

The Main FPC Touch & Antenna Sample Confirmation

Customer	Shenzhen Qiancheng Technology Co., LTD		
Project Name	MH055-R		Date2025-01-11
Project NO.		Notes	FPC
Frequency Range	BT		
Designed By	RF Engineer	Structural Engineer	
Checked By	Engineering Manager		
Client' s Approval			

Designer: SINAWELL Electronics(Shenzhen) Co., Ltd.

Add: 712-717, Block A Jinfulai Building,49-1 Dabao Road,Xinan 28th area,Baoan District,Shenzhen,China

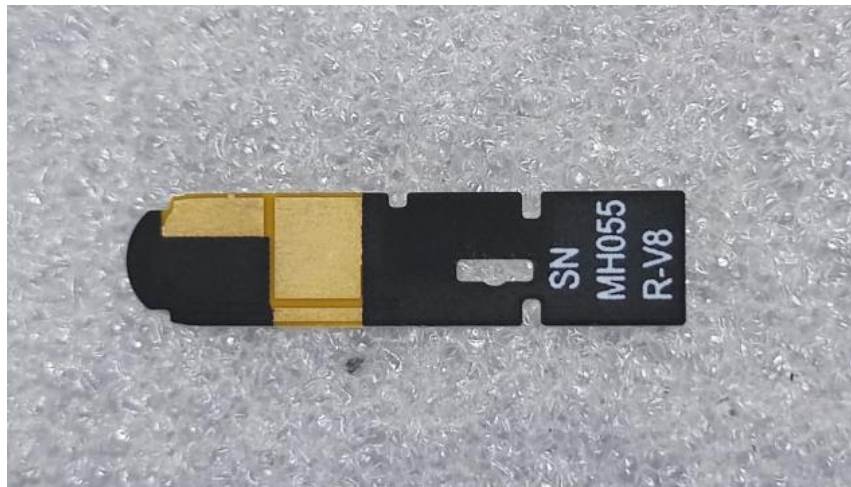
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1. Overview of specification

The specification describes the condition of the MH055-L built-in FPC touch + antenna in the BT frequency band.

