

**Description**: Bluetooth, WiFi Antenna

PART NUMBER: W3092

**Series:** The Blue Dot



#### Features:

- Chip Antenna
- Frequency:2400MHz ~ 2483MHz
- Low profile2.0mm(Length) x 1.2mm(Width) x 0.55mm(Thickness)

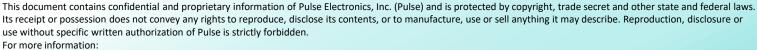
### **Applications:**

- WLAN
- 802.11b/g
- Bluetooth
- Zigbee, ISM 2.4GHz

All dimensions are in mm / inches

Issue: 2049

In the effort to improve our products, we reserve the right to make changes judged to be necessary. CONFIDENTIAL AND PROPRIETARY INFORMATION





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#### **ELECTRICAL SPECIFICATIONS**

Frequency	2400-2483	MHz
Nominal Impedance	50	Ω
VSWR	3	max
Gain (Typ.)	0.89	dBi
Efficiency(Typ.)	50	%
Polarization	Lir	near



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# **MECHANICAL SPECIFICATIONS**

Weight 0.005 g

Size 2.0x1.2x0.55 mm

MSL Level 1

#### **ENVIRONMENTAL SPECIFICATIONS**

Operating temperature -40/+105 ° C

High temperature resistance 150 ° C, 1000 hours

Low temperature resistance -40 ° C, 1000 hours

Humidity 85%R.H. 85±5 ° C, 1000 cycles

Soldering heat resistance 260 ° C 10s

Thermal shock -40/+105 ° C

Storage condition

At warehouse 0-30 °C, <60%R.H., shoule be used<1 year

On board -40 ~85 ° C, <85%R.H



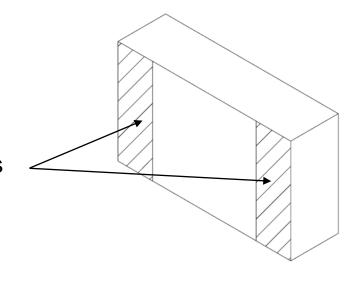
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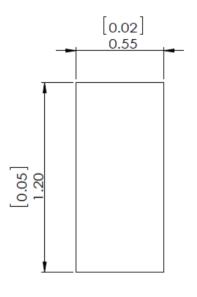
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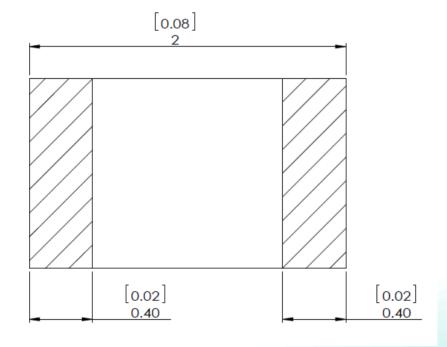
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#### **MECHANICAL DRAWING**

Pad for SMT process









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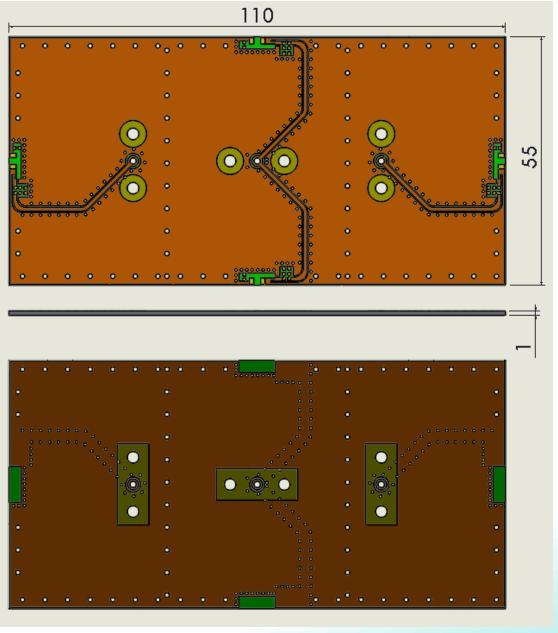
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#### **OTHER SPECIFICATIONS**

