

## 1. Electrical Feature

### 1.1 Frequency Band

Service Frequency	GSM-850	GSM-900	DCS-1800	US-PCS	WCDMA
Tx (MHz)	X	X	X	X	X
Rx (MHz)	X	X	X	1930-1990	2110-2170

### 1.2 Impedance

#### 1.2.1 Input Impedance

-  $R = 50\Omega$

#### 1.2.2 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.

### 1.3 Matching Circuit

Matching Circuit is composed in free space of 4.1 frequency band while satisfying customer's requirements. Matching Circuit is corresponded to the figure 4.3.1.

NO Matching

**Figure 4.3.1 Matching circuit**

## 1.4 V.S.W.R.

Impedance Matching optimization is performed under the below mentioned environment.

### 1.4.1 Free Space Environment

Service Band Mode	GSM-850		GSM-900		DCS-1800		US-PCS		WCDMA	
	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx
V.S.W.R.(Close)	X	X	X	X	X	X	X	3:1	X	3:1

### 1.4.2 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.

## 1.5 Directive ness

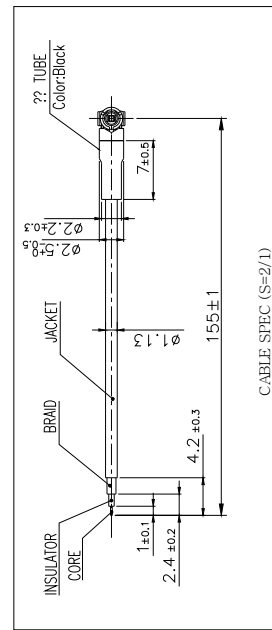
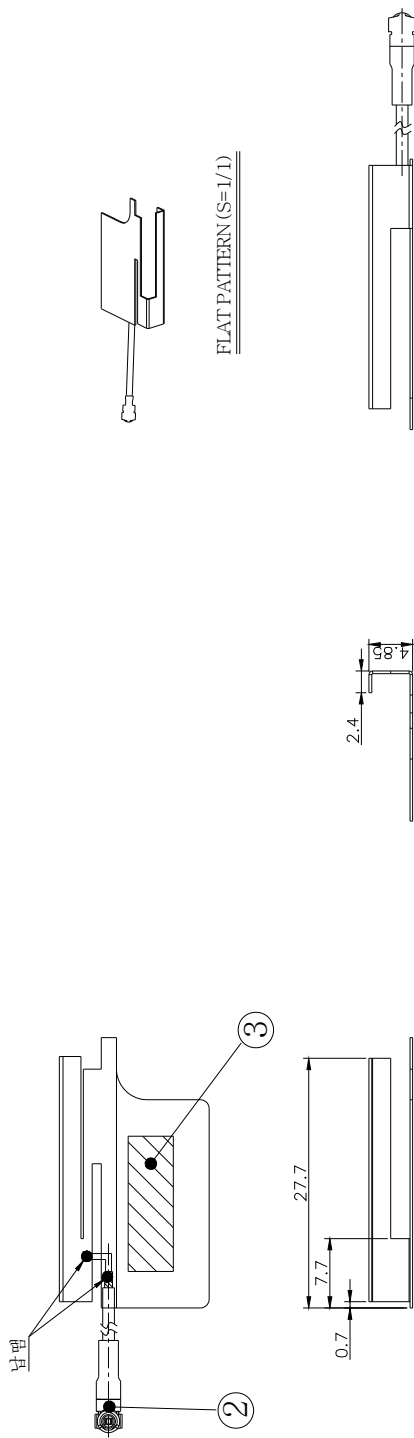
Omni-directional(Horizontal)

## 1.6 Maximum Power

- P = 2W under

## 2. External Drawing

MARK	REVISION	DATE	SIGN
A	초도발행	'07.05.31	S.J.H



CABLE SPEC (S=2/1)

