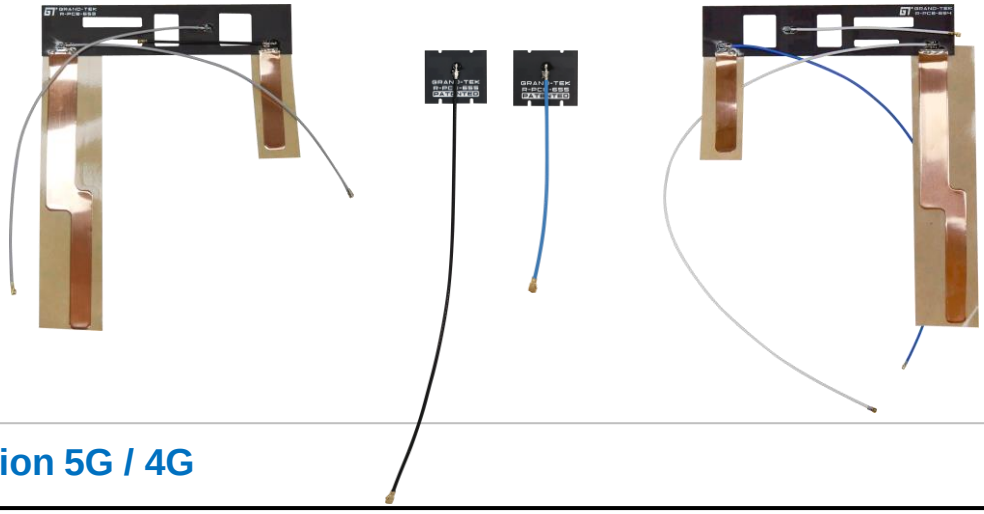
5G/4G+WiFi Embedding Antenna 2x2 Low Band,4x4 Mid Band

5G / 4G 617~960MHz / 1710~2170MHz / 2300~2690MHz / 3300~4000 MHz
WiFi 2400~2500MHz / 5150~5850MHz

GTT P/N: OA-5G-EB-01-BL



✓ RF Specification 5G / 4G

• Polarization (Port1/2)	ANT1 (Port1) / ANT2 (Port2)			
• Frequency	617~960 MHz	1710~2200 MHz	2300~2690 MHz	3300~4000 MHz
• Polarization	Linear, Vertical			
• HPBW / H plane	360°			
• HPBW / V plane	60°			
• Peak Gain (max.)	-1.4~2.0 dBi	-0.7~4.5 dBi	1.0~2.9 dBi	0.8~3.7 dBi
• VSWR	4.5 typ.	2.5 typ.		
• Isolation between Ports	> 15 dB			
• Cable:OD1.37 Low Loss	Gray L170mm(Port1) / White L320mm (Port2)			
• Connector	IPEX 4th			

• Polarization (Port1/2)	ANT3 (Port3) / ANT4 (Port4)		
• Frequency	1710~2200 MHz	2300~2690 MHz	3300~4000 MHz
• Polarization	Linear, Vertical		
• HPBW / H plane	360°		
• HPBW / V plane	60°		
• Peak Gain (max.)	1.1~3.6 dBi	0.9~4.0 dBi	2.0~4.7 dBi
• VSWR	2.5 typ.		
• Isolation between Ports	> 15 dB		
• Cable:OD1.37 Low Loss	Black L67mm(Port3) / Blue L225mm (Port4)		
• Connector	IPEX 4th		

✓ RF Specification WiFi

• Polarization (Port5/6)	ANT5 (Port5) / ANT6 (Port6)	
• Frequency	2400~2500 MHz	5150~5850 MHz
• Polarization	Linear, Vertical	
• HPBW / H plane	360°	
• HPBW / V plane	60°	
• Peak Gain (max.)	1.4~2.7 dBi	3.2~4.5 dBi
• VSWR	2.0 max.:1	
• Isolation between Ports	> 20 dB	
• Cable:OD1.37 Low Loss	Gray L190mm(Port5) / White L85mm (Port6)	
• Connector	I-PEX MHF	

• Polarization (Port7/8)	ANT7 (Port7) / ANT8 (Port8)	
• Frequency	2400~2500 MHz	5150~5850 MHz
• Polarization	Linear, Vertical	
• HPBW / H plane	360°	
• HPBW / V plane	60°	
• Peak Gain (max.)	1.5~2.9 dBi	2.1~3.1 dBi
• VSWR	2.0 max.:1	
• Isolation between Ports	> 20 dB	
• Cable:OD1.37 Low Loss	Black L175mm(Port7) / Blue L85mm (Port8)	
• Connector	I-PEX MHF	

✓ Environmental & Mechanical Characteristics

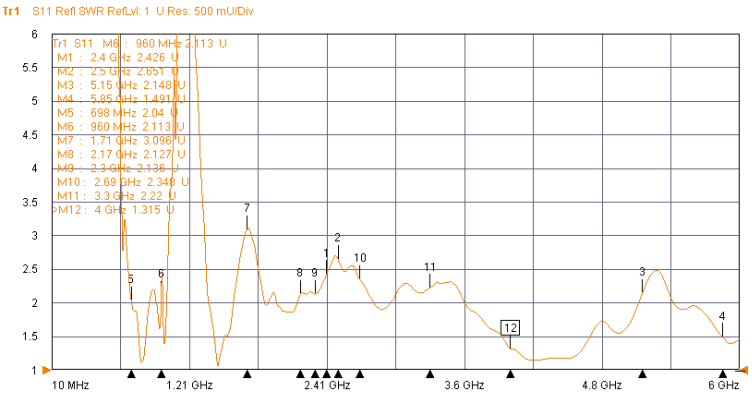
- Temperature: -30℃ to +70℃
- Humidity: 95% @55℃
- Weight: 20g
- Dimensions:
  5G/4G+WiFi Combo : 123(L)x25(W)x0.8(T)mm (without Copper foil)
  WiFi : 24(L)x21(W)x0.8(W)

Performance Summary

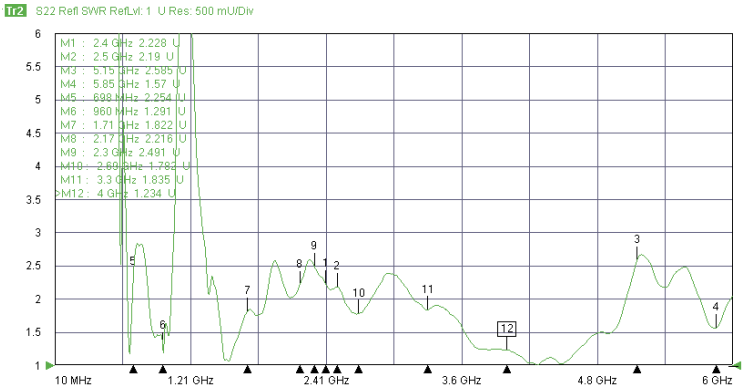
VSWR 5G / 4G

Frequency(MHz)	617~960	1710~2200	2300~2690	3300~4000
VSWR	4.5 typ.	2.5 typ.		

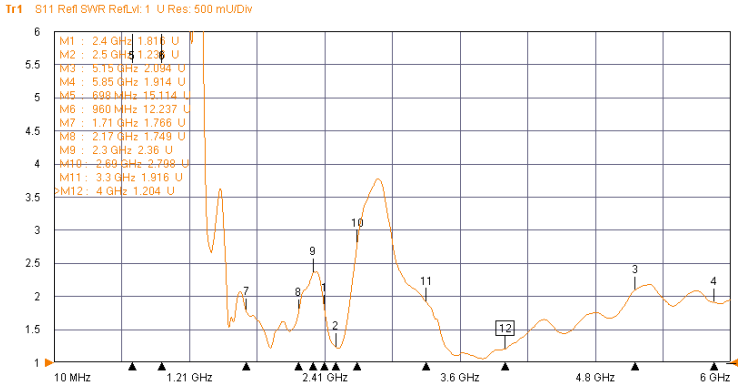
ANT1 (Port#1 Gray Cable)



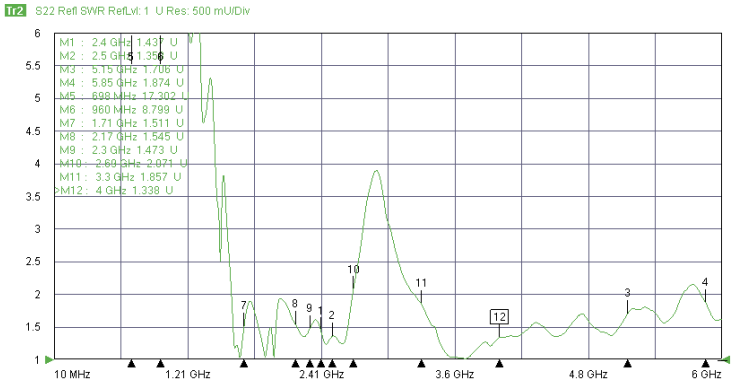
ANT2 (Port#2 White Cable)



ANT3 (Port#3 Black Cable)



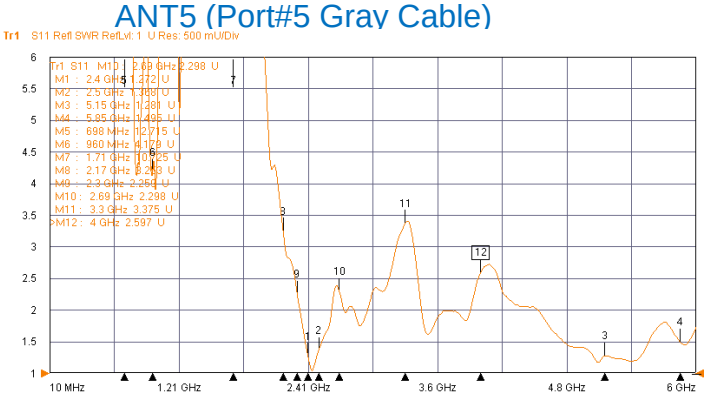
ANT4 (Port#4 Blue Cable)



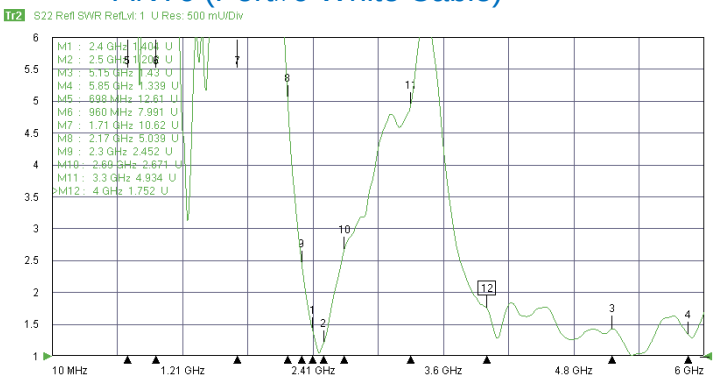
VSWR WiFi

Frequency(MHz)	2400~2500	5150~5850
VSWR	2.0 max.:1	2.0 max.:1

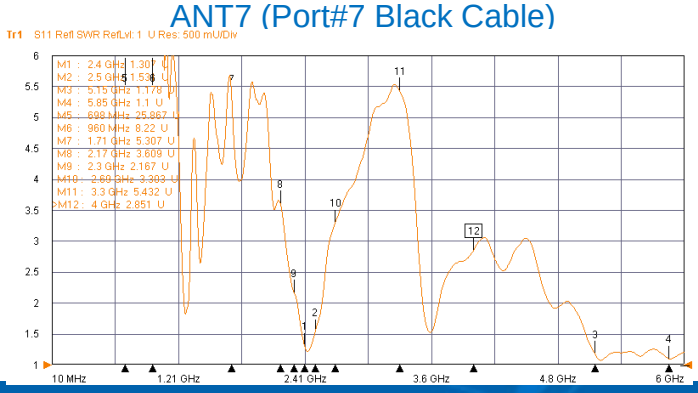
ANT5 (Port#5 Gray Cable)



