

Candy Bar

5G-NR / GNSS / WiFi 6E/7

CDB94411AM, 617-7125MHz



Features & Applications:

- 9-in-1 combo antenna
- 4xMiMo 5G-FR1 (4G compatible)
- 4xMiMo WiFi 6E/7
- Active GNSS L1/L2+L5 RHCP Patch antenna
- High out of band rejection GNSS filters
- Adhesive mount, ideal for plastic and glass surface installation

ELECTRICAL SPECIFICATIONS					
General Specifications – 5G FR1 / WiFi 6E/7					
Antenna type	Impedance	Polarization	Rad. Pattern	Power withstanding	DC Ground
Dipole/Monopole ¹	50Ω	Vertical / Linear	Omni	2W	No
5G FR1 Antennas: 617 – 7125MHz					
Port	Frequency (MHz)	617-960	1710-2700	3300-6000	
Port 5G#1, 2,3,4	VSWR	2:1	2:1	2:1	
	Return Loss (dB)	<-10	<-10	<-10	
	Avg. Peak Gain (dBi)	3.6	3.9	4.7	
	Avg. Efficiency (%)	49	56	52	
Isolation ²	5G Port 1-2-3-4 (dB)	8	15	15	
WiFi 6E/7 Antennas: 2400-2500 /5150-7125MHz					
Port	Frequency (MHz)	2400-2500	5150-7125		
Port WIFI#1,2,3, 4	VSWR	2:1	2:1		
	Return Loss (dB)	<-10	<-10		
	Avg. Peak Gain (dBi)	3.4	3.1		
	Avg. Efficiency (%)	51	56		
Isolation ²	WIFI Port1-2-3-4 (dB)	13	25		
GNSS Antenna:1164-1602MHz					
Antenna type	Nominal Impedance		Polarization		
Stacked active patch antenna	50 Ω		RHCP		
Frequency (MHz)	L1: 1561-1602MHz L2: 1215-1237MHz L5: 1164-1189MHz				
Return Loss (dB)	< -10 @L1 < -13@L2 < -15@L5				
LNA Gain Typical (dB)	28dB ± 2 dB				
Noise Figure (dB)	1.7 @1575MHz, 2.2@1227MHz, 2.2 @1164MHz				
Current consumption	<16 mA				
DC voltage in via GNSS RF cable ³	2.5-18 Vdc				
ESD protected	Yes				

Notes:

- 5G-FR1: Multiband Dipoles, WiFi 6E/7: Multi-Band Monopoles with built in ground plane
- Minimum Isolation (dB)
- LNA internal voltage stabilized by LDO (Low dropout regulator)

MECHANICAL SPECIFICATIONS

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Dimension (L x W x H)	Weight	Color	Fixing System	Housing Material
220 x 80 x 30 mm (8.66" x 3.15" x 1.18")	380 g	Black	Adhesive Mount (3M VHB 4991(Gray))	PC (UV-stabilized)
Wireless Technology	No. of Port	Cable Length	Cable Type	Connector Type
5G FR1/LTE	4	1.5FT (457mm)	LMR195	SMA Male
GNSS	1	1.5FT (457mm)	RG174	SMA Male
WiFi 6E/7	4	1.5FT (457mm)	LMR195	SMA Male

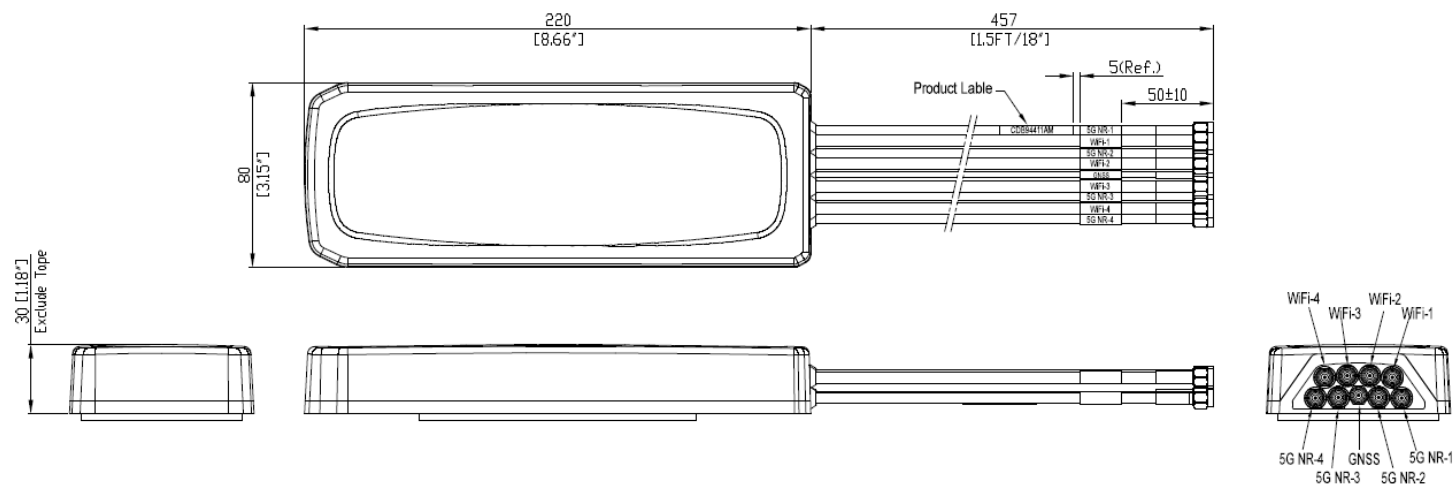
ENVIRONMENTAL SPECIFICATIONS

CDB94411AM

Storage Temperature	Operating Temperature	Ingress Protection	RoHS Compliant
-40 / +85° C	-40 / +85° C	IP65	Yes

Mechanical Drawing

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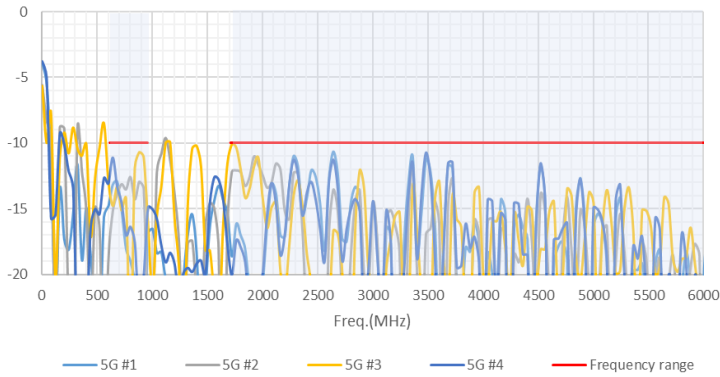


Unit: mm/ inches

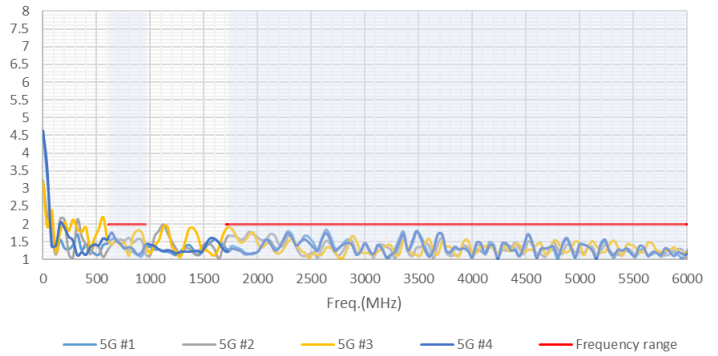
Charts

Test data

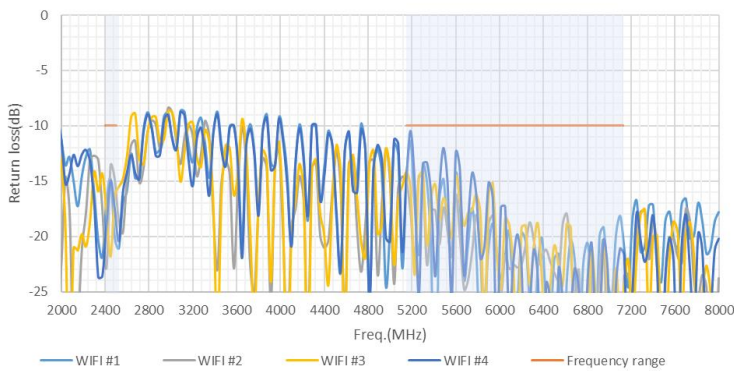
Return Loss vs Frequency
Measured at PSU 20240725