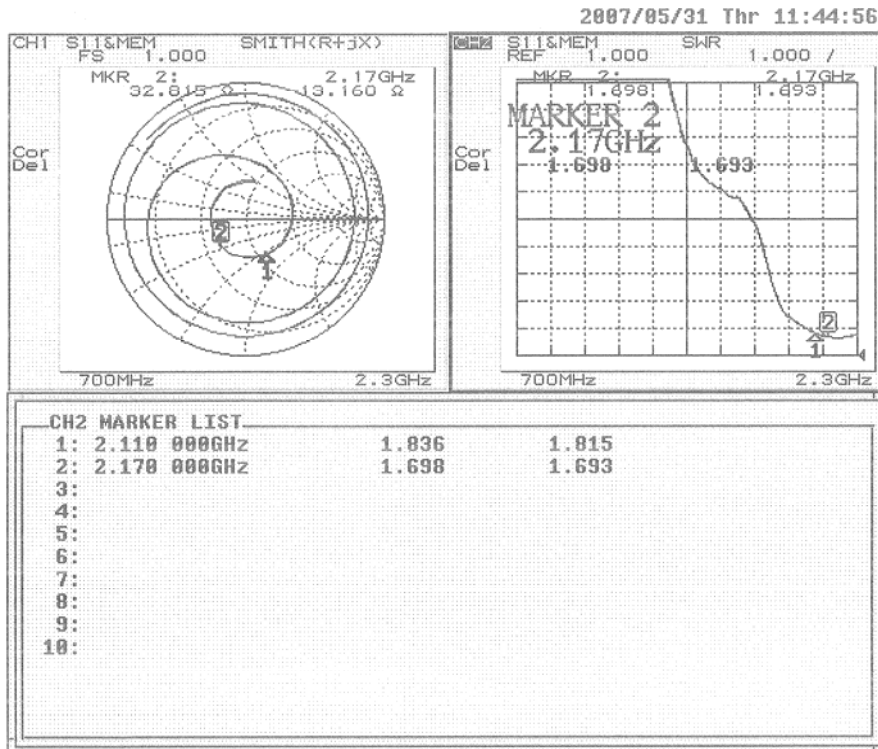
④	HIR-01701-F131AA	DOUBLE SIDE TAPE	TAPE	1	-
③	HIR-01701-CAG1AA	CABLE ASSY	AgCu Wire	1	-
②	HIR-01702-354AA	RADIATOR PRESS	SUS304 (0.3)	1	NI Plated
①	HIR-01702-354AA	RADIATOR PRESS	MATERIAL	QTY	FINISH/COLOR
GENERAL TOLERANCE		DESIGNED	CHECKED	APPROVAL	MODEL
mm	A B C	S.J.H			MACAO_AUX
0~6	±0.05 ±0.10 ±0.25	07.05.31			INTERNAL ANTENNA ASSY
6~18	±0.07 ±0.14 ±0.25				PART NO HIR-01702-0000AA
18~50	±0.10 ±0.20 ±0.50				
50~120	±0.15 ±0.30 ±1.00				
120~250	±0.20 ±0.50 ±1.00				
250~500	±0.30 ±1.50 ±2.00				
SCALE		UNIT	THIRD ANGLE DIMENSION		
2 / 1		mm			
METRIC		E.M.W. Antenna Co., LTD			

NOTE  
 1. 지정 공차 이외의 공차 값은 표의 일반 공차 값으로 함.  
 2. 지시하지 않은 R값은 자면 R값임.  
 3. 도금부분 SPEC.  
 4. 외관은 깨끗하고 유해결함(crack/burr; 이물결등)이 없을것.

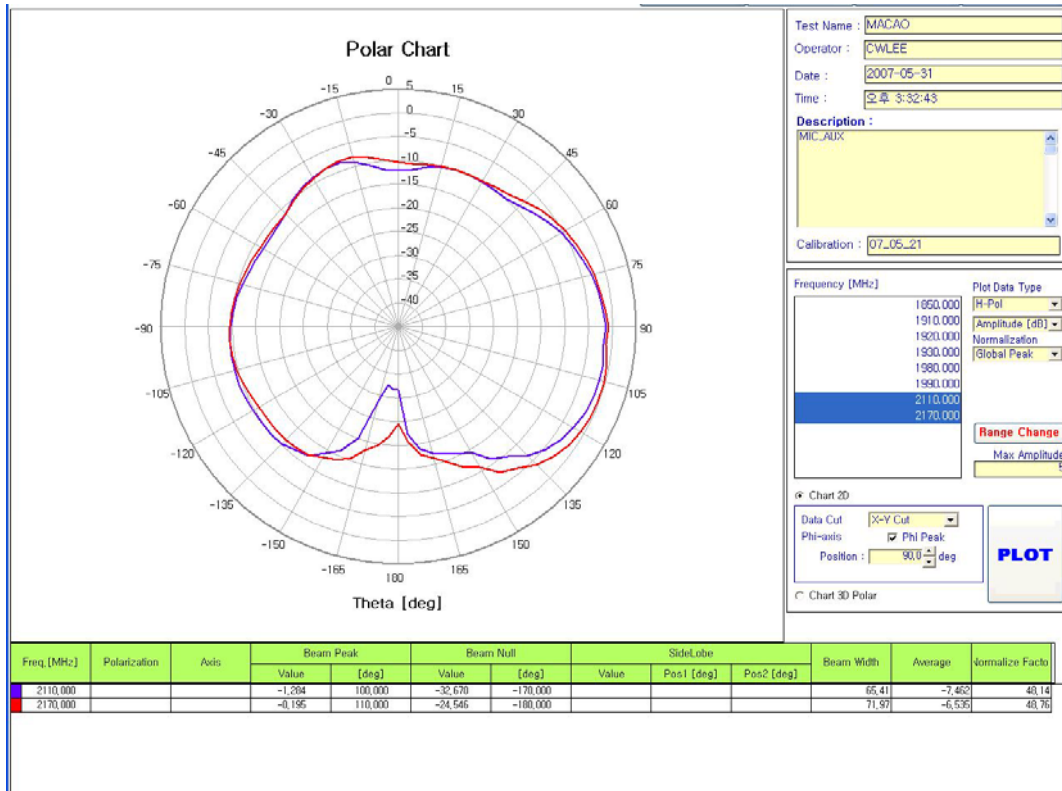
No	부품명	도금종류	도금방식	SPEC	비고
1	RADIATOR PRESS	NI-Plated	전해	NI : 5~15um이하	전해도금