# Recommended PCB layout(Unit:mm)

PCB size(L X W X T): 110 X 55 X 1mm







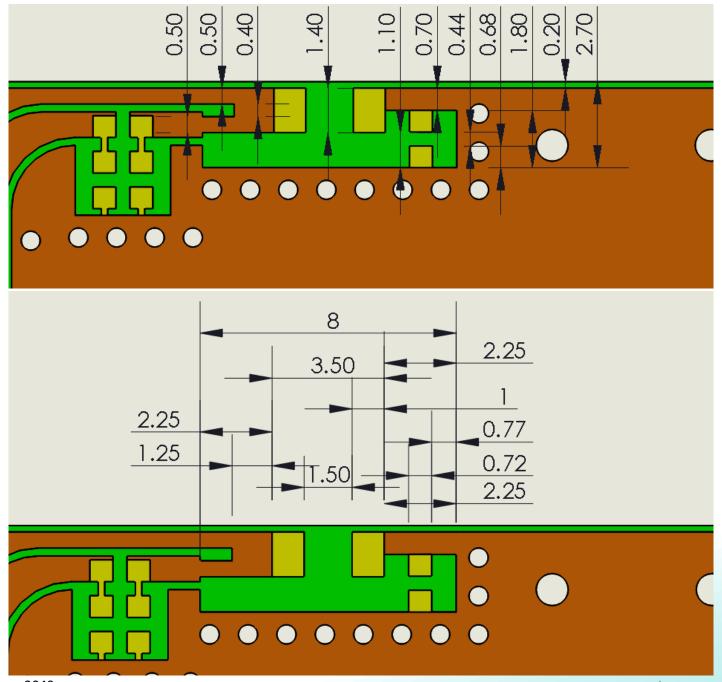
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#### **OTHER SPECIFICATIONS**

# PCB top side layout



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RŏHS



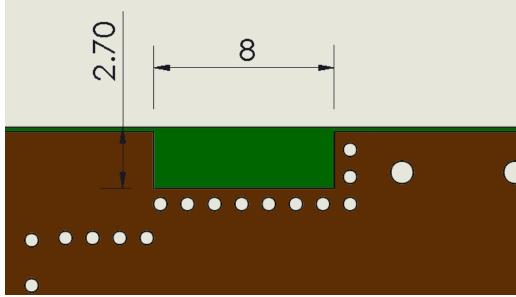
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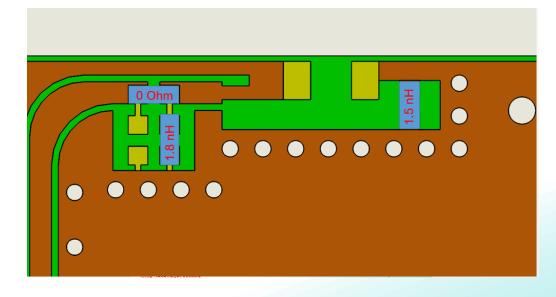
#### **OTHER SPECIFICATIONS**

# PCB bottom side layout



\*Clearance 8mm × 2.7mm: All metallization should be removed from all PCB layers.

# Recommended matching circuit







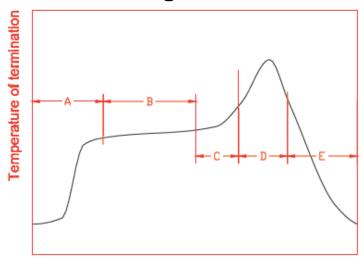
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#### **OTHER SPECIFICATIONS**

# Recommended reflow soldering



#### Time

Α	1 <sup>st</sup> rising temperature	The normal to Preheating temperature	30s to 60s
В	Preheating	140°C to 160°C	60s to 120s
С	2 <sup>nd</sup> rising temperature	Preheating to 200°C	20s to 40s
D	Main heating	if 220℃	50s∼60s
		if 230°C	40s∼50s
		if 240℃	30s∼40s
		if 250℃	20s~40s
		if 260°C	20s~40s
Е	Regular cooling	200°C to 100°C	1°C/s ~ 4°C/s

<sup>\*</sup>reference: J-STD-020C

#### (1) Soldering gun procedure

Note the follows, in case of using solder gun for replacement.

- (a) The tip temperature must be less than 350°C for the period within 3 seconds by using soldering gun under 30 W.
- (b) The soldering gun tip shall not touch this product directly.

### (2) Soldering volume

Note that excess of soldering volume will easily get crack the body of this product.

