

TECHNICAL DATA SHEET

Description: 2X LTE, 2XWiFi Vehicular

Antenna

PART NUMBER: LPMB401



Features:

- 2xMiMo 698-960/1710-2690MHz
- WiFi 2400-2500/4900-5900MHz
- 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
- Fleet management
- Utility Vans (Gas, Water, Electricity)

All dimensions are in mm / inches

Issue: 1839

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Europe Headquarters Pulse GmbH & Do, KG Zeppelinstrasse 15 Herrenberg, Germany Tel: 49 7032 7806 0 Pulse (Suzhou) Wireless Products Co, Inc. 99 Huo Ju Road(#29 Bldg,4th Phase Suzhou New District Jiangsu Province, Suzhou 215009 PR China Tel: 86 512 6807 9998



LTE Antenna

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ELECTRICAL SPECIFICATIONS

Frequency	698-960/1710-2690 MHz		
Nominal Impedance	$50~\Omega$		
VSWR(*)	2.5 Max		
Average Efficiency(698-960MHz)(**)	64 %		
Average Efficiency(1710-2690MHz) (**)	57 %		
Peak Gain(698-960MHz) (**)	2.0 dBi		
Peak Gain(1710-2690MHz) (**)	4.4 dBi		
WIFI Antenna			
Frequency	2400-2500/4900-5900 MHz		
Nominal Impedance	50 Ω		
VSWR (*)	2 Max		

* Measured on 500mm ground plane with LMR195 3m cable

** Measured on 500mm ground plane with LMR195 320mm cable

Issue: 1839

63 %

73 %

3.5 dBi

4.7 dBi

Average Efficiency(2400-2500MHz) (**)

Average Efficiency(4900-5900MHz) (**)

Peak Gain(2400-2500MHz) (**)

Peak Gain(4900-5900MHz) (**)



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MECHANICAL SPECIFICATIONS

Antenna Color / Material: SABIC PC943, Black

Weight: 607g

Cable and Connector type:

LTE-1: LMR195* SMA Male

LTE-2: LMR195* SMA Male

WiFi-1: LMR195* RP-SMA Male

WiFi-2: LMR195* RP-SMA Male

* Or Equivalent

Cable length: 3 Meters

Mounting System: Adhesive Tape

3mmThick 3M VHB 4959

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature -40~ +85° C

Ingress Protection IP67
RoHS Compliant Yes





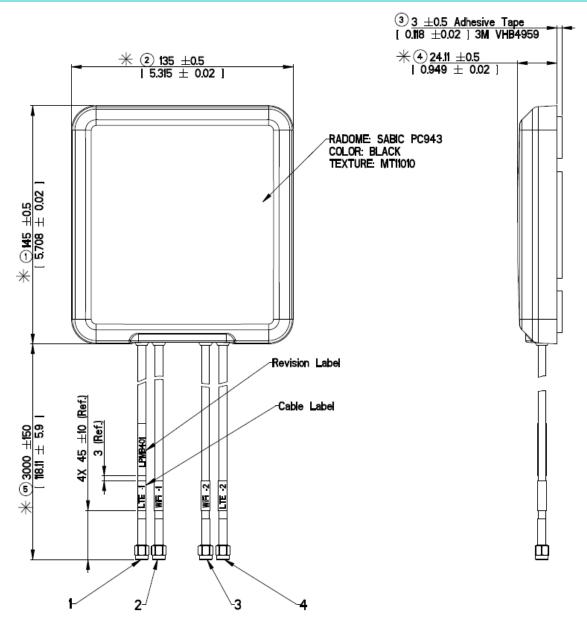
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MECHANICAL DRAWING



LPMB401	P.N.	CABLE	CABLE LENGTH	CONNECTOR
1 LTE-1 Cable Assy	125-01188.001	LMR-195:		SMA Male
2. WiFi-1 Cable Assy	125-01190.001		3 Meters 9.84FT/118.11"	RP-SMA Male
3. WiFi-2 Cable Assy	125-01191.001			RP-SMA Male
4. LTE-2 Cable Assy	125-01189.001			SMA Male

OR EQUIVALENT

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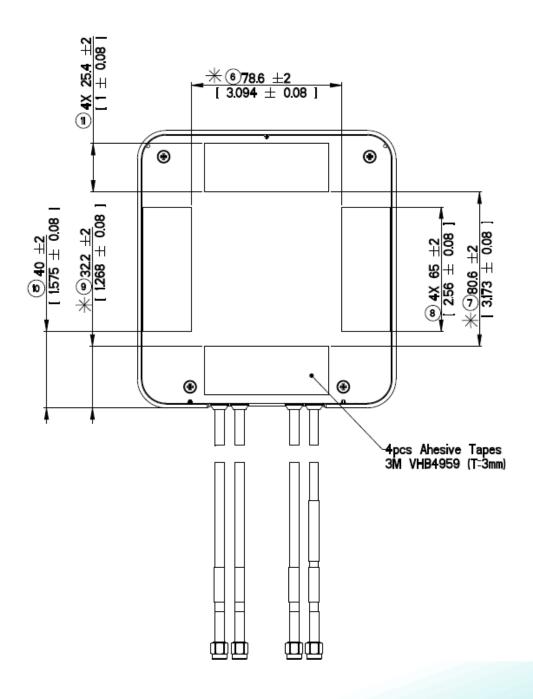
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MECHANICAL DRAWING









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TEST SETUP

Below performance test in two situation

Situation 1. Test in free space.