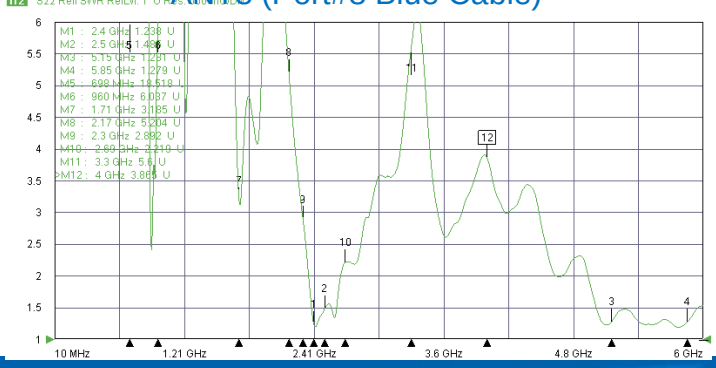
ANT6 (Port#6 White Cable)



ANT7 (Port#7 Black Cable)



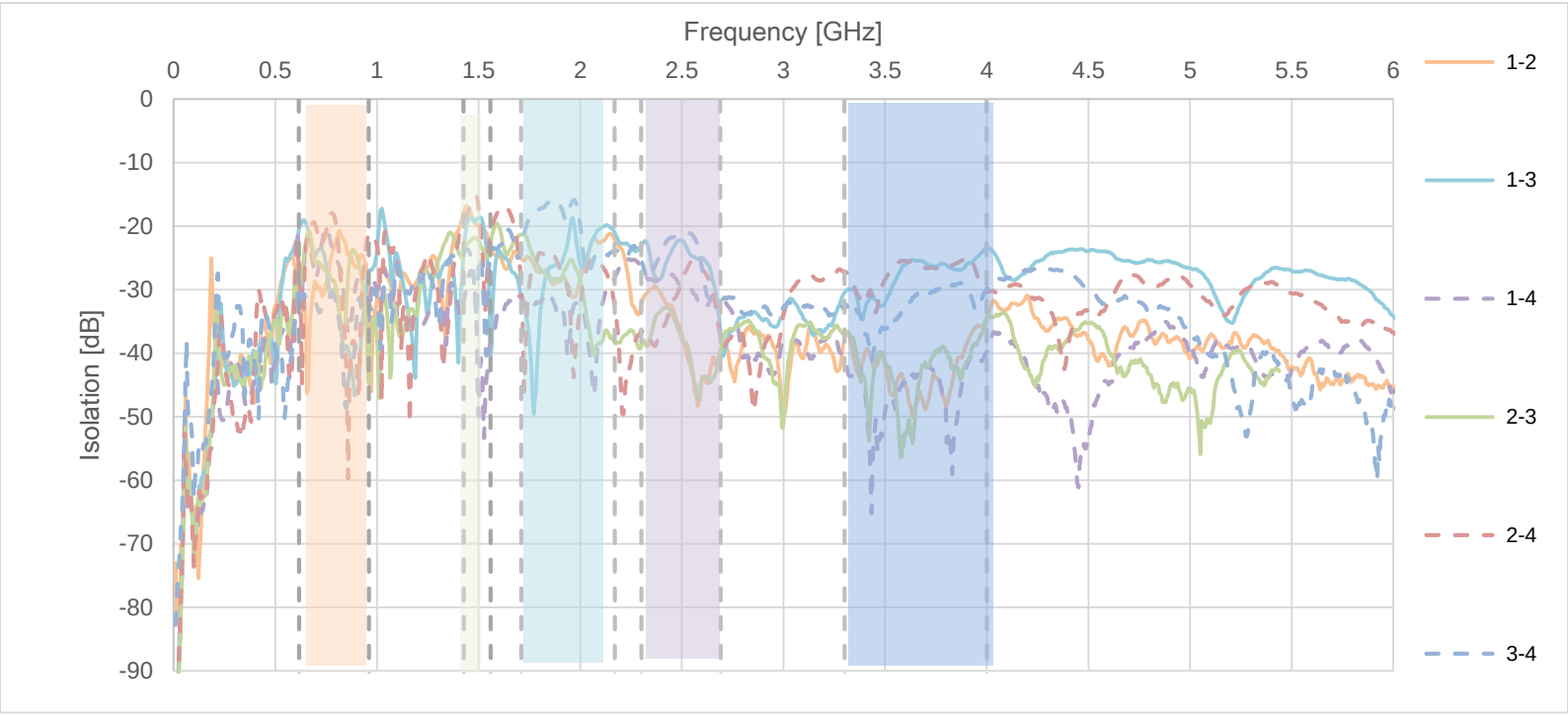
ANT8 (Port#8 Blue Cable)



