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Sharkfin / Vehicular
5G-FR1+WiFi-6E+GNSS L1+L2 Direct Mount 6-in-1 Antenna

SKF5G62311DM - 617 to 7125 MHz



Features & Applications:

- Vehicle roof mount, directly on metal plane
- 2x2 MiMo Cellular 5G-FR1 (4G compatible)
- 3x3 MiMo WiFi, DSRC, V2X (WiFi-6E compatible)
- Active GNSS L1+L2 with low noise 38dB amplifier
- Cable length and connector type per request
- Heavy and light vehicles
- IoT, navigation, tracking

ELECTRICAL SPECIFICATIONS @ 25°C [1]

General Specifications – 5G FR1 + WiFi 6E

Antenna type	Nominal Impedance	Polarization	Radiation pattern	Power withstanding	DC Ground
Monopole[2]	50Ω	Vertical / Linear	Omni	45W	No

5G FR1 Antennas: 617 – 5925MHz

Port	Frequency (MHz)	617-960	1710-2700	3300-4200	4400-5000	5150-5925
Port 1, 2	VSWR	3:1	2:1	2.5:1	2.5:1	2.5:1
	Avg. Peak Gain (dBi)	2.3	4.6	4.9	5.7	5.4
	Avg. Efficiency (%)	51	54	68	68	62
Isolation[3]	Port 1-2 (dB)	10	25	30	40	45

WiFi 6E Antennas: 2400-2500 / 4900-7125MHz

Port	Frequency (MHz)	2400-2500	4900-7125
Port 1,2,3	VSWR	2:1	2:5
	Avg. Peak Gain (dBi)	6.0	4.7
	Avg. Efficiency (%)	62	76
Port – Port Isolation[3]	Port 1-2 (dB)	10	20
	Port 1-3 (dB)	12	25
	Port 2-3 (dB)	15	30

Notes:
1. Storage Temperature: -40°C to 85°C
2. (5) Multi-Band Monopoles with built in ground plane, Independent from external ground plane
3. Minimum Isolation (dB)

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Pulse a YAGEO company

GNSS Antenna L1 Band: 1561.098 +/- 2.046MHz, 1575.42 +/- 1.023MHz, 1602.5625 +/- 4MHz GNSS Antenna L2 Band: 1227.6+/- 1.023MHz				
Frequency (MHz)	**L1 Band**		**L2 Band**	
VSWR	2:1		2:1	
Gain – Radiating Element (dBic)	2 +/- 1		4 +/- 1	
Polarization	**LNA Gain (dB)**	**Noise Figure (dB)**	**Operating Voltage (V_{dc})**	**Current Consumption (mA)**
RHCP	38 +/- 2	< 2.4	3.3 – 5.0	< 11
Frequency (MHz)	960	1710	2170	2400
Out of Band Rejection (dB)	> 65	> 60	> 65	> 65

MECHANICAL SPECIFICATIONS

SKF5G62311DM

Dimension (Length x Width x Height)	Housing Material	Color	Weight	Fixing System	Mounting Hole Diameter
178.3 x 52.5 x 62 mm (7.02 x 2.07 x 2.44 inch)	PC, UV Protected	Black	550g (1.22lbs)	Direct Mount	1.063” (27mm)

Wireless Technology	No. of Port	Cable Length	Cable Type	Connector Type
5G FR1/ LTE	2	17ft (5.181m)	LMR195	SMA (Male)
WiFi 6E	3	17ft (5.181m)	LMR195	RP-SMA Male
GNSS L1	1	17ft (5.181m)	RG-174	SMA (Male)

ENVIRONMENTAL SPECIFICATIONS

SKF5G62311DM

Operating Temperature	Ingress Protection	RoHS Compliant	
-40 / +85° C	IP67	Yes	

Dimensions: inches (mm) Unless otherwise specified, all tolerances are ±.010 (0.25mm)

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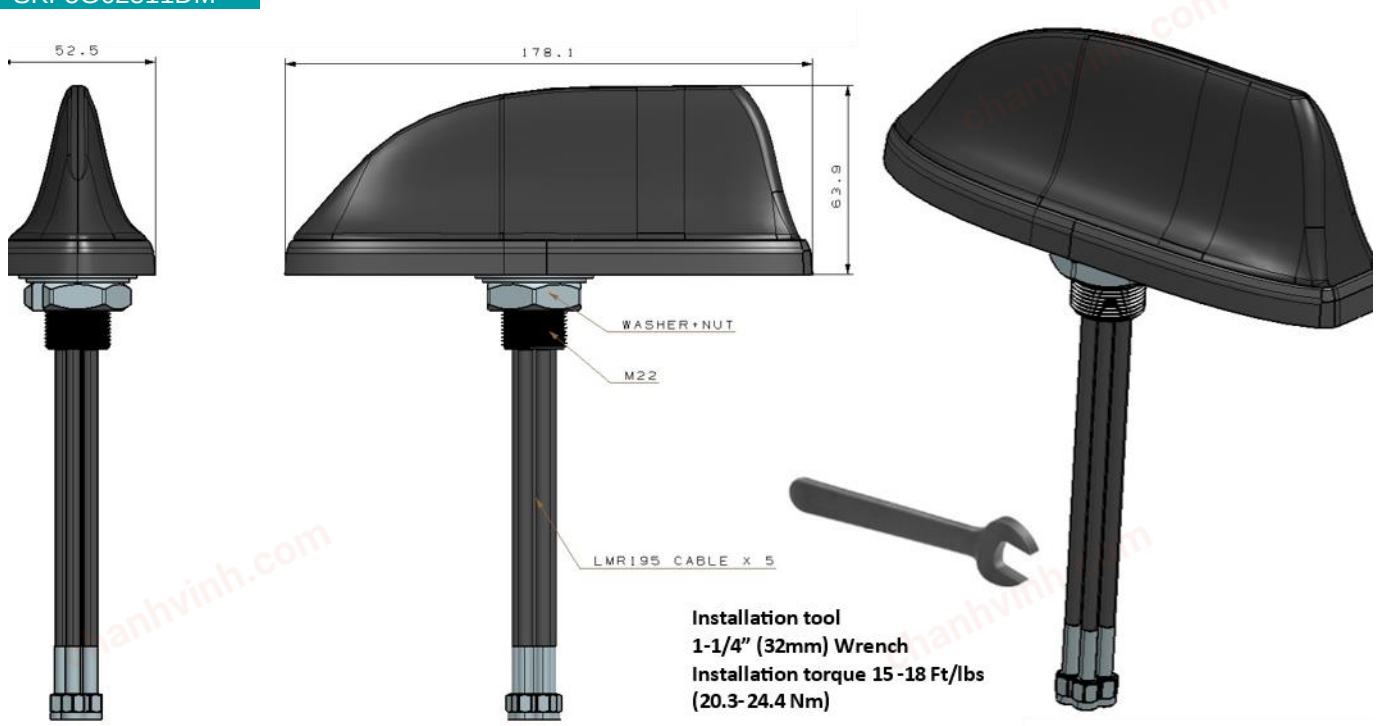
Mechanical Drawing

