

## Features:

- 4G/5G antenna
- Frequency 617-6000MHz
- Gain 0 / 2.5dBi
- Size 40 x 7 x 3 mm
- Fully SMT compatible
- Tape & Reel packing
- MSL-3

## Applications:

- Broad band antenna, combines all sub 6GHz 4G and 5G bands
- Devices requiring high performance compact internal 4G/5G antenna
- Suitable for 2xMiMo use when mounting two pcs W3415 onto radio board

All dimensions are in mm / inches

Issue: 2042

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**Description:** 617-6000MHz SMD 4G/5G IoT Antenna**PART NUMBER:** W3415**ELECTRICAL SPECIFICATIONS**

Antenna Type	PCB
Frequency	617-960/1430-6000MHz
Nominal Impedance	50 Ω
Return Loss	<-4
Radiation Pattern	Omni
Gain 617~960MHz	-1 to 1dBi
Gain 1430~6000MHz	1 to 7 dBi
Efficiency 617~960MHz	>40% typical
Efficiency 1430-6000MHz	>45% typical
Polarization	Linear
Power Withstanding	2W

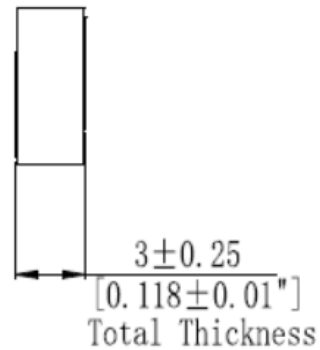
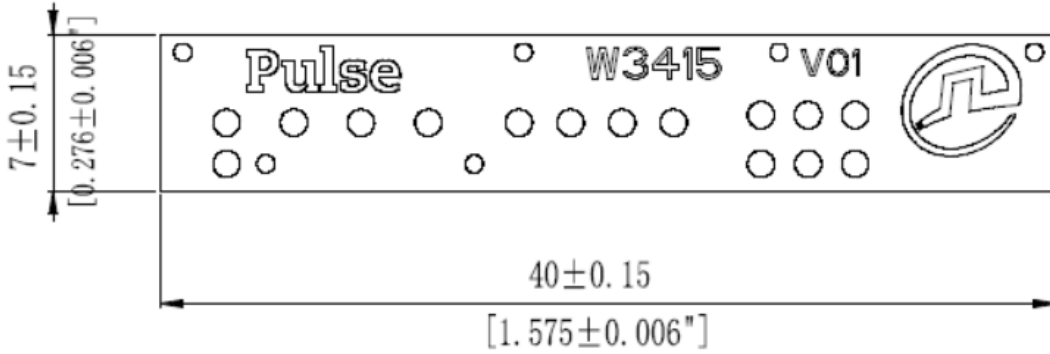
**MECHANICAL SPECIFICATIONS**

Color	Black
Size	40mm(L) * 7mm(W) * 3mm(T)
Weight	1.65 g
Fixing system	SMT
MSL (MOISTURE SENSITIVITY LEVEL)	3

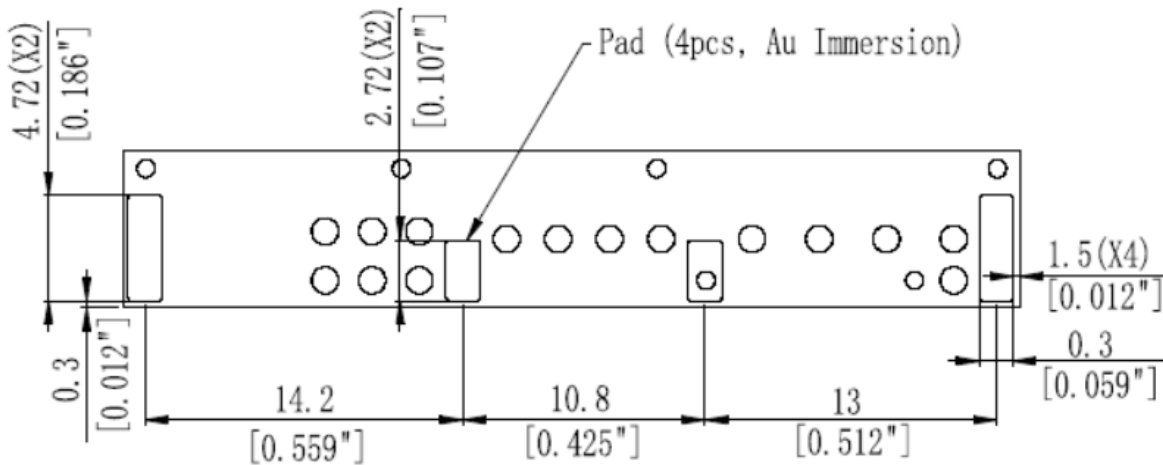
**ENVIRONMENTAL SPECIFICATIONS**

Operating Temperature	-40 ~ +85° C
Storage Temperature	-40 ~ +85° C
RoHS Compliant	Yes

MECHANICAL DRAWING



Front View



Back View

Unit: mm[in]

## Recommendation for reflow soldering process

Printing stencil thickness 0,15 - 0,25 mm is recommended for the solder paste. The maximum soldering temperature should not exceed 260°C. The temperature profile recommendations for reflow soldering process is presented in the Figures 1 and 2. The reflow profile

presented in figure 1 describes minimum reflow temperatures. The reflow profile presented in figure 2 describes maximum reflow temperatures. located at the center of the coverage area.

