



品名：HG5112 3IN1 V1.0 工规

History List

[illegible]

B.1.01.Y.1016 Specification

1. Explanation of part number :

B.1 : 01 : Y : 1016
(1) (2) (3) (4)

(1) Product Type : Wireless Antenna

(2) Material : FPC

(3) State : PVT

(4) Serial number:1016

2. Electrical Specification :

2-1. Frequency Band:

Frequency Band	MHz
GPS,WIFI	1575.42Mhz , 2400-2500Mhz,5180-5840Mhz

2-2. Impedance

50 ohm nominal

UNLESS OTHER SPECIFIED TOLERANCES ON:

X=±2 X.X=±0.1 X.XX=±0.05

ANGLES=±

HOLEDIA=±

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SCALE:

UNIT:mm

DRAWN BY:

CHECKED BY: 王文化&
王鑫

DESIGNED BY:

APPROVED BY: 王鑫

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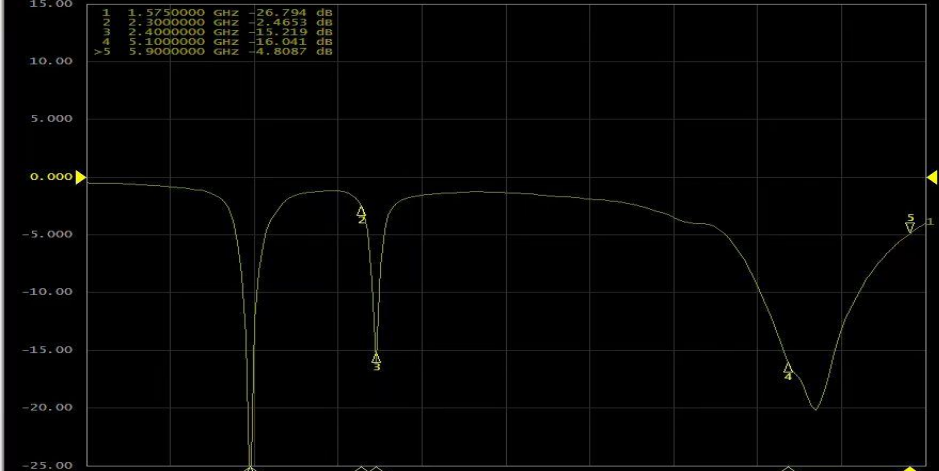
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2-3. S11 ,Efficiency , and Active Data :

2-3.1 S11:

Frequency Band	1575.42	2400	2500	5100	5900																									
2-3-1. Typical Value:	-26.79	-2.45	-15.21	16.04	-4.8																									
2-3-2Measuring Method	1. A 50Ωcoaxial cable is connected to the fpcb antenna. Then this cable is connected to a network analyzer to measure the VSWR. 2. Keeping this jig away from metal at least 20 cm.																													
2-3-3Picture	E5072A Network Analyzer 1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State ▶ S22 Log Mag 5.000 dB / Ref 0.000 dB [F1 M] <table><tr><td>1</td><td>1.5750000</td><td>GHz</td><td>-26.794</td><td>dB</td></tr><tr><td>2</td><td>2.3000000</td><td>GHz</td><td>-2.4653</td><td>dB</td></tr><tr><td>3</td><td>2.4000000</td><td>GHz</td><td>-15.219</td><td>dB</td></tr><tr><td>4</td><td>5.1000000</td><td>GHz</td><td>-16.041</td><td>dB</td></tr><tr><td>>5</td><td>5.9000000</td><td>GHz</td><td>-4.8087</td><td>dB</td></tr></table>  6 Start 500 MHz IFBW 70 KHz Stop 6 GHz PEXT C2 II Meas Stop ExtRef Svc 2024-03-15 09:10					1	1.5750000	GHz	-26.794	dB	2	2.3000000	GHz	-2.4653	dB	3	2.4000000	GHz	-15.219	dB	4	5.1000000	GHz	-16.041	dB	>5	5.9000000	GHz	-4.8087	dB
1	1.5750000	GHz	-26.794	dB																										
2	2.3000000	GHz	-2.4653	dB																										
3	2.4000000	GHz	-15.219	dB																										
4	5.1000000	GHz	-16.041	dB																										
>5	5.9000000	GHz	-4.8087	dB																										

