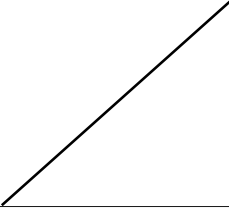


APPROVAL SHEET

**MODEL: D6500
BT ANTENNA**

Point–Mobile

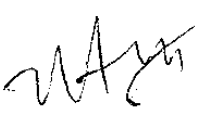
Approval Code : 9930SB0504T01

Customer	Point-mobile		
	EN' GR	CHKD	APPD
Customer's Approved			
Approval Date	2009. 10 . 30		2009. 10 . 30

Date of Issue: 2009. 10. 26

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Part Division	Mechanical Part	Electrical Part	Approval
			
	10 / 26	10 / 26	10 / 26
Part Name	SB0504T0A		
Model Name	D6500		

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1. Revision History

NO.	Before	After	Reason	Date
1	V1.0	V1.1	Antenna Pattern 변경 Antenna Color 변경(Black → Blue)	09.10.26
2				
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2. General Application

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

Model Number	SB0504T0A
Application	Bluetooth

3. Technical Specification

3.1 Electrical Specification

No	Item	Specification	Remarks
1	Frequency Range	2.4GHz ~ 2.835GHz	
2	VSWR	2:1	
3	Impedance	50 Ω	
4	3D Efficiency	Board:55%, Set:50%	
5	Polarization	Linear	
6	Radiation Pattern	Omni directional	

3.2 Mechanical Specification

No	Item	Specification	Remarks
1	Dimension	13.5 * 11.5 * 2 (H) mm	
2	Operating Temperature	-30℃ ~ +80℃	
3	Operating Humidity	10% ~ 90%	
4	Weight	0.5g	
5	Connector Type	Manual solder	