Situation 2. Test on 1 inch bracket with φ500mm (19.7inch) ground.

Situation 1



Free space

Situation 2



Ground plane φ =500mm(19.7inch)
Bracket height=1inch



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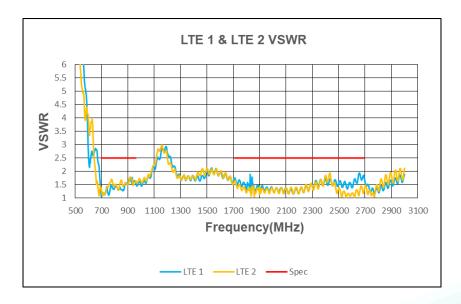
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CHARTS

Situation 1: Performance in free space



LTE 1 & LTE 2 VSWR



Note: Measured with 3m cable



TECHNICAL DATA SHEET

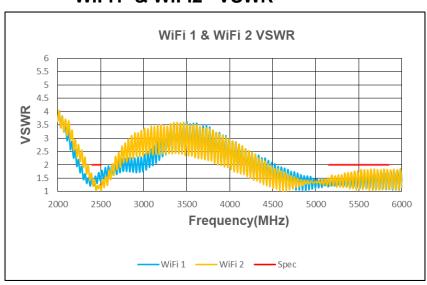
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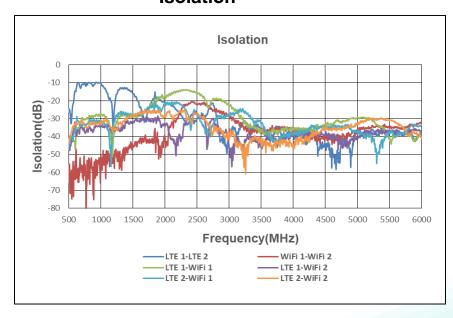
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CHARTS

WiFi1 & WiFi2 **VSWR**



Isolation



Note: Measured with 3m cable





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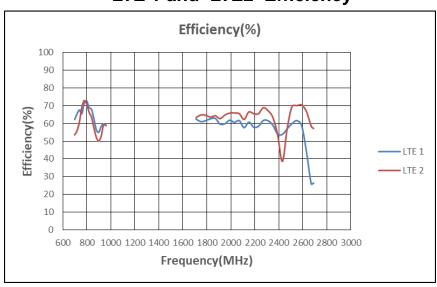
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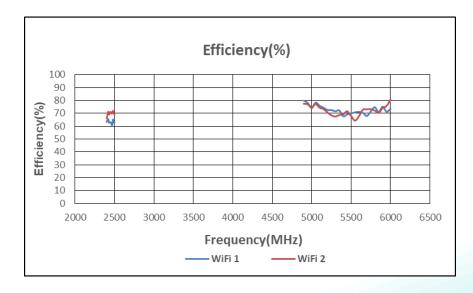
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CHARTS

LTE 1 and LTE2 Efficiency



WiFi 1 and WiFi 2 Efficiency



Note: Measured with 320mm cable

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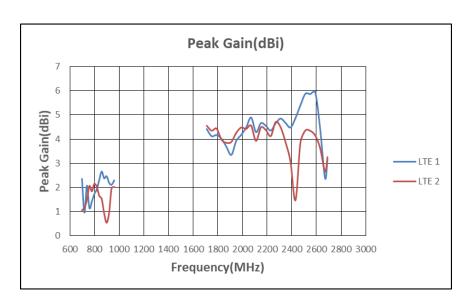
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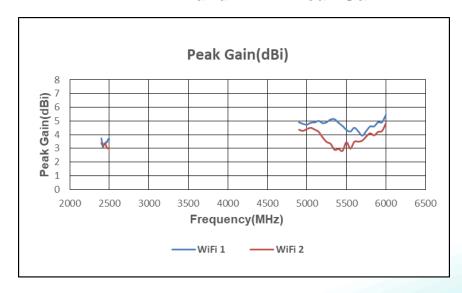
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CHARTS

LTE 1 and LTE2 Peak Gain



WiFi 1 and WiFi 2 Peak Gain



Note: Measured with 320mm cable



ROHS

10



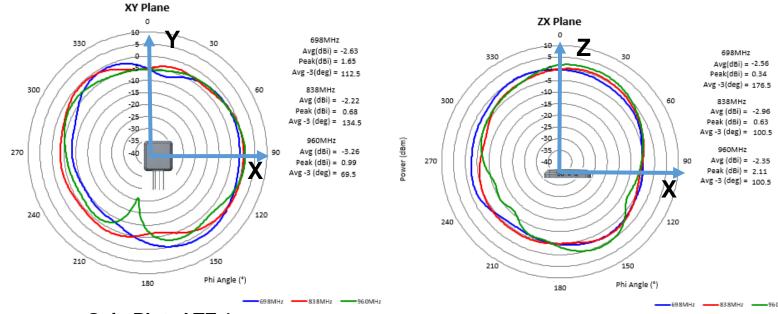
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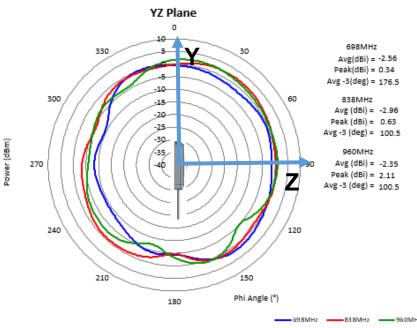
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CHARTS



