# XPOL-1-5G+

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**ANTENNAS | XPOL-1- 5G+ SERIES**

## X-POLARISED, OMNI-DIRECTIONAL,4x4 MIMO 5G ANTENNA

410 – 6000 MHz, 7 dBi

410 – 470 MHz
617 – 960 MHz
1427 – 1517 MHz
1710 – 2700 MHz
3300 – 4200 MHz
4400 – 6000 MHz

7 dBi

Increase X Mb/s

Omni-Directional

4G LTE

5G

617 – 698 MHz

CBRS Band

-40°C to +80°C

Fire Resistant

4x4 MIMO

IP 65

APPLICATION AREAS

Urban

- **Ultra-Wideband cellular antennas from 410 to 6000 MHz**
- **Cross-polarised antennas for improved performance**
- **Omni-directional antenna with a low-profile design**
- **High gain for the antenna size**
- **4x4 MIMO 4G/5G antenna for higher data throughputs**
- **Versatile mounting options for ease of installation**
- **Weather, dust, and vandal resistant enclosure (IP 65)**

### Product Overview

The XPOL-1-5G+ is Poynting's third generation "V3" of this very popular Cross Polarised (XPOL), cellular band, 2x2 or 4x4 MIMO antenna. The antenna has been completely redesigned from previous generations, featuring an all-new enclosure and high-performing antenna design. The XPOL-1-5G+ is now ultra-wideband, covering a broad frequency range from 410 to 6000 MHz. This allows it to be utilized across different cellular operators and technologies, and it is ready for future cellular technologies up to 6GHz for 5G applications. The 4x4 MIMO antenna option provides a 4-in-1 solution that includes four cross-polarised cellular antennas. These antennas deliver exceptional performance with a peak gain of 7 dBi, more than double the peak gain of the previous version (V2). This improvement enables superior signal strength and extended coverage in Fixed Wireless Access (FWA) deployments.

The radiation patterns of this antenna are omni-directional and exceptionally well controlled, further enhancing its performance. This makes the antenna perfect for various application areas, such as urban, suburban, and commercial, to achieve the best possible coverage over a large area. The robust mechanical enclosure design makes the antenna weather, dust, and vandal resistant, granting it an IP65 rating, suitable for outdoor environments.

### Features

- Ultra-wideband coverage from 410 to 6000 MHz
- X-Polarised 4x4 MIMO Antenna
- Wall, Pole, or Window mountable
- High pattern consistency across bands for 4G/5G carrier aggregation
- Low-profile and rugged mechanical design with an IP65 rating

### Application Areas

- Outdoor antenna for Fixed Wireless Access (FWA)
- Homes and small offices in both urban and suburban environments
- Small to medium-sized businesses across various commercial and industrial sectors such as retail outlets, petrol stations, guesthouses, banks, etc.
- Temporary offices on construction sites
- Serve as a reliable backup connectivity option for locations that use fibre or Starlink as their primary internet connection



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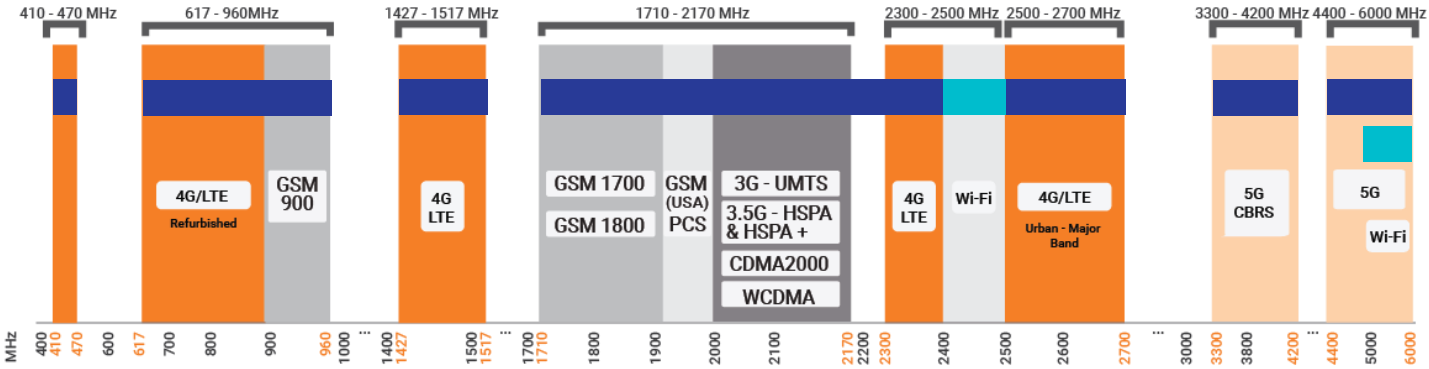
## Frequency Bands

The XPOL-1-5G+ is an 5G antenna that works from | 410 – 470 MHz | 617 – 960 MHz | 1427 – 1517 MHz | 1710 – 2700 MHz | 3300 – 4200 MHz | and | 4400 – 6000 MHz |




**Indicates the 5G/LTE bands on which XPOL-1-5G+ works**

**Indicates the WI-FI bands on which XPOL-1-5G+ works**

## Antenna Overview

| | 5G LTE |
|---|---|
| **Number of Ports** | 4 |
| **SISO / MIMO** | 4x4 MIMO |
| **Frequency Bands** | 410 – 6000 MHz |
| **Polarisation** | Cross Polarised (+45°, -45°, Vertical, Horizontal) |
| **Peak Gain** | 7 dBi |
| **Coax Cable Type** | HDF 195 |
| **Coax Cable Length** | 5m |
| **Connector Type** | SMA (M) |

**The coax cables & connectors are factory mounted to the antenna*



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## Electrical Specifications

| | |
|---|---|
| **Frequency Bands:** | 410 – 470 MHz<br>617 – 960 MHz<br>1427 – 1517 MHz<br>1710 – 2700 MHz<br>3300 – 4200 MHz<br>4400 – 6000 MHz |
| **Gain (Max):** | -4 dBi @ 410 – 470 MHz<br>1.5 dBi @ 617 – 960 MHz<br>2 dBi @ 1427 – 1517 MHz<br>6 dBi @ 1710 – 2700 MHz<br>7 dBi @ 3300 – 4200 MHz<br>5 dBi @ 4400 – 6000 MHz |
| **VSWR:** | ≤2.5:1<br>across 90% of the bands |
| **Feed Power Handling:** | 10 W |
| **Input Impedance:** | 50 Ohm (nominal) |
| **Polarisation:** | Cross Polarised |
| **Coax Cable Loss:** | 0.385 dB/m @ 900 MHz<br>0.507 dB/m @ 1500 MHz<br>0.565 dB/m @ 1800 MHz<br>0.788 dB/m @ 3000 MHz |
| **DC Short:** | Yes, path to ground |

## Product Box Content

| | |
|---|---|
| **Antenna:** | A-XPOL-0001-V3-41 |
| **Mounting Bracket:** | Pole/Wall mounting bracket and window suction cups included |

## Ordering Information

| | |
|---|---|
| **Commercial Name:** | XPOL-1-5G+ |
| **Order Product Code:** | A-XPOL-0001-V3-41 |
| **EAN Number:** | 6009710929230 |

