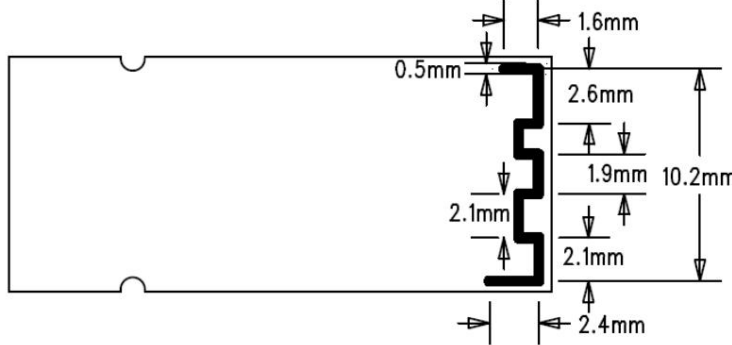


BT560 Bluetooth Antenna Specifications

Xiamen Guyin Communication Technology Co., Ltd.

Document	39-00062	Document version:	Rev A																																				
Number Document	2022/8/22																																						
Release Date	PCB copper foil antenna																																						
Antenna Type Dimensions	 Copper foil line width 0.5mm, total length																																						
Circuit board material	19.5mm FR-4, thickness 0.8mm																																						
center frequency	2450MHz																																						
bandwidth	100MHz(Min.)																																						
Return Loss	-10dB(Max)																																						
Peak Gain:	3.0dBi																																						
Impedance	50 Ohms																																						
Polarization	Linear																																						
Azimuth Beamwidth	Omni-directional																																						
Termination	Cu/Sn (Leadless)																																						
Operating	-40 ~ +110°C																																						
Temperature Soldering	10 sec. @260°C																																						
Tolerance Passive Efficiency	<table><tr><th>Freq.(MHz)</th><th>Peak Gain(dBi)</th><th>Efficiency(%)</th></tr><tr><td>2400</td><td>2.30</td><td>41.6</td></tr><tr><td>2410</td><td>2.46</td><td>42.1</td></tr><tr><td>2420</td><td>2.64</td><td>42.4</td></tr><tr><td>2430</td><td>2.70</td><td>43.2</td></tr><tr><td>2440</td><td>2.81</td><td>45.6</td></tr><tr><td>2450</td><td>3.0</td><td>46.35</td></tr><tr><td>2460</td><td>2.83</td><td>45.2</td></tr><tr><td>2470</td><td>2.62</td><td>44.7</td></tr><tr><td>2480</td><td>2.45</td><td>42.3</td></tr><tr><td>2490</td><td>2.33</td><td>41.6</td></tr><tr><td>2500</td><td>2.12</td><td>40.8</td></tr></table>			Freq.(MHz)	Peak Gain(dBi)	Efficiency(%)	2400	2.30	41.6	2410	2.46	42.1	2420	2.64	42.4	2430	2.70	43.2	2440	2.81	45.6	2450	3.0	46.35	2460	2.83	45.2	2470	2.62	44.7	2480	2.45	42.3	2490	2.33	41.6	2500	2.12	40.8
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	Zhang Ruizhi	Date:	2022/8/15																																				
	Chen Xinzhong	Date:	2022/8/20																																				
Preparation Review Approval	Wang Dong	Date:	2022/8/22																																				

