

**Description:** Bluetooth, WiFi Antenna**Series:** The Blue Dot**PART NUMBER:** W3092**Features:**

- Chip Antenna
- Frequency:  
2400MHz ~ 2483MHz
- Low profile  
2.0mm(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: 2335

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## ELECTRICAL SPECIFICATIONS

Frequency	2400-2483	MHz
Nominal Impedance	50	$\Omega$
VSWR	3	max
Gain (Typ.)	0.89	dBi
Efficiency(Typ.)	50	%
Polarization	Linear	

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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., should be used <1 year
On board	-40 ~85 ° C, <85%R.H

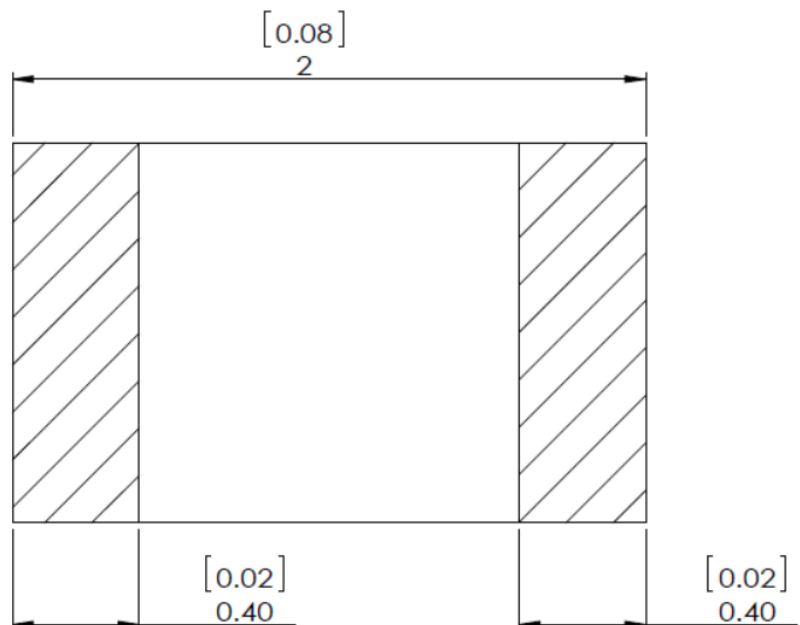
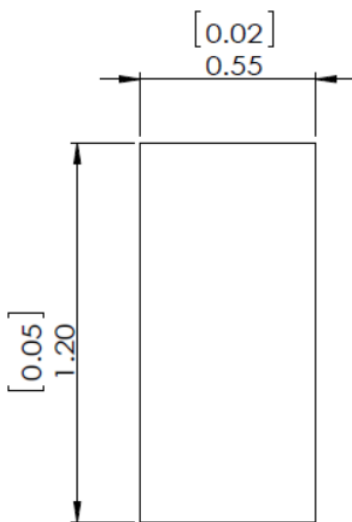
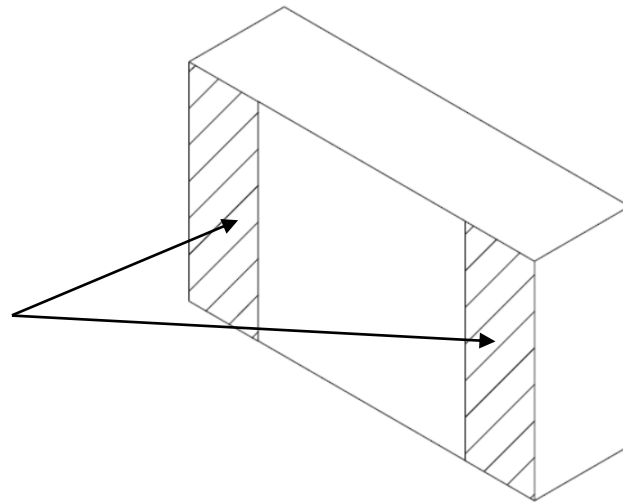
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**MECHANICAL DRAWING**

