

Antenna Regulatory Information

• Product type	• WWAN antenna
• Model number	• DELL Latitude E4200
• Revision	• Rev. 02
• Manufacturer Part No. : Main / Aux	• AMNA-CB2-CP002
• Dell Part No. : Main / Aux	•

Vendor address

Template Revision 082009

1. Specifications

Antenna Specifications

Remark: Peak Gains include all system losses (connector, cable, etc)

Antenna Type (Material, Technology)	PCB, PIFA
Antenna Model Number	AMNA-CB2-CP002
Operating Frequency Range(s)	824MHz ~ 960MHz and 1710MHz ~ 2170MHz
Peak Gain (Low Band) (dBi)	Main 0.3 / Aux -1.1
Peak Gain (High Band) (dBi)	Main 0.7 / Aux0.9
Radio Connector Type	IPEX MHF
Mid-Line Connector Type (If Applicable)	N/A

Cable Specifications

Cable Parameters	Main			Aux		
	LCD Side	Base Side	Total	LCD Side	Base Side	Total
Length (mm)	N/A	N/A	312	N/A	N/A	247
Loss (Including Connectors) (dB, 0.9GHz / 2GHz)			0.87 / 1.31			0.81 / 0.92
Description (Color, Diameter, Manufacturer)	Color: White with a gray stripe OD: 1.13 mm Vendor: GBE/IPEX			Color: Black with a gray stripe OD: 1.13 mm Vendor: GBE/IPEX		

2. Antenna Assembly



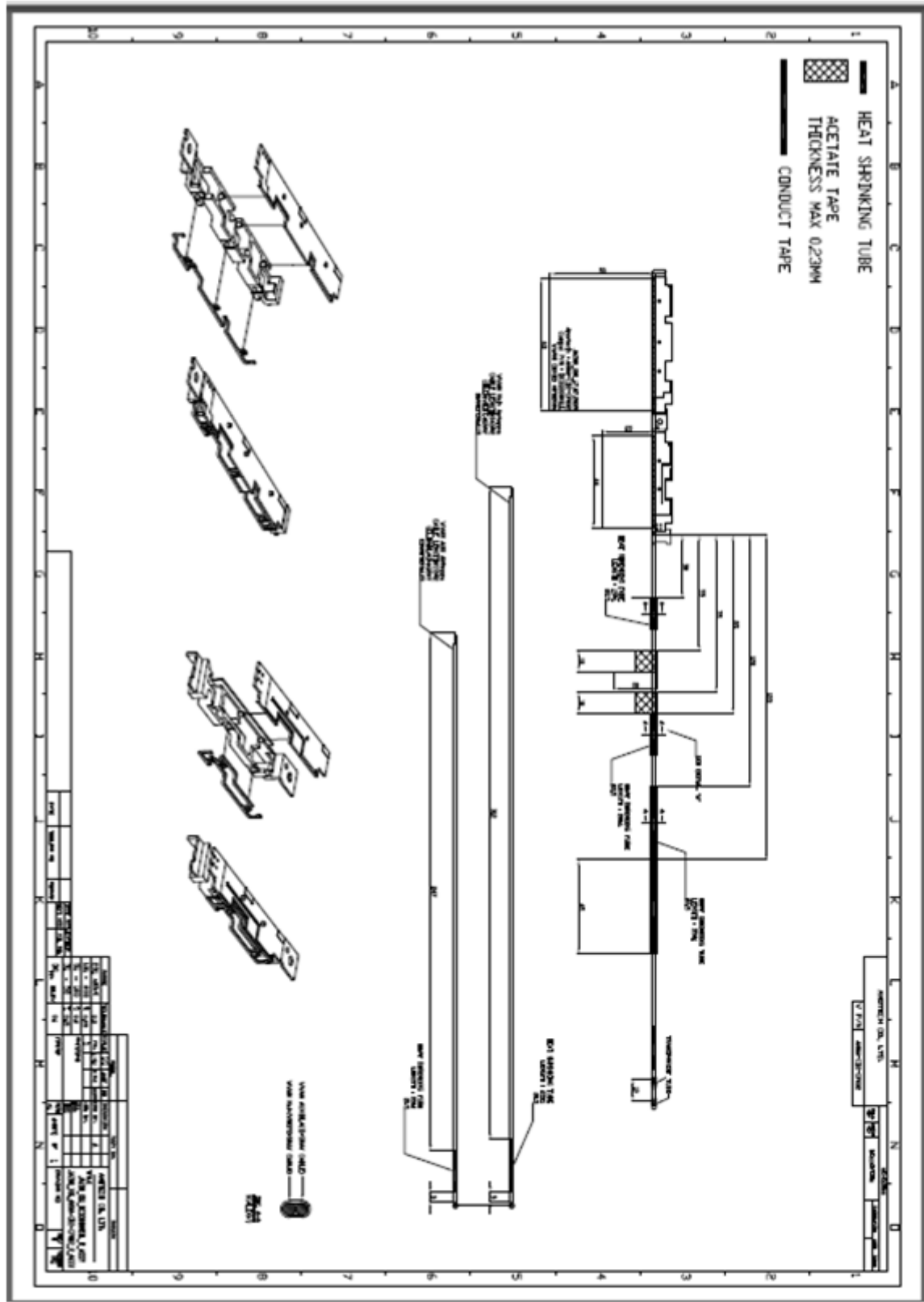
Main Antenna

Aux Antenna

3. Antenna Assembly Installed in The Notebook

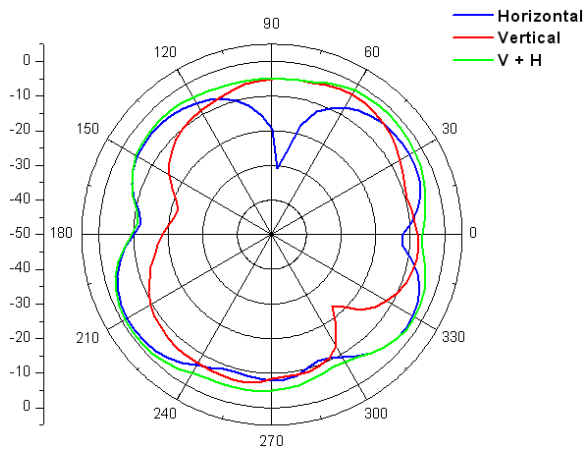
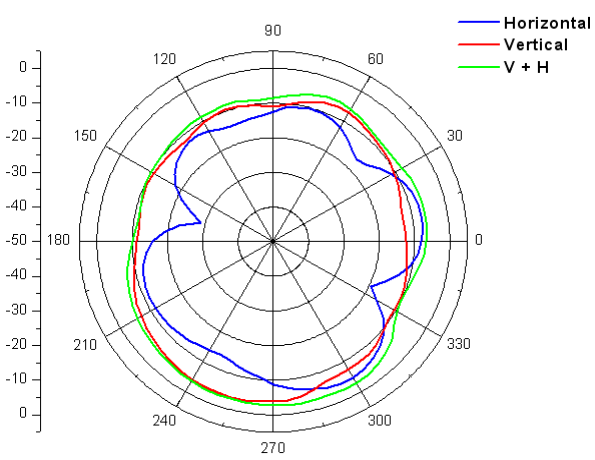
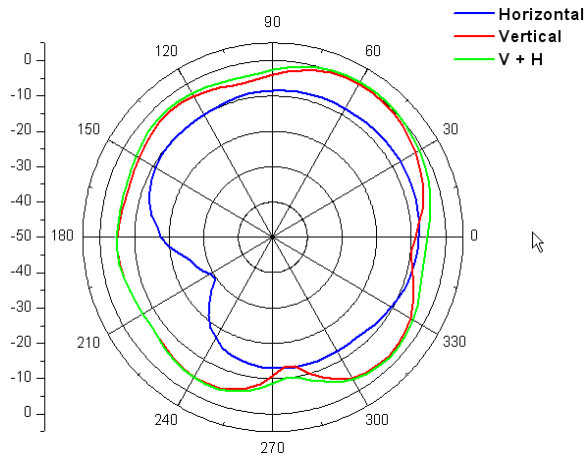


4. Mechanical Drawing of Antennas



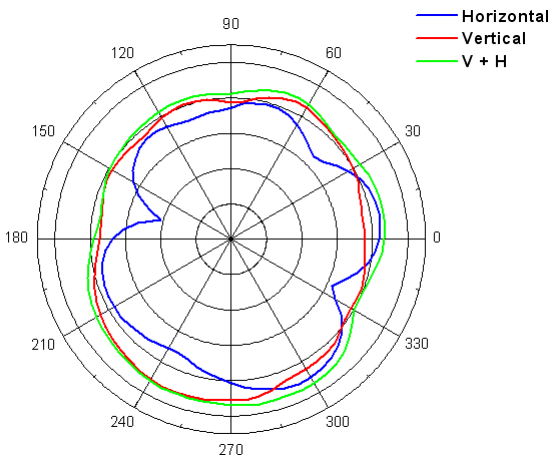
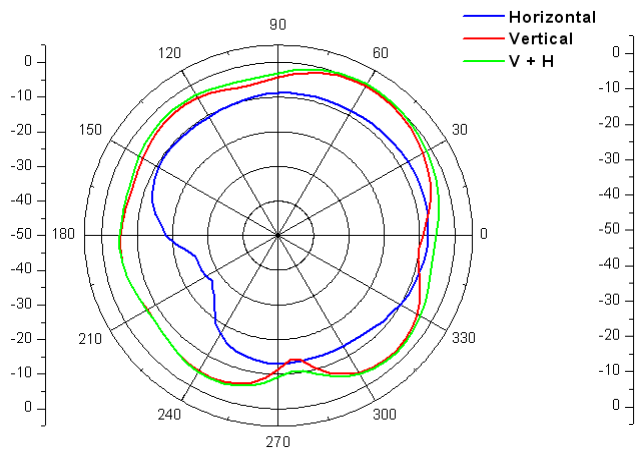
5. Gain Patterns

- Main Antenna



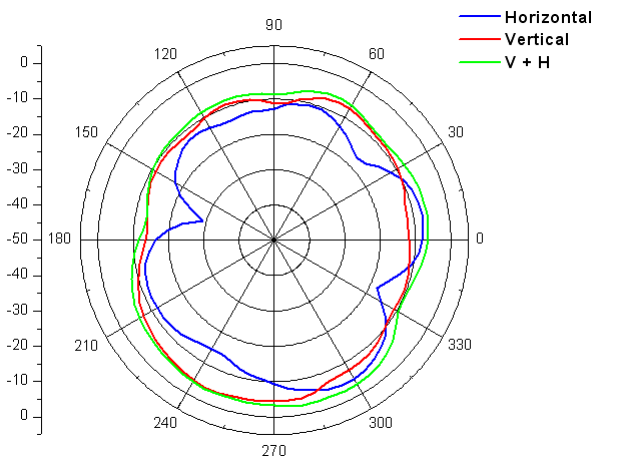
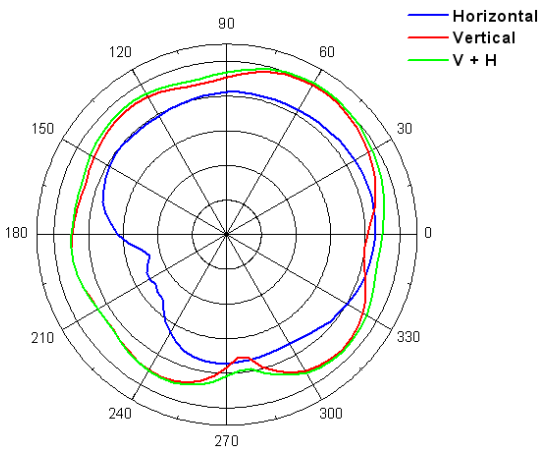
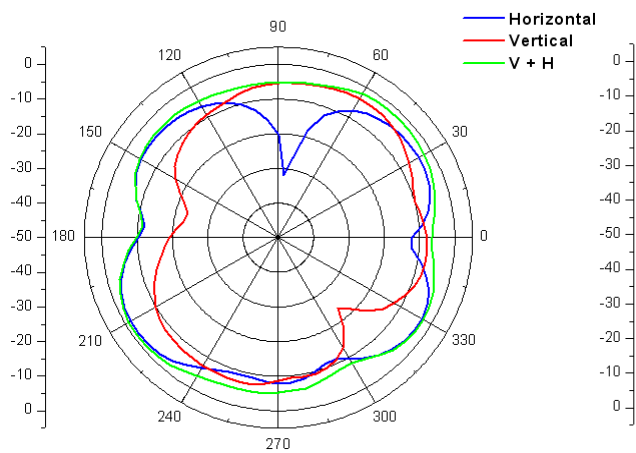
Frequency = 824 MHz

	XY	YZ	ZX
H-Pol (Peak)	-7.01	-4.55	-1.10
V-Pol (Peak)	0.11	-4.01	-3.37



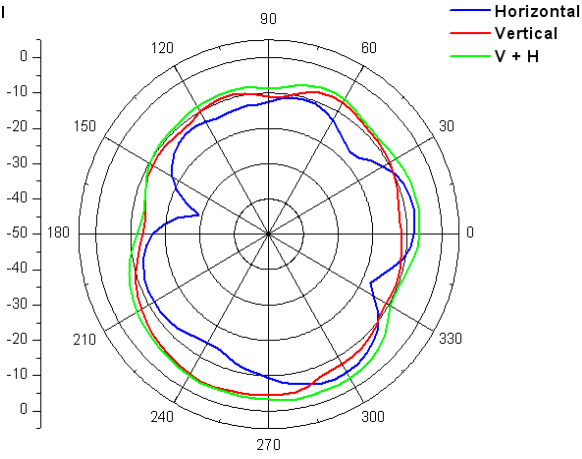
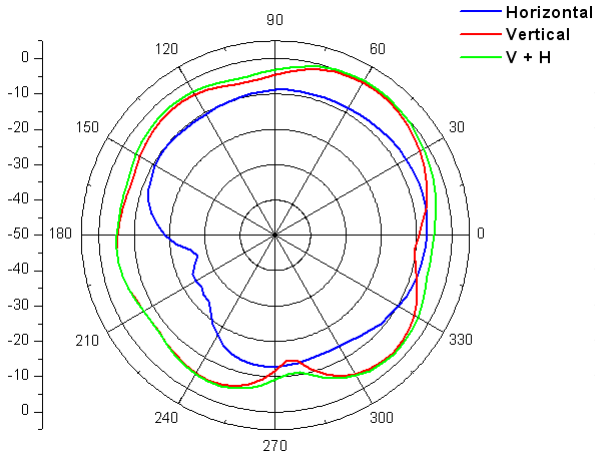
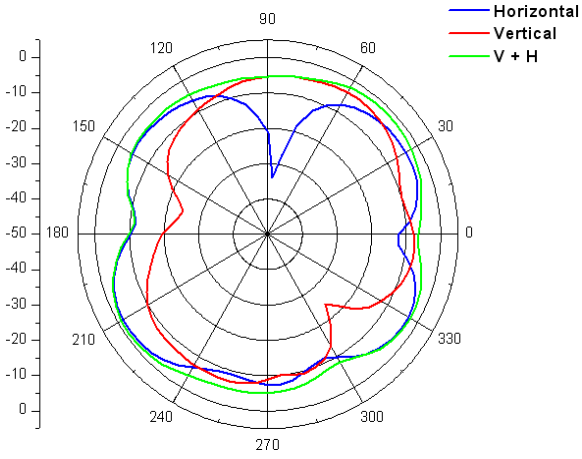
Frequency = 830 MHz

