

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

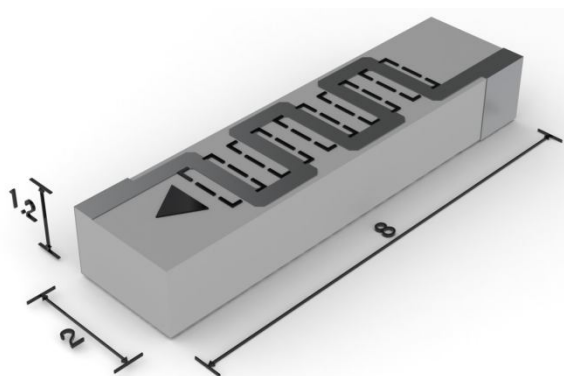
Size (8.0*2.0*1.2mm³)

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

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0	2012. 08. 16		New Published	

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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	

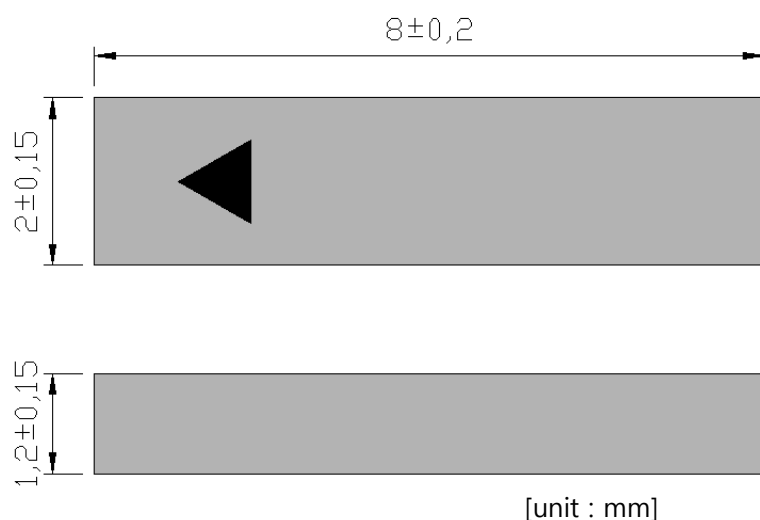
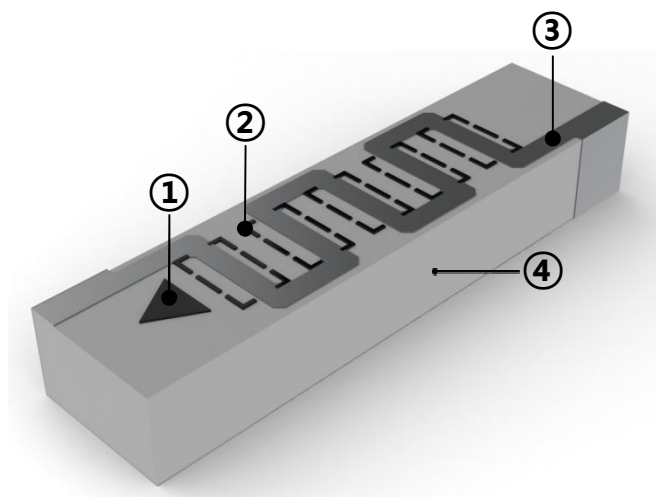
- ✓ The results are measured on the 100x50mm² evaluation board(EVB).
- ✓ See Page 6. for more detail gain parameter

