

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

Issue: 1717

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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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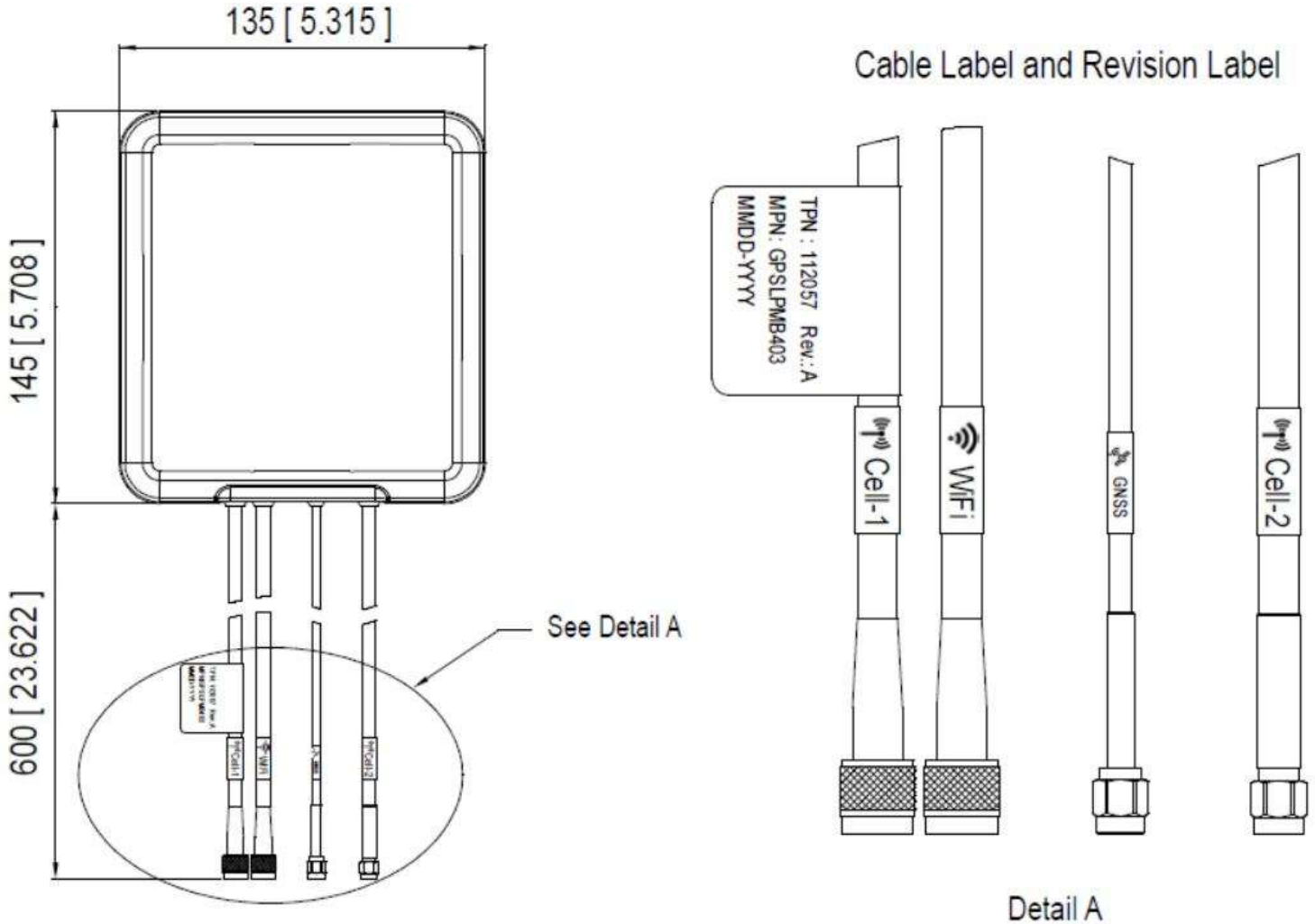


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MECHANICAL DRAWING



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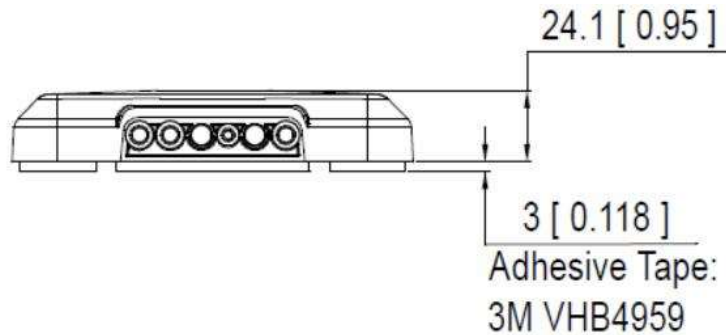


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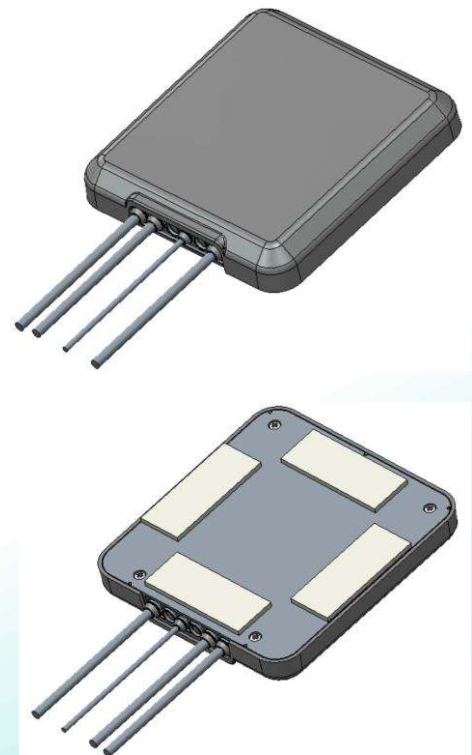
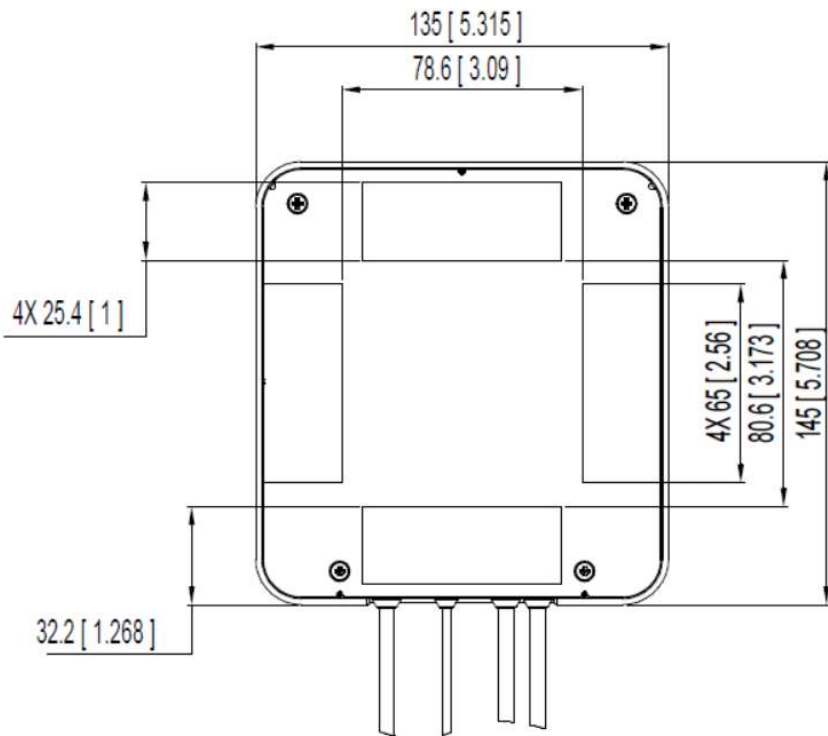
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MECHANICAL DRAWING



Adhesive Tape Placement



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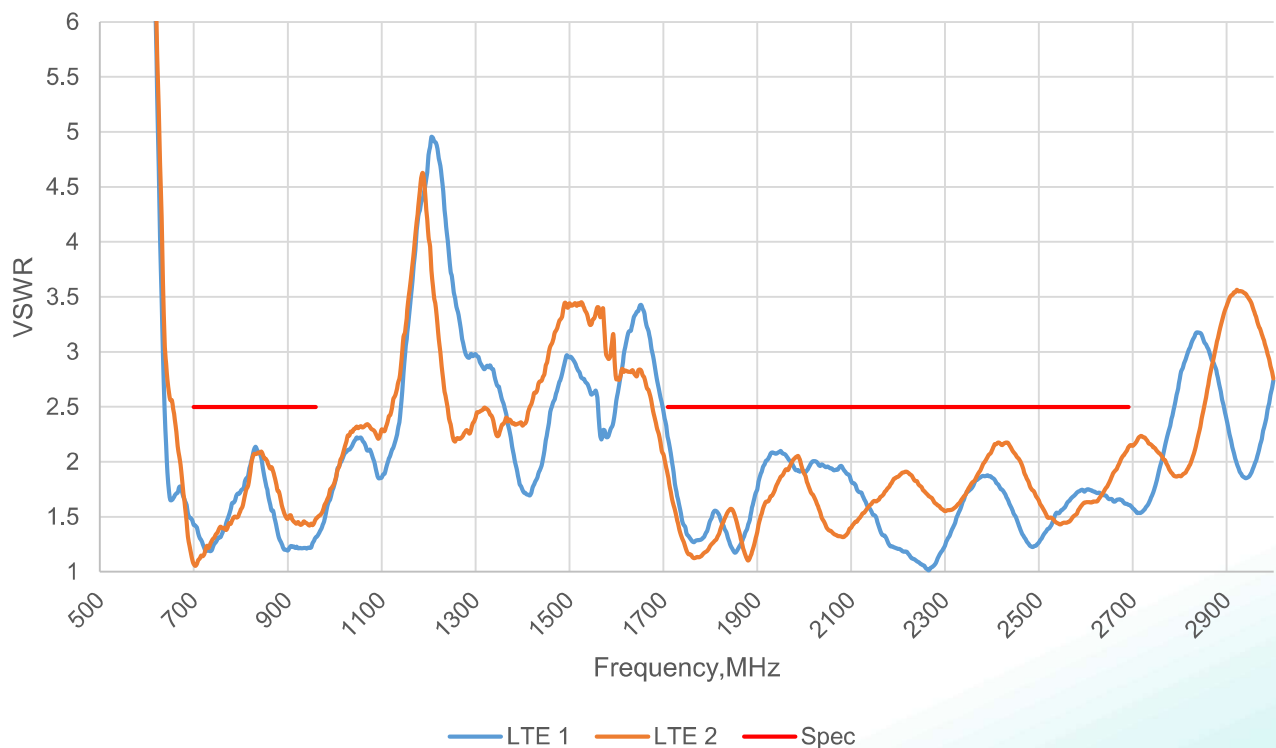
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CHARTS

LTE 1 and LTE2 VSWR

VSWR VS Frequency measured in free space



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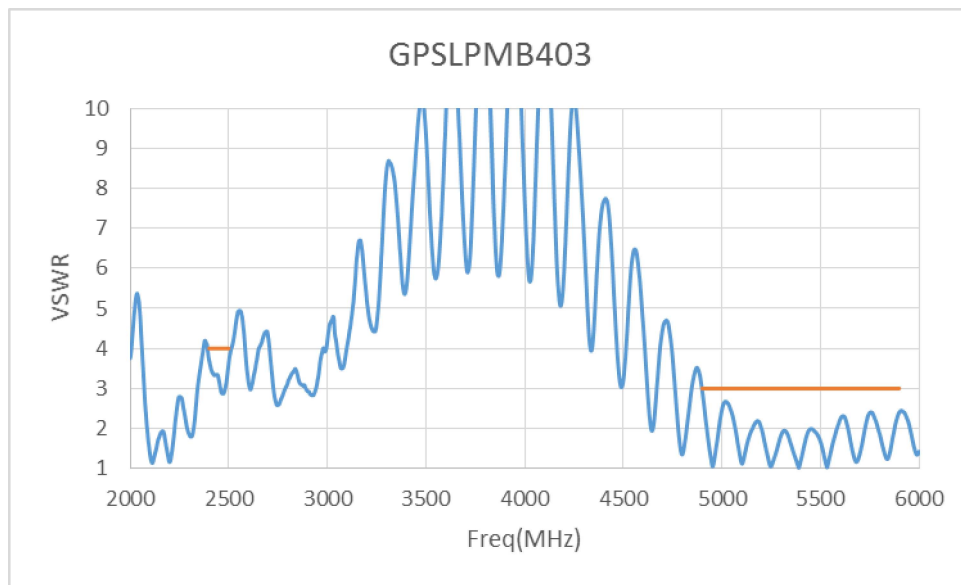
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CHARTS

WiFi VSWR*



* Test on bracket and diameter is 500mm ground plane

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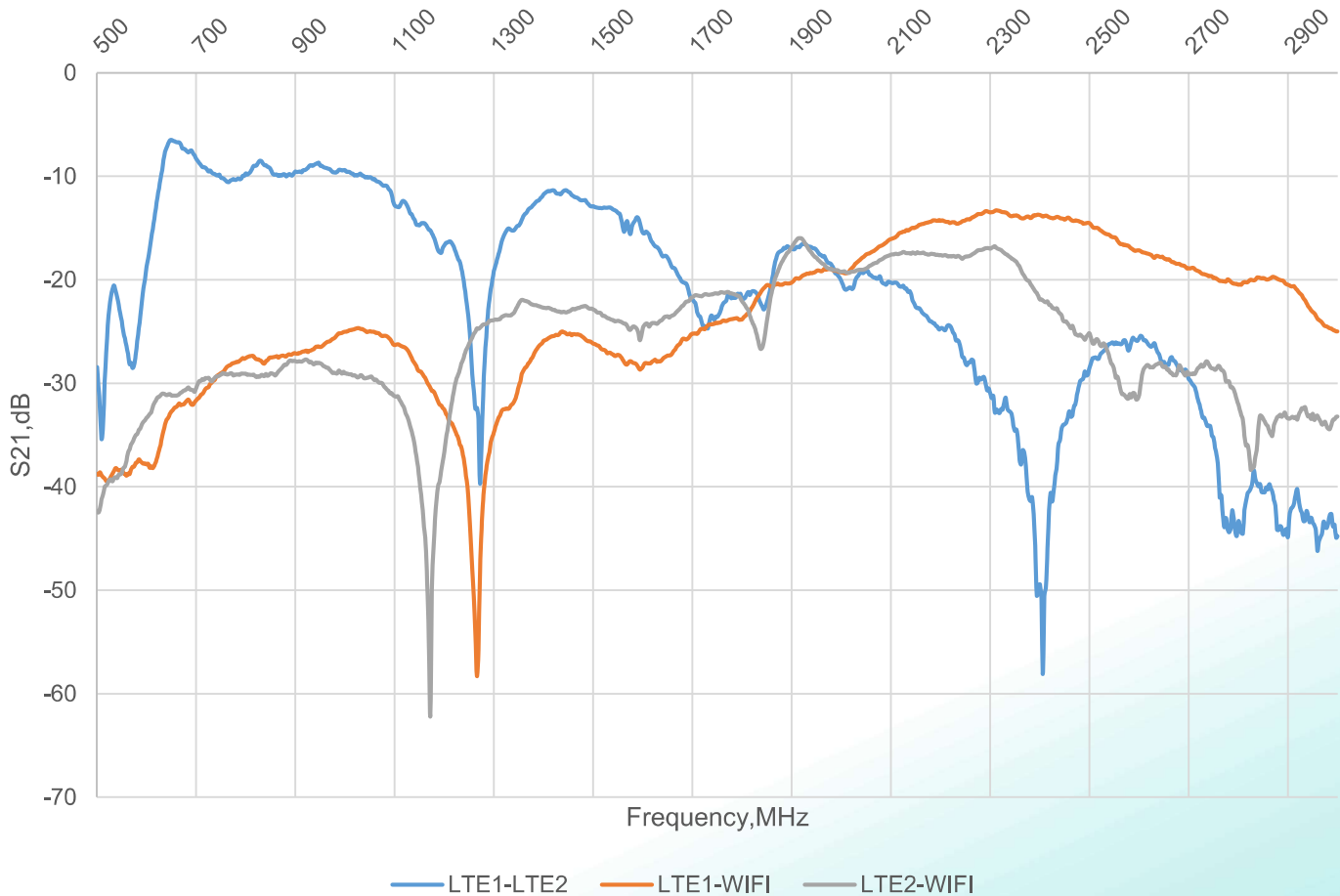
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CHARTS

