

SPECIFICATION

CUSTOMER : Wistron
PART NAME : Jaws WWAN Antenna
DEVE NUMBER : T-0312
AUDEN P/N : B12583-02
WISTRON P/N: 025.90243.0001
Ant. type(PIFA): Ant.0/ 1/ 3/ 4/ 7/ 8/ 9/ 12
Ant. type(Monopole): Ant.5
Ant. type(Loop): Ant.6/ 11
Ant. type(Loop-Couple): Ant.2
DATE : 2022/05/11
DATASHEET REVISION : 00
MANUFACTURE: Auden Kunshan

Auden Techno Corp.			
RF ENGINEER CHECKED	MECHANICAL ENGINEER CHECKED	R&D MANAGER CHECKED	PRODUCT MANAGER CHECKED
Hank Li	Tony Cheng	Jacky Tsai	Tony Lee



Auden Techno Corp.

NO.19,LANE 772 HO-PING ROAD,PA-TE CITY, TAO-YUAN HSIEN,TAIWAN

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FAX : 886-3-366061



Summary table

Check Items	Information	Page
Brand name	Auden	1
Model name(Part Number)	025.90242.0003	1
Provided by lab	Auden GTS2800	36
Test environment	Auden GTS2800	36
list of calibrated test equipment	R&S ZNB8, GTS2800	36
manufacturer	Auden	1
test data	Included frequency, antenna gain, type	4~ 35
antenna pattern	Included antenna pattern	3

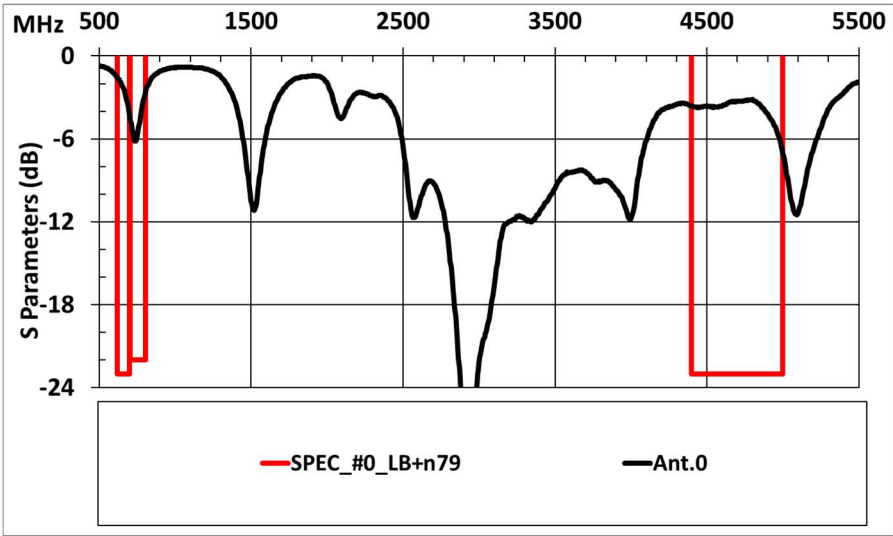
Antenna Performance

1. Ant.0(TX antenna)

◆ Description

Frequency Range	617~803MHz, 4400~5000MHz.
Impedance	50Ω
Return Loss	As shown below S11
Peak Gain	0.12dBi @ 708MHz(test in anechoic chamber)
Admitted Power	N/A
Cable	N/A
Antenna Type	PIFA
Connector	N/A
Process	LDS

◆ Antenna Return Loss



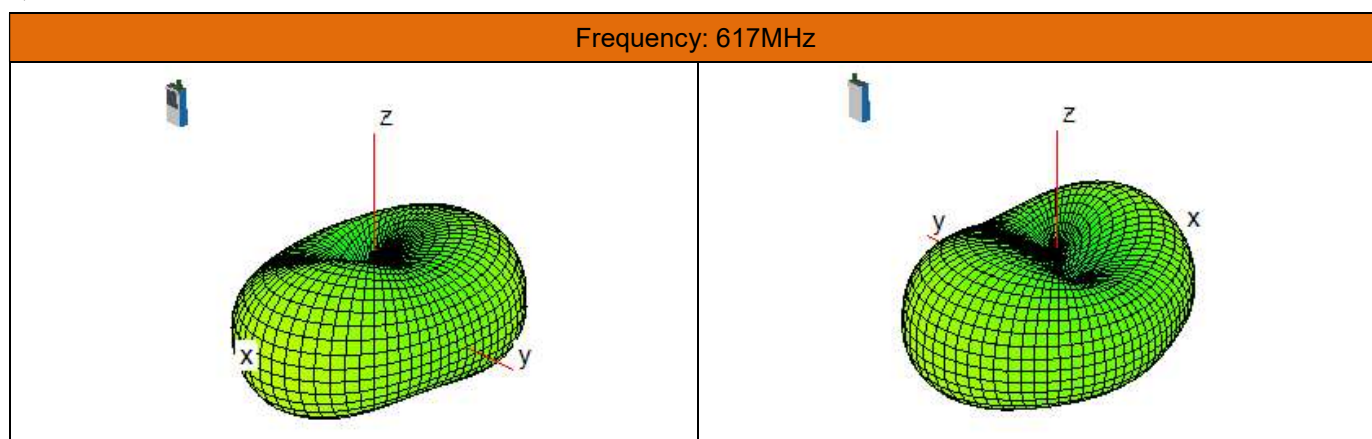
◆ Antenna Efficiency(test in anechoic chamber)

WWAN SKU Ant.0 performance		
Ant.0	Avg. Gain	Peak Gain
617	-9.50	-5.94
635	-8.60	-4.79
652	-7.51	-3.55
663	-6.85	-2.52
681	-5.94	-1.62

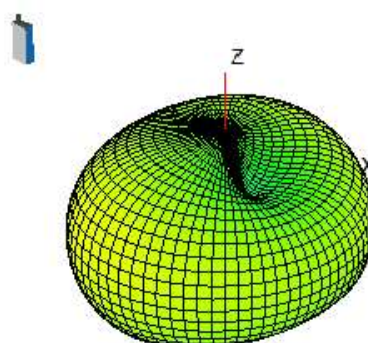
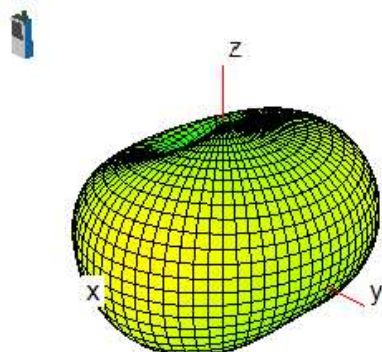
WWAN SKU Ant.0 performance		
Ant.0	Avg. Gain	Peak Gain
698	-4.75	-0.52
699	-4.75	-0.54
703	-4.33	-0.10
704	-4.27	-0.06
708	-4.01	0.12
710	-4.00	0.10
716	-4.15	0.01
717	-4.12	0.03
723	-3.98	0.03
726	-4.06	-0.08
728	-4.12	-0.15
729	-4.14	-0.16
734	-4.18	-0.10
738	-4.33	-0.18
740	-4.33	-0.20
746	-4.42	-0.30
748	-4.51	-0.43
751	-4.64	-0.60
756	-4.89	-0.94
758	-5.04	-1.12
763	-5.25	-1.38
768	-5.56	-1.60
777	-6.26	-2.47
781	-6.47	-2.64
782	-6.56	-2.68
787	-6.96	-3.06
788	-7.00	-3.15
791	-7.19	-3.32
793	-7.32	-3.47
798	-7.65	-4.04
803	-8.12	-4.42

WWAN SKU Ant.0 performance		
Ant.0	Avg. Gain	Peak Gain
4400	-8.42	-1.96
4700	-7.81	-4.75
5000	-5.67	-1.36

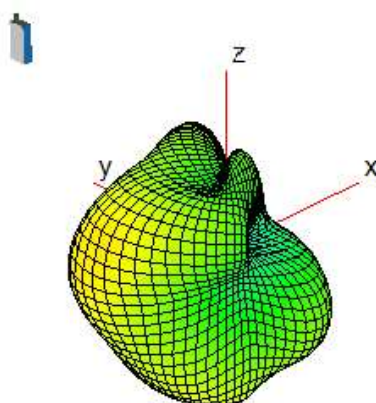
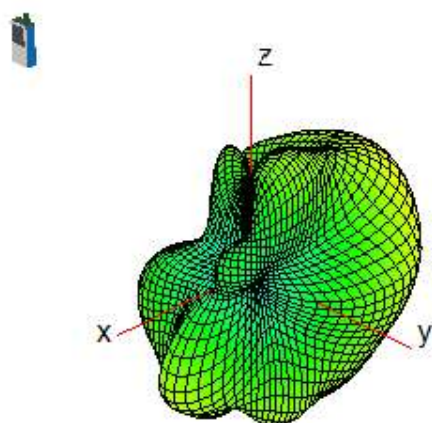
◆ Antenna 3D Radiation Pattern



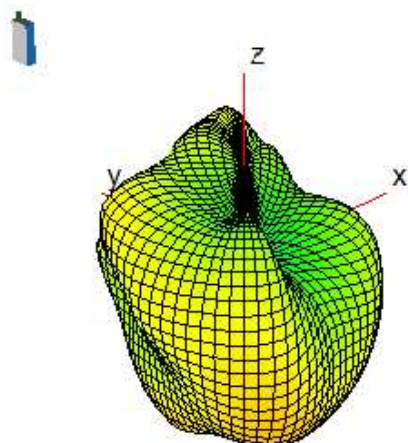
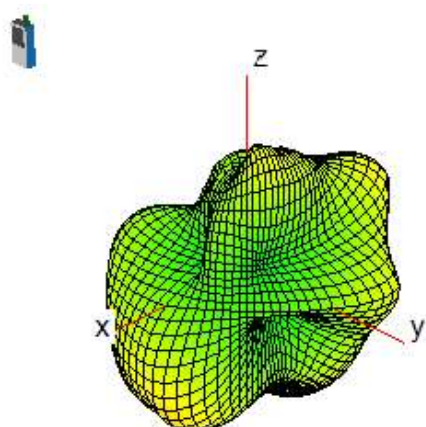
Frequency: 803MHz



Frequency: 4400MHz



Frequency: 5000MHz

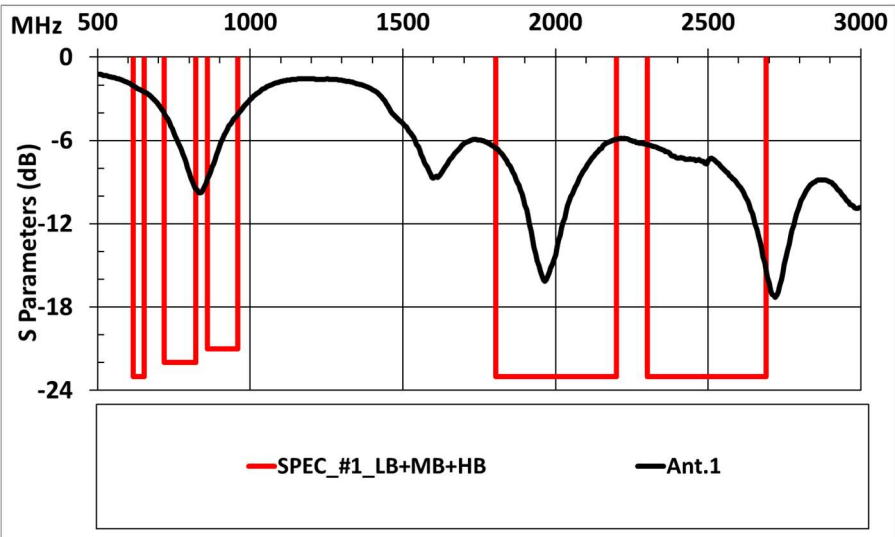


2. Ant.1(RX antenna)

◆ Description

Frequency Range	617~960MHz, 1805~2690MHz
Impedance	50Ω
Return Loss	As shown below S11
Peak Gain	N/A
Admitted Power	N/A
Cable	N/A
Antenna Type	PIFA
Connector	N/A
Process	LDS

