

2.4&5.5GHz 5320 Chip Antenna: AAN5320H1R2G5G

Application:

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

Features

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



Part number

AAN 5320 H1 R 2G5G
(1) (2) (3) (4) (5)

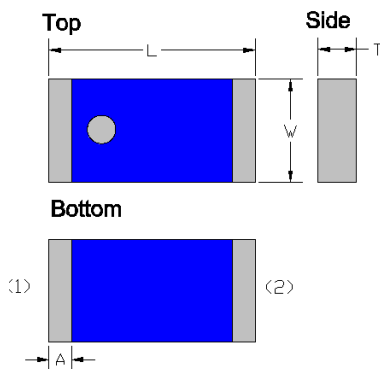
(1)Product Type	Chip Antenna
(2) Size Code	5.3x2.0mm
(3) Type Code	H1
(4) Packing	Tape and reel
(5)Frequency	2.45 & 5.5GHz

Electrical Specification

Centre Frequency	2.45 & 5.5 GHz
Peak Gain	0.87 & 2.26 dBi (Typ.)
Impedance	50 Ohm
Return loss	6.5 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	5.3+0.2
W	2.0+0.2
T	1.4+0.3
A	0.4+0.2

No.	Terminal Name
1	Feeding Point
2	Soldering point

Evaluation Board Reference

PCB Dimension	Antenna Layout Reference
	<p style="text-align: right;">unit : mm</p>

Electrical Characteristics

Return Loss & Radiation

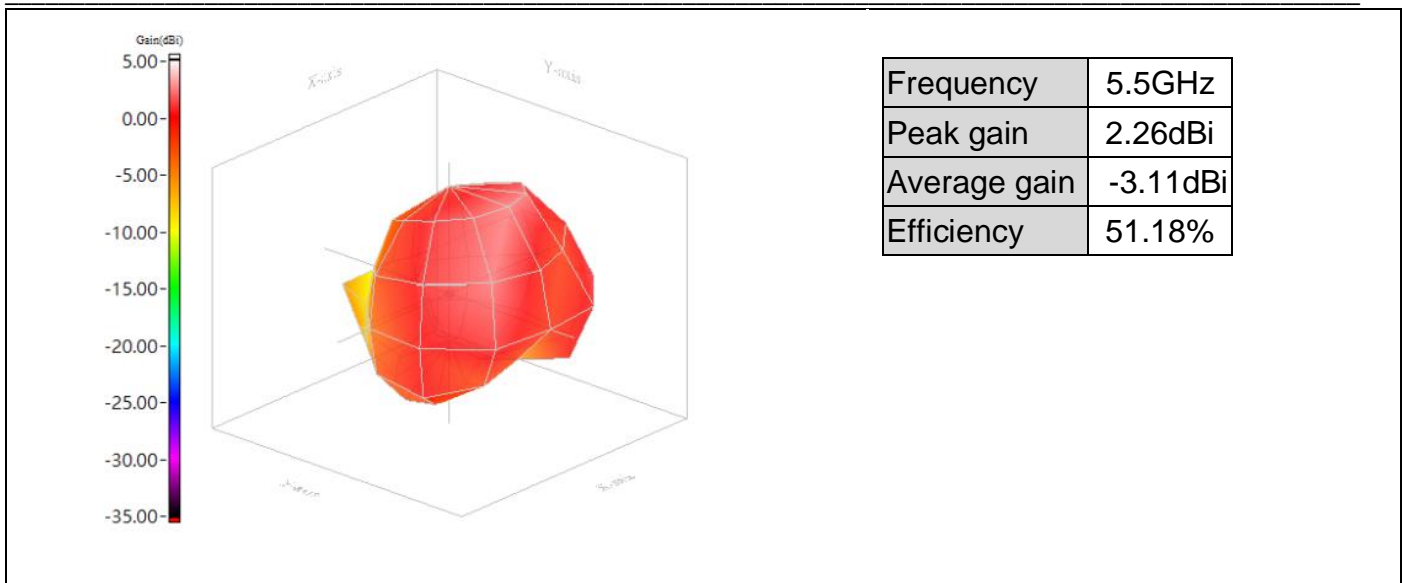
Return Loss

Frequency (GHz)	S11 (dB)
2.400000	-7.3694
2.450000	-7.6362
2.464000	-7.3297
5.150000	-8.2075
5.500000	-11.198
5.850000	-7.9682

