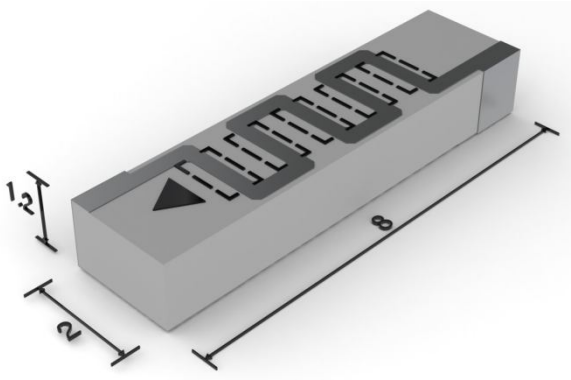
Document	Datasheet
Type	Dielectric Chip Antenna
Application	2.442 GHz
Part No.	AMAN802012MS02
Revision	0.0

DATASHEET



Application

Bluetooth (2.442 GHz)

Features

PIFA structure
Size (8.0*2.0*1.2mm^3)
Performance optimizing
with tuning the conductive pattern on the ceramic body
SMT available under Pb-free condition
RoHS compliant

AMOTECH

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	2012. 08. 16		New Published	

Table of Content

1. Specifications

1.1 Electrical Specifications

No	Item	Spec.	Remark
1	Frequency Range [GHz]	2.400 MHz ~2.485 MHz	
2	VSWR	Max 2.5:1	
3	Avg. Gain [dBi]	typ. -2.19	
4	Efficiency [%]	typ. 60.44	
5	Polarization	Linear	
6	Impedance [Ω]	Nominal 50	

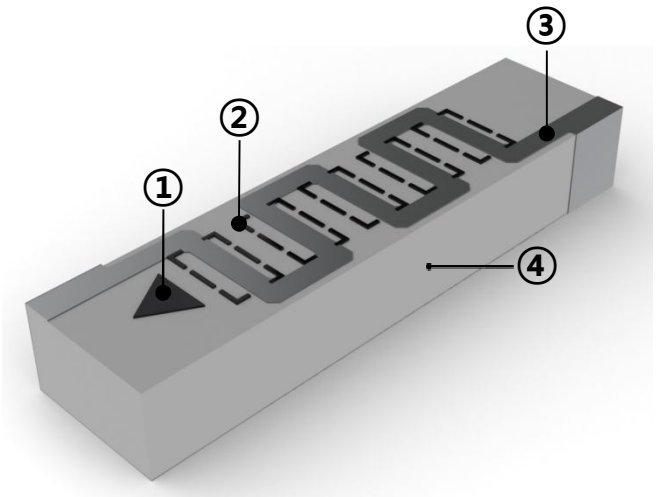
✓ The results are measured on the 100x50mm^2 evaluation board(EVB).
✓ See Page 6. for more detail gain parameter

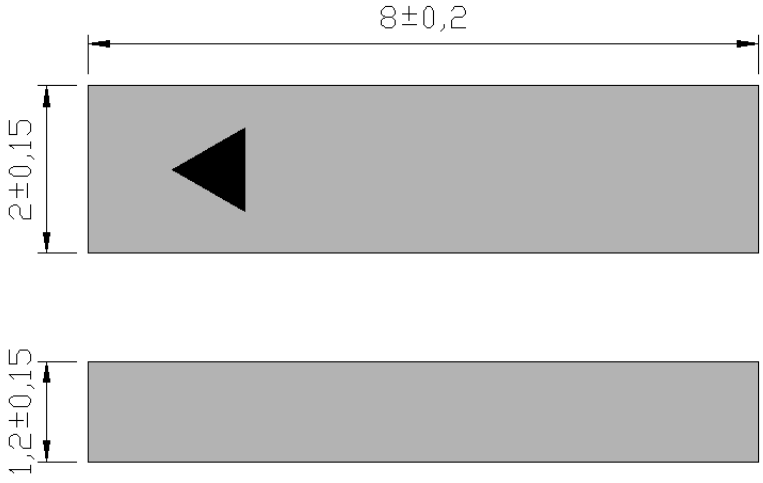
1.2 Mechanical Specifications

No	Item	Spec.	Remark
1	Dimensions (LxWxH)	8.0x2.0x1.2 mm^3	
2	Unit Weight	typ. 63mg	
3	Operating Temperature	-35 ~ +85 ℃	