◆ Antenna Return Loss



◆ Antenna Efficiency(test in anechoic chamber)

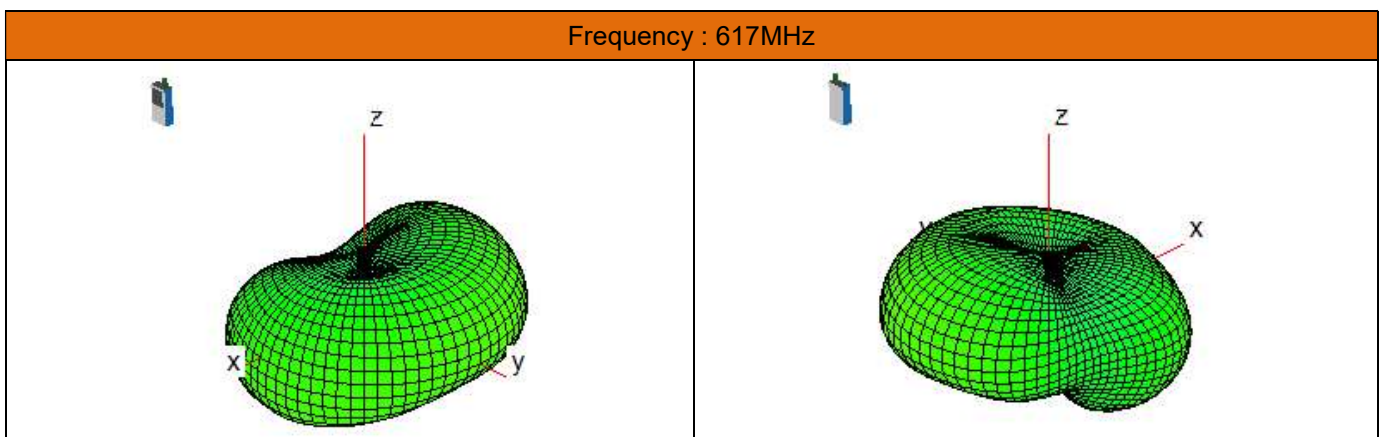
WWAN SKU Ant.1 performance		
Ant.1_RF3	Avg. Gain	Peak Gain
617	-12.57	
635	-11.63	
652	-11.28	
717	-8.33	
723	-8.08	
728	-8.01	
729	-7.99	
734	-7.85	
738	-7.83	
740	-7.75	
746	-7.65	
751	-7.65	
756	-7.61	
758	-7.63	
763	-7.58	
768	-7.50	
781	-7.34	
791	-7.38	

WWAN SKU Ant.1 performance		
Ant.1_RF3	Avg. Gain	Peak Gain
1805	-6.57	
1843	-5.27	
1880	-4.74	
1900	-4.56	
1920	-4.30	
1930	-4.06	
1960	-3.91	
1963	-3.97	
1990	-4.13	
1995	-4.19	
2110	-4.10	
2133	-4.29	
2140	-4.36	
2155	-4.48	
2170	-4.70	
2200	-4.95	

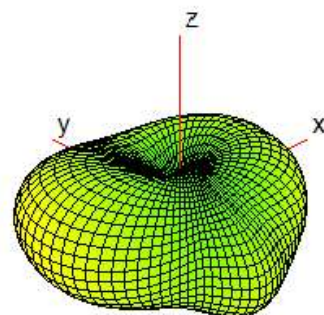
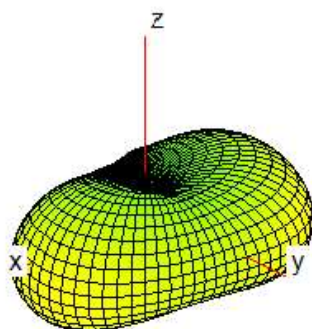
WWAN SKU Ant.1 performance		
Ant.1_RF3	Avg. Gain	Peak Gain
2300	-5.75	
2350	-5.74	
2355	-5.78	
2360	-5.88	
2400	-5.75	
2496	-5.51	
2570	-5.42	
2593	-5.39	
2595	-5.40	
2620	-5.50	
2655	-5.57	
2690	-5.64	

WWAN SKU Ant.1 performance		
Ant.1_RF3	Avg. Gain	Peak Gain
803	-7.62	
806	-7.65	
821	-7.44	
859	-8.35	
869	-8.42	
877	-8.36	
882	-8.38	
894	-8.60	
925	-10.19	
943	-10.75	
960	-11.13	

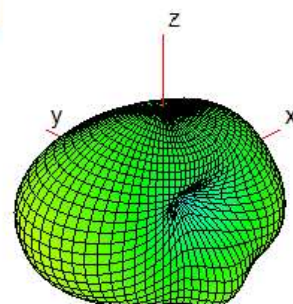
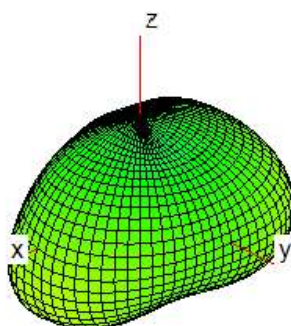
◆ Antenna 3D Radiation Pattern



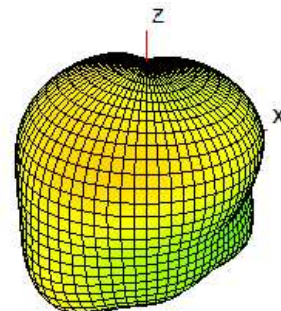
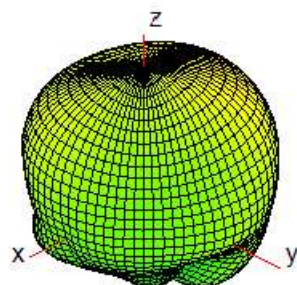
Frequency : 803MHz



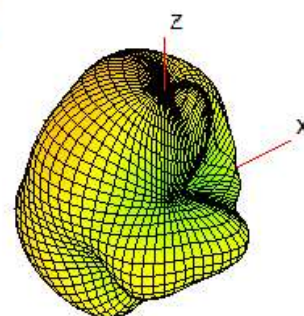
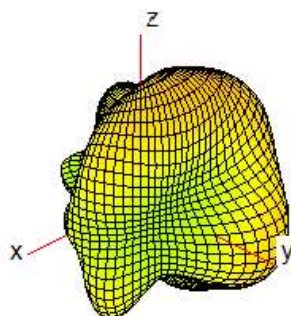
Frequency : 960MHz