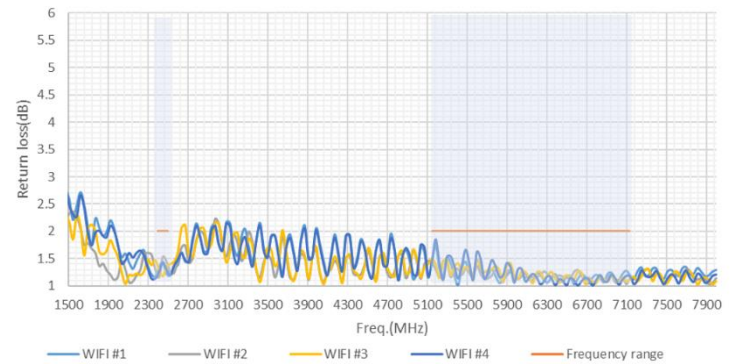
VSWR vs Frequency
Measured at PSU 20240725



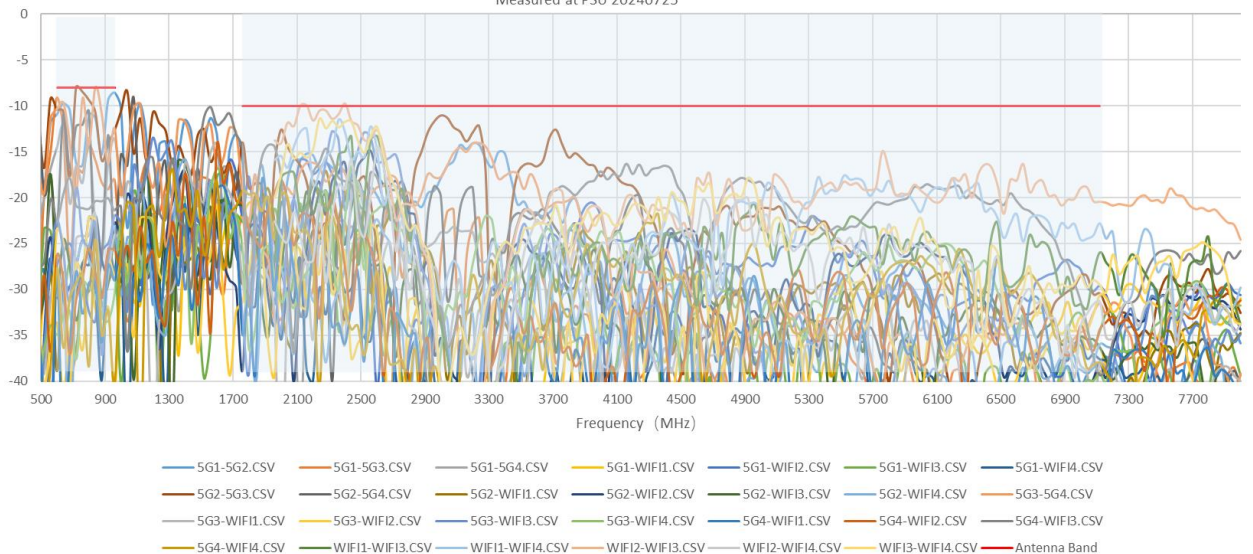
Return Loss vs Frequency
Measured at PSU 20240730



VSWR vs Frequency
Measured at PSU 20240730



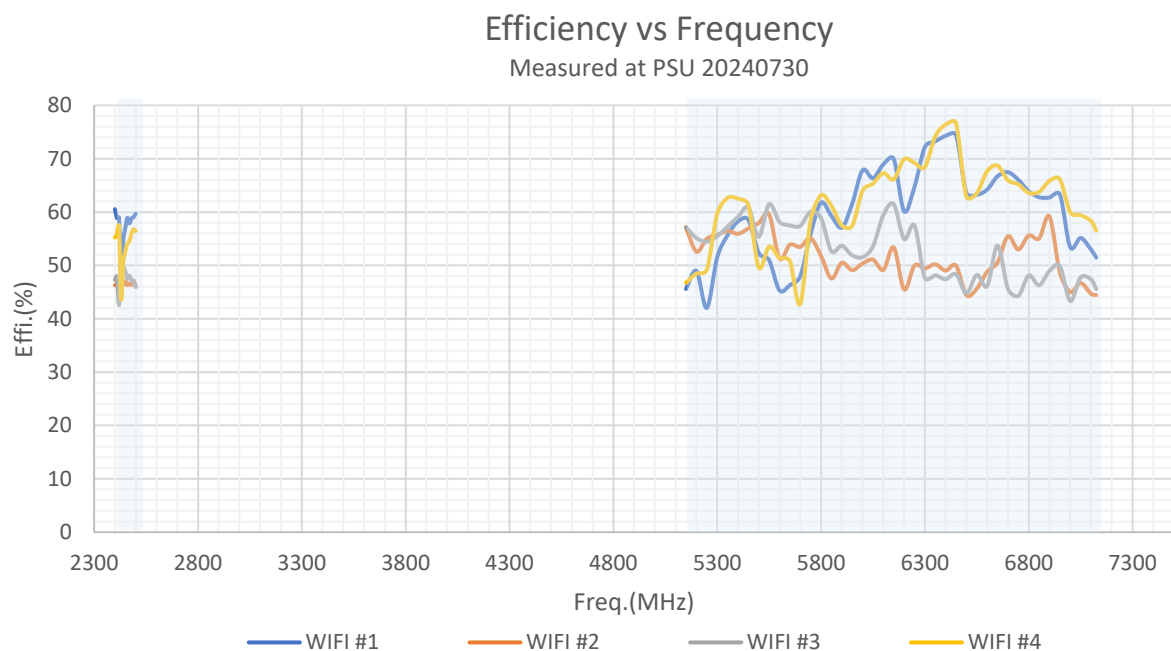
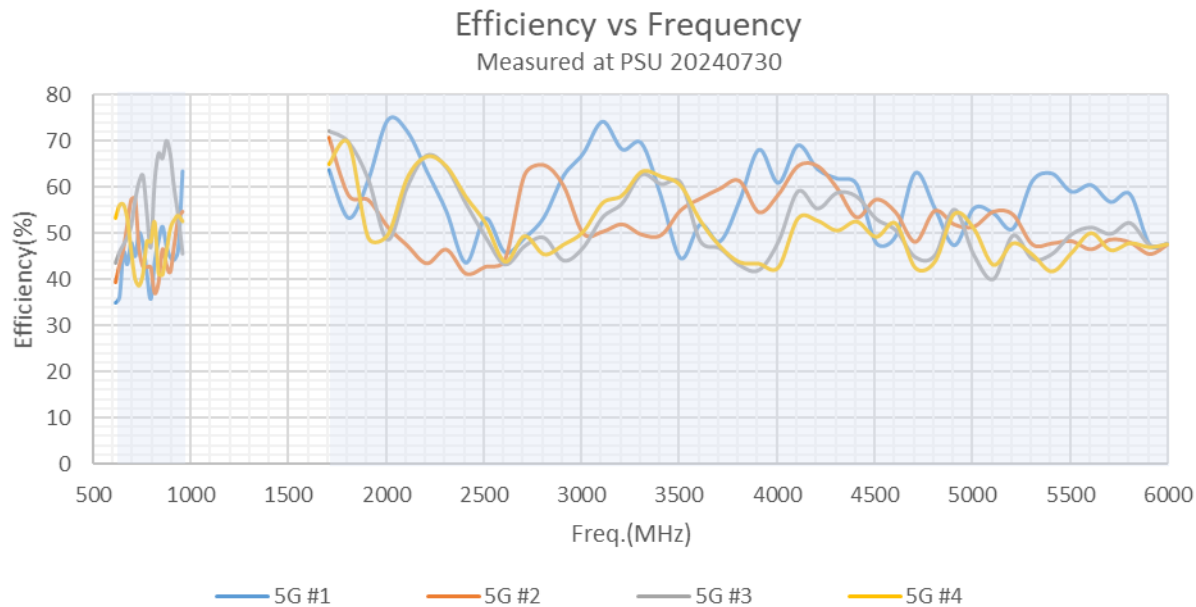
Isolation Vs Frequency
CDB94411AM Measured with 17ft LMR-195 in free space
Measured at PSU 20240725