1.3 Appearance & Material

No	Item	Function	Material
①	Marking	Feeding Index	Ink
②	Marking	P/N, Year, Month, Day	Ink
③	Electrode	Radiation Element	Ag
④	Ceramic Body	-	Ceramic

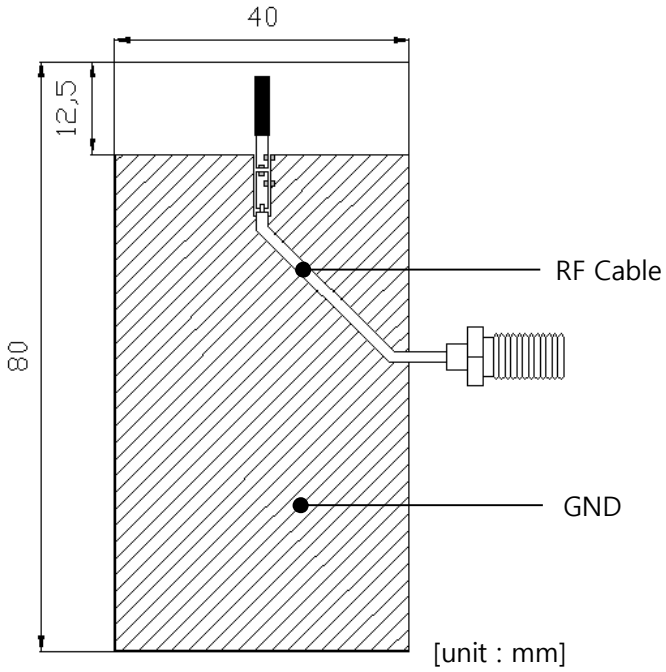




[unit : mm]

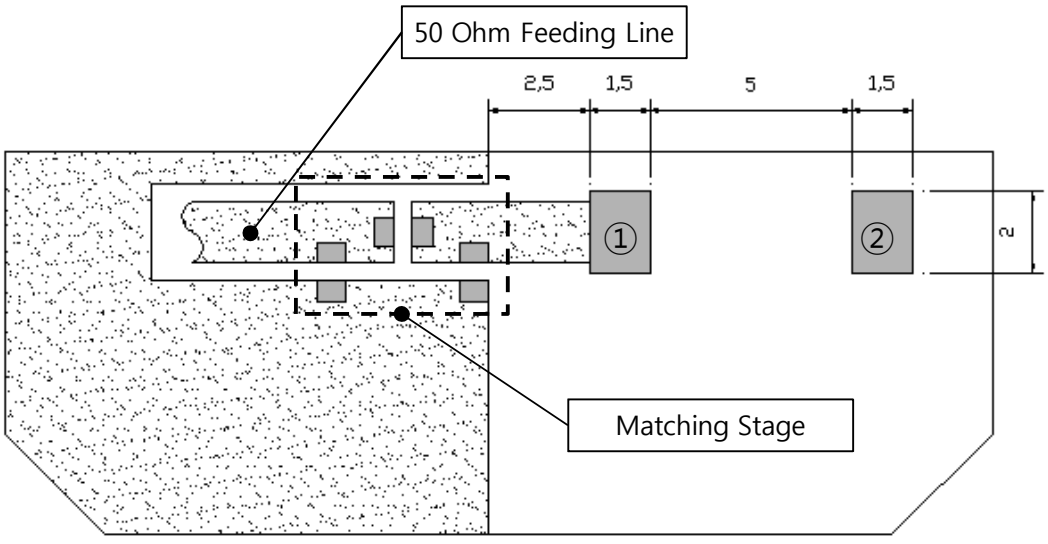
2. PCB Design for Test

2.1 Evaluation Board Dimension



✓ Evaluation board size ~ 40.0 x 80.0
✓ Fill Cut Area (GND Clearance) ~ 40.0 x 12.5