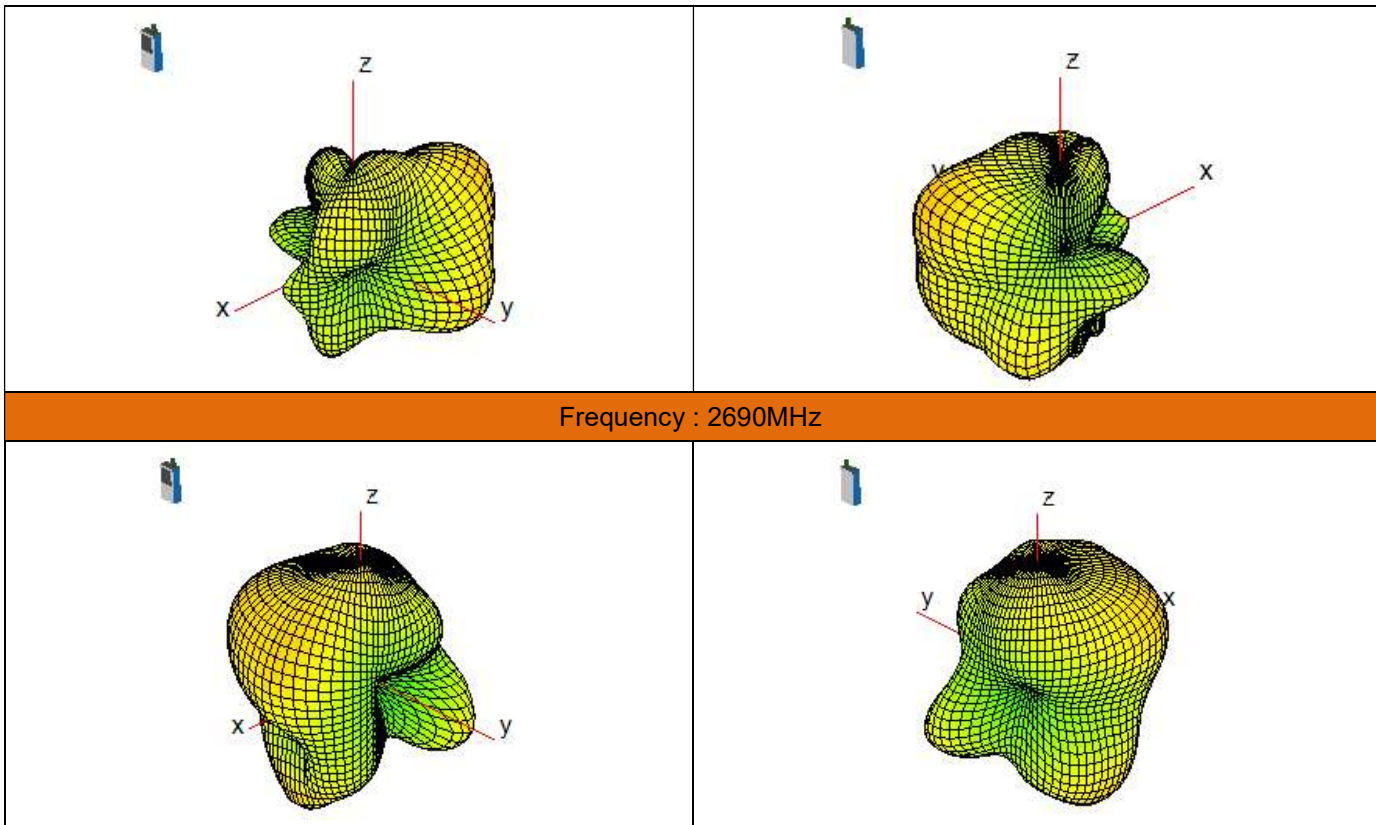
Frequency : 1805MHz



Frequency : 2200MHz



Frequency : 2300MHz

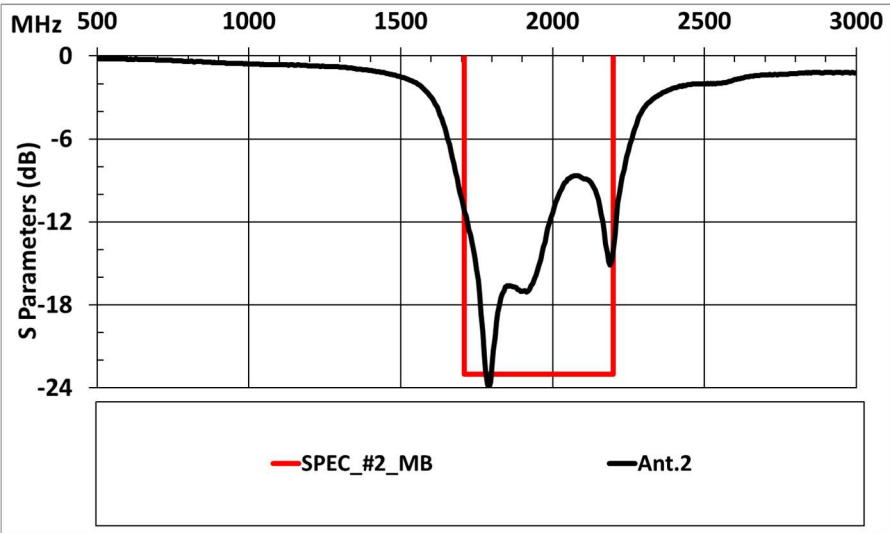


3. Ant.2(TX antenna)

◆ Description

Frequency Range	1710~2200MHz
Impedance	50Ω
Return Loss	As shown below S11
Peak Gain	2.48dBi @ 1843MHz(test in anechoic chamber)
Admitted Power	N/A
Cable	N/A
Antenna Type	Loop- Couple
Connector	N/A
Process	LDS

◆ Antenna Return Loss

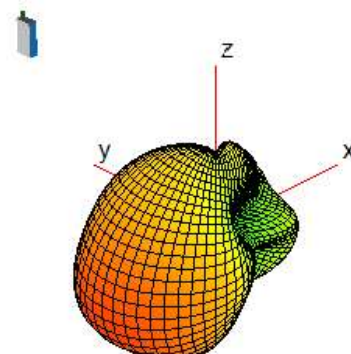
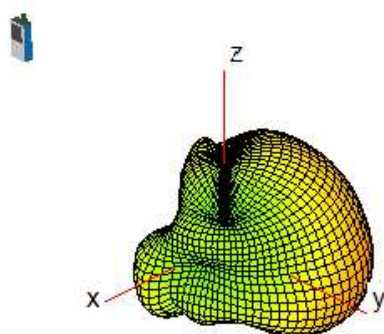


◆ Antenna Efficiency(test in anechoic chamber)

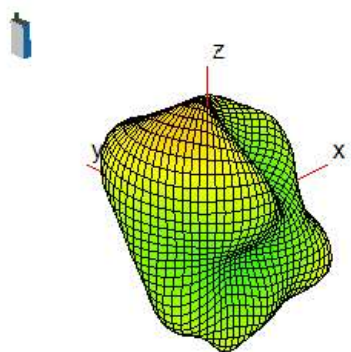
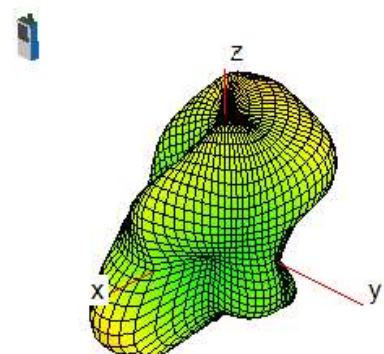
WWAN SKU Ant.2 performance		
Ant.2	Avg. Gain	Peak Gain
1710	-3.82	2.18
1733	-3.76	1.70
1745	-3.98	1.58
1748	-4.07	1.65
1755	-4.18	1.59
1780	-4.81	1.81
1785	-4.90	1.76
1805	-4.99	2.14
1843	-5.05	2.48
1850	-5.03	2.13
1880	-5.01	0.14
1883	-5.02	-0.09
1900	-4.92	-0.39
1910	-4.89	-0.14
1915	-4.91	-0.07
1920	-4.97	-0.03
1930	-4.96	0.07
1950	-4.79	0.06
1960	-4.76	-0.06
1963	-4.66	-0.19
1980	-4.25	-0.47
1990	-3.57	-0.32
1995	-3.39	-0.29
2110	-6.25	0.58
2133	-6.43	0.45
2140	-6.61	0.30
2155	-6.61	0.25
2170	-6.69	-0.30
2200	-7.54	-1.17

◆ Antenna 3D Radiation Pattern

Frequency : 1710MHz



Frequency : 2200MHz

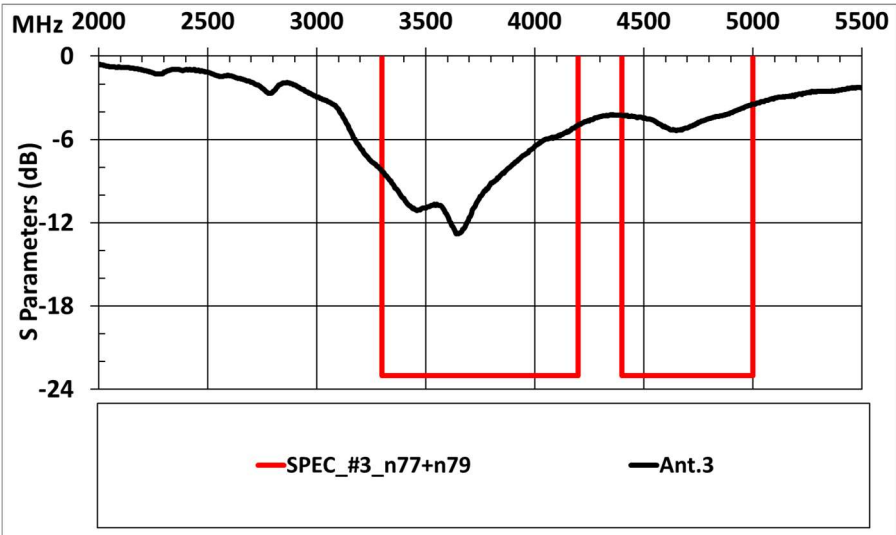


4. Ant. 3(RX antenna)

◆ Description

Frequency Range	3300~4200MHz, 4400~5000MHz.
Impedance	50Ω
Return Loss	As shown below S11
Peak Gain	N/A
Admitted Power	N/A
Cable	N/A
Antenna Type	PIFA
Connector	N/A
Process	LDS

◆ Antenna Return Loss

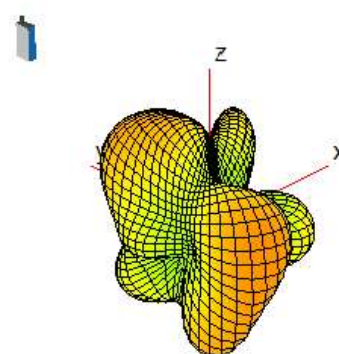
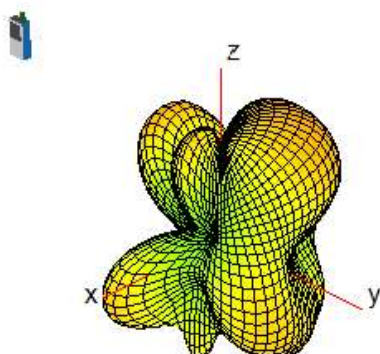


◆ Antenna Efficiency(test in anechoic chamber)

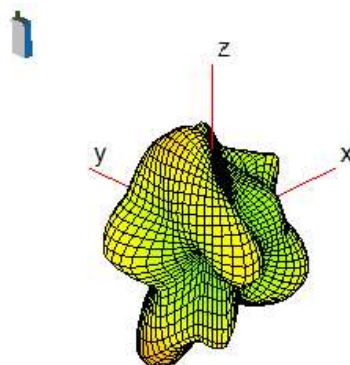
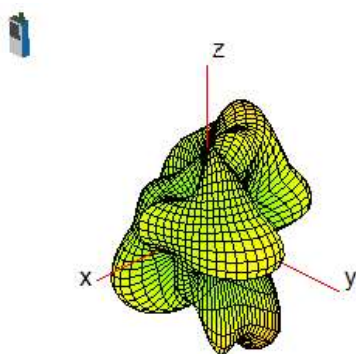
WWAN SKU Ant.3 performance		
Ant. 3	Avg. Gain	Peak Gain
3300	-4.48	0.45
3400	-4.09	1.78
3500	-3.70	1.96
3550	-3.99	0.98
3600	-3.65	0.69
3625	-4.13	0.91
3700	-4.45	0.42
3750	-4.81	0.66
3800	-4.78	0.73
4200	-5.31	-0.51
4400	-5.49	-1.62
4700	-4.83	-0.99
5000	-6.30	-1.77

◆ Antenna 3D Radiation Pattern

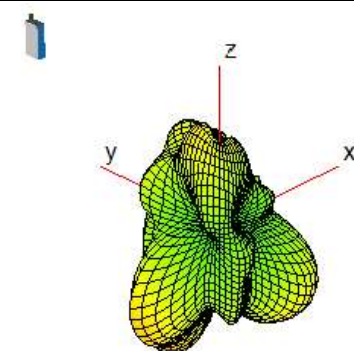
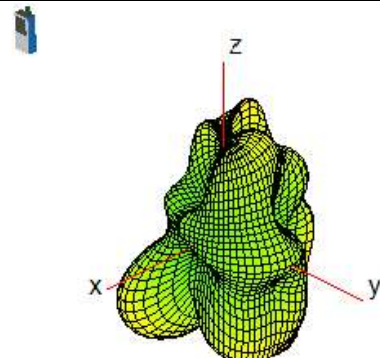
Frequency : 3300MHz



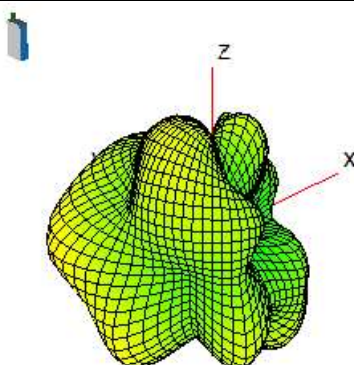
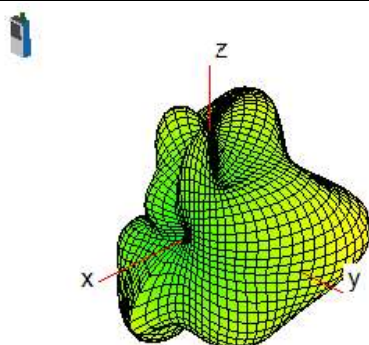
Frequency : 4200MHz



