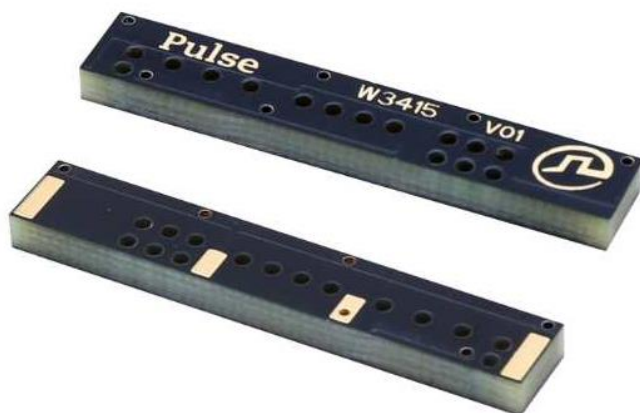




Features:

- 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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Pulse (Suzhou) Wireless Products Co, Inc.
99 Huo Ju Road(#29 Bldg, 4th Phase
Suzhou New District
Jiangsu Province, Suzhou 215009 PR China
Tel: 86 512 6807 9998



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

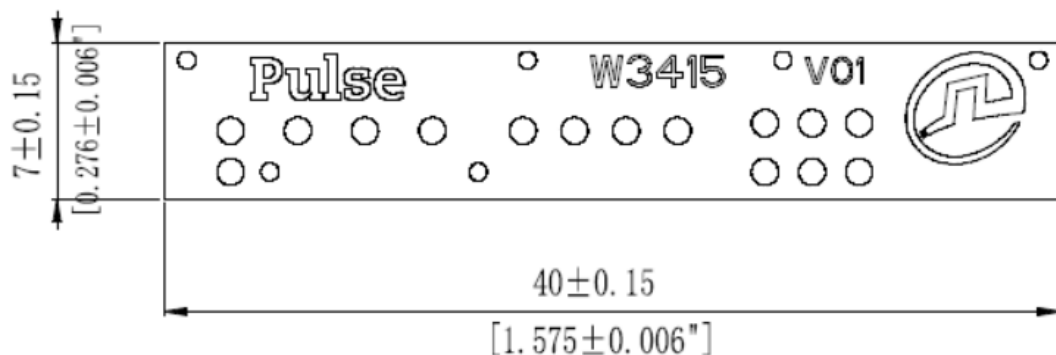
MECHANICAL SPECIFICATIONS

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

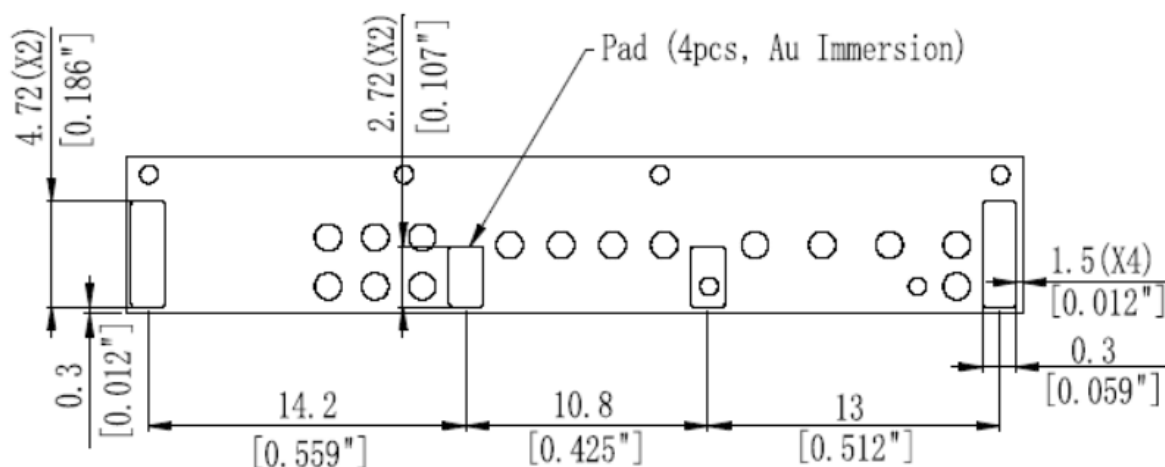
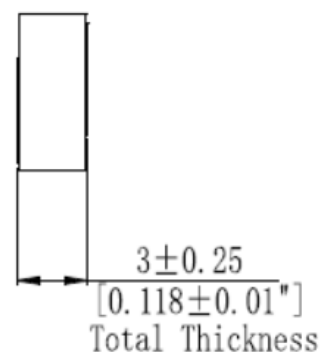
ENVIRONMENTAL SPECIFICATIONS

