

TECHNICAL DATA SHEET Description: 2xLTE, WiFi, GNSS Multiband

## Series: Jaguar

Vehicular Antenna

### PART NUMBER: GPSLPMB401



### 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

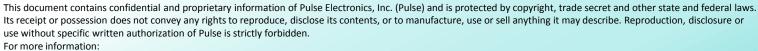
### **Applications:**

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

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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
Frequency Nominal Impedance	2400-2500/4900-5900 50	MHz Ω
Nominal Impedance	50	Ω
Nominal Impedance VSWR @2400-2500MHz	50 4	Ω Max
Nominal Impedance VSWR @2400-2500MHz VSWR @4900-5900MHz	50 4 3	Ω Max Max
Nominal Impedance VSWR @2400-2500MHz VSWR @4900-5900MHz Average Efficiency(2400-2500MHz)	50 4 3 46	Ω Max Max %

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### **ELECTRICAL SPECIFICATIONS**

GPS			
Frequency	1561.098±2.046/ 1575.42±1.023	1602.5625	5±4 MHz
Nominal Impedance		50	Ω
VSWR		2:1	
Gain (Radiating element)		1 dBi	c +/- 1 dB
Gain (LNA gain) 30 c	dB +/- 2 dB		
Polarization		RHCF	C
Out of Band Rejectio	n		
		698 N	/Hz >70 dB
		960N	/Hz >65 dB
		1710N	/Hz >60 dB
		2170N	/Hz >65 dB
		2400MHz >65 dB	
Noise Figure		<2.4	dB
Operating Voltage		3.3-5	Vdc±0.5V
Current Consumption	n	<11	mA
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### ELECTRICAL SPECIFICATIONS

Cable and Connector type

ltem	GPSLPMB403 RF Cables	Cable Type	Cable Length	Connector
1	LTE-1	LMR195	3 meters [ 118.11" ]	SMA Male
2	WiFi	LMR195		RP-SMA Male
3	GPS	LMR100		SMA Male
4	LTE-2	LMR195		SMA Male

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### **MECHANICAL SPECIFICATIONS**

Plastic radome	SABIC PC943	
Color	Black	
Ingress Protection	IP67	
Weight	400 g	
Cable retention: Pull off	30N mini	
Fixing system	3M VHB4959 (T=3mm)	

### **ENVIRONMENTAL SPECIFICATIONS**

Operating temperature

-40 ~ +85 ° C

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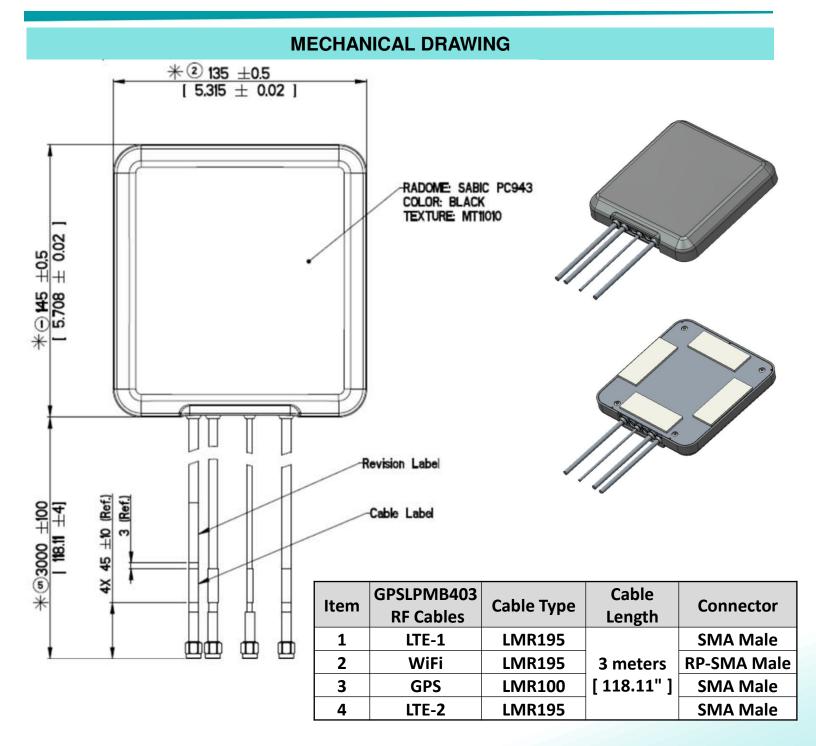
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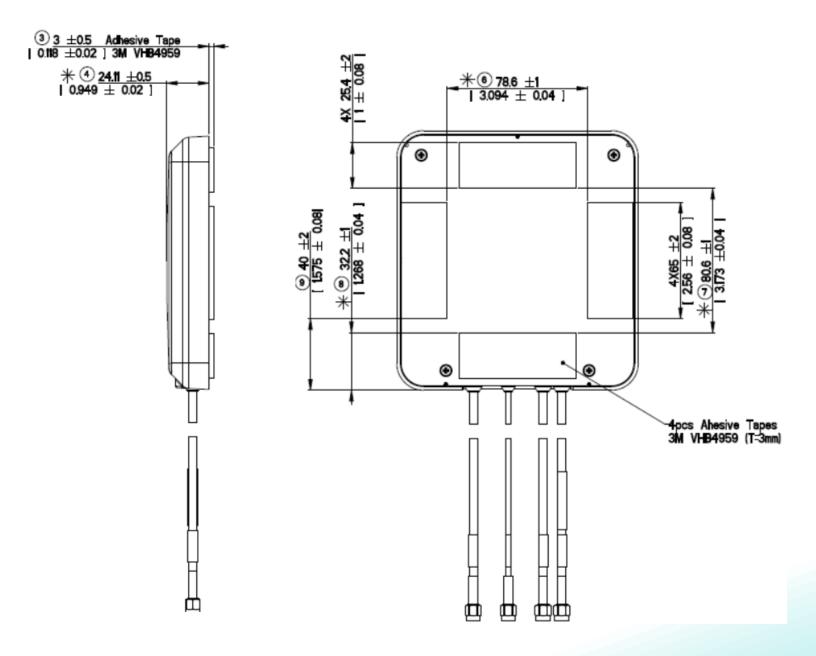