Pad for SMT process



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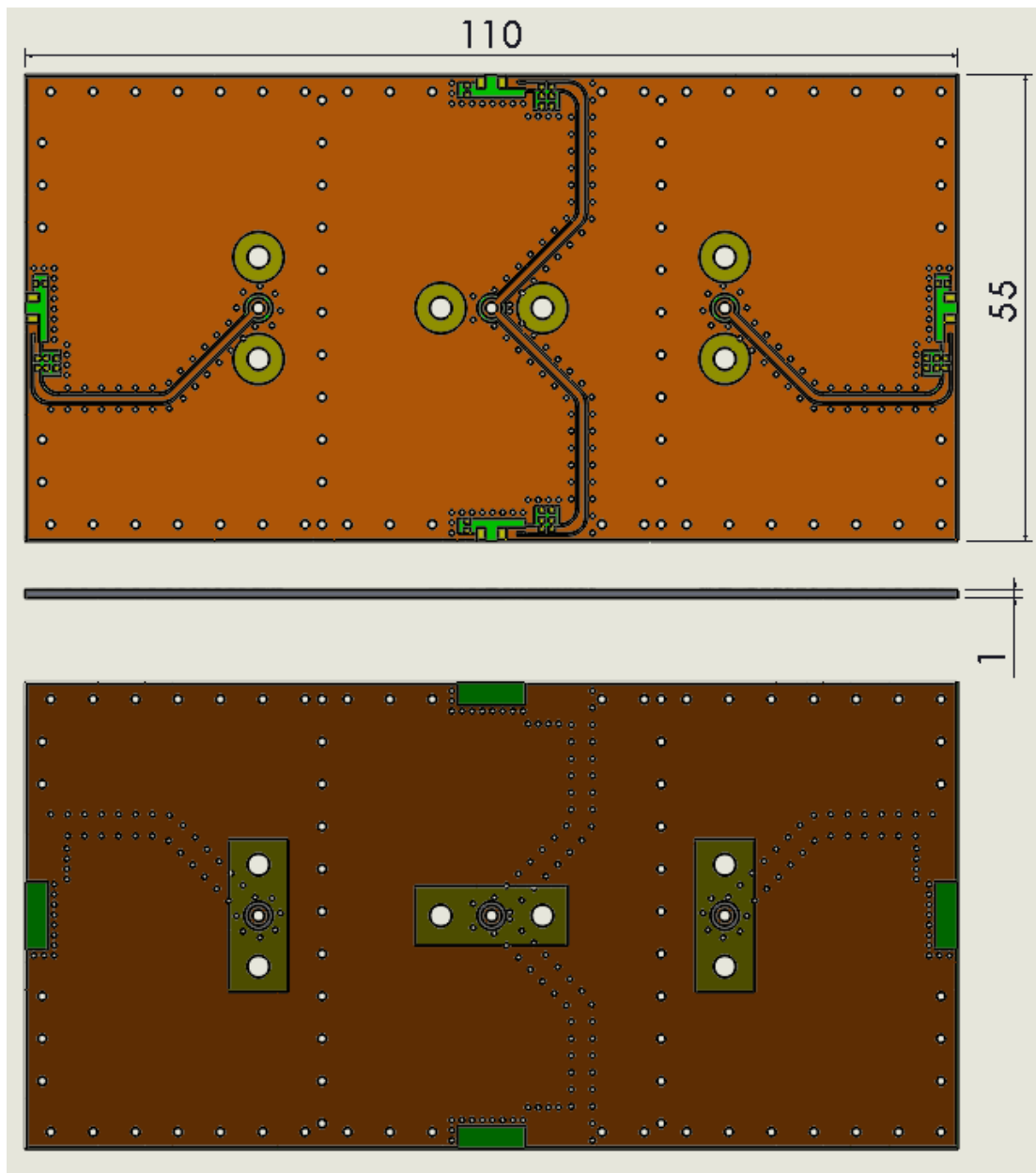
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## OTHER SPECIFICATIONS

### Recommended PCB layout(Unit:mm)

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



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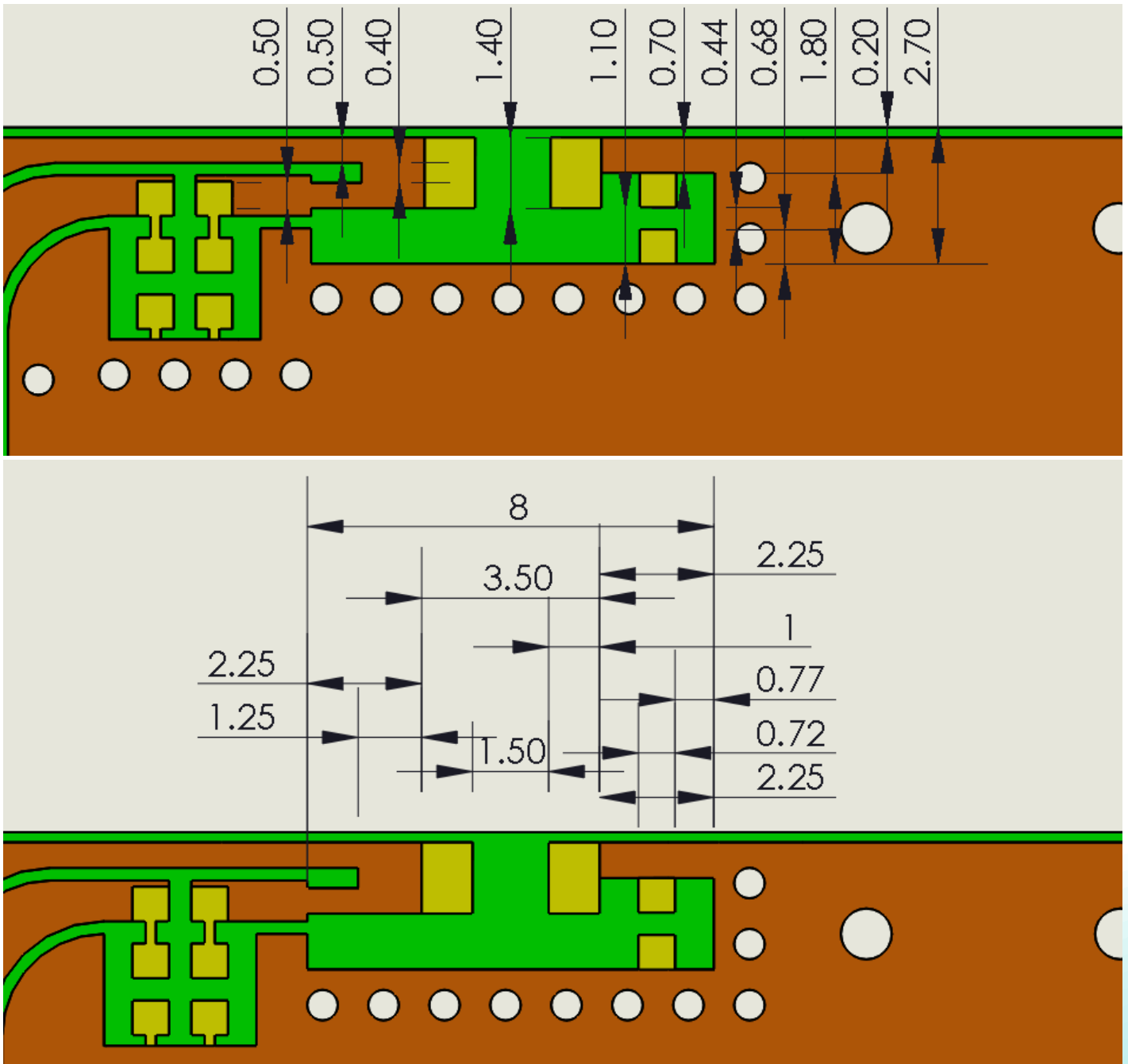
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## OTHER SPECIFICATIONS

