



深圳市迪比通通讯设备有限公司

SHENZHEN DIBITONG TELECOMMUNICATION TECHNOLOGY CO.,LTD.

Mobile communication terminal antenna

Product design and manufacturing specifications

◆ Customer:

◆ Project: VRM09 (R2)

◆ Name: WiFi antenna

◆ Antenna materials: Shrapnel

◆ Part no: HP-VRM09-R420A1

◆ Designer:

◆ Check:

◆ Approved:

Add: Rm505, 8th building, Yungu 2nd period, pingshan No.1 Road, Xili Town, Nanshan District, ShenZhen , China

Tel: 86-755-83763273/13927478525

Fax: 86-755-83763348

Email: dbt1668@163.com

list

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1. Antenna 2D diagram

Technical drawing of a spring component. The drawing includes an unfolded view, a stereogram, and three perspective views (A, B, C). Dimensions are provided for the unfolded view: 11.10±0.3, 10.59±0.5, 2.58±0.5, and 9.52±0.5. A note specifies dimensions marked with * are critical. A table at the bottom provides part details including model, material, and date.

Note:

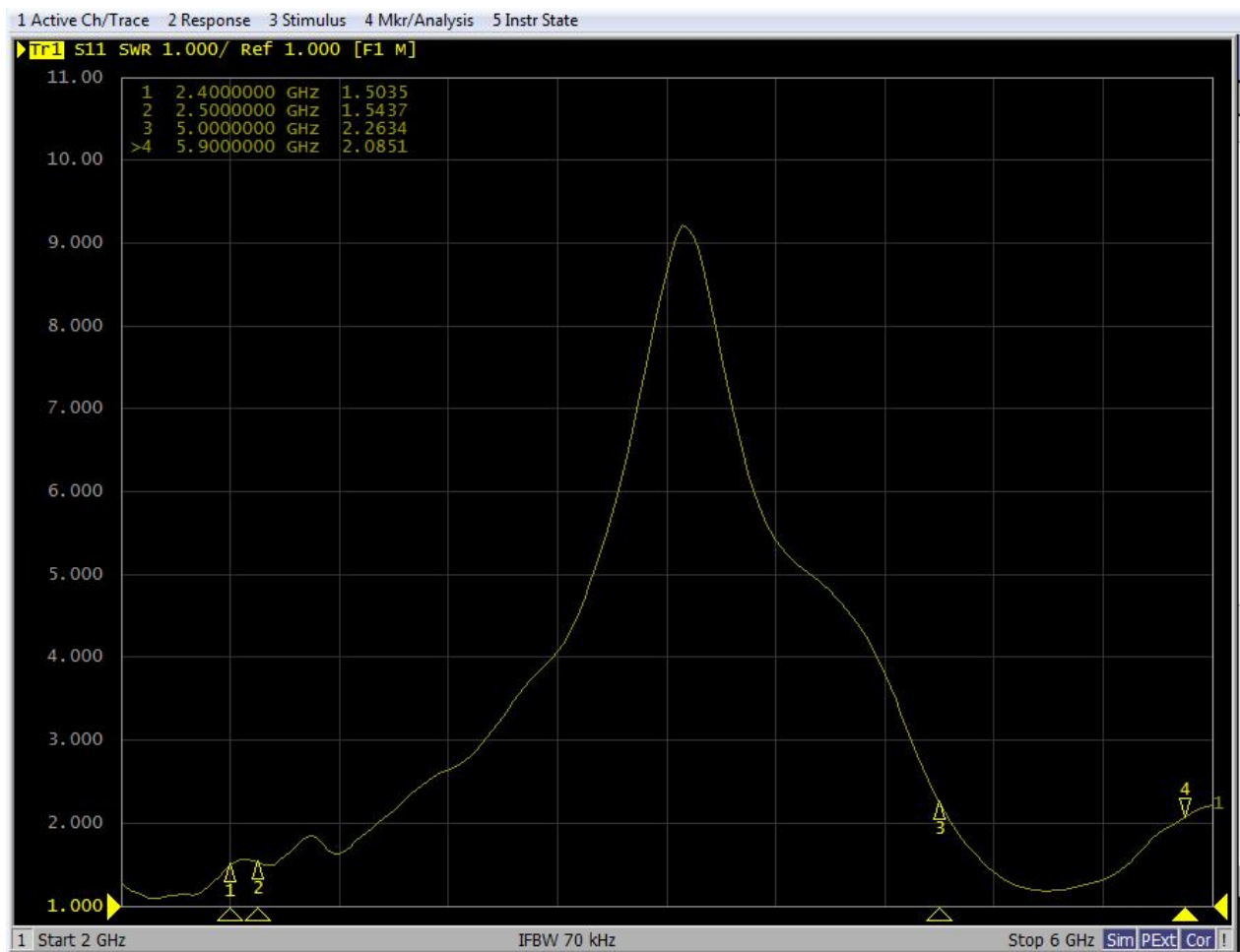
- Dimensions marked with * are critical dimensions;
- Unmarked dimensions refer to the 3D drawing; other dimensions are subject to fit;
- The surface shall be free of stamping defects such as oil stains, imprints, and burrs; the joint mark shall be $\leq 0.1\text{mm}$; bump height shall be $\geq 0.15\text{mm}$; the bending edge shall be subject to actual fit with the housing.