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### **MECHANICAL DRAWING**



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### **CHARTS**

## LTE 1 and LTE2 VSWR

VSWR VS Frequency measured in free space 6 5.5 5 4.5 4 VSWR 3.5 3 2.5 2 1.5 1 00 ~100 1300 2700 2900 100 ,500 ,700 1900 2300 2500 2700 500 Frequency,MHz -LTE 1 -----LTE 2 --Spec

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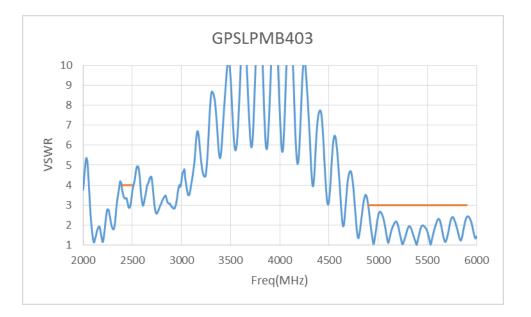
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### CHARTS

## WiFi VSWR\*



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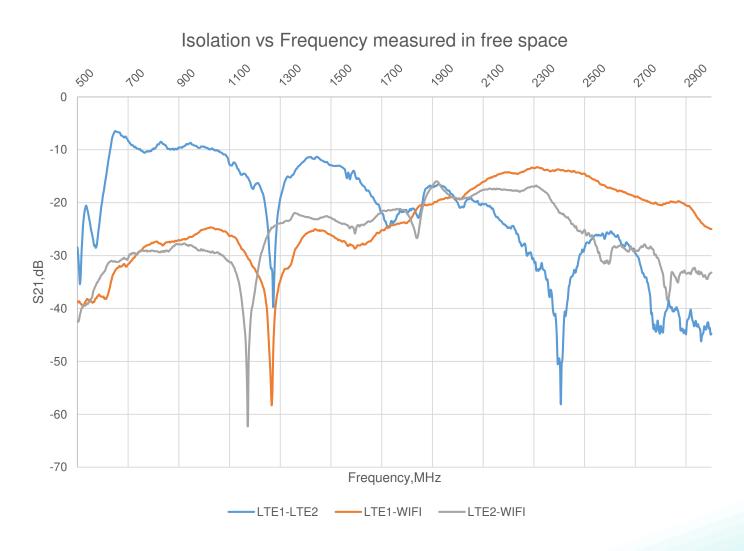
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### **CHARTS**

## Isolation



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ROHS 10



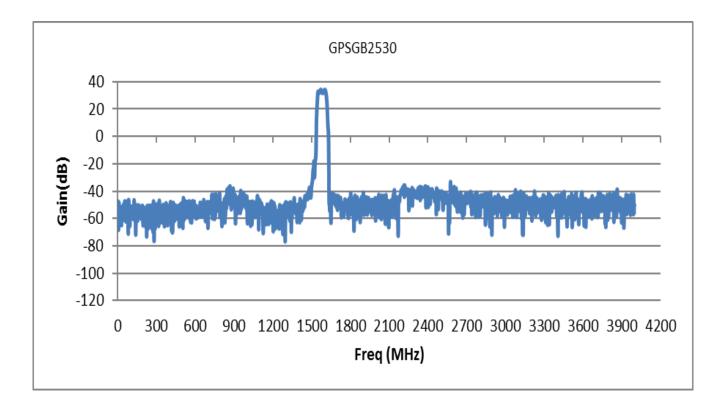
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**CHARTS** 

# GPS LNA Gain and out-of-band rejection



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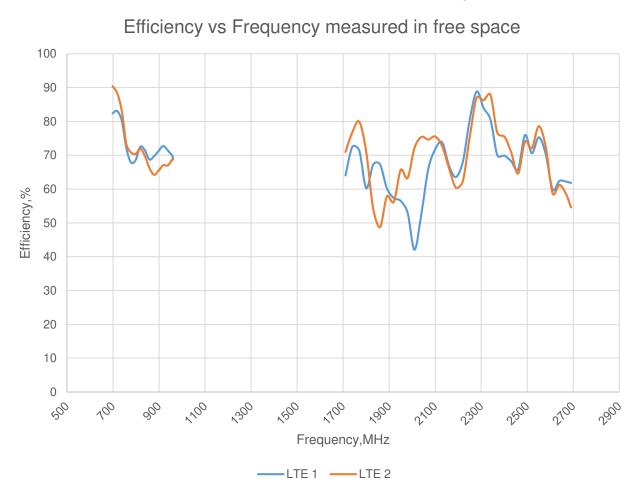
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**CHARTS** 

## LTE 1 and LTE2 Efficiency



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ROHS 12



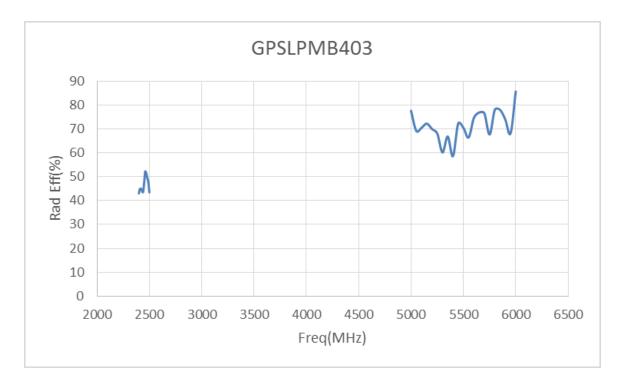
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## WiFi Efficiency\*



