DATASHEET

Embedded Dielectric Quad Band Antenna

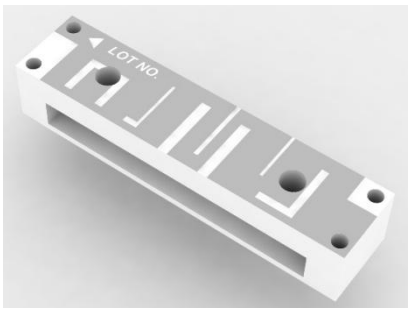
Part No. : 2JE04

Application

- Automotive
- PDAs
- Personal Tracker
- PCMCIA Cards

Features

- High efficiency,
- Pb-free Condition
- RoHS Compliant



July 25, 2011

2J s.r.o.

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

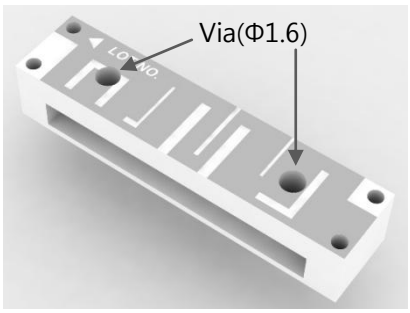
ITEM	GSM850	GSM900	DCS	PCS	UMTS	Remark
Frequency [MHz]	824~894	880~960	1710~1880	1850~1990	1920~2170	Notes :1)
Peak Gain [dBi]	0.7	0.7	5.7	4.8	4.6	Notes :1)
Eff.[%] @Min	45.0	50.1	73.5	84.0	87.7	Notes :1)
VSWR	3.0 : 1 max					Notes :1)
	3.5:1 Max @741.2~867.8MHz		3.0:1 Max @1510~2170MHz			Notes :2)
Polarization	Linear					Notes :1)
Azimuth Beam Pattern	Omni-directional					Notes :1)
Impedance	50 Ω					Notes :1)

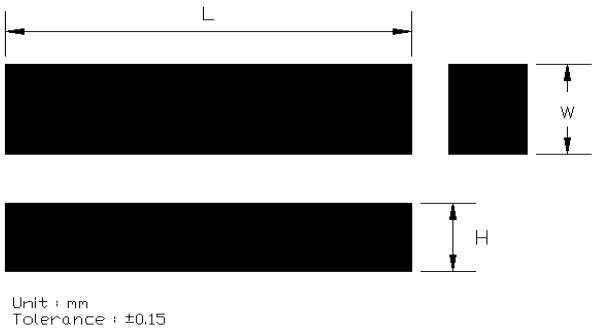
※Notes:1) Measured on the matched EV test board.

1.2. Mechanical Specifications

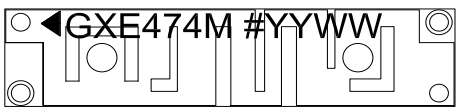
Electrode	Silver	-
Dimensions (L x W x H)	24.0 x 5.5 x 4.4	mm
Operating Temperature	-35 ~ +85	℃

1.3. Appearance and Dimensions





1.4 Marking



◀ : Feeding point

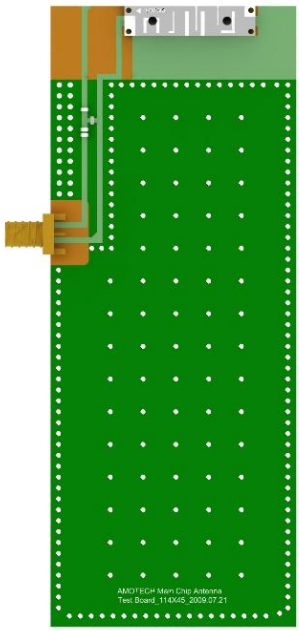
GXE474M : Model No.