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Trigonometry		Model		VMM9 (62)-TFT		Date		2025/12/16	
Margin tolerance standard				Name	Shrapnel	Design	YQ	Page	1/1
Under 10	±0.10	○	0.02	Part No		Check	Engineering		
10~20	±0.12	⊥	0.02	Material	SUS304 1/2H T:0.3	RF engineer	QB		
20~40	±0.15	∠	0.04	Die surface treatment		Verify			
40以上	±0.20	∠	0.02	Appearance treatment	Nickel plating	Unit	mm	Scale	FIT
								Version	R:B

2. Technical target

A. Electrical Parameter	
Frequency Range	2400~2500 MHz 4900~5900 MHz
VSWR	2400~2500 MHz: ≤ 2.0 4900~5900 MHz: ≤ 2.5
Gain (Max)	2400~2500 MHz: 2.65 dBi 4900~5900 MHz: 3.65 dBi
Average radiation efficiency	2400~2500 MHz : 58.9% 4900~5900 MHz : 47.4%
Input Impedance	50 ohm
B. Material	
SUS304	
C. Environmental Science	
Working Temperature	- 30°C ~ + 85 °C
Storage temperature	- 30°C ~ + 85 °C

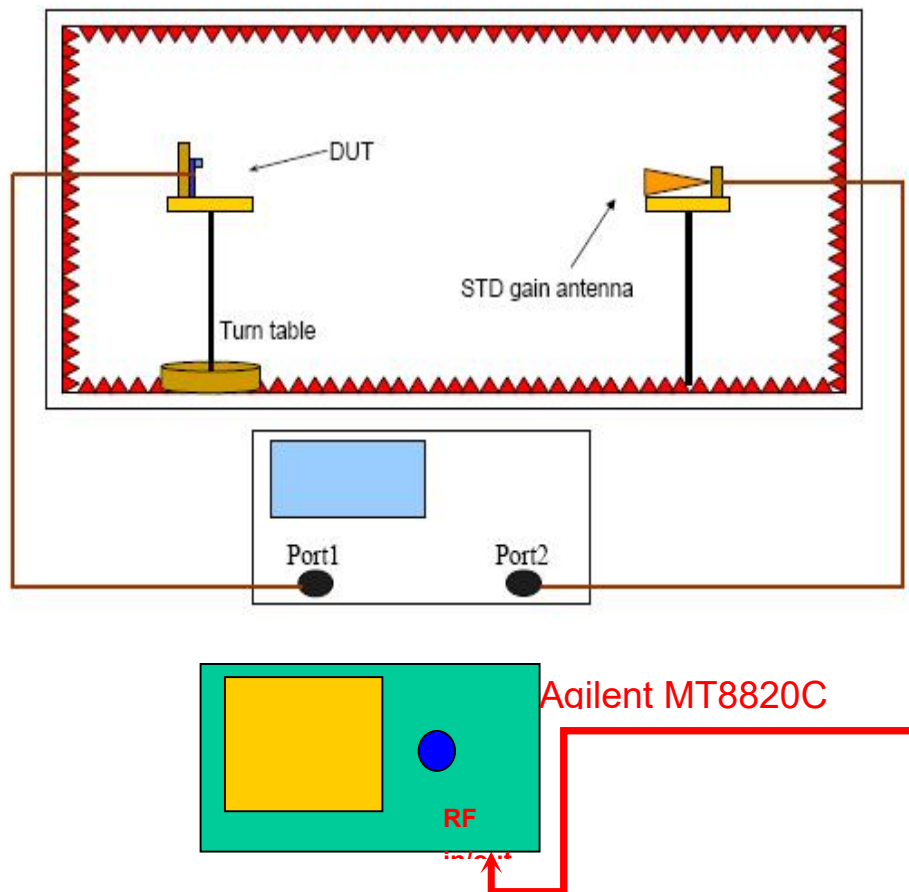
3.S11 SWR/ Impedance test results



Input Impedance: 50 Ohm

4. Dynamic test instructions - Antennas are placed in electronic scales

Testing instrument : Anrits CMW500+ Anechoic Chamber 6X4X3m(3D-OTA)