### PCB top side layout



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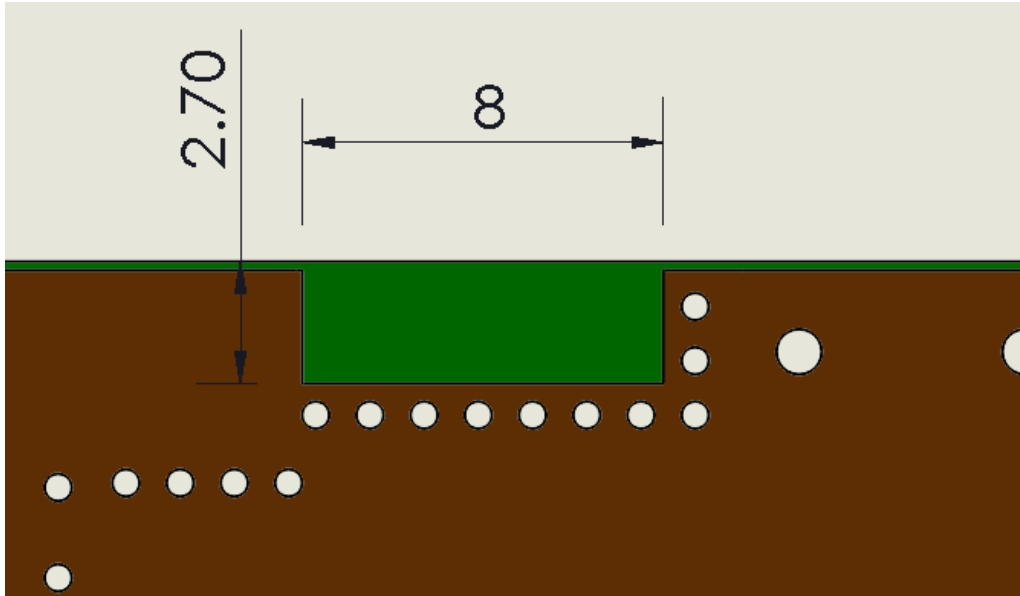
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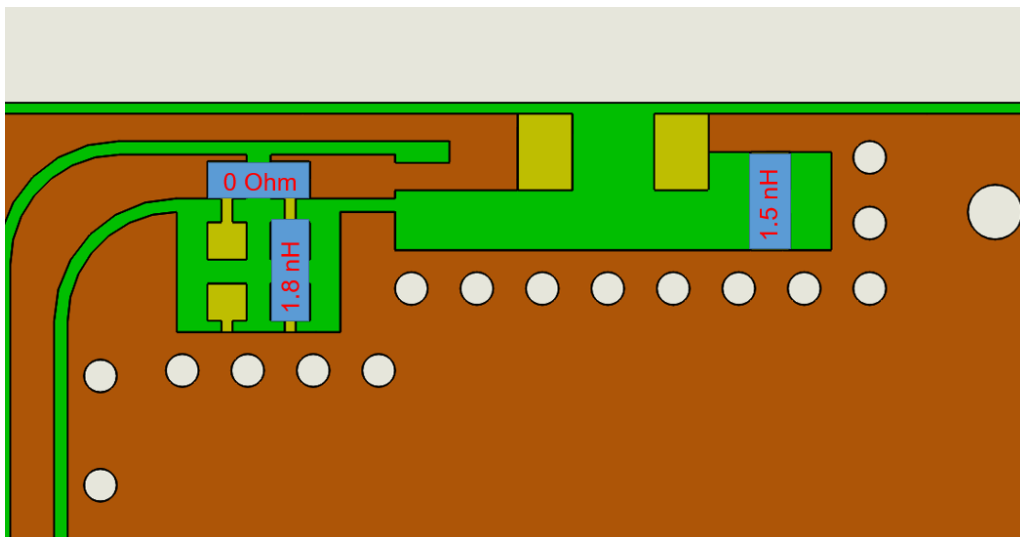
## OTHER SPECIFICATIONS

### PCB bottom side layout



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

### Recommended matching circuit



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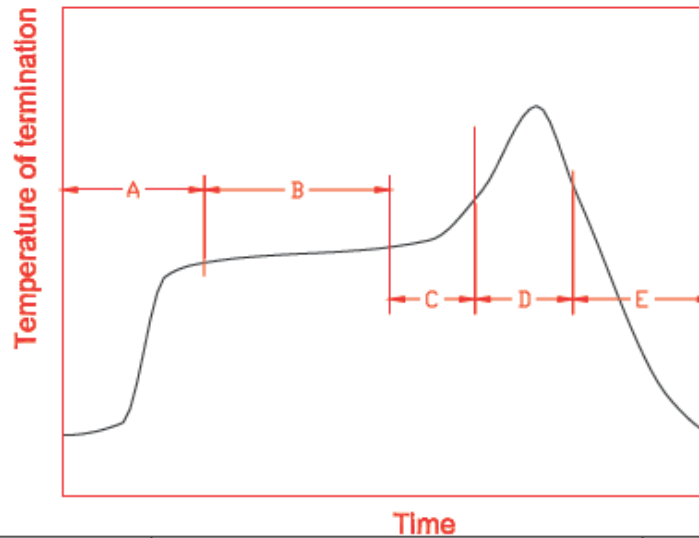
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### OTHER SPECIFICATIONS

