



Features & Applications:

-  5-in-1 combo antenna
-  2xMiMo 5G-FR1 (4G compatible)
-  2xMiMo WiFi 6E/7
-  Active GNSS L1 RHCP Patch antenna
-  High out of band rejection filters
-  Adhesive mount, ideal for plastic and glass surface installation
-  Optional plastic bracket included

ELECTRICAL SPECIFICATIONS					
General Specifications – 5G FR1 / WiFi 6E/7					
Antenna type	Impedance	Polarization	Rad. Pattern	Power withstanding	DC Ground
Monopole ¹	50Ω	Vertical / Linear	Omni	2W	No
5G FR1 Antennas: 617 – 7125MHz					
Port	Frequency (MHz)	617-960	1710-2700	3300-7125	
Port 1, 2	VSWR	2.5:1	2:1	2:1	
	Avg. Peak Gain (dBi)	2.5	5.5	5.1	
	Avg. Efficiency (%)	48	62	60	
Isolation ²	Port 1-2 (dB)	10	20	30	
WiFi 6E/7 Antennas: 2400-2500 /5150-7125MHz					
Port	Frequency (MHz)	2400-2500	5150-7125		
Port 3, 4	VSWR	2:1	2:1		
	Avg. Peak Gain (dBi)	4.5	3.3		
	Avg. Efficiency (%)	60	58		
Isolation ²	Port 3-4 (dB)	13	25		
GNSS Antenna:1560-1610MHz					
Antenna type		Nominal Impedance		Polarization	
Patch antenna		50 Ω		RHCP	
Frequency (MHz)		1561.098 ± 2.046/ 1575.42 ± 1.023/ 1602.5625 ± 4			
Return Loss (dB)		<-7 dB			
LNA Gain		30dB ± 2 dB			
Current consumption		<10 mA			
DC voltage in via GNSS RF cable		3.3-5 Vdc ± 0.5V			
MECHANICAL SPECIFICATIONS					
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Dimension (L x W x H)	Weight	Color	Fixing System	Housing Material	
178 x 60x19 mm (7.01” x2.36”x 0.75”)	600 g	Black	Adhesive Mount (3M VHB 4991(Gray)) / Bracket	PC (UV-stabilized)	
Wireless Technology	No. of Port	Cable Length	Cable Type	Connector Type	
5G FR1/LTE	2	10FT (3.048M)	LMR195	SMA Male	
GNSS	1	10FT (3.048M)	LMR100	SMA Male	
WiFi 6E/7	2	10FT (3.048M)	LMR195	RP SMA Male	
ENVIRONMENTAL SPECIFICATIONS					
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Storage Temperature	Operating Temperature		Ingress Protection	RoHS Compliant	
-40 / +85° C	-40 / +85° C		IP65	Yes	

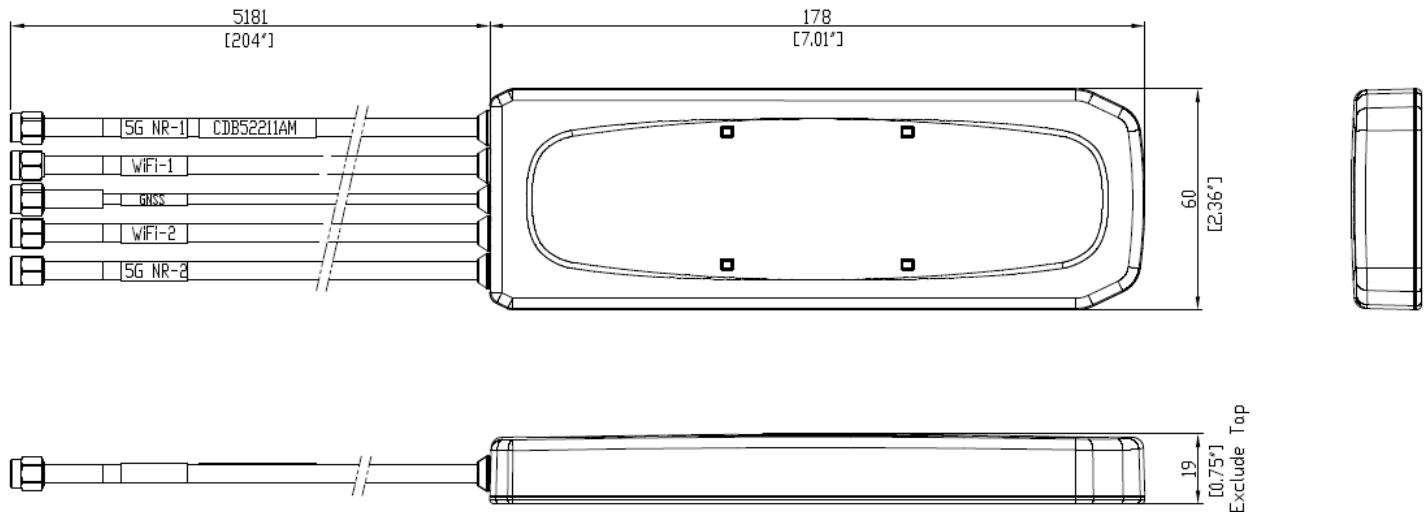
Notes:

1. 5G-FR1 and WiFi 6E/7: Multi-Band Monopoles with built in ground plane, 2. Minimum Isolation (dB)

