1: 5600 – 5800 MHz



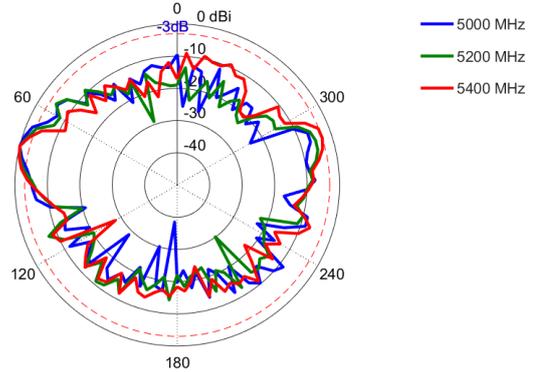
Elevation 1: 6000 – 7200 MHz



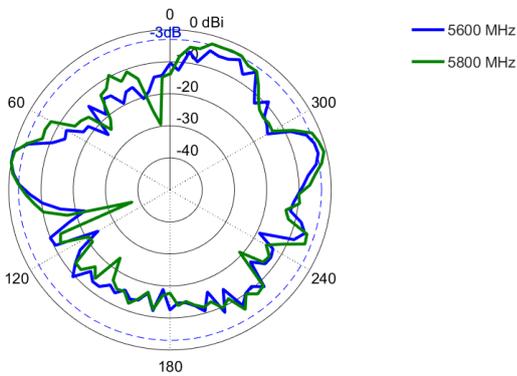
Elevation 2: 2400 – 2500 MHz



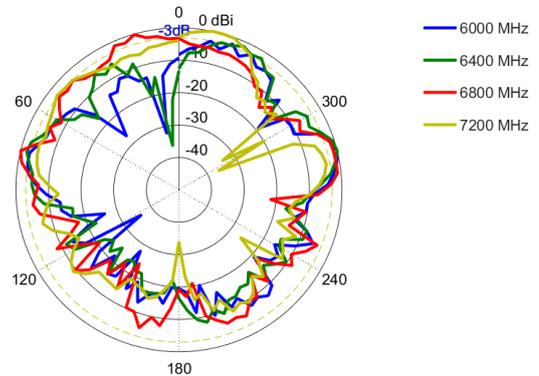
Elevation 2: 5000 – 5400 MHz



Elevation 2: 5600 – 5800 MHz

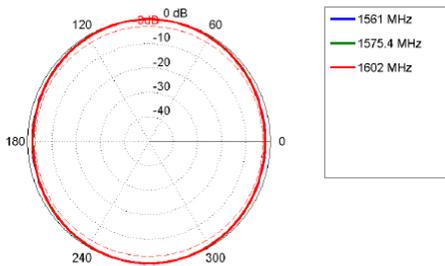


Elevation 2: 6000 – 7200 MHz

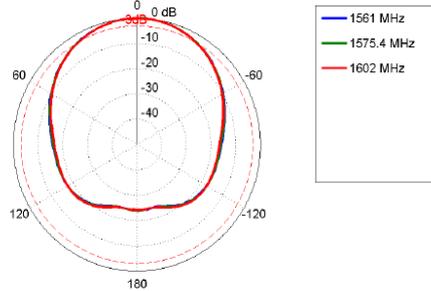


Radiation Patterns – GPS

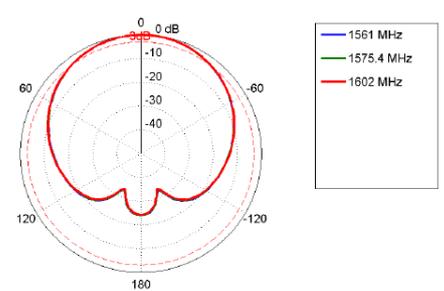