## Mechanical Specifications

| | |
|---|---|
| **Product Dimensions** | 246 mm x 157 mm x 88 mm<br>(Including bracket) |
| **Packaged Dimensions:** | 271 mm x 191 mm x 120 mm |
| **Weight:** | 1.05 Kg |
| **Packaged Weight:** | 1.45 Kg |
| **Radome Material:** | UV Stable ASA |
| **Radome Colour:** | Brilliant White<br>Pantone P 179-1 C |
| **Mounting Type:** | Wall, pole, and window mount |

## Environmental Specifications, Certification & Approvals

| | |
|---|---|
| **Wind Survival:** | ≤250 km/h<br>*Except for window mount configuration |
| **Temperature Range (Operating):** | -40°C to +80°C |
| **Environmental Conditions:** | Outdoor/Indoor |
| **Water Ingress Protection Ratio/Standard:** | IP 65 |
| **Salt Spray:** | MIL-STD 810G/ASTM B117 |
| **Operating Relative Humidity:** | Up to 98% |
| **Storage Humidity:** | 5% to 95% - non-condensing |
| **Storage Temperature:** | -40°C to +80°C |
| **Enclosure Flammability Rating:** | UL 94-HB |
| **Impact Resistance:** | IK 10 |
| **Product Safety & Environmental:** | Complies with CE and RoHS standards |



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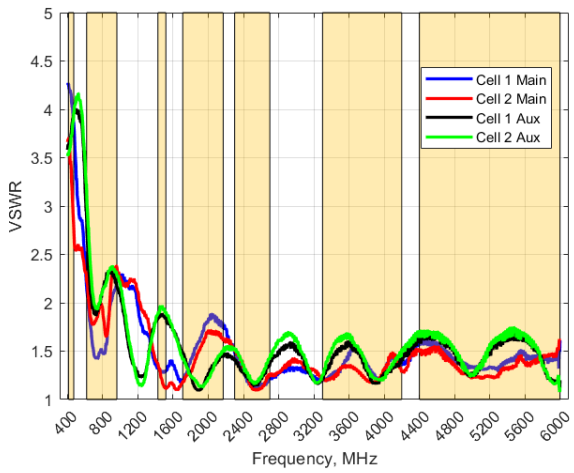
## Antenna Performance Plots

### VSWR



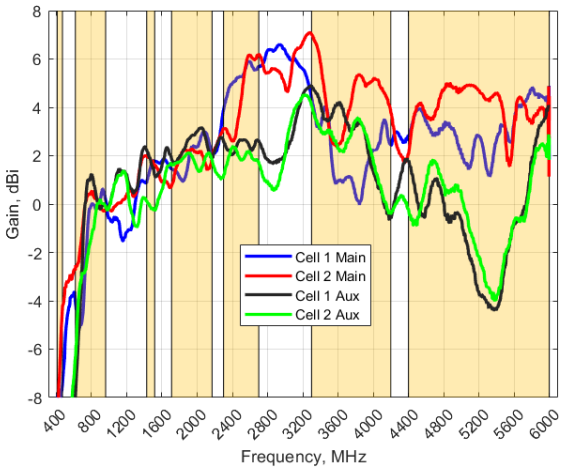

**Voltage Standing Wave Ratio (VSWR)***

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 XPOL-1-5G+ delivers superior performance across all bands with a VSWR of ≤2.5:1 across 90% of the bands.

**VSWR measured with a 5m low loss cable.*

### GAIN (EXCLUDING CABLE LOSS)



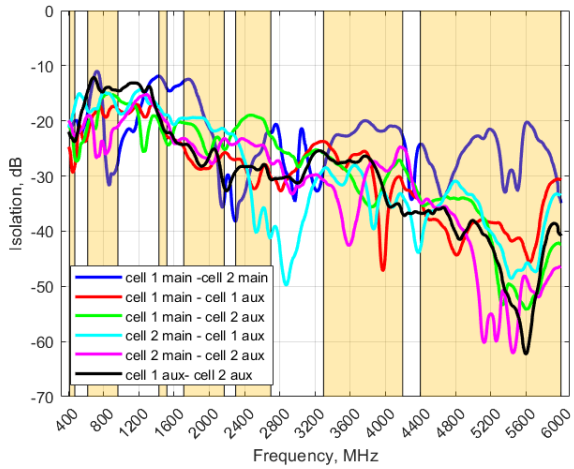

**Gain+ in dBi**

7 dBi is the peak gain across all bands from 410 – 6000 MHz

| | |
|---|---|
| Gain @ 410 – 470 MHz: | -4 dBi |
| Gain @ 617 – 960 MHz: | 1.5 dBi |
| Gain @ 1427 – 1517 MHz: | 2 dBi |
| Gain @ 1710 – 2700 MHz: | 6 dBi |
| Gain @ 3300 – 4200 MHz: | 7 dBi |
| Gain @ 4400 – 6000 MHz: | 5 dBi |

*+Antenna gain measured with polarisation aligned standard antenna*

### ISOLATION




**Isolation**

Isolation is a measure of how much energy from one port leaks into another port undesirably. Isolation of 0 dB between 2 ports means that there is no isolation and the energy from 1 port excitation is visible on another port. Isolation of -30 dB or more means that <0.1% of 1 port's energy is leaked into another. A good isolation is under -10 dB.



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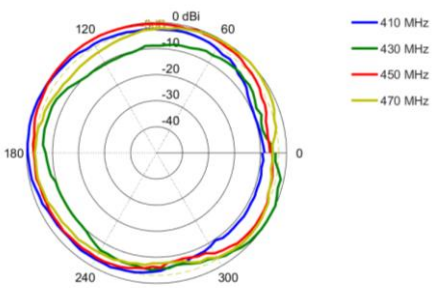
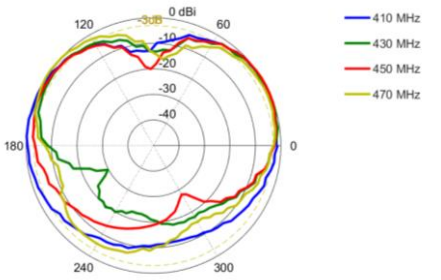
## Radiation Patterns – Cell 1 Main

