

Application:

WLAN, 802.11b/g, Bluetooth, etc...



Features

SMD, high reliability, ultra Impact, Omni-directional...

Part number

AAN 8010 - H4 R 2G45
 (1) (2) (3) (4) (5)

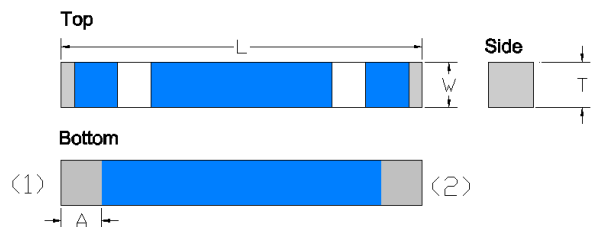
(1)Product Type	Chip Antenna
(2)Size Code	8.0x1.0mm
(3)Type Code	H4
(4)Packing	Tape and reel
(5)Frequency	2.45GHz

Electrical Specification

Working Frequency Range	2400 ~2484 MHz
Peak Gain	3.8 dBi (Typ.)
Impedance	50 Ohm
Return loss	10 dB (Min)
Polarization	Linear
Azimuth Beamwidth	Omni-directional
Operation Temperature(°C)	-40 ~85°C

The specification is defined on EVB.

Dimension and Terminal Configuration



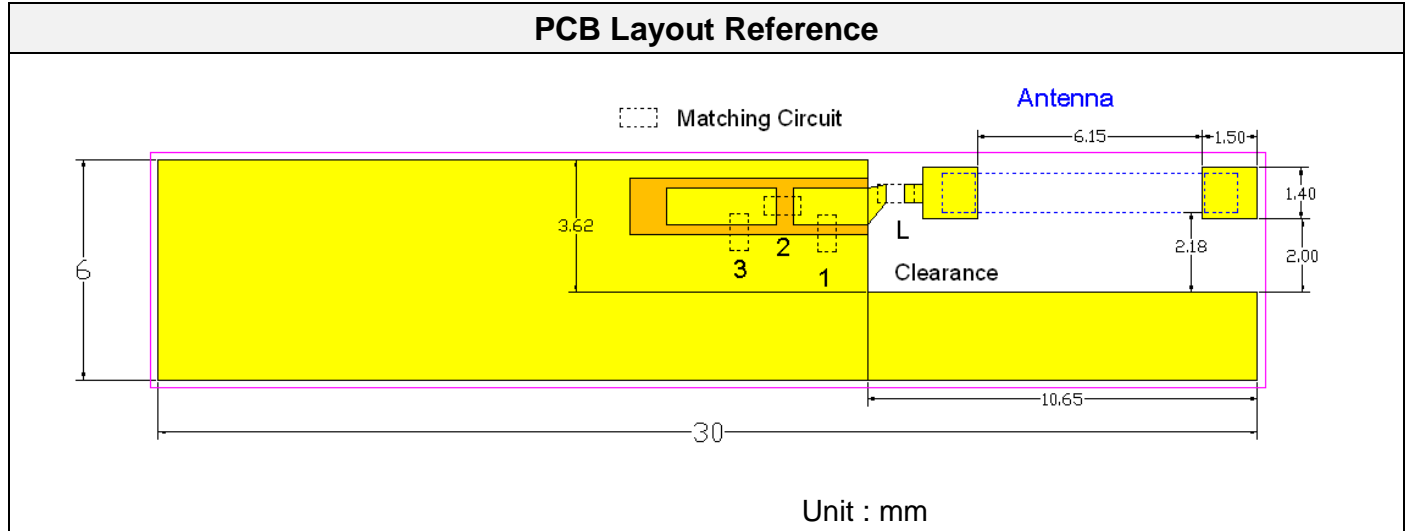
Dimension (mm)	
L	8.05+-0.15
W	1.05+-0.15
T	1.05+-0.15
A	0.90+-0.10

