







No. : SEKWANG 2008-14

Date :2008. 02. 22

SPECIFICATION

Product Name	ANTENNA
Customer	
Model Name	PG430
Customer Code.	
Provider	SE KWANG
Part Code.	SKQ801-0000AA

	Submitted	Checked		Approved
Buyer				
SE KWANG	Submitted	Checked	Checked	Approved
				



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1. Product History

LIST					
NO	Data	Front	After	Change	REV
1	2008.02.22			Proto Approval	0
2					
3					
4					
5					
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2. Electrical Feature

2.1. Frequency Band

BAND	GSM850		GSM900		DCS1800		PCS1900	
FREQUENCY	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx
	824MHz	869MHz	880MHz	925MHz	1710MHz	1805MHz	1850MHz	1930MHz
	~	~	~	~	~	~	~	~
	849MHz	894MHz	915MHz	960MHz	1785MHz	1880MHz	1910MHz	1990MHz

2.2 Impedance

2.2.1 Input Impedance

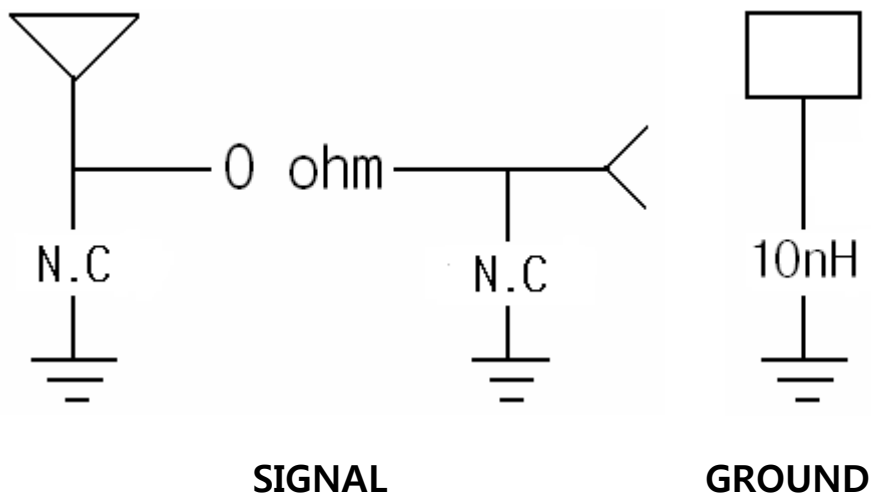
- R = 50Ω

2.2.2 Measuring Method

By using Network Analyzer, connect the antenna installed handset to the reflection point of Analyzer and measure the impedance value within the designated frequency band.

2.3 Matching circuit

Matching Circuit is composed in free space of 2.1 frequency band while satisfying customer's requirements.



<Figure 2.3.1 Matching circuit>



2.4 VSWR

Impedance Matching optimization is performed under the below mentioned environment.

2.4.1 Free Space Environment

BAND	GSM850	GSM900	DCS1800	PCS
FREQ	824MHz	960MHz	1710MHz	1990MHz
DOWN	3.0:1	3.5:1	3.5:1	3.5:1

2.4.2 Measuring Method

Connect (soldering) 50Ω semi-rigid coaxial cable to the 50Ω spot in handset. To minimize the loss of transmission, semi-rigid coaxial cable is used. Including PCB, the handset shouldn't be different from the one, which will be used for mass production.

Specification should be the same for all frequency bands. Free Space means that Handset is put on the surface of no conducting plastic.

2.5 Directivity

Omni-directional (Horizontal)

BAND		GSM850	GSM900	DCS1800	PCS1900
GAIN	Avg.	-4.41 dBi	-4.38 dBi	-4.01 dBi	-3.75 dBi
	Peak	-1.21 dBi	-0.98 dBi	1.07 dBi	0.03 dBi

2.6 Maximum Power

- P=2W Under



3. Environment Test

3.1 Operating Temperature Test

3.1.1 Test Condition

Temperature = -30°C, +80°C

Duration time = 1 hour

3.1.2 Requirements

After the test, the antenna must not have an outer damage, and also it must pass requirement shown in 2.4.

3.1.3 Measuring Method

Antenna is kept at -30°C for 1 hour and +80°C for 1 hour and then passed test of 2.4

3.2 Temperature Cycling Test

3.2.1 Test Condition

- Low cycling Temperature TLC = -40°C
- High cycling Temperature THC = +80°C
- 1Cycle = 4 hours
- Test number = 10Cycle

3.2.2 Requirements

After the test, the antenna must not have an outer damage, and also it must pass requirement shown in 2.4.

3.2.3 Measuring Method

Antenna is kept at low temperature -40°C for 2 hours and increase the temperature up to $+80^{\circ}\text{C}$ within 2 hour and kept for another 2 hours at the same temperature will be 1 cycle. As shown in Figure 3.2.1 repeat 10 cycle and kept for 2 hour in normal temperature.

