


SPECIFICATION

Main Internal Antenna

Part No. : AMMAQ002

	Designed	Checked		Approved
Date	/	/	/	/

Revision no	Content	Page	Date	Name
0	First, documented	-	2009.07.27	I.J. Jeong
1	Updated specification-1.4 Marking	2	2010.04.27	I.J Jeong

	AMOTECH CO., LTD 5B-1L, 617, NAMCHON-DONG, NAMDONG-GU, INCHOEN-CITY, KOREA TEL : 82-32-821-0363 FAX : 82-32-811-0283	Designed	Checked		Approved

Notes

The contents of this data sheet are subject to change without notice. Please confirm the specifications and delivery conditions when placing your order.

1. SPECIFICATIONS

1.1. Electrical Specifications

ITEM	GSM900	DCS	PCS	UMTS	Remark
Frequency	880~960MHz	1710~1850MHz	1850~1990MHz	1920~2170MHz	Notes : 1)
Peak Gain	1.9dBi	4.3dBi	5.0dBi	4.9dBi	Notes : 1)
Eff.[%] @Min	46.8%	62.8%	65.3%	74.0%	Notes : 1)
VSWR	3.5 : 1 max. @880~960MHz	3.0 : 1 max.@1710~2170MHz			Notes : 1)
	3.5 : 1 max. @818~861MHz	3.0 : 1 max.@1510~2170MHz			Notes : 2)
Polarization	Linear				Notes : 1)
Radiation Pattern	Omni-directional				Notes : 1)
Impedance	50 Ω				Notes : 1)

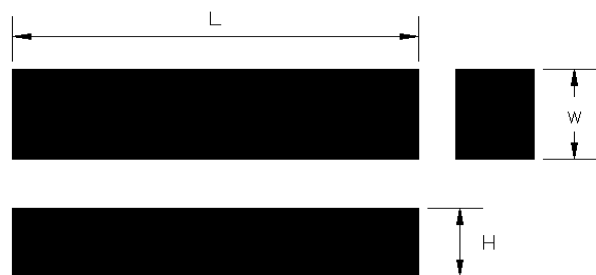
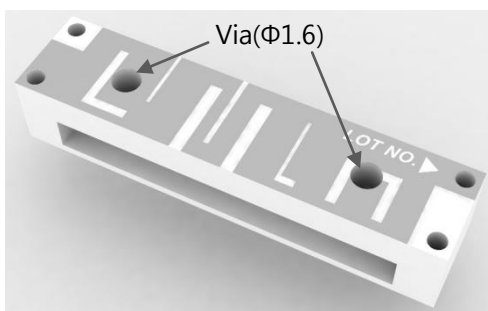
※ Notes:1) Measured on the matched EV test board.

Notes:2) Measured on the matched AMOTECH manual jig.

1.2. Mechanical Specifications

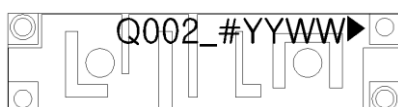
Electrode	Silver	
Dimensions (L x W x H)	22.0 x 5.5 x 4.4	mm
Operating Temperature	-35 ~ +85	℃

1.3. Appearance and Dimensions



Unit : mm
Tolerance : ±0.15

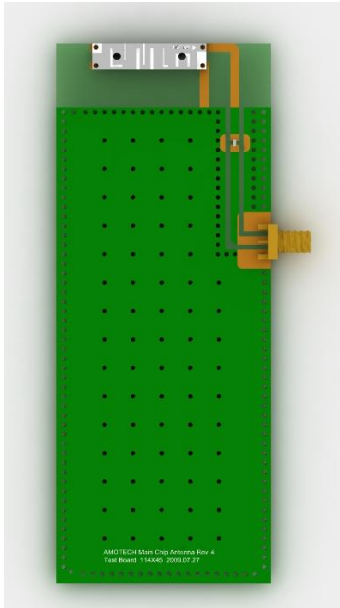
1.4 Marking



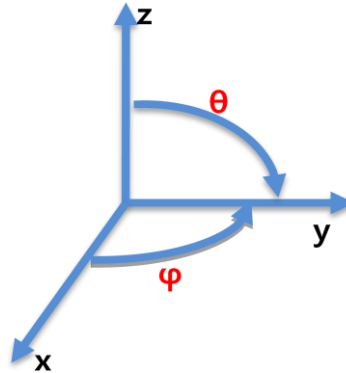
- Q002** : Model No.
- YY** : Year (ex: 2010 → 10)
- WW** : Week (ex: 1st week→01, 7th week→07)
- ▶** : Feeding point