	XY	YZ	ZX
H-Pol (Peak)	-7.30	-5.07	-1.09
V-Pol (Peak)	-0.09	-3.12	-4.03



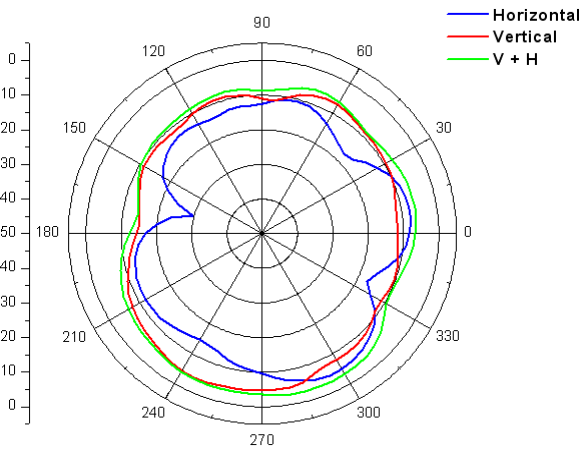
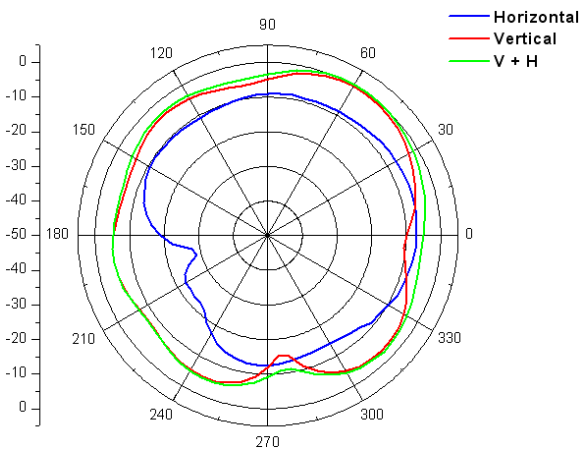
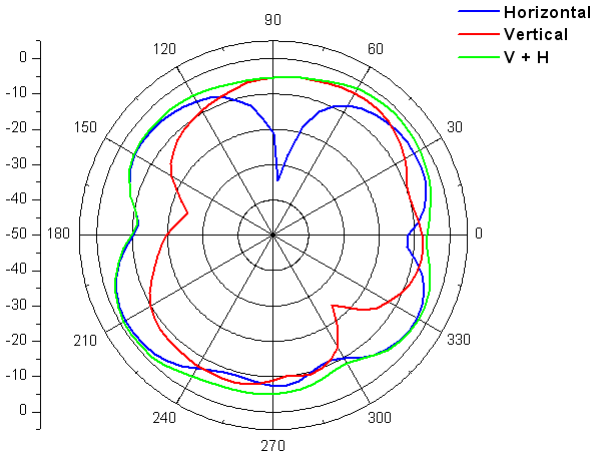
Frequency = 835 MHz

	XY	YZ	ZX
H-Pol (Peak)	-6.56	-5.02	-1.59
V-Pol (Peak)	0.03	-3.66	-3.09



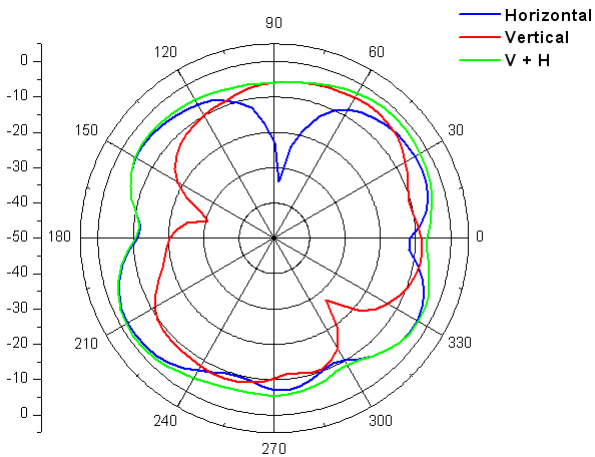
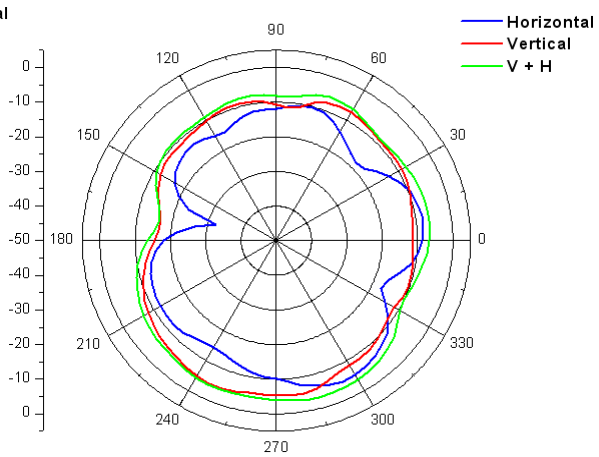
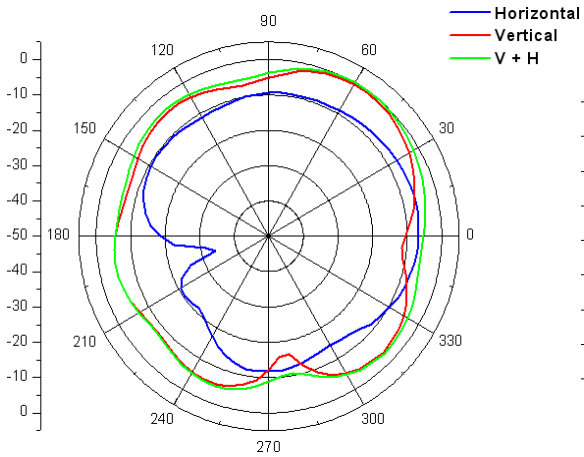
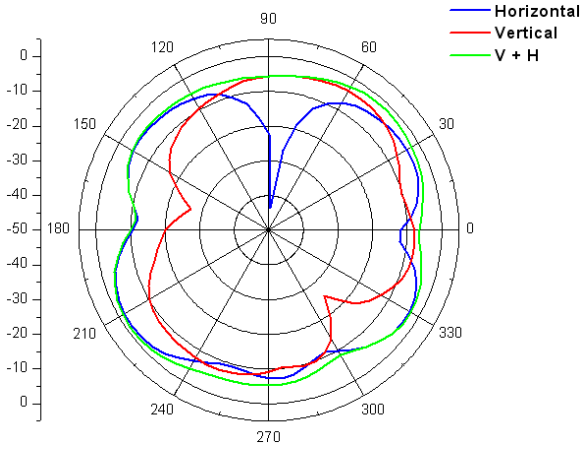
Frequency = 836 MHz

	XY	YZ	ZX
H-Pol (Peak)	-6.67	-4.23	-1.32
V-Pol (Peak)	-0.10	-4.07	-3.91



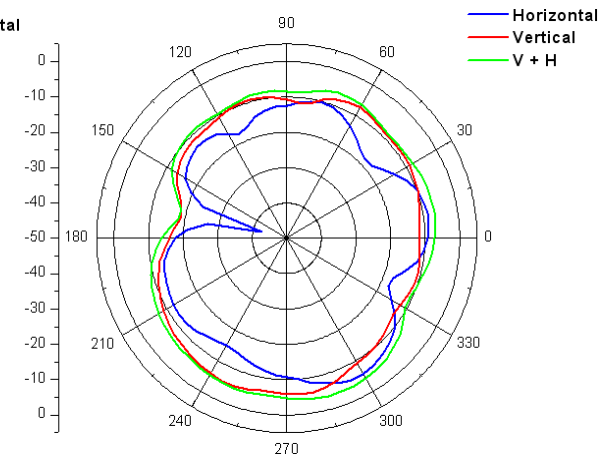
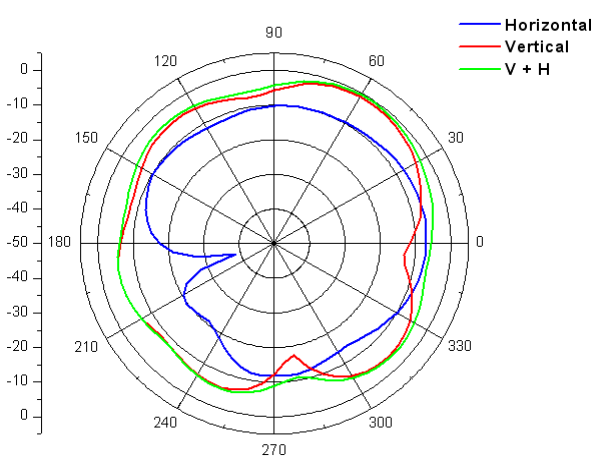
	XY	YZ	ZX
Frequency = 840 MHz			

H-Pol (Peak)	-6.22	-4.62	-1.54
V-Pol (Peak)	0.13	-4.54	-3.51



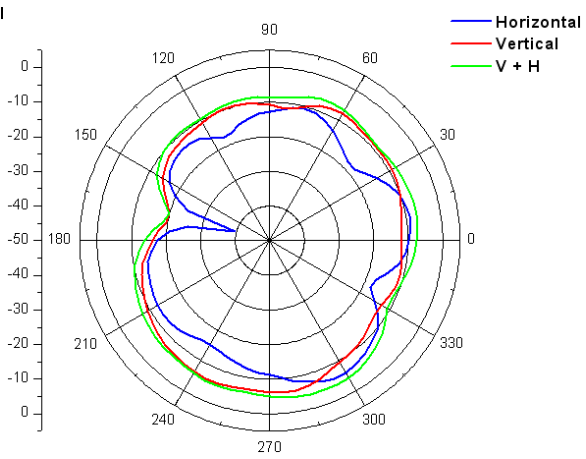
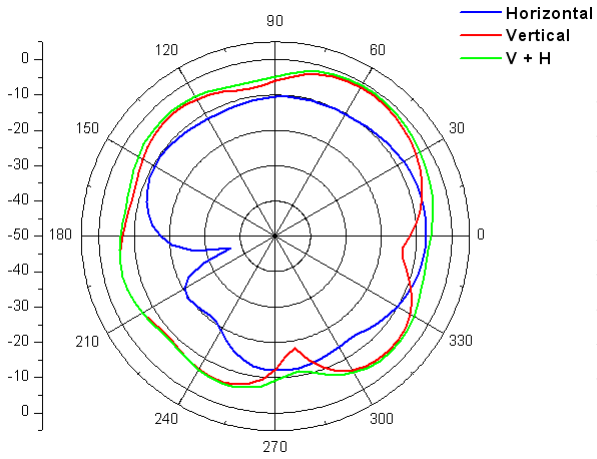
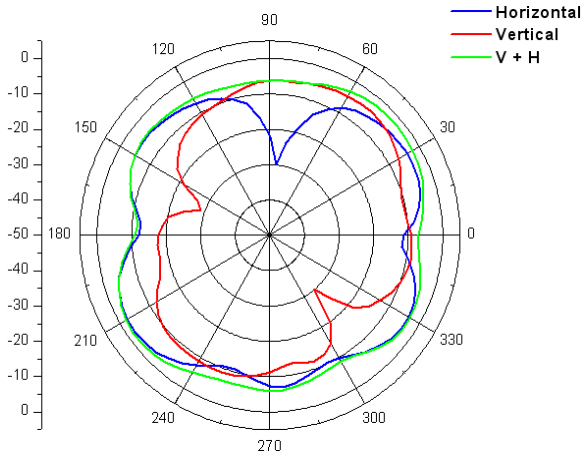
Frequency = 849 MHz

	XY	YZ	ZX
H-Pol (Peak)	-6.72	-5.01	-1.92
V-Pol (Peak)	-0.17	-4.75	-3.67



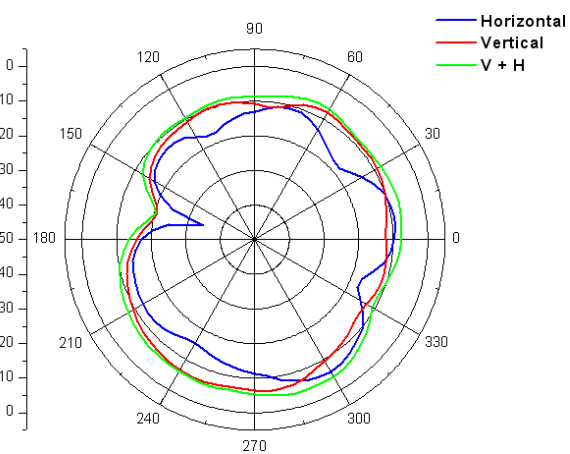
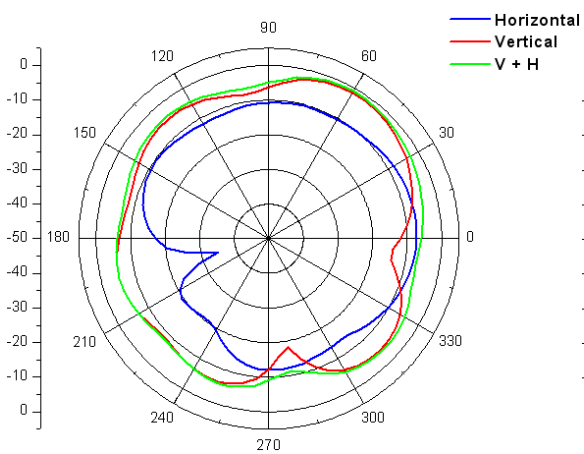
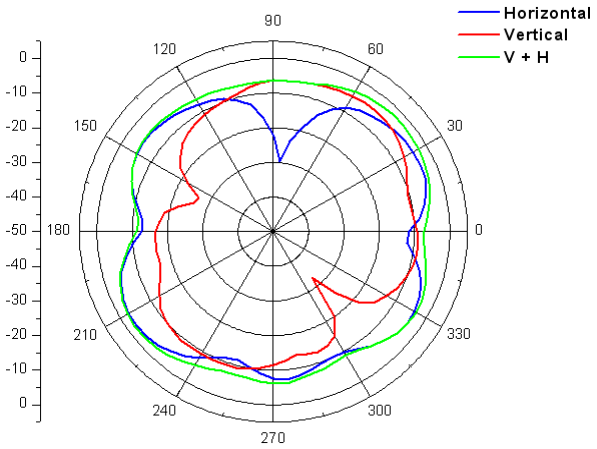
Frequency = 860 MHz