2.2 PCB Design Guide

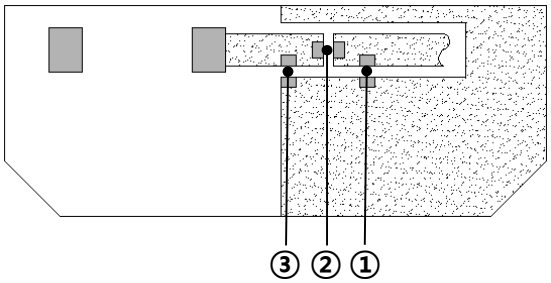


No	Pin Assignment
①	Feeding
②	N/C

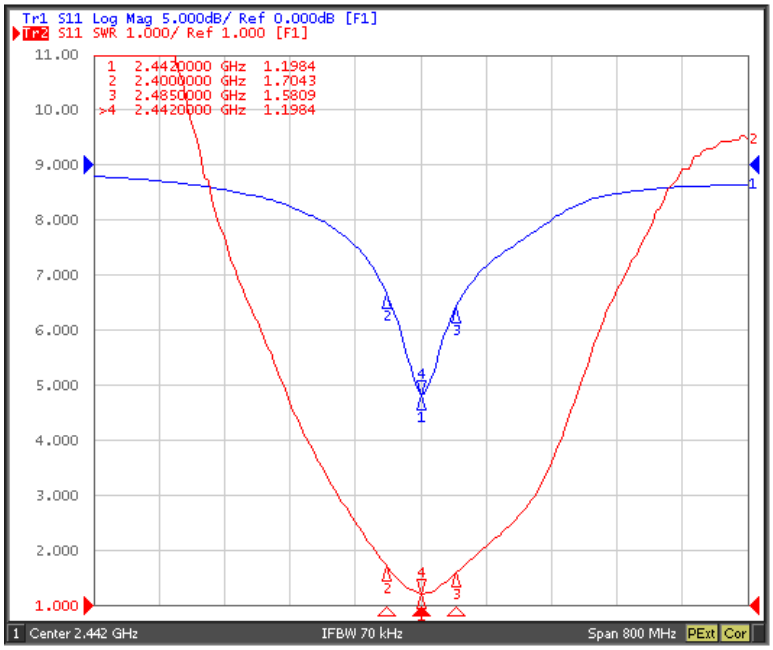
[unit : mm]