SKF5G62311DM



Test Setup

General / Chamber Setup

- All measurements done on Ø 500mm (20") round ground plane.
- S-parameters with 5m LMR 195 cable
- Gain and Efficiency with 0.5m LMR 195 cable
- Measured at Pulse, Suzhou



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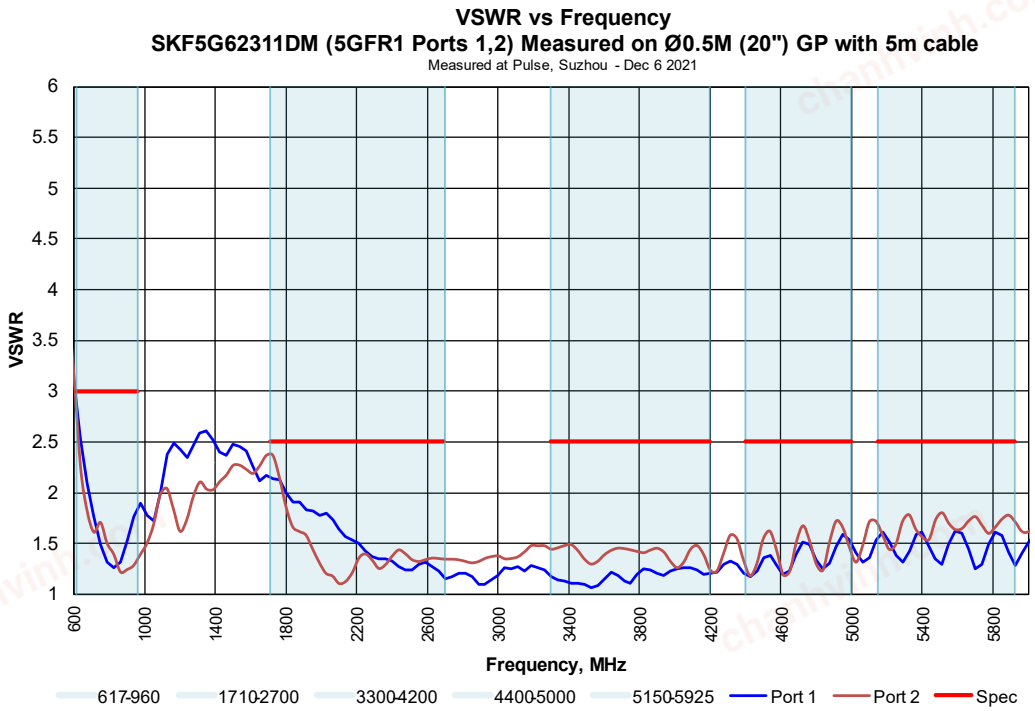
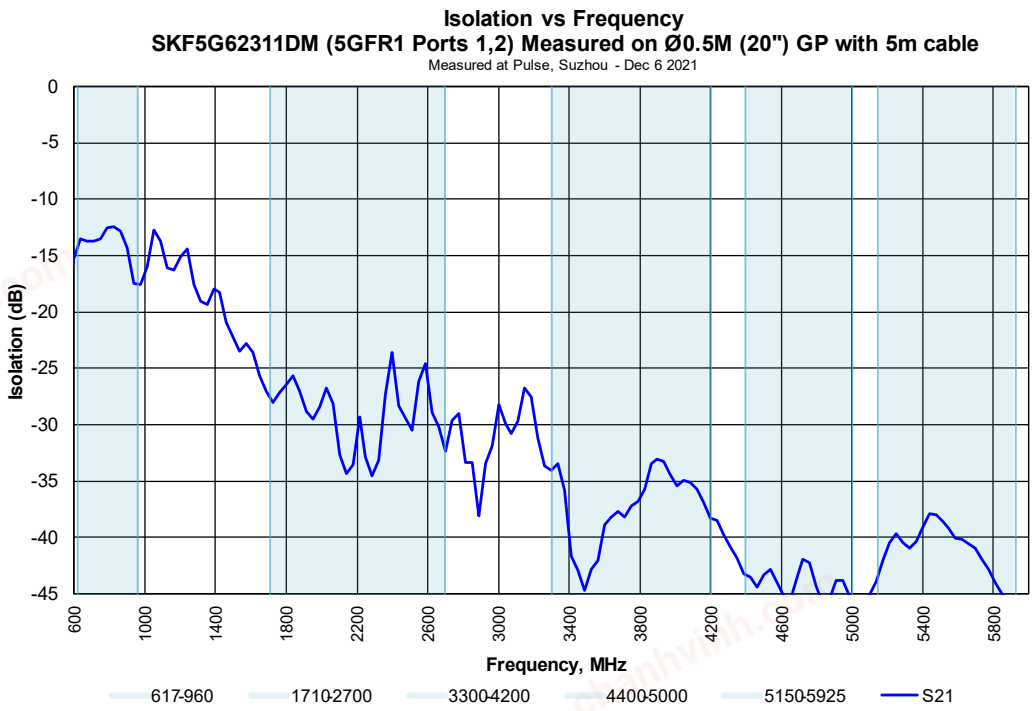
Charts-VSWR

