



Shen zhen Runicc Wirless Technology Co., LTD

# Antenna Spec.

Customer/Project	HK/SW02	Frequency	908.42 ± 20MHz
RN P/N		Rev.	A
RF. Engineer	Jiang Ning	Approval By	
Structural Engineer	Tong		
Date	2017-05-10		
Customer Confirm			
Shenzhen Runicc Wireless Technology Co., Ltd			

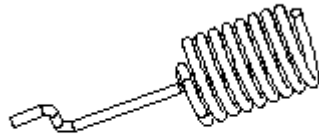
<b>Customer Satisfaction Questionnaire (Please comment on the work of our R &amp; D and PM managers in order to better serve to you)</b>			
RF Engineer	<input type="checkbox"/> Satisfaction	<input type="checkbox"/> Quite Satisfaction	<input type="checkbox"/> Dissatisfaction
Structural Engineer	<input type="checkbox"/> Satisfaction	<input type="checkbox"/> Quite Satisfaction	<input type="checkbox"/> Dissatisfaction
PM Manager	<input type="checkbox"/> Satisfaction	<input type="checkbox"/> Quite Satisfaction	<input type="checkbox"/> Dissatisfaction
Note:			

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## 1、 Antenna Diagram

The report focuses on the test status of the SW02 main antenna with respect to various electrical performance parameters. the SW02 antenna diagram and the assembly diagram are shown below.



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:

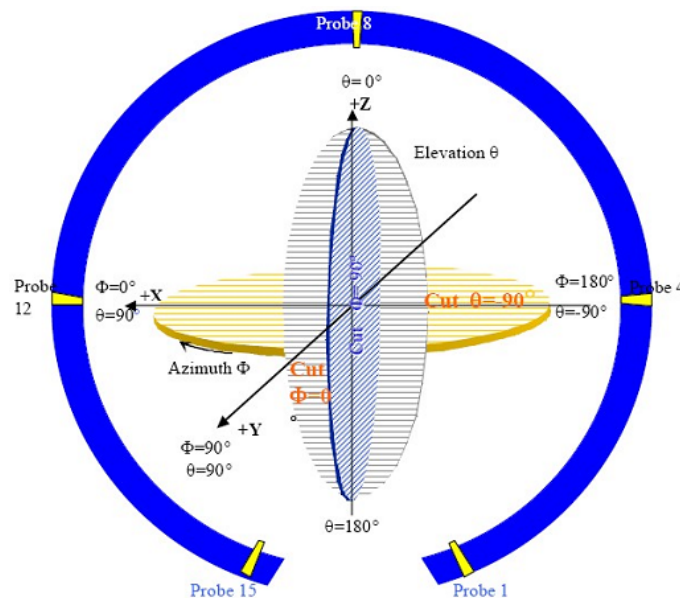


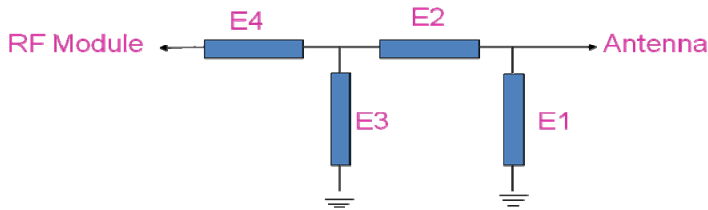
图 4 3D 微波暗室测试坐标系 (back view)

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### 3. Antenna matching circuit

The antenna is made of a single spring soldered to the main board. Antenna matching circuit no changed, as follow original main-board .



Element	Value
E1(0402)	原贴片匹配
E2(0402)	0 Ω
E3(0402)	NA
E4(0402)	0 Ω

### 4. Electrical Characteristics

#### 4.1 Specification

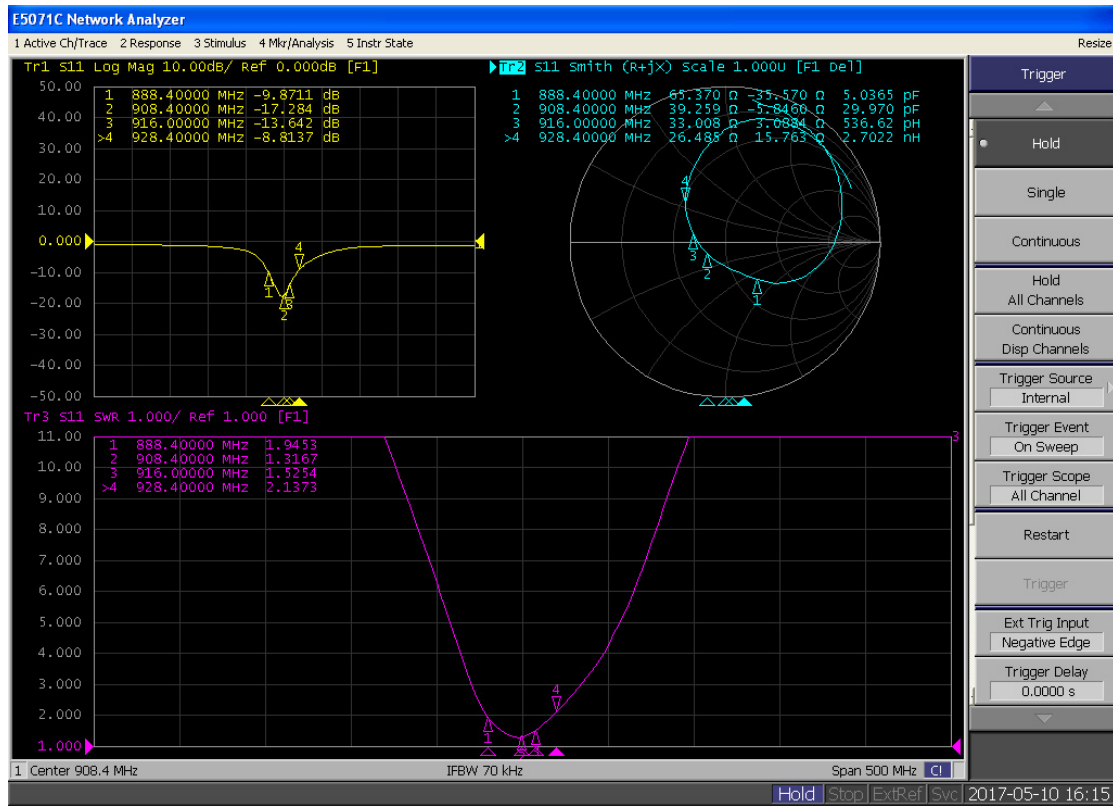
The SW02 main antenna operates in the frequency band  $908.4 \pm 20$  MHz; resonance is generated in this band. The following table shows the test specifications for the performance of the SW02 main antenna.

