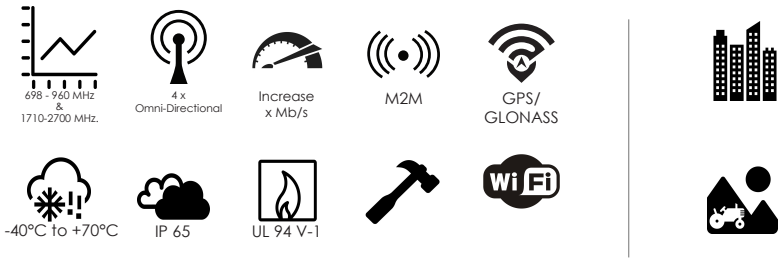
ANTENNAS | MIMO -1

MIMO -1

5 - IN - 1 MIMO LTE/GPS/WI-FI ANTENNA



- **5 in 1 futureproof high performance multi frequency antenna**
- **Backwards compatible with 3G and 2G technologies**
- **2 x MiMo Wi-Fi dual band**
- **2 x MiMo LTE**
- **1 x GPS & GLONASS**
- **Robust antenna**
- **Vandal and water resistant**
- **Increased connectivity stability**

Product Overview

The MIMO-1 incorporates five antennas in a single rugged low profile antenna housing. Two LTE/4G/3G antennas covering all cellular bands and also achieves MIMO data speed increases since the two antennas provide space and pattern diversity. Similarly two dual band Wi-Fi antennas give blistering speeds at both 2.4 and 5 GHz and full MIMO advantage. The fifth antenna is a high performance active GPS/GLONASS module operating down to -40 degrees.

The antenna exceeds the performance of most competitors due to the care of attention to radiation patterns of all radiators. An excellent compromise between omnidirectionality, pattern diversity and good radiation at low (horizontal) angles is achieved. Main applications are for industrial vehicles, M2M and other IoT using a range of radio technologies.

Features

- Advanced antenna engineering with exceptional radiation pattern and gain
- Cleverly designed decorrelated antennas give superior MIMO performance in Wi-Fi and cellular bands
- Above features maintained from 698MHz to 5800MHz in relevant bands
- Careful mechanical design provides ruggedness, water and corrosion resistance

Application areas

- 4G to Wi-Fi internet on busses, trains etc
- Linking public vehicles to data networks
- Trucks, tractors and other industrial vehicles for control and communications
- M2M to ATMs, vending machines, modems, smart meters, industrial inclosures
- Asset tracking (containers etc)

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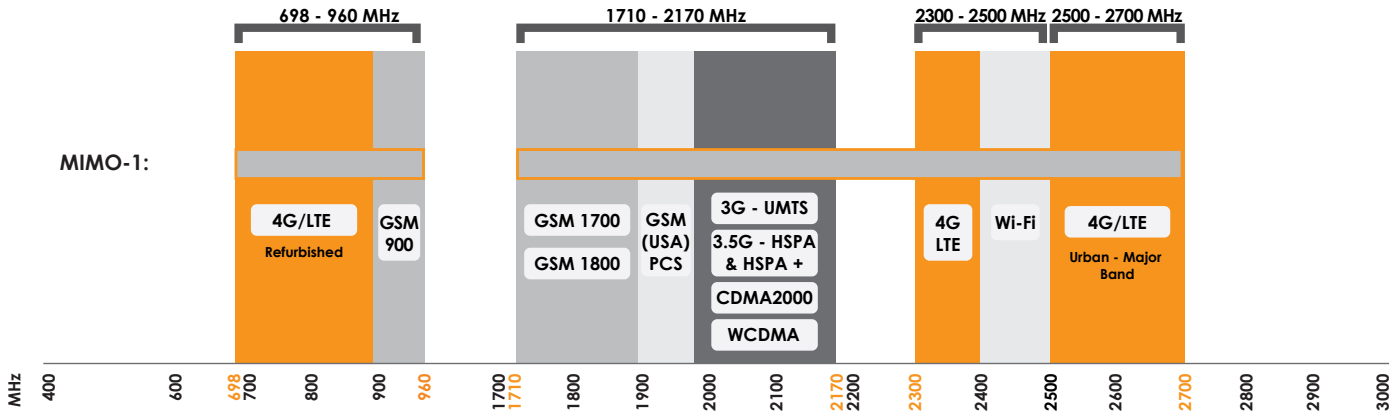
Frequency bands - Cellular