Gain Plots LTE 1

Gain Plots LTE 1



Gain Plots LTE 1

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Power (dBm)



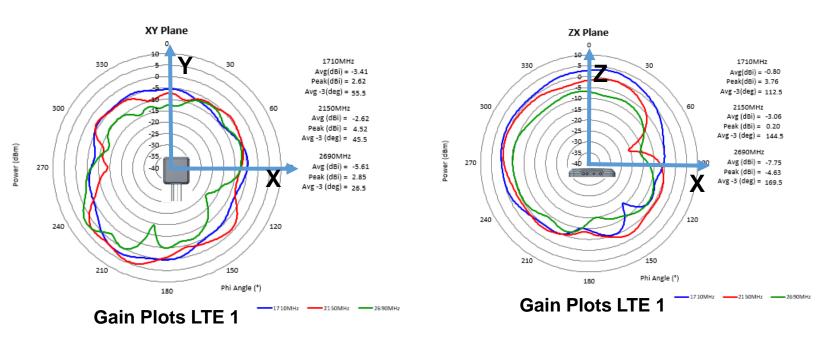
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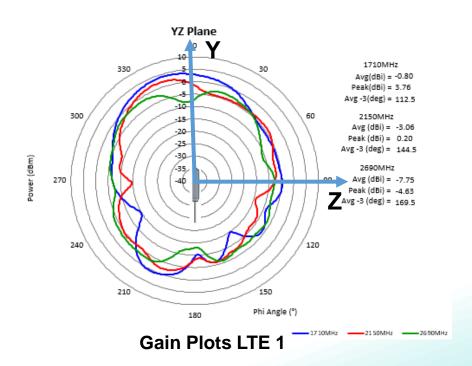
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CHARTS









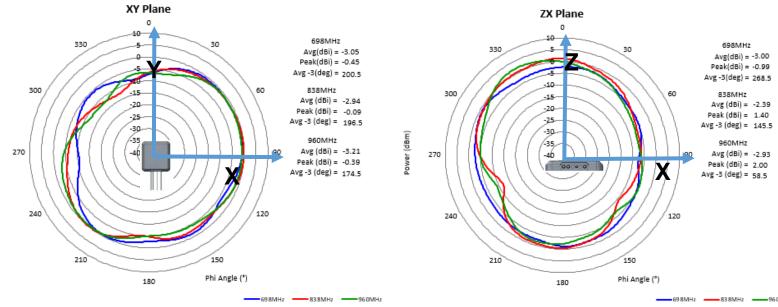
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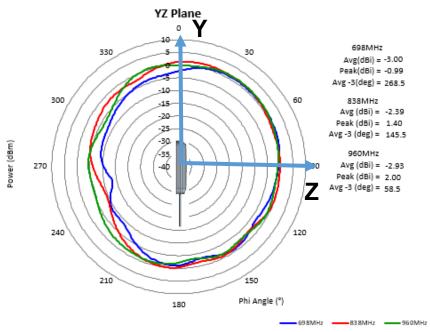
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CHARTS



Gain Plots LTE 2

Gain Plots LTE 2



Gain Plots LTE 2

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Power (dBm)



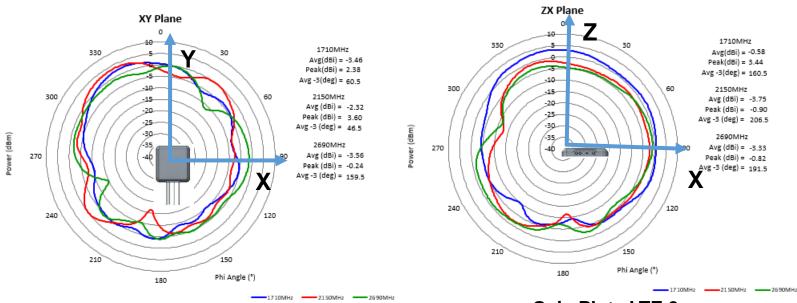
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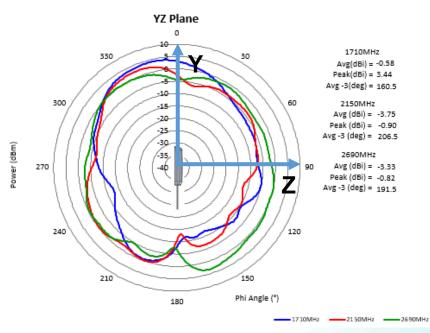
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CHARTS



