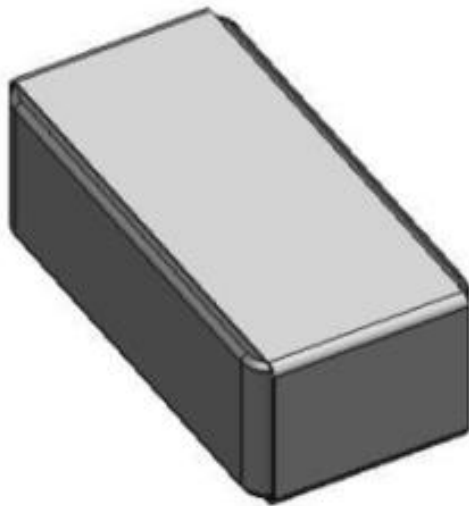


Description: Dualband WLAN Antenna – WiFi 6E

Series: Ceramic Chip Antenna

PART NUMBER: W3078



Features:

- Omnidirectional radiation
- Compact size WxLxH (3,2 x 1,6 x 1.1 mm)
- Low weight (33 mg)
- Fully SMD compatible
- Lead free soldering compatible
- Tape and reel packing
- RoHS Compliant Product
- Single feed point
- MSL 1

Applications:

- IEEE 802.11a/b/g/n/x
- WiFi 6E
- 2.4/5/6 GHz WLAN
- 2.4 GHz ISM Band Systems
- ZigBee IEEE 802.15.4

Dualband WLAN

Typical performance (testboard size 80x37 mm, PWB ground clearance area 11.15 x 6.40 mm)
One shunt and one serial inductors are used for impedance matching.

Frequency Range [MHz]	Max Gain [dBi]	Efficiency [%] / [dB]	Return loss min. [dB]	Impedance [Ω]	Operating Temperature [$^{\circ}$ C]
2400 – 2500	0.1 (peak)	45 / -3.5 (peak)	-8	50	-40 to +85
	-0.3 (band edges)	42 / -3.6 (band edges)			
4900 – 7125	3.5 (peak)	85 / -0,8 (peak)	-9	50	-40 to +85
	2.4 (band edges)	75 / -1 (band edges)			

Electrical specifications @ +25 °C

Note: Electrical characteristics depend on test board (GP) size and antenna positioning on GP and Ground Clearance area size.

All dimensions are in mm / inches

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For more information:

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15255 Innovation Drive #100
San Diego, CA 92128
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Tel:1-858-674-8100

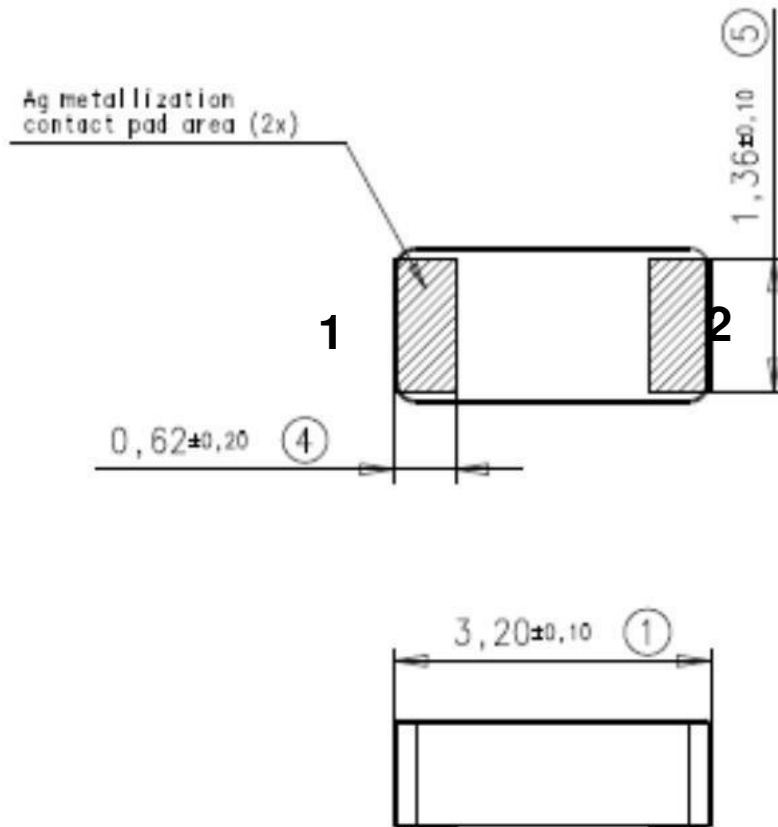
Pulse/Larsen Antennas
18110 SE 34th St Bldg 2 Suite 250
Vancouver, WA 98683
USA
Tel: 1-360-944-7551

Europe Headquarters
Pulse GmbH & Do, KG
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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