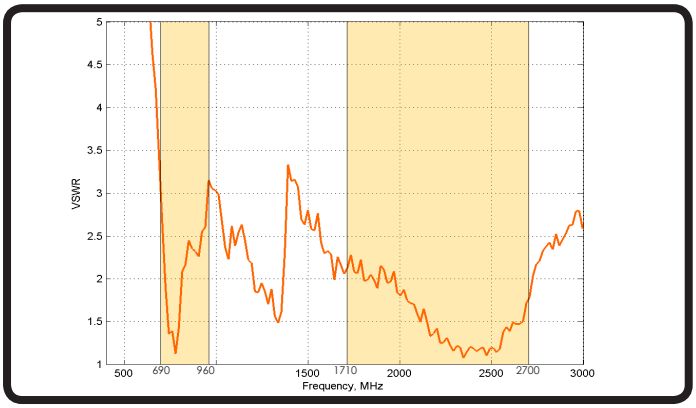
The MIMO-1 works across the following LTE bands: 1-21, 23-28, 30, 33-41

Indicates the bands on which this antenna works



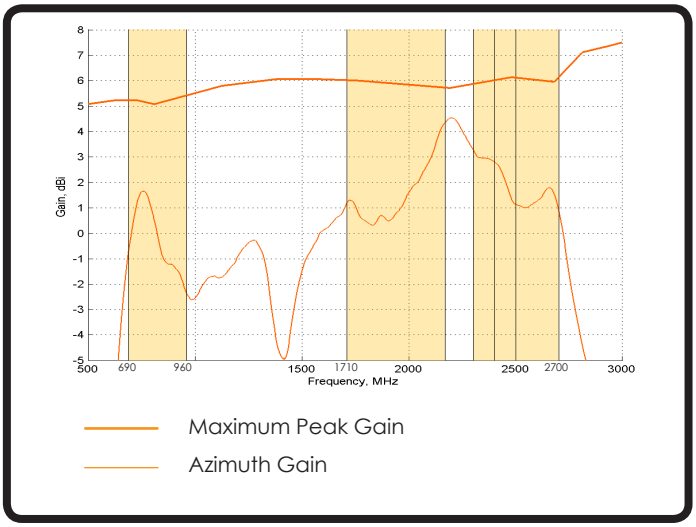
Antenna Performance Plots - Cellular

VSWR: PORT 1 - Cellular Antenna



VSWR: PORT 2 - Cellular Antenna

Gain : MIMO-1 Cellular Antenna (excluding cable loss)



Gain* in dBi

6.2 dBi is the peak gain across all bands from 698 - 2700 MHz

Gain @ different bands: 1.8dBi @ 698-960MHz
Gain @ different bands: 4.5dBi @1710-2700MHz

*Measured on a 40cm x 40cm ground plane

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 MIMO-1 delivers superior performance across all bands with a VSWR of 3:1 or better.

* Measured with 1m low loss cable
* Measured on a 40cm x 40cm ground plane

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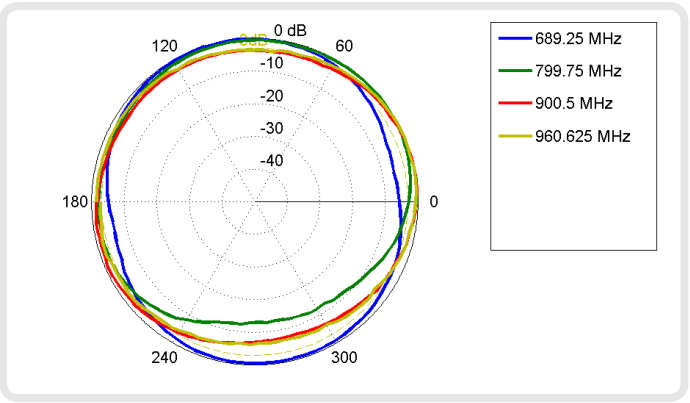
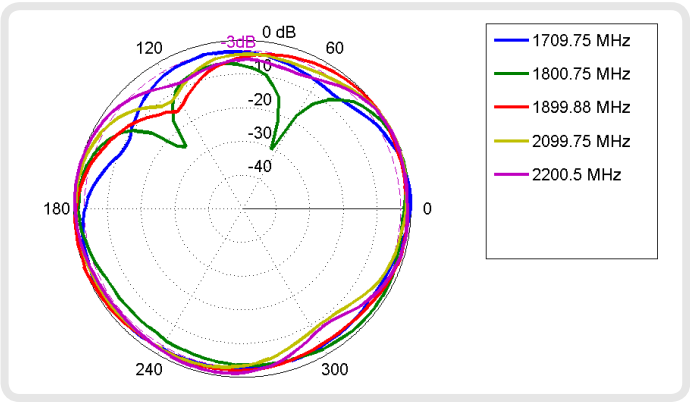
Radiation Patterns - Cellular