	XY	YZ	ZX
H-Pol (Peak)	-6.88	-6.03	-1.99
V-Pol (Peak)	-1.03	-5.23	-4.27

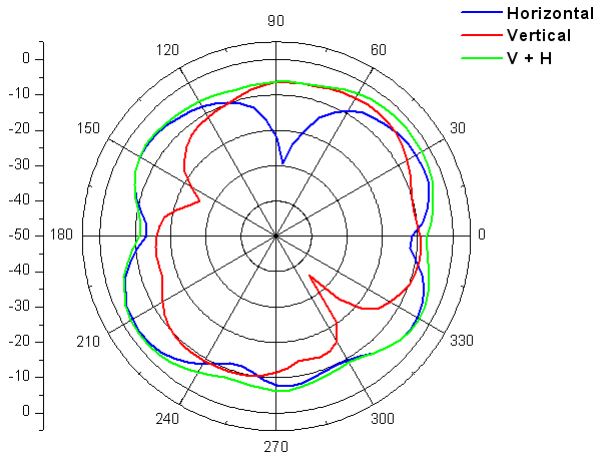


Frequency = 865 MHz

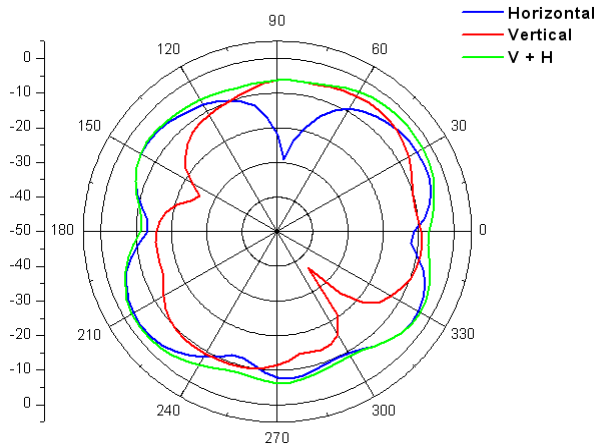
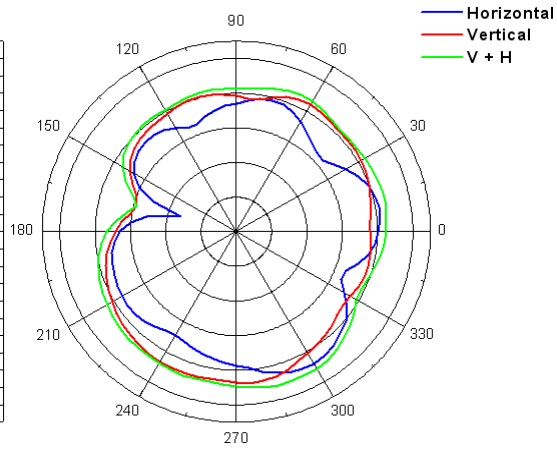
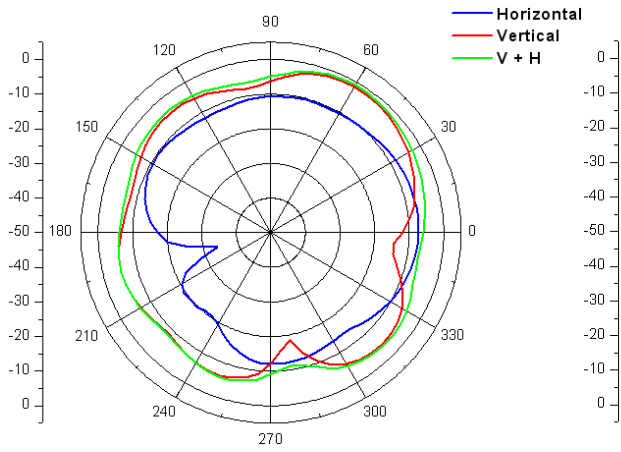
	XY	YZ	ZX
H-Pol (Peak)	-7.11	-6.03	-2.23
V-Pol (Peak)	-1.47	-5.63	-4.45



Frequency = 869 MHz

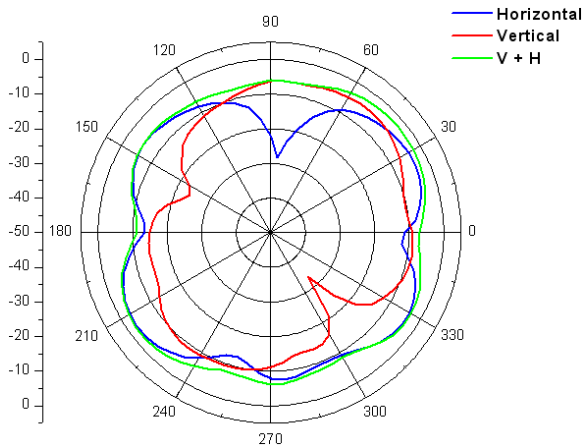
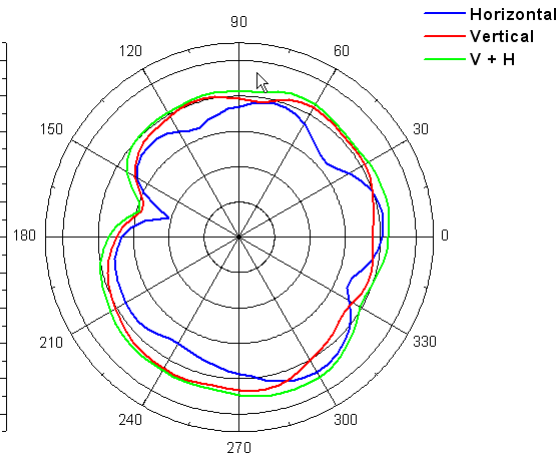
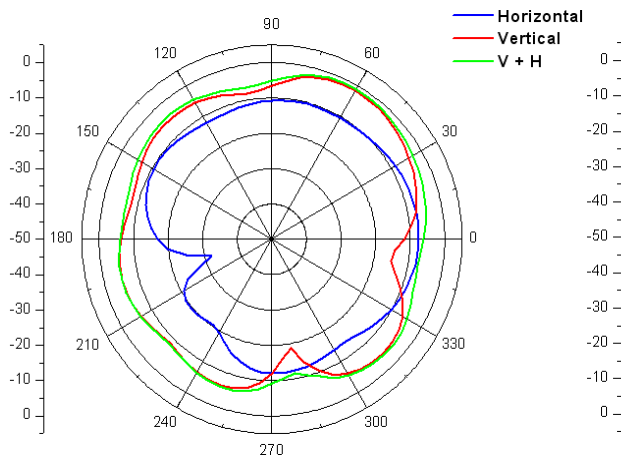


	XY	YZ	ZX
H-Pol (Peak)	-7.24	-6.07	-2.34
V-Pol (Peak)	-1.23	-6.11	-4.92



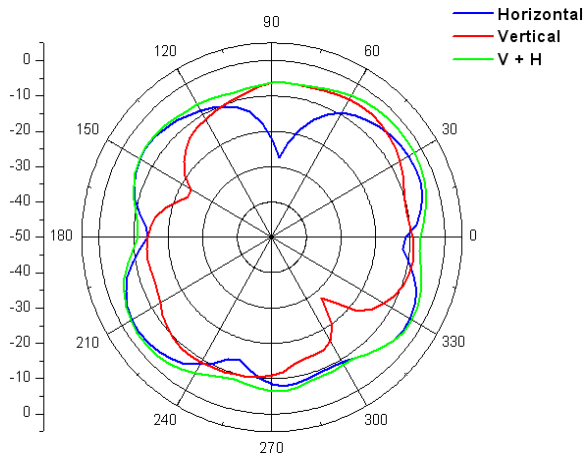
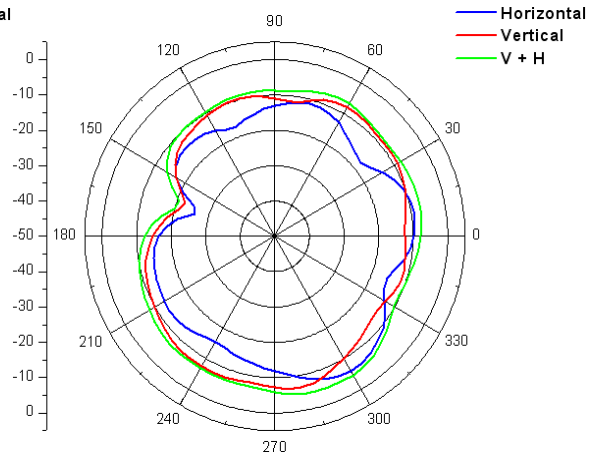
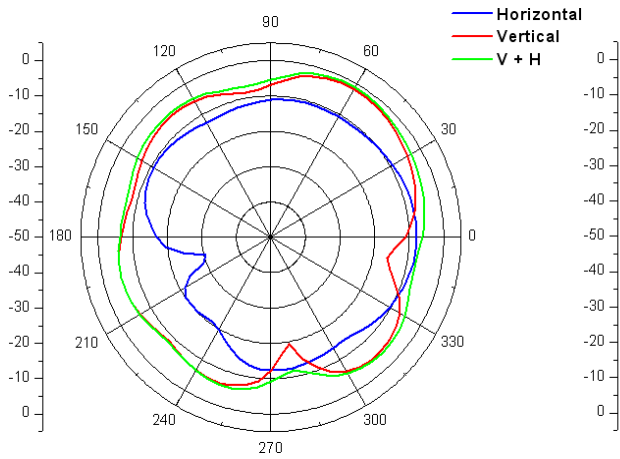
Frequency = 870 MHz

	XY	YZ	ZX
H-Pol (Peak)	-7.01	-6.00	-2.55
V-Pol (Peak)	-1.45	-6.03	-4.65



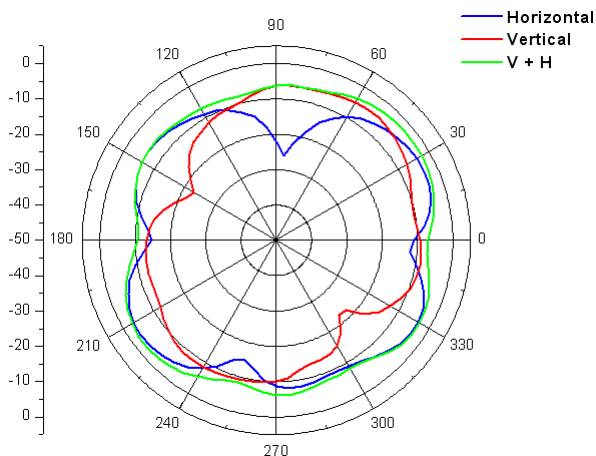
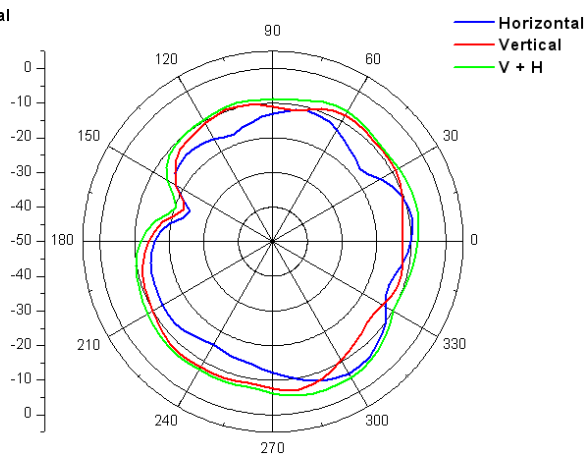
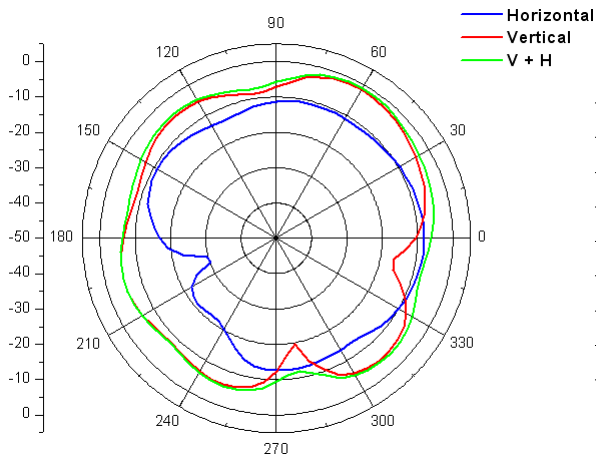
Frequency = 875 MHz

	XY	YZ	ZX
H-Pol (Peak)	-7.46	-5.66	-2.71
V-Pol (Peak)	-1.55	-5.96	-4.63



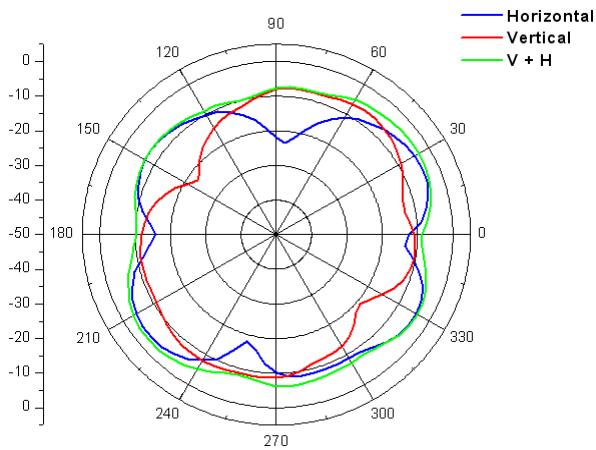
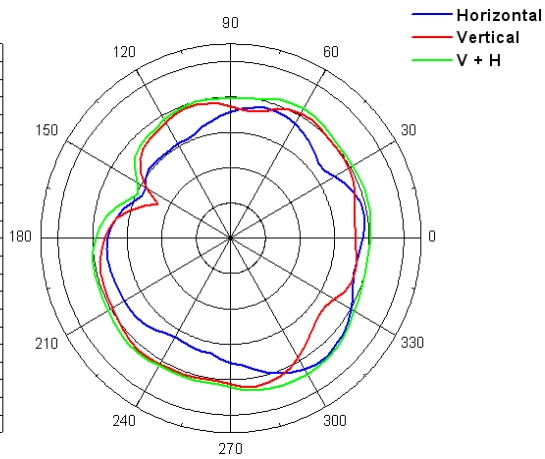
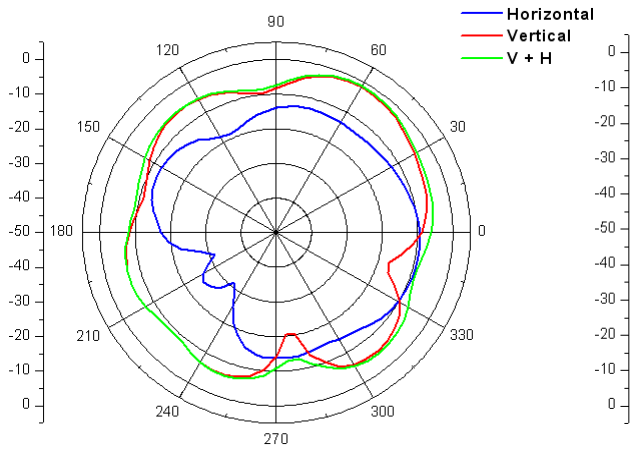
Frequency = 880 MHz

