

The Main FPC Touch & Antenna Sample Confirmation

Customer	Shenzhen Qiancheng Technology Co., LTD		
Project Name	MH055-L	Date	2025-01-11
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

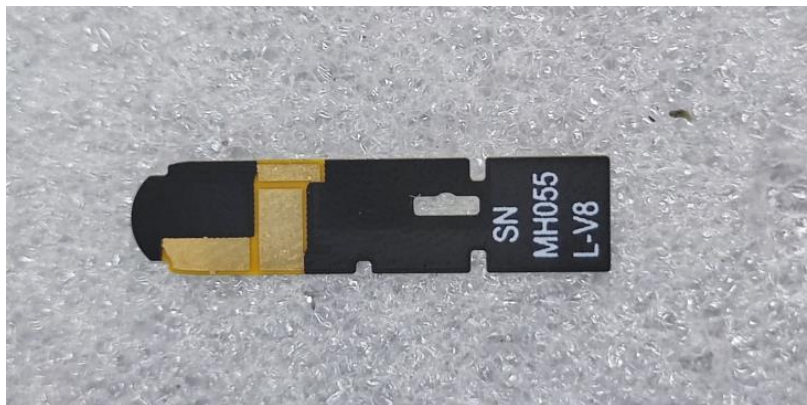
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1. Overview of specification