Gain Plots LTE 2

Gain Plots LTE 2



Gain Plots LTE 2

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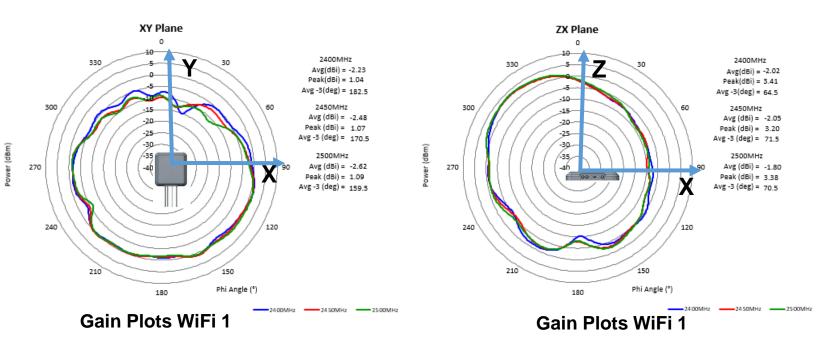
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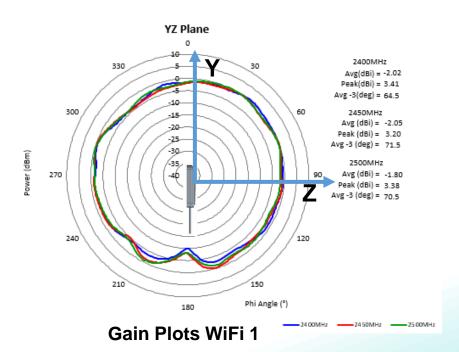
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CHARTS





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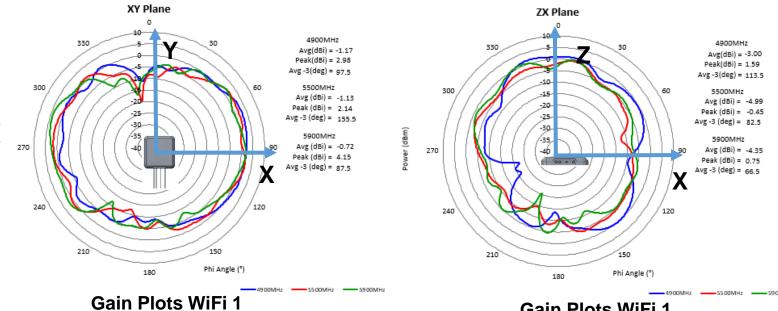
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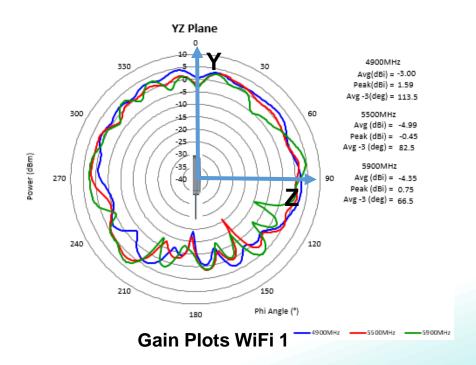
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CHARTS



Gain Plots WiFi 1



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Power (dBm)



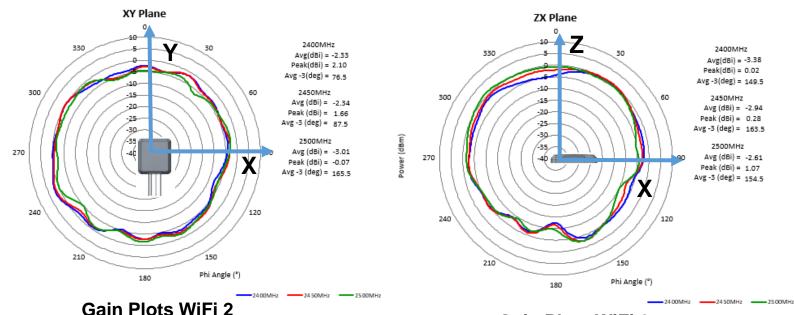
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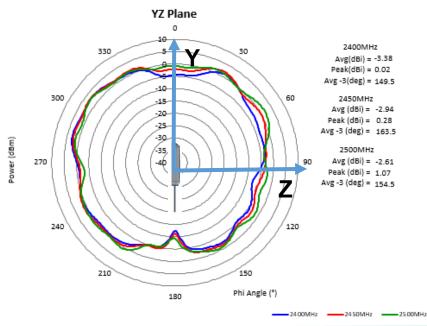
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CHARTS



Gain Plots WiFi 2



Gain Plots WiFi 2

Power (dBm)