5. Matching Circuit

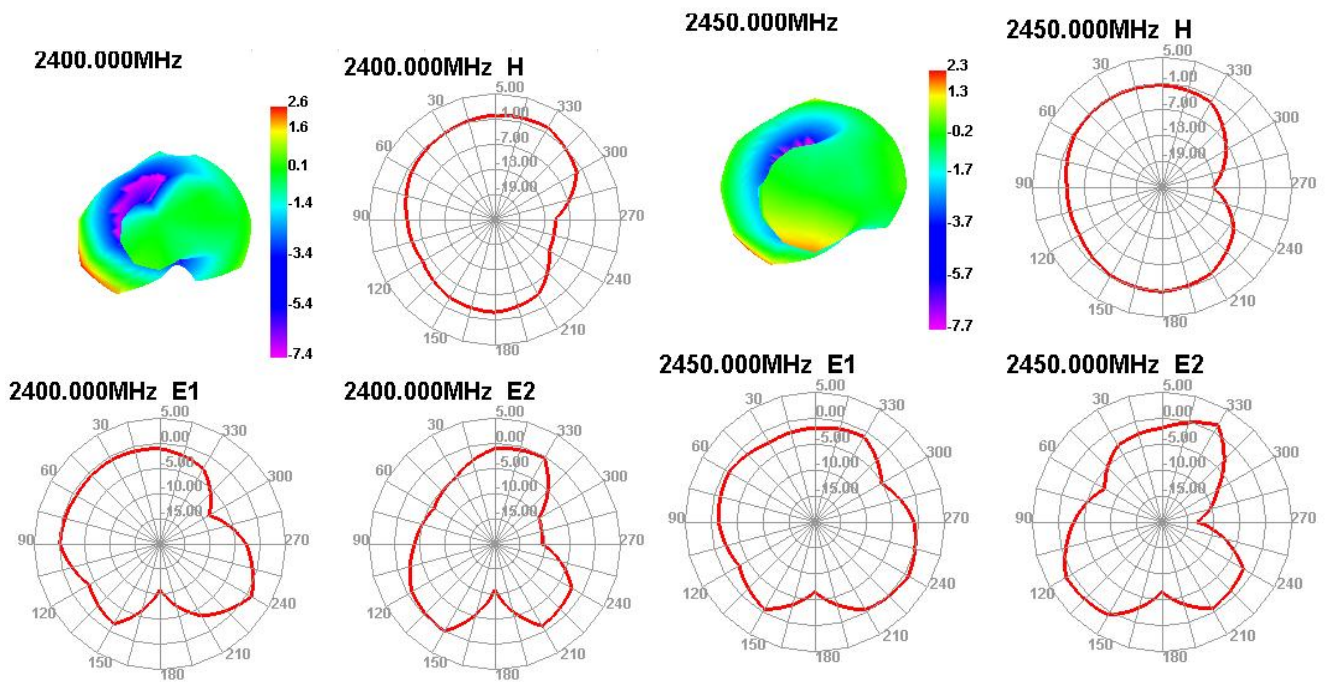
(The match has no changed)

6. Antenna test report

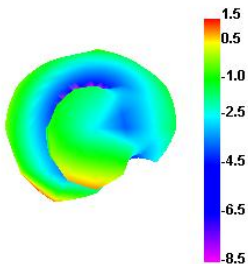
Efficiency/Gain/Radiation pattern

2. 4G		
Freq (MHz)	Effi (%)	Gain (dBi)
2400	56. 16	2. 65
2410	57. 03	2. 64
2420	57. 52	2. 34
2430	62. 26	2. 44
2440	61. 92	2. 24
2450	65. 28	2. 28
2460	55. 3	1. 48
2470	56. 94	1. 69
2480	57. 74	1. 57
2490	61. 55	1. 95
2500	56. 6	1. 49