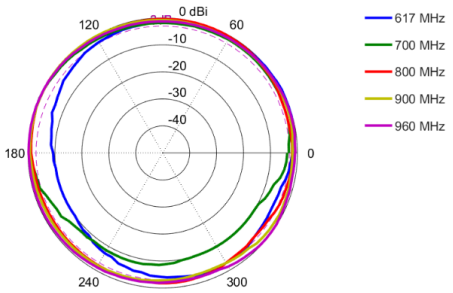
### Azimuth: 410 – 470 MHz



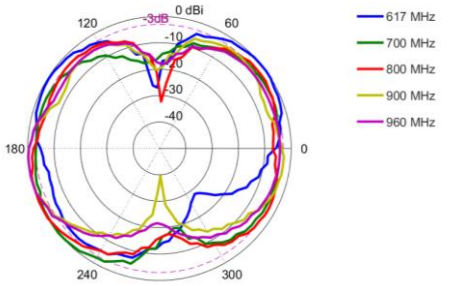

### Elevation: 410 – 470 MHz



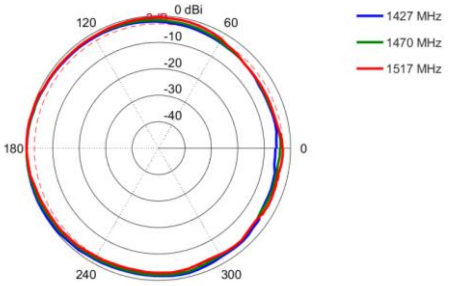

### Azimuth: 617 – 960 MHz



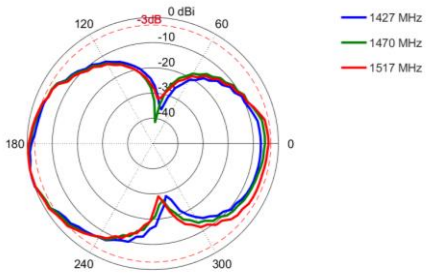

### Elevation: 617 – 960 MHz



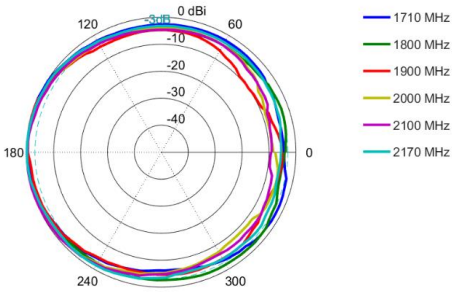

### Azimuth: 1427 – 1517 MHz



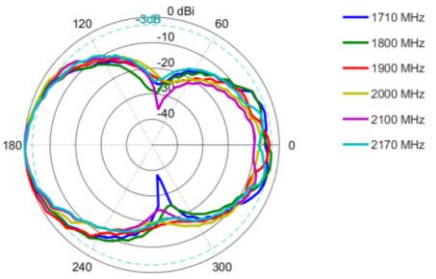

### Elevation: 1427 – 1517 MHz



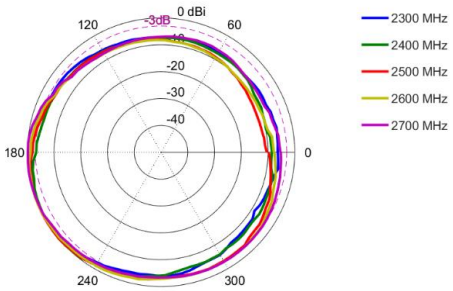

### Azimuth: 1710 – 2170 MHz



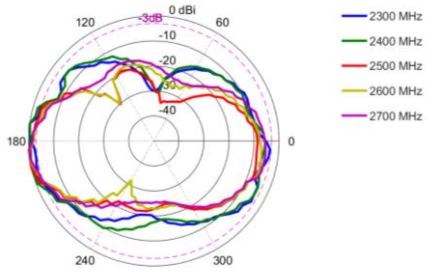

### Elevation: 1710 – 2170 MHz




### Azimuth: 2300 – 2700 MHz




### Elevation: 2300 – 2700 MHz



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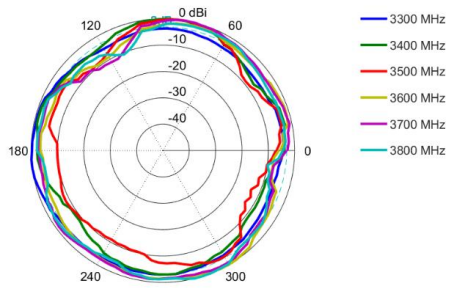
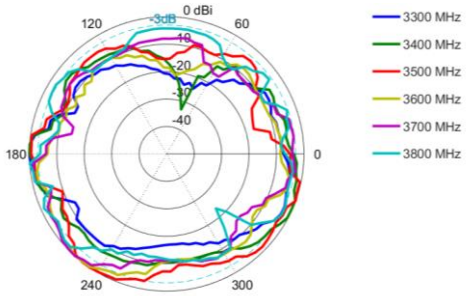
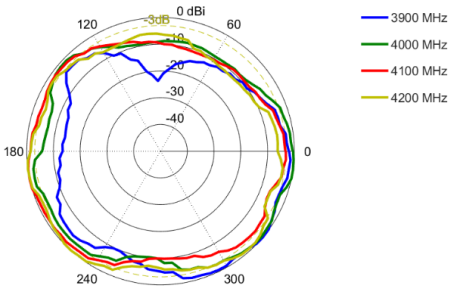
## Azimuth: 3300 – 3800 MHz



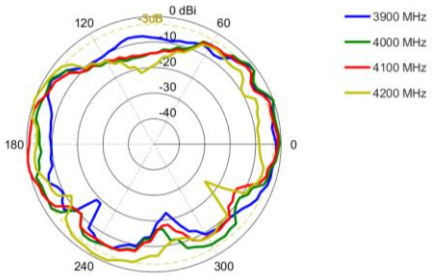

## Elevation: 3300 – 3800 MHz



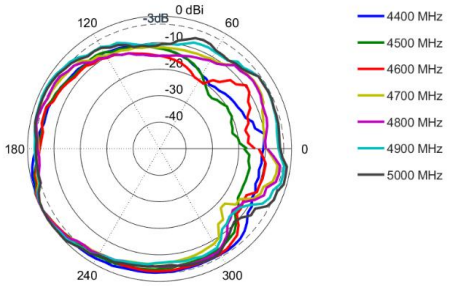

## Azimuth: 3900 – 4200 MHz



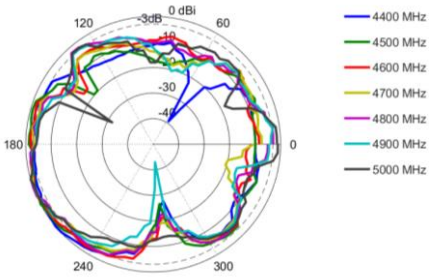

## Elevation: 3900 – 4200 MHz



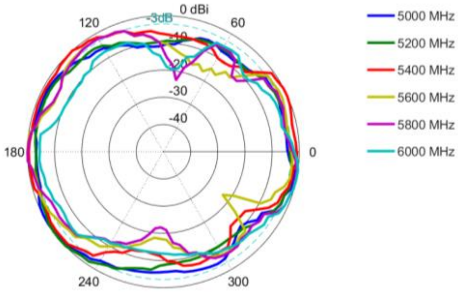

## Azimuth: 4400 – 5000 MHz



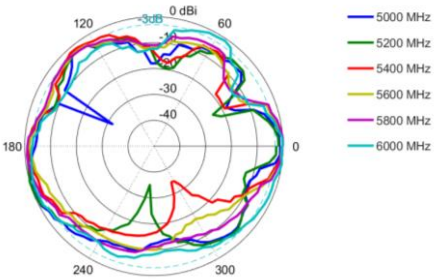

## Elevation: 4400 – 5000 MHz




## Azimuth: 5000 – 6000 MHz




## Elevation: 5000 – 6000 MHz



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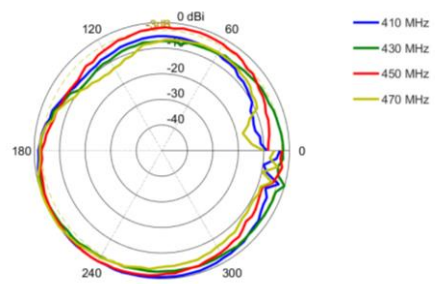
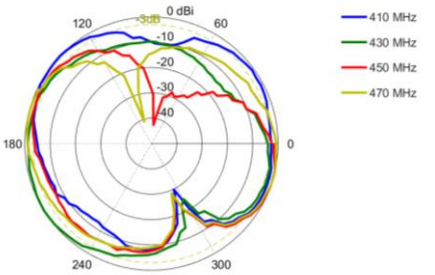
## Radiation Patterns – Cell 2 Main