* Antenna test in free space and 17-ft LMR195 cables

Charts

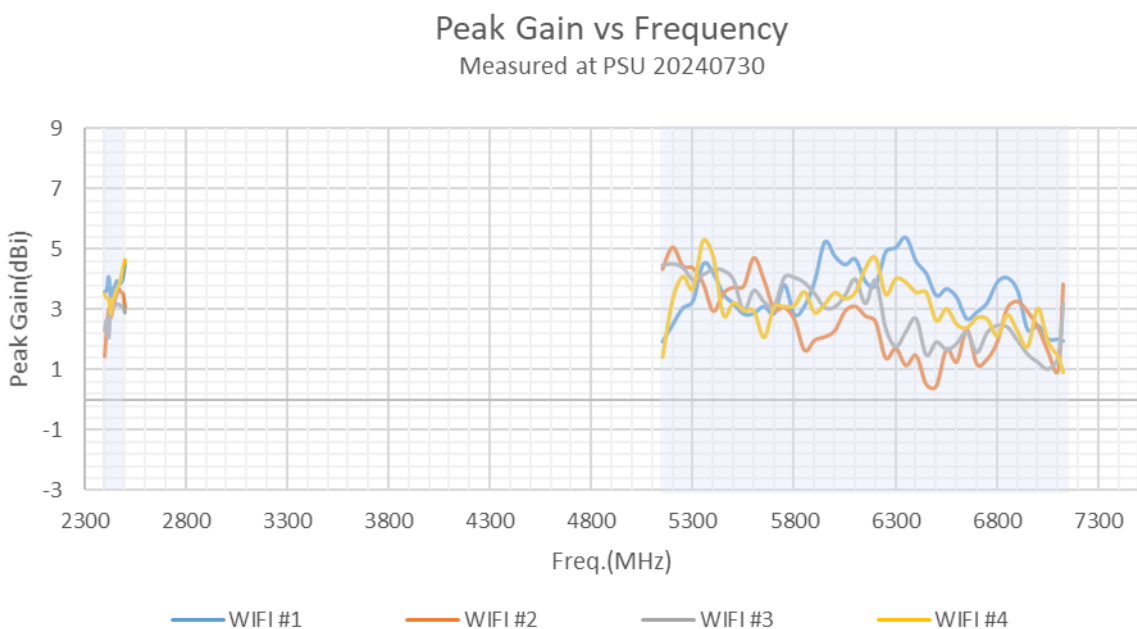
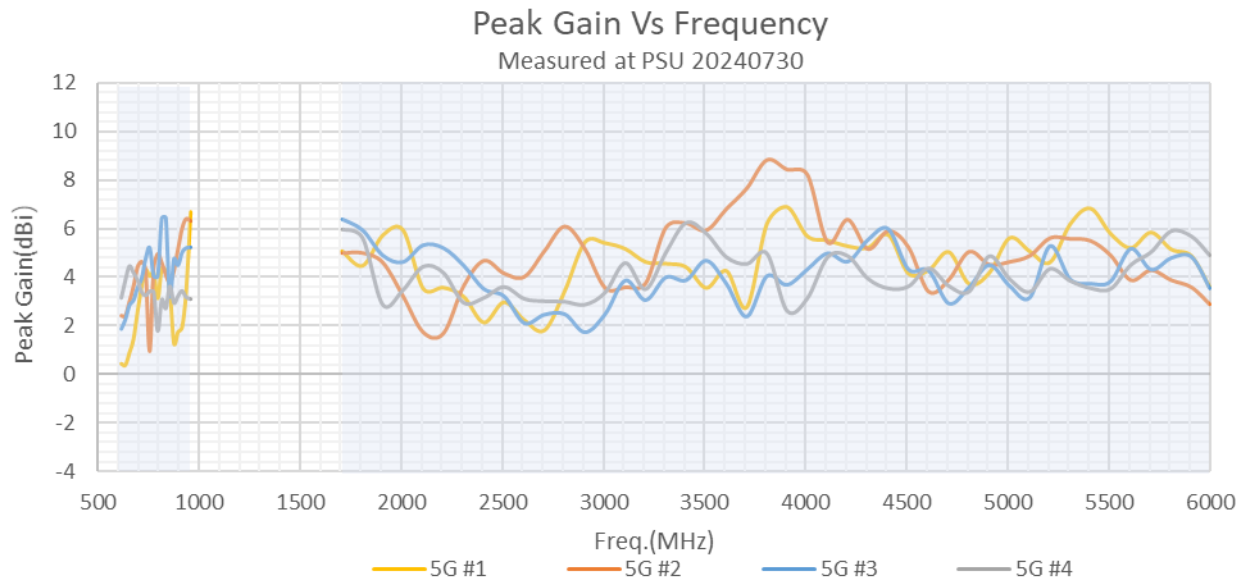
Test data