#### Recommended reflow soldering



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

\*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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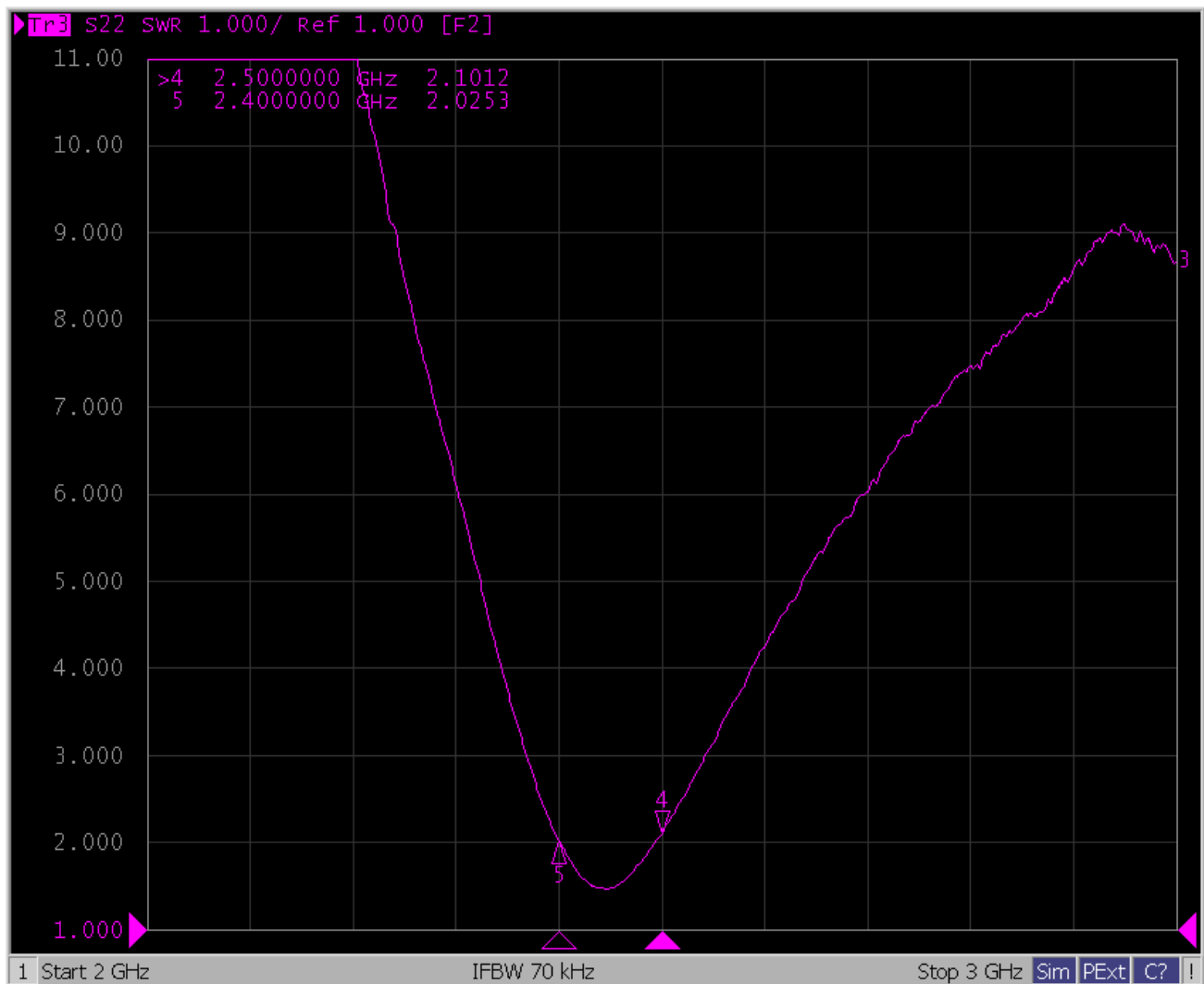
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### CHARTS

