AMOTECH Co., Ltd.

Document	Datasheet
Type	Ceramic Patch Antenna
Application	GPS & GLONASS
Part No.	B35-3556920-AMT03
Revision	0

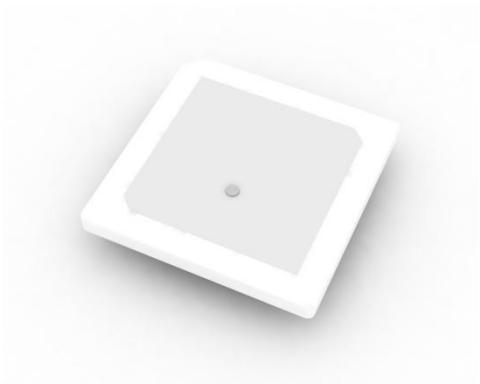
DATASHEET

Application

Navigation
DSC

Features

High efficiency, High directivity
Pin type
Pb-free Condition
RoHS Compliant



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Notes

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

Revision History

Rev. No	Date	Title	Contents	Page
0	2010.07.05		First, documented	-

Table of Content

1. Specifications

1.1 Electrical Specifications

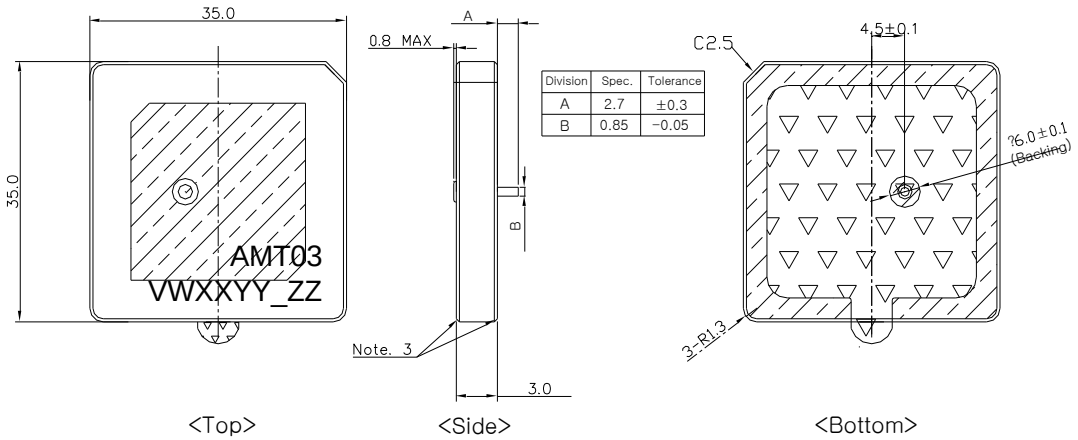
No	Item	Spec.	Remark
1	frequency(fc)	1575~1608 (GPS : 1575, GLONASS : 1592~1608)	MHz
2	Return Loss @ fc	Min. 7	dB
3	Axial Ratio	Typ. 10	dB
4	Gain @ fc	Typ.4.0 @ Zenith	dBic
5	Polarization	RHCP	-
6	Impedance	50	Ω

✓ fc is mid point of loop/cusp in smith chart
✓ Measured on70x70mm FR4 ground plane

1.2 Mechanical Specifications

No	Item	Spec.	Remark
1	Dimensions (L x W x H)	35x35x3 mm³	
2	Unit Weight	Typ. 18.0g	
3	Operating Temperature	-40 ~ +90 ℃	

1.3 Drawing and Marking

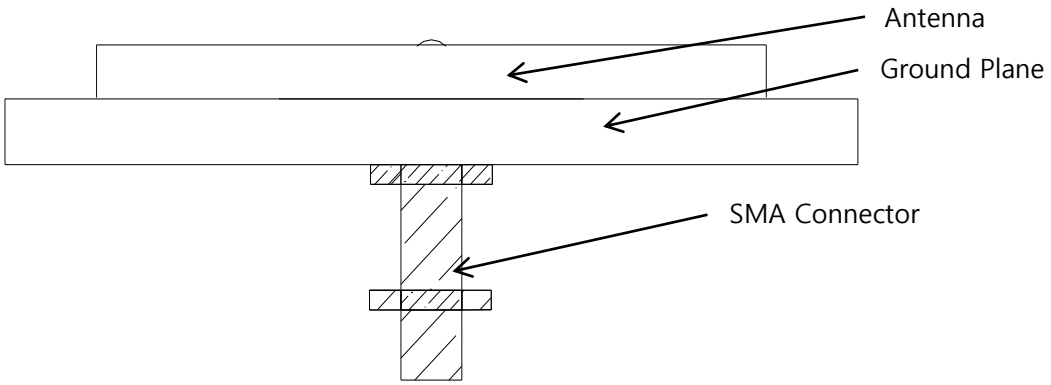


Note
1. Unit : mm
2. X.X : ±0.2
3. All Around Both Sides Max. 0.3 Chamfer

- V : Line section
- W : Year
- XX : Month
- YY : Day
- ZZ : Serial number of daily

