

KC.IA.00241 (XX-WIFI/GPS)

Antenna Specification

1. Application:

This application shall apply for antenna unit which shall be used such as automotive, conventional communications, smart home, etc..

2. Electrical Specification:

Those specifications were specially defined for customer's model, and all characteristics were measured under the model's handset testing jig .

2-1. Frequency Band:

Frequency Band	MHz
GPS/WIFI2.4/5.8G	1575.42/2400-2500/5150-5850

2-2. Impedance

50 ohm nominal

2-3. VSWR

2-3-1. Measurement frequency points and VSWR value

Frequency Band(MHz)	1575.42	2400	2500	5150	5850
2-3-3. Typical Value:	1.63	1.88	1.33	1.52	2.58

2-3-2. VSWR

Frequency Band(MHz)	1575.42	2400	2500	5150	5850
2-3-3. Typical Value:	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2

UNLESS OTHER SPECIFIED TOLERANCES ON:

X=± X.X=± X.XX=±

ANGLES=± HOLEDIA=±

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SCALE: UNIT: mm

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DESIGNED BY: De wen APPROVED BY: YS

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2-3-4 Measuring Method	1. A 50 Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the VSWR. 2. Keeping this jig away from metal at least 20 cm
2-3-5 Picture	

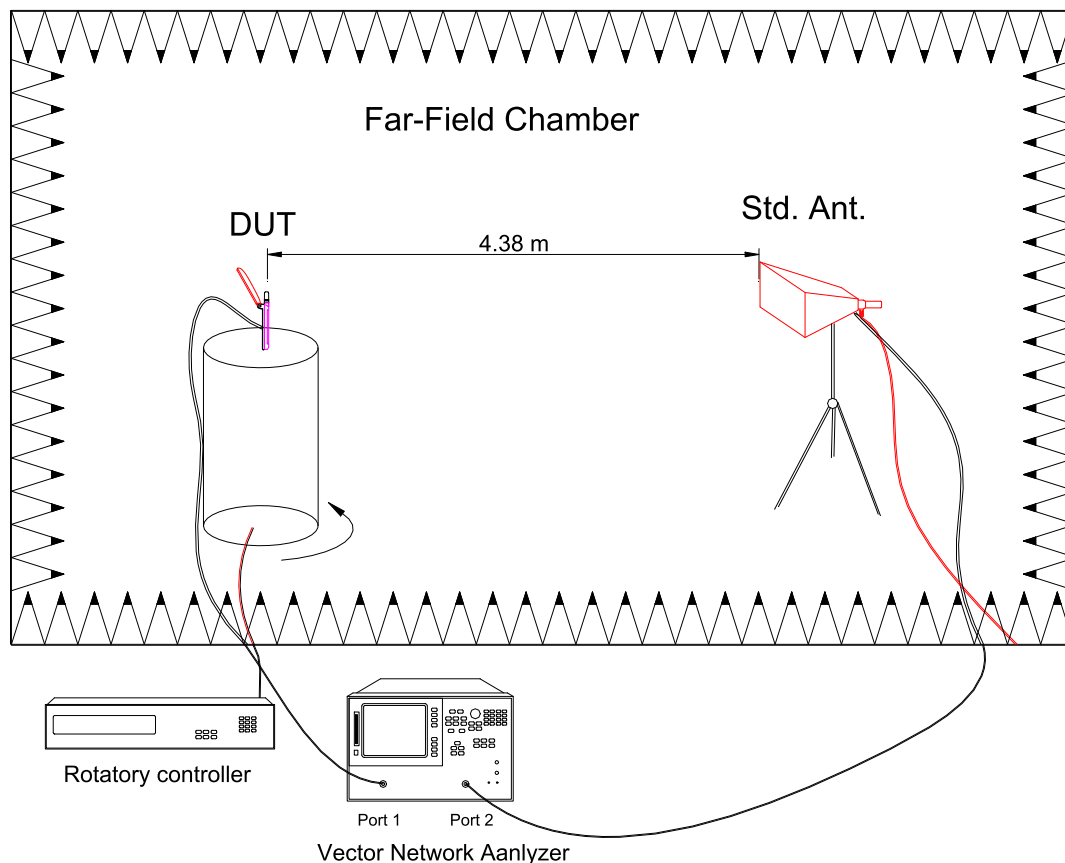
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2-4. Efficiency and Gain

4-5.1 Measure method

1. Using a low loss coaxial cable to link a standard handset jig
2. Fixed this handset jig on chamber's rotator plane
3. Linking jig into network analyzer port and using a probing horn antenna to collect data.
4. Using another standard gain horn antenna to calibrated those data