	Method of heat transfer	Controlled hot air convection
1	Average temperature gradient in preheating	2.5 °C/s
2	Soak time	2-3 minutes
3	Max temperature gradient in reflow	3 °C/s
4	Time above 217 °C	Max 30 sec
5	Peak temperature in reflow	230 °C for 10 seconds
6	Temperature gradient in cooling	Max -5 °C/s

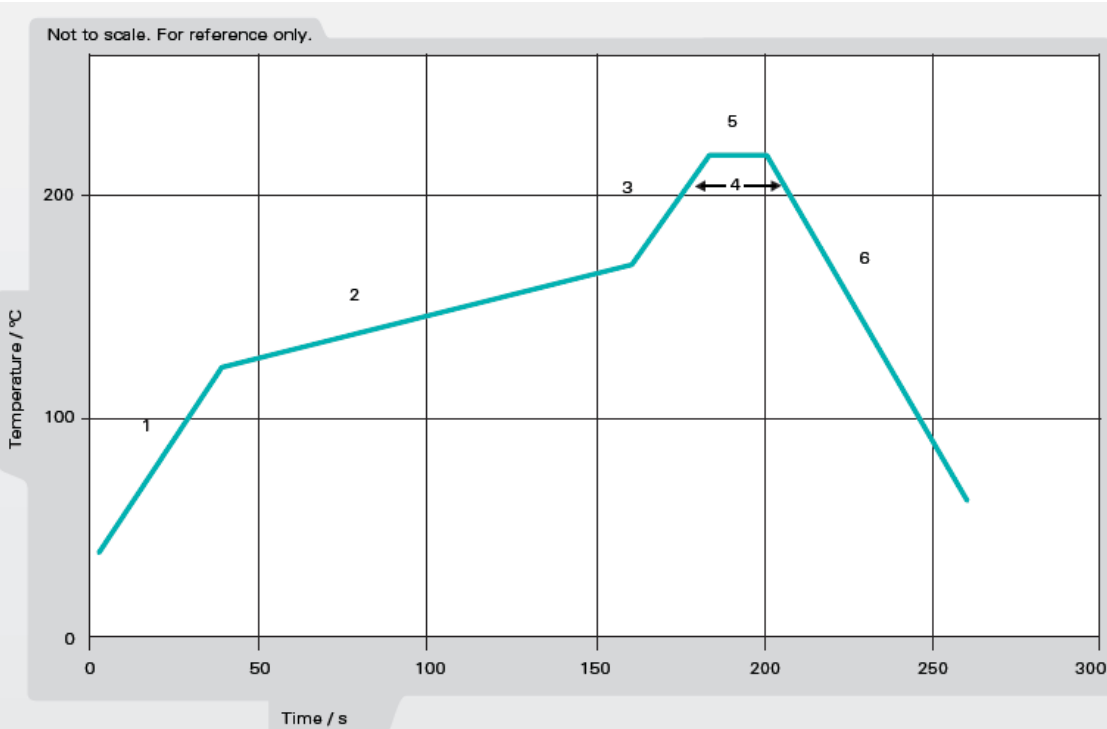
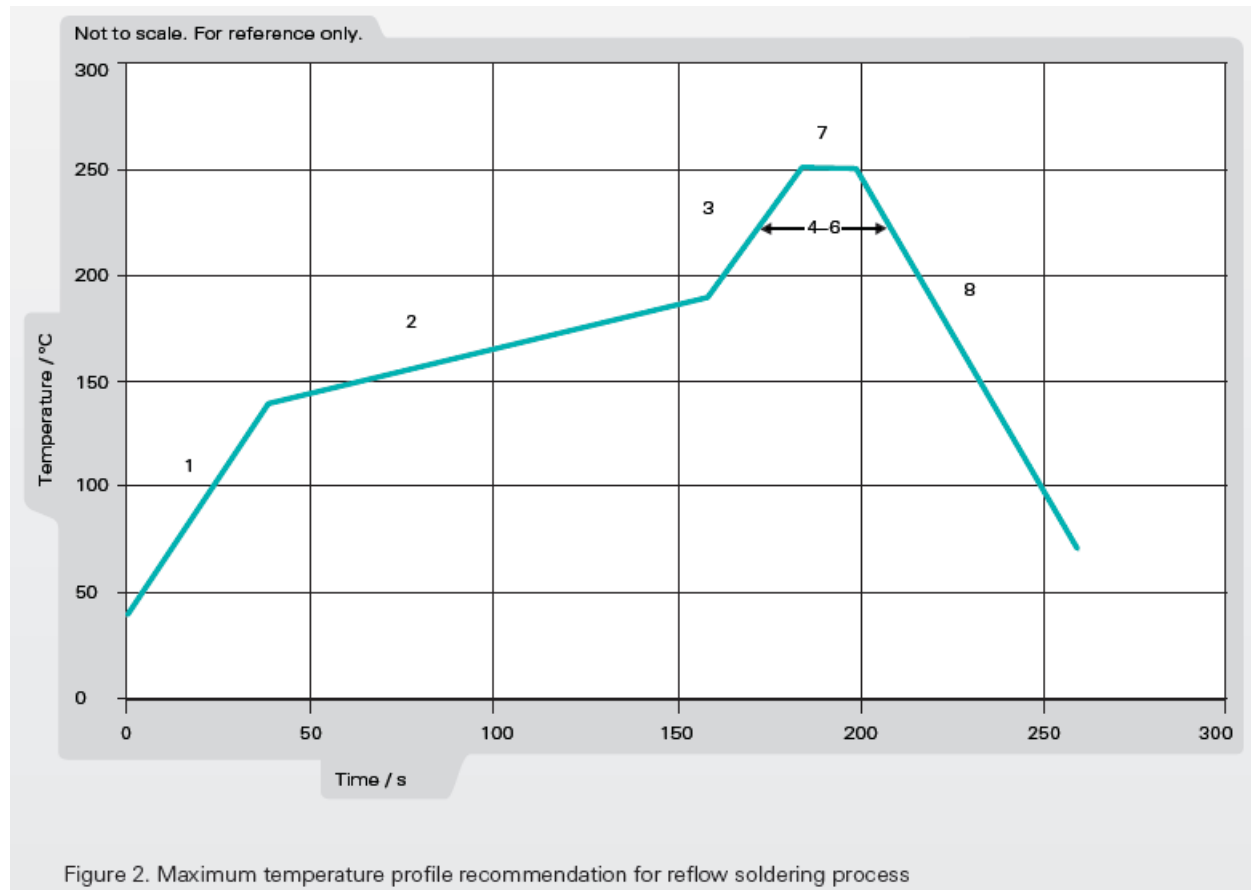