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

2. FPC touch + antenna appearance



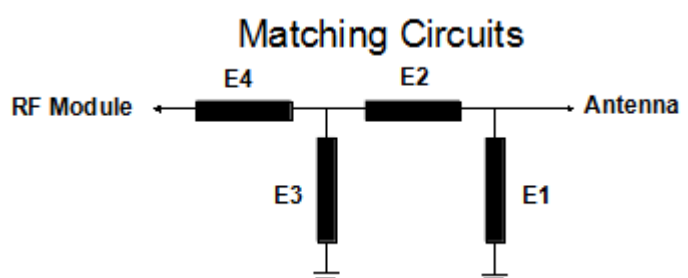
3. electrical property

3.1. Antenna band

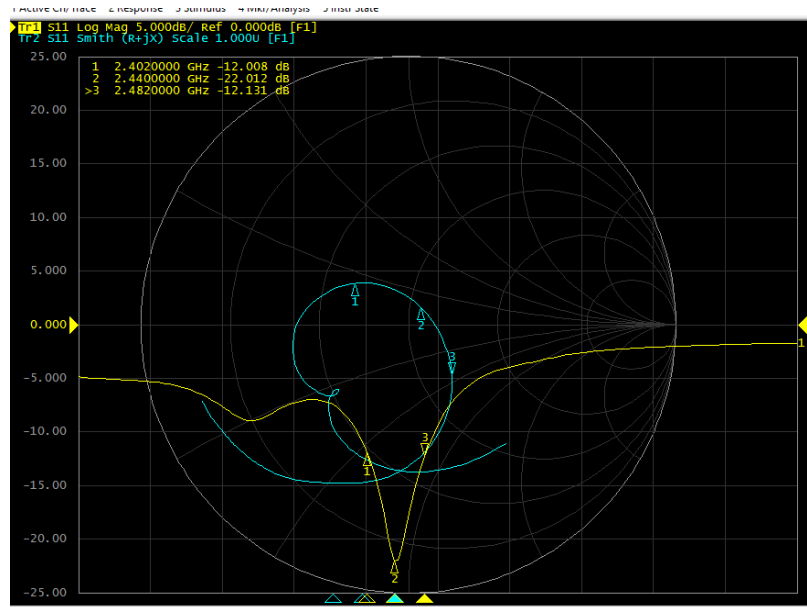
Band	BT
Frequency(MHz)	2400MHz-2482MHz

3.2. matching circuit

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



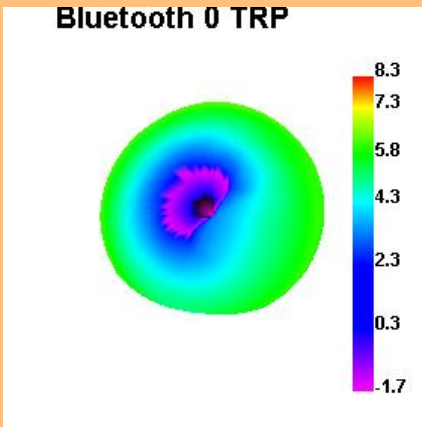
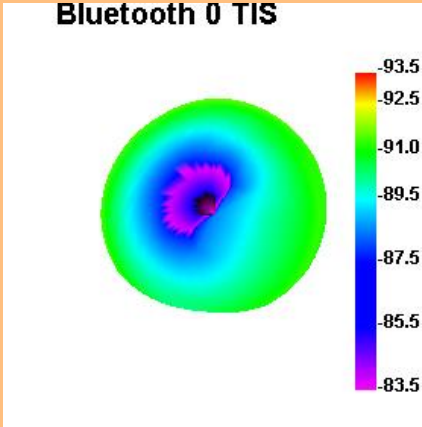
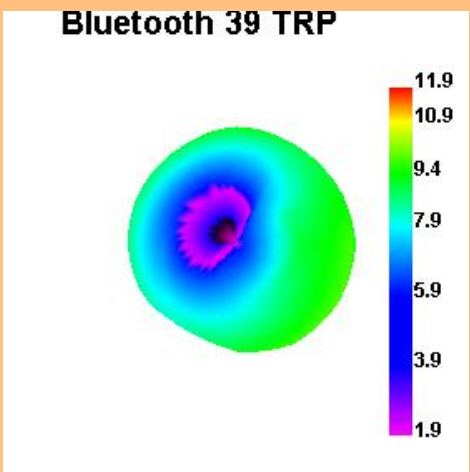
3.3. Return Loss

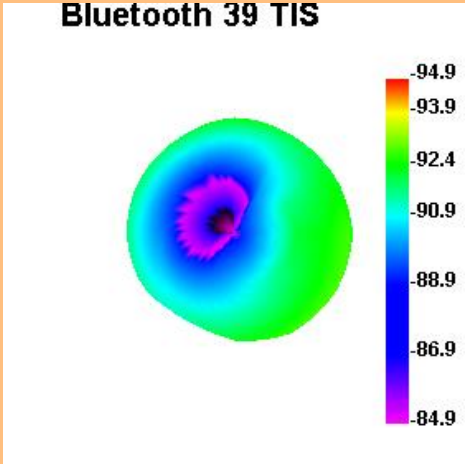
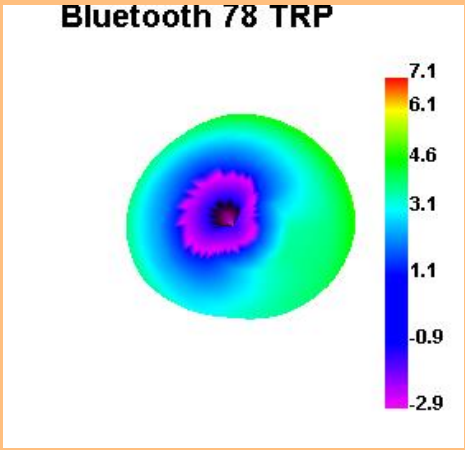
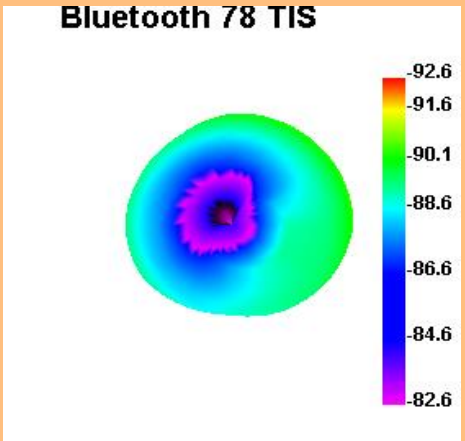


3.4. antenna passive test data

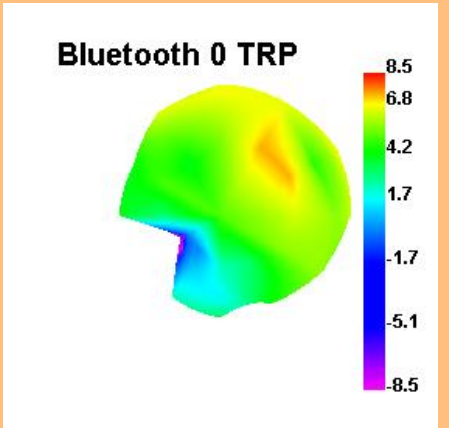
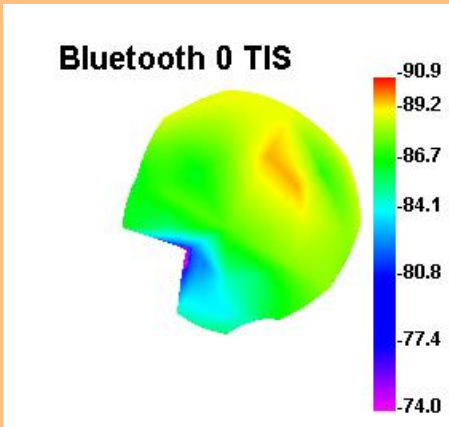
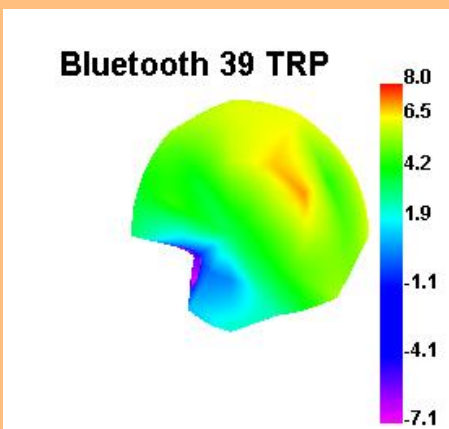
Passive Test For BT			
Freq	Effi	Effi	Gain
(MHz)	(%)	(dB)	(dBi)
2400	23.74	-6.24	-0.03
2410	32.92	-4.83	1.37
2420	34.22	-4.66	1.36
2430	28.71	-5.42	0.74
2440	32.1	-4.93	1.42
2450	31.02	-5.08	1.55
2460	28.2	-5.5	1.38
2470	23.33	-6.32	0.71
2480	21.09	-6.76	0.2
2490	22.14	-6.55	0.43
2500	20.71	-6.84	0.12

