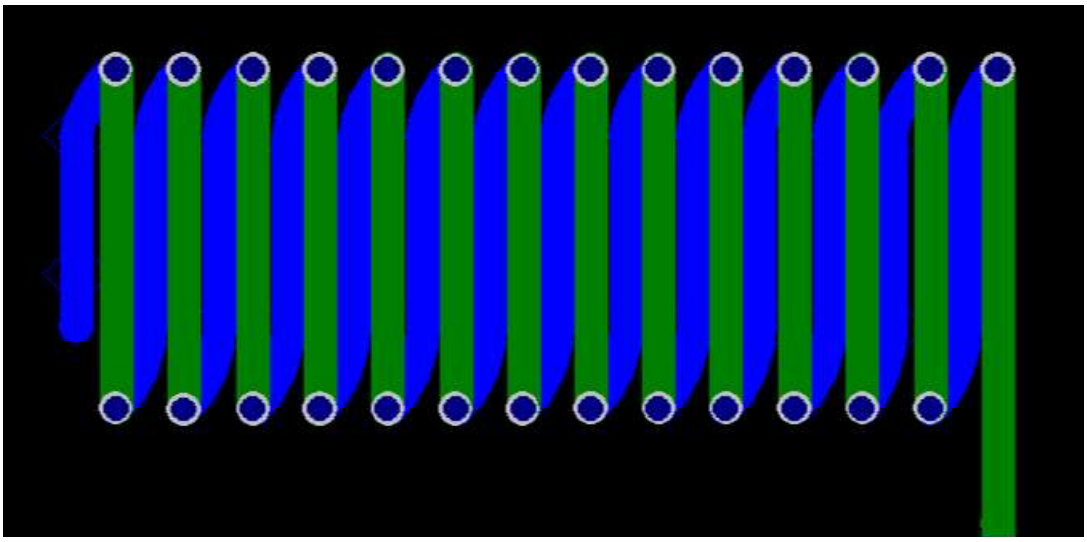
Antenna Spec.

Customer/Project	STICK03	Frequency	European, American, Australian Standard
Antenna Gain	0dBi	Rev.	C
Customer P/N			
RF	Jiang Ning	Approval By	
ME	Li Guou Dong		
Date	2023-08-02		
Customer Confirm			
Shenzhen Runicc Wireless Technology Co., Ltd			

Customer Satisfaction Questionnaire（Please comment on the work of our R & D and PM managers in order to better serve to you）			
RF Engineer	☐Satisfaction	☐Quite Satisfaction	☐Dissatisfaction
Structural Engineer	☐Satisfaction	☐Quite Satisfaction	☐Dissatisfaction
PM Manager	☐Satisfaction	☐Quite Satisfaction	☐Dissatisfaction
Note:			

1、Antenna Diagram

The report focuses on the test status of the STICK03 main antenna with respect to various electrical performance parameters. The STICK03 antenna diagram and the assembly diagram are shown below.



PCB Antenna Diagram

2、Antenna test Equipment

Agilent E5071C vector network analyzer is used for antenna input characteristic test; Satimo starlab 3D near-field microwave darkroom is used for antenna radiation characteristic test. And Agilent 8960 E5515 comprehensive tester is used. The OTA coordinates are as follows:

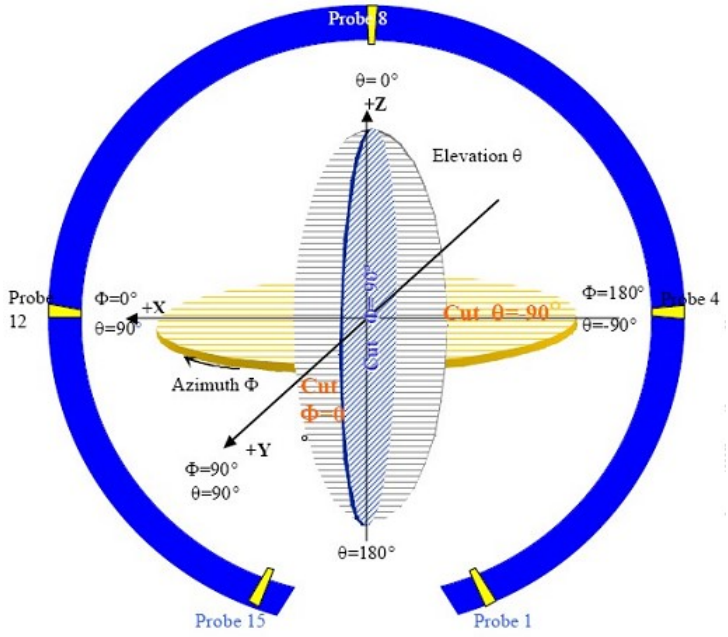
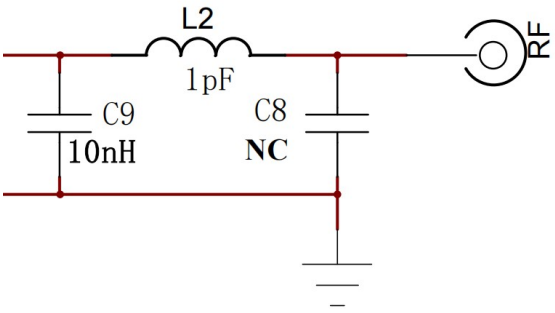


图 4 3D 微波暗室测试坐标系(back view)

2.1.Antenna matching circuit

The antenna is a spring made of carbon steel wire that is soldered to the PCB. The matching circuit for this item is as follows.