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

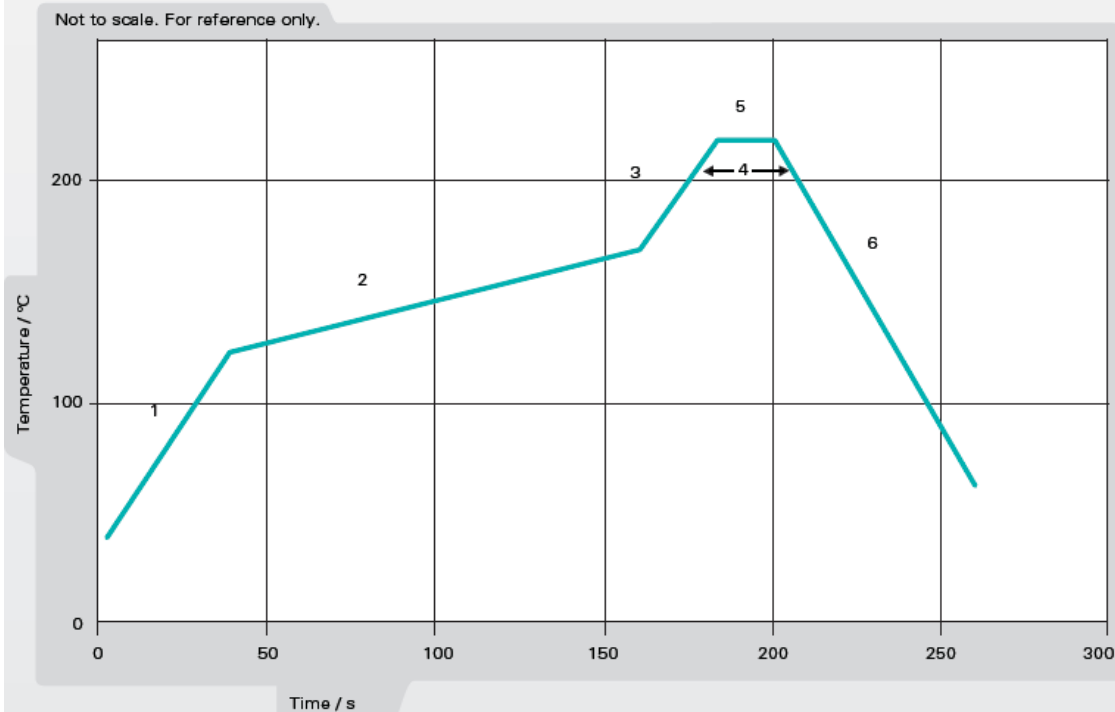


Figure 1. Minimum temperature profile recommendation for reflow soldering process