Frequency : 4400MHz



Frequency : 5000MHz

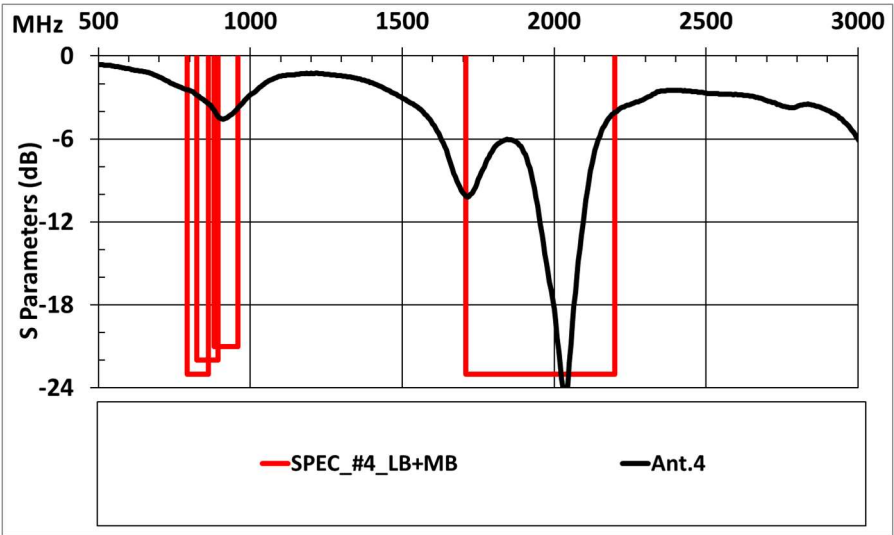


5. Ant.4(TX antenna)

◆ Description

Frequency Range	791~960MHz, 1710~2200MHz.
Impedance	50Ω
Return Loss	As shown below S11
Peak Gain	5.1dBi @ 2110MHz(test in anechoic chamber)
Admitted Power	N/A
Cable	N/A
Antenna Type	PIFA
Connector	N/A
Process	LDS

◆ Antenna Return Loss



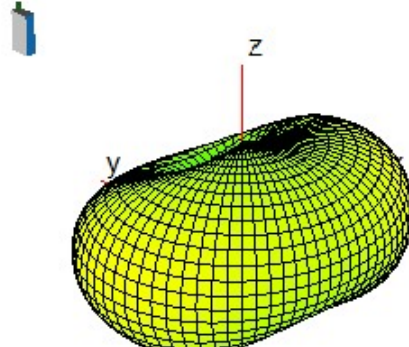
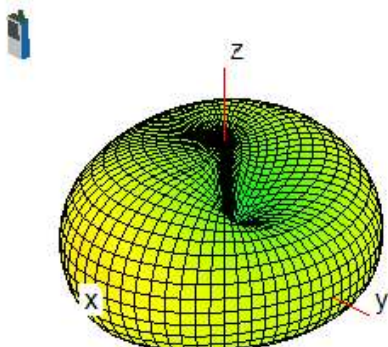
◆ Antenna Efficiency(test in anechoic chamber)

WWAN SKU Ant.4 performance		
Ant.4	Avg. Gain	Peak Gain
791	-6.66	-3.59
793	-6.64	-3.53
798	-6.48	-3.14
803	-6.46	-3.04
806	-6.52	-3.23
814	-6.47	-3.03
821	-6.40	-2.80
824	-6.40	-2.79
832	-6.34	-2.72
837	-6.31	-2.42
847	-6.38	-2.51
849	-6.38	-2.52
859	-6.34	-2.20
862	-6.34	-2.17
869	-6.30	-2.23
877	-6.13	-2.01
880	-6.11	-2.04
882	-6.10	-2.07
894	-5.70	-1.92
898	-5.64	-1.84
915	-5.32	-1.33
925	-5.44	-1.42
943	-5.82	-1.53
960	-6.54	-1.96

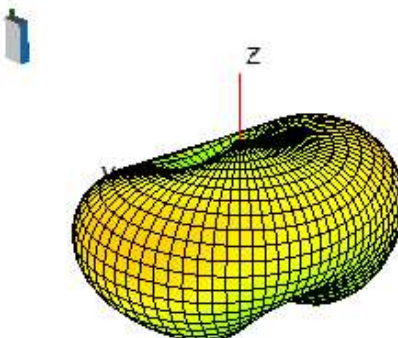
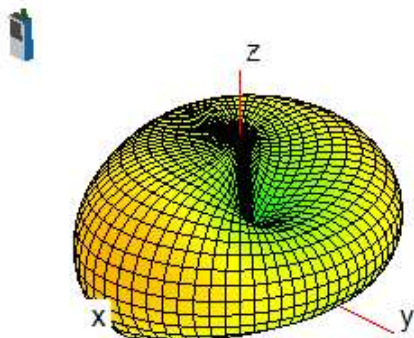
WWAN SKU Ant.4 performance		
Ant.4	Avg. Gain	Peak Gain
1710	-2.52	1.25
1733	-2.78	1.22
1745	-2.90	1.01
1748	-2.88	1.04
1755	-3.00	0.86
1780	-3.35	0.25
1785	-3.43	0.20
1805	-3.80	0.20
1843	-3.80	0.28
1850	-3.96	-0.07
1880	-4.25	-0.88
1883	-4.31	-1.00
1900	-4.39	-1.33
1910	-4.34	-1.38
1915	-4.36	-1.39
1920	-4.38	-1.33
1930	-4.20	-1.05
1950	-3.94	-0.24
1960	-3.85	0.27
1963	-3.87	0.40
1980	-3.67	0.87
1990	-3.62	1.23
1995	-3.57	1.51
2110	-3.30	5.10
2133	-3.70	4.72
2140	-3.86	4.59
2155	-4.24	4.15
2170	-4.85	3.38
2200	-5.48	2.70

◆ Antenna 3D Radiation Pattern

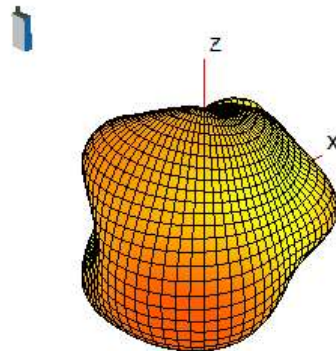
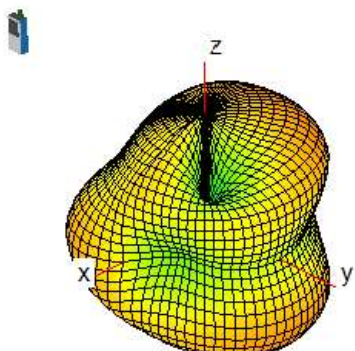
◆ Frequency : 791MHz



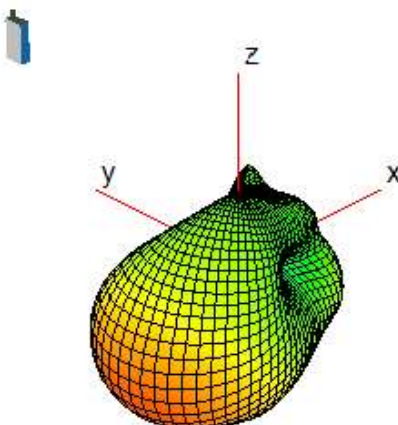
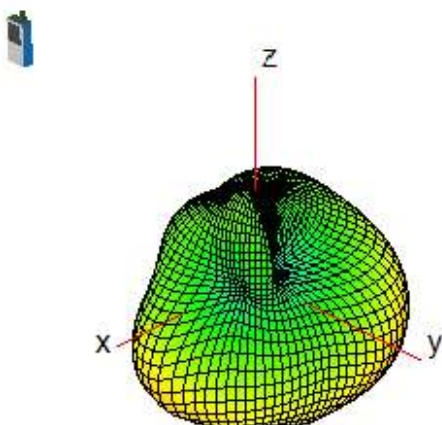
Frequency : 960MHz



Frequency : 1710MHz



Frequency : 2200MHz

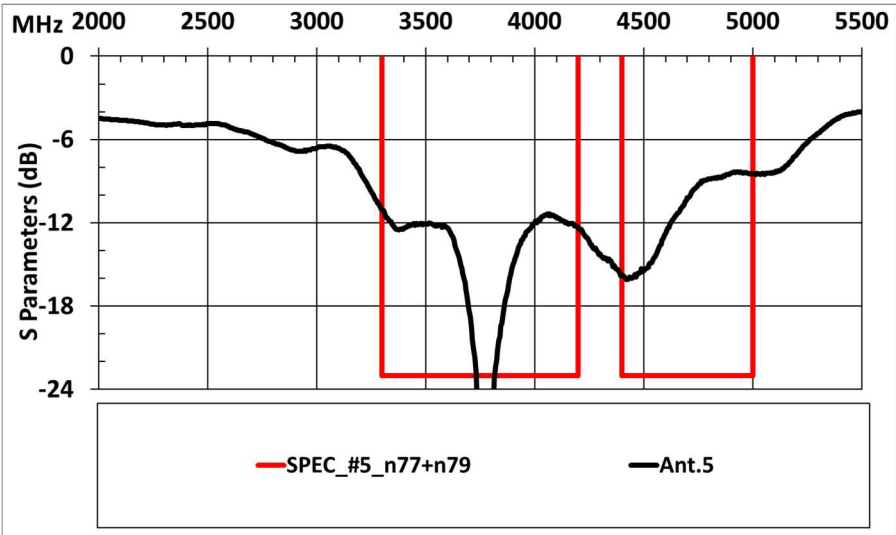


6. Ant.5(RX antenna)

◆ Description

Frequency Range	3300~4200MHz, 4400~5000MHz.
Impedance	50Ω
Return Loss	As shown below S11
Peak Gain	N/A
Admitted Power	N/A
Cable	N/A
Antenna Type	Monopole
Connector	N/A
Process	LDS

◆ Antenna Return Loss

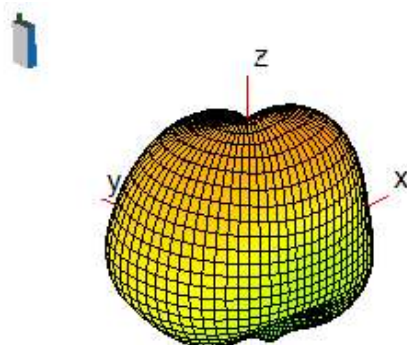
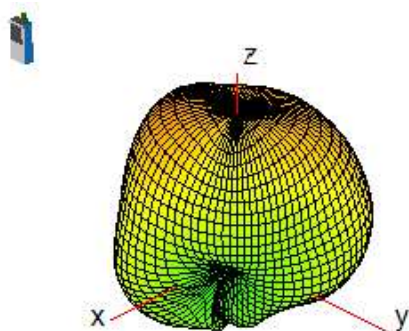


◆ Antenna Efficiency(test in anechoic chamber)

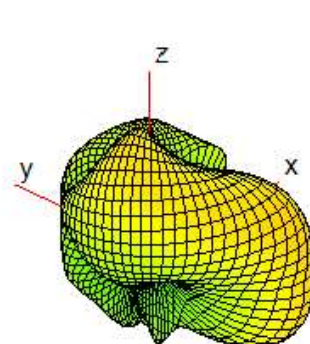
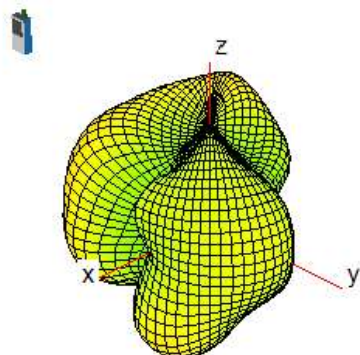
WWAN SKU Ant.5 performance		
Ant.5	Avg. Gain	Peak Gain
3300	-4.57	
3400	-4.44	
3500	-3.85	
3550	-3.79	
3600	-3.51	
3625	-3.40	
3700	-3.52	
3750	-3.26	
3800	-2.79	
4200	-3.82	
4400	-4.95	
4700	-6.33	
5000	-7.80	