4-5.2 Chamber definition



1. An anechoic chamber (7mx4mx3m) which satisfied far-field condition was applied to avoid multi-path effect
2. The quite room region is 40cmx40cmx40cm at the center of rotator
3. The distance between DUT and standard antenna is 4.38 m
4. Probing antenna (9120D horn antenna) and standard gain horn antenna (BBHA9120 LPF 700MHz ~6GHz)

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2-4-1 Efficiency and Gain

BD

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1559	64.5	-1.9	3.7
1560	64.4	-1.91	3.66
1561	62.9	-2.01	3.53
1562	61.63	-2.1	3.45
1563	60.79	-2.16	3.42

GPS

1573	60.85	-1.5	4.35
1574	62.46	-1.4	4.44
1575	63.64	-1.33	4.52
1576	64.38	-1.29	4.57
1577	64.85	-1.26	4.6

WIFI2.4/5G:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	43.69	-4.73	0.9
2410	46.76	-4.35	0.69
2420	44.47	-4.63	1.09
2430	45.3	-4.52	1.13
2440	41.71	-4.24	1.85
2450	44.16	-3.55	2.55
2460	50.72	-2.95	3.23
2470	45.75	-3.4	2.89
2480	54.58	-2.63	3.44
2490	57.3	-2.42	3.58
2500	52.75	-2.78	3.36

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
5150	52.61	-2.79	3.24
5200	45.23	-3.45	2.74
5250	46.9	-3.29	2.84
5300	52.89	-2.77	3.27
5350	52.08	-2.83	3.26
5400	60.08	-2.21	3.5
5450	59.66	-2.24	2.77
5500	48.08	-3.18	2.4
5550	40.38	-3.94	1.74
5600	40.03	-3.98	2.02
5650	58.82	-2.3	3.38
5700	55.96	-2.52	3
5750	41.99	-3.77	2.49
5800	50.35	-2.98	2.36
5850	50.97	-2.93	2.12

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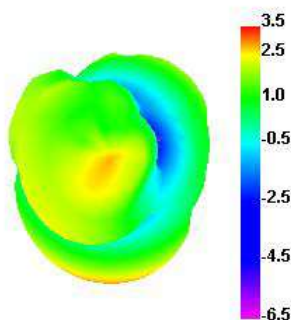
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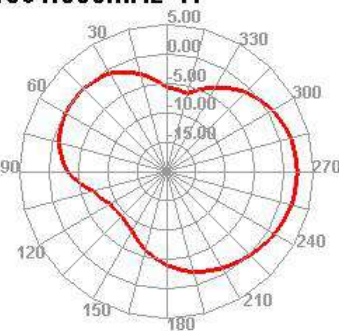
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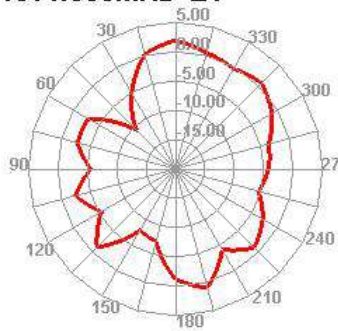
1561.000MHz



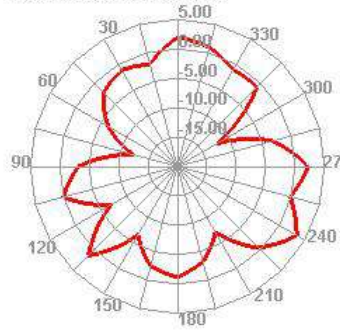
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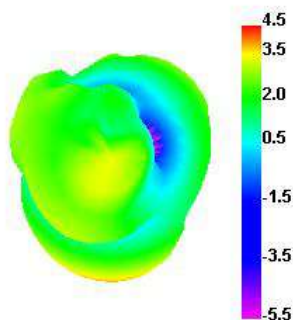
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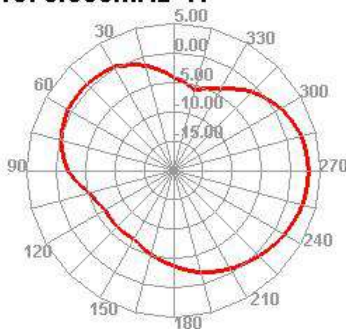
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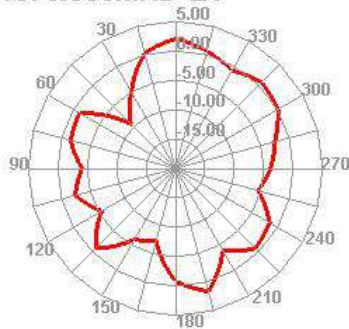
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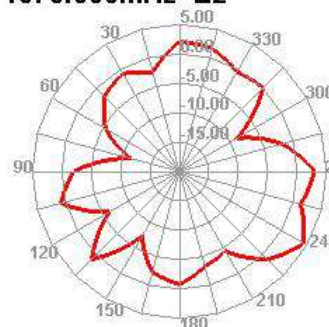
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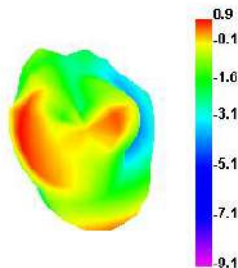
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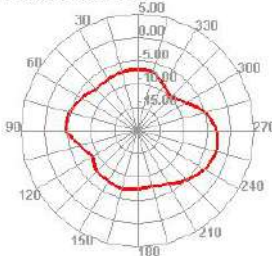
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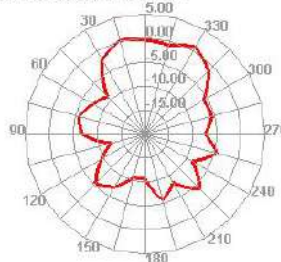
2400.000MHz