Figure 1. Minimum temperature profile recommendation for reflow soldering process

## Recommendation for reflow soldering process

	Method of heat transfer	Controlled hot air convection
1	Average temperature gradient in preheating	2.5 °C/s
2	Soak time	2-3 minutes
3	Max temperature gradient in reflow	3 °C/s
4	Time above 217 °C	Max 60 sec
5	Time above 230 °C	Max 50 sec
6	Time above 250 °C	Max 10 sec
7	Peak temperature in reflow	260 °C for 5 seconds
8	Temperature gradient in cooling	Max -5 °C/s

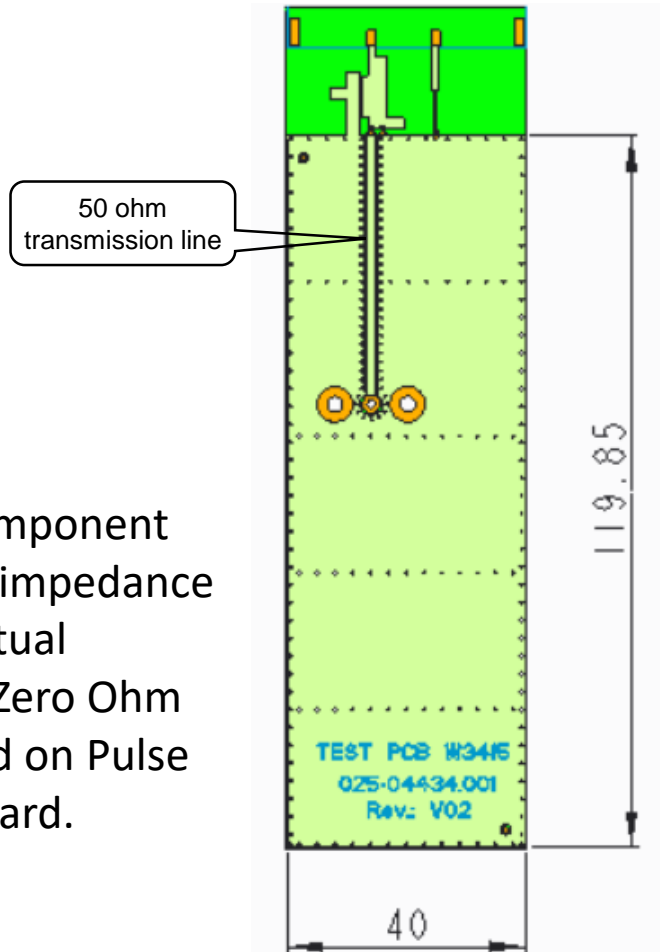


## TEST SETUP

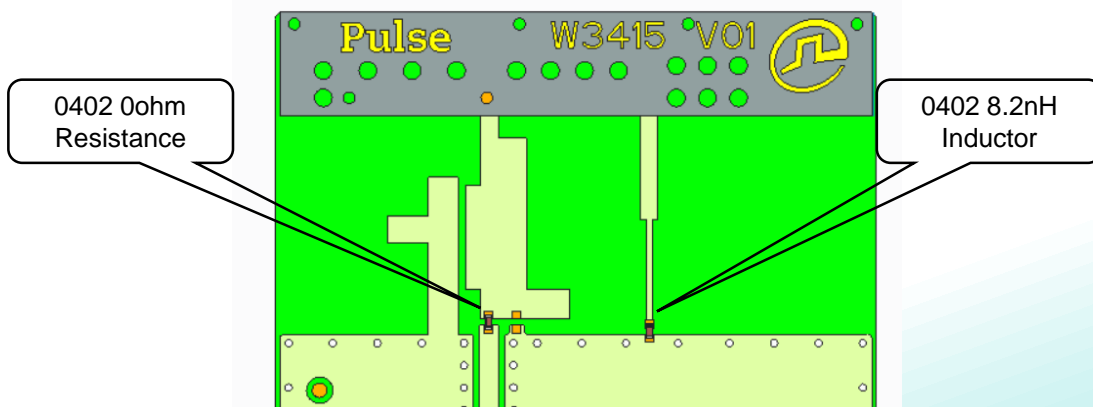


## TEST SETUP

Pulse reference test PCB for W3415 antenna



Matching component reserved for impedance tuning on actual application. Zero Ohm jumpers used on Pulse reference board.



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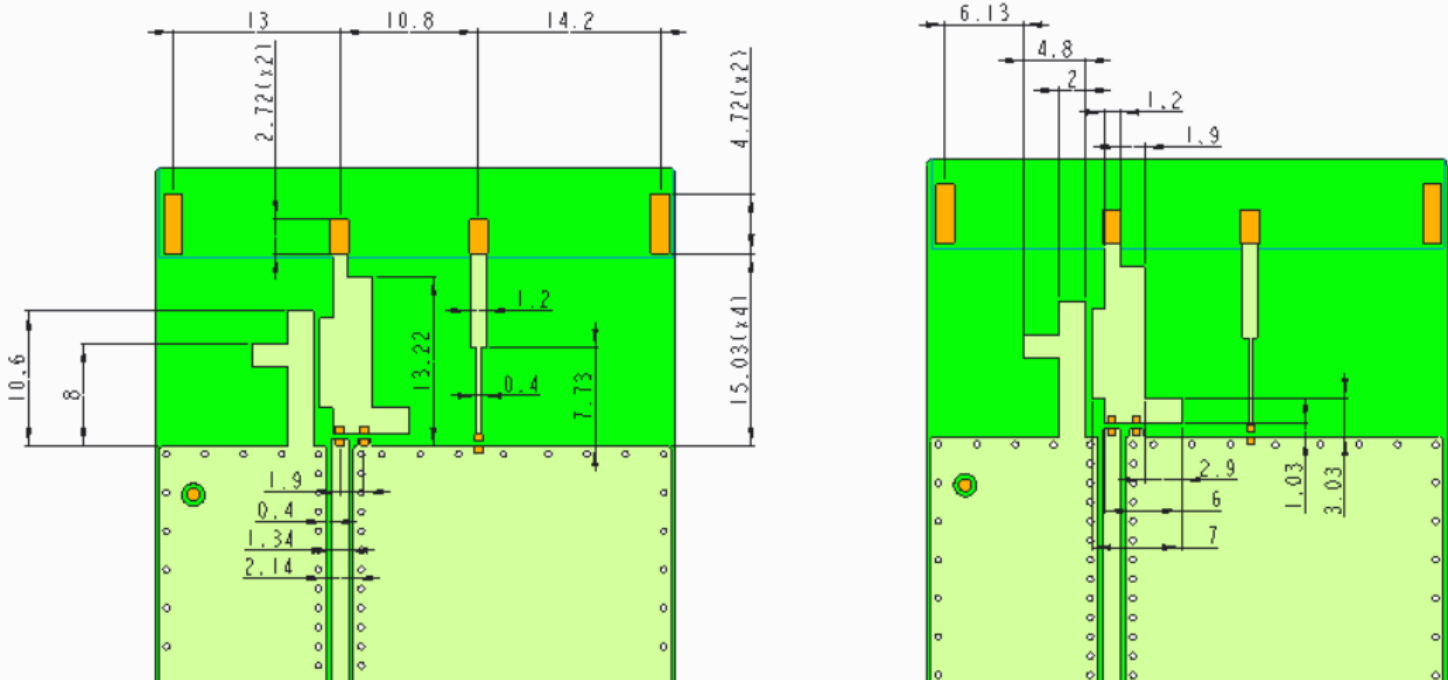
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## TEST SETUP



