



Document number:
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Sichuan Koobee Communication Equipment Co., Ltd.

Material Approval Sheet

Supplier: Suzhou Huimi Communication Technology Co., Ltd

Model: MF52e

Product name: MF52e TOP Antenna

Specifications/models: Antenna

Code: 01.03.06.08.00240

Color: Black

Address: No.68 Chenggong Road,Yushan Town,Kunshan
City,Jiangsu Province

Contact/Phone Yi Qin 15370754080

Supplier (with official seal)

ME Department	RD Department	Quality Department	Project Department

Koobee Audit

ME Department	ID Department	HW Department	Packing Department

Project Department	Customer Quality Department	Quality Department

SAMPLE & SPECIFICATION FOR APPROVAL

Customer: Coosea Group Co.,Ltd

Model NO: MF52e

Customer P/N: 01.03.06.08.00240

Version: A

Specification Describe: MF52e-TOP ANTENNA (Carrier+LDS)

Vendor P/N: HM0512-0-5G

Date: 2026-5-19

Address: No.68 Chenggong Road, Yushan Town, Kunshan City, Jiangsu Province

Sample and datasheet must be approved for 5 PCS .

No Customer appointed Material				Assign Part
	R&D		QE	Sales
Department	MD	HW	Quality and Eng. Dep.	Sale& Marketing
Checked By	LIXU	Li ShengHua	LiWeiWei	LiMin
Approved By	LIXueQin	WangJinhui	YeLing	YiQin
Final Judgment	LiLinHua	LiLinHua	LiLinHua	LiLinHua
Remark				

Suzhou HuiMi Communication Technology Co.,Ltd

Antenna Approval Sheet

Customer	Coosea Group Co.,Ltd		
Customer P/N	01.03.06.08.00240		
Model	MF52e		
P/N	HM0512-0-5G		
Description	MF52e-TOP ANTENNA (Carrier+LDS)		
Frequency	ANT2:MHB DRX+UHB PRX ANT3:N77/78/79 ANT4:LB DRX+MHB TRX ANT6:1575.42MHz+2400-2500MHz+5150-7125MHz ANT7:1176MHz+2400-2500MHz+5150-7125MHz ANT8:MHB DRX+UHB PRX		
Initial Date	2026-05-19		
Revision	A		
Author	RF Engineer	ME	
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Tel.	18015467688	13405120400	
Approval	R&D	PM	QE

Customer Signature

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1. Summary

This is the TOP antenna approval sheet.

Working band :

ANT2:MHB DRX+UHB PRX

ANT3:N77/78/79

ANT4:LB DRX+MHB TRX

ANT6:1575.42MHz+2400-2500MHz+5150-7125MHz

ANT7:1176MHz+2400-2500MHz+5150-7125MHz

ANT8:MHB DRX+UHB PRX

2. Antenna Structure

Carrier + LDS

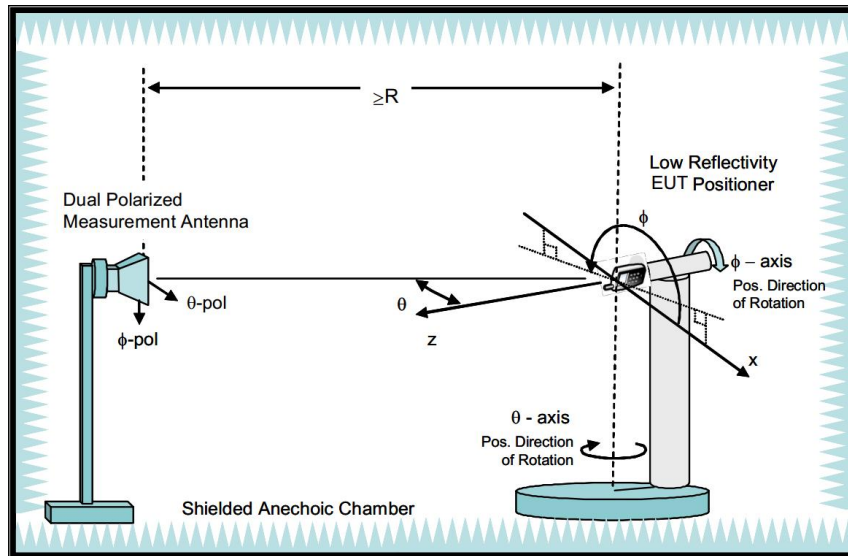
3. Device Conditions



Picture1 MF52e Mobile phone photo

Project Name:MF52e_TOP antenna		Document: Pointmobile_MF52e_TOP antenna Approval Sheet_A	5
Date :2026-05-19	Version: A		

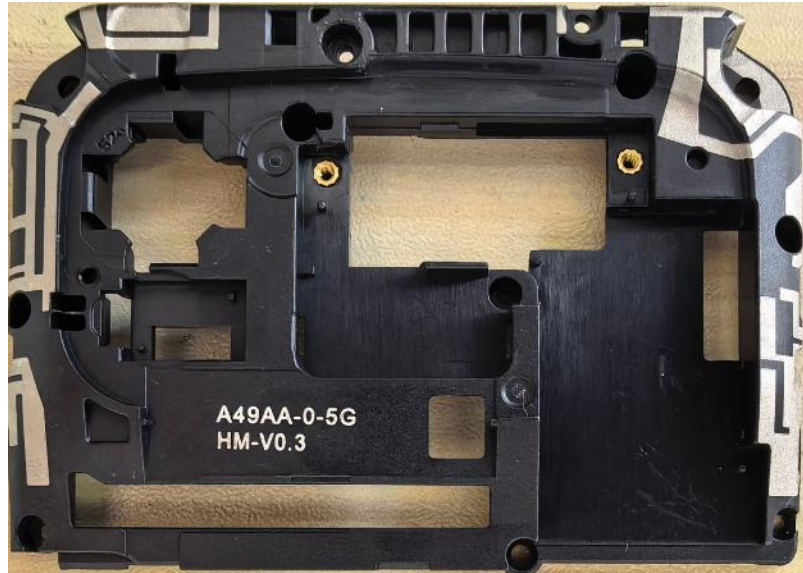
4. Test Environment



Picture 2 Test Environment photo

5. Antenna Test Results

5.1 Antenna Photos

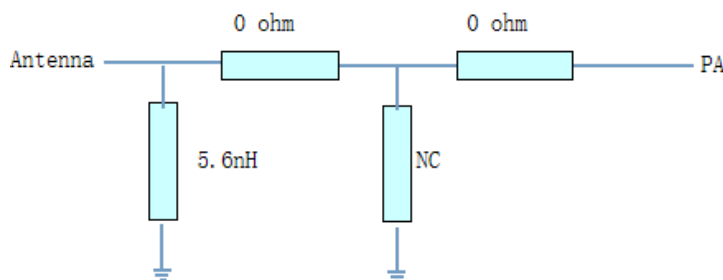


Picture 3 TOP antenna photo

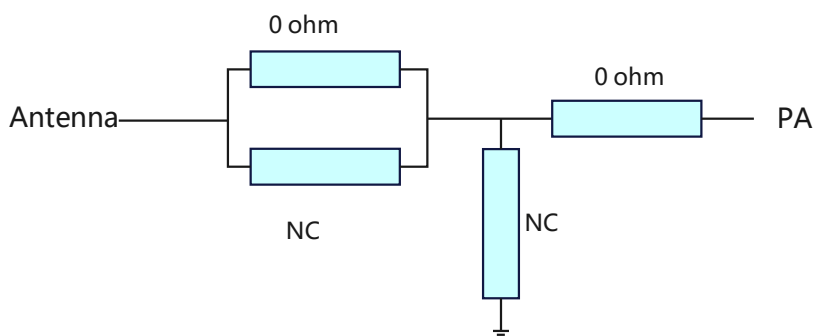
5.2 Matching Network

5.2.1 Matching Network for ANT2

	Value	Support Bands
RF1	0ohm	WB1/2/4+LTEB1/2/4/25/66+NR1/2/25/66
RF2	2.2nH	LTEB3+NR3
RF3	1.2pF	LTEB7/38/39/40/41+NR7/38/40/41
RF4	0 ohm	LTEB42/43/46/48+NR48/77/78/79