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

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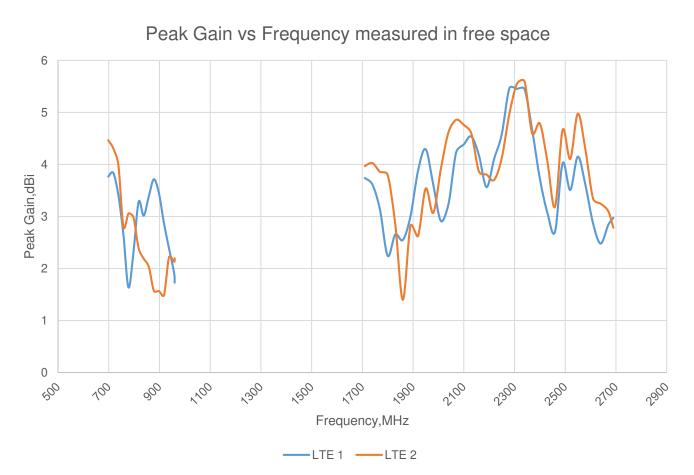
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**CHARTS** 

## LTE1 and LTE2 Peak Gain



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ROHS 14



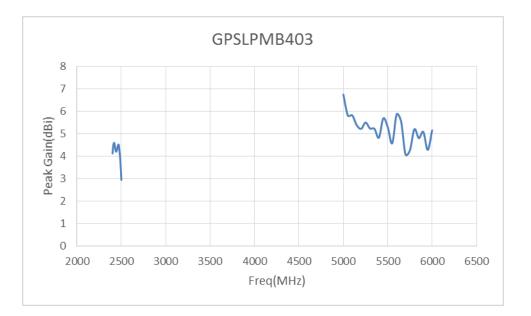
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## WiFi Peak Gain\*



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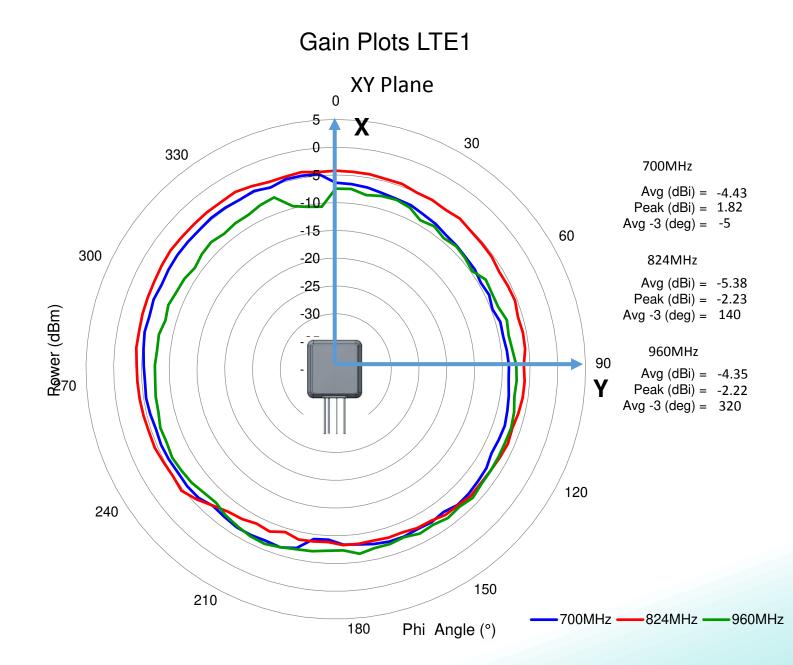