5G FR1



Charts-Isolation

5G FR1



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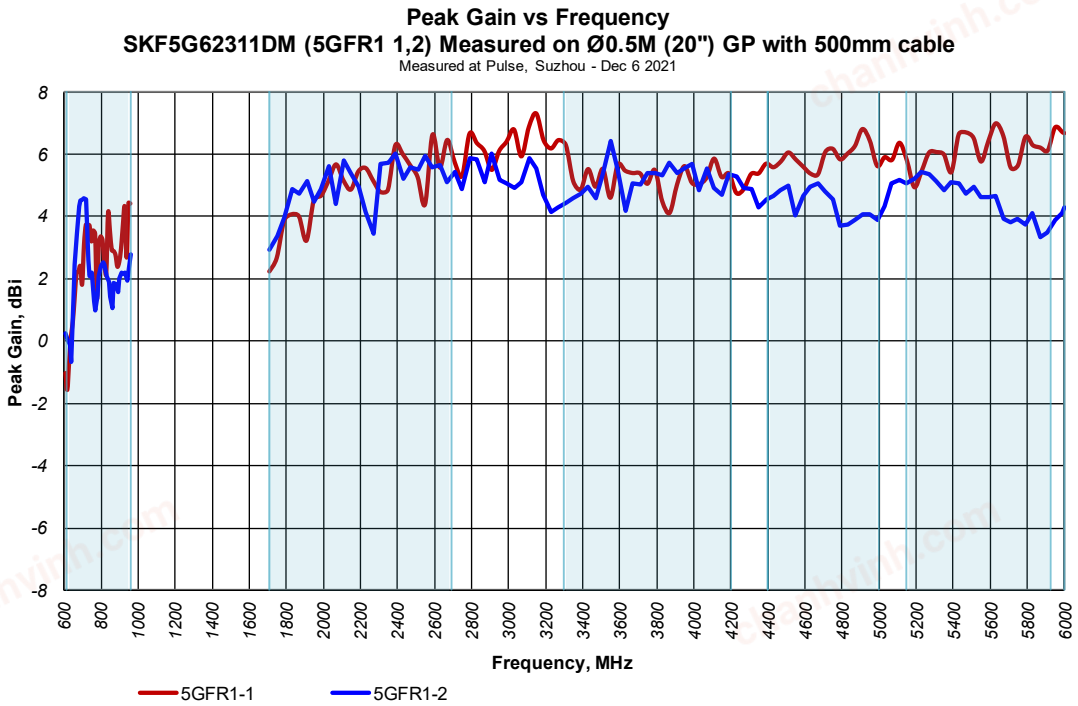
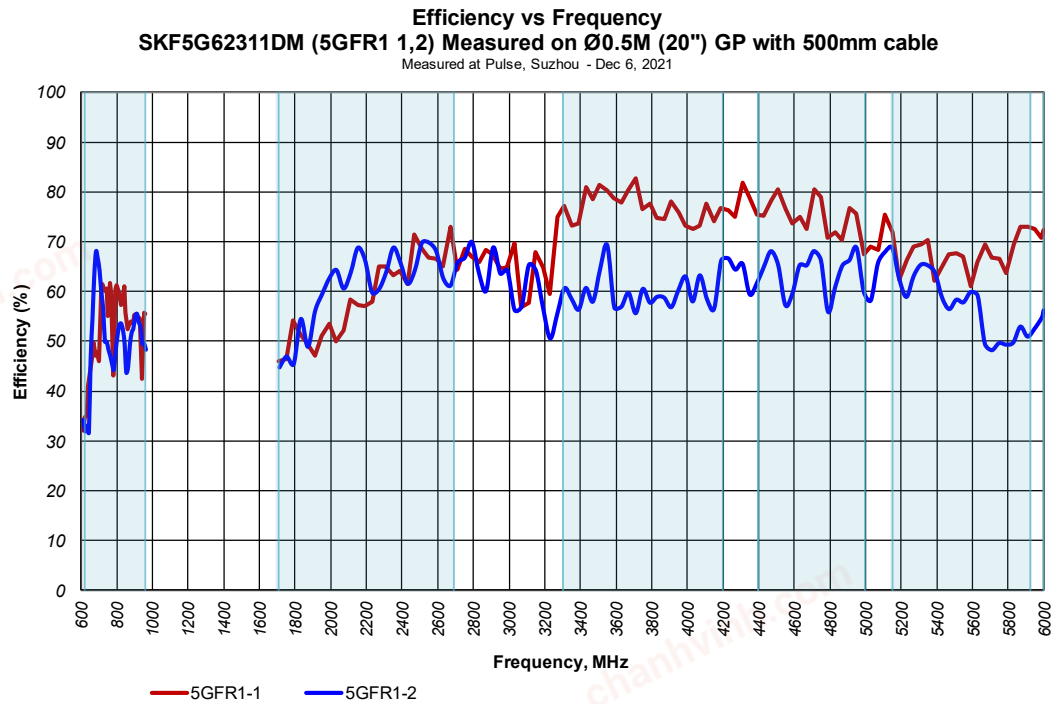
Charts-Peak Gain

5G FR1



Charts- Peak Efficiency

5G FR1



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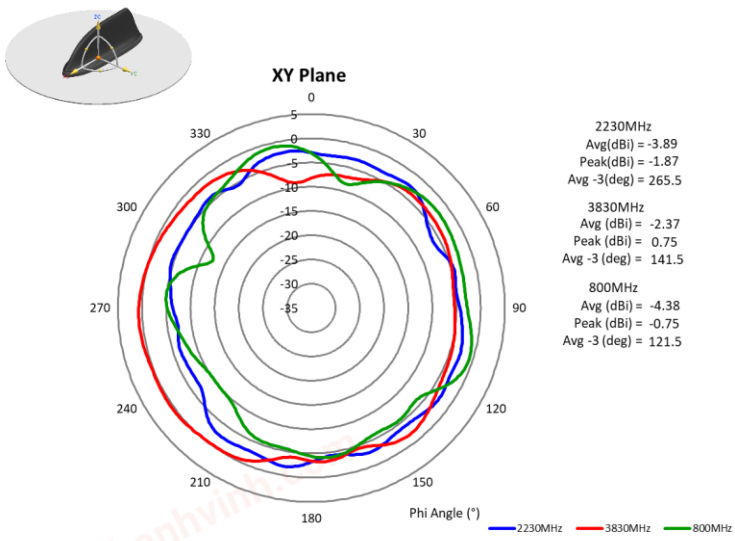
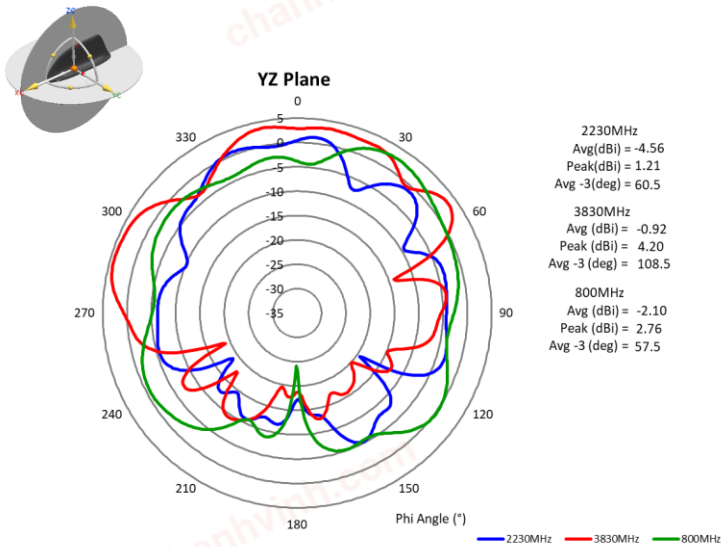
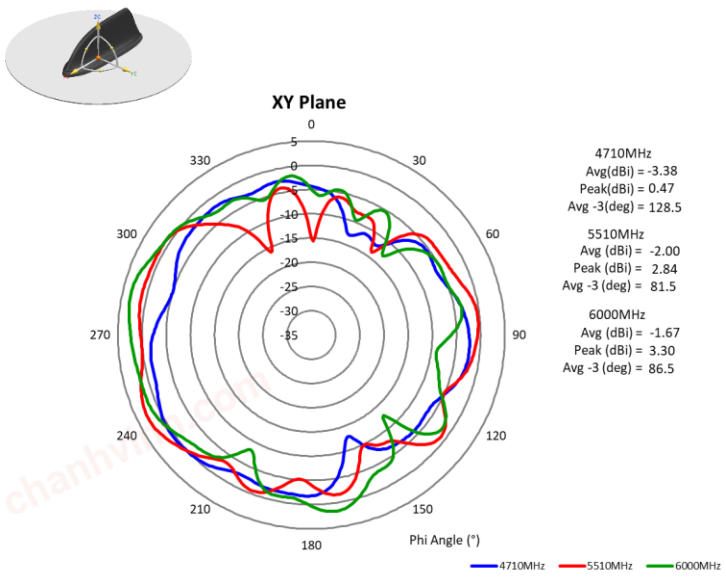
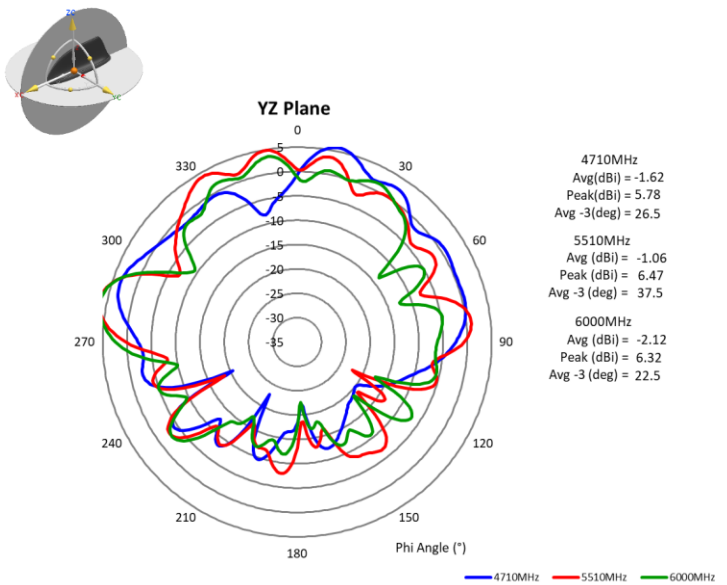
Radiation Pattern – 5G FR1 – Port 1 – XY & XZ Gain Plots

