VITRIKO
SmartSolutions for IoT

XPOL-2-5G

Poynting
Making wireless happen

ANTENNAS | XPOL-2-5G

698 – 3800 MHZ HIGH GAIN CROSS POLARISED LTE MIMO ANTENNA

2X2 LTE (MIMO)

698-960; 1710-2700 & 3400-3800 MHz | 11 dBi | Increase x Mb/s | 2x2 MIMO | Machine to Machine | 4G LTE

IP 65 | -40°C to +80°C | Robust | Chemical Protection | UL 94 HB | 5G LTE Ready

- **New advanced metamaterial technology**
- **Exceptional performance over the main 4G/5G bands**
- **High Gain for the antenna size**
- **Wideband 2x2 MIMO 4G/5G antenna**
- **Backwards compatible 2G/3G/4G/LTE antenna (5G Ready)**
- **Two cross polarised antennas in one enclosure for optimal LTE performance**
- **IP65 weather/dust and vandal resistant enclosure.**

APPLICATION AREAS: Urban | Rural/Farm | Home | Factory

Product Overview

The XPOL-2-5G is Poynting's third generation "V3" of this very popular Cross Polarised (XPOL), cellular band, 2x2 MIMO antenna. The antenna enclosure effectively looks the same as the second generation "V2" but has been completely redesigned on the inside. We have used advanced metamaterial technology, making use of Artificial Magnetic Conductors (AMC) and new registered/patent pending radiator configuration, which is proving to yield exceptional improvements in bandwidth and gain. Radiation patterns of this antenna are exceptionally well controlled, further adding to the performance of the antenna.

The XPOL-2-5G antenna includes the newer 3400 - 3800 MHz bands, which were not previously covered by our V2 and is suitable for 2G, 3G, 4G & 5G. This antenna performs exceptionally well in the following frequency bands: 698 – 960MHz, 1700 – 2170MHz, 2300 – 2700MHz & 3400 – 3800MHz. In addition to the new bands, the gain in the 1700MHz and 2.7GHz is around 3dB higher than the "V2" over the same frequency bands! Our "V2" antenna already outperformed most competitors over these bands, so this substantial improvement in gain shows the benefits of the new advanced materials and novel radiator design.

So, if it was a car, we installed an entirely new technology engine producing twice the power under the bonnet – it may look the same, but just wait until you turn the ignition on!

Features

- 2-3dB higher gain over all the bands compared to "V2"
- New 3400MHz-3800MHz, 5G band with 11dBi gain
- Consistent broadband performance
- X-Polarised 2x2 MIMO Antenna
- Wall or pole mountable
- Lightweight & Rugged
- Weatherproof & waterproof (IP65)
- High pattern consistency across bands for 4G/5G carrier aggregation

Application Areas

- Outdoor antenna for Fixed Wireless Access (FWA)
- Consumer LTE/5G internet connectivity
- Industrial & Commercial LTE/5G deployments
- Urban and rural household reception enhancement
- Agricultural & Farming LTE/5G data distribution
- Power, Energy & Water telemetry access
- Oil & Gas communication systems
- Municipal & Government systems
- Repeaters & coverage enhancement amplifiers

