

IA.0263.LB.3FI (PRO-WIFI/GPS)

Antenna Specification

1. Application:

This application shall apply for antenna unit which shall be used such as automotive, conventional communications, smart home, etc..

1. Electrical Specification:

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

2-1. Frequency Band:

Frequency Band	MHz
GPS/WIFI2.4/5.8G	1575.42/2400-2500/5150-5850

2-2. Impedance

50 ohm nominal

2-3. VSWR

2-3-1.Measurement frequency points and VSWR value

Frequency Band(MHz)	1575.42	2400	2500	5150	5850
2-3-3. Typical Value:	2.4	2.4	1.8	1.4	1.1

2-3-2. VSWR

Frequency Band(MHz)	1575.42	2400	2500	5150	5850
2-3-3. Typical Value:	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2

UNLESS OTHER SPECIFIED TOLERANCES ON :

$X=\pm$ $X.X=\pm$ $X.XX=\pm$

ANGLES $=\pm$ HOLEDIA $=\pm$



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SCALE : UNIT : mm

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DESIGNED BY: De wen APPROVED BY: YS

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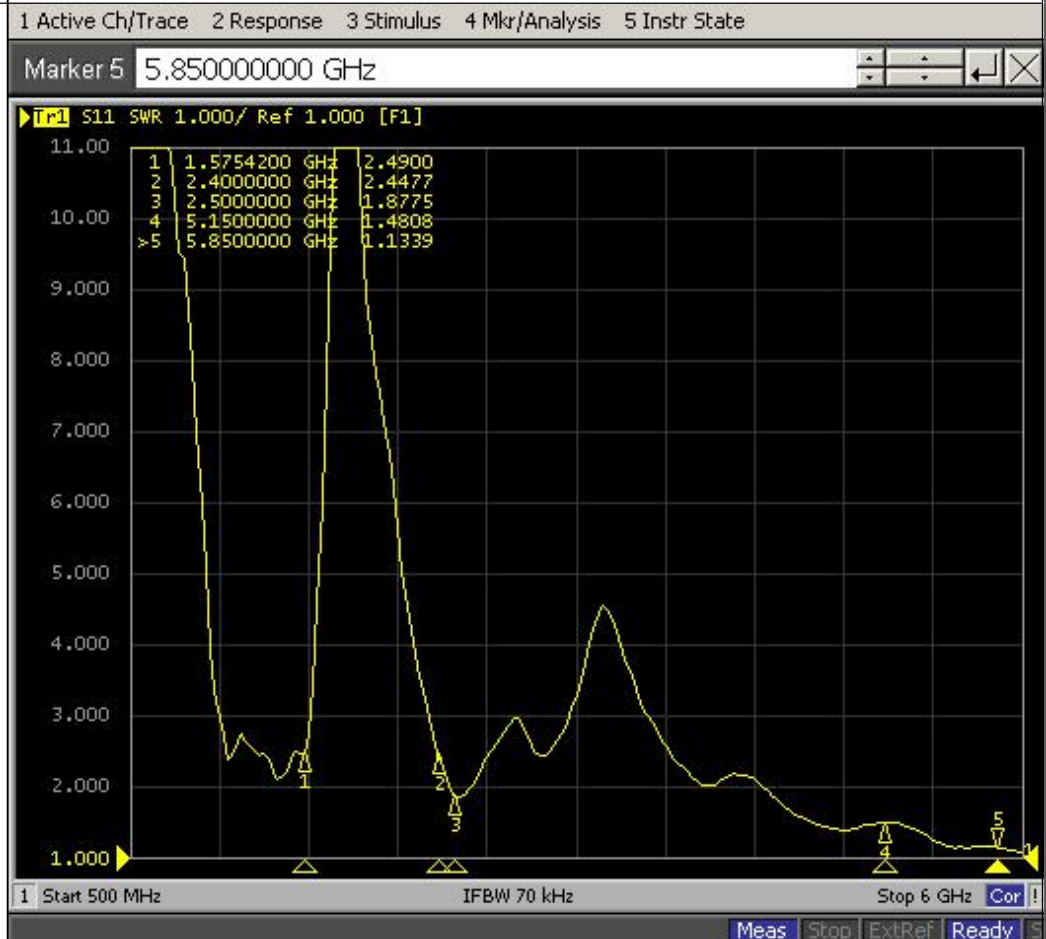
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2-3-4 Measuring Method