Isolation

Isolation vs Frequency measured in free space



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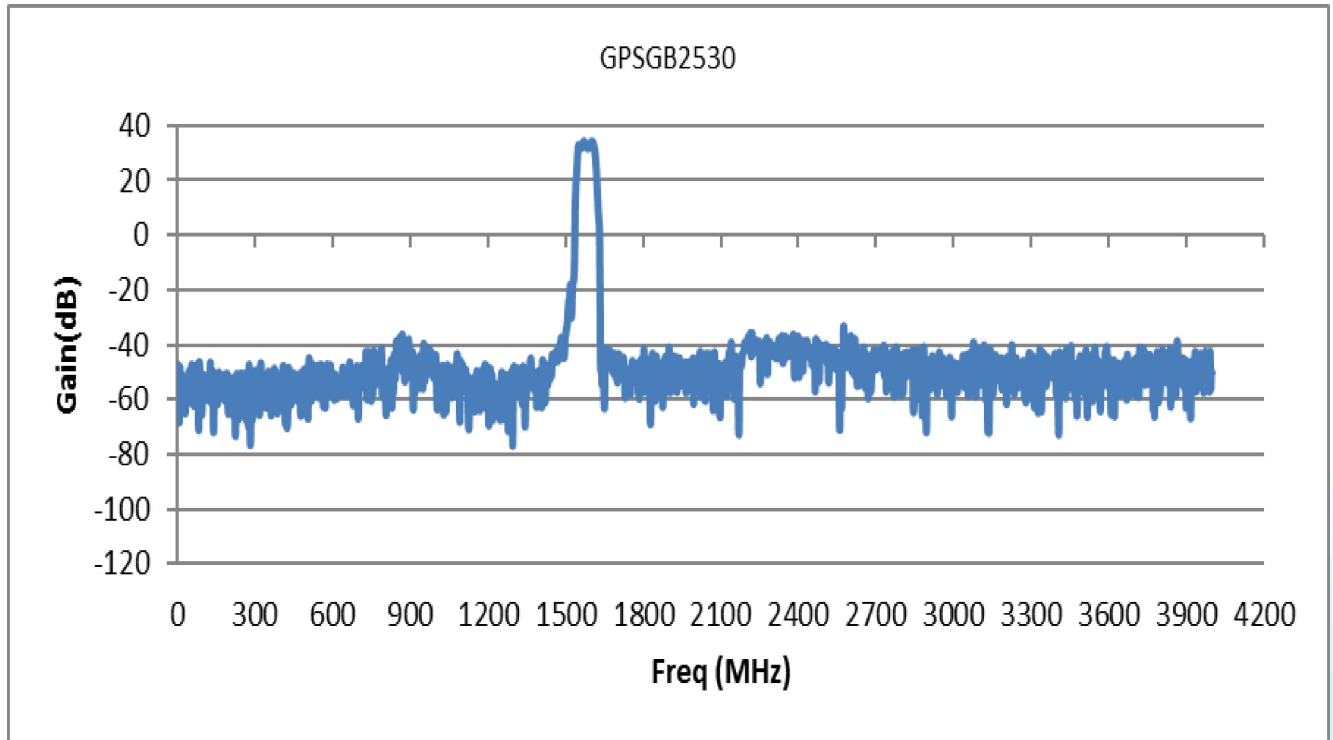
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CHARTS

GPS LNA Gain and out-of-band rejection



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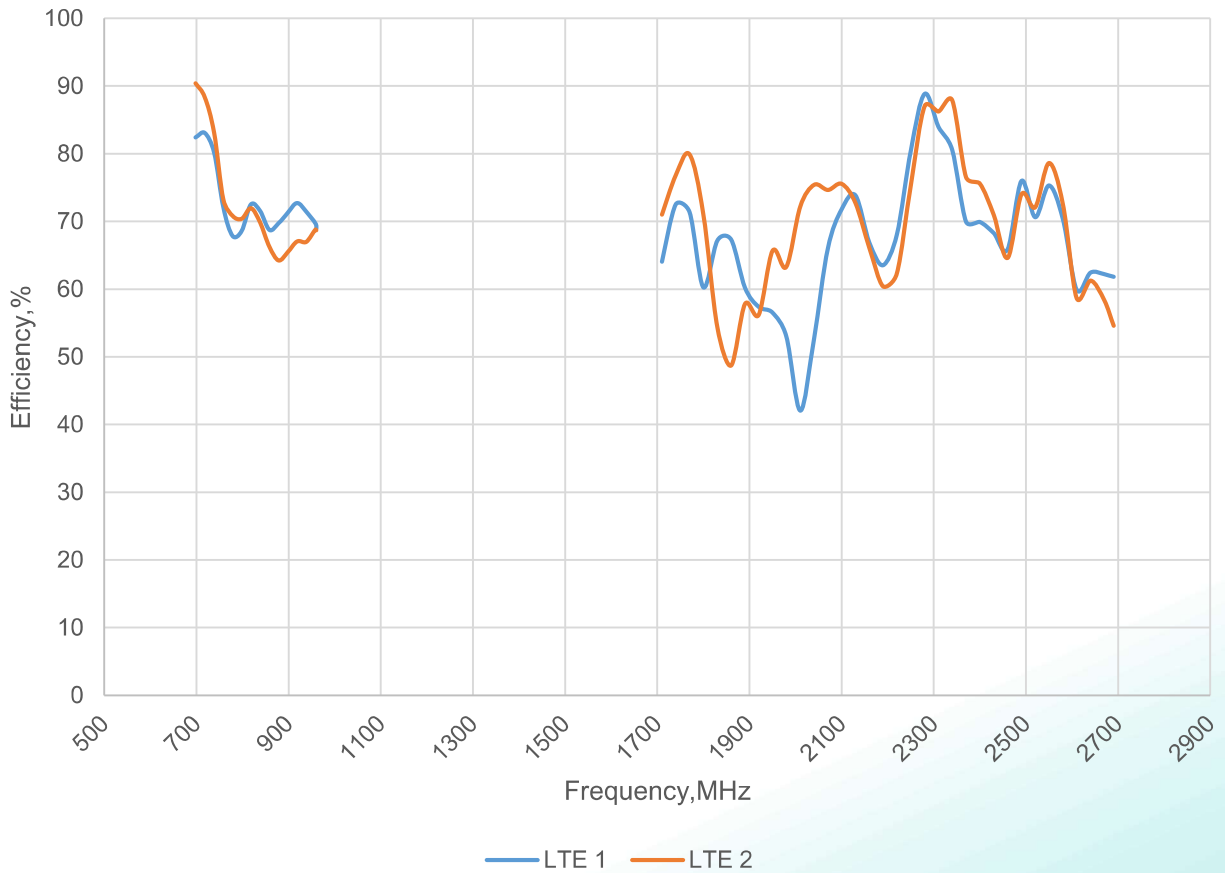
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CHARTS

LTE 1 and LTE2 Efficiency

Efficiency vs Frequency measured in free space



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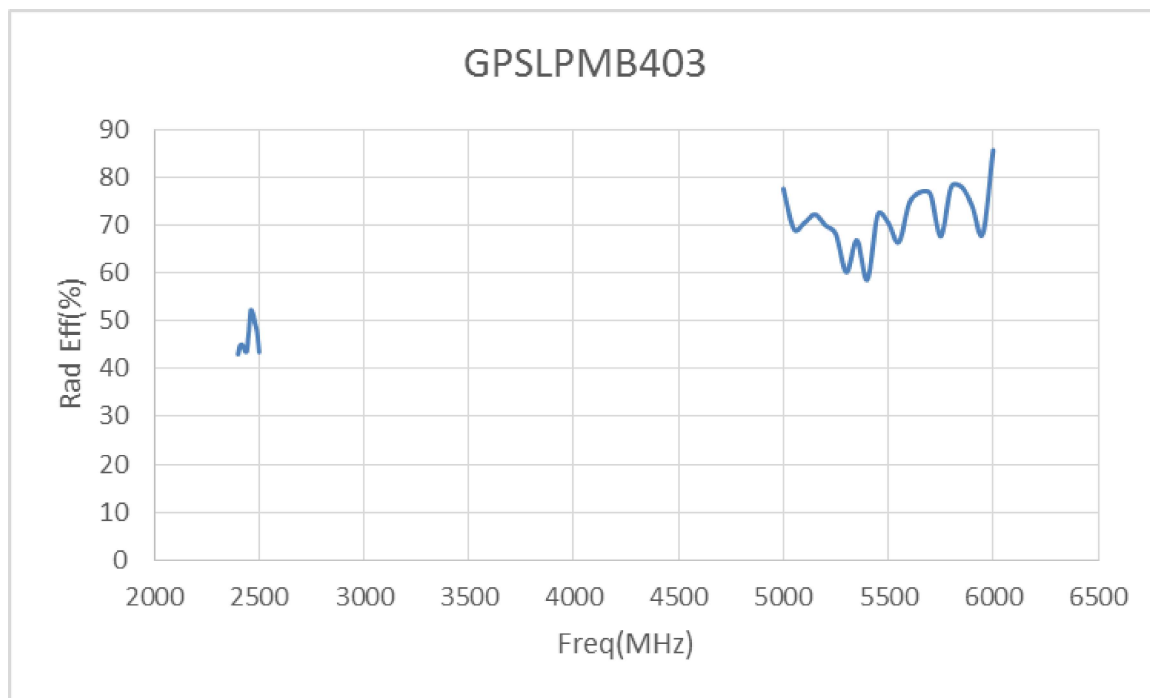
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CHARTS

WiFi Efficiency*



* Test on bracket and diameter is 500mm ground plane

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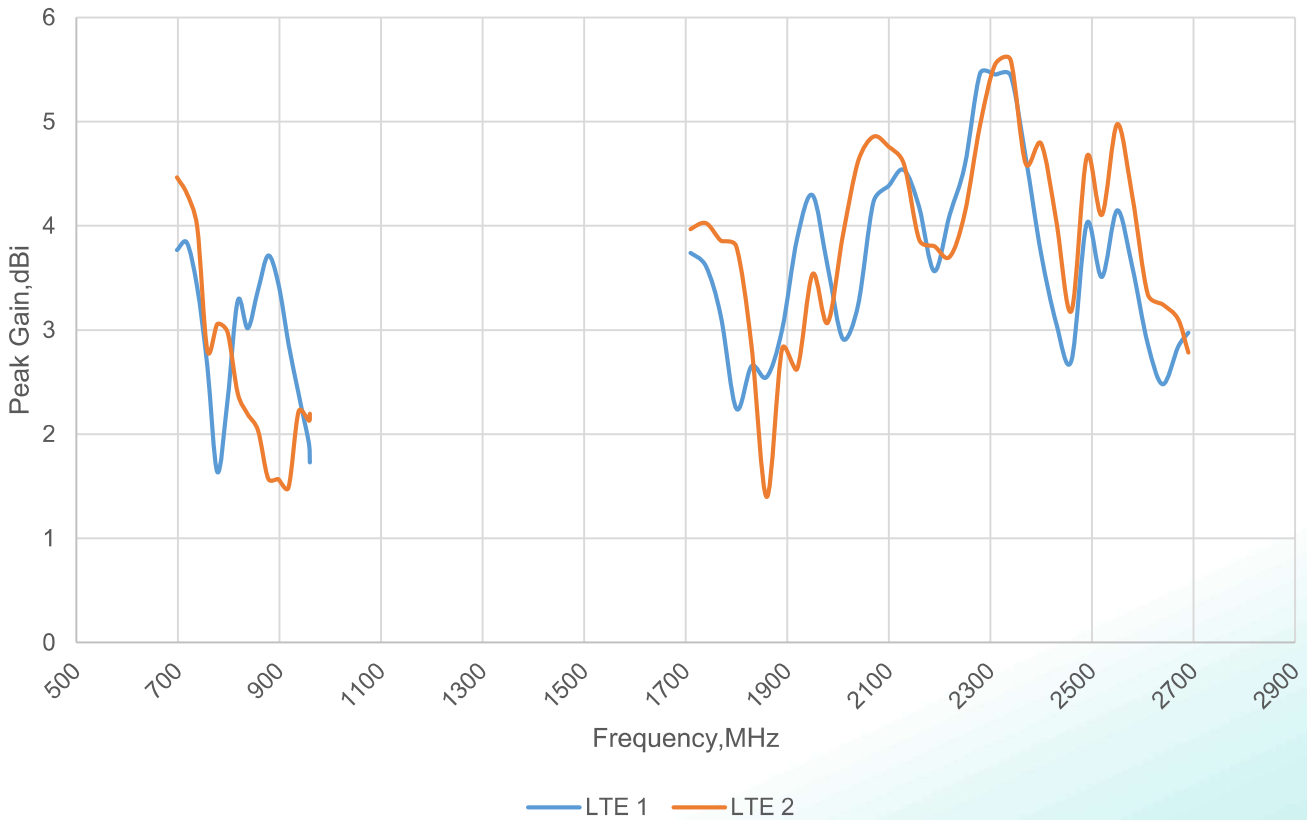
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CHARTS