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Product Specifications may change without prior notice
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Regulatory Compliance: RoHS 2011/65/EU Compliant | ISO 9001:2015
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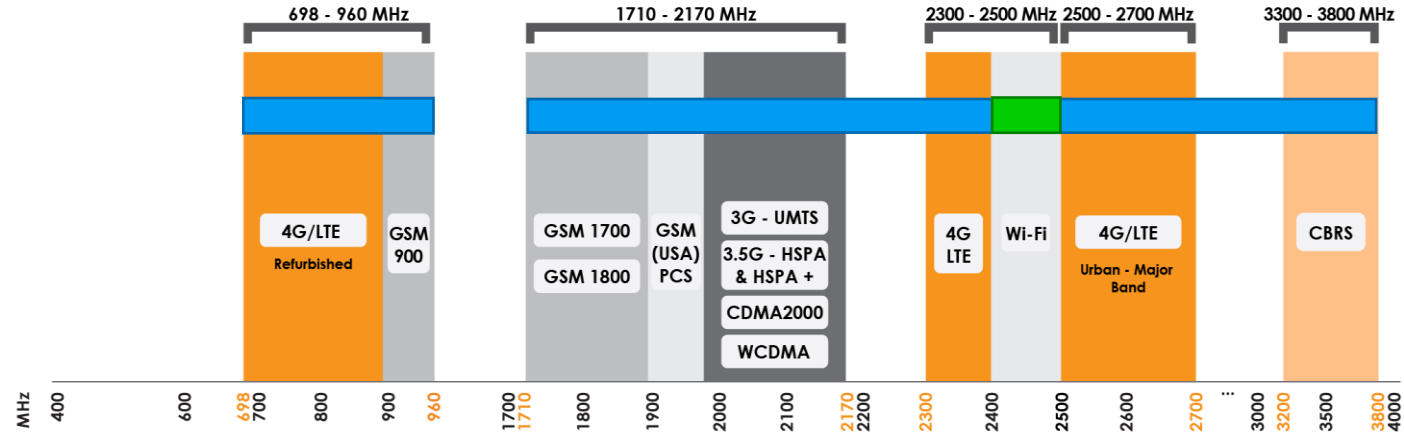
Frequency Bands – Cellular & Wi-Fi

The XPOL-2-5G is suitable for the following Cellular frequency bands | 698-960 MHz | 1710-2170 MHz | 2300-2500 MHz | 2500-2700 MHz | 3400-3800 MHz | and the following Wi-Fi frequency bands | 2400-2500 MHz |



Indicates the frequency bands which XPOL-2-5G supports

Indicates the frequency bands which XPOL-2-5G supports

Antenna Overview

Antenna Variant	A-XPOL-0002-V3-01	A-XPOL-0002-V3-02	A-XPOL-0002-V3-03
Ports	2	2	2
SISO / MIMO	2x2 MIMO	2x2 MIMO	2x2 MIMO
Frequency Bands	698 MHz - 3800 MHz	698 MHz - 3800 MHz	698 MHz - 3800 MHz
Peak Gain	11 dBi	11 dBi	11 dBi
Coax Cable Type	Twin HDF 195	NA	Twin HDF 195
Coax Cable Length	5m	NA	10m
Connector Type	SMA Male	N-Type Female	SMA Male

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Electrical Specifications - Cellular

Frequency bands:	698-960 MHz 1710-2700 MHz 3400-3800 MHz
Gain (max) Port 1 & 2:	11 dBi
VSWR Port 1 & 2:	≤1.5.1 over 95% of the band
Feed power handling:	20 W
Input impedance:	50 Ohm (nominal)
Polarisation:	±45°
Coax cable loss:	0.35 dB/m @ 900 MHz 0.53 dB/m @ 2000 MHz 0.6 dB/m @ 2500 MHz 0.66dB/m @ 3500 MHz
DC Short:	Path to ground

Antenna Variant: 5m coax with SMA (Male)

Coax Cable & Connector Type

Cable length:	5m ±5%
Coax cable type:	Twin HDF-195
Connector type:	2 x SMA (Male) With finger grips for easier connection

Ordering Information

Commercial name:	XPOL-2-V3-5G
Order product code:	A-XPOL-0002-V3-01
EAN number:	6009880915750

Antenna Variant: Bulkhead N-Type (Female)

Coax Cable & Connector Type

Cable length:	NA
Coax cable type:	NA
Connector type:	Bulkhead N-Type (Female)

Ordering Information

Commercial name:	XPOL-2-V3-5G
Order product code:	A-XPOL-0002-V3-02
EAN number:	6009710920107

Antenna Variant: 10m coax with SMA (Male)

Coax Cable & Connector Type

Cable length:	10m ±5%
Coax cable type:	Twin HDF-195
Connector type:	2 x SMA (Male) With finger grips for easier connection