2. FPC touch + antenna appearance



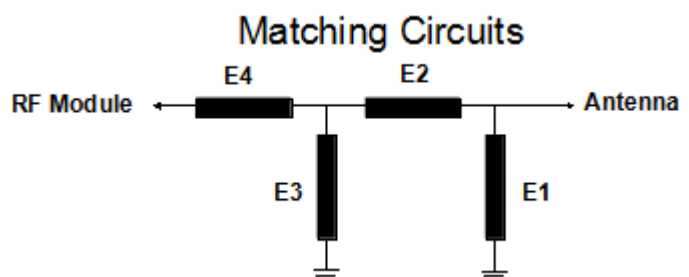
3. electrical property

3.1. Antenna band

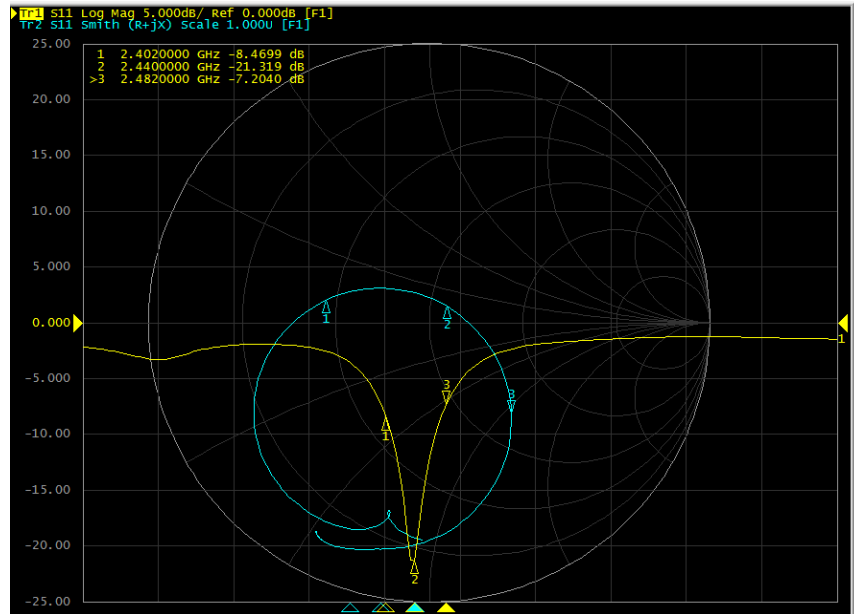
Band	BT
Frequency(MHz)	2400MHz-2482MHz

3.2. matching circuit

Element	Value
E1	1.5pF
E2	0 Ω
E3	NC
E4	0 Ω



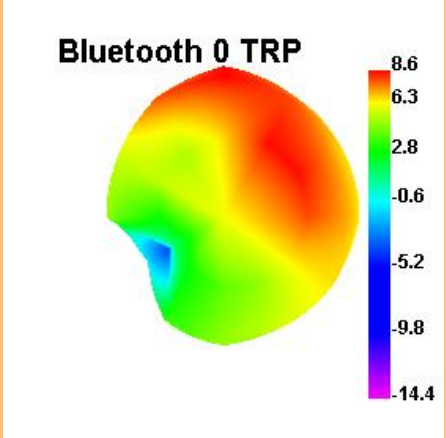
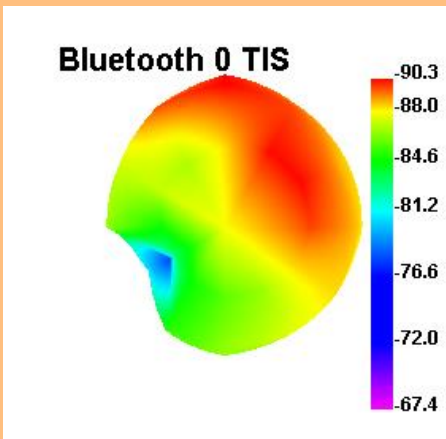
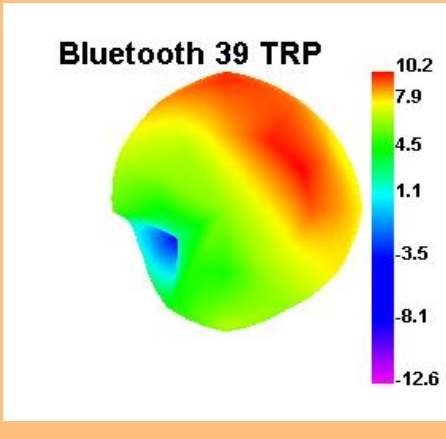
3.3. Return Loss



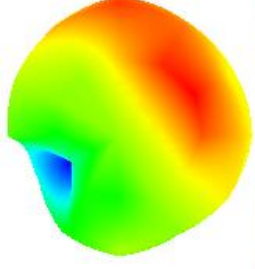
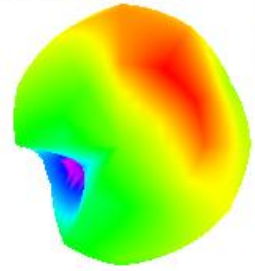
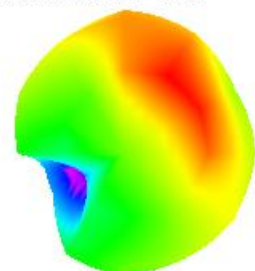
3.4. antenna passive test data

Passive Test For BT			
Freq	Effi	Effi	Gain
(MHz)	(%)	(dB)	(dBi)
2400	27.95	-5.54	-1.7
2410	25.16	-5.99	-2.32
2420	27.15	-5.66	-1.9
2430	28.85	-5.4	-1.6
2440	28.71	-5.42	-1.51
2450	32.12	-4.93	-0.86
2460	33.61	-4.74	-0.68
2470	35.15	-4.54	-0.14
2480	35.09	-4.55	0.78
2490	30.9	-5.1	0.38
2500	27.47	-5.61	-0.15

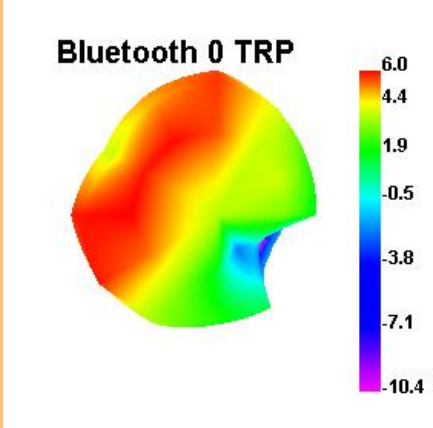
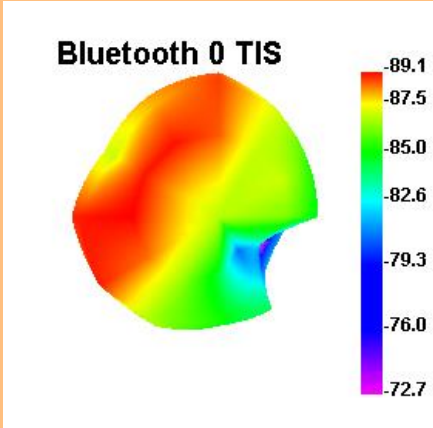
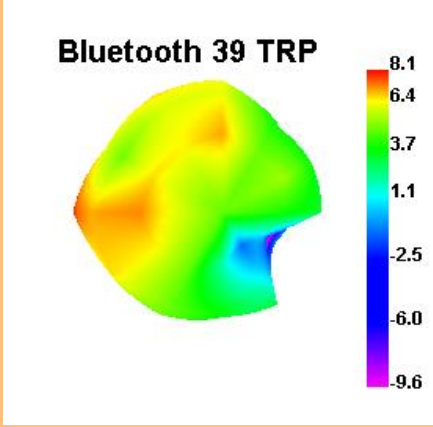
3. 5. antenna active test data (FS)