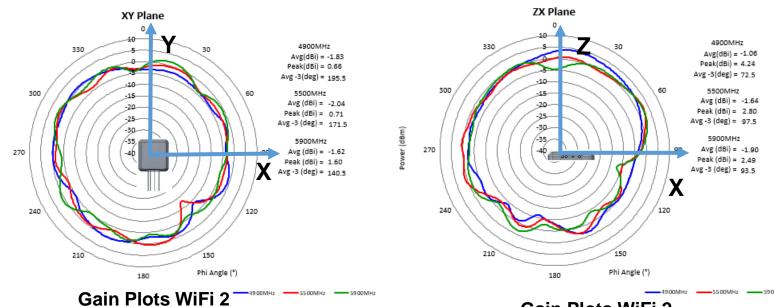
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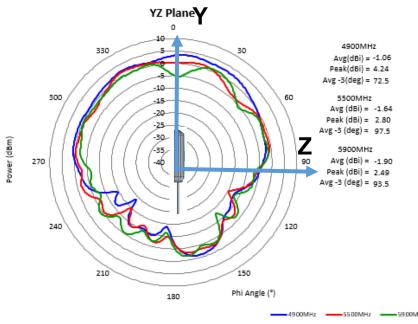
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CHARTS



Gain Plots WiFi 2



Gain Plots WiFi 2

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Power (dBm



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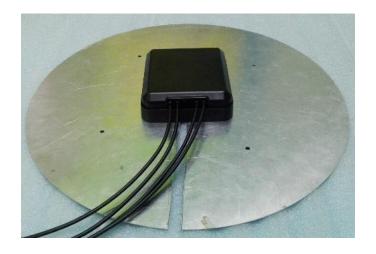
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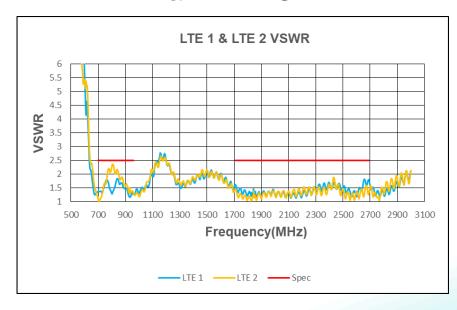
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CHARTS

Situation 2: Performance on 1 inch bracket with φ500mm(19.7inch) ground



LTE 1& LTE 2 VSWR



Note: Measured on 500mm ground plane with 3m cable

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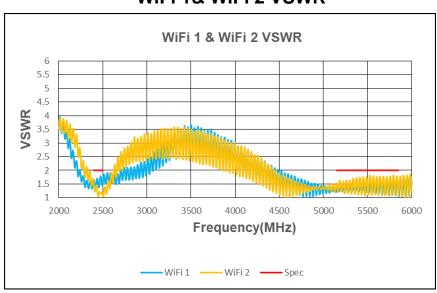
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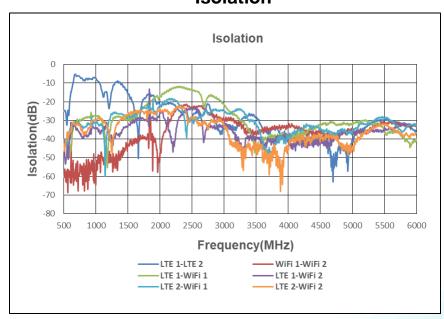
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CHARTS

WiFi 1& WiFi 2 VSWR



Isolation



Note: Measured on 500mm ground plane with 3m cable

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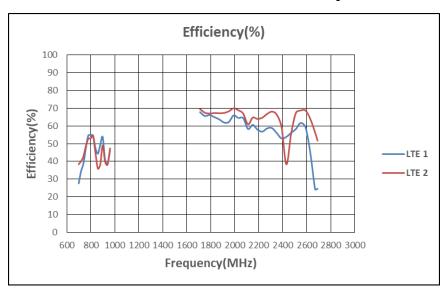
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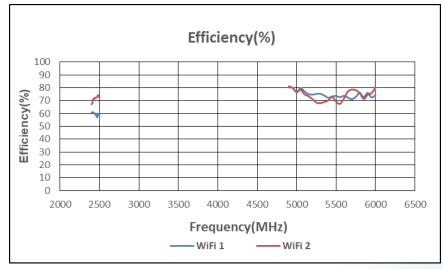
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CHARTS

LTE 1 and LTE2 Efficiency



WiFi 1 and WiFi 2 Efficiency



Note: Measured on 500mm ground plane with 322mm cable





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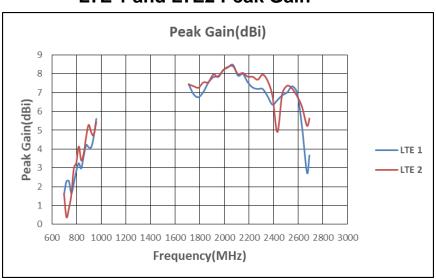
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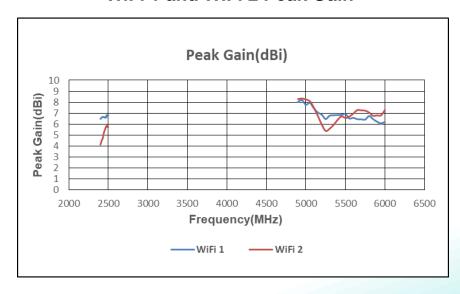
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CHARTS