Ordering Information

Commercial name:	XPOL-2-V3-5G
Order product code:	A-XPOL-0002-V3-03
EAN number:	6009710920121

Product Box Contents

Antenna:	A-XPOL-0002-V3
Mounting bracket:	Z-shaped mounting bracket

Mechanical Specifications

Product dimensions	255mm x 255 mm x 80 mm
Packaged dimensions:	290 mm x 276mm x 98mm
Weight:	1,55 kg
Packaged weight:	1,98 kg
Radome material:	UV Stable SAN Marine ASA
Radome colour:	Brilliant White Pantone P 179-1 C
Mounting Type:	Wall and pole mount

Environmental Specifications, Certification & Approvals

Wind Survival:	Antenna wind survival: <250 km/h Included Z-Bracket wind survival: <160km/h Optional bracket BRKT-030* is required for wind speeds of <250 km/h
Temperature Range (Operating):	-40°C to +80°C
Environmental Conditions:	Outdoor/Indoor
Water ingress protection ratio/standard:	IP 65
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 +80°C
Flammability Rating:	UL 94-HB, ECE-R118.02 Certified cables
Impact resistance:	IK 08
Product Safety & Environmental:	Complies with CE, EN, CSA, RoHS and IEC standards, E-mark certified

** BRKT-030 is an optional accessory, which is required for high wind areas of up to 250km/h. The BRKT-030 requires 4 x M6 x 20mm bolts for installation, not included.*

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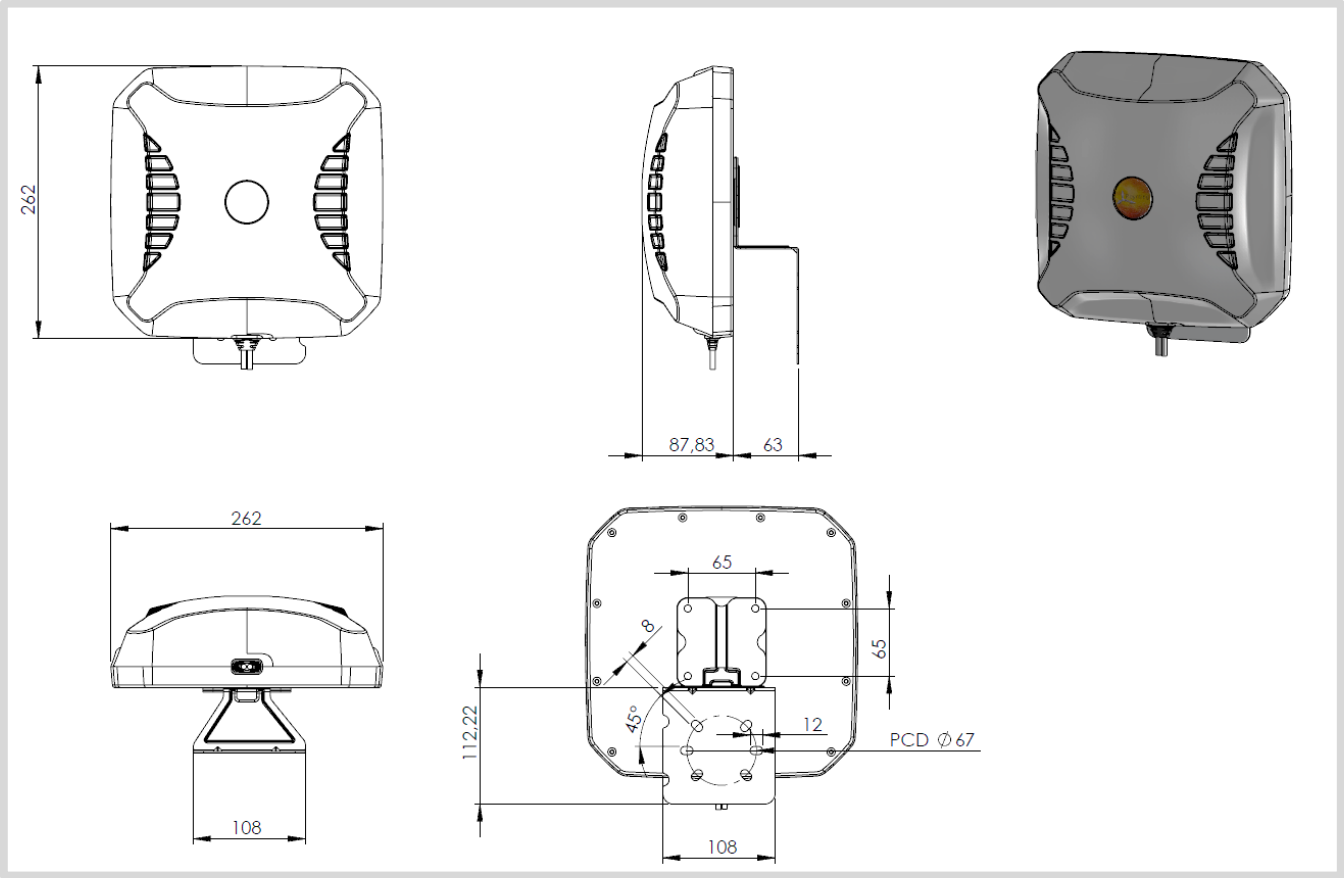
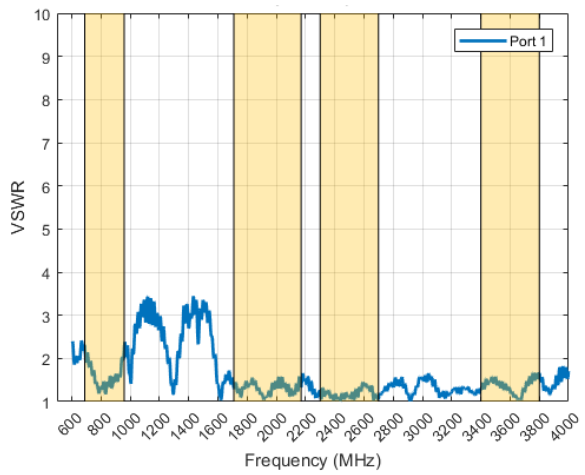
Technical Drawings