Recommended test board PCB layout for electrical characteristic measurement.

Substrate material: ISOLA 185HR.

Total thickness: 1mm

All dimensions are in mm

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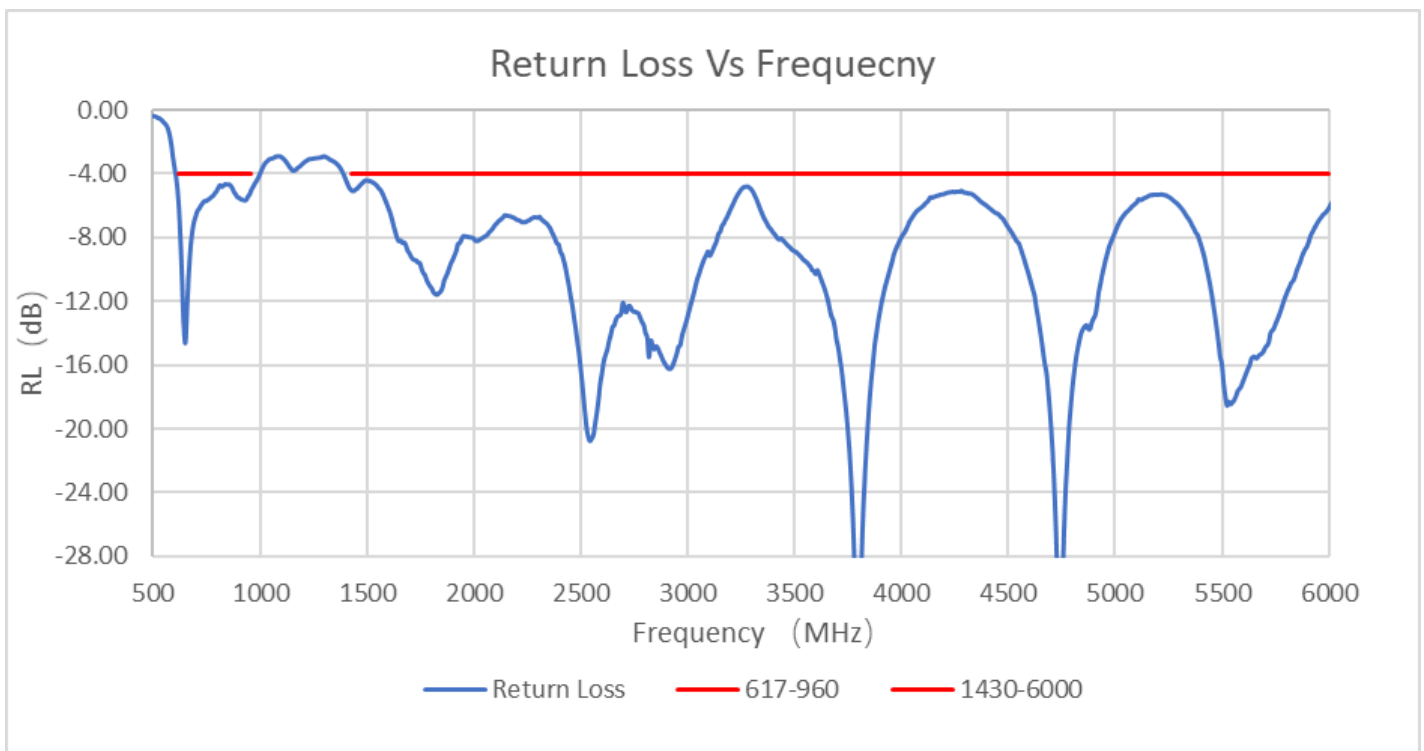
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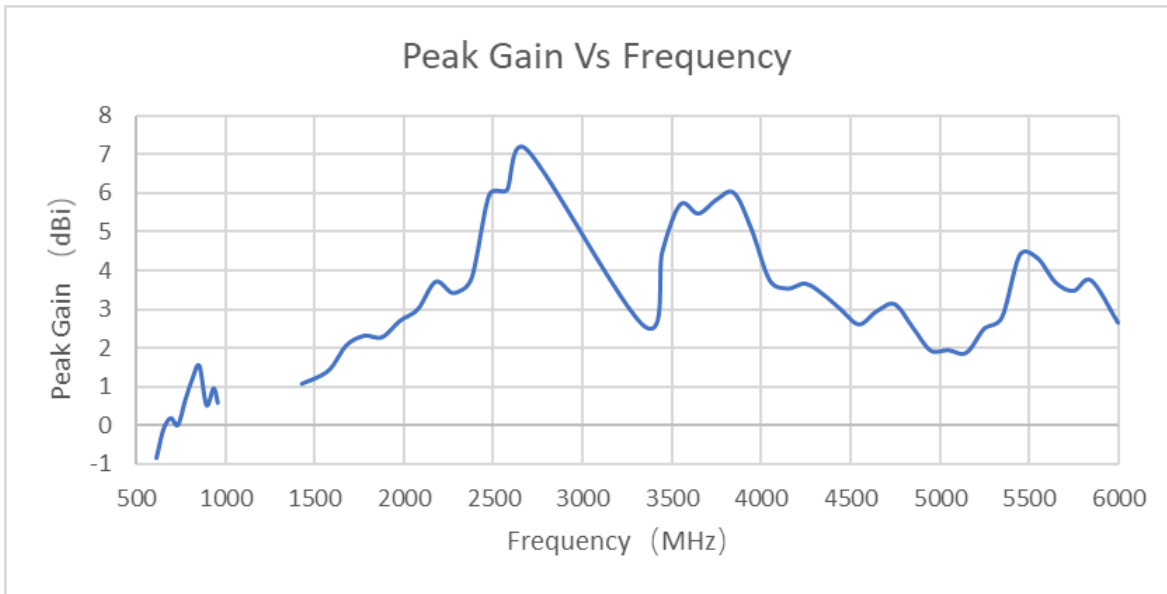