Port 1:

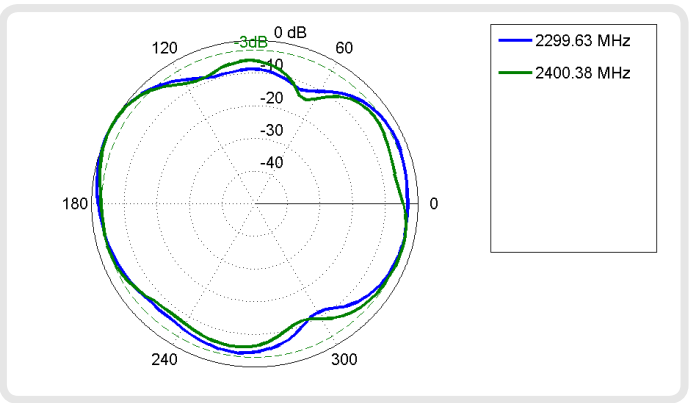
Azimuth 690 - 960:



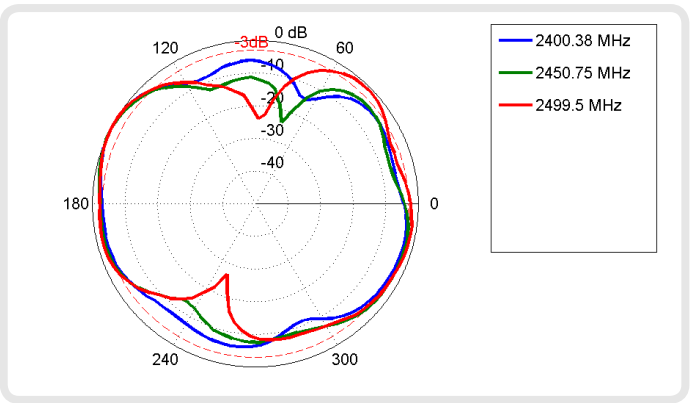
Azimuth 1710 - 2200:



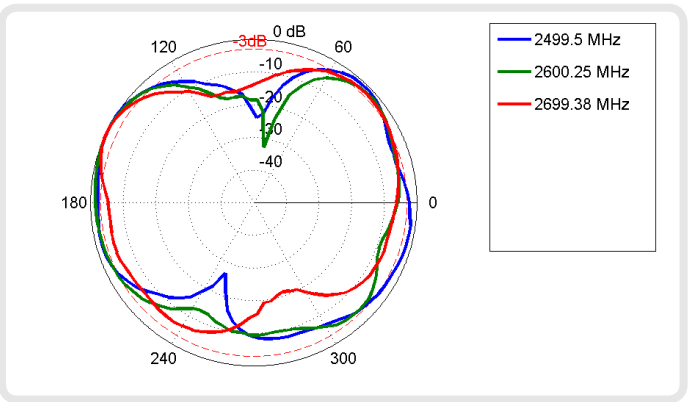
Azimuth 2300 - 2400:



Azimuth 2400 - 2500:



Azimuth 2500 - 2700:



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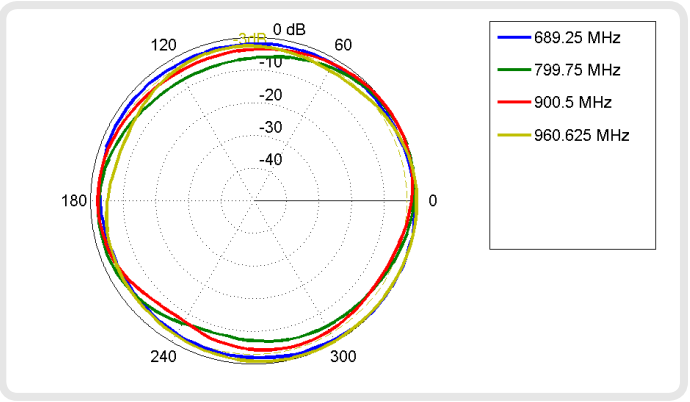
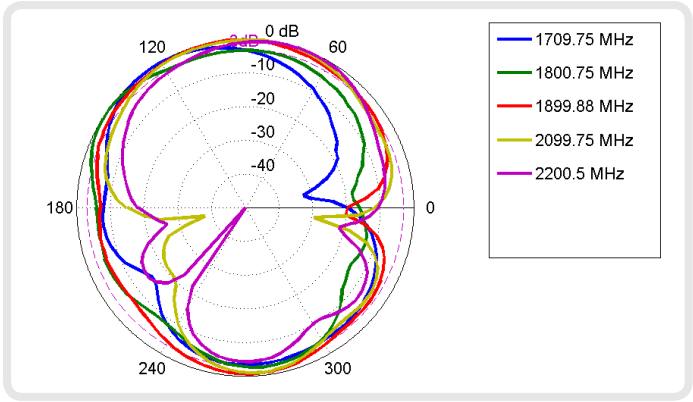
Port 2:

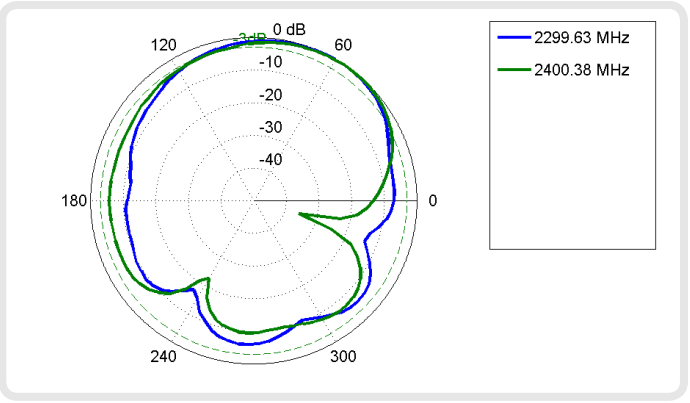
Azimuth 690 - 960:



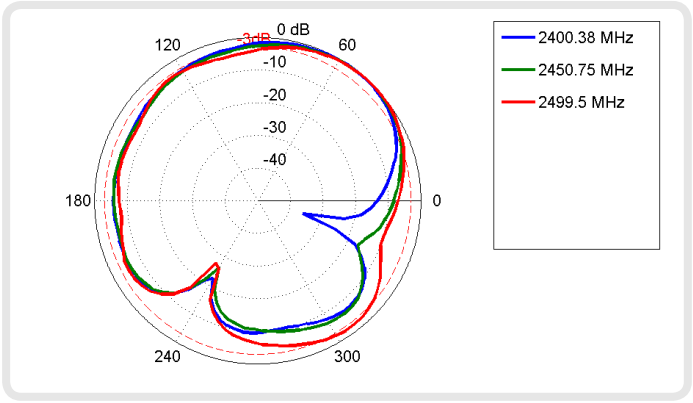
Azimuth 1710 - 2200:



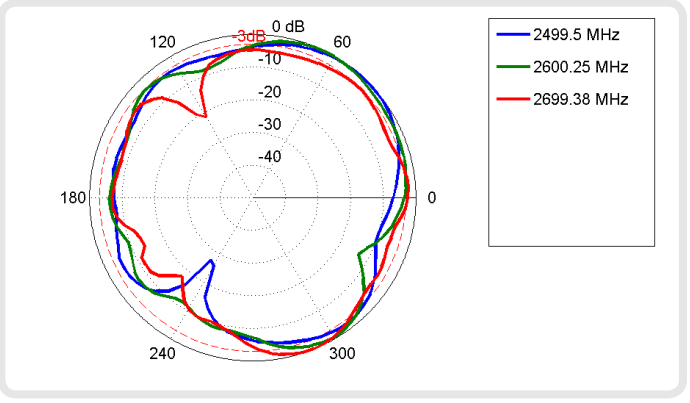
Azimuth 2300 - 2400:



Azimuth 2400 - 2500:



Azimuth 2500 - 2700:



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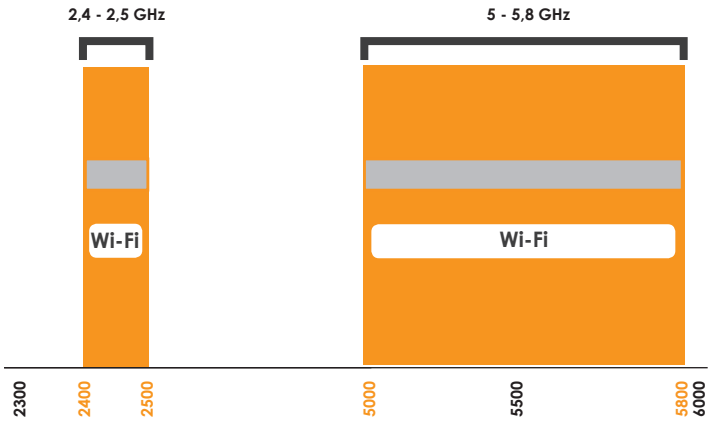
Frequency bands - Wi-Fi