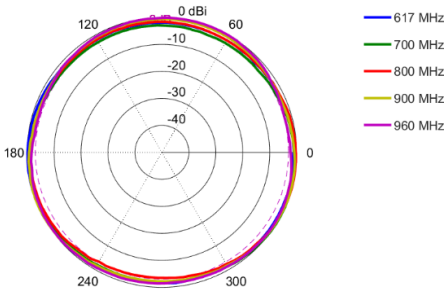
### Azimuth: 410 – 470 MHz



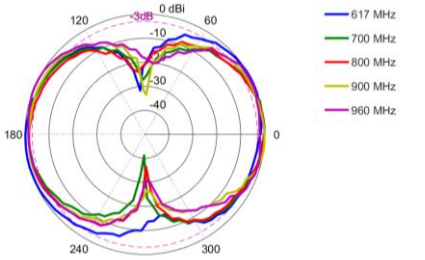

### Elevation: 410 – 470 MHz



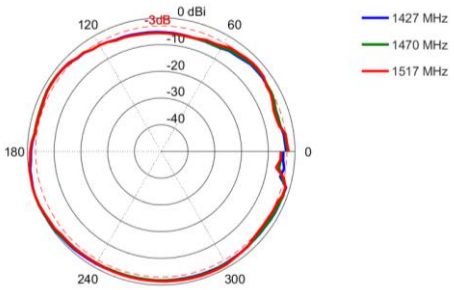

### Azimuth: 617 – 960 MHz



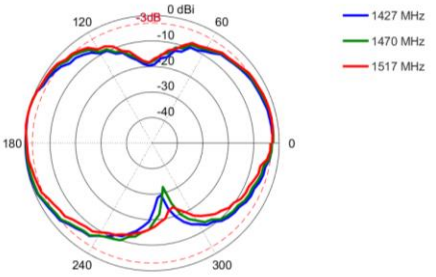

### Elevation: 617 – 960 MHz



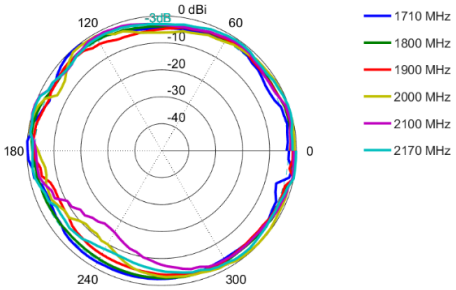

### Azimuth: 1427 – 1517 MHz



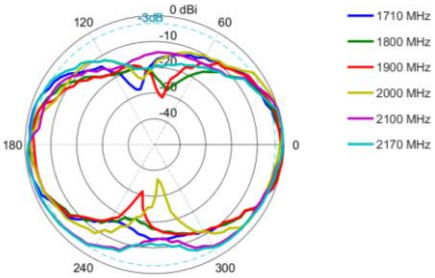

### Elevation: 1427 – 1517 MHz



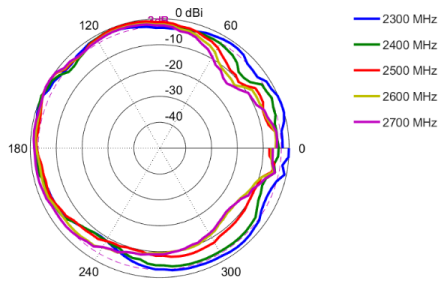

### Azimuth: 1710 – 2170 MHz



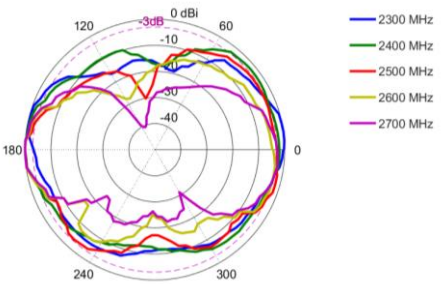

### Elevation: 1710 – 2170 MHz




### Azimuth: 2300 – 2700 MHz




### Elevation: 2300 – 2700 MHz



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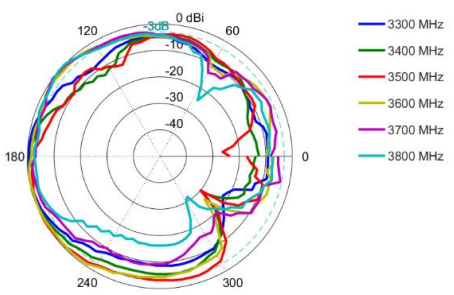
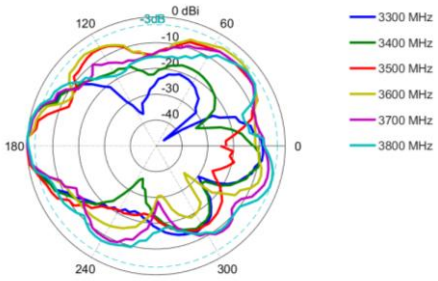
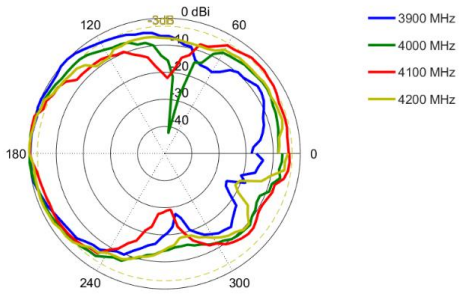
## Azimuth: 3300 – 3800 MHz