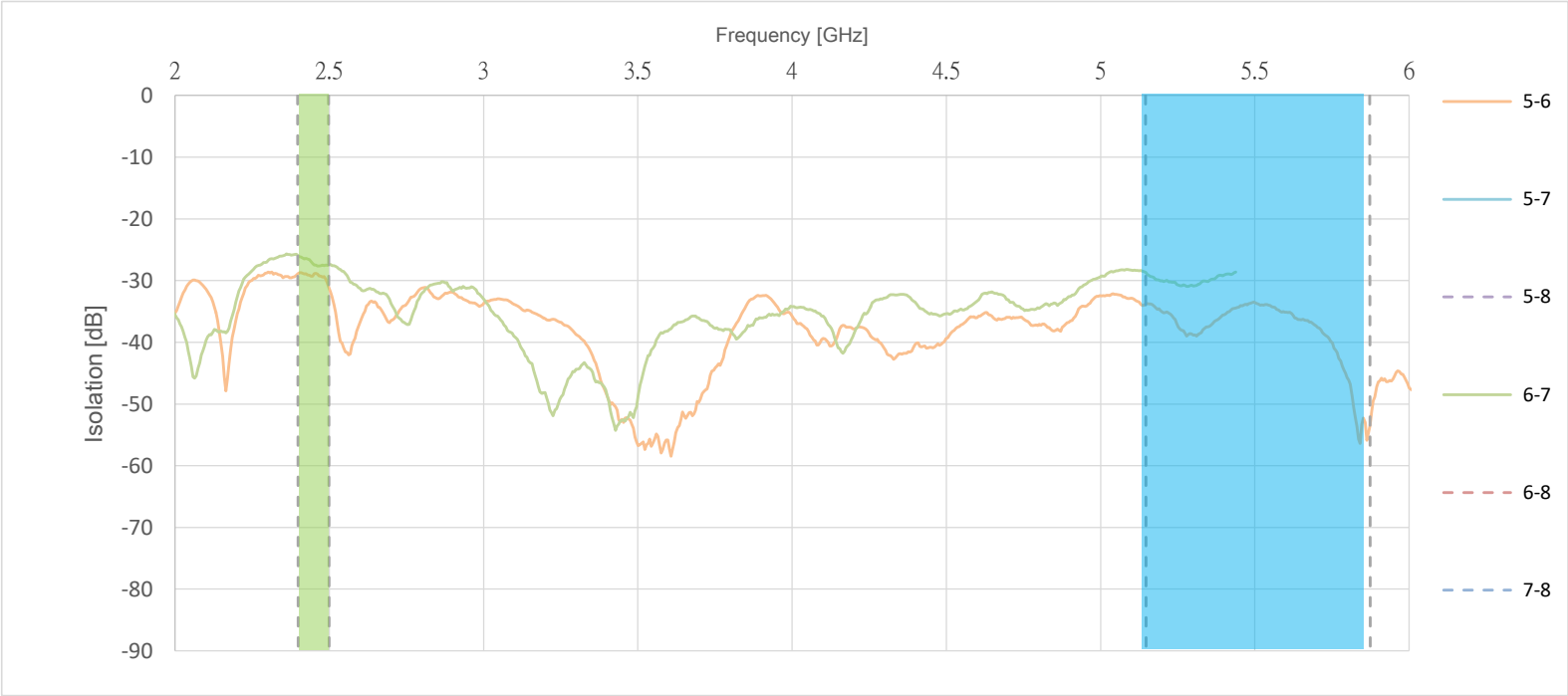
Performance Summary

Isolation

5G / 4G



WiFi



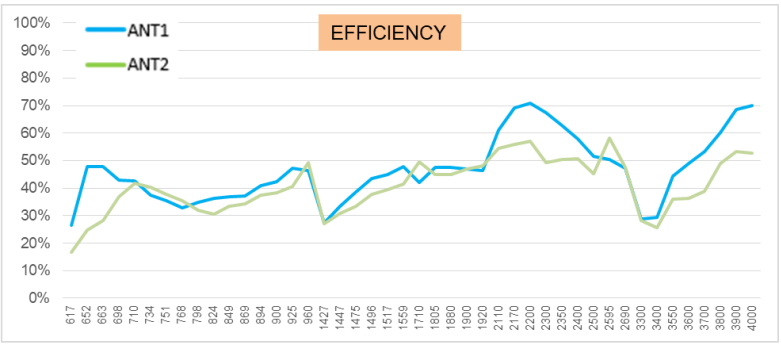
Performance Summary

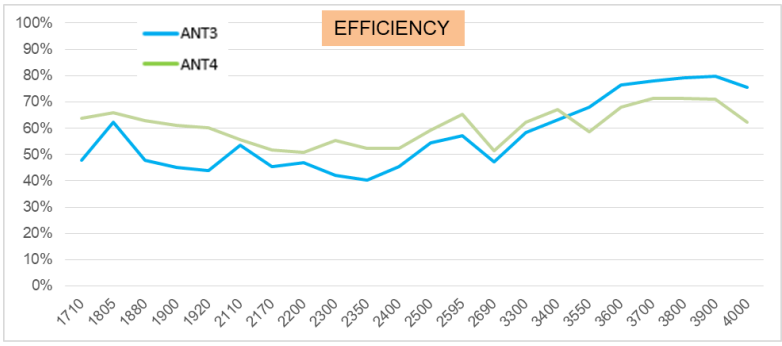
Gain Table

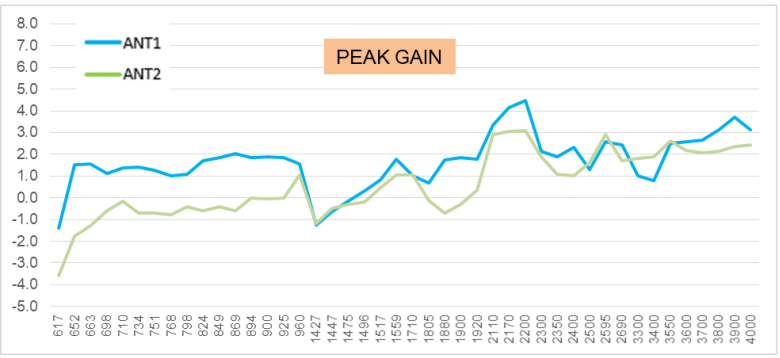
5G/LTE Gain table

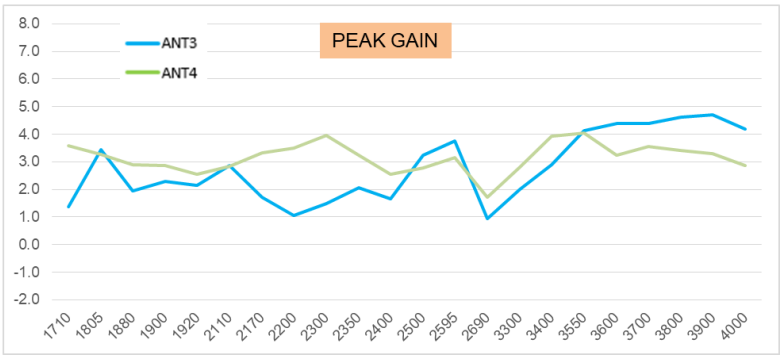
LB/MB/HB ANT1,ANT2

MB/HB ANT3,ANT4



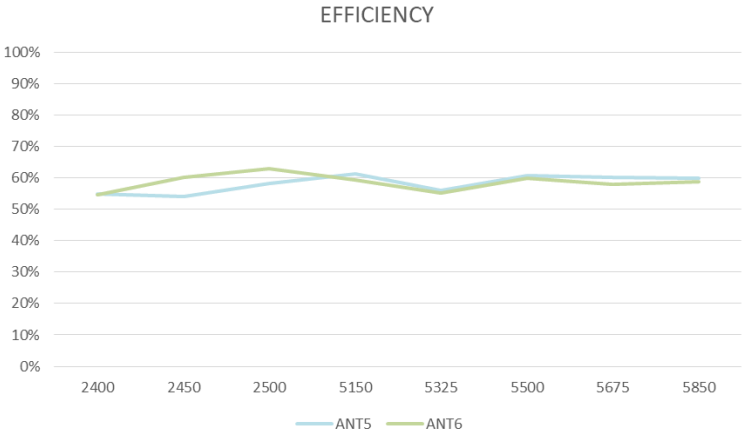


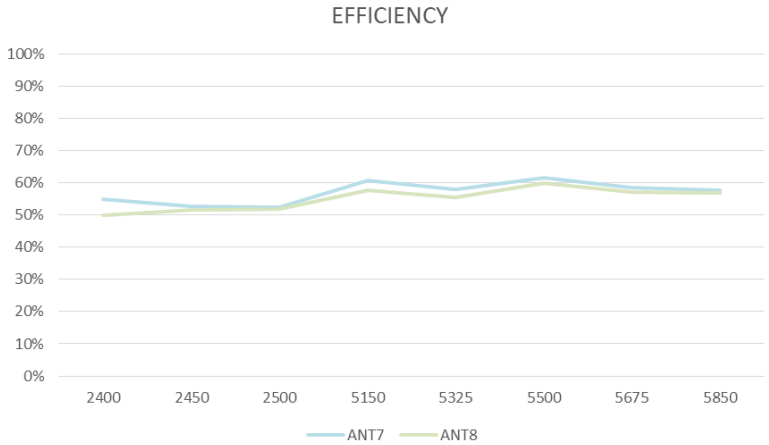


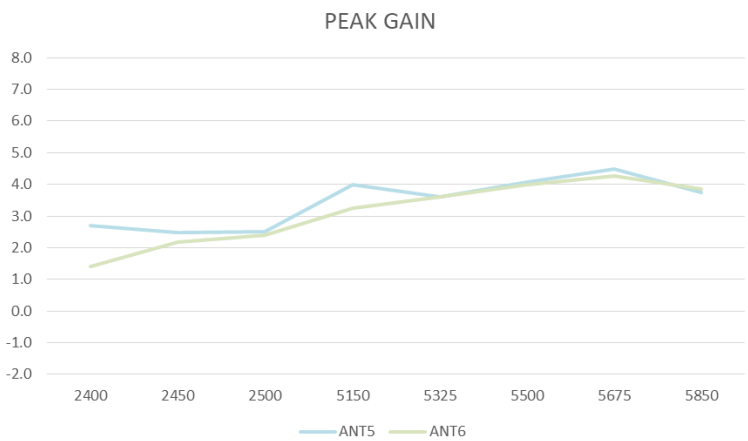


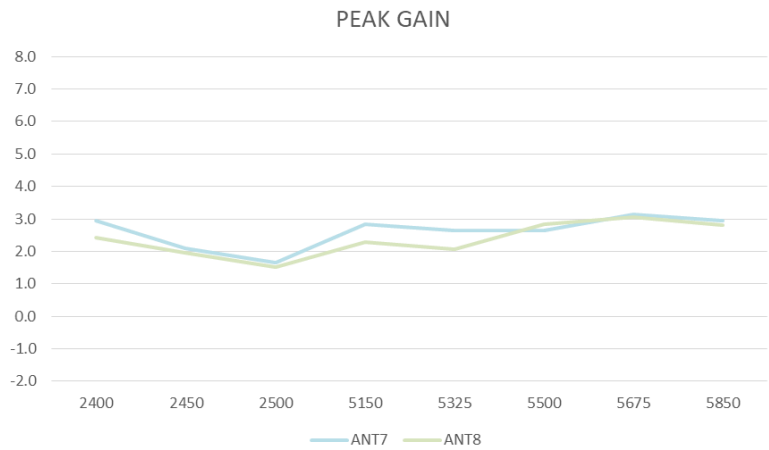
WiFi Gain table

2.4 / 5G ANT5,ANT6,ANT7,ANT8









Performance Summary

Gain Table

ANT1

LB/MB/HB

Frequency (MHz)	3D	
	Efficiency	Peak Gain
617	26%	-1.4
652	48%	1.5
663	48%	1.6
698	43%	1.1
710	43%	1.4
734	37%	1.4
751	35%	1.3
768	33%	1.0
798	35%	1.1
824	36%	1.7
849	37%	1.9
869	37%	2.0
894	41%	1.9
900	42%	1.9
925	47%	1.8
960	46%	1.6
1427	27%	-1.2
1447	33%	-0.6
1475	39%	-0.2
1496	43%	0.3
1517	45%	0.8
1559	48%	1.8
1710	42%	1.0
1805	48%	0.7
1880	48%	1.7
1900	47%	1.9
1920	47%	1.8
2110	61%	3.4
2170	69%	4.2
2200	71%	4.5
2300	68%	2.1
2350	63%	1.9
2400	58%	2.3
2500	52%	1.3
2595	51%	2.6
2690	47%	2.4
3300	29%	1.0
3400	29%	0.8
3550	44%	2.5
3600	49%	2.6
3700	53%	2.6
3800	60%	3.1
3900	69%	3.7
4000	70%	3.1
4400	73%	4.6
4499	75%	4.9
4800	63%	3.3
4900	62%	3.4
5000	60%	3.8
5150	58%	3.5
5500	57%	2.5
5850	57%	3.2
5925	59%	3.4

ANT2

LB/MB/HB

Frequency (MHz)	3D	
	Efficiency	Peak Gain
617	17%	-3.6
652	25%	-1.7
663	28%	-1.3
698	37%	-0.6
710	42%	-0.1
734	40%	-0.7
751	38%	-0.7
768	35%	-0.8
798	32%	-0.4
824	30%	-0.6
849	33%	-0.4
869	34%	-0.6
894	37%	0.0
900	38%	0.0
925	40%	0.0
960	49%	1.1
1427	27%	-1.2
1447	31%	-0.5
1475	33%	-0.3
1496	38%	-0.2
1517	39%	0.5
1559	42%	1.1
1710	49%	1.1
1805	45%	-0.1
1880	45%	-0.7
1900	47%	-0.3
1920	48%	0.4
2110	55%	2.9
2170	56%	3.0
2200	57%	3.1
2300	49%	1.9
2350	50%	1.1
2400	51%	1.0
2500	45%	1.6
2595	58%	2.9
2690	48%	1.7
3300	28%	1.8
3400	26%	1.9
3550	36%	2.6
3600	36%	2.2
3700	39%	2.1
3800	49%	2.1
3900	53%	2.3
4000	53%	2.4
4400	60%	3.2
4499	60%	3.6
4800	57%	4.0
4900	59%	4.2
5000	57%	3.7
5150	58%	3.6
5500	56%	3.4
5850	55%	2.4
5925	51%	2.2

Performance Summary

Gain Table

ANT3

MB/HB

Frequency (MHz)	3D	
	Efficiency	Peak Gain
1710	48%	1.4
1805	62%	3.5
1880	48%	1.9
1900	45%	2.3
1920	44%	2.2
2110	54%	2.9
2170	45%	1.7
2200	47%	1.1
2300	42%	1.5
2350	40%	2.1
2400	45%	1.7
2500	54%	3.2
2595	57%	3.8
2690	47%	0.9
3300	59%	2.0
3400	63%	2.9
3550	68%	4.1
3600	76%	4.4
3700	78%	4.4
3800	79%	4.6
3900	80%	4.7
4000	75%	4.2
4400	66%	4.1
4499	61%	3.0
4800	54%	3.0
4900	56%	2.7
5000	60%	3.2
5150	55%	3.0
5500	53%	3.3
5850	50%	3.8
5925	56%	4.2

ANT4

MB/HB

Frequency (MHz)	3D	
	Efficiency	Peak Gain
1710	64%	3.6
1805	66%	3.3
1880	63%	2.9
1900	61%	2.9
1920	60%	2.6
2110	56%	2.8
2170	52%	3.3
2200	51%	3.5
2300	55%	4.0
2350	52%	3.2
2400	52%	2.5
2500	59%	2.8
2595	65%	3.1
2690	52%	1.7
3300	62%	2.8
3400	67%	3.9
3550	59%	4.0
3600	68%	3.2
3700	71%	3.6
3800	71%	3.4
3900	71%	3.3
4000	62%	2.9
4400	63%	2.8
4499	60%	3.4
4800	54%	3.9
4900	57%	3.8
5000	59%	3.9
5150	56%	3.1
5500	53%	2.9
5850	53%	3.9
5925	54%	3.9

Performance Summary

Gain Table

ANT5
WiFi (Dual Band)

Frequency (MHz)	3D	
	Efficiency	Peak Gain
2400	55%	2.7
2450	54%	2.5
2500	58%	2.5
5150	61%	4.0
5325	56%	3.6
5500	61%	4.1
5675	60%	4.5
5850	60%	3.7

ANT6
WiFi (Dual Band)

Frequency (MHz)	3D	
	Efficiency	Peak Gain
2400	55%	1.4
2450	60%	2.2
2500	63%	2.4
5150	59%	3.2
5325	55%	3.6
5500	60%	4.0
5675	58%	4.3
5850	59%	3.9

ANT7
WiFi (Dual Band)

Frequency (MHz)	3D	
	Efficiency	Peak Gain
2400	55%	2.9
2450	53%	2.1
2500	52%	1.7
5150	61%	2.8
5325	58%	2.6
5500	62%	2.6
5675	58%	3.1
5850	58%	2.9