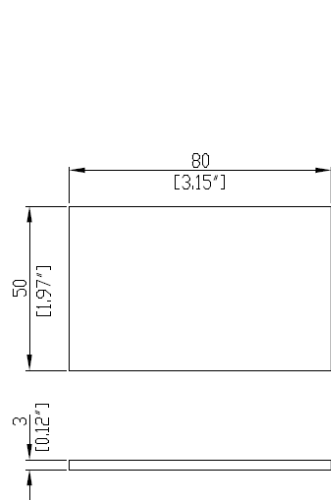
Mechanical Drawing

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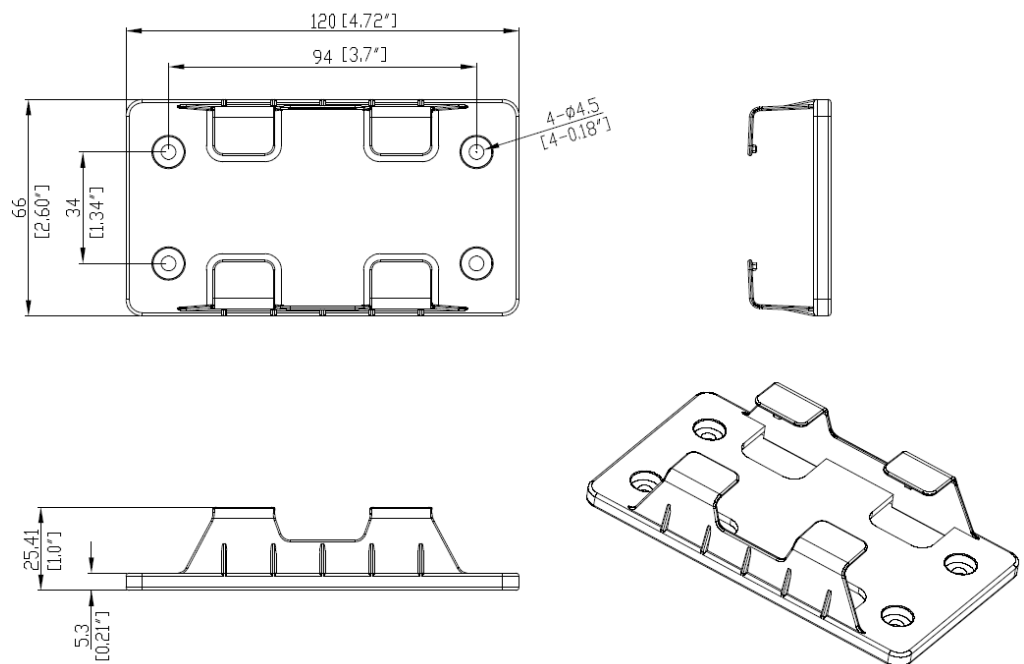
Antenna



3M VHB Tape



Plastic Bracket



*Tape and bracket package separately

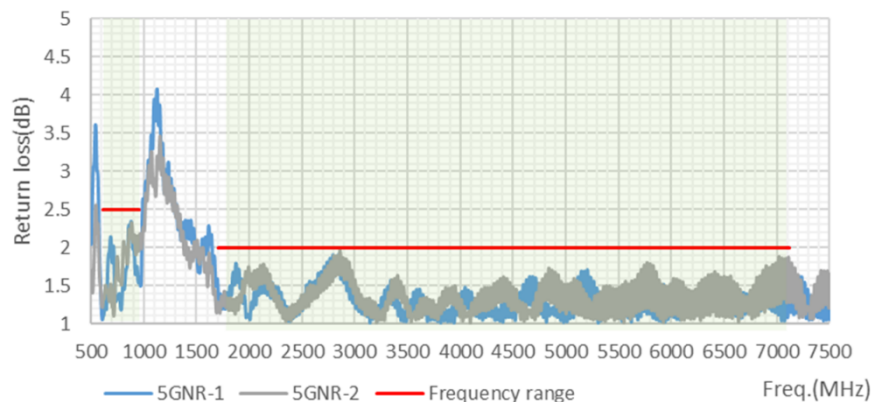
Unit: mm/ inches

Charts

Test data
5G NR Antennas

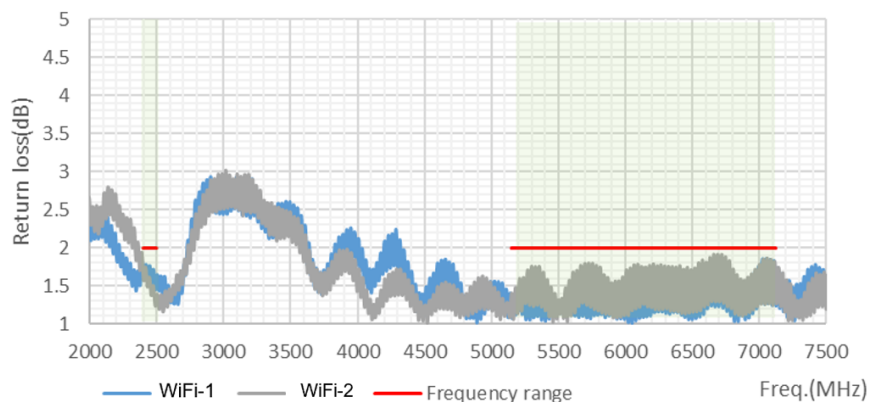
VSWR vs Frequency

Measured in PSU 20230510



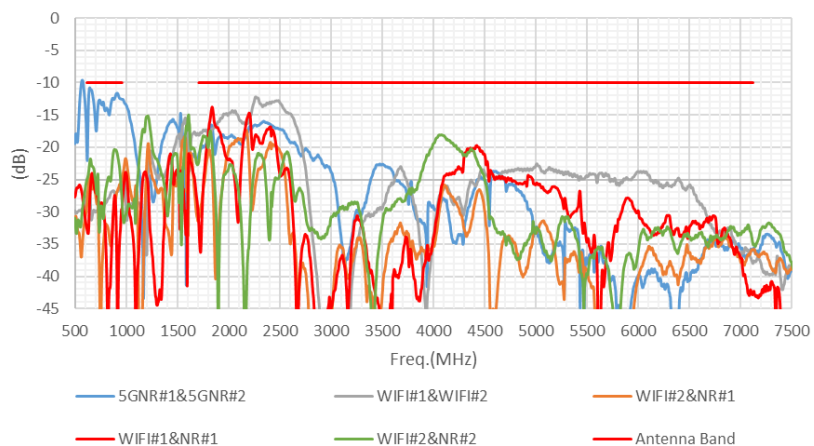
VSWR vs Frequency

Measured in PSU 20230510



Isolation vs Frequency

Measured at PSU 20230510



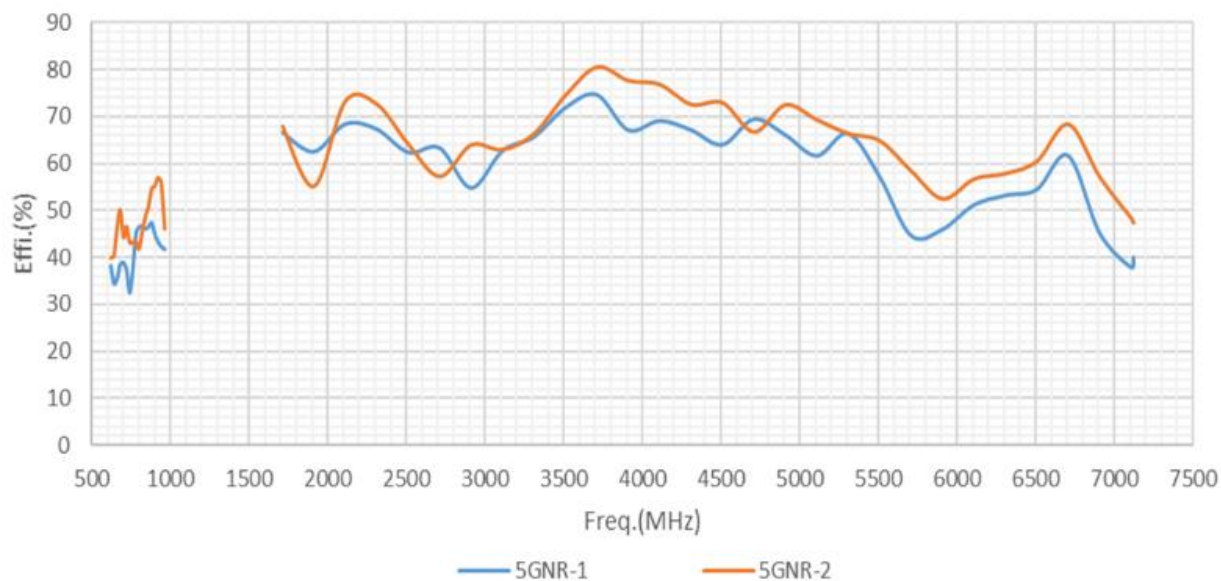
*Antenna VSWR test in free space and 10-ft cables