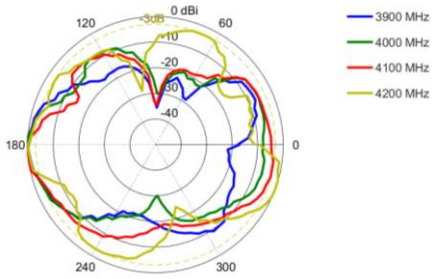

## Elevation: 3300 – 3800 MHz



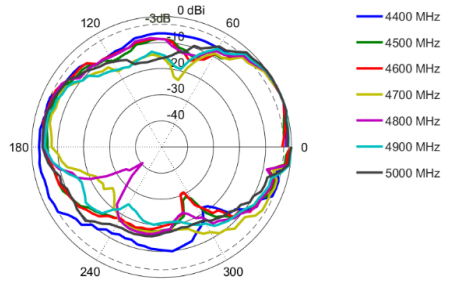

## Azimuth: 3900 – 4200 MHz



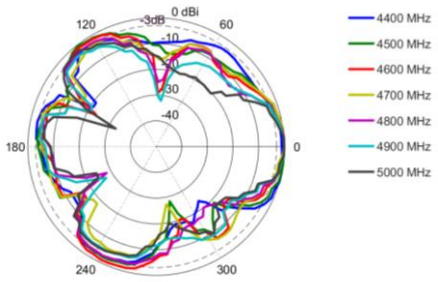

## Elevation: 3900 – 4200 MHz



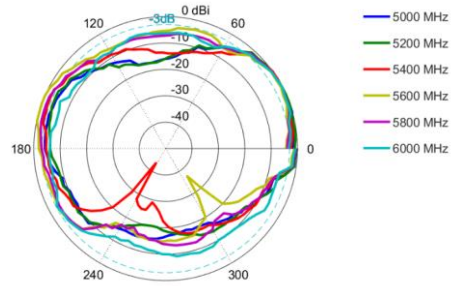

## Azimuth: 4400 – 5000 MHz



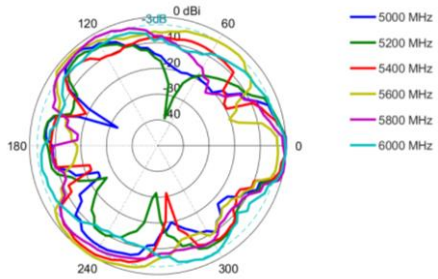

## Elevation: 4400 – 5000 MHz




## Azimuth: 5000 – 6000 MHz




## Elevation: 5000 – 6000 MHz



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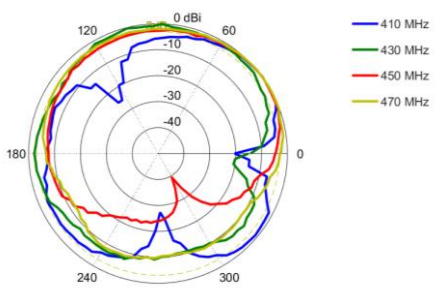
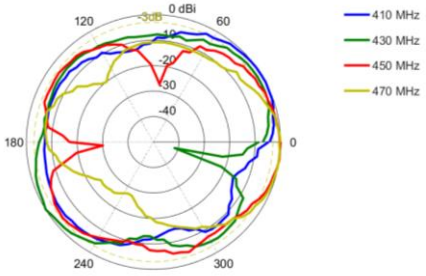
## Radiation Patterns – Cell 1 Aux

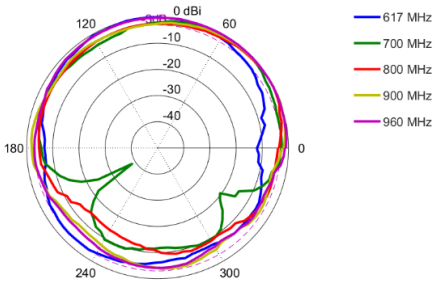
### Azimuth: 410 – 470 MHz



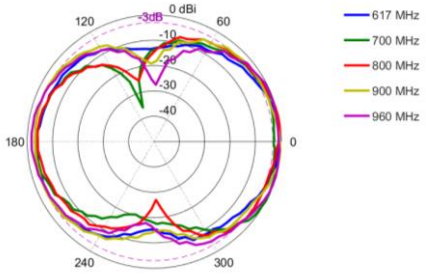

### Elevation: 410 – 470 MHz



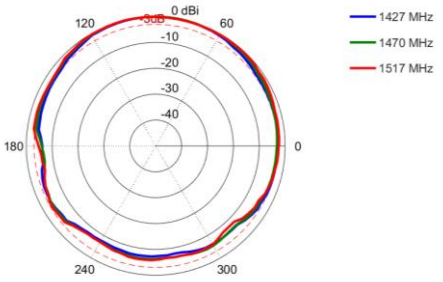

### Azimuth: 617 – 960 MHz



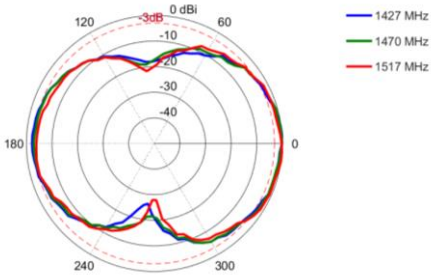

### Elevation: 617 – 960 MHz



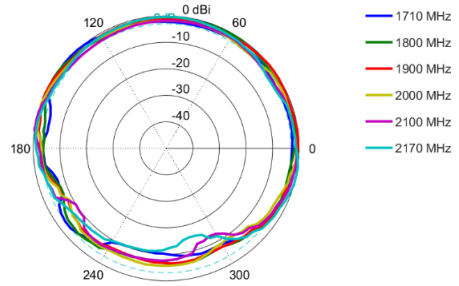

### Azimuth: 1427 – 1517 MHz



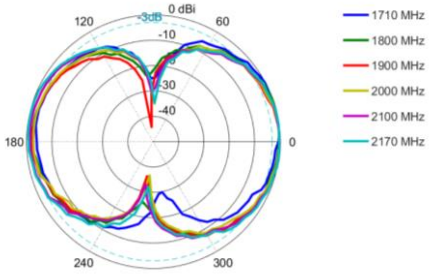

### Elevation: 1427 – 1517 MHz



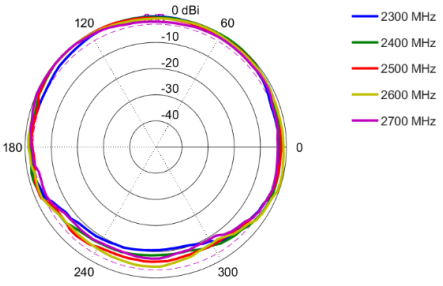

### Azimuth: 1710 – 2170 MHz



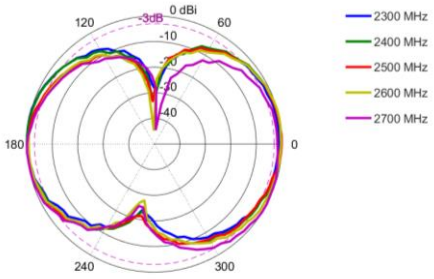

### Elevation: 1710 – 2170 MHz




### Azimuth: 2300 – 2700 MHz




### Elevation: 2300 – 2700 MHz



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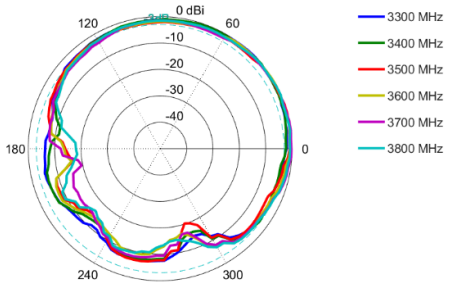
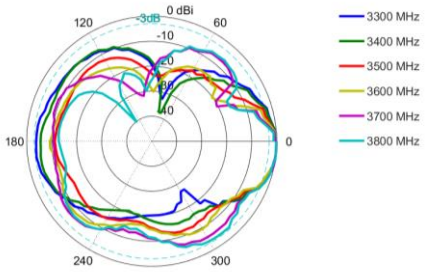
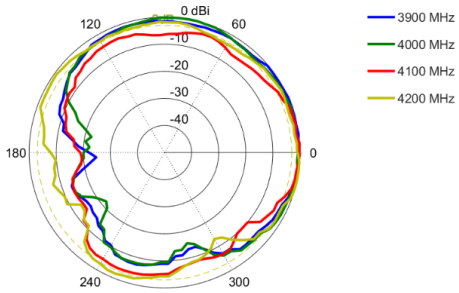
## Azimuth: 3300 – 3800 MHz