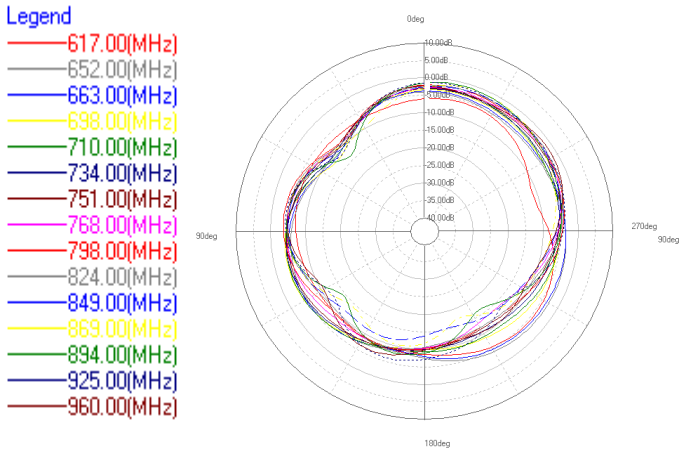
ANT8
WiFi (Dual Band)

Frequency (MHz)	3D	
	Efficiency	Peak Gain
2400	50%	2.4
2450	52%	2.0
2500	52%	1.5
5150	58%	2.3
5325	56%	2.1
5500	60%	2.8
5675	57%	3.1
5850	57%	2.8

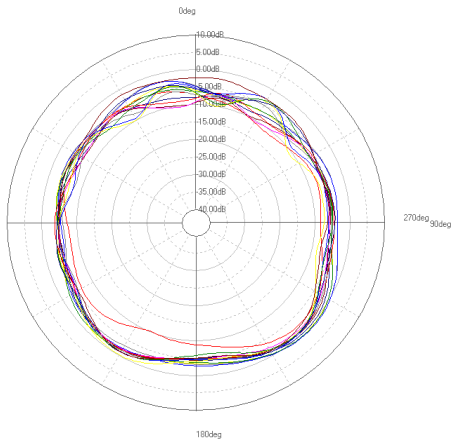
Radiation Pattern 5G / 4G

ANT1 (Port#1 Gray Cable)

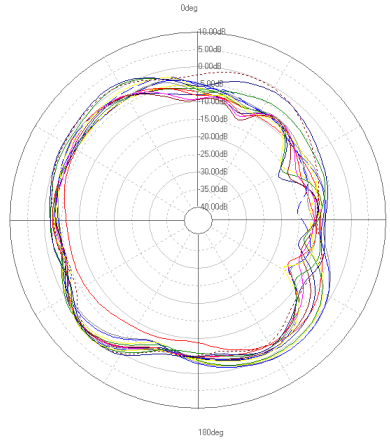
XY-plane

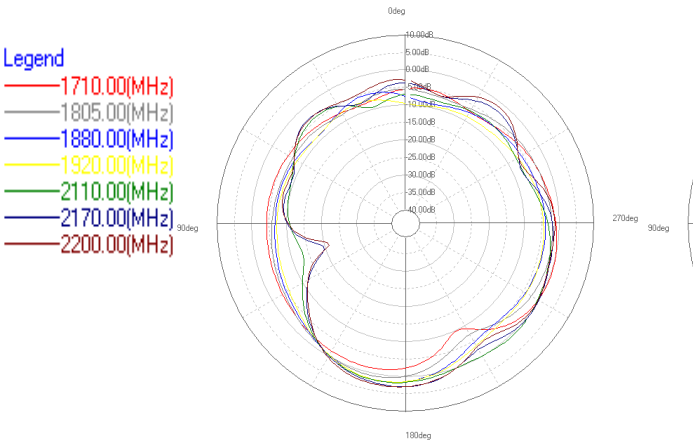


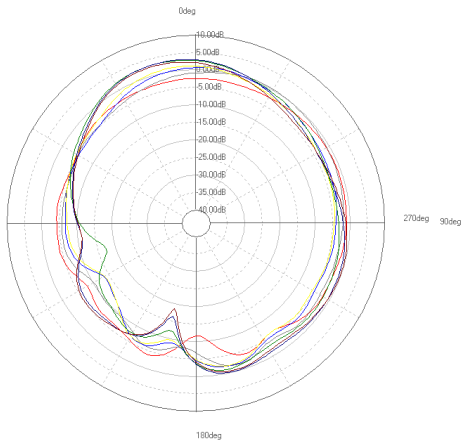
YZ-plane

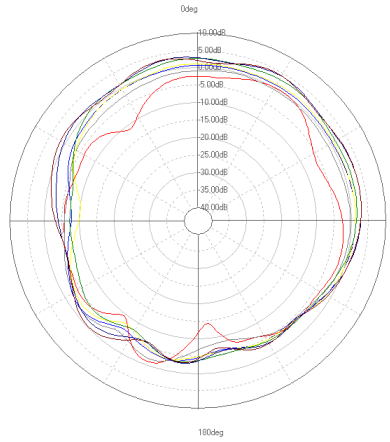


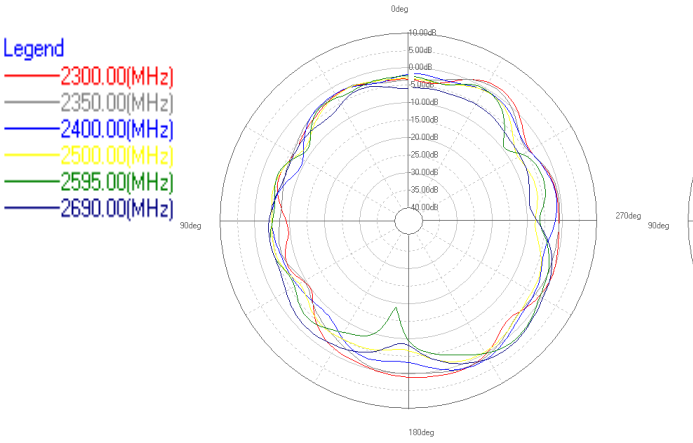
ZX-plane

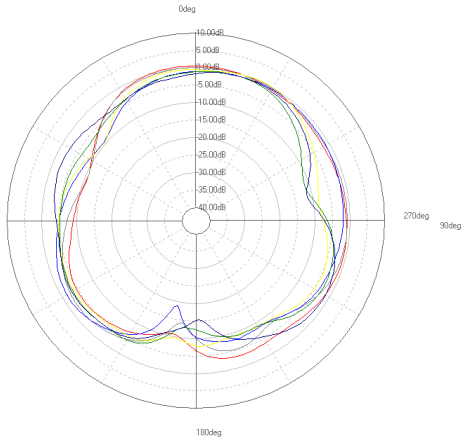


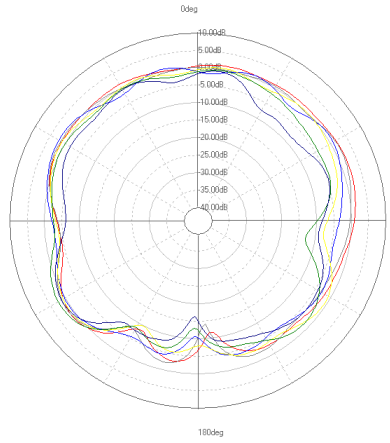


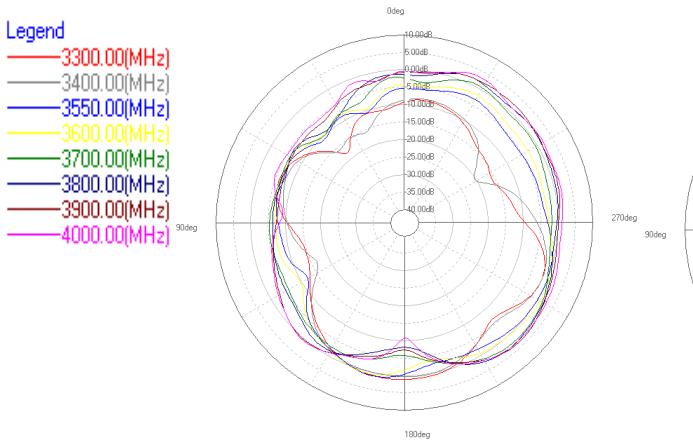


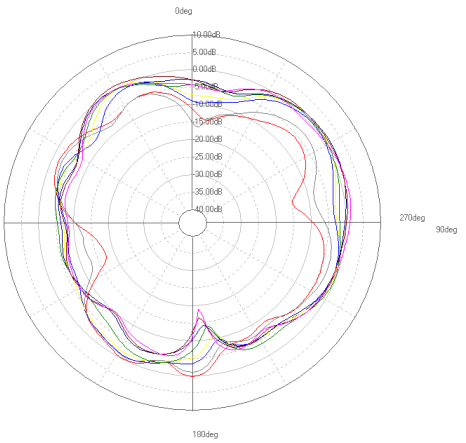


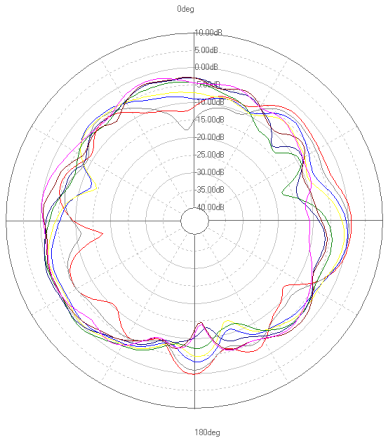








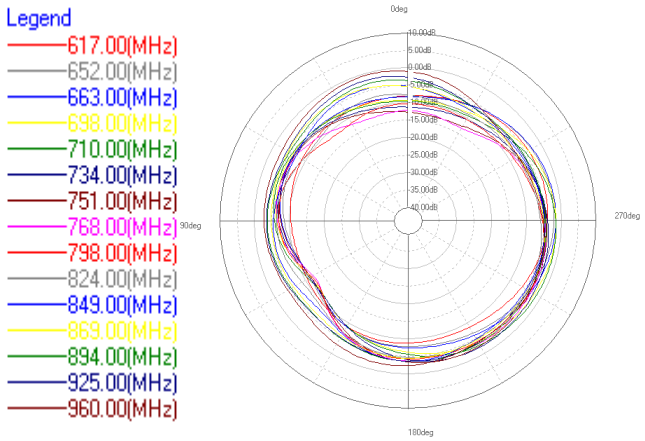


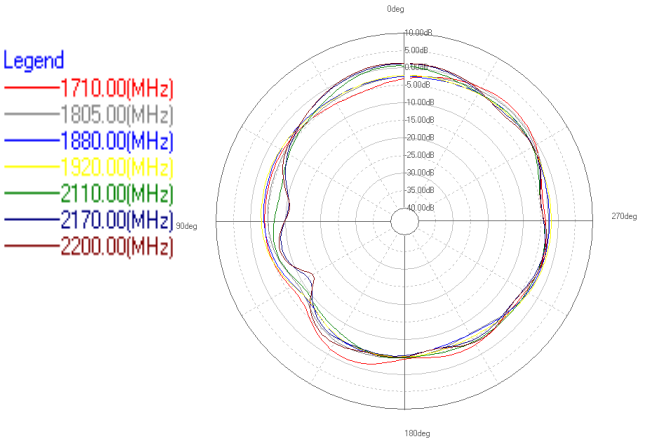


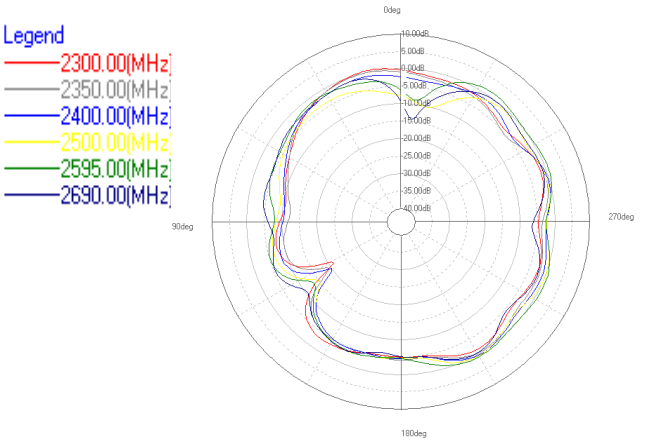
Radiation Pattern 5G / 4G

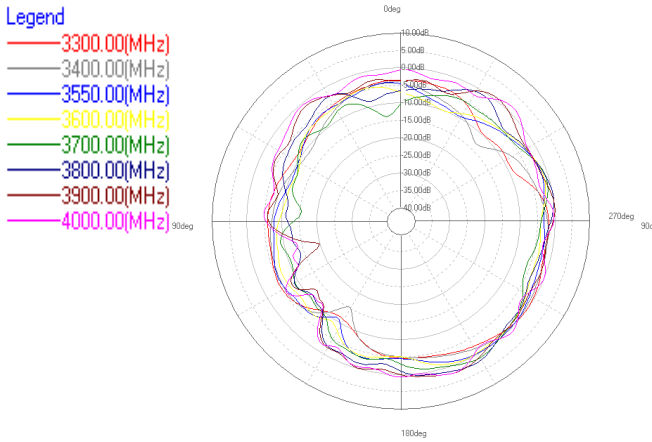
ANT2 (Port#2 White Cable)

