

ANTENNAS | UDAS SERIES

ULTRA-WIDEBAND, CROSS-POLARISED, LEAKY FEEDER ANTENNA

617 – 960 MHz, 1710 – 3800 MHz, 5000 – 6000 MHz; 2x2 MIMO



| | | | | |
|--|---|---|--|---|
|  |  |  |  |  |
| 617 – 960 MHz; 1427 – 1517 MHz; 1710 – 2700 MHz; 3400 – 3800 MHz; 5000 – 6000 MHz; | <2:1 | Increase x Mb/s | Omni- Directional | 5G |
|  |  |  |  |  |
| Machine to Machine | 2x2 MIMO | IP 65 | -40°C to +70°C | Fire Resistant |



APPLICATION AREAS

- **Wideband operation from 617 – 6000 MHz, covering 5G/LTE bands**
- **Dual-band 2.4 GHz and 5 GHz Wi-Fi coverage**
- **Cross-polarised, with 2X2 MIMO for improved performance**
- **Robust enclosure design**
- **Vandal, dust and water-resistant enclosure (IP 65)**

Product Overview

The UDAS is a unique device that is designed to improve the router signal in an enclosed environment. The antenna is fitted between an indoor router unit and an outdoor antenna. The purpose of the antenna is to leak a small amount of the transmit or received signal into the region where the unit is installed. This enables indoor users to receive an improved signal whilst most of the power is radiated by the antenna outside.

The unit has a wideband operation and operates from 617 – 6000 MHz, covering the popular 5G/LTE bands as well as the 2.4 GHz and 5 GHz for Wi-Fi applications. The UDAS has an omni-directional radiation pattern, which ensures that the whole room or enclosed space is covered. The UDAS also offers 2x2 MIMO, where the antenna elements within the enclosure are cross-polarised, as this helps with diversity and delivers improved performance. The UDAS enclosure is made of ABS with UV stabiliser, which is a high impact resistant plastic and is also resistant to acids and other chemicals.

Features

- Wideband operation from 617 – 6000 MHz
- Small & low-profile design
- Omni-directional antenna
- Covers 2.4 GHz and 5 GHz Wi-Fi bands
- 2x2 MIMO capable, dual port operation
- Cross-polarised leaky feeder

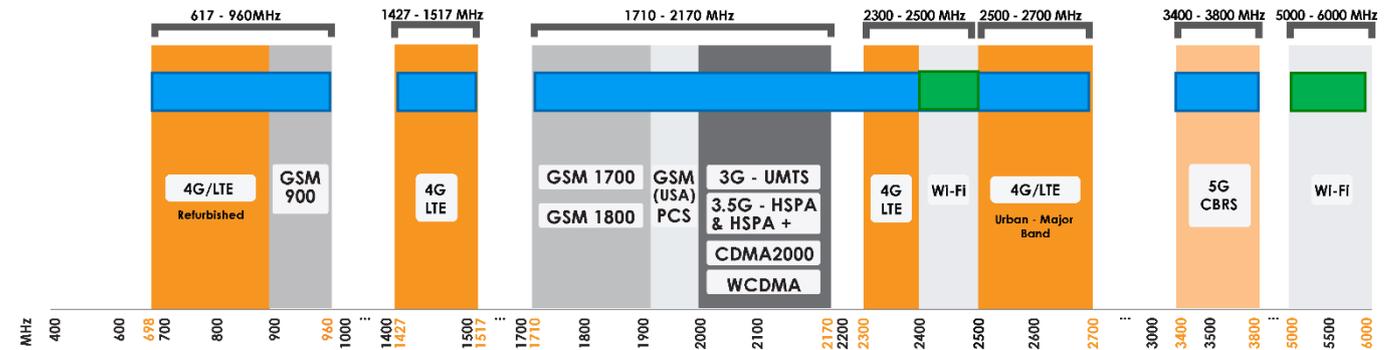
Application Areas

- In enclosed rooms where there is a Wi-Fi device, but no Wi-Fi signal (because the device is connected to an outdoor antenna)
- Transport (Busses, Trains & Public Safety)
- Smart buildings: climate control, access control, security, irrigation



