

2011.11.17

MB-RD-E11117-08

SPECIFICATIONS SHEET

**GPS ANTENNA
(XGA5x A)**

CONFIDENTIAL

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1. General Application

This document specifies the chip antenna for the mobile communication terminal.

Model Number	XGA5x A
Application	GPS

2. Technical Specification

2.1 Electrical Specification

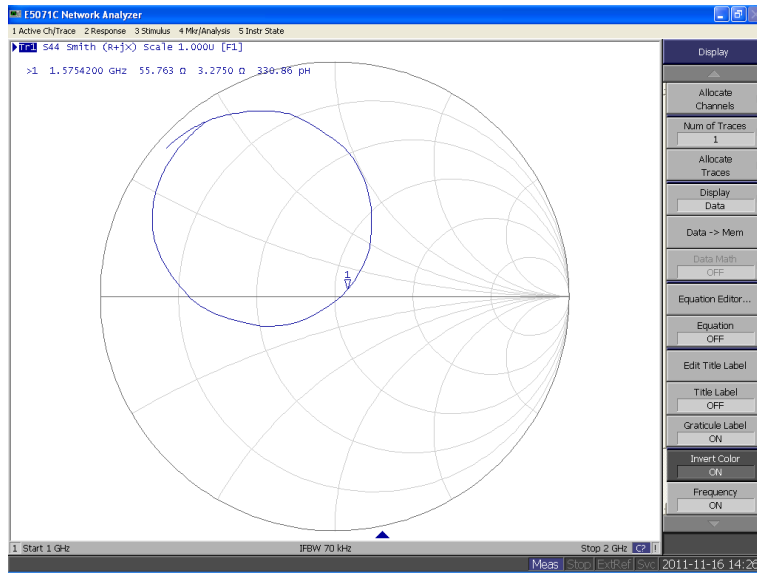
No	Item	Specification	Remarks
1	Frequency Range	1575.42MHz	
2	VSWR	2.0: 1	
3	Impedance	50 Ω	
4	3D Efficiency	58%	Test Jig
5	Polarization	Linear	
6	Radiation Pattern	Omni directional	

2.2 Mechanical Specification

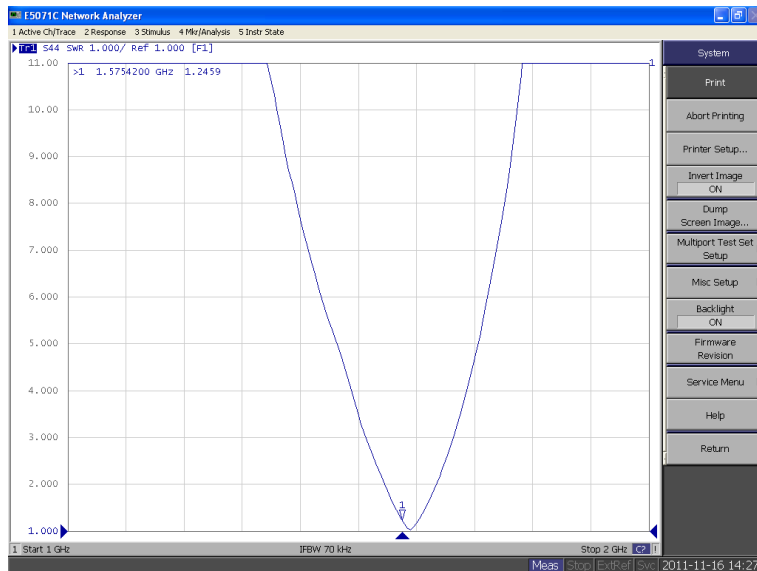
No	Item	Specification	Remarks
1	Dimension	3 * 12.5 * 2.0(H)mm	
2	Radiator Material	Copper	
3	Operating Temperature	-30℃ ~ +80℃	
4	Operating Humidity	10% ~ 90%	
5	Weight	N/A	
6	Connector Type	Solder(SMT)	

3. Measurement Data

3.1 VSWR & Smith Chart



< Smith Chart >



< VSWR >

Fig 2. VSWR & Smith Chart

3.2 Test Result (3D Efficiency)

	1	2	3	4	5	6	7	8
Frequency(MHz)	1550	1560	1565	1570	1575	1580	1585	1590
Efficiency(dB)	-2.14	-2.16	-2.16	-2.26	-2.35	-2.39	-2.36	-2.48
Efficiency(%)	61.15	60.75	60.86	59.38	58.20	57.73	58.14	56.48
TRG(dB)	-2.14	-2.16	-2.16	-2.26	-2.35	-2.39	-2.36	-2.48
TRG _{Theta} (dB)	-2.67	-2.72	-2.73	-2.84	-2.94	-2.98	-2.96	-3.09
TRG _{Phi} (dB)	-11.48	-11.34	-11.26	-11.31	-11.33	-11.31	-11.23	-11.32
UHRG(dB)	-6.67	-6.72	-6.71	-6.81	-6.89	-6.91	-6.88	-7.01
UHRG/TRG(%)	35.20	35.02	35.01	35.09	35.19	35.27	35.29	35.24
H-Plane	-0.93	-0.94	-0.93	-1.01	-1.07	-1.08	-1.04	-1.14
E1-Plane, AVG(dB)	-4.16	-4.21	-4.22	-4.34	-4.44	-4.49	-4.47	-4.61
E2-Plane, AVG(dB)	-3.47	-3.50	-3.50	-3.62	-3.72	-3.75	-3.73	-3.87
Peak Gain(dB)	0.84	0.85	0.86	0.86	0.86	0.87	0.89	0.90
Directivity(dB)	2.98	3.02	3.01	3.12	3.21	3.26	3.25	3.38
Minimum Gain(dB)	-11.91	-11.08	-10.67	-10.39	-10.15	-9.88	-9.54	-9.44
Test Condition	FS							
Antenna Type								
Average Efficiency	-2.29 dB,		59.08 %					