2-4. Measure and Chamber

2-4-1 Measure method

- Using a low loss coaxial cable to link a standard handset jig
- Fixed this handset jig on chamber's rotator plane

UNLESS OTHER SPECIFIED TOLERANCES ON:

X=±2 X.X=±0.1 X.XX=±0.05

ANGLES=± HOLEDIA=±

SCALE: UNIT: mm

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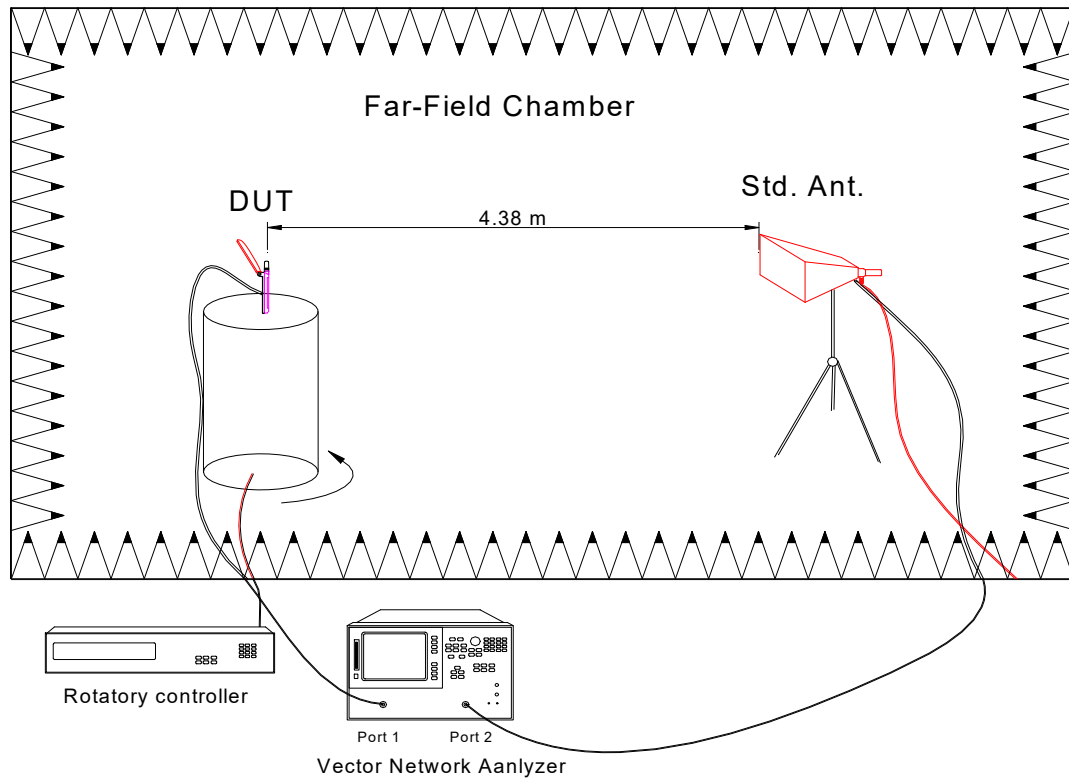
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3. Linking jig into network analyzer port and using a probing horn antenna to collect data.

4. Using another standard gain horn antenna to calibrated those data

2-4-2 Chamber definition



1. An anechoic chamber (8mx4mx3.5m) which satisfied far-field condition was applied to avoid multi-path effect
2. The quite room region is 40cmx40cmx40cm at the center of rotator
3. The distance between DUT and standard antenna is 4.38 m
4. Probing antenna (9120D horn antenna) and standard gain horn antenna (BBHA9120 LPF 700MHz ~6GHz)

2-4-3 Antenna Efficiency

Frequency	Efficiency	Efficiency(dB)	Gain(dBi)
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UNLESS OTHER SPECIFIED TOLERANCES ON:

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ANGLES=±

HOLEDIA=±

SCALE:

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1550	47.63%	-3.22	1.53
1560	48.85%	-3.11	1.56
1570	49.65%	-3.04	1.53
1580	51%	-2.92	1.46
1590	49.89%	-3.02	0.55
1600	48.61%	-3.13	0.26
2340	14.10%	-8.51	-2.89
2350	16.82%	-7.74	-2.11
2360	20.37%	-6.91	-1.25
2370	22.91%	-6.4	-0.7
2380	25.88%	-5.87	-0.19
2390	28.41%	-5.46	0.24
2400	29.66%	-5.28	0.45
2410	29.28%	-5.33	0.47
2420	28.08%	-5.52	0.31
2430	25.11%	-6	-0.23
2440	22.32%	-6.51	-0.84
2450	19.76%	-7.04	-1.43
2460	17.45%	-7.58	-2.07
2470	16.14%	-7.92	-2.43
2480	14.47%	-8.39	-2.91
2490	12.79%	-8.93	-3.44
2500	12.33%	-9.09	-3.58
2510	11.85%	-9.26	-3.71
2520	11.66%	-9.33	-3.72
2530	11.42%	-9.42	-3.68
2540	10.38%	-9.84	-4.03
5180	52.49%	-2.8	0.98
5200	52.98%	-2.76	1.03
5220	51.39%	-2.89	0.83
5240	51.54%	-2.88	0.92
5260	50.43%	-2.97	0.87
5280	50.03%	-3.01	1.01
5300	48.57%	-3.14	1.01
5320	47.51%	-3.23	1.01
5340	48.11%	-3.18	1.1
5360	46.87%	-3.29	0.9
5380	47.86%	-3.2	1.06
5400	49.44%	-3.06	1.23
5420	48.83%	-3.11	1.17
5440	49.36%	-3.07	1.19
5460	45.67%	-3.4	0.89

UNLESS OTHER SPECIFIED TOLERANCES ON:

X=±2 X.X=±0.1 X.XX=±0.05

ANGLES=±

HOLEDIA=±

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5480	45.25%	-3.44	0.74
5500	44.82%	-3.49	0.66
5520	41.91%	-3.78	0.27
5540	42.05%	-3.76	0.18
5560	41.52%	-3.82	0.08
5580	39.57%	-4.03	-0.05
5600	38.49%	-4.15	-0.17
5620	37.20%	-4.29	-0.26
5640	36.52%	-4.37	-0.31
5660	36.06%	-4.43	-0.31
5680	33.73%	-4.72	-0.61
5700	31.76%	-4.98	-0.96
5720	30.86%	-5.11	-1.18
5740	28.92%	-5.39	-1.4
5760	27.31%	-5.64	-1.58
5780	25.84%	-5.88	-1.57
5800	26.14%	-5.83	-1.32
5820	25.29%	-5.97	-1.33
5840	24.89%	-6.04	-1.27
5180	52.49%	-2.8	0.98
5200	52.98%	-2.76	1.03
5220	51.39%	-2.89	0.83
5240	51.54%	-2.88	0.92
5260	50.43%	-2.97	0.87
5280	50.03%	-3.01	1.01
5300	48.57%	-3.14	1.01
5320	47.51%	-3.23	1.01
5340	48.11%	-3.18	1.1
5360	46.87%	-3.29	0.9
5380	47.86%	-3.2	1.06
5400	49.44%	-3.06	1.23
5420	48.83%	-3.11	1.17
5440	49.36%	-3.07	1.19
5460	45.67%	-3.4	0.89
5480	45.25%	-3.44	0.74
5500	44.82%	-3.49	0.66
5520	41.91%	-3.78	0.27
5540	42.05%	-3.76	0.18
5560	41.52%	-3.82	0.08
5580	39.57%	-4.03	-0.05
5600	38.49%	-4.15	-0.17
5620	37.20%	-4.29	-0.26
5640	36.52%	-4.37	-0.31

UNLESS OTHER SPECIFIED TOLERANCES ON:

X=±2 X.X=±0.1 X.XX=±0.05

ANGLES=±

HOLEDIA=±

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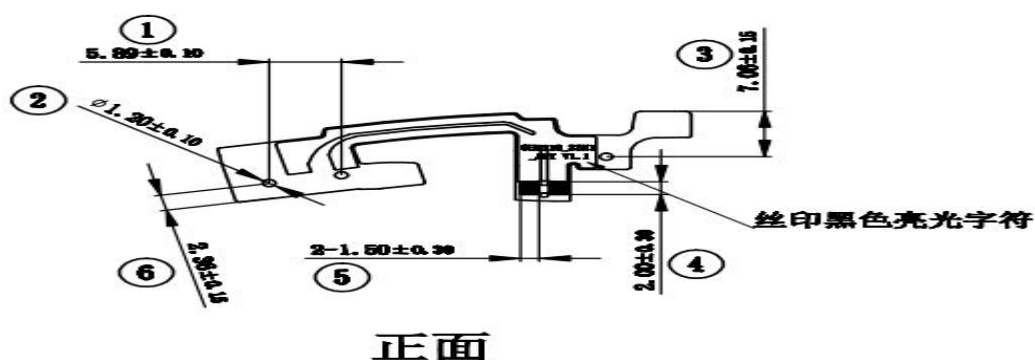
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5660	36.06%	-4.43	-0.31
5680	33.73%	-4.72	-0.61
5700	31.76%	-4.98	-0.96
5720	30.86%	-5.11	-1.18
5740	28.92%	-5.39	-1.4
5760	27.31%	-5.64	-1.58
5780	25.84%	-5.88	-1.57
5800	26.14%	-5.83	-1.32
5820	25.29%	-5.97	-1.33
5840	24.89%	-6.04	-1.27

3. Antenna Dimensions:



UNLESS OTHER SPECIFIED TOLERANCES ON:

X=±2 X.X=±0.1 X.XX=±0.05

ANGLES=±

HOLEDIA=±

SCALE:

UNIT:mm

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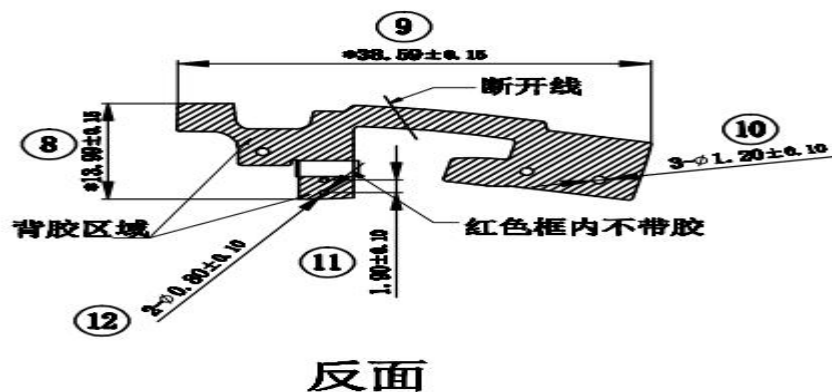
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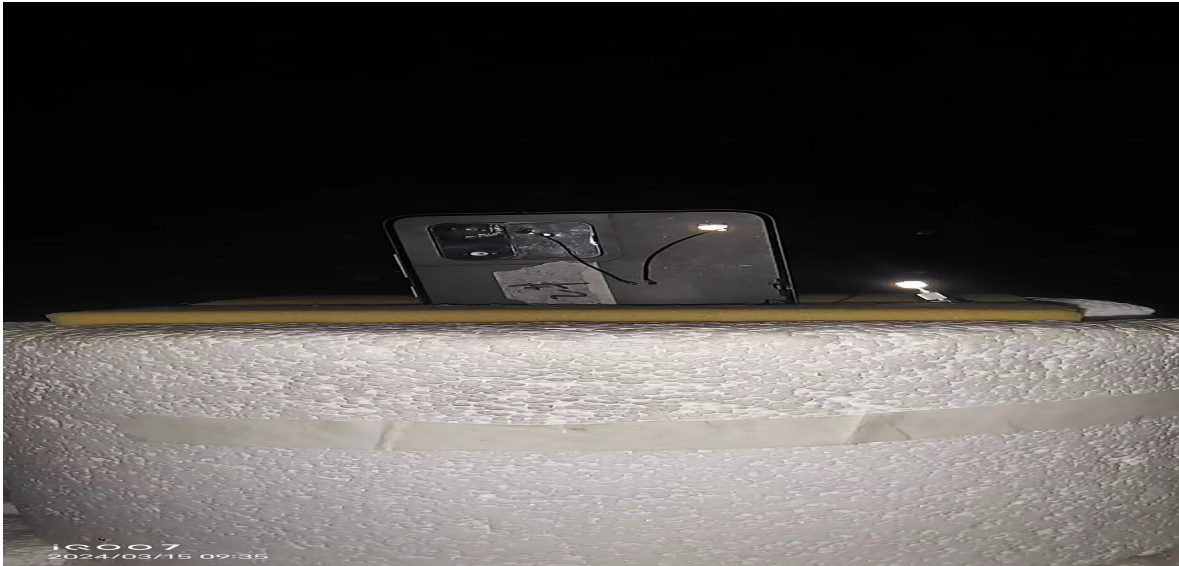
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4.