YY : Year (ex: 2010 → 10)

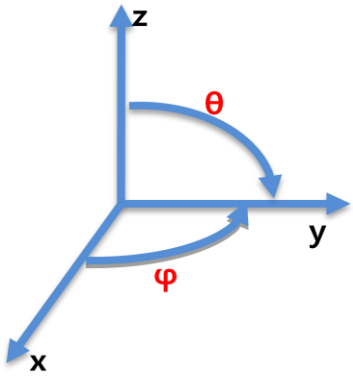
WW : Week (ex: 1st week→01, 7th week→07)

2. MEASUREMENT

2.1. SET for Measurement



Board size: 114x45mm

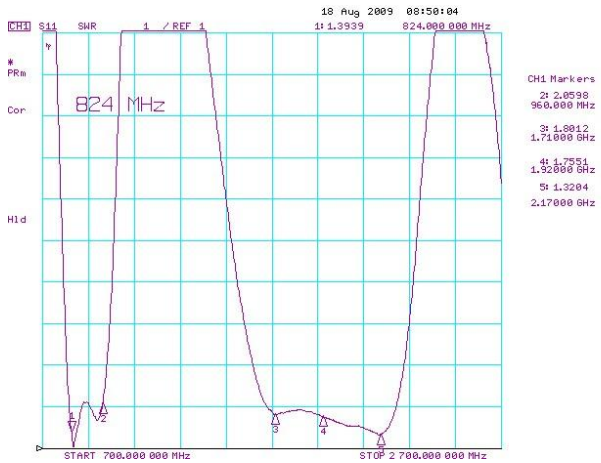


Antenna Radiation coordinate system

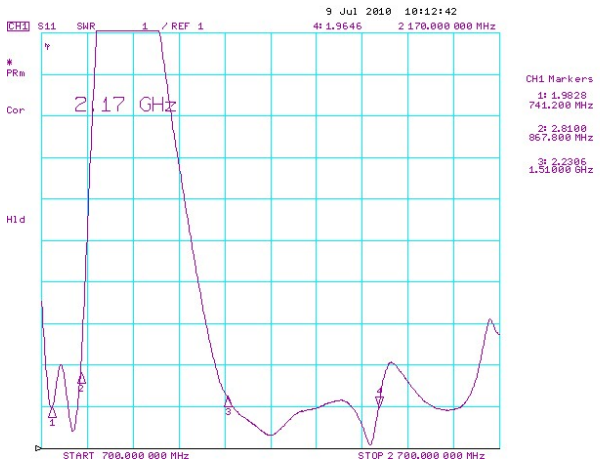
2.2. Electrical Characteristic

◆ ***S_{11}(Return loss & VSWR)***

Penta Band (GSM850&900, DCS, PCS, UMTS)



- VSWR @ EV Board -



- VSWR @ Manual Jig –

2.3. Radiation Characteristic

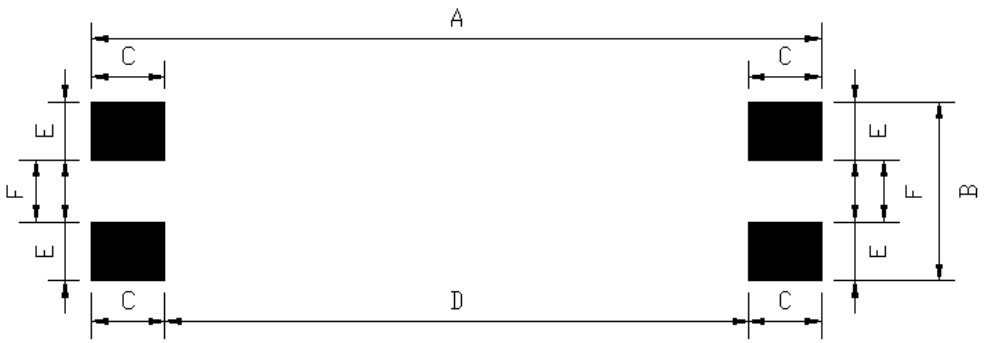
- Measurement Setup
  - 6mx3mx3m Anechoic Chamber
  - Matching on the standard test board (114 x 45mm)
  - Temp. : 25℃ / Humidity : 50~55%

- Measurement Result

Band	Frequency MHz]	Ave. gain (dBi)	Peak. Gain (dBi)	Eff.(%)
GSM850	824	-3.5	-0.5	45.0
	849	-3.0	0.2	50.5
	869	-3.1	0.2	48.4
	894	-2.7	0.7	53.5
GSM900	880	-2.9	0.6	51.3
	915	-2.7	0.6	53.4
	925	-2.7	0.5	53.9
	960	-3.0	0.7	50.1
DCS	1710	-0.1	5.7	97.7
	1785	-1.0	5.0	78.9
	1805	-0.9	5.3	82.1
	1880	-1.3	4.5	73.5
PCS	1850	-0.8	4.8	84.0
	1910	-0.5	4.5	88.3
	1930	-0.5	4.4	88.1
	1990	-0.6	4.2	87.0
UMTS	1920	-0.4	4.2	91.7
	1980	-0.6	4.0	87.7
	2110	-0.4	4.5	90.4
	2170	-0.1	5.0	97.1

