

Test Report for Antenna Specifications for FS738N

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Frequency range and operation

Bluetooth / Zigbee Antenna: 2.402 to 2.484 GHz

WiFi / Radar Tx Antenna: 2.412 to 2.472 GHz / 5.18 to 7.115 GHz

Radar Div. Tx Antenna: 5.725GHz / 5.8GHz / 5.875GHz

Radar Rx Antenna: 5.725GHz / 5.8GHz / 5.875GHz

Antenna type

Bluetooth / Zigbee Antenna: PCB PIFA type

WiFi / Radar Tx Antenna: FPC + Cable type

Radar Tx Div. Antenna: PCB Loop + Cable type

Radar Rx Antenna: PCB dipole type

Antenna Gain

Band	Peak Gain (dBi)	
	WiFi ANT	Bluetooth / Zigbee ANT
2.4GHz (2400-2480MHz)	4	3
5GHz Band I (5150-5250MHz)	3.5	
5GHz Band II-A (5250-5350MHz)	3.5	
5GHz Band II-C (5470-5725MHz)	3.5	
5GHz Band III (5725-5850MHz)	3.5	
UNII 5 (5955-6415MHz)	3	
UNII 6 (6435-6515MHz)	3	
UNII 7 (6535-6875MHz)	3	
UNII 8 (6875-7115MHz)	3	

Band	Peak Gain (dBi)		Peak Gain (dBi)
	Radar Tx ANT	Radar Tx Div. ANT	Radar Rx ANT
5725~5875MHz	3.5	3.5	3.5

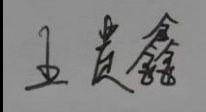
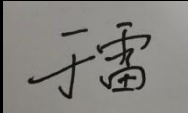
Measurement Test method

Solder pigtailed on feeding point of antennas and measure passive antenna performance by VNA and OTA chamber system. And the measurement was done in devices level.

Test Equipment used:

1. VNA: R&S ZVB8
2. OTA chamber: ETS 8500 Antenna Measurement System

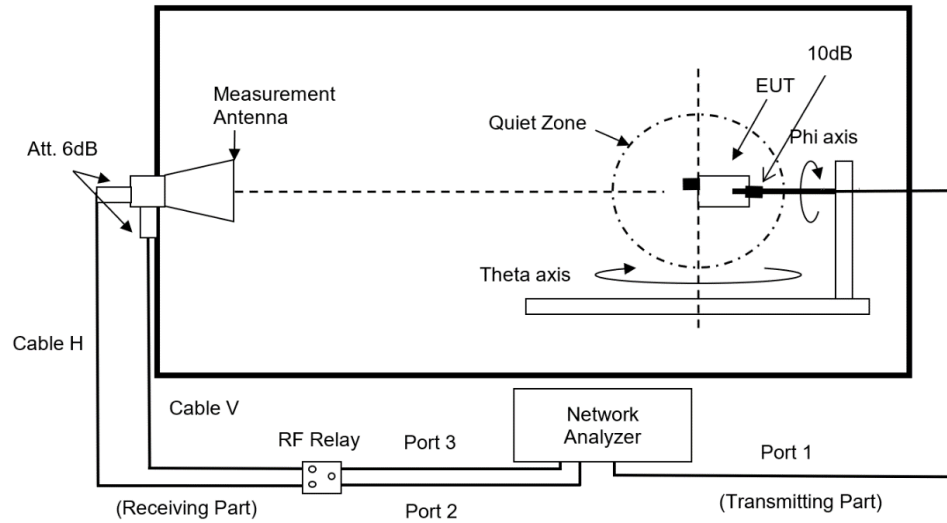
ETS Lab						
Name	Manufacturer	Type/Model	Type/Model	Serial Number	Calibration	
					Last Cal.	Due Date
Network Analyzer	R&S	ZVB8	ZVB8	100106	2025/10/14	2026/10/13
Switch Control	Keysight	3499	EMCenter	00116609	NCR	NCR
Diagonal Dual Polarized Horn	ETS-Lindgren	3164-10	3164-08	00138285	NCR	NCR
Multi-Devices Controller	ETS-Lindgren	2090	2090-OPT1	00155901	NCR	NCR
Medium Duty Holder	ETS-Lindgren	115520/115321	2015	N/A	NCR	NCR

Test Engineer	Test period	
	Begin	End
	2026/1/14	2026/1/16
RF Engineer		
		
Testing site	Test period	
	Begin	End
Speed(Suzhou) Communication Technology Co.,. Ltd. No.99,Weixin Road SIP Suzhou JiangSu Province China	2026/1/14	2026/1/16

