

Interactive tablet D5B Onboard Antenna
Specification V1.0

1. Antenna Characteristic Specification

This specification describes the physical characteristics and electrical performance of the following 2.4 GHz Wi-Fi antennas.



Figure 1. Antenna Actual Effect Picture

1.1 Antenna Structure

The antenna is mainly composed of on-board wiring on the PCB.

1.2 Antenna Technical Parameters and Interface

Design Specifications	Typical	Units
Form	On-board PCB	\
Frequency	2400-2500&5150-5850	MHz
Antenna Efficiency	30	%
VSWR	< 3	\
Polarization	Linear Polarization	\
Axial Ratio	\	\
Radiation pattern	Omnibearing	\
impedance	50	ohm
Power handling	33	dBm
Interface	\	\
Overall dimensions	306mm*21mm	\
Weight	\	\
Operation Temp.	-30-70	°C
Storing Temp.	-30-70	°C

2. Antenna Test Conditions

2.1 Test Equipment

Antenna Vector Network Analyzer ROHDE&SCHWARZ ZNB 20

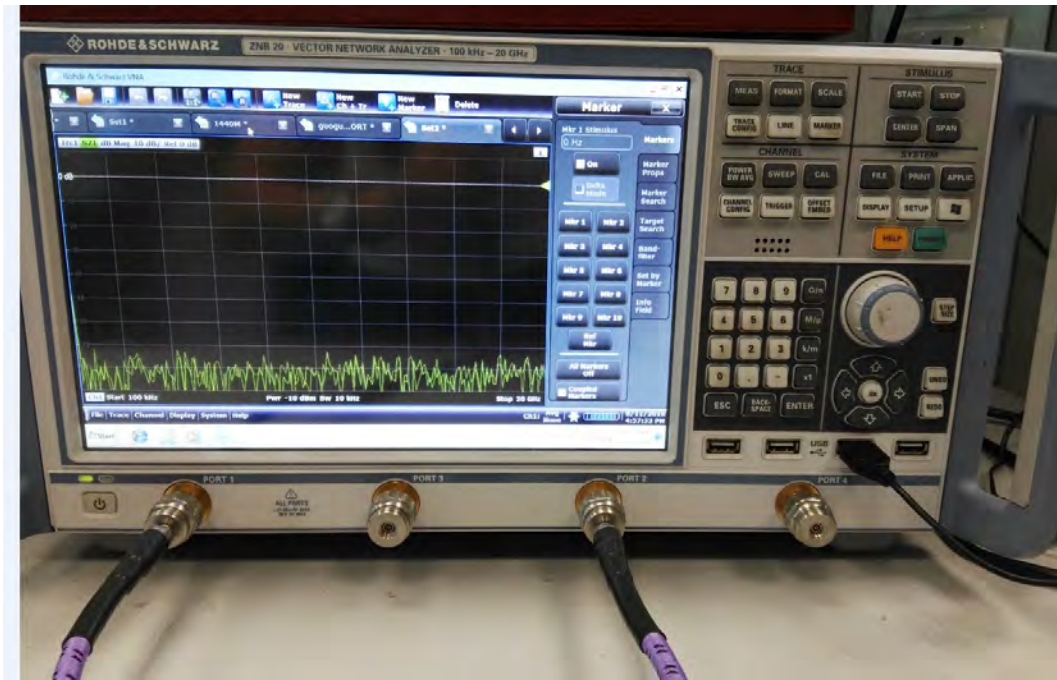


Figure 2. Vector Network Analyzer

2.2 Test Result

Return Loss (S11)