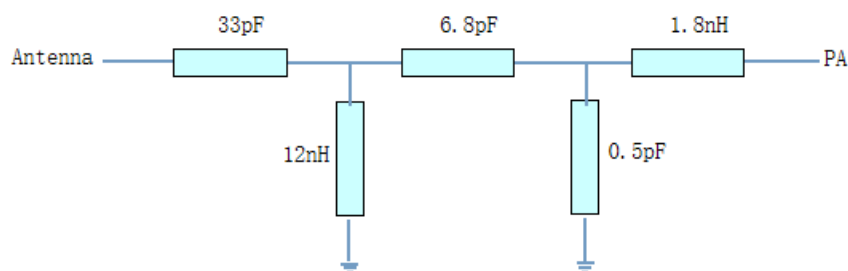


5.2.2 Matching Network for ANT3

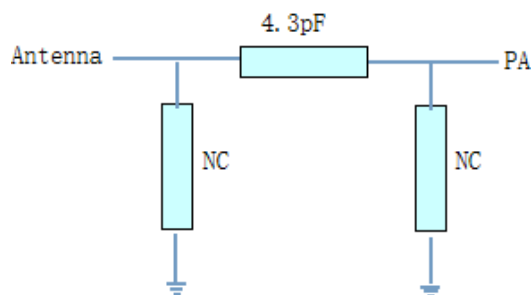


5.2.3 Matching Network for ANT4

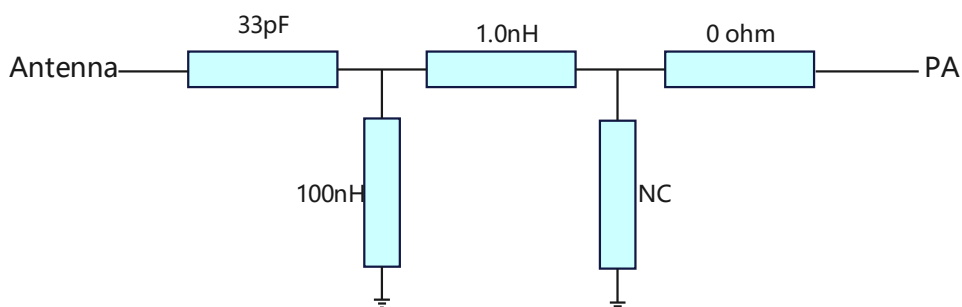
	Value	Support Bands
RF1	0 ohm	W1/2/4/8+LTEB1/2/3/4/7/8/25/38/39/40/41/66+NR1/2/3/7/8/25/38/40/41/66
RF2	5.6nH	WB5/6/19+LTEB5/18/19/20/26+NR5/20/26
RF3	12nH	LTE B12/13/14/17/28/29+NR12/13/14/28/29
RF4	22nH	LTE B71+NR71



5.2.4 Matching Network for ANT6

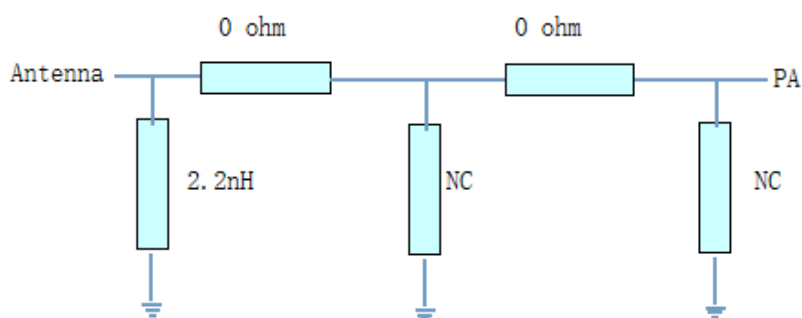


5.2.5 Matching Network for ANT7



5.2.6 Matching Network for ANT8

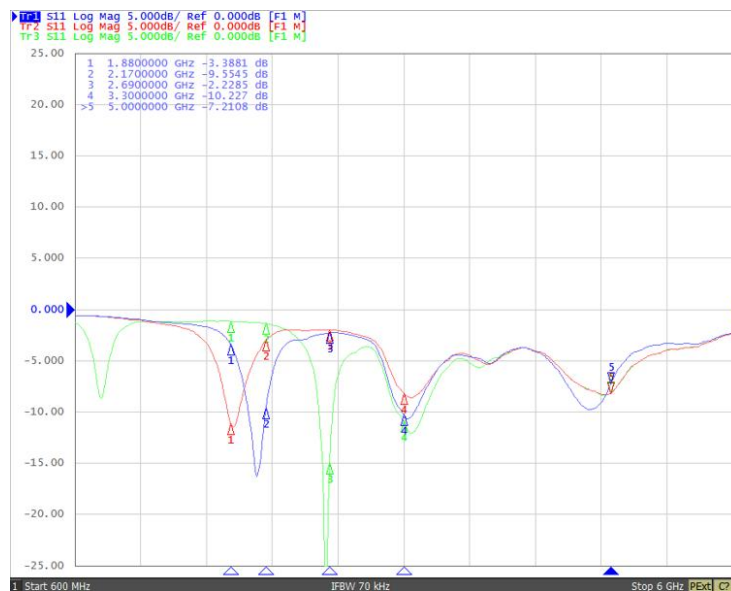
	Value	Support Bands
RF1	4.7nH	WB1/2/4+LTEB1/2/4/25/66+NR1/2/25/66
RF2	6.2nH	LTEB3+NR3
RF3	0 ohm	LTEB7/38/39/40/41+NR7/38/40/41
RF4	0 ohm	LTEB42/43/46/48+NR48/77/78/79