2. PCB Design for Test

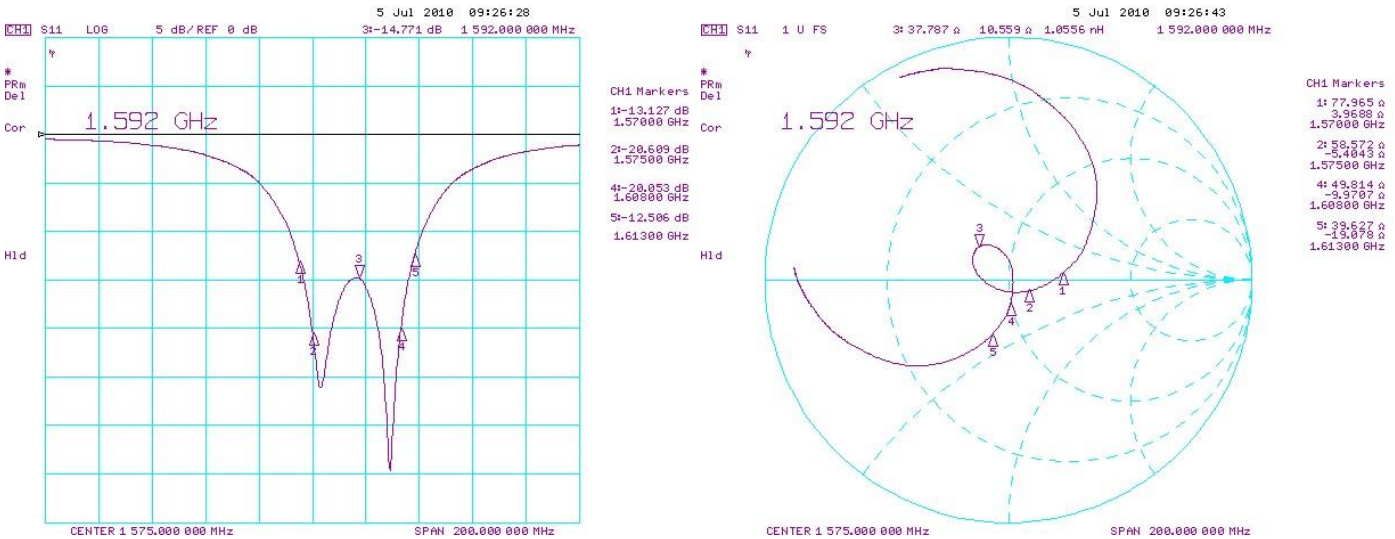
2.1 Evaluation Board Dimension



✓ Evaluation board size ~ 70x70mm^2

3. Measurement Result

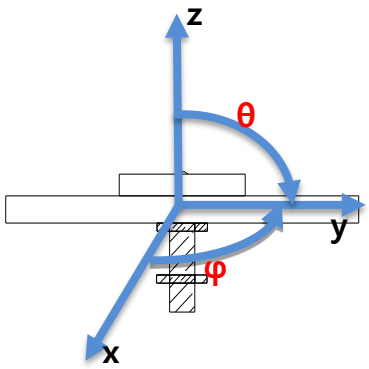
3.1 Typical Measurement Result (RL, Smith chart)

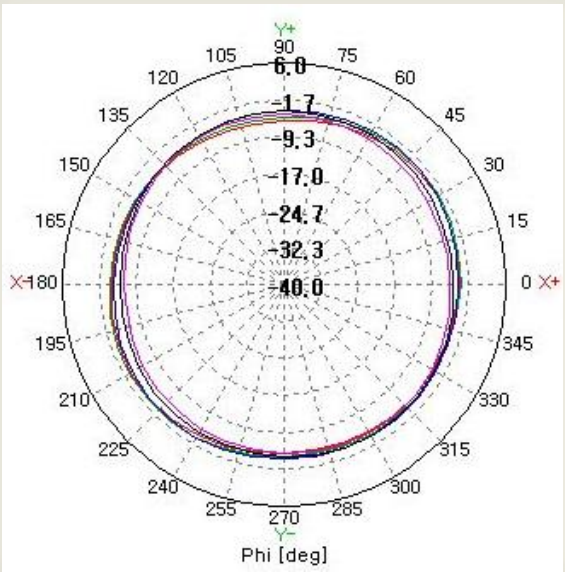


✓ The results are measured on the 70x70mm^2 ground plane.

