

KC.IA.00382 (THINK DIAG MINI4)

Antenna Specification

1. Application:

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

1. 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
WIFI/BT 2.4G	2400-2500

2-2. Impedance

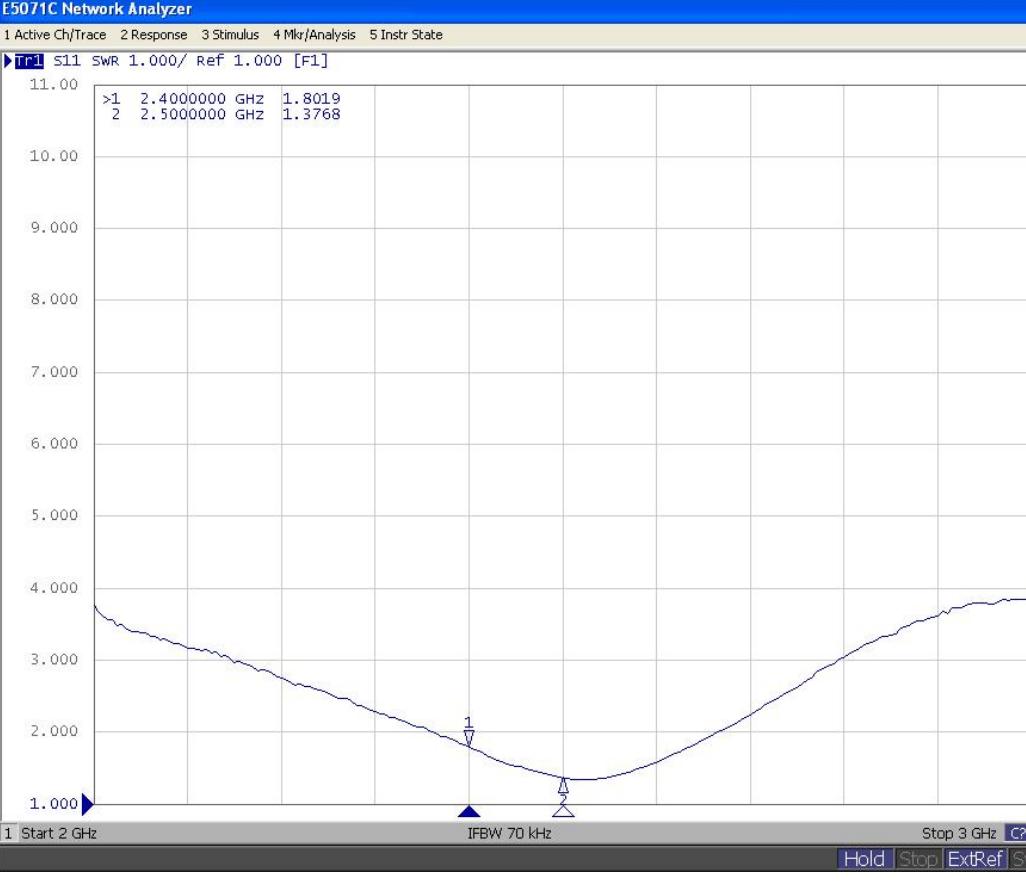
50 ohm nominal

2-3. VSWR

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

Frequency Band(MHz)	2400	2500
2-3-3. Typical Value:	1.8	1.3

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2-3-4 Measuring Method	<ol style="list-style-type: none"> 1. A 50Ω 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	 <p>1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State</p> <p>► TOP S11 SWR 1.000 / Ref 1.000 [F1]</p> <p>11.00 10.00 9.000 8.000 7.000 6.000 5.000 4.000 3.000 2.000 1.000</p> <p>Start 2 GHz Stop 3 GHz IFBW 70 kHz</p> <p>1 Hold Stop ExtRef Stop</p>