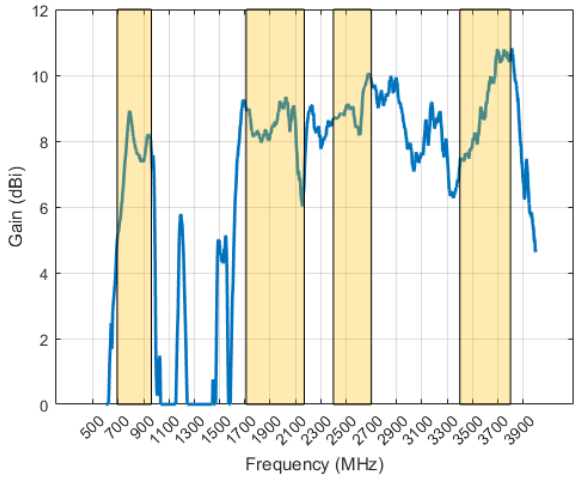


Antenna Performance Plots

VSWR: Cellular Antenna



Gain: 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 XPOL-2-5G delivers superior performance across all bands with a VSWR of ≤1.5:1 over 95% of the band

*Measured with 5m low loss cable

Gain in dBi

11 dBi is the peak gain across all bands from 690-960, 1710-2700 & 3400-3800 MHz

Peak Gain @ different bands:	9 dBi @690-960MHz
Peak Gain @ different bands:	10 dBi @ 1710-2700MHz
Peak Gain @ different bands:	11 dBi @3400-3800MHz