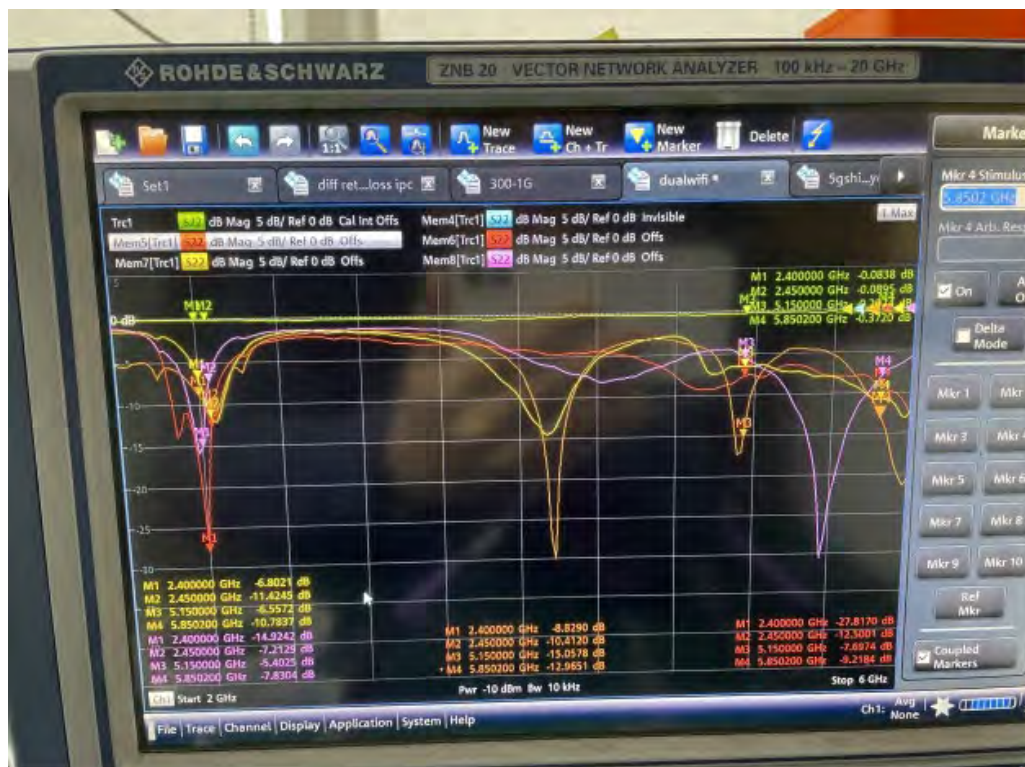


Figure 3. Return Loss

Antenna Gain

D5B Slot Antenna Gain										
Frequency (MHz)	Gain (dBi)					Frequency (MHz)	Gain (dBi)			
	ANT1	ANT2	ANT3	ANT4	ANT5 (BT)		ANT1	ANT2	ANT3	ANT4
2400	0.76	2.31	1.81	1.66	1.73	5150	2.15	2.33	1.96	1.62
2410	1.05	2.36	1.98	2.03	1.85	5200	1.82	1.61	1.56	1.48
2420	1.46	2.44	2.13	2.03	2.06	5250	2.05	1.19	2.5	1.2
2430	1.62	2.55	2.18	1.83	2.16	5300	2.39	0.62	2.24	1.62
2440	0.96	2.61	2.16	2.06	2.32	5350	2.34	0.91	2.66	1.08
2450	1.15	2.55	1.78	2.02	2.3	5400	1.84	0.89	2.69	1.21
2460	1.28	2.27	1.18	2.24	2.27	5450	1.01	1.13	2.03	1.46
2470	1.23	1.96	0.62	2.01	2.32	5500	0.12	1.2	1.22	0.78
2480	1.46	1.48	0.5	1.91	2.32	5550	-1.01	0.96	1.82	1.91
2490	1.62	0.98	0.18	1.65	2.29	5600	-0.65	-0.53	1.41	2.15
2500	1.93	0.75	0.43	1.38	2.31	5650	-0.62	-0.79	1.94	1.68
						5700	-0.41	0.98	1.98	2.18
						5750	0.64	1.26	2.46	2.55
						5800	1.35	2.22	2.36	2.2
						5850	2.54	2.62	2.03	1.98

Antenna 2D Radiation Pattern

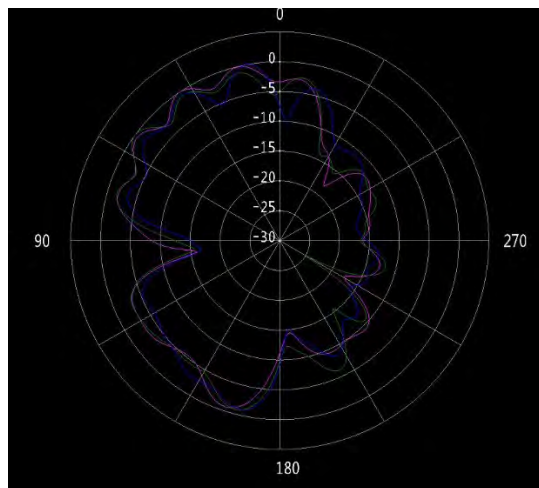


Figure 5. ANT1 $\phi=0^\circ$ (2.4/2.45/2.5GHz)

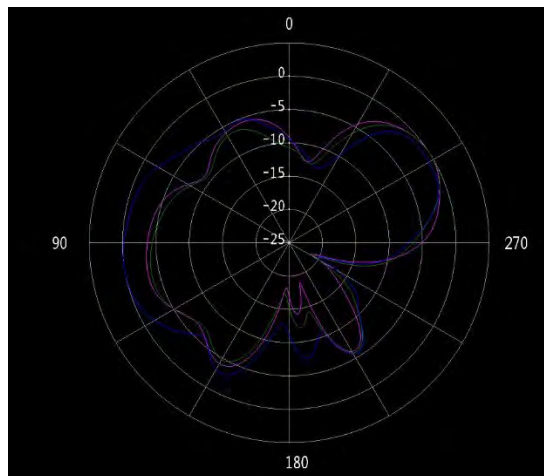


Figure 6. ANT1 $\phi=90^\circ$ (2.4/2.45/2.5GHz)

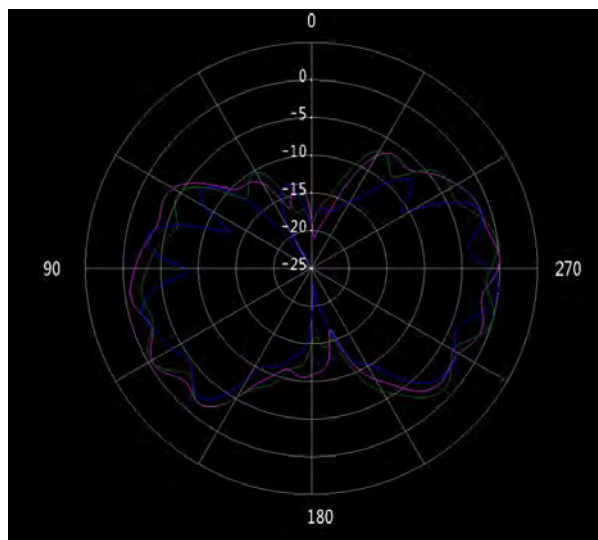


Figure 7. ANT1 theta=90° (2.4/2.45/2.5GHz)

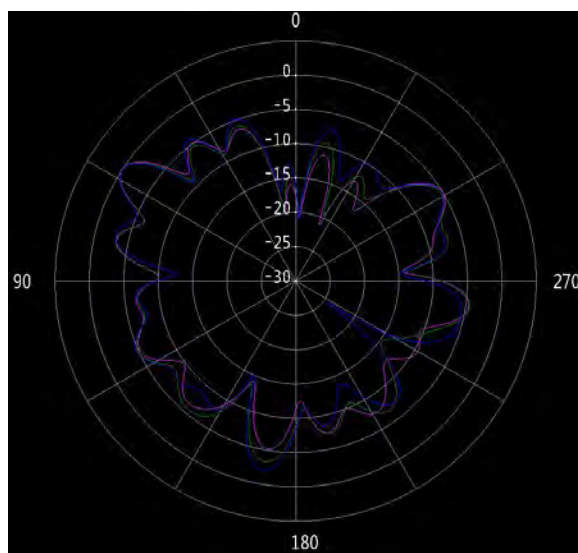


Figure 8. ANT1 phi=0° (5.15/5.2/5.25GHz)

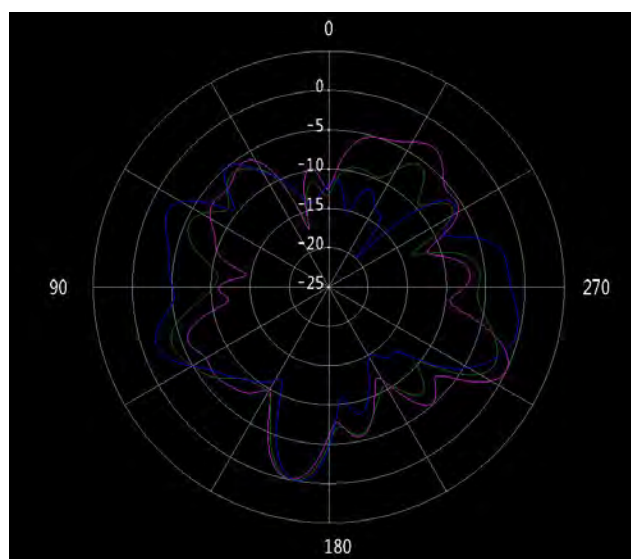


Figure 9. ANT1 phi=90° (5.15/5.2/5.25GHz)