Charts

Test data
5G NR Antennas

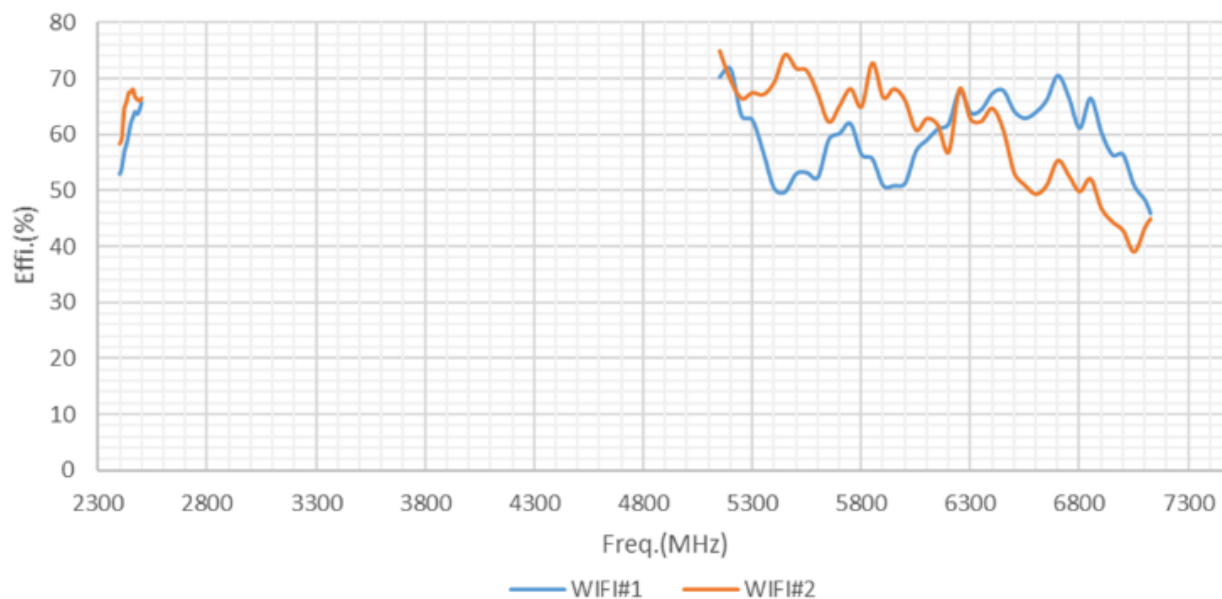
Efficiency vs Frequency

Measured at PSU 20230510



Efficiency vs Frequency

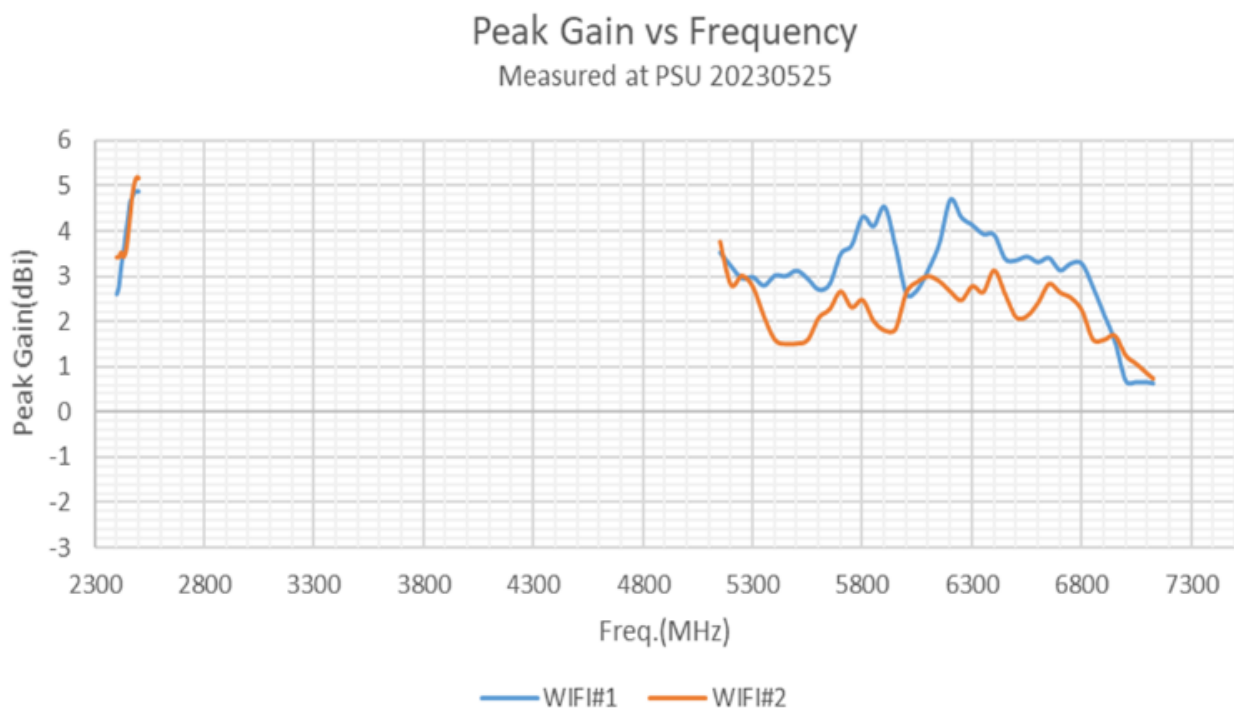
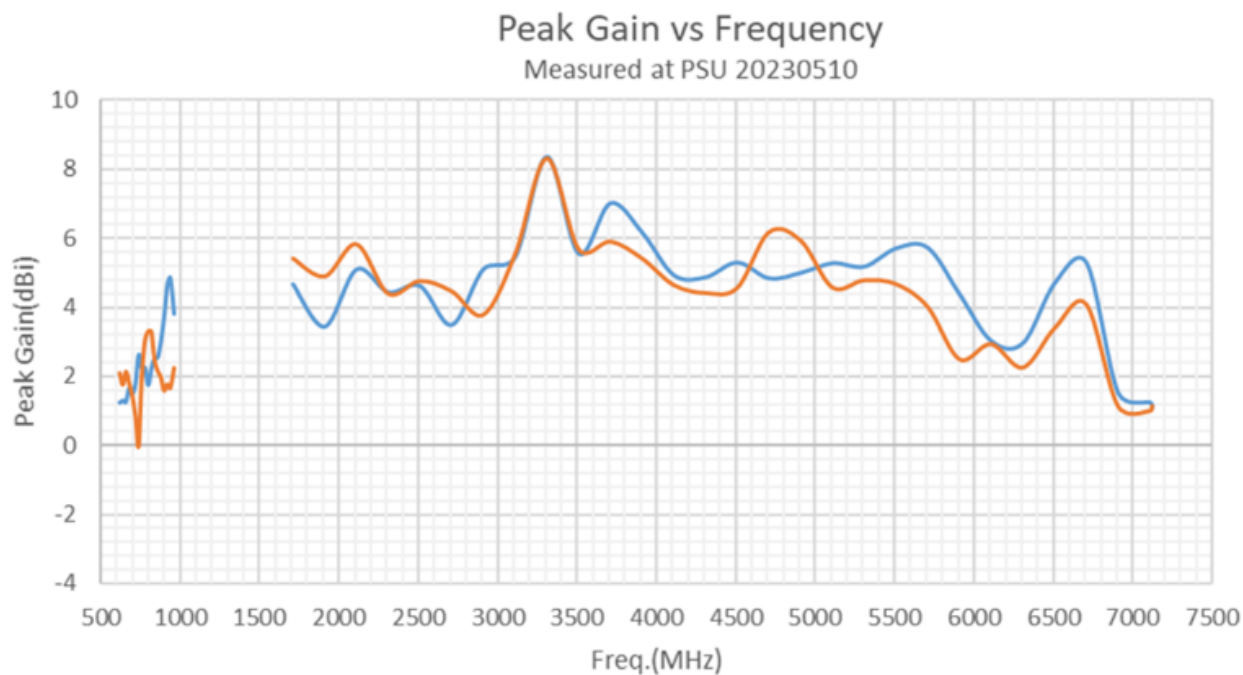
Measured at PSU 20230525



