

2011.11.17

MB-RD-E11117-03

SPECIFICATIONS SHEET

**WLAN ANTENNA
(PE11x)**

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1. General Application

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

Model Number	PE11x
Application	WiFi, BT

2. Technical Specification

2.1 Electrical Specification

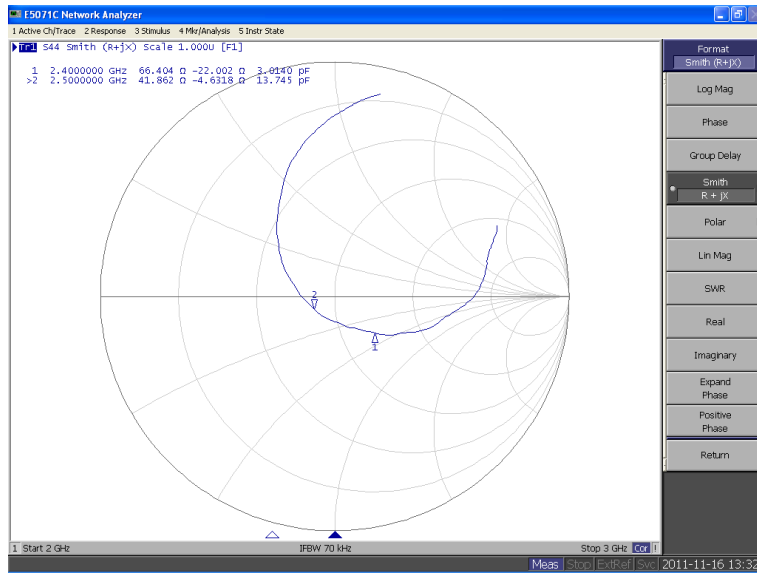
No	Item	Specification	Remarks
1	Frequency Range	2.4GHz ~ 2.5GHz	
2	VSWR	2.0: 1	
3	Impedance	50 Ω	
4	3D Efficiency	74%	Test Jig
5	Polarization	Linear	
6	Radiation Pattern	Omni directional	

2.2 Mechanical Specification

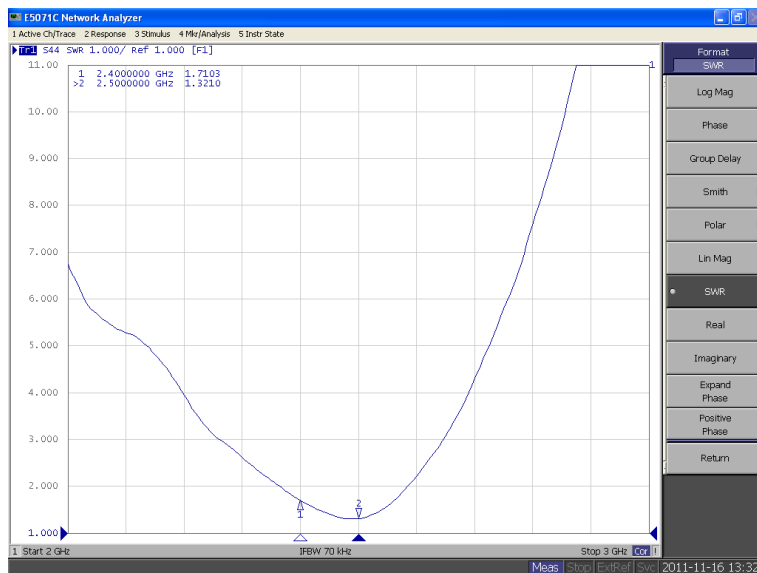
No	Item	Specification	Remarks
1	Dimension	4 * 10 * 2.0(H)mm	
2	Radiator Material	Copper	
3	Operating Temperature	-30℃ ~ +80℃	
4	Operating Humidity	10% ~ 90%	
5	Weight	N/A	
6	Connector Type	Solder(SMT)	

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	9	10	11
Frequency(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Efficiency(dB)	-1.27	-1.06	-1.14	-1.21	-1.16	-1.34	-1.57	-1.23	-1.24	-1.27	-1.48
Efficiency(%)	74.63	78.42	76.94	75.63	76.54	73.42	69.60	75.38	75.12	74.71	71.20
TRG(dB)	-1.27	-1.06	-1.14	-1.21	-1.16	-1.34	-1.57	-1.23	-1.24	-1.27	-1.48
TRG _{Total} (dB)	-1.56	-1.35	-1.44	-1.52	-1.49	-1.67	-1.91	-1.55	-1.58	-1.59	-1.81
TRG _{Phi} (dB)	-13.24	-12.93	-12.88	-12.84	-12.55	-12.70	-12.85	-12.62	-12.55	-12.64	-12.72
UHRG(dB)	-7.13	-6.96	-7.07	-7.15	-7.10	-7.29	-7.51	-7.18	-7.23	-7.32	-7.59
UHRG/TRG(%)	25.97	25.67	25.49	25.46	25.45	25.43	25.46	25.42	25.22	24.80	24.46
H-Plane	-0.17	0.03	-0.06	-0.12	-0.08	-0.27	-0.51	-0.16	-0.22	-0.33	-0.66
E1-Plane, AVG(dB)	-1.00	-0.77	-0.85	-0.90	-0.81	-0.95	-1.18	-0.82	-0.83	-0.83	-1.03
E2-Plane, AVG(dB)	-3.30	-3.09	-3.17	-3.25	-3.23	-3.47	-3.74	-3.42	-3.46	-3.49	-3.73
Peak Gain(dB)	3.60	3.84	3.81	3.83	3.98	3.86	3.68	4.07	4.08	4.11	3.98
Directivity(dB)	4.88	4.90	4.95	5.05	5.14	5.20	5.25	5.30	5.33	5.38	5.45
Minimum Gain(dB)	-16.81	-18.12	-19.51	-19.69	-18.41	-18.23	-18.02	-17.31	-16.61	-15.73	-15.06
Test Condition	FS										
Antenna Type											
Average Efficiency	-1.27 dB,		74.69 %								