5G FR1 Port 1









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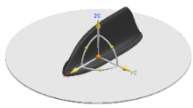
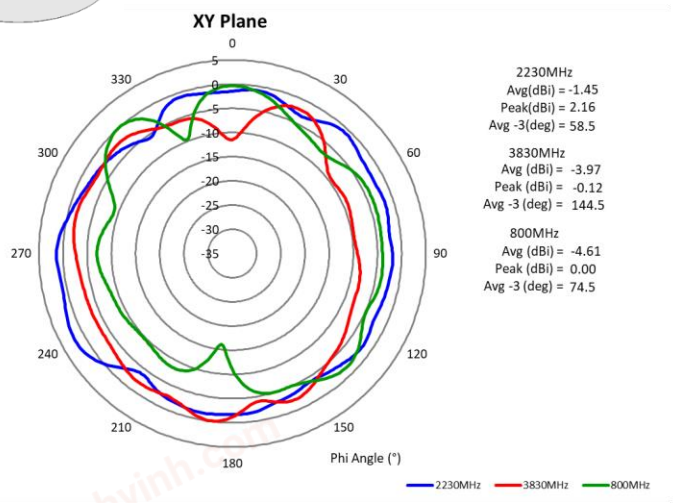
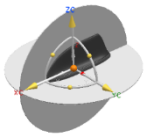
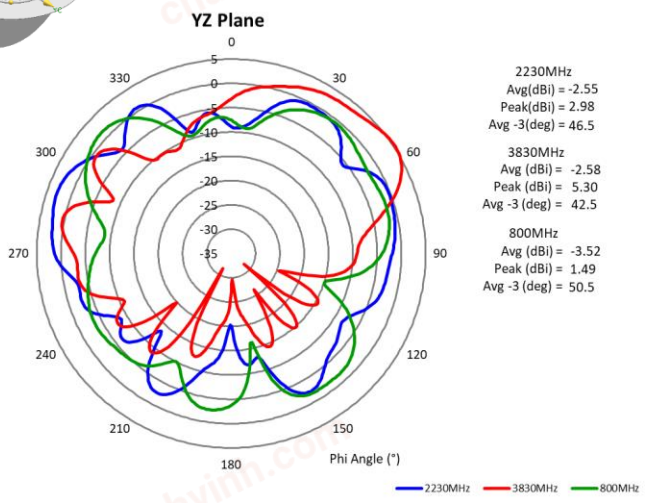
Radiation Pattern – 5G FR1 – Port 2 – XY & XZ Gain Plots