3.3 Radiation Pattern

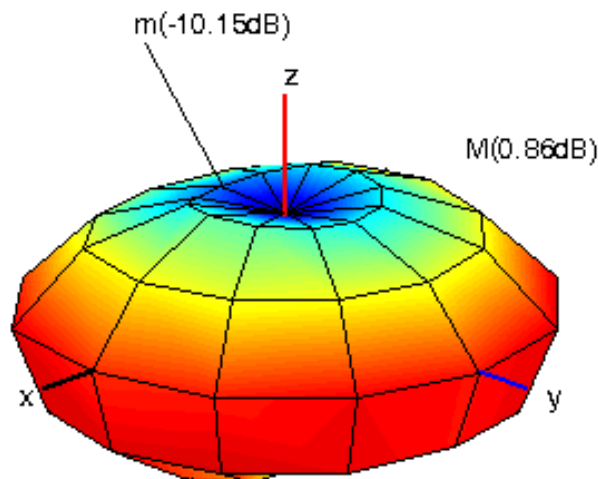
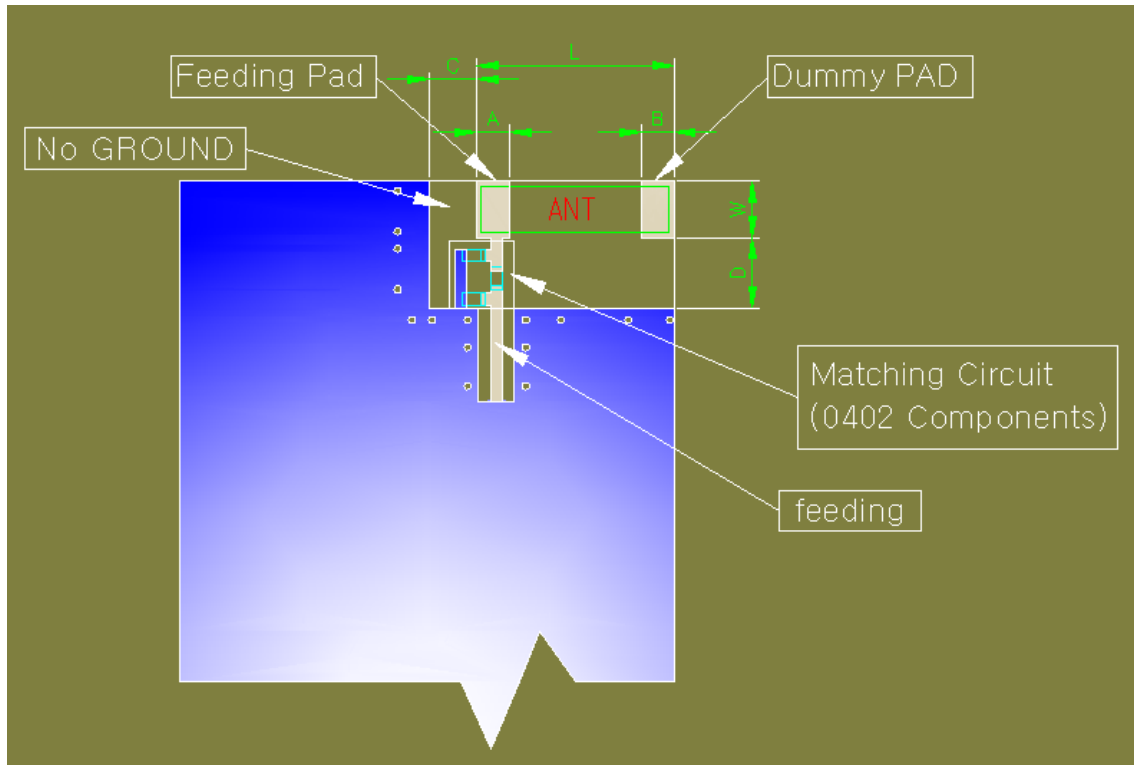


Fig 3. Radiation Pattern

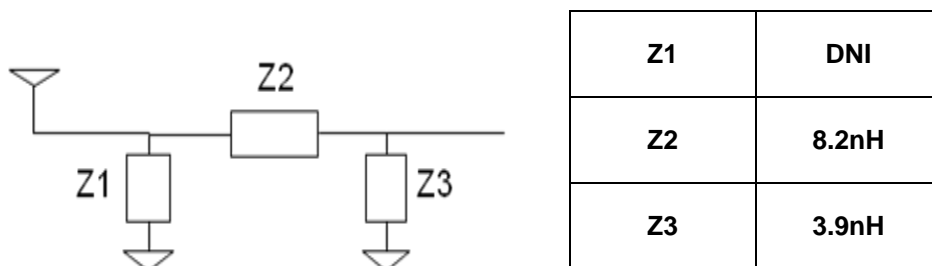
4. Application Guide

4.1 PCB Design Guide



	A	B	C	D	L	W
DIM(mm)	1.7	1.7	2.0	3.0	12.9	3.4

4.2 Default Condition Matching Circuit



< Default Matching Value >