3. SOLDERING RECOMMENDATIONS

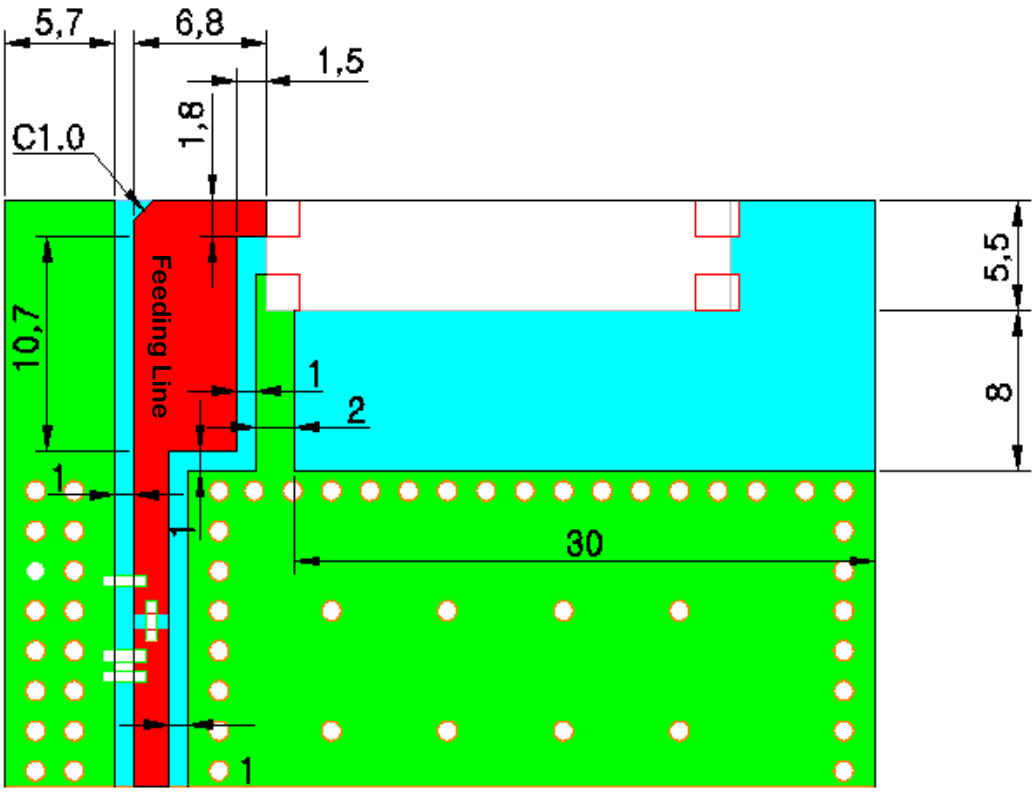
3.1. Soldering Land Pattern



Unit : mm

A	25.0
B	5.5
C	2.3
D	20.4
E	1.8
F	1.9

3.2. Free Space Size

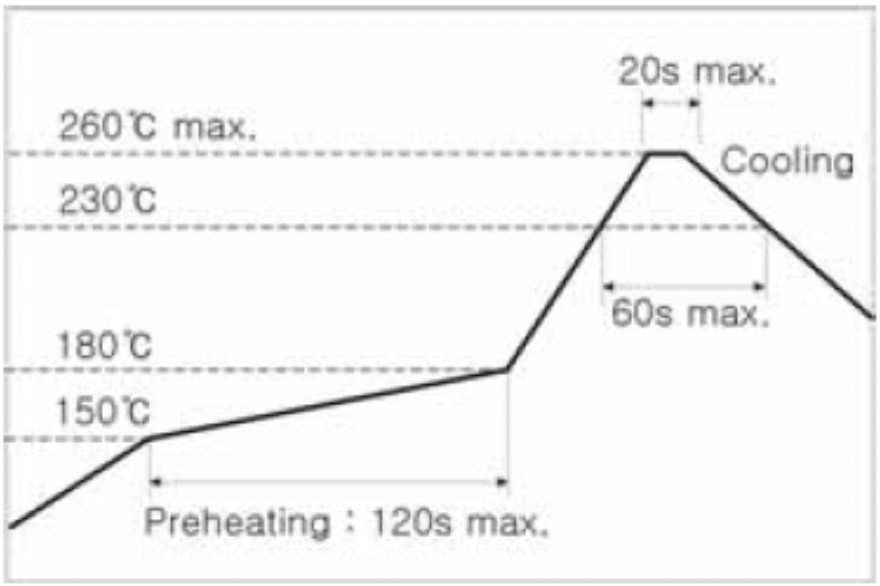


Matching Circuit

C1 (Series)	3.6pF
C2 (Shunt)	1.8pF
L1 (Shunt)	3.9nH
L2 (Shunt)	2.7nH

3.3. Soldering Profile

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