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

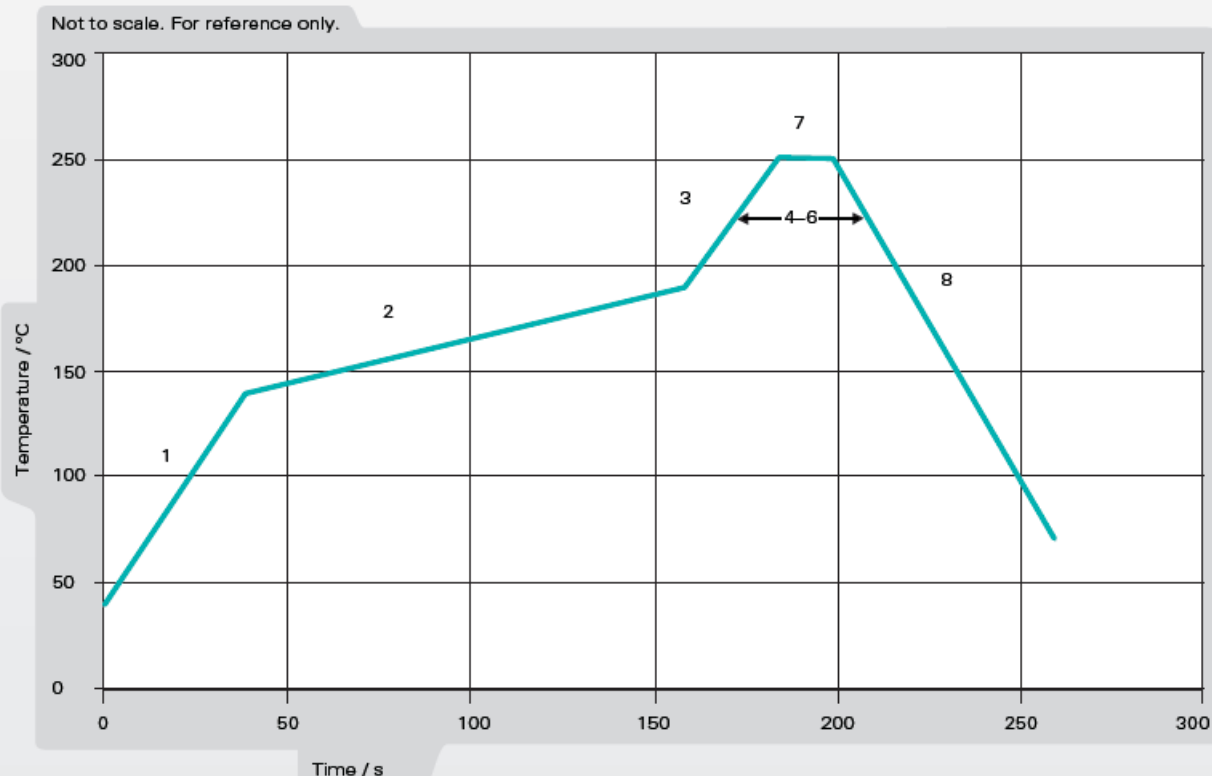


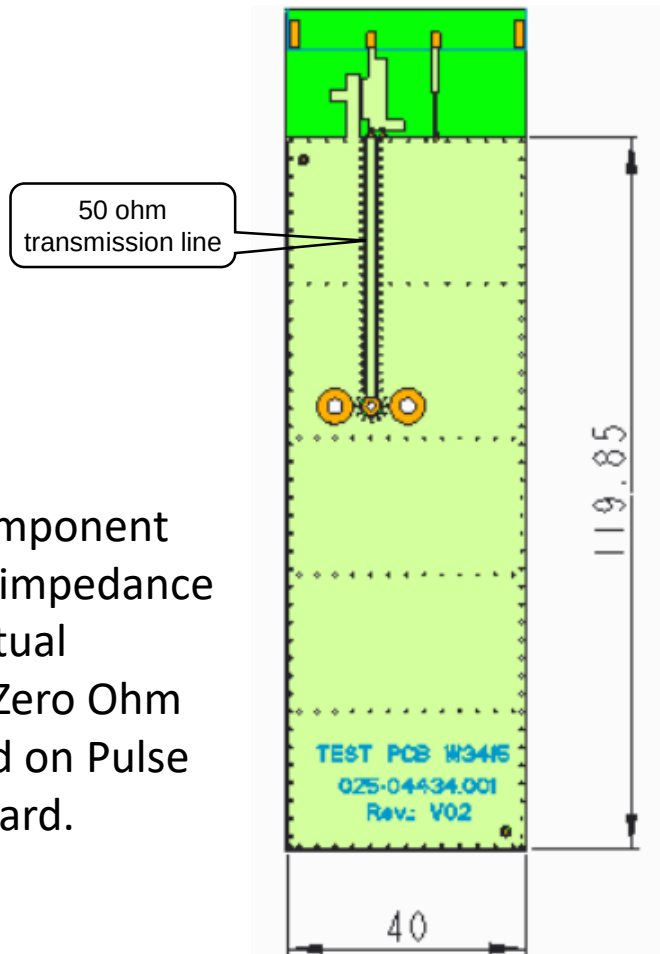
Figure 2. Maximum temperature profile recommendation for reflow soldering process

TEST SETUP

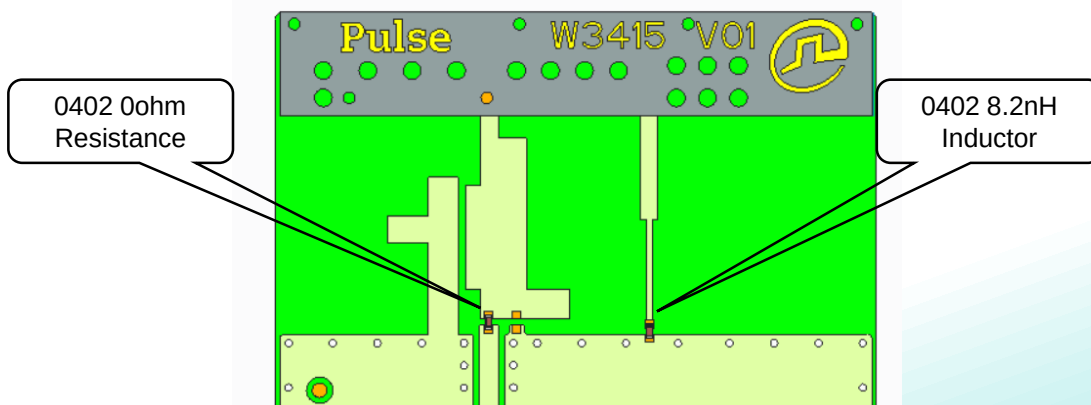


TEST SETUP

Pulse reference test PCB for W3415 antenna



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



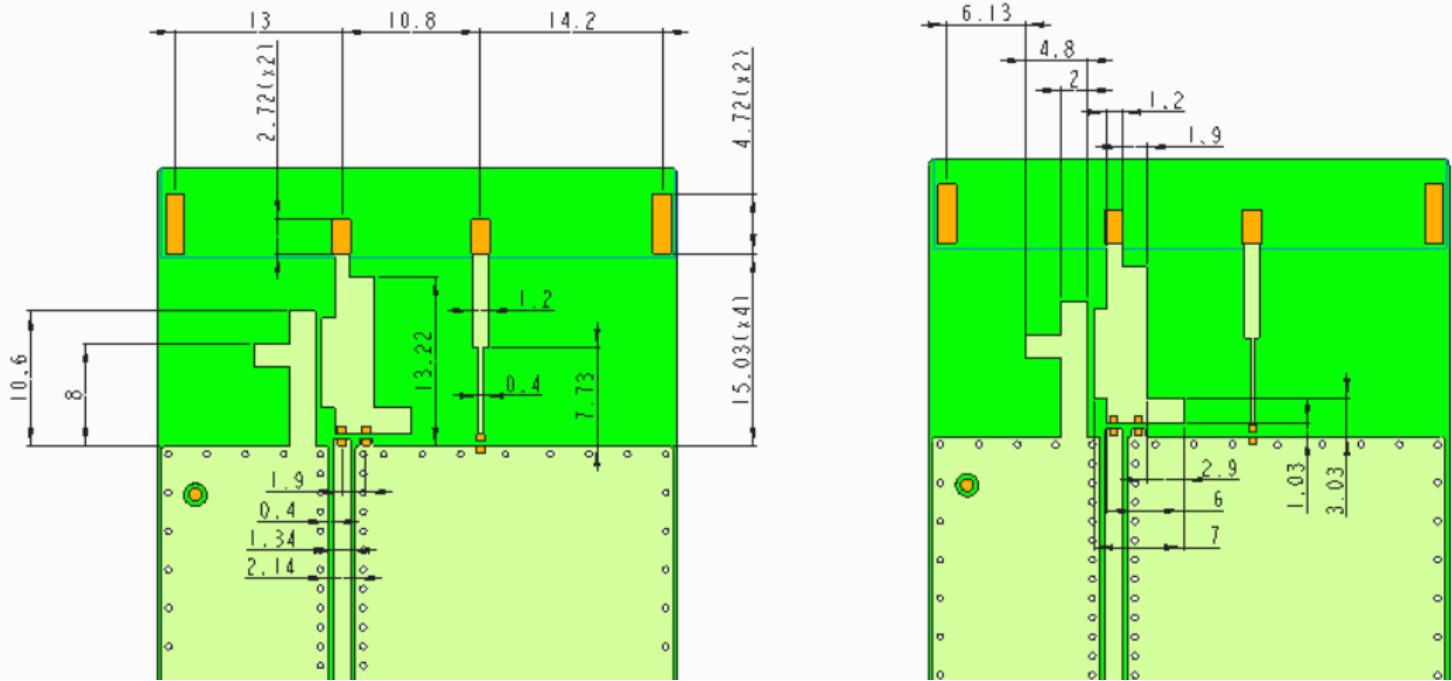
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TEST SETUP