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 °C	

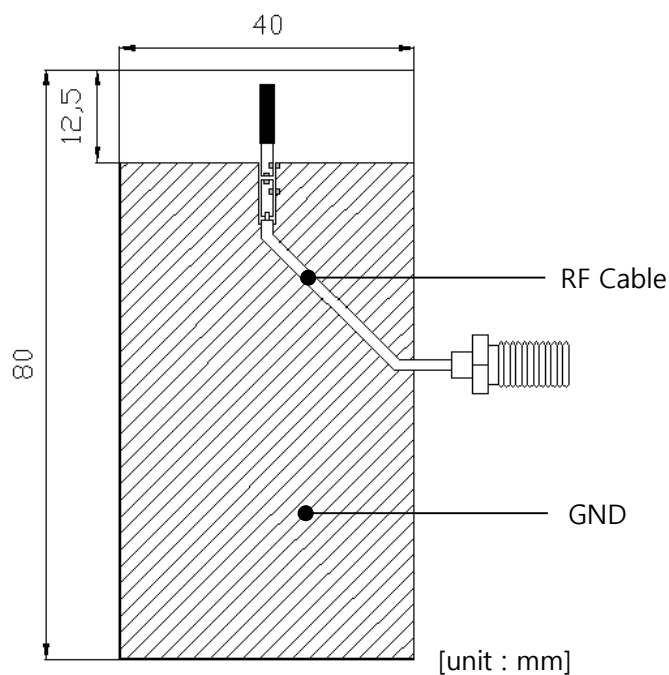
1.3 Appearance & Material

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



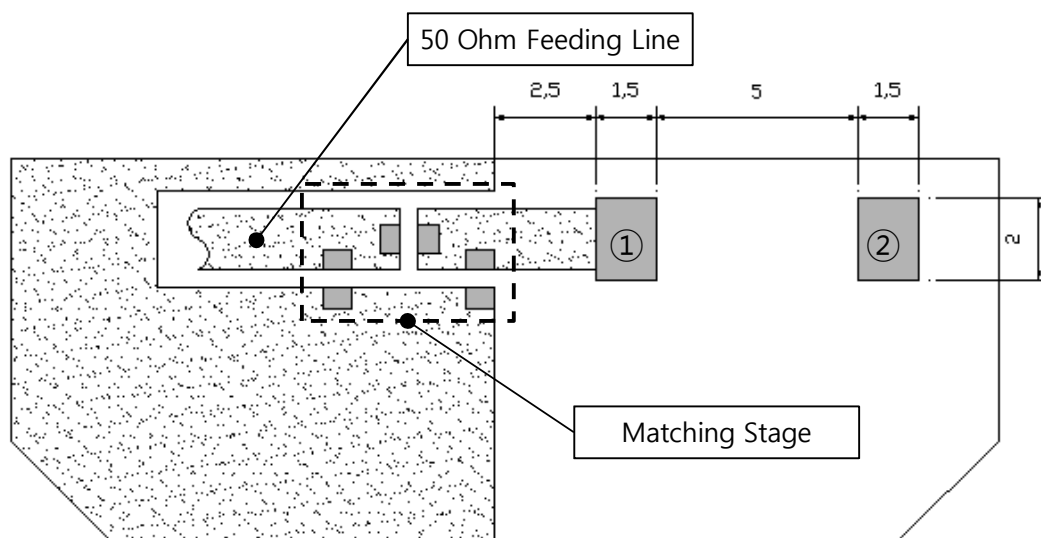
2. PCB Design for Test

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

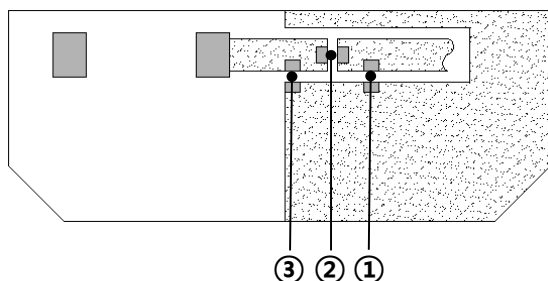