◆ Antenna 3D Radiation Pattern

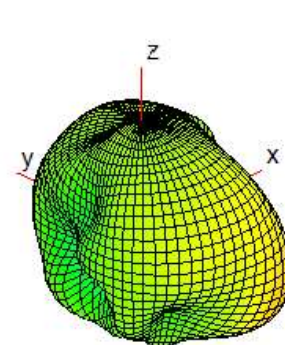
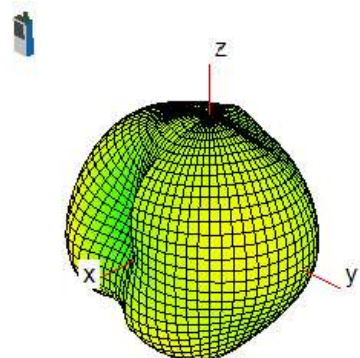
◆ Frequency : 3300MHz



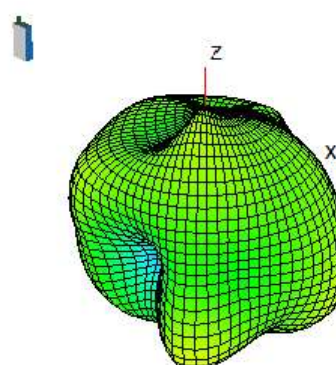
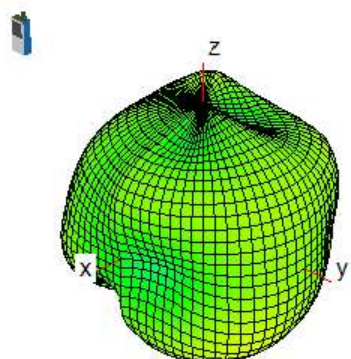
Frequency : 4200MHz



Frequency : 4400MHz



Frequency : 5000MHz

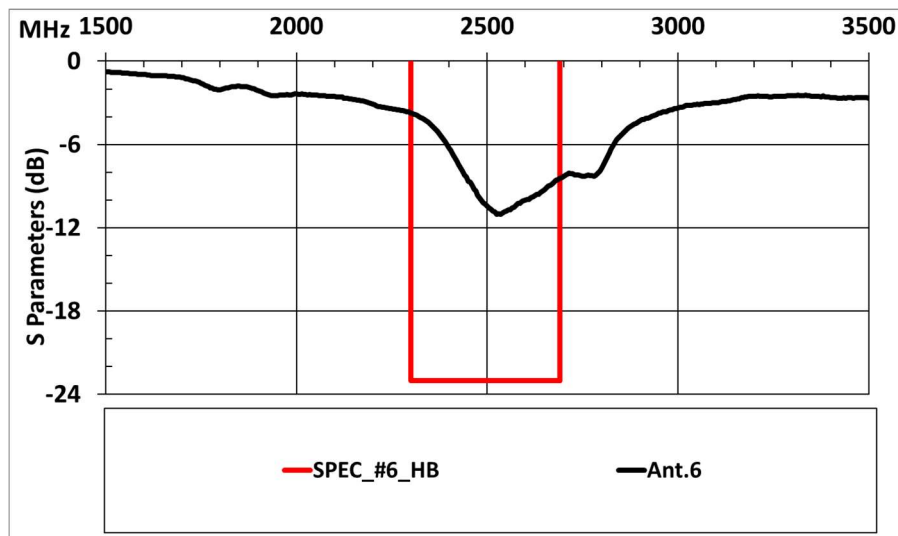


7. Ant.6(TX antenna)

◆ Description

Frequency Range	2300~2690MHz.
Impedance	50Ω
Return Loss	As shown below S11
Peak Gain	-0.51dBi @ 2655MHz(test in anechoic chamber)
Admitted Power	N/A
Cable	N/A
Antenna Type	Loop
Connector	N/A
Process	LDS

◆ Antenna Return Loss

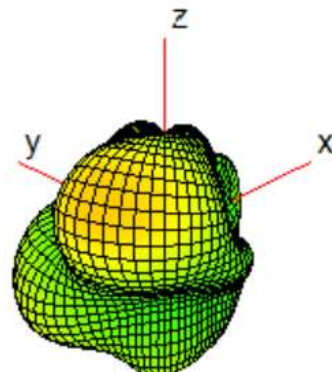
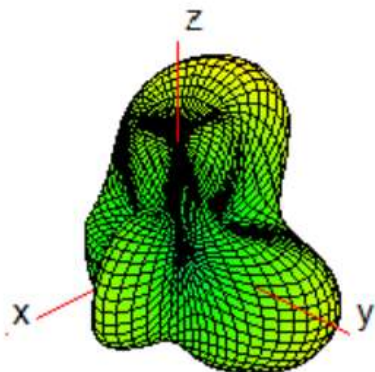


◆ Antenna Efficiency(test in anechoic chamber)

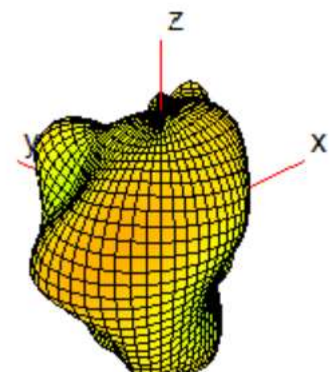
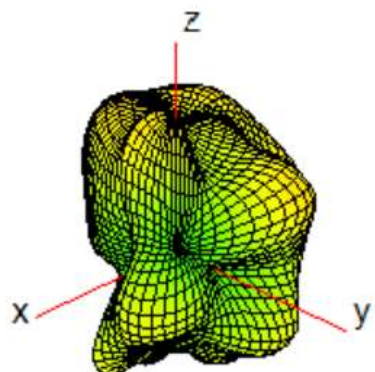
WWAN SKU Ant.6 performance		
Ant.6	Avg. Gain	Peak Gain
2300	-7.82	-2.29
2305	-7.56	-2.06
2310	-7.34	-1.88
2315	-7.14	-1.69
2350	-6.00	-1.42
2355	-5.98	-1.46
2360	-6.05	-1.57
2400	-5.48	-2.06
2496	-4.21	-2.29
2500	-4.43	-2.34
2535	-4.34	-1.57
2570	-4.26	-1.08
2593	-4.28	-0.68
2595	-4.33	-0.68
2620	-4.30	-0.54
2655	-4.31	-0.51
2690	-4.24	-0.98

◆ Antenna 3D Radiation Pattern

◆ Frequency : 2300MHz



Frequency : 2690MHz

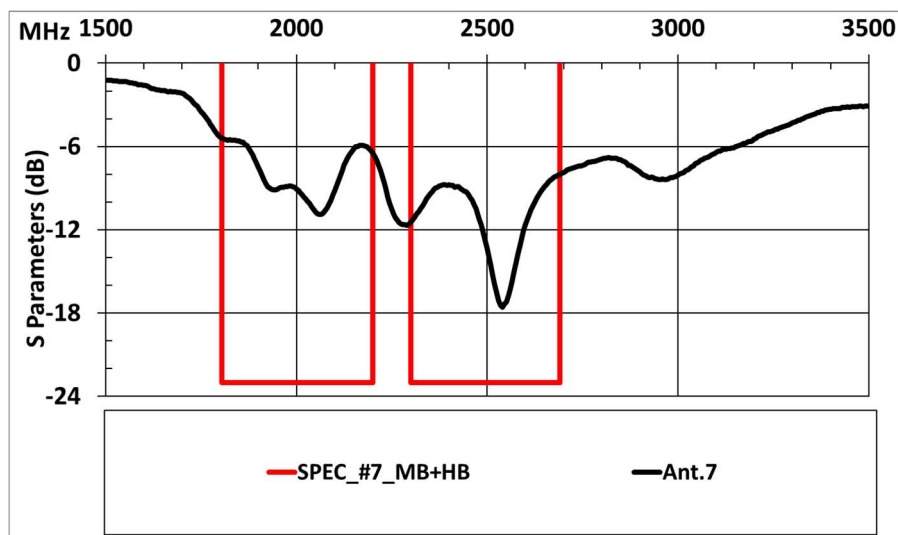


8. Ant.7(RX antenna)

◆ Description

Frequency Range	1805~2200MHz, 2300~2690MHz.
Impedance	50Ω
Return Loss	As shown below S11
Peak Gain	N/A
Admitted Power	N/A
Cable	N/A
Antenna Type	PIFA
Connector	N/A
Process	LDS

◆ Antenna Return Loss



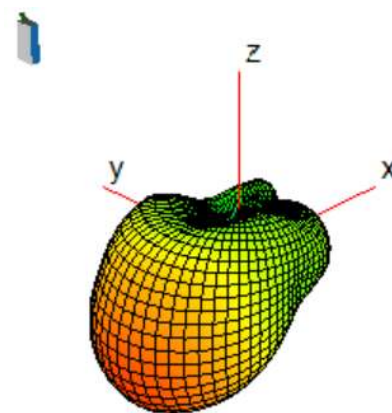
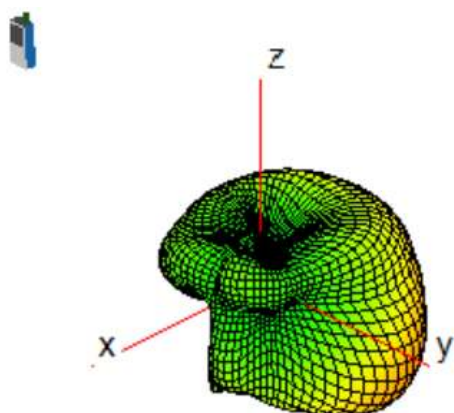
◆ Antenna Efficiency(test in anechoic chamber)

WWAN SKU Ant.7 performance		
Ant.7	Avg. Gain	Peak Gain
1805	-5.23	
1843	-4.01	
1880	-3.85	
1900	-4.14	
1920	-4.92	
1930	-4.75	
1960	-4.56	
1963	-4.58	
1990	-4.33	
1995	-4.30	
2110	-4.79	
2133	-5.83	
2140	-5.87	
2155	-5.85	
2170	-5.80	
2200	-5.80	

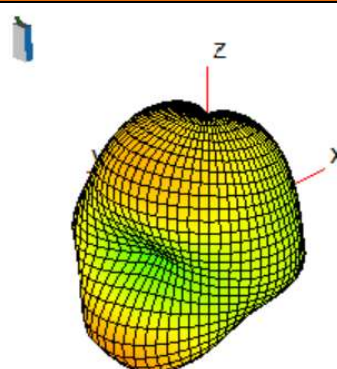
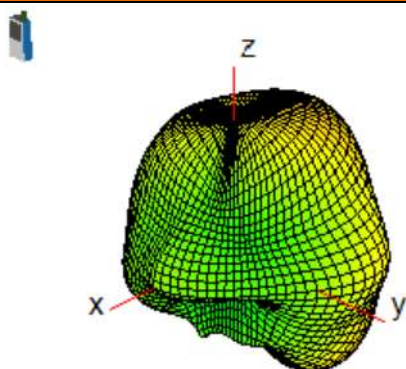
WWAN SKU Ant.7 performance		
Ant.7	Avg. Gain	Peak Gain
2300	-5.90	
2350	-6.27	
2355	-6.31	
2360	-6.46	
2400	-6.51	
2496	-5.22	
2570	-5.17	
2593	-5.49	
2595	-5.52	
2620	-5.80	
2655	-5.84	
2690	-6.37	