No.	Terminal Name
1	Feeding/Soldering
2	Soldering/Feeding

P.S : Symmetrical,

No direction

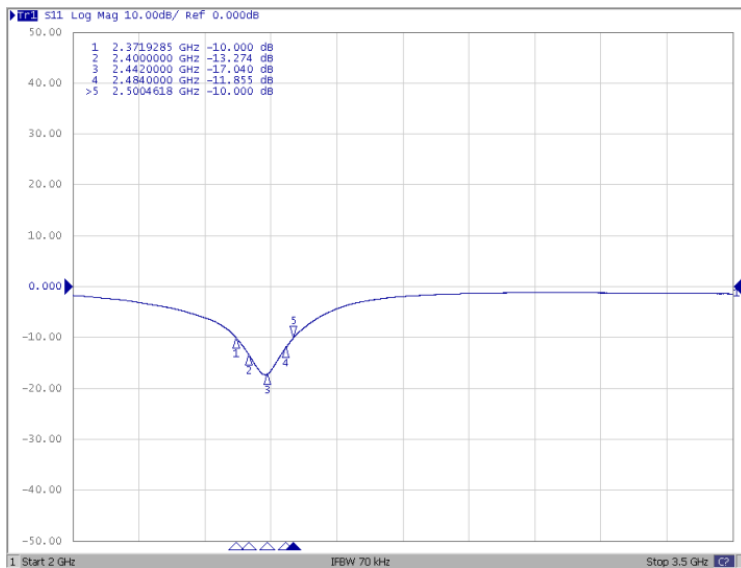
Evaluation Board Reference



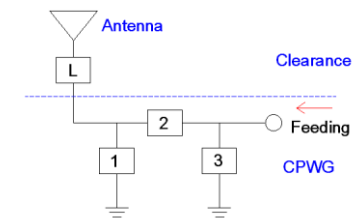
Electrical Characteristics

Return Loss & Radiation

Return Loss



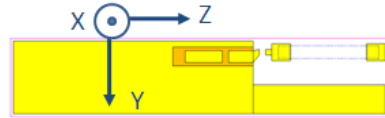
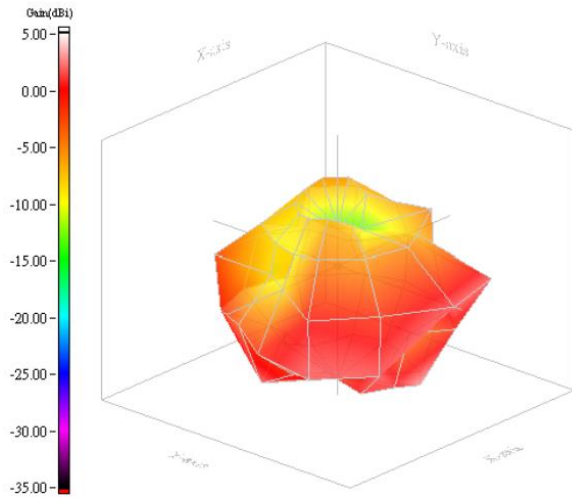
Matching Circuit on on Clearance and CPWG



Component	L	1	2	3
Value	3.9nH	open	0ohm	1.8nH

Frequency(MHz)	S11 (dB)
2400	-13.27
2442	-17.04
2484	-11.85

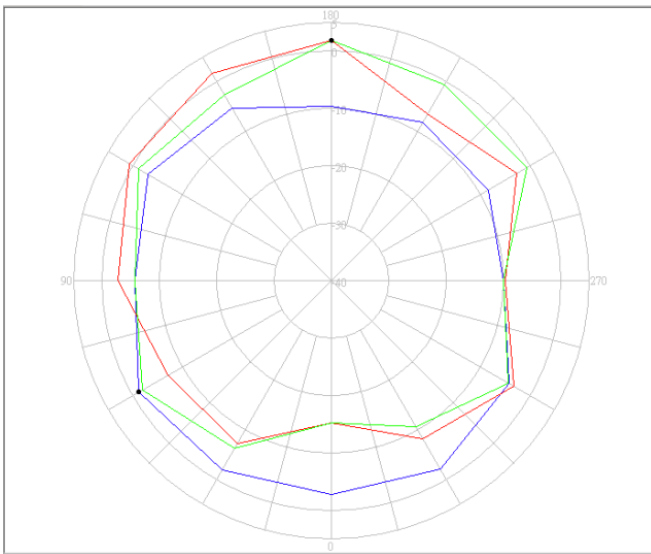
3D Radiation



Frequency	2.45GHz
Peak gain	3.8dBi
Average gain	-2.5dBi
Efficiency	62.3%

2D Radiation

Frequency : 2.442GHz



Pattern	Model Name	Test Mode	Freq(MHz)	Peak Gain(dBi)	Peak angle	Avg. Gain(dBi)
1	8010	XY	2442.00	-1.18	60.00	-4.08
2	8010	XZ	2442.00	1.95	180.00	-2.84
3	8010	YZ	2442.00	1.95	180.00	-3.06