* antenna test in free space and 1-ft cables

Charts

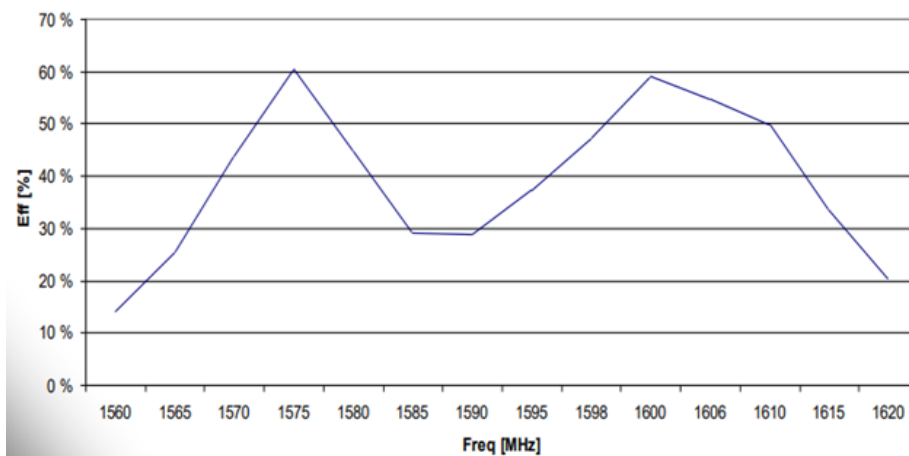
Test data
5G NR Antennas



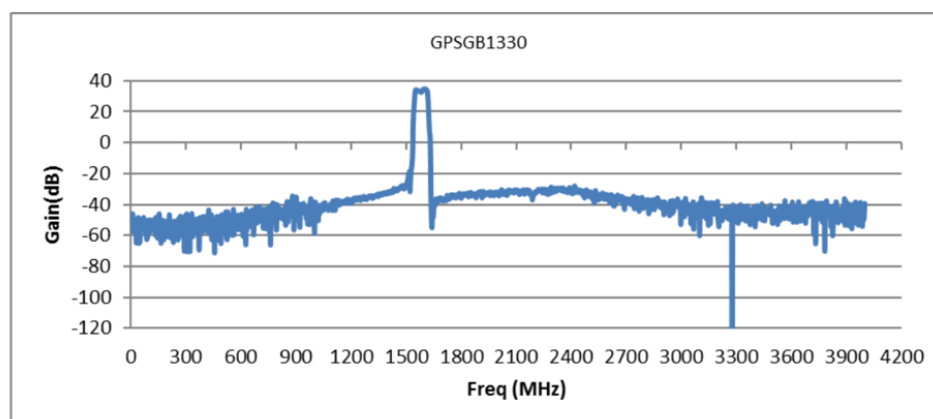
* Antenna test in free space and 1-ft cables