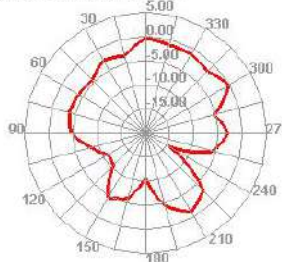
2400.000MHz H



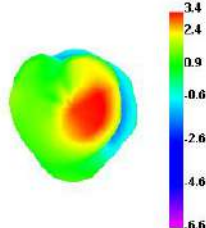
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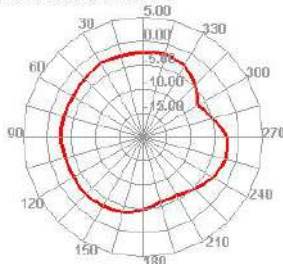
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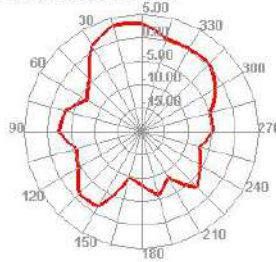
2500.000MHz



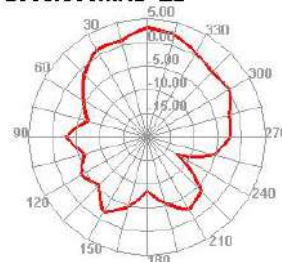
2500.000MHz H



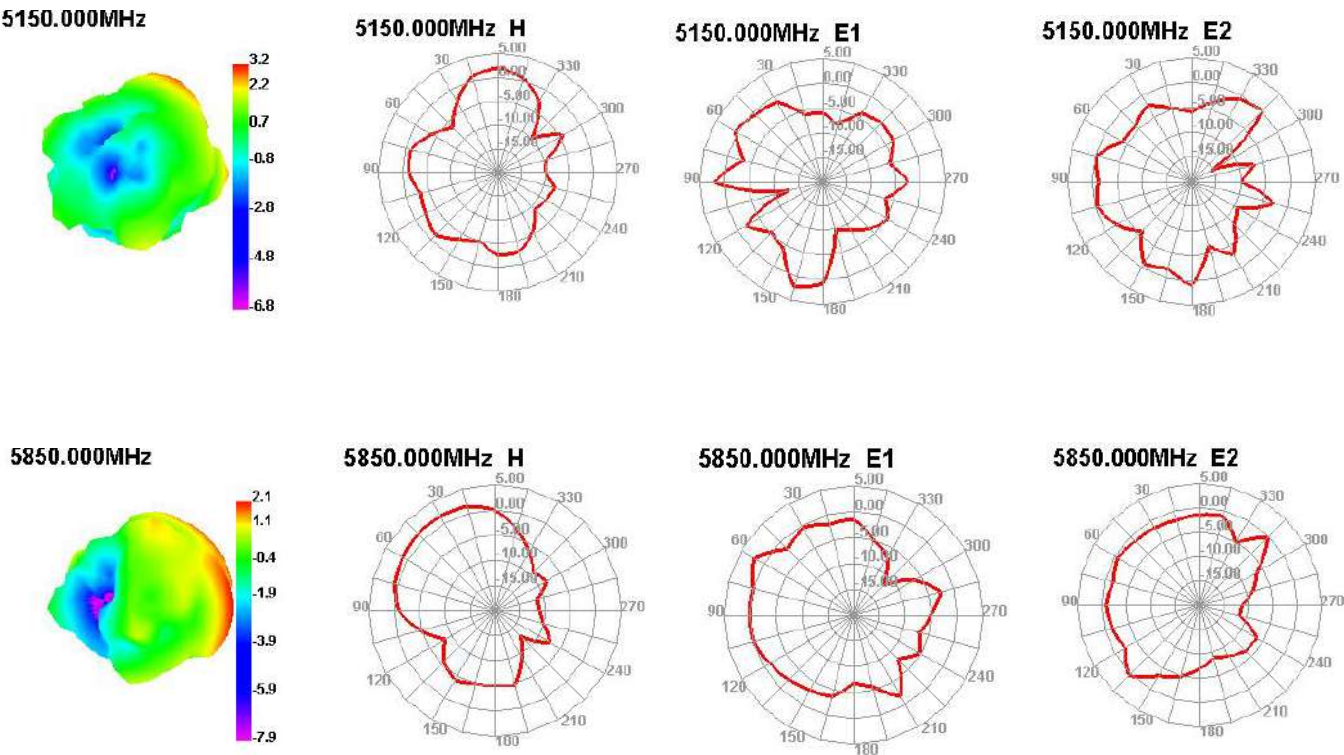