◆ Antenna 3D Radiation Pattern

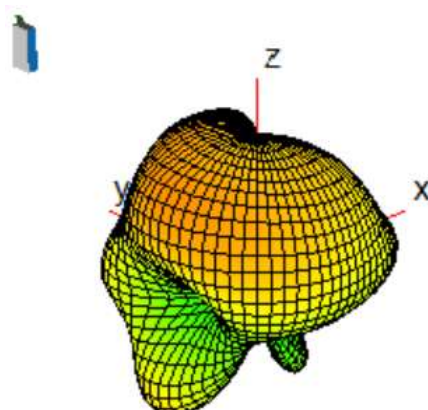
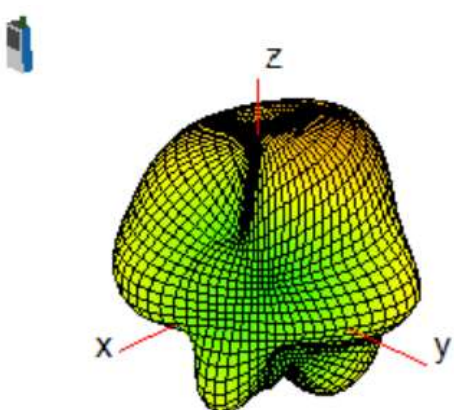
◆ Frequency : 1805MHz



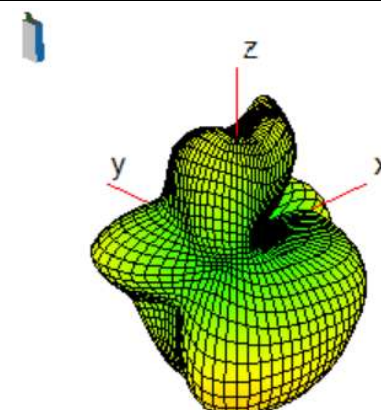
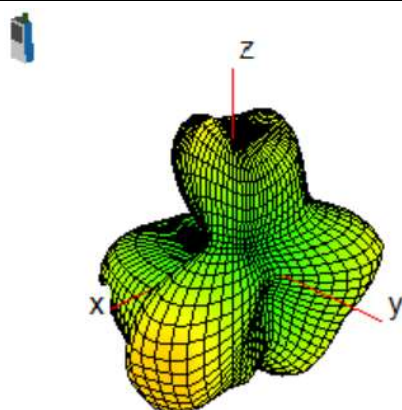
Frequency : 2200MHz



Frequency : 2300MHz



Frequency : 2690MHz

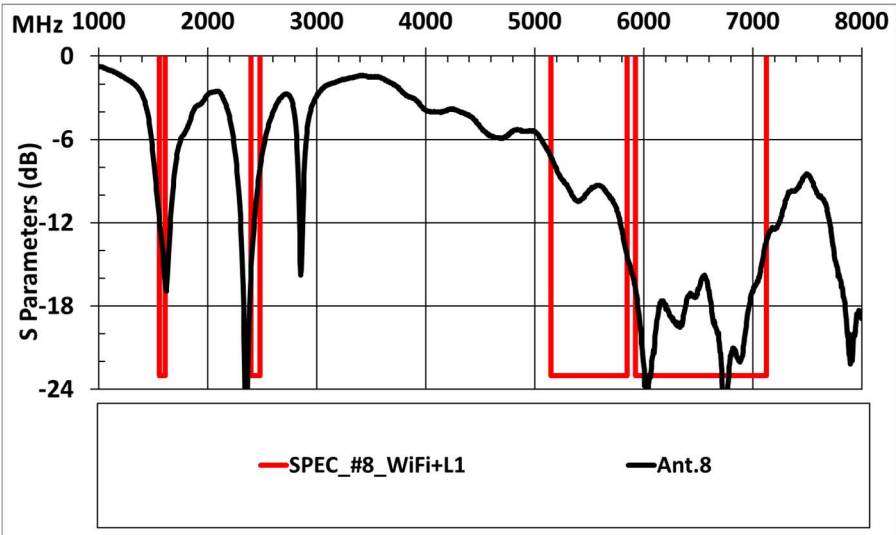


9. Ant.8(GPS L1+ Wifi6e)

◆ Description

Frequency Range	1559~1610MHz, 2402~2472MHz, 5180~7125MHz.
Impedance	50Ω
Return Loss	As shown below S11
Peak Gain	3.22dBi @ 7125MHz(test in anechoic chamber)
Admitted Power	N/A
Cable	N/A
Antenna Type	PIFA
Connector	N/A
Process	LDS

◆ Antenna Return Loss

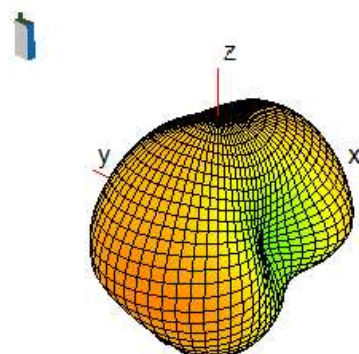
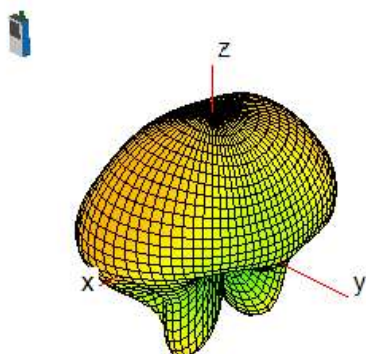


◆ Antenna Efficiency(test in anechoic chamber)

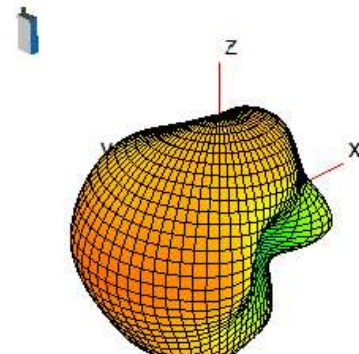
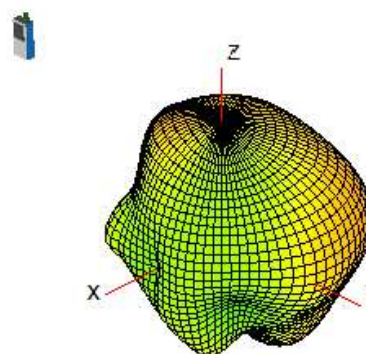
WWAN SKU Ant.8 performance		
Ant.8	Avg. Gain	Peak Gain
1559	-4.25	
1585	-4.17	
1606	-3.76	
1610	-3.72	
2402	-3.70	2.00
2442	-3.50	1.90
2472	-3.30	2.40
5150	-4.10	1.60
5250	-4.10	1.70
5350	-4.00	1.80
5470	-4.10	1.90
5725	-3.40	2.30
5850	-3.10	2.40
5925	-2.70	3.20
6425	-2.70	3.20
6525	-2.90	2.40
6875	-2.60	2.90
7125	-2.80	3.40

◆ Antenna 3D Radiation Pattern

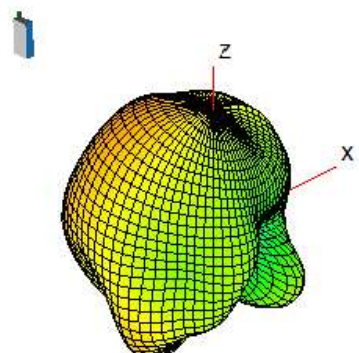
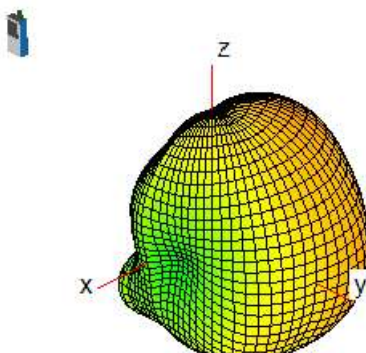
◆ Frequency : 1585MHz



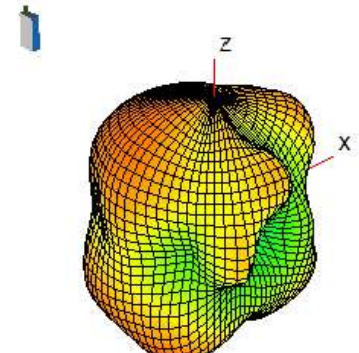
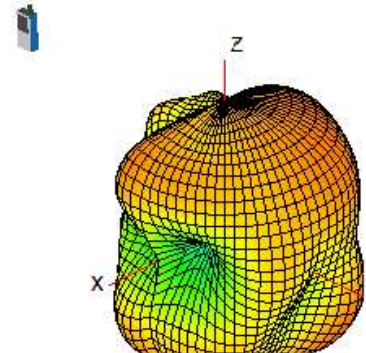
Frequency : 2442MHz



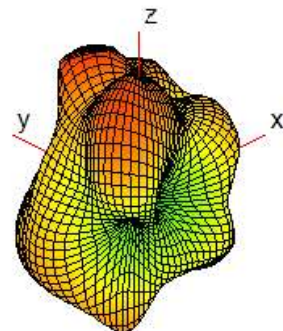
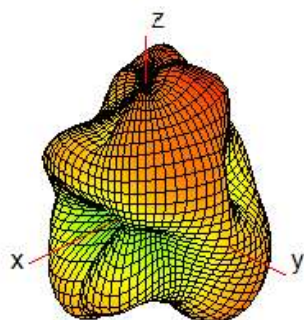
Frequency : 5180MHz



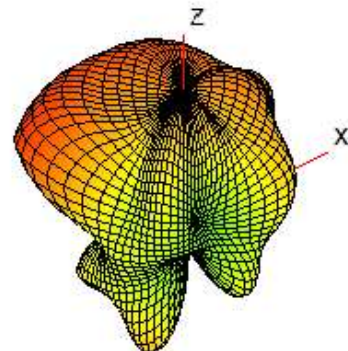
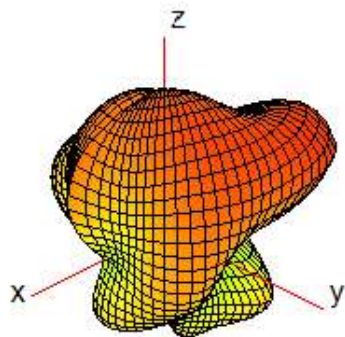
Frequency : 5925MHz