5.3 Passive S11

5.3.1 Passive S11 for ANT2

Frequency(MHz)	Return Loss
1880	-12.34
2690	-15.17
3300	-10.36
5000	-8.28



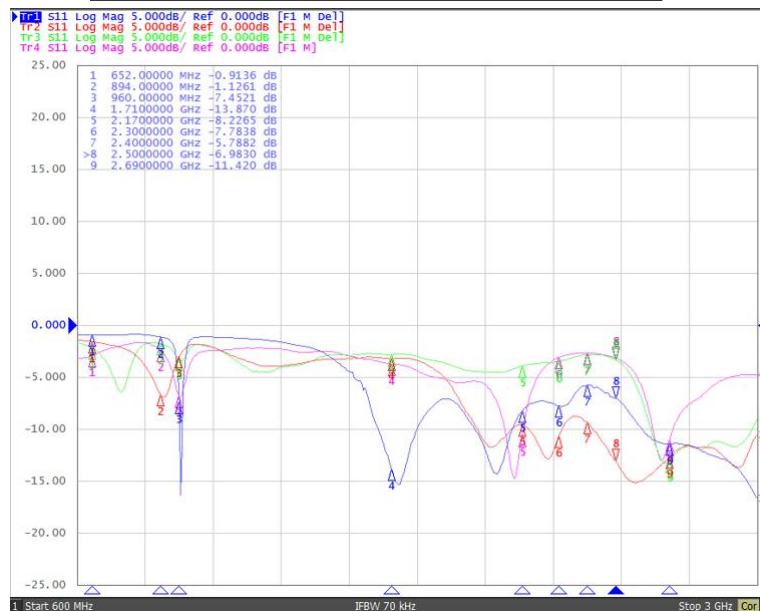
5.3.2 Passive S11 for ANT3

Frequency(MHz)	Return Loss
3300	-9.09
5000	-7.51



5.3.3 Passive S11 for ANT4

Frequency(MHz)	Return Loss
652	-3.6
960	-8.9
1710	-17.45
2690	-11.18



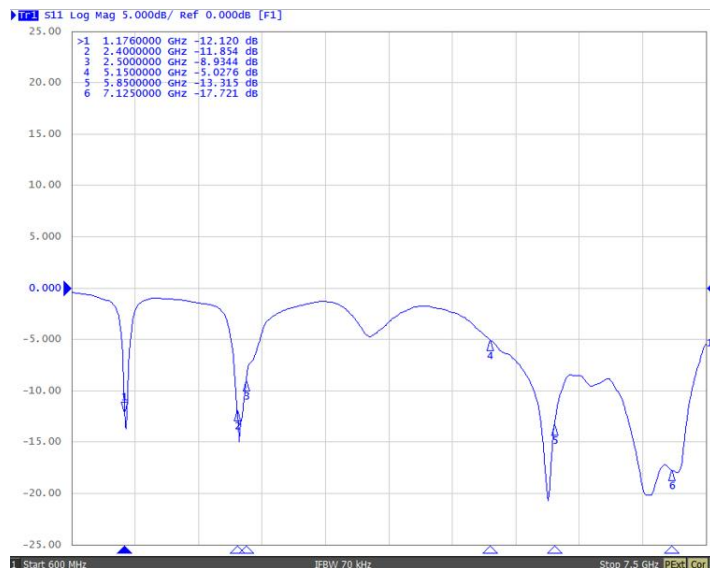
5.3.4 Passive S11 for ANT6

Frequency(MHz)	Return Loss
1575	-9.54
2400	-9.31
5150	-13.09
7125	-12.08



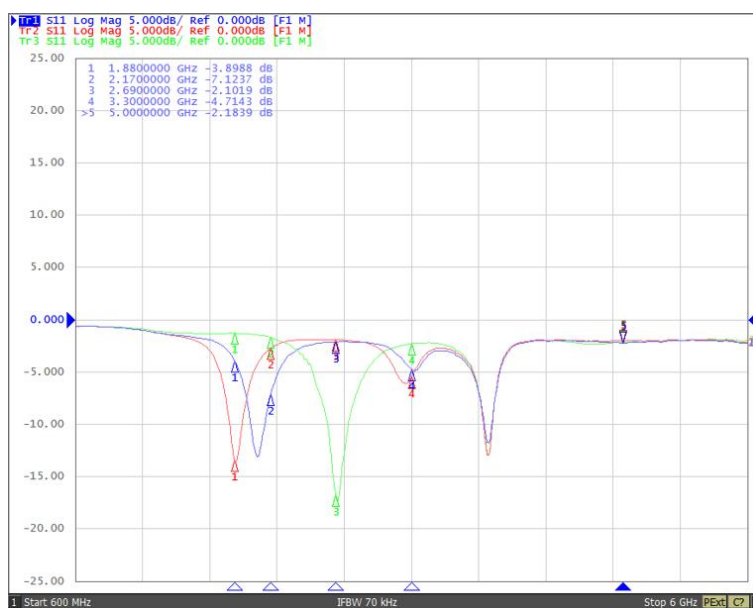
5.3.5 Passive S11 for ANT7

Frequency(MHz)	Return Loss
1176	-12.12
2400	-13.85
5150	-5.03
7125	-17.7



5.3.6 Passive S11 for ANT8

Frequency(MHz)	Return Loss
1880	-13.75
2690	-17.36
3300	-4.86
5000	-3.22



5.4 Efficiency & Peak Gain

5.4.1 Efficiency & Peak Gain for ANT2

RF1				RF2				RF3				RF4			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1930	19.21	-7.16	-4.04	1810	19.18	-7.17	-1.35	2310	12.18	-9.14	-3.73	3300	20.47	-6.89	-3.25
1950	22.33	-6.51	-3.27	1830	17.77	-7.5	-1.88	2330	12.73	-8.95	-2.83	3400	21.46	-6.68	-2.37
1970	24.53	-6.1	-2.15	1850	15.87	-7.99	-2.52	2350	13.97	-8.55	-2.17	3500	22.69	-6.44	-2
1990	23.81	-6.23	-1.85	1870	15.7	-8.04	-2.95	2370	12.98	-8.87	-3.14	3600	16.8	-7.75	-0.46
2010	27.15	-5.66	-1.13	1890	15.84	-8	-3.26	2390	11.54	-9.38	-4.53	3700	10.37	-9.84	-1.35
2030	25.79	-5.89	-1.45					2410	12.14	-9.16	-3.96	3800	7.95	-11	-1.61
2050	25.74	-5.89	-1.19					2430	12.05	-9.19	-3.72	3900	10.65	-9.73	-2.42
2070	23.1	-6.36	-1.43					2450	12.75	-8.95	-3.78	4000	15.78	-8.02	-3.96
2090	22.78	-6.42	-1.46					2470	12.46	-9.05	-4.36	4100	18.95	-7.22	-2.71
2110	22.77	-6.43	-1.53					2490	12.16	-9.15	-3.77	4200	13.96	-8.55	-3.85
2130	22.27	-6.52	-1.65					2510	15.63	-8.06	-4.7	4300	16.62	-7.79	-3.13
2150	22.43	-6.49	-1.6					2530	19.19	-7.17	-3.8	4400	20.79	-6.82	-2.84
2170	21.99	-6.58	-1.65					2550	19.25	-7.16	-3.48	4500	28.46	-5.46	-0.91
								2570	21.75	-6.63	-2.82	4600	32.92	-4.83	-0.53
								2590	28.08	-5.52	-1.67	4700	35.9	-4.45	0.01
								2610	32.57	-4.87	-1.11	4800	29.95	-5.24	-0.15
								2630	36.95	-4.32	-0.51	4900	37.43	-4.27	0.75
								2650	38.52	-4.14	-0.34	5000	30.69	-5.13	-0.78
								2670	38.71	-4.12	-0.4				
								2690	36.66	-4.36	-0.49				

5.4.2 Efficiency & Peak Gain for ANT3

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
3300	43.22	-3.64	-0.27
3400	60.72	-2.17	1.38
3500	67.62	-1.7	1.88
3600	54.91	-2.6	1
3700	37.08	-4.31	-0.85
3800	30.39	-5.17	-0.53
3900	28.65	-5.43	0.02
4000	24.47	-6.11	-1.32
4100	27.35	-5.63	-1.6
4200	32.6	-4.87	0.93
4300	39.35	-4.05	0.31
4400	41.09	-3.86	1.13
4500	45.85	-3.39	0.68
4600	47.64	-3.22	0.63
4700	61.04	-2.14	1.61
4800	43.08	-3.66	1.04
4900	38.14	-4.19	1.75
5000	32.92	-4.82	1.46

5.4.3 Efficiency & Peak Gain for ANT4

RF1				RF2				RF3				RF4			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
910	8.69	-10.6	-13.64	790	8.63	-10.6	-12.68	730	8.24	-10.8	-11.89	610	8.52	-10.6	-12.35
920	10.25	-9.89	-12.57	800	9.25	-10.3	-12.18	740	10.36	-9.84	-11.02	620	7.36	-11.3	-12.55
930	11.15	-9.52	-11.52	810	9.85	-10	-13.05	750	10.71	-9.7	-10.78	630	7.12	-11.4	-12.02
940	12.35	-9.08	-9.28	820	10.33	-9.85	-11.36	760	11.36	-9.44	-10.35	640	8.26	-10.8	-11.78
950	16.24	-7.89	-7.06	830	11.24	-9.49	-10.89	770	12.52	-9.02	-9.58	650	9.56	-10.1	-12.22
960	16.89	-7.72	-4.74	840	12.33	-9.09	-11.03	780	13.15	-8.81	-8.36	660	10.38	-9.83	-11.87
970	18.38	-7.35	-4.59	850	11.65	-9.33	-11.4	790	14.36	-8.42	-8.45				
980	20.15	-6.95	-8.05	860	13.45	-8.71	-10.52	800	12.36	-9.07	-9.58				
1710	37	-4.32	0.28	870	14.15	-8.49	-9.36	810	11.85	-9.26	-9.24				
1730	35.31	-4.52	0.25	880	15.11	-8.2	-8.44								
1750	41.32	-3.84	1.02	890	15.39	-8.12	-8.57								
1770	45.66	-3.4	1.49												
1790	42.93	-3.67	1.22												
1810	41.41	-3.83	0.88												
1830	41.94	-3.77	0.71												
1850	43.54	-3.61	0.86												
1870	43.01	-3.66	0.95												
1890	41.91	-3.78	0.63												
1910	39.22	-4.06	0.23												
1930	37.87	-4.22	0.22												
1950	36.38	-4.39	0.12												
1970	36.88	-4.33	0.31												
1990	41.63	-3.81	1.04												
2010	39.84	-4	1.18												
2030	38.29	-4.17	1.27												
2050	39.86	-3.99	1.71												
2070	41.65	-3.8	2.11												
2090	39.83	-4	1.99												
2110	31.27	-5.05	0.97												
2130	26.98	-5.69	0.4												
2150	27	-5.69	0.45												
2170	28.61	-5.43	0.64												
2190	32.84	-4.84	1.16												
2210	34.53	-4.62	1.36												
2230	36.9	-4.33	1.65												
2250	33.86	-4.7	1.38												
2270	33.55	-4.74	1.45												
2290	32.9	-4.83	1.32												
2310	33.28	-4.78	1.2												
2330	32.69	-4.86	0.96												
2350	33.63	-4.73	0.81												
2370	33.03	-4.81	0.22												
2390	31.48	-5.02	-0.56												
2410	31.16	-5.06	-0.67												
2430	34.4	-4.63	0.03												
2450	29.57	-5.29	0.01												
2470	28.52	-5.45	-0.56												
2490	30.15	-5.21	-0.14												
2510	30.23	-5.2	0.12												
2530	33.01	-4.81	0.93												
2550	32.59	-4.87	0.68												
2570	32.21	-4.92	0.35												
2590	37.39	-4.27	0.91												
2610	35.61	-4.48	0.68												
2630	37.17	-4.3	0.67												
2650	40.77	-3.9	1.12												
2670	40.28	-3.95	0.84												
2690	37.91	-4.21	0.26												