3.3 Radiation Pattern

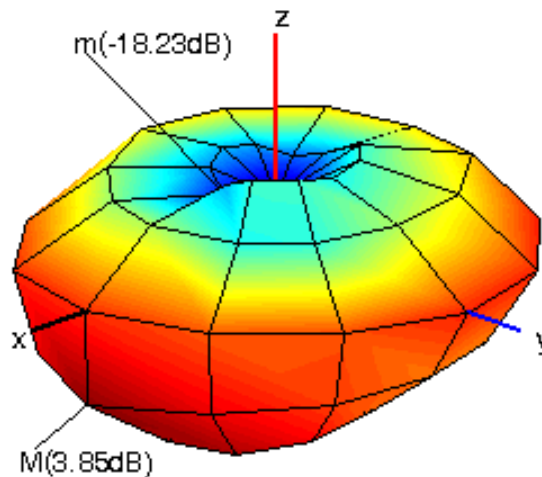
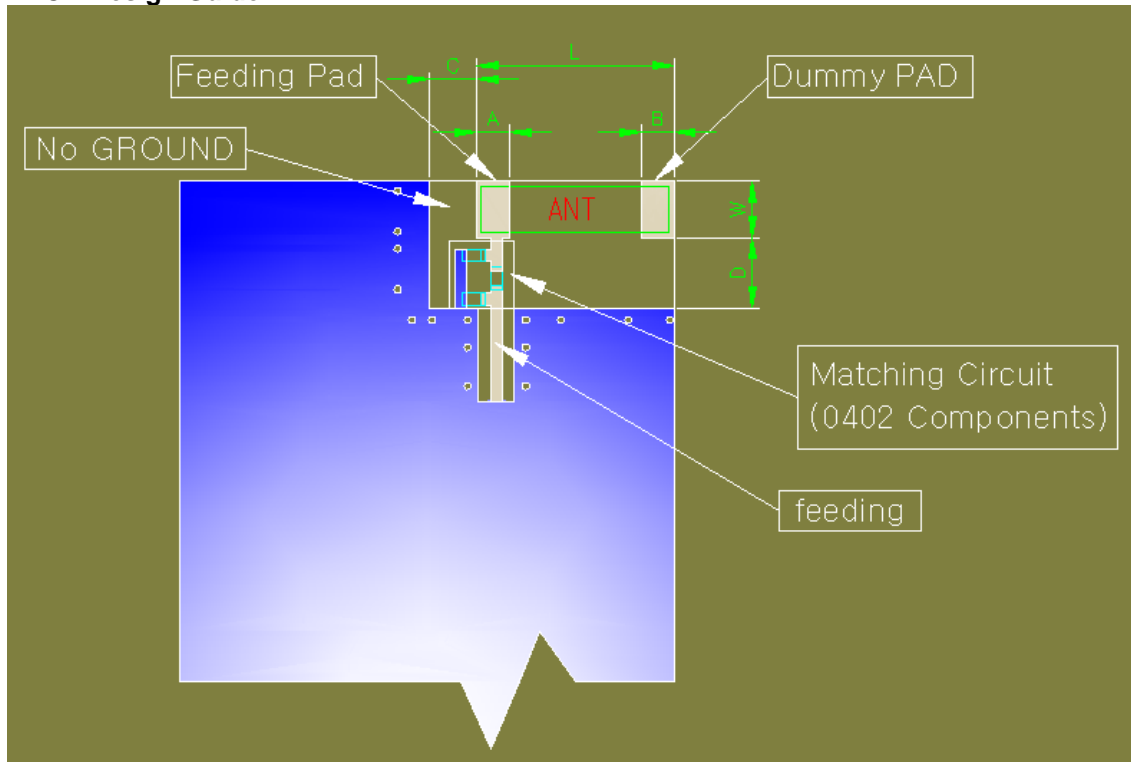


Fig 3. Radiation Pattern

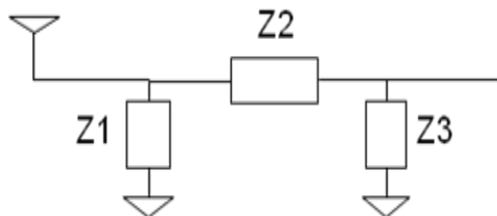
4. Application Guide

4.1 PCB Design Guide



	A	B	C	D	L	W
DIM(mm)	1.7	1.7	2.0	3.0	10.4	4.4

4.2 Default Condition Matching Circuit



Z1	5.6nH
Z2	3.3nH
Z3	DNI

< Default Matching Value >