

## Application:

ISM band, Telemeter, Telemetry, keyless entry system...



## Features

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

## Part number

AAN 1204 - H3 R 868M  
 (1) (2) (3) (4) (5)

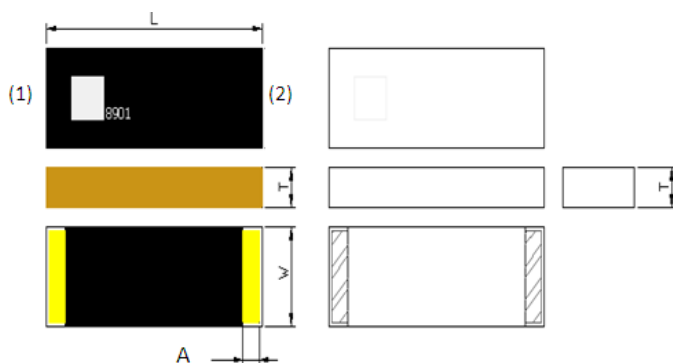
(1)Product Type	Chip Antenna
(2)Size Code	12x0.4mm
(3)Type Code	H3
(4)Packing	Tape and reel
(5)Frequency	868MHz

## Electrical Specification

Centre Frequency	868 MHz
Peak Gain	1.67 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	12.0+/-0.30
W	4.0+/-0.30
T	1.6+/-0.20
A	0.90+/-0.20

No.	Terminal Name
1	Feeding
2	Soldering

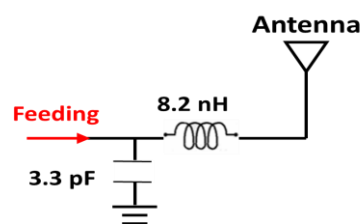
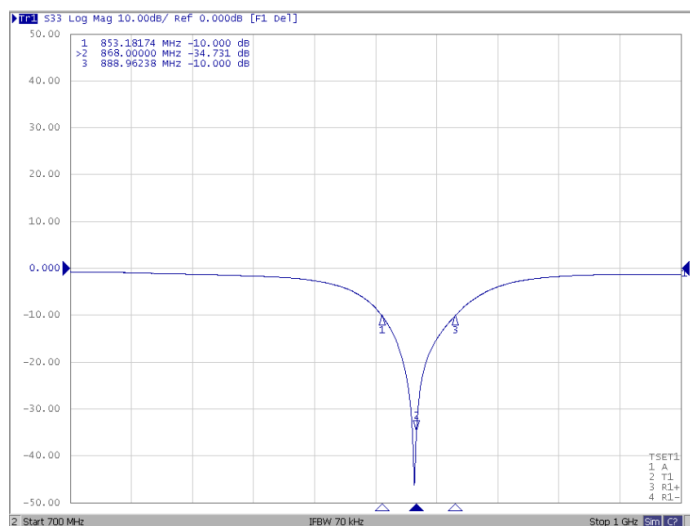
## Evaluation Board Reference

PCB Dimension	Antenna Layout Reference
<p style="text-align: center;">75 40</p>	<p style="text-align: center;">1.80      9.70      1.80      4.20</p> <p>Unit : mm</p> <ul style="list-style-type: none"> <li><span style="border: 1px solid cyan; display: inline-block; width: 10px; height: 10px; margin-right: 5px;"></span> : Chip Antenna</li> <li><span style="border: 1px solid green; display: inline-block; width: 10px; height: 10px; margin-right: 5px;"></span> : L/C matching components</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: red; margin-right: 5px;"></span> : Land Pattern</li> </ul>

## Electrical Characteristics

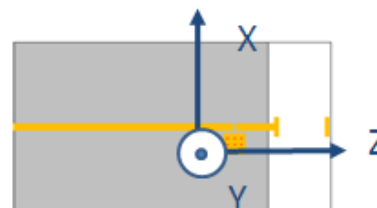
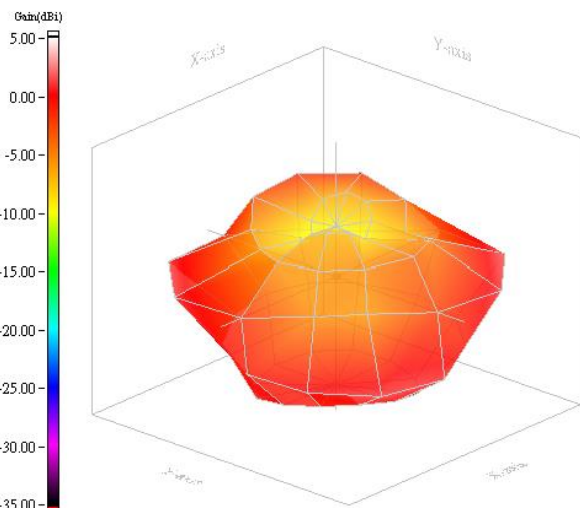
### Return Loss & Radiation