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RoHS

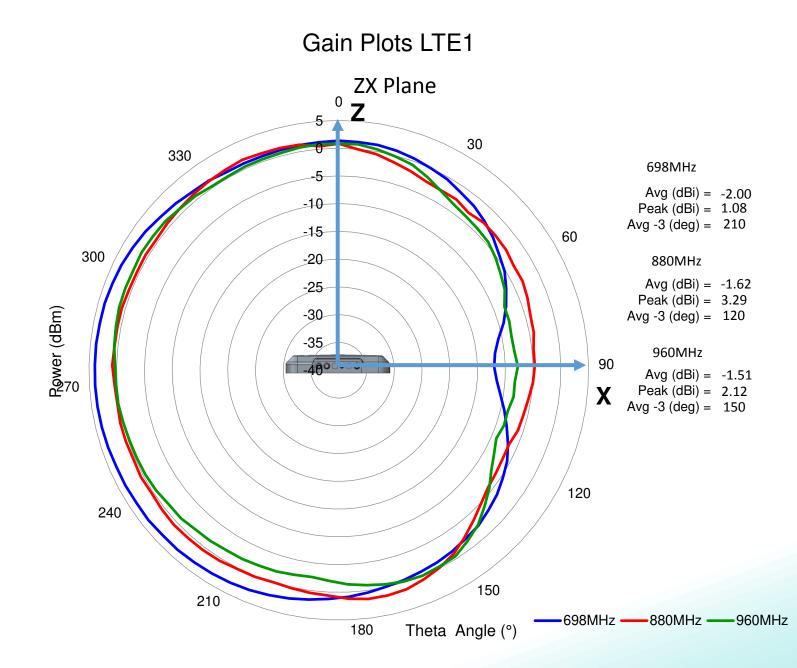


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ROHS 17

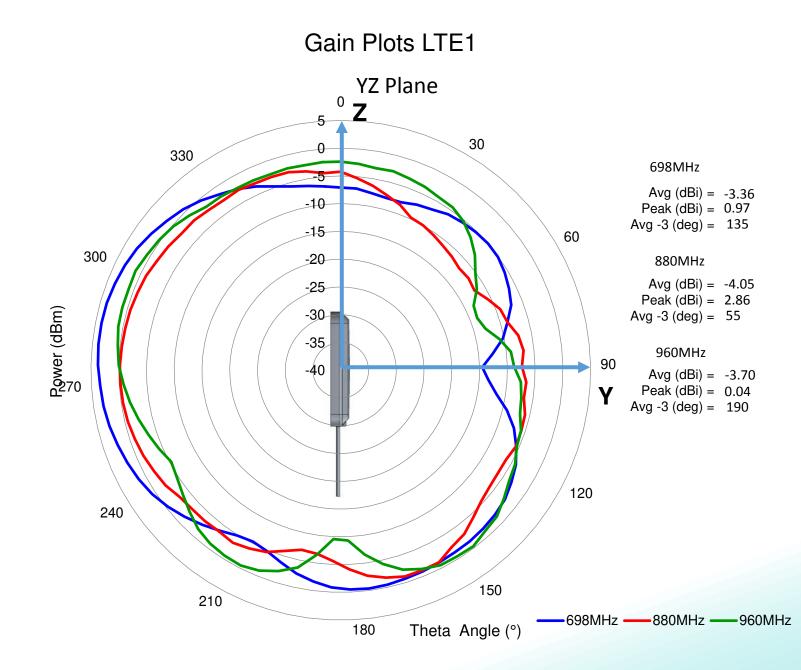


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ROHS 18

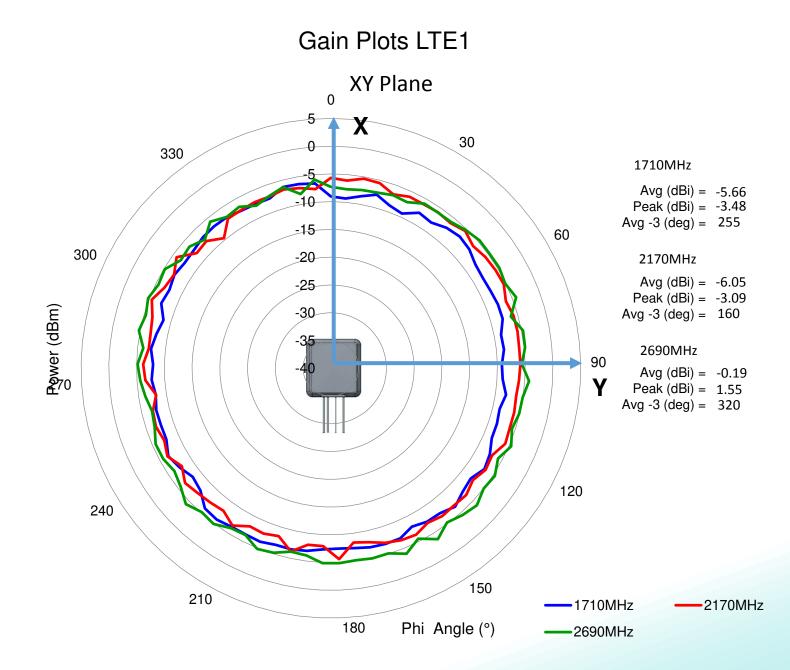


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ROHS 19

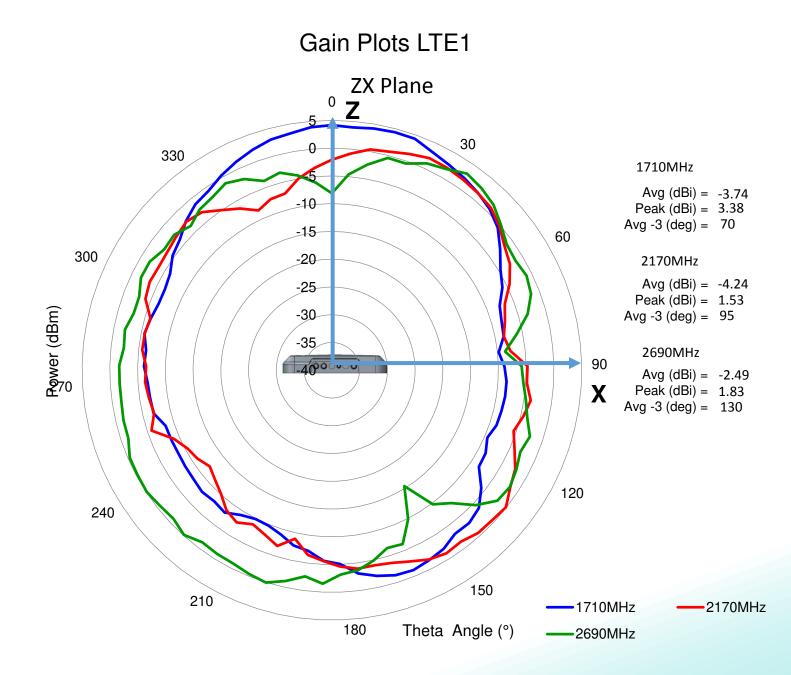