	XY	YZ	ZX
H-Pol (Peak)	-7.73	-6.03	-2.99
V-Pol (Peak)	-1.59	-6.61	-4.89



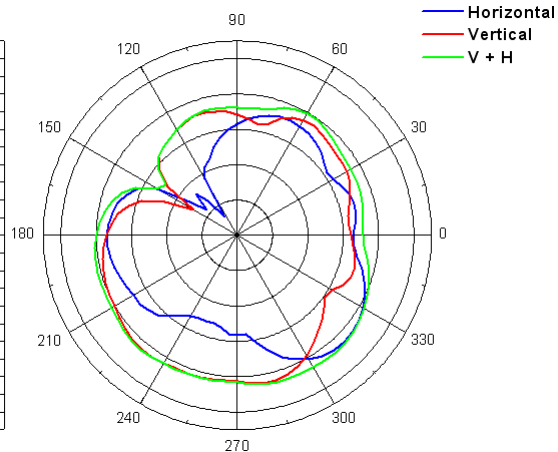
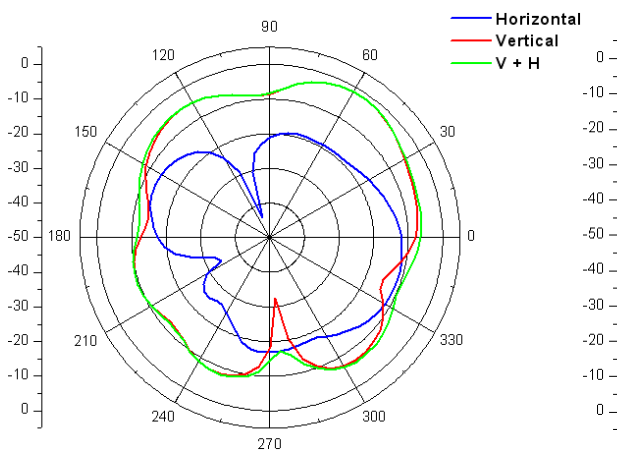
Frequency = 885 MHz

	XY	YZ	ZX
H-Pol (Peak)	-8.00	-6.11	-3.09
V-Pol (Peak)	-1.29	-6.37	-4.55



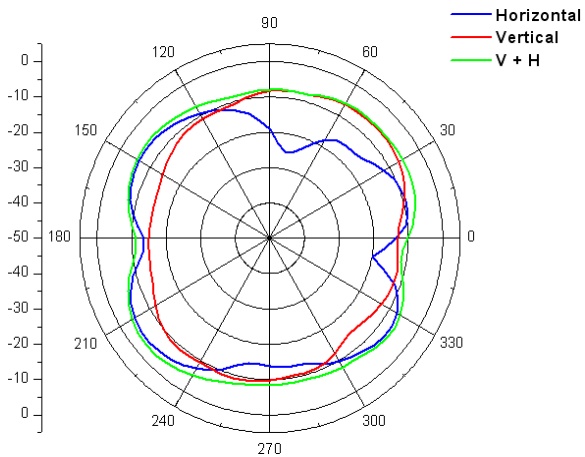
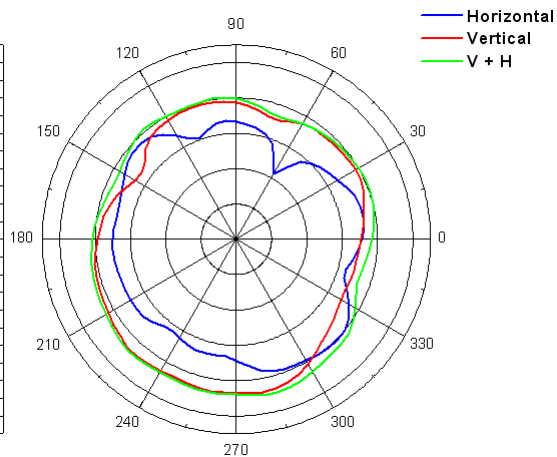
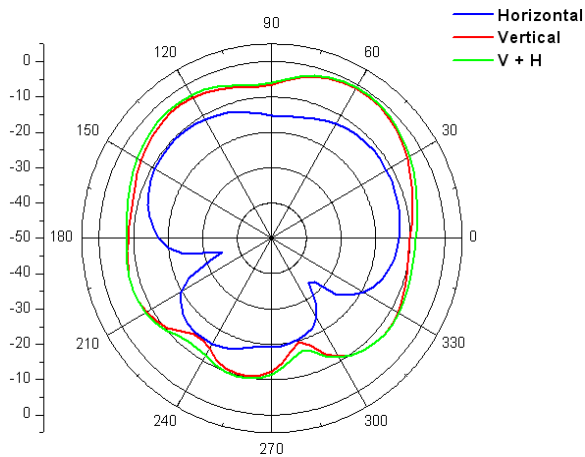
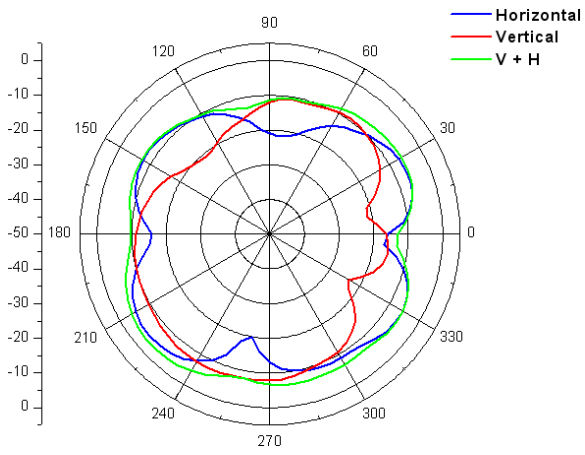
Frequency = 894 MHz

	XY	YZ	ZX
H-Pol (Peak)	-8.91	-6.53	-3.99
V-Pol (Peak)	-1.63	-7.55	-6.37



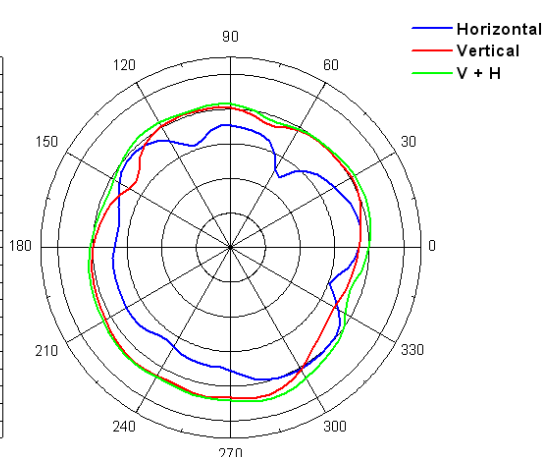
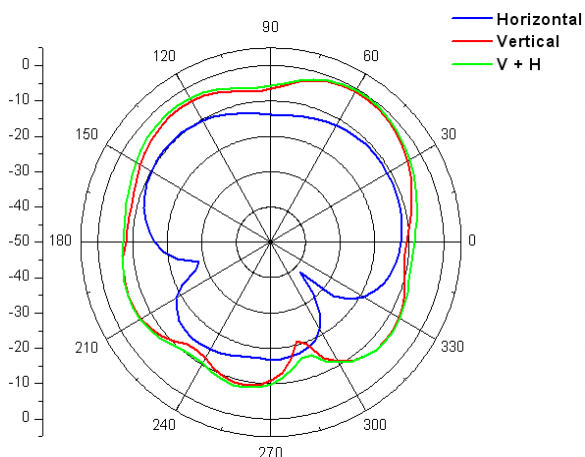
Frequency = 900 MHz

	XY	YZ	ZX
H-Pol (Peak)	-11.22	-7.21	-4.21
V-Pol (Peak)	-1.65	-7.59	-7.79



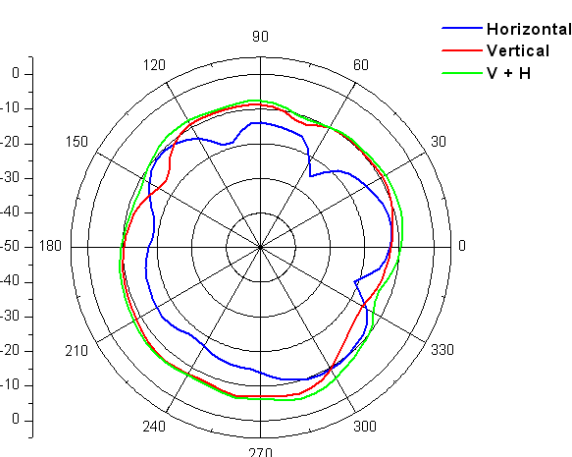
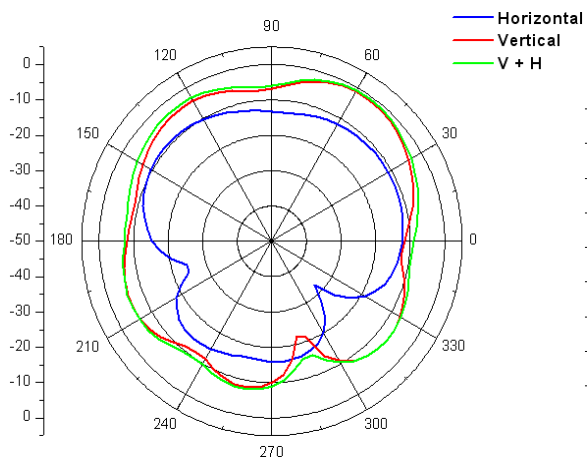
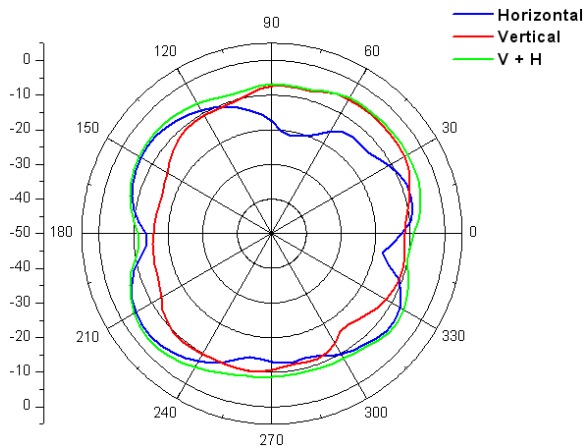
Frequency = 915 MHz

	XY	YZ	ZX
H-Pol (Peak)	-10.57	-9.23	-4.11
V-Pol (Peak)	-0.93	-5.95	-5.97



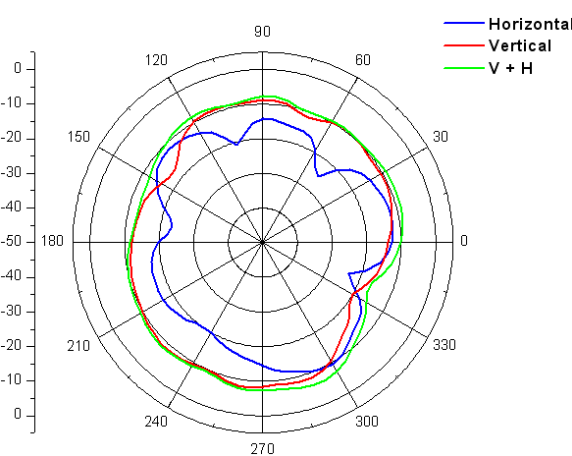
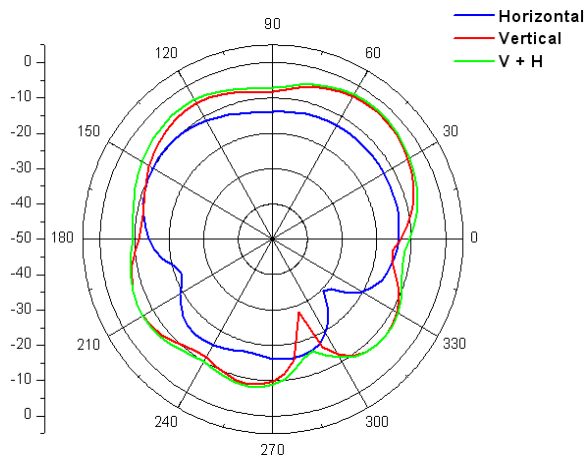
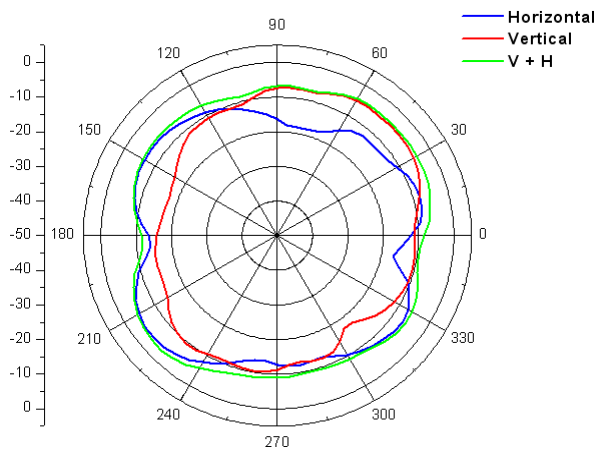
Frequency = 920 MHz