LTE 1 and LTE2 Peak Gain



WiFi 1 and WiFi 2 Peak Gain



Note: Measured on 500mm ground plane with 322mm cable

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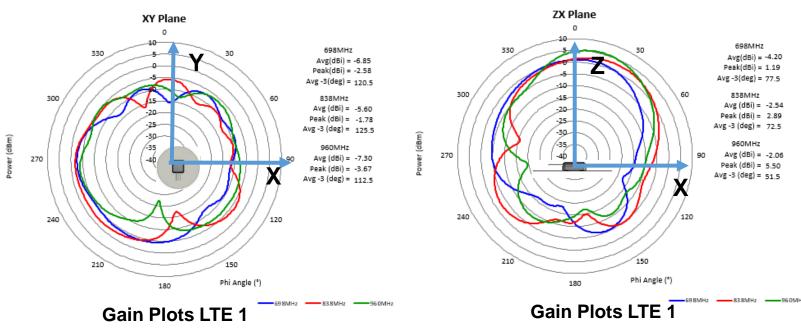
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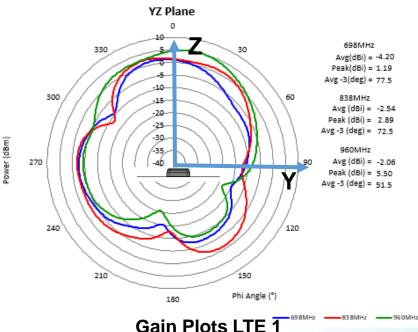
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CHARTS





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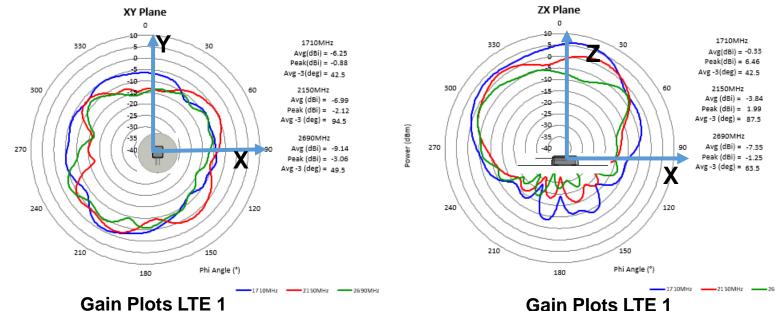
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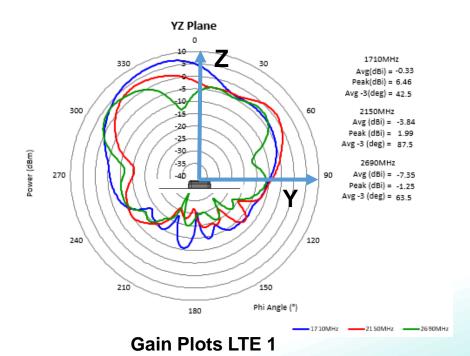
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CHARTS



Gain Plots LTE 1



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Power (dBm



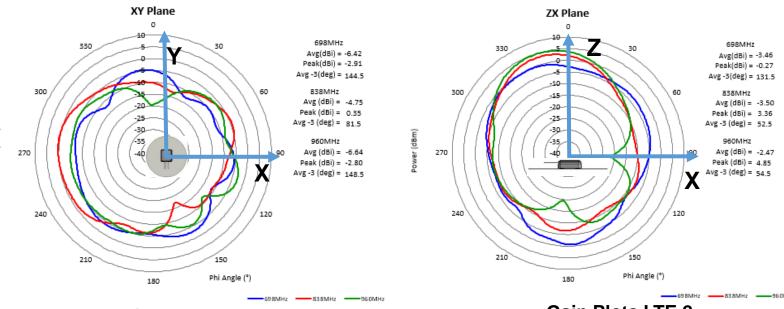
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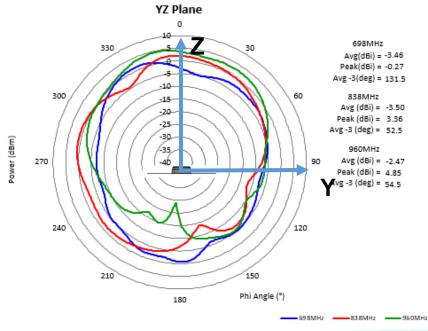
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CHARTS



Gain Plots LTE 2

Gain Plots LTE 2



Gain Plots LTE 2

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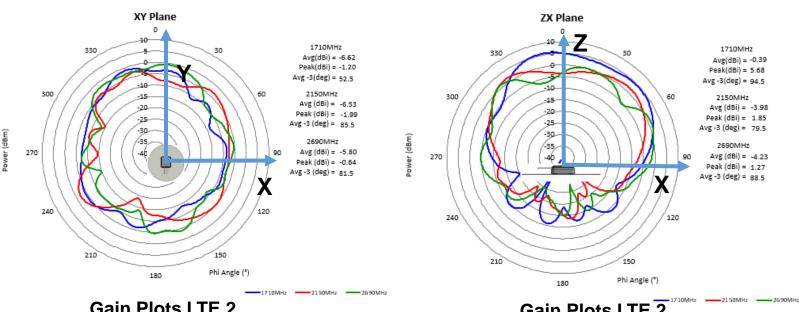
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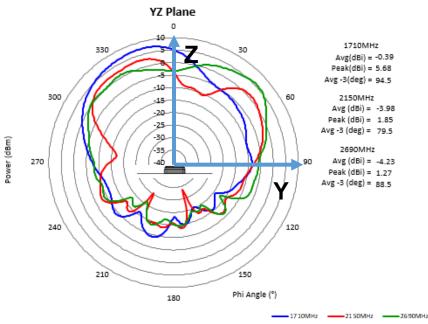
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CHARTS