Frequency Bands

The UDAS is an omni-directional antenna that works from 617–960 MHz | 1427-1517 MHz | 1710-2700 MHz | 3400-3800 MHz | and the following Wi-Fi frequency bands | 2400-2500 MHz | and | 5000-6000 MHz |



 Indicates the LTE bands on which UDAS works

 Indicates the WI-FI bands on which UDAS works

Antenna Overview

| | |
|-------------------|--|
| |  |
| Ports | 4 |
| SISO / MIMO | MIMO |
| Frequency Bands | 617 - 6000 MHz |
| Coax Cable Type | RG58 & Rigid copper bulkhead |
| Coax Cable Length | 0.2m |
| Connector Type | SMA (F)/ SMA (M) |

**The coax cable & connector are factory mounted to the antenna*

Electrical Specifications

| | |
|-----------------------------|---|
| Frequency bands: | 617 – 960 MHz 1427 - 1517 MHz 1710 – 2700 MHz 3400 - 3800 MHz 5000 – 6000 MHz |
| VSWR: | <2:1 |
| Feed power handling: | 10 W |
| Input impedance: | 50 Ohm (nominal) |
| Polarisation: | +/- 45 degrees Linearly polarisation |
| Coax cable loss: | 0.535 dB/m @ 900 MHz 0.76 dB/m @ 1500MHz 0.79 dB/m @ 1800 MHz 0.97 dB/m @ 2400 MHz 1.1 dB/m @ 3000 MHz 2.0 dB/m @ 5800 MHz |
| DC short: | Yes |

Product Box Contents

| | |
|-----------------|-------------------|
| Antenna: | A-UDAS-0001-V1-01 |
|-----------------|-------------------|

Ordering Information

| | |
|----------------------------|-------------------|
| Commercial name: | UDAS-1 |
| Order product code: | A-UDAS-0001-V1-01 |
| EAN number: | 6009710921760 |

Mechanical Specifications

| | |
|-----------------------------|--|
| Product dimensions | 95 mm x 158 mm x 39 mm (Excluding cables, connectors and adhesive foam) |
| Packaged dimensions: | 200 mm x 176 mm x 50 mm |
| Weight: | TBC |
| Packaged weight: | TBC |
| Radome material: | PC-ABS with UV Stabilizer |
| Radome colour: | Pantone – Cool Gray (11C) |
| Mounting Type: | Surface Mount |

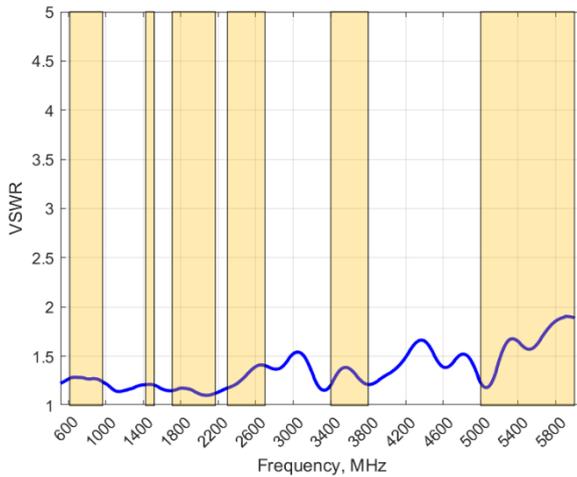
Environmental Specifications, Certification & Approvals

| | |
|---|-------------------------------------|
| Wind Survival: | <160 km/h |
| Temperature Range (Operating): | -40°C to +70°C |
| Environmental Conditions: | Outdoor/Indoor |
| Water ingress protection ratio/standard: | IP 65 (NEMA 4X) |
| Salt Spray: | MIL-STD 810F/ASTM B117 |
| Operating Relative Humidity: | Up to 98% |
| Storage Humidity: | 5% to 95% - non-condensing |
| Storage Temperature: | -40°C to +70°C |
| Enclosure Flammability Rating: | UL 94-HB |
| Impact resistance: | IK 08 |
| Product Safety & Environmental: | Complies with CE and RoHS standards |