Test set up

Refer to Below

FII CHAMBER AXIS

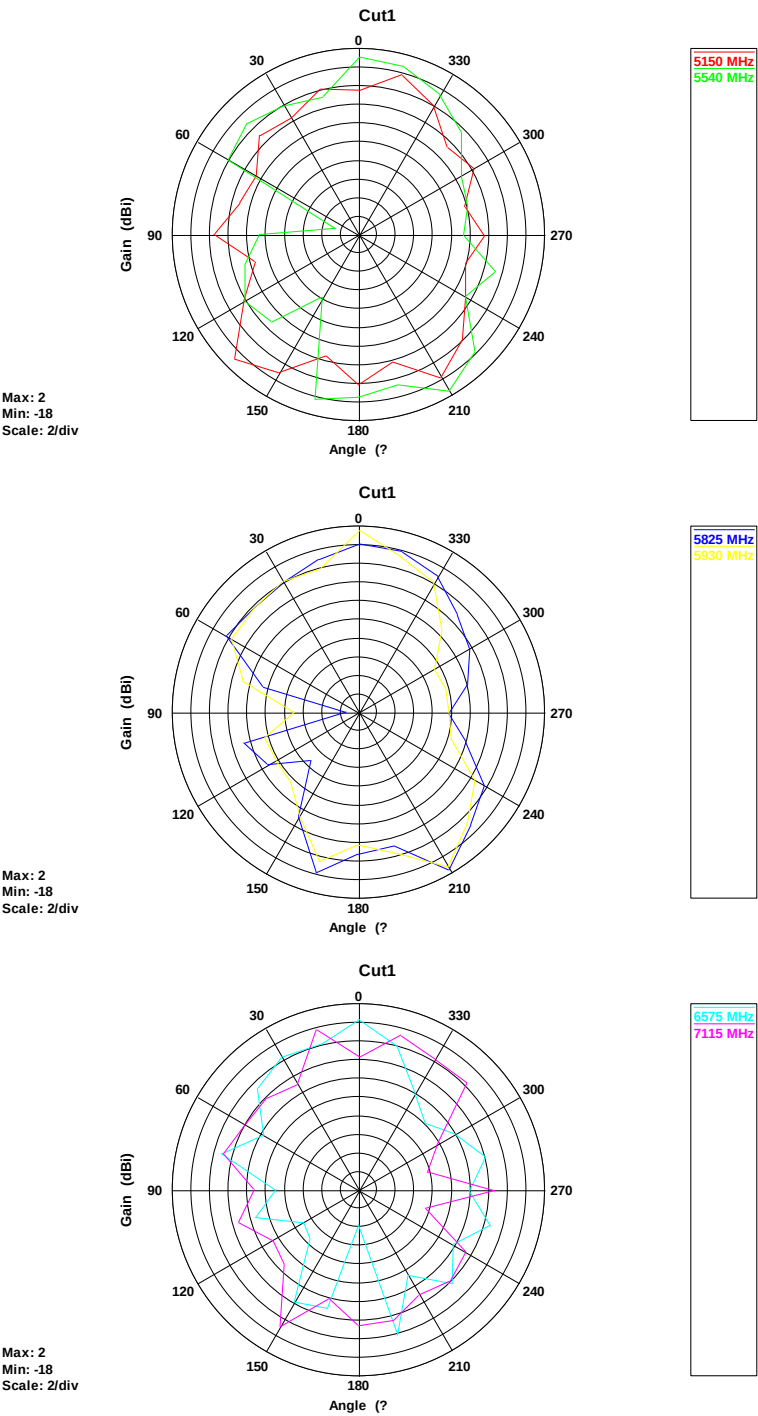


Device Image and Antenna locations – Refer to document – 2A4DH-8512_Antenna Report_Photos

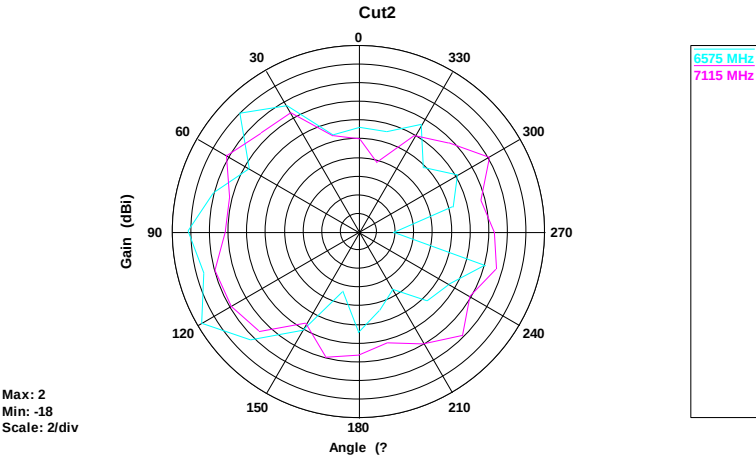
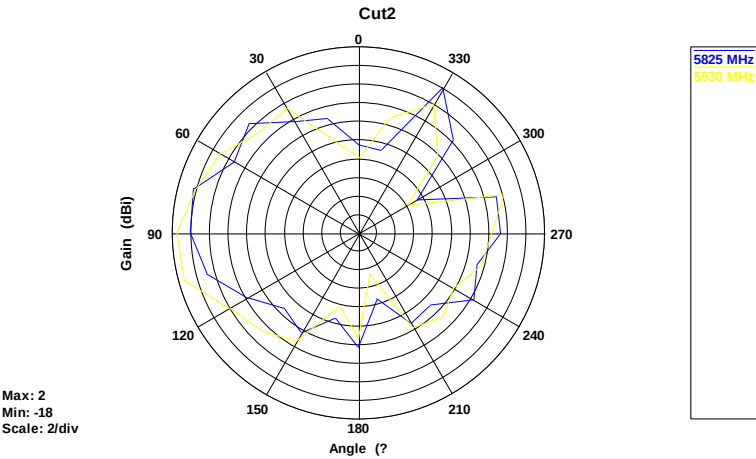
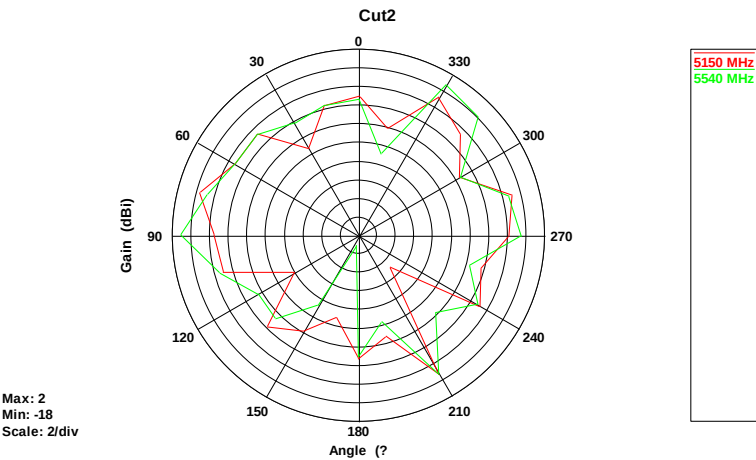
2D RADIATION PATTERN