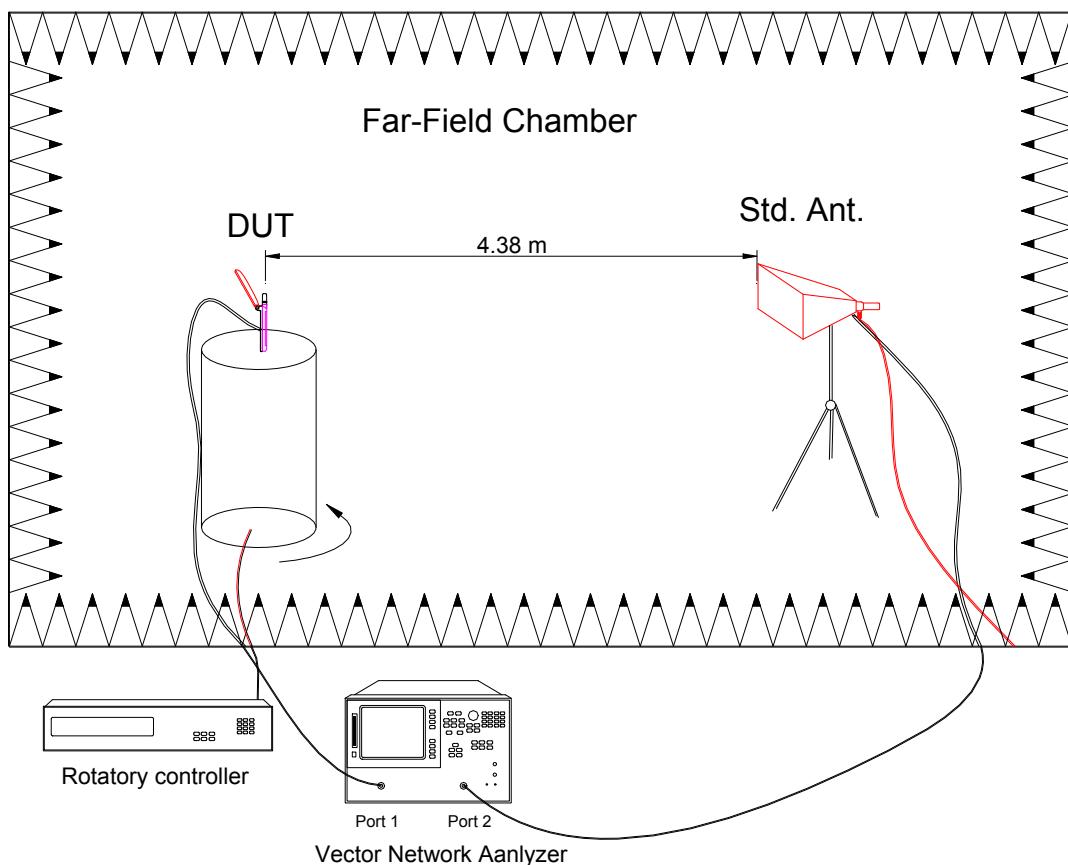
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2-4. Efficiency and Gain

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

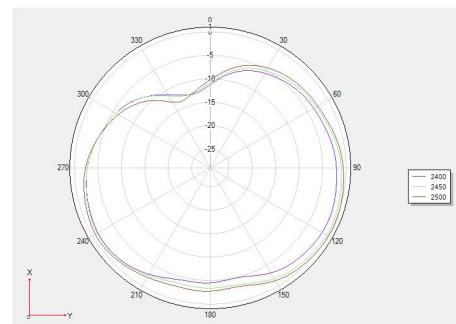
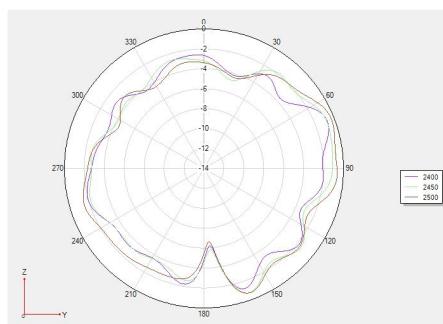
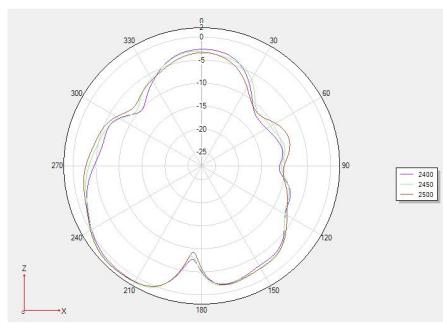
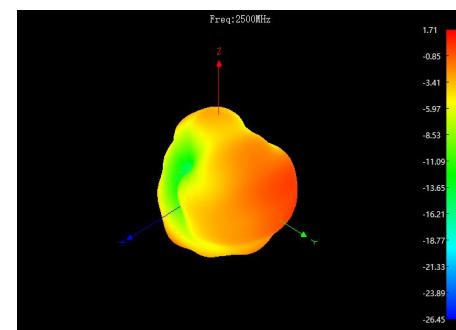
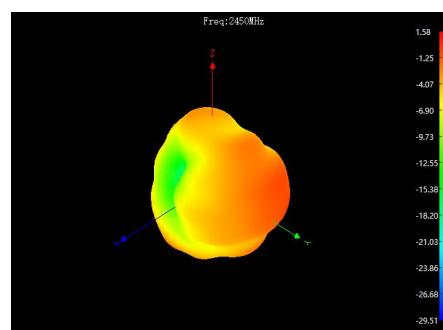
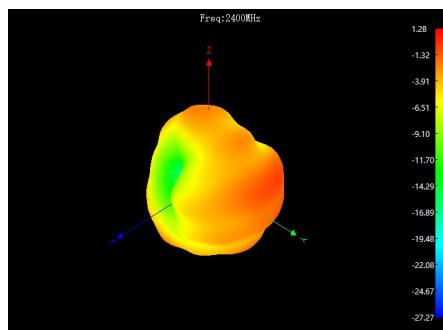


1. An anechoic chamber (7mx4mx3m) which satisfied far-field condition was applied to avoid multi-path effect
2. The quite room region is 40cmx40cmx40cm at the center of rotator
3. The distance between DUT and standard antenna is 4.38 m
4. Probing antenna (9120D horn antenna) and standard gain horn antenna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