Antenna Performance Plots

VSWR



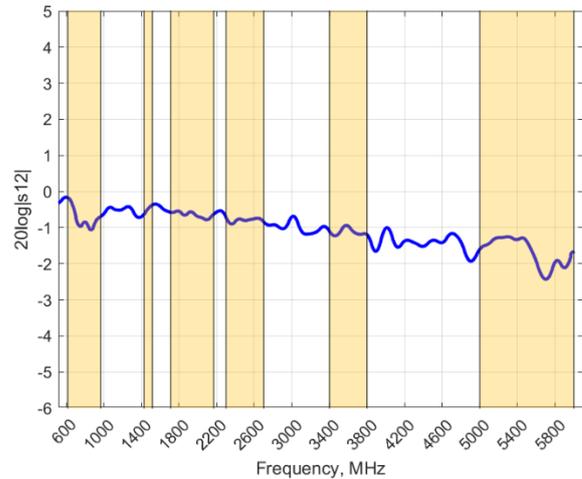
Voltage Standing Wave Ratio (VSWR)*

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 UDAS delivers superior performance across all bands with a VSWR of <2:1.

*VSWR measured with 0.2m low loss cable.

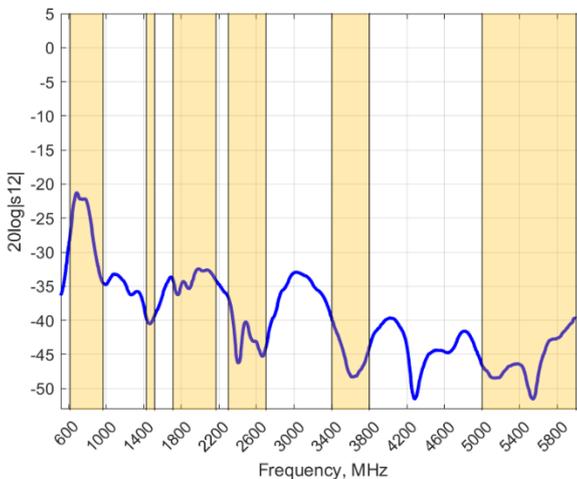
S12 (Throughput)



S12 Throughput

S12 throughput is a measure of how much energy is received at port 1, because of energy sent from port 2. A -3 dB value of S12 means that half the power is lost between ports 1 and 2.

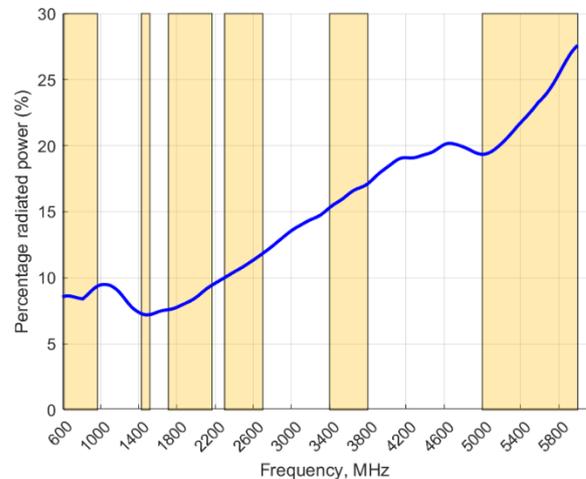
S13 (Isolation)



S13 Isolation

Isolation is a measurement of the amount of energy leaked from one port to another. The UDAS has cross polarised radiating elements giving more isolation and improved MIMO performance.