2. MEASUREMENT

2.1. SET for Measurement



Board size: 114x45mm

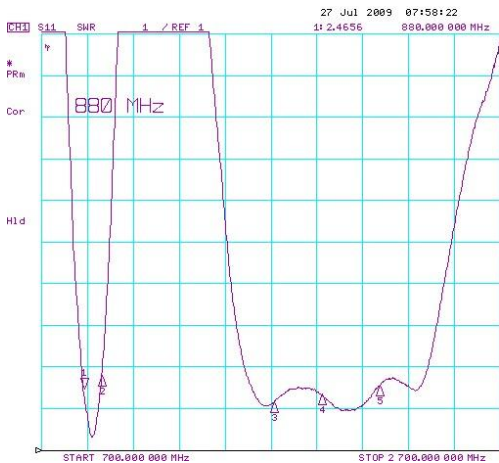


Antenna Radiation coordinate system

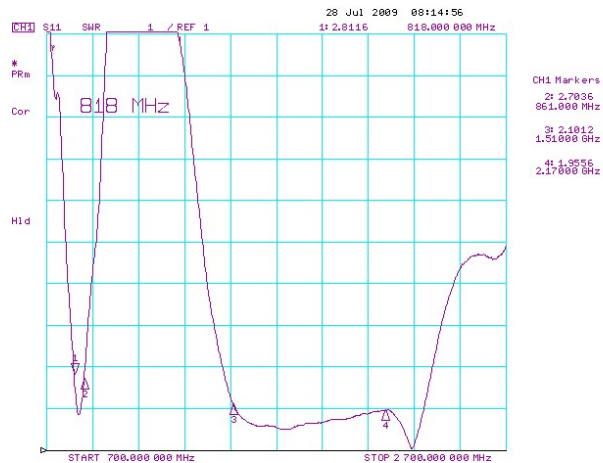
2.2. Electrical Characteristic

◆ S_{11} (VSWR)

Quad Band (EGSM, DCS, PCS, UMTS)



- VSWR @ EV Board -



- VSWR @ Manual Jig -

2.3. Radiation Characteristic

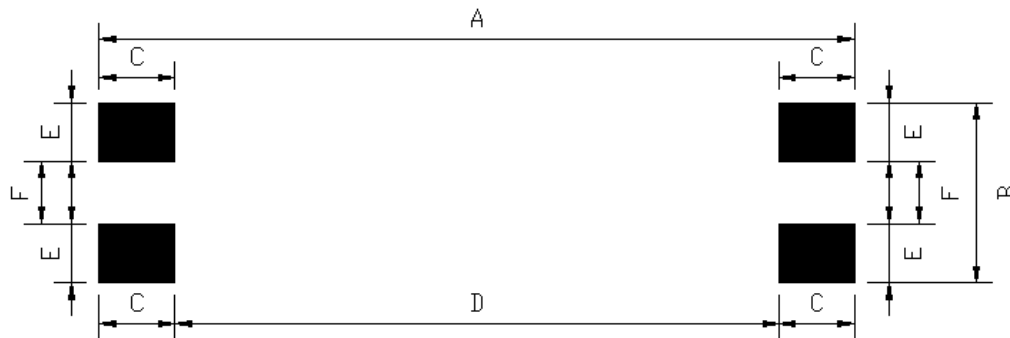
- Measurement Setup

- 6mx3mx3m Anechoic Chamber
- Matching on the standard test board (114 x 45mm)
- Temp. : 25°C / Humidity : 50~55%