3. 5. antenna active test data (FS)

BT	Channel	3D	Field intensity pattern
TRP	0	2.87	Bluetooth 0 TRP 
TIS	0	-88.13	Bluetooth 0 TIS 
TRP	39	4.09	Bluetooth 39 TRP 

TIS	39	-88.64	Bluetooth 39 TIS
TRP	78	4.5	Bluetooth 78 TRP
TIS	78	-88.68	Bluetooth 78 TIS

(Head)

BT	Channel	3D	Field intensity pattern
TRP	0	2.31	 Bluetooth 0 TRP Color scale: 8.5, 6.8, 4.2, 1.7, -1.7, -5.1, -8.5
TIS	0	-83.64	 Bluetooth 0 TIS Color scale: -90.9, -89.2, -86.7, -84.1, -80.8, -77.4, -74.0
TRP	39	3.54	 Bluetooth 39 TRP Color scale: 8.0, 6.5, 4.2, 1.9, -1.1, -4.1, -7.1

Confirmation of Sample

TIS	39	-84.93	Bluetooth 39 TIS Color scale: -92.5, -91.0, -88.7, -86.4, -83.4, -80.4, -77.3
TRP	78	2.07	Bluetooth 78 TRP Color scale: 5.6, 4.2, 2.0, -0.1, -3.0, -5.9, -8.8
TIS	78	-84.11	Bluetooth 78 TIS Color scale: -91.0, -89.5, -87.4, -85.2, -82.3, -79.4, -76.6

4.Structural drawings

1	2	3	4	5	6	7	8																																						
RoHS							<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">The third person</td> </tr> <tr> <td>0~10 ±0.05</td> </tr> <tr> <td>10~18 ±0.10</td> </tr> <tr> <td>18~30 ±0.12</td> </tr> <tr> <td>30~40 ±0.15</td> </tr> <tr> <td>40~ ±0.20</td> </tr> </table>	The third person	0~10 ±0.05	10~18 ±0.10	18~30 ±0.12	30~40 ±0.15	40~ ±0.20																																
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B							B																																						
C							C																																						
D	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: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">1</td> <td style="width: 40%;">BT antenna</td> <td style="width: 30%;">Electrolytic copper One-half substrates</td> <td style="width: 10%;">Black</td> <td style="width: 15%;"></td> </tr> <tr> <td>No.</td> <td>Part name</td> <td>Material</td> <td>Color</td> <td>Notes</td> </tr> </table> 司南微电子(深圳)有限公司 SINAWELL Electronics (Shenzhen) Co., LTD <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Project name</td> <td style="width: 20%;">MH055(SN1304)</td> <td style="width: 20%;">Date</td> <td style="width: 20%;">2025-01-11</td> </tr> <tr> <td>Product name</td> <td>BT antenna</td> <td>ME</td> <td></td> </tr> <tr> <td>Material no.</td> <td>SN1304-BT-L</td> <td>RF</td> <td></td> </tr> <tr> <td>Material</td> <td></td> <td>Project</td> <td></td> </tr> <tr> <td colspan="2"></td> <td>Unit</td> <td>mm</td> </tr> <tr> <td colspan="2"></td> <td>Scale</td> <td>1:1</td> </tr> <tr> <td colspan="2"></td> <td>Rev.</td> <td>A</td> </tr> </table>						1	BT antenna	Electrolytic copper One-half substrates	Black		No.	Part name	Material	Color	Notes	Project name	MH055(SN1304)	Date	2025-01-11	Product name	BT antenna	ME		Material no.	SN1304-BT-L	RF		Material		Project				Unit	mm			Scale	1:1			Rev.	A	D
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