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ROHS 20

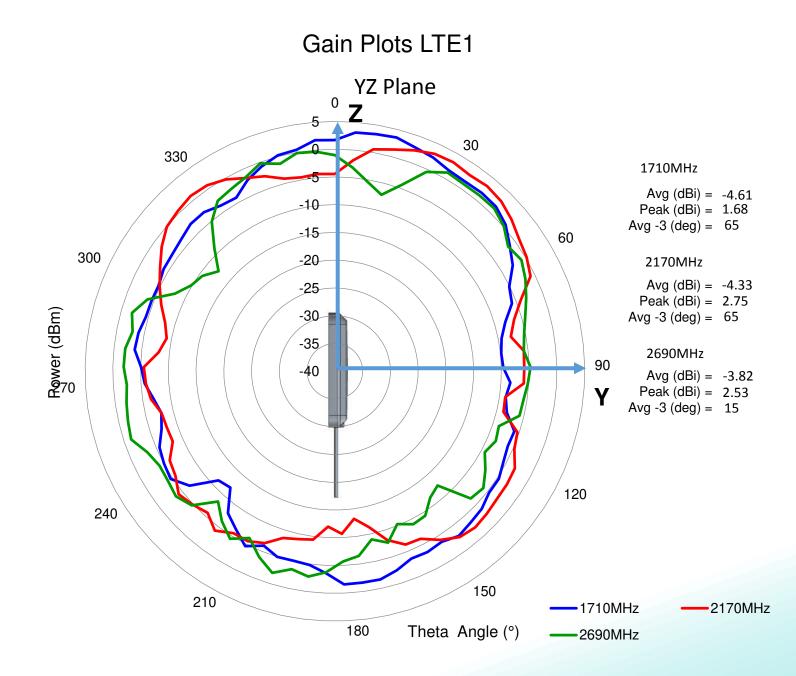


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ROHS 21

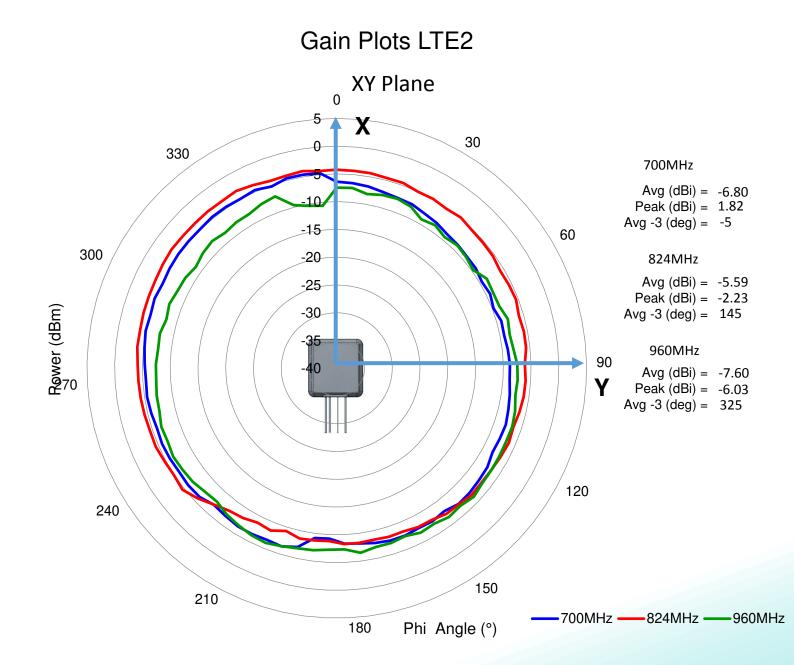


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ROHS 22

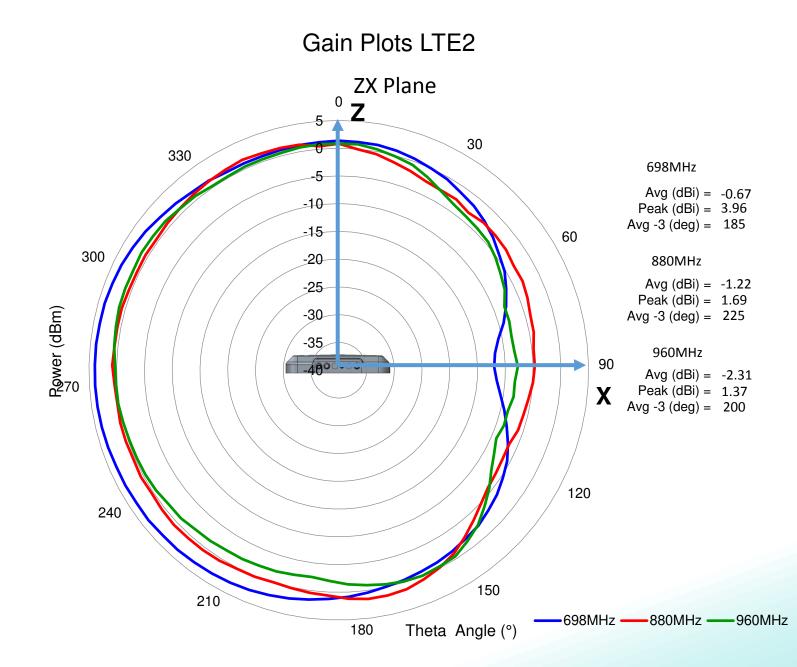


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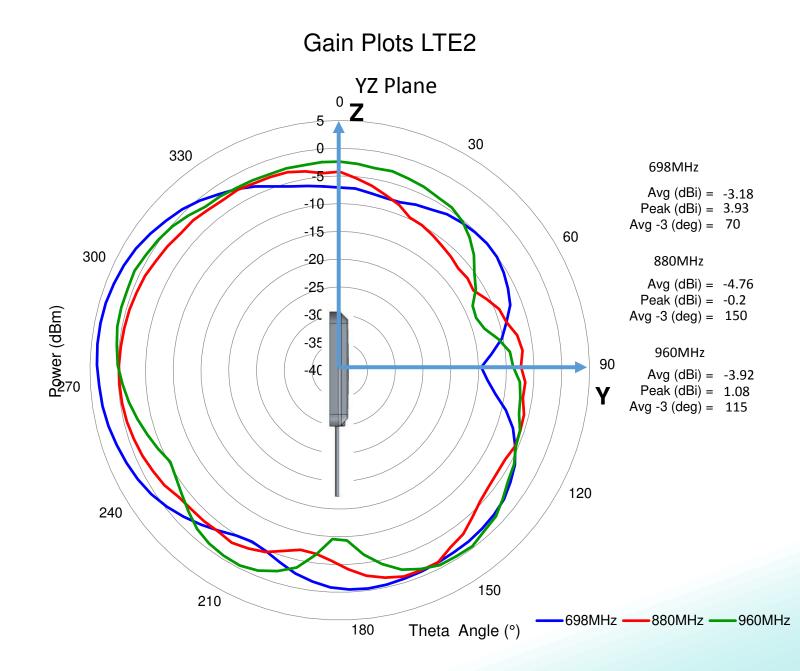