Recommended test board PCB layout for electrical characteristic measurement.

Substrate material: ISOLA 185HR.

Total thickness: 1mm

All dimensions are in mm

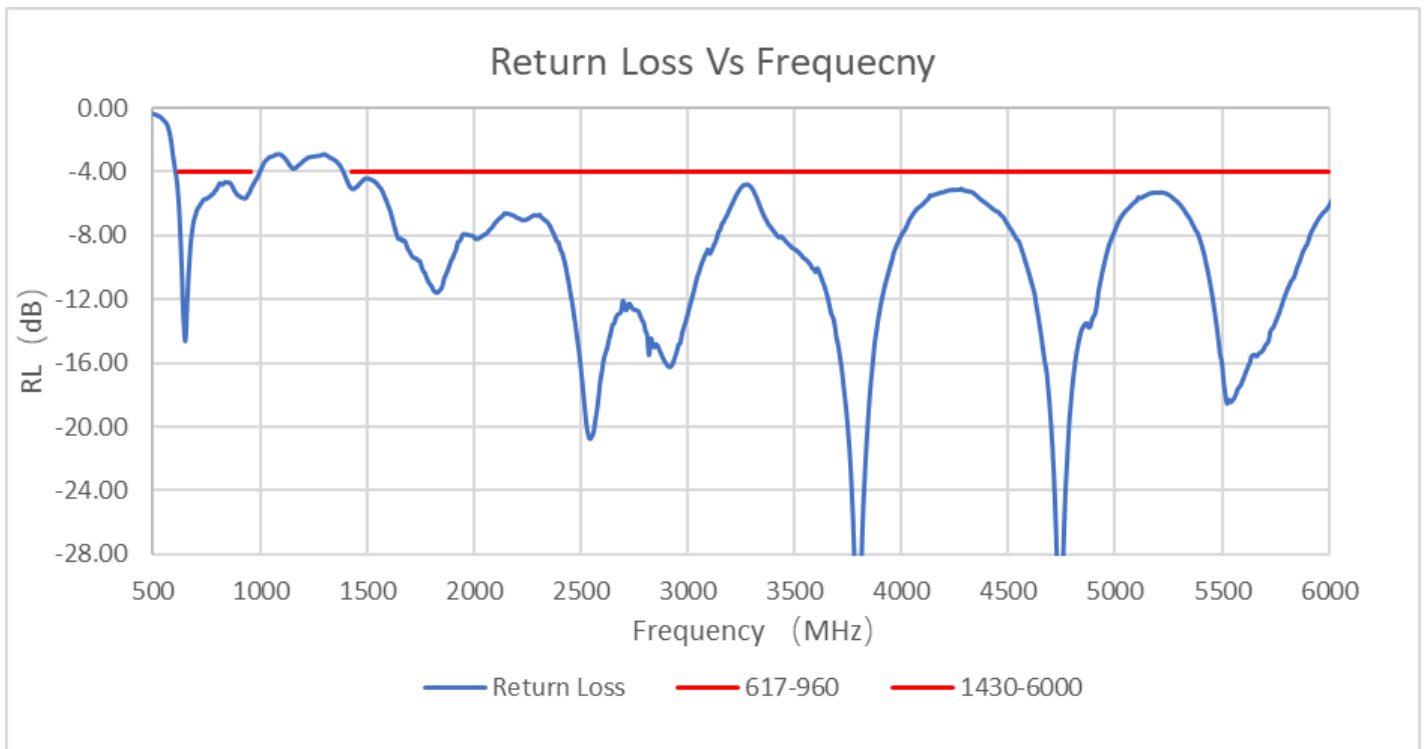
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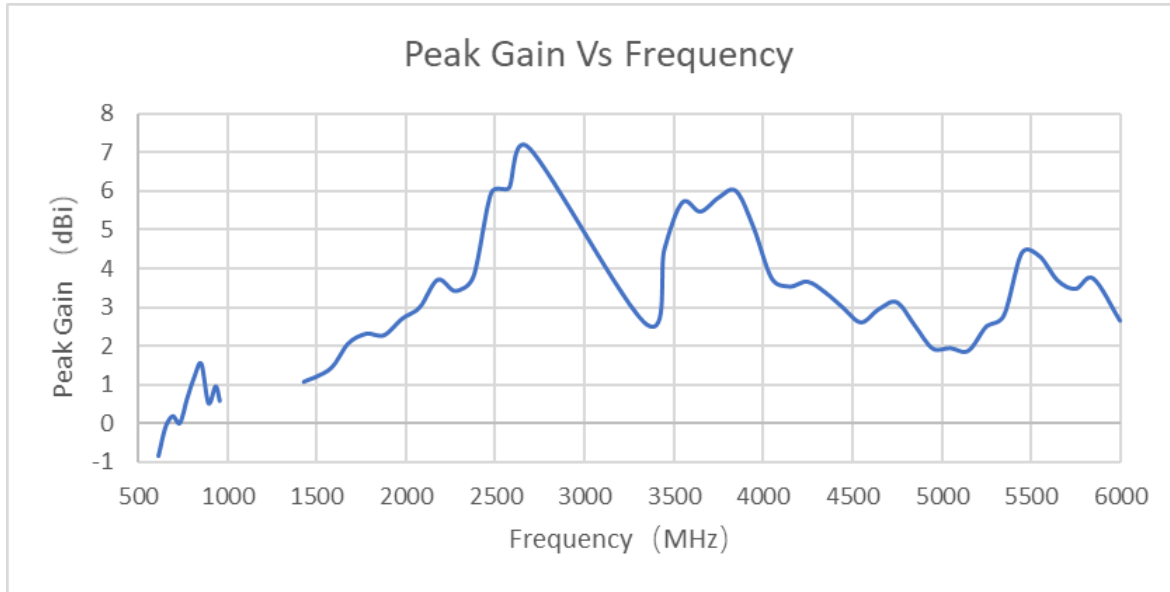
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CHARTS