	XY	YZ	ZX
H-Pol (Peak)	-9.77	-9.23	-3.99
V-Pol (Peak)	-0.19	-5.98	-5.03



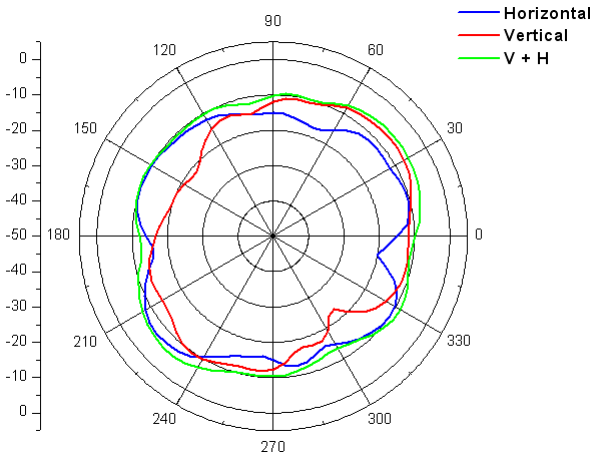
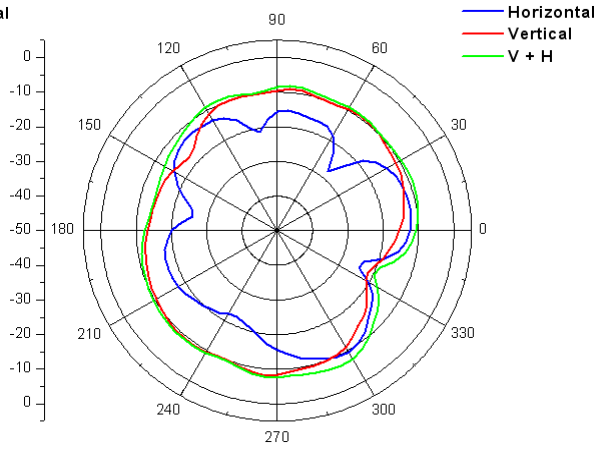
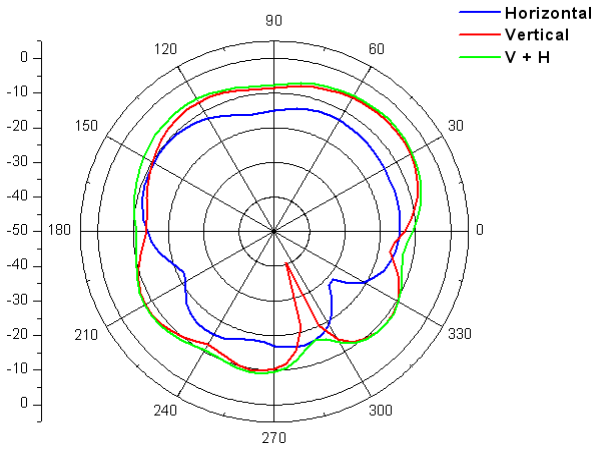
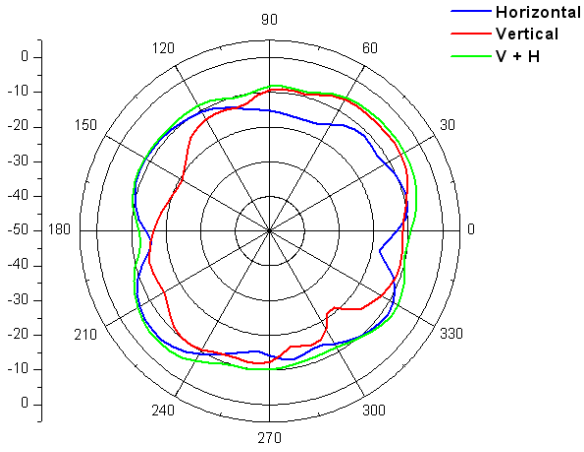
Frequency = 925 MHz

	XY	YZ	ZX
H-Pol (Peak)	-9.87	-9.65	-4.01
V-Pol (Peak)	-1.01	-6.31	-4.06



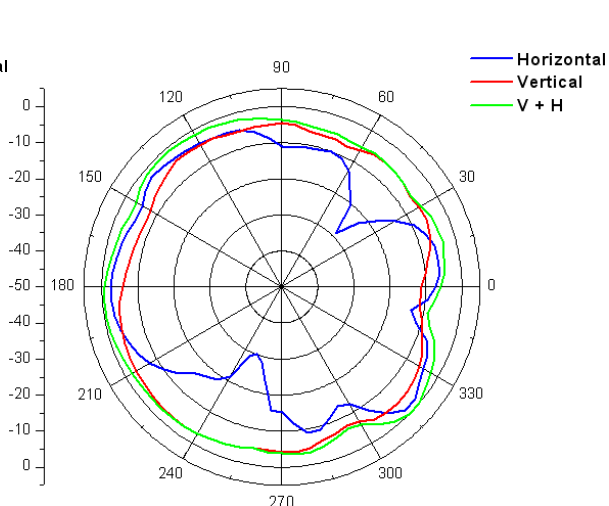
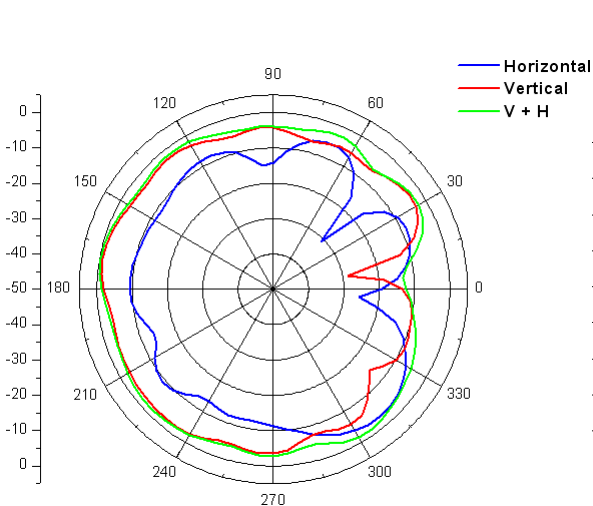
Frequency = 940 MHz

	XY	YZ	ZX
H-Pol (Peak)	-9.63	-9.09	-5.24
V-Pol (Peak)	-2.66	-7.71	-6.02



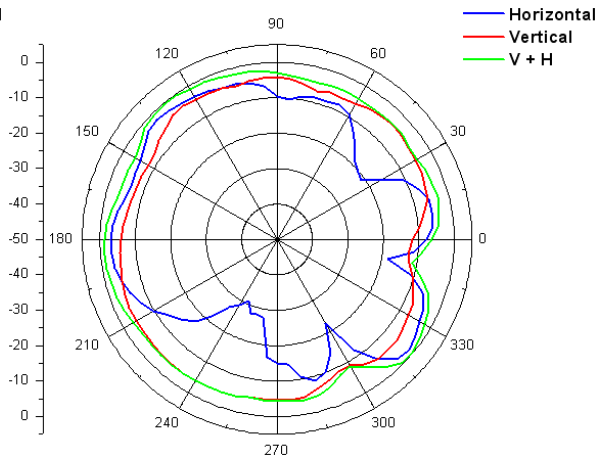
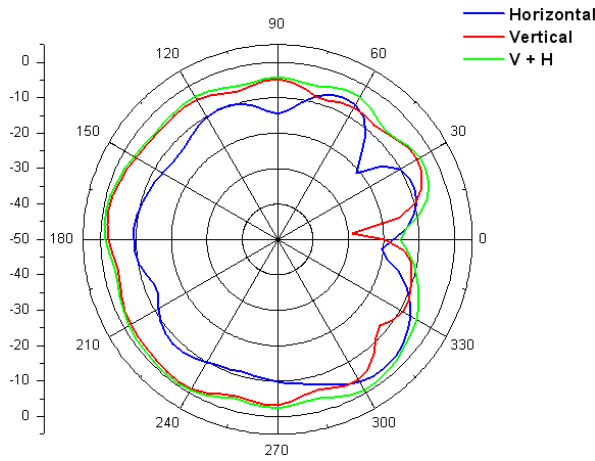
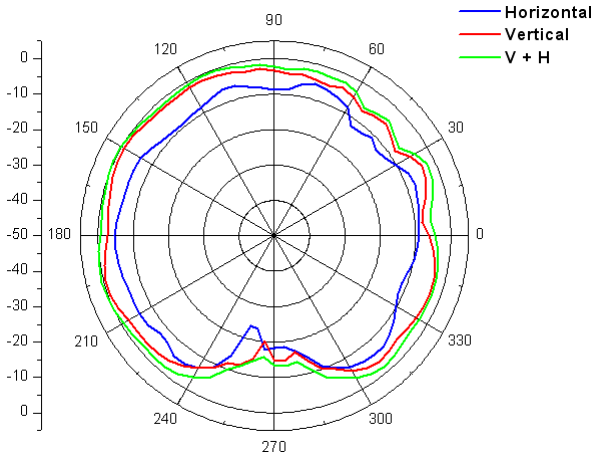
Frequency = 960 MHz

	XY	YZ	ZX
H-Pol (Peak)	-10.33	-9.63	-7.03
V-Pol (Peak)	-5.01	-8.09	-6.51



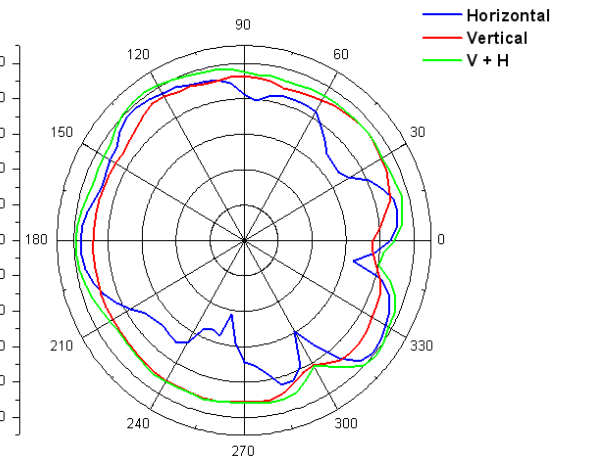
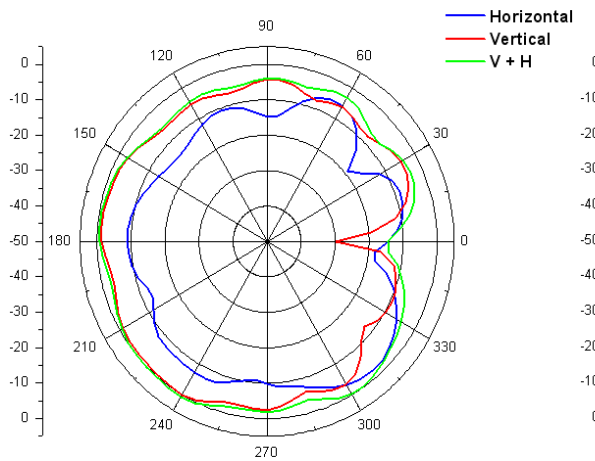
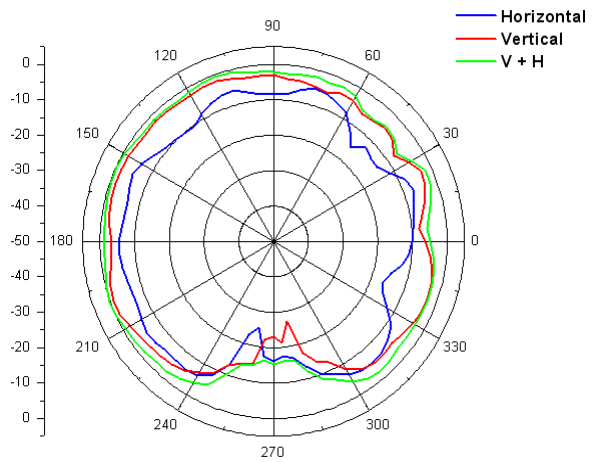
Frequency = 1710 MHz

	XY	YZ	ZX
H-Pol (Peak)	-3.11	-1.59	-5.01
V-Pol (Peak)	-0.71	-2.37	-0.23



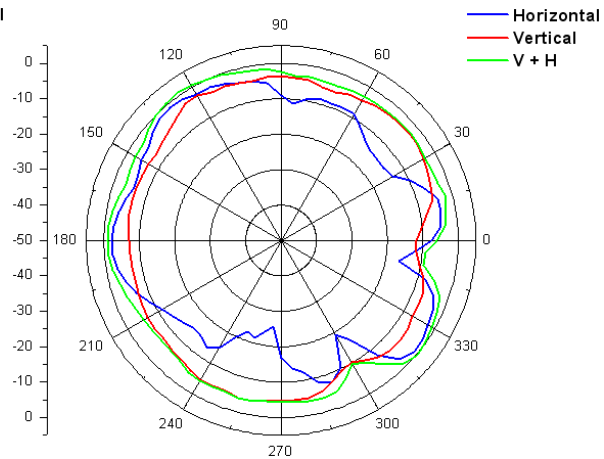
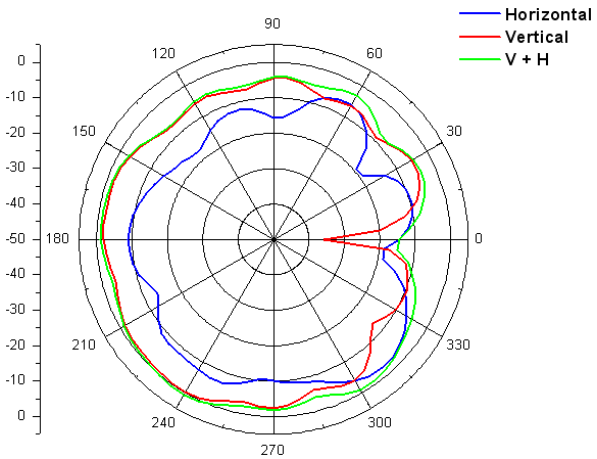
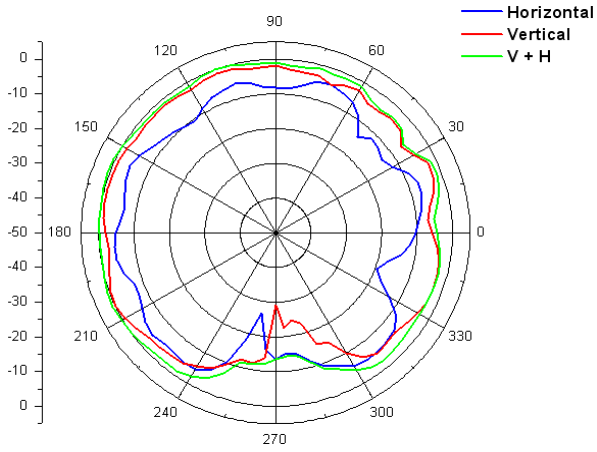
Frequency = 1750 MHz

	XY	YZ	ZX
H-Pol (Peak)	-2.89	-1.23	-5.59
V-Pol (Peak)	-1.09	-3.79	-0.91



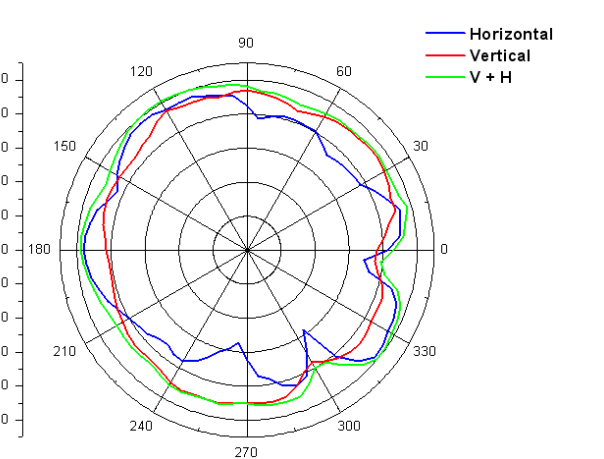
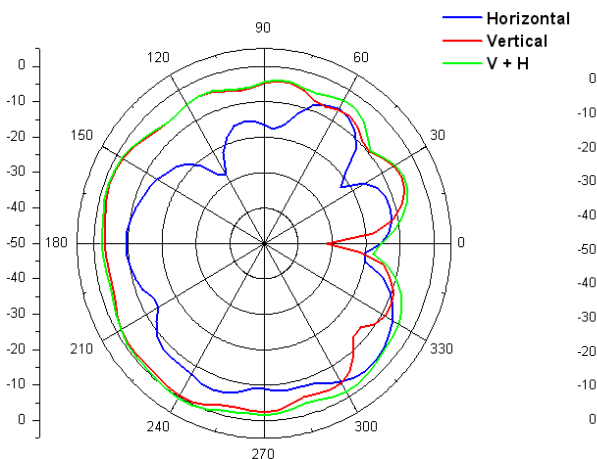
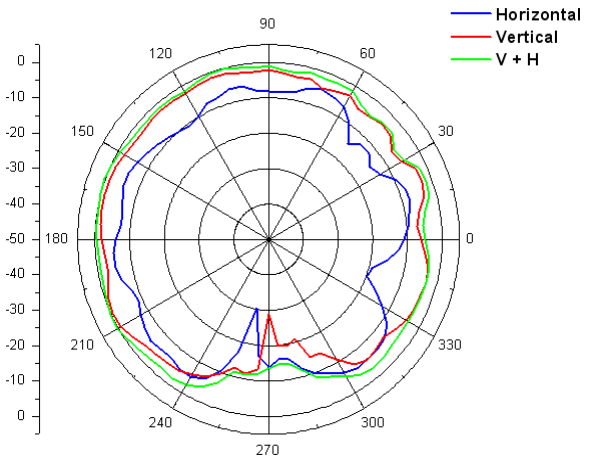
Frequency = 1785 MHz