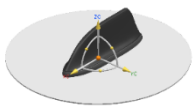
5G FR1 Port 2

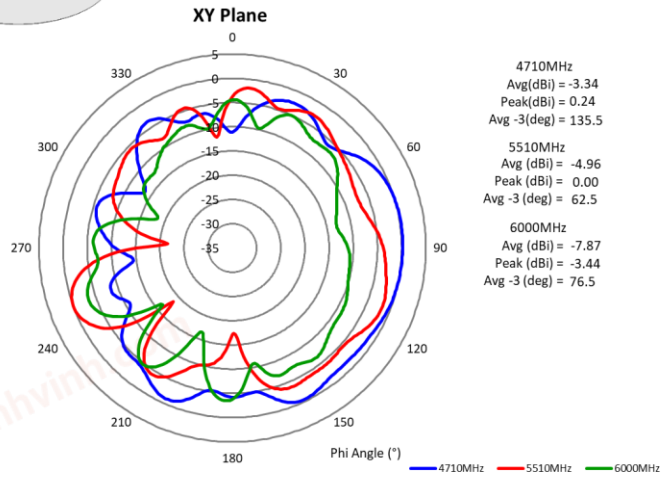


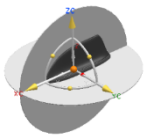


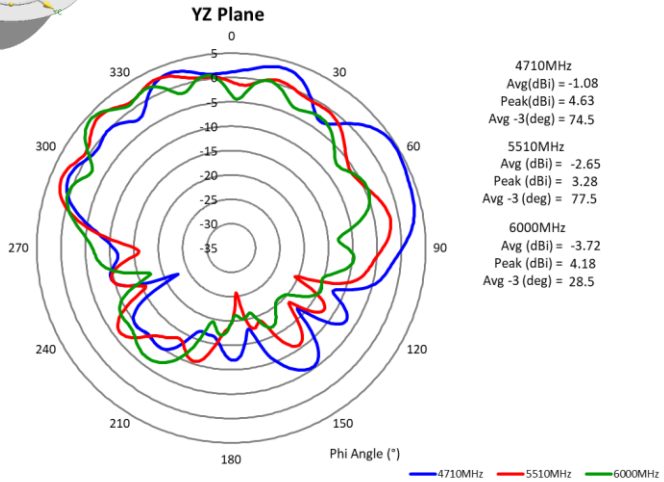












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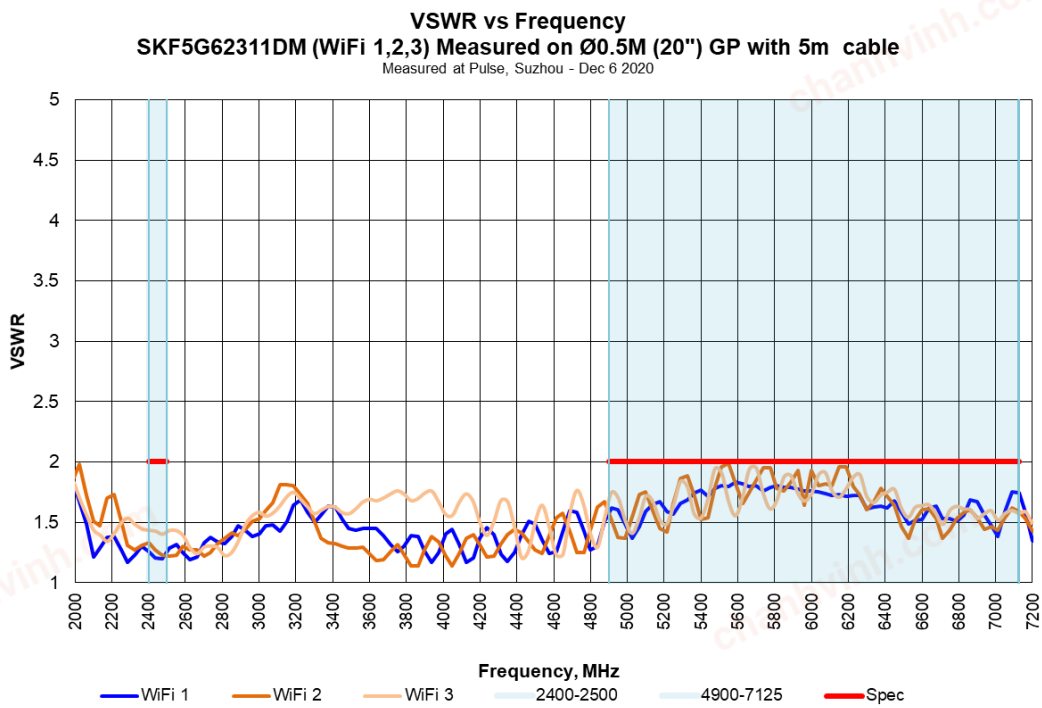
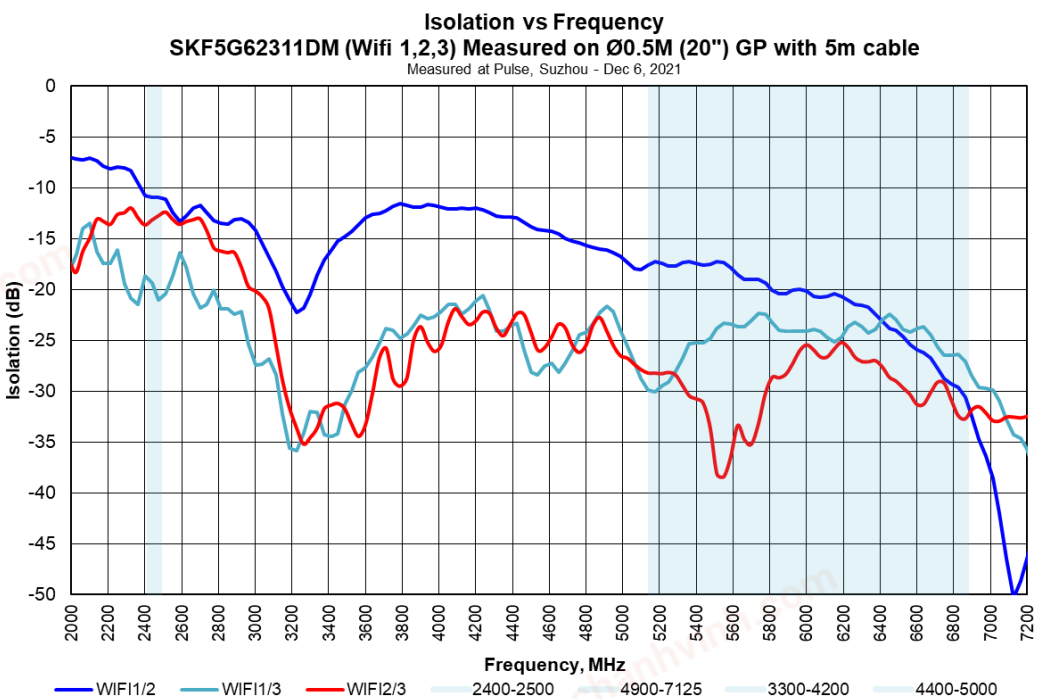
Charts-VSWR