#### Return Loss



Frequency (MHz)	S11 (dB)
853	-10
868	-35
888	-10

#### Radiation

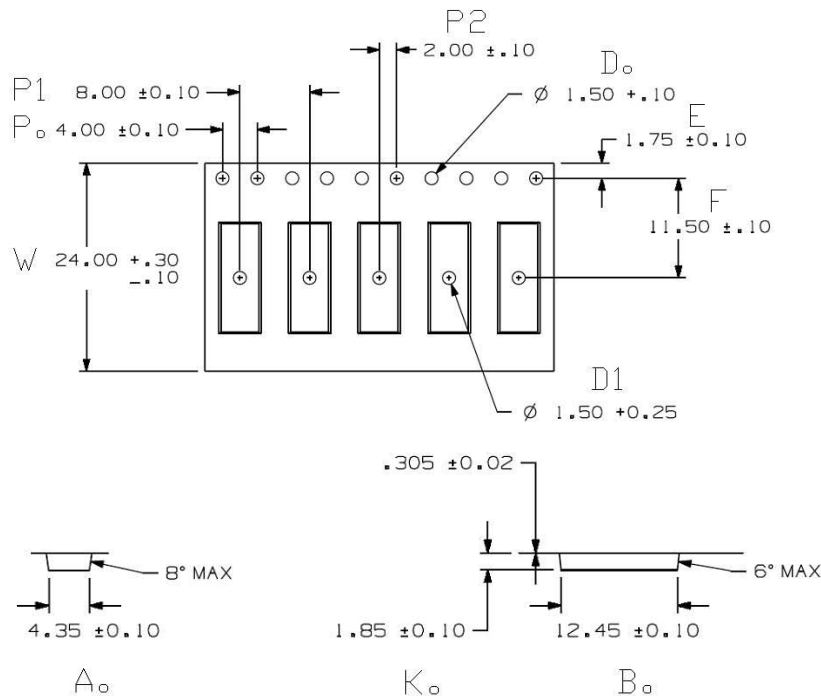


Frequency	868MHz
Peak gain	1.67dBi
Average gain	-2.6dBi
Efficiency	60%

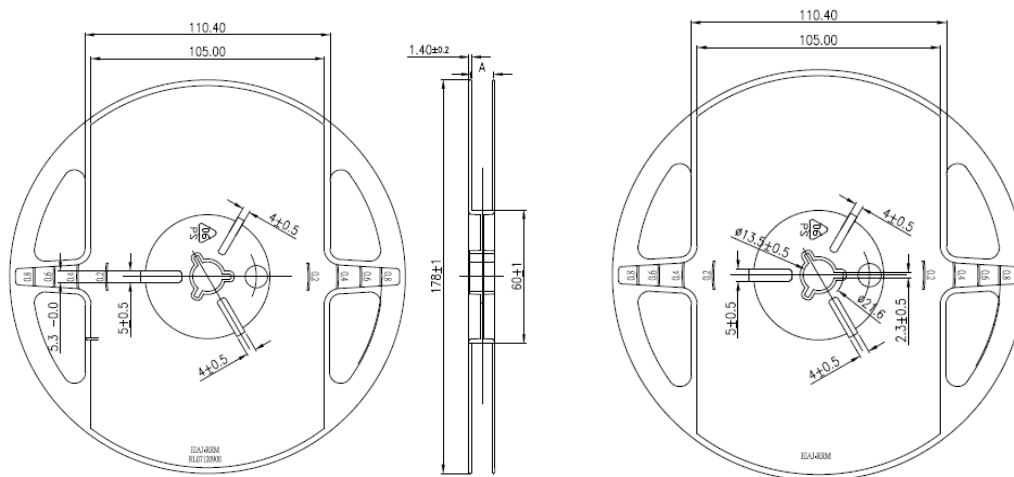
## Taping Specifications

Reel	Taping Blister Tape
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### Embossed Tape :



### Reel :



$A_{\pm 1}$
8.7
12.7
16.7
24.7
32.7

## Reliability Table

Test Item	Procedure	Requirements Ceramic Type	Remark (Reference)
<b>Electrical Characterization</b>		Fulfill the electrical specification	User Spec.
<b>Thermal Shock</b>	1. Preconditioning: $50 \pm 10^{\circ}\text{C}$ / 1 hr , then keep for $24 \pm 1$ hrs at room temp. 2. Initial measure: Spec: refer Initial spec. 3. Rapid change of temperature test: $-30^{\circ}\text{C}$ 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
<b>Temperature Cycling</b>	1. Initial measure: Spec: refer Initial spec. 2. 100 Cycles ( $-30^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ ), Soak Mode=1 (2 Cycle/hours). 3. Measurement at $24 \pm 2$ Hours after test condition.	No Visible Damage. Fulfill the electrical specification.	JESD22 JA104
<b>High Temperature Exposure</b>	1. Initial measure: Spec: refer Initial spec. 2. Unpowered; 500hours @ $T=+85^{\circ}\text{C}$ . 3. Measurement at $24 \pm 2$ hours after test.	No Visible Damage. Fulfill the electrical specification.	MIL-STD-202 108
<b>Low Temperature Storage</b>	1. Initial measure: Spec: refer Initial spec. 2. Unpowered: 500hours @ $T= -30^{\circ}\text{C}$ . 3. Measurement at $24 \pm 2$ hours after test.	No Visible Damage. Fulfill the electrical specification.	MIL-STD-202 108
<b>Solderability (SMD Bottom Side)</b>	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
<b>Soldering Heat Resistance (RSH)</b>	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
<b>Vibration</b>	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
<b>Mechanical Shock</b>	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
<b>Humidity Bias</b>	1. Humidity: 85% R.H., Temperature: $85 \pm 2^{\circ}\text{C}$ . 2. Time: $500 \pm 24$ hours. 3. Measurement at $24 \pm 2$ hrs after test condition.	No Visible Damage. Fulfill the electrical specification.	MIL-STD-202 Method 106