WiFi Antenna

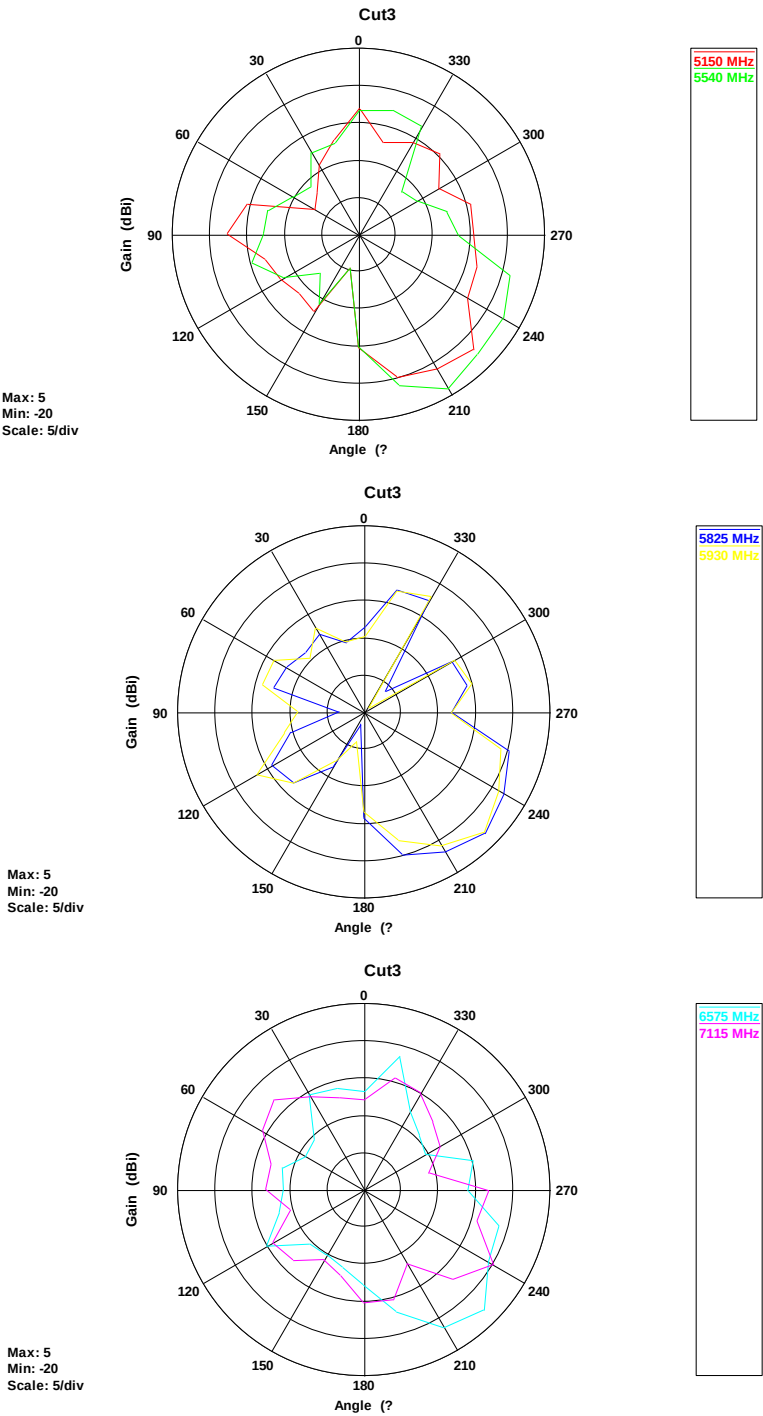
XY plane



XZ plane

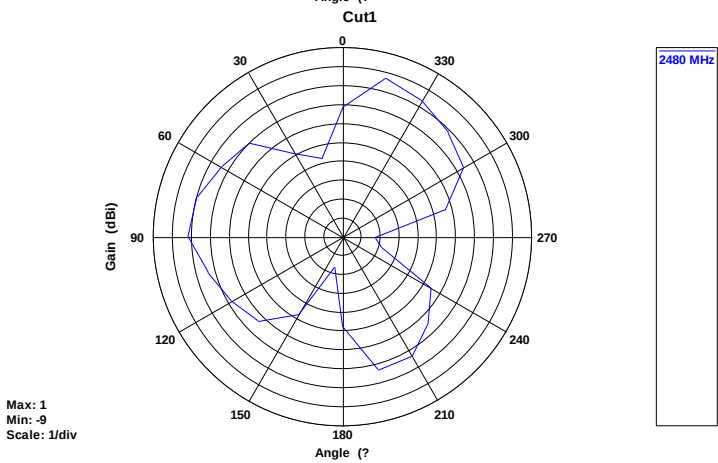
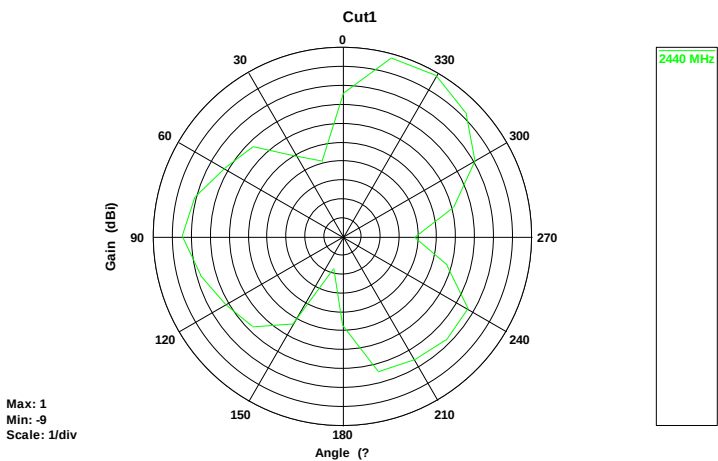