Charts

Test data
GNSS Antenna

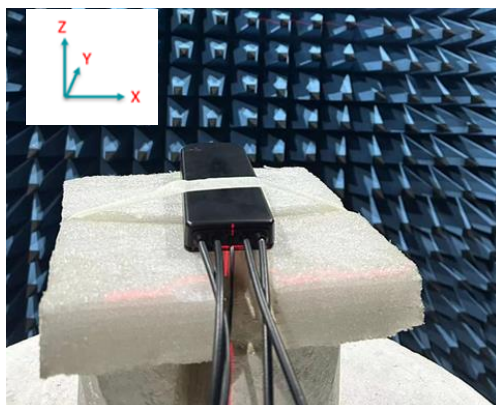


LNA Gain and out-of-band rejection



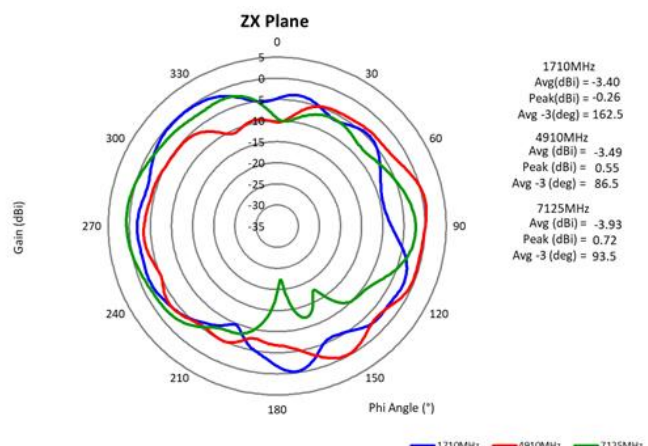
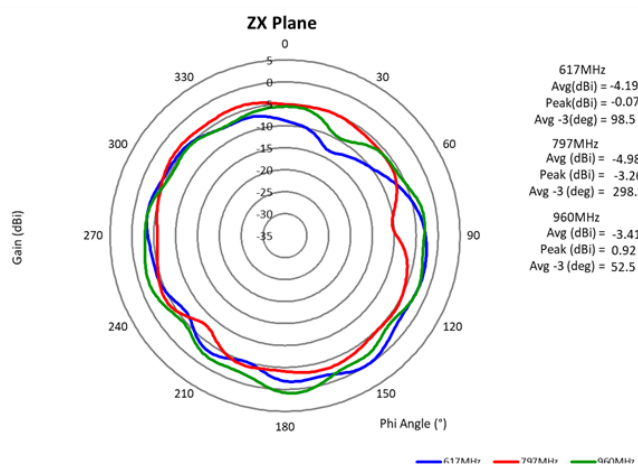
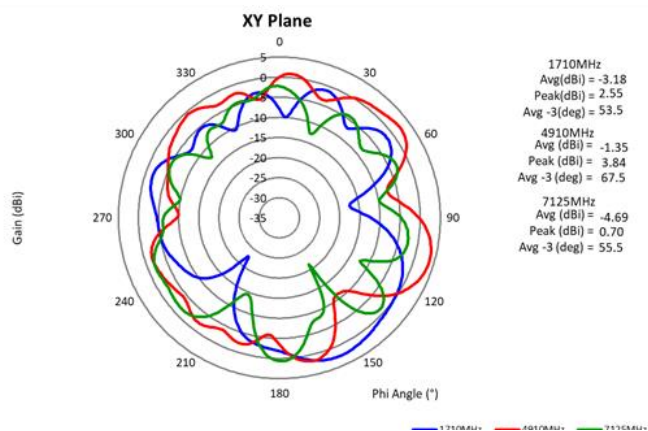
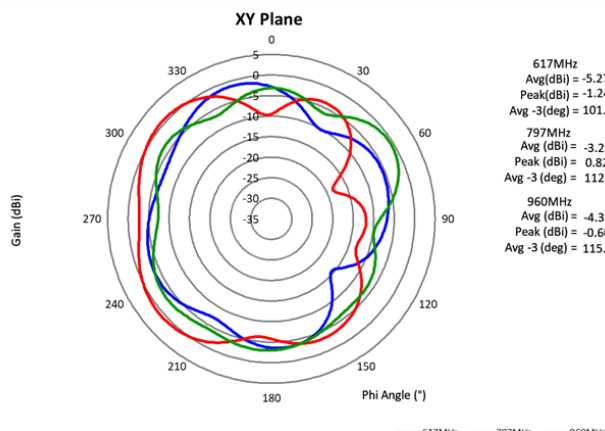
Testing Setup

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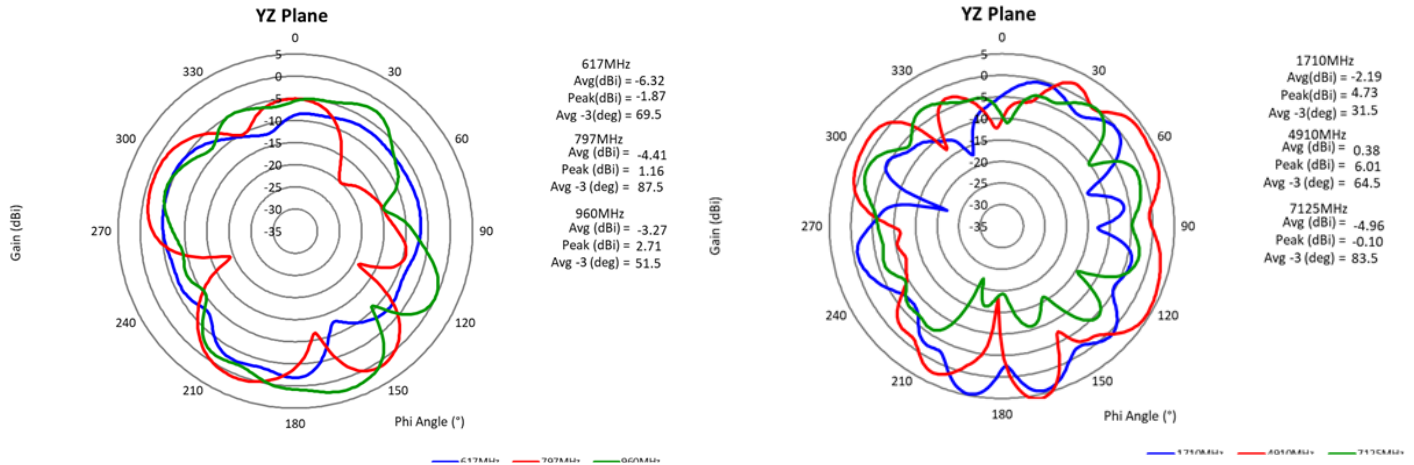
Radiation Pattern