Taping Specifications

Reel		Taping Blister Tape	
Checking note	Index	Spec (mm)	
Internal diameter of reel	A	62 ± 0.50	
External diameter of reel	B	180 ± 1.00	
Quantity/per reel	3000 pcs		
Tape material	Plastic (embossed)		
Checking note	Index	Spec (mm)	
Sprocket hole	D0	1.50 +0.10/-0.00	
Distance sprocket hole to outside	E1	1.75 ± 0.10	
Distance sprocket hole to pocket	F	7.50 ± 0.05	
Distance sprocket hole to sprocket hole	P0	4.00 ± 0.01	
Distance pocket to pocket	P1	4.00 ± 0.01	
Distance sprocket hole to pocket	P2	2.00 ± 0.05	
Tape width	W	8.00 +0.30/-0.10	
Pocket width nominal clearance	A0	1.42 ± 0.10	
Pocket length nominal clearance	B0	2.24 ± 0.10	
Pocket depth minimum clearance	K0	1.04 ± 0.10	
Thickness of tape	T	0.23 ± 0.02	

Reliability Table

Test Item	Procedure	Requirements Ceramic Type	Remark (Reference)
Electrical Characterization		Fulfill the electrical specification	User Spec.
Thermal Shock	<ol style="list-style-type: none"> Preconditioning: 50 ± 10°C / 1 hr , then keep for 24 ± 1 hrs at room temp. Initial measure: Spec: refer Initial spec. Rapid change of temperature test: -30°C to +85°C; 100 cycles; 15 minutes at Lower category temperature; 15 minutes at Upper category temperature. 	No Visible Damage. Fulfill the electrical specification.	MIL-STD-202 107
Temperature Cycling	<ol style="list-style-type: none"> Initial measure: Spec: refer Initial spec. 100 Cycles (-30°C to +85°C), Soak Mode=1 (2 Cycle/hours). Measurement at 24 ± 2Hours after test condition. 	No Visible Damage. Fulfill the electrical specification.	JESD22 JA104
High Temperature Exposure	<ol style="list-style-type: none"> Initial measure: Spec: refer Initial spec. Unpowered; 500hours @ T=+85°C. Measurement at 24 ± 2 hours after test. 	No Visible Damage. Fulfill the electrical specification.	MIL-STD-202 108
Low Temperature Storage	<ol style="list-style-type: none"> Initial measure: Spec: refer Initial spec. Unpowered: 500hours @ T= -30°C. Measurement at 24 ± 2 hours after test. 	No Visible Damage. Fulfill the electrical specification.	MIL-STD-202 108
Solderability (SMD Bottom Side)	Dipping method: <ol style="list-style-type: none"> Temperature: 235 ± 5°C Dipping time: 3 ± 0.5s 	The solder should cover over 95% of the critical area of bottom side.	IEC 60384-21/22 4.10
Soldering Heat Resistance (RSH)	Preheating temperature: 150 ± 10°C. Preheating time: 1~2 min. Solder temperature: 260 ± 5°C. Dipping time: 5 ± 0.5s	No Visible Damage.	IEC 60384-21/22 4.10
Vibration	5g's for 20 min., 12 cycles each of 3 orientations Note: Use 8"X5" PCB .031" thick 7 secure points on, one long side and 2 secure points at corners of opposite sides. Parts mounted within 2" from any secure point. Test from 10-2000 Hz.	No Visible Damage.	MIL-STD-202 Method 204
Mechanical Shock	Three shocks in each direction shall be applied along the three mutually perpendicular axes of the test specimen (18 shocks) Peak value: 1,500g's Duration: 0.5ms Velocity change: 15.4 ft/s Waveform: Half-sine	No Visible Damage.	MIL-STD-202 Method 213
Humidity Bias	<ol style="list-style-type: none"> Humidity: 85% R.H., Temperature: 85 ± 2 °C. Time: 500 ± 24 hours. Measurement at 24 ± 2hrs after test condition. 	No Visible Damage. Fulfill the electrical specification.	MIL-STD-202 Method 106

Board Flex (SMD)	<p>1. Mounting method: IR-Reflow. PCB Size (L:100 × W:40 × T:1.6mm)</p> <p>2. Apply the load in direction of the arrow until bending reaches 2 mm.</p>	No Visible Damage.	AEC-Q200 005
Adhesion	<p>Force of 1.8Kg for 60 seconds.</p>	No Visible Damage Magnification of 20X or greater may be employed for inspection of the mechanical integrity of the device body terminals and body/terminal junction.	AEC-Q200 006
Physical Dimension	Any applicable method using x10 magnification, micrometers, calipers, gauges, contour projectors, or other measuring equipment, capable of determining the actual specimen dimensions.	In accordance with specification.	JESD22 JB100

Revision History

Revision	Date	Content
1	2015/9/1	New issue
2	2017/3/8	PCB layout updated
3	2017/6/9	Add 2D radiation pattern