* Antenna test in free space and 1-ft LMR195 cables

Charts

Test data

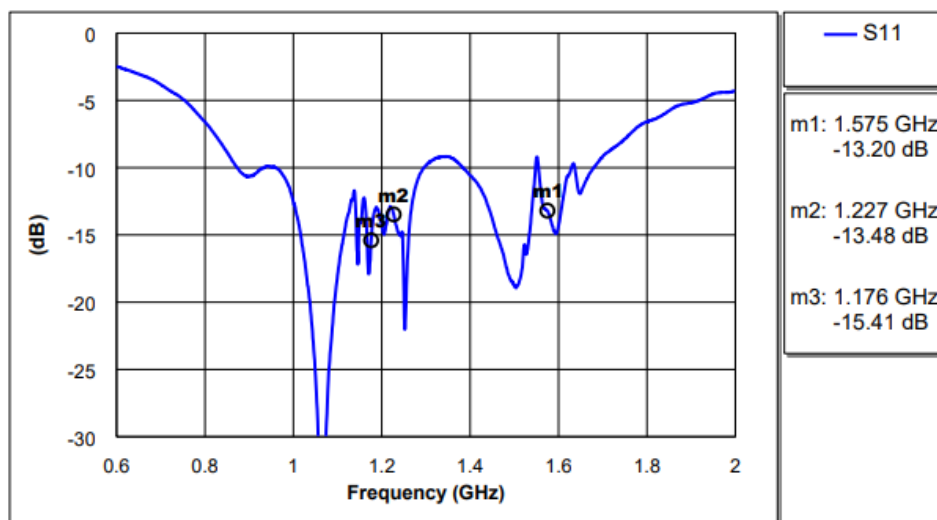


* Antenna test in free space and 1-ft LMR195 cables

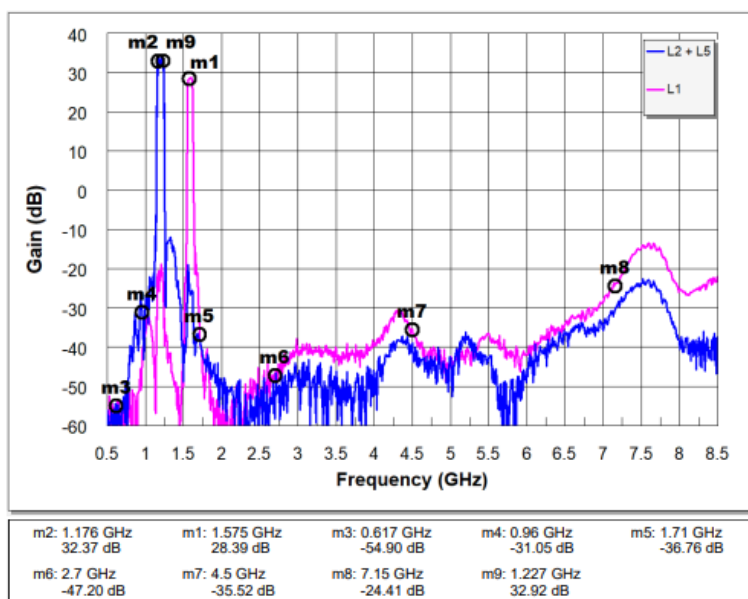
Charts

Test data
GNSS Antenna

Return Loss



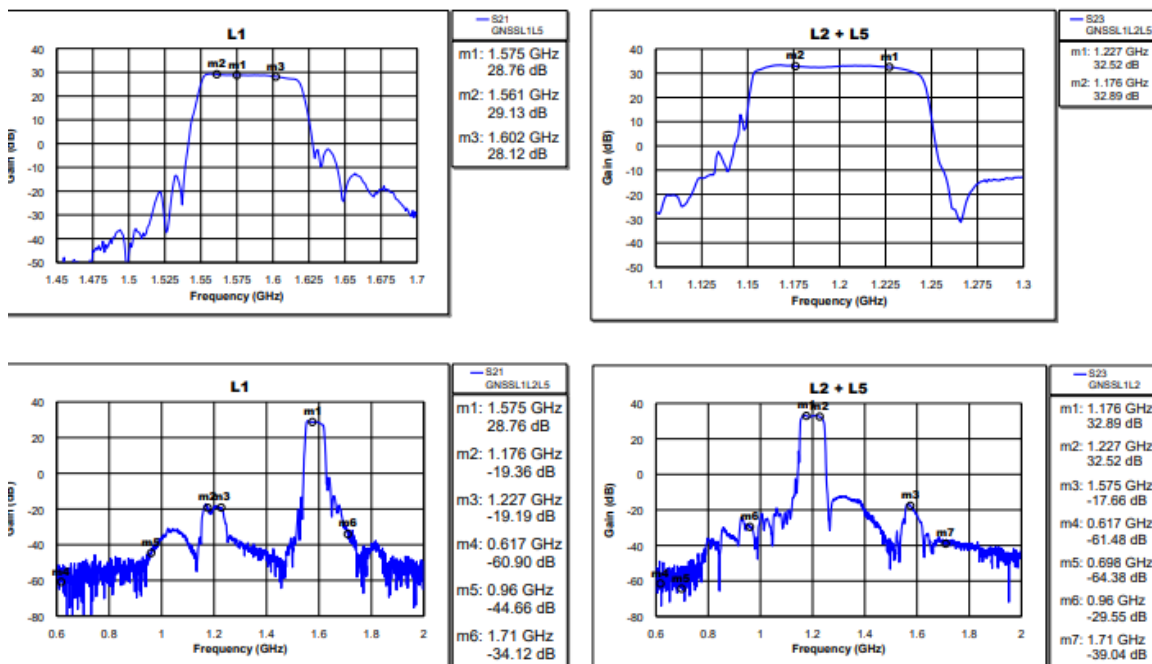
LNA Out of band rejection



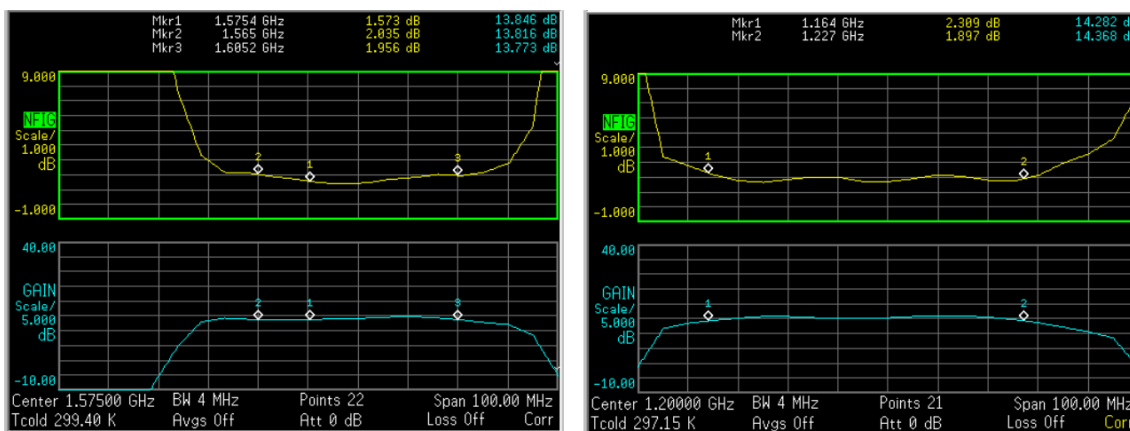
Charts

Test data
GNSS Antenna

LNA Gain



LNA Noise Figure



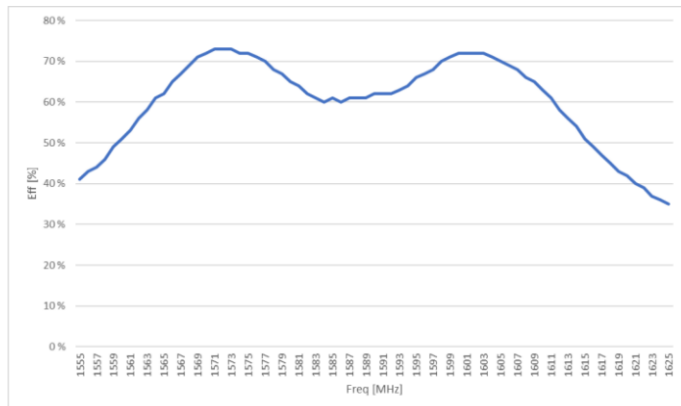
L1 Noise Figure

L2 + L5 Noise Figure

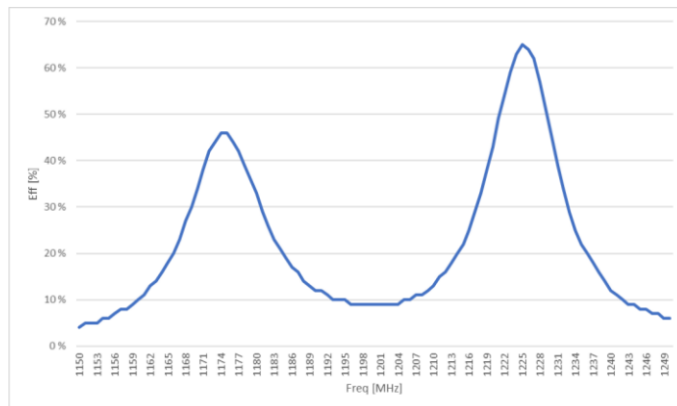
Charts

Test data
GNSS Antenna

Radiating Element Efficiency

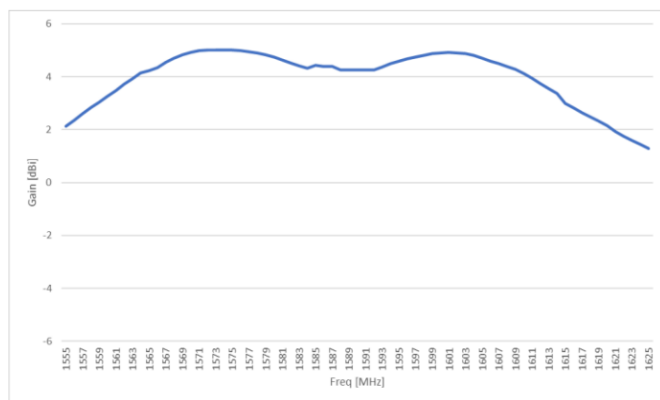


L1 Band

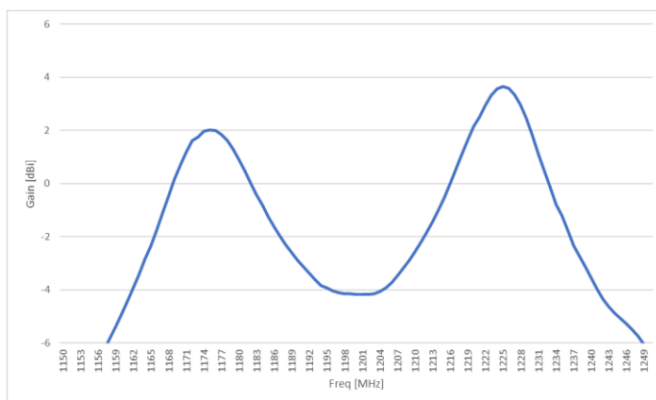


L2 + L5 Band

Radiating Element Peak Gain (Linear)



L1 Band

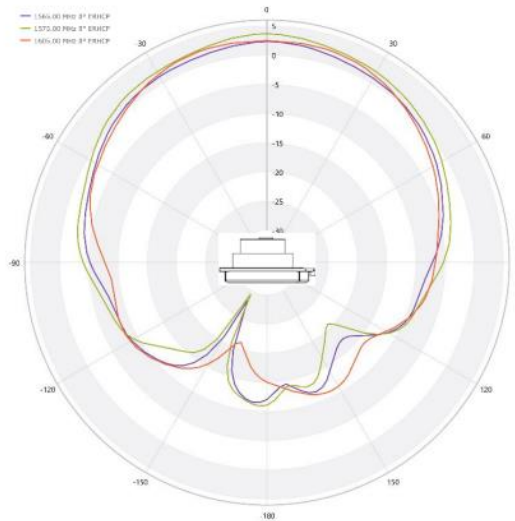


L2 + L5 Band

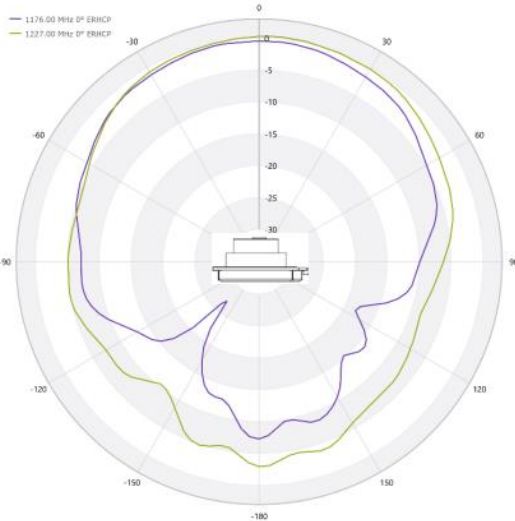
Charts

Test data
GNSS Antenna

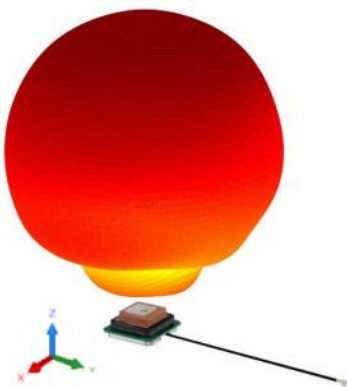
Radiation Patterns RHCP (dBic)