1. A 50 Ω 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 20 cm

2-3-5 Picture



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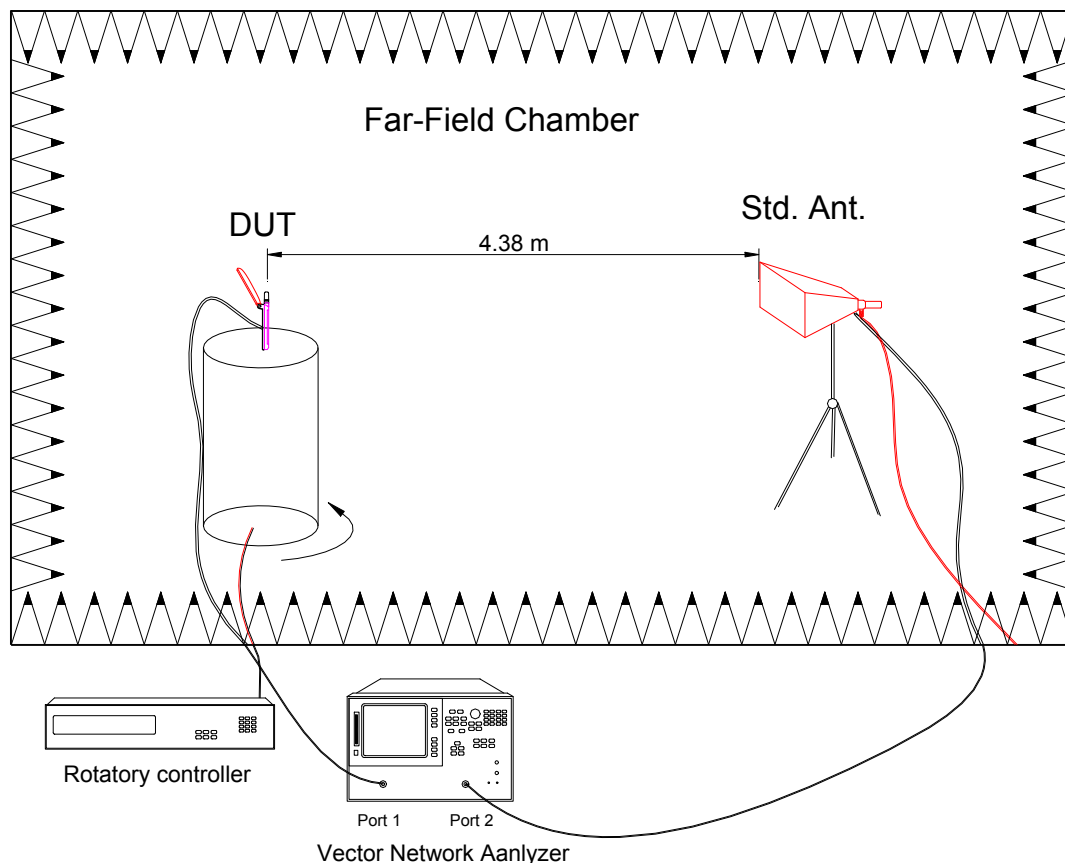
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2-4. Efficiency and Gain

4-5.1 Measure method

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

4-5.2 Chamber definition



1. An anechoic chamber (7mx4mx3m) 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)

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2-4-1 Efficiency and Gain

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1559	38.57	-7.31	0.95
1560	38.12	-7.42	0.81
1561	37.33	-7.61	0.63
1562	36.7	-7.77	0.51
1563	36.26	-7.89	0.45

BD

1573	39.34	-7.14	1.57
1574	39.47	-7.11	1.52
1575	39.42	-7.12	1.42
1576	39.17	-7.17	1.29
1577	38.89	-7.24	1.15

GPS

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	41.44	-6.69	0.35
2410	43.44	-6.3	0.16
2420	45.73	-5.9	0.26
2430	39.47	-5.31	0.92
2440	43.16	-4.79	0.84
2450	39.39	-5.32	0.18
2460	44.21	-4.66	0.75
2470	44.53	-4.62	0.9
2480	45.9	-4.45	0.98
2490	47.68	-4.24	1.61
2500	44.08	-4.68	1.58

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
5150	45.38	-3.43	3.68
5200	42.55	-3.71	3.06
5250	42.99	-3.67	3.01
5300	49.52	-3.05	3.35
5350	49.87	-3.02	3.07
5400	58.25	-2.35	3.85
5450	68.67	-1.63	4.29
5500	55.86	-2.53	3.4
5550	50.25	-2.99	2.53
5600	44.5	-3.52	2.27
5650	69.06	-1.61	4.26
5700	71.64	-1.45	4.93
5750	51.33	-2.9	4.63
5800	63.61	-1.96	5.08
5850	61.71	-2.1	5.46

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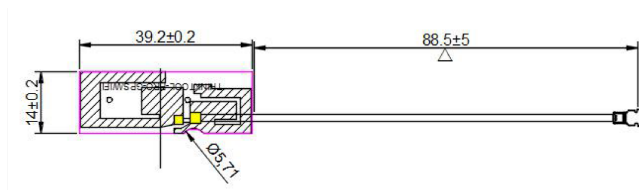
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3. Mechanical Specification:

3-1. Mechanical Configuration (Unit: mm)

The appearance of the antenna is according to drawing



3-2. Connector appearance:

IPEX

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