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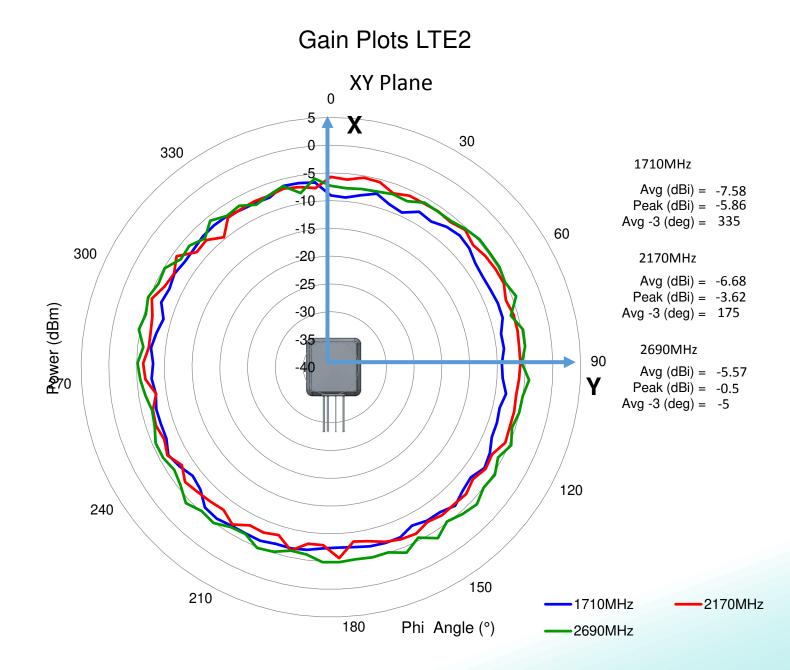


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RoHS

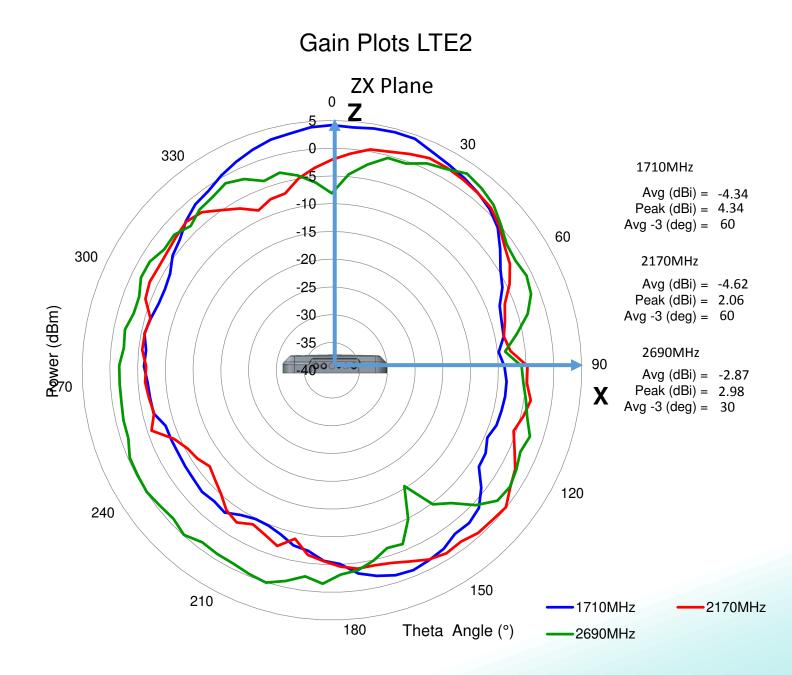


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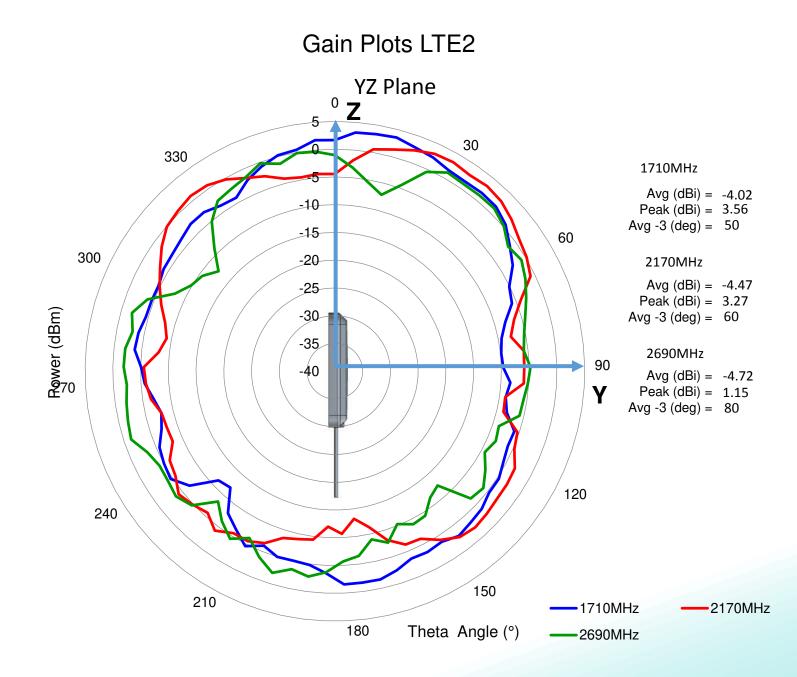


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ROHS 27



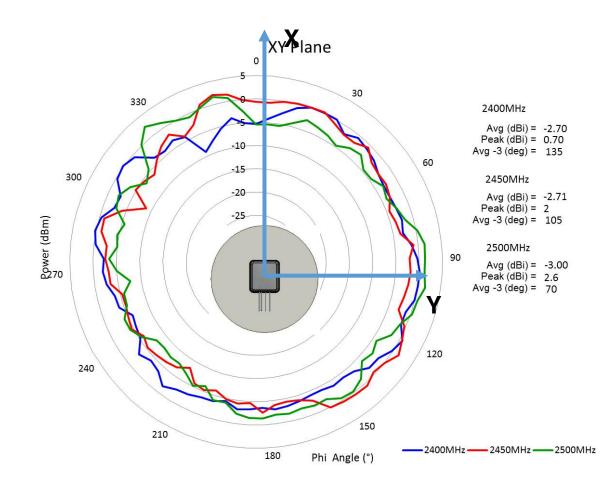
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### CHARTS