5.4.4 Efficiency & Peak Gain for ANT6

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1560	32.31	-4.91	0.64	2400	39.29	-4.06	2.92	5900	36.92	-4.33	0.19
1565	32.65	-4.86	0.57	2410	37.67	-4.24	2.79	5950	40.49	-3.93	0.4
1570	33.44	-4.76	0.89	2420	35.85	-4.45	2.59	6000	52.58	-2.79	1.88
1575	34.35	-4.64	0.95	2430	35.57	-4.49	2.57	6050	60.52	-2.18	2.66
1580	34.04	-4.68	0.86	2440	36.19	-4.41	2.64	6100	57.5	-2.4	2.45
1585	34.73	-4.59	0.8	2450	37.28	-4.29	2.72	6150	49.63	-3.04	1.78
1590	33.95	-4.69	0.7	2460	36.79	-4.34	2.7	6200	48.44	-3.15	1.72
1595	33.11	-4.8	0.43	2470	36.26	-4.41	2.75	6250	54.21	-2.66	2.1
1600	32.75	-4.85	0.21	2480	37.6	-4.25	3.04	6300	59.49	-2.26	2.57
1605	31.99	-4.95	-0.11	2490	35.67	-4.48	2.9	6350	50.39	-2.98	2.26
1610	30.94	-5.1	-0.32	2500	32.46	-4.89	2.61	6400	46.8	-3.3	2.13
				5100	25.63	-5.91	-1.26	6450	42.25	-3.74	1.7
				5150	26.24	-5.81	-1.15	6500	46.97	-3.28	1.92
				5200	26.38	-5.79	-1.7	6550	49.54	-3.05	1.92
				5250	27.32	-5.63	-1.9	6600	46.17	-3.36	1.49
				5300	24.73	-6.07	-2.58	6650	42.33	-3.73	0.89
				5350	27.15	-5.66	-1.92	6700	41.19	-3.85	0.66
				5400	29.52	-5.3	-1.52	6750	40.37	-3.94	0.58
				5450	29.34	-5.32	-1.51	6800	44.06	-3.56	0.94
				5500	31.76	-4.98	-1.28	6850	47	-3.28	1.25
				5550	34.46	-4.63	-0.81	6900	50.92	-2.93	1.61
				5600	30.64	-5.14	-1.23	6950	49.33	-3.07	1.87
				5650	30.8	-5.11	-1.17	7000	47.88	-3.2	2.12
				5700	35.19	-4.54	0.78	7050	46.62	-3.31	2.3
				5750	37.61	-4.25	1.67	7100	46.29	-3.35	2.39
				5800	36.23	-4.41	1.38	7150	49.49	-3.06	2.87
				5850	34.03	-4.68	0.34				

5.4.5 Efficiency & Peak Gain for ANT7

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1170	23.34	-6.31	-3.49	5900	34.99	-4.56	1.1
1175	24.12	-6.17	-2.82	5950	33.24	-4.78	1.12
1180	25	-6.02	-2.28	6000	35.57	-4.49	1.5
2400	31.65	-5	1.58	6050	38.7	-4.12	1.8
2410	36.53	-4.37	3.08	6100	42.48	-3.72	1.97
2420	36.57	-4.37	2.39	6150	42.64	-3.7	2.38
2430	34.63	-4.6	1.53	6200	41.33	-3.84	2.17
2440	36.09	-4.43	2.92	6250	41.69	-3.8	1.91
2450	32.83	-4.84	1.56	6300	45.17	-3.45	1.83
2460	30.86	-5.11	1.43	6350	42.67	-3.7	1.39
2470	33.36	-4.77	2.4	6400	43.48	-3.62	1.59
2480	33.46	-4.75	2.85	6450	38.84	-4.11	1.17
2490	33.98	-4.69	3.21	6500	38.56	-4.14	1.42
2500	31.86	-4.97	3.01	6550	37.86	-4.22	1.31
5100	26.35	-5.79	-1.23	6600	38.91	-4.1	1.44
5150	30.11	-5.21	-1.18	6650	41.46	-3.82	1.85
5200	21.65	-6.65	-1.42	6700	39.98	-3.98	1.68
5250	25.36	-5.96	-0.67	6750	36.34	-4.4	1.06
5300	24.07	-6.19	-0.79	6800	37.85	-4.22	0.95
5350	27.44	-5.62	-0.11	6850	41.9	-3.78	1.03
5400	32.08	-4.94	0.75	6900	47.89	-3.2	1.69
5450	33.87	-4.7	1.04	6950	47.81	-3.21	1.28
5500	37.19	-4.3	1.39	7000	46.09	-3.36	1.37
5550	40.76	-3.9	1.84	7050	42.87	-3.68	1.56
5600	39.96	-3.98	1.95	7100	39.61	-4.02	1.13
5650	41.82	-3.79	2.37	7150	42.09	-3.76	1.78
5700	43.33	-3.63	2.53				
5750	36.96	-4.32	2				
5800	29.14	-5.35	0.43				
5850	29.75	-5.27	0.65				

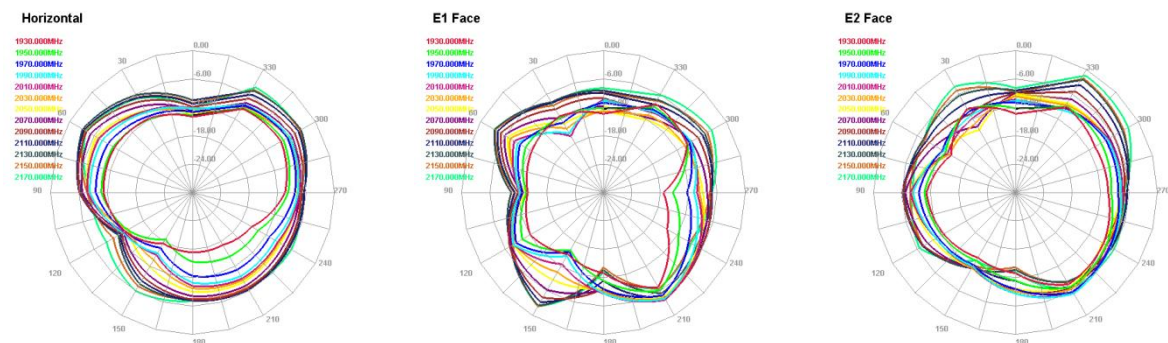
5.4.6 Efficiency & Peak Gain for ANT8

RF1				RF2				RF3				RF4			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1930	10.91	-9.62	-8.12	1810	9.36	-10.2	-8.25	2310	10.17	-3.01	-7.25	3300	5.35	-12.72	-6.58
1950	11.35	-9.45	-8.86	1830	10.32	-9.86	-7.95	2330	10.55	-9.92	-7.69	3400	5.87	-12.31	-6.11
1970	12.6	-8.99	-7.83	1850	11.42	-9.42	-8.36	2350	11.66	-9.76	-6.87	3500	4.14	-13.84	-7.77
1990	12.92	-8.88	-7.61	1870	12.08	-9.17	-8.47	2370	11.69	-9.33	-7.84	3600	5.55	-12.56	-6.26
2010	12.31	-9.09	-7.87	1890	11.01	-9.58	-9.05	2390	11.72	-9.32	-7.94	3700	3.53	-14.52	-7.9
2030	12.25	-9.11	-7.8					2410	12.54	-9.31	-6.69	3800	4.77	-13.22	-4.97
2050	12.35	-9.08	-7.63					2430	13.89	-9.01	-5.27	3900	5.94	-12.26	-3.25
2070	10.48	-9.79	-7.82					2450	13.87	-8.57	-5.83	4000	6.8	-11.68	-2.9
2090	12.46	-9.04	-6.85					2470	16.42	-8.57	-3.46	4100	12.57	-9.01	-0.79
2110	14.69	-8.32	-5.91					2490	14.95	-7.84	-5.62	4200	12	-9.21	-2.1
2130	14.08	-8.52	-4.51					2510	12.48	-9.04	-2.17	4300	17	-7.7	-1.41
2150	16.33	-7.87	-3.91					2530	17.1	-7.67	-0.2	4400	20.39	-6.91	-1.37
2170	22.13	-6.55	-2.74					2550	17.96	-7.46	-0.18	4500	18.7	-7.28	-2.22
								2570	20.16	-6.95	-0.24	4600	12.02	-9.2	-3.97
								2590	24.67	-6.08	-0.03	4700	11.21	-9.5	-4.71
								2610	23.81	-6.23	-0.97	4800	8	-10.97	-5.39
								2630	21.78	-6.62	-1.67	4900	9.25	-10.34	-5.31
								2650	28.23	-5.49	-0.66	5000	10.2	-9.92	-4.3
								2670	33.67	-4.73	0.09				
								2690	28.93	-5.39	-0.33				