	XY	YZ	ZX
H-Pol (Peak)	-1.93	-0.51	-4.56
V-Pol (Peak)	-0.07	-2.59	0.01



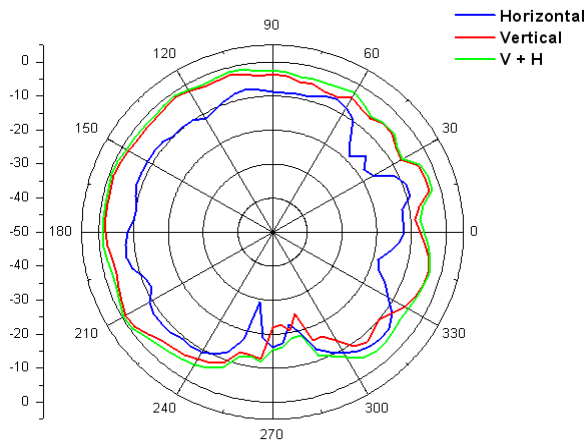
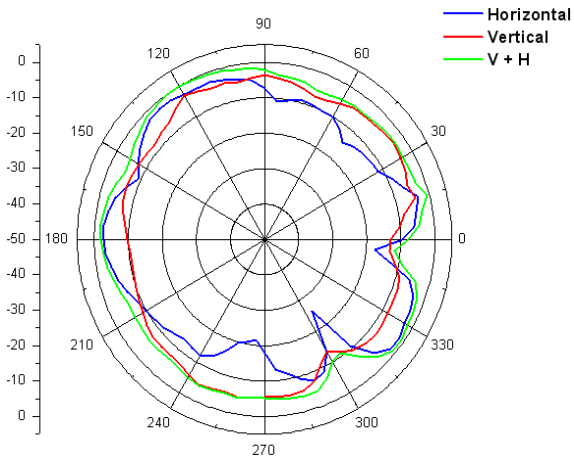
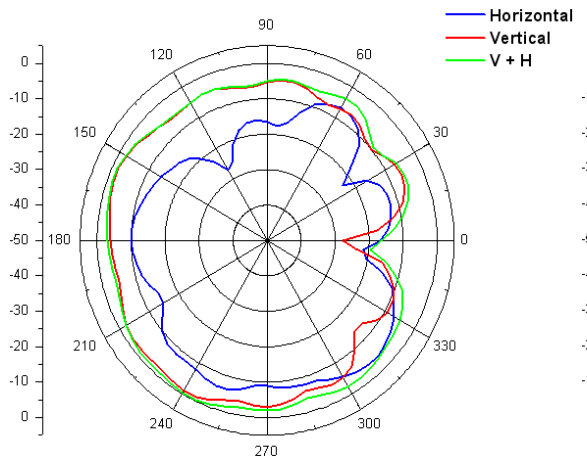
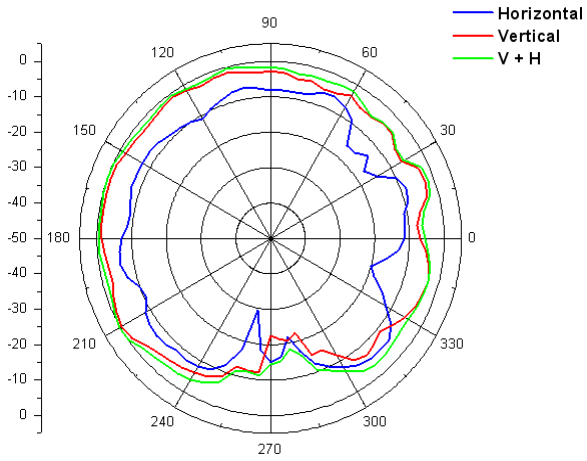
Frequency = 1805 MHz

	XY	YZ	ZX
H-Pol (Peak)	-2.49	-1.18	-5.04
V-Pol (Peak)	-0.16	-2.96	-0.49



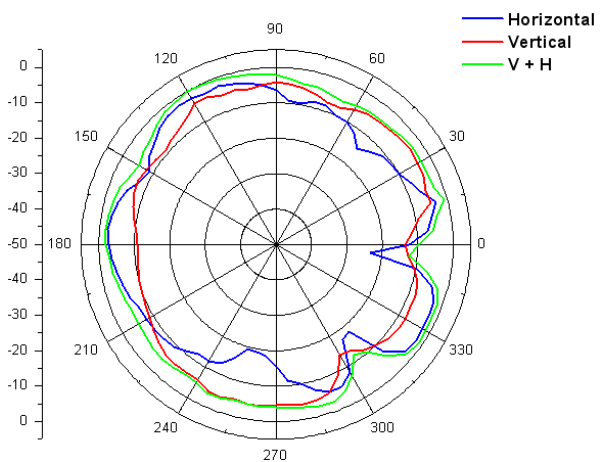
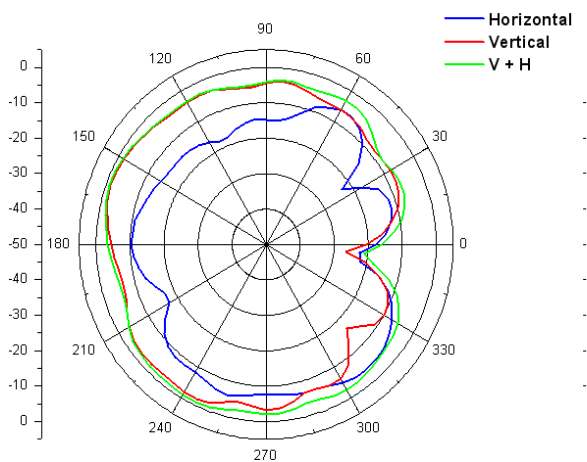
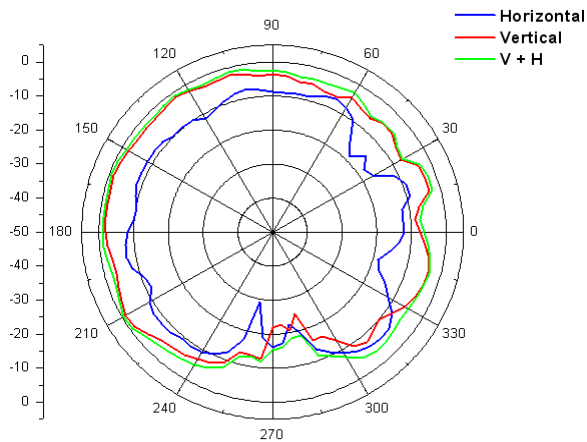
Frequency = 1840 MHz

	XY	YZ	ZX
H-Pol (Peak)	-3.44	-1.17	-4.98
V-Pol (Peak)	-0.31	-2.34	-0.55



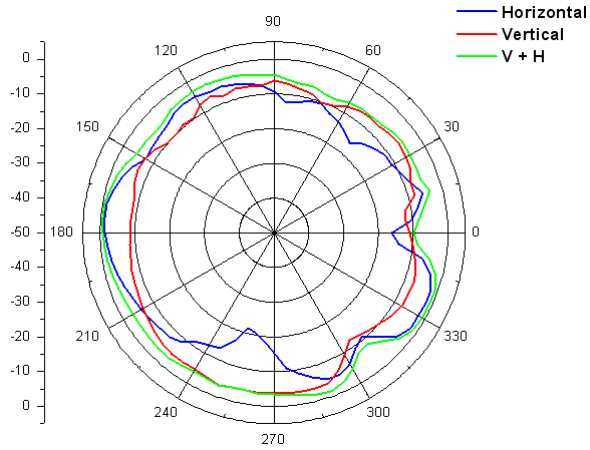
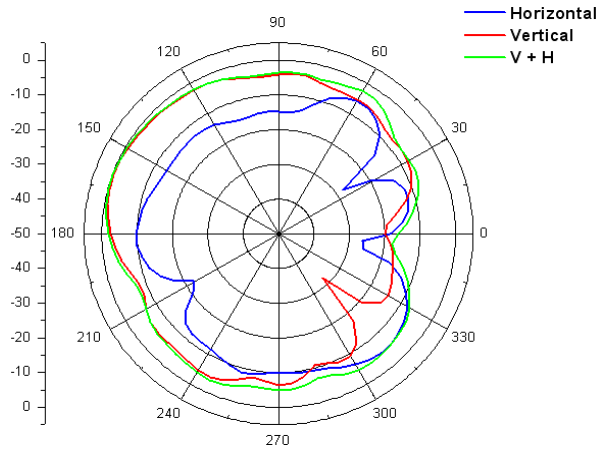
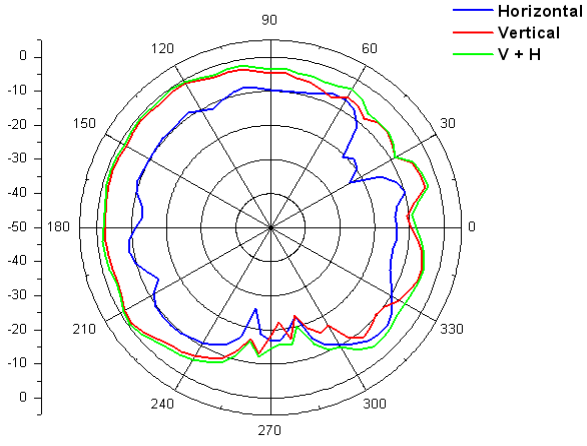
Frequency = 1850 MHz

	XY	YZ	ZX
H-Pol (Peak)	-3.55	-1.37	-6.01
V-Pol (Peak)	-1.09	-2.97	-0.96



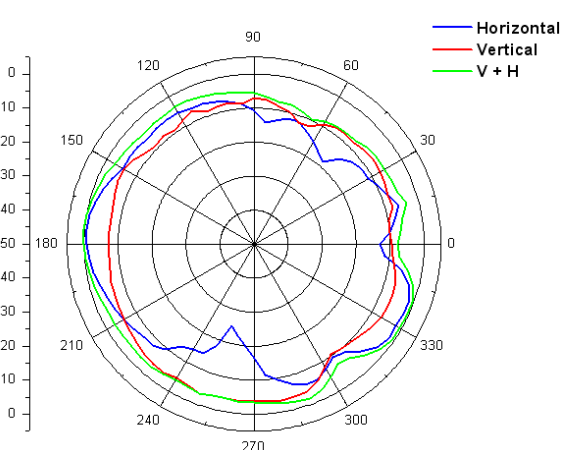
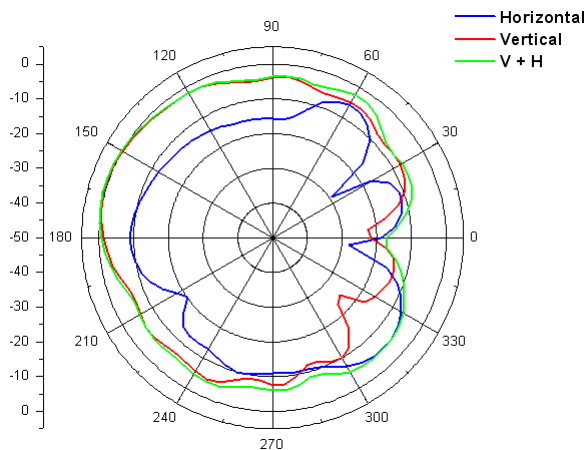
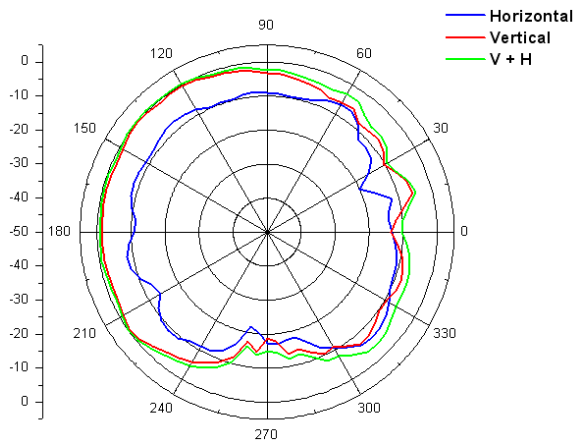
Frequency = 1880 MHz

	XY	YZ	ZX
H-Pol (Peak)	-3.95	-2.11	-5.31
V-Pol (Peak)	-1.43	-3.79	-0.99



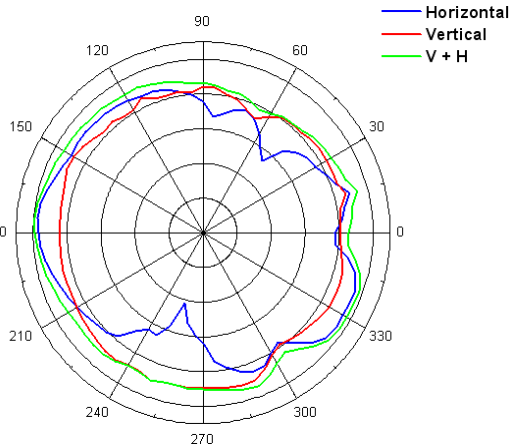
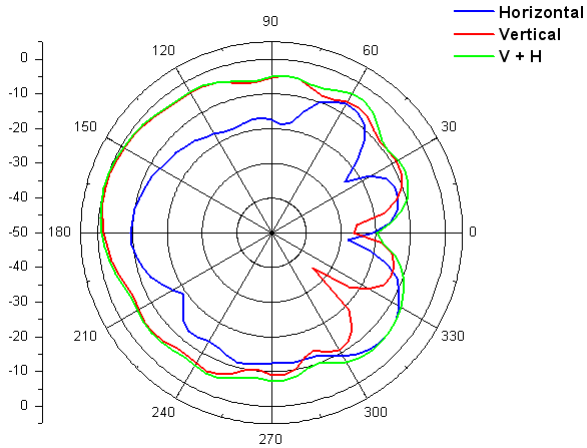
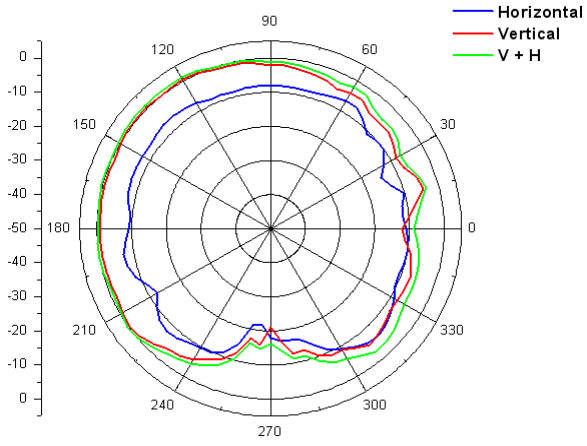
Frequency = 1910 MHz