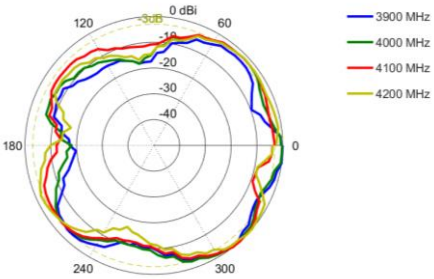

## Elevation: 3300 – 3800 MHz



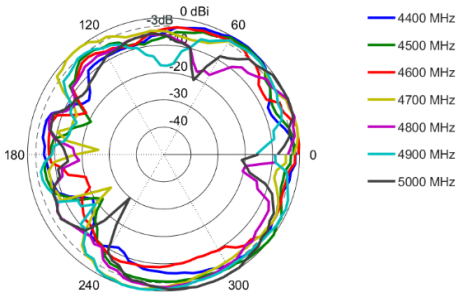

## Azimuth: 3900 – 4200 MHz



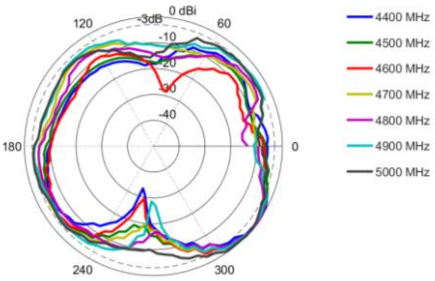

## Elevation: 3900 – 4200 MHz



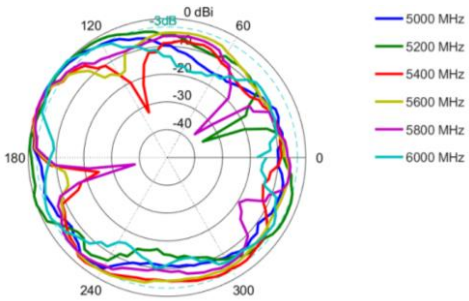

## Azimuth: 4400 – 5000 MHz



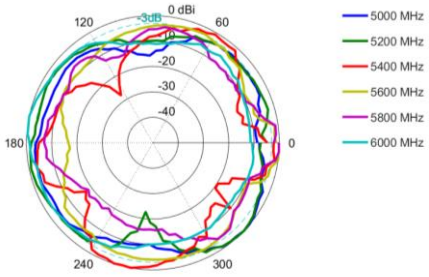

## Elevation: 4400 – 5000 MHz




## Azimuth: 5000 – 6000 MHz




## Elevation: 5000 – 6000 MHz



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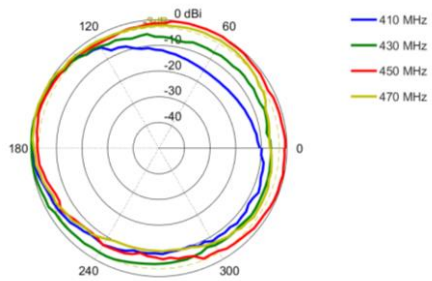
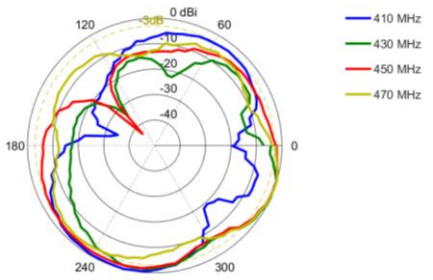
## Radiation Patterns – Cell 2 Aux

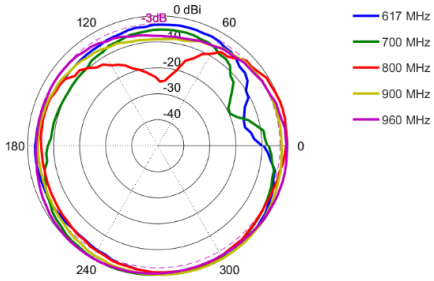
### Azimuth: 410 – 470 MHz



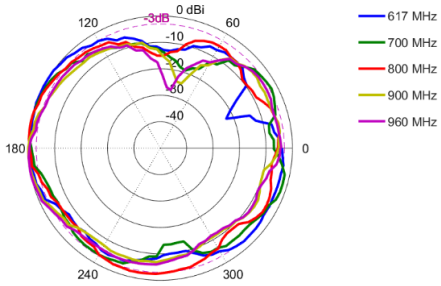

### Elevation: 410 – 470 MHz



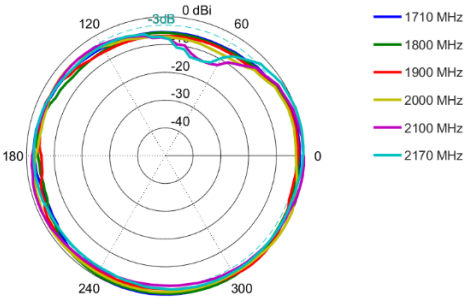

### Azimuth: 617 – 960 MHz



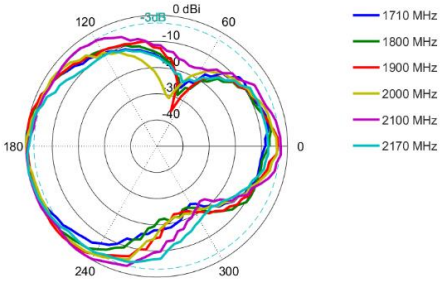

### Elevation: 617 – 960 MHz



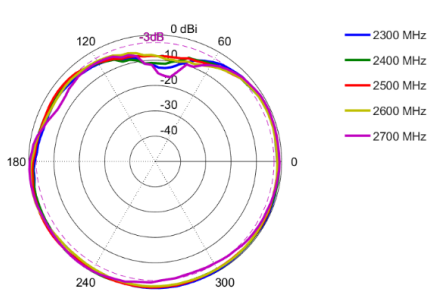

### Azimuth: 1710 – 2170 MHz



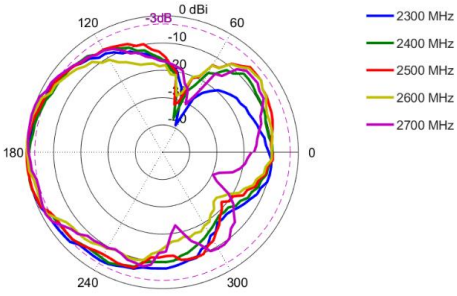

### Elevation: 1710 – 2170 MHz



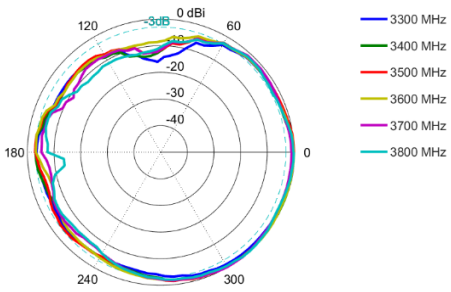

### Azimuth: 2300 – 2700 MHz



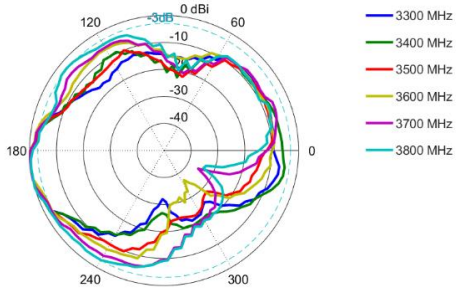

### Elevation: 2300 – 2700 MHz




### Azimuth: 3300 – 3800 MHz




### Elevation: 3300 – 3800 MHz



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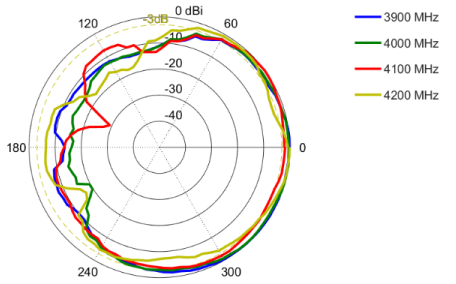
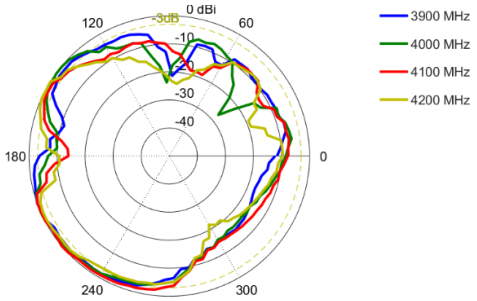
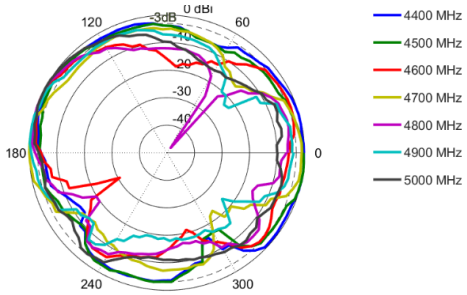
## Azimuth: 3900 – 4200 MHz



