WA-F-S6G2R0R0-02-001 Specification

1. Explanation of part number :

WA	_	F	_	S6G2R0R0	_	02	_	001
(1)		(2)		(3)		(4)		(5)

(1) Product Type：Wireless Antenna

(2) Material:: NFC+Plastic+FPCB+Cu+Cable

(3) Frequency : 2400～2500MHz，5150~5850MHz, 13.56MHz

(4) Coaxial Cable Type : 02

(5) Suffix : 001

2. Storage Condition:

Temperature	-40	to	+70℃
Humidity	20	to	65 %RH

3. Operating Condition:

Temperature	-40	to	+70℃
Humidity	10	to	85 %RH

4. Electrical Specification :

*Those specifications were specially defined for **T3** model, and all characteristics were measured under the model's handset testing jig .*

4-1. Frequency Band:

Frequency Band	MHz
WIFI	**2400~2500，5150~5850**
NFC	**13.56**

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4-2. Impedance

50 ohm nominal

4-3. Matching circuit

None

4-4. VSWR

4-4.1 Measuring Method

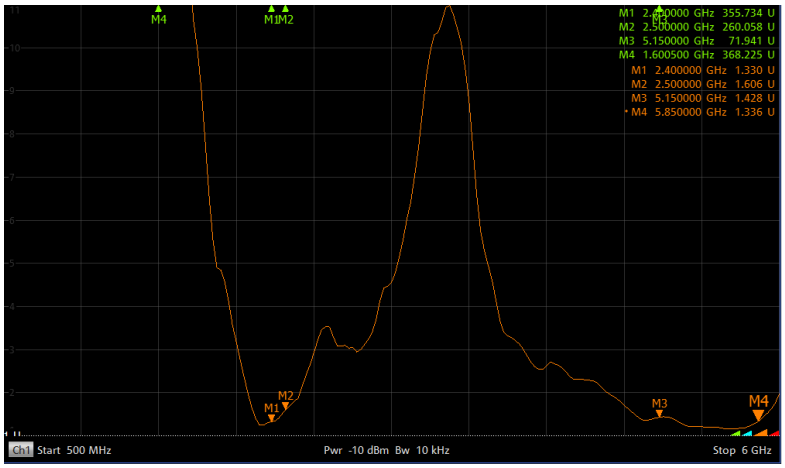
1.A 50Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the VSWR

2.Keeping this jig away from metal at least 20cm

4-4.2 Measurement frequency points and VSWR value

Frequency (Unit MHz)	Spec	Ant-main	Ant-aux
2400	≦2.5	1.3	
2500	≦3.0	1.6	
5150	≦3.5	1.4	
5850	≦3.5	1.3	
Judgement		ok	ok