Frequency Band	VSWR
888.4MHz	1.94
908.4MHz	1.31
916MHz	1.57
928.4MHz	2.13

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### 4.2 Passive S11 parameter:



### 4.3 Antenna Gain&EFFIC.

chNo	Freq	TRP	PeakEIRP	MinEIRP	Directivity	Gain	Efficiency_dB	Efficiency_Pcent
1	888.4	-8.81	-4.47	-22.21	4.35	-4.47	-8.81	13.14
2	892.4	-8.19	-3.92	-22.06	4.28	-3.92	-8.19	15.15
3	896.4	-7.72	-3.70	-22.11	4.02	-3.70	-7.72	16.90
4	900.4	-7.45	-3.47	-22.40	3.98	-3.47	-7.45	18.00
5	904.4	-7.17	-2.98	-21.35	4.19	-2.98	-7.17	19.17
6	908.4	-6.99	-2.56	-21.53	4.42	-2.56	-6.99	20.02
7	912.4	-6.88	-2.27	-22.57	4.62	-2.27	-6.88	20.50
8	916.4	-6.81	-2.03	-22.82	4.78	-2.03	-6.81	20.85
9	920.4	-6.76	-1.82	-21.64	4.94	-1.82	-6.76	21.10
10	924.4	-6.82	-1.61	-20.58	5.20	-1.61	-6.82	20.81
11	928.4	-6.73	-1.27	-19.43	5.46	-1.27	-6.73	21.23

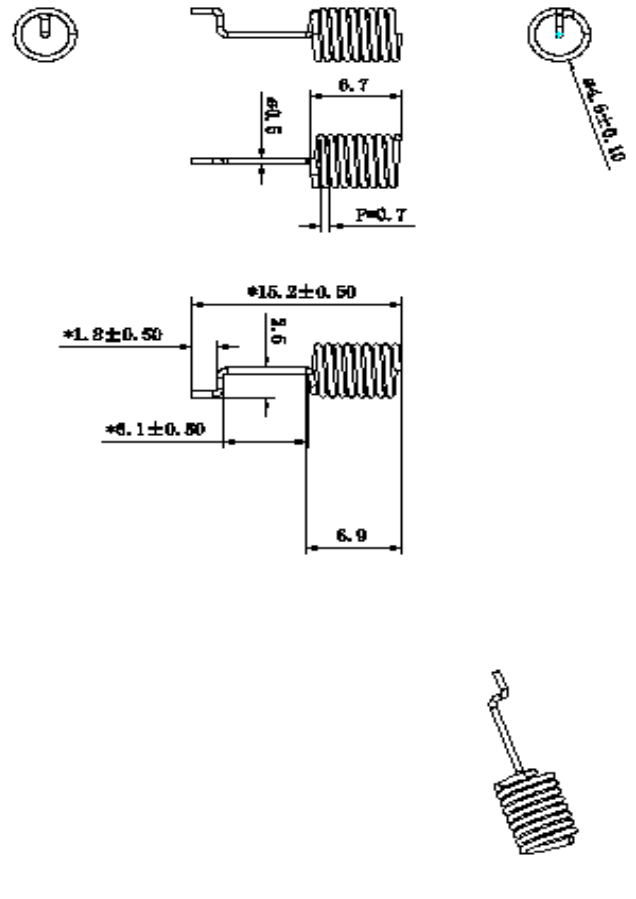
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### 5. Antenna Engineering Drawing

文件编号	BD	单位: mm	版次	A1	标记	更改描述	日期	17-05-10A
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技术要求:

- 1、弹簧材料为碳钢, 表面镀锌; 线径为0.5mm;
- 右旋; P=0.7; 圈数: 以3D图档为准(9)
- 2、弹簧表面清洁光亮, 无污染;
- 3、带\*号为重要尺寸。
- 4、符合ROHS要求。

设计							
审核							
批准		重量	数量	比例	客户料号	料号	图号
		±0.2		1:1			
		±0.1	第 1 张 共 1 张				
		±0.05	深圳瑞宁无线技术有限公司				
		±1°					