Test data
5G NR-1 Antennas



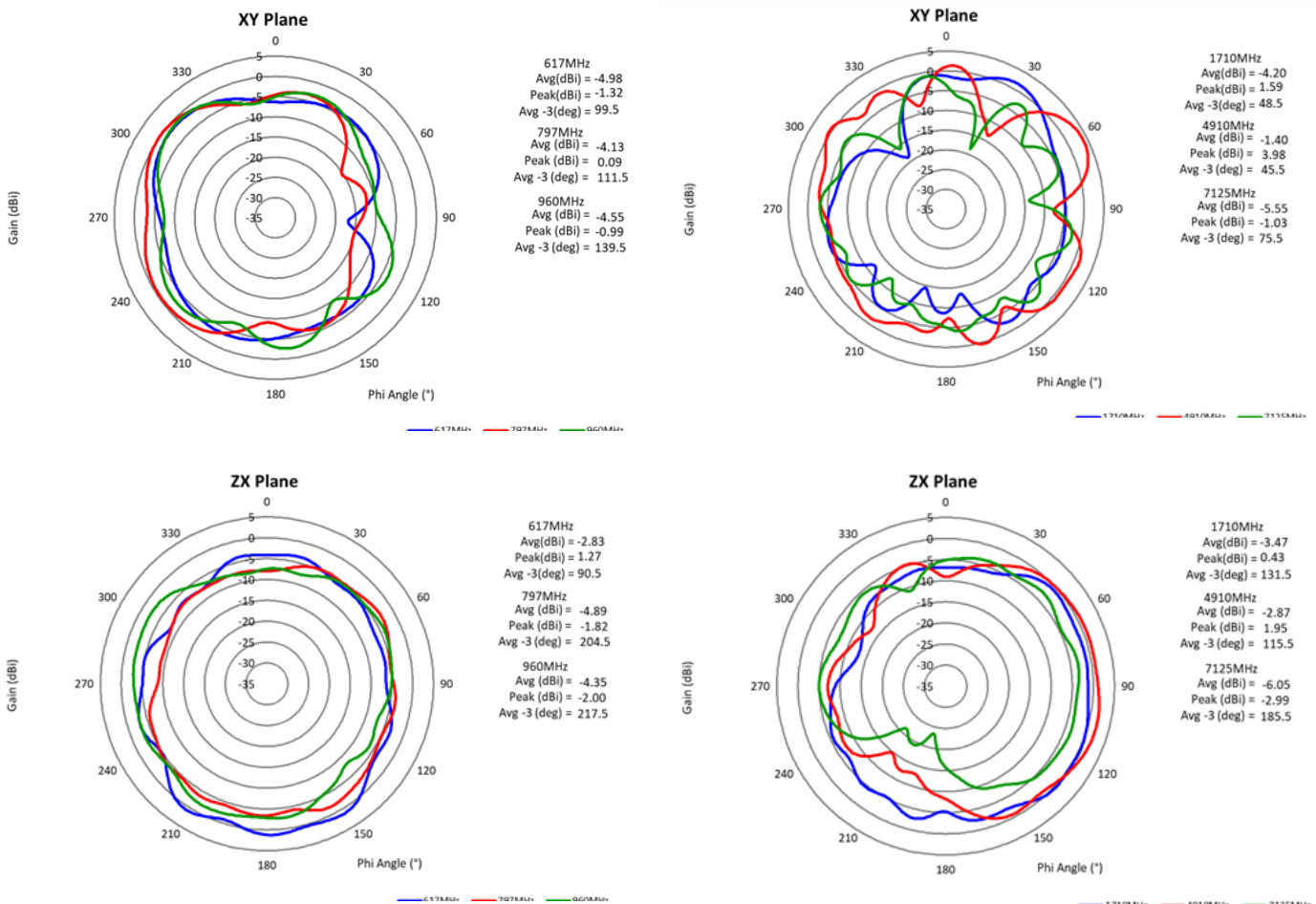
Radiation Pattern

Test data
5G NR-1 Antennas



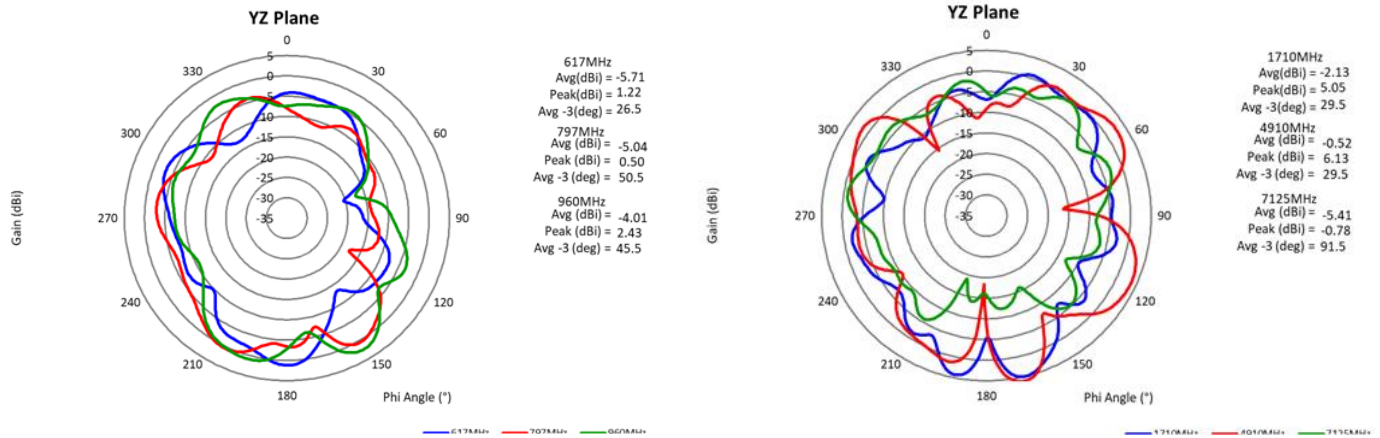
Radiation Pattern

Test data
5G NR-2 Antennas



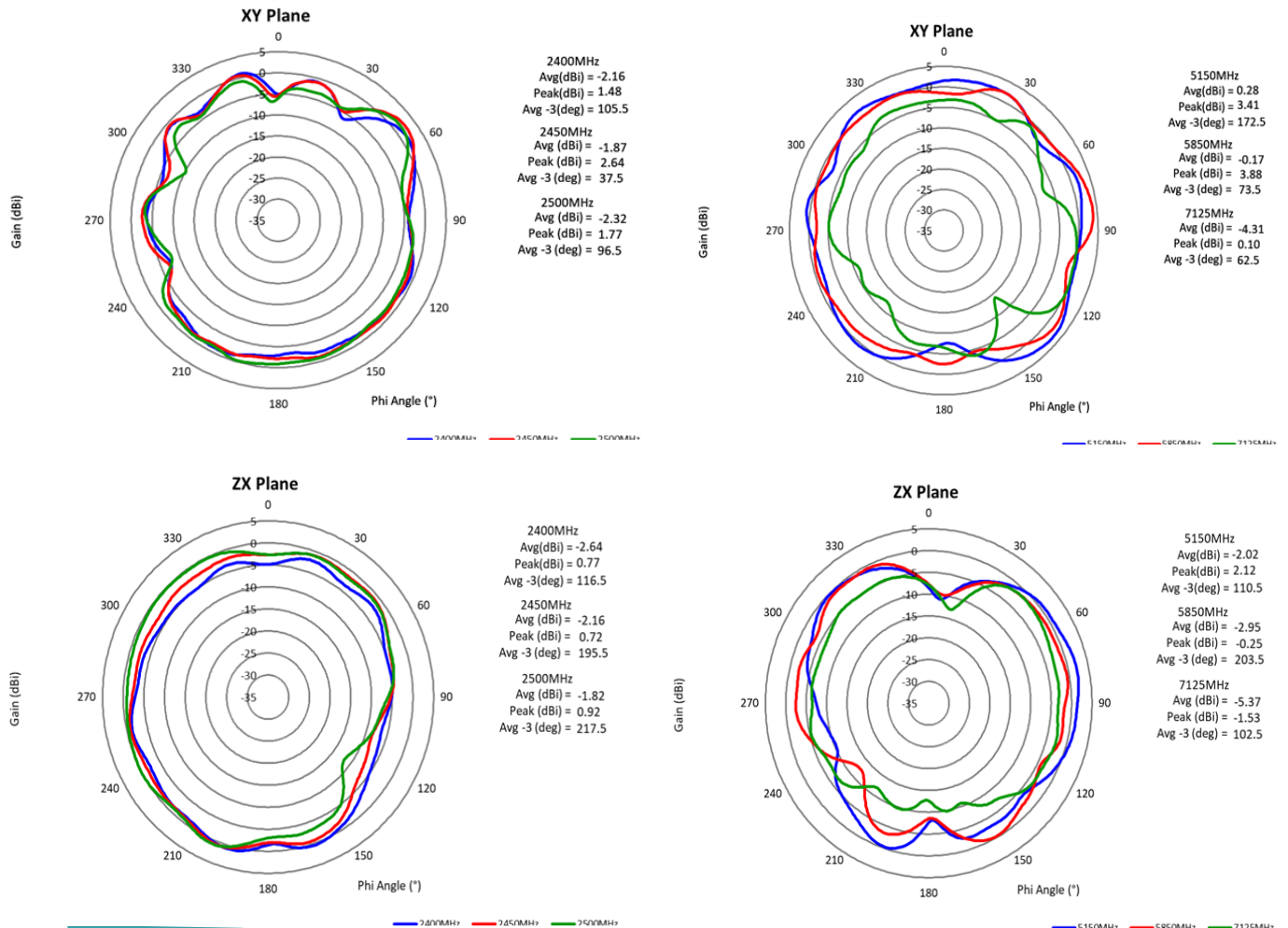
Radiation Pattern

Test data
5G NR-2 Antennas

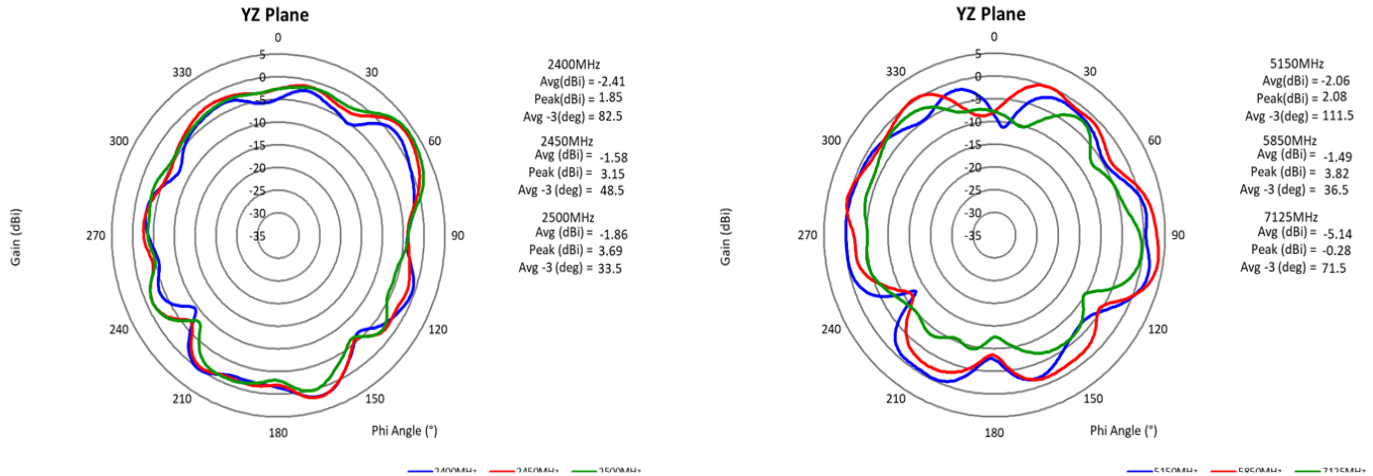


Radiation Pattern

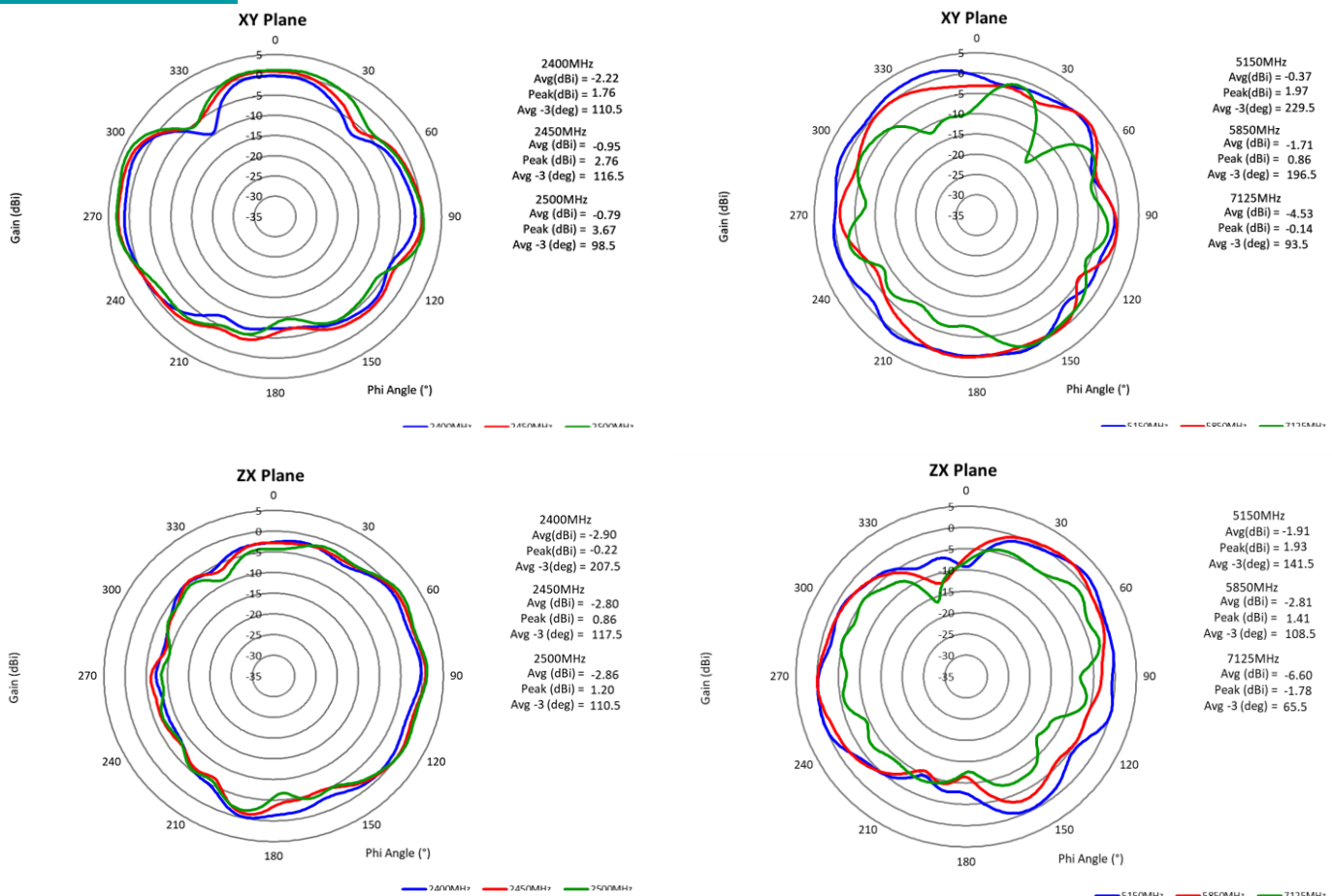
Test data
WiFi1-Antennas



Radiation Pattern

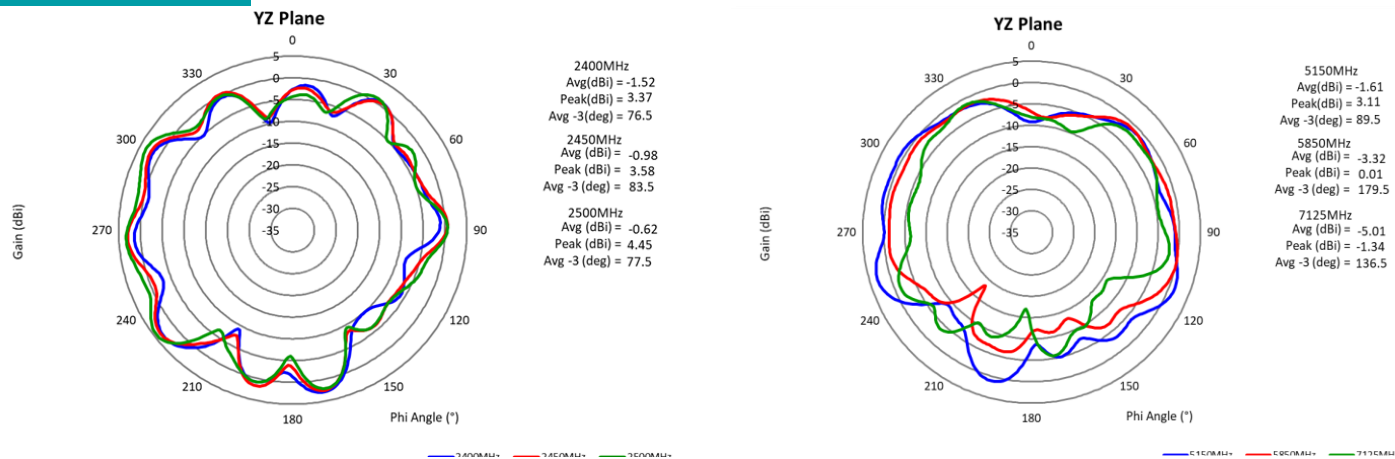
Test data
WIFI-1 Antennas


Radiation Pattern