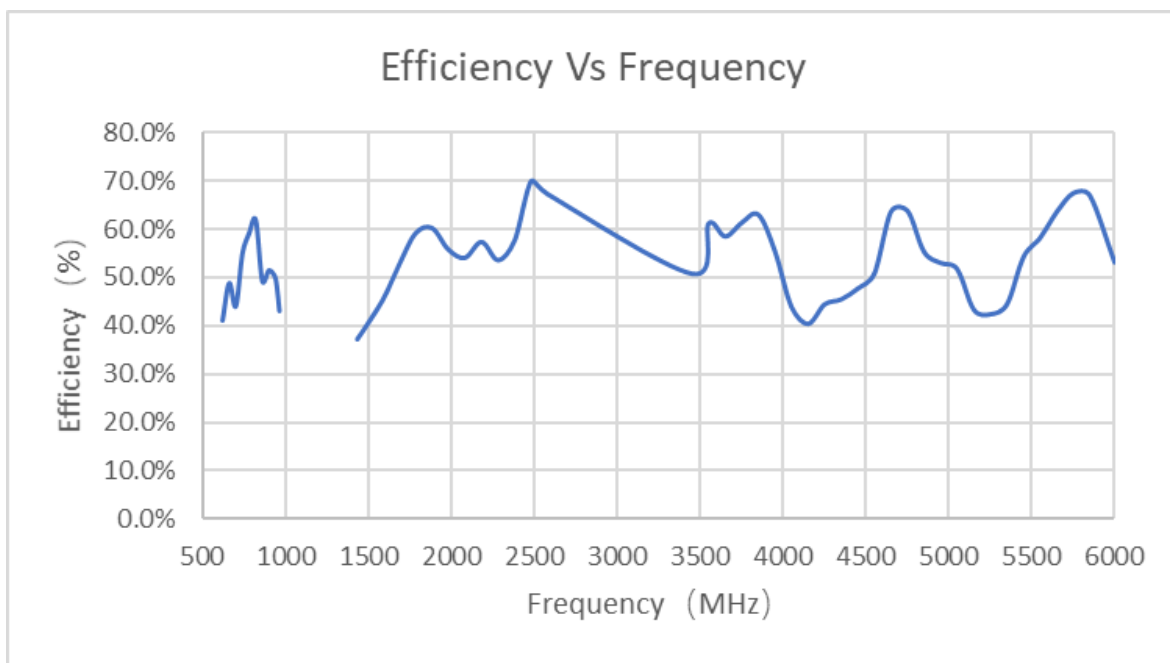


CHARTS

Gain(dBi)



Efficiency(%)