Band	Frequency MHz]	Ave. gain (dBi)	Peak. Gain (dBi)	Eff.(%)
GSM900	880	-3.3	0.4	46.8
	915	-2.3	1.5	58.7
	925	-2.2	1.9	60.9
	960	-3.0	1.5	50.3
DCS	1710	-1.1	4.3	77.7
	1785	-2.0	2.6	62.8
	1805	-1.7	3.1	67.5
	1880	-1.9	3.5	63.9
PCS	1850	-1.9	3.8	65.3
	1910	-1.0	5.0	79.9
	1930	-1.1	4.9	77.2
	1990	-1.0	4.9	80.0
UMTS	1920	-1.0	4.1	79.4
	1980	-0.7	4.6	84.3
	2110	-1.3	4.9	74.0
	2170	-1.2	4.6	75.1

3. SOLDERING RECOMMENDATIONS

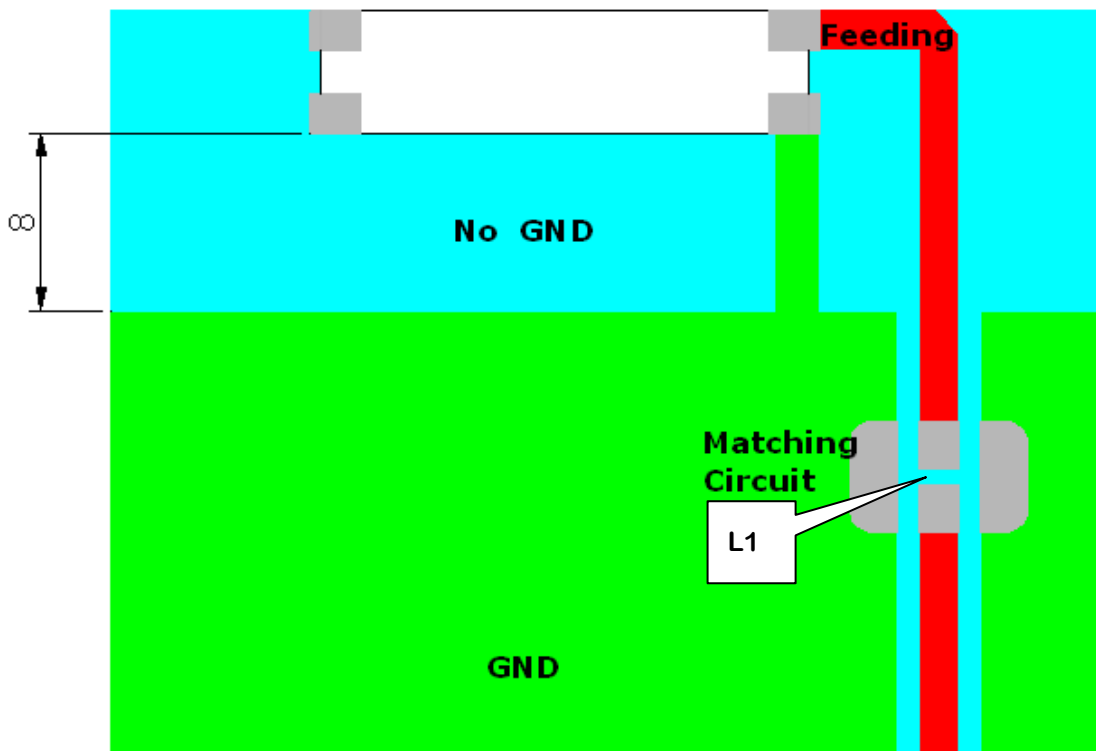
3.1. Soldering Land Pattern



A	23.0
B	5.5
C	2.3
D	18.4
E	1.8
F	1.9

Unit : mm

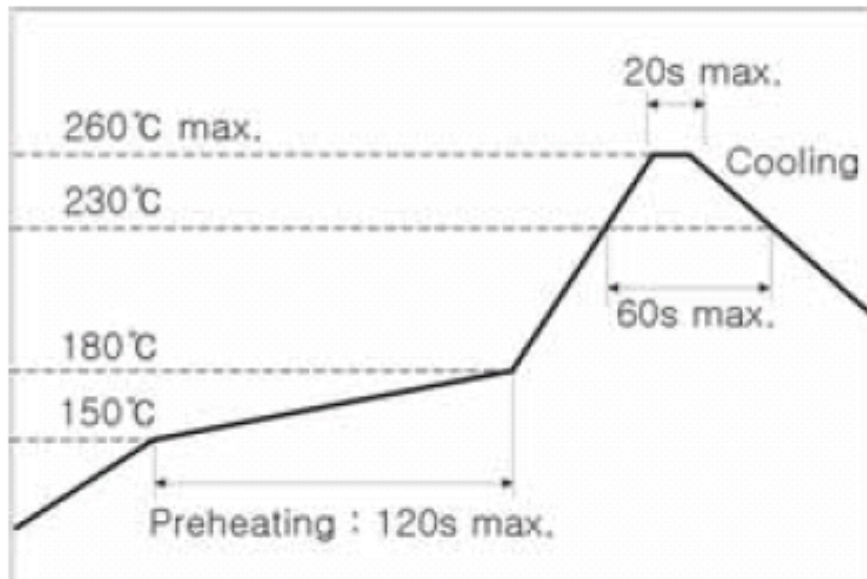
3.2. Free Space Size



L1 (Series)	4.7 nH
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3.2. Soldering Profile