Test data
WiFi2-Antennas


Radiation Pattern

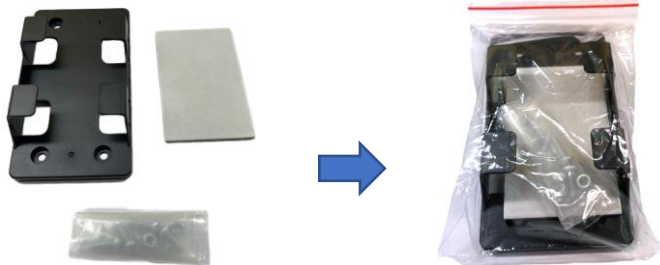
Test data WIFI-2 Antennas



Packing

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1.Put the accessories: the bracket, the tape, and the screw into one PE bag.



2.Put one antenna and one bag accessories into a big packing bag.



3. Put the partition board into the outer box, and put 1 products in every grid, 6 sets products per outer box.

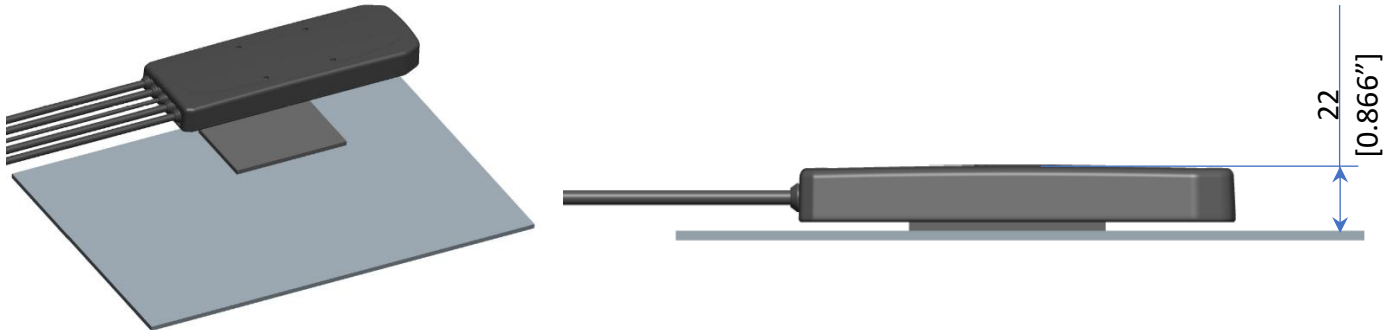


Mounting Instructions