The MIMO-1 works on the 2400 - 2500 MHz and 5000 - 5800 MHz

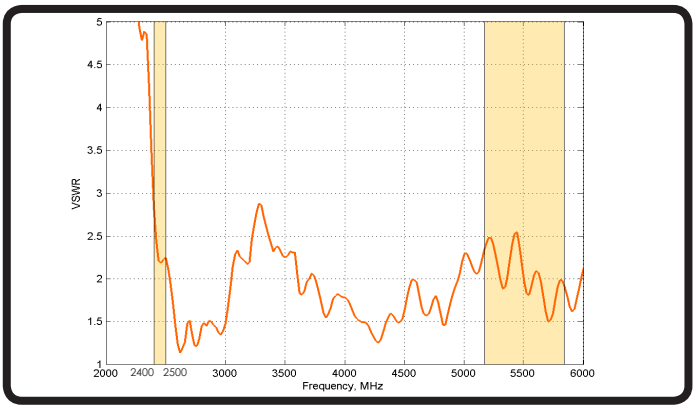
Indicates the bands on which this antenna works

MIMO-1:

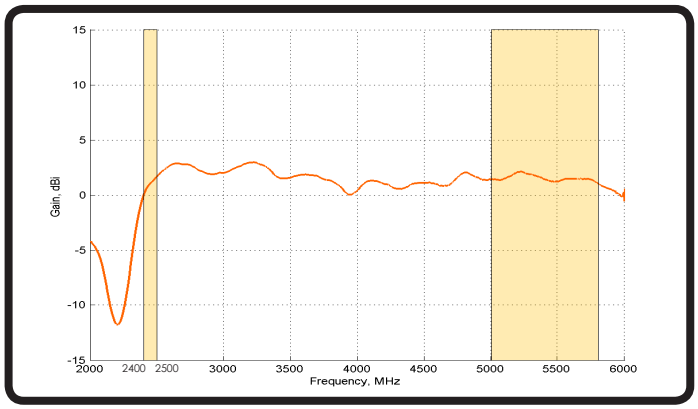


Antenna Performance Plots - Wi-Fi

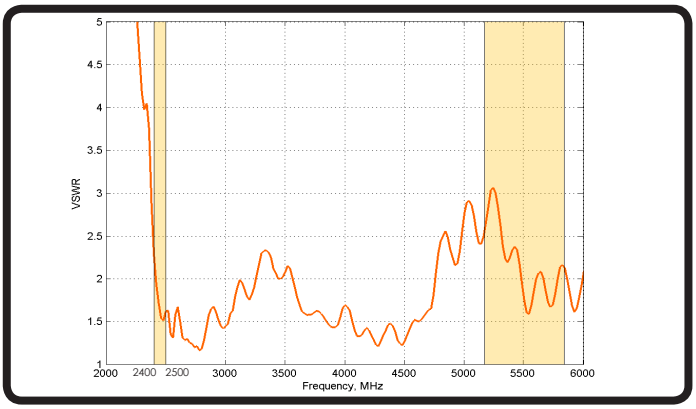
VSWR: PORT 1 - Wi-Fi Antenna



Gain : MIMO-1 Wi-Fi Antenna (excluding cable loss)



VSWR: PORT 2 - Wi-Fi Antenna



Gain* in dBi

3.3 dBi is the peak gain across band from 2400 - 2500 MHz
3.3 dBi is the peak gain across band from 5000 - 5800 MHz

* Measured on a 40cm x 40cm ground plane

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 3.0:1 or better.
The MIMO-1 delivers superior performance across all bands:
< 2:1 @2400 - 2500 MHz
< 3:1 @5000 - 5800 MHz