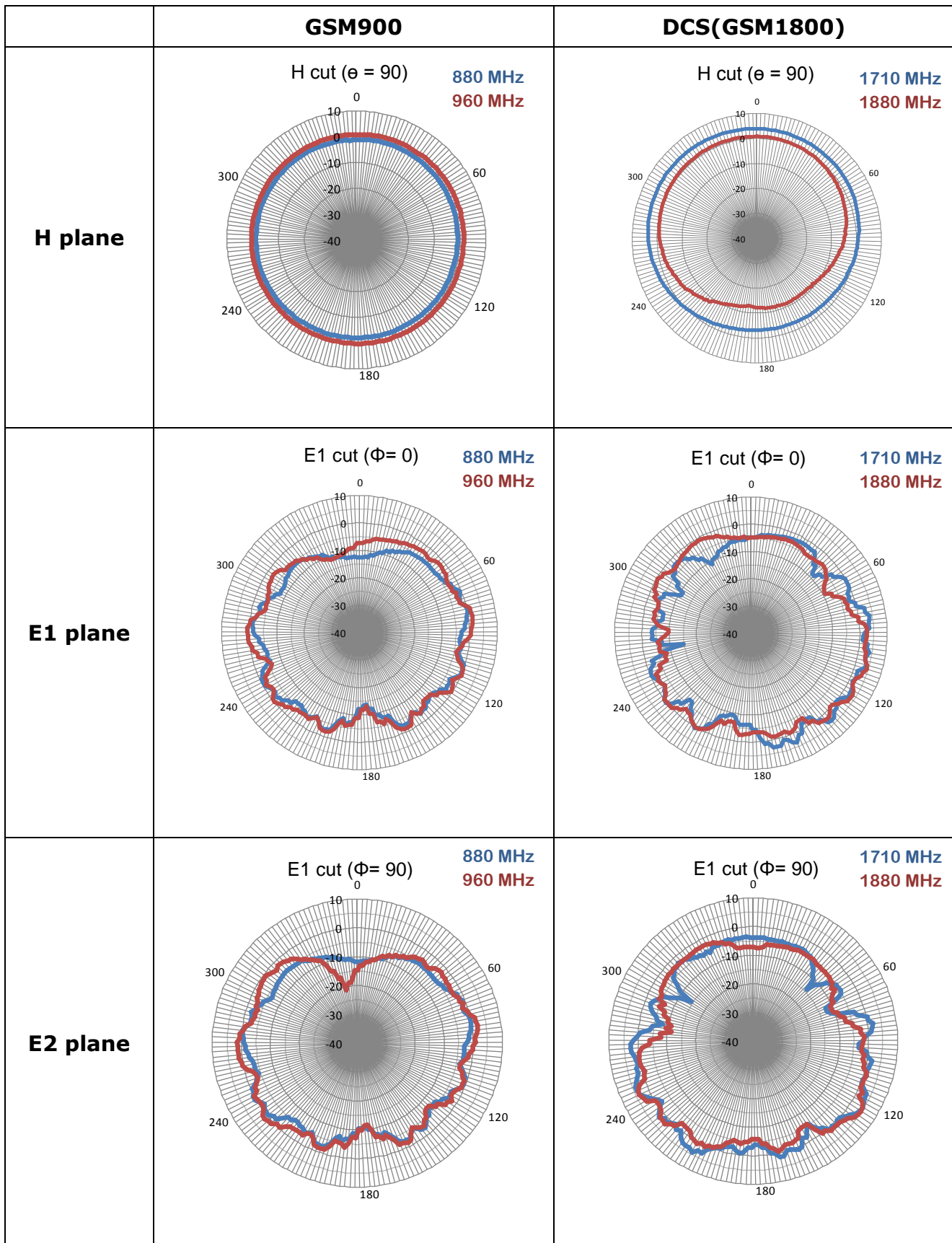
Solder paste : Sn/Ag/Cu:96.5/3.0/0.5

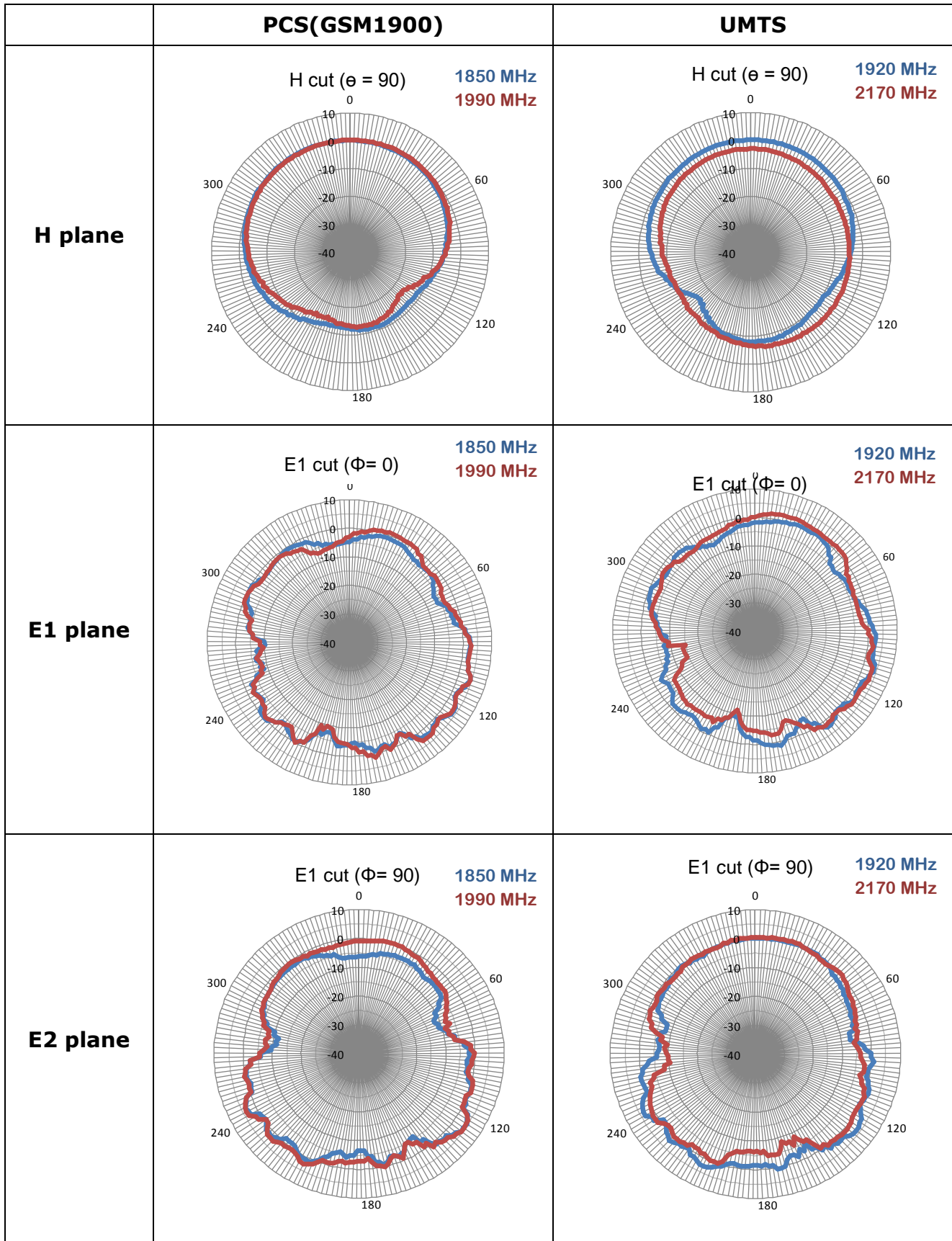


This product is designed for reflow soldering only. Do not use flow (wave) soldering.

- ① Use non-activated flux (Cl content 0.2% max.)
- ② Follow the recommended soldering conditions to avoid damage.
- ③ Reflow-cycle is max. 3 times.