Frequency (MHz)	S11 (dB)
2400	-7.4
245	-7.6
2484	-7.1
5150	-8.2
5450	-11.2
5850	-7.9

Radiation

Frequency	2.45GHz
Peak gain	0.87dBi
Average gain	-2.77dBi
Efficiency	54.80%



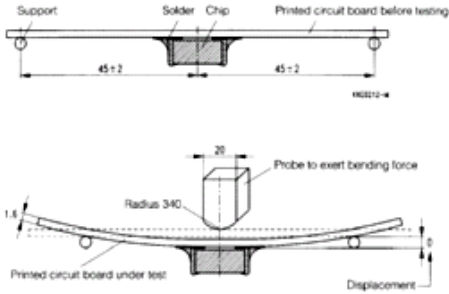
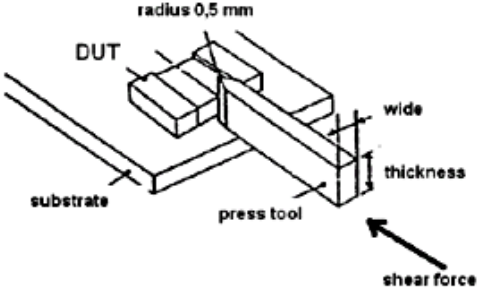
Taping Specifications

Reel			Taping Blister Tape		
Checking note	Index	Spec (mm)	Checking note	Index	Spec (mm)
Internal diameter of reel	A	60.20 ± 0.50	Sprocket hole	D0	1.50 +0.10/-0.00
External diameter of reel	B	178 ± 1.00	Distance sprocket hole to outside	E1	1.75 ± 0.10
Quantity/per reel	2000 pcs		Distance sprocket hole to pocket	F	5.50 ± 0.05
Tape material	Plastic (embossed)		Distance sprocket hole to sprocket hole	P0	4.00 ± 0.10
			Distance pocket to pocket	P1	4.00 ± 0.10
			Distance sprocket hole to pocket	P2	2.00 ± 0.05
			Tape width	W	12.00 +0.30/-0.10
			Pocket width nominal clearance	A0	2.28 ± 0.13
			Pocket length nominal clearance	B0	5.70 ± 0.13
			Pocket depth minimum clearance	K0	1.58 ± 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	1. Preconditioning: $50 \pm 10^\circ\text{C}$ / 1 hr , then keep for 24 ± 1 hrs at room temp. 2. Initial measure: Spec: refer Initial spec. 3. Rapid change of temperature test: -30°C to $+85^\circ\text{C}$; 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	1. Initial measure: Spec: refer Initial spec. 2. 100 Cycles (-30°C to $+85^\circ\text{C}$), Soak Mode=1 (2 Cycle/hours). 3. Measurement at 24 ± 2 Hours after test condition.	No Visible Damage. Fulfill the electrical specification.	JESD22 JA104
High Temperature Exposure	1. Initial measure: Spec: refer Initial spec. 2. Unpowered; 500hours @ $T=+85^\circ\text{C}$. 3. Measurement at 24 ± 2 hours after test.	No Visible Damage. Fulfill the electrical specification.	MIL-STD-202 108
Low Temperature Storage	1. Initial measure: Spec: refer Initial spec. 2. Unpowered: 500hours @ $T=-30^\circ\text{C}$. 3. Measurement at 24 ± 2 hours after test.	No Visible Damage. Fulfill the electrical specification.	MIL-STD-202 108
Solderability (SMD Bottom Side)	Dipping method: a. Temperature: $235 \pm 5^\circ\text{C}$ b. Dipping time: $3 \pm 0.5\text{s}$	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: $150 \pm 10^\circ\text{C}$. Preheating time: 1~2 min. Solder temperature: $260 \pm 5^\circ\text{C}$. Dipping time: $5 \pm 0.5\text{s}$	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	1. Humidity: 85% R.H., Temperature: $85 \pm 2^\circ\text{C}$. 2. Time: 500 ± 24 hours. 3. Measurement at 24 ± 2 hrs after test condition.	No Visible Damage. Fulfill the electrical specification.	MIL-STD-202 Method 106

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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	<p>Any applicable method using x10 magnification, micrometers, calipers, gauges, contour projectors, or other measuring equipment, capable of determining the actual specimen dimensions.</p>	In accordance with specification.	JESD22 JB100

Revision History

Revision	Date	Content
1	2015/7/20	New issue