LTE1 and LTE2 Peak Gain

Peak Gain vs Frequency measured in free space



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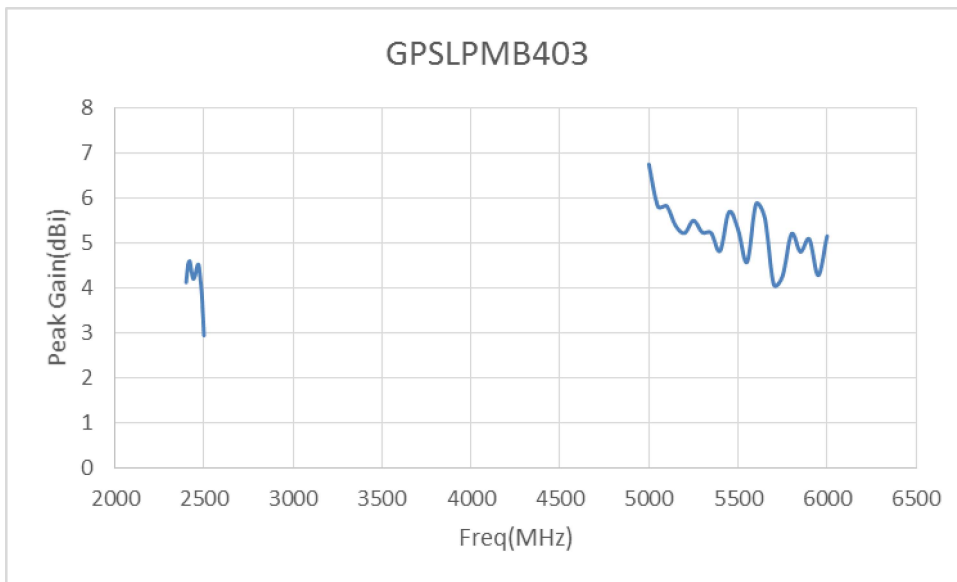
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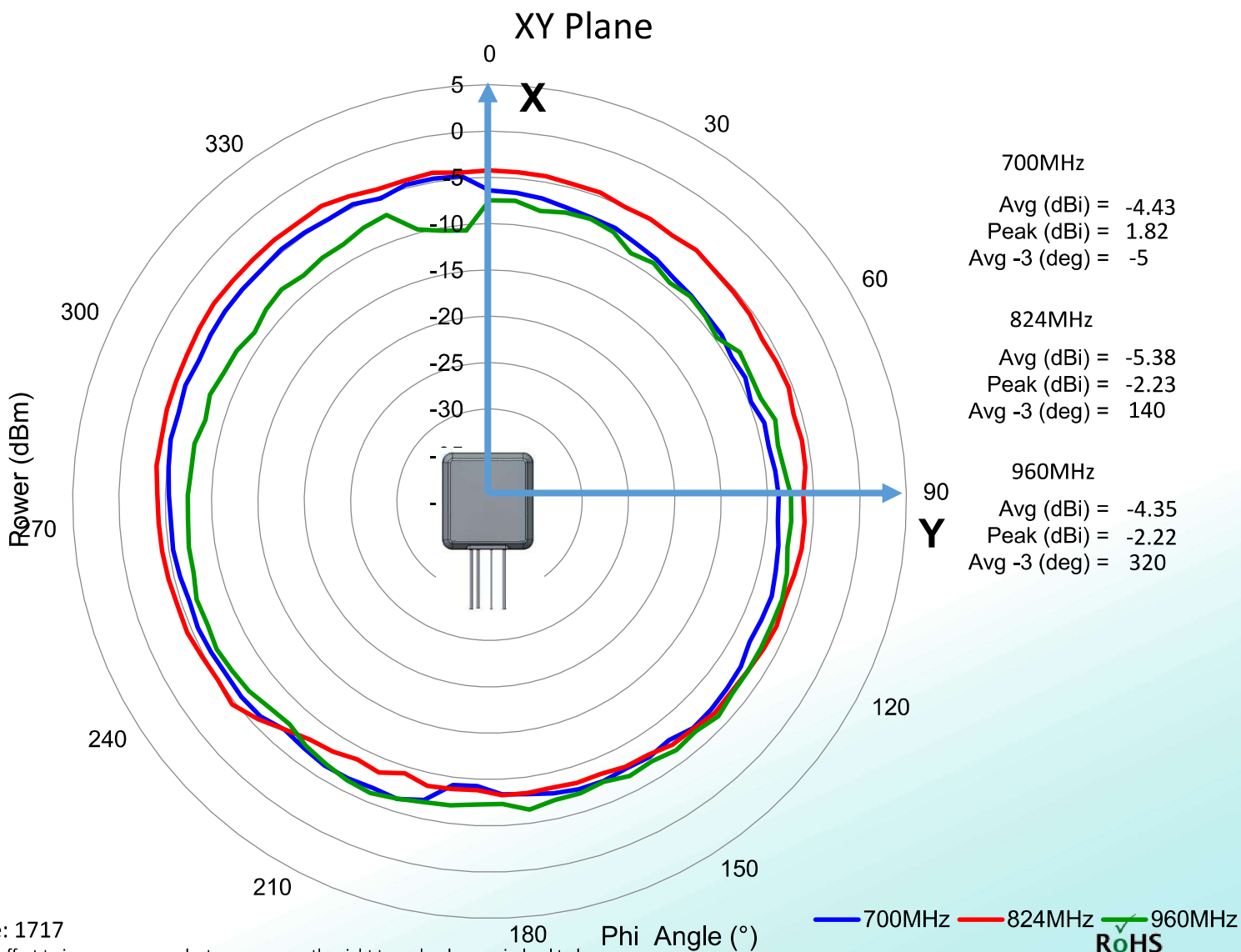
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CHARTS

Gain Plots LTE1



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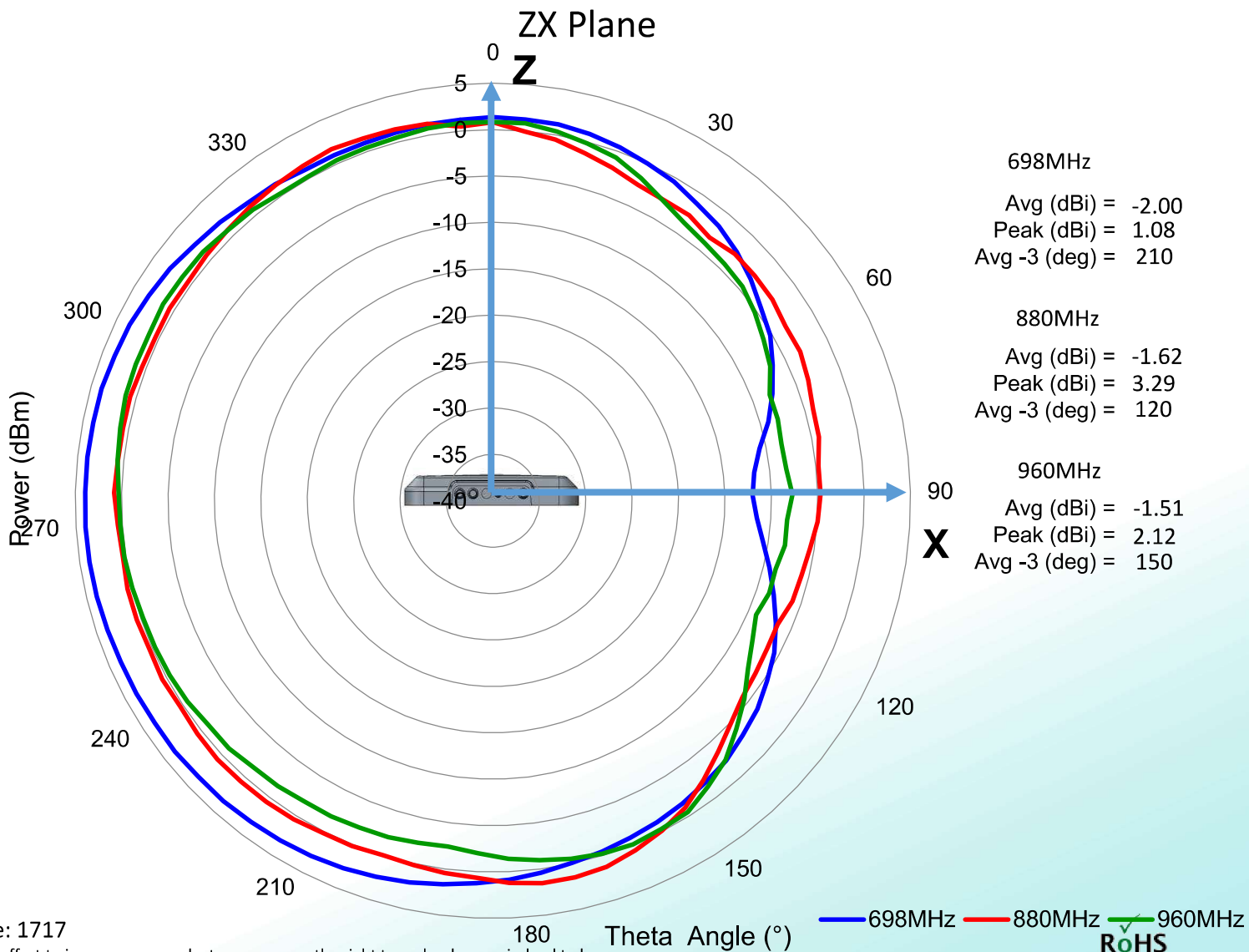
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99 Huo Ju Road(#29 Bldg,4th Phase
Suzhou New District
Jiangsu Province, Suzhou 215009 PR China
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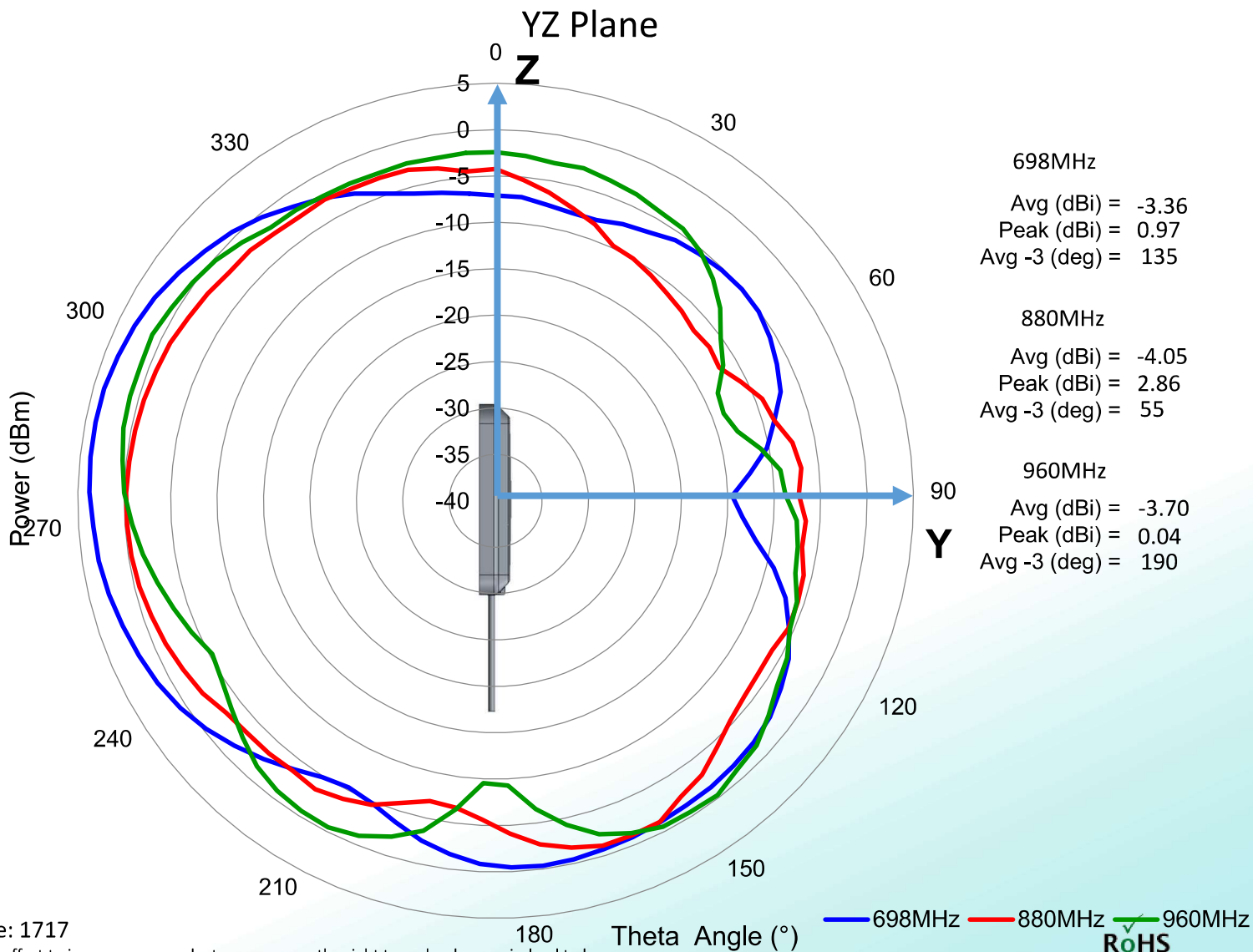
Description: 2xLTE, WiFi, GNSS Multiband
Vehicular Antenna

Series: Low Profile MB

PART NUMBER: GPSPMB403

CHARTS

Gain Plots LTE1



Issue: 1717

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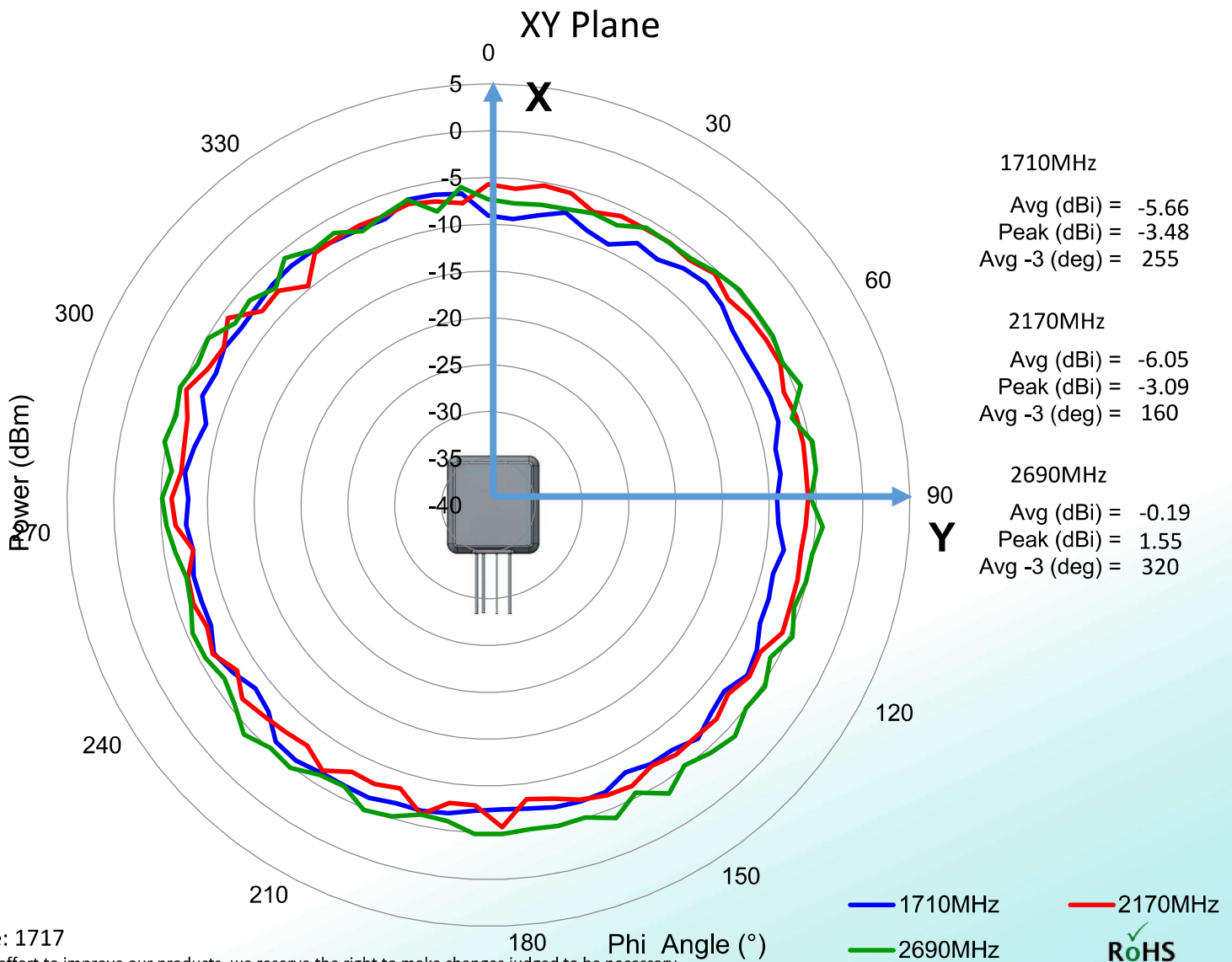
Description: 2xLTE, WiFi, GNSS Multiband Vehicular Antenna