WiFi 6E



Charts-Isolation

WiFi 6E



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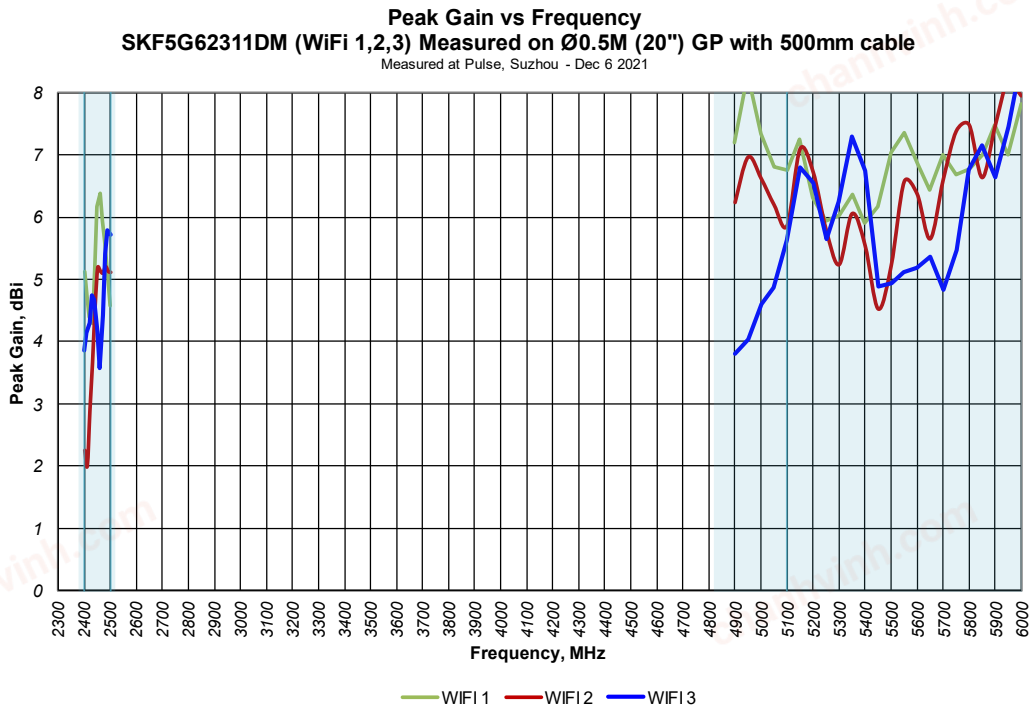
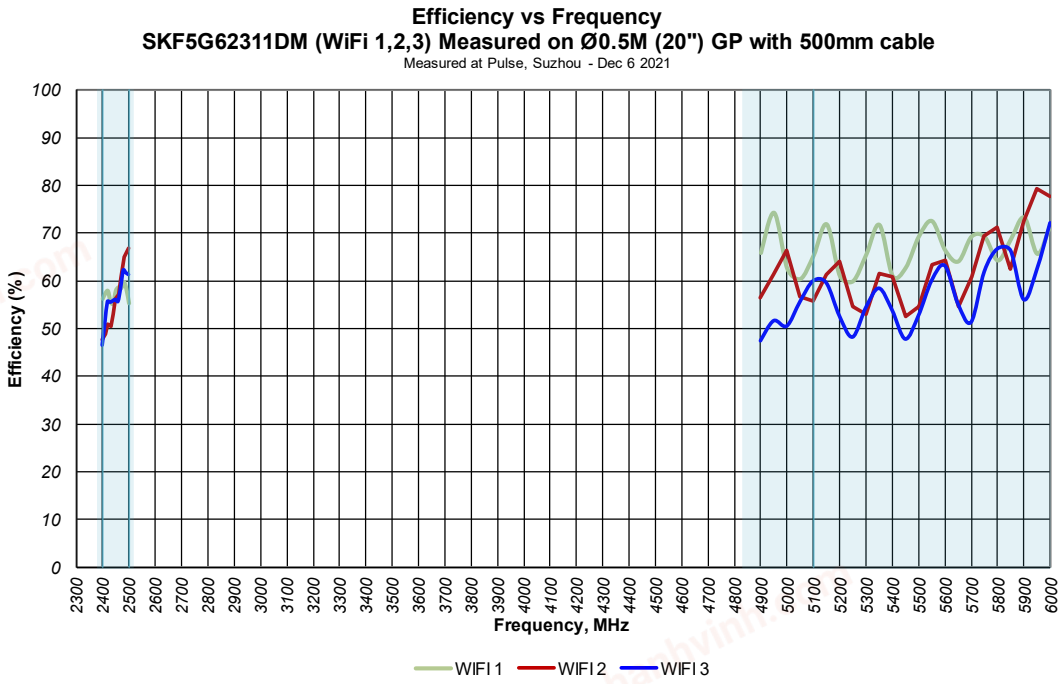
Charts-Peak Gain

WiFi 6E



Charts- Peak Efficiency

WiFi 6E



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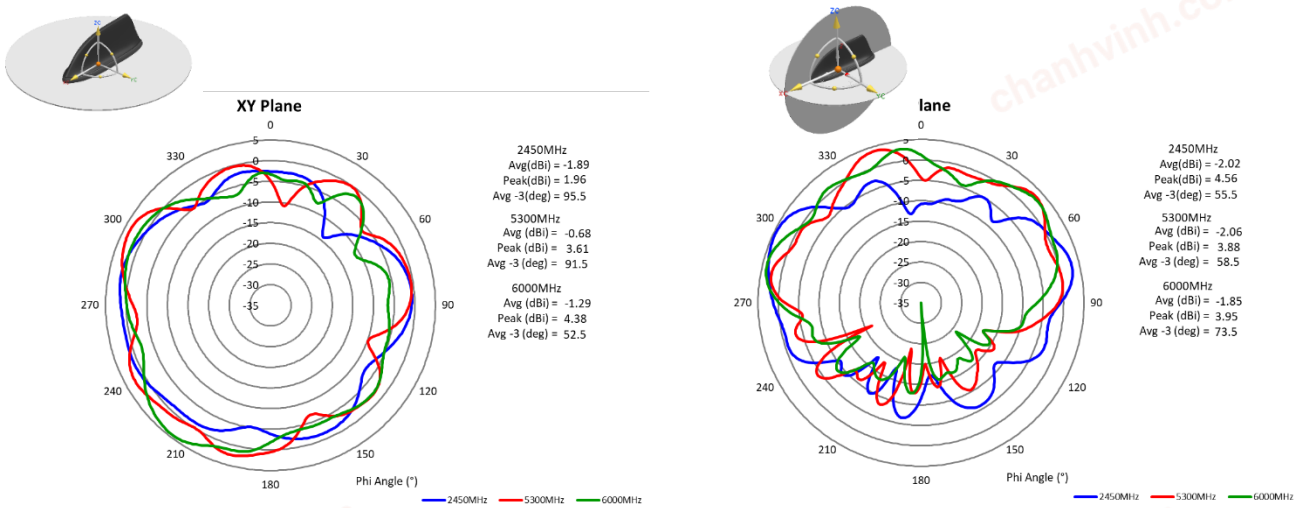
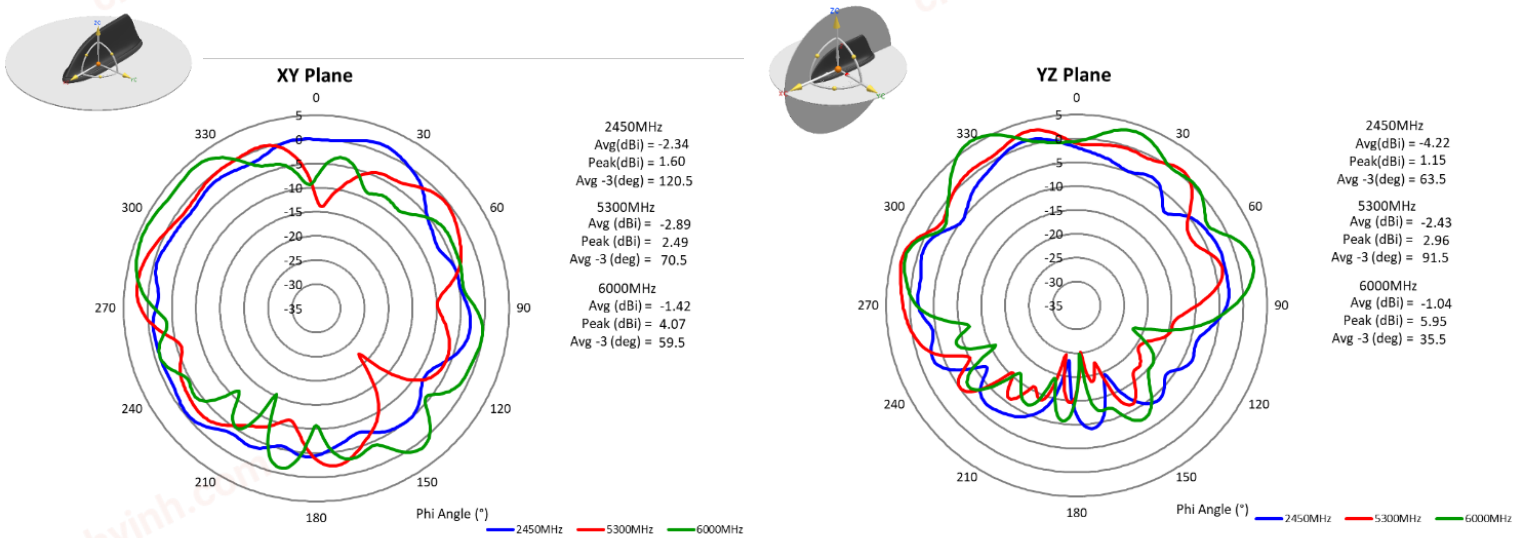
Radiation Pattern – WiFi 6E – Port 1 - XY & XZ Gain Plots