XY-plane

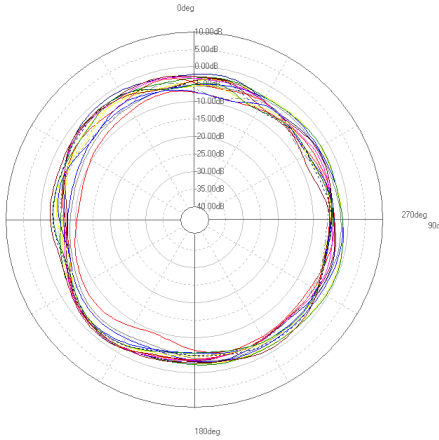


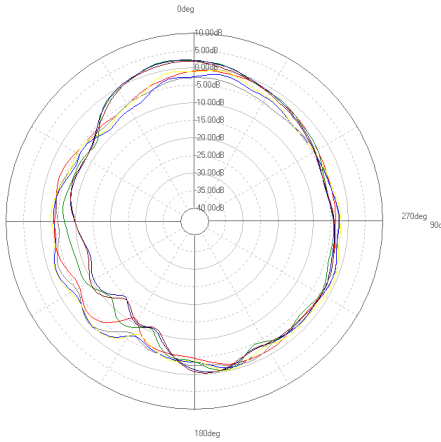


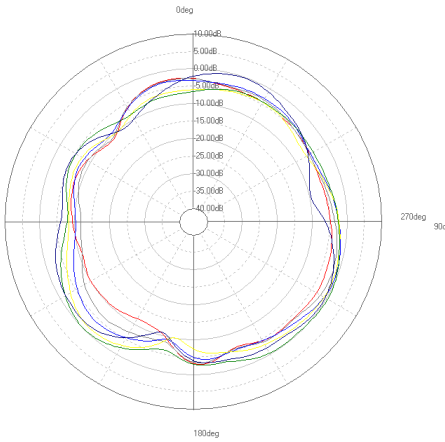


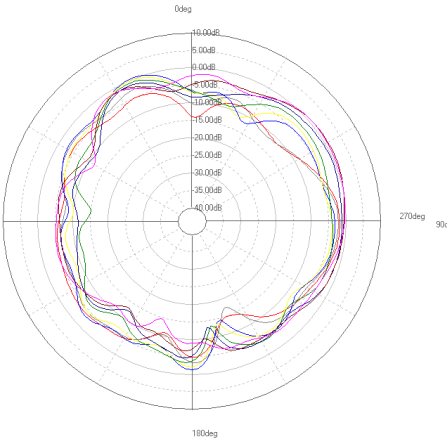


YZ-plane

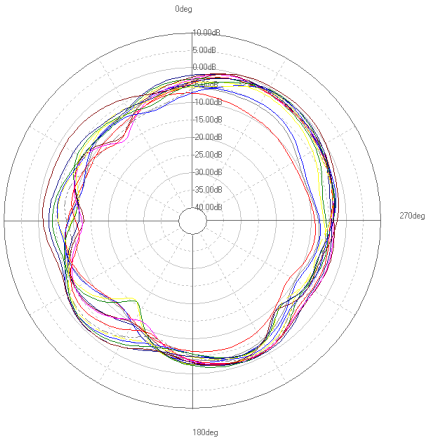


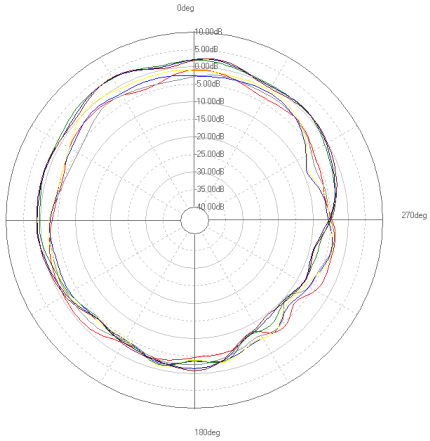


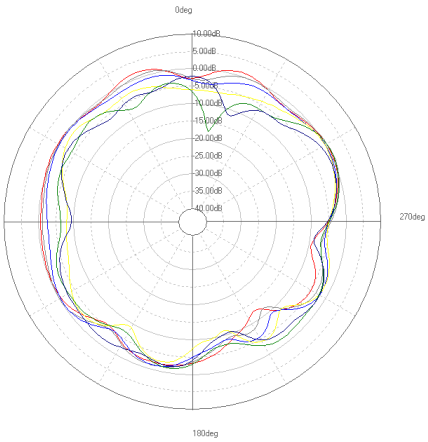


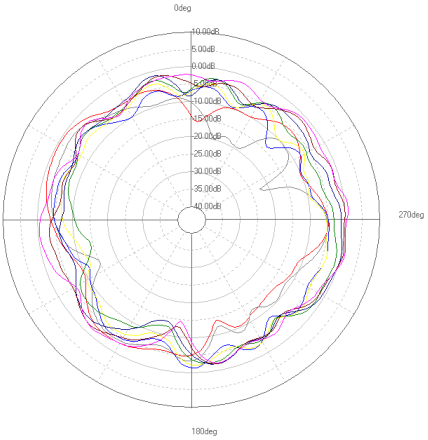


ZX-plane





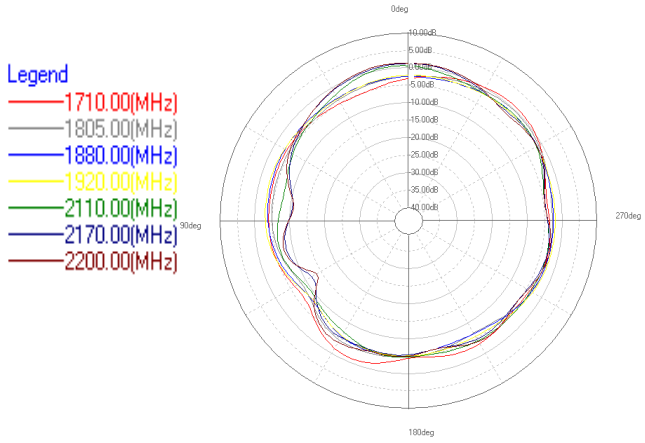




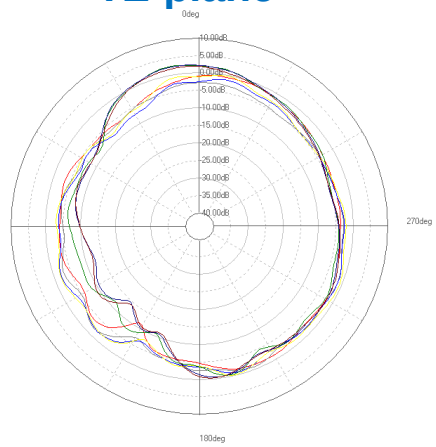
Radiation Pattern 5G / 4G

ANT3 (Port#3 Black Cable)