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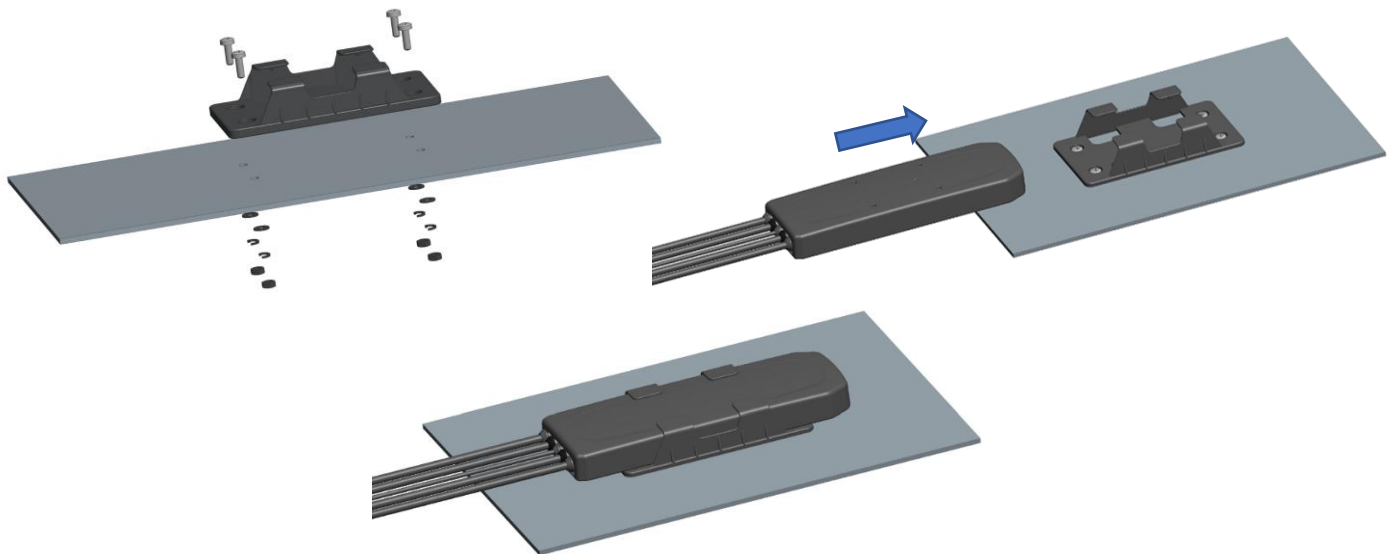
Option 1: Tape Mount

Apply to the surface of the glass fiber or plastic material, the antenna could be adhered on the surface by the 3MVHB adhesive tape (3M VHB4959 80X50mm).



Option 2: Plastic Bracket Mount

Firstly, fix the bracket on the customer side with 4sets M4 screws, M4 nut, flat washer and spring washer;
 Then push the antenna into the plastic bracket.



For More Information:

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