#### VSWR



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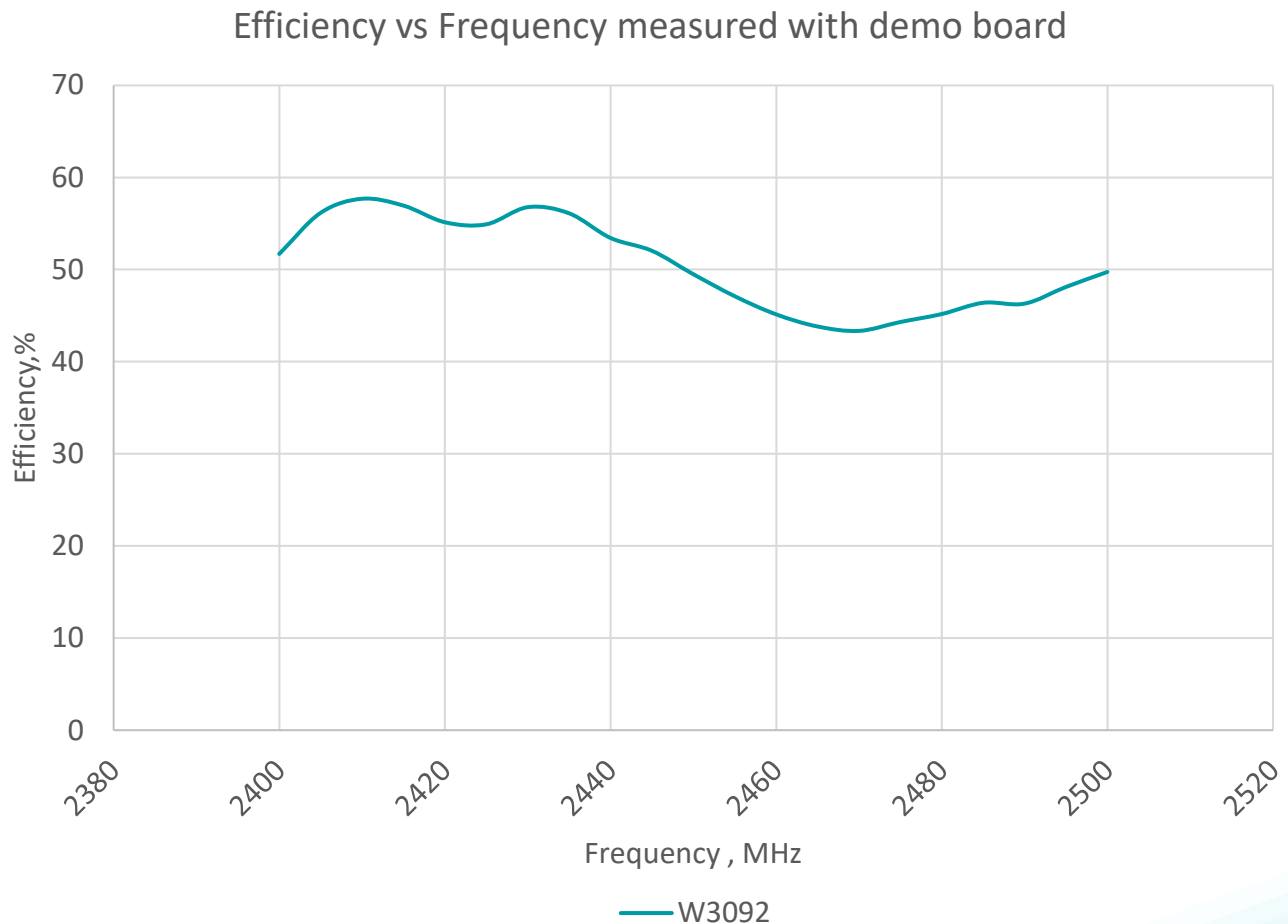
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## CHARTS

### Efficiency



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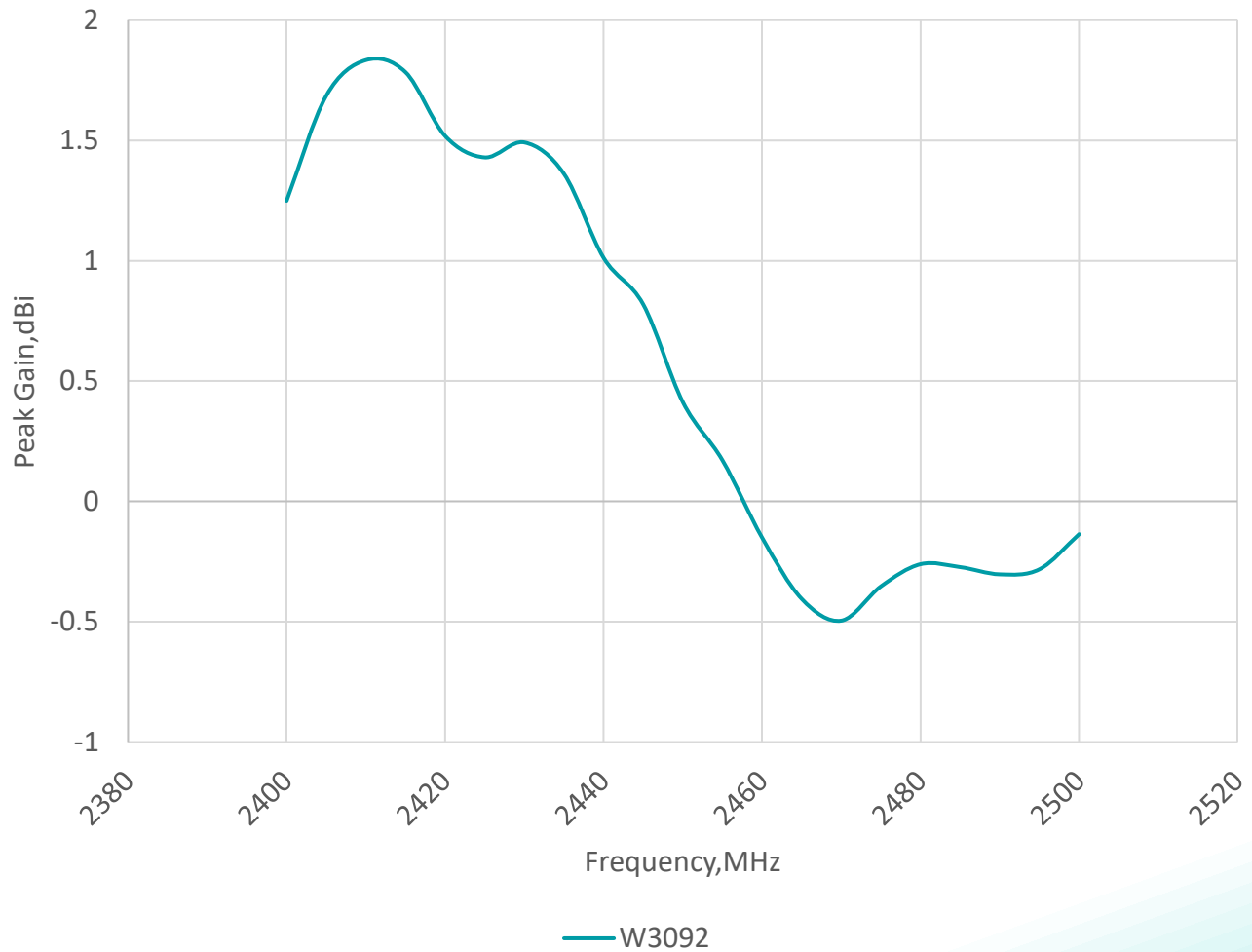
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### CHARTS