## CHARTS

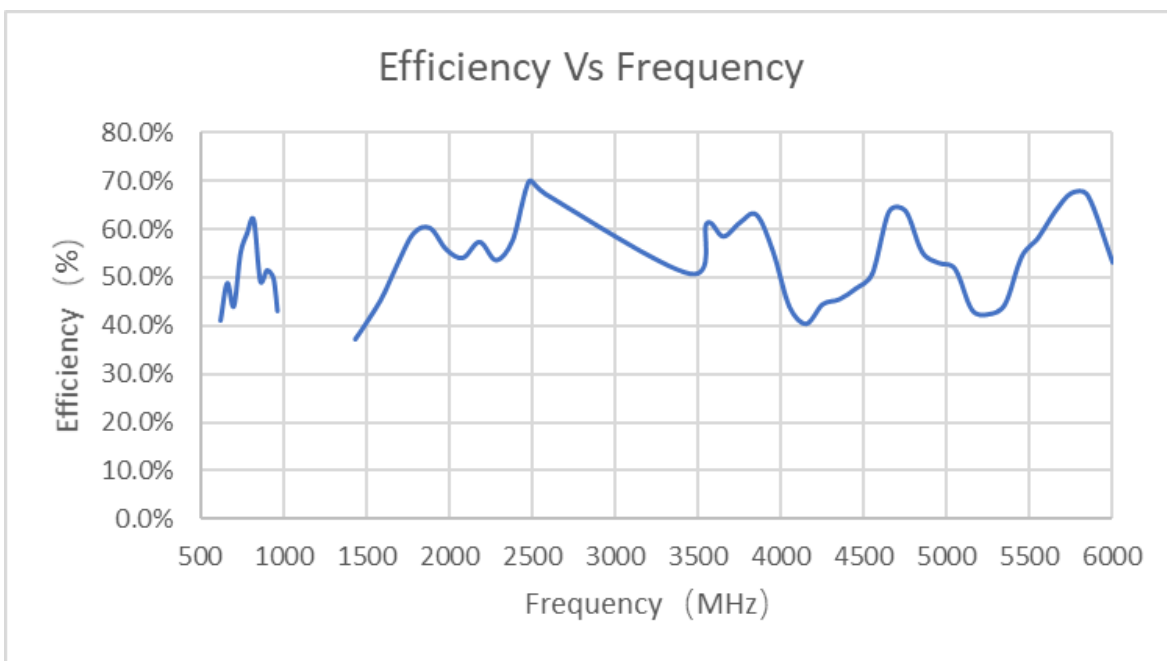


## CHARTS

### Gain(dBi)



### Efficiency(%)



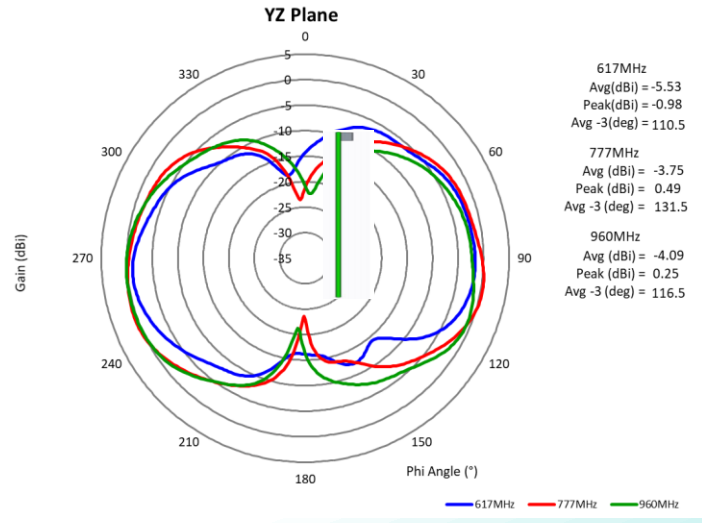
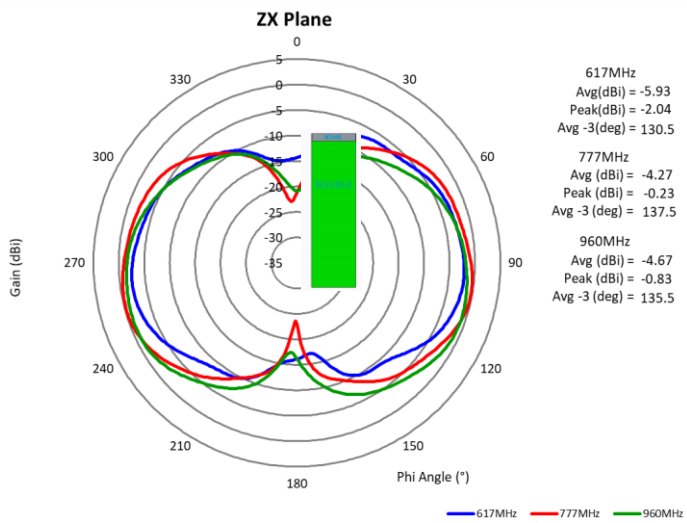
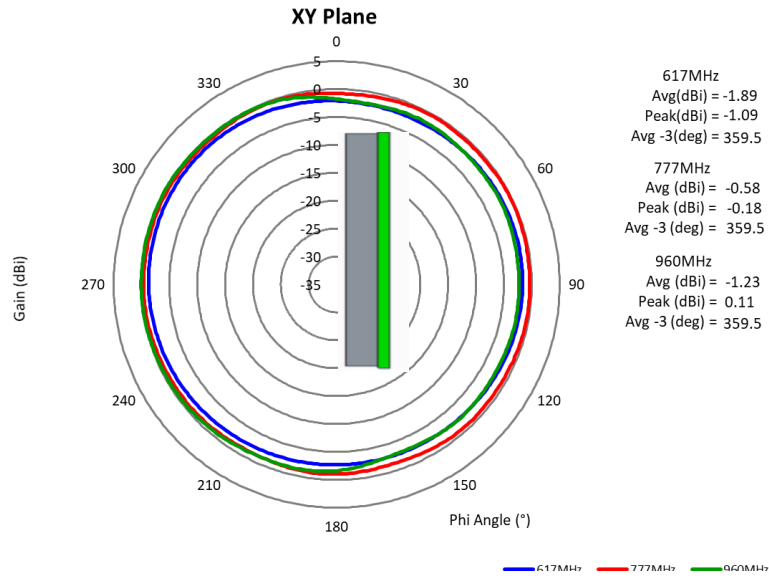
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## CHARTS



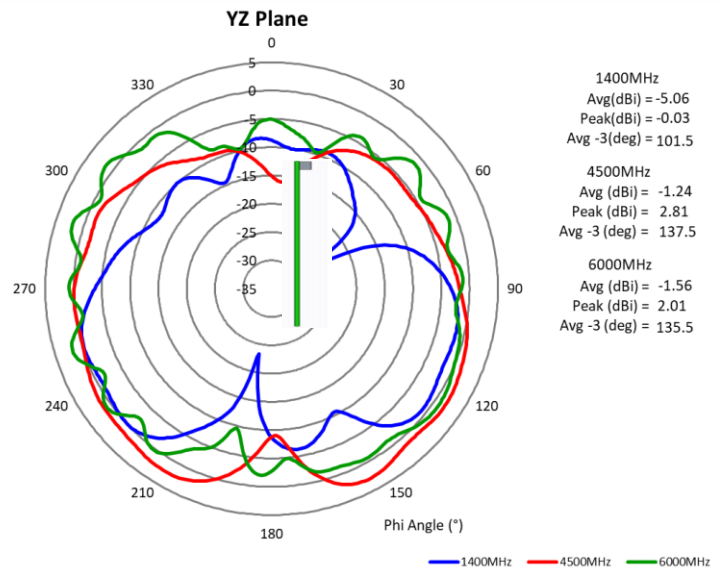