	XY	YZ	ZX
H-Pol (Peak)	-4.95	-0.91	-5.97
V-Pol (Peak)	-0.23	-3.98	-0.67



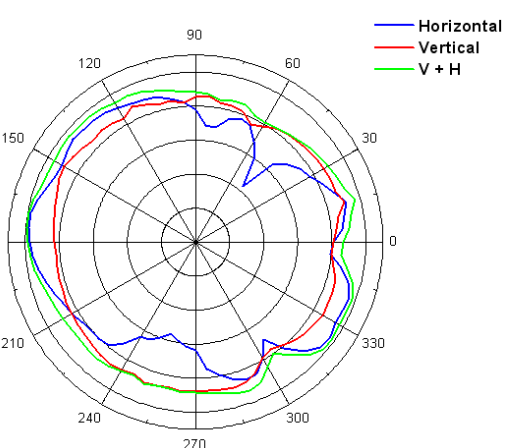
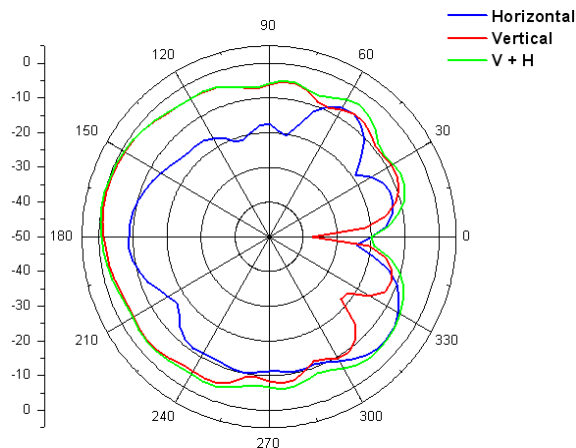
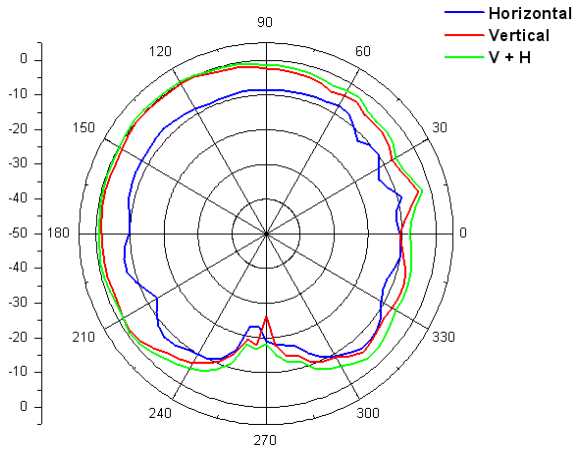
Frequency = 1920 MHz

	XY	YZ	ZX
H-Pol (Peak)	-4.72	-1.04	-5.45
V-Pol (Peak)	0.48	-3.76	-0.08



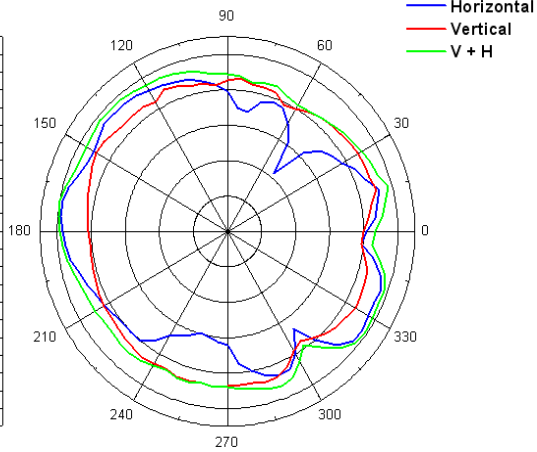
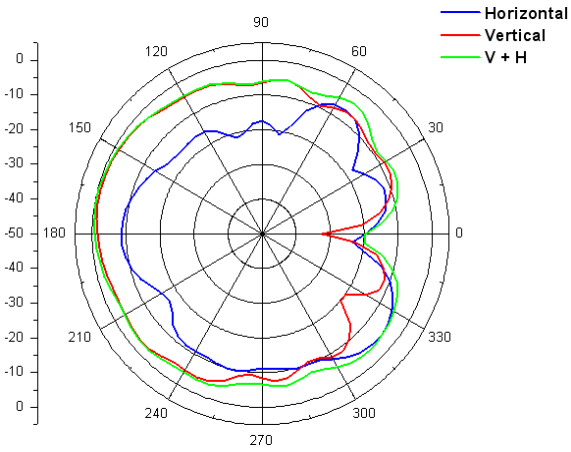
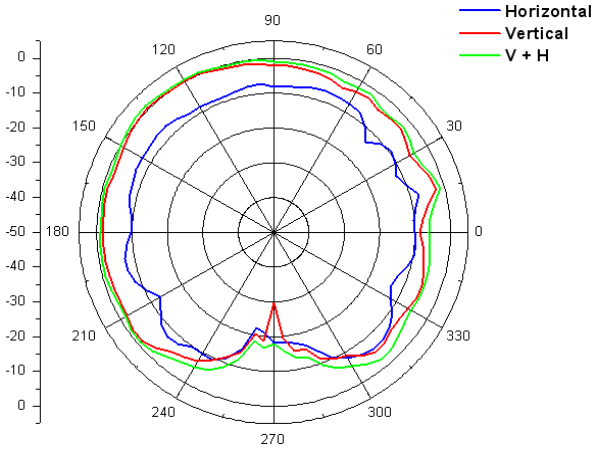
Frequency = 1930 MHz

	XY	YZ	ZX
H-Pol (Peak)	-5.77	-1.52	-6.90
V-Pol (Peak)	-0.39	-4.67	-0.01



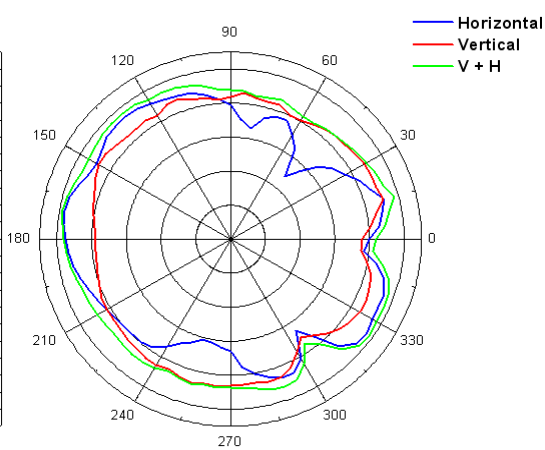
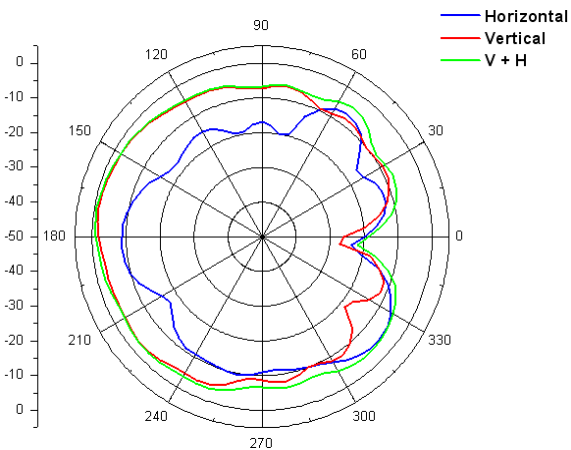
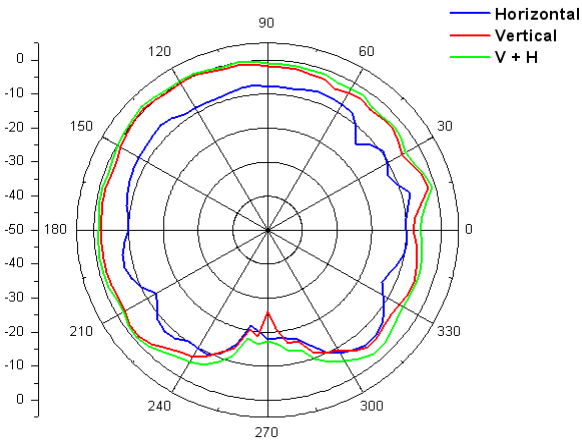
Frequency = 1950 MHz

	XY	YZ	ZX
H-Pol (Peak)	-4.76	-1.09	-6.11
V-Pol (Peak)	-0.54	-4.62	0.32



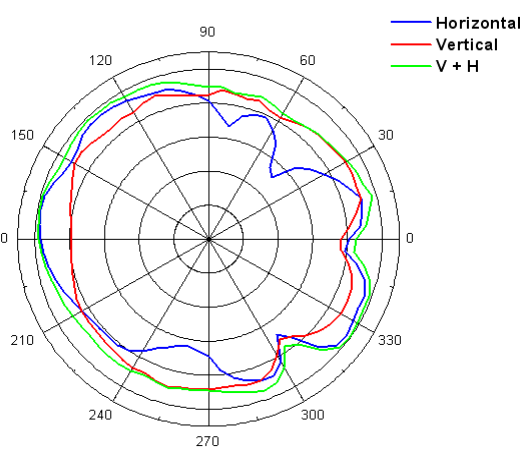
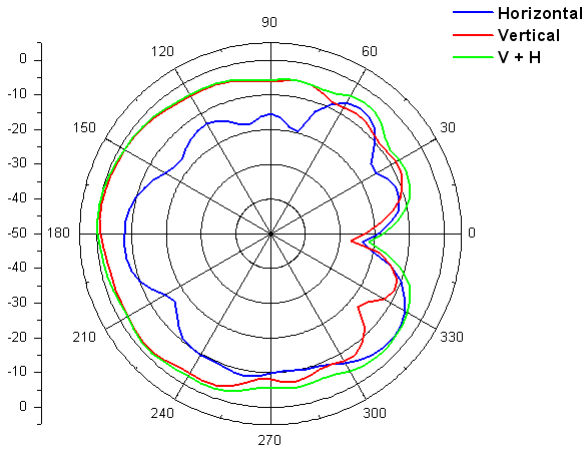
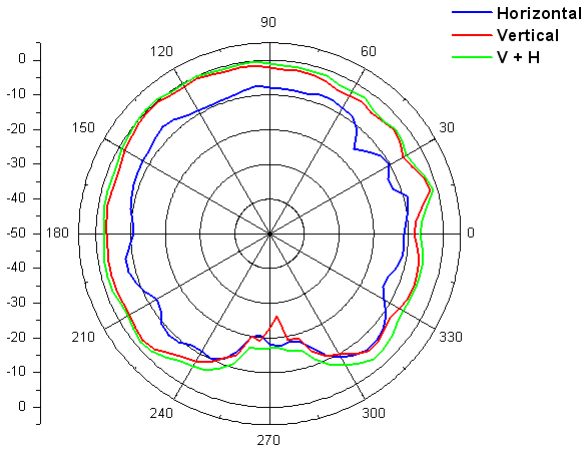
Frequency = 1960 MHz

	XY	YZ	ZX
H-Pol (Peak)	-4.45	-0.77	-6.12
V-Pol (Peak)	-1.05	-4.56	0.66



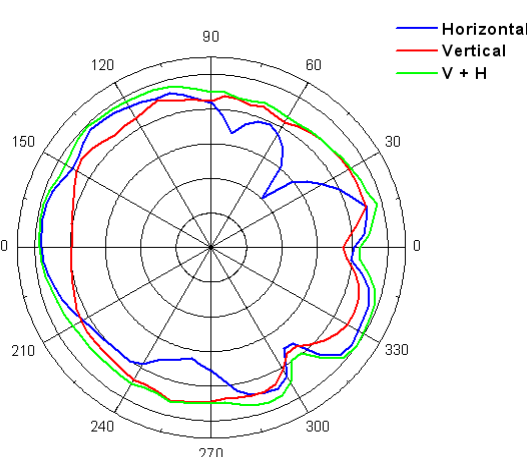
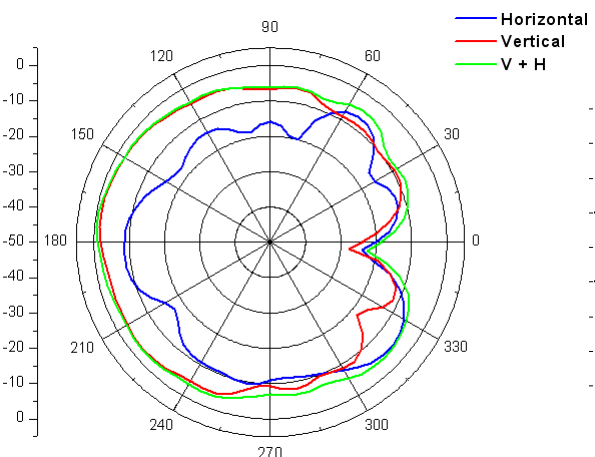
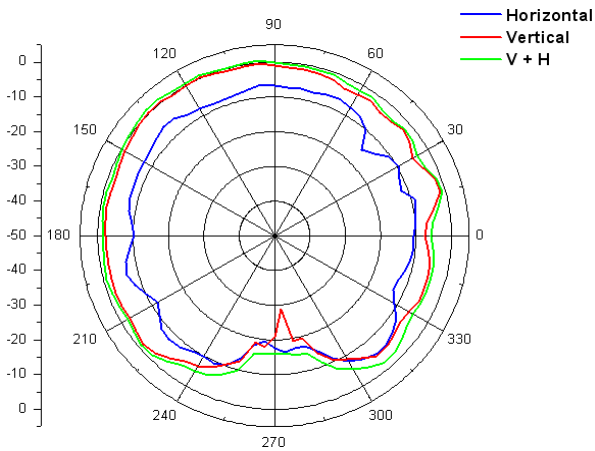
Frequency = 1980 MHz