XY Plane: 1561–1602 MHz



XZ Plane: 1561–1602 MHz

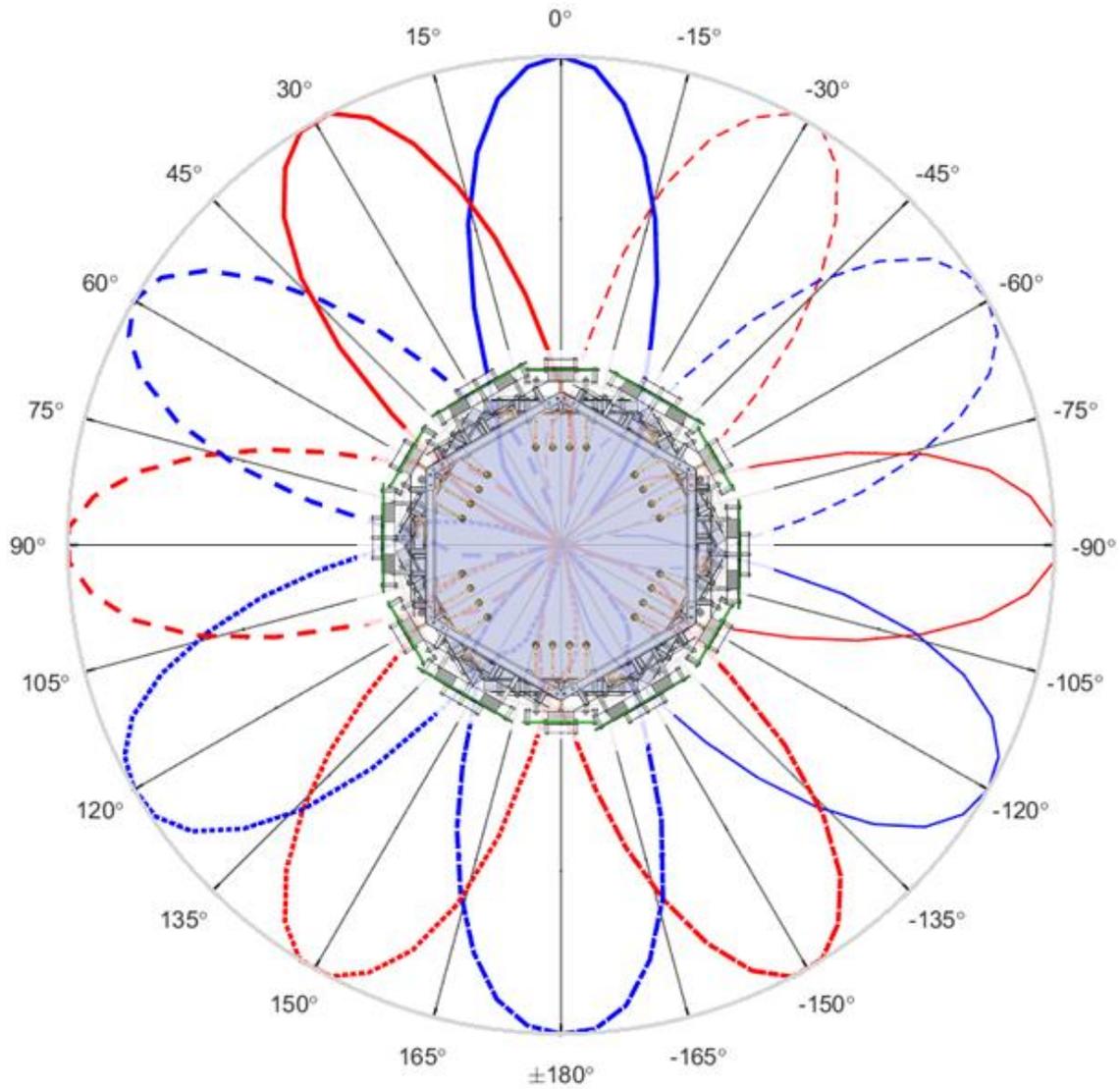


YZ Plane: 1561–1602 MHz



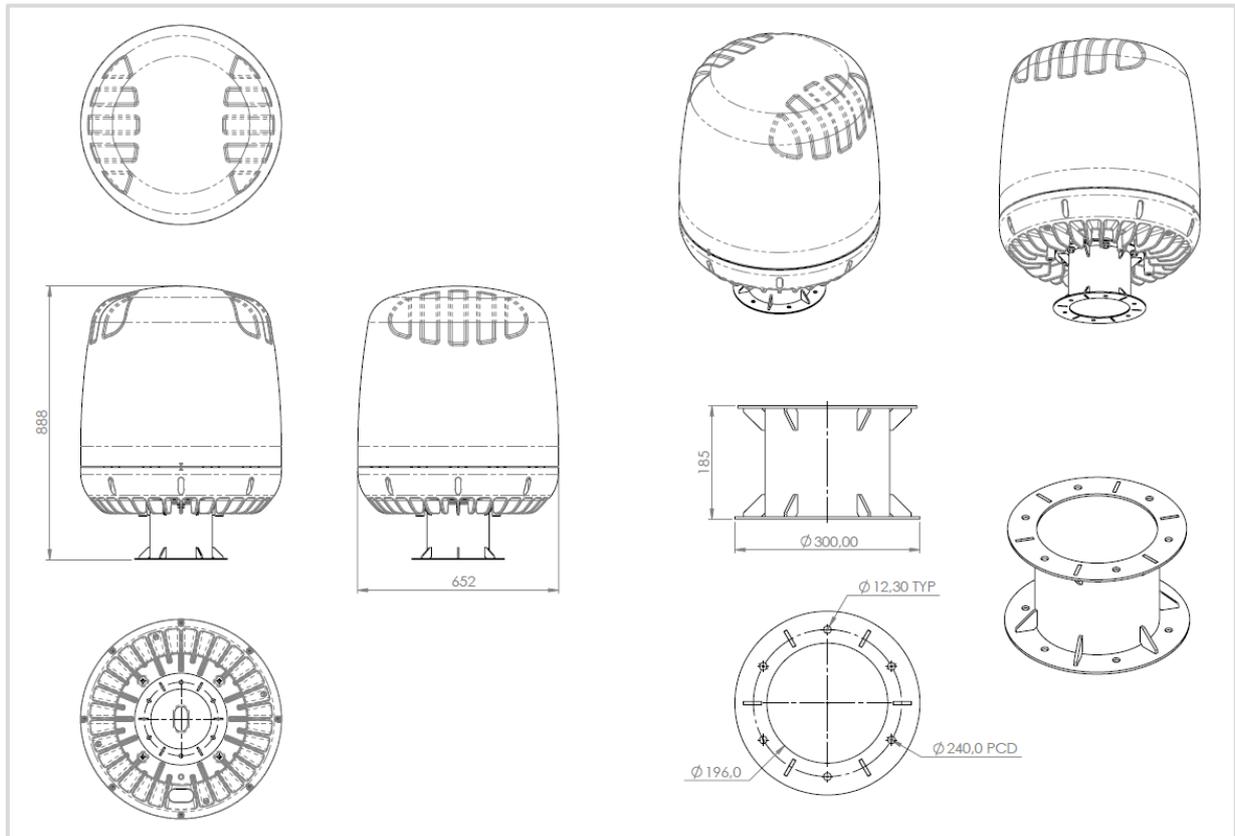
Radiation Patterns – Multi-Directional

Radiation Pattern below indicating the Multi-Directional overlapping patterns created by the array, which depicts the high gain 360° coverage. Pattern denotes combined H / V and $\pm 45^\circ$ beamwidth, hence 12 patterns only. The below for illustrative purposes only.