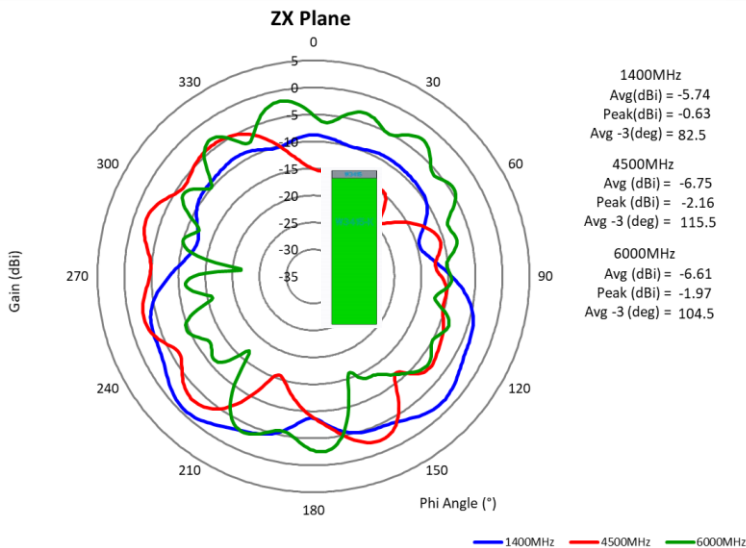
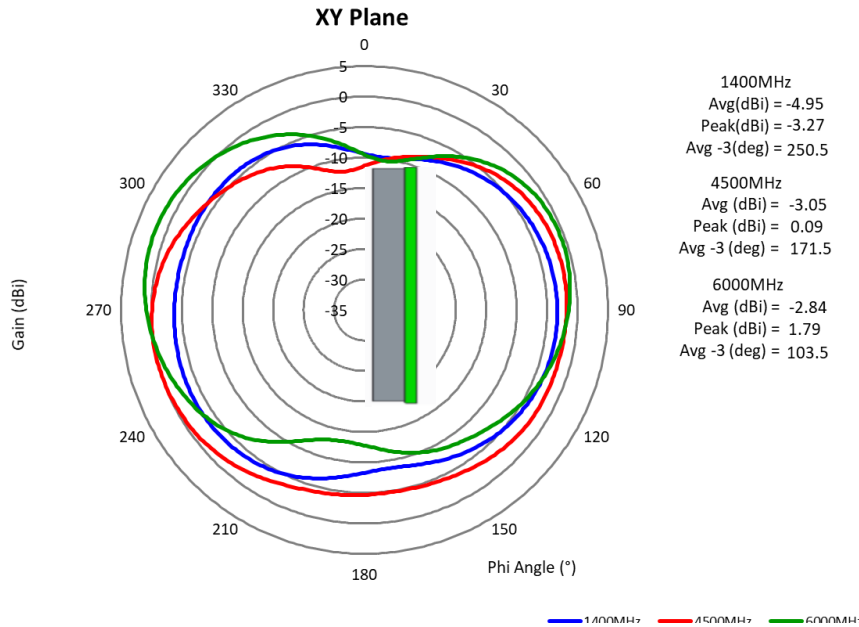
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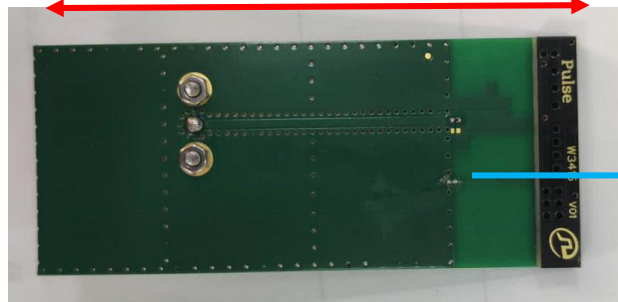
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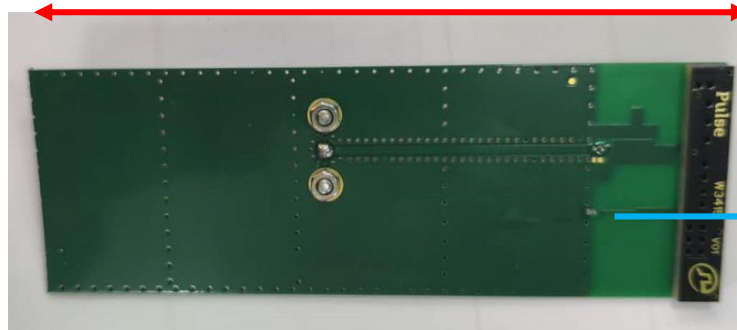
### PCB length effect