Ant-main



4-5. Efficiency and Gain

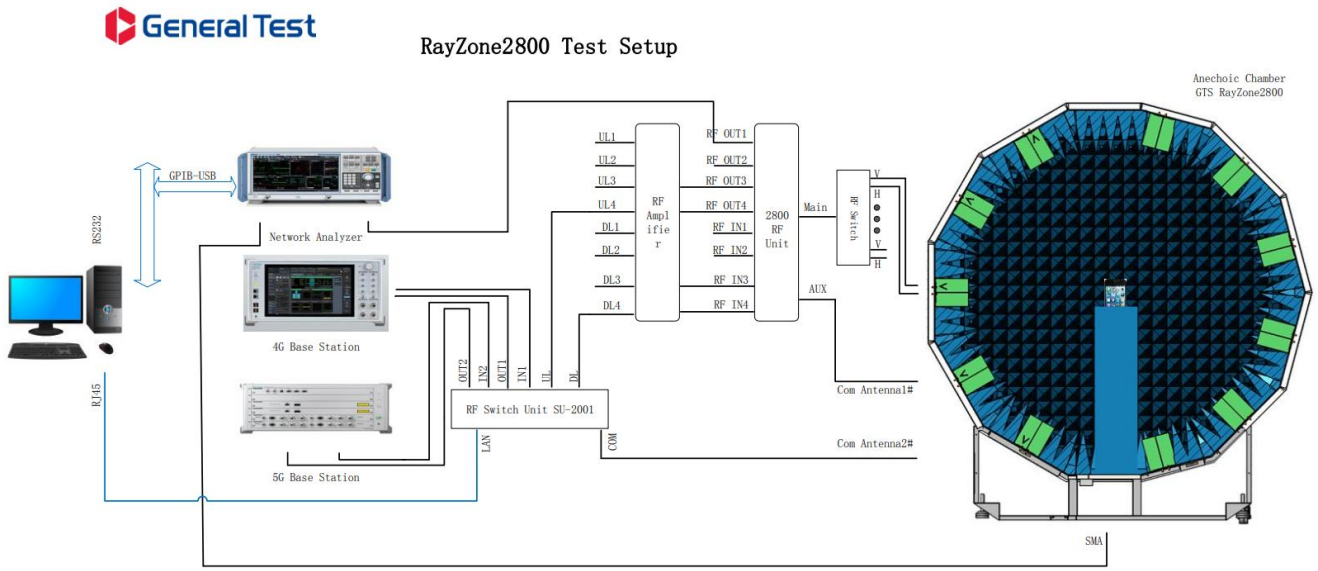
4-5.1 Measuring equipment

Measuring instrument：

Microwave chamber, Network analyzer, and standard antenna.

Instructions for microwave chamber：

This is a microwave chamber set up by our company in Suzhou，This microwave chamber belongs to a set of near-field measurement system. The size of the chamber is 2.95M * 3M * 3M.



The microware chamber, shown above, using a unique multi-probe technique，The aim is to reduce the measurement time of the whole measurement system. The measuring system use multi-probe array instead of single probe to scan the measured surface of the antenna under test, a single probe has the capability of measuring orthogonal polarization amplitude and phase, it also has a wide frequency range, the corresponding multi-probe array is switched quickly by electronic switch, greatly improved the measurement efficiency.

The probe model：MA186960A(400MHz～7.5GHz) . Because of its capability of broadband frequency and the orthogonal polarization function, the number of probes needed to be equipped with the system is reduced; The small size of the probe reduces the coupling between the probes, make it is possible to insert probes of other frequency bands between probes, then a single system can support a wider frequency range.

4-5.2 Passive Efficiency and Gain

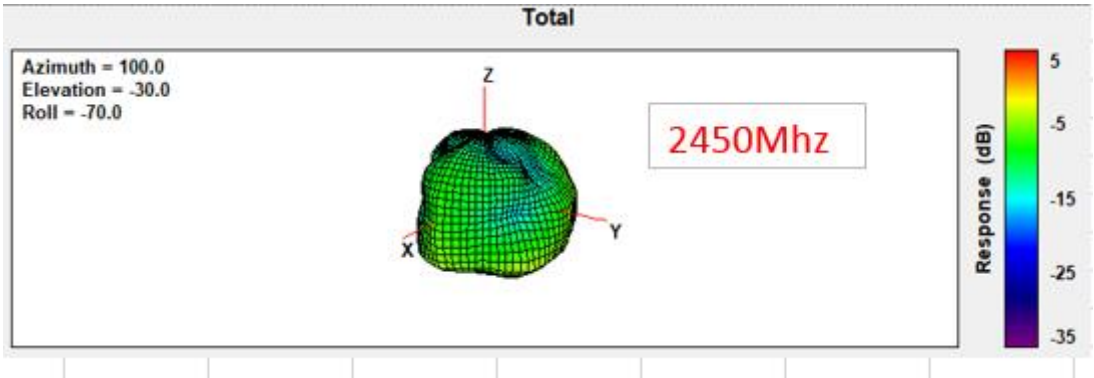
Antenna gain is marked (dBi) and is based on STANDARD HORN antenna. The data shows Peak Gain and Average Gain.

天线效率			
Freq(MHz)	Efficiency_dB	Efficiency_Pcent	Gain
2400	-5.2	30.3	1.3
2410	-5.7	27.1	1.2
2420	-5.4	29.0	0.9
2430	-5.3	29.3	1.2
2440	-5.0	31.4	1.5
2450	-5.1	31.1	2.1
2460	-5.5	27.9	2.2
2470	-5.6	27.3	1.6
2480	-5.3	29.3	1.5
2500	-5.4	28.5	2.0
5150	-5.9	25.6	1.5
5200	-6.1	24.4	2.2
5250	-5.7	27.2	2.1
5300	-5.4	29.0	2.4
5350	-5.2	30.5	2.9
5400	-5.2	30.5	3.2
5450	-4.6	34.7	3.2
5470	-4.2	37.7	2.7
5500	-3.6	43.5	3.1
5550	-3.6	43.4	3.2
5600	-3.5	44.5	3.7
5650	-3.6	43.5	3.4
5700	-3.5	44.8	3.4
5725	-3.4	45.9	3.2
5745	-3.5	45.0	3.3
5750	-3.5	44.6	3.9
5797	-4.2	37.7	3.8
5800	-4.0	39.5	2.9
5850	-4.7	34.1	2.8