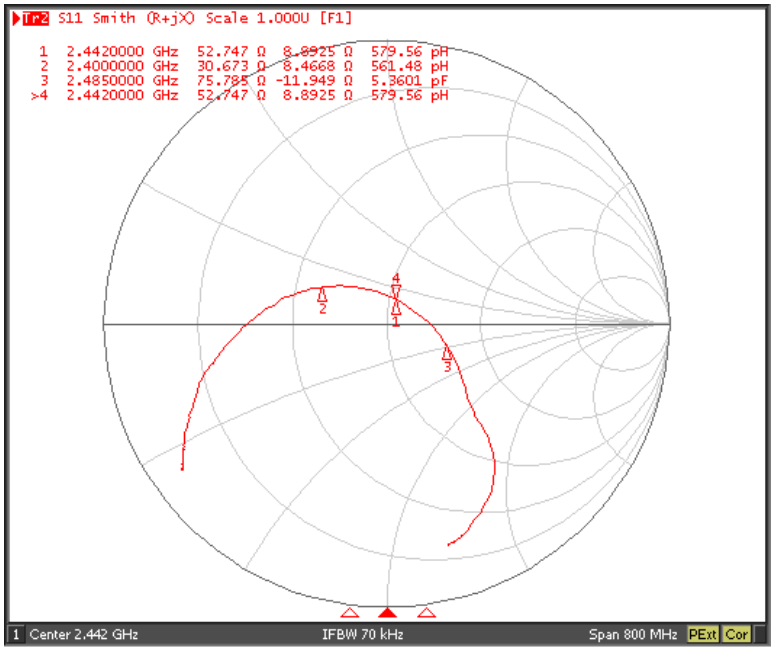
3. Measurement Result

3.1 Typical Measurement Result (VSWR/RL, Smithchart)



No	Matching Value
①	1.0 nH
②	2.2 nH
③	N/C

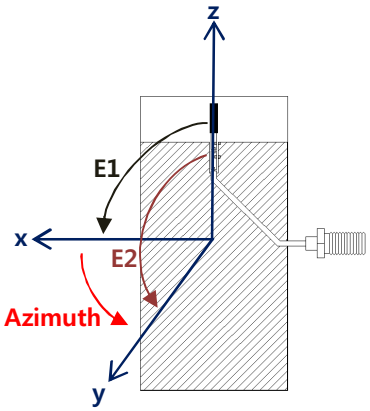


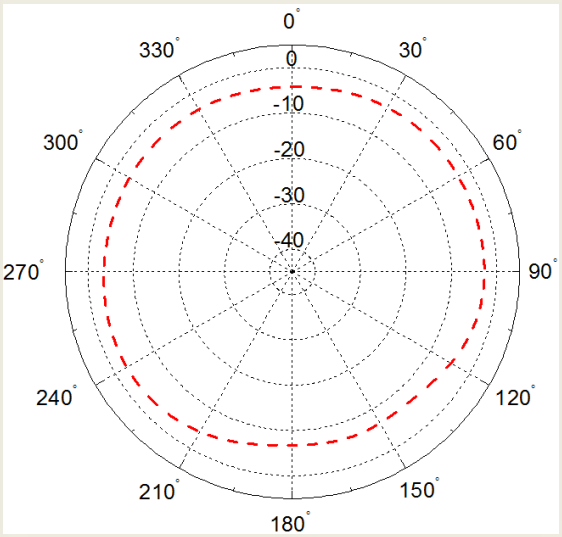


✓ The results are measured on the 100x50mm^2 evaluation board(EVB).

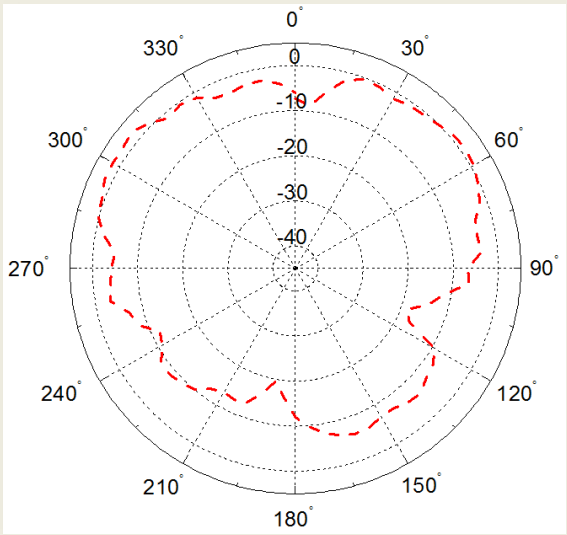
3.2 Typical Measurement Result (Gain, Radiation Pattern)

	Peak Gain (dBi)	Avg. Gain (dBi)	Efficiency(%)
Azimuth	-2.68	-3.89	60.44
Elevation 1	2.23	-3.29	
Elevation 2	3.14	-2.40	