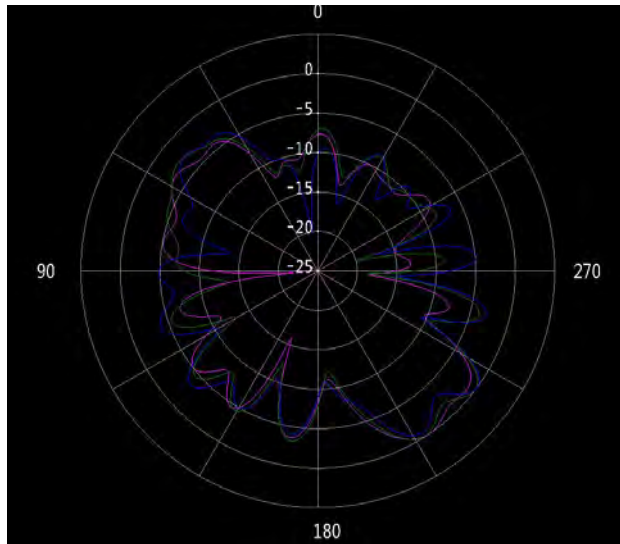


Figure 10. ANT1 theta=90° (5.15/5.2/5.25GHz)

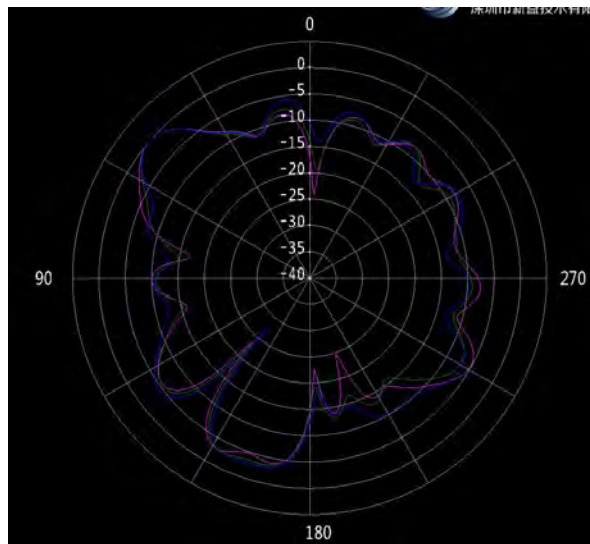


Figure 11. ANT1 phi=0° (5.75/5.8/5.85GHz)

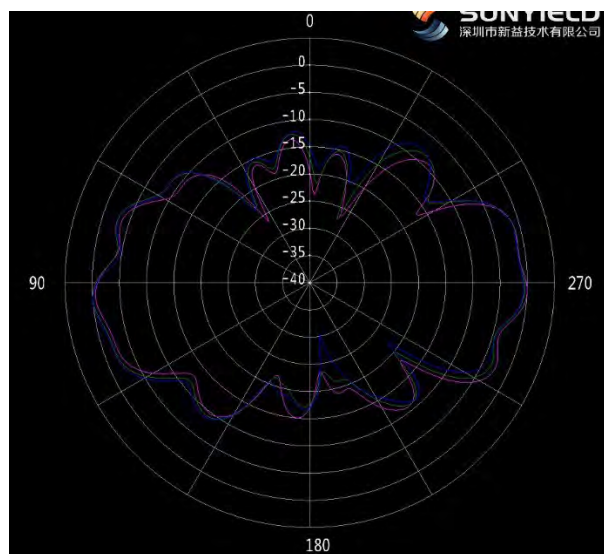


Figure 12 ANT1 phi=90° (5.75/5.8/5.85GHz)

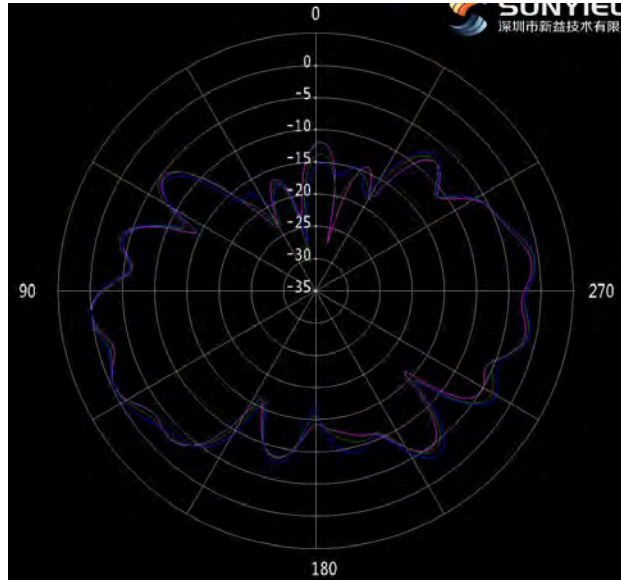


figure 13 ANT1 theta=90° (5.75/5.8/5.85GHz)

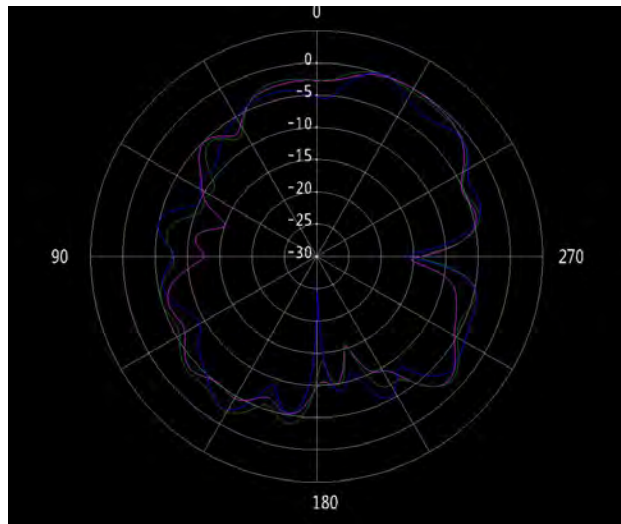


Figure 14 ANT2 phi=0° (2.4/2.45/2.5GHz)

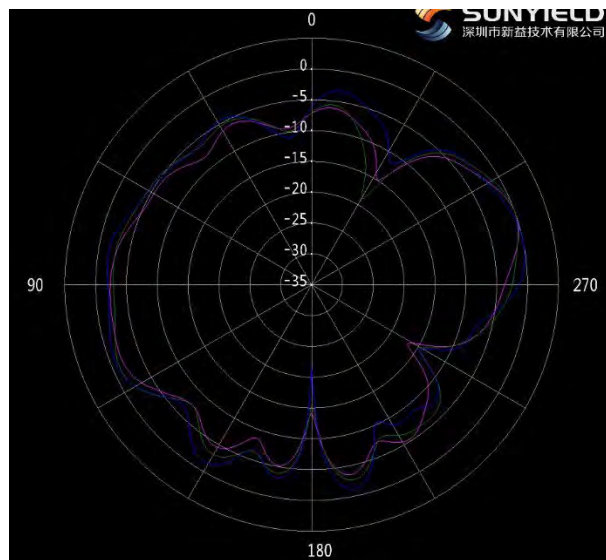


Figure 15 ANT2 phi=90° (2.4/2.45/2.5GHz)