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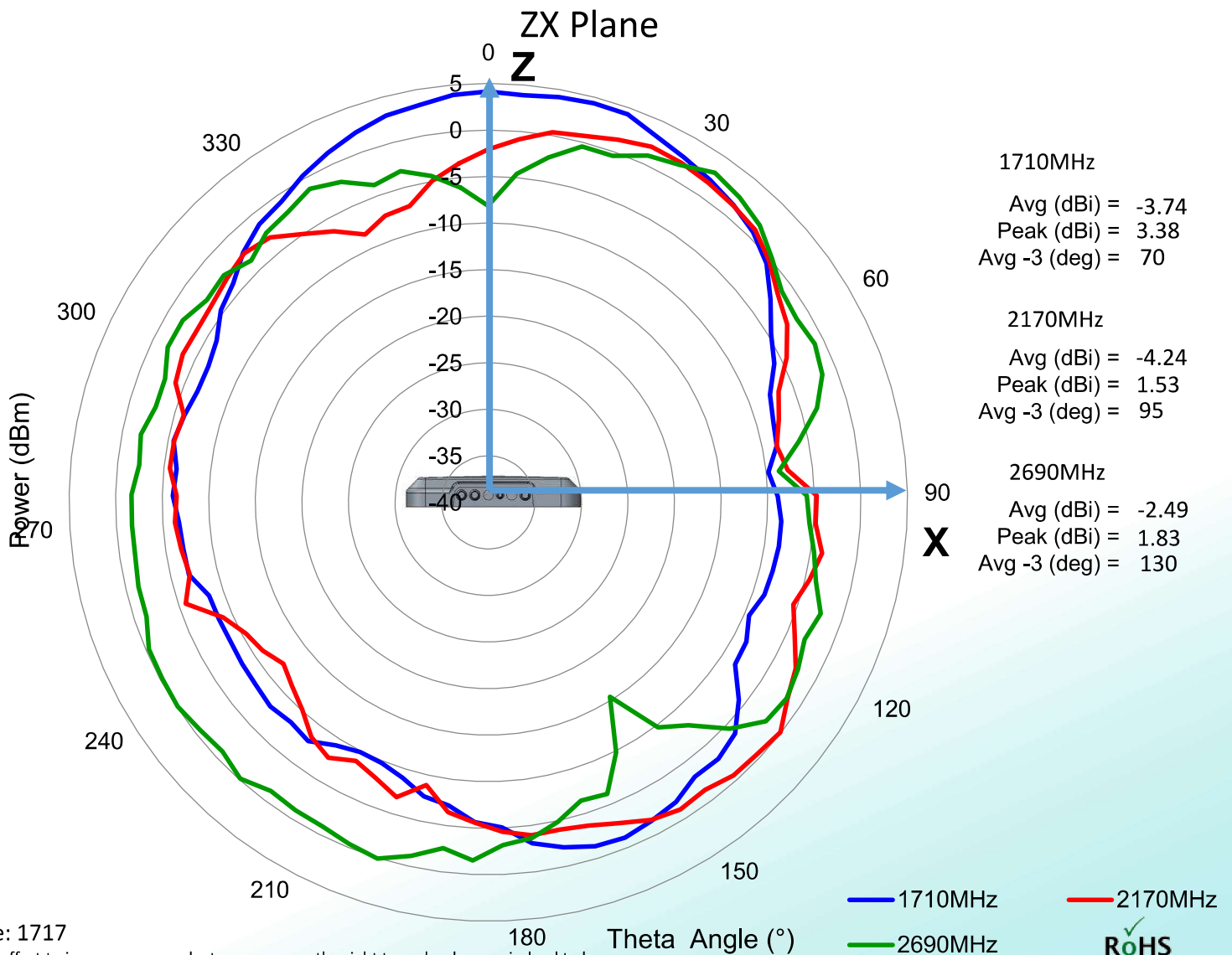
Description: 2xLTE, WiFi, GNSS Multiband
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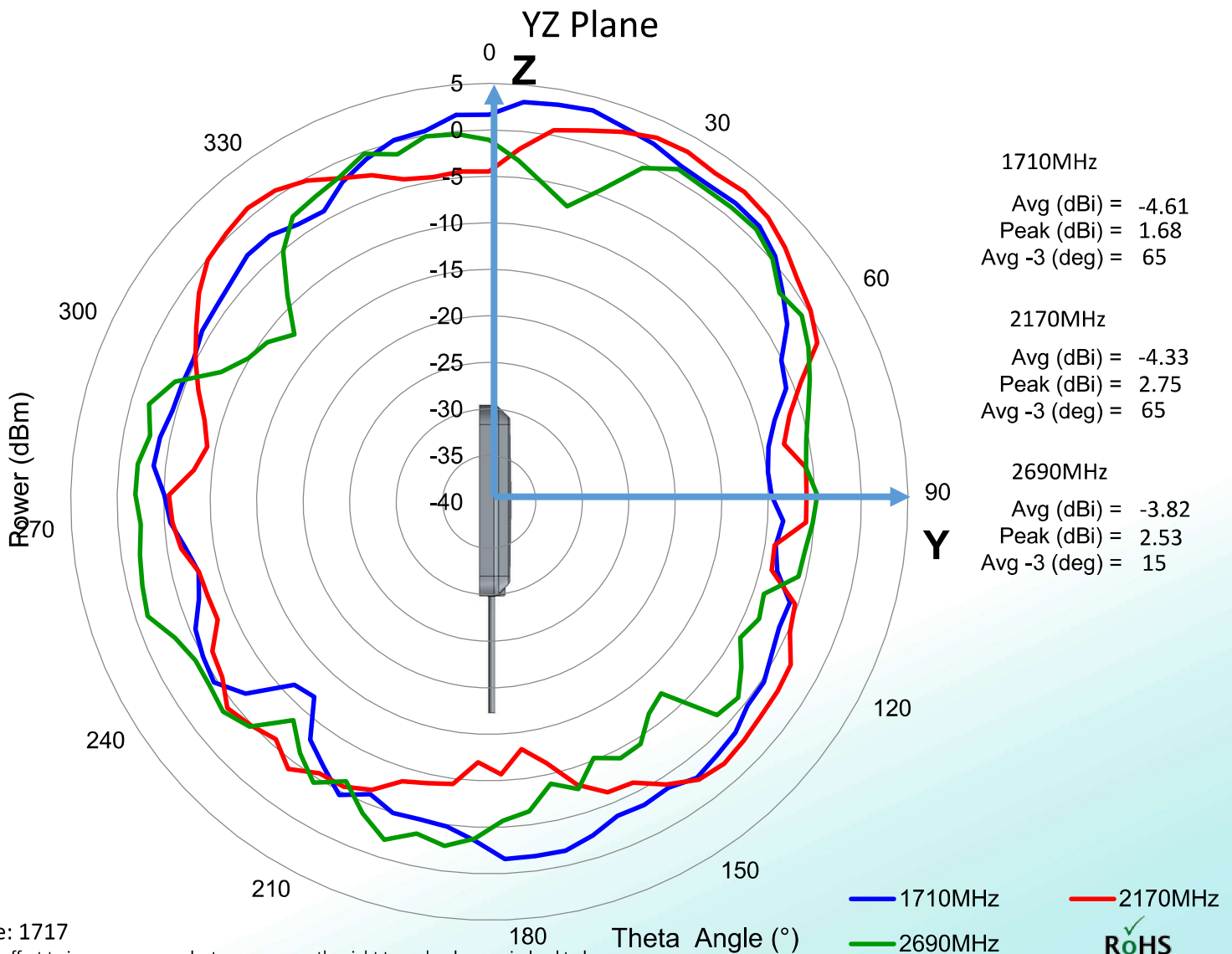
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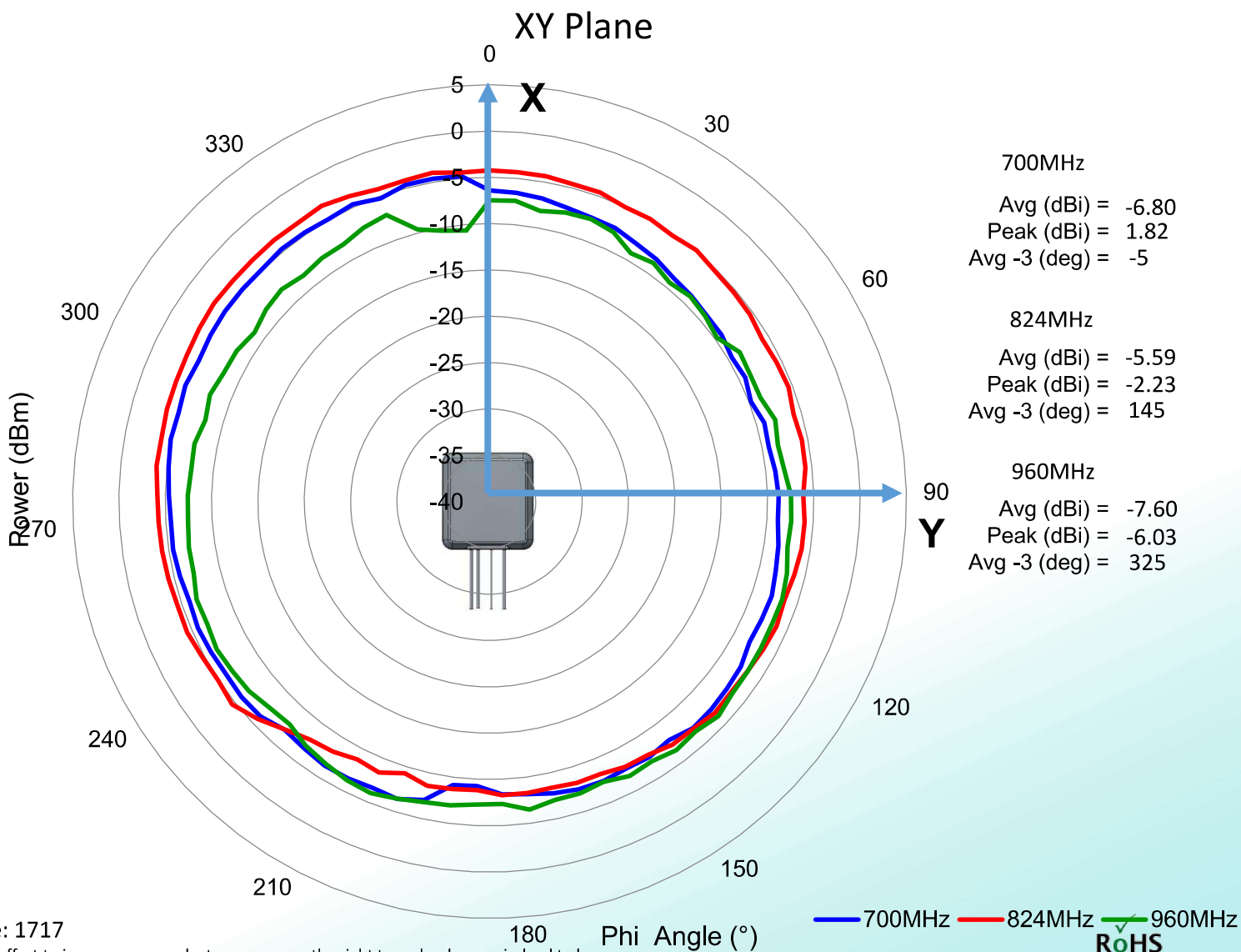
Description: 2xLTE, WiFi, GNSS Multiband Vehicular Antenna

Series: Low Profile MB

PART NUMBER: GPSPMB403

CHARTS

Gain Plots LTE2



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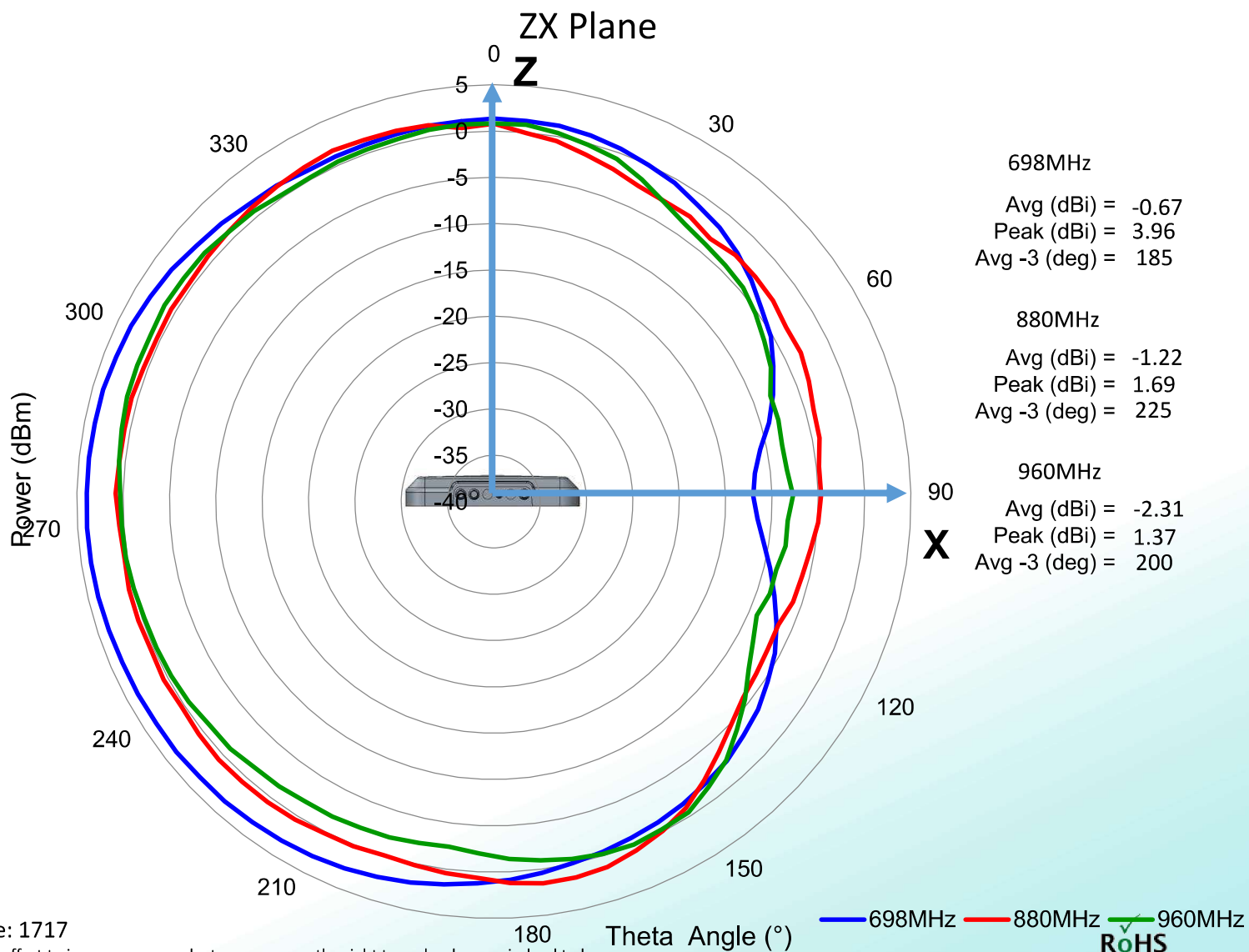
Description: 2xLTE, WiFi, GNSS Multiband
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PART NUMBER: GPSPMB403