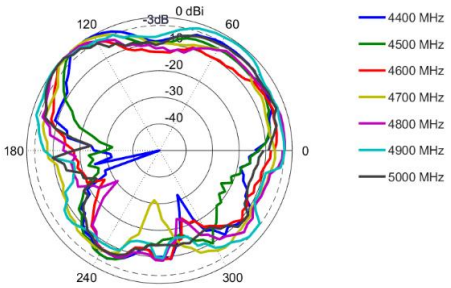

## Elevation: 3900 – 4200 MHz



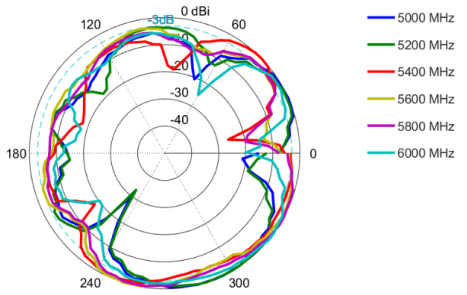

## Azimuth: 4400 – 5000 MHz



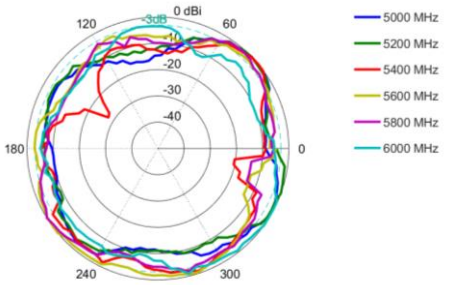

## Elevation: 4400 – 5000 MHz




## Azimuth: 5000 – 6000 MHz




## Elevation: 5000 – 6000 MHz



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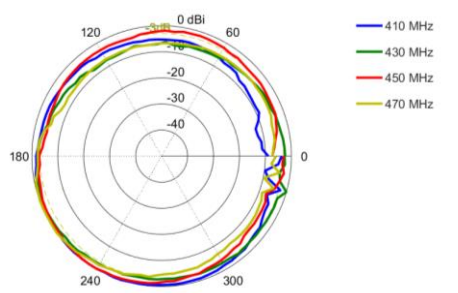
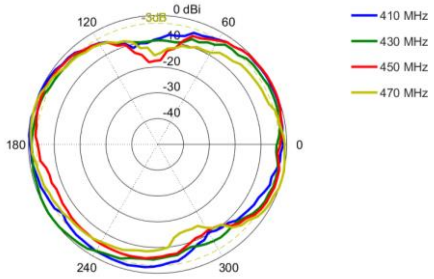
## Combined Radiation Patterns – Cell 1 Main & Aux and Cell 2 Main & Aux