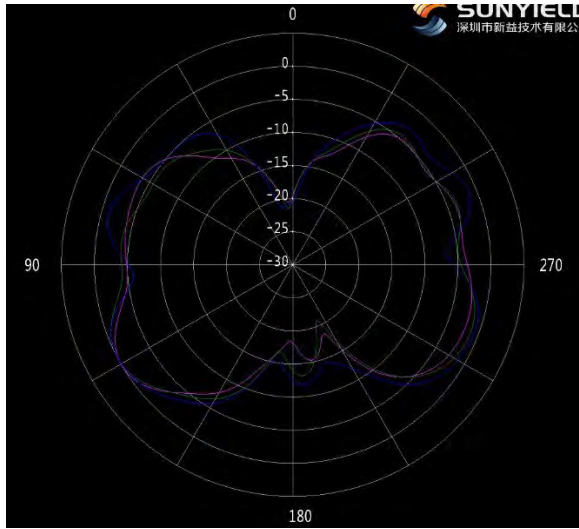


Figure 16 ANT2 $\theta=90^\circ$ (2.4/2.45/2.5GHz)

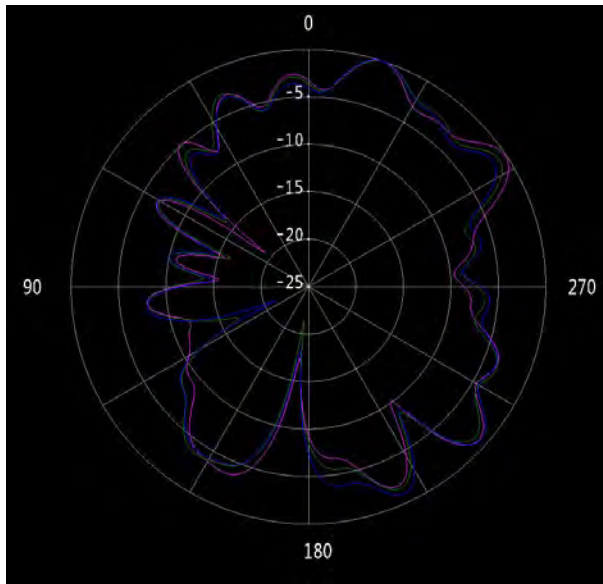


Figure 17 ANT2 $\phi=0^\circ$ (5.15/5.2/5.25GHz)

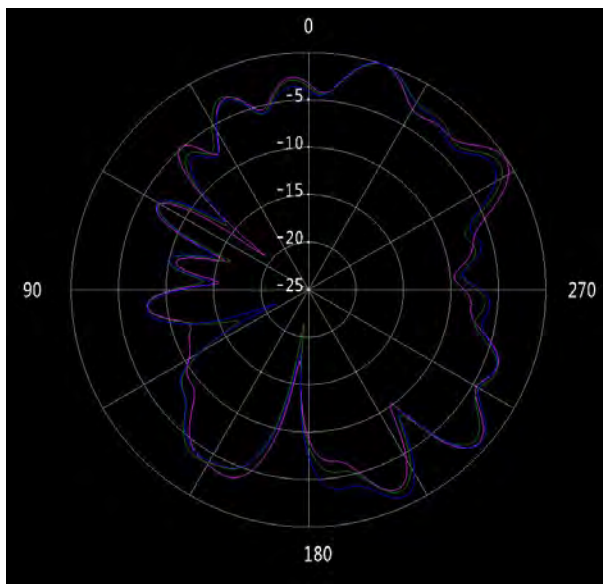


Figure 18 ANT2 $\phi=90^\circ$ (5.15/5.2/5.25GHz)

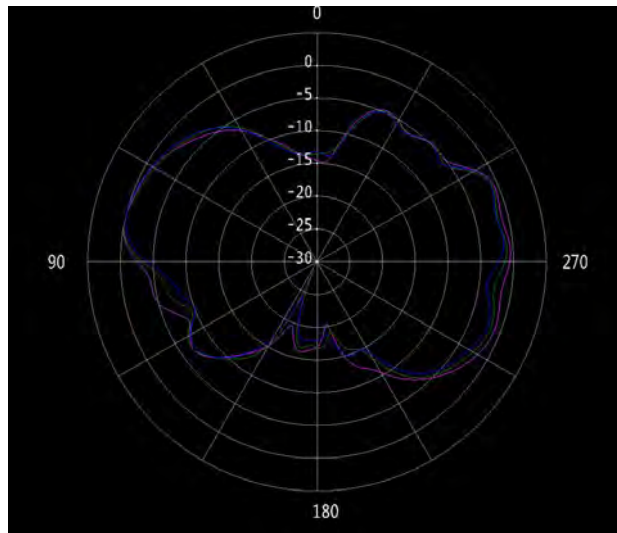


Figure 19 ANT2 $\theta = 90^\circ$ (5.15/5.2/5.25GHz)

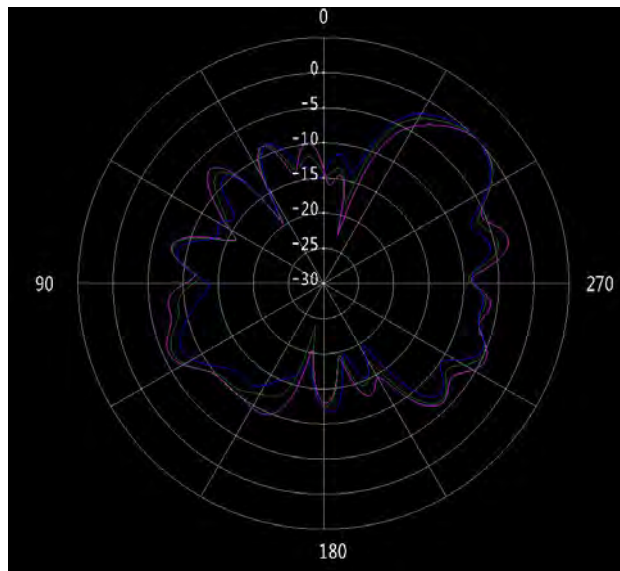


Figure 20 ANT2 $\phi = 0^\circ$ (5.75/5.8/5.85GHz)