WiFi 6E Port 1



Radiation Pattern – WiFi 6E – Port 2 - XY & XZ Gain Plots

WiFi 6E Port 2



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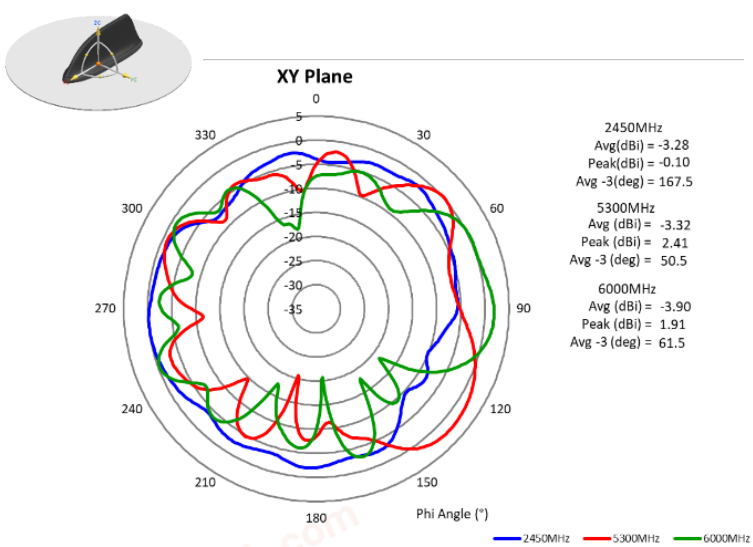
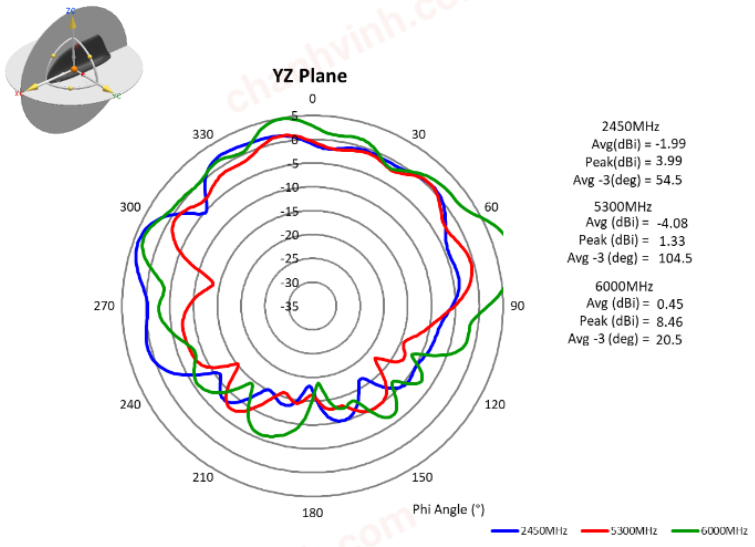
Radiation Pattern – WiFi 6E – Port 3 - XY & XZ Gain Plots

WiFi 6E Port 3





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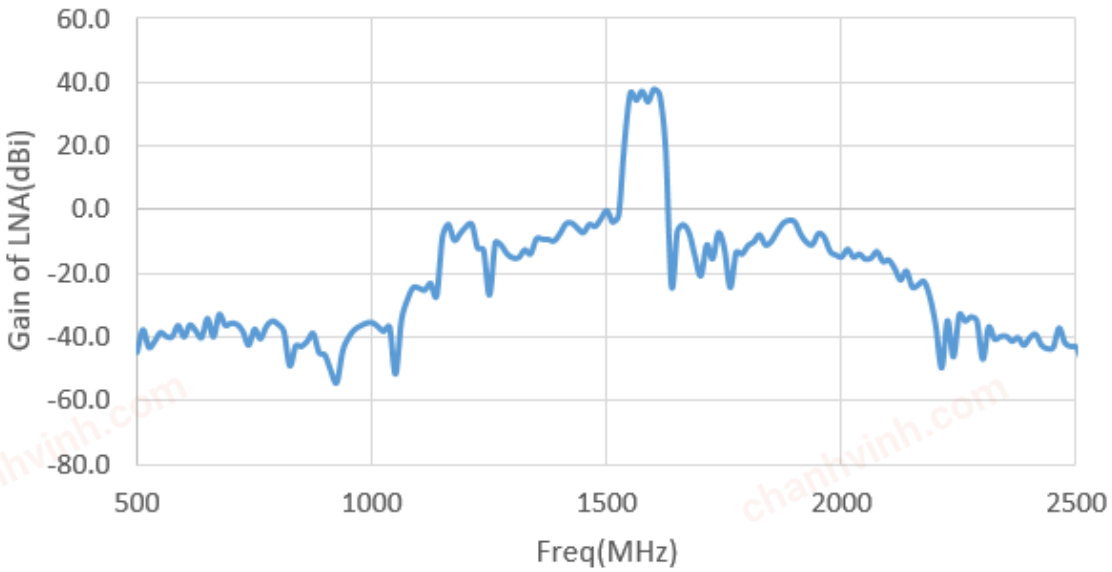
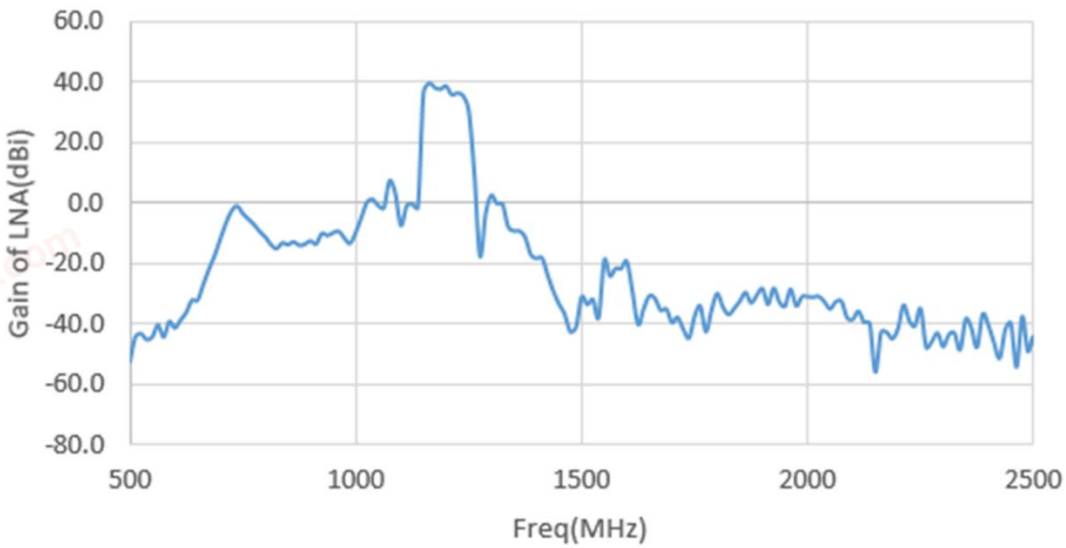
GNSS Antenna - LNA Gain