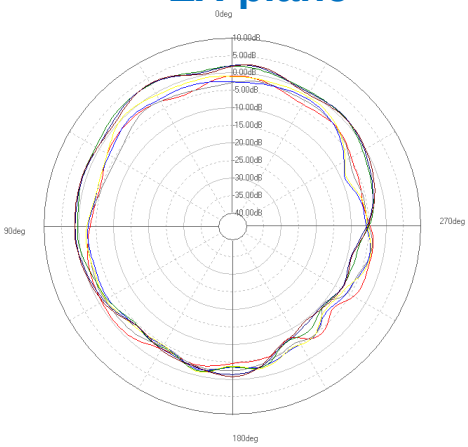
XY-plane

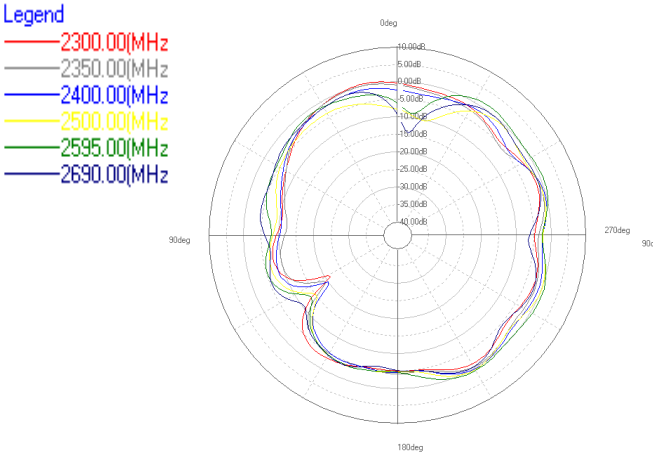


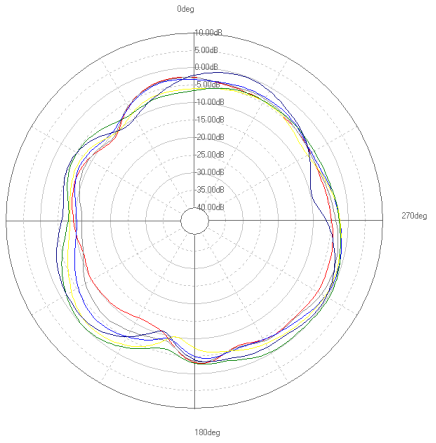
YZ-plane

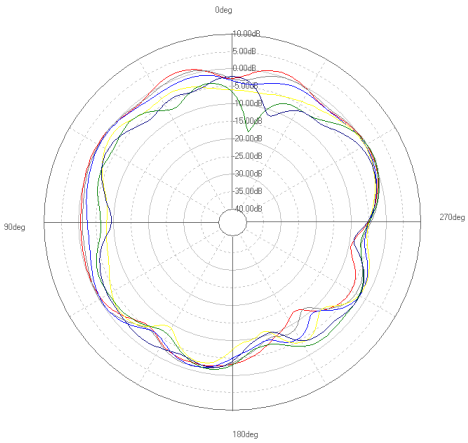


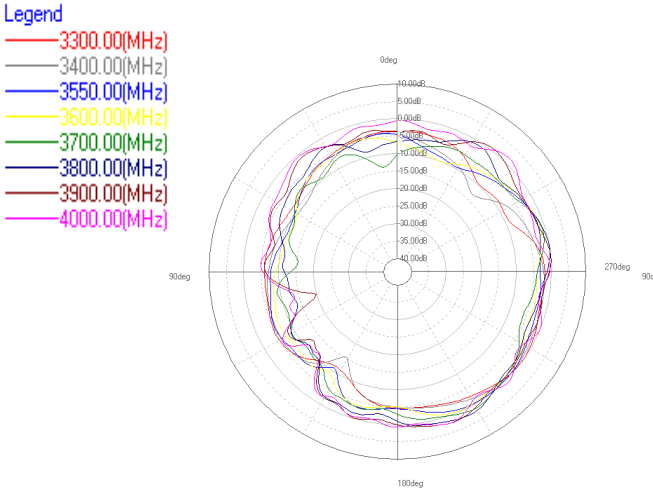
ZX-plane

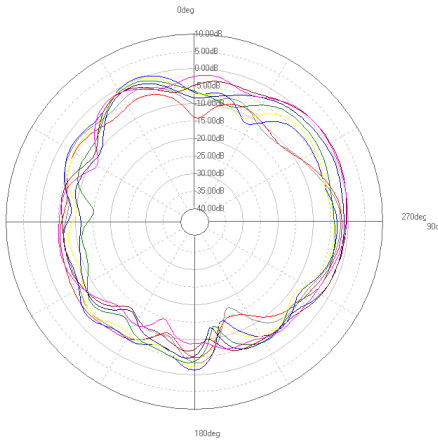


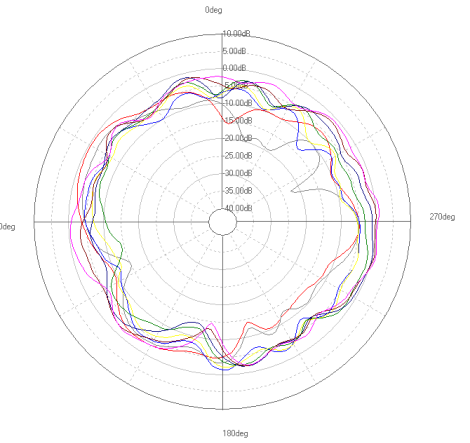








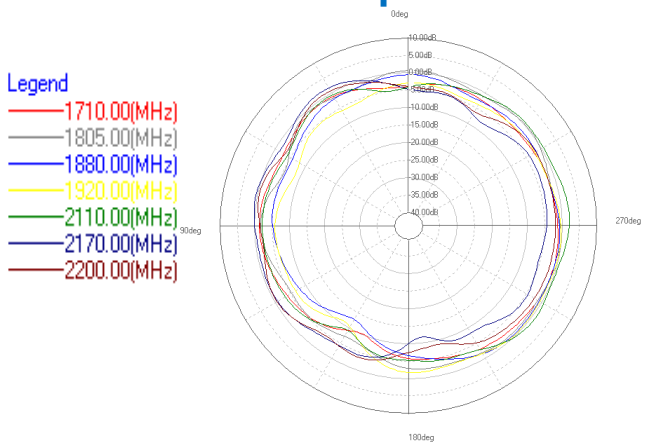




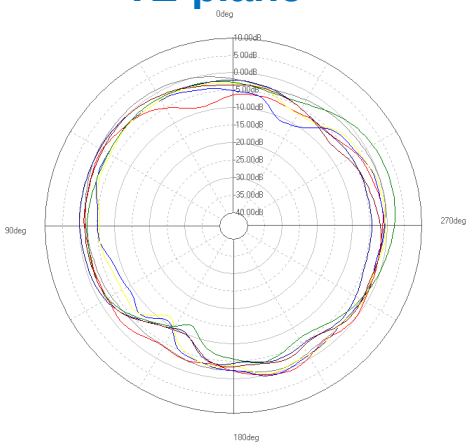
Radiation Pattern 5G / 4G

ANT4 (Port#4 Blue Cable)

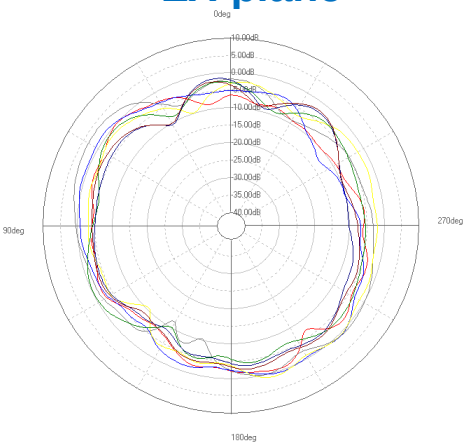
XY-plane

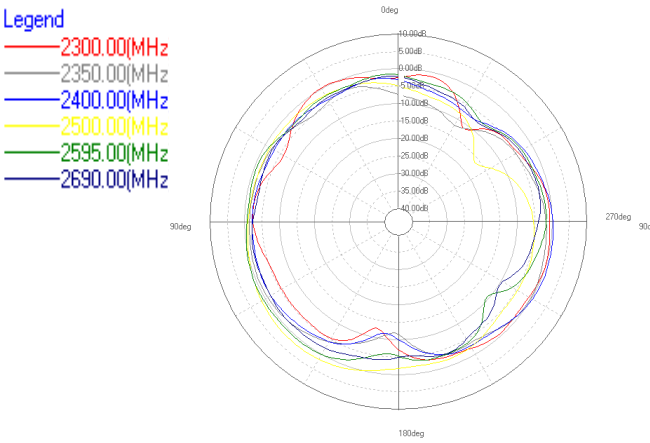


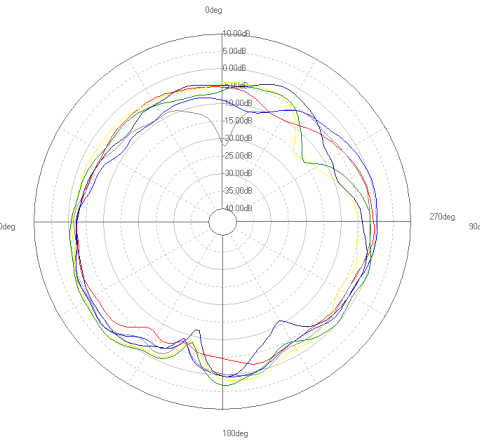
YZ-plane

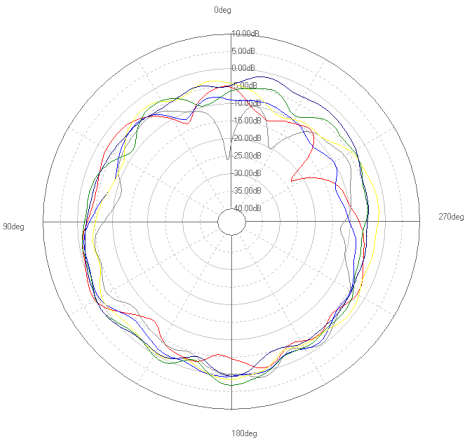


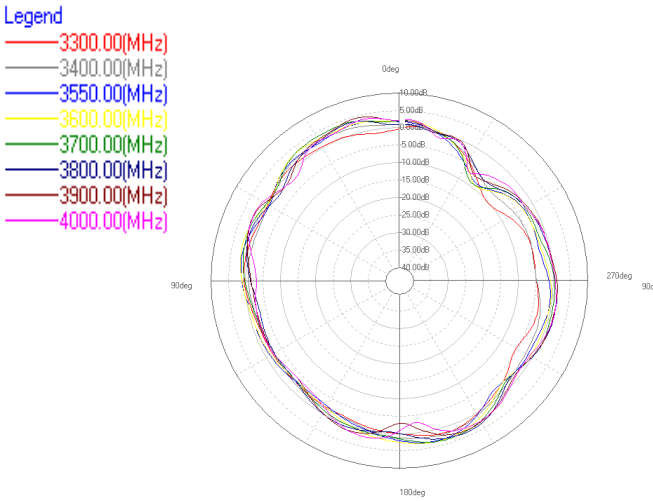
ZX-plane

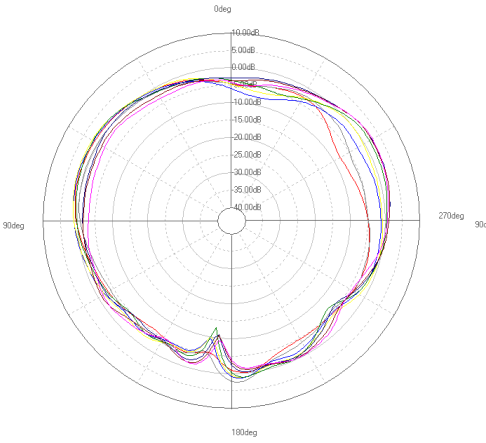


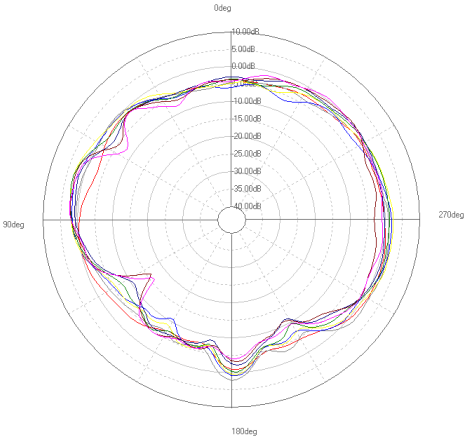








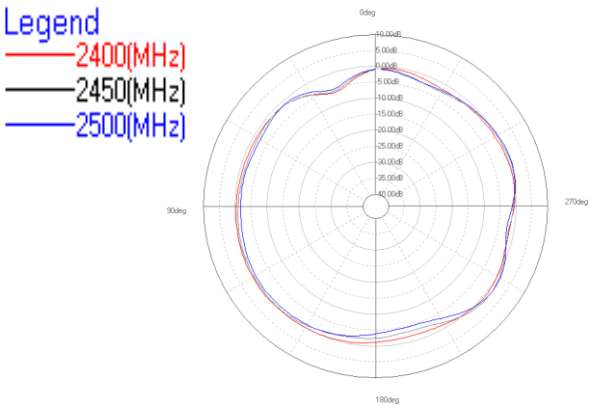




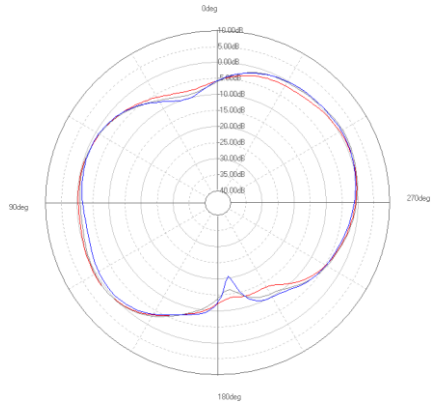
Radiation Pattern WiFi

ANT5 (Port#5 Gray Cable)