BT	Channel	3D	Field intensity pattern
TRP	0	3.17	 Bluetooth 0 TRP Color scale: 8.6, 6.3, 2.8, -0.6, -5.2, -9.8, -14.4
TIS	0	-88.68	 Bluetooth 0 TIS Color scale: -90.3, -88.0, -84.6, -81.2, -76.6, -72.0, -67.4
TRP	39	4.28	 Bluetooth 39 TRP Color scale: 10.2, 7.9, 4.5, 1.1, -3.5, -8.1, -12.6

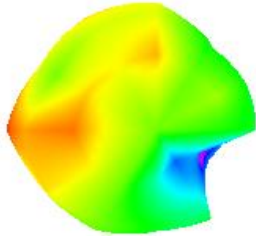
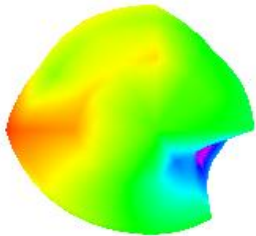
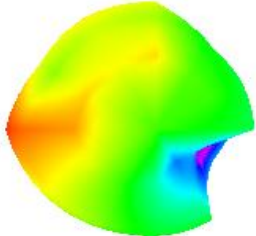
Confirmation of Sample

TIS	39	-88.1	Bluetooth 39 TIS 
TRP	78	5.07	Bluetooth 78 TRP 
TIS	78	-88.49	Bluetooth 78 TIS 

(Head)

BT	Channel	3D	Field intensity pattern
TRP	0	2.29	 Bluetooth 0 TRP Color scale: 6.0, 4.4, 1.9, -0.5, -3.8, -7.1, -10.4
TIS	0	-85.35	 Bluetooth 0 TIS Color scale: -89.1, -87.5, -85.0, -82.6, -79.3, -76.0, -72.7
TRP	39	4.48	 Bluetooth 39 TRP Color scale: 8.1, 6.4, 3.7, 1.1, -2.5, -6.0, -9.6

Confirmation of Sample

TIS	39	-86.1	Bluetooth 39 TIS 
TRP	78	2.53	Bluetooth 78 TRP 
TIS	78	-85.96	Bluetooth 78 TIS 

4.Structural drawings

1	2	3	4	5	6	7	8																														
							<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="4">The third person</td> </tr> <tr> <td>0~10</td> <td>±0.05</td> <td>○</td> <td>0.02</td> </tr> <tr> <td>10~18</td> <td>±0.10</td> <td>●</td> <td>0.03</td> </tr> <tr> <td>18~30</td> <td>±0.12</td> <td>⊥</td> <td>0.02</td> </tr> <tr> <td>30~40</td> <td>±0.15</td> <td>∠</td> <td>0.04</td> </tr> <tr> <td>40~</td> <td>±0.20</td> <td>Angle</td> <td>±0.5°</td> </tr> </table>	The third person				0~10	±0.05	○	0.02	10~18	±0.10	●	0.03	18~30	±0.12	⊥	0.02	30~40	±0.15	∠	0.04	40~	±0.20	Angle	±0.5°						
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Notes: 1. "*" is the key dimension ; 2. Please refer to the drawing if no dimension is indicated; 3. Meet rohs2.0, reach environmental protection requirements. <table border="1" style="width: 50%; border-collapse: collapse;"> <tr> <td>1</td> <td>BT antenna</td> <td>Electrolytic copper One-half substrates</td> <td>Black</td> <td></td> </tr> <tr> <th>No.</th> <th>Part name</th> <th>Material</th> <th>Color</th> <th>Notes</th> </tr> </table>								1	BT antenna	Electrolytic copper One-half substrates	Black		No.	Part name	Material	Color	Notes																				
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