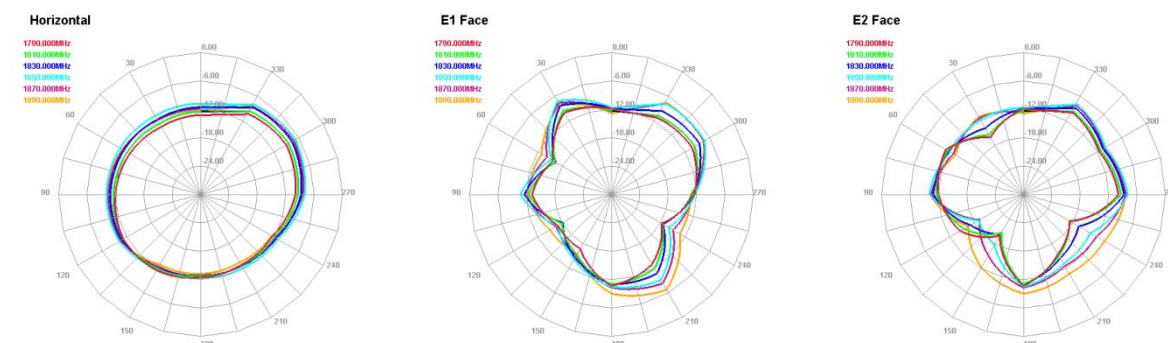
5.5 Radiation Pattern

5.5.1 Radiation Pattern for ANT2

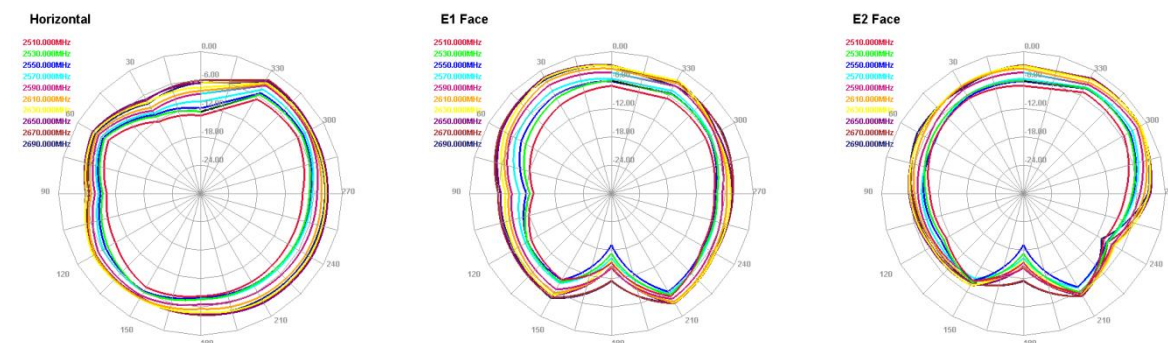
PATH-RF1 (1930-2170MHz)



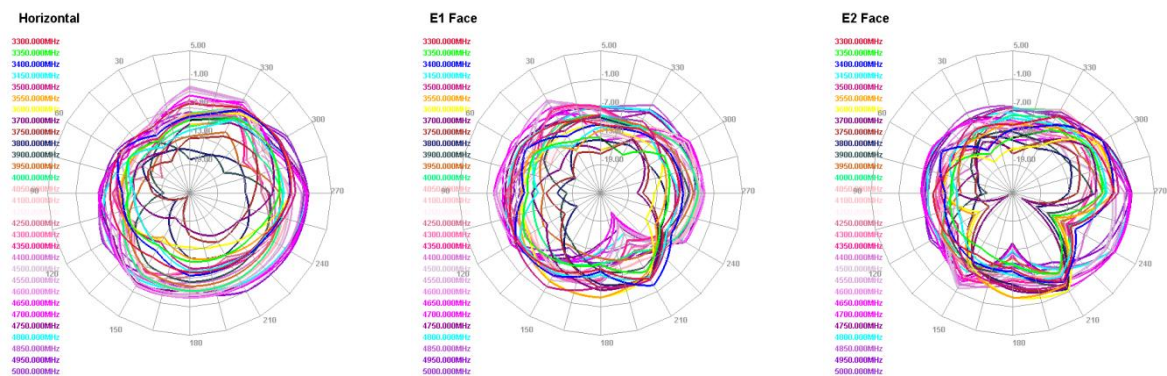
PATH-RF2 (1805-1880MHz)



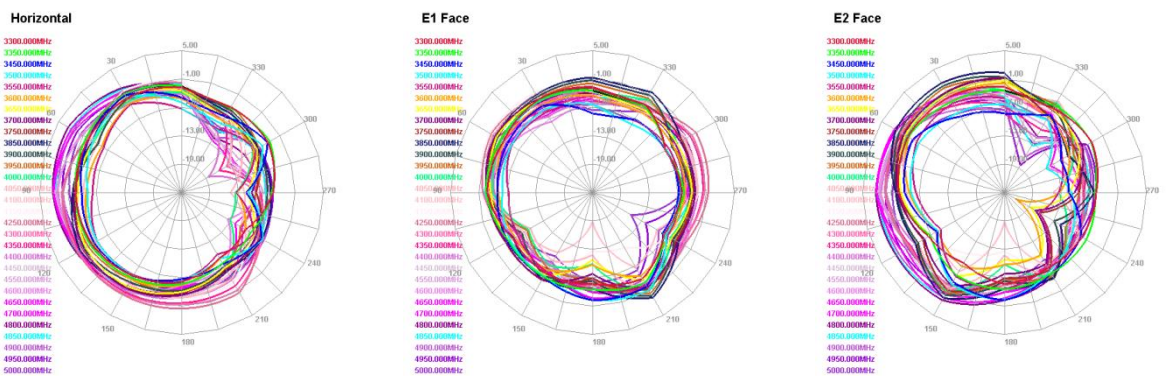
PATH-RF3 (2300-2690MHz)



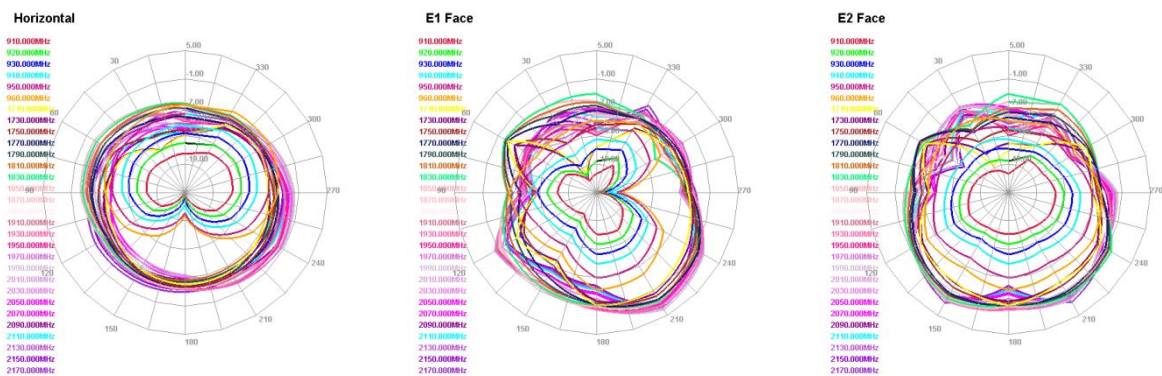
PATH-RF4 (3300-5000MHz)