No	Pin Assignment
①	Feeding
②	N/C

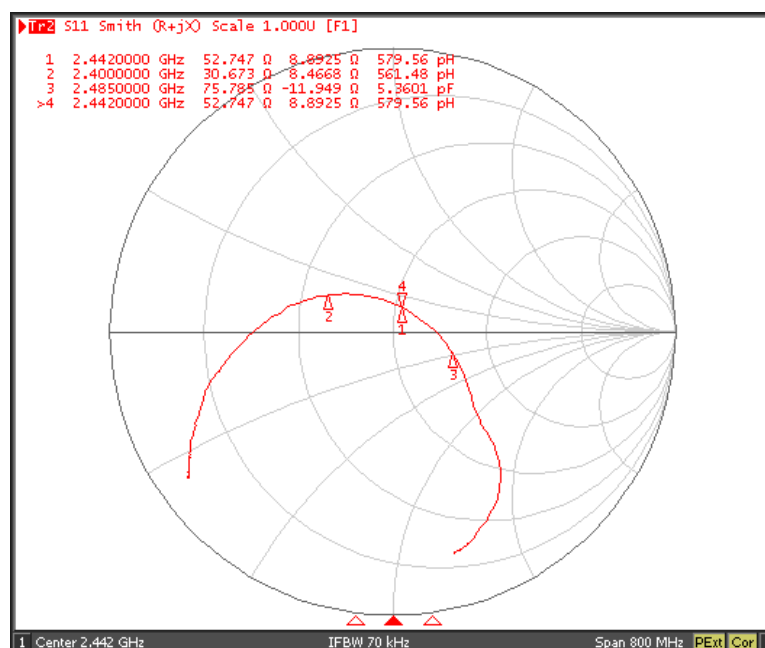
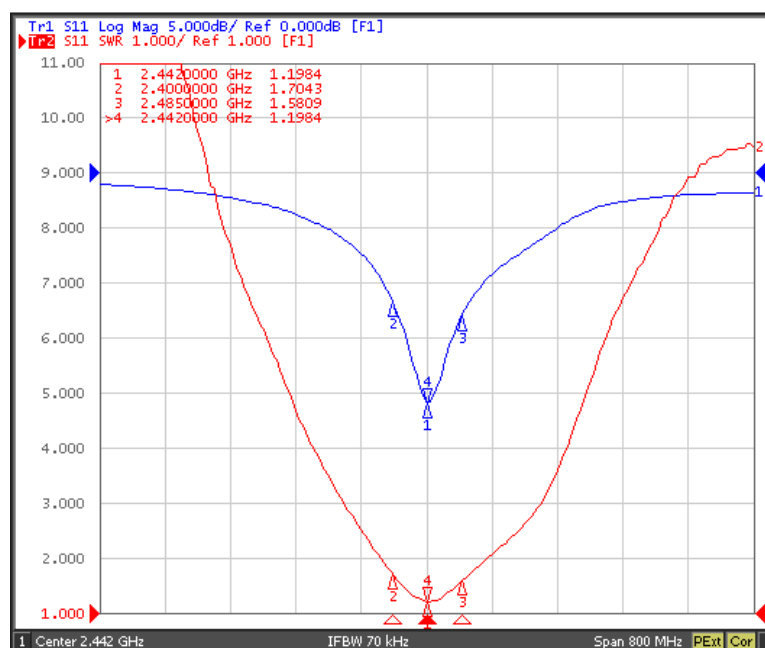
[unit : mm]

3. Measurement Result

3.1 Typical Measurement Result (VSWR/RL, Smithchart)



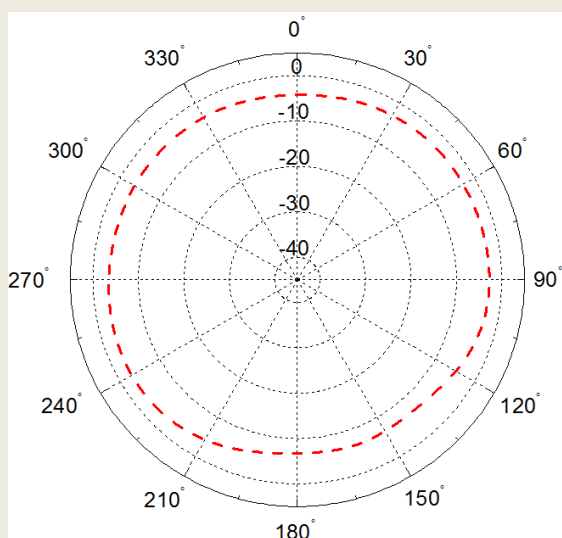
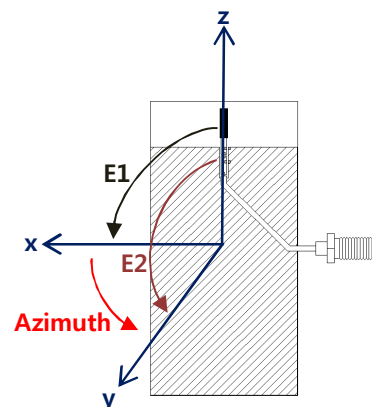
No	Matching Value
①	1.0 nH
②	2.2 nH
③	N/C