2500.000MHz E1



2500.000MHz E2



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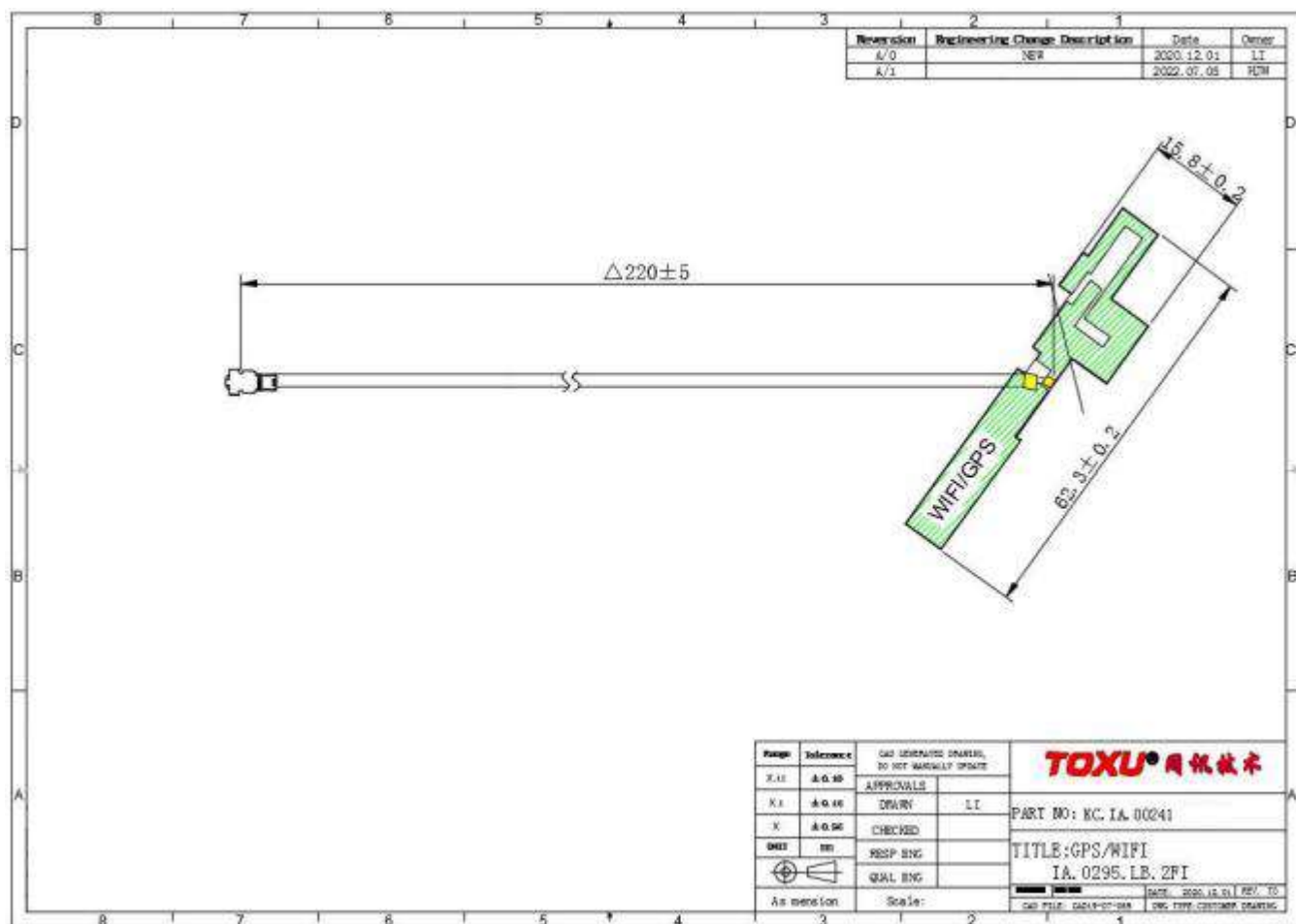


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3. Mechanical Specification:

3-1. Mechanical Configuration (Unit: mm)

The appearance of the antenna is according to drawing



3-2. Connector appearance

IPEX

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