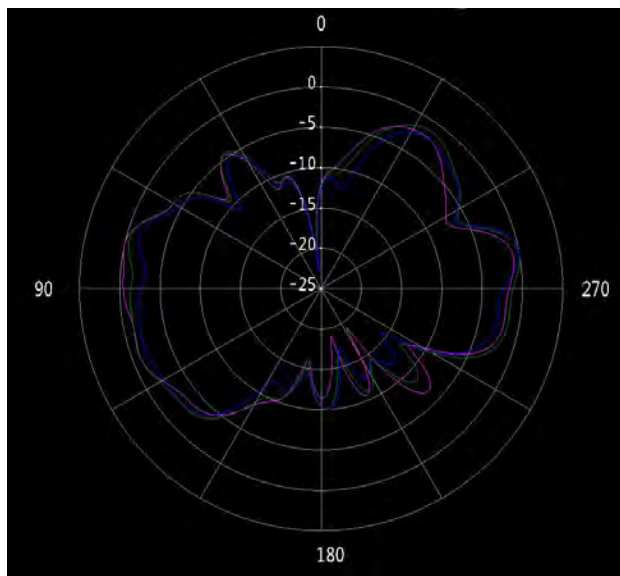


Figure 21 ANT2 $\phi = 90^\circ$ (5.75/5.8/5.85GHz)

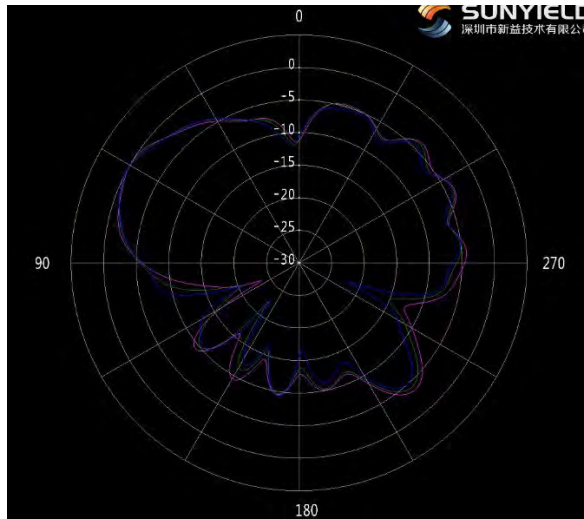


Figure 22 ANT2 theta=90° (5.75/5.8/5.85GHz)

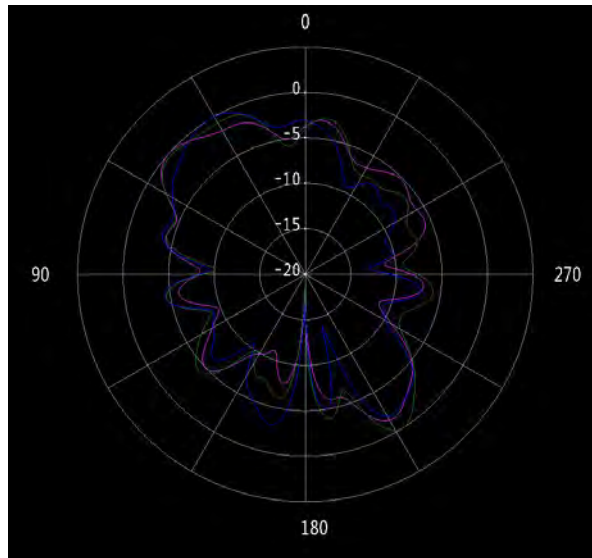


Figure 23 ANT3 phi=0° (2.4/2.45/2.5GHz)

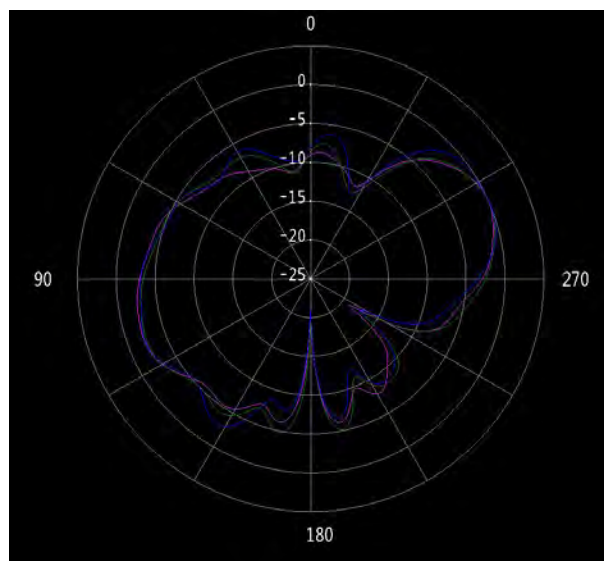


Figure 24 ANT3 phi=90° (2.4/2.45/2.5GHz)

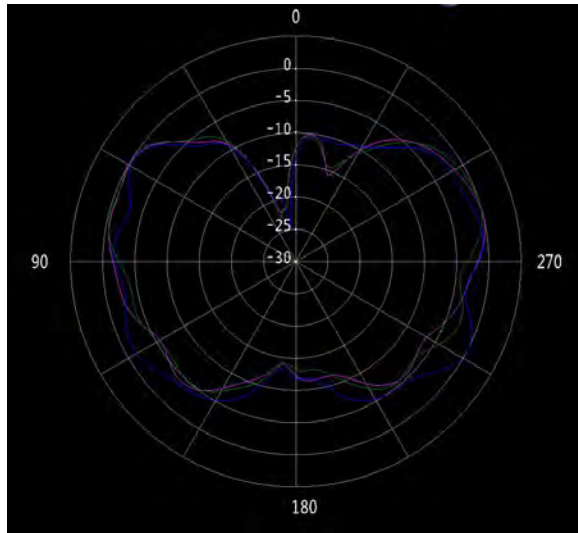


Figure 25 ANT3 theta=90° (2.4/2.45/2.5GHz)

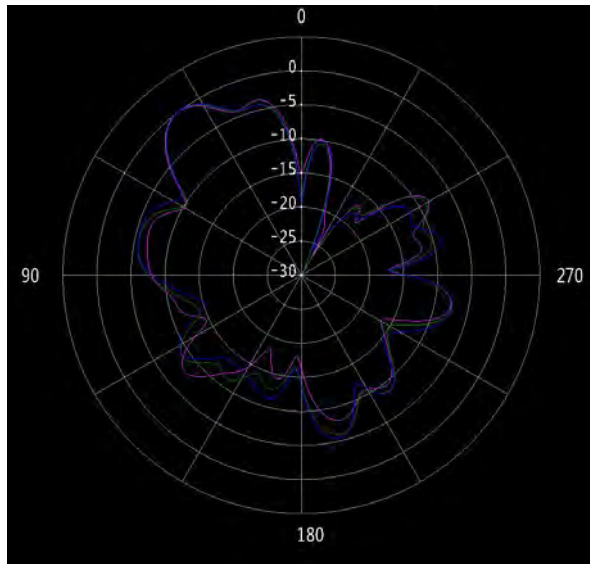


Figure 26 ANT3 phi=0° (5.15/5.2/5.25GHz)