CHARTS

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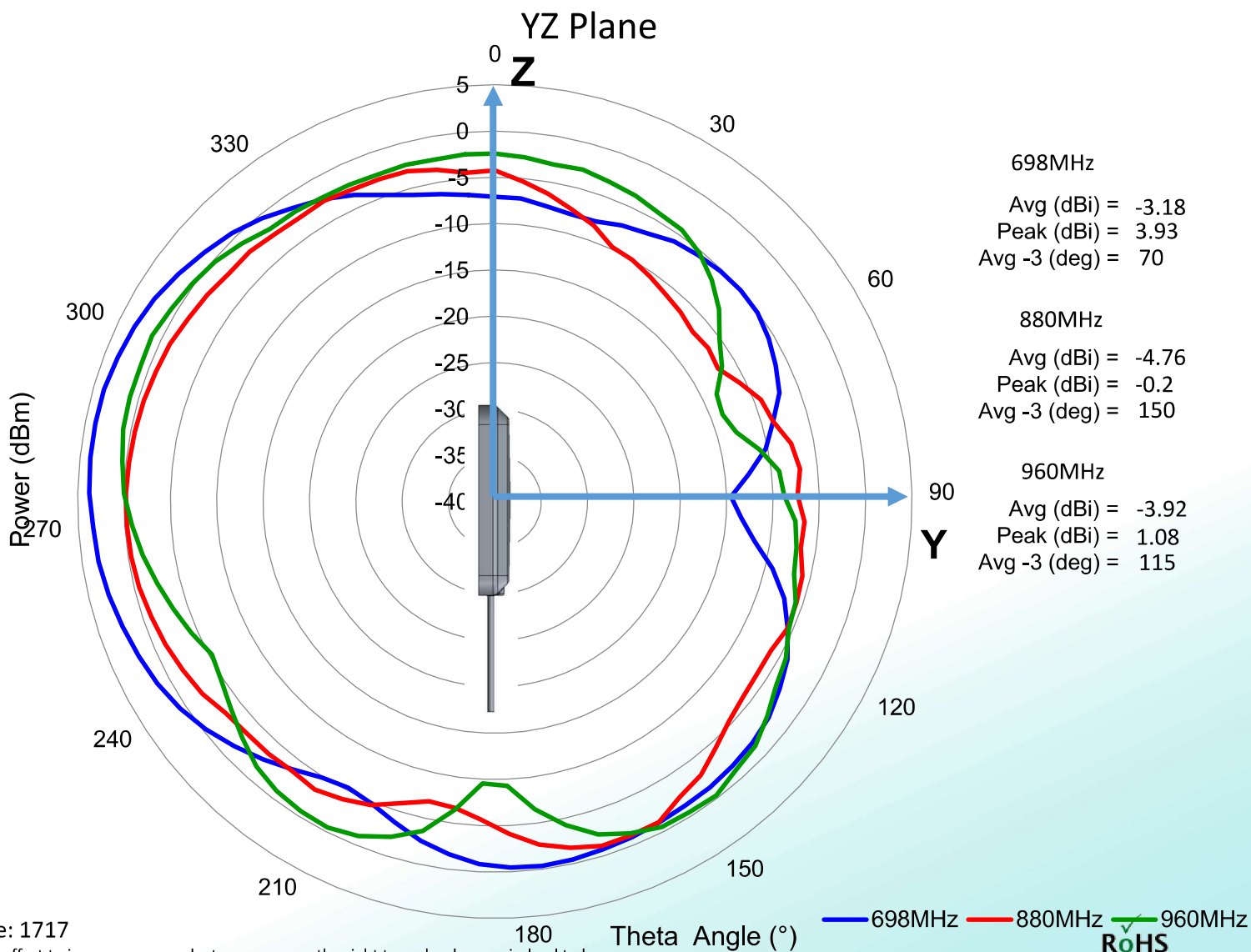
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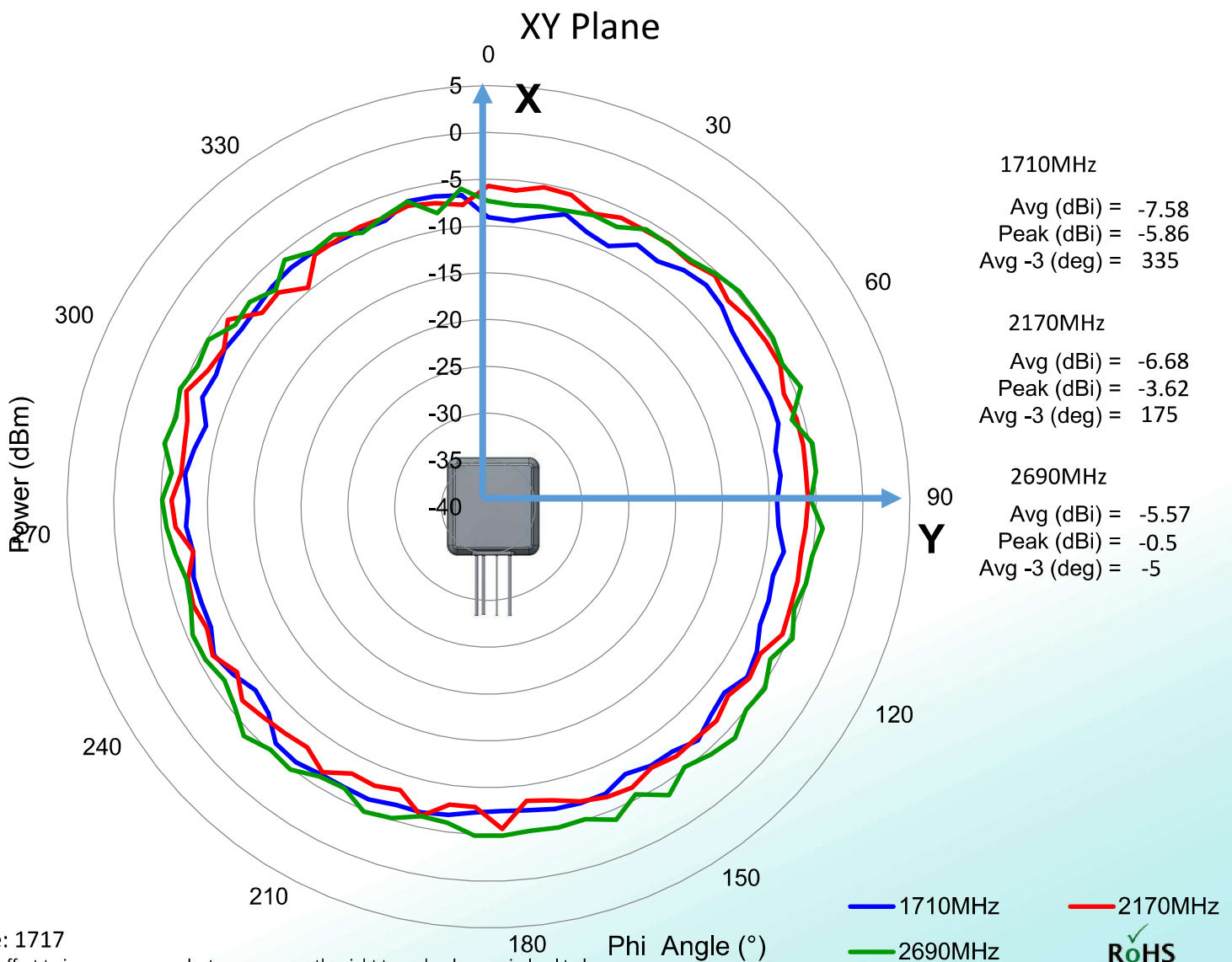
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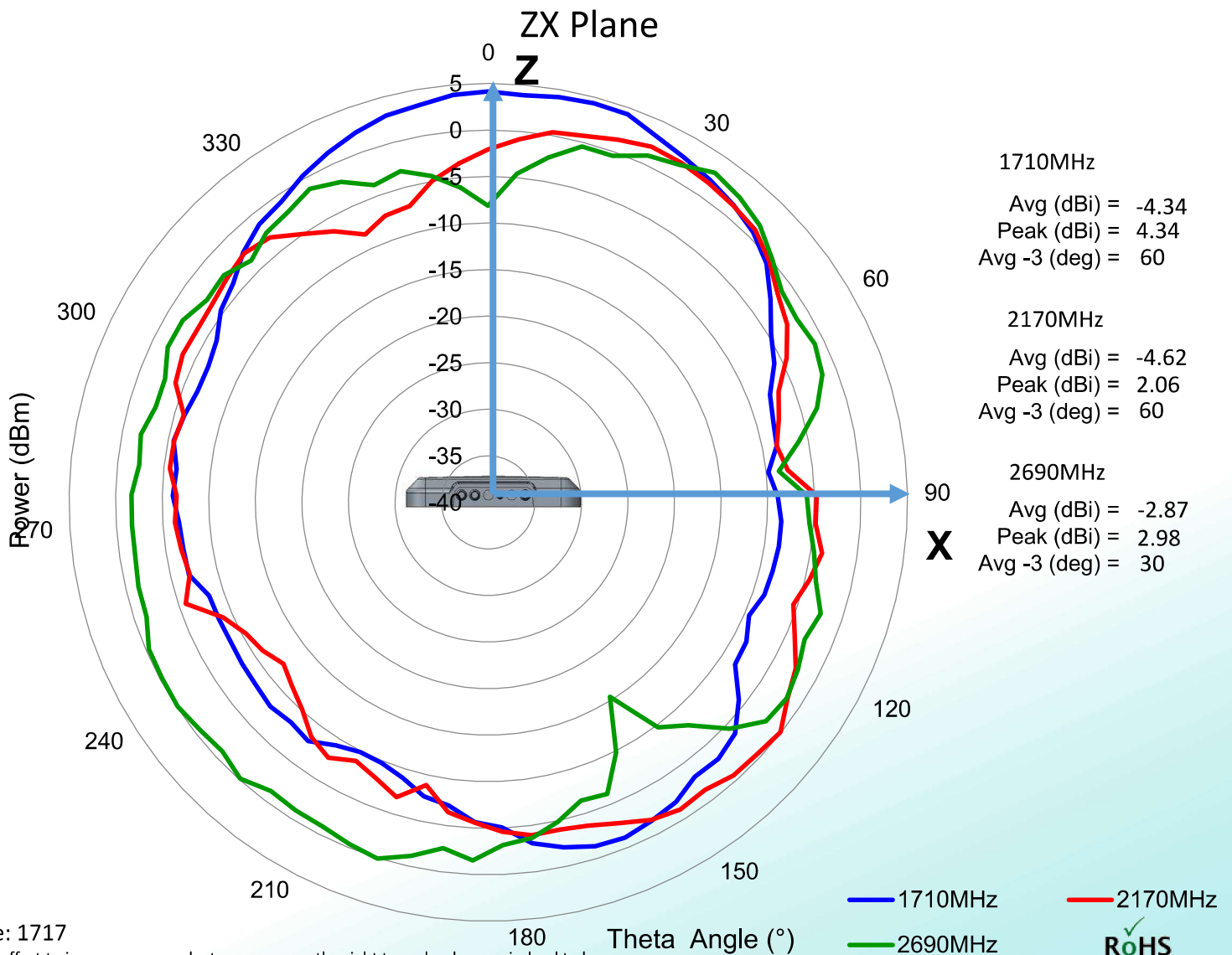
Description: 2xLTE, WiFi, GNSS Multiband
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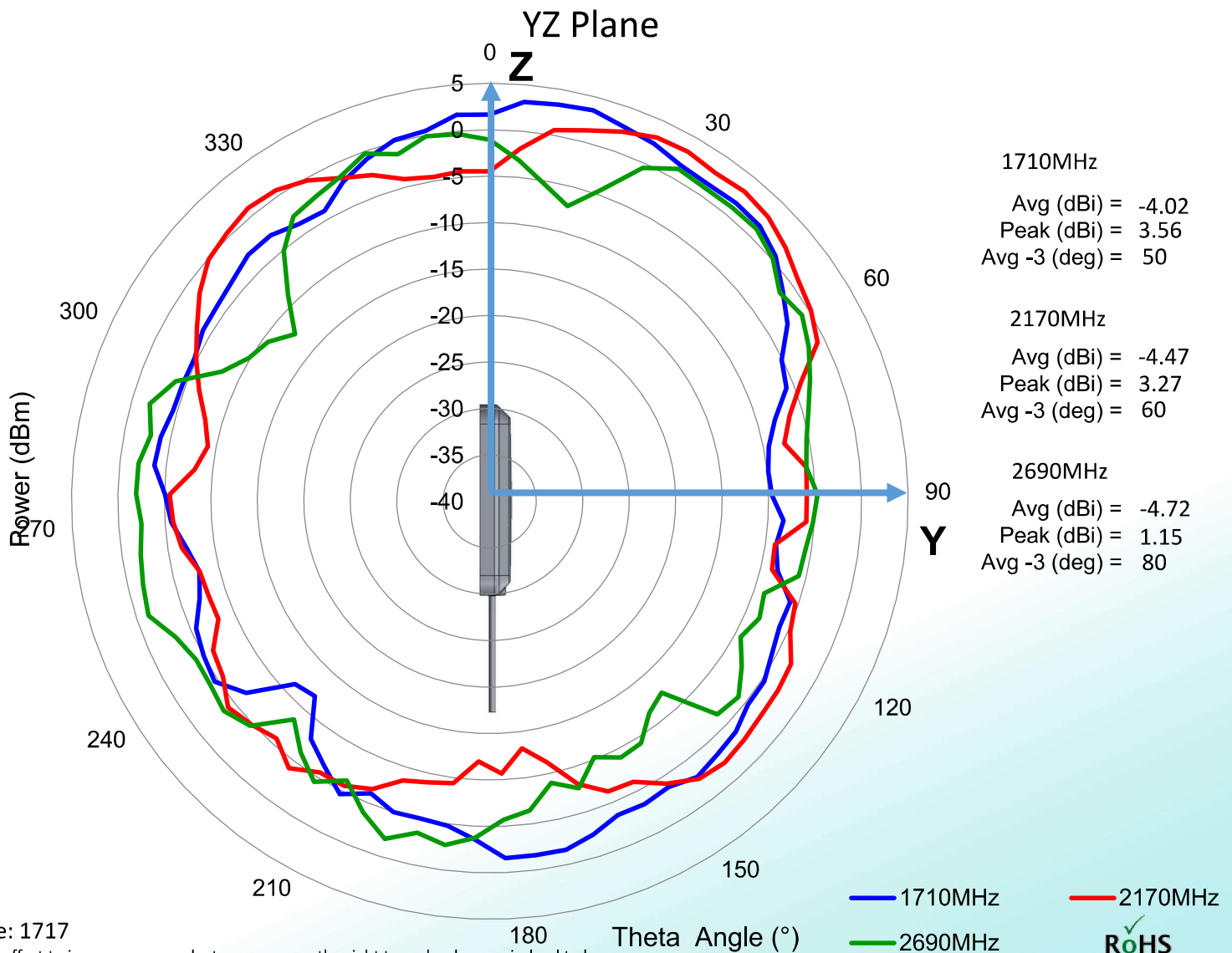
Description: 2xLTE, WiFi, GNSS Multiband
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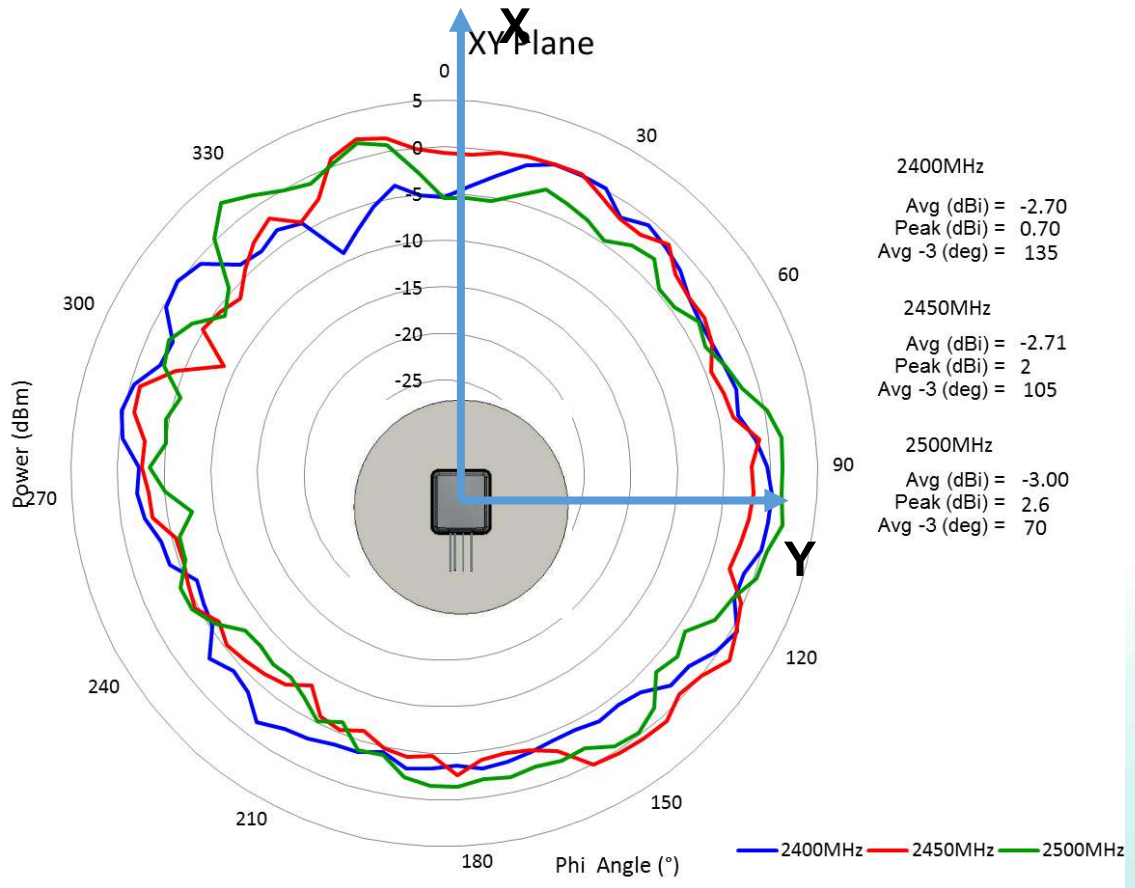
Description: 2xLTE, WiFi, GNSS Multiband
Vehicular Antenna