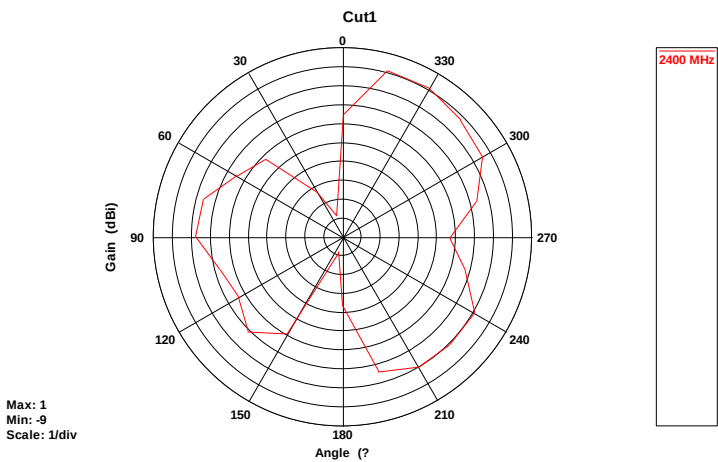


YZ plane

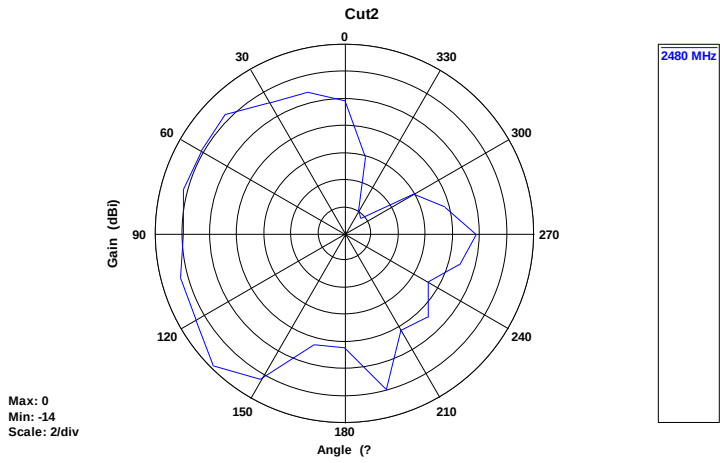
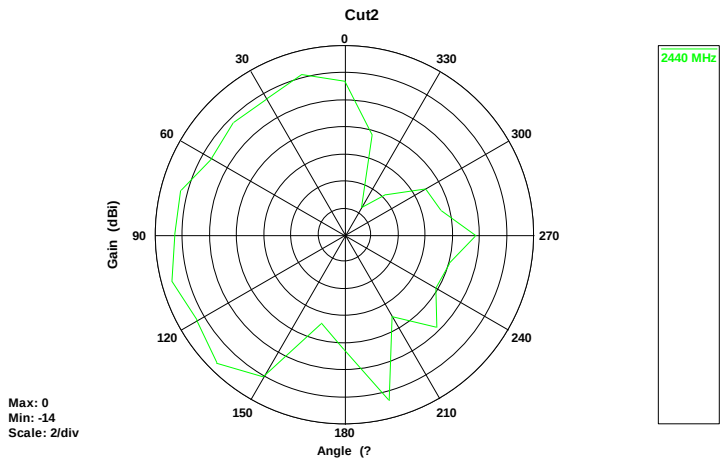
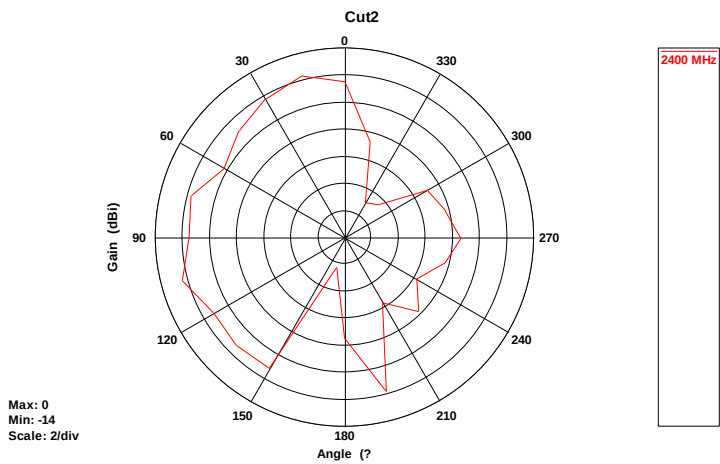