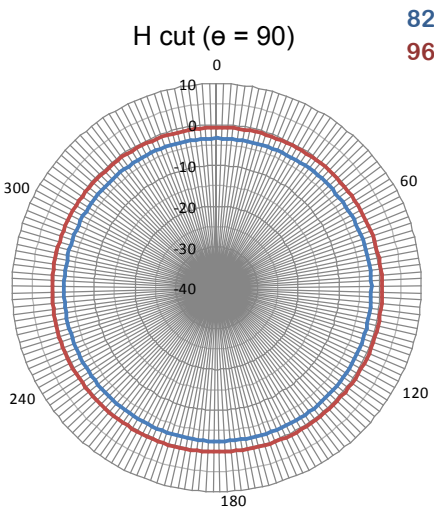
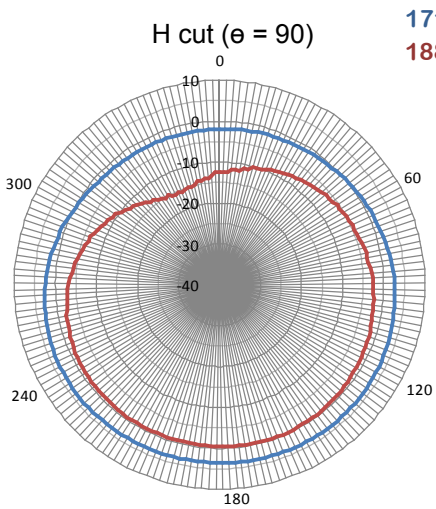
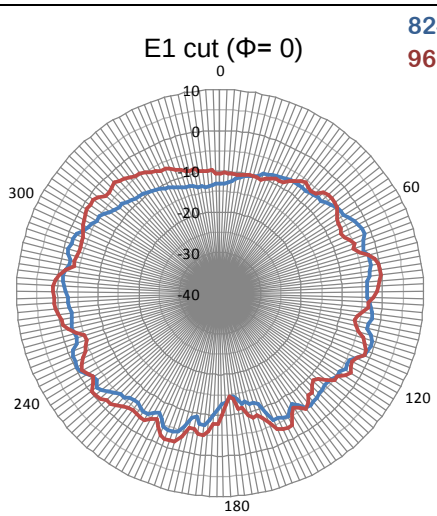
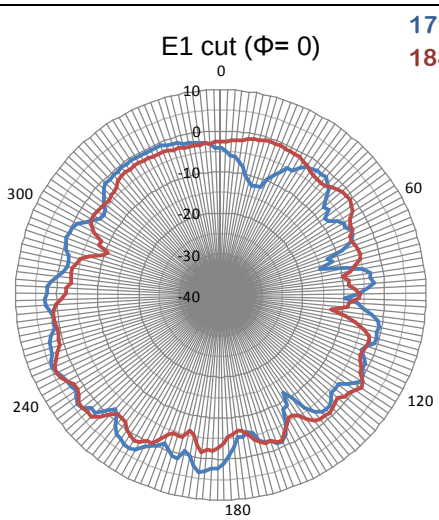
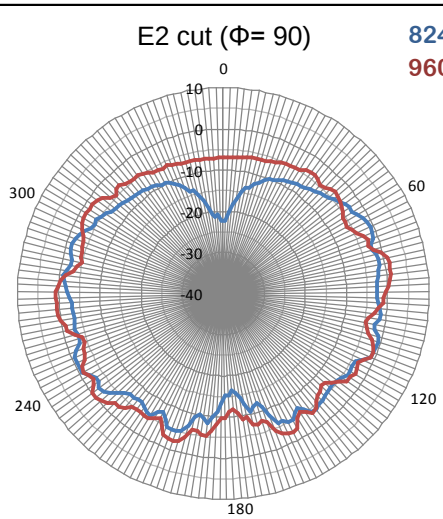
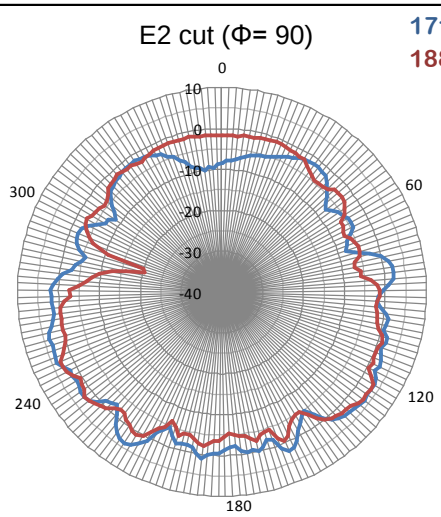
This product is designed for reflow soldering only. Do not use flow (wave) soldering.