Series: Low Profile MB

PART NUMBER: GPSPMB403

CHARTS

Gain Plots WiFi*



* Test on bracket and diameter is 500mm ground plane

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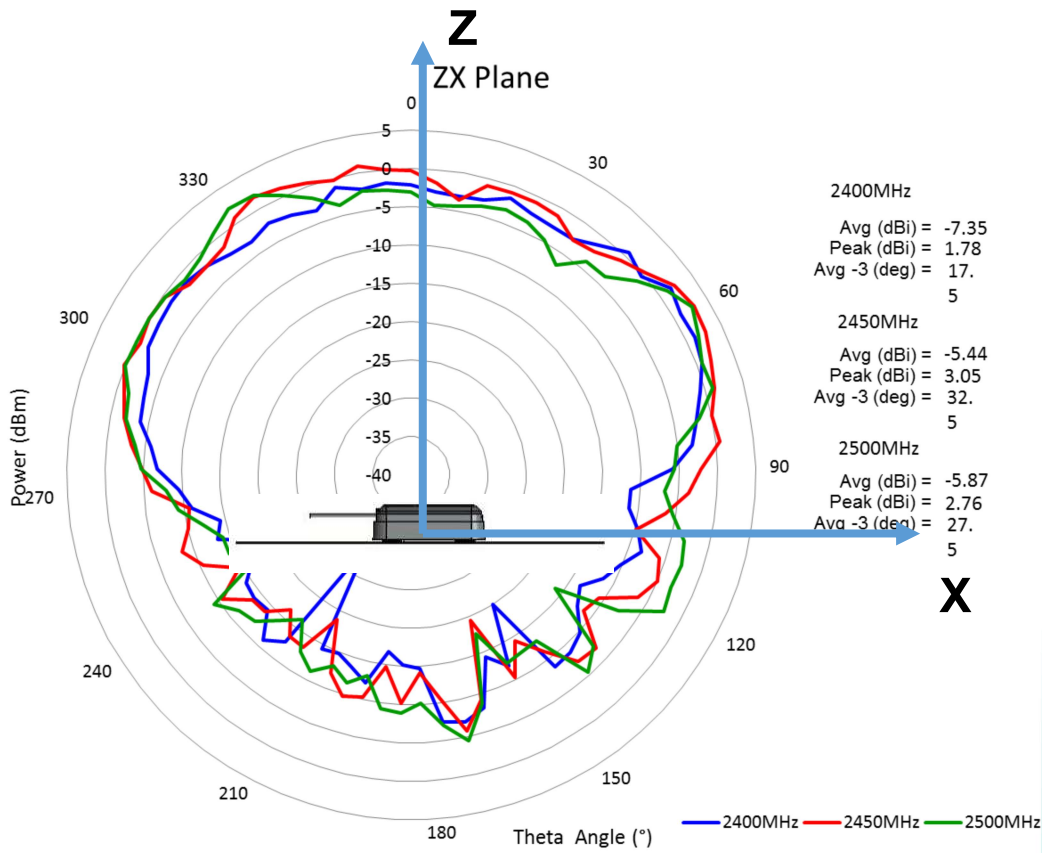
Description: 2xLTE, WiFi, GNSS Multiband
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CHARTS

Gain Plots WIFI*



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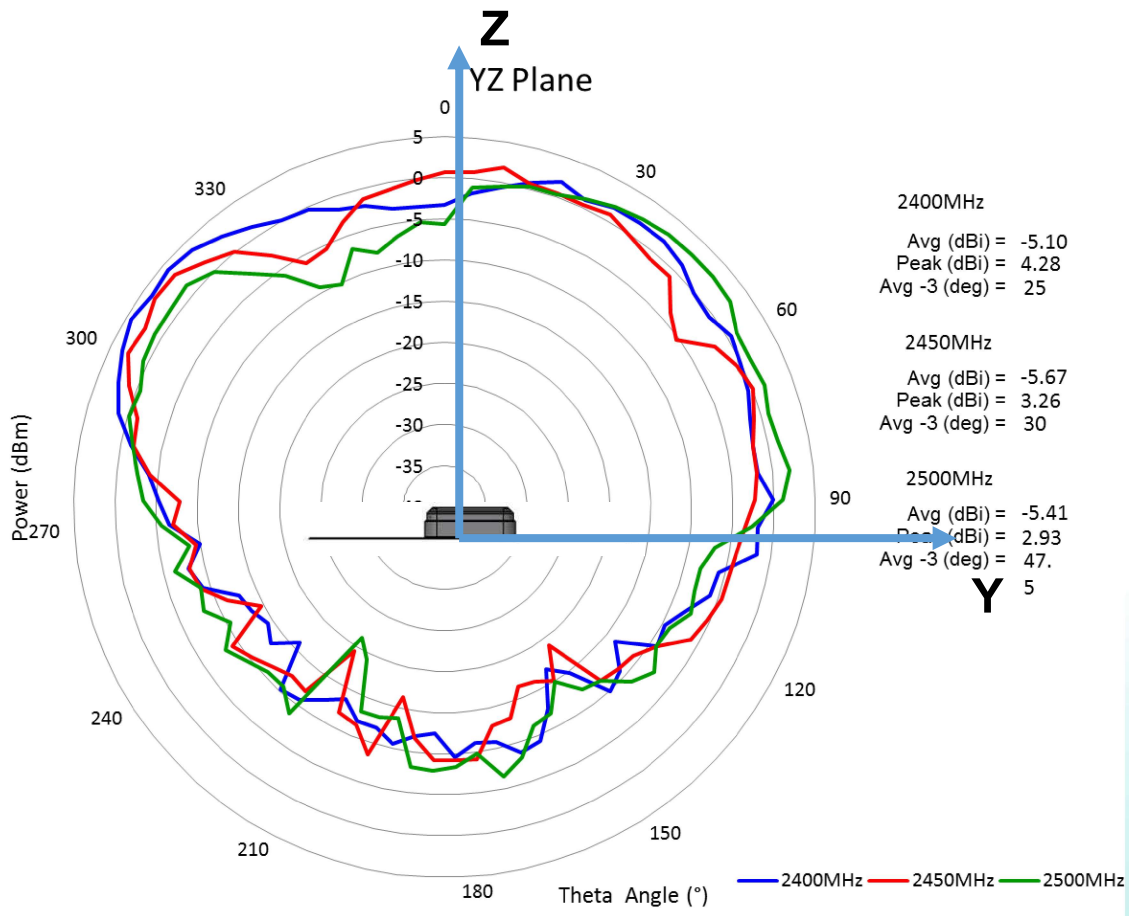
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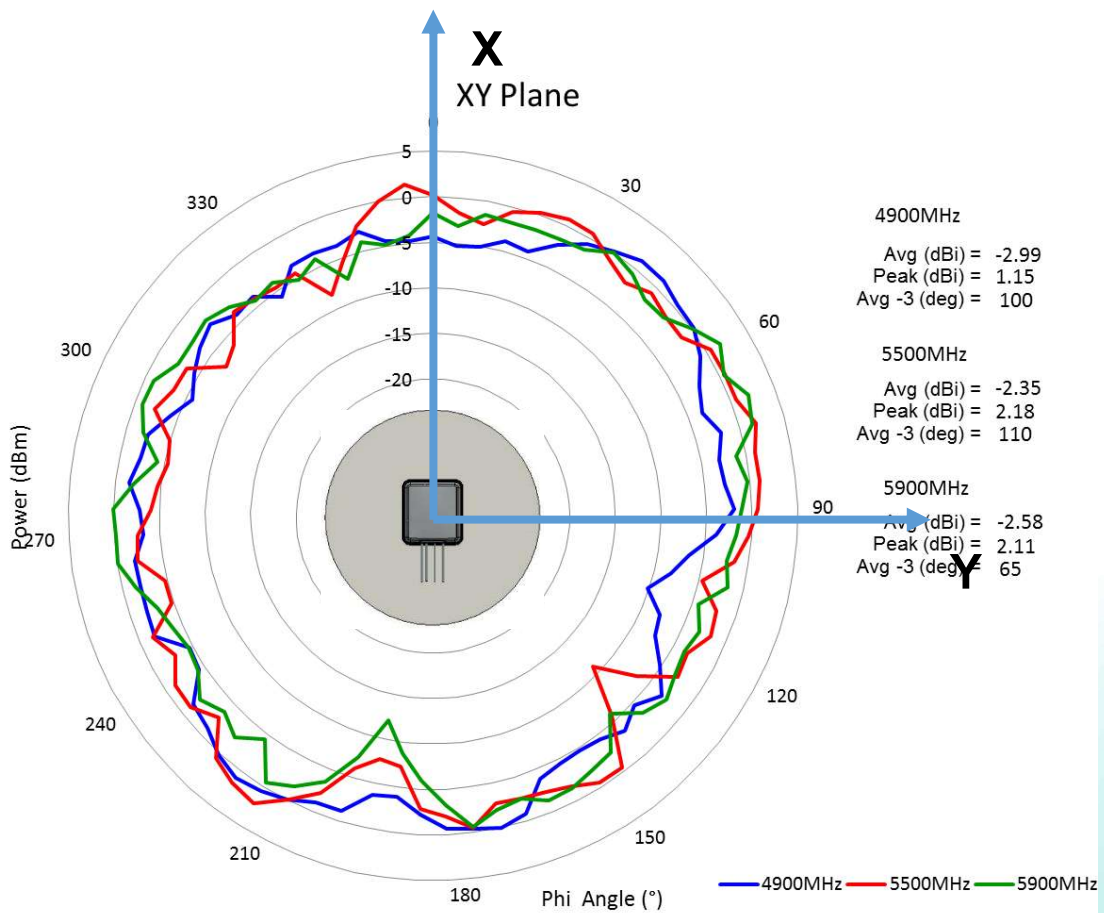
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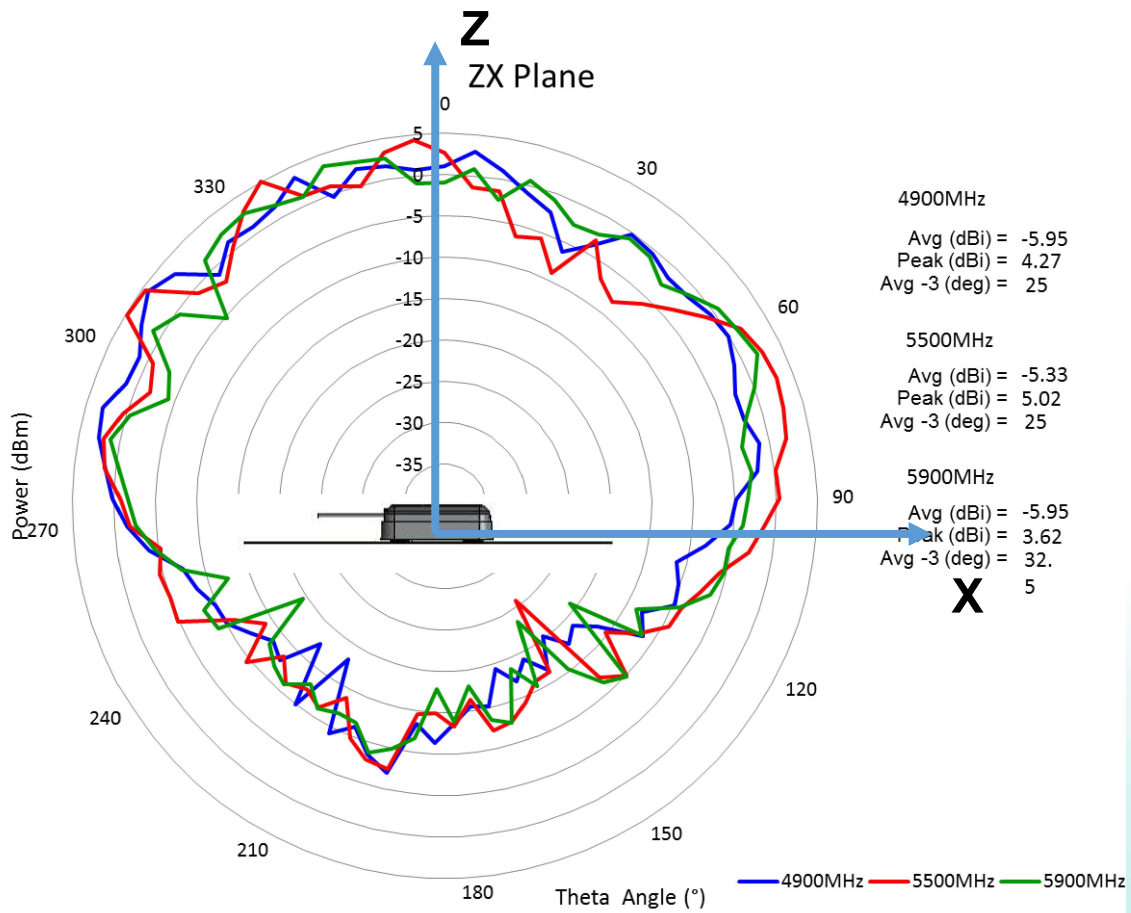
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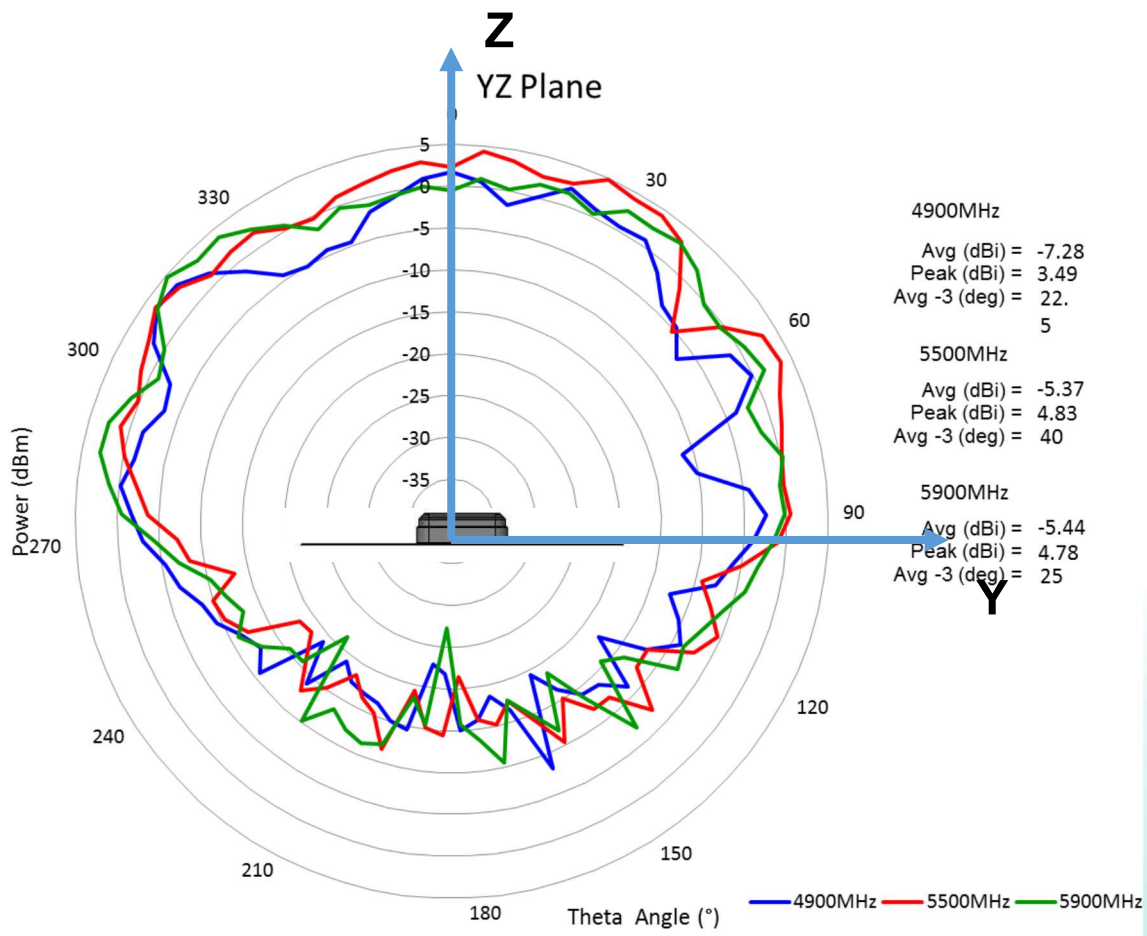
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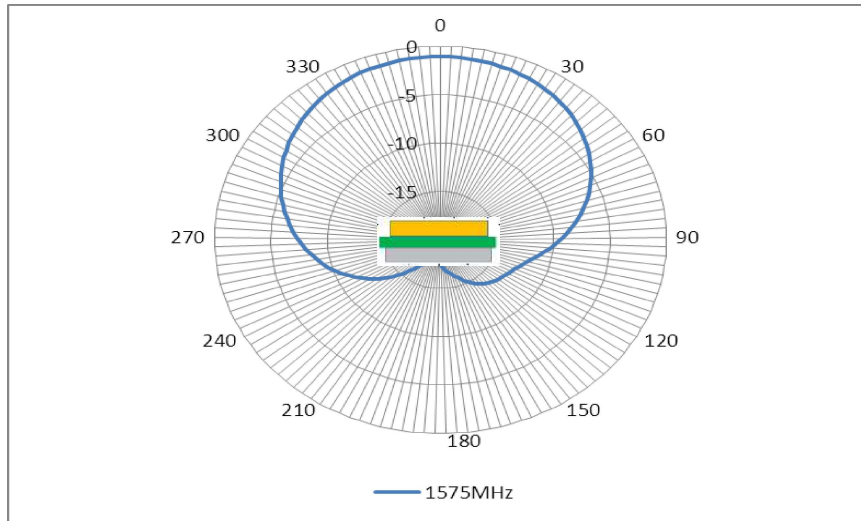
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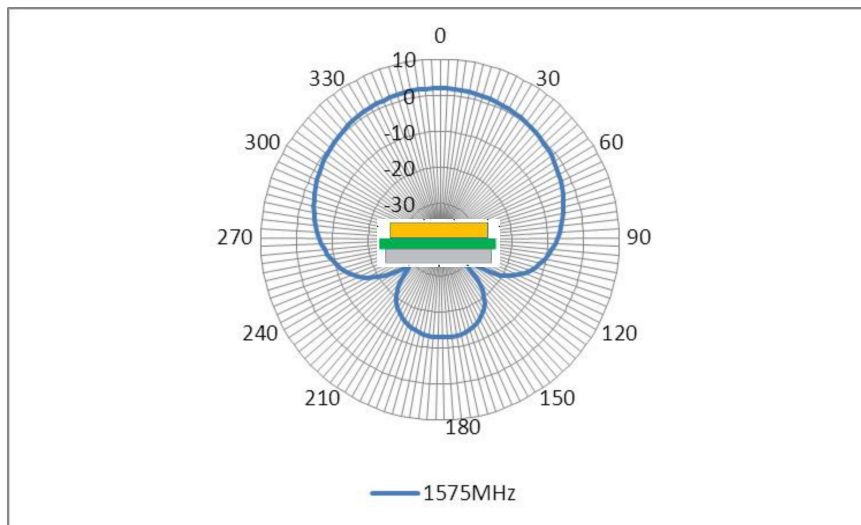
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CHARTS

