

**Description:** 2xLTE, WiFi, GNSS Multiband  
Vehicular Antenna

**Series:** Low Profile MB

**PART NUMBER:** GPSPMB403



### Features:

- 2xMiMo 698-960/1710-2690MHz
- WiFi 2400-2500/4900-5900MHz
- Active GNSS:
  - GPS, Galileo, Glonass, Beidou
  - LNA Gain 30dB
- Size 145x135x25mm
- Adhesive mount on plastic and glass fiber surfaces
- Mounting accessory for metallic surfaces

### Applications:

- Vehicle mount multiband antenna
- High Speed LTE data and WiFi
- Tracking, Navigation
- Fleet management
- Utility Vans (Gas, Water, Electricity)

All dimensions are in mm / inches

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**ELECTRICAL SPECIFICATIONS**

**LTE**

Frequency	698-960/1710-2690	MHz
Nominal Impedance	50	Ω
VSWR	2.2	Max
Average Efficiency(698-960MHz)	72	%
Average Efficiency(1710-2690MHz)	68	%
Peak Gain (698-960MHz)	4.4	dBi
Peak Gain (1710-2690MHz)	5.4	dBi

**WIFI**

Frequency	2400-2500/4900-5900	MHz
Nominal Impedance	50	Ω
VSWR @2400-2500MHz	4	Max
VSWR @4900-5900MHz	3	Max
Average Efficiency(2400-2500MHz)	46	%
Average Efficiency(4900-5900MHz)	64	%
Peak Gain (2400-2500MHz)	4.5	dBi
Peak Gain (4900-5900MHz)	6.7	dBi

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**ELECTRICAL SPECIFICATIONS**

GPS

Frequency 1561.098±2.046/ 1575.42±1.023/ 1602.5625±4 MHz

Nominal Impedance 50 Ω

VSWR 2:1

Gain (Radiating element) 1 dBic +/- 1 dB

Gain (LNA gain) 30 dB +/- 2 dB

Polarization RHCP

Out of Band Rejection

698 MHz >70 dB

960MHz >65 dB

1710MHz >60 dB

2170MHz >65 dB

2400MHz >65 dB

Noise Figure <2.4 dB

Operating Voltage 3.3-5 Vdc±0.5V

Current Consumption <11 mA

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**ELECTRICAL SPECIFICATIONS**

Cable and Connector type

Item	GPSPMB403 RF Cables	Text on Label	Cable Type	Cable Length	Connector
1	LTE-1	Cell - 1	LMR195	600mm [ 23.622" ]	TNC Male
2	WiFi	WiFi	LMR195		RP-TNC Male
3	GPS	GNSS	LMR100		SMA Male
4	LTE-2	Cell - 2	LMR195		RP-SMA Male

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### MECHANICAL SPECIFICATIONS

Plastic radome	SABIC PC943
Color	Black
Ingress Protection	IP67
Weight	310 g
Cable retention: Pull off	30N mini
Fixing system	3M VHB4959 (T=3mm)

### ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-40 ~ +85 ° C
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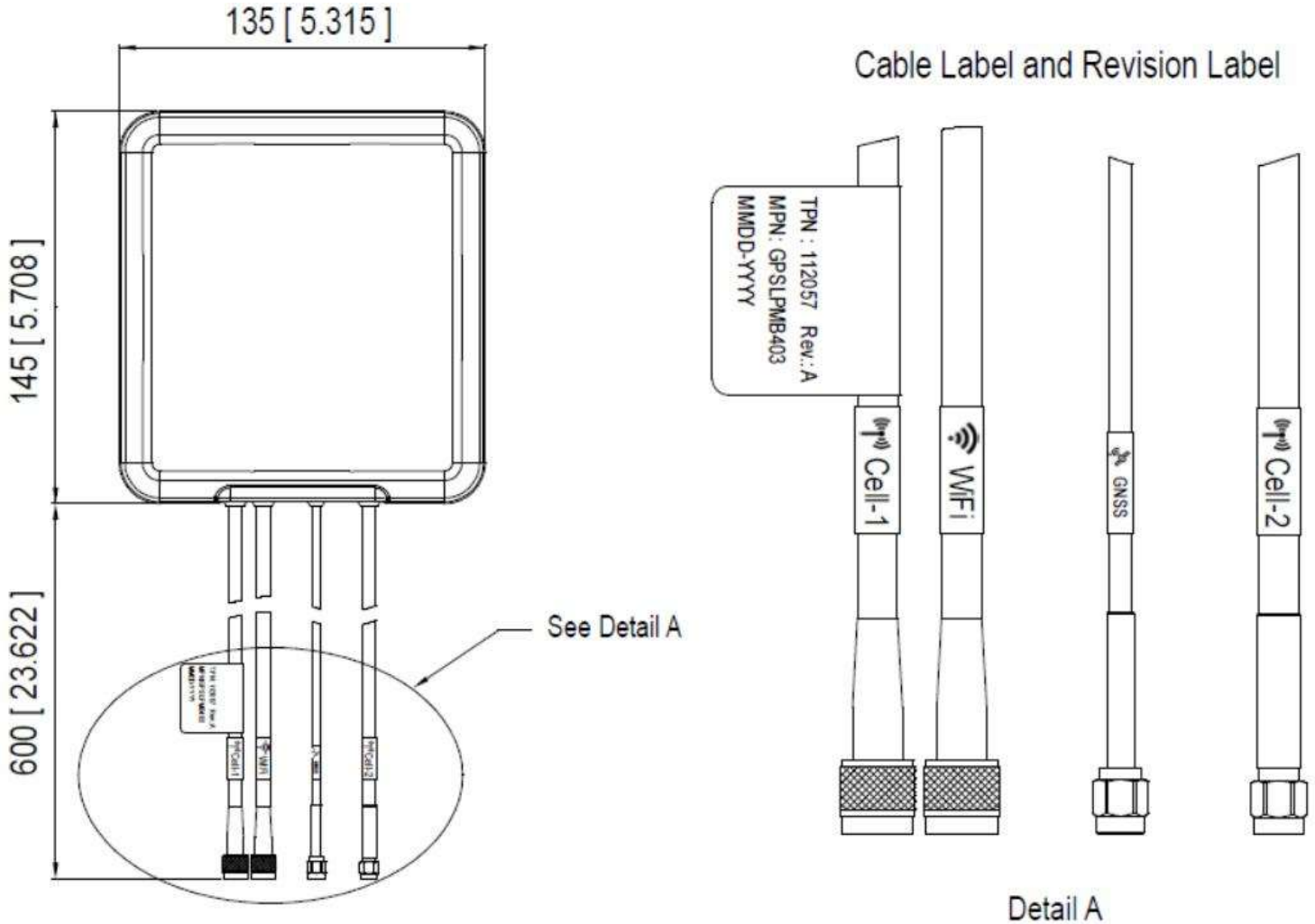


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MECHANICAL DRAWING



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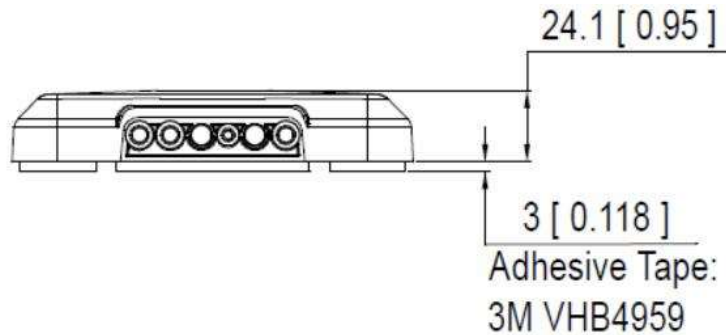


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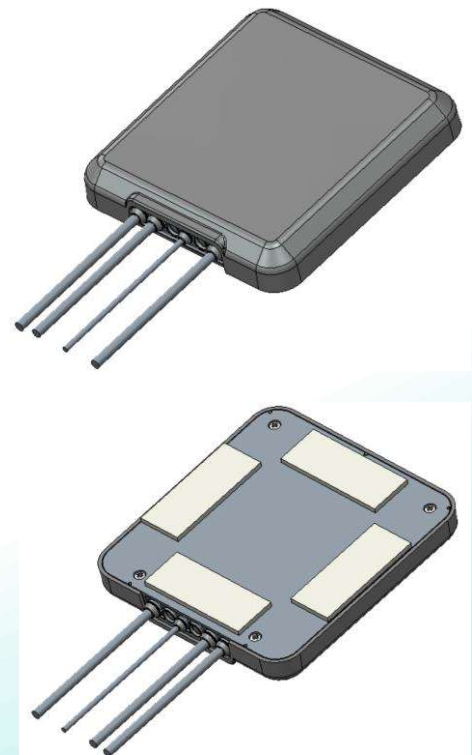
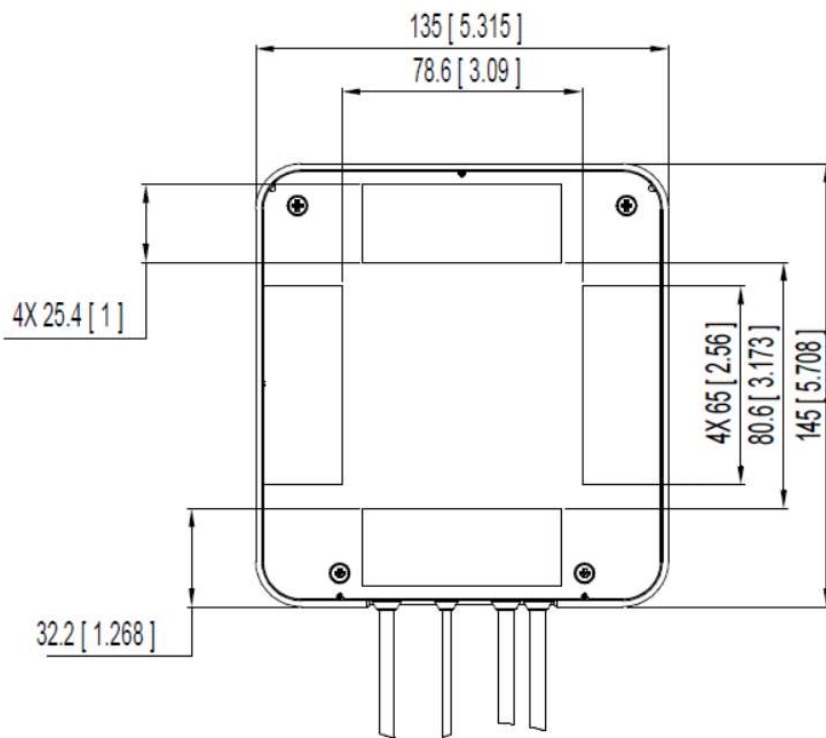
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**MECHANICAL DRAWING**



Adhesive Tape Placement



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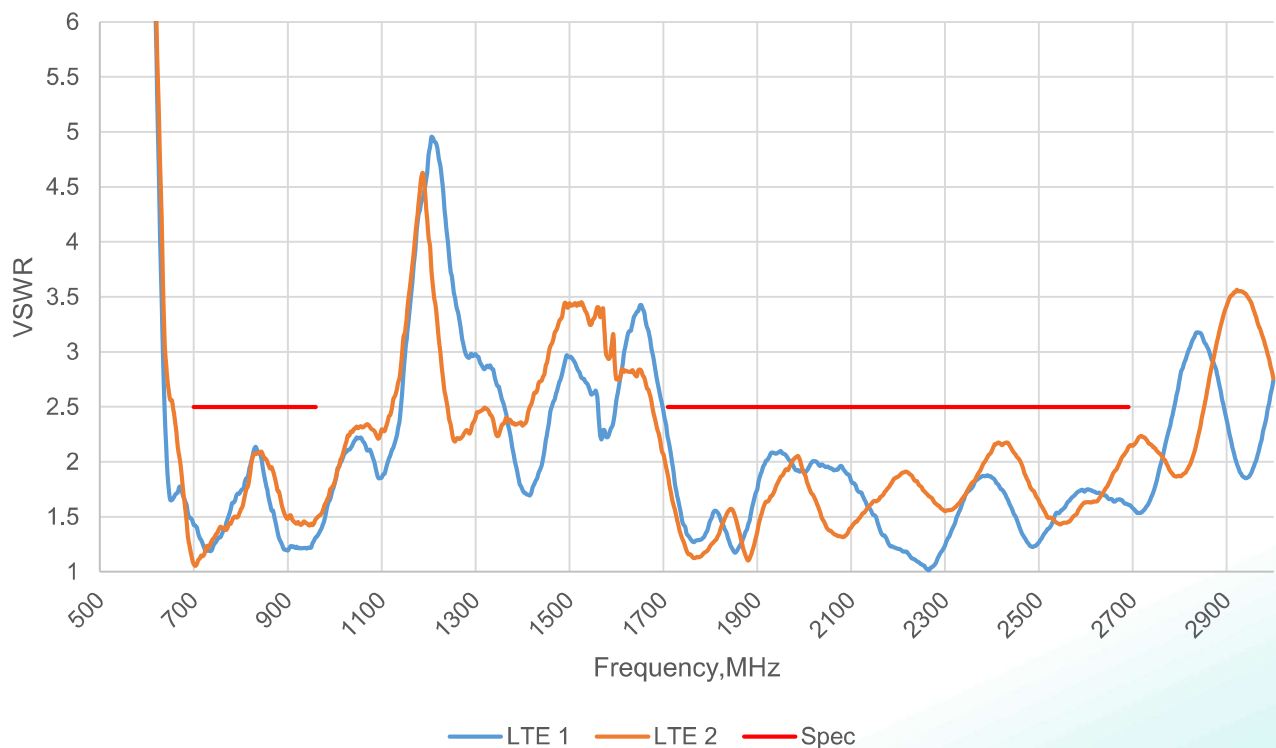
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**CHARTS**

**LTE 1 and LTE2 VSWR**

VSWR VS Frequency measured in free space



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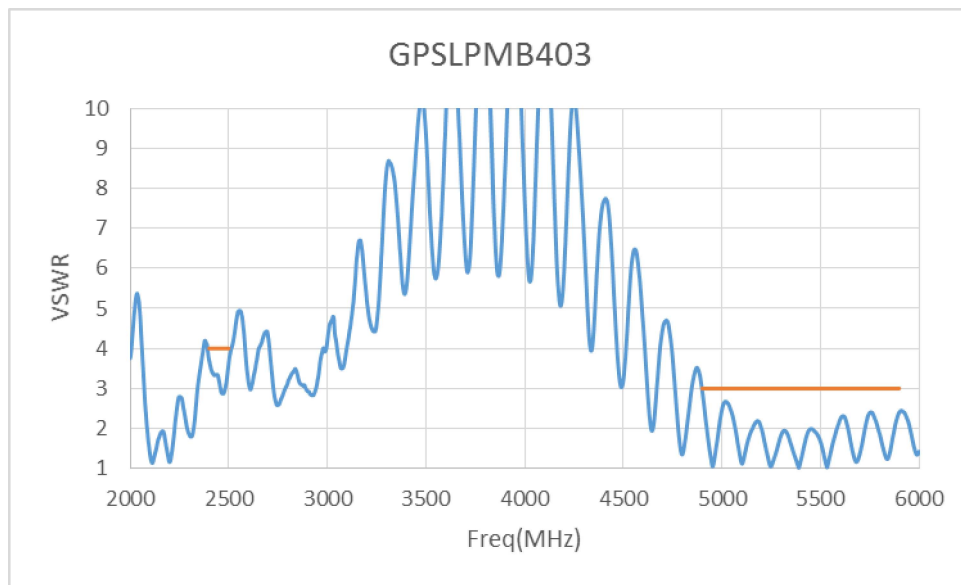
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**CHARTS**