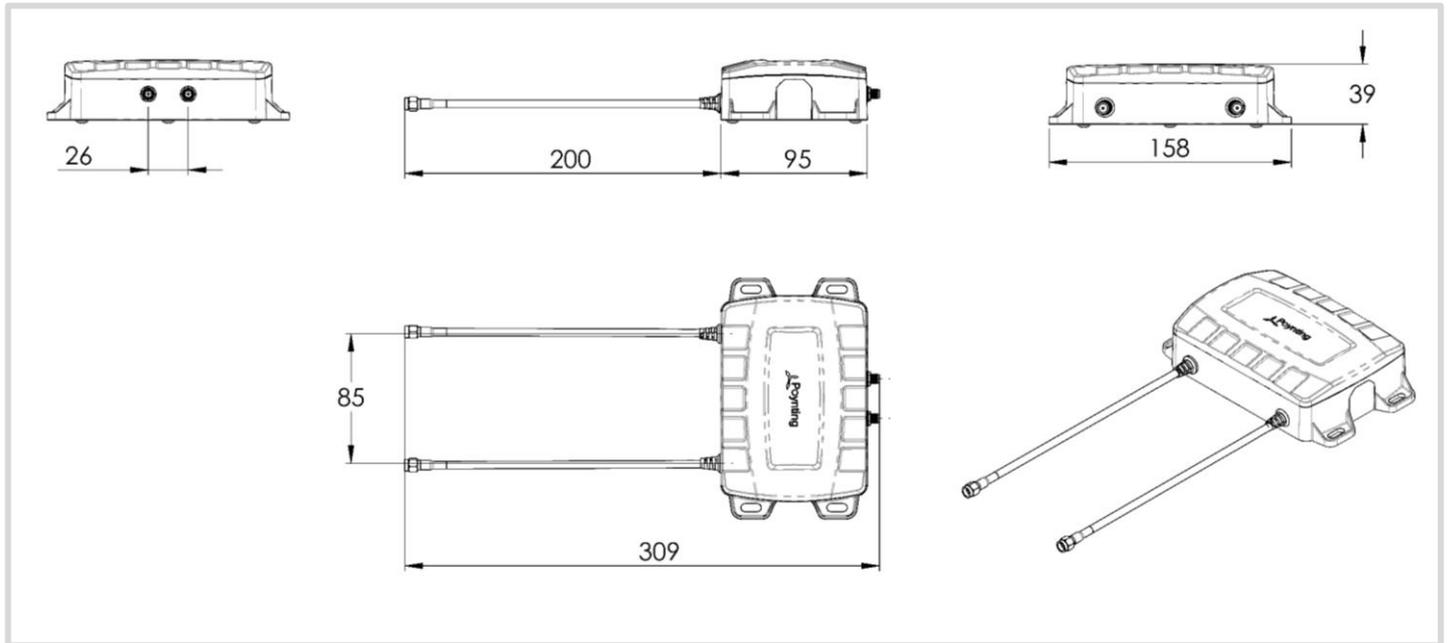
Percentage Radiated Power



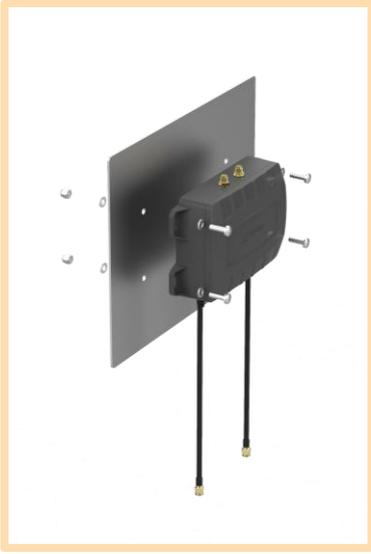
Percentage Radiated Power (PRP)

PRP is the effective radiated power of the antenna at various frequencies, excluding cable loss.