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2-4-1 Efficiency and Gain

Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	1.28	51.4
2410	2.3	54.83
2420	1.91	56.49
2430	2.35	54.2
2440	1.67	52.84
2450	1.58	51.4
2460	1.43	52.6
2470	1.35	52.24
2480	1.77	55.98
2490	1.37	56.89
2500	1.71	58.88



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3. Mechanical Specification:

3-1. Mechanical Configuration (Unit: mm)

The appearance of the antenna is according to drawing

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<p>技术要求:</p> <ol style="list-style-type: none"> 1. 电性参数: <ol style="list-style-type: none"> 1. 1: 阻抗50Ω 1. 2: 频段: 2400~250MHz 1. 3: VSWR<2 1. 4: 增益 : 1.5dBi 2: 环境: <ol style="list-style-type: none"> 2. 1: 储存温度:-20 TO +60°C 2. 2: 工作温度:-20 TO +60°C 3: 图中标注 (△)为重点管控尺寸 																																																																																															
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="4" style="text-align: center;">Tolerance</td> <td colspan="2" style="text-align: center;">CNC GENERATED DRAWING, DO NOT MANUALLY UPDATE</td> <td colspan="2" style="text-align: center;">TOXU® 同讯技术</td> </tr> <tr> <td style="text-align: center;">SPEC</td> <td style="text-align: center;">CLASS</td> <td style="text-align: center;">A</td> <td style="text-align: center;">B</td> <td style="text-align: center;">C</td> <td style="text-align: center;">D</td> <td colspan="2"></td> </tr> <tr> <td colspan="6"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">≤8mm</td> <td style="width: 25%;">0.05</td> <td style="width: 25%;">0.1</td> <td style="width: 25%;">0.2</td> </tr> <tr> <td>8~25mm</td> <td>0.08</td> <td>0.15</td> <td>0.3</td> </tr> <tr> <td>25~80mm</td> <td>0.12</td> <td>0.2</td> <td>0.4</td> </tr> <tr> <td>80~250mm</td> <td>0.25</td> <td>0.3</td> <td>0.6</td> </tr> </table> </td> <td colspan="2" style="text-align: center;">APPROVALS</td> </tr> <tr> <td colspan="6"></td> <td colspan="2" style="text-align: center;">DRAWN</td> </tr> <tr> <td colspan="6"></td> <td colspan="2" style="text-align: center;">CHECKED</td> </tr> <tr> <td colspan="6"></td> <td colspan="2" style="text-align: center;">RESP ENG</td> </tr> <tr> <td colspan="6"></td> <td colspan="2" style="text-align: center;">QUAL ENG</td> </tr> <tr> <td colspan="6"></td> <td colspan="2" style="text-align: center;">Scale :</td> </tr> <tr> <td colspan="6"></td> <td colspan="2" style="text-align: center;">DRAW NO. DATE: 2022.11.10 REV. T1 PRINTED CUSTOMER DRAWING</td> </tr> </table>								Tolerance				CNC GENERATED DRAWING, DO NOT MANUALLY UPDATE		TOXU® 同讯技术		SPEC	CLASS	A	B	C	D			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">≤8mm</td> <td style="width: 25%;">0.05</td> <td style="width: 25%;">0.1</td> <td style="width: 25%;">0.2</td> </tr> <tr> <td>8~25mm</td> <td>0.08</td> <td>0.15</td> <td>0.3</td> </tr> <tr> <td>25~80mm</td> <td>0.12</td> <td>0.2</td> <td>0.4</td> </tr> <tr> <td>80~250mm</td> <td>0.25</td> <td>0.3</td> <td>0.6</td> </tr> </table>						≤8mm	0.05	0.1	0.2	8~25mm	0.08	0.15	0.3	25~80mm	0.12	0.2	0.4	80~250mm	0.25	0.3	0.6	APPROVALS								DRAWN								CHECKED								RESP ENG								QUAL ENG								Scale :								DRAW NO. DATE: 2022.11.10 REV. T1 PRINTED CUSTOMER DRAWING	
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4 .Packaging specification:

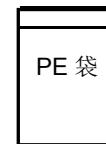
Product number: KC.IA.00382			
Product model: WIFI/BT			
一、Label requirements:			
Customer	xxx		
supplier	xxxxx		
Material coding	xx		
Product model	xx		
Number	XXX PCS	Factory date	X X X
Remarks			

二、Boxing:

Job description:

1. Inner packaging:

XXpcs A bag



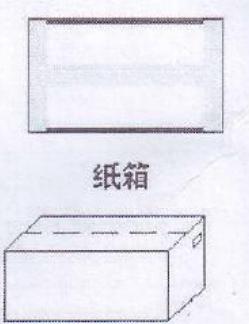
2. External packaging:

Xx PCS ;

3. Matters needing attention:

a. Whether to add partition and pearl cotton;

b. Label attachments, such as ROHS, etc.;



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