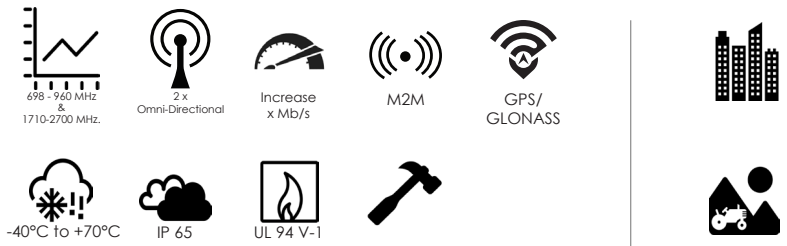


ANTENNAS | MIMO -1- 02

P/N: PY.MIMO 1.02

MIMO LTE/GPS ANTENNA



- MIMO futureproof high performance multi frequency antenna
- Backwards compatible with 3G and 2G technologies
- 2 x MiMo LTE
- GPS & GLONASS
- Robust antenna
- Vandal and water resistant
- Increased connectivity stability
- Machine-to-machine applications

Product Overview

The MIMO-1-02 incorporates 3 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. The third 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 cellular bands
- Above features maintained from 698MHz to 2700MHz in relevant bands
- Careful mechanical design provides ruggedness, water and corrosion resistance


Application areas

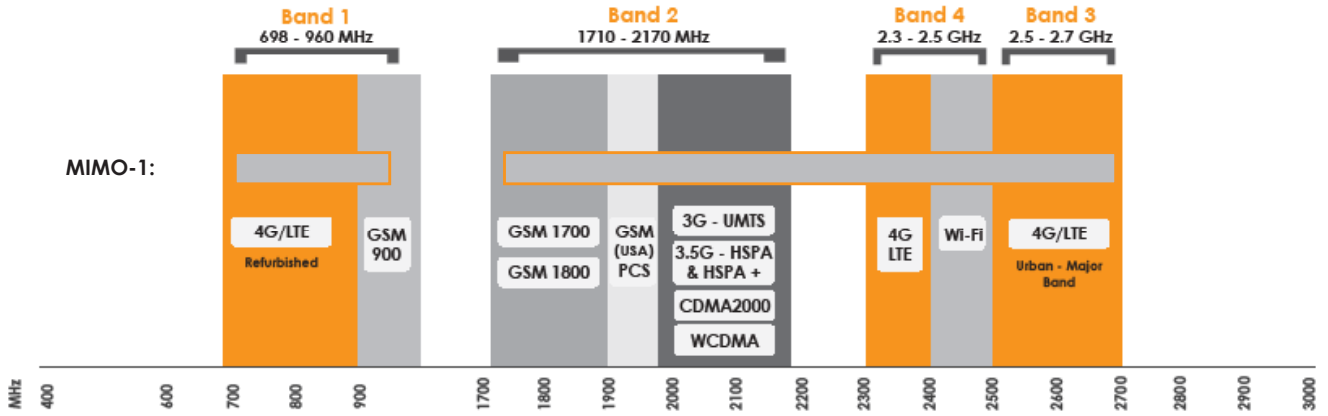
- 4G internet on busses, trains etc
- Linking public vehicles to data networks
- Trucks, tractors and other industrial vehicles for control and communications
- M2M to ATMs, vending machines, modems, smart meters, industrial inclosures
- Asset tracking (containers etc)



Frequency bands - Cellular

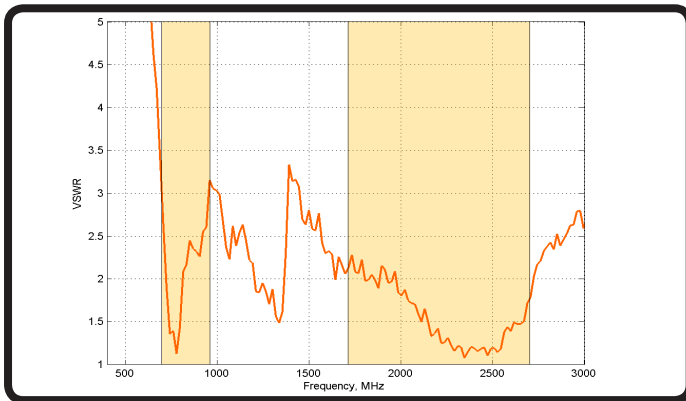
The MIMO-1 works on the 698 - 960 MHz, 1710 - 2700 MHz