BT / Zigbee Antenna

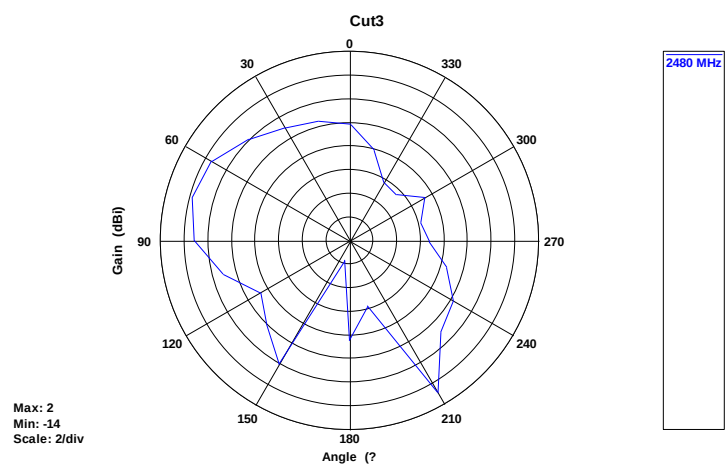
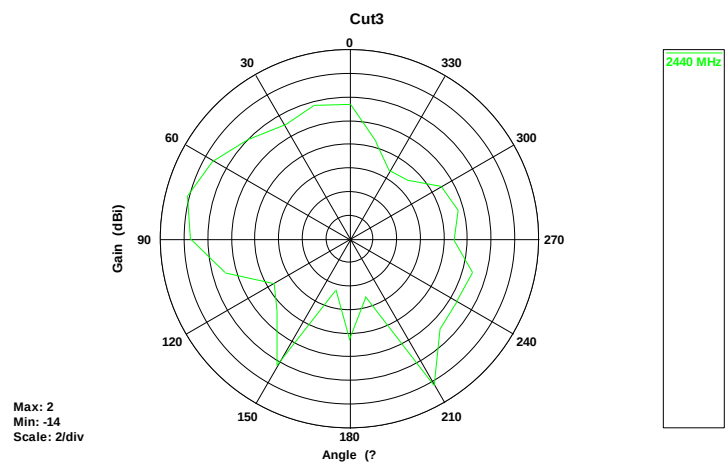
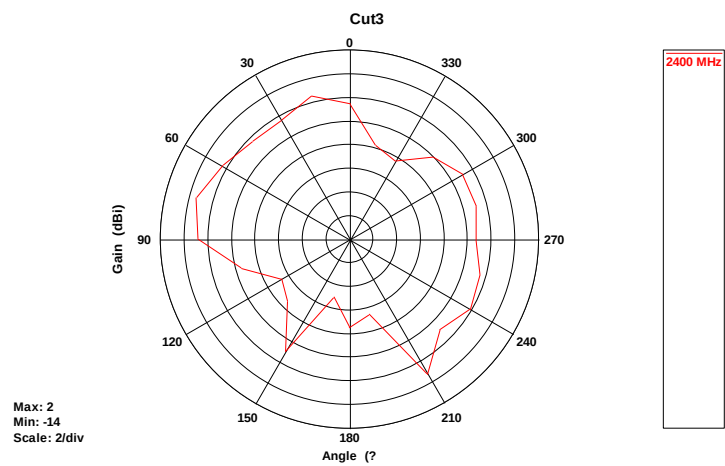
XY plane