#### Peak Gain

Peak Gain vs Frequency measured with demo board



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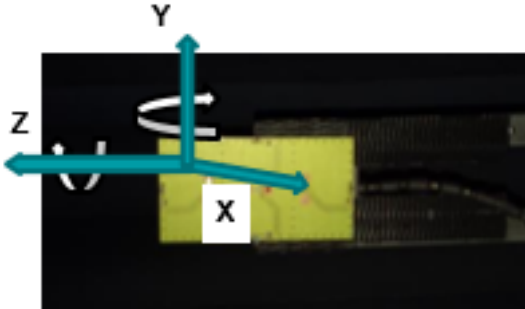
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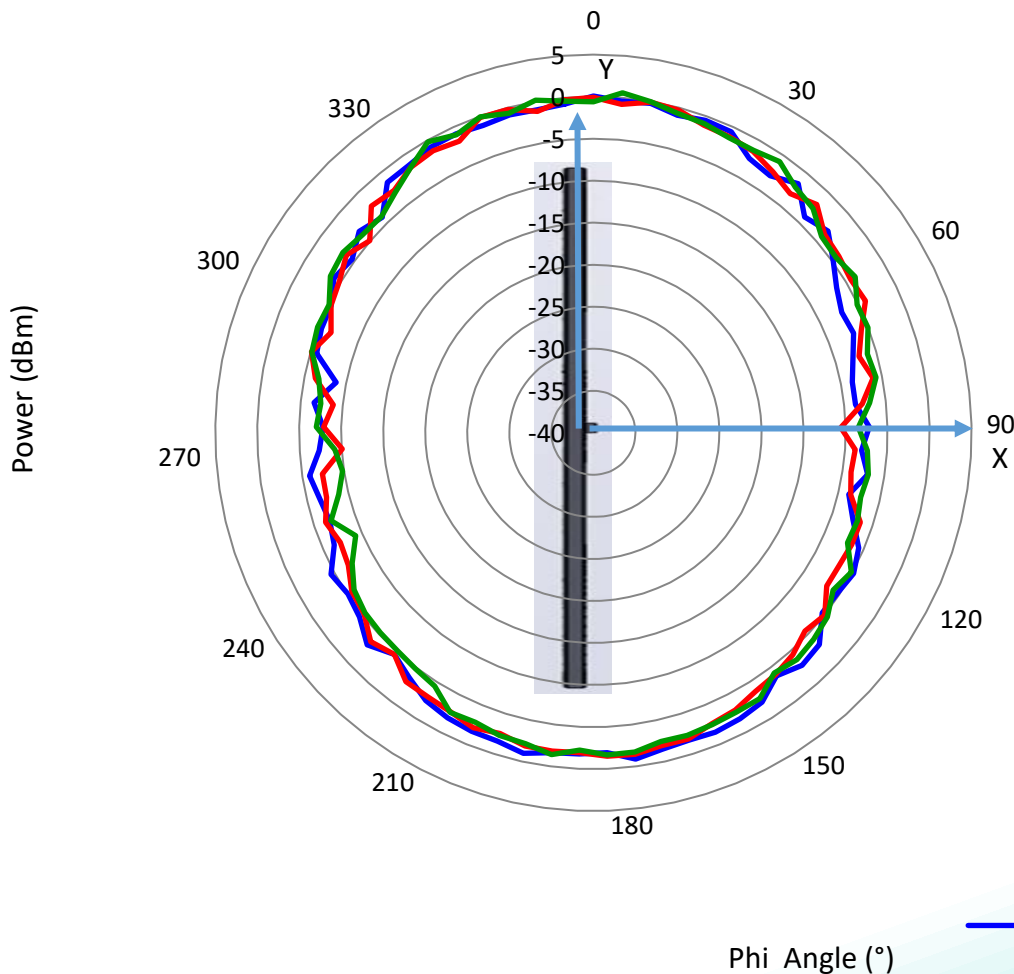
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### CHARTS



Radiation pattern

XY Plane



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 (°)