LNA gain and Out-of-band Rejection (L1)



GNSS Antenna - LNA Gain

LNA gain and Out-of-band Rejection (L2)



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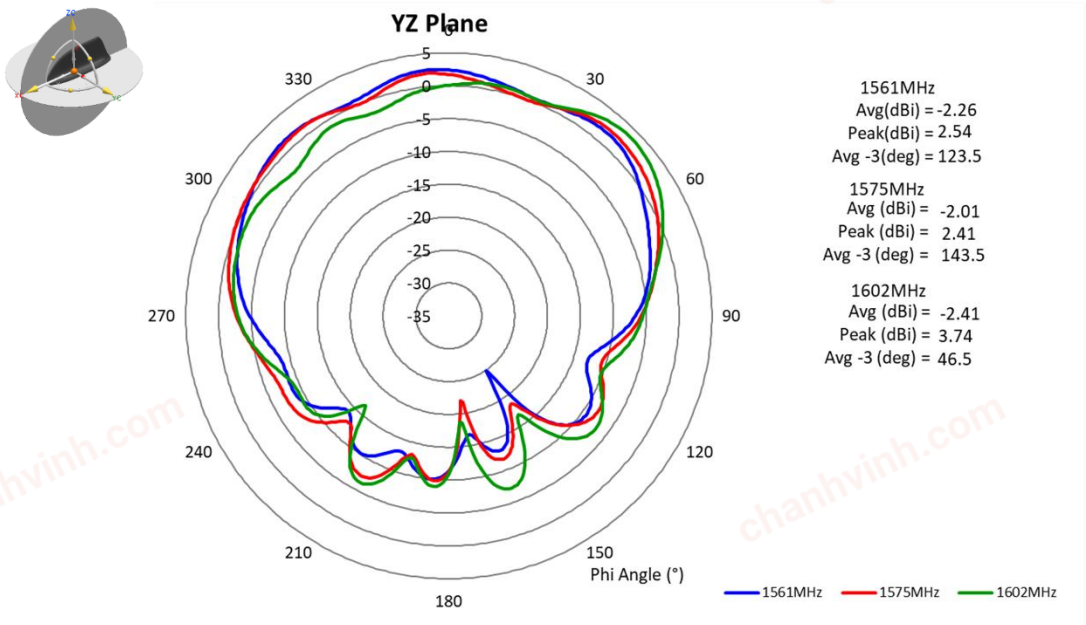
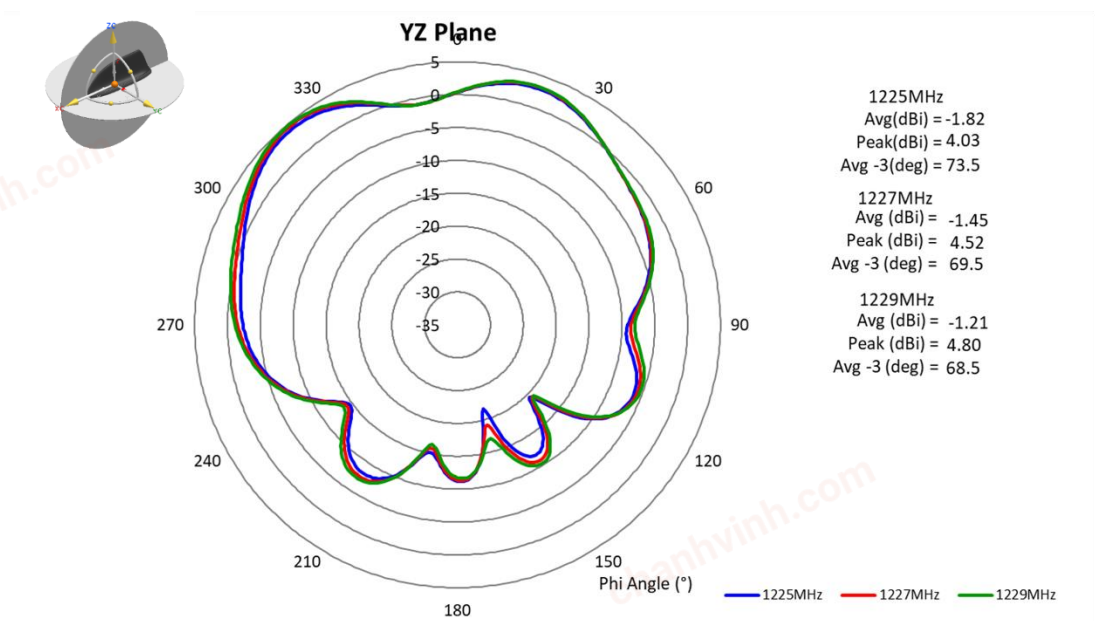
GNSS Antenna - Radiation Pattern (YZ Plane) Plots

YZ Plane: Passive measurement with 15” cable (L1)



GNSS Antenna - LNA Gain and Radiation Pattern (YZ Plane) Plots

YZ Plane: Passive measurement with 15” cable (L2)



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PACKAGING

SKF5G62311DM

1pcs antennas per plastic bag
2pcs antennas per package box
Package box: 17x x12 x 9in

Notes:

1. Please contact sales for availability, lead time, and/or any special requests. Samples available upon request.

For More Information:
Americas - antennas.us@pulseelectronics.com | Europe – antennas.eu@pulseelectronics.com | Asia – antennas.as@pulseelectronics.com | Questions? +1-800-ANTENNA
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