4. Measurement Data

4.1 VSWR & Smith Chart

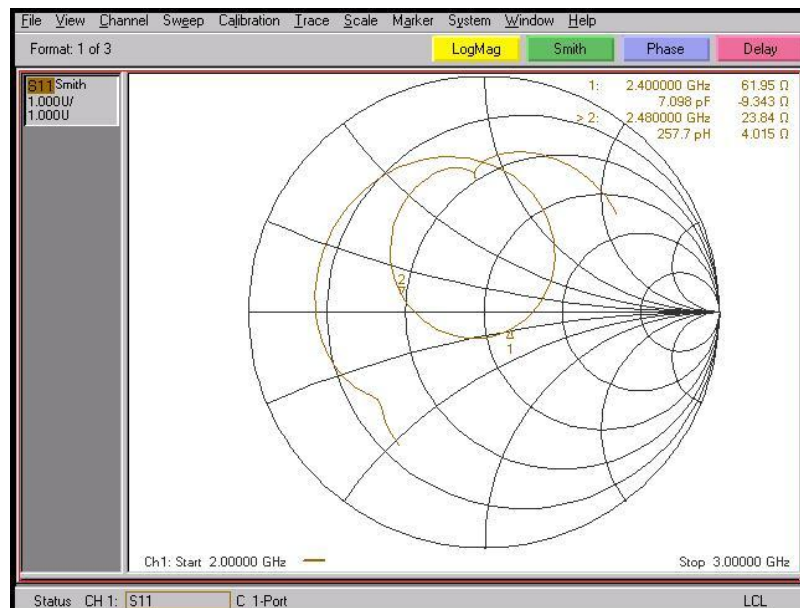


Fig 2. VSWR & Smith Chart

4.2 Test Result (3D Efficiency)

	1	2	3	4	5	6	7	8	9	10
Frequency(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490
Efficiency(dB)	-2.73	-2.82	-2.65	-2.59	-2.42	-2.77	-2.94	-2.78	-2.36	-3.08
Efficiency(%)	53.35	52.23	54.34	55.08	57.33	52.79	50.76	52.73	58.03	49.25
TRG(dB)	-2.73	-2.82	-2.65	-2.59	-2.42	-2.77	-2.94	-2.78	-2.36	-3.08
TRG _{Thata} (dB)	-5.99	-6.22	-6.34	-6.23	-5.88	-6.19	-6.83	-6.15	-5.76	-6.71
TRG _{phi} (dB)	-5.50	-5.48	-5.07	-5.05	-5.01	-5.41	-5.23	-5.46	-5.02	-5.54
UHRG(dB)	-6.45	-6.49	-6.29	-6.20	-5.96	-6.26	-6.39	-6.22	-5.70	-6.34
UHRG/TRG(%)	42.47	43.00	43.26	43.58	44.24	44.78	45.27	45.31	46.42	47.13
H-Plane	-5.81	-6.02	-6.07	-5.97	-5.64	-5.91	-6.42	-5.73	-5.53	-6.50
E1-Plane, AVG(dB)	-5.24	-5.32	-5.33	-5.13	-4.72	-4.96	-5.56	-4.82	-4.33	-5.33
E2-Plane, AVG(dB)	-7.51	-7.76	-7.95	-7.83	-7.44	-7.82	-8.54	-7.80	-7.02	-7.91
Peak Gain(dB)	1.91	1.72	1.73	2.02	2.45	2.24	1.72	2.37	2.63	1.67
Directivity(dB)	4.64	4.54	4.38	4.61	4.86	5.01	4.67	5.15	5.00	4.75
Minimum Gain(dB)	-9.38	-9.27	-8.67	-8.88	-8.89	-9.14	-9.22	-9.03	-8.85	-9.54
Test Condition										
Antenna Type										
Average Efficiency	-2.71 dB,		53.59 %							

4.3 Radiation Pattern

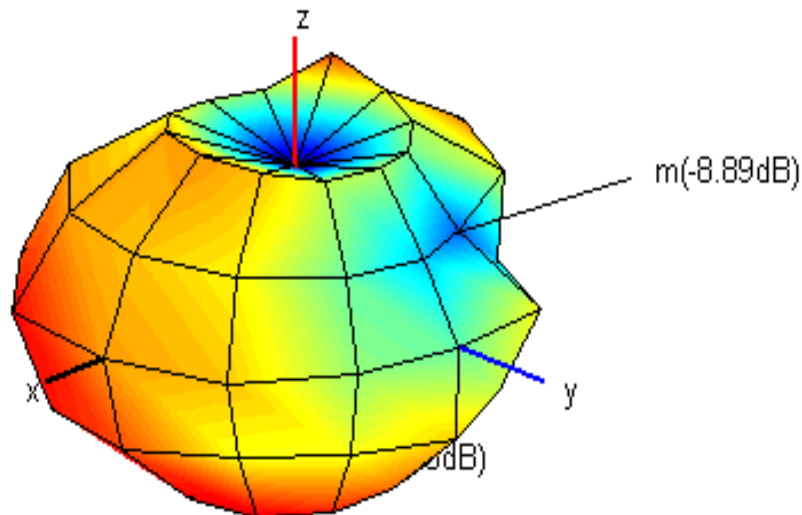


Fig 3. Radiation Pattern

	Efficiency (%)	Efficiency (dB)	UHRG(dB)	Peak Gain
Radiation	53%	-2.71	-6.0	0.85

5. Reliability Specification

No	Item	Conditions and Method
1	Temperature Shock	● Perform 10 cycles as follow ■ High Temp.: 30min, +85°C ■ Low Temp.: 30min, -40°C ■ Repeat : 10 times ● Stabilize at room temperature for measurement
2	Dry Heat Test	● Dwell in +85°C chamber for 72 hours ● Stabilize at room temperature for measurement
3	Low Temperature Test	● Dwell in -40°C chamber for 72 hours ● Stabilize at room temperature for measurement
4	Humidity Test	● Dwell in test chamber at +50C and 95% RH for 24 hours ● Stabilize at room temperature for measurement
5	Drop Test	● Conditions ■ Drop height: 1.5 m ■ Drop angle: 45 ° / 90 ° ■ Drop cycle : Each 5 times ■ Weight : 150 g
6	Salt Spray Test	● After exposing to 5% sodium atmosphere at +35° C for 72 hours and washing pure water, test within 2 hours

6. Packing Specification

Item	Quantity	Materials	Remarks
Tray	100EA	P.S/PET	