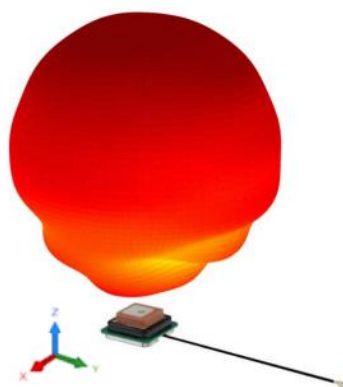
L1 RHCP Pattern



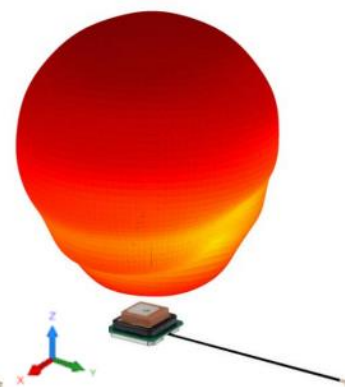
L2 + L5 RHCP Pattern



L1 3D RHCP Pattern
@1575 MHz



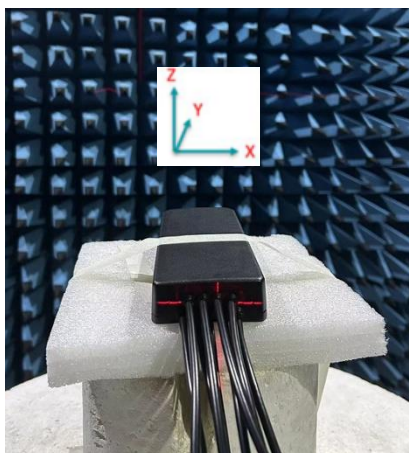
L2 3D RHCP Pattern
@1227 MHz



L5 3D RHCP Pattern
@1176 MHz

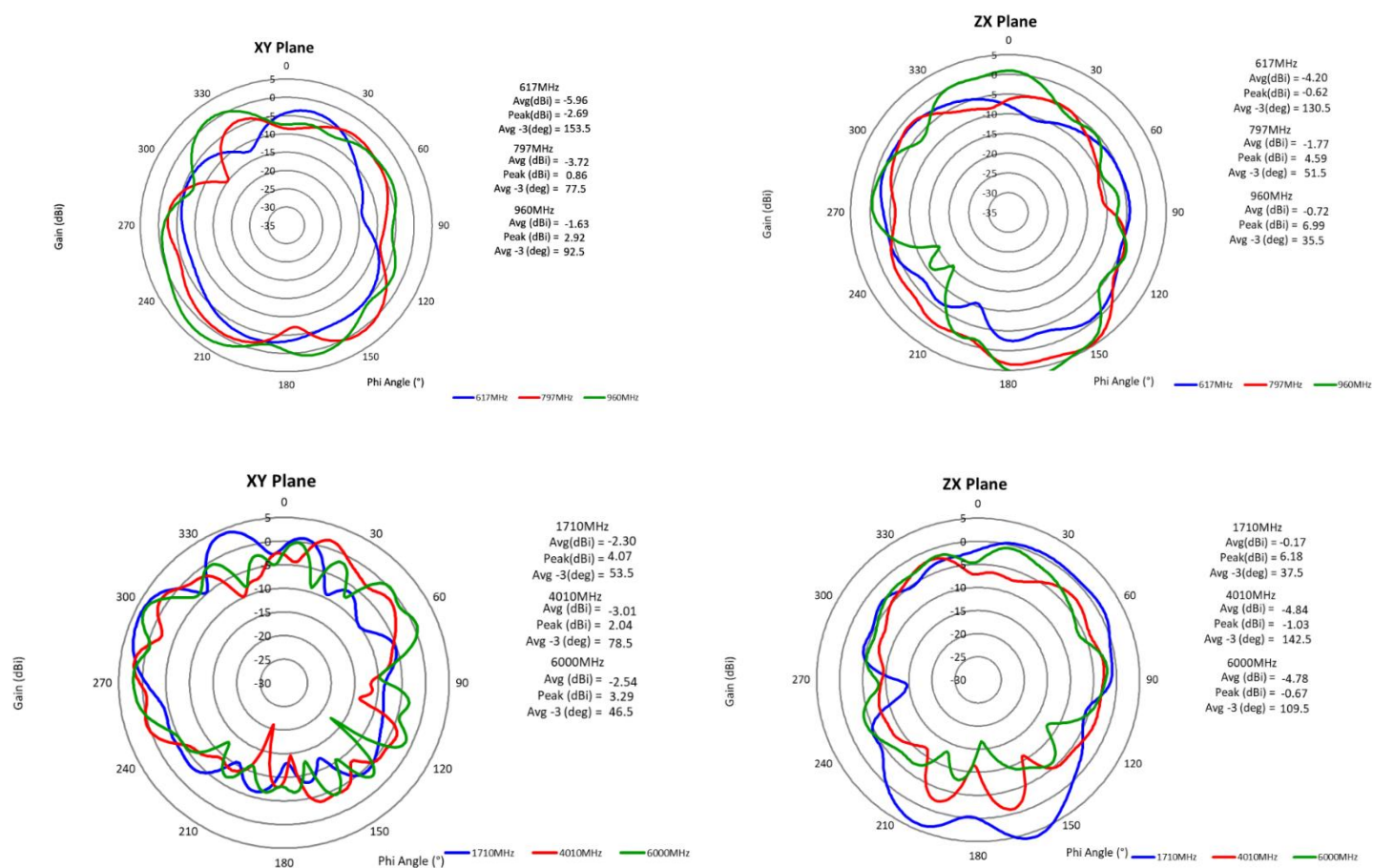
Testing Setup

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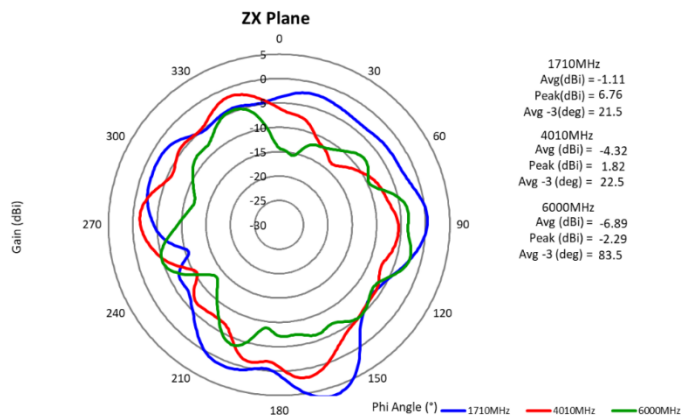
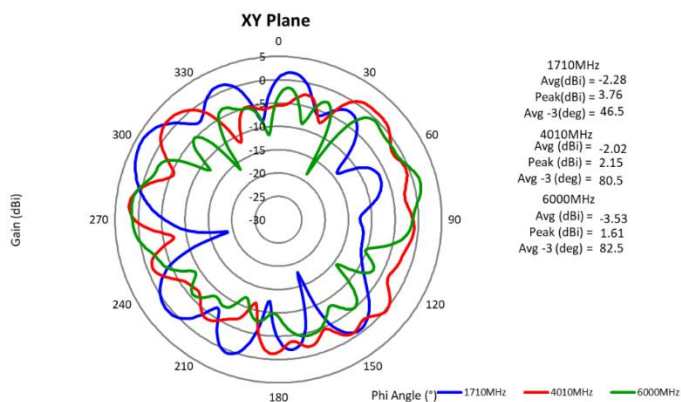
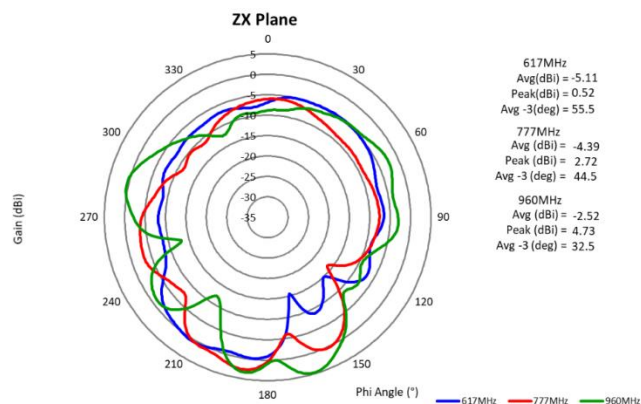
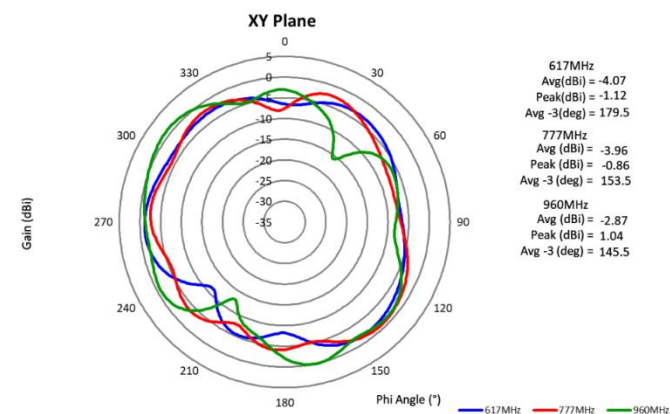
Radiation Pattern