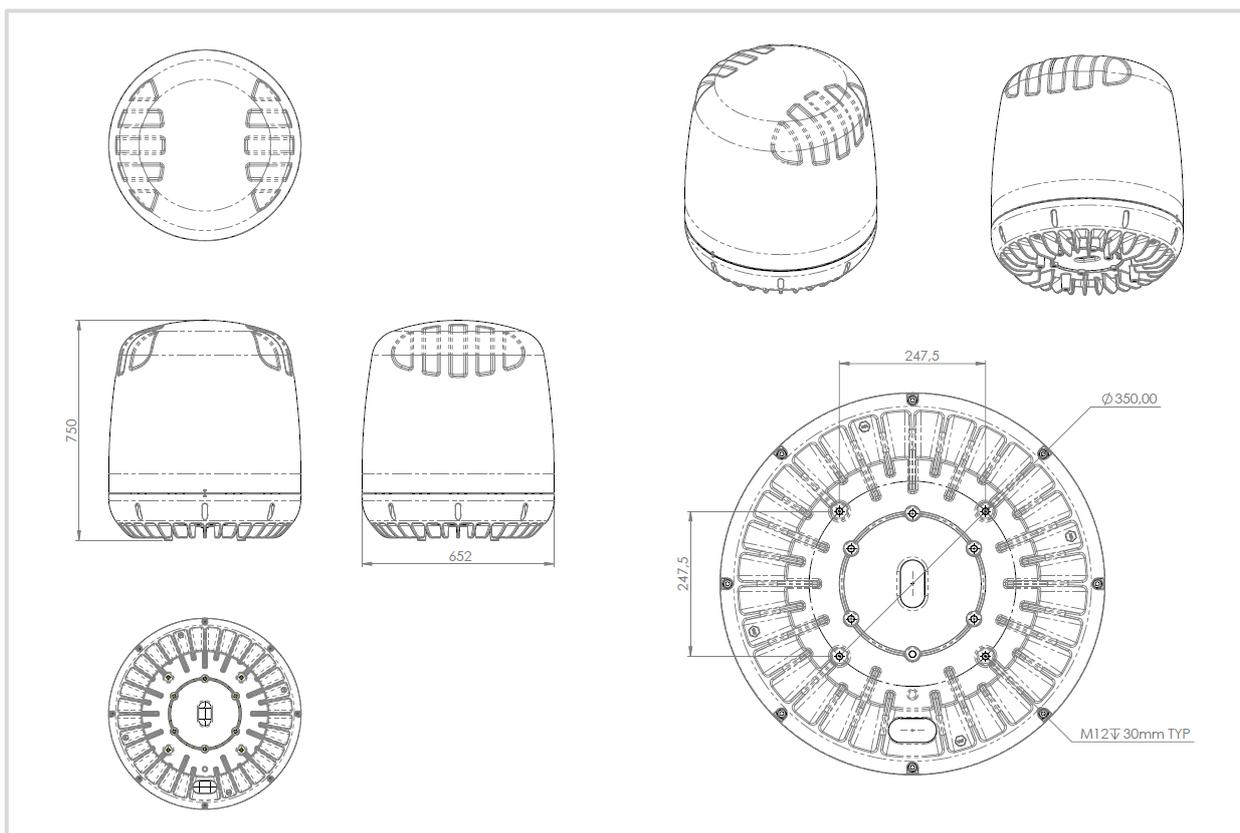


Technical Drawings

A-WHUNTER-001-V3-101 – Pedestal Mount



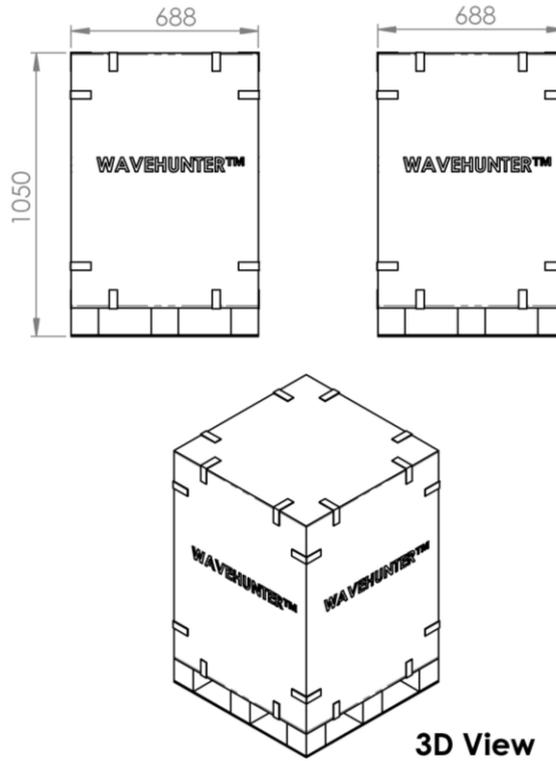
A-WHUNTER-001-V3-102 – Base Mount



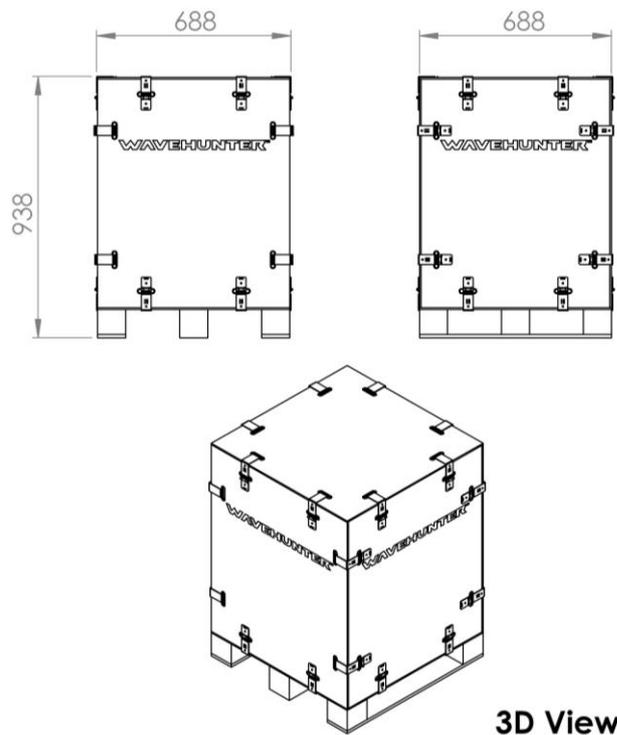
Product Packaging

The WaveHunter will be packaged in a standard ClipLok™ Padded Container for added protection. The ClipLok™ size will depend on the mounting options and will be as follows:

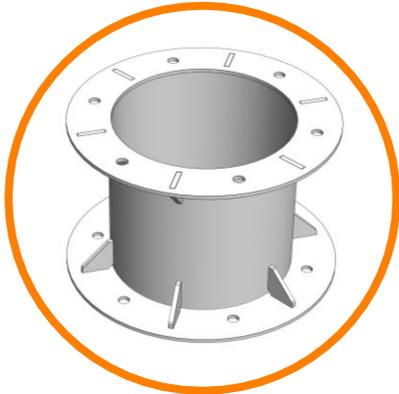
A-WHUNTER-001-V3-101: Pedestal Mount



A-WHUNTER-001-V3-102: Base Mount



Additional Accessories



A-BRKT-063-V1-01 (Optional)

Wave Hunter Aluminium Base (Pedestal)



Various fly leads/pigtails available

- A-CAB-162: 0.75m RG141 SMA Male - QMC Male
- A-CAB-163: 0.75m RG141 SMA Male - SMA Male

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