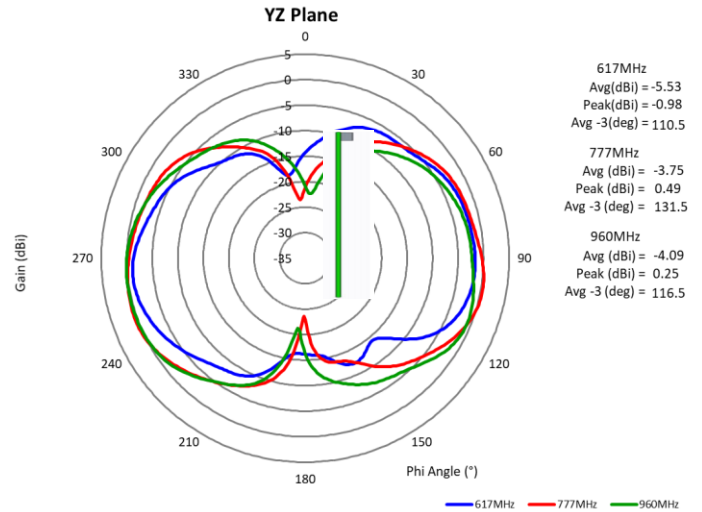
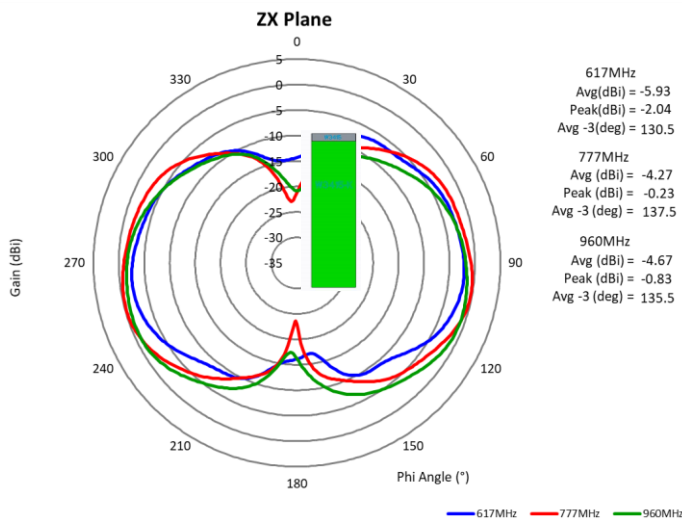
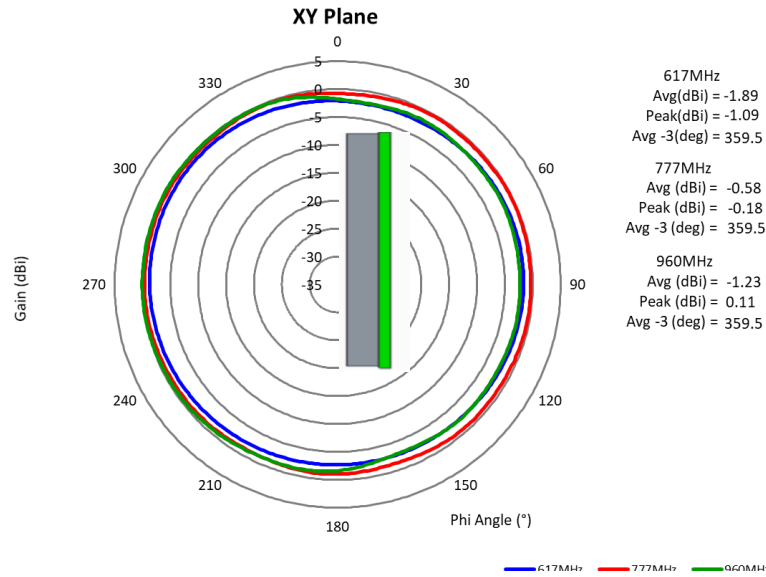
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CHARTS