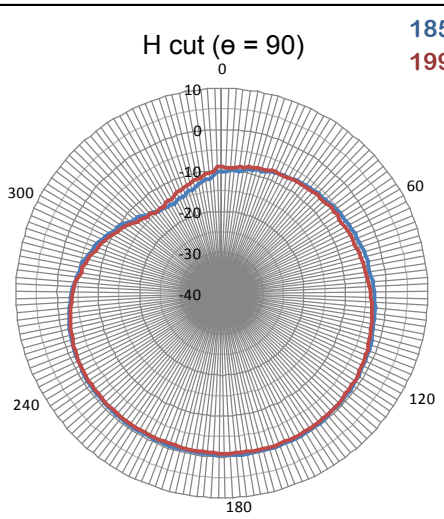
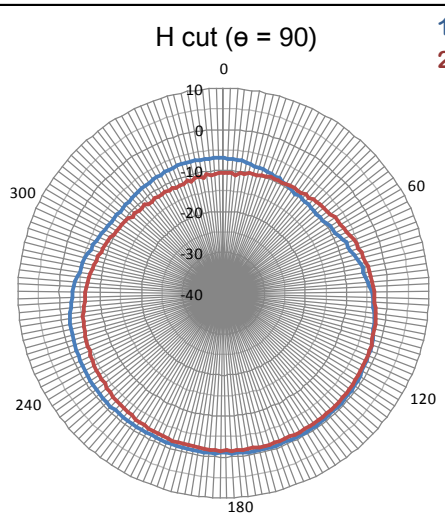
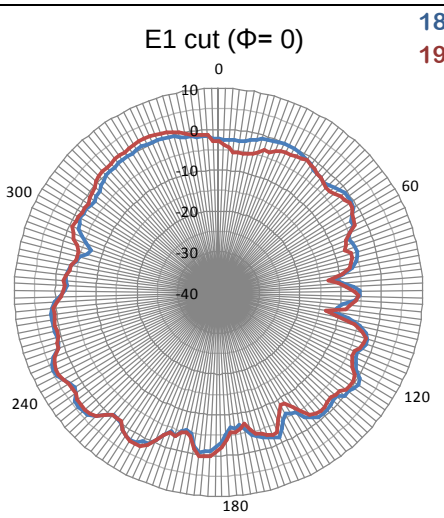
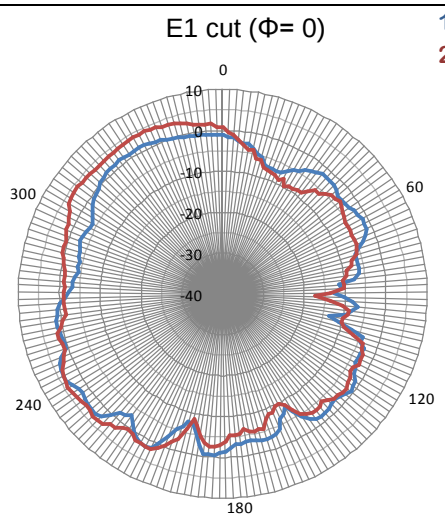
① Use non-activated flux (Cl content 0.2% max.)

② Follow the recommended soldering conditions to avoid damage.

③ Reflow-cycle is max. 3 times.

4. ATTACHMENT

	GSM850 & 900	DCS(GSM1800)
H plane		
E1 plane		
E2 plane		

	PCS(GSM1900)	UMTS
H plane		
E1 plane		
E2 plane	