

1570-1580, 2400-2500 MHz GPS/WiFi BAND ANTENNA

Standard Antenna Solutions

Includes Frequencies of GNSS, Bluetooth, ZigBee and WiFi Products

Part Number: 2195765-1

PRODUCT FACTS:

- Embedded ceramic chip antenna
- SMT assembly
- Available in tap & reel
- RoHS compliant

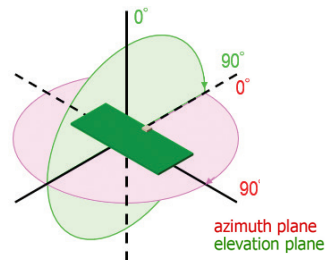
RECOMMENDATIONS:

- Minimum or no matching circuits required
- Bandwidth and performance is dependent on ground plane size. Evaluation board size is 100mm x50mm
- PCB ground is to be on top layer

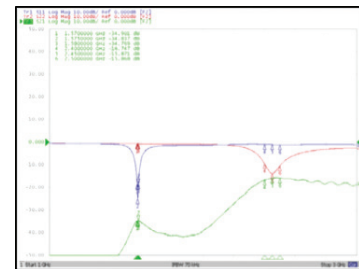
SPECIFICATIONS:

- Frequency Range: 1570-1580 MHz/2400-2500 MHz
- Peak Gain:
 - 1570-1580 MHz ≤ 0.69 dBi (Max)
 - 2400-2500 MHz ≤ 0.97 dBi (Max)
- Return Loss: < -10 dB
- Size: 3.2mm x 1.7mm x 0.5mm
- Mounting: Surface-mount technology
- Mounting Guide: See diagram on page 2
- Weight: 0.1 g
- Operating Temperature: -40° to 105°C

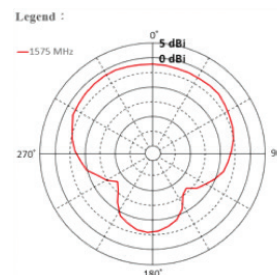
TEST ORIENTATION IN FREE SPACE:



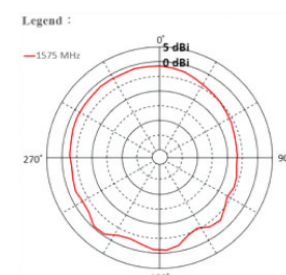
RETURN LOSS:



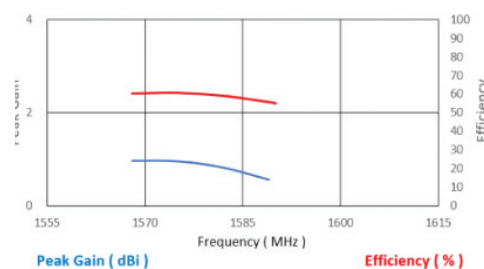
AZIMUTH:



ELEVATION:

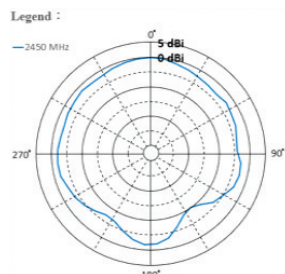


EFFICIENCY:



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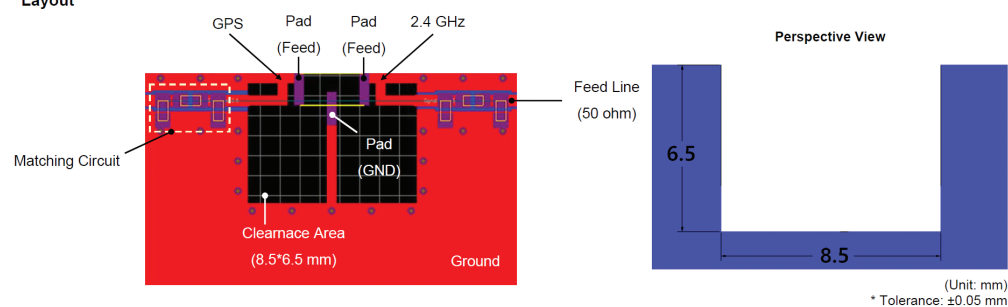
AZIMUTH:



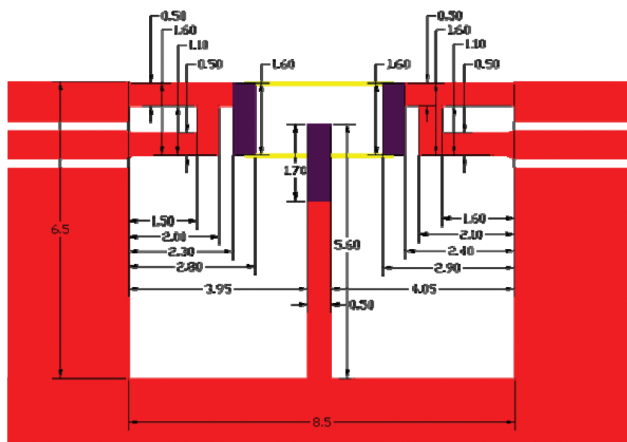
The graph displays two metrics over the frequency range of 2400 to 2500 MHz. The red line, representing Peak Gain, starts at approximately 3.5 dBi at 2400 MHz and remains fairly constant, ending at about 3.4 dBi at 2500 MHz. The blue line, representing Efficiency, starts at approximately 20% at 2400 MHz, rises slightly to a peak of about 22% around 2430 MHz, and then gradually declines to about 18% at 2500 MHz.

Frequency (MHz)	Peak Gain (dBi)	Efficiency (%)
2400	3.5	20
2415	3.5	22
2430	3.5	22
2445	3.5	21
2460	3.5	21
2475	3.4	20
2490	3.4	19
2505	3.4	18

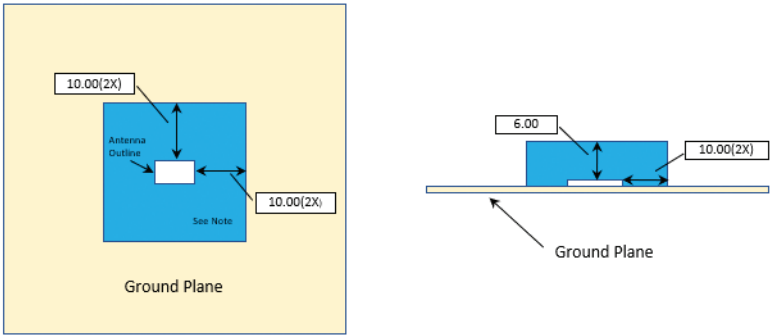
Layout



Top View



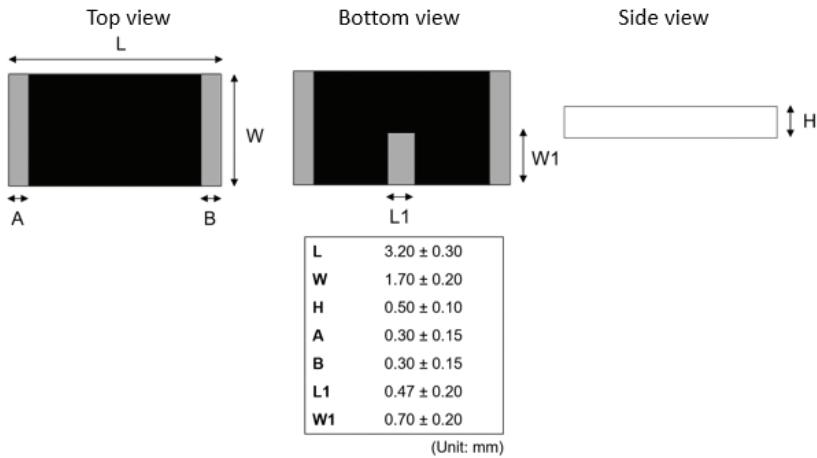
KEEP OUT AREA:



- NOTES :
- 1. Antenna designed to be mounted on ground plane.
 - 2. Area in blue above indicates Keep Out Area.
 - 3. For more information please call TE.