 Indicates the bands on which this antenna works

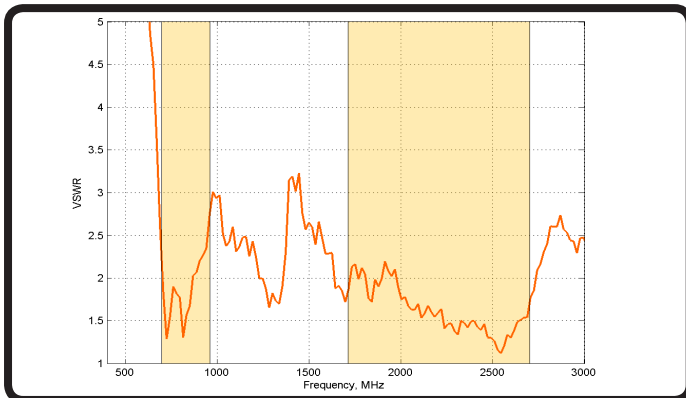


Antenna Performance Plots - Cellular

VSWR: PORT 1 - Cellular Antenna



VSWR: PORT 2 - Cellular Antenna



Voltage Standing Wave Ratio (VSWR)

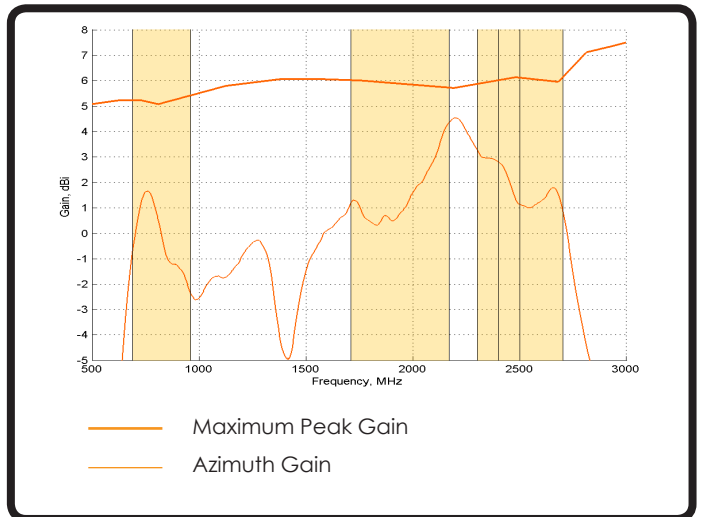
VSWR is a measure of how efficiently radio-frequency power is transmitted from a power source, through a transmission line, into a load. In an ideal system, 100% of the energy is transmitted which corresponds to a VSWR of 1:1.