100 mm



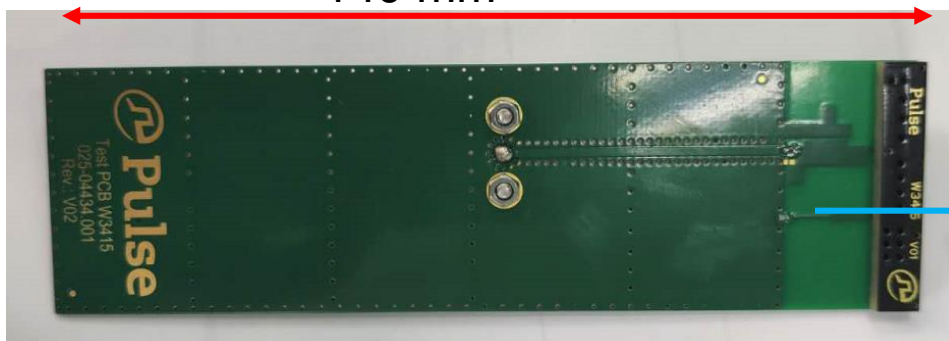
6.8nH

120 mm



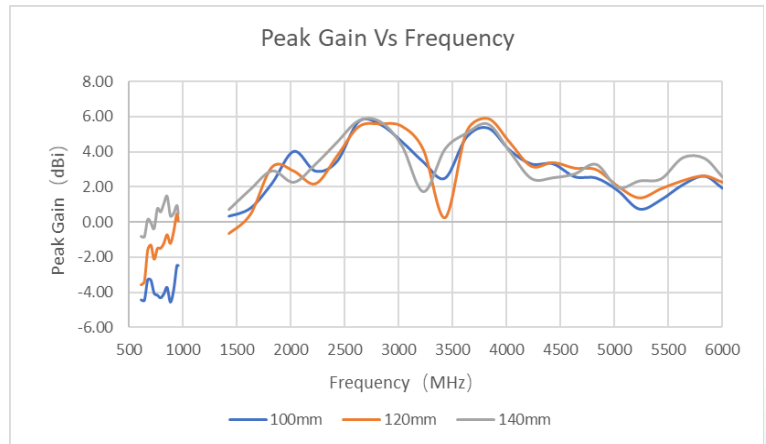
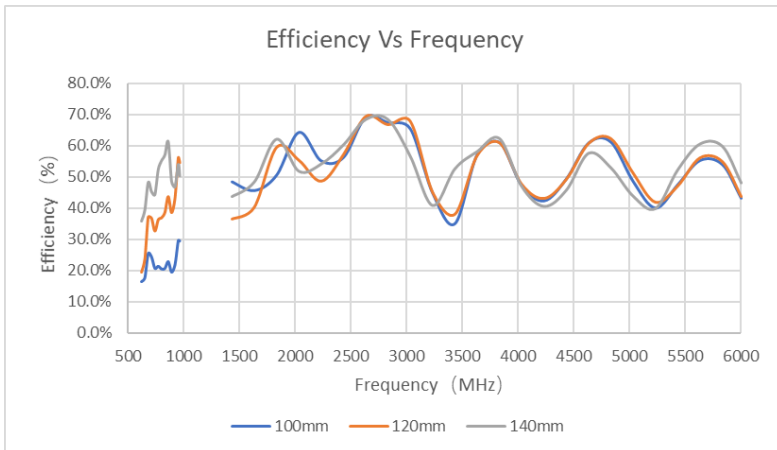
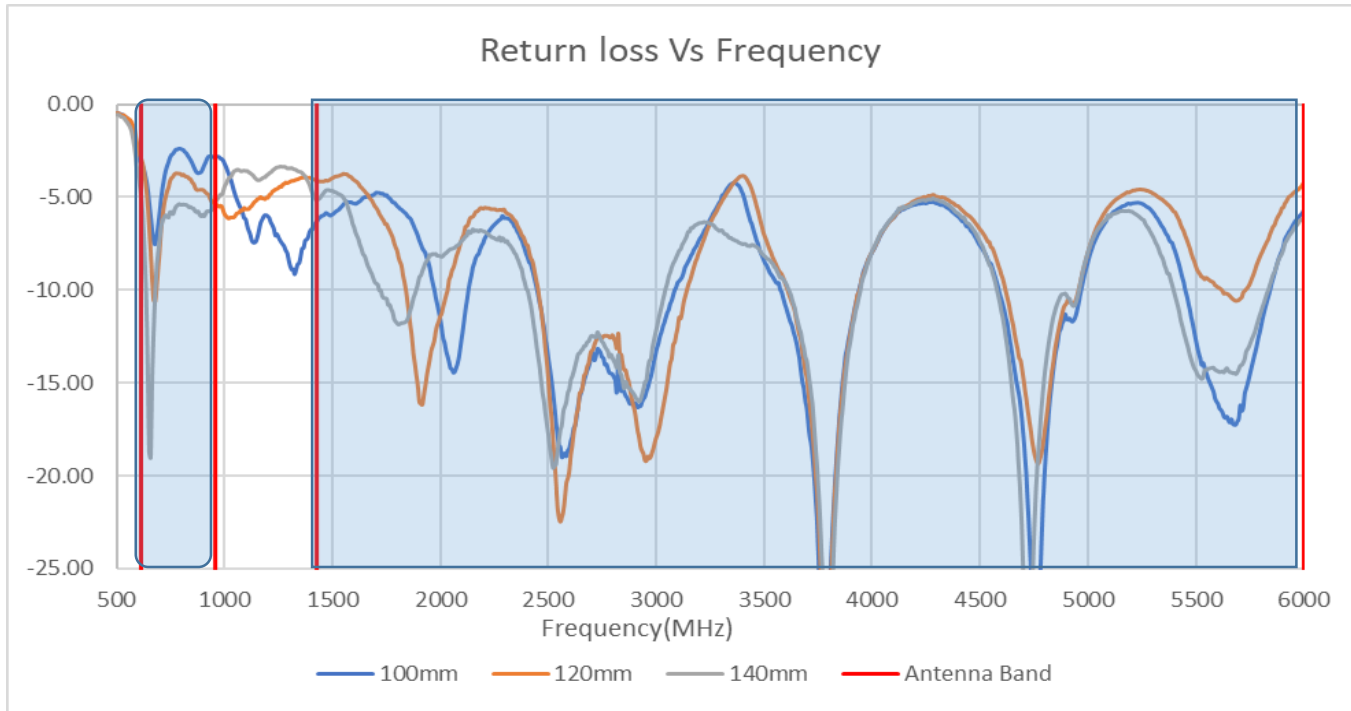
7.5nH