* Measured with 1m low loss cable
* Measured on a 40cm x 40cm ground plane

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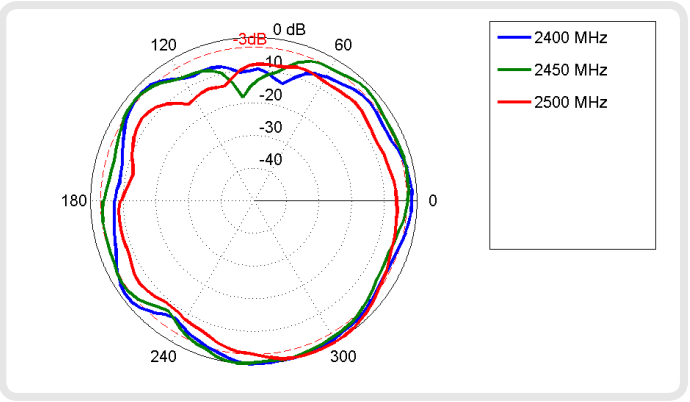
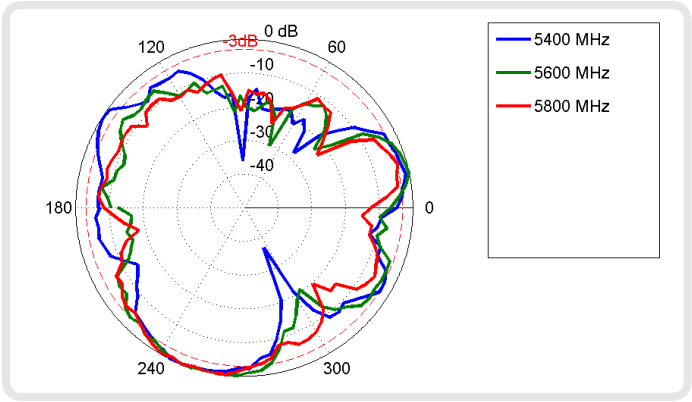
Radiation Patterns - Wi-Fi

Port 1:

Azimuth 2400 - 2500:

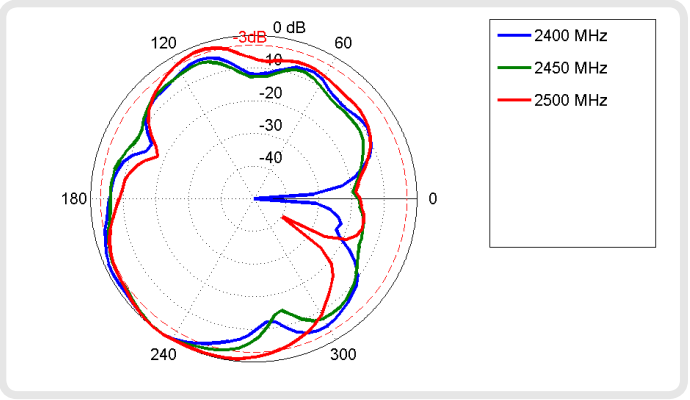


Azimuth 5400 - 5800:

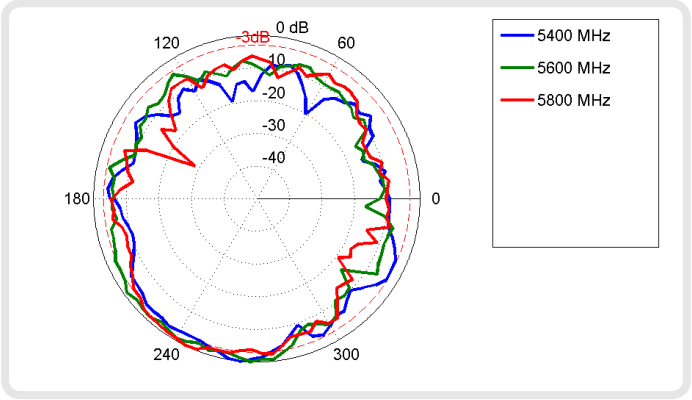


Port 2:

Azimuth 2400 - 2500:



Azimuth 5400 -5800:



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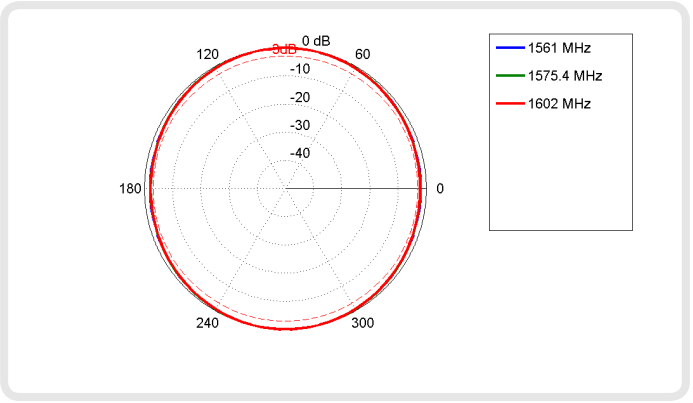
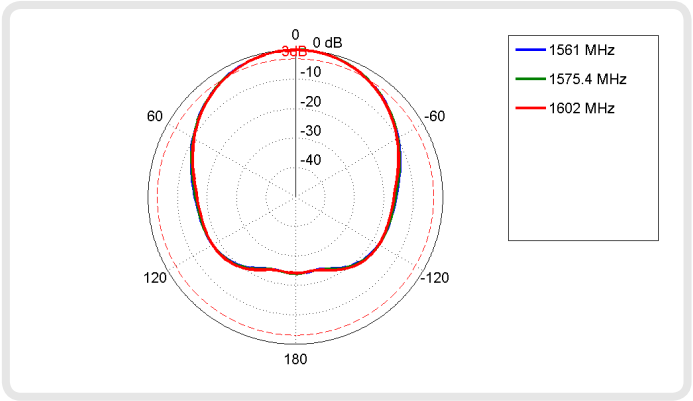
Radiation Patterns - GPS

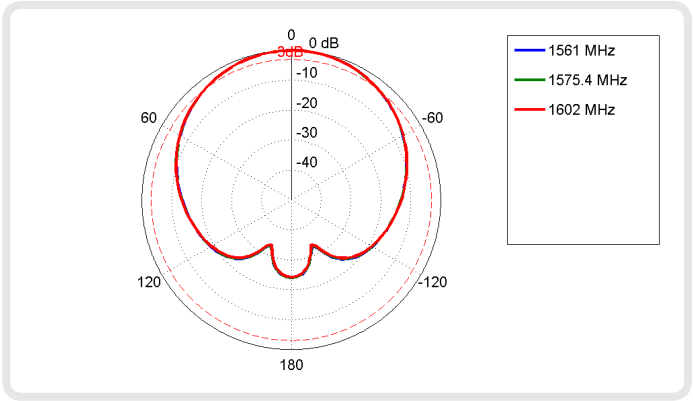
XY Plane:



XZ Plane:



YZ Plane:



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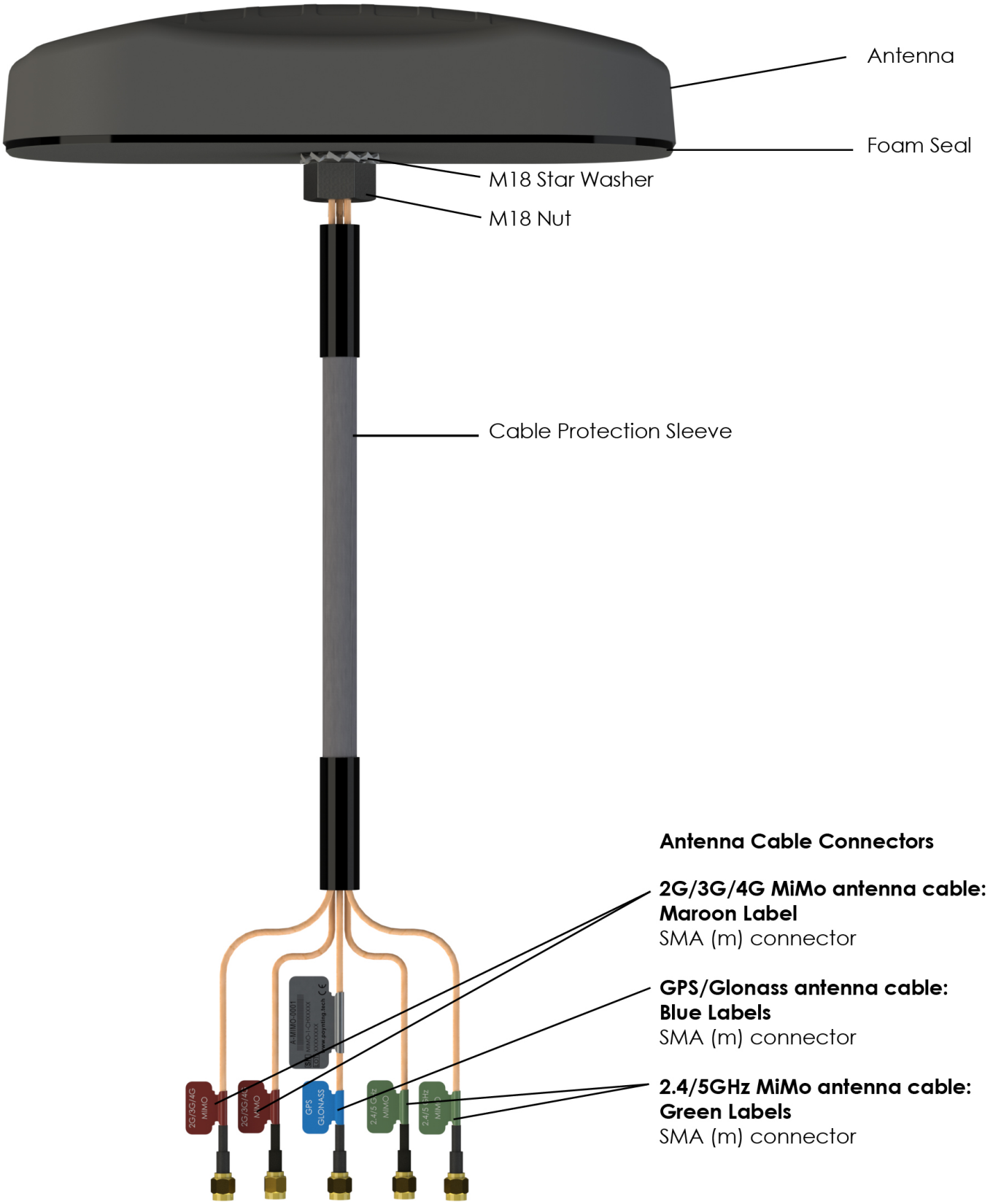
Cable Configuration