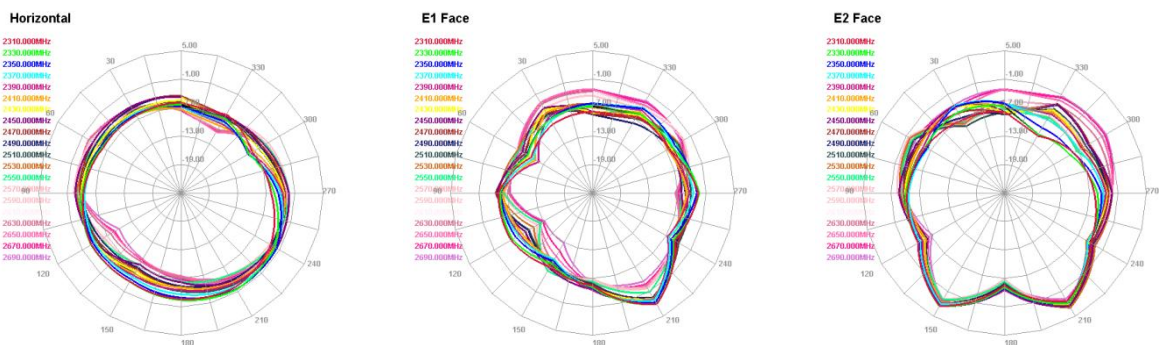
5.5.2 Radiation Pattern for ANT3



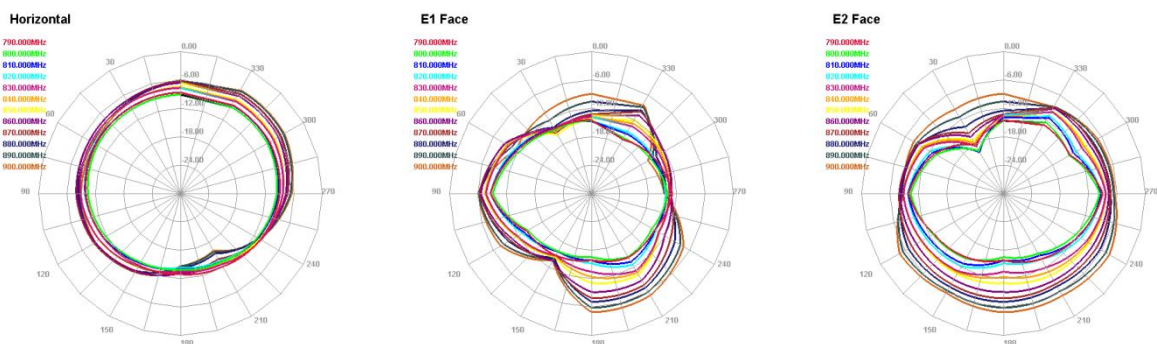
5.5.3 Radiation Pattern for ANT4 PATH-RF1 (915-960MHz+1710-2170MHz)



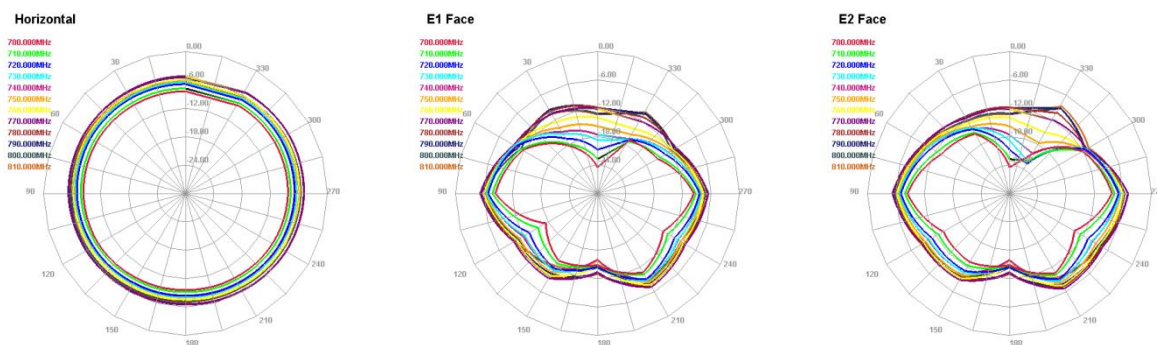
PATH-RF1 (2310-2690MHz)



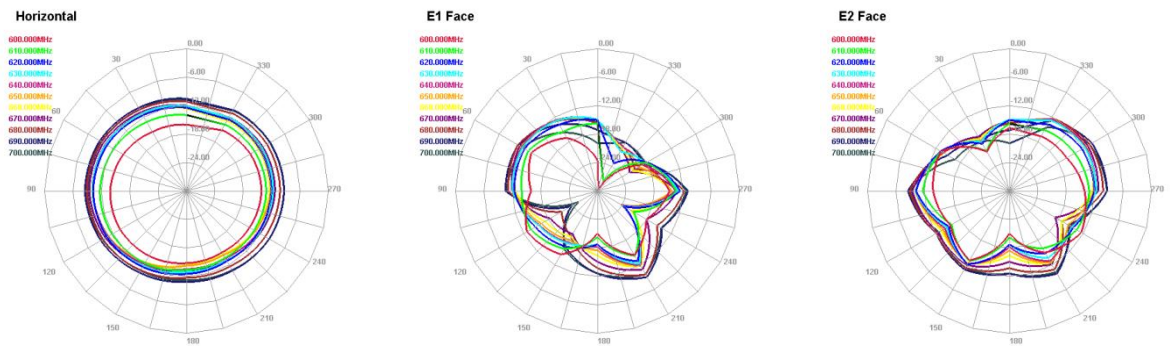
PATH-RF2 (790-900MHz)



PATH-RF3 (700-810MHz)

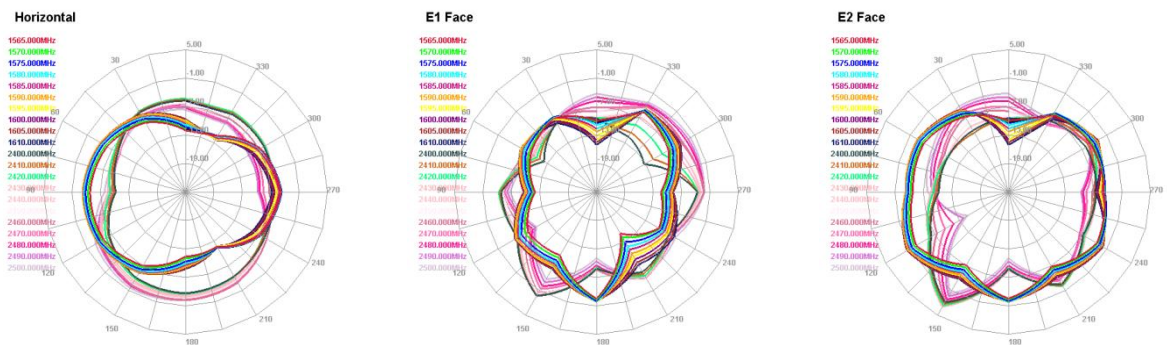


PATH-RF4 (600-700MHz)

