Ceramic Patch Antenna

Approval Sheet

TYPE : CERAMIC PATCH ANTENNA
Part No : YDRA-A25-1575
Model No :
Drawing No :

	DRAWING	CHECKED	APPROVED
CUSTOMER			
DATE	/	/	/

RoHS

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DESIGNED	CHECKED	APPROVED

1. Revision history

Revision no	Content	Date
0	First, documented	2003.07.03
1	Document form change(RoHS)	2005.11.05

2. Specification

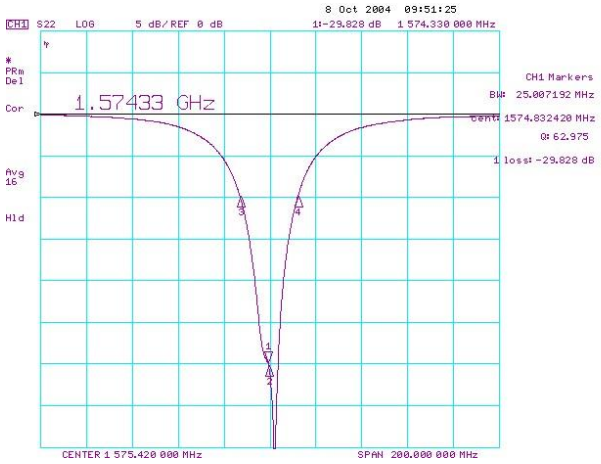
2.1 Electrical characteristic

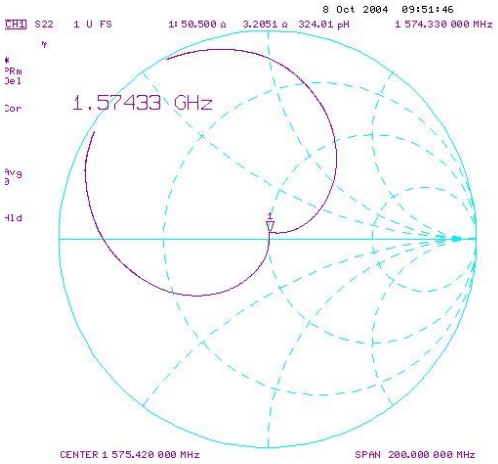
No	Item	Specification	Unit	Remarks
1	Center frequency(fc)	-	MHz	Notes : 1)
		1575.0 ± 3	MHz	Notes : 2)
2	Return-Loss @ fc	Min. 15	dB	-
3	Axial ratio @ fc	Max. 3.0	-	-
4	Gain @ fc	5.0 dBic typical @ zenith	dBic	-
5	Polarization	RHCP	-	-
6	Impedance	50	Ω	-

※ Notes: 1) Measured in customer set and with adhesive tape.

Notes: 2) Measured on 70X70 FR4 ground plane(AMOTECH REF jig) with SMA connector.

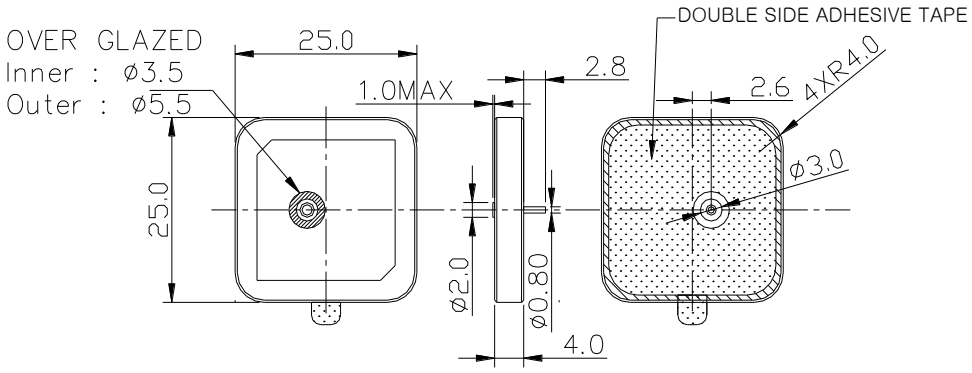
2.1.1 Typical S11 (Smith Chart and Log mag)





2.2 Mechanical characteristic

2.2.1 Dimension



NOTE
1. UNIT : mm
2. TOLERANCE : ±0.2

MARKING : 1575

No	Item	Specification	Unit	Remarks
1	Dielectric constant	20.5 ± 0.5	-	-
2	Temperature coefficient	0 ± 10	ppm/℃ max.	-
3	Electrode	Silver	-	-
4	Probe	Silver plated brass	-	A-1 (7mm)
5	Tape	Double sided adhesive tape	-	25 3M 468MP