Test data
5G NR-Antenna 1



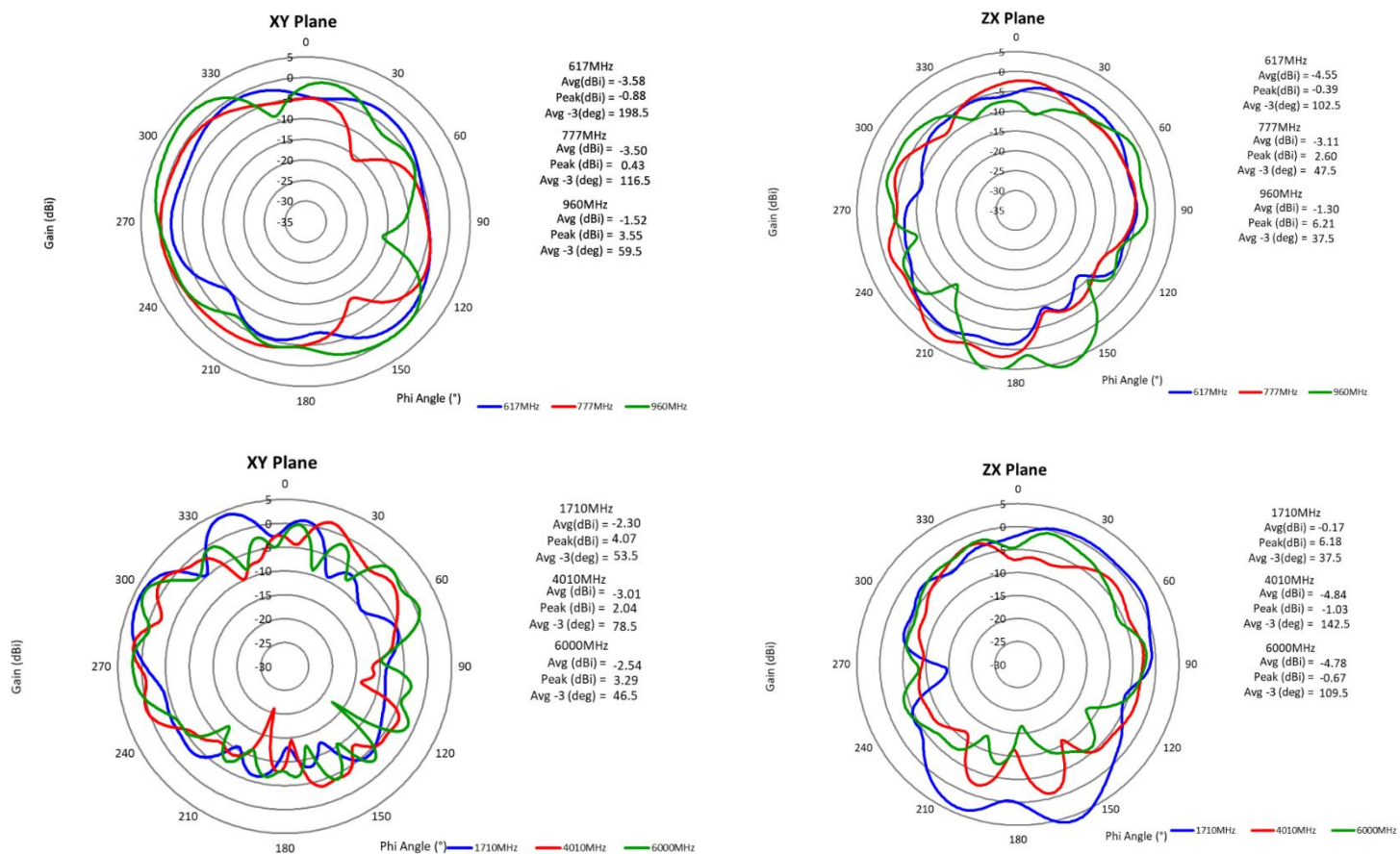
Radiation Pattern

Test data
5G NR-Antenna 2



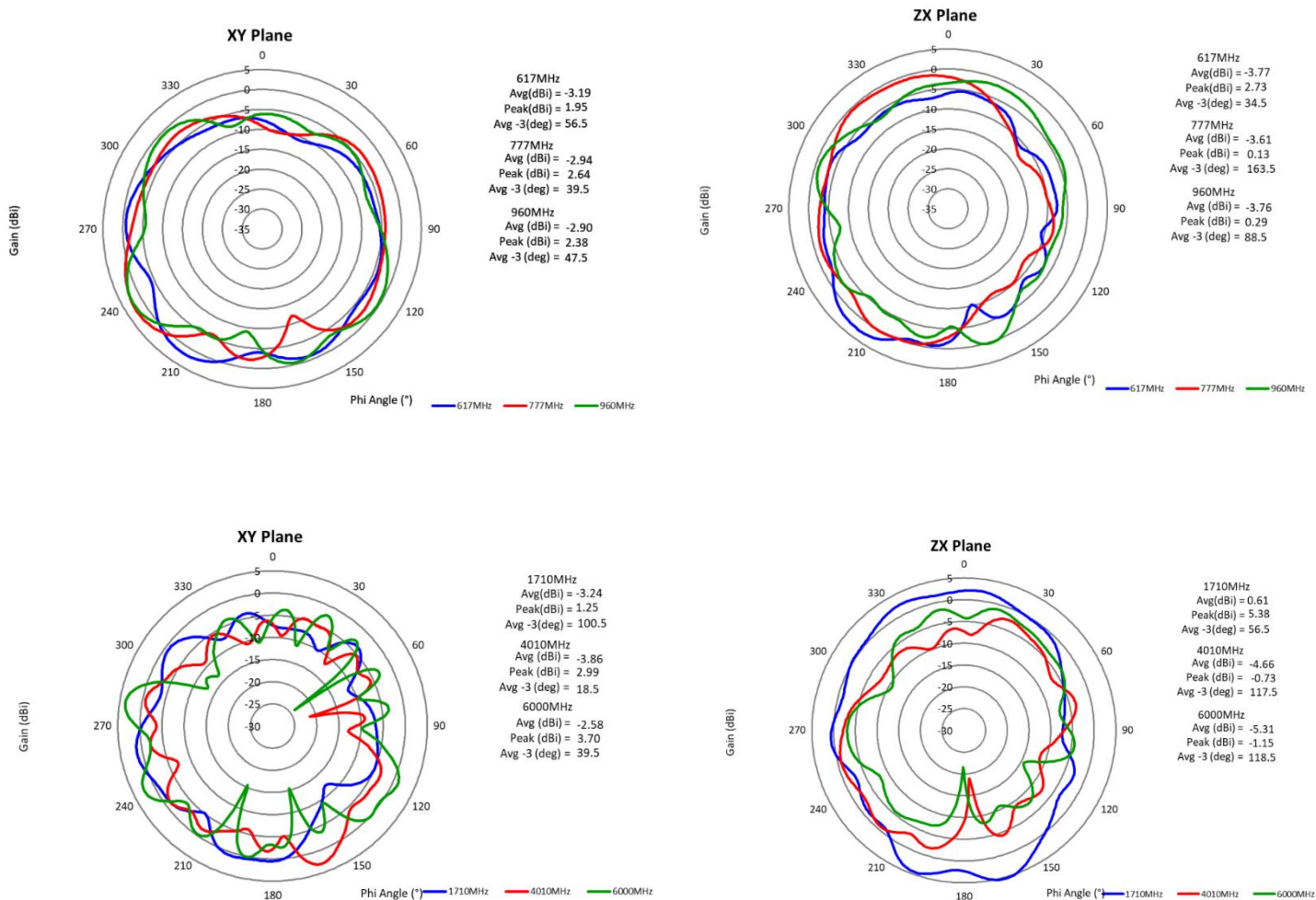
Radiation Pattern

Test data
5G NR-Antenna 3



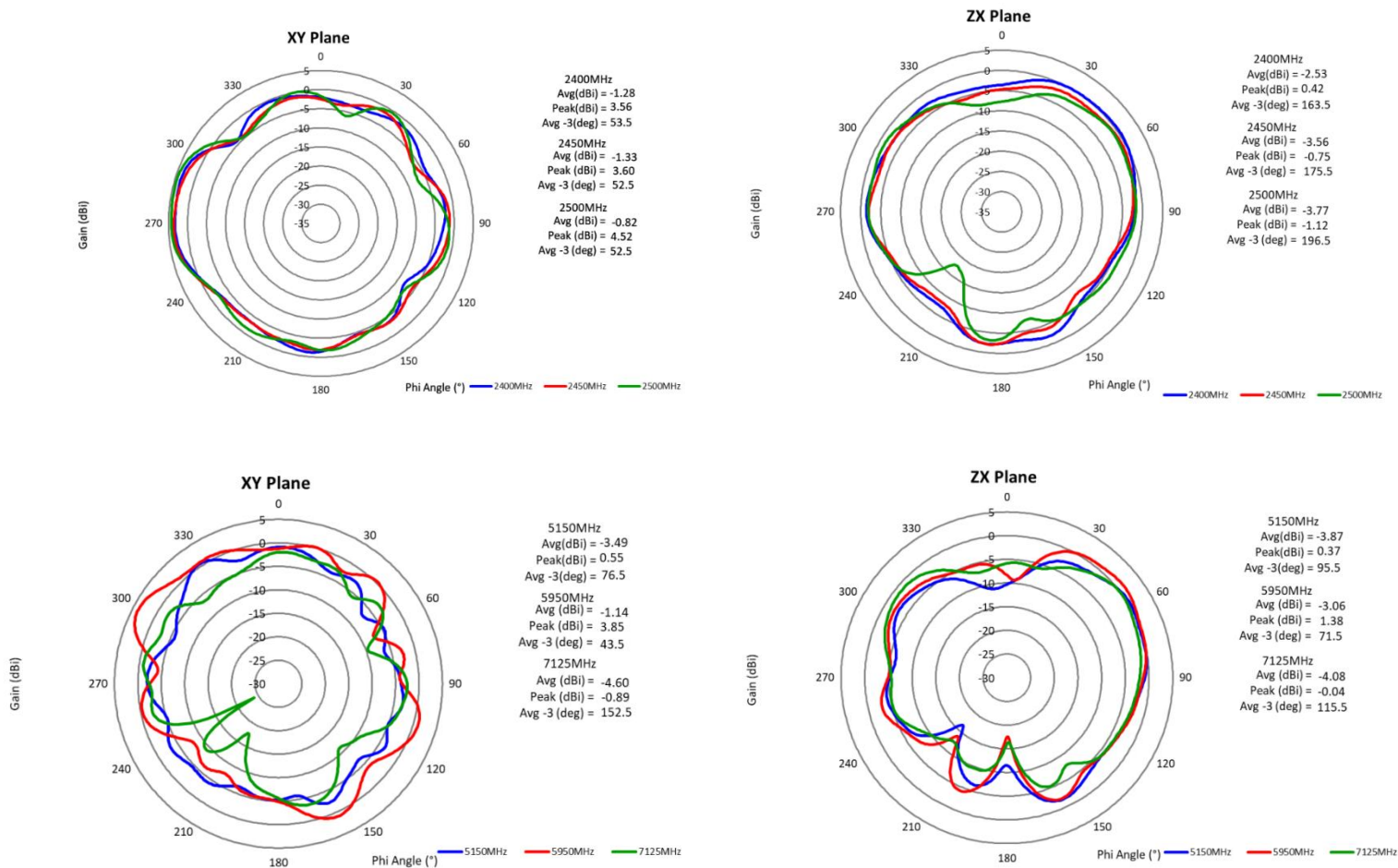
Radiation Pattern

Test data
5G NR-Antenna 4



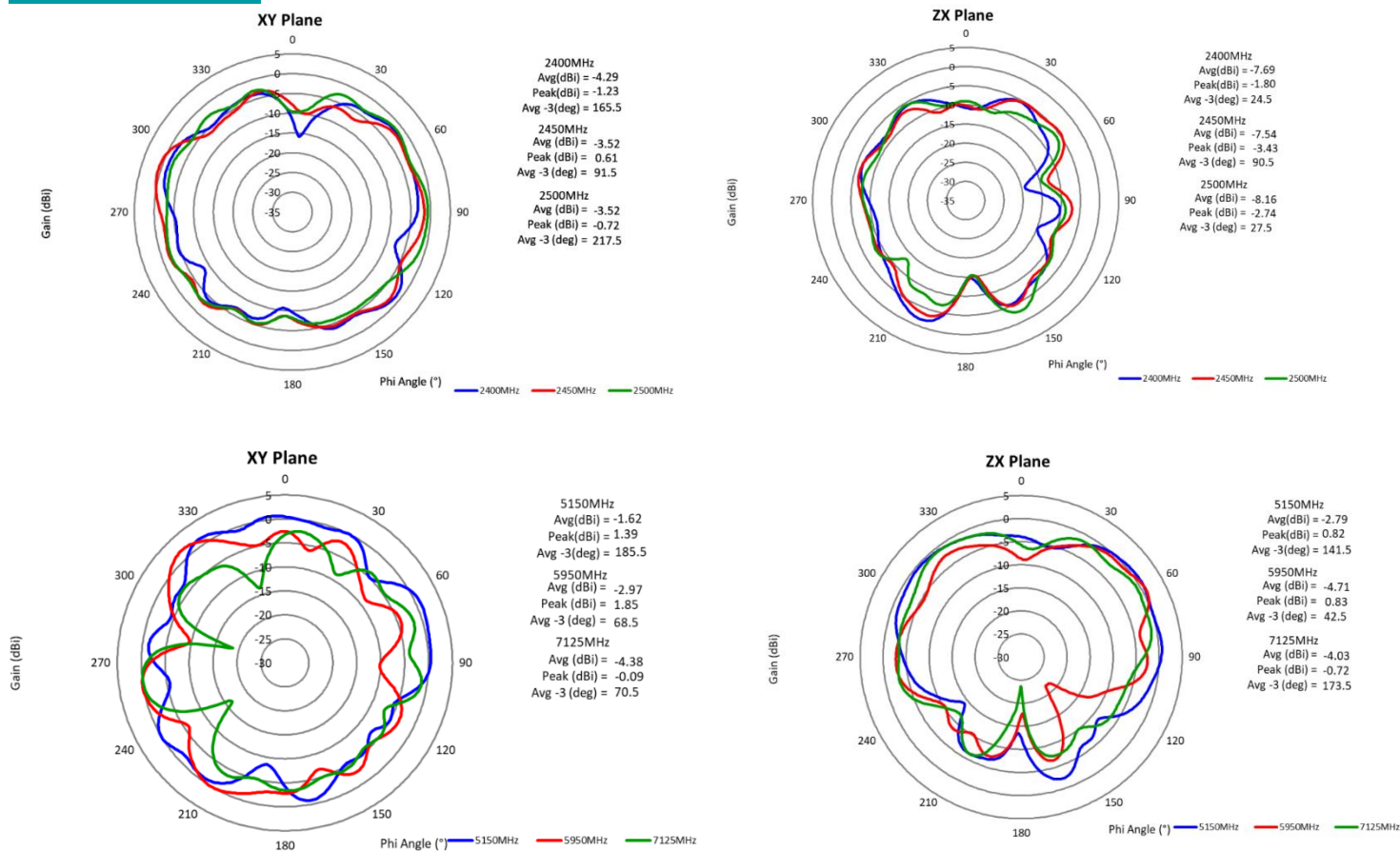
Radiation Pattern

Test data
WiFi-Antenna 1