Technical Drawings



Mounting Options



Surface Mount

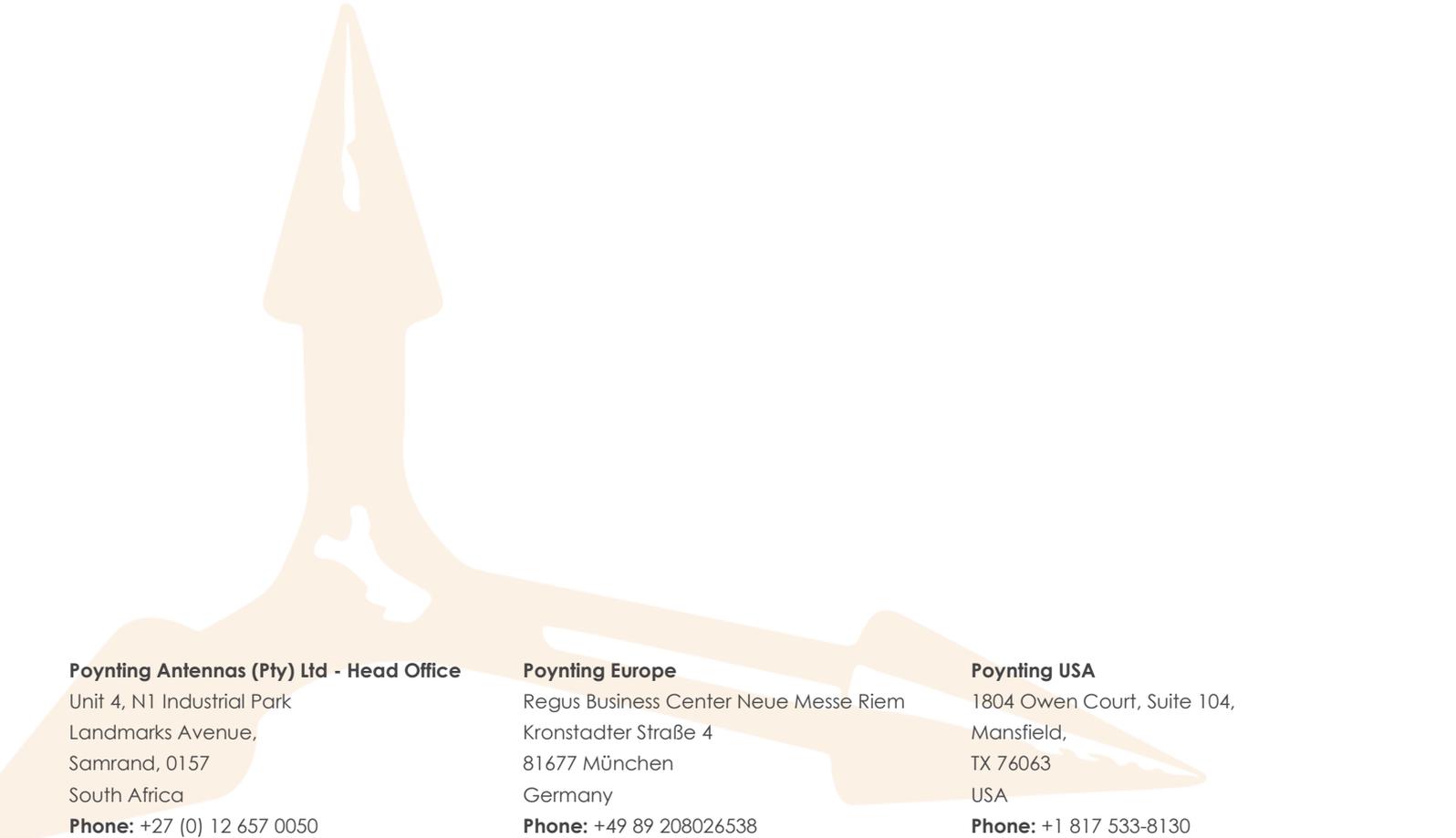
Using suitable fasteners (not included).

Additional Accessories

Extension Cables: Up to 15m RG58

Various connectors available

See accessories technical specifications on www.poynting.tech



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