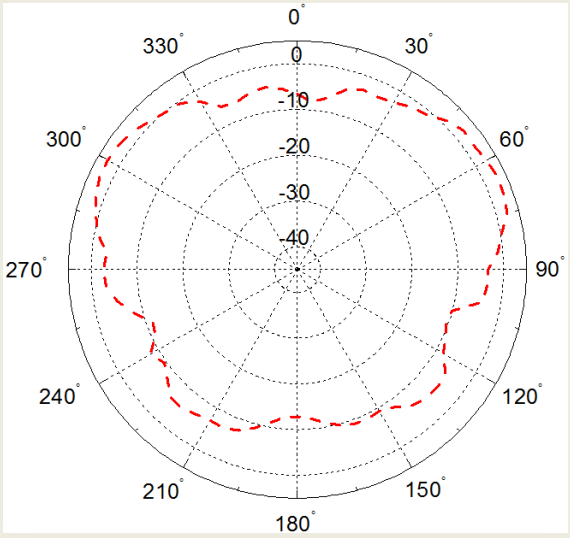




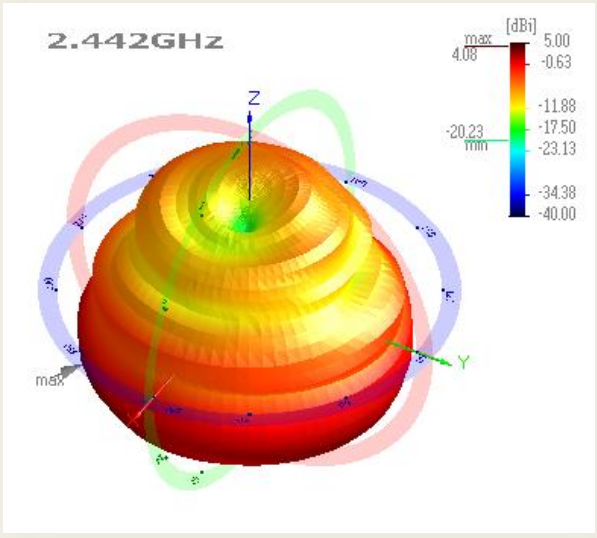
[Azimuth plane @2.442GHz]



[Elevation1 plane @2.442GHz]

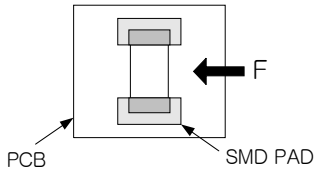


[Elevation2 plane @2.442GHz]

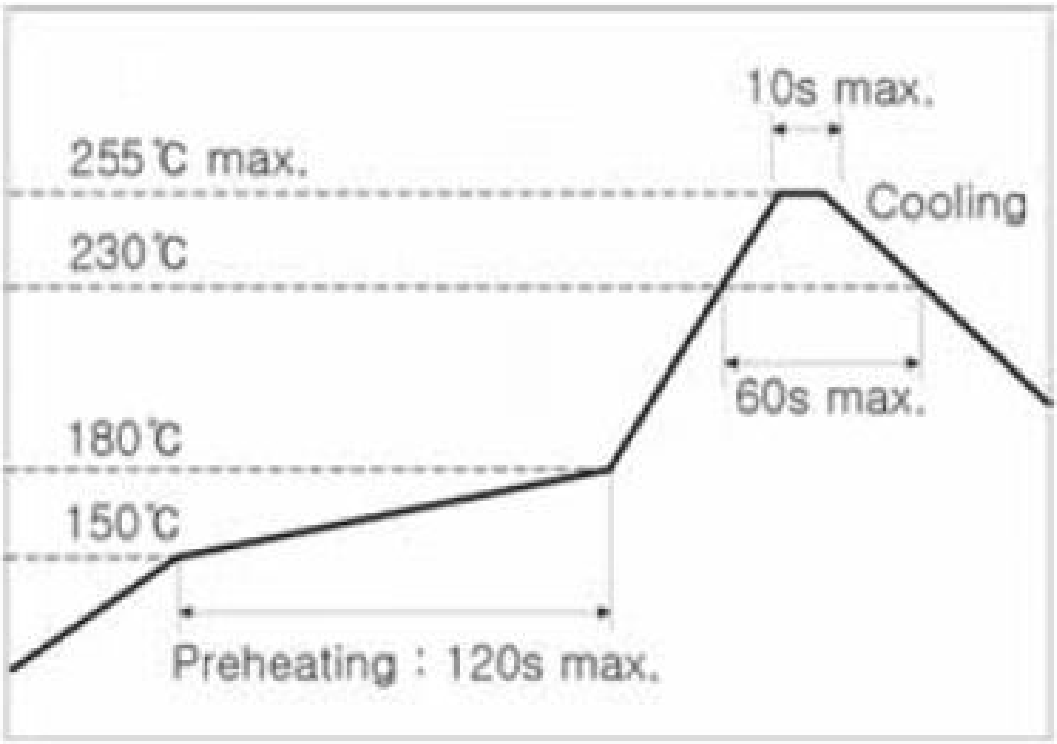


[3D Radiation Pattern]