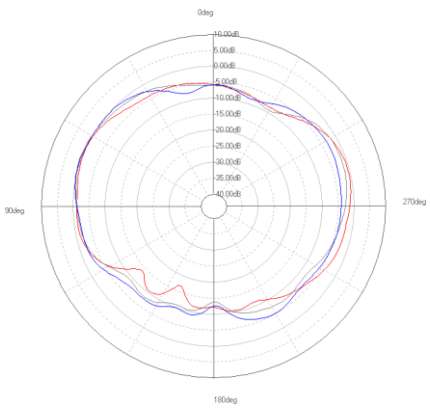
XY-plane

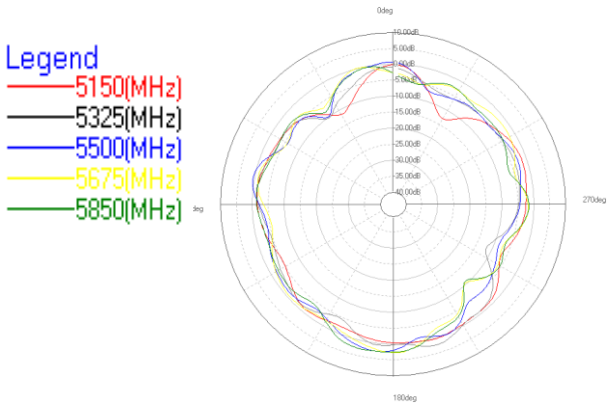


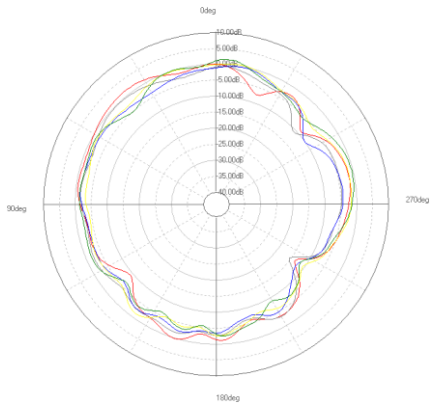
YZ-plane

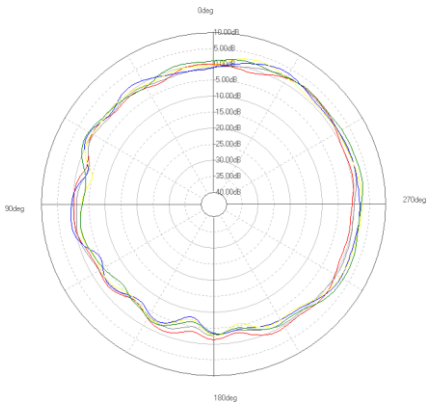


ZX-plane



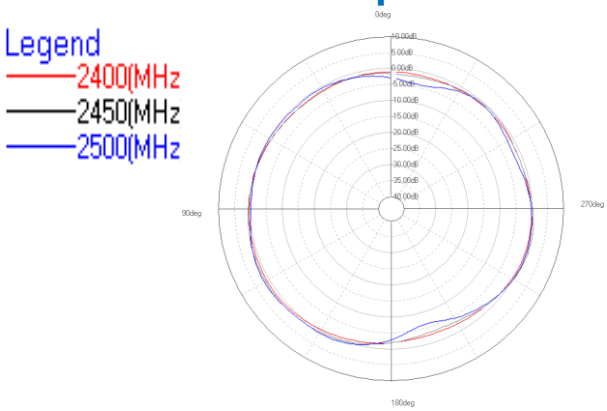




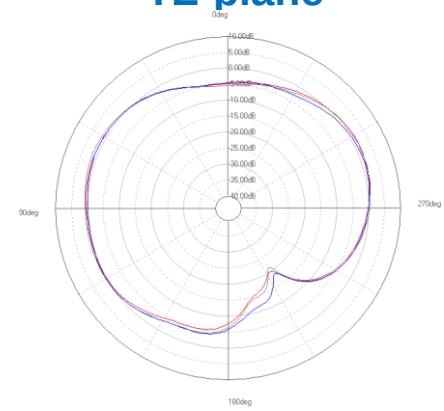


ANT6 (Port#6 White Cable)

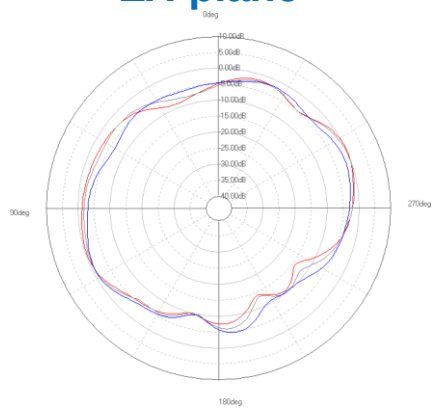
XY-plane

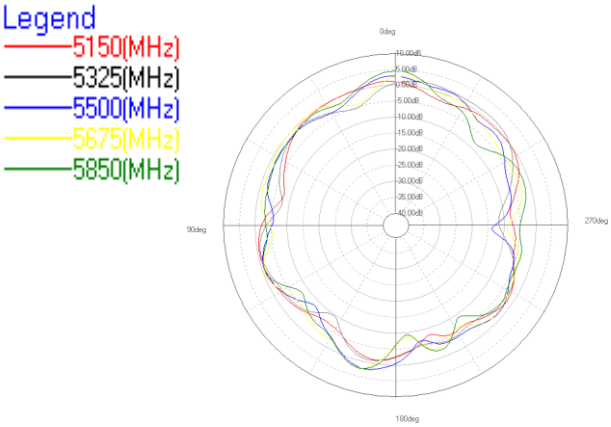


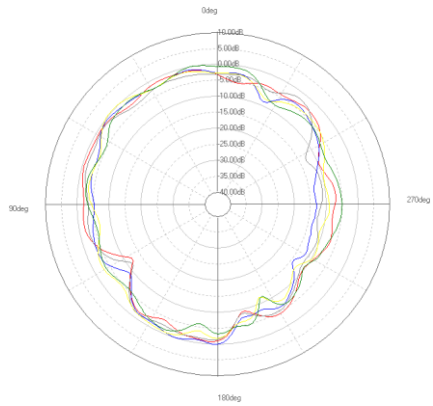
YZ-plane

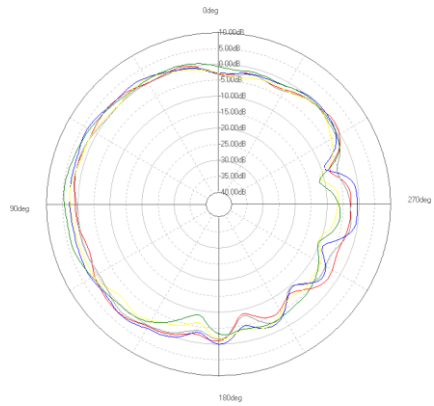


ZX-plane





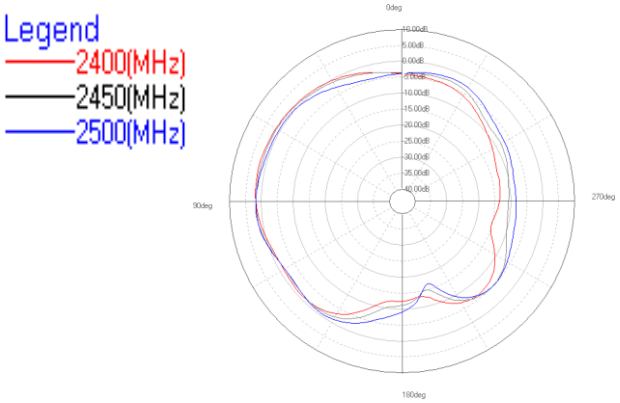




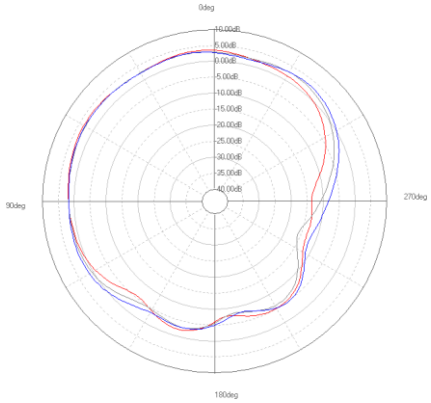
Radiation Pattern WiFi

ANT7 (Port#7 Black Cable)

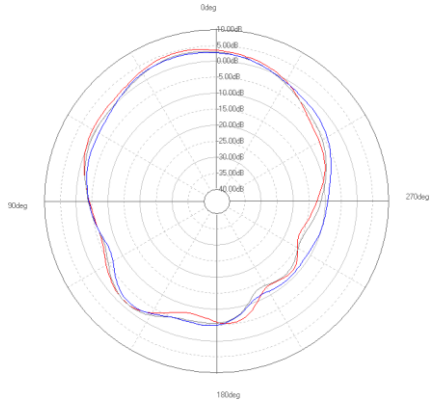
XY-plane

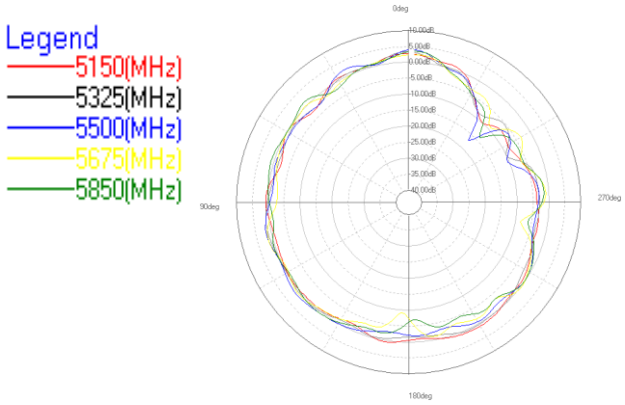


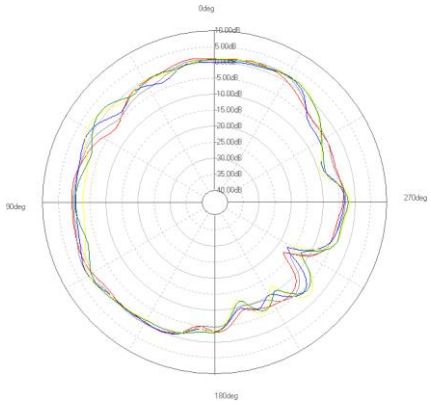
YZ-plane

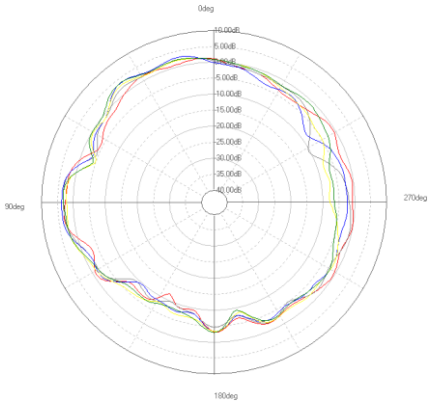


ZX-plane



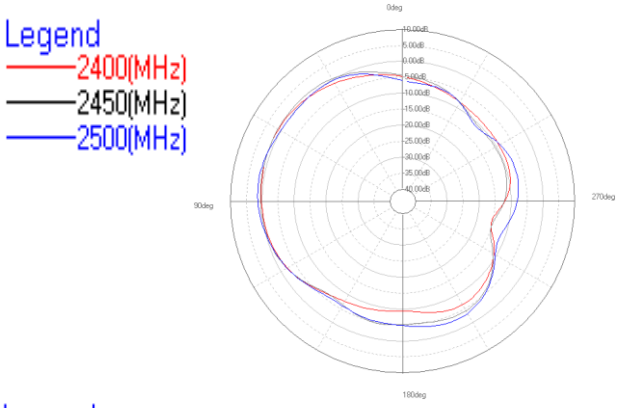




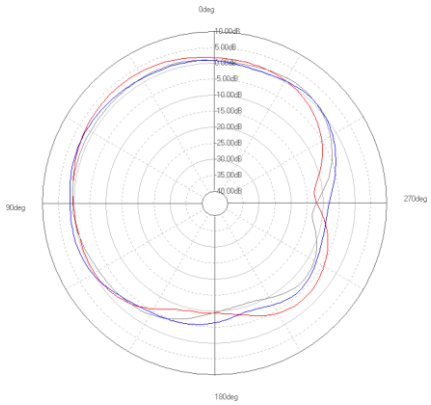


ANT8 (Port#8 Blue Cable)