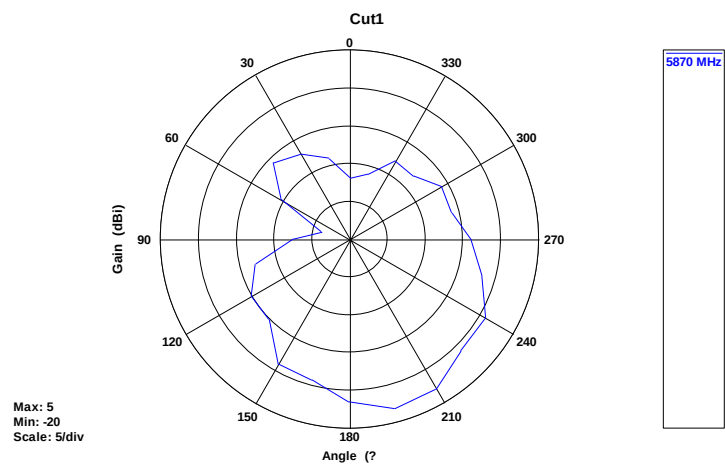
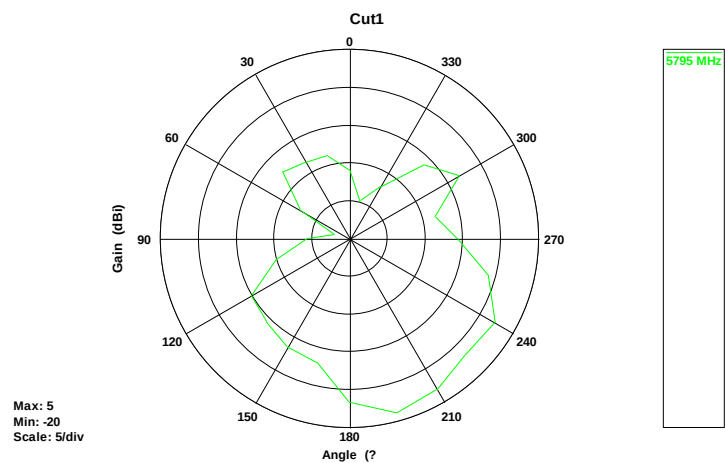
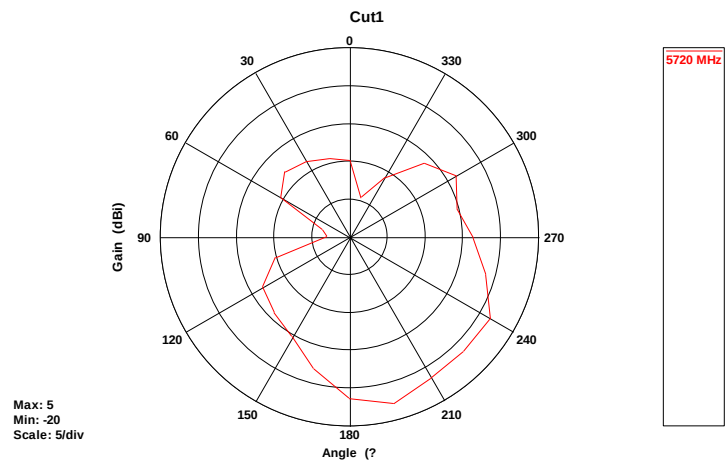
XZ plane



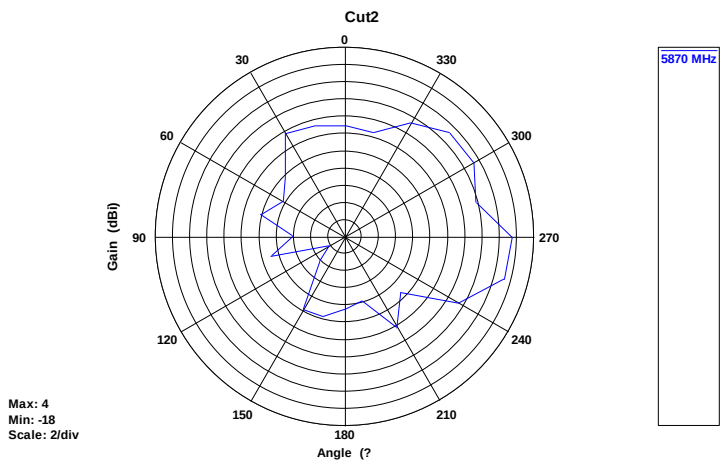
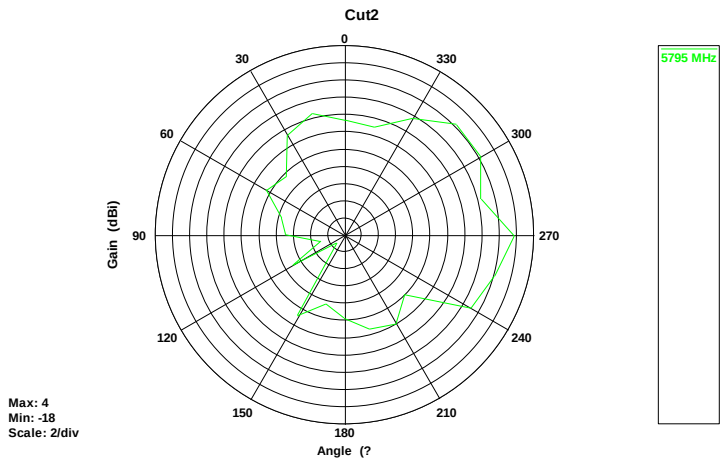
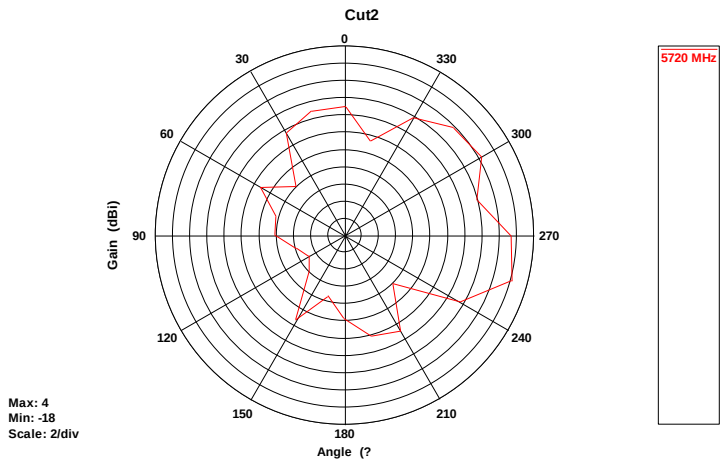
YZ plan