4. ATTACHMENT

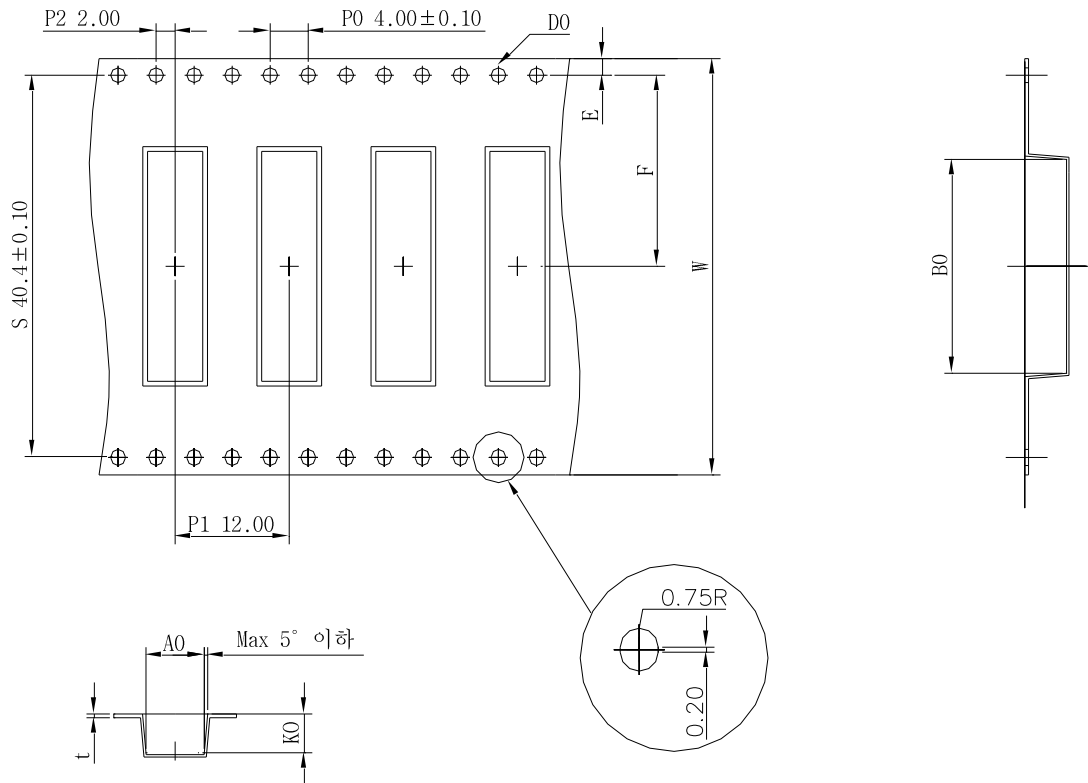




5. PACKING

5.1 Tape Dimension (unit : mm)

5.1.1 Size



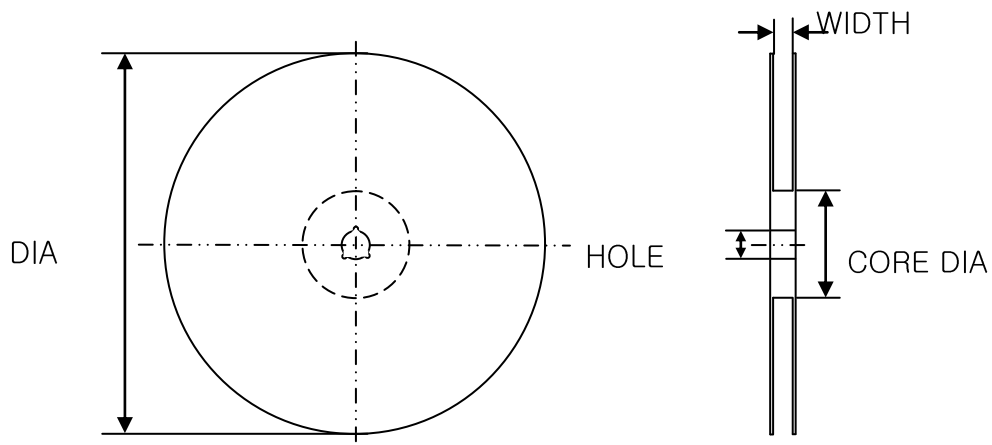
A0	5.70 ± 0.20	E	1.75 ± 0.10
B0	22.30 ± 0.20	F	20.20 ± 0.20
K0	4.60 ± 0.20	W	44.00 ± 0.30
D0	1.55 ± 0.05	t	0.40 ± 0.05

5.1.2 Surface resistance

- 1) Carrier tape : Max $10^{11} \Omega$
- 2) Cover tape : Max $10^{11} \Omega$
- 3) Reel : Max $10^{11} \Omega$

5.2 Description of Reel

5.2.1 Size



ITEM	DIA	WIDTH	CORE DIA	HOLE