Frequency : 6225MHz



Frequency : 7125MHz

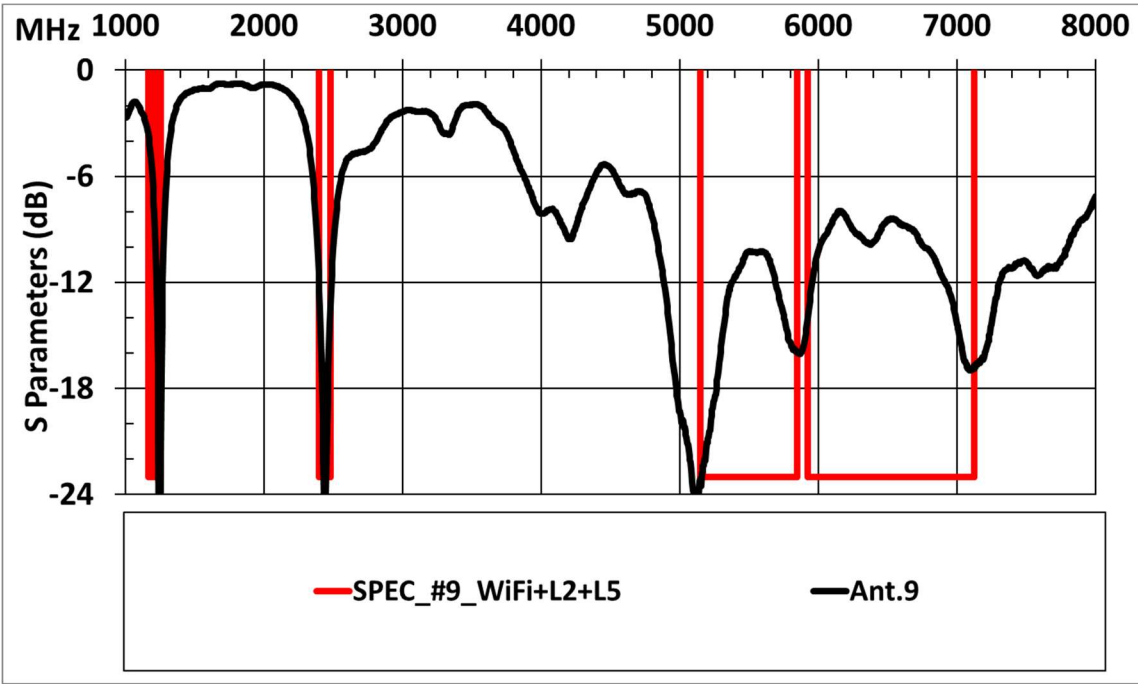


10.Ant. 9(GPS L2/ L5+ Wifi6e)

◆ Description

Frequency Range	1164~1254MHz, 2402~2472MHz, 5180~7125MHz.
Impedance	50Ω
Return Loss	As shown below S11
Peak Gain	3.8dBi @ 5925MHz(test in anechoic chamber)
Admitted Power	N/A
Cable	N/A
Antenna Type	PIFA
Connector	N/A
Process	LDS

◆ Antenna Return Loss

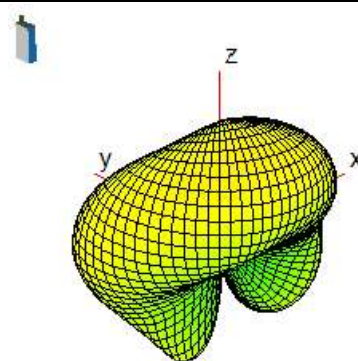
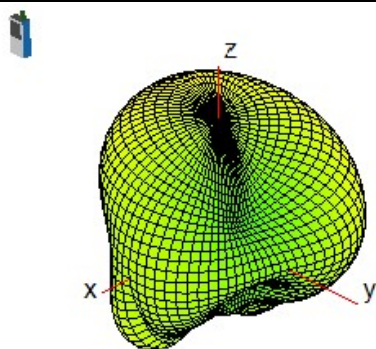


◆ Antenna Efficiency(test in anechoic chamber)

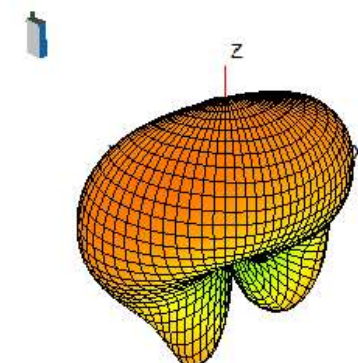
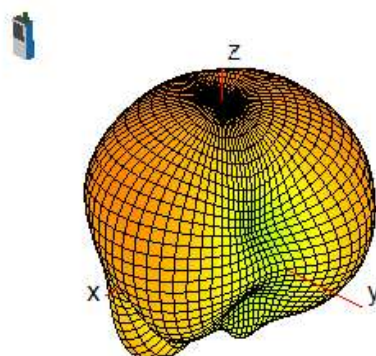
WWAN SKU Ant.9 performance		
Ant.9	Avg. Gain	Peak Gain
1164	-4.43	
1176	-3.85	
1214	-3.49	
1215	-3.44	
1227	-3.25	
1254	-2.90	
2402	-3.30	1.60
2442	-2.70	2.20
2472	-2.60	2.50
5150	-3.20	1.90
5250	-3.10	2.50
5350	-3.00	3.10
5470	-2.90	3.70
5725	-3.20	3.20
5850	-3.40	2.90
5925	-3.30	3.90
6425	-3.20	3.80
6525	-2.70	3.10
6875	-2.40	3.30
7125	-2.30	3.90

◆ Antenna 3D Radiation Pattern

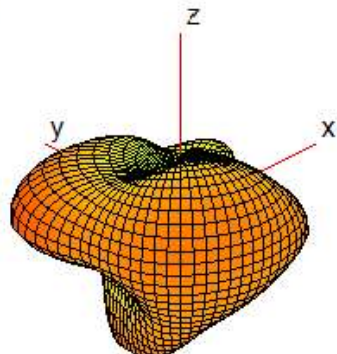
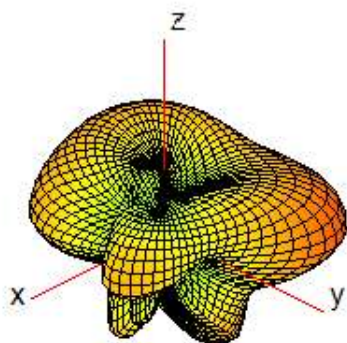
◆ Frequency : 1164MHz



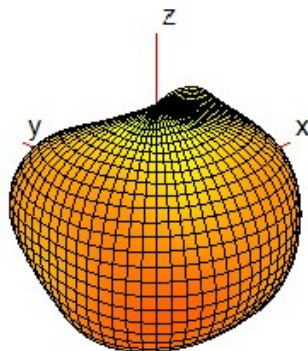
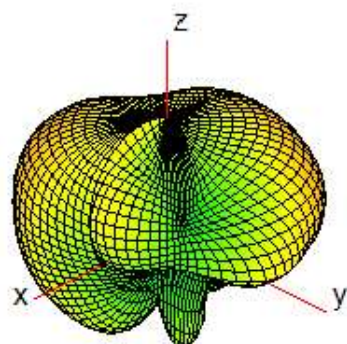
Frequency : 1254MHz



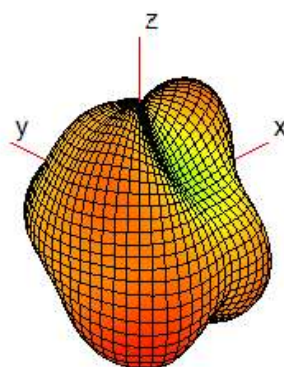
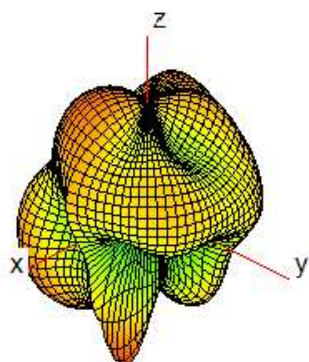
Frequency : 2442MHz



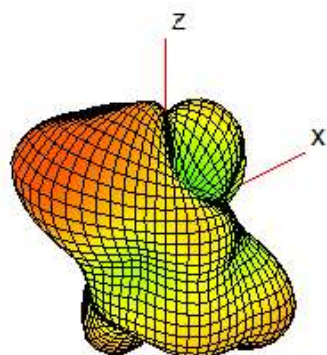
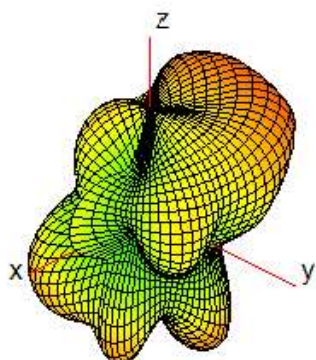
Frequency : 5180MHz



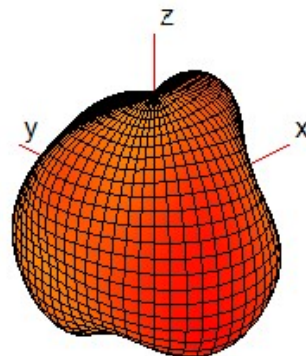
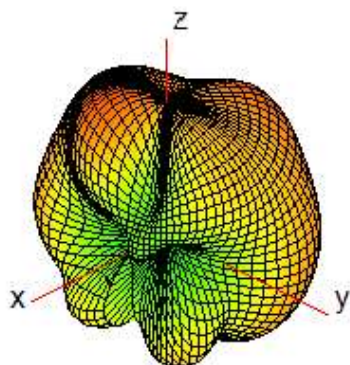
Frequency : 5925MHz



Frequency : 6225MHz



Frequency : 7125MHz

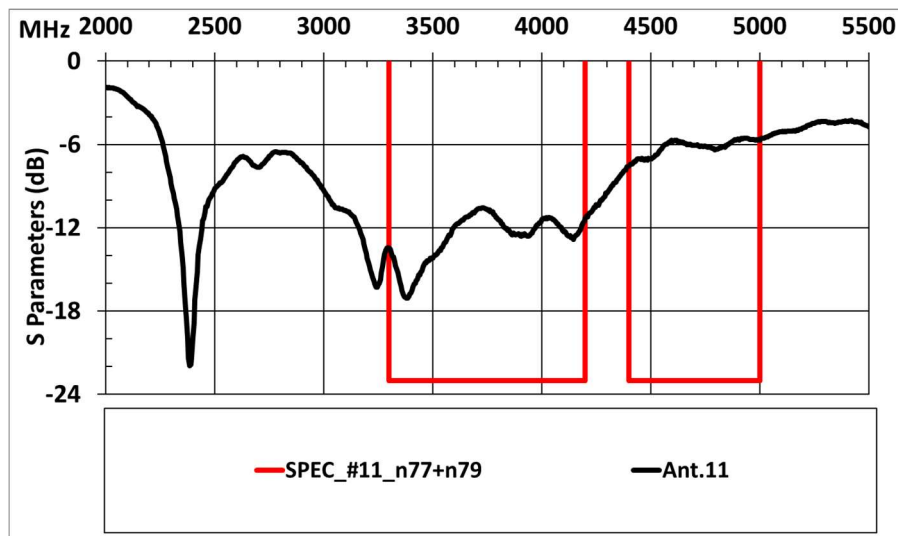


11.Ant.11(TX antenna)

◆ Description

Frequency Range	3300~4200MHz, 4400~5000MHz.
Impedance	50Ω
Return Loss	As shown below S11
Peak Gain	1.1dBi @ 3500MHz(test in anechoic chamber)
Admitted Power	N/A
Cable	N/A
Antenna Type	Loop
Connector	N/A
Process	LDS