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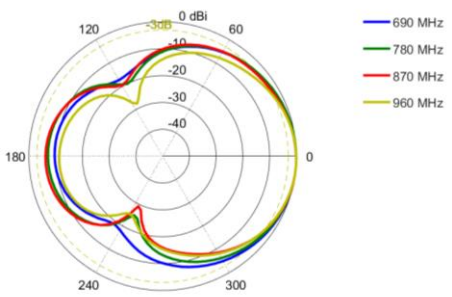
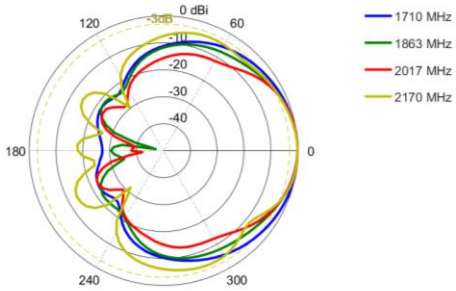
Radiation Patterns – Cellular

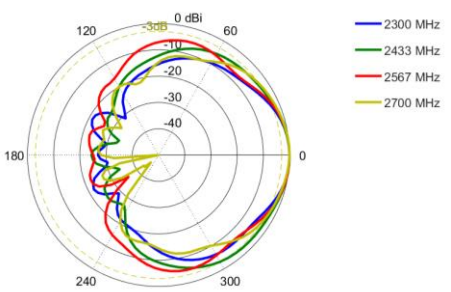
Azimuth (Top View): 698–960 MHz



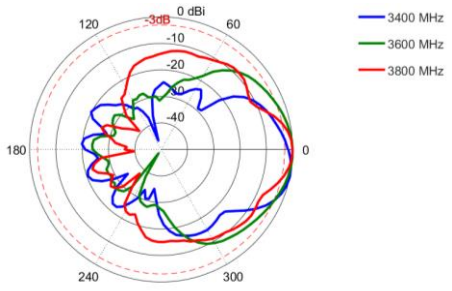
Azimuth (Top View): 1710–2170 MHz



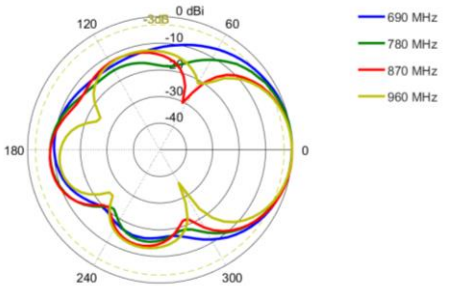
Azimuth (Top View): 2300–2700 MHz



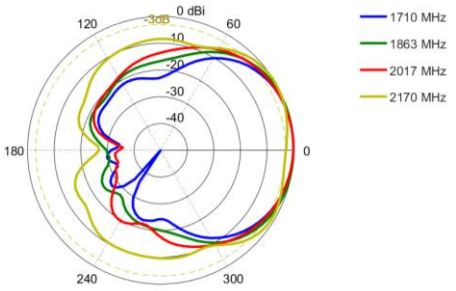
Azimuth (Top View): 3400–3800 MHz



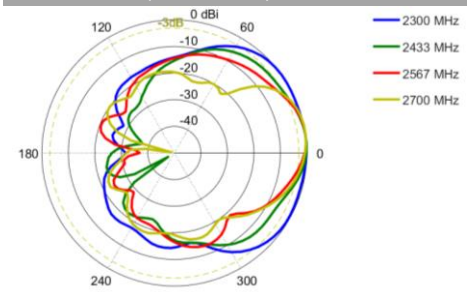
Elevation1 (Side View): 698–960 MHz



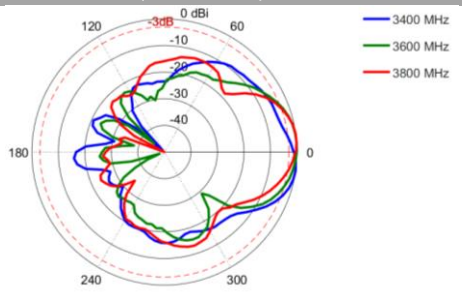