Dimensions : mm
Diagram is not to scale

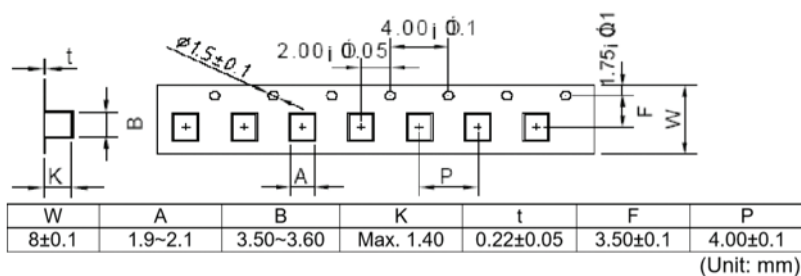
APPROXIMATE DIMENSIONS:



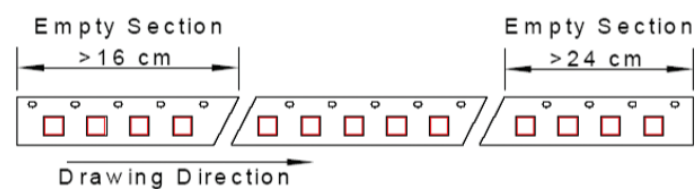
TAPING PACKAGE AND LABEL MARKING

(1) Quantity: 4000pcs/reel, T (Thickness of chip) ≤ 1.2

(2) Plastic tape



(3) Tape Packing



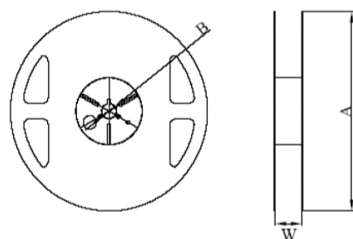
(4) Cover Tape Reel Off Force

$$5g \cdot f \leq \text{Peel-Off Force} \leq 70g \cdot f$$



(5) Reel Dimensions

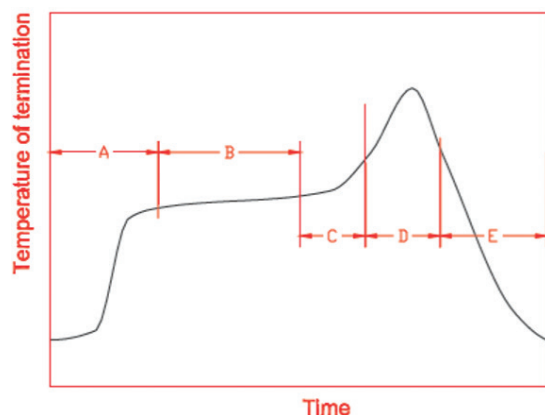
Reel Material: Polystyrene



W	A	B
8 $\pm$ 0.5	178 $\pm$ 0.5	13 $\pm$ 0.5
12 $\pm$ 0.5	178 $\pm$ 0.5	13 $\pm$ 0.5

(Unit: mm)

RECOMMENDED REFLOW SOLDERING



A	1 st rising temperature	The normal to Preheating temperature	30s to 60s
B	Preheating	140°C to 160°C	60s to 120s
C	2 nd 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
E	Regular cooling	200°C to 100°C	1°C/s ~ 4°C/s

(1) Soldering gun procedure

Note the following, in case of using solder gun for replacement

- (a) The tip temperature must be less than 350°C for a 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 soldering volume will easily crack the body of this product

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