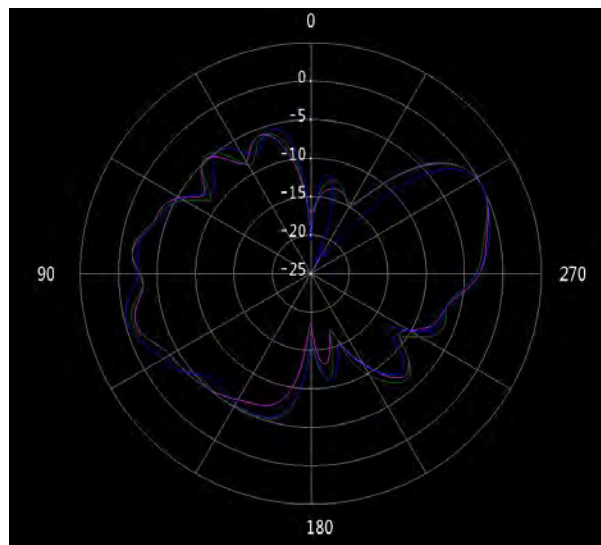


Figure 27 ANT3 phi=90° (5.15/5.2/5.25GHz)

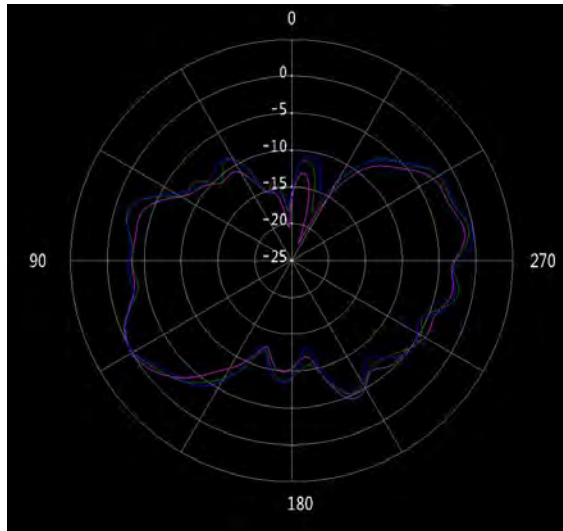


Figure 28 ANT3 $\theta=90^\circ$ (5.15/5.2/5.25GHz)

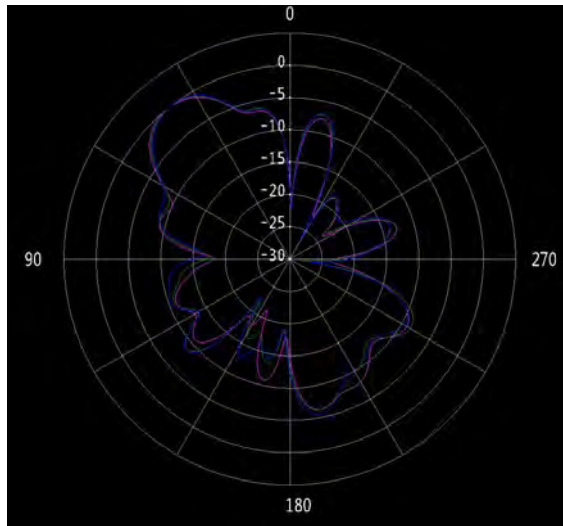


Figure 29 ANT3 $\phi=0^\circ$ (5.75/5.8/5.85GHz)

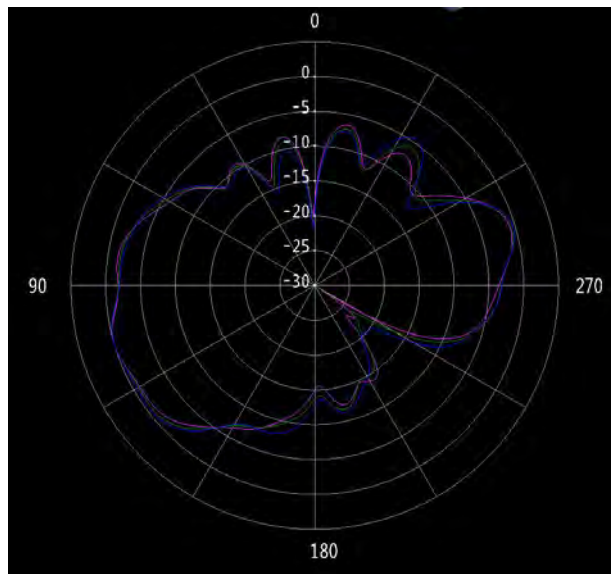


Figure 30 ANT3 $\phi=90^\circ$ (5.75/5.8/5.85GHz)

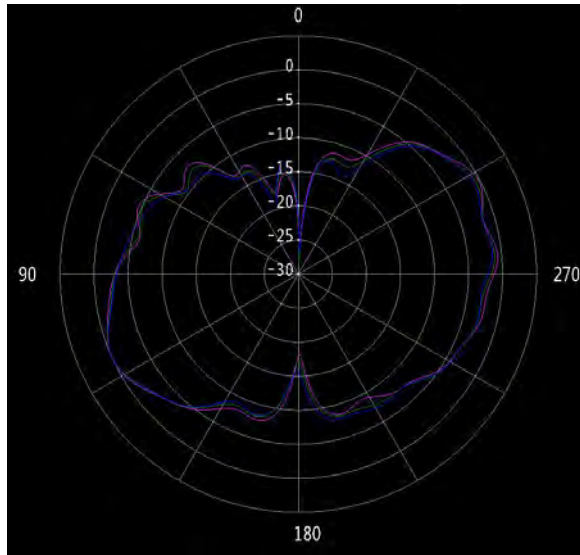


Figure 31 ANT3 theta=90° (5.75/5.8/5.85GHz)

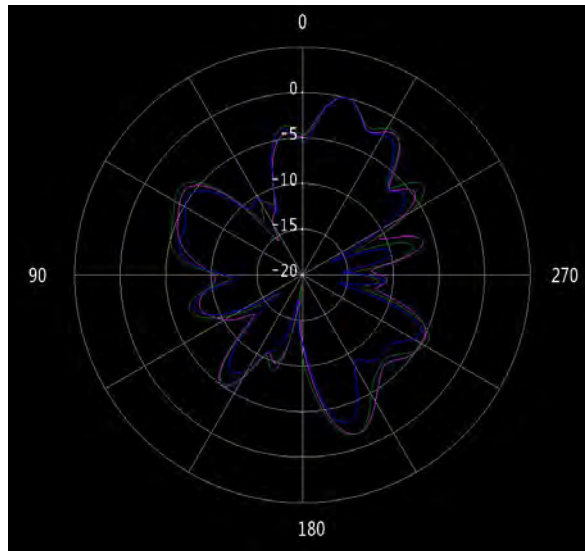


Figure 32 ANT4 phi=0° (2.4/2.45/2.5GHz)