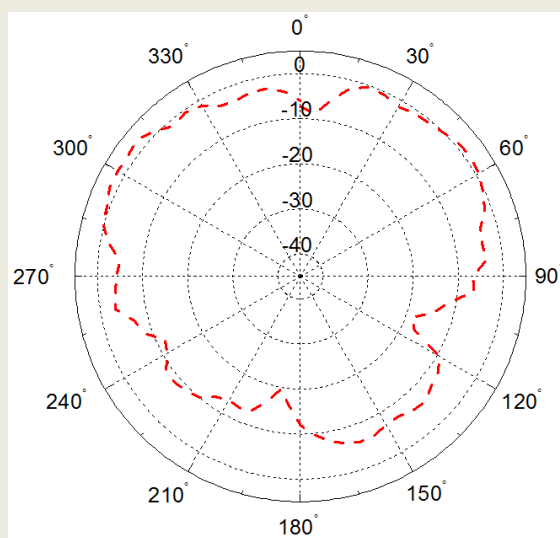
✓ The results are measured on the 100x50mm² evaluation board(EVB).

3.2 Typical Measurement Result (Gain, Radiation Pattern)

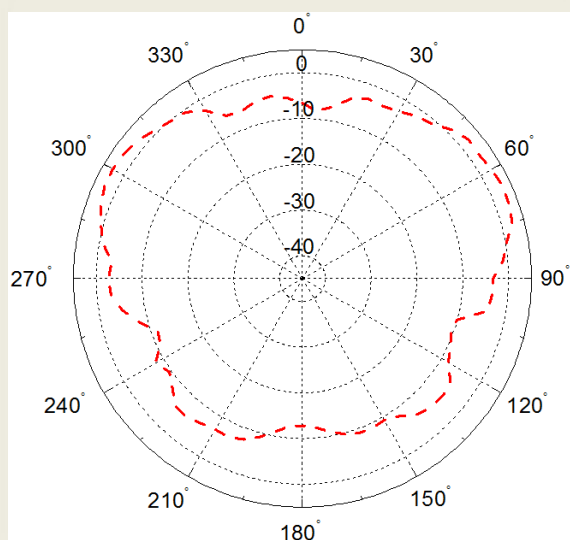
	Peak Gain (dBi)	Avg. Gain (dBi)	Efficiency(%)
Azimuth	-2.68	-3.89	60.44
Elevation 1	2.23	-3.29	
Elevation 2	3.14	-2.40	



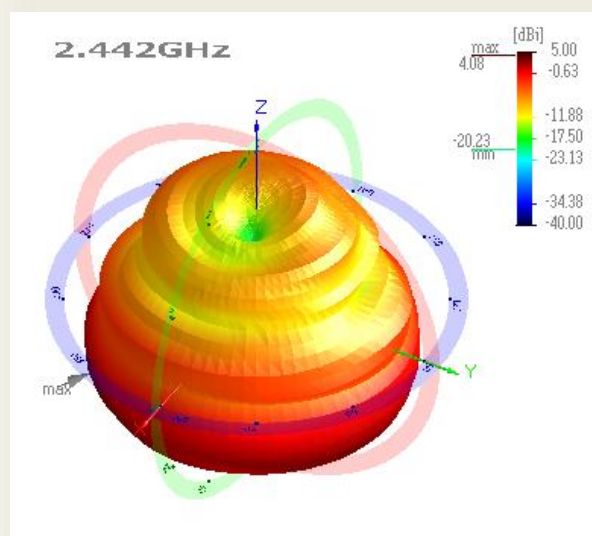
[Azimuth plane @2.442GHz]



[Elevation1 plane @2.442GHz]

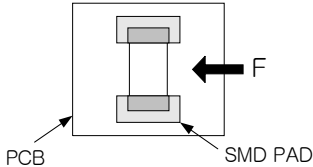


[Elevation2 plane @2.442GHz]