140 mm



8.2nH

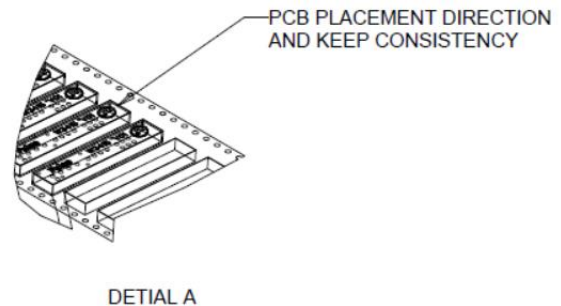
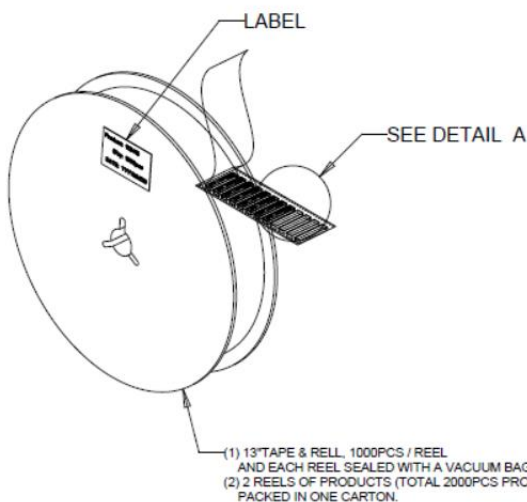
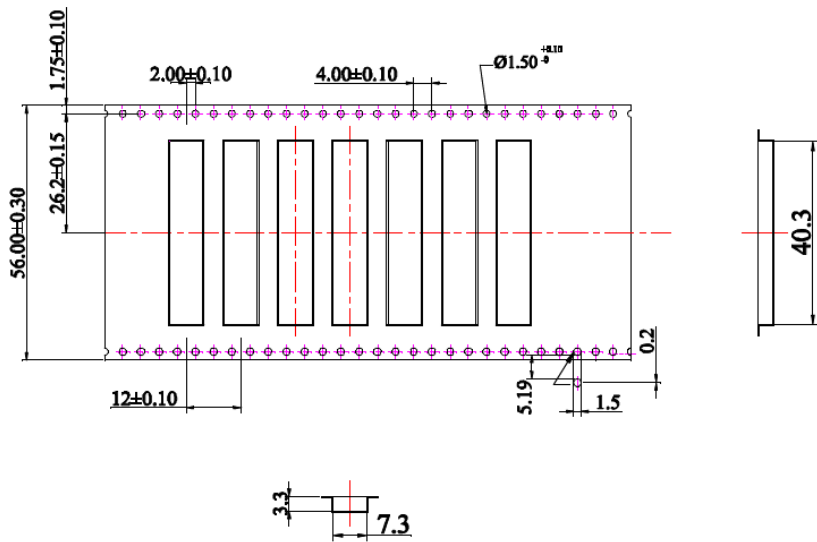
## PCB length effect





## PACKAGING

1000pcs Antennas Per 1pcs 13" Tape & Reel  
 2 pcs 13" Tape & Reel (total 2000pcs Antennas) per 1 box



(1) 13" TAPE & REEL, 1000PCS / REEL  
 AND EACH REEL SEALED WITH A VACUUM BAG (075-03363.001)  
 (2) 2 REELS OF PRODUCTS (TOTAL 2000PCS PRODUCTS)  
 PACKED IN ONE CARTON.



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