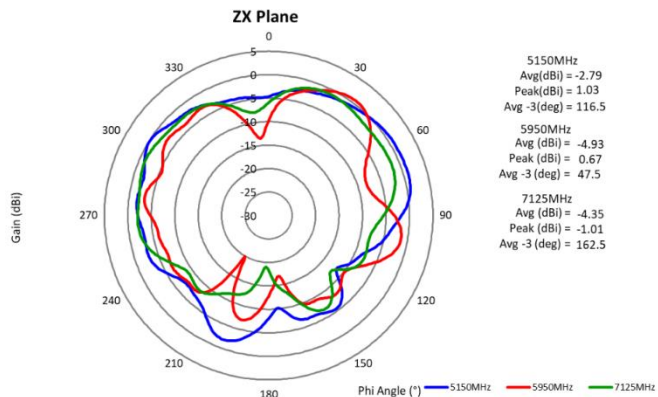
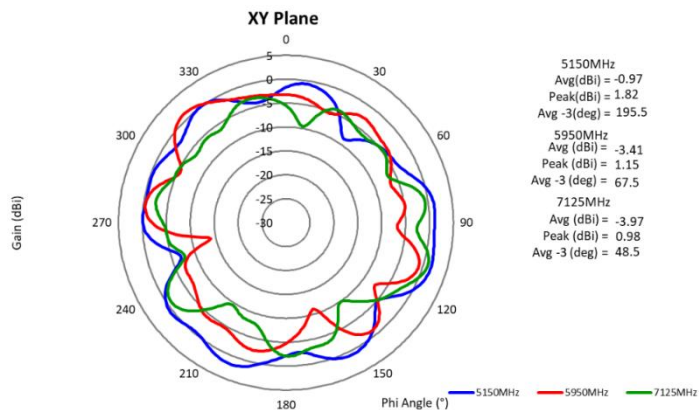
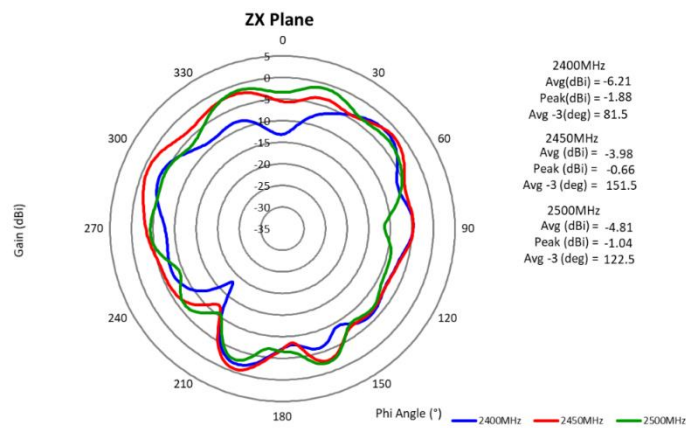
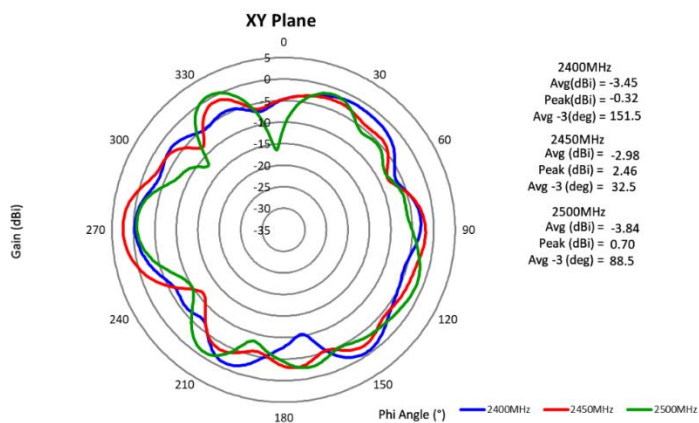
Radiation Pattern

Test data
WiFi-Antenna 2



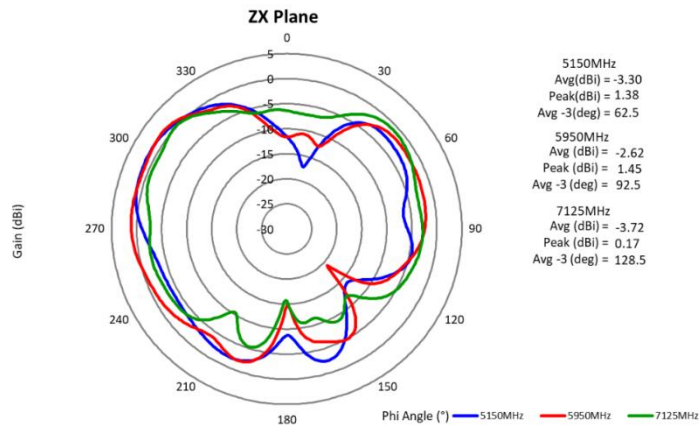
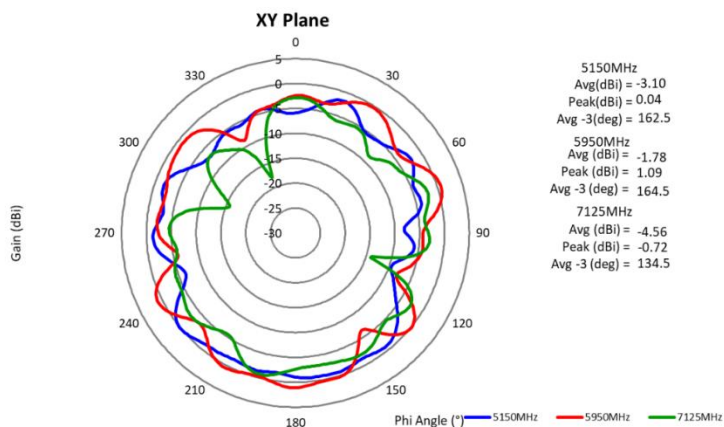
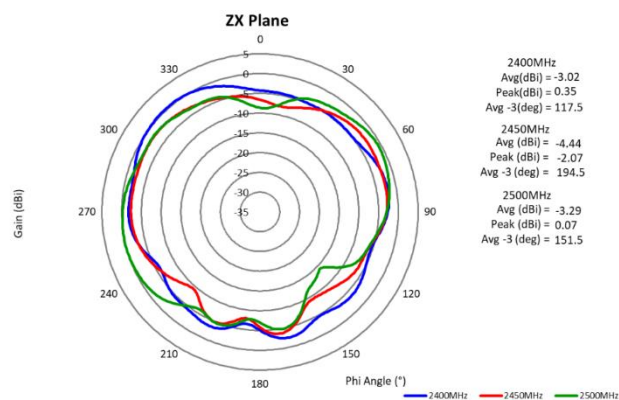
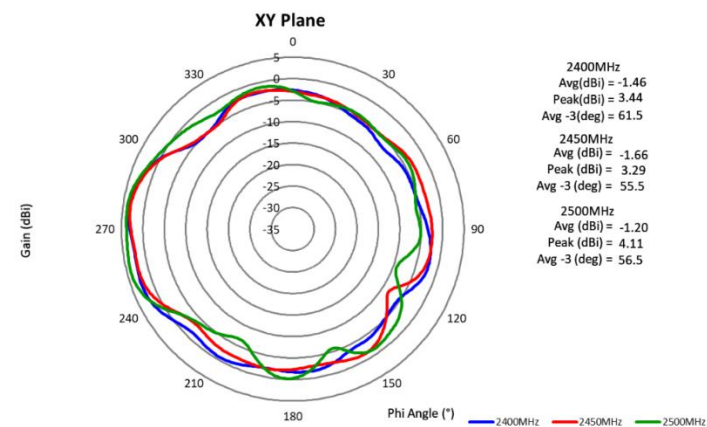
Radiation Pattern

Test data
WiFi-Antenna 3



Radiation Pattern

Test data
WiFi-Antenna 4



Packing

CDB94411AM

1.Put one antenna and one bag accessories into a big packing bag.	
2. Put the partition board into the outer box, and put 2 products in every grid, 12 sets products per outer box.	

For More Information:
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