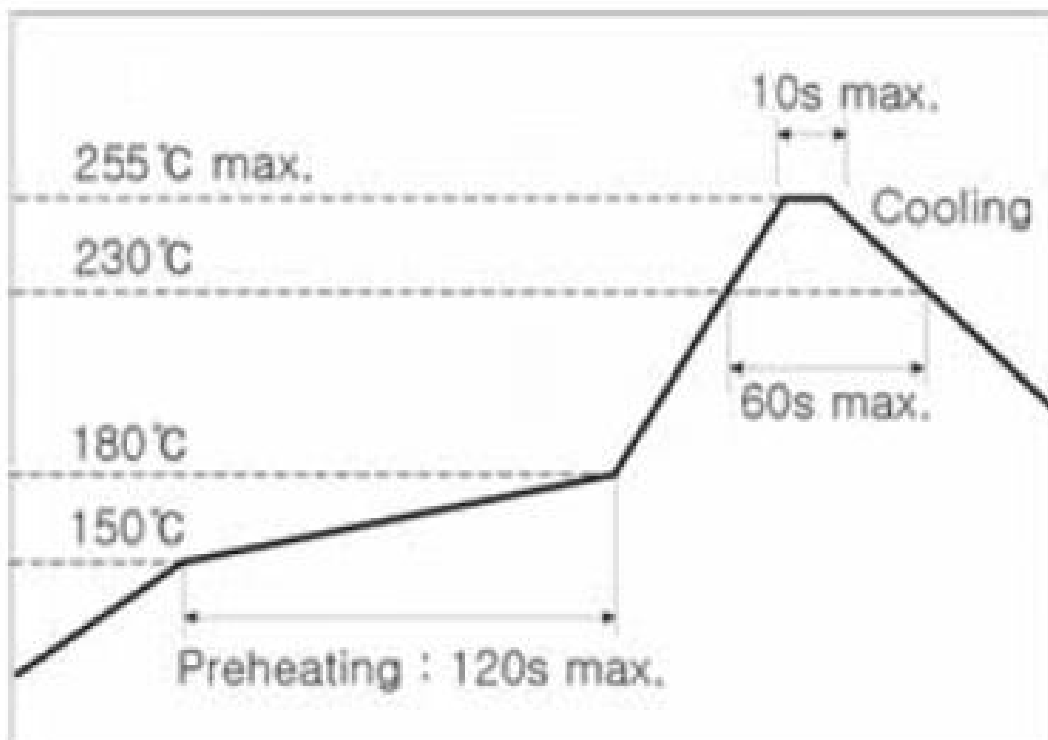


[3D Radiation Pattern]

4. Reliability

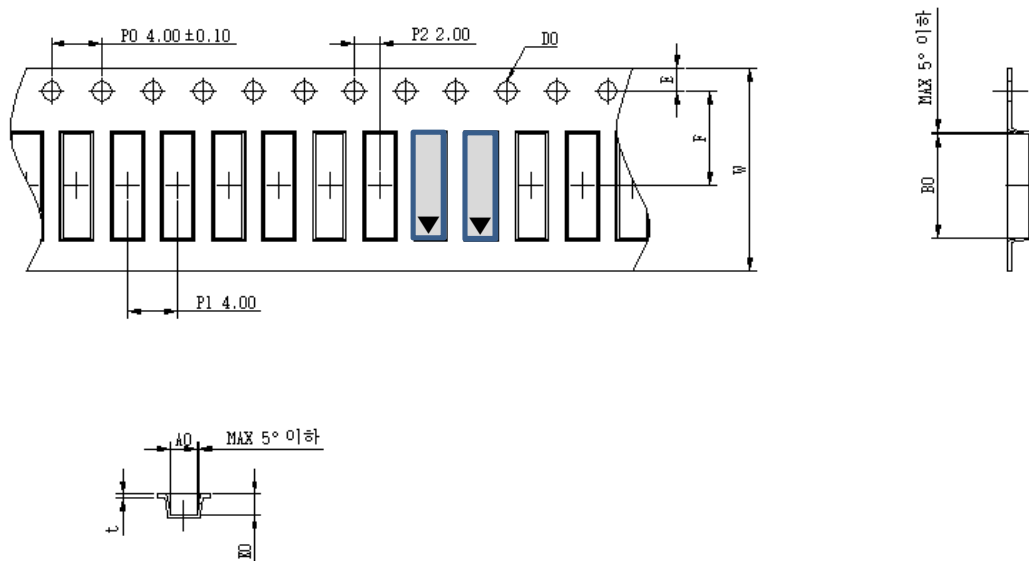
No	Item	Test Condition	Test Requirements
1	Adhesive Strength of Termination	1. Applied force on SMT chip till detached point from PCB. 	1. No mechanical damage by applied force 2. Strength (F) > 5 kgf
2	Thermal Shock (Cycle)	1. Step 1 : $-40 \pm 3^{\circ}\text{C}$, 30 min Step 2 : $+125 \pm 3^{\circ}\text{C}$,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