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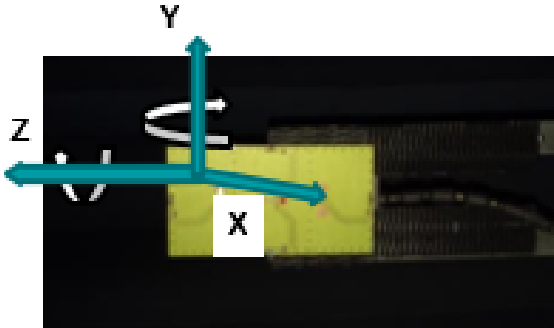
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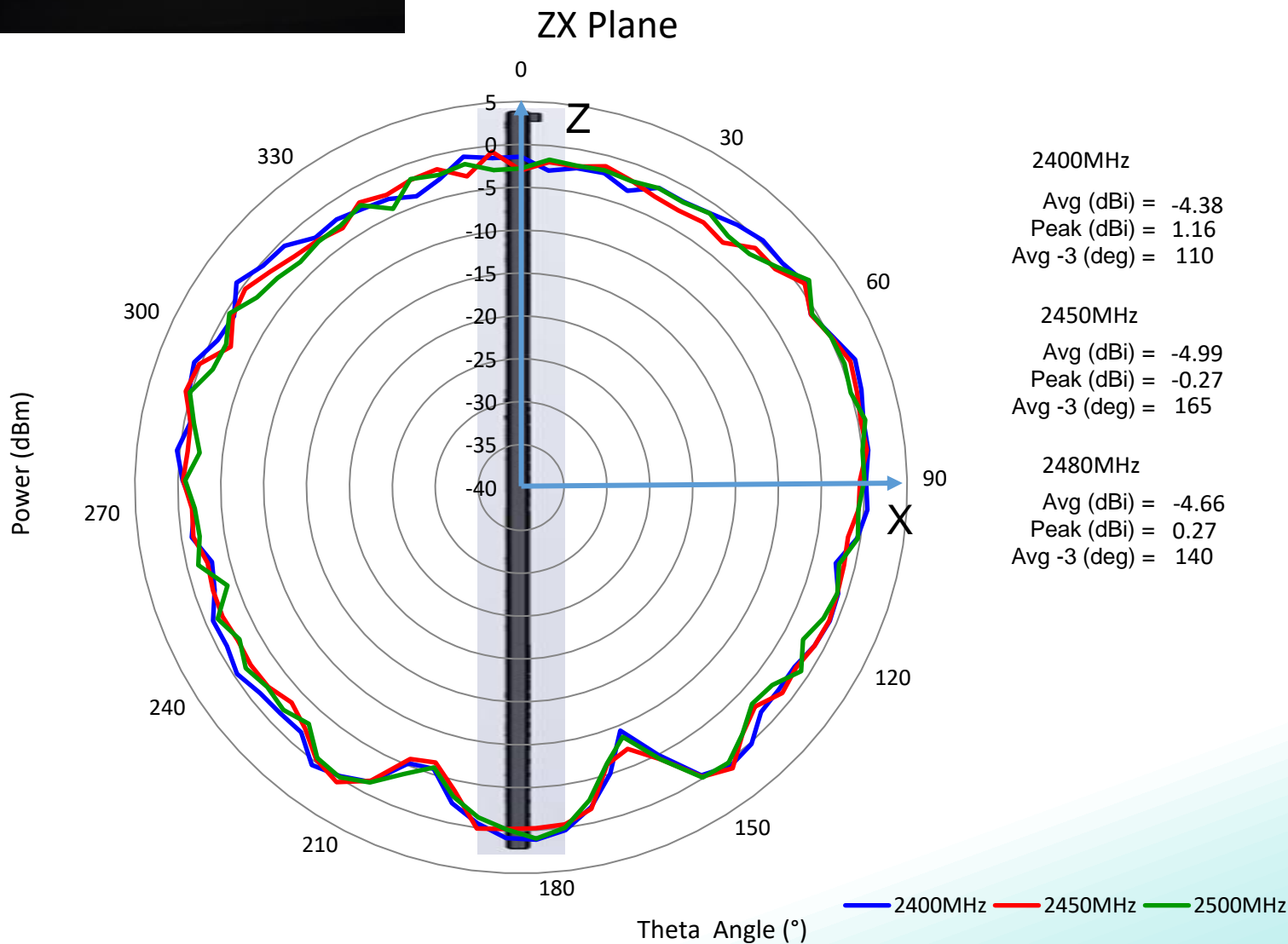
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## CHARTS



Radiation pattern



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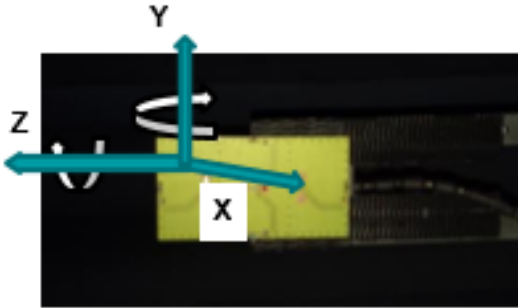
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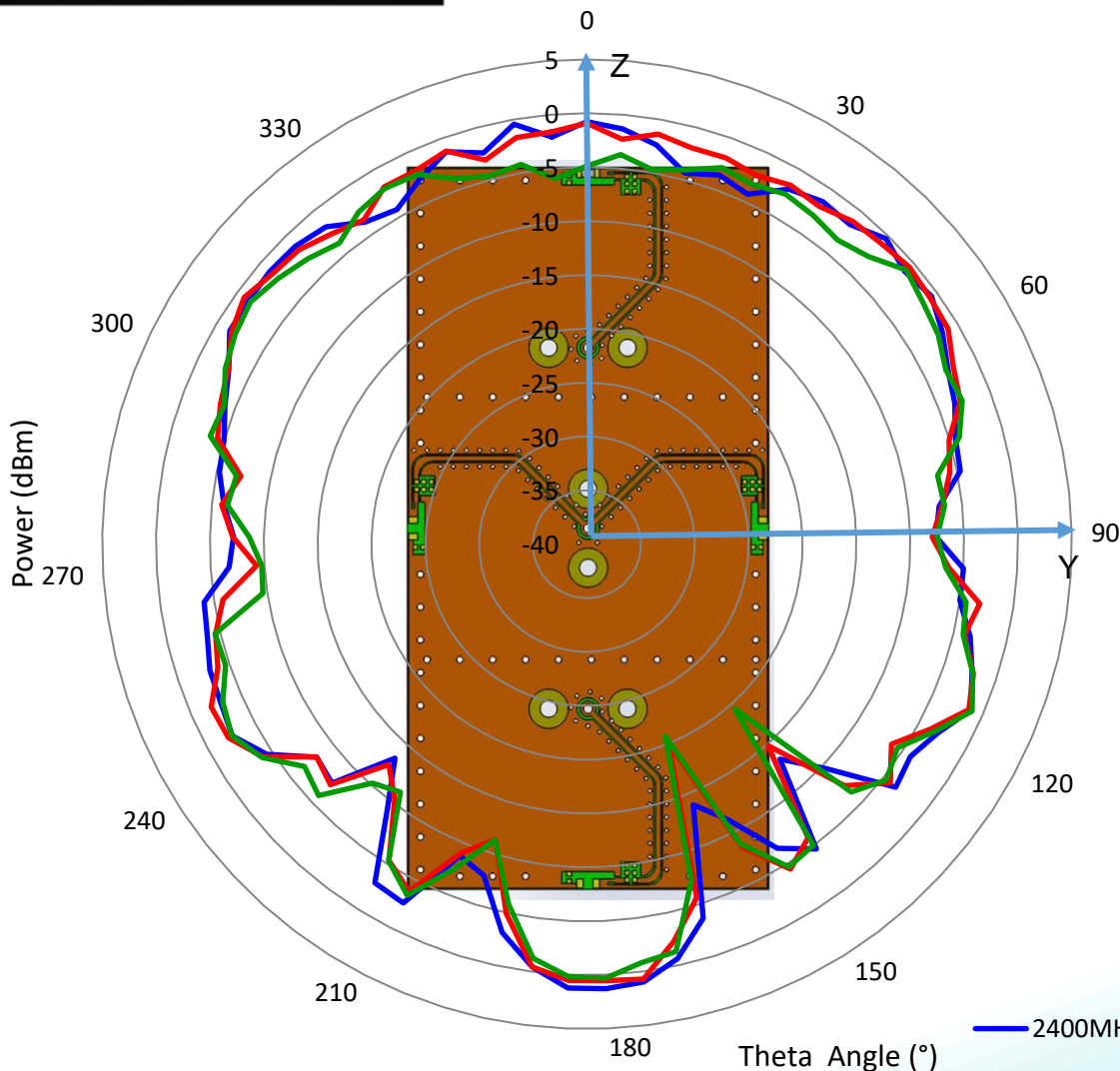
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### CHARTS