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Electrical Specifications

GSM/3G/LTE electrical specifications	
Frequency Band 1:	698 - 960MHz
Frequency Band 2:	1710 - 2700MHz
Gain (Max):	6.2 dBi
VSWR:	<2.5:1
Feed Power Handling:	10 W
Input impedance:	50 Ohm (nominal)
Polarisation:	Linear Vertical
Cable loss:	0.8dB/m @1000MHz 2.6dB/m@3000MHz
Cable:	2 x 0.3m EF_316_D
Connector:	2 x SMA male
DC Short:	Yes

GPS/Glonas Antenna electrical specifications	
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
Polarization:	RHCP
Filter Out Band Attenuation:	12dB Min f0+50MHz, 16dBi Min f0-50MHz
Cable:	0.3m EF_316_D
Connector:	SMA male
Voltage:	2.7 - 3.3V
Max. Power-W:	50W

Wi-Fi electrical specifications	
Frequency:	2400-2500 MHz 5000-5800 MHz
Gain (Max):	3.3 dBi (2dBi nominal)
VSWR:	< 2:1 @2.4-2.5GHz < 3:1 @ 5-5.8GHz
Feed power handling:	10 W
Nominal input impedance:	50 Ohms
Polarisation:	Linear Vertical
Cable:	0.3m EF_316_D
Connector:	2 x SMA male

For more detailed information and availability in your region, visit our web site: www.poynting.tech

Mechanical Specifications

Product Dimensions (L x W x D):	252 mm x 127 mm x 55 mm
Packaged Dimension	270mm x 135mm x 100mm
Weight:	600 g
Packaged Weight:	917.4g
Radome Material:	ABS (Halogen Free)
Base Material:	Passivated ADC12
Radome Colour:	Black
End Cap Colour:	Pantone - Black RAL - Black

Environmental Specifications

Wind Survival:	160 km/h
Temperature Range (Operating):	-40°C to +70°C
Environmental Conditions:	Outdoor/Indoor
Operating Relative Humidity:	Up to 98%
Storage Humidity:	5% to 95% - non condensing
Storage Temperature:	-40°C to +70°C

Certification Approvals and Standards

Cable Flammability rating:	UL 94 V1 EN13823
Water Ingress Protection Ratio/ Standard:	IP 65 (NEMA 4X)
Impact resistance:	IK 10
Salt Spray:	MIL-STD 810F/ASTM B117
Product Safety:	Complies with UL, CE, EN, CSA and IEC

Ordering Information

Commercial name:	MIMO-1
Order Product Code:	A-MIMO-0001
EAN number:	0707273469052

Antenna Configuration Options

MIMO-0001-01:
Two LTE/4G/3G antennas covering all cellular bands

MIMO-0001-02:
Two LTE/4G/3G antennas covering all cellular bands and a third antenna is a high performance active GPS/GLONASS module.

MIMO-0001-03:
Two dual band Wi-Fi antennas.

**For cable and connector options please see MIMO Cable assemblies*

Contact Poynting

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