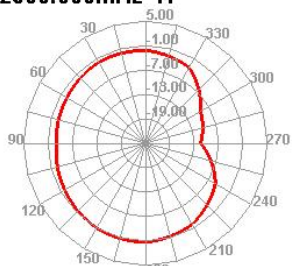
5.8G		
Freq (MHz)	Effi (%)	Gain (dBi)
4900	28.31	-0.23
5000	43.81	0.86
5100	45.58	1.54
5200	51.48	2.75
5300	56.57	3.4
5400	49.06	3.06
5500	52.74	2.8
5600	57.03	3.65
5700	49.09	2.53
5800	45.43	1.67
5900	42.19	1.13



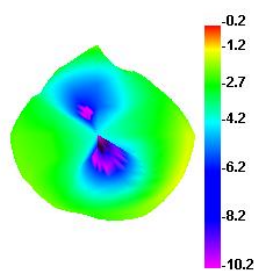
2500.000MHz



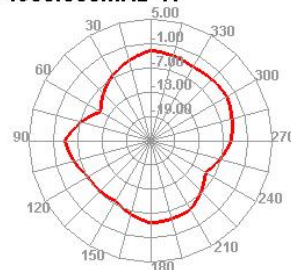
2500.000MHz H



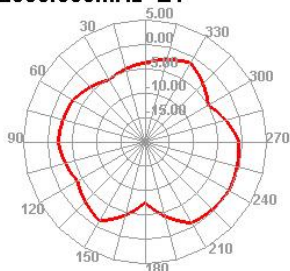
4900.000MHz



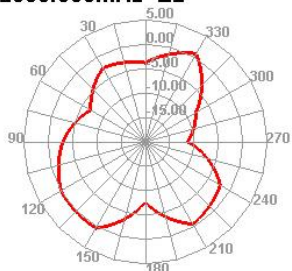
4900.000MHz H



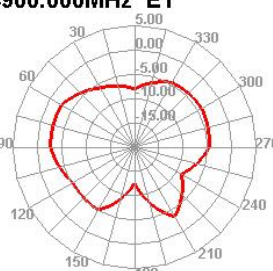
2500.000MHz E1



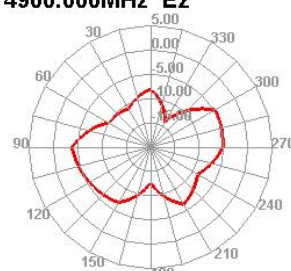
2500.000MHz E2



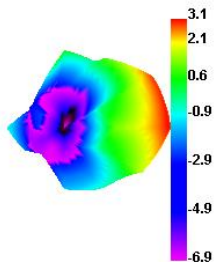
4900.000MHz E1



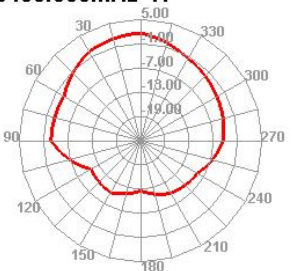
4900.000MHz E2



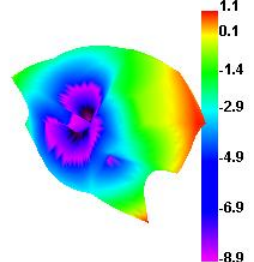
5400.000MHz



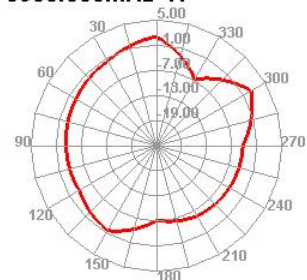
5400.000MHz H



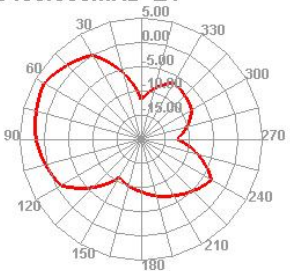
5900.000MHz



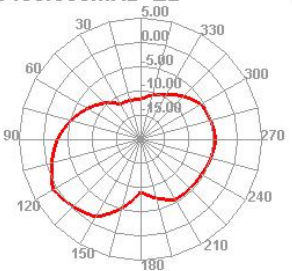
5900.000MHz H



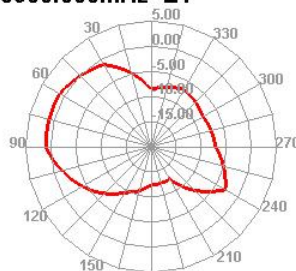
5400.000MHz E1



5400.000MHz E2



5900.000MHz E1



5900.000MHz E2