### Radiation pattern

#### YZ Plane



2400MHz  
Avg (dBi) = -5.51  
Peak (dBi) = 1.17  
Avg -3 (deg) = 55

2450MHz  
Avg (dBi) = -5.79  
Peak (dBi) = 1.17  
Avg -3 (deg) = 40

2480MHz  
Avg (dBi) = -5.37  
Peak (dBi) = 0.76  
Avg -3 (deg) = 60

— 2400MHz — 2450MHz — 2500MHz

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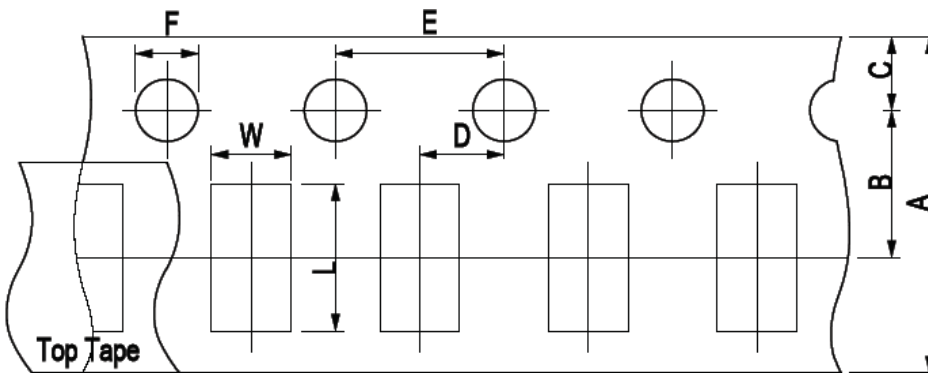
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### PACKAGING

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

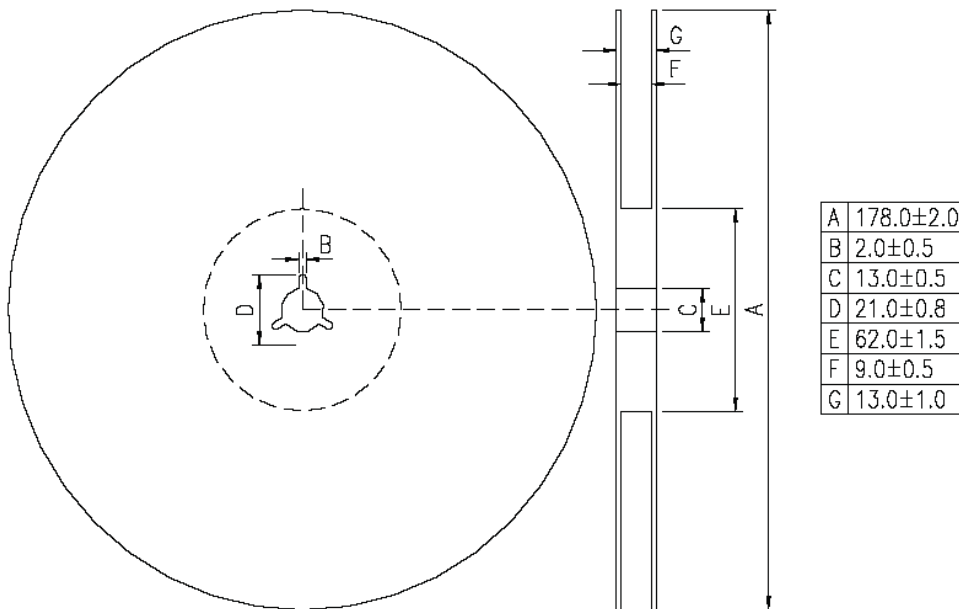
(1) Quantity/Reel: 5000pcs/Reel

(2) Carrier tape dimensions



Type	A	B	C	D	E	F	L	W
ACA2012	8.00±0.30	3.50±0.05	1.75±0.10	2.00±0.05	4.00±0.10	1.50±0.10	2.30±0.10	1.55±0.10

(3) Taping reel dimensions



A	178.0±2.0
B	2.0±0.5
C	13.0±0.5
D	21.0±0.8
E	62.0±1.5
F	9.0±0.5
G	13.0±1.0

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