Gain Plots LTE 2

Gain Plots LTE 2



Gain Plots LTE 2





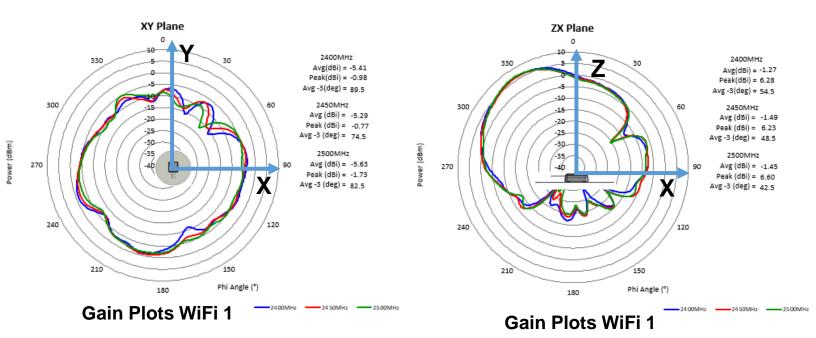
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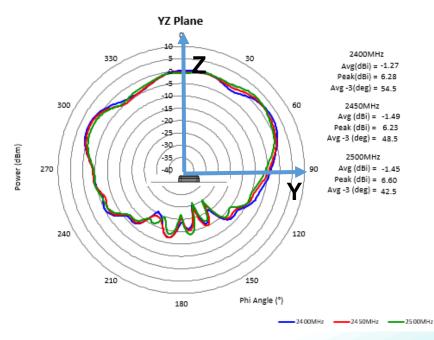
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CHARTS





Gain Plots WiFi 1

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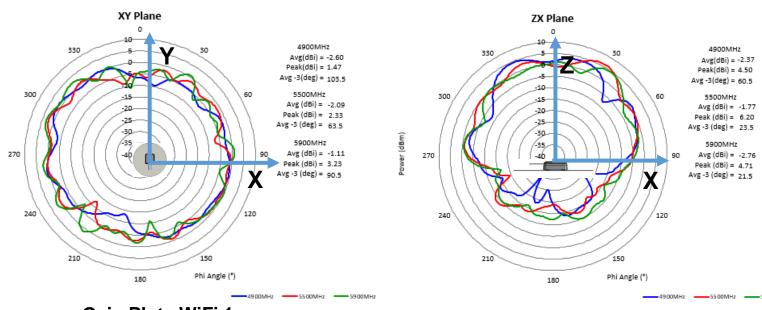
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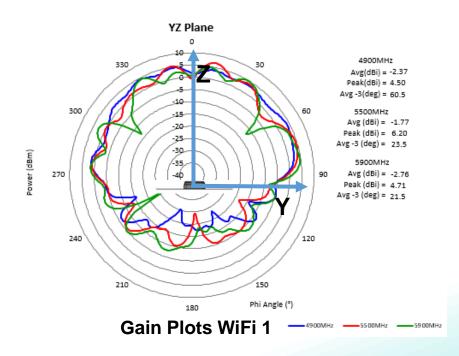
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CHARTS



Gain Plots WiFi 1

Gain Plots WiFi 1



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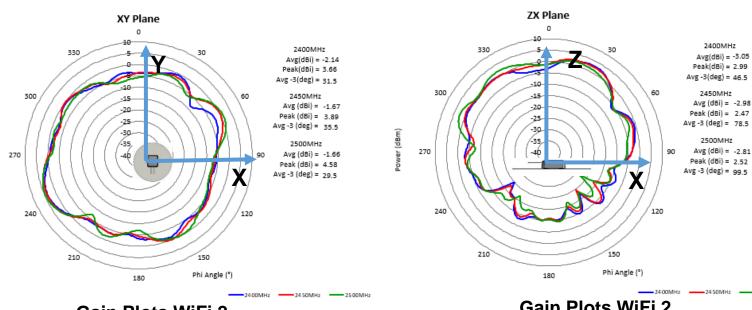
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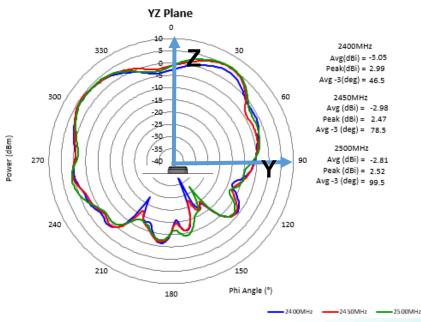
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CHARTS