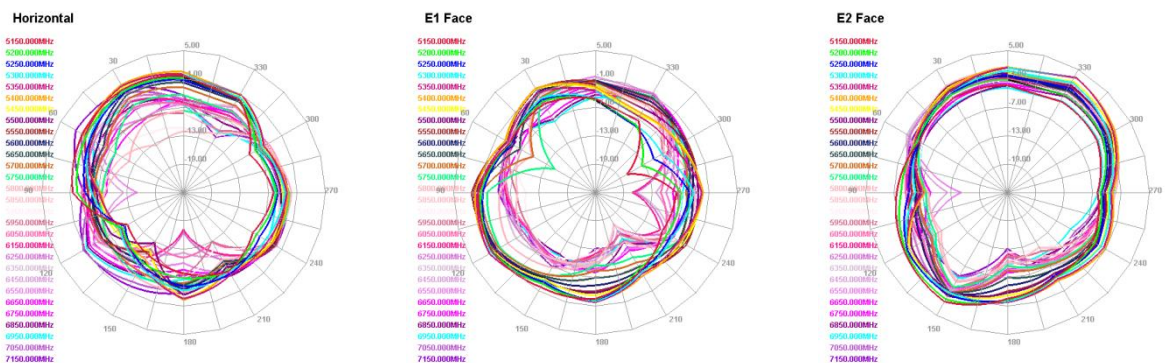


5.5.4 Radiation Pattern for ANT6

1565-1610MHz+2400-2500MHz

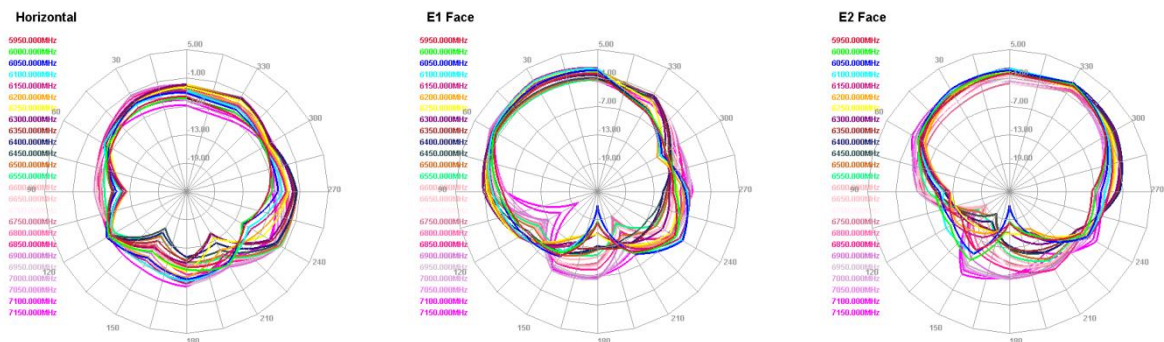


5150-7125MHz

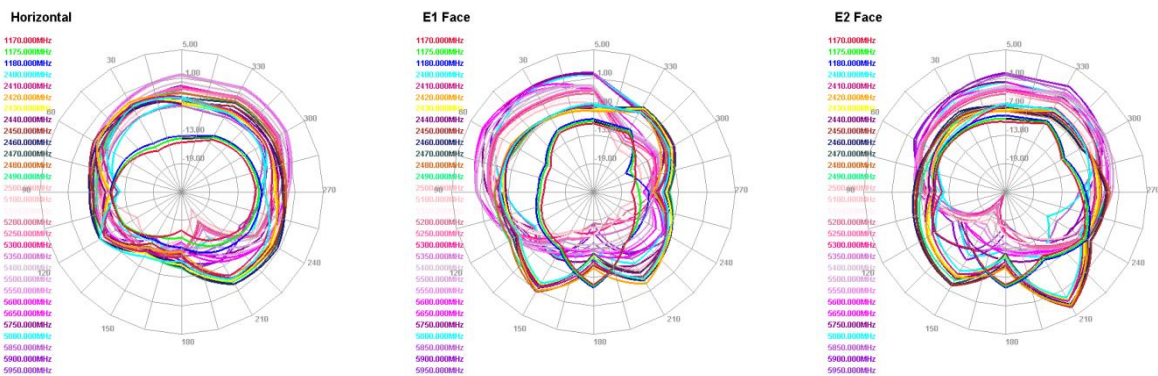


5.5.5 Radiation Pattern for ANT7

1170-1180MHz+2400-2500MHz

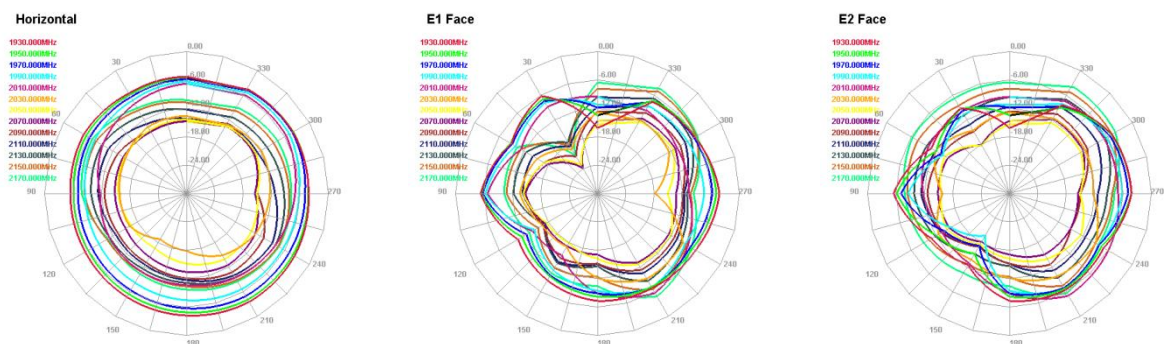


5150-7125MHz

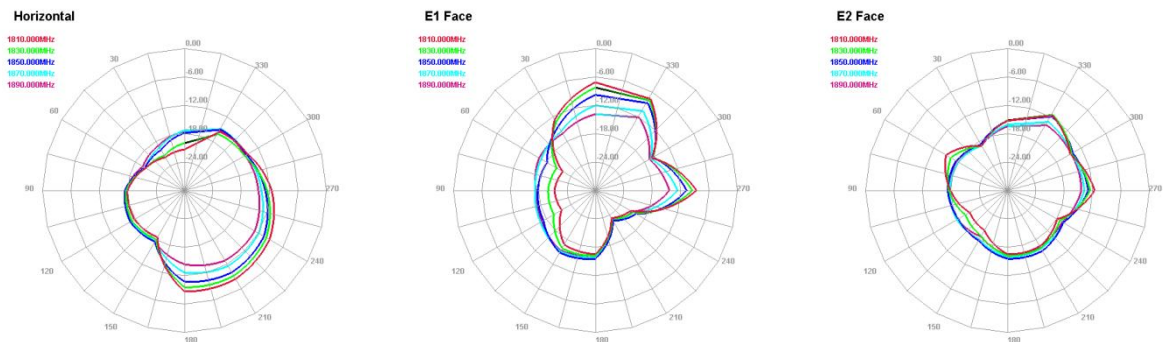


5.5.6 Radiation Pattern for ANT8

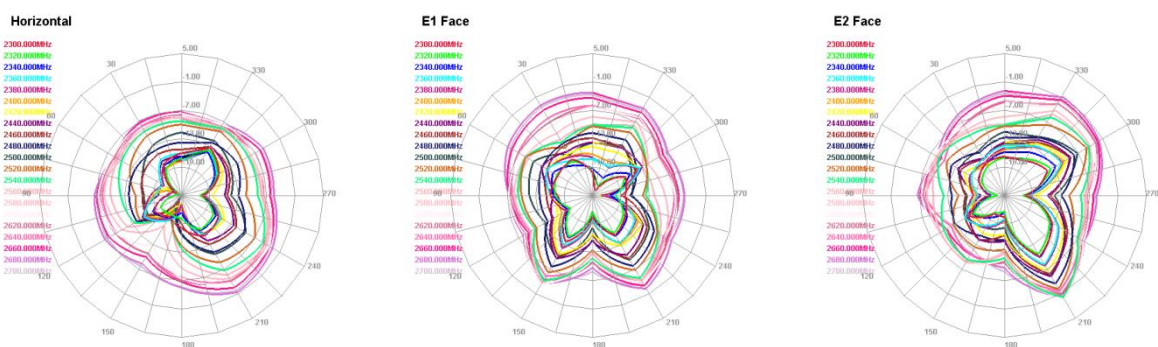
PATH-RF1 (1930-2170MHz)



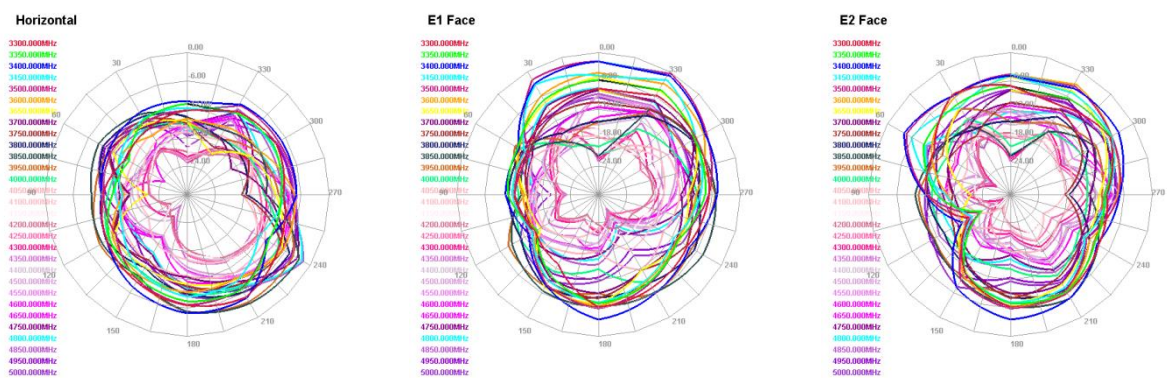
PATH-RF2 (1805-1880MHz)