◆ Antenna Return Loss

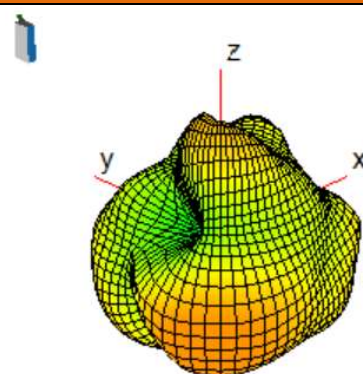
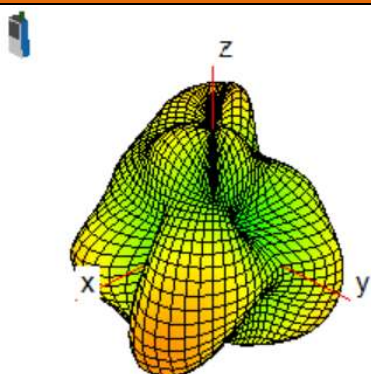


◆ Antenna Efficiency(test in anechoic chamber)

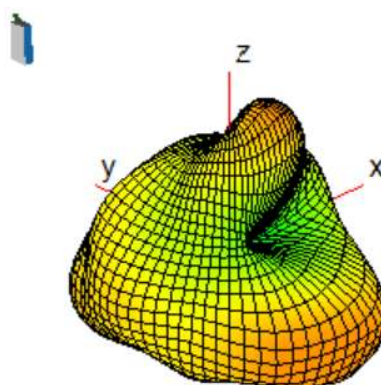
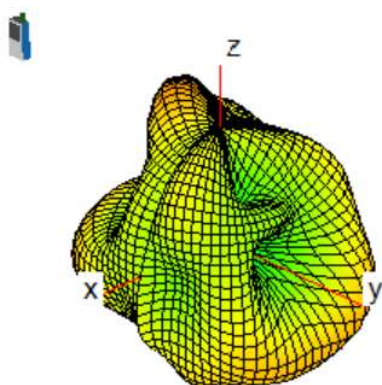
WWAN SKU Ant.11 performance		
Ant.11	Avg. Gain	Peak Gain
3300	-3.70	-0.11
3400	-3.12	0.60
3500	-2.96	1.10
3550	-3.34	0.89
3600	-3.27	0.55
3625	-3.44	0.50
3700	-4.08	-0.46
3750	-4.05	-0.72
3800	-3.90	0.15
4200	-3.36	-0.20
4400	-5.96	-1.51
4700	-5.66	-1.04
5000	-3.66	1.04

◆ Antenna 3D Radiation Pattern

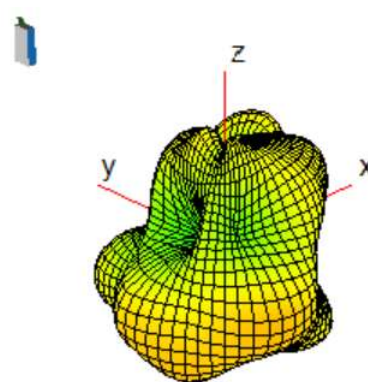
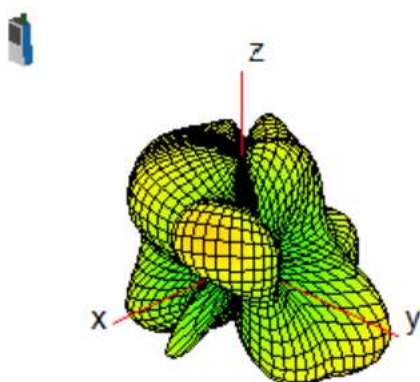
◆ Frequency : 3300MHz



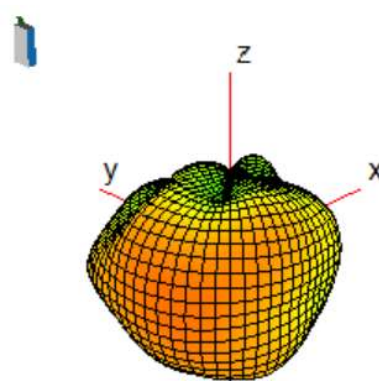
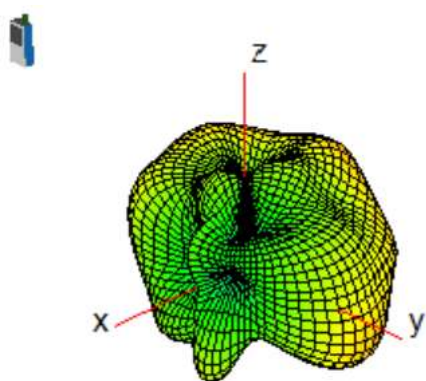
Frequency : 4200MHz



Frequency : 4400MHz



Frequency : 5000MHz

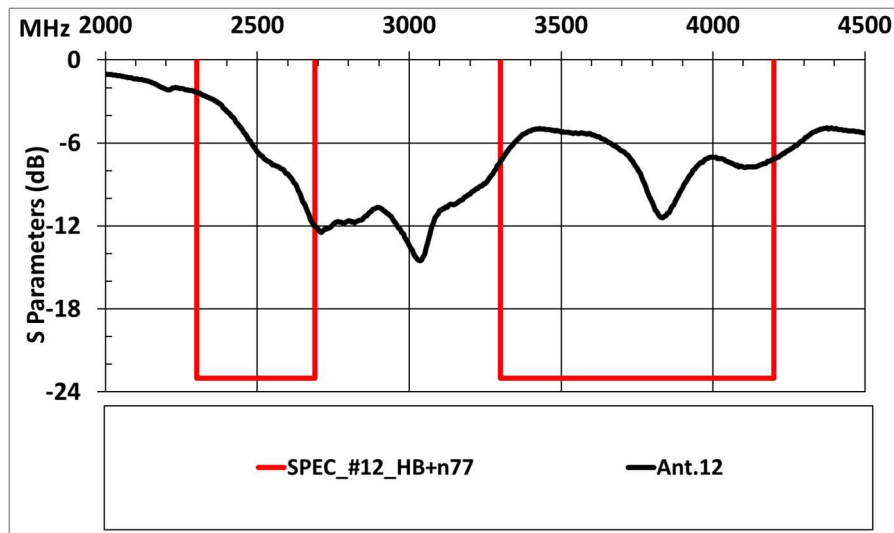


12. Ant.12(TX antenna)

◆ Description

Frequency Range	2300~2690MHz, 3300~4200MHz.
Impedance	50Ω
Return Loss	As shown below S11
Peak Gain	2.12dBi @ 2496MHz(test in anechoic chamber)
Admitted Power	N/A
Cable	N/A
Antenna Type	PIFA
Connector	N/A
Process	LDS

◆ Antenna Return Loss



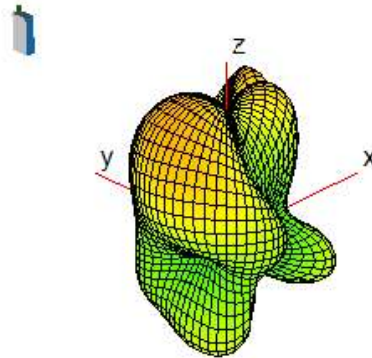
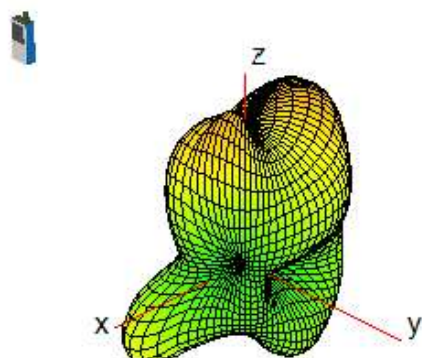
◆ Antenna Efficiency(test in anechoic chamber)

WWAN SKU Ant.12 performance		
Ant.12	Avg. Gain	Peak Gain
2300	-6.76	-1.91
2305	-6.66	-1.86
2310	-6.67	-1.74
2315	-6.63	-1.58
2350	-6.12	-1.17
2355	-6.01	-1.19
2360	-6.07	-1.32
2400	-5.02	-0.15
2496	-3.67	2.12
2500	-3.69	2.09
2535	-3.97	1.90
2570	-4.55	1.73
2593	-4.79	1.63
2595	-4.82	1.57
2620	-4.86	1.48
2655	-4.70	1.00
2690	-4.06	0.87

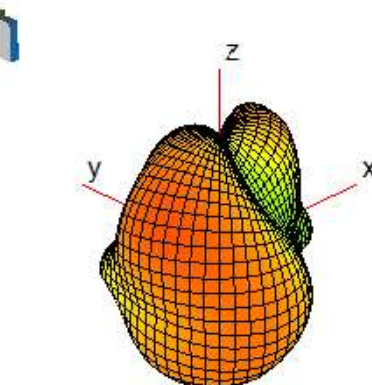
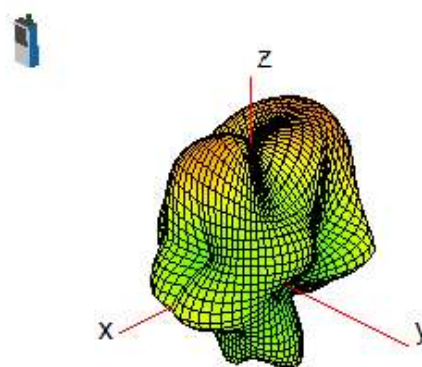
WWAN SKU Ant.12 performance		
Ant.12	Avg. Gain	Peak Gain
3300	-4.40	-0.96
3400	-4.26	-0.79
3500	-3.72	-1.46
3550	-4.21	-1.69
3600	-4.85	-2.11
3625	-5.19	-1.82
3700	-5.47	-2.68
3750	-5.99	-2.50
3800	-6.04	-2.09
4200	-5.30	0.44

◆ Antenna 3D Radiation Pattern

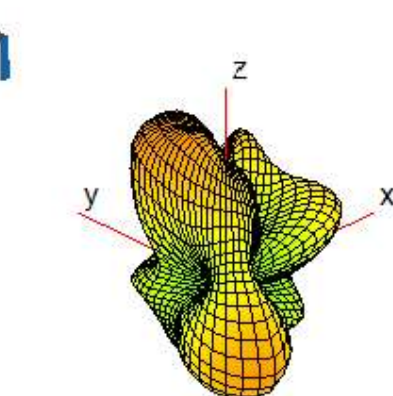
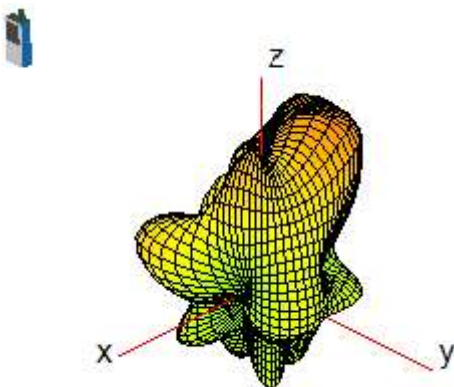
◆ Frequency : 2300MHz



Frequency : 2690MHz



Frequency : 3300MHz



Frequency : 4200MHz