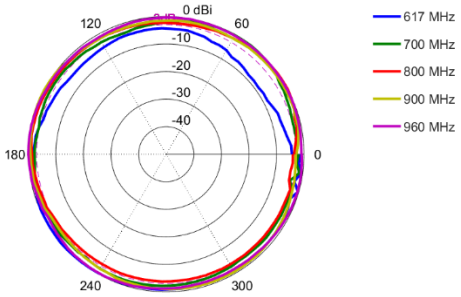
### Azimuth: 410 – 470 MHz



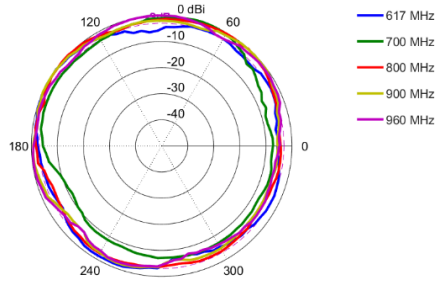

### Elevation: 410 – 470 MHz



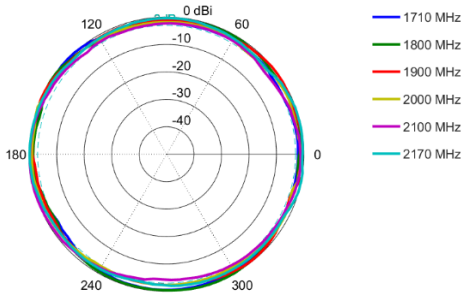

### Azimuth: 617 – 960 MHz



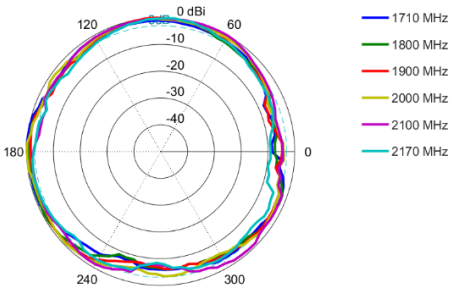

### Elevation: 617 – 960 MHz



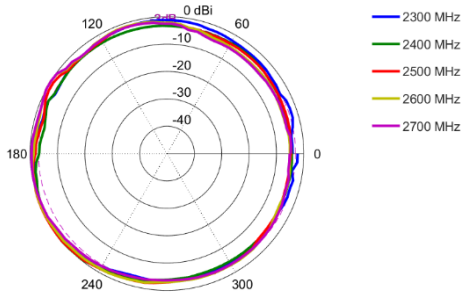

### Azimuth: 1710 – 2170 MHz



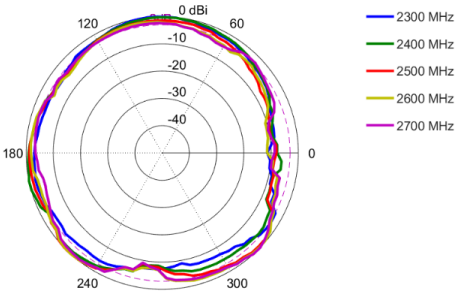

### Elevation: 1710 – 2170 MHz



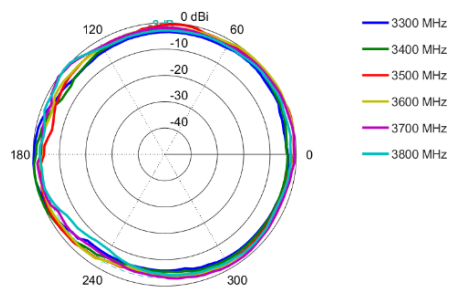

### Azimuth: 2300 – 2700 MHz



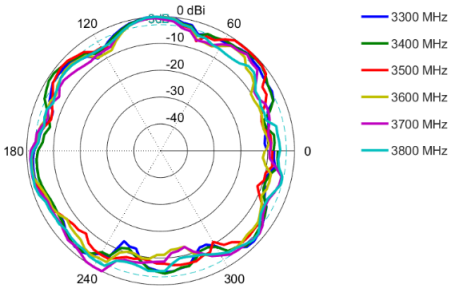

### Elevation: 2300 – 2700 MHz




### Azimuth: 3300 – 3800 MHz




### Elevation: 3300 – 3800 MHz



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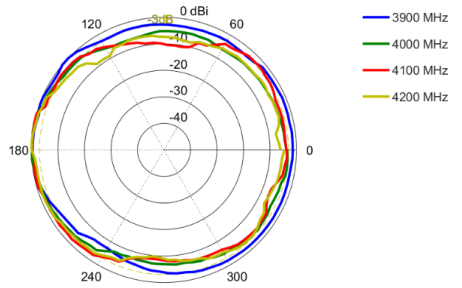
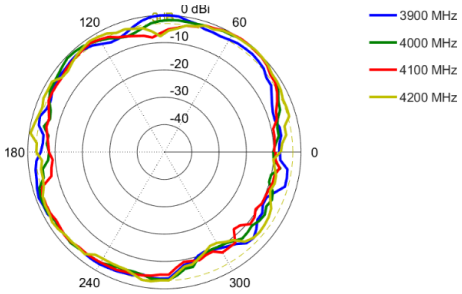
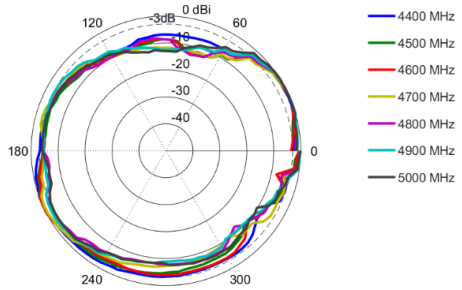
## Azimuth: 3900 – 4200 MHz



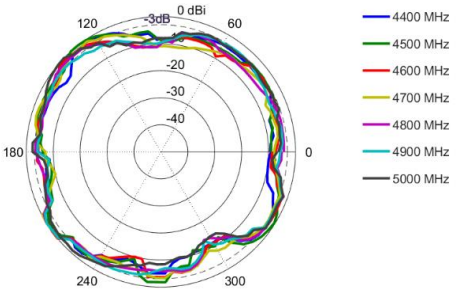

## Elevation: 3900 – 4200 MHz



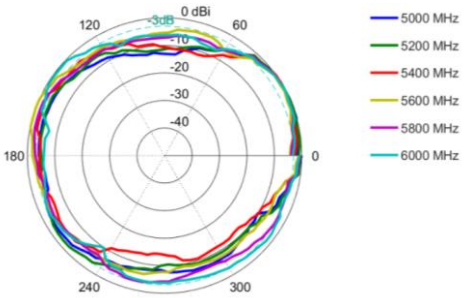

## Azimuth: 4400 – 5000 MHz



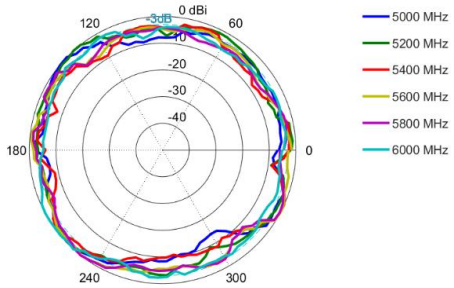

## Elevation: 4400 – 5000 MHz




## Azimuth: 5000 – 6000 MHz




## Elevation: 5000 – 6000 MHz




**Combined Patterns are for MIMO operation illustration*



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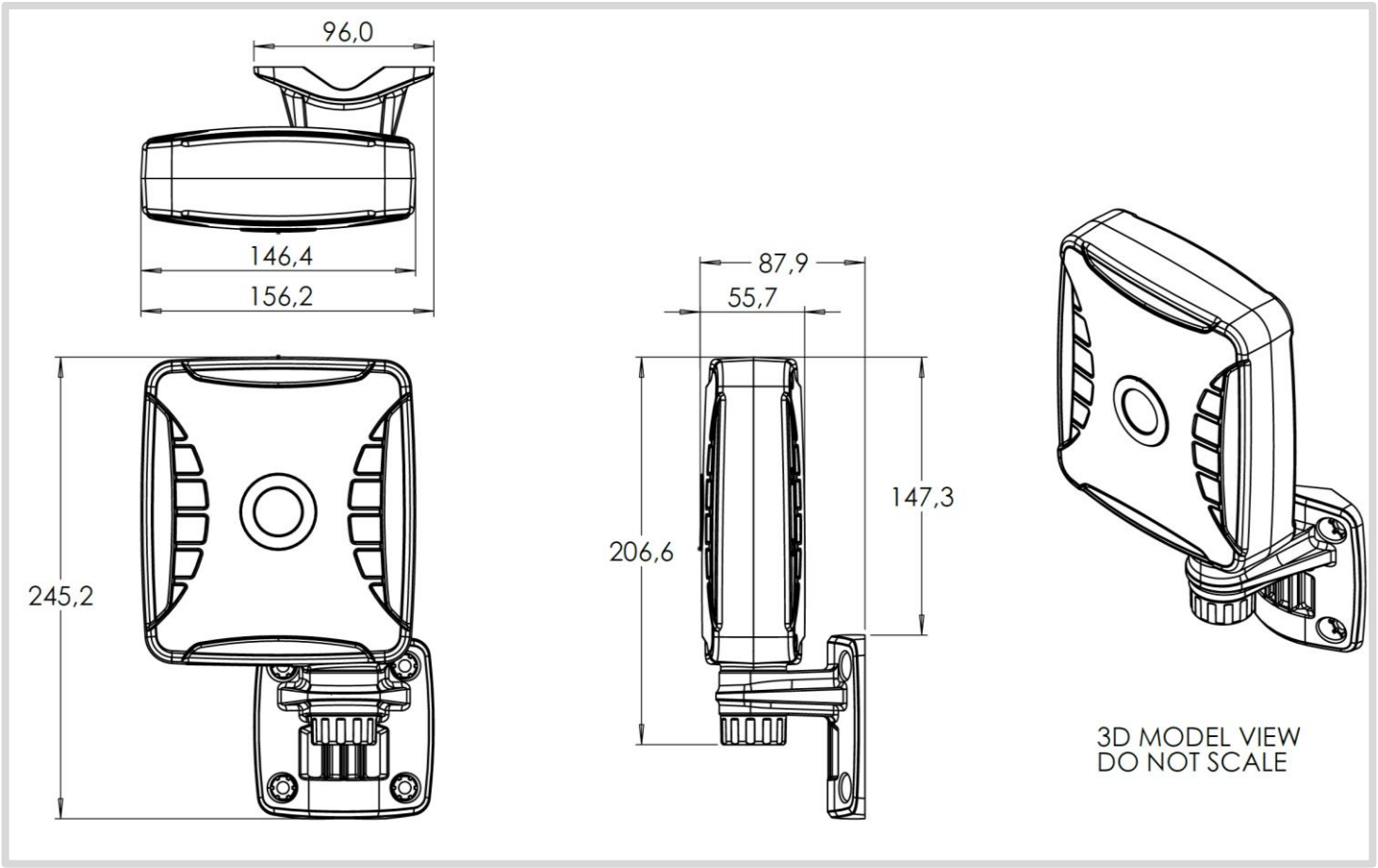
## Technical Drawings






Revised: June 2025

Regulatory Compliance: RoHS 2011/65/EU Compliant | ISO 9001:2015
Document version: TS-XPOL-0001-V3-41 REV 1.0
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## Mounting Options

**Pole Mount**

Pole mounting using the provided bracket and pipe clamp

**Wall Mount**

Wall mounting using provided bracket and knock-in screws

**Window Mount**

Window mounting using the provided suction cups



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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.poynting.tech


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