4-5.3 Active test data

		信道	SPEC	OTA-
WIFI 11b (11M)	TRP	1	12	12.0
		7	12	12.3
		11	12	12.1
	TIS	1		
		7		
		11	-83	-83.4
WIFI 11g (54M)	TRP	1	10	10.7
		7	10	10.8
		11	10	10.8
	TIS	1		
		7		
		11	-69	-69.1
WIFI 11 n （MCS7-65M）	TRP	1	9	10.0
		7	9	10.2
		11	9	10.6
	TIS	1		
		7		
		11	-67	-67.2
WIFI 11 a (54M)	TRP	36	9	10.0
		64	9	11.2
		165	9	13.7
	TIS	36		
		64		
		165	-69	-70.4

4-5.4 Antenna 3D Radiation Pattern



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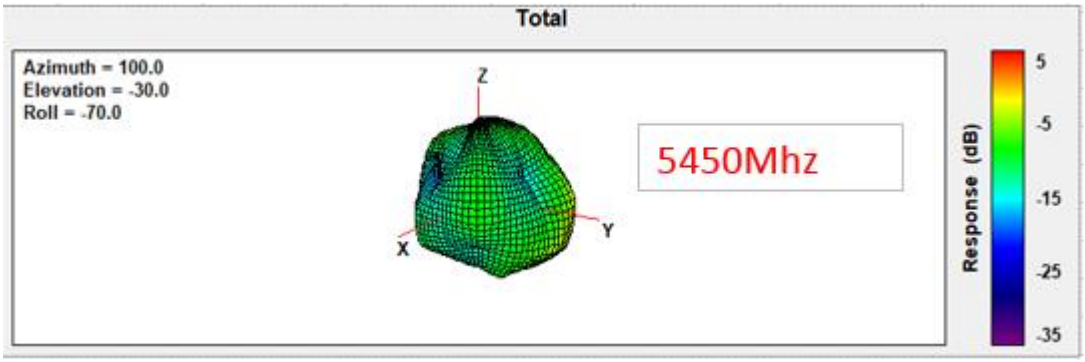
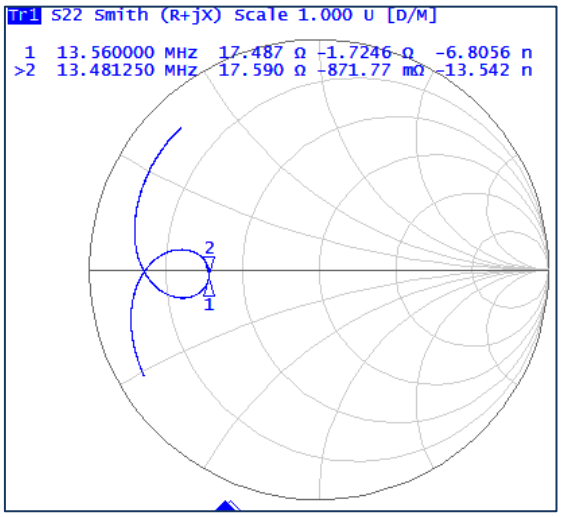


5. Recognition Distance

Chip name		Ultralight -C	Ultralight	M1-S50	S70	Mifare-Plus	Des fire	18092	ISO 15693	Type B
Recognition Distance	左	20↑	30↑	36↑	35↑	33↑	36↑	23↑	39↑	19↑
	右	20↑	30↑	36↑	35↑	32↑	35↑	23↑	38↑	19↑

6．NFC Antenna Reader Mode Load Impedance



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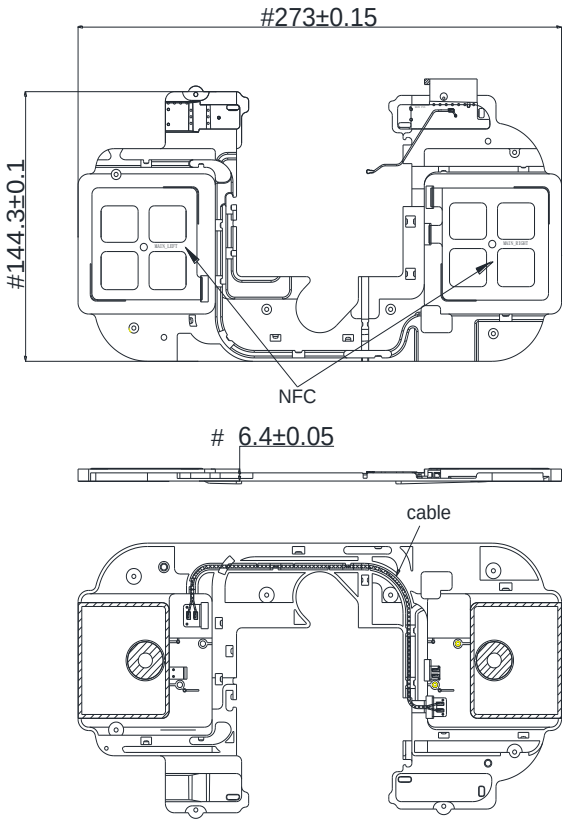
7. Mechanical Specification:

Mechanical Configuration: (“#”为出货检验尺寸，“*”为生产管控尺寸)



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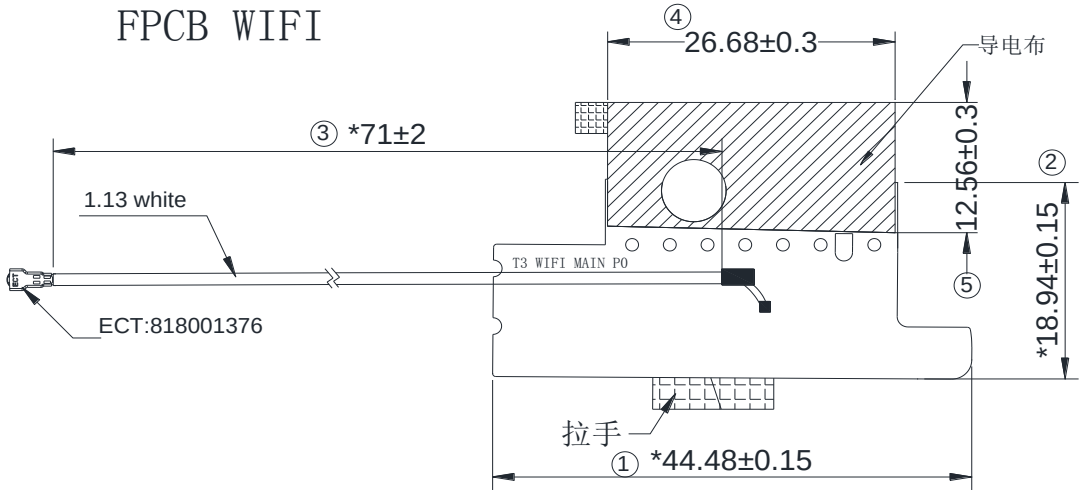
FPCB WIFI



NFC
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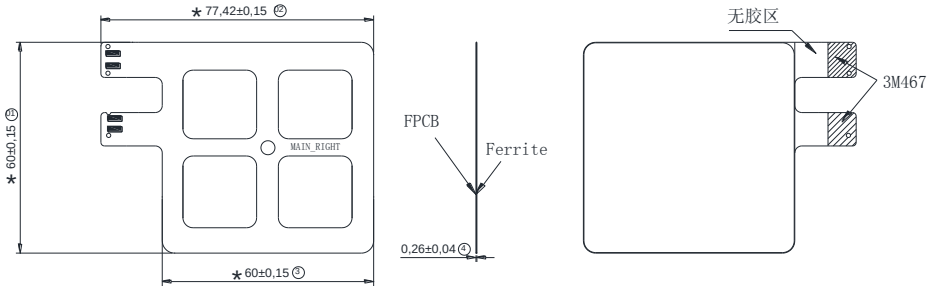

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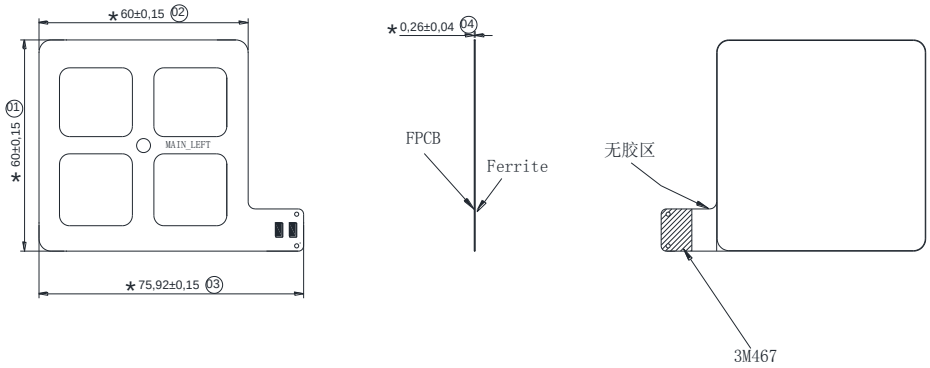
NFC
MAIN_LEFT



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