Size(mm)	330.0 ±2	45.5 ± 0.5	100.0 ± 1	13.0 ± 0.3

5.2.2 Material

- 1) Plastic reel : GPPS (General Purpose Poly Styrene) resin

5.3 Description of Packing Box

5.3.1 Reel

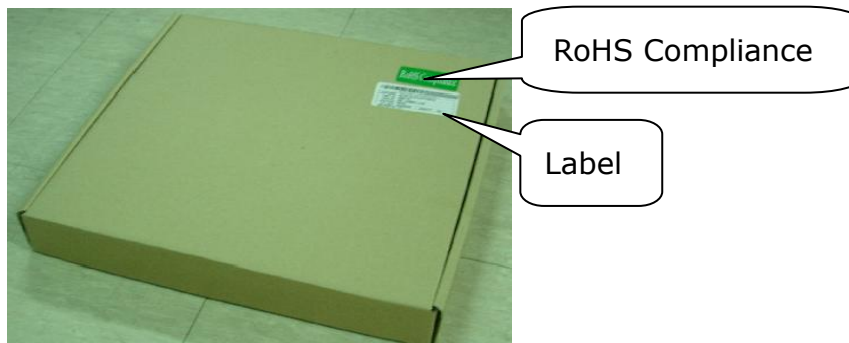
Size : 44 (W), Dia.Φ330 (mm)

quantity : 1,000 ea/reel

5.3.2 Inner Box

Size : 350 (W) x 345 (D) x 55 (T) (mm)

quantity : 1 reel (1,000 ea/reel × 1 reel = 1,000 ea)



5.3.3 Outer Box

Size : 405 (W) x 360 (D) x 300 (T) (mm)

quantity : 5 Inner Box (1,000 ea/Inner Box × 5 Inner Box=5,000 ea)