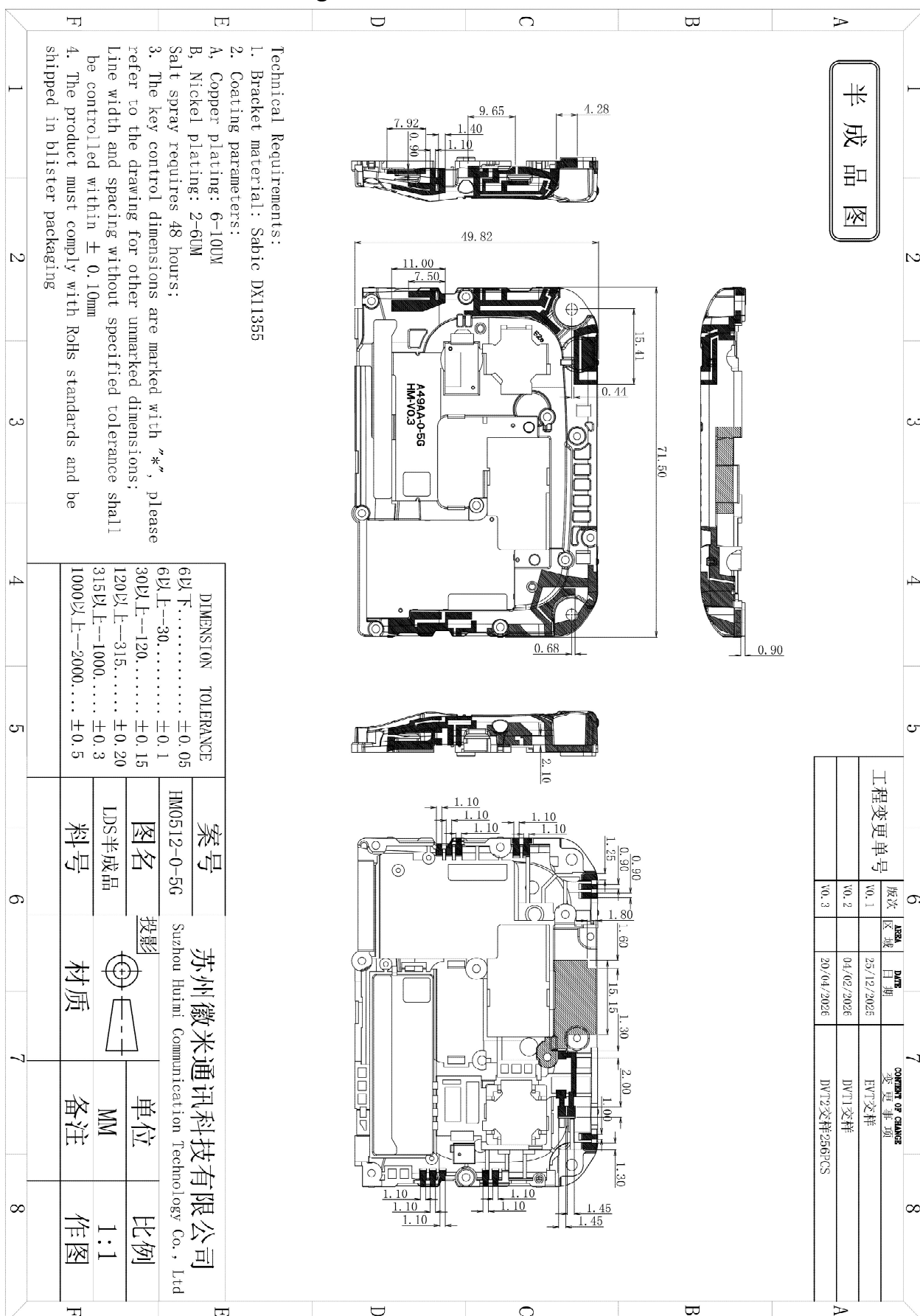
PATH-RF3 (2300-2690MHz)



PATH-RF4 (3300-5000MHz)



6. Mechanical Drawings



7.Dimension Report

Suzhou Huimi Communication Technology Co., Ltd												
Customer			Koobee		Product name		A49		Drawing version		V0.3	
Our case number			HM0512		Antenna name		0-5G		Measurement Date		2026-5-19	
NO.	prop erti es	size	Tolerance		Measurin g tool							OK/NG
			upper limit	lower limit		1	2	3	4	5		
1		71.50	0.15	0.15		71.488	71.528	71.494	71.440	71.480		OK
2		49.82	0.15	0.15		49.806	49.832	49.819	49.760	49.794		OK
3		15.41	0.10	0.10		15.409	15.427	15.403	15.370	15.406		OK
4		0.44	0.05	0.05		0.437	0.441	0.437	0.420	0.436		OK
5		11.00	0.10	0.10		10.993	11.004	10.989	10.960	10.996		OK
6		7.50	0.10	0.10		7.488	7.507	7.482	7.460	7.498		OK
7		0.68	0.05	0.05		0.678	0.685	0.672	0.660	0.673		OK
8		0.90	0.05	0.05		0.896	0.909	0.894	0.880	0.900		OK
9		4.28	0.05	0.05		4.277	4.284	4.280	4.260	4.277		OK
10		9.65	0.10	0.10		9.638	9.652	9.640	9.610	9.647		OK
11		1.40	0.05	0.05		1.397	1.407	1.399	1.380	1.394		OK
12		1.10	0.05	0.05		1.091	1.109	1.098	1.080	1.097		OK
13		7.92	0.10	0.10		7.904	7.940	7.920	7.880	7.917		OK
14		0.90	0.05	0.05		0.896	0.909	0.900	0.880	0.898		OK
15		2.10	0.05	0.05		2.099	2.108	2.099	2.080	2.090		OK
16		1.10	0.05	0.05		1.092	1.103	1.098	1.080	1.099		OK
17		1.10	0.05	0.05		1.102	1.120	1.093	1.103	1.100		OK
18		1.10	0.05	0.05		1.097	1.103	1.093	1.101	1.112		OK
19		1.10	0.05	0.05		1.103	1.095	1.097	1.080	1.107		OK
20		1.10	0.05	0.05		1.113	1.093	1.105	1.091	1.101		OK
21		1.25	0.05	0.05		1.243	1.254	1.241	1.230	1.247		OK
22		0.90	0.05	0.05		0.896	0.907	0.892	0.880	0.897		OK
23		0.90	0.05	0.05		0.918	0.892	0.905	0.891	0.908		OK
24		1.80	0.05	0.05		1.793	1.806	1.798	1.780	1.793		OK
25		1.60	0.05	0.05		1.594	1.604	1.594	1.580	1.597		OK
26		15.15	0.10	0.10		15.140	15.159	15.131	15.110	15.134		OK
27		1.30	0.05	0.05		1.299	1.301	1.297	1.280	1.294		OK
28		2.00	0.05	0.05		1.993	2.002	1.998	1.980	1.995		OK
29		1.00	0.05	0.05		0.991	1.002	0.996	0.980	0.992		OK
30		1.30	0.05	0.05		1.291	1.302	1.296	1.280	1.298		OK
31		1.45	0.05	0.05		1.441	1.452	1.446	1.430	1.448		OK
32		1.45	0.05	0.05		1.468	1.441	1.456	1.445	1.452		OK
33		1.10	0.05	0.05		1.098	1.108	1.096	1.080	1.096		OK
34		1.10	0.05	0.05		1.109	1.111	1.095	1.106	1.092		OK
35		1.10	0.05	0.05		1.107	1.097	1.105	1.093	1.106		OK
36		1.10	0.05	0.05		1.114	1.092	1.103	1.092	1.091		OK
37		1.10	0.05	0.05		1.080	1.103	1.109	1.114	1.090		OK