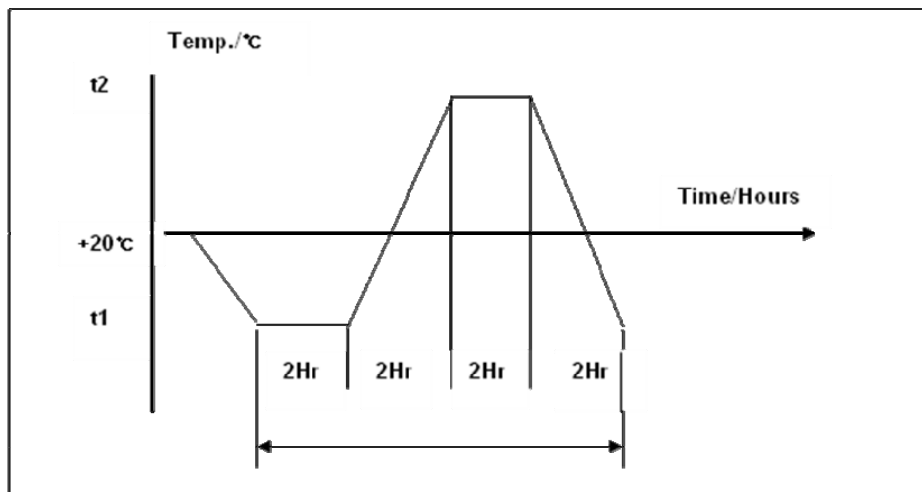


Figure 3.2.1 Temperature Cycling

3.3 Corrosion Resistance Test

3.3.1 Test Condition

- NaCl = 90%
- Water Temperature = 60°C
- Duration Time = 96 hours

3.3.2 Requirements

After the test, the antenna must not have an outer damage, and also it must pass requirement shown in 2.4.

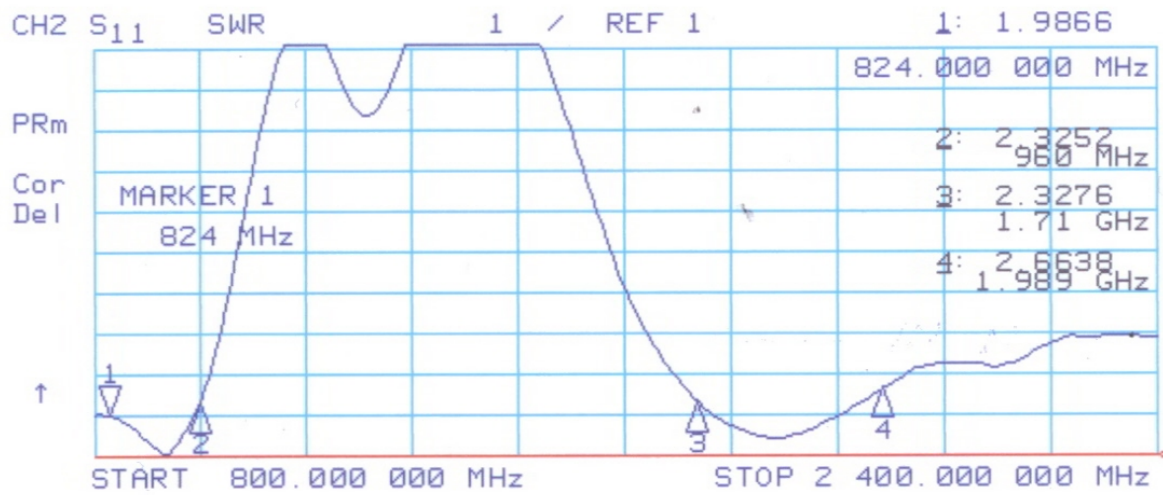
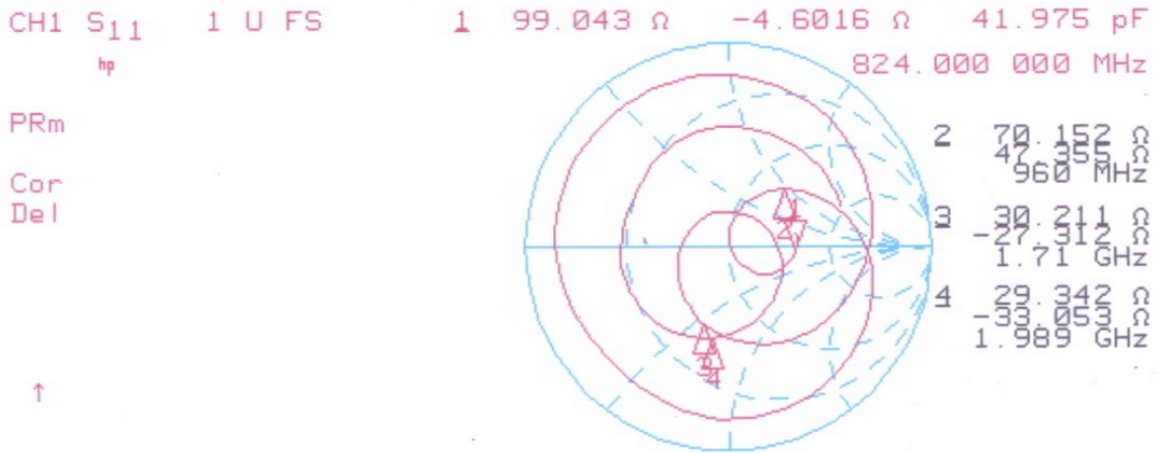
3.3.3 Measuring Method

Antenna is soaked in sodium chloride solution at temperature $+60^{\circ}\text{C}$ and 90%(NaCl) for 96 hours and dry out.



4. Electric Performance Data

4.1.1. Smith Chart & VSWR





DCS1800, PCS1900