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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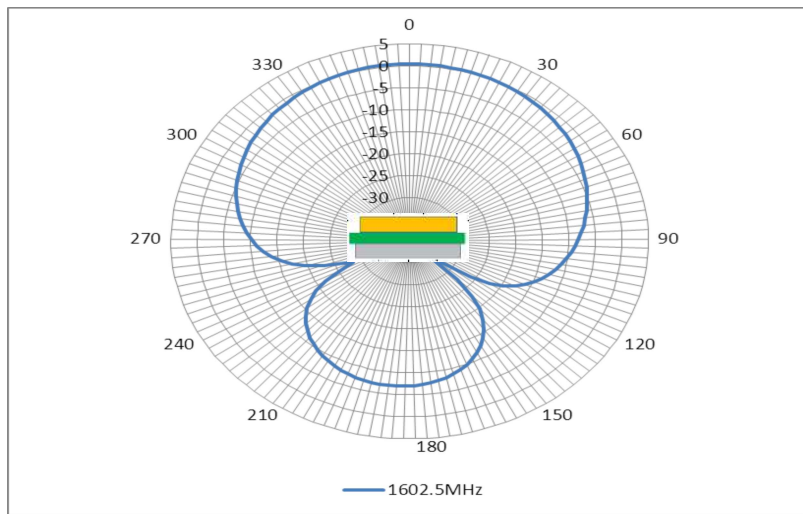
Description: 2xLTE, WiFi, GNSS Multiband Vehicular Antenna

Series: Low Profile MB

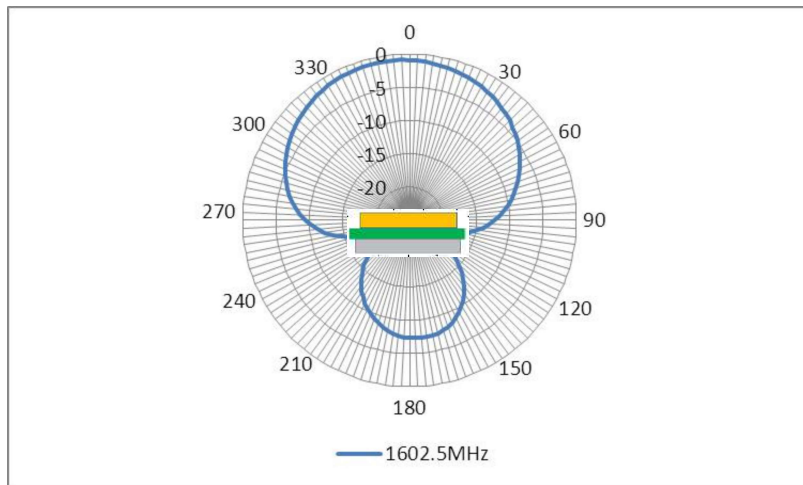
PART NUMBER: GPSPMB403

CHARTS

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



25 X 25 X 4mm Ceramic Antenna



25 X 25 X 4mm Ceramic Antenna

Issue: 1717

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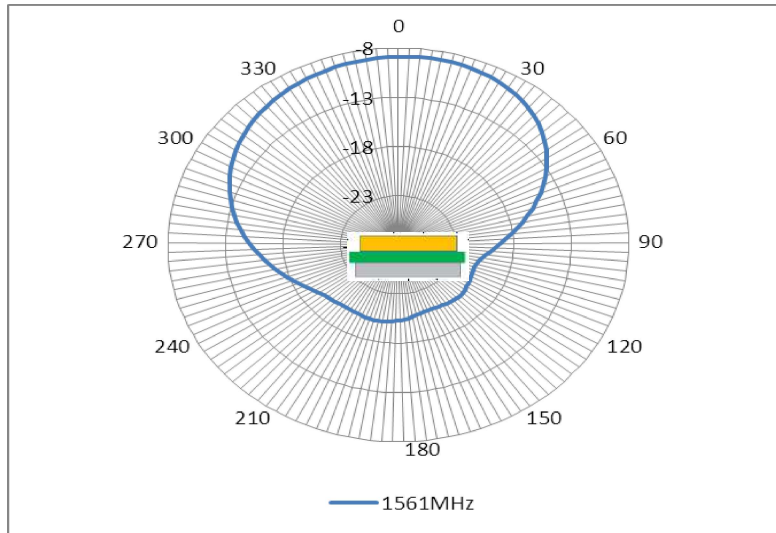
Description: 2xLTE, WiFi, GNSS Multiband Vehicular Antenna

Series: Low Profile MB

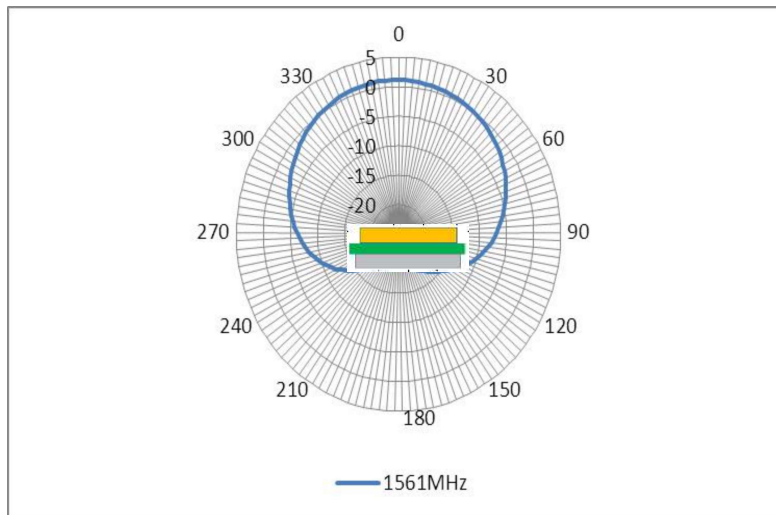
PART NUMBER: GPSPMB403

CHARTS

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



25 X 25 X 4mm Ceramic Antenna



25 X 25 X 4mm Ceramic Antenna

Issue: 1717

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Description: 2xLTE, WiFi, GNSS Multiband
Vehicular Antenna

Series: Low Profile MB

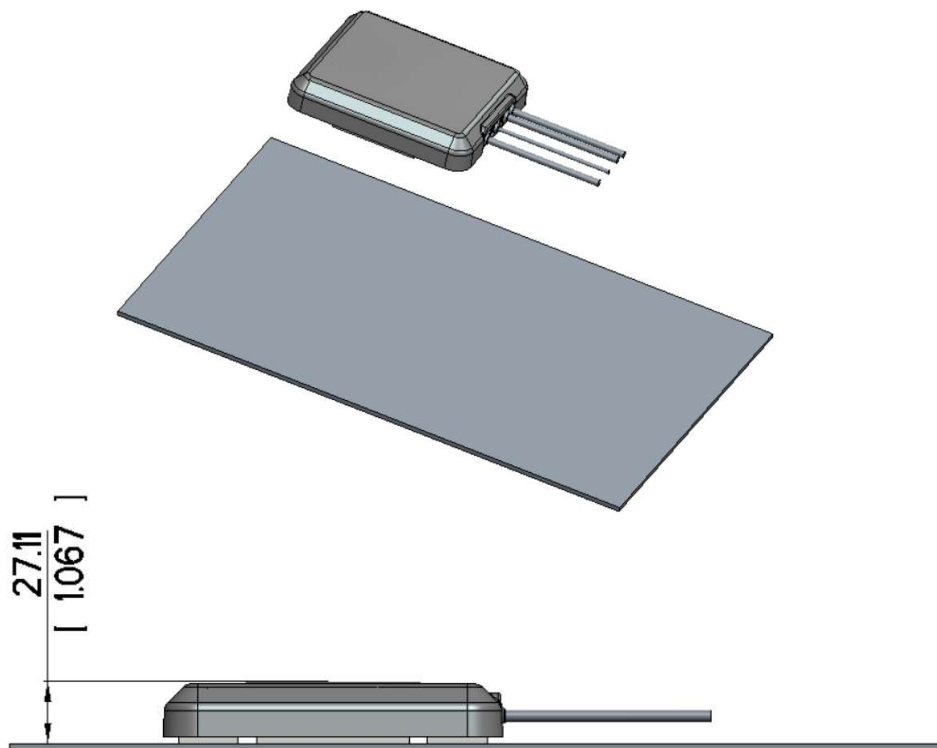
PART NUMBER: GPSPMB403

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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Description: 2xLTE, WiFi, GNSS Multiband Vehicular Antenna