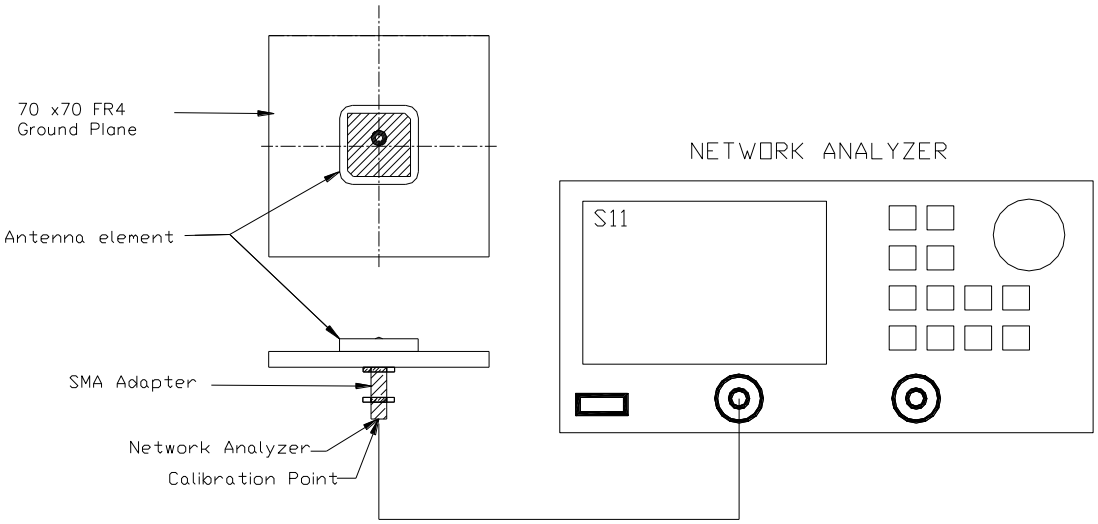
2.3 Part No or Lot No numbering

Lot No: **XX** **XX** - **XX** **XX**
(1) (2) (3) (4)

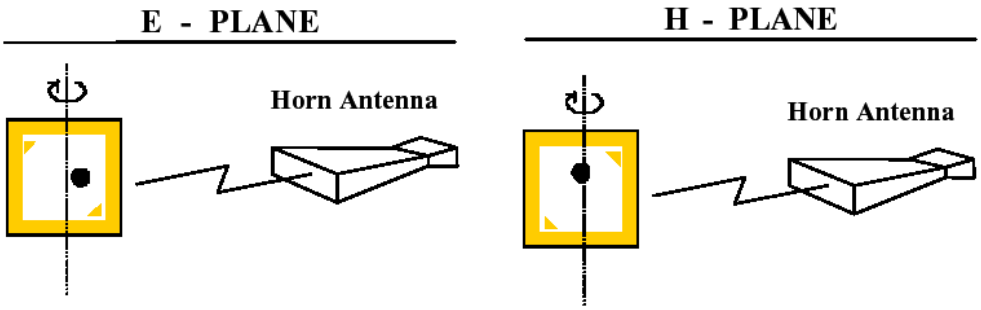
(1) : Year for making ceramic body
(2) : Month for making ceramic body
(3) : Ceramic body type
(4) : Manufacturing number per month according to ceramic body type

3. Test method

3.1 S11 measurement



3.2 Direction of measurement



4. Reliability guarantee condition

No	Item	Test condition	Requirement
1	Drop Test	1. Place antenna on Phone 2. 1.5m height 3. Drop 5 times	1. No appearance defective 2. S11 satisfy(Δf_C < 1.0 %)
2	Vibration Test	1. 5-55-5 ㎐, 1 Octave/min, Amp.=1.5mm, acceleration=2g, Crossover Freq.=18 ㎐	1. No appearance defective 2. S11 satisfy(Δf_C < 1.0 %)
3	Humidity	1. 60℃, 95%RH, 96Hr	1. No appearance defective 2. S11 satisfy(Δf_C < 1.0 %)
4	Thermal Shock	1. +80℃(30min)→1~2mim →-40℃ (30min) 2. 10 cycle	1. No appearance defective 2. S11 satisfy(Δf_C < 1.0 %)
5	High Temperature Resistance	1. +85℃, 96Hr	1. No appearance defective 2. S11 satisfy(Δf_C < 12.0 %)
6	Low Temperature Resistance	1. -40℃, 96Hr	1. No appearance defective 2. S11 satisfy(Δf_C < 1.0 %)
7	Adhesion strength of soldering	1. Used of pull push gauge.	1. Spec(min. 5kgf)

5. Soldering condition

5.1 Manual soldering(by iron) – Pb free

5.1.1. Soldering Temperature : 300℃ ± 5℃, 5sec max.
(Solder : Ag/Sn/Cu:96.5/3.0/0.5)

- Must comply with above soldering condition to prevent from degradation of antenna performance.

6. Caution

1. Electrode metallization made from silver is unprotected and will tarnish during storage in normal atmospheres affected by sulphuric compounds but has no effect whatsoever on the electrical performance or the processability of the patches. Because of this normal and to be expected process, AMOTECH accepts no warranty claims for tarnished products.
2. Ceramic Patch Antennas must avoid shock and drop, to prevent crack of antenna due to weight of itself.
3. Ceramic Patch Antennas must be used within 6 months, the antenna produced before 6 months should be checked for soldering feature before using.