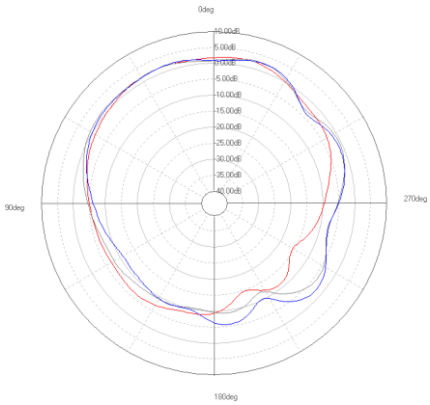
XY-plane

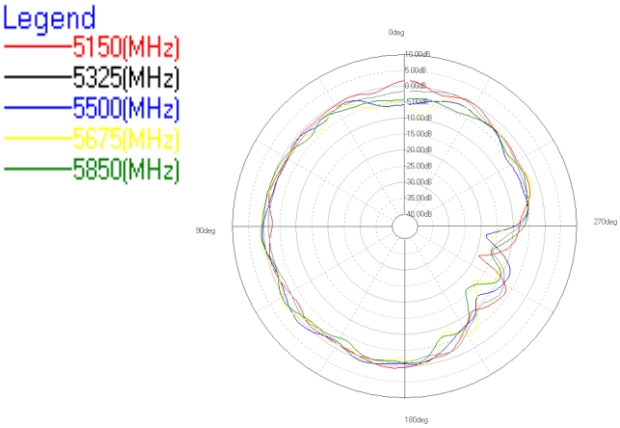


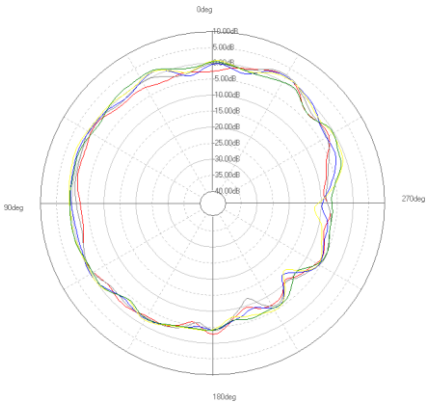
YZ-plane

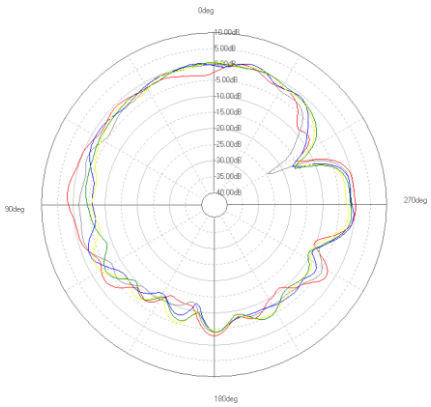


ZX-plane

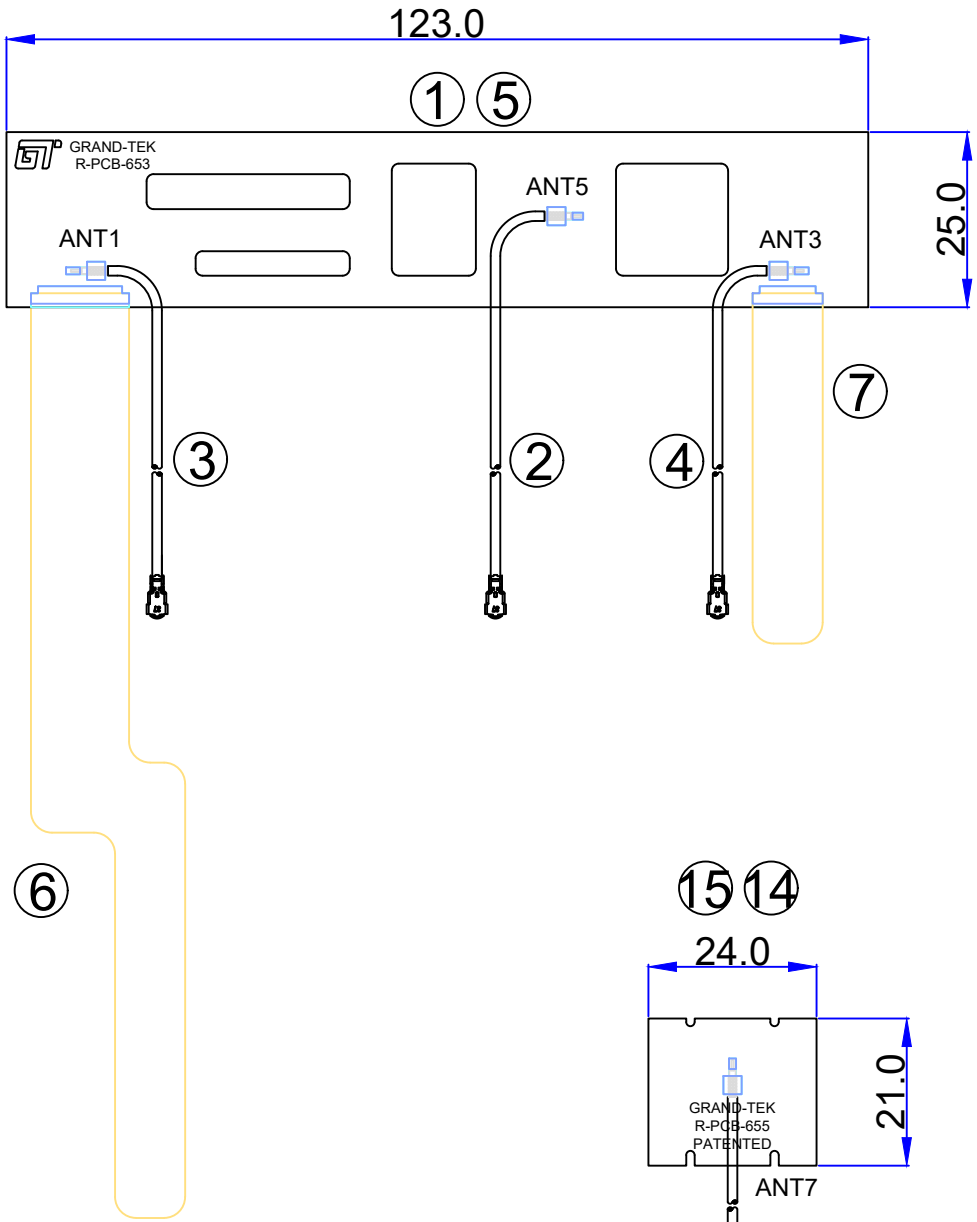
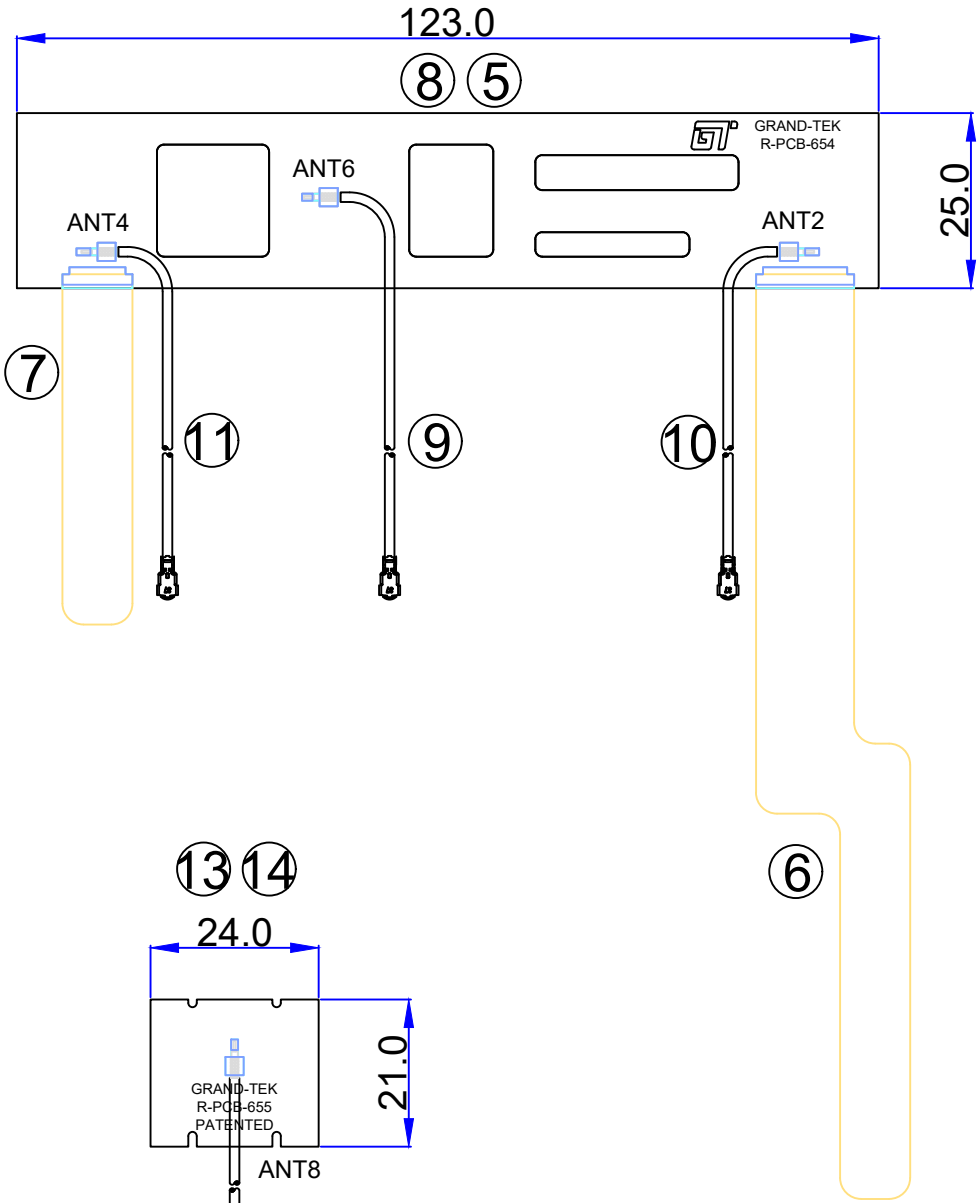
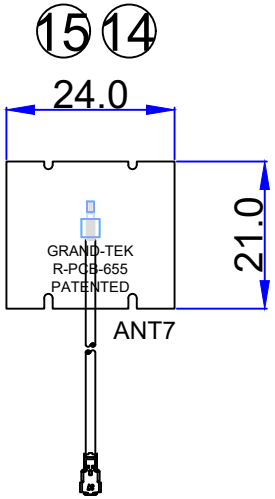
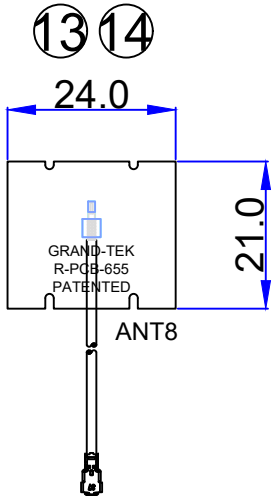








Left Side



Right Side