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ROHS



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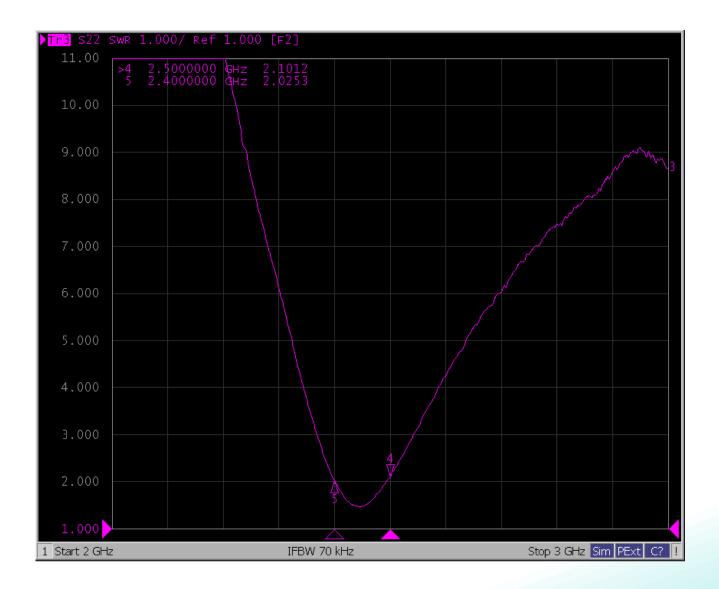
#### **TECHNICAL DATA SHEET**

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#### **CHARTS**

#### **VSWR**







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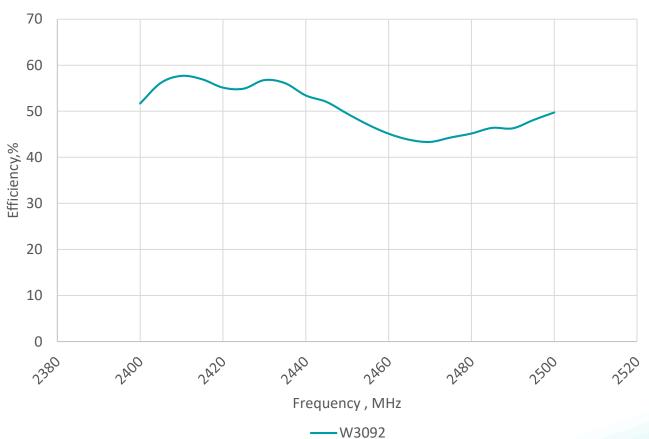
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#### **CHARTS**

# Efficiency

### Efficiency vs Frequency measured with demo board





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#### **TECHNICAL DATA SHEET**

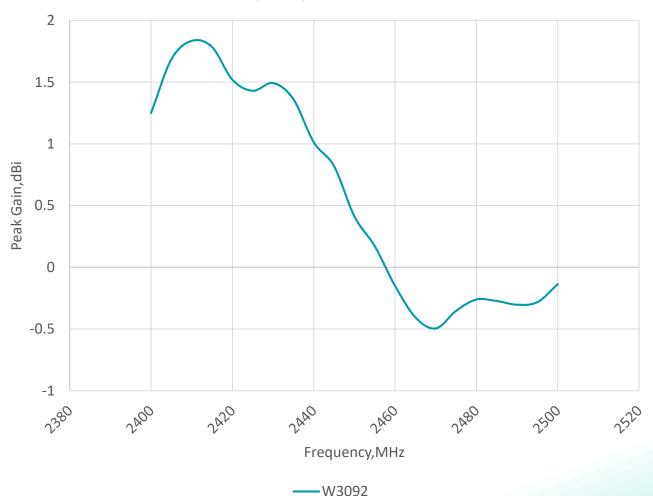
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# CHARTS

#### Peak Gain

#### Peak Gain vs Frequency measured with demo board





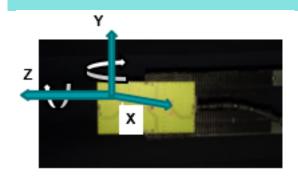


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#### **CHARTS**



# Radiation pattern XY Plane

30

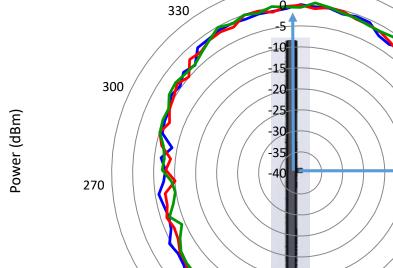
60

90

Χ

120

0



240

#### 2400MHz

Avg (dBi) = -4.07 Peak (dBi) = -2.05 Avg -3 (deg) = 285

#### 2450MHz

Avg (dBi) = -3.89 Peak (dBi) = -1.39 Avg -3 (deg) = 265

#### 2480MHz

Avg (dBi) = -3.32 Peak (dBi) = -1.32 Avg -3 (deg) = 265

— 2400MHz —— 2450MHz —— 2500MHz

Phi Angle (°)