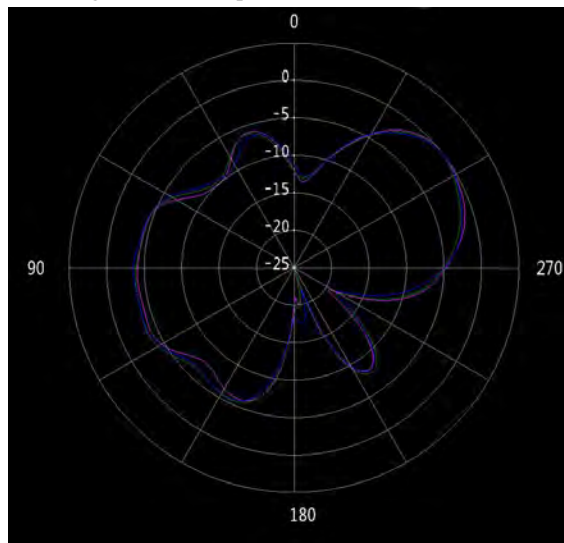


Figure 33 ANT4 phi=90° (2.4/2.45/2.5GHz)

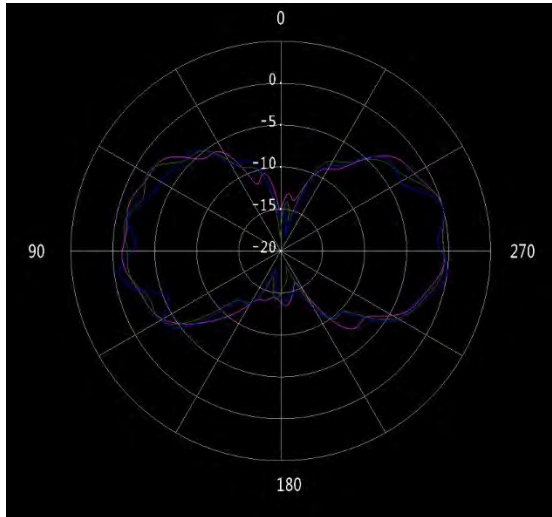


Figure 34 ANT4 theta=90° (2.4/2.45/2.5GHz)

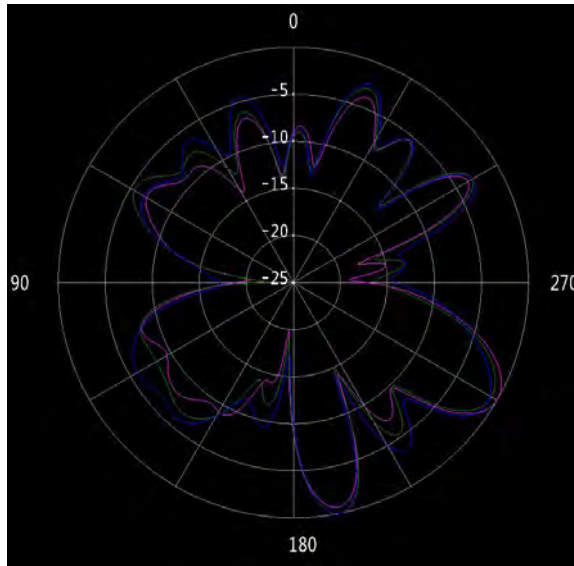


Figure 35 ANT4 phi=0° (5.15/5.2/5.25GHz)

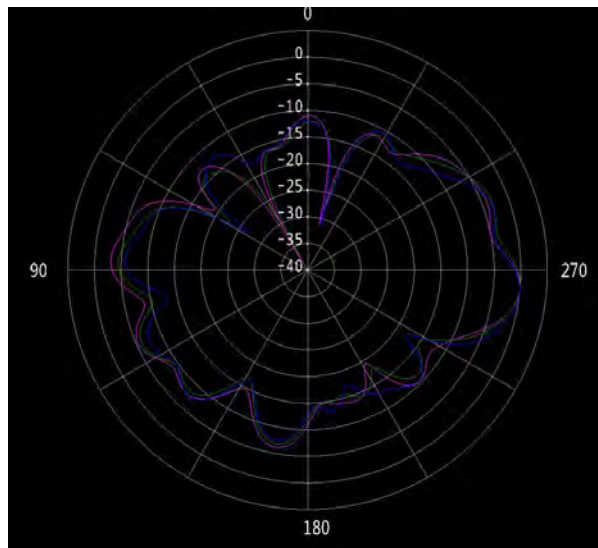


Figure 36 ANT4 phi=90° (5.15/5.2/5.25GHz)

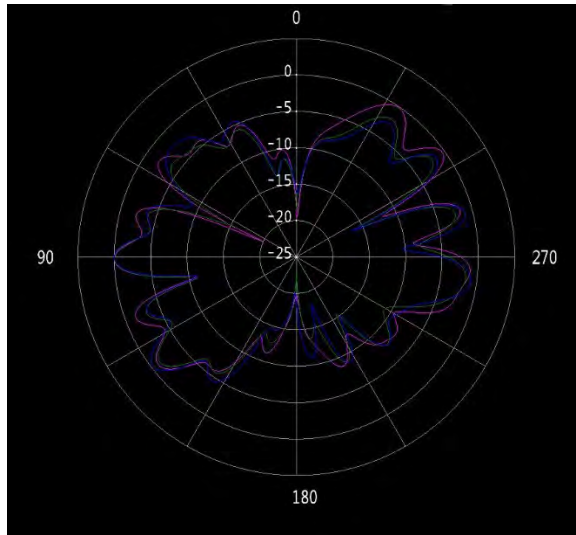


Figure 37 ANT4 theta=90° (5.15/5.2/5.25GHz)

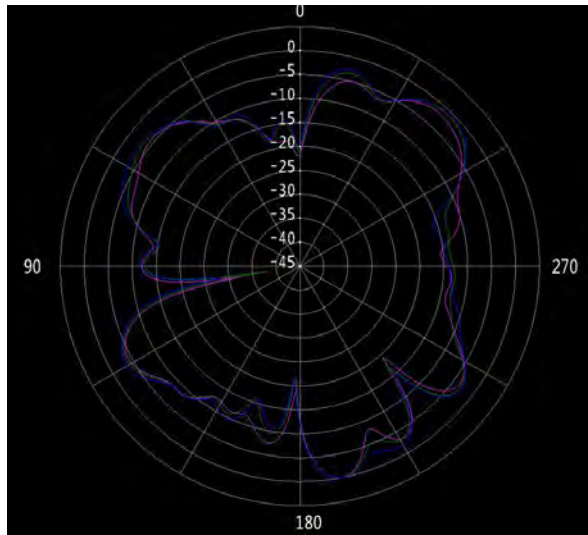


Figure 38 ANT4 phi=0° (5.75/5.8/5.85GHz)