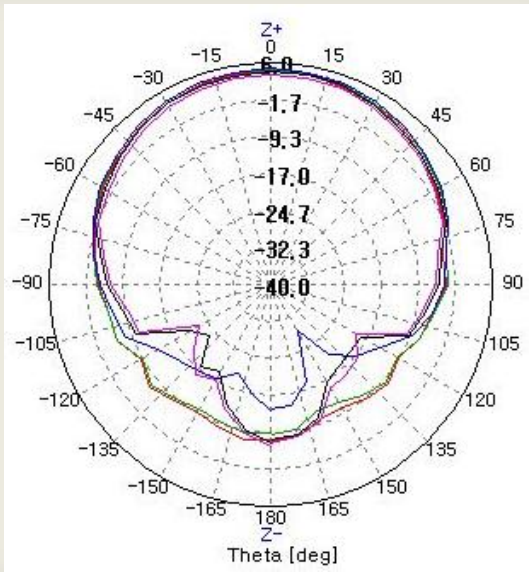
3.2 Typical Measurement Result (Gain, Radiation Pattern)

Frequency (MHz)	Peak Gain (dBic)	AR (dB)
1575.0	4.71	8.2
1592.0	4.84	3.6
1608.0	4.32	10.6

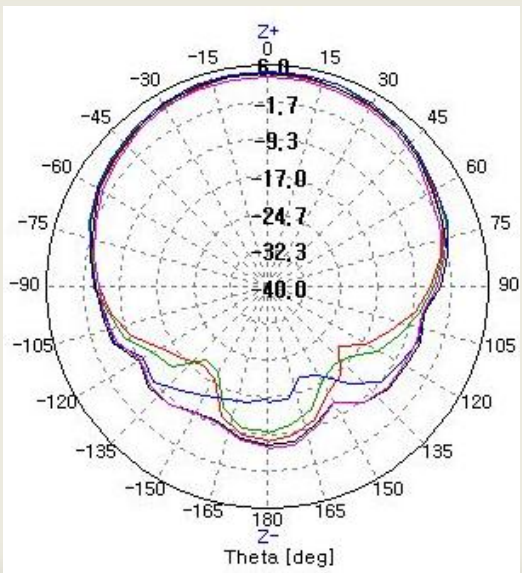




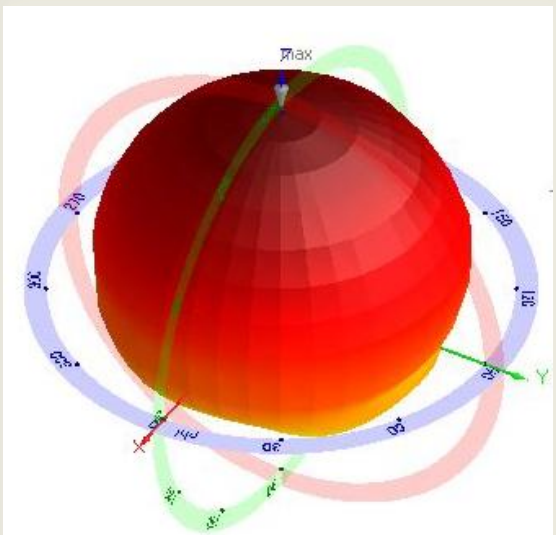
[Theta 90°]



[Phi 0°]



[Phi 90°]



[3D Radiation Pattern]

4. Reliability

No	Item	Test condition	Requirement
1	Drop Test	1. Place antenna on set 2. 1.5m height 3. Drop 5 times	1. No Visible defect 2. S11 satisfy
2	Vibration Test	1. 5-55-5Hz, 1 Octave/min, Amp.=1.5mm, acceleration=2g, Crossover Freq.=18Hz, Hold time = 2H.R	1. No Visible defect 2. S11 satisfy
3	Humidity	1. 60℃, 95%RH, 96Hr	1. No Visible defect 2. S11 satisfy
4	Thermal Shock	1. +80℃(30min)→5mim →-40℃ (30min) 2. 10 cycle	1. No Visible defect 2. S11 satisfy
5	High Temperature Resistance	1. +90℃, 96Hr	1. No Visible defect 2. S11 satisfy
6	Low Temperature Resistance	1. -40℃, 96Hr	1. No Visible defect 2. S11 satisfy
7	Adhesion Strength of Soldering	1. Used of pull push gauge.	1. Spec(min. 5kgf)

※ The sample must satisfy Requirement after 24 hours of test

※ Be base on IEC Climatic category (IEC68-1) -40℃ / +90℃ / 56h

5. Soldering

- Wettability to IEC 68-2-58 :≥75%(After Aging)
- Manual Soldering(By Iron) – Pb free
- Soldering Temperature : 300℃ ± 5℃, 5sec max. (Solder : Sn/Ag/Cu:96.5/3.0/0.5)
- Must comply with above soldering condition to prevent from degradation of antenna performance.

6. Packaging

6.1 Packaging Quantity

Item	Quantity	Dimension
Tray	21 ea	334 * 174 (mm^3)
Inner Box	168 ea (8 Tray)	370 * 195 * 130 (mm^3)
Outer Box	672 ea (3 Inner Box)	390 * 620 * 150 (mm^3)