150

210

180

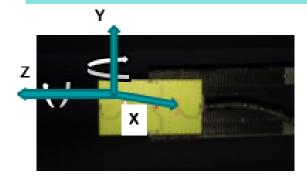


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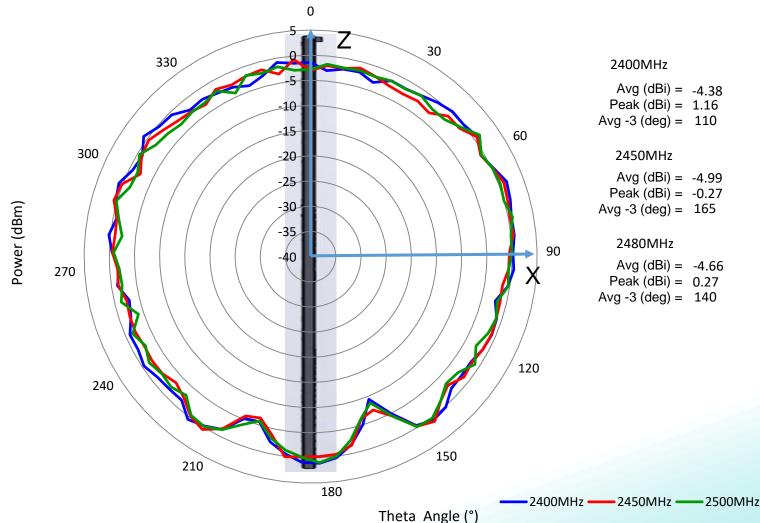
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#### **CHARTS**



# Radiation pattern

#### **ZX Plane**





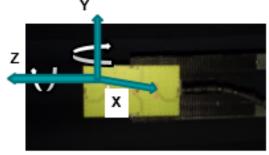


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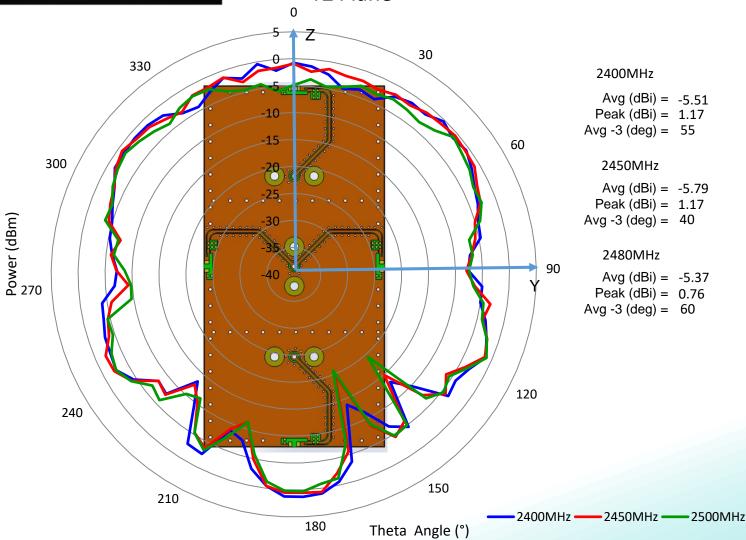
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#### **CHARTS**



# Radiation pattern









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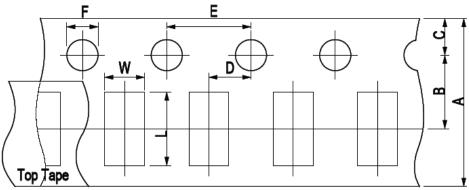
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#### **PACKAGING**

# Taping Package and Label Marking: (unit: mm)

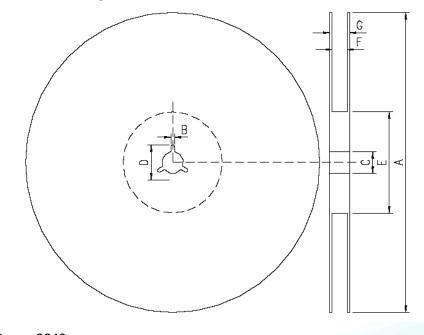
(1) Quantity/Reel: 5000pcs/Reel

(2) Carrier tape dimensions



Type	Α	В	С	D	Е	F	L	W
ACA2012	8.00±	3.50±	1.75±	2.00±	4.00±	1.50±	2.30±	1.55±
	0.30	0.05	0.10	0.05	0.10	0.10	0.10	0.10

# (3) Taping reel dimensions



Α	178.0±2.0
В	2.0±0.5
С	13.0±0.5
D	21.0±0.8
Ε	62.0±1.5
F	9.0±0.5
G	13.0±1.0

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