4. Reliability

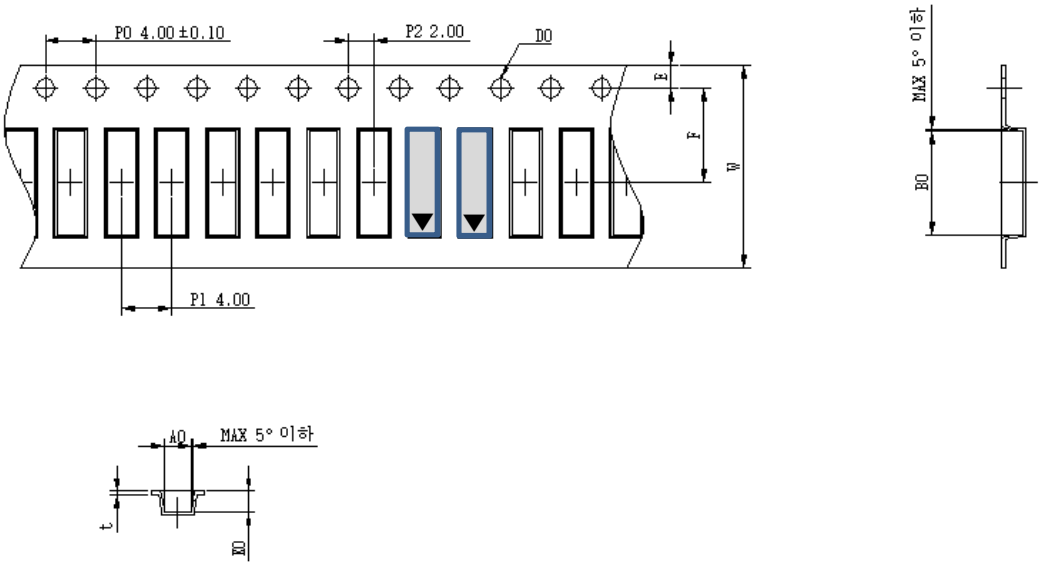
No	Item	Test Condition	Test Requirements
1	Adhesive Strength of Termination	1. Applied force on SMT chip till detached point from PCB. 	1. No mechanical damage by applied force 2. Strength (F) > 5 kgf
2	Thermal Shock (Cycle)	1. Step 1 : -40 ± 3℃, 30 min Step 2 : +125 ± 3℃, 30 min 2. Number of cycle : 30	1. No visual damage 2. Within electric spec (VSWR)
3	High Temperature Resistance	1. Temperature : +125 ± 5℃ 2. Time : 1000 ± 24 hrs	1. No visual damage 2. Within electric spec (VSWR)
4	Low Temperature Resistance	1. Temperature : -40 ± 5℃ 2. Time : 1000 ± 24 hrs	1. No visual damage 2. Within electric spec (VSWR)
5	Humidity	1. Humidity : 85 % RH Temperature : +85 ± 3℃ 2. Time : 1000 ± 24 hrs	1. No visual damage 2. Within electric spec (VSWR)

5. Soldering Reflow Profile



6. Packaging

6.1 Carrier Tape Dimension



Item	Spec.	Item	Spec.	Item	Spec.
A0	2.20 ±0.10	P0	4.00 ±0.10	E	1.75 ±0.10
B0	8.20 ±0.10	P1	4.00 ±0.10	F	7.50 ±0.10
K0	1.65 ±0.10	P2	2.00 ±0.10	W	16.00 ±0.30
D0	1.55 ±0.05	-	-	t	0.30 ±0.05

6.2 Packaging Quantity

Item	Quantity	Dimension
Reel	2,000ea	Φ7" * 16mm
Inner Box	6,000 ea (3 reel)	183 * 70 * 185 (mm^3)
Outer Box1	30,000 ea (5 Inner Box)	375 * 200 * 205 (mm^3)
Outer Box2	60,000 ea (10 Inner Box)	390 * 375 * 205 (mm^3)

6.3 Packaging Label

AMOTECH Co., Ltd.

5BL-1Lot, 617, Namchon-Dong, Namdong-Gu, Incheon, Korea

Dielectric Chip Antenna

P/N : AMAN802012ST03

Lot No :

Quantity : 2,000 pcs Date : 2012/08/16