5. Testing Environment
Passive Test



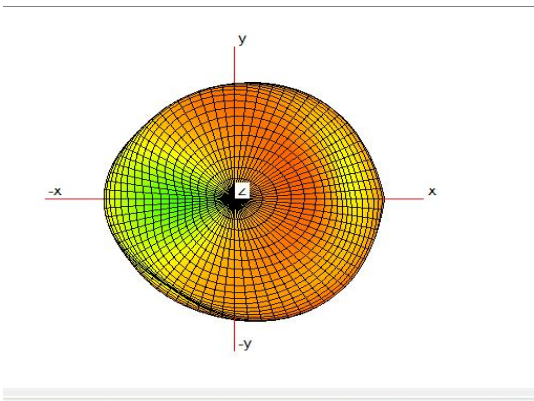
Active Test

UNLESS OTHER SPECIFIED TOLERANCES ON: X=±2 X.X=±0.1 X.XX=±0.05 ANGLES=± HOLEDIA=±		Deman 深圳市海德门电子有限公司	
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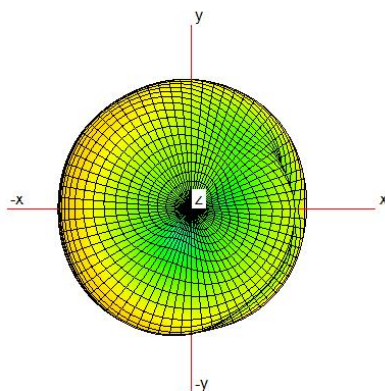
6. 3D Radiation Pattern

GPS [1575MHz]

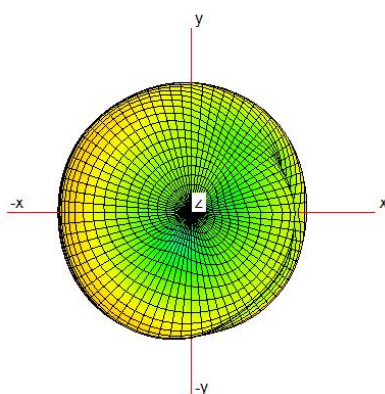


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BT/WiFi 2.4GHz C0 [2400MHz]



BT/WiFi 2.4GHz C0 [2483MHz]



BT/WiFi 5GHz C0 [5180MHz]

UNLESS OTHER SPECIFIED TOLERANCES ON:

X=±2 X.X=±0.1 X.XX=±0.05

ANGLES=±

HOLEDIA=±

SCALE:

UNIT:mm

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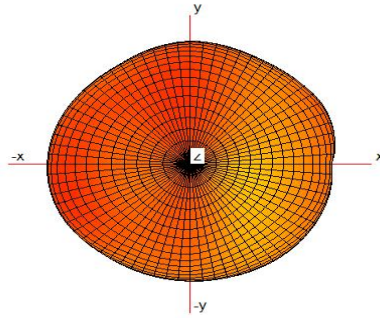
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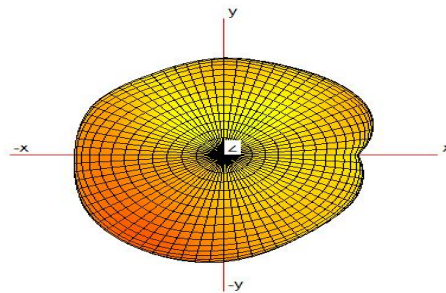
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BT/WiFi 5GHz C0 [5840MHz]



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