## Gain Plots WIFI\*



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

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### **CHARTS**

Gain Plots WIFI\*

#### Ζ ZX Plane 30 330 2400MHz -5 Avg (dBi) = -7.35 Peak (dBi) = 1.78 -10 Avg -3 (deg) = 17. -15 60 5 300 -20 2450MHz Avg (dBi) = -5.44 Peak (dBi) = 3.05 -25 Power (dBm) 02 -30 Avg -3 (deg) = 32. 5 -35 2500MHz 90 -40 Avg (dBi) = -5.87 Peak (dBi) = 2.76 Avg -3 (deg) = 27. 5 Х 120 240

180

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

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Theta Angle (°)

2400MHz - 2450MHz - 2500MHz



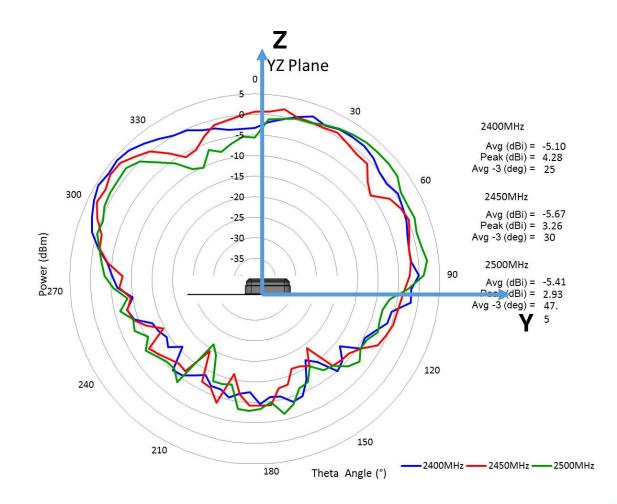
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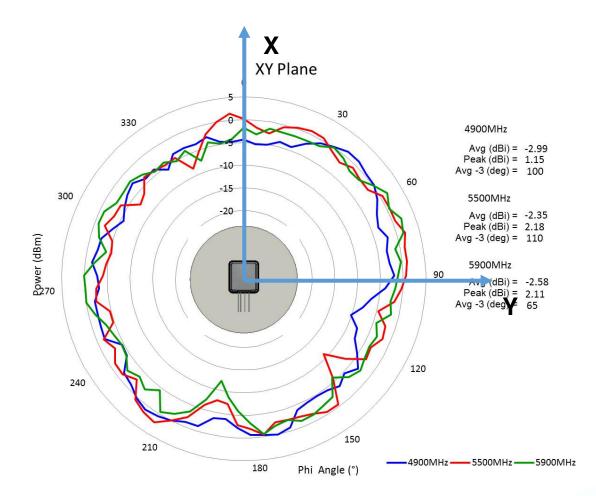
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ROHS 31



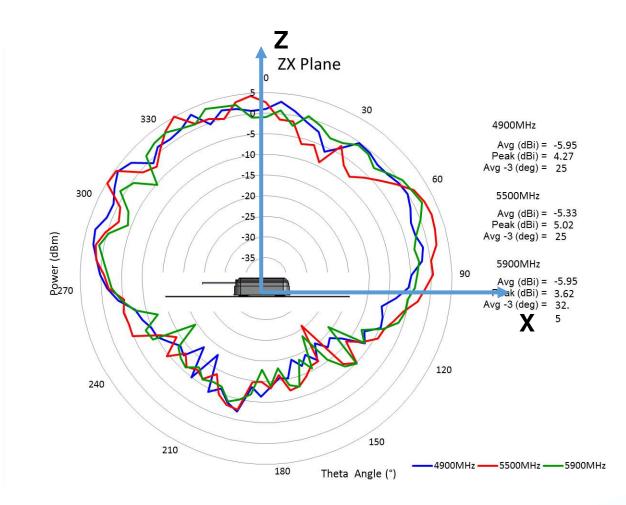
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ROHS 32



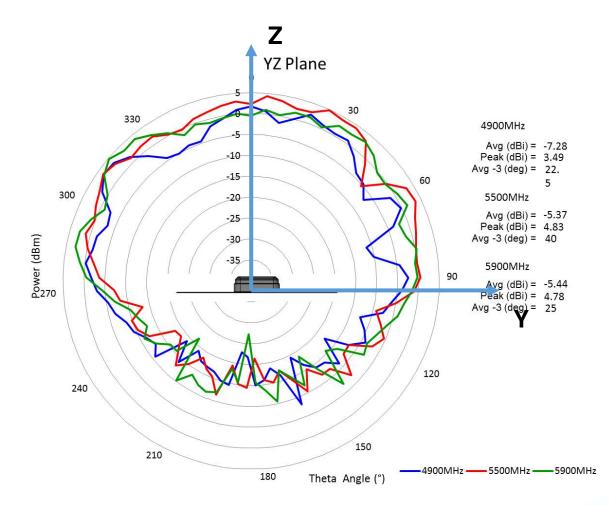
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ROHS 33



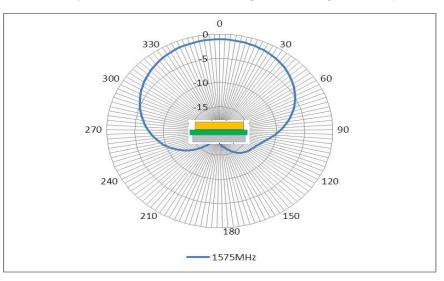
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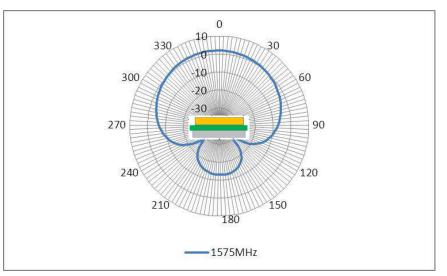
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### CHARTS