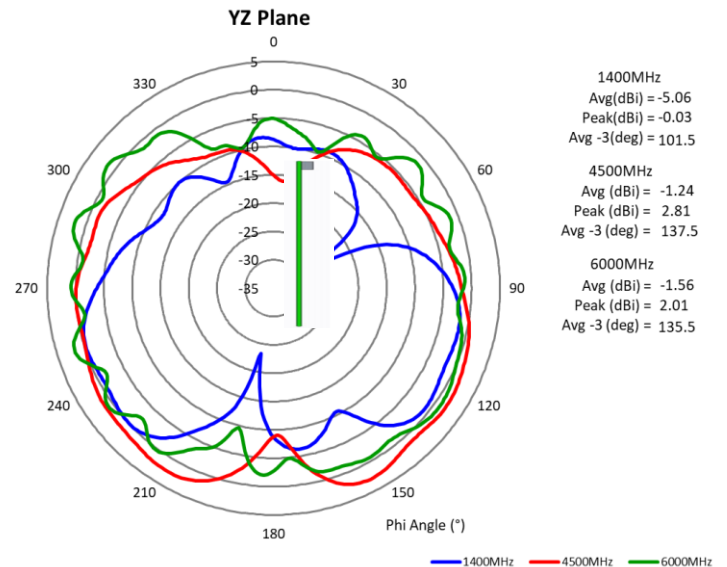
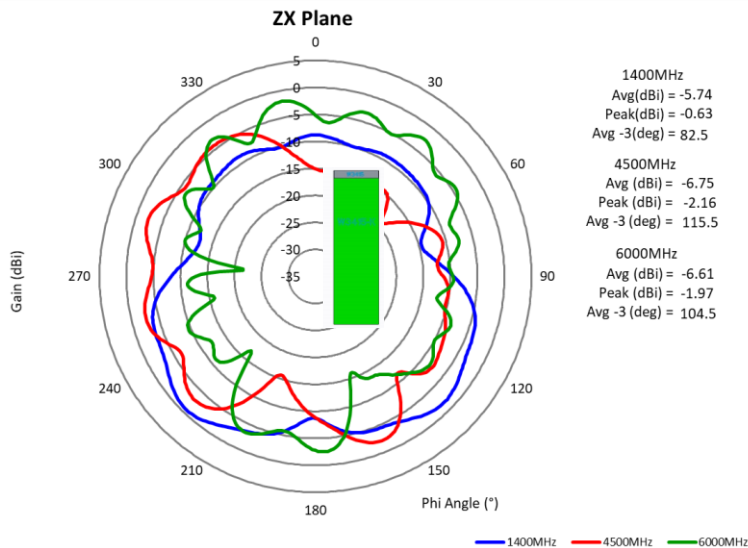
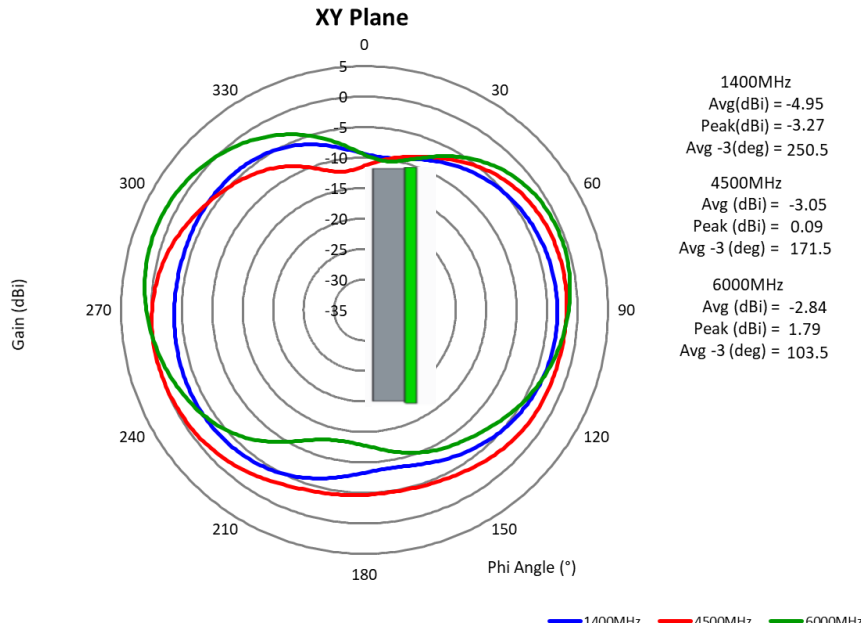
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CHARTS



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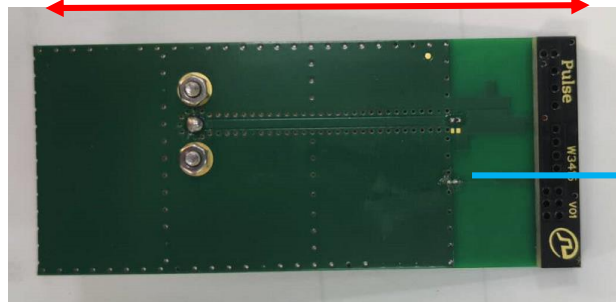
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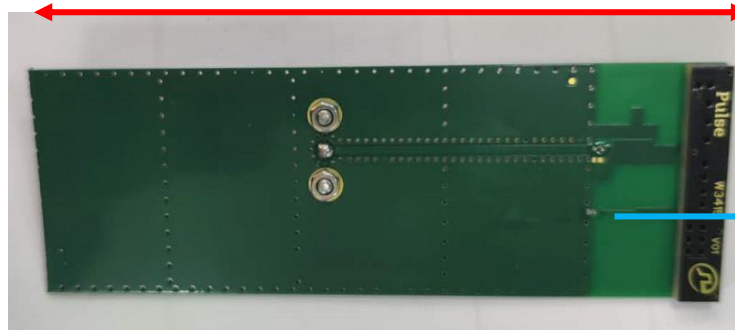
PCB length effect