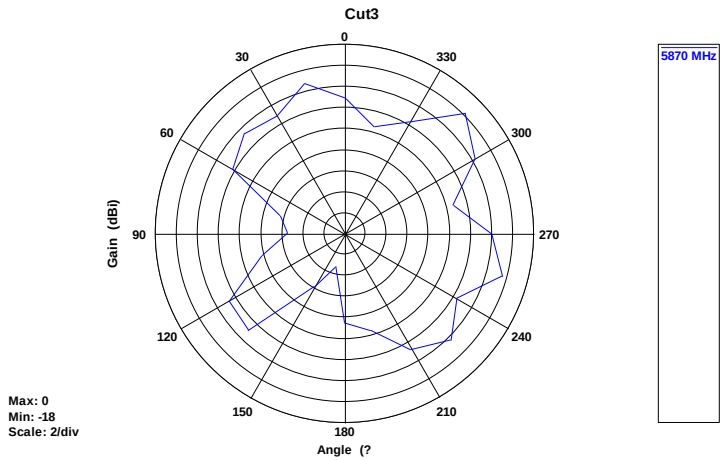
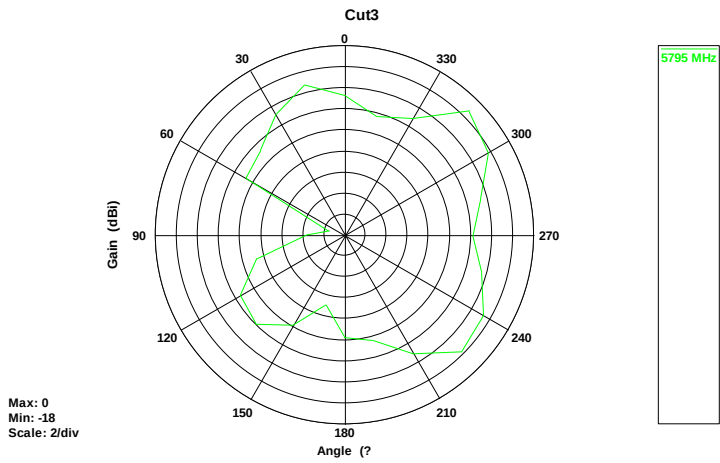
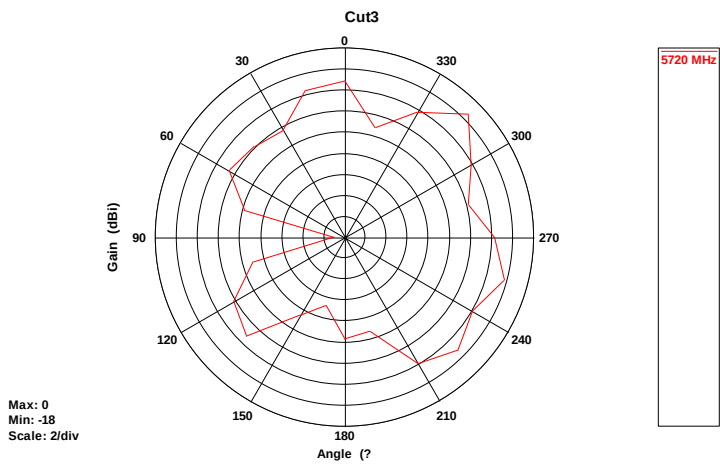
Radar Tx DIV. Antenna
XY plane