The 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

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



Gain* in dBi

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

Gain @ different bands: Band 1

1.8dBi @ 690-960MHz

Gain @ different bands: Band 2

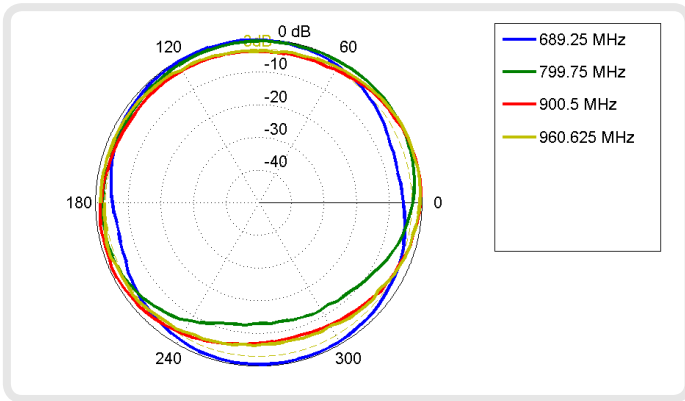
4.5dBi @ 1710-2700MHz

*Measured on a 40cm x 40cm ground plane

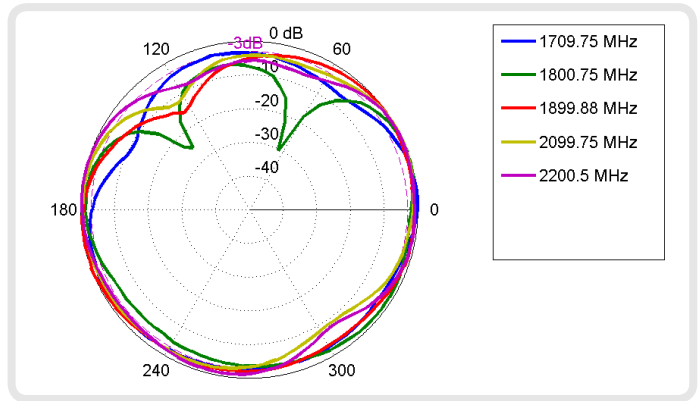
Radiation Patterns - Cellular

Port 1:

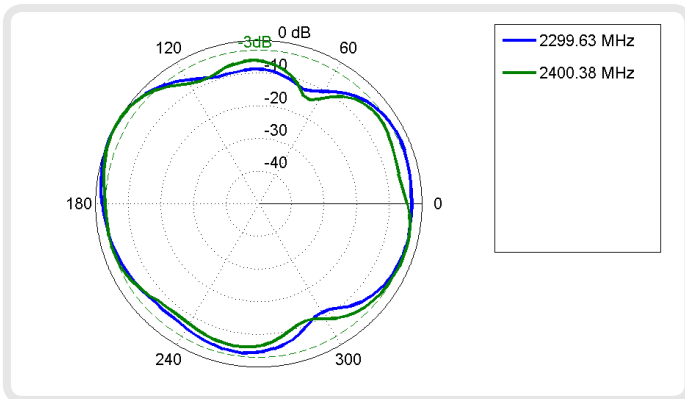
Azimuth 690 - 960:



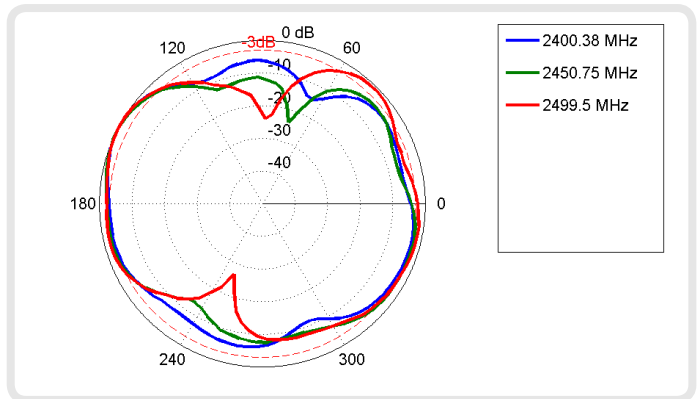
Azimuth 1710 - 2200:



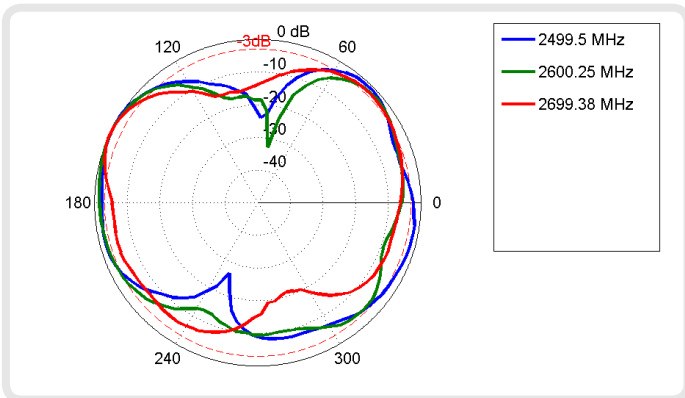
Azimuth 2300 - 2400:



Azimuth 2400 - 2500:

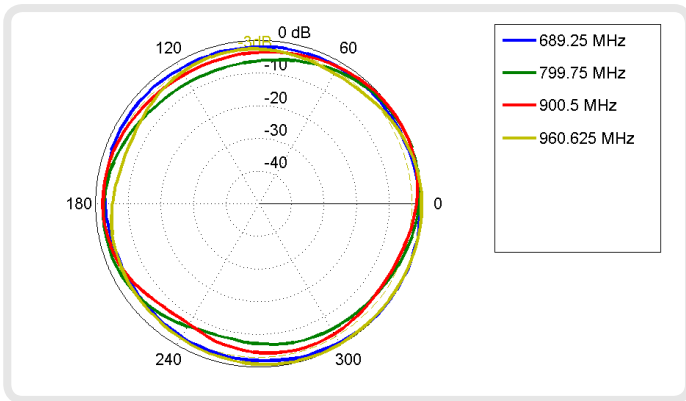


Azimuth 2500 - 2700:

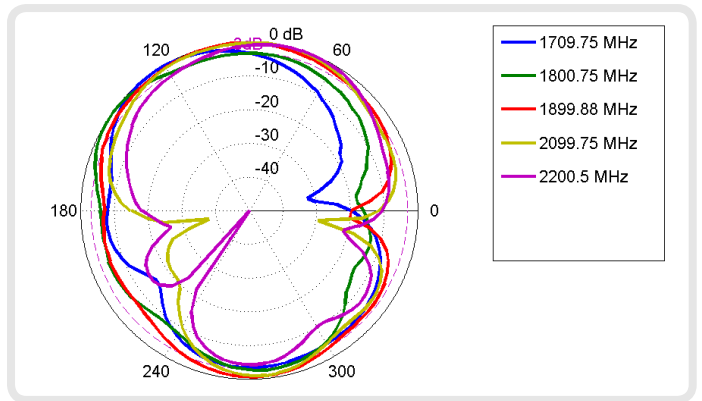


Port 2:

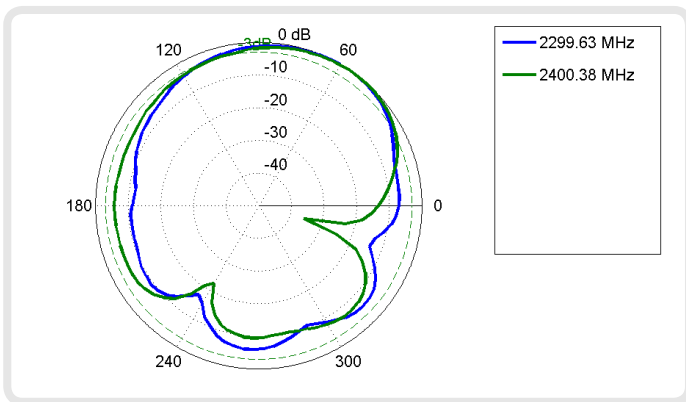
Azimuth 690 - 960:



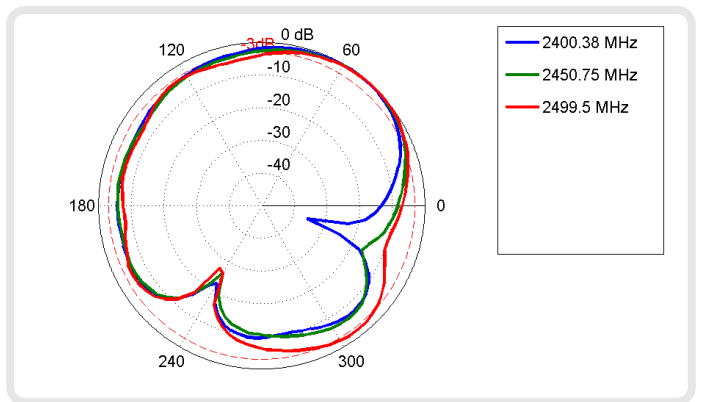
Azimuth 1710 - 2200:



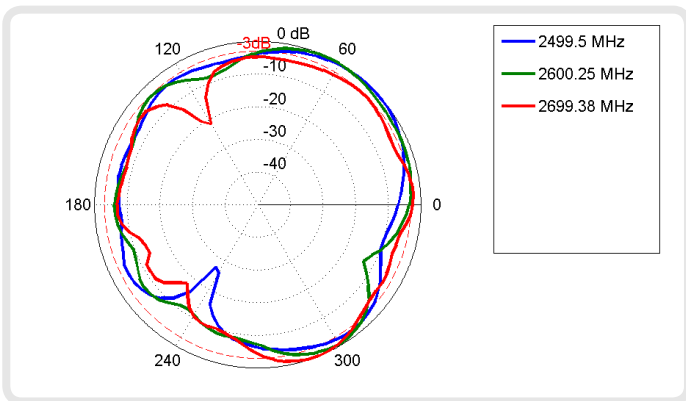
Azimuth 2300 - 2400:



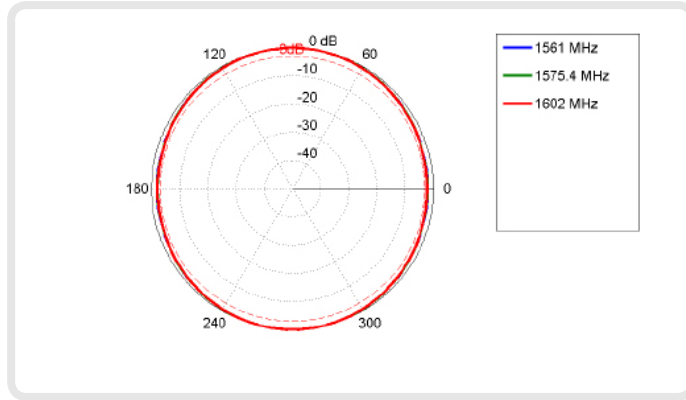
Azimuth 2400 - 2500:



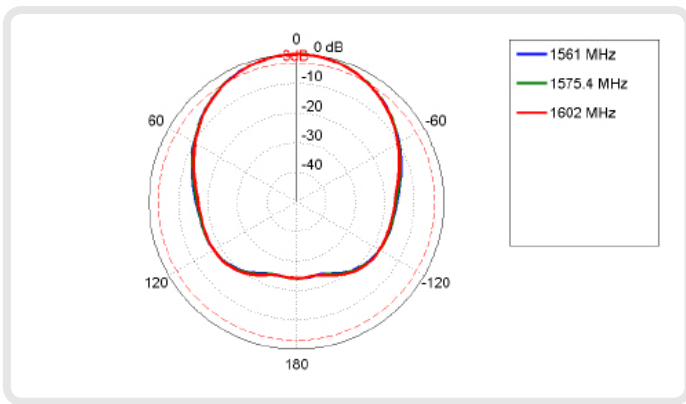
Azimuth 2500 - 2700:



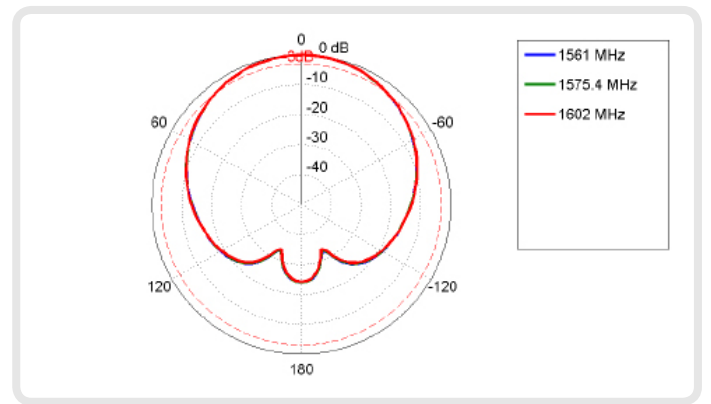
XY Plane:

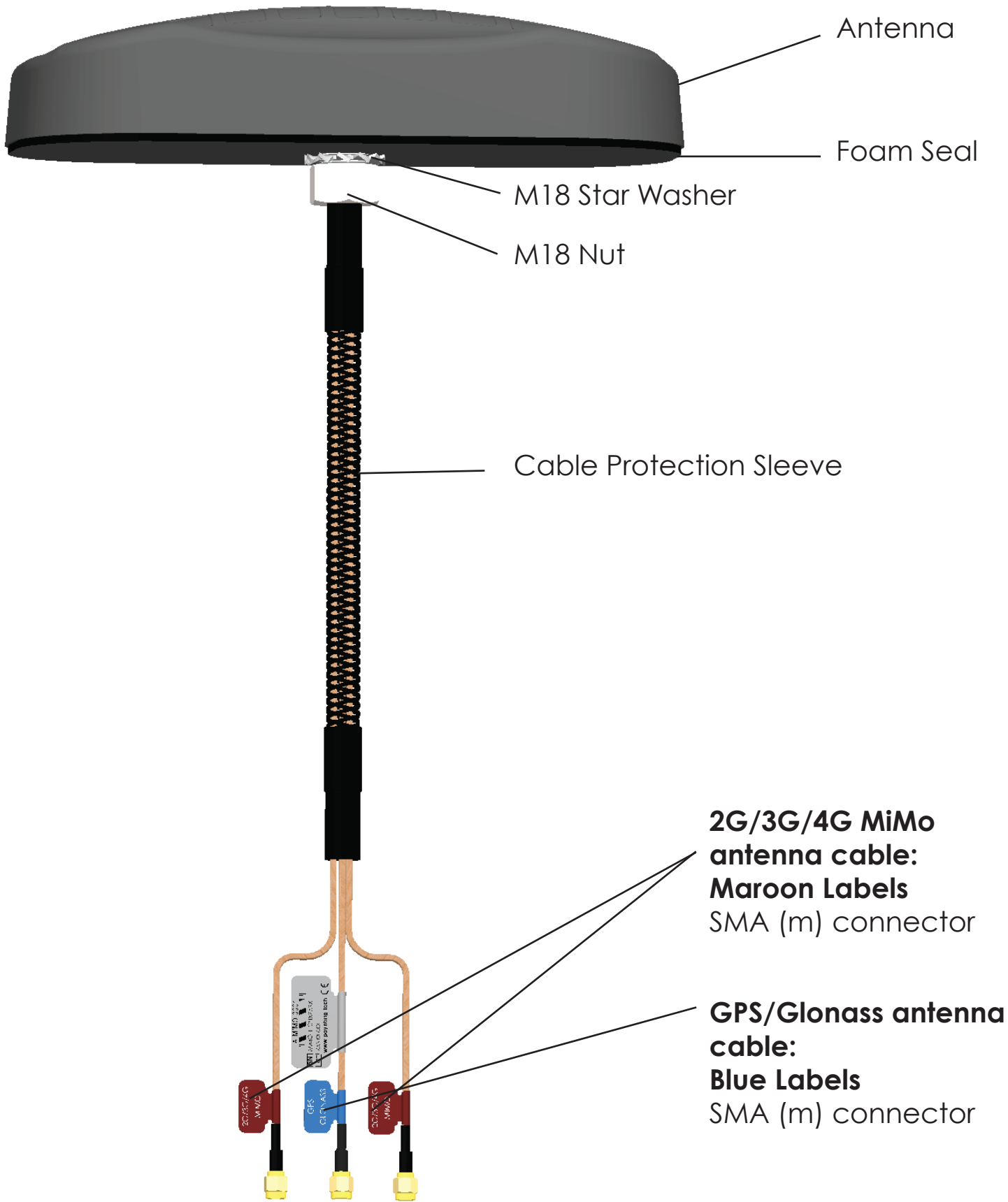


XZ Plane:



YZ Plane:





Antenna

Foam Seal

M18 Star Washer

M18 Nut

Cable Protection Sleeve

**2G/3G/4G MiMo
antenna cable:
Maroon Labels
SMA (m) connector**

**GPS/Glonass antenna
cable:
Blue Labels
SMA (m) connector**

Electrical Specifications

GSM/3G/LTE electrical specifications

Frequency Band 1:	690 - 960MHz
Frequency Band 2:	1710 - 2700MHz
Gain (Max):	3 dBi
VSWR:	<2.5:1
Feed Power Handling:	10 W
Input impedance:	50 Ohm (nominal)
Polarisation:	Linear Vertical x 2
Cable loss:	1000MHz - 0.8dB/1/2m 3000MHz - 1.6dB/1/2m
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 (M)
Voltage:	2.7 - 3.3V
Max. Power-W:	50W

Mechanical Specifications

Product Dimensions (L x W x D):	252 mm x 127 mm x 55 mm
Packaged Dimensions:	TBC
Weight:	600 g
Packaged Weight:	TBC
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

Product Box Contents

Antenna:	A-MIMO-0001- 02
Mounting Bracket:	M18 threaded spigot with M18 nut
Cable Length:	3 x 300mm
Cable Type:	EF_316_D
Connector:	3 x SMA male

The connector is factory mounted to the antenna

Ordering Information

Commercial name:	MIMO-1-02
Order Product Code:	A-MIMO-0001-02
EAN number:	0707273469052



per l'Italia



www.direl.it - vendite@direl.it



www.poynting.tech