100 mm



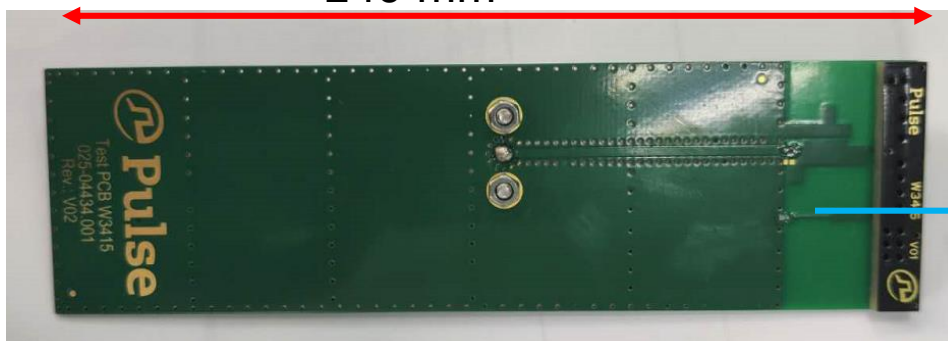
6.8nH

120 mm



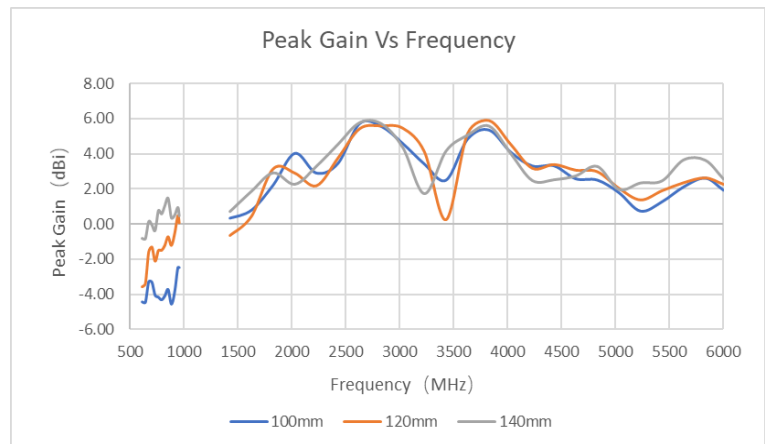
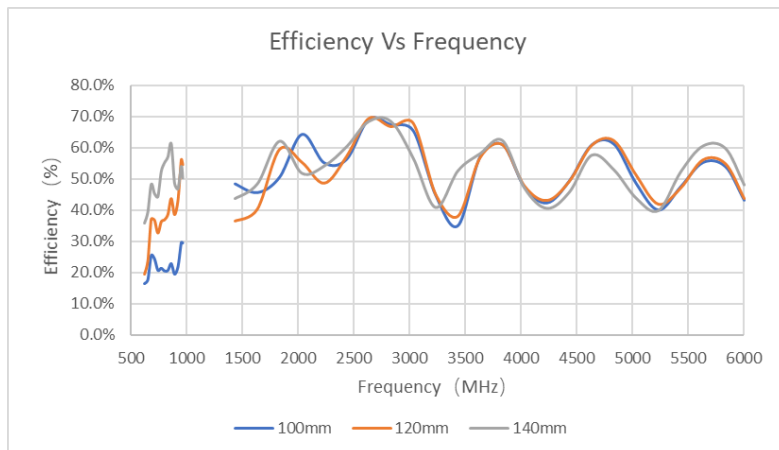
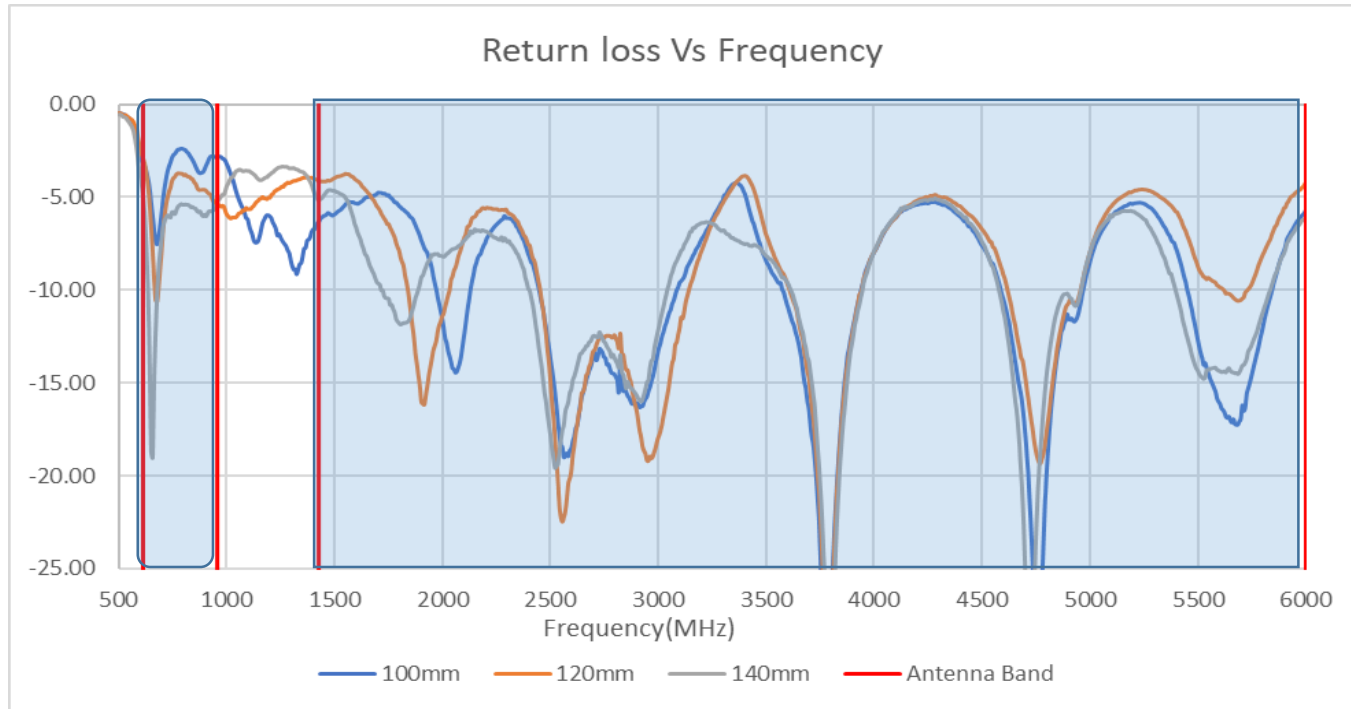
7.5nH

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