### 3. Electric Performance Data

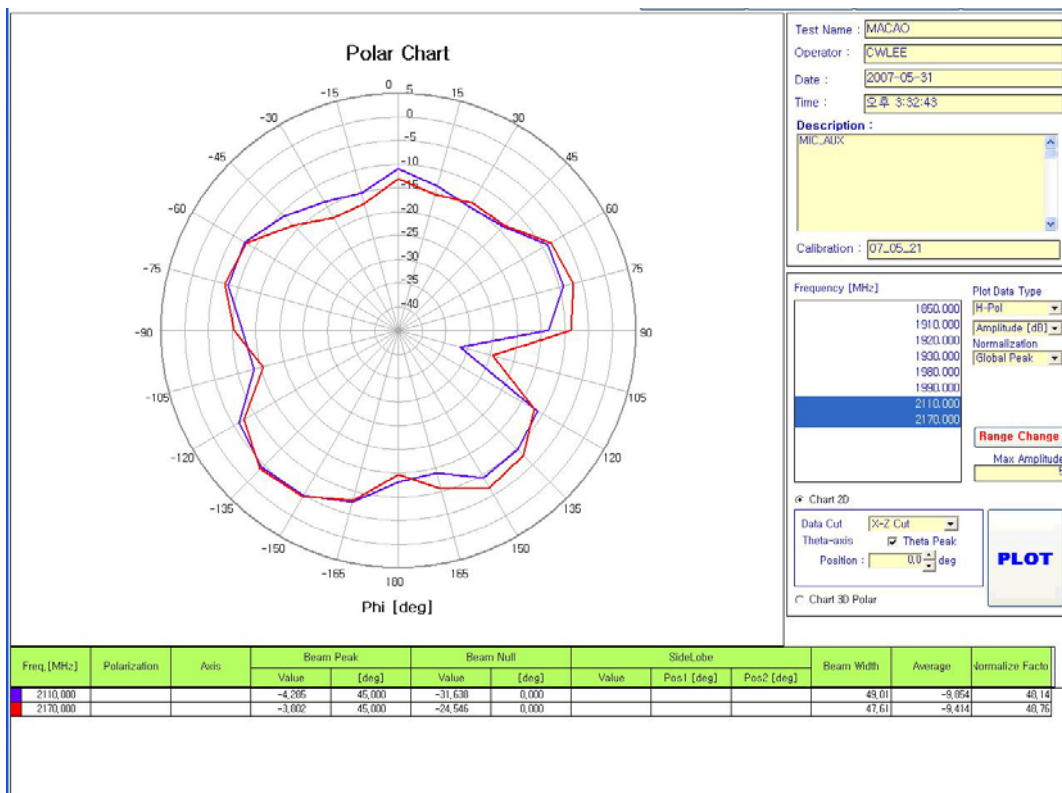
#### 3.1 Smith-Chart & V.S.W.R.



### 3.2 H Pattern (XY-Plane) WCDMA(RX)



### 3.3 E1 Pattern (XZ-Plane) WCDMA(RX)



### 3.4 E2 Pattern (YZ-Plane) WCDMA(RX)