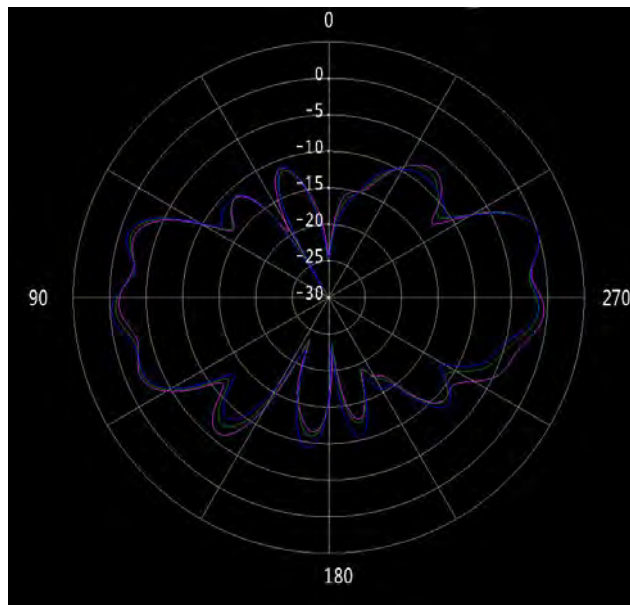


Figure 39 ANT4 phi=90° (5.75/5.8/5.85GHz)

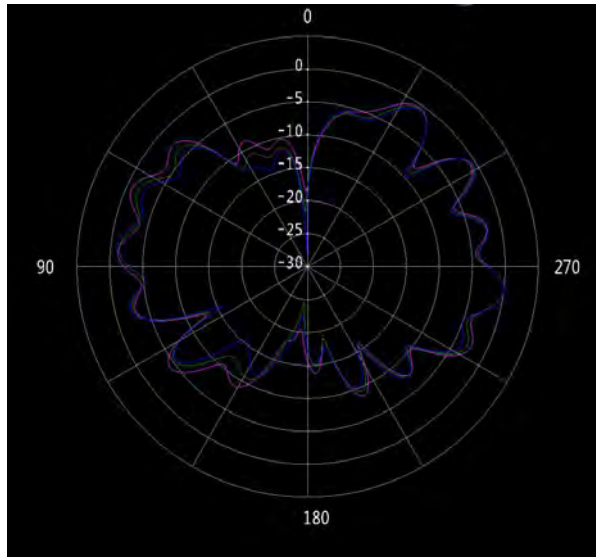


Figure 40 ANT4 theta=90° (5.75/5.8/5.85GHz)

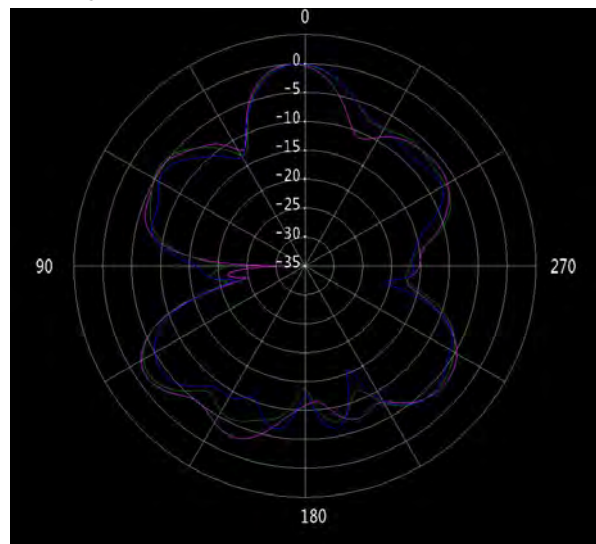


Figure 41 ANT5 (BT) phi=0° (2.4/2.45/2.5GHz)

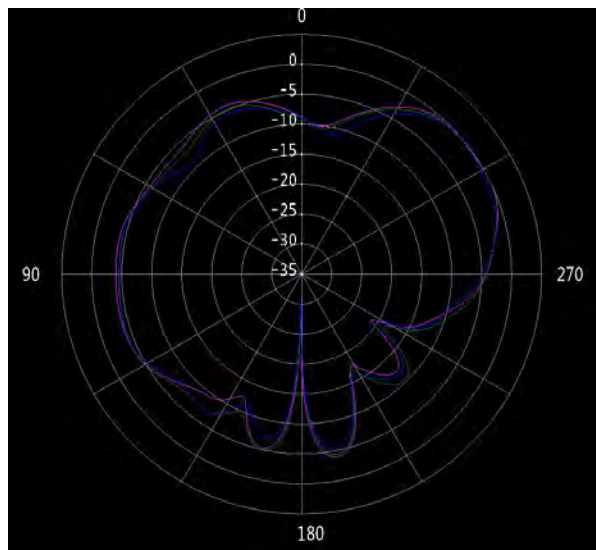


Figure 42 ANT5 (BT) phi=90° (2.4/2.45/2.5GHz)

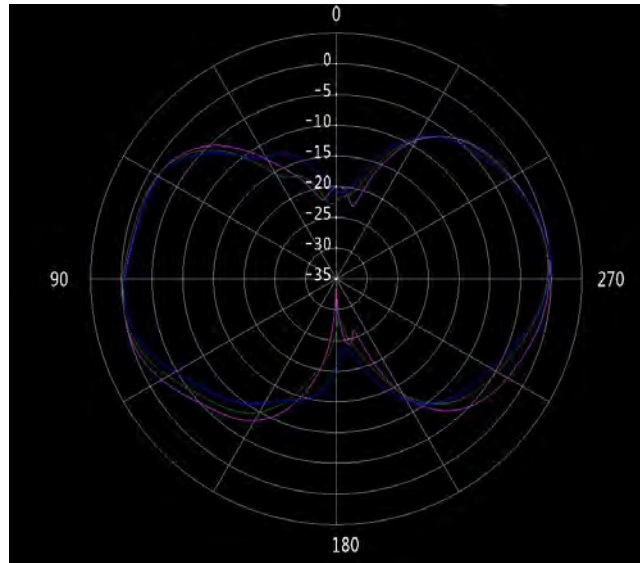


Figure 43 ANT5 (BT) $\theta=90^\circ$ (2.4/2.45/2.5GHz)