European Standard		U.S. Standard		Australian Standard	
Element	**Value**	**Element**	**Value**	**Element**	**Value**
C9(0402)	10nH	**C9(0402)**	9. 1nH	**C9(0402)**	/
L2(0402)	1. 0pF	**L2(0402)**	1. 5pF	**L2(0402)**	/
C8(0402)	NC	**C8(0402)**	NC	**C8(0402)**	/

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3、Electrical Characteristics

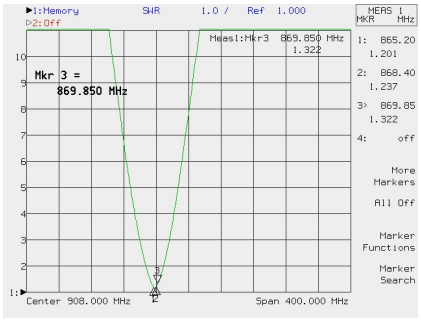
3.1 Specification

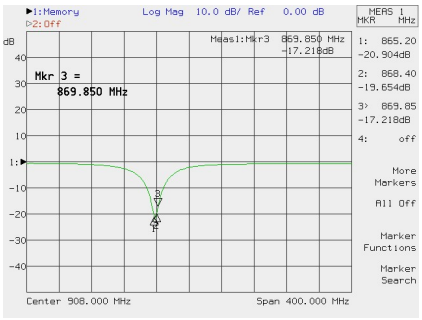
The STICK03 antenna working band is 868/908/926MHz; The following table shows the performance of the STICK03 antenna.

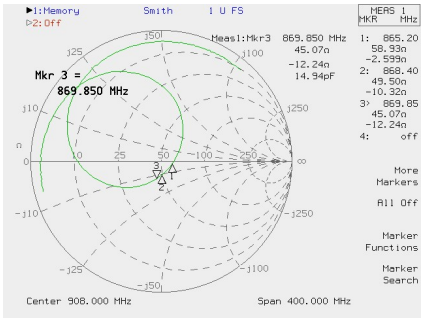
Frequency band	VSWR
865.2MHz	1.30
868.4MHz	1.32
908.4MHz	1.15
916MHz	1.12
919.8MHz	1.12
926.3MHz	1.15

3.2 Antnea S11 Parameter:

European Standard







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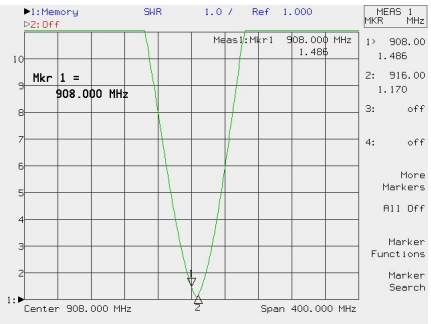
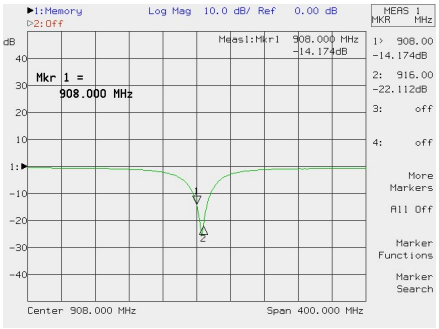
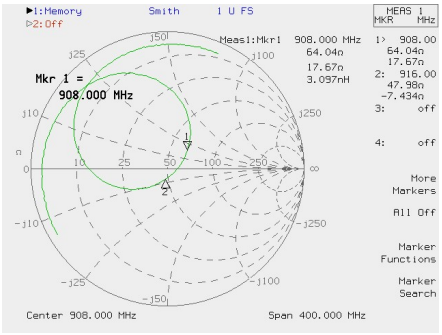
U.S. Standard







3.3Antenna Passive Gain and Efficiency

European Standard

chNo	Freq（MHz）	TRP	PeakEIRP	Efficiency_Pcent
1	865.2	-7.91	-3.01	21.08
2	868.4	-8.06	-3.08	20.76
3	869.85	-8.17	-3.23	20.14

U.S. Standard

chNo	Freq（MHz）	TRP	PeakEIRP	Efficiency_Pcent
1	908.4	-8.41	-3.37	19.48
2	916	-8.13	-3.12	20.27