## 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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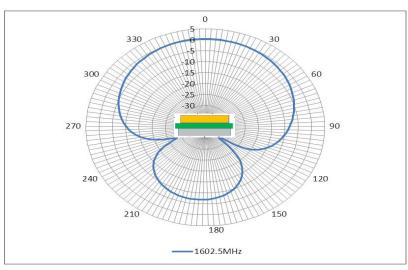
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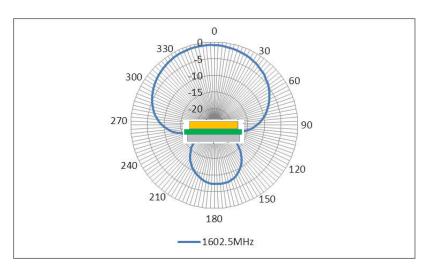
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### CHARTS

## 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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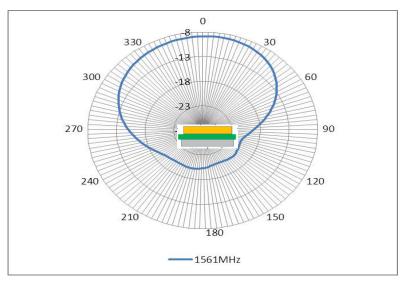
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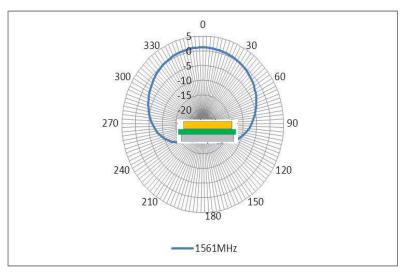
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### CHARTS

## 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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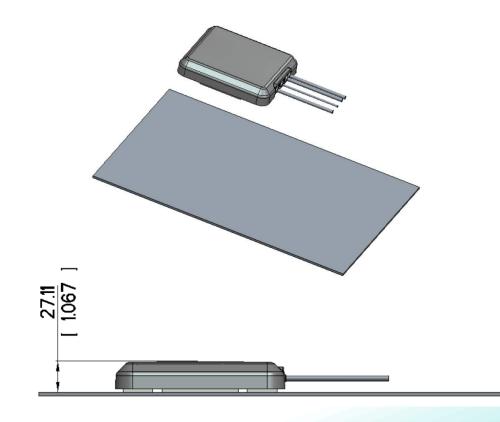
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### PACKAGING

- Each antenna packed in a plastic bag
- 12 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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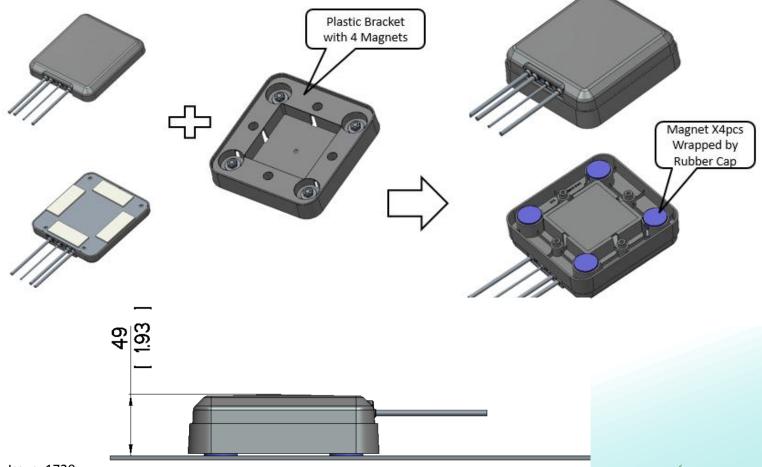
**Mounting with a plastic bracket**: When this antenna applied to the metal surface, a plastic bracket is needed to elevate the antenna 1" for the optimum RF performance.

## **Option 1, LPMB4BRACKETMM 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 be attached on the iron metals by magnets, and also could be removed from the metal surface easily without surface damage.



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Description: 2xLTE, WiFi, GNSS Multiband Vehicular Antenna

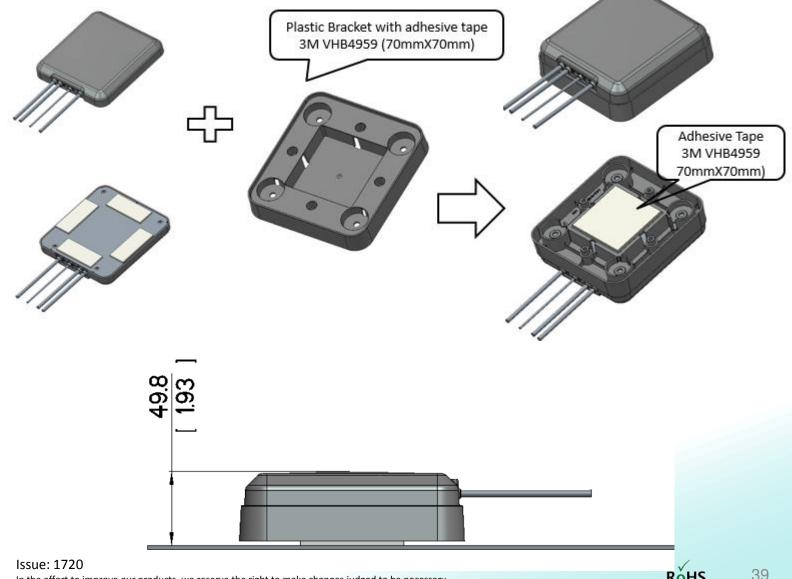
## Series: Jaguar

PART NUMBER: GPSLPMB401

### ASSEMBLY

## **Option 2, LPMB4BRACKETAM 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).



In the effort to improve our products, we reserve the right to make changes judged to be necessary. CONFIDENTIAL AND PROPRIETARY INFORMATION

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