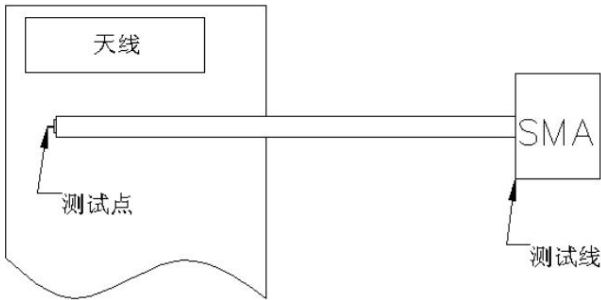
BT560 Onboard PCB Antenna Test Report

1. The actual product

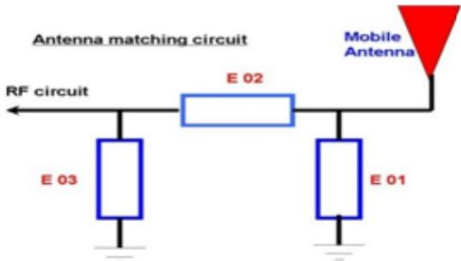


2. Connection method:

Use a 50-ohm coaxial cable, one end is connected to the test point at the rear end of the matching circuit (front end of the RF test hole) on the prototype motherboard, and the other end is connected to the SMA connector. The schematic diagram is as follows:



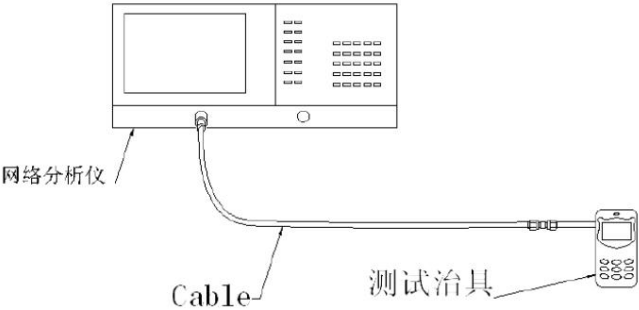
3. Matching circuit



After the RF output of the Bluetooth chip passes through the filter, there is an antenna matching circuit as shown in the figure above, and the red area on the right represents the PCB antenna. The test coaxial cable is connected to the test point on the left. The actual board circuit E02=2.7nH, E01 and E03 are not connected.

4. S11 test Test

equipment: network analyzer (HP 8753E) Test method: use a 50 ohm CABLE cable to export from the test port of the instrument, use the calibration parts to calibrate and connect the SMA connector of the prototype fixture, and record the response corresponding to the relevant frequency point Wave loss and standing wave ratio. The connection diagram is as follows:

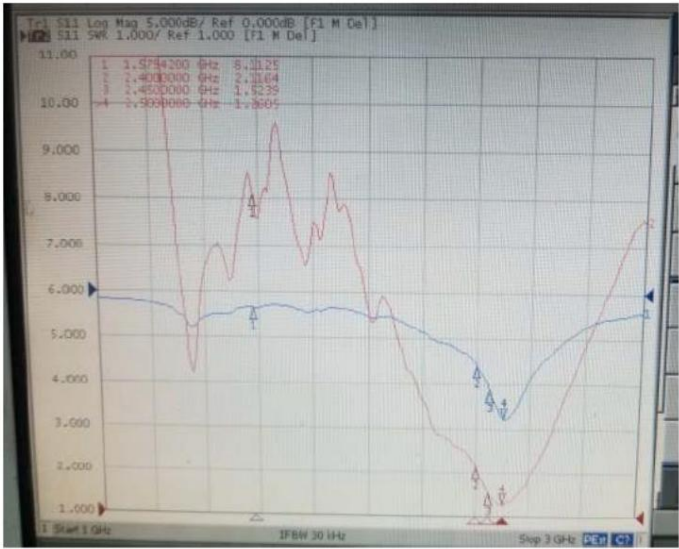


S11 test results:

Frequency (MHz)	VSWR
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2400	2.1
2450	1.5
2500	1.2

VSWR graph:



5. Darkroom test data

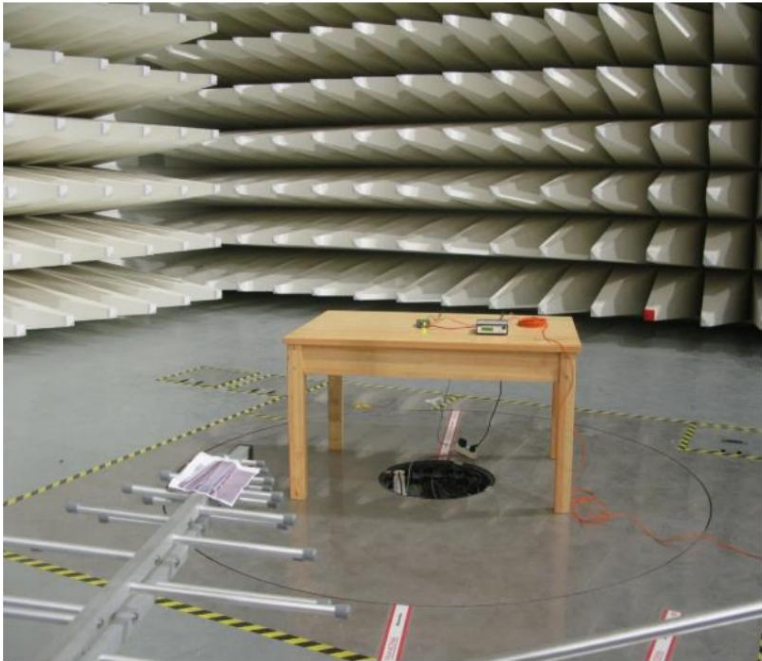
test system: shielded darkroom

Test environment: temperature 22°C±3°C, humidity 50%

±15% Test equipment: When testing passive data, use a network analyzer Agilent

E5062C When testing active data, use a comprehensive tester Agilent

8960 Test site:



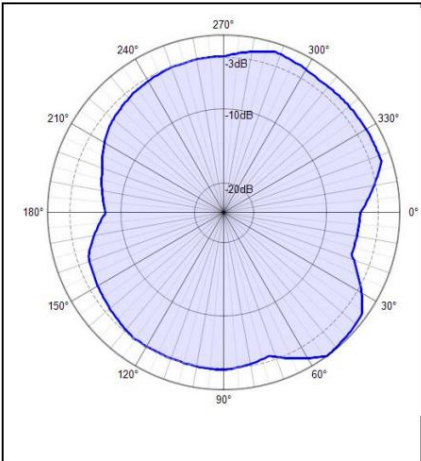
Passive test:

Freq.(MHz)	Peak Gain(dBi)	Efficiency(%)
2400	2.30	41.6
2410	2.46	42.1
2420	2.64	42.4

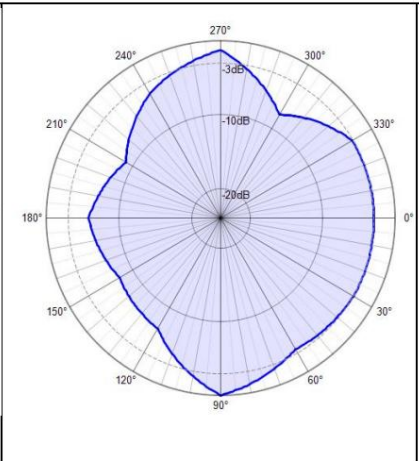
2430	2.70	43.2
2440	2.81	45.6
2450	3.0	46.35
2460	2.83	45.2
2470	2.62	44.7
2480	2.45	42.3
2490	2.33	41.6
2500	2.12	40.8

Direction diagram:

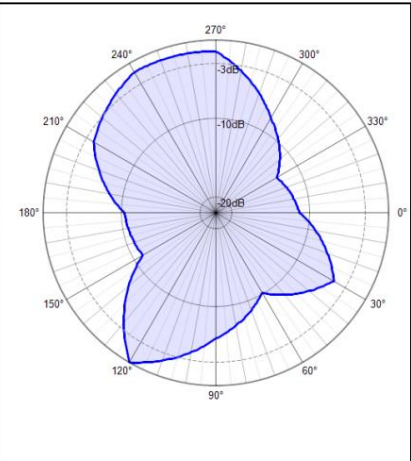
2400MHzH



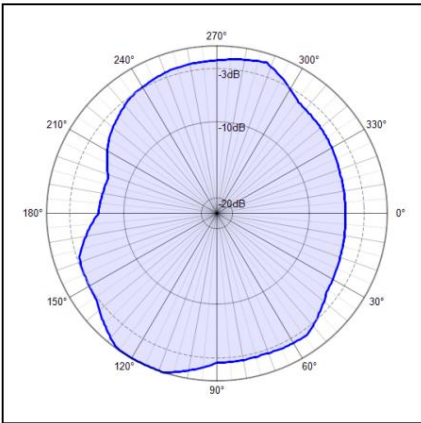
2400MHz E1



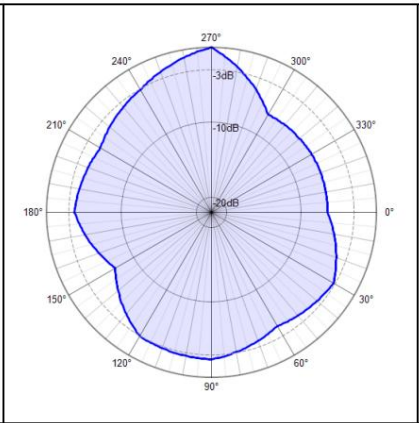
2400MHz E2



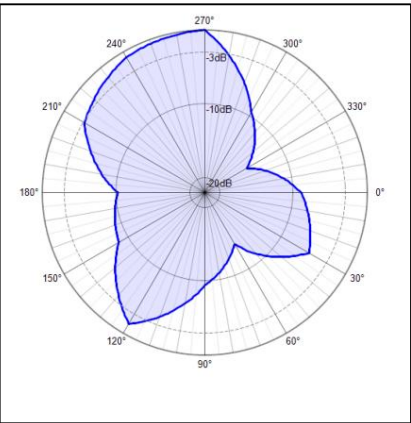
2450MHzH



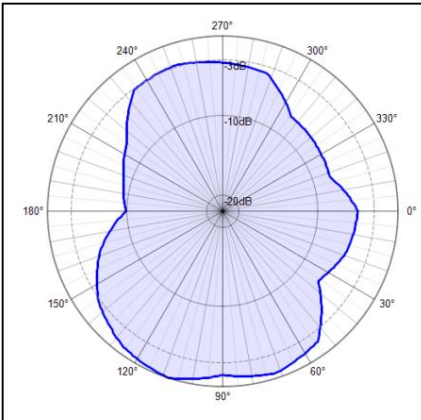
2450MHz E1



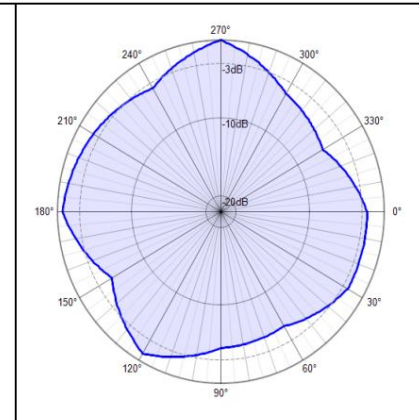
2450MHz E2



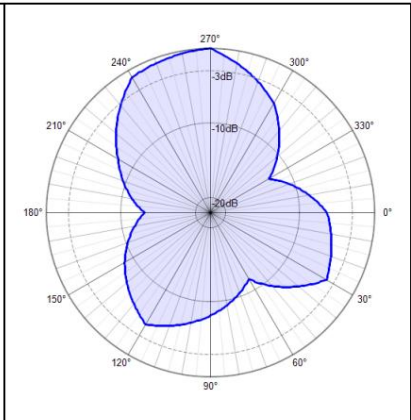
2500MHzH



2500MHz E1



2500MHz E2



test	Zhang Zhenrong	Date:	2022/7/19
approval	Wang Dong	Date:	2022/7/25