Gain Plots WiFi 2

Gain Plots WiFi 2



Gain Plots WiFi 2

Power (dBm

-2500MHz



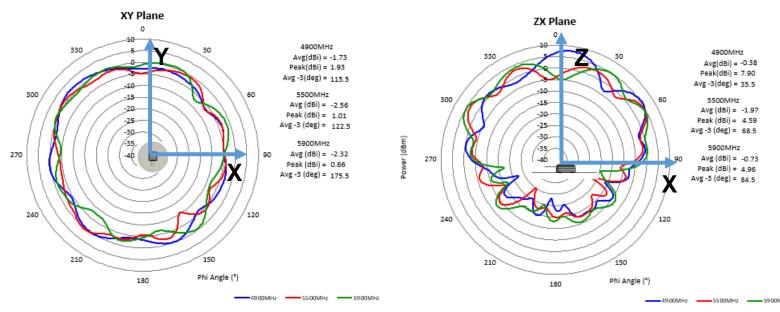
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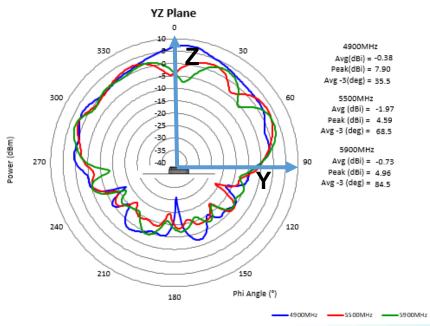
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Gain Plots WiFi 2

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Gain Plots WiFi 2

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Power (dBm)



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PACKAGING

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

ASSEMBLY

Option 1, Apply to the surface of the glass fiber or plastic material, the antenna could

be adhered on the surface directly.





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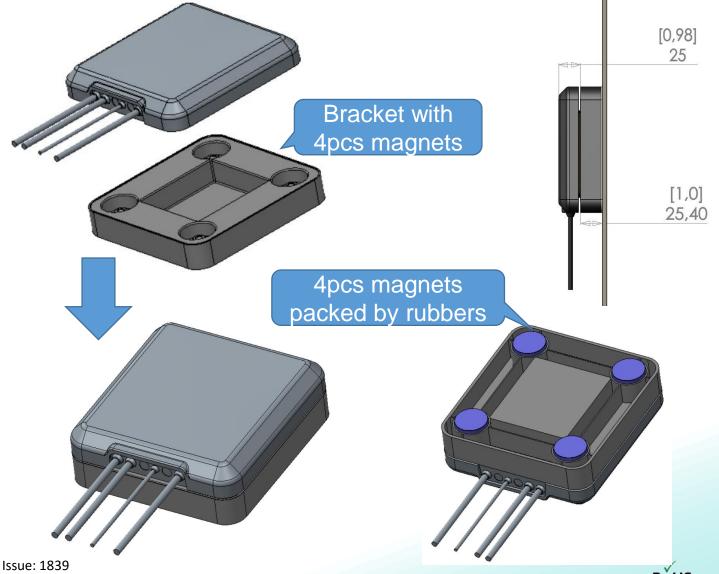
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ASSEMBLY

Option 2, Apply to the surface of the Iron metals like normal steel/iron, a bracket(GPSLPMM) is needed to elevate the antenna 1" for the optimum RF performance

Firstly, The antenna adhered on a magnetic bracket by the adhesive tape, then the whole assemble could "stick" on the magnetic metals by magnets, and also could be removed from the metals easily.



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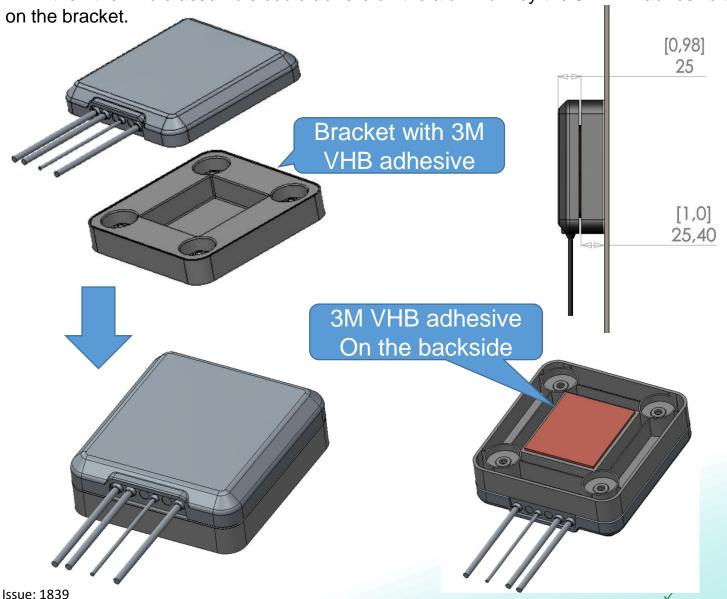
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ASSEMBLY

Option 3, Apply to the surface of the non-iron metals like aluminum, a bracket(GPSLPAM) is needed to elevate the antenna 1" for the optimum RF performance

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

then the whole assemble could adhere on the aluminum by the 3MVHB adhesive tape



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