XZ plane

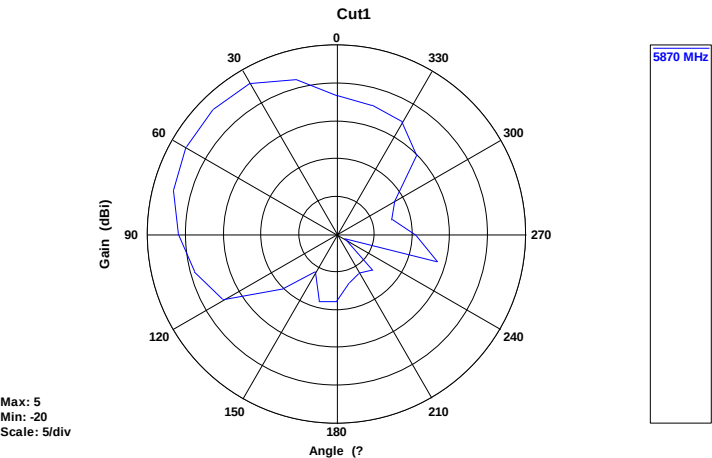
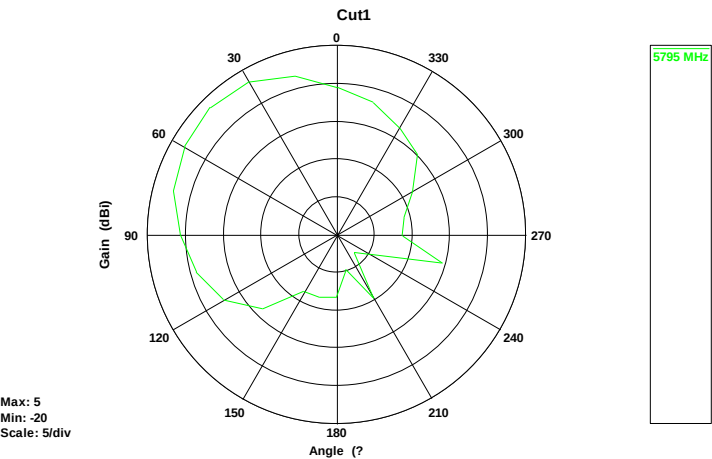
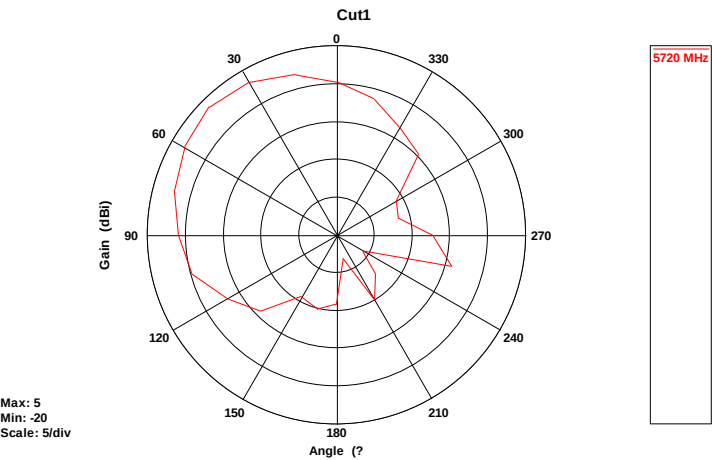


YZ plane

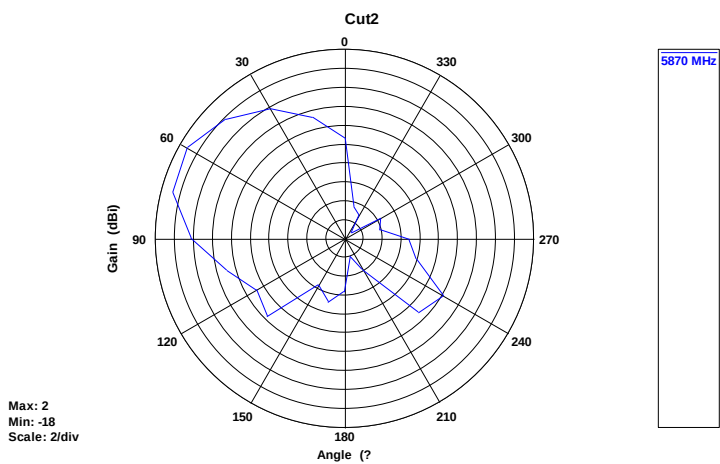
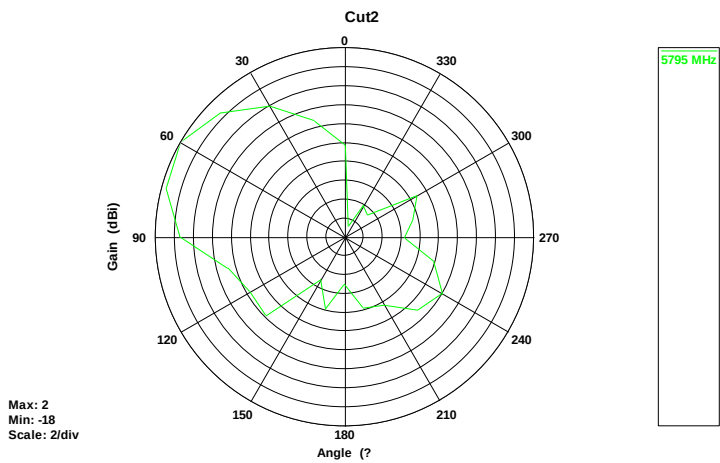
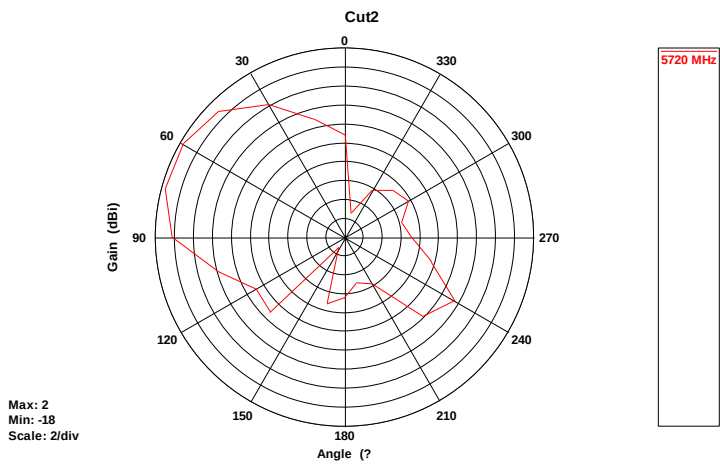


Radar Rx Antenna

XY plane



XZ plane



YZ plane

