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)
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* 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:
Radiation Patterns - Cellular

Port 2:

Azimuth 690 - 960:

Azimuth 2300 - 2400:

Azimuth 2400 - 2500:

Azimuth 2500 - 2700:
Radiation Patterns - GPS

XY Plane:

XZ Plane:

YZ Plane:
Cable Configuration

- 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 I0+50MHz
  - 16dBi Min I0-50MHz
- **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
- **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

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

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