Elevation1 (Side View): 1710–2170 MHz



Elevation1 (Side View): 2300–2700 MHz



Elevation1 (Side View): 3400–3800 MHz



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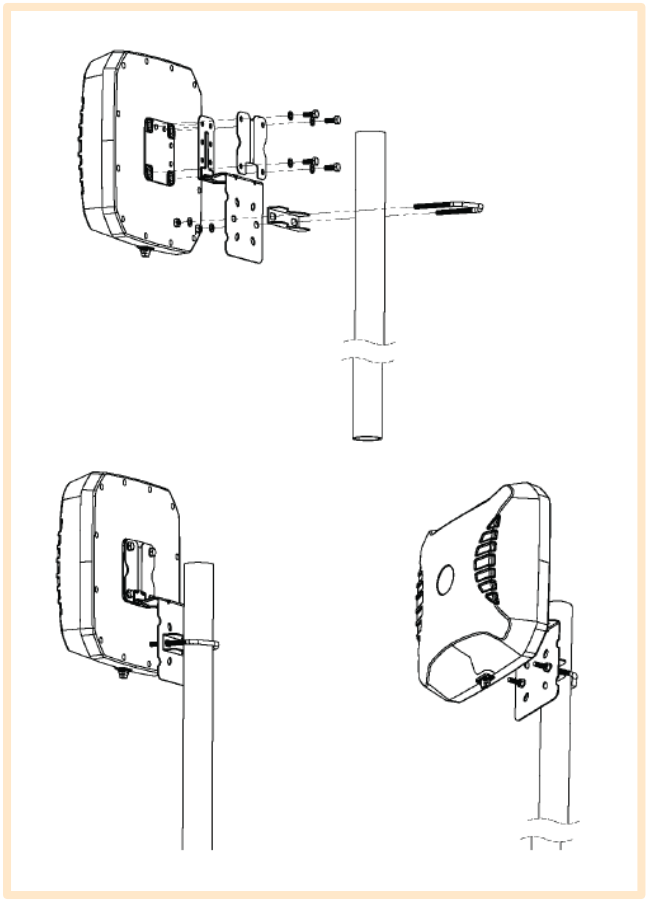
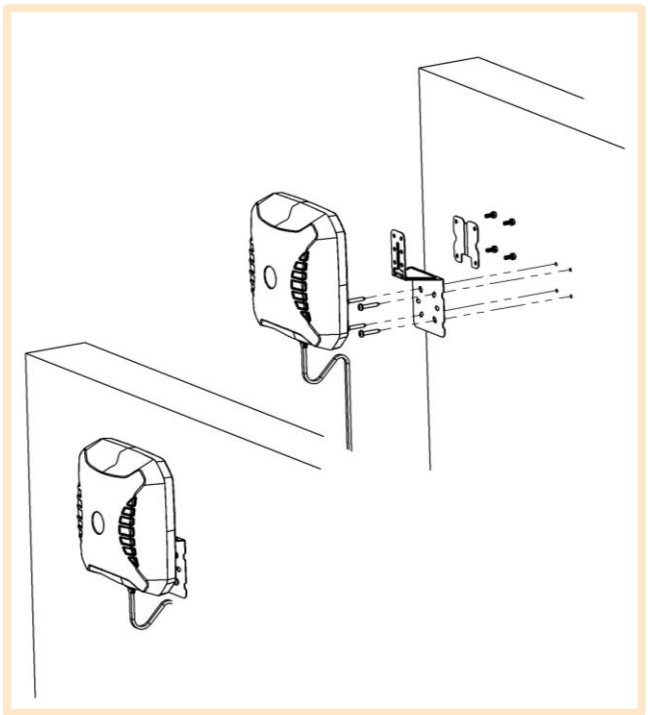
Mounting Options



Pole Mount

Pole/Wall Mounting bracket (included)



Wall Mount

Pole/Wall Mounting bracket (included)

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Additional Accessories

Extension Cables: Up to 10m HDF 195
Various connectors available
Installation poles and brackets available

See accessories technical specifications on www.VITRIKO.com