Series: Low Profile MB

PART NUMBER: GPSPMB403

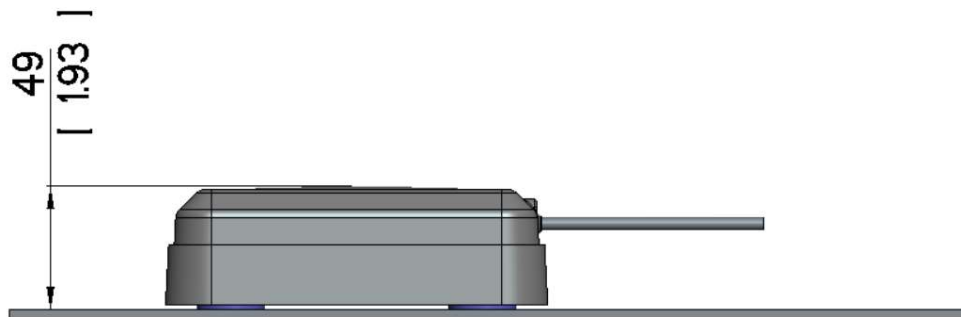
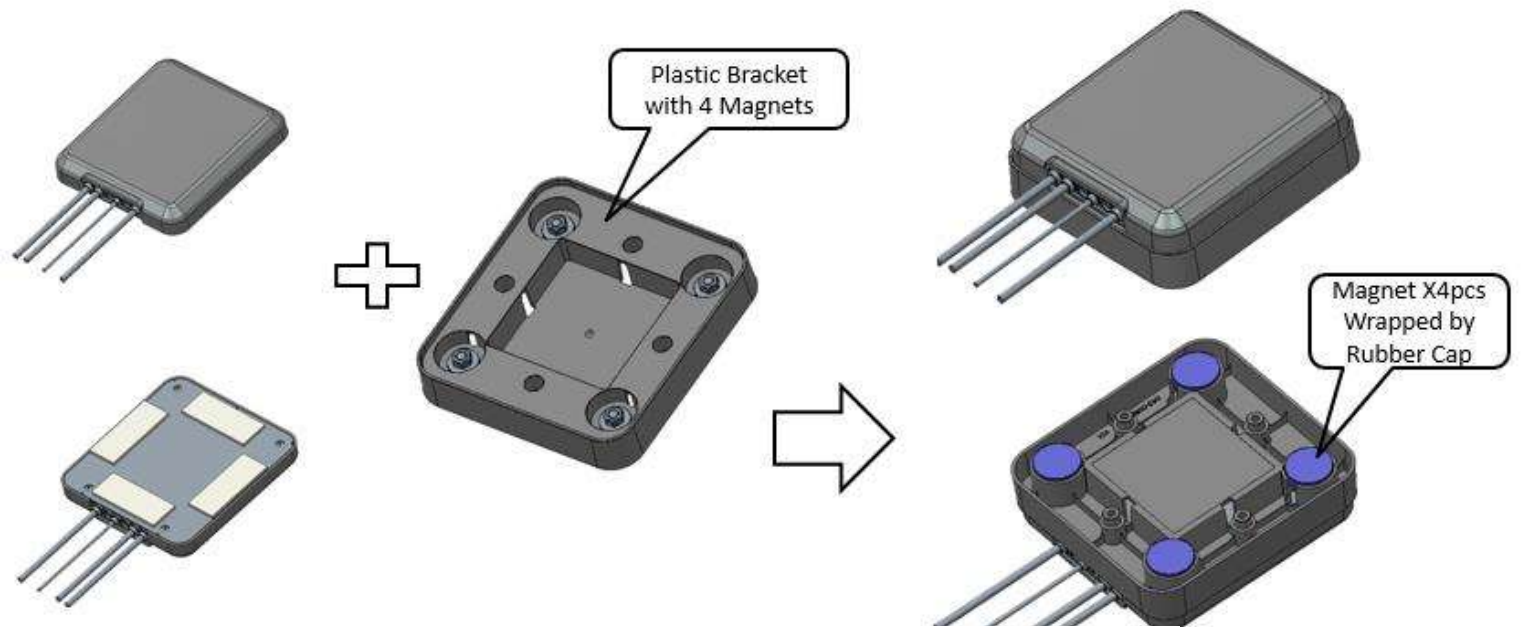
ASSEMBLY

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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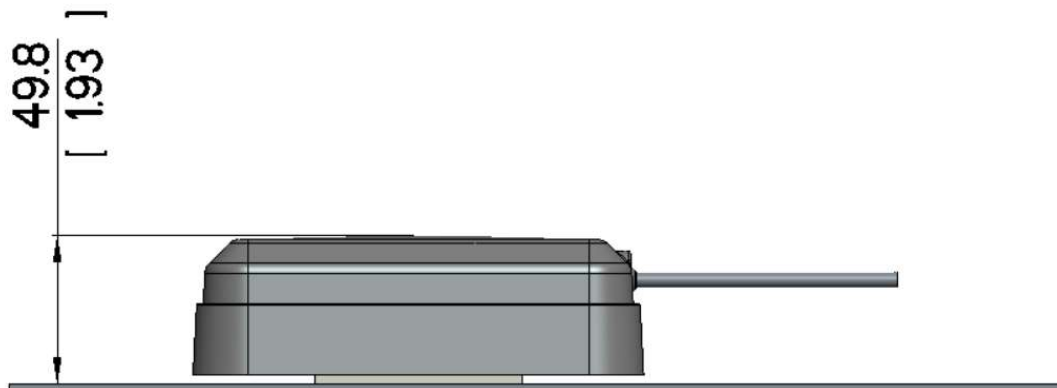
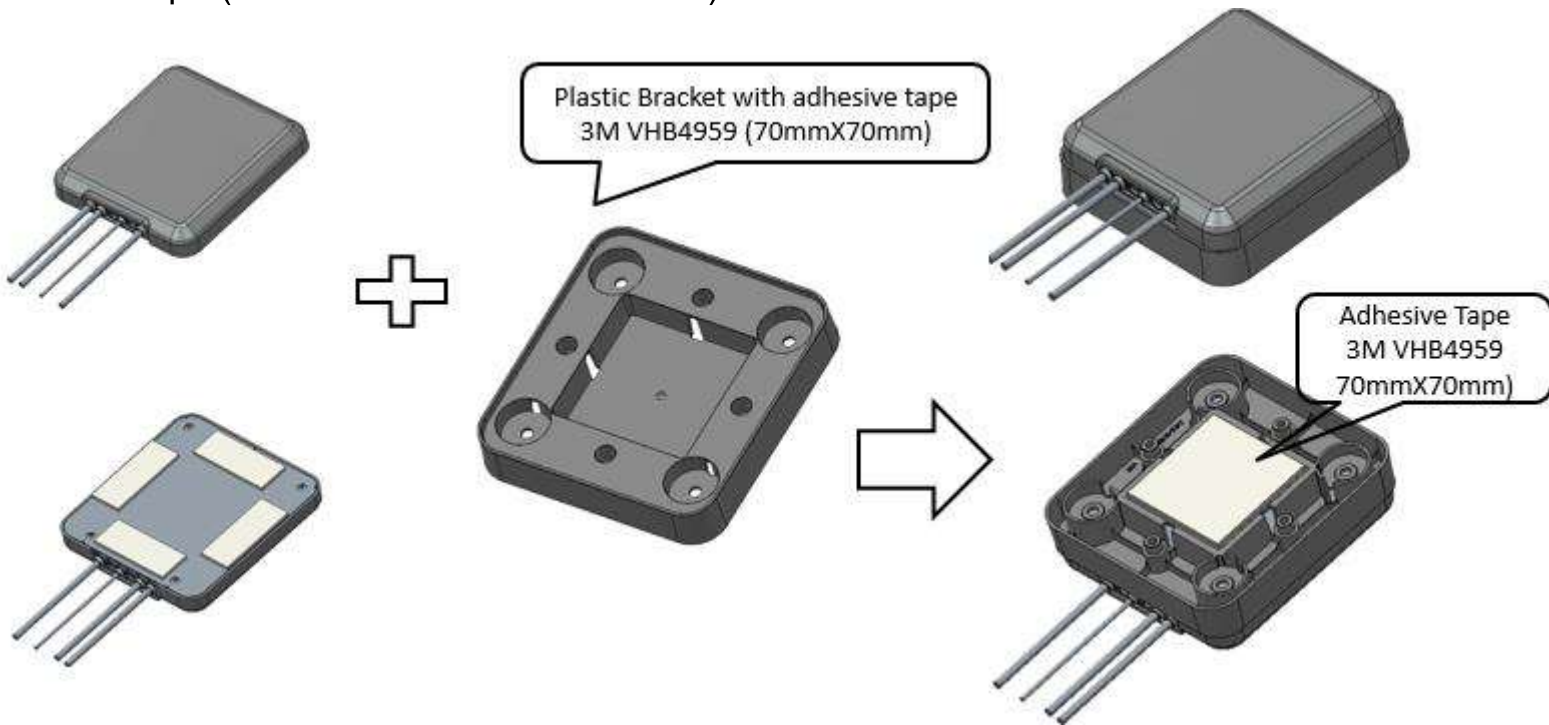
PART NUMBER: GPSPMB403

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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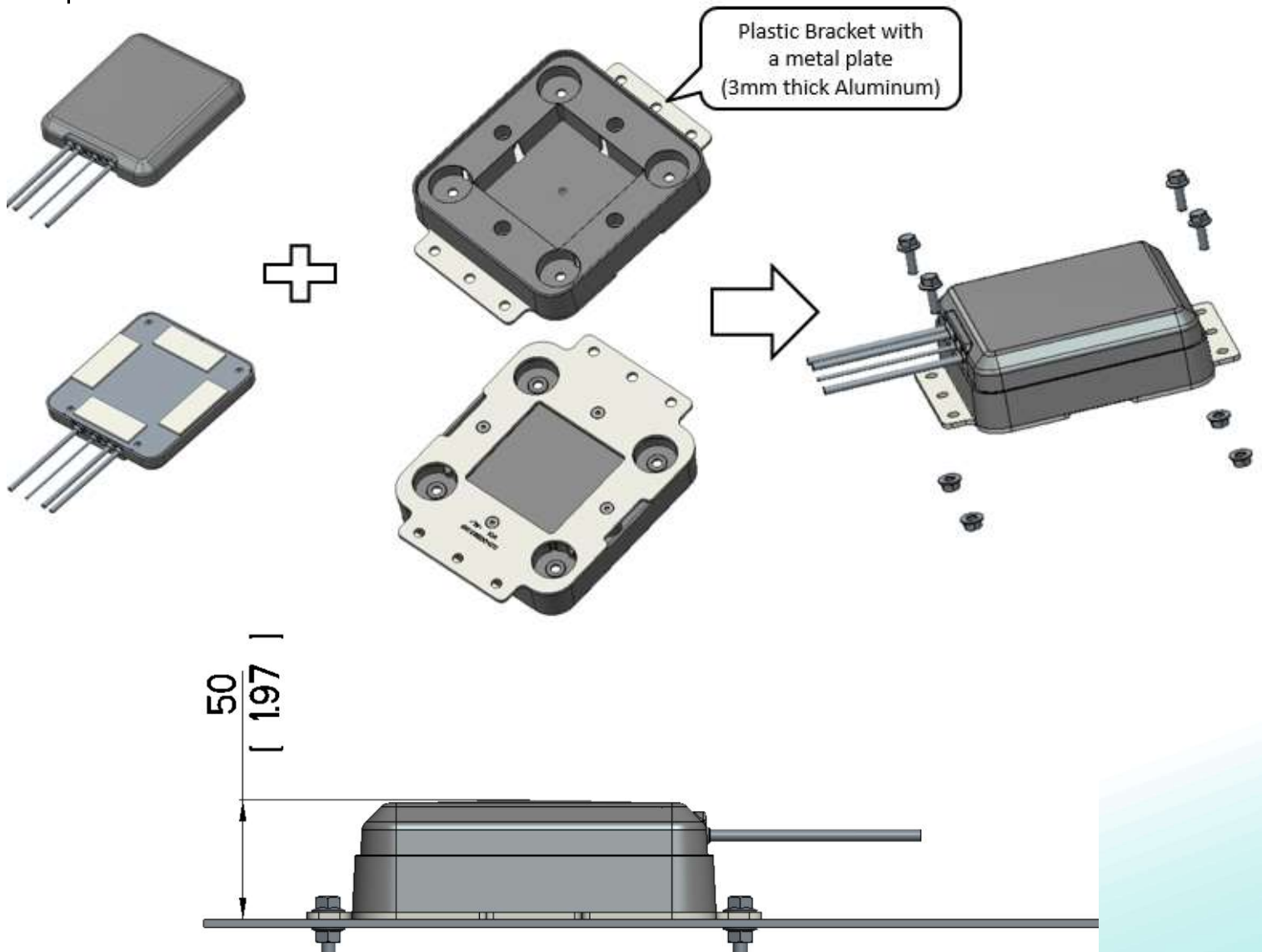
ASSEMBLY

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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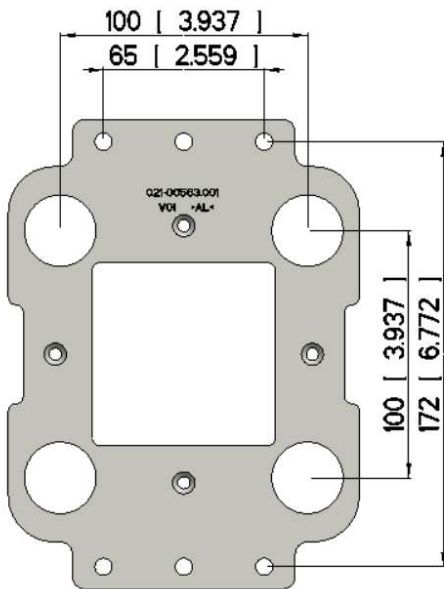
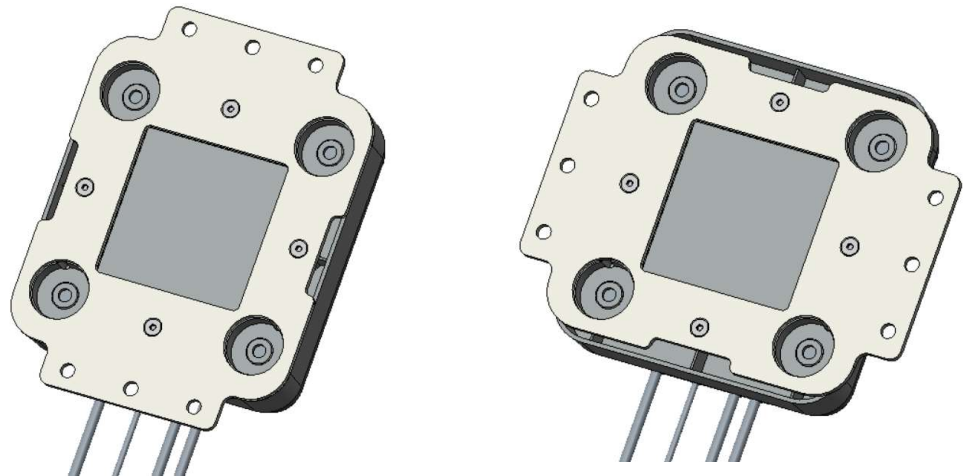
ASSEMBLY

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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