	XY	YZ	ZX
H-Pol (Peak)	-4.96	-1.23	-6.65
V-Pol (Peak)	-1.44	-4.96	-0.39



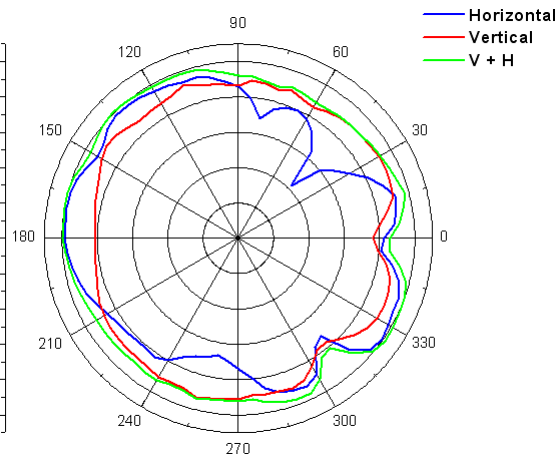
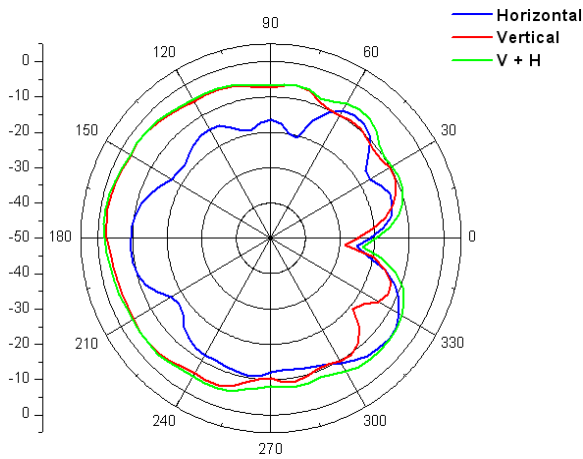
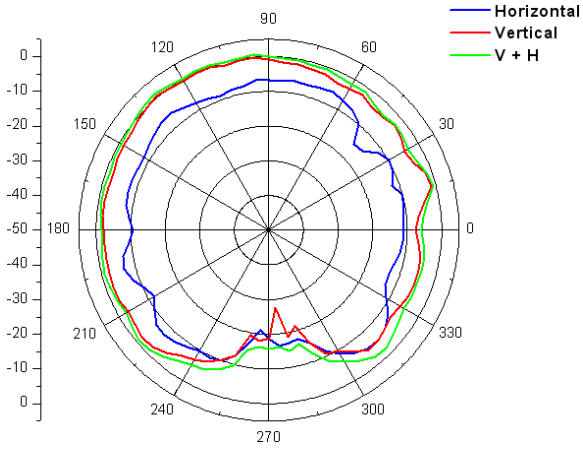
Frequency = 1990 MHz

	XY	YZ	ZX
H-Pol (Peak)	-4.07	-0.97	-5.04
V-Pol (Peak)	-1.13	-4.57	0.81



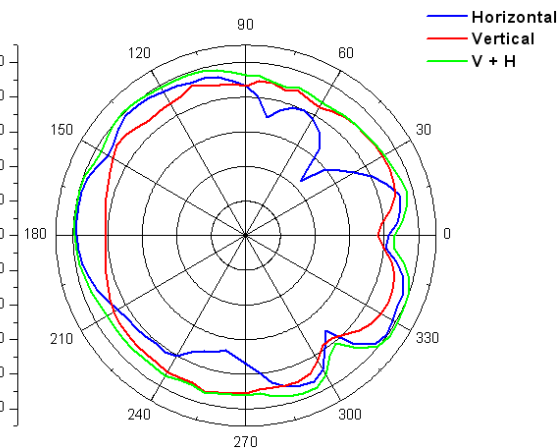
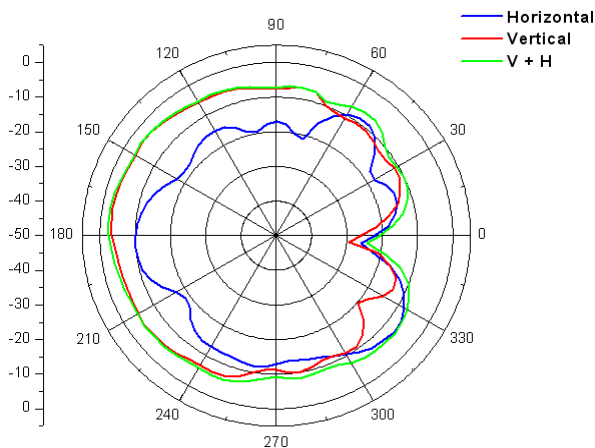
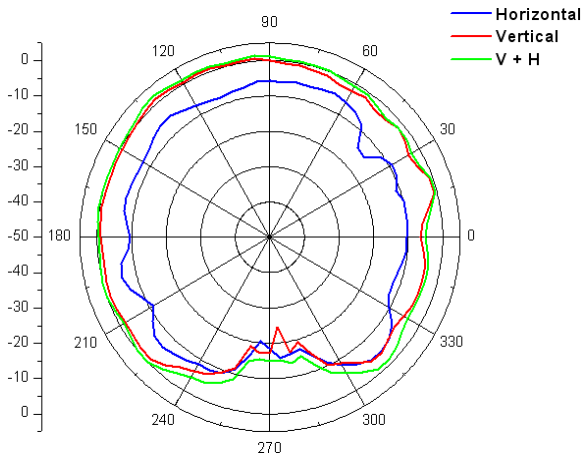
Frequency = 2010 MHz

	XY	YZ	ZX
H-Pol (Peak)	-3.98	-1.02	-5.67
V-Pol (Peak)	-0.61	-4.24	-0.23



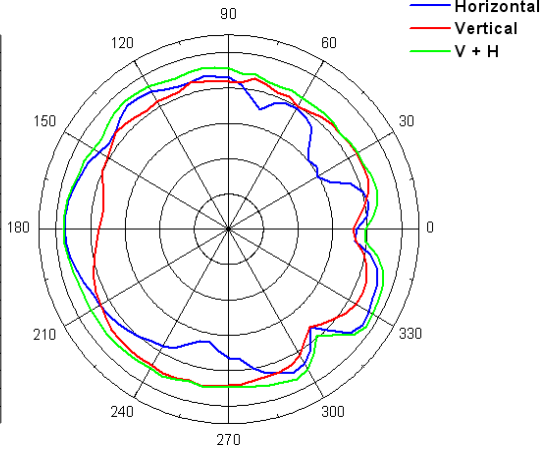
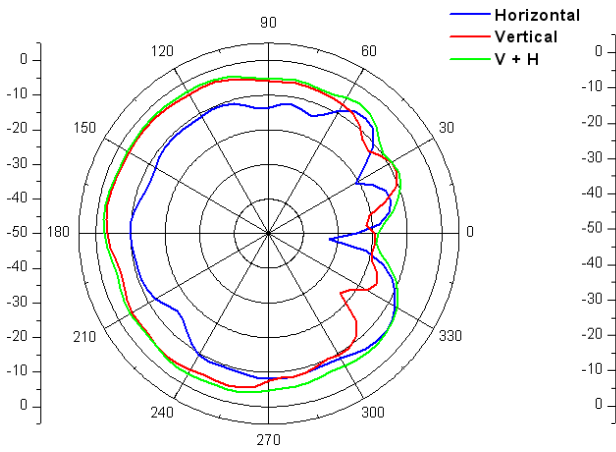
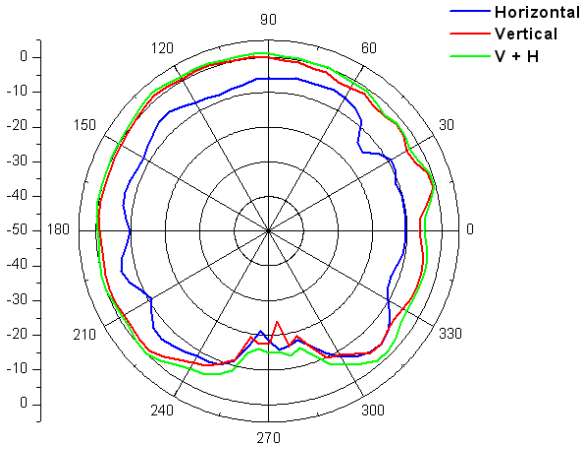
Frequency = 2018 MHz

	XY	YZ	ZX
H-Pol (Peak)	-3.54	-0.08	-4.23
V-Pol (Peak)	-0.63	-3.61	1.44



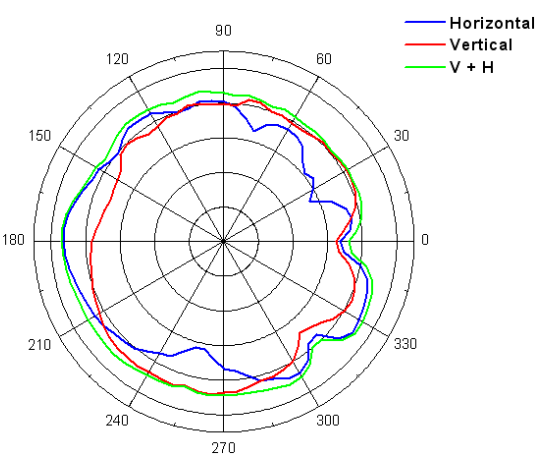
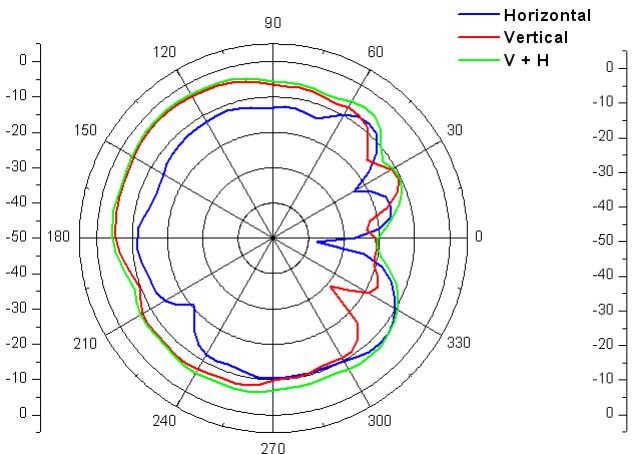
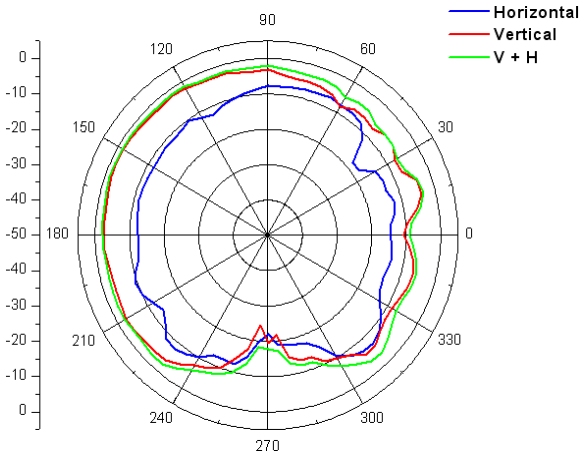
Frequency = 2025 MHz

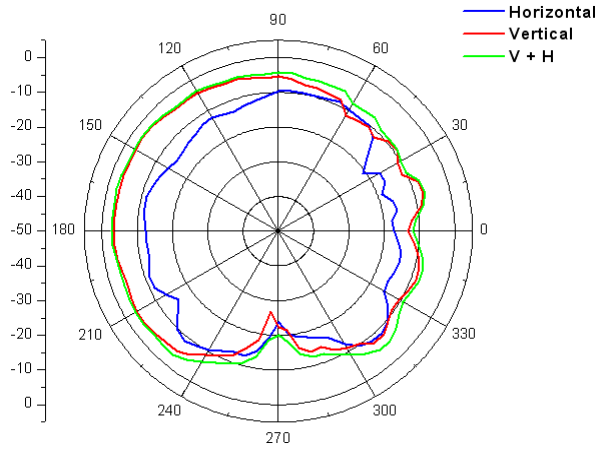
	XY	YZ	ZX
H-Pol (Peak)	-3.59	-0.37	-3.99
V-Pol (Peak)	-1.67	-3.24	1.07



Frequency = 2110 MHz

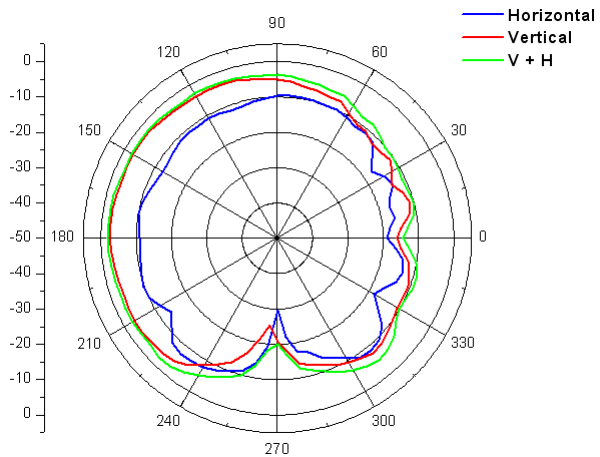
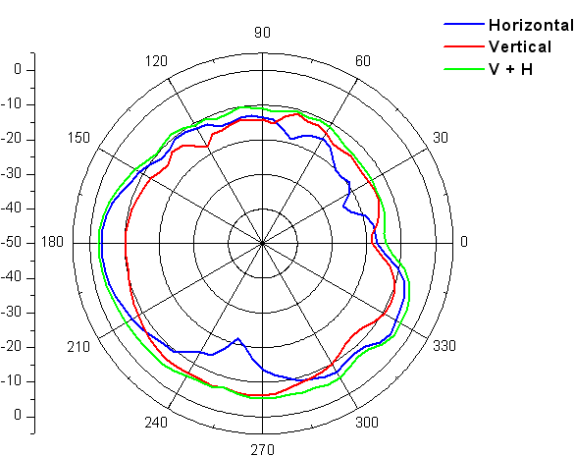
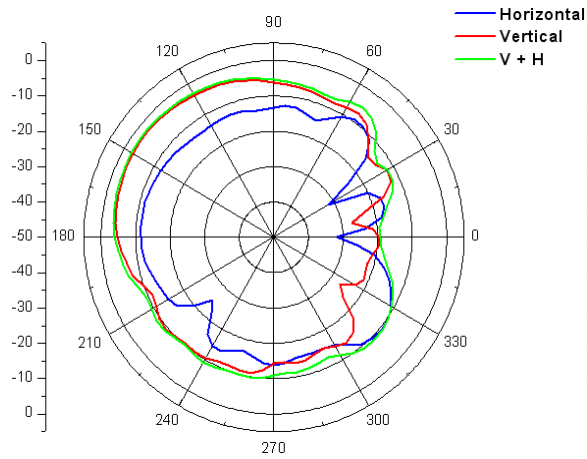
	XY	YZ	ZX
H-Pol (Peak)	-6.12	-3.01	-5.97
V-Pol (Peak)	-2.37	-5.06	-0.91





Frequency = 2140 MHz

	XY	YZ	ZX
H-Pol (Peak)	-7.79	-3.33	-8.98
V-Pol (Peak)	-3.15	-5.69	-3.67



Frequency = 2170 MHz

	XY	YZ	ZX
H-Pol (Peak)	-9.75	-3.69	-7.71
V-Pol (Peak)	-2.14	-6.03	-3.02