WiFi VSWR\*



\* Test on bracket and diameter is 500mm ground plane

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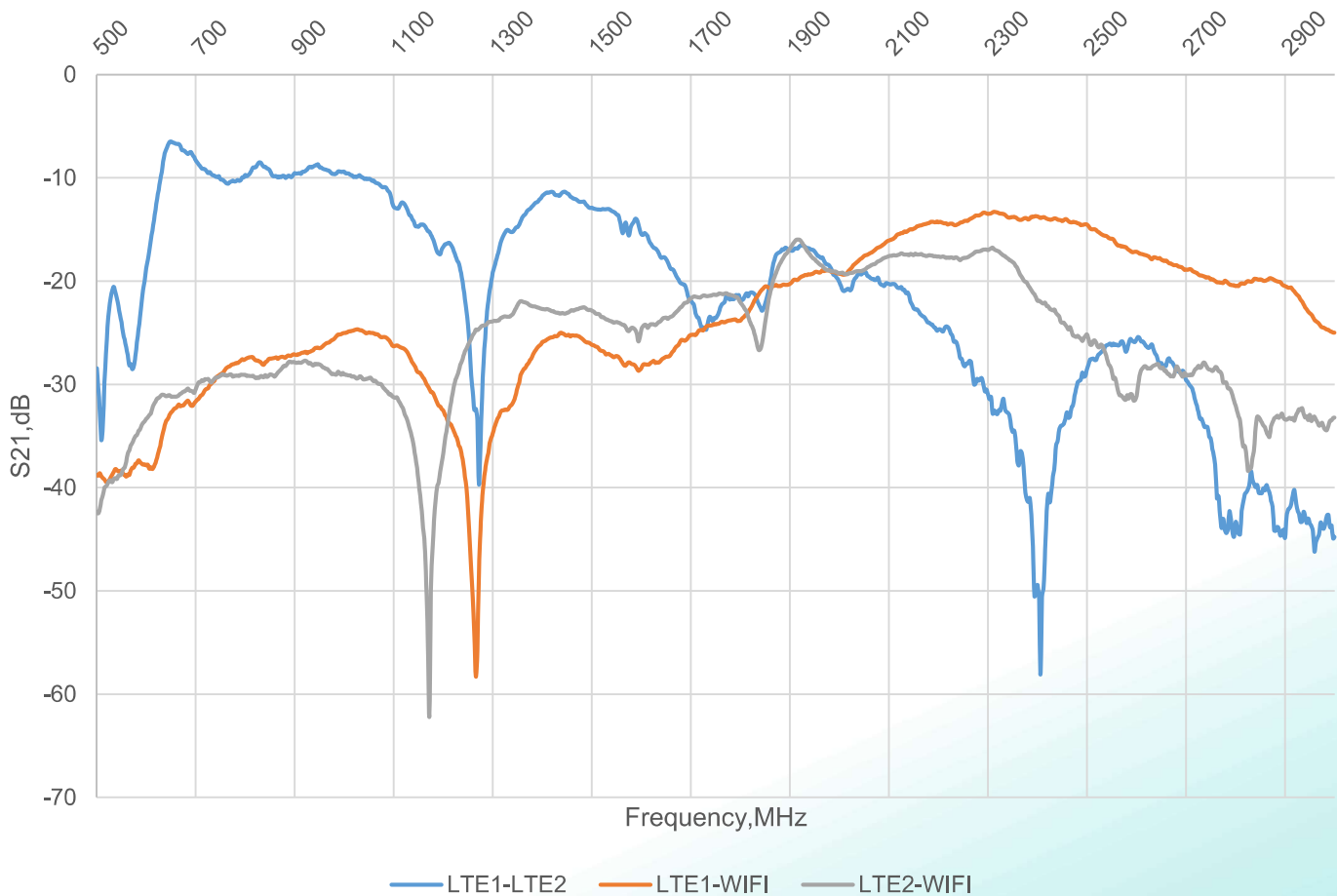
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**CHARTS**

**Isolation**

Isolation vs Frequency measured in free space



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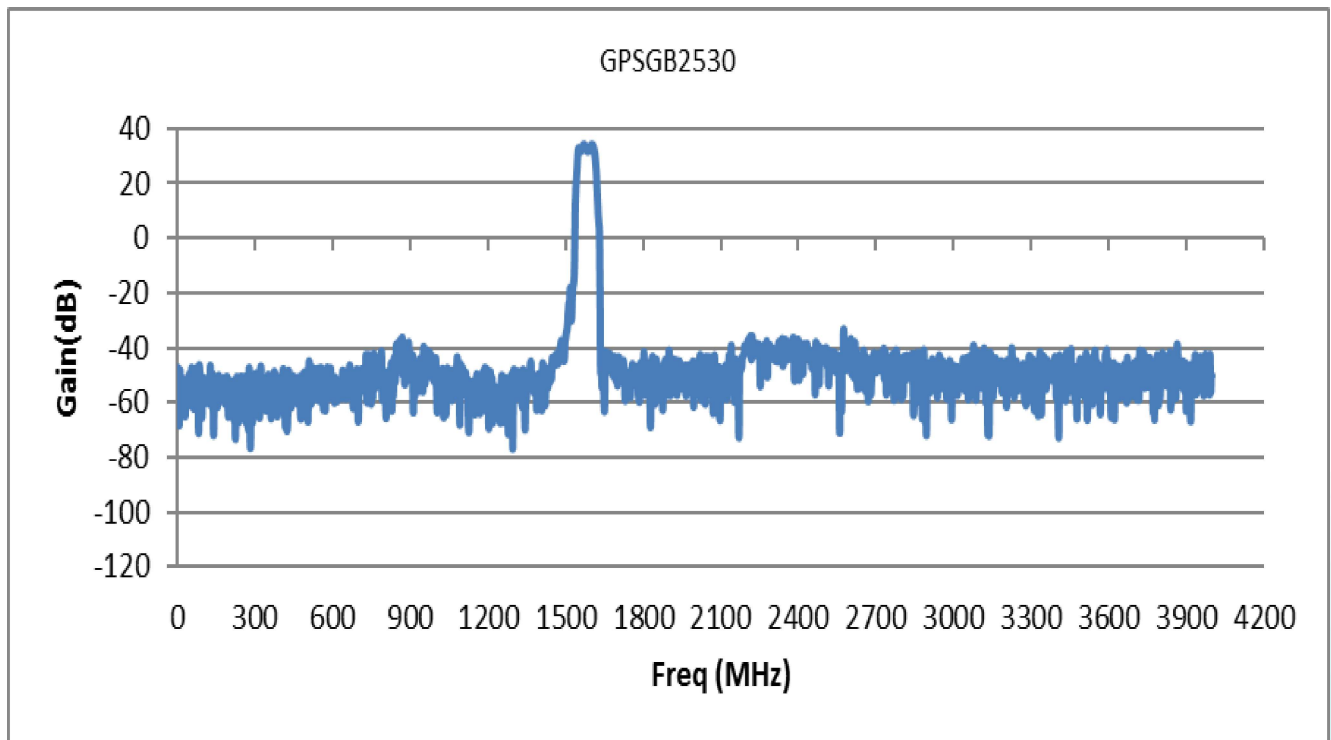
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**CHARTS**

**GPS LNA Gain and out-of-band rejection**



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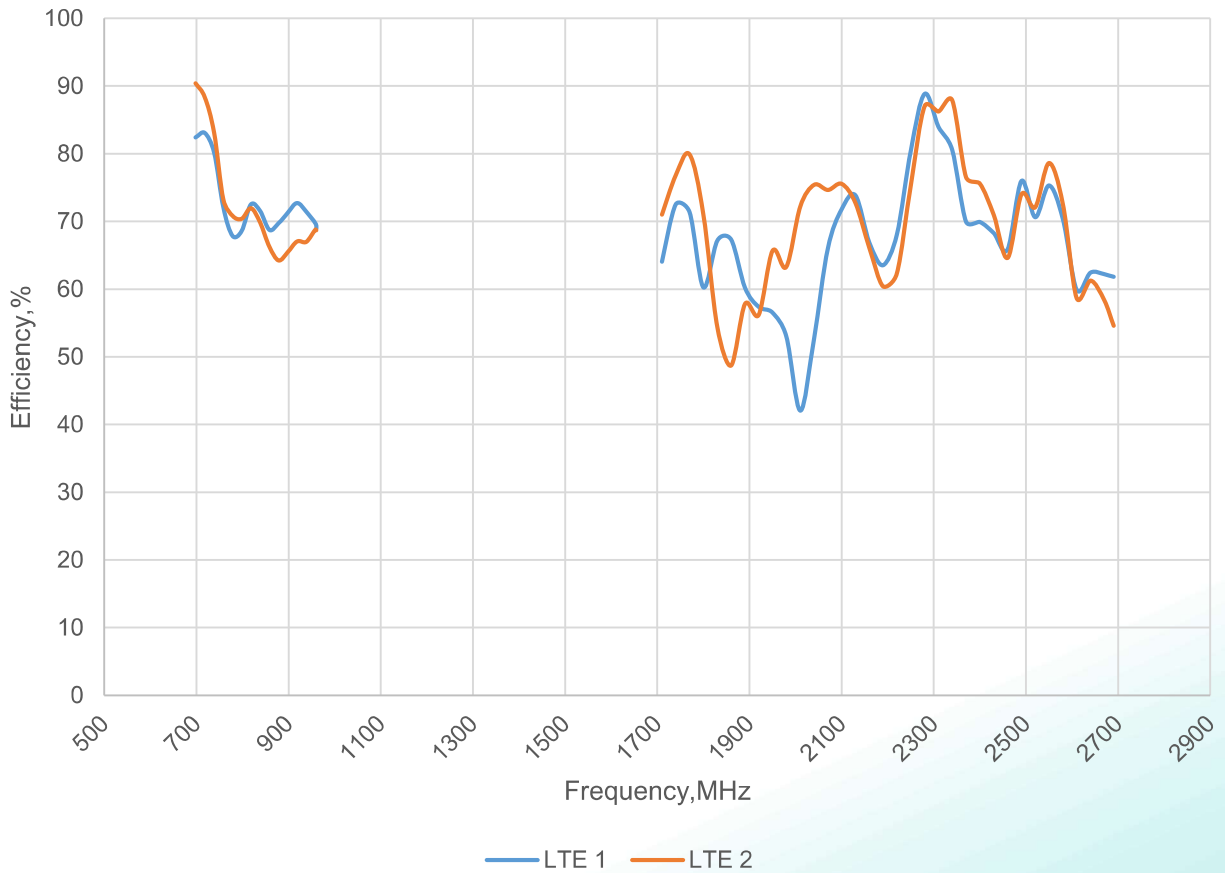
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**CHARTS**

**LTE 1 and LTE2 Efficiency**

Efficiency vs Frequency measured in free space



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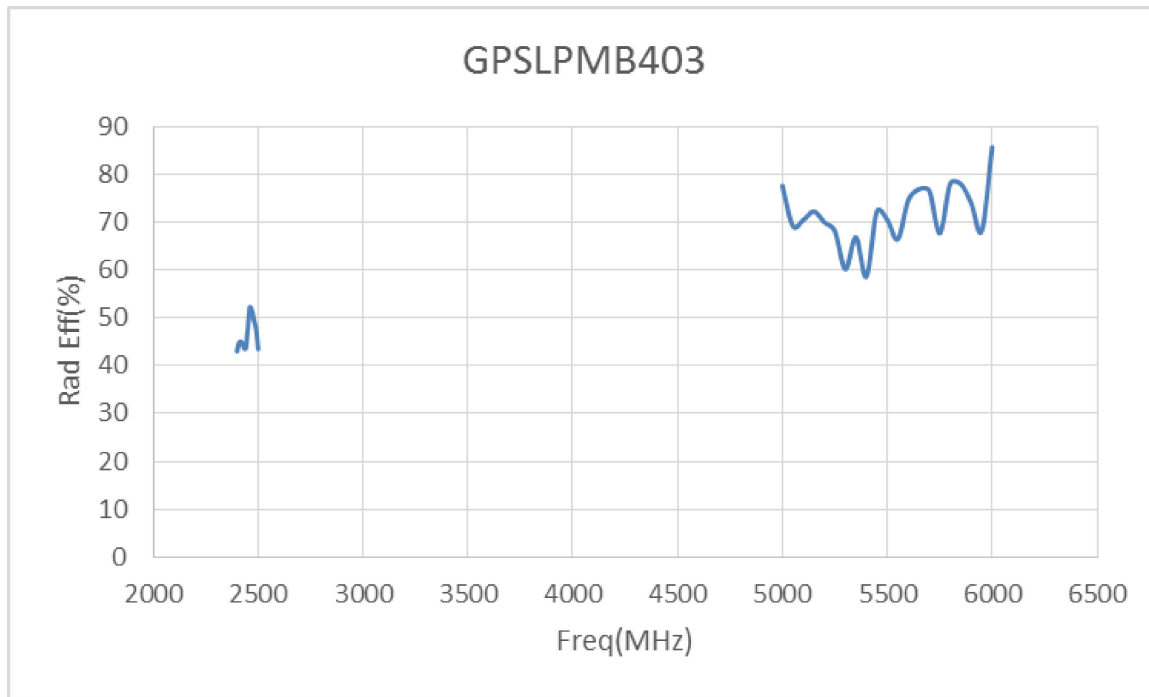
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**CHARTS**

WiFi Efficiency\*



\* Test on bracket and diameter is 500mm ground plane

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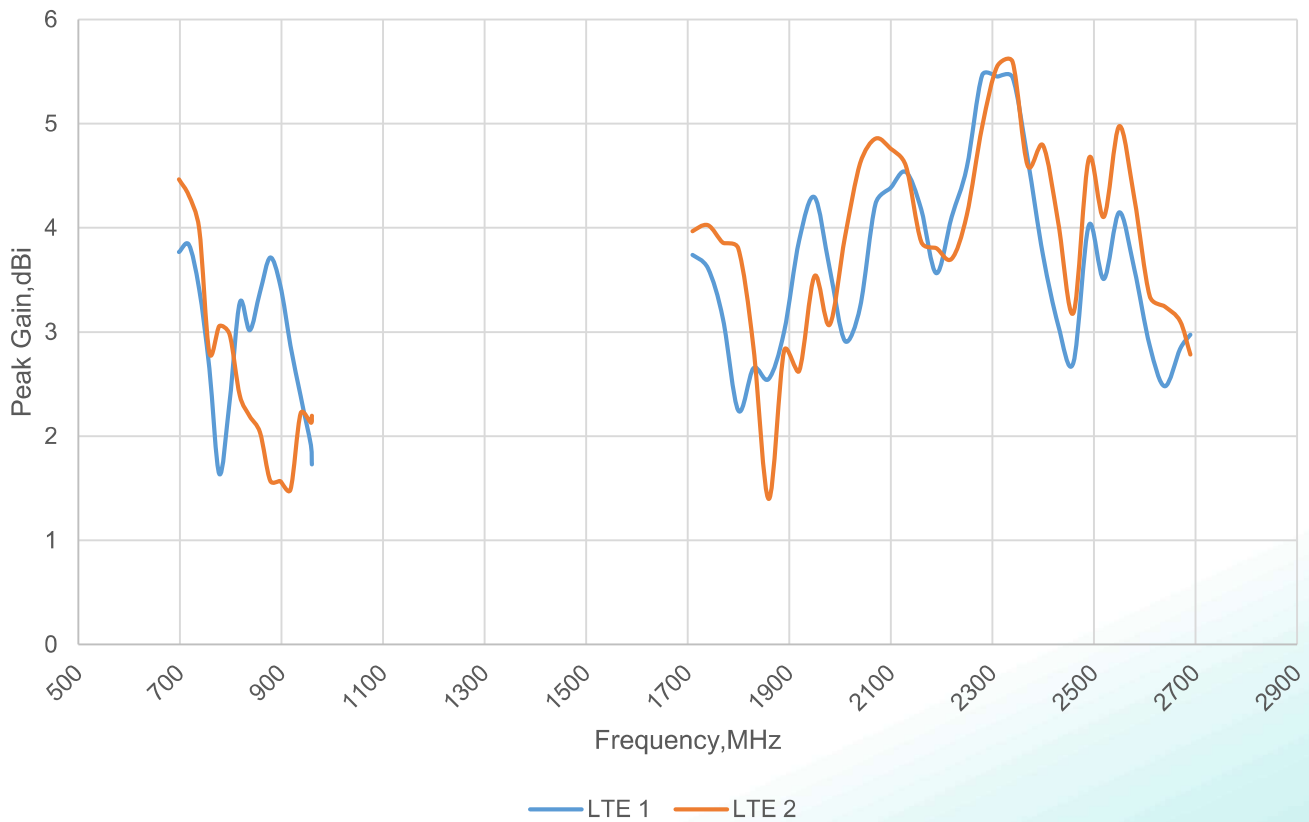
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**CHARTS**

**LTE1 and LTE2 Peak Gain**

Peak Gain vs Frequency measured in free space



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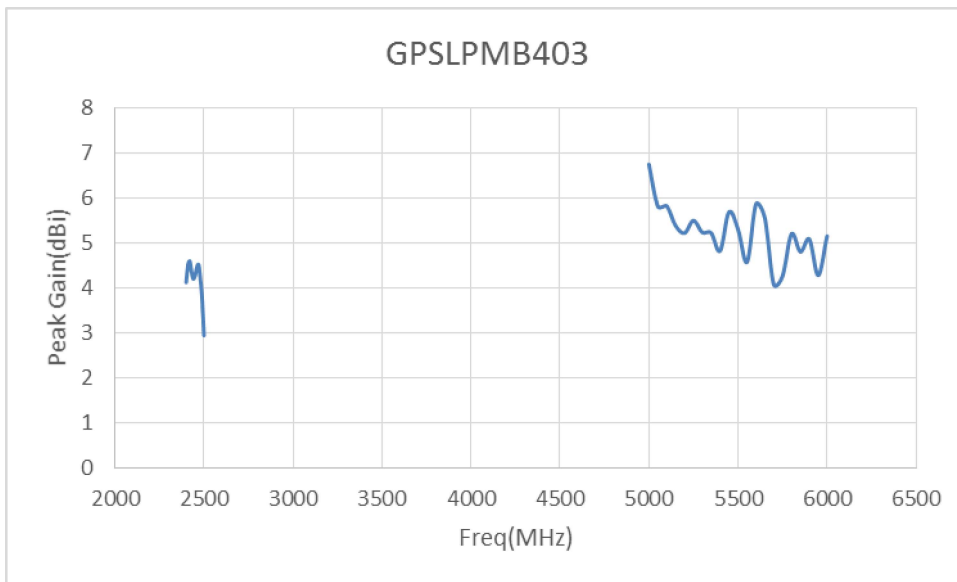
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**CHARTS**

**WiFi Peak Gain\***



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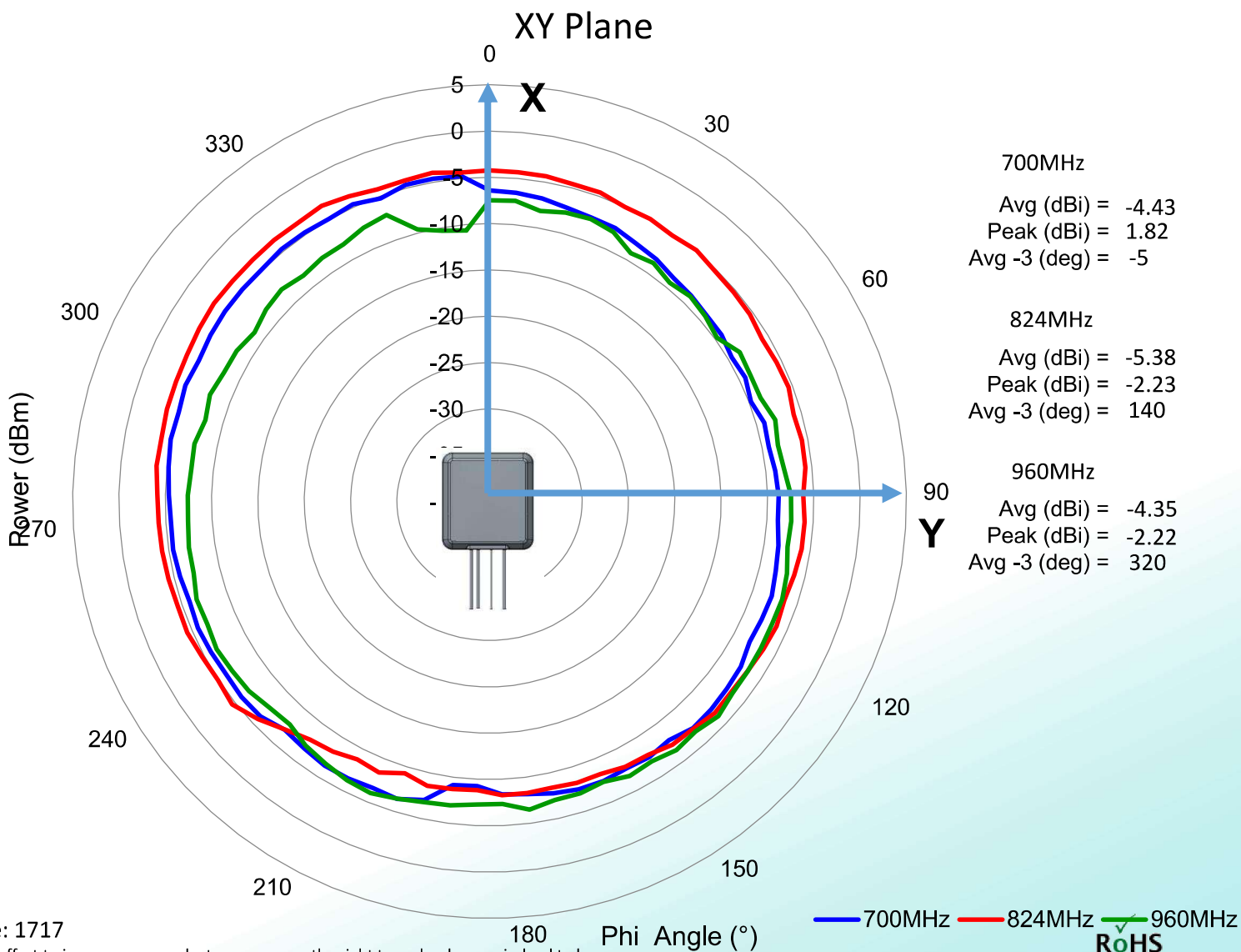
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**CHARTS**

**Gain Plots LTE1**



Issue: 1717

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Tel: 1-360-944-7551

Europe Headquarters  
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Jiangsu Province, Suzhou 215009 PR China  
Tel: 86 512 6807 9998



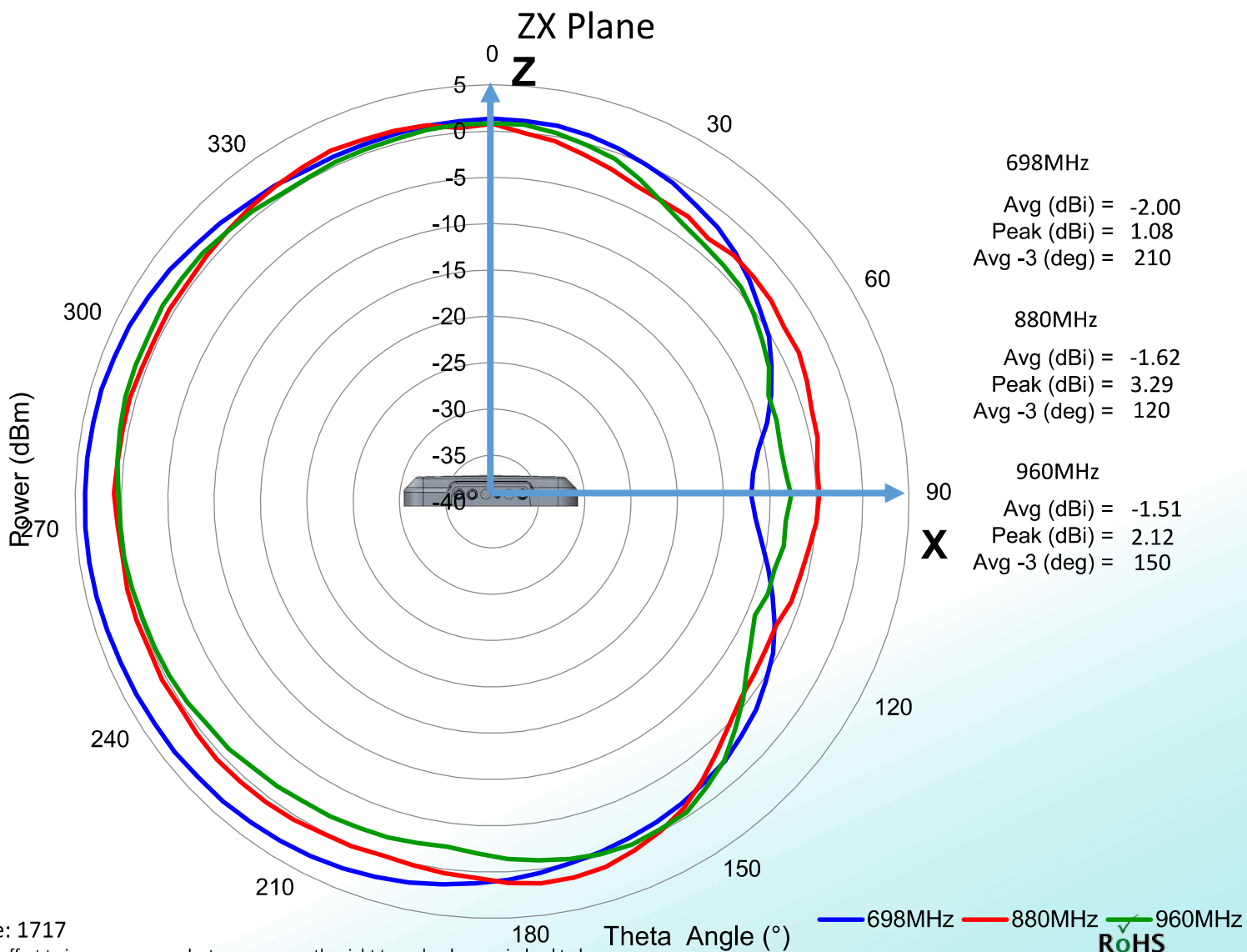
Description: 2xLTE, WiFi, GNSS Multiband  
Vehicular Antenna

Series: Low Profile MB

PART NUMBER: GPSPMB403

CHARTS

Gain Plots LTE1



Issue: 1717

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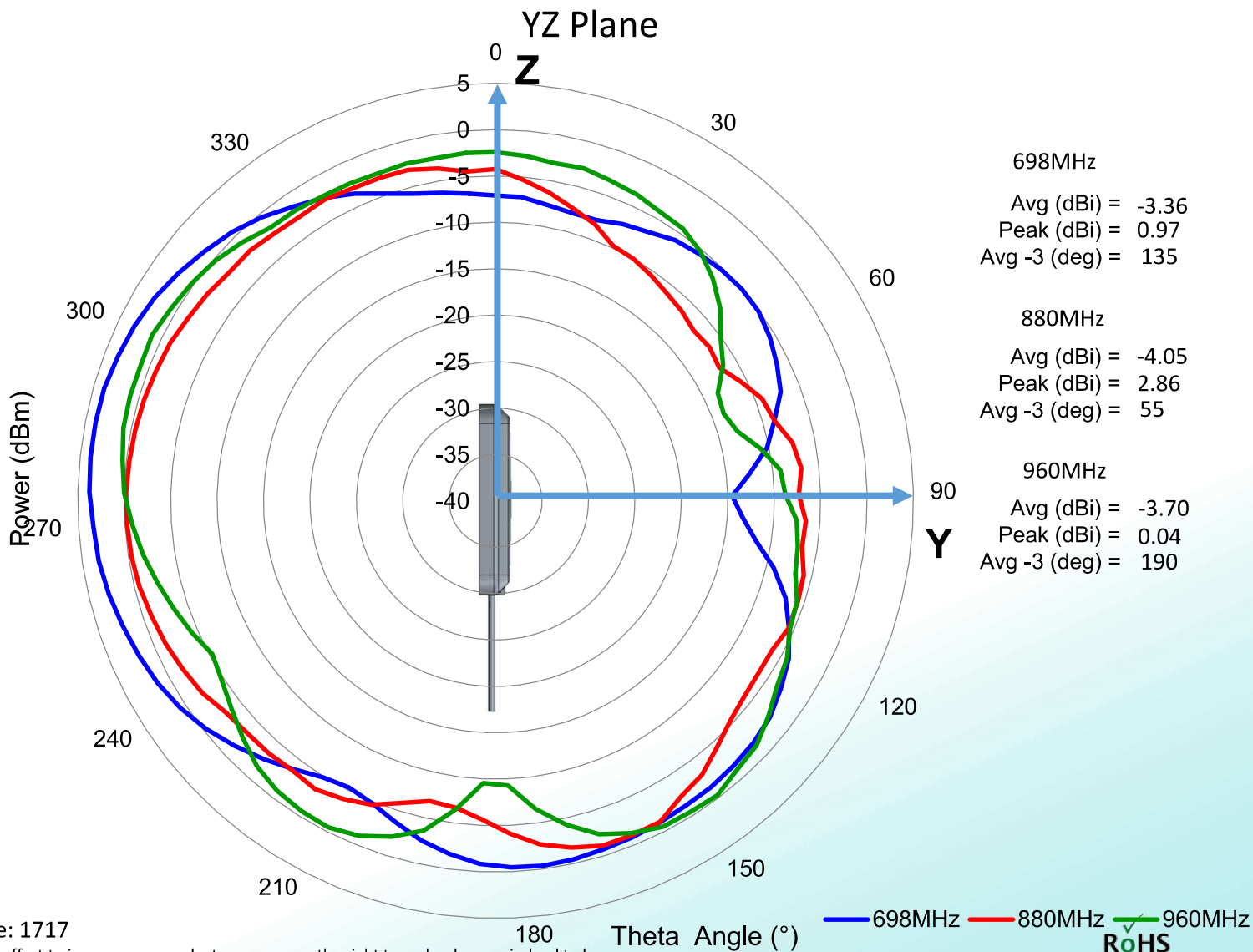
Description: 2xLTE, WiFi, GNSS Multiband  
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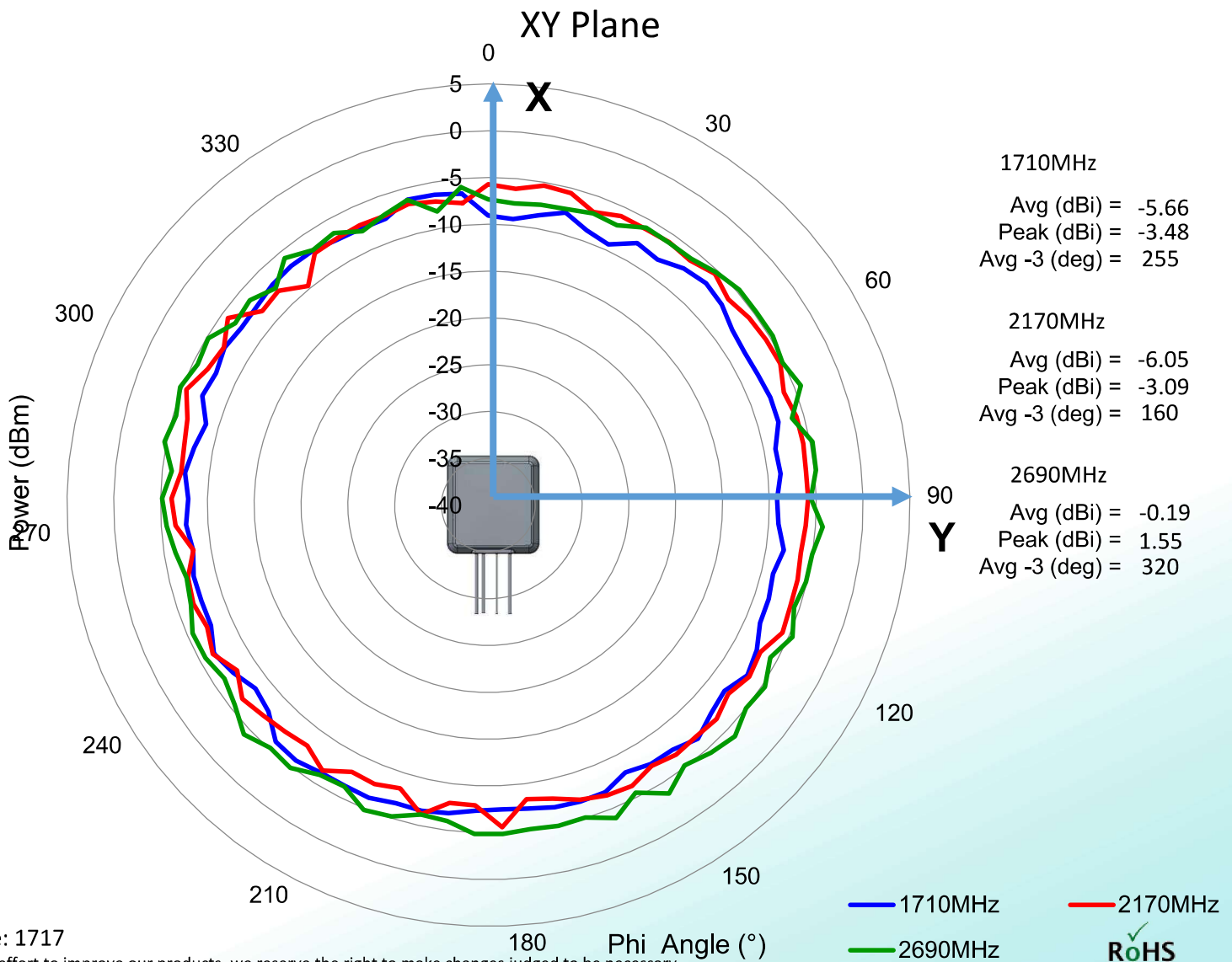
Description: 2xLTE, WiFi, GNSS Multiband  
Vehicular Antenna

Series: Low Profile MB

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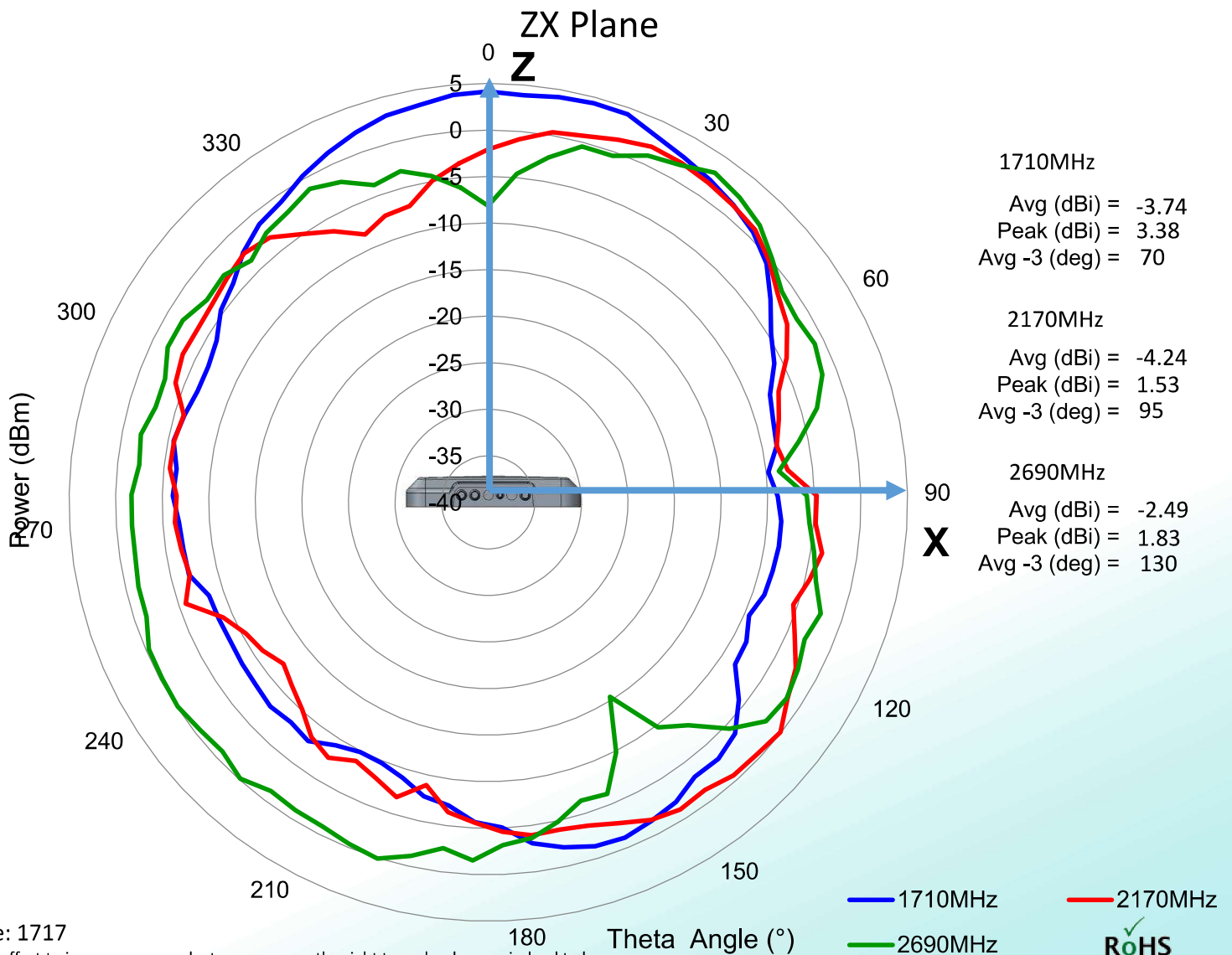
Description: 2xLTE, WiFi, GNSS Multiband  
Vehicular Antenna

Series: Low Profile MB

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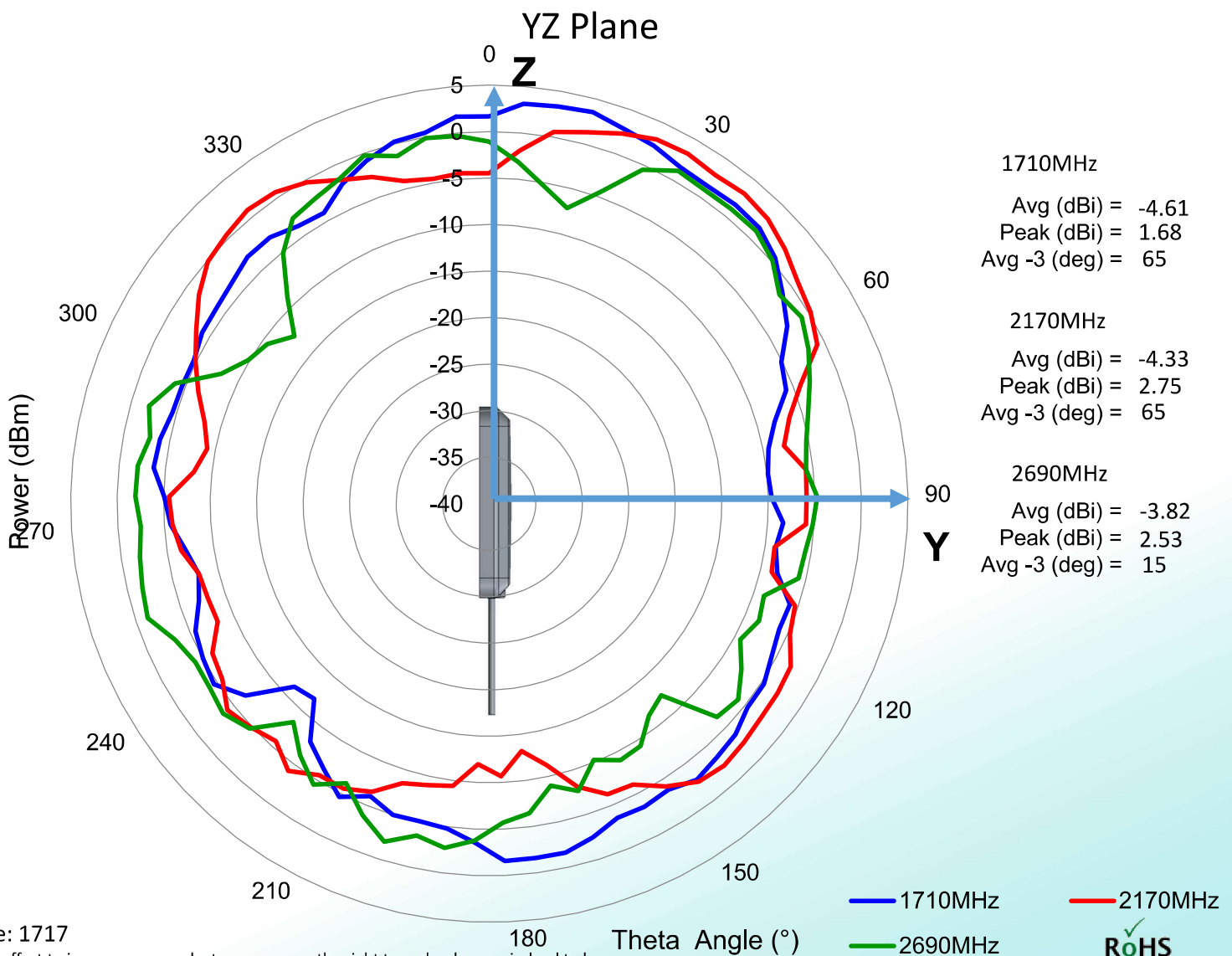
Description: 2xLTE, WiFi, GNSS Multiband  
Vehicular Antenna

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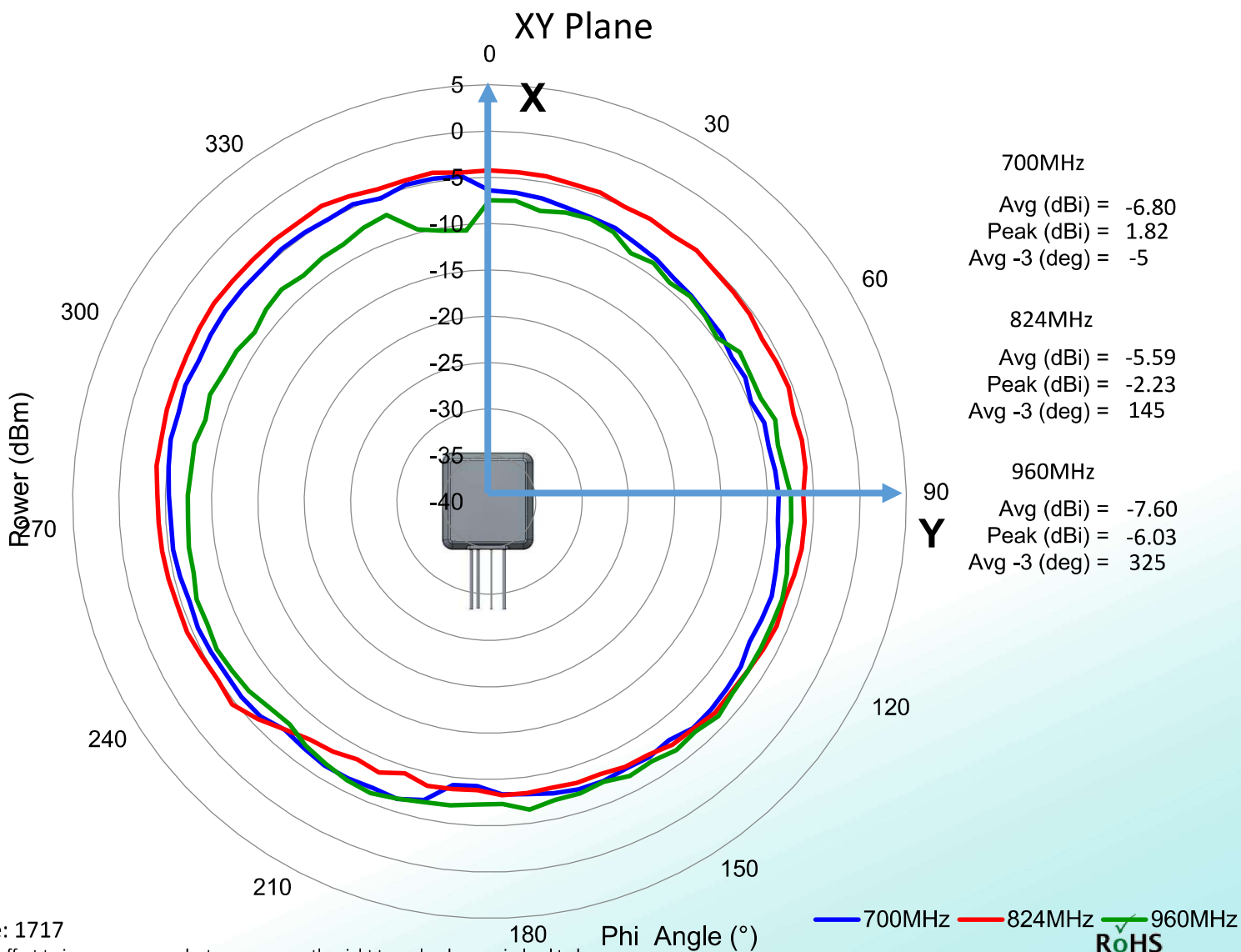
**Description:** 2xLTE, WiFi, GNSS Multiband Vehicular Antenna

**Series:** Low Profile MB

**PART NUMBER:** GPSPMB403

**CHARTS**

**Gain Plots LTE2**



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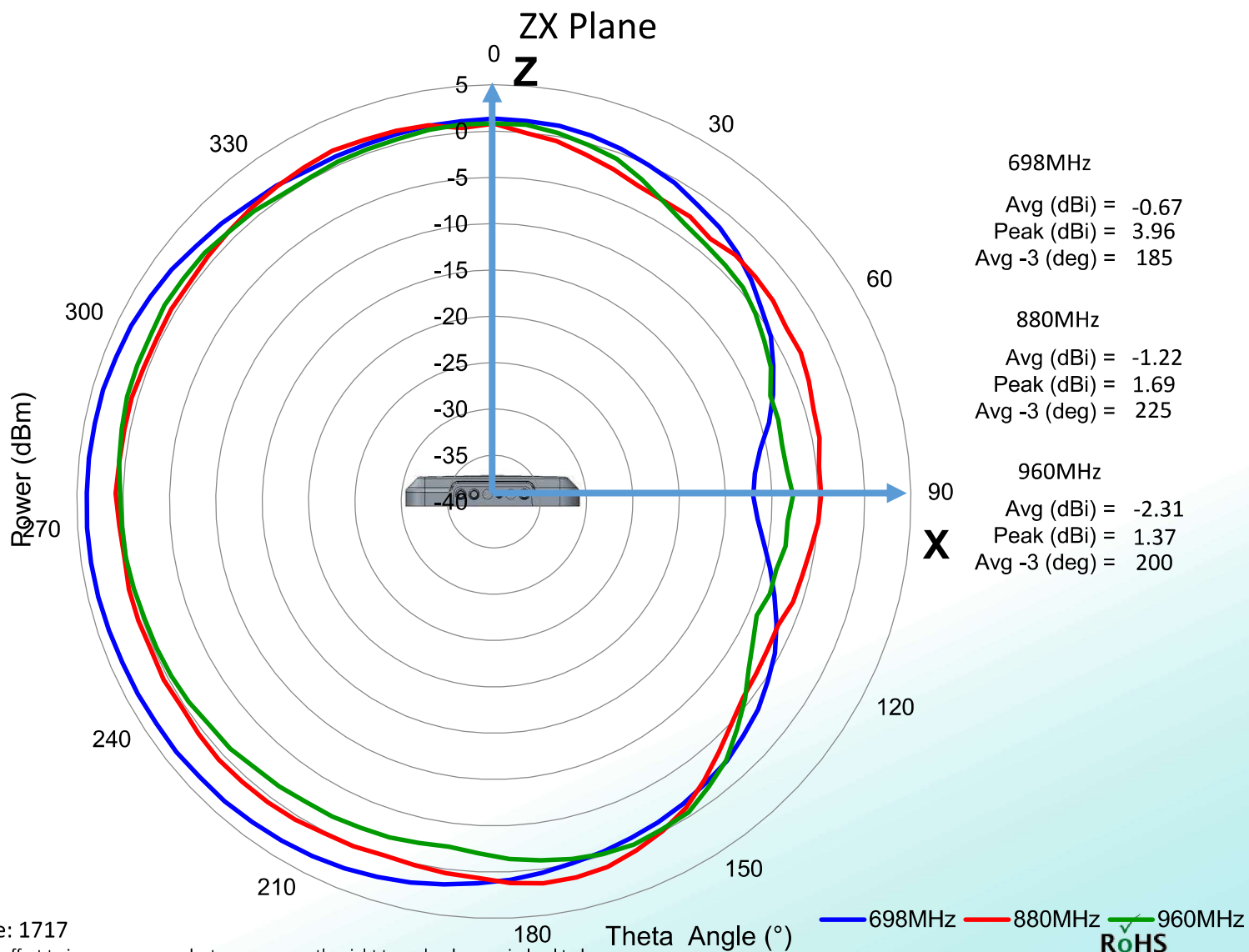
Description: 2xLTE, WiFi, GNSS Multiband  
Vehicular Antenna

Series: Low Profile MB

PART NUMBER: GPSPMB403

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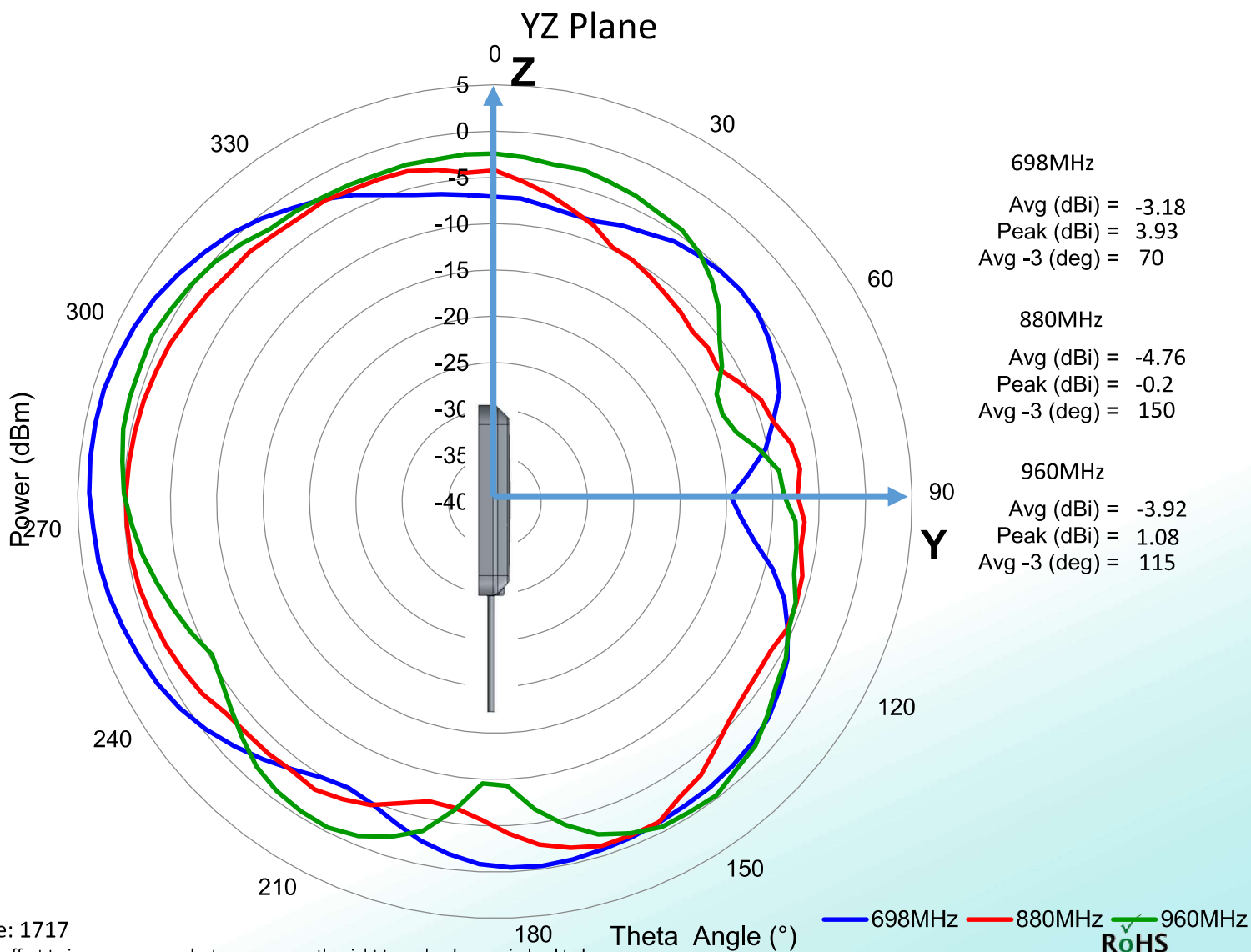
Description: 2xLTE, WiFi, GNSS Multiband  
Vehicular Antenna

Series: Low Profile MB

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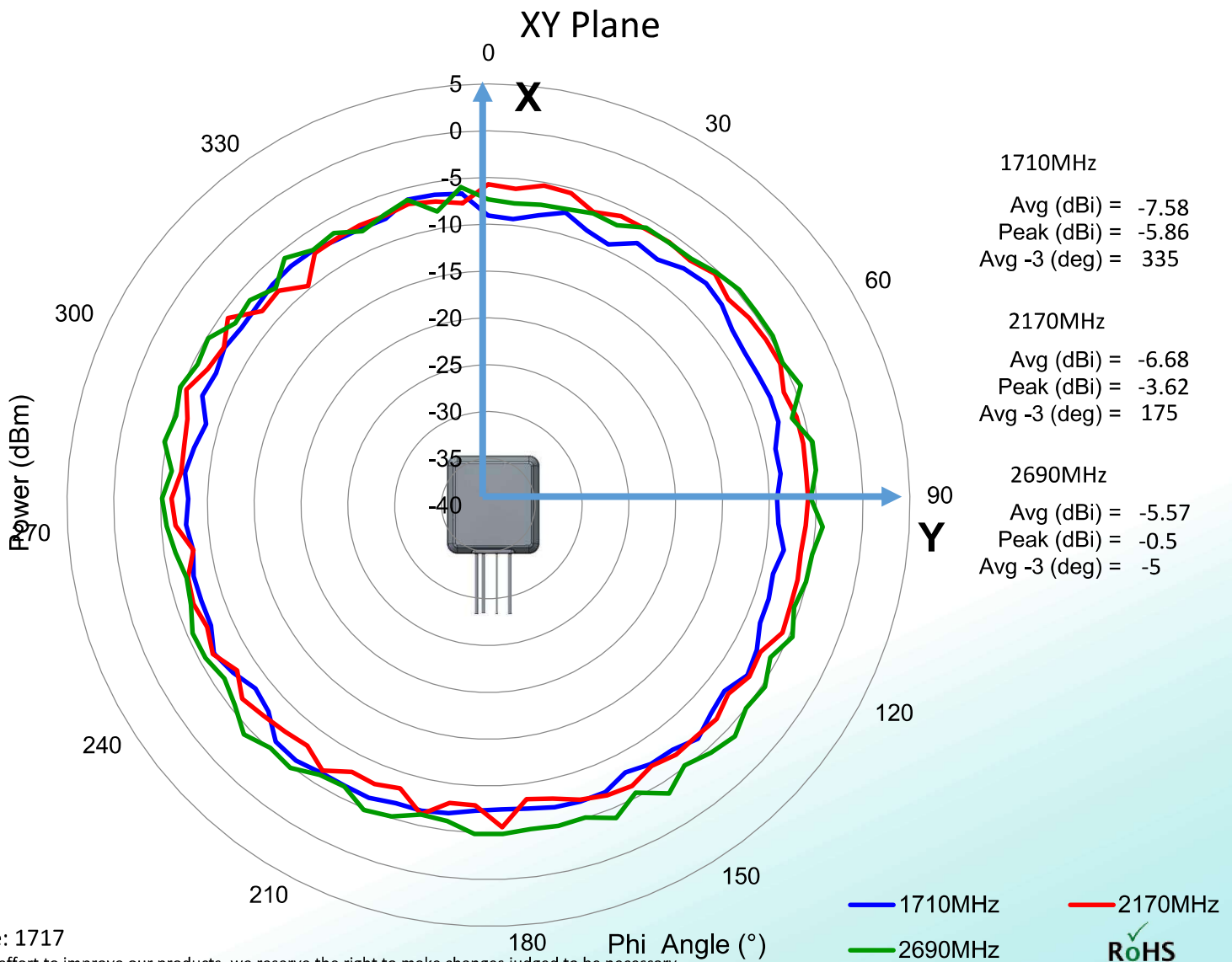
Description: 2xLTE, WiFi, GNSS Multiband  
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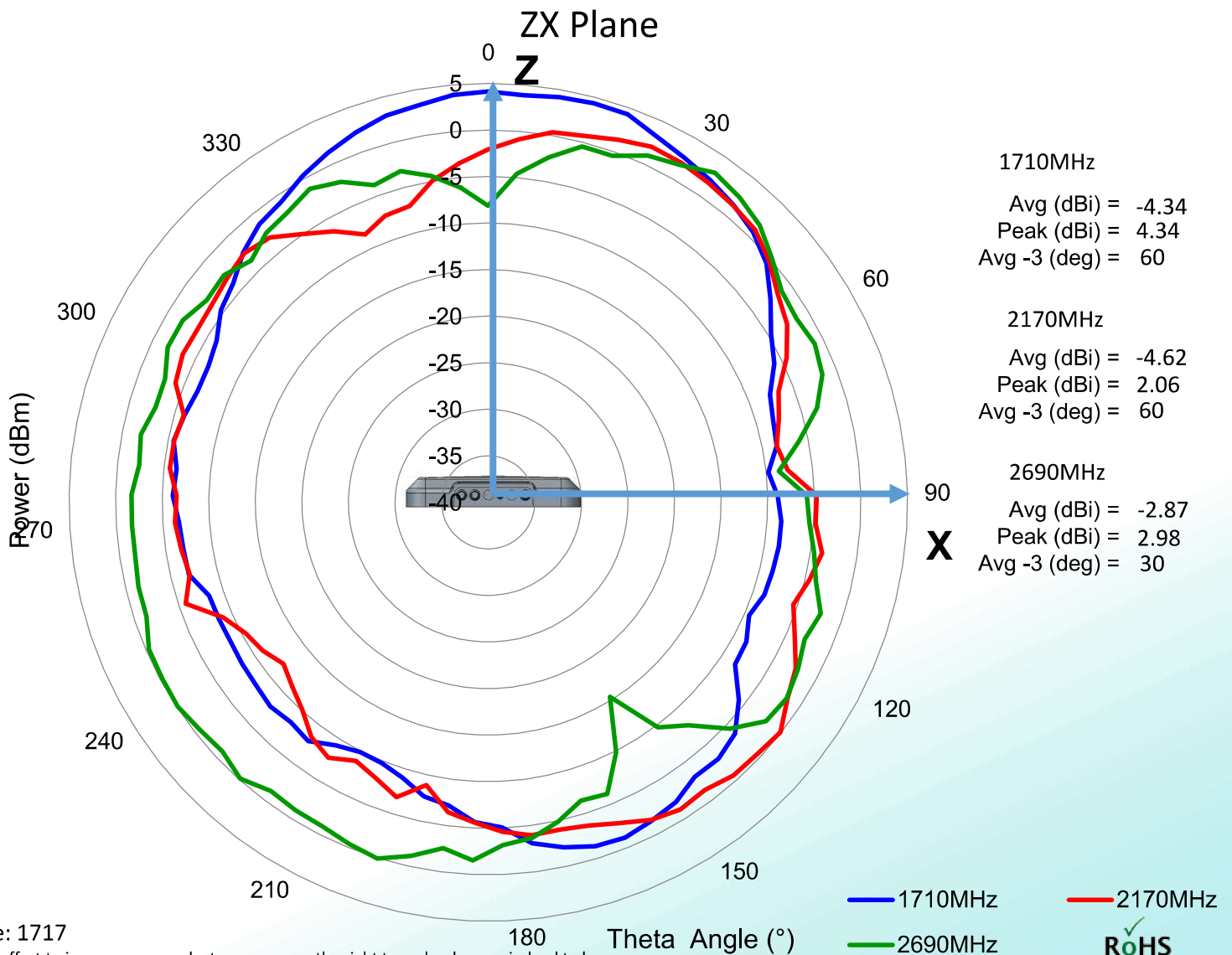
Description: 2xLTE, WiFi, GNSS Multiband  
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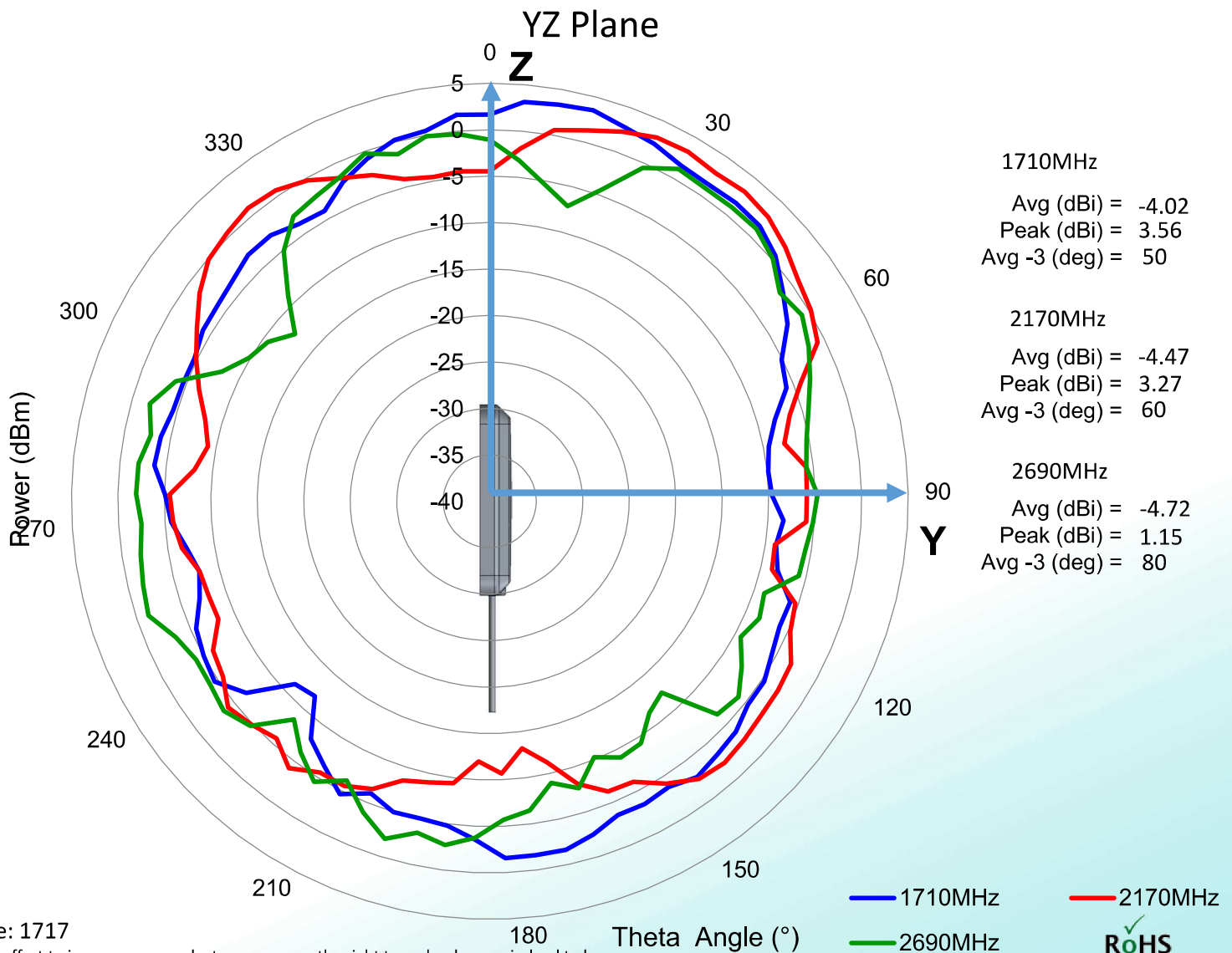
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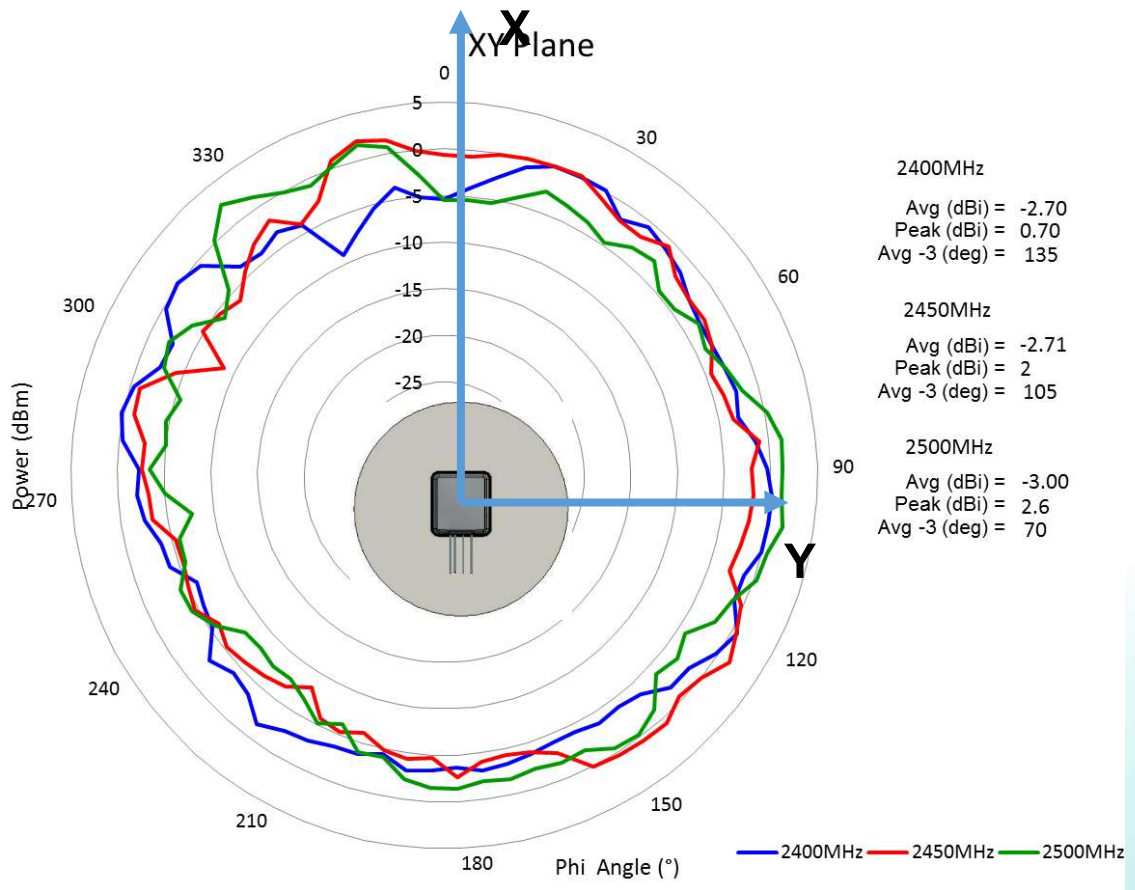
Description: 2xLTE, WiFi, GNSS Multiband  
Vehicular Antenna

Series: Low Profile MB

PART NUMBER: GPSPMB403

CHARTS

Gain Plots WiFi\*



\* Test on bracket and diameter is 500mm ground plane

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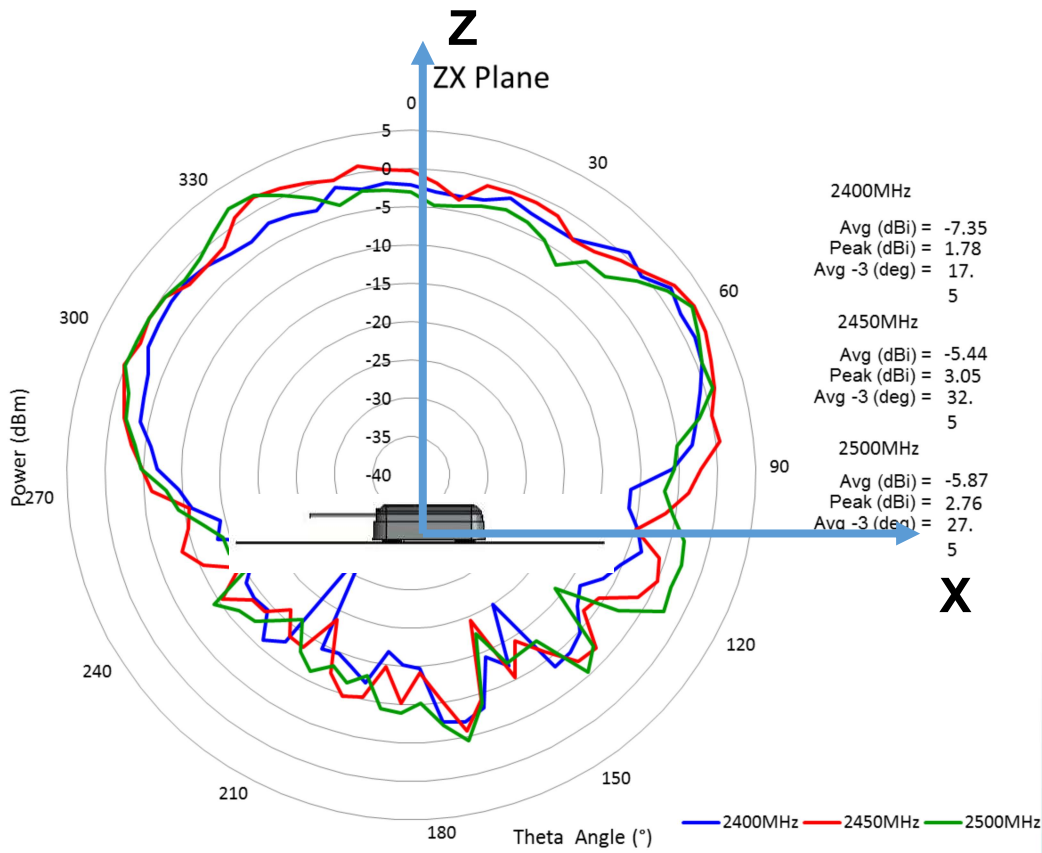
Description: 2xLTE, WiFi, GNSS Multiband  
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Series: Low Profile MB

PART NUMBER: GPSPMB403

CHARTS

Gain Plots WIFI\*



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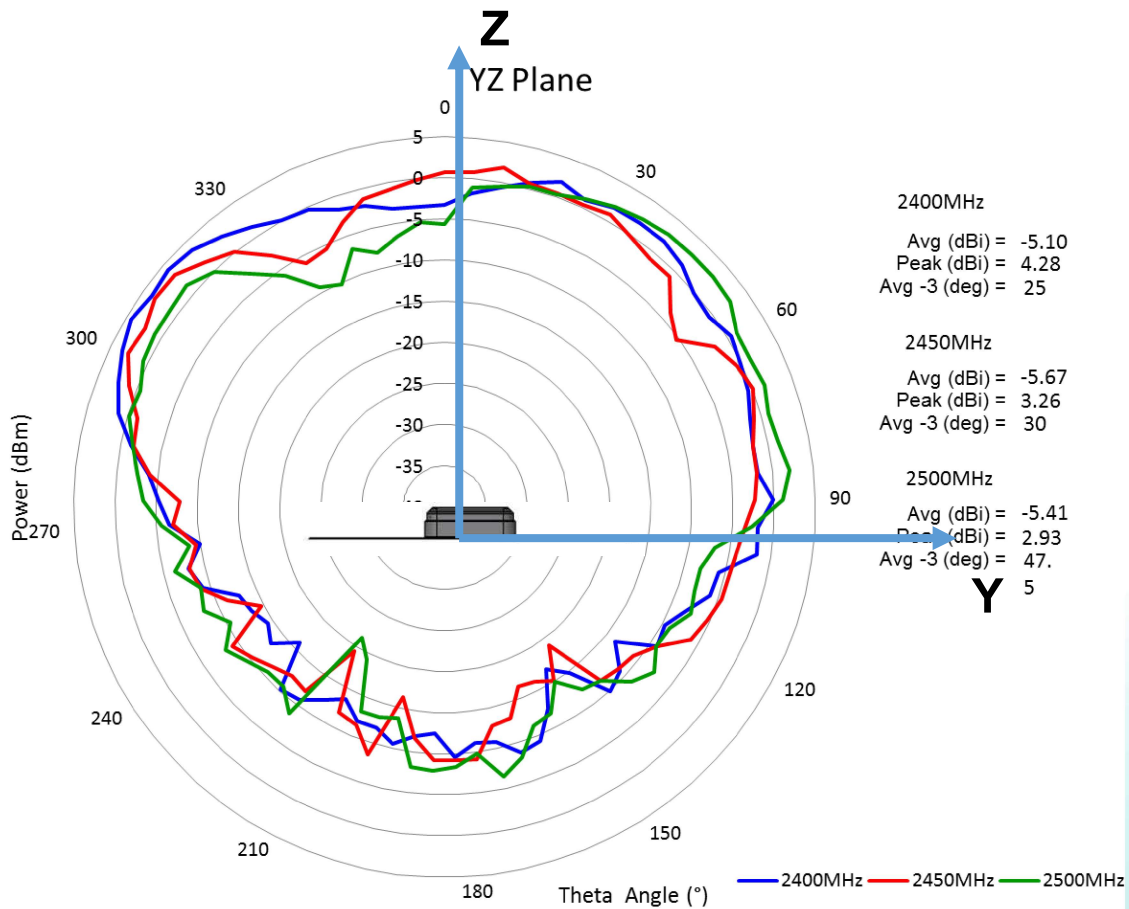
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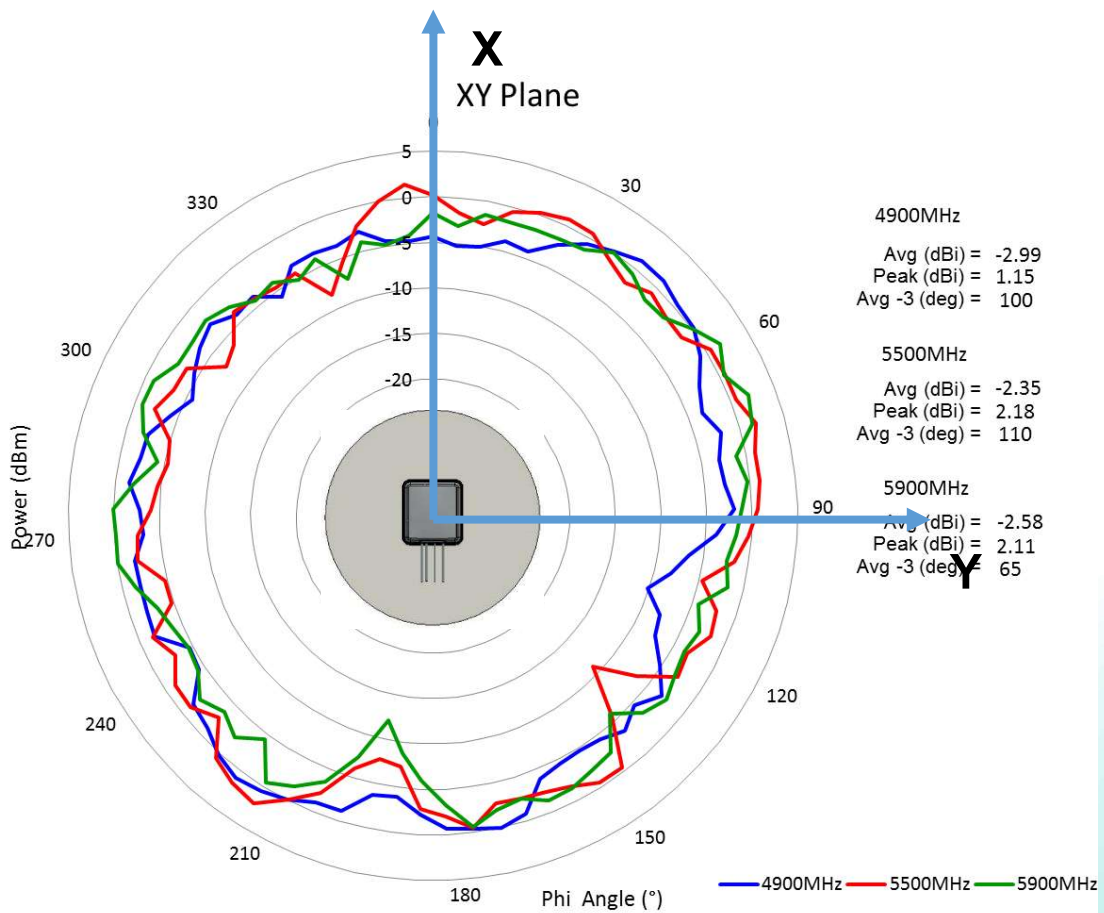
Description: 2xLTE, WiFi, GNSS Multiband Vehicular Antenna

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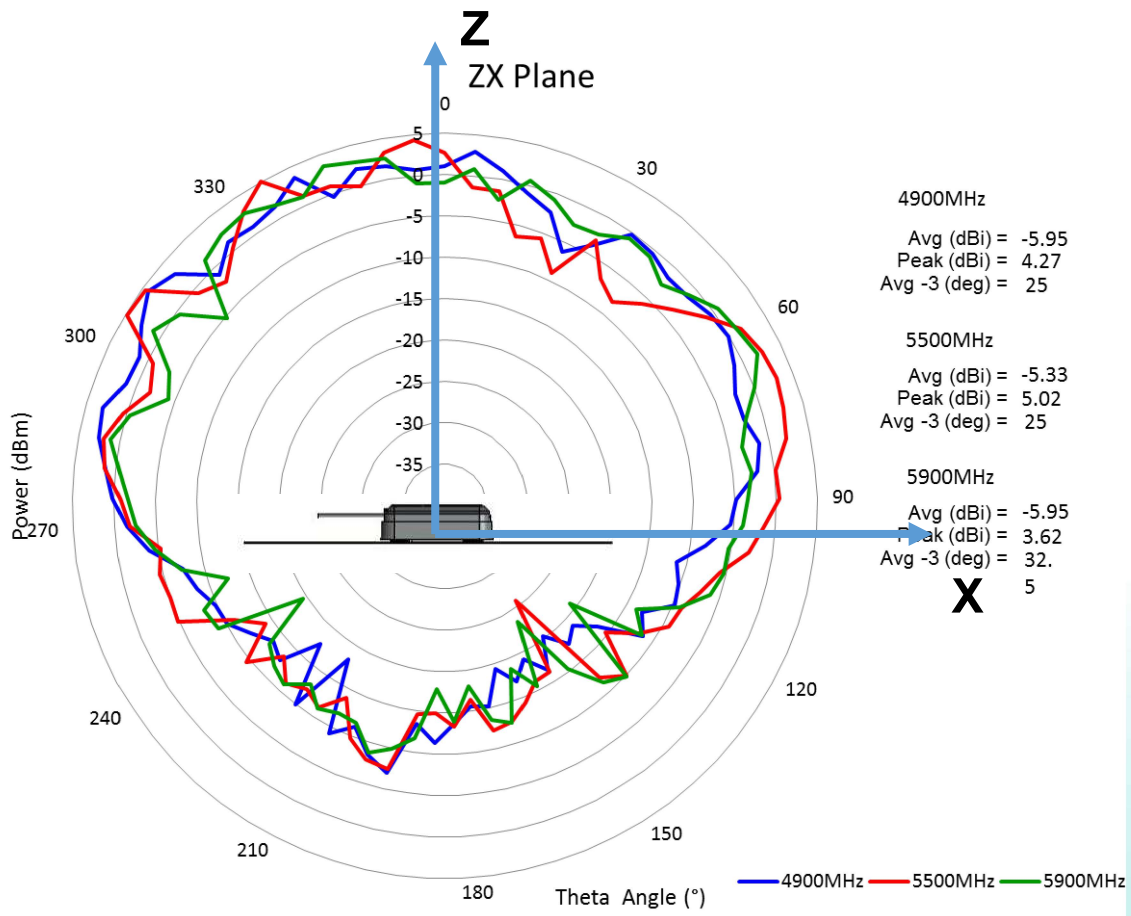
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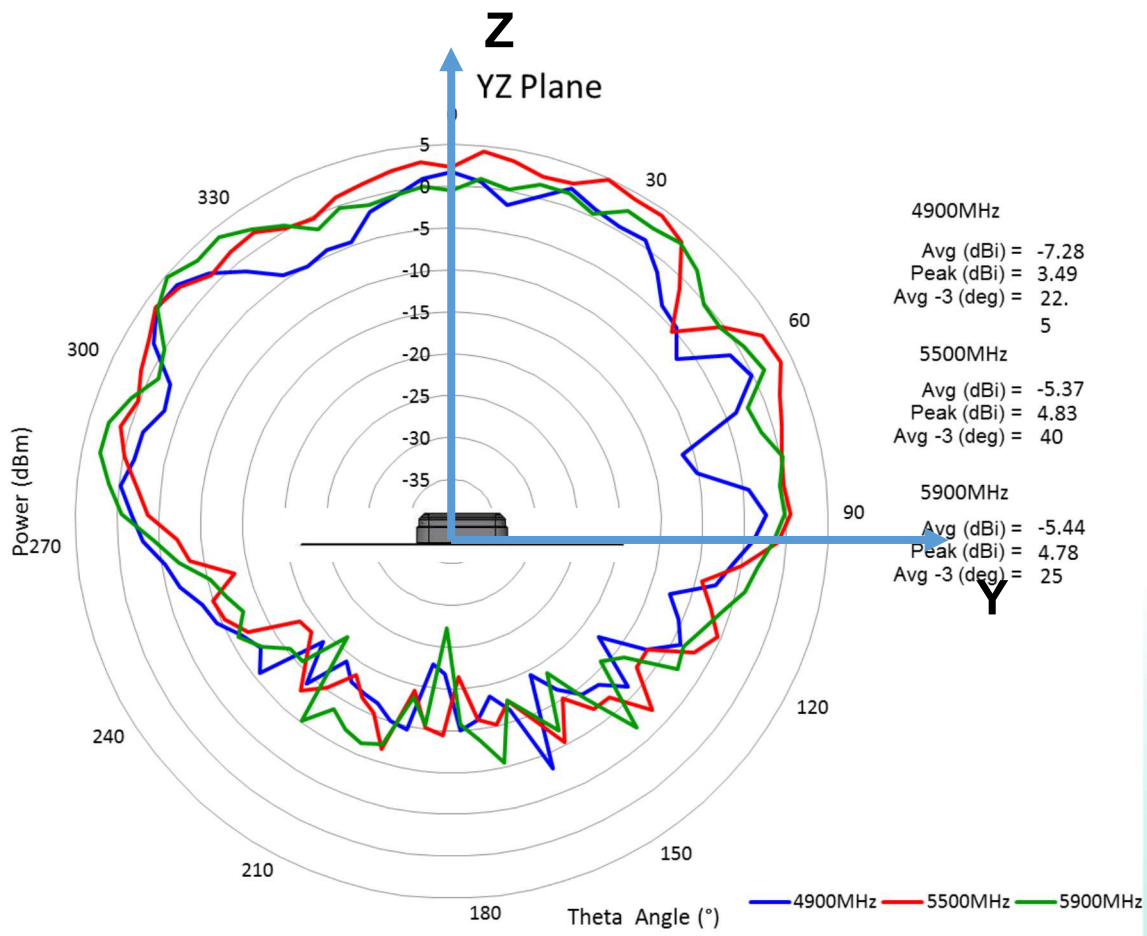
Description: 2xLTE, WiFi, GNSS Multiband  
Vehicular Antenna

Series: Low Profile MB

PART NUMBER: GPSPMB403

CHARTS

Gain Plots WIFI\*



\* Test on bracket and diameter is 500mm ground plane

Issue: 1717

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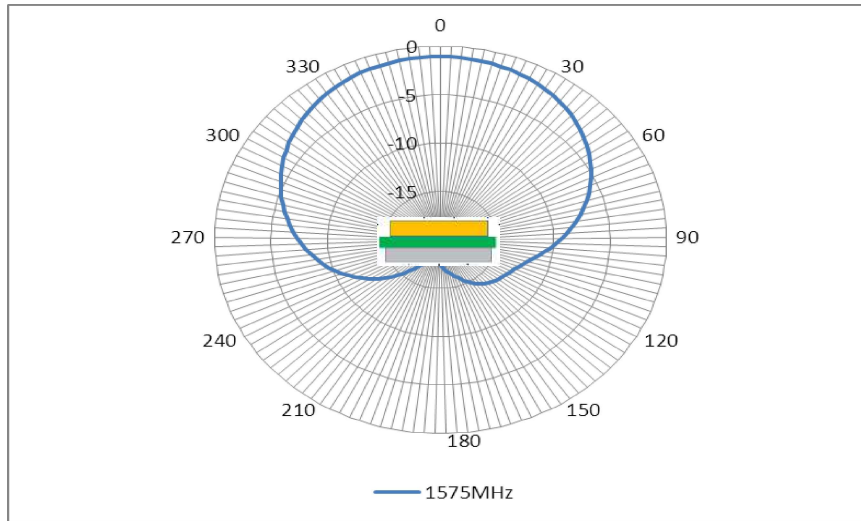
**Description:** 2xLTE, WiFi, GNSS Multiband Vehicular Antenna

**Series:** Low Profile MB

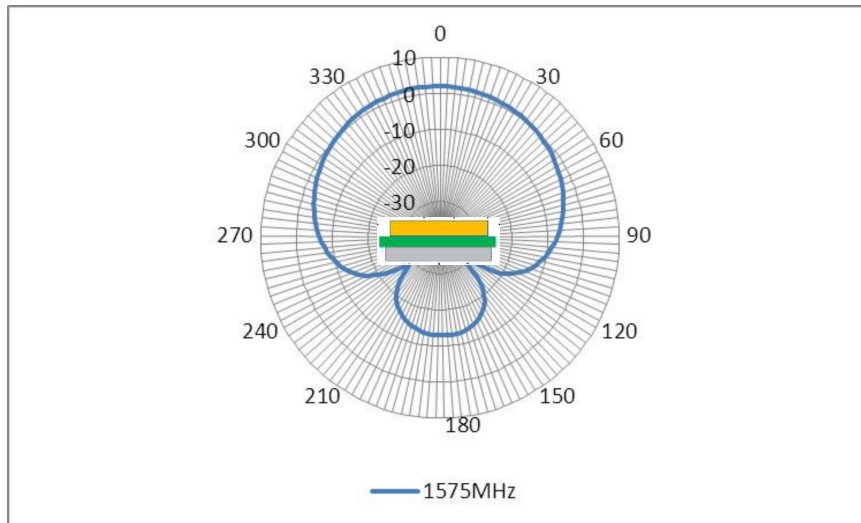
**PART NUMBER:** GPSPMB403

**CHARTS**

**Radiation Pattern (70mm x 70mm ground plane ) GPS & Galileo**



25 X 25 X 4mm Ceramic Antenna



25 X 25 X 4mm Ceramic Antenna

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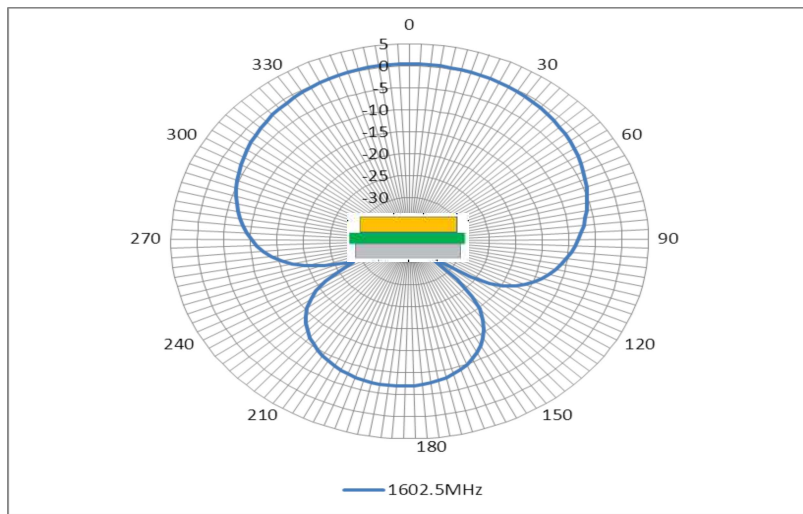
**Description:** 2xLTE, WiFi, GNSS Multiband Vehicular Antenna

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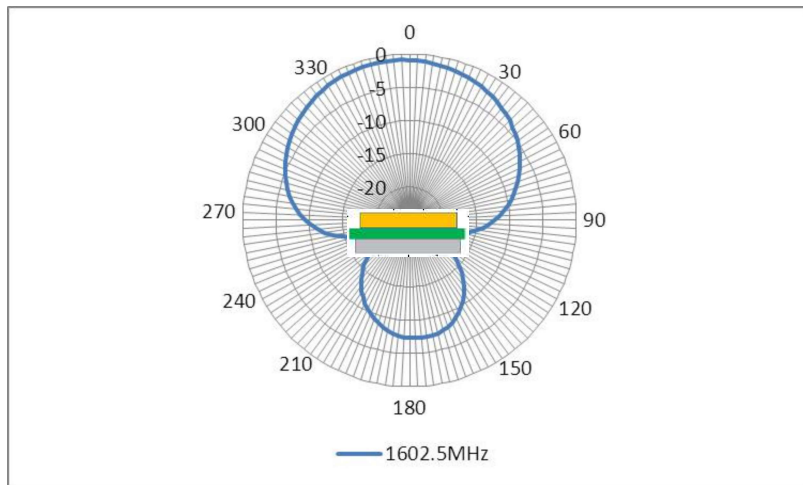
**PART NUMBER:** GPSPMB403

**CHARTS**

**Radiation Pattern (70mm x 70mm ground plane ) GLONASS**



25 X 25 X 4mm Ceramic Antenna



25 X 25 X 4mm Ceramic Antenna

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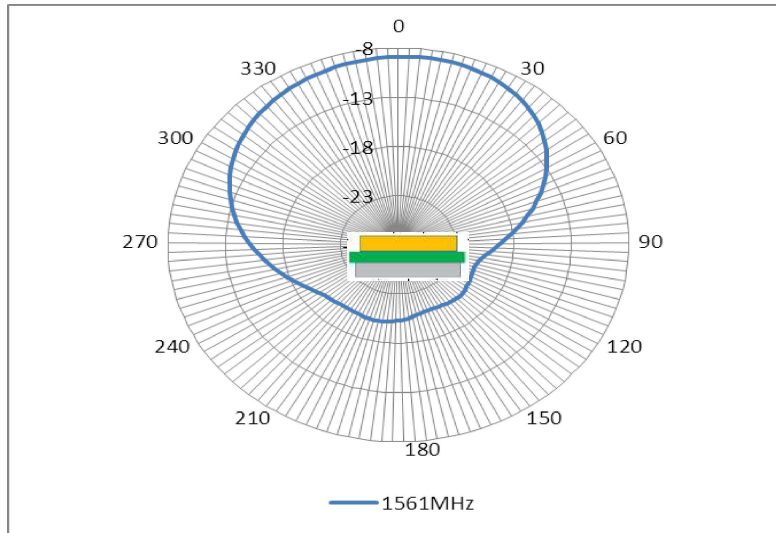
**Description:** 2xLTE, WiFi, GNSS Multiband Vehicular Antenna

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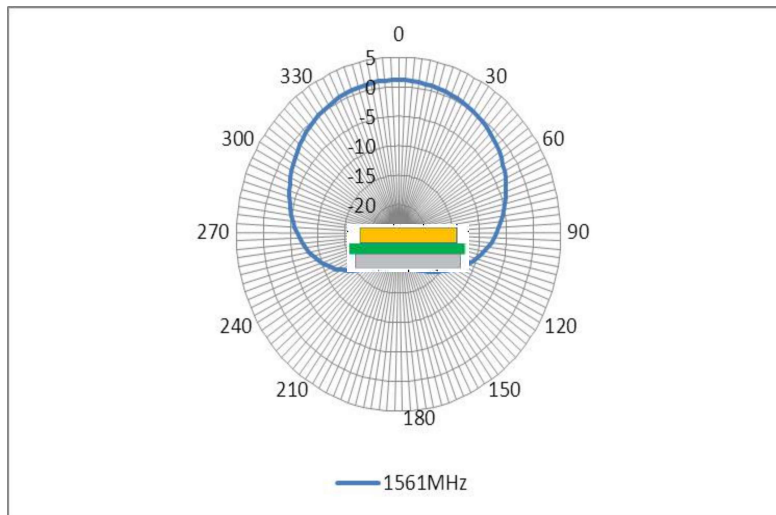
**PART NUMBER:** GPSPMB403

**CHARTS**

**Radiation Pattern (70mm x 70mm ground plane ) BD2**



25 X 25 X 4mm Ceramic Antenna



25 X 25 X 4mm Ceramic Antenna

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**Description:** 2xLTE, WiFi, GNSS Multiband  
Vehicular Antenna

**Series:** Low Profile MB

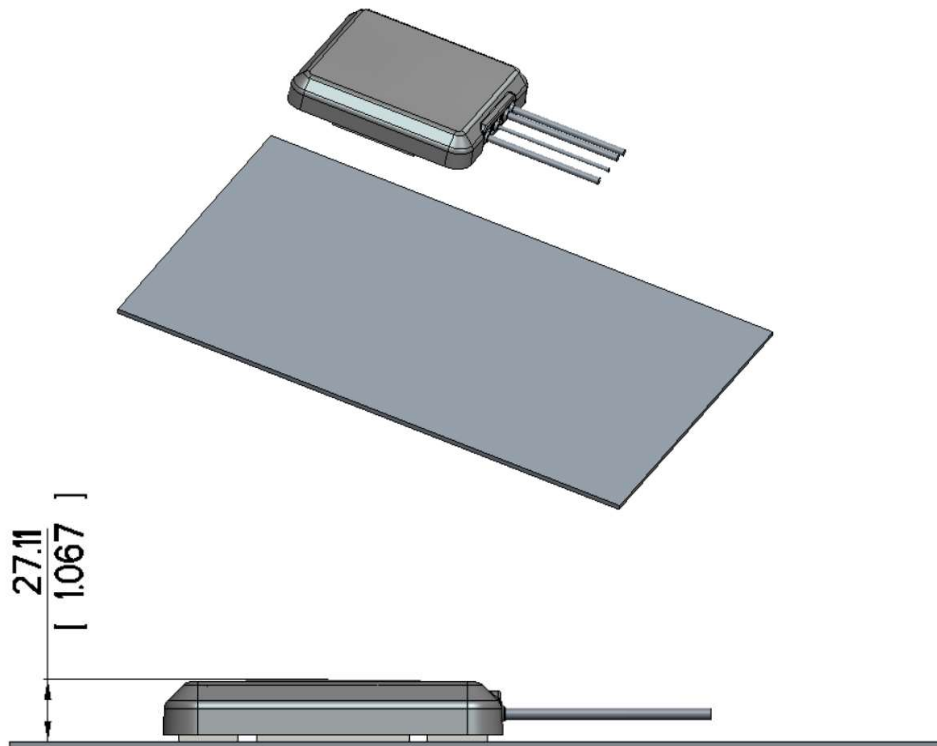
**PART NUMBER:** GPSPMB403

## PACKAGING

- Each antenna packed in a plastic bag
- 24 bags of antennas packed in a cardboard box.
- 1 label on each box with qty, part number, date code.

## ASSEMBLY

When this antenna is applied to a non-metallic surface, like glass fiber or plastic material, it could be adhered on the surface directly.



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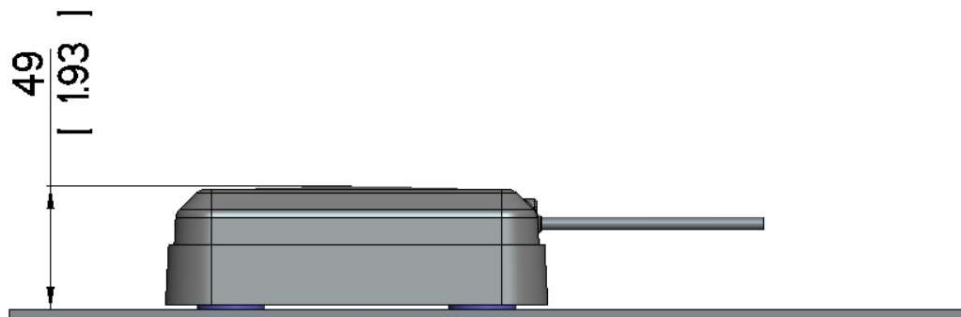
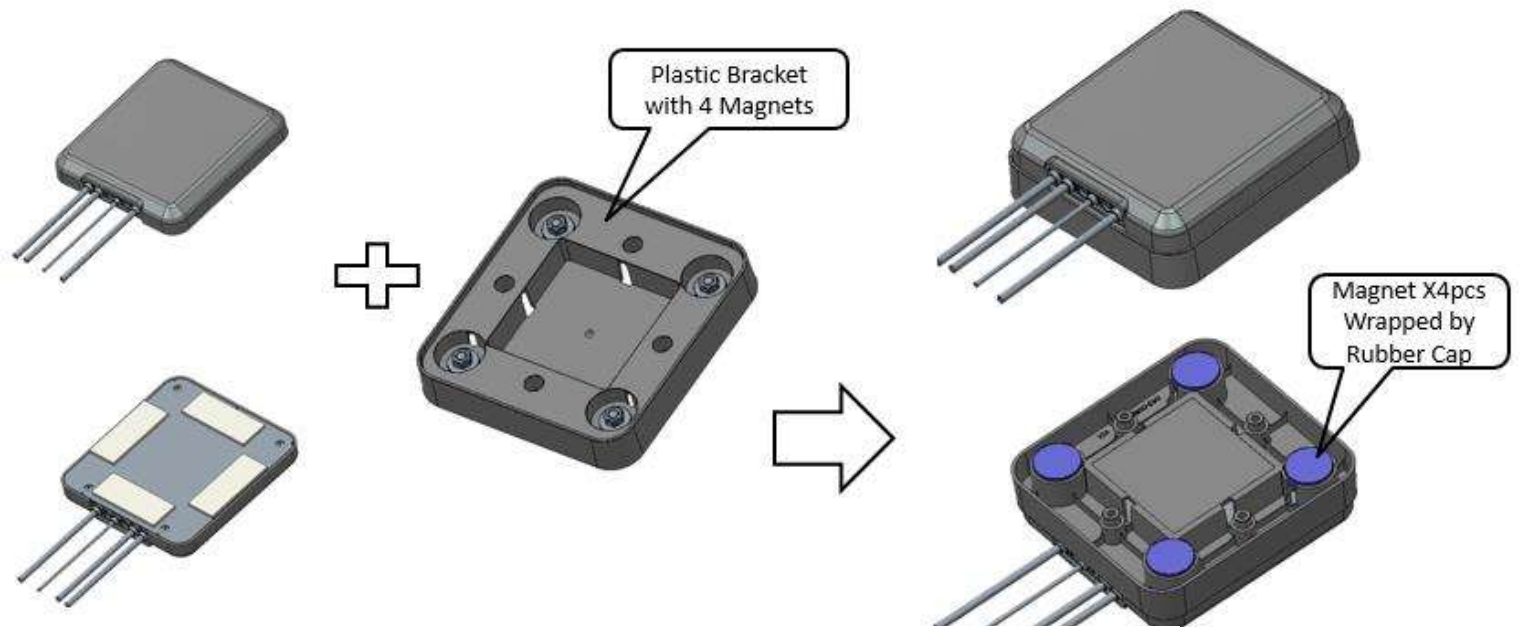
**ASSEMBLY**

**Mounting with a plastic bracket:** When this antenna applied to the metal surface, a plastic bracket is needed to elevate the antenna 1" for the optimum RF performance.

**Option 1, Magnetic Mount** ----Removable Mounting (No Surface damage)

The mounting surface is made of steel or iron.

Firstly, The antenna adhered on the plastic bracket with magnets by the adhesive tape. Then the whole assemble could "stick" on the iron metals by magnets, and also could be removed from the metal surface easily without surface damage.



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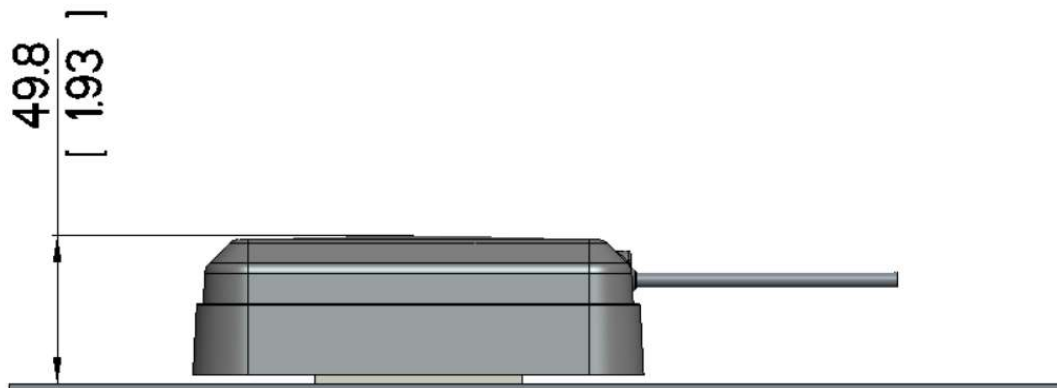
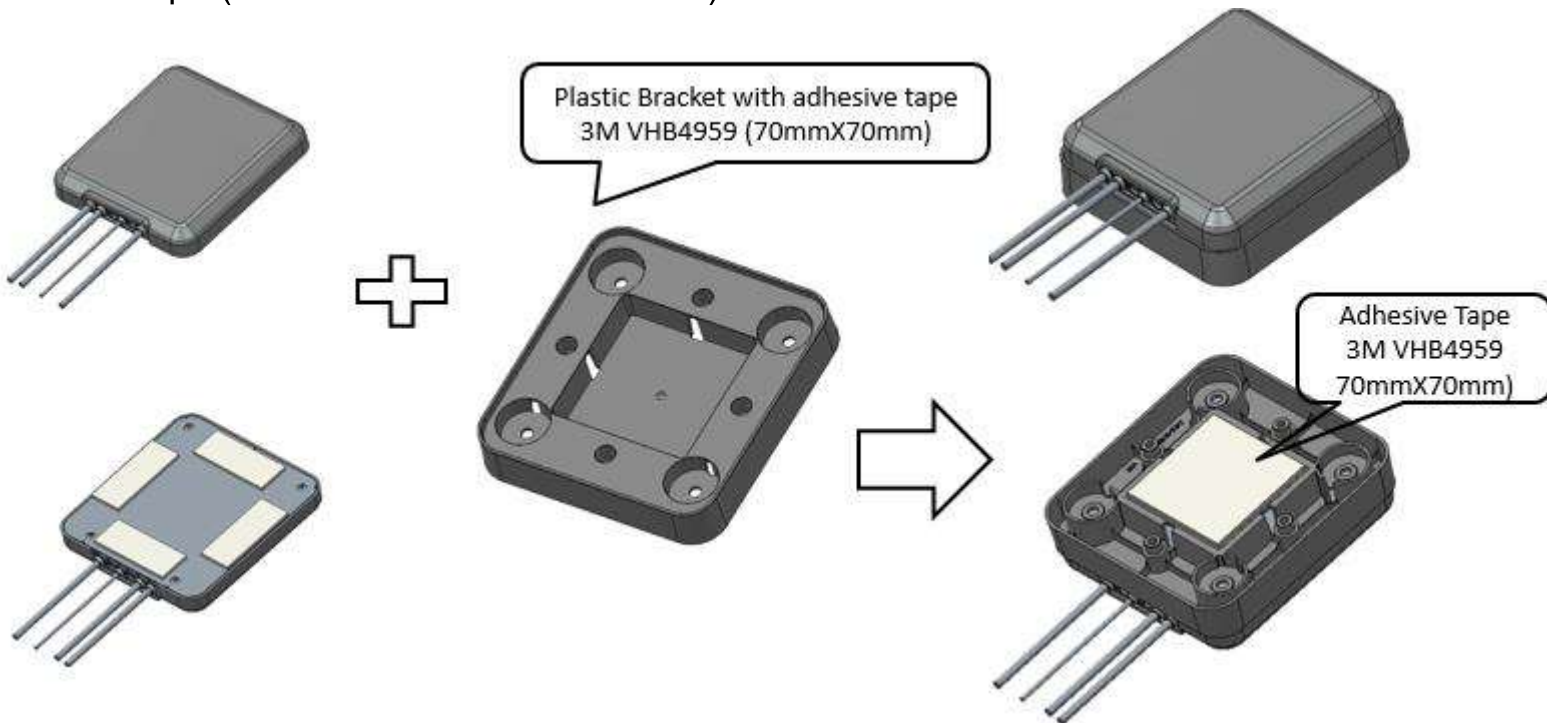
**PART NUMBER:** GPSPMB403

**ASSEMBLY**

**Option 2, Adhesive Mount** -- Permanent Mount

Especially when the mounting surface is made of non-ferrum metals, like aluminum, Firstly, the antenna adhered on the plastic bracket by the adhesive tape,

Then the whole assemble could adhere on the mounting surface by the 3MVHB adhesive tape (3M VHB4959 70mmX70mm).



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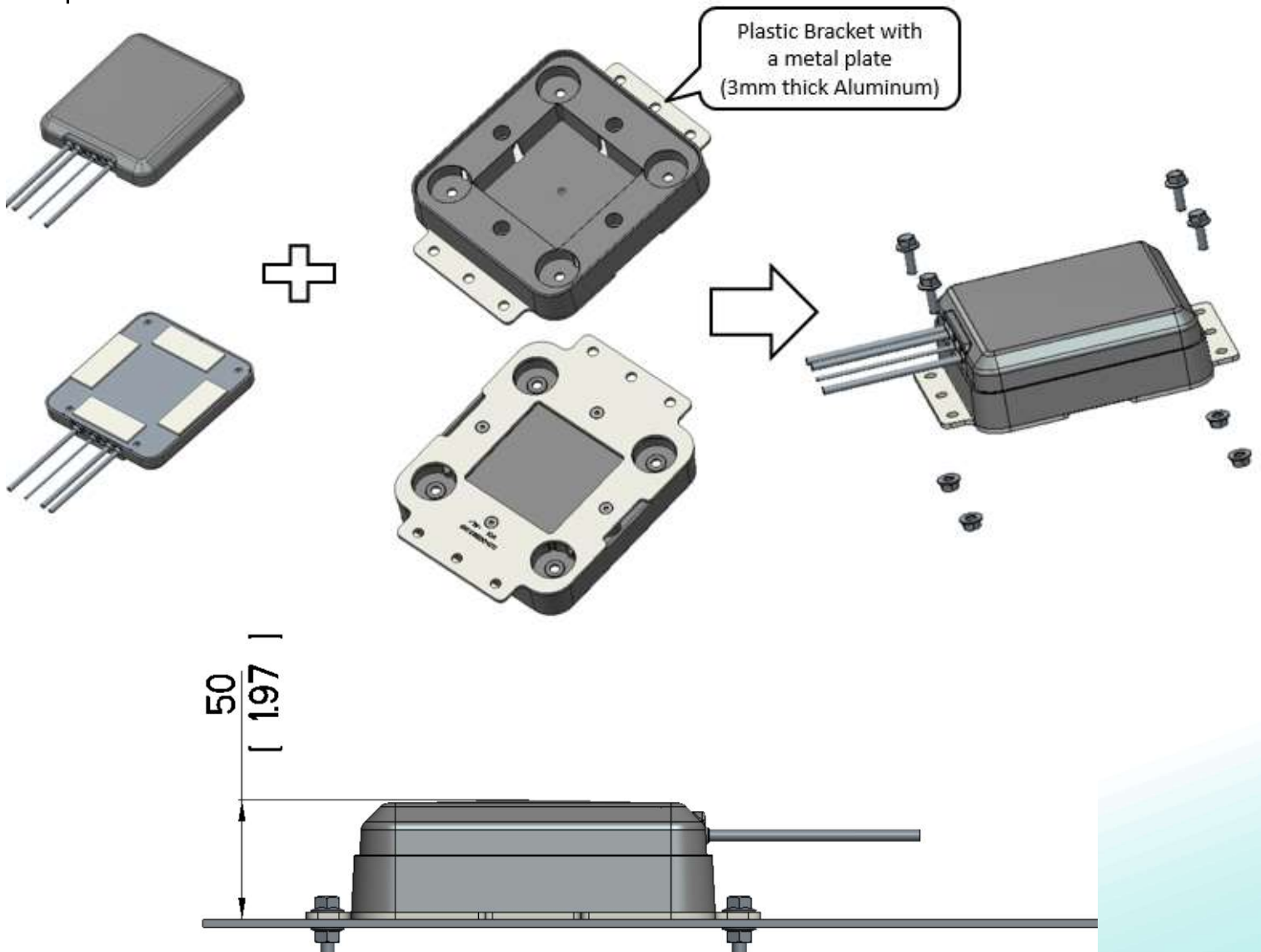
ASSEMBLY

Option 3, Metal Plate Mount

Permanent (but removable) mount with mechanical fastening (such as screws)

Firstly, the antenna adhered on a bracket by the adhesive tape,

Then the whole assemble could mount on the mounting surface with 4pcs M6 screws and 4pcs M6 nuts .



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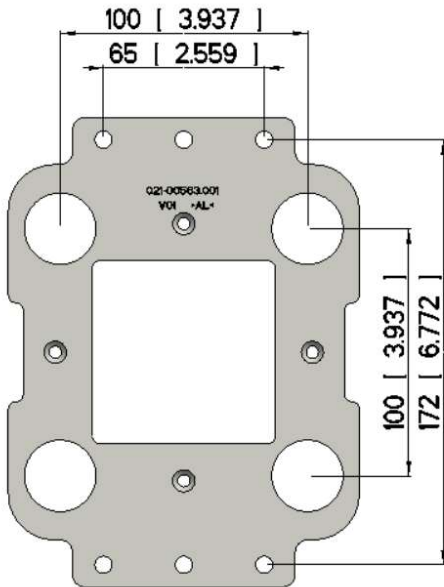
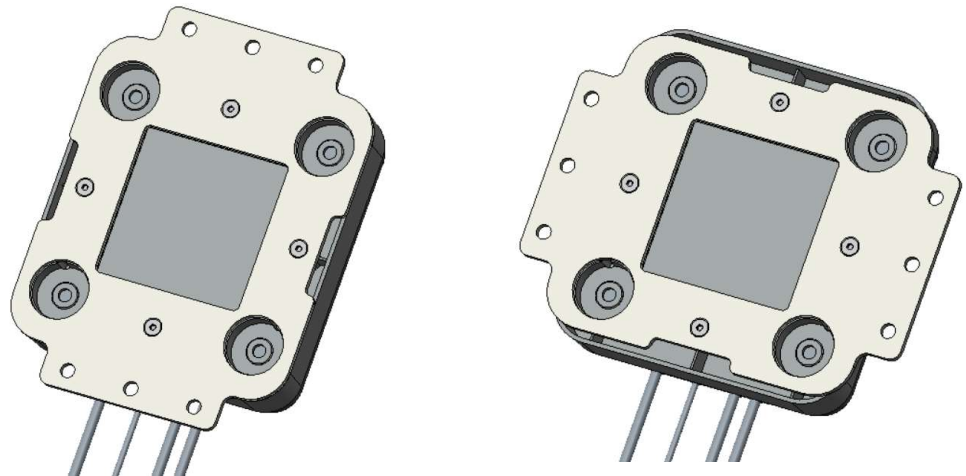
**ASSEMBLY**

**Option 3, Metal Plate Mount**

Permanent (but removable) mount with mechanical fastening (such as screws)

The metal plate is made of 3mm aluminum with anodizing (black color).

Different assembly orientation (Vertical/horizontal) of the metal plate is available (shown as below) .



Item	Mounting Screws and Nuts	Q'ty	Remark
1	Screw - M6 x 12mm	4pcs	Flanged Hex Head, Serated, DIN 6921, Class 8.8, Steel/Zinc Plated
2	Screw - M6 x 30mm	4pcs	Flanged Hex Head, Serated, DIN 6921, Class 8.8, Fully Threaded, Steel/Zinc Plated
3	Nut - M6	4pcs	Flanged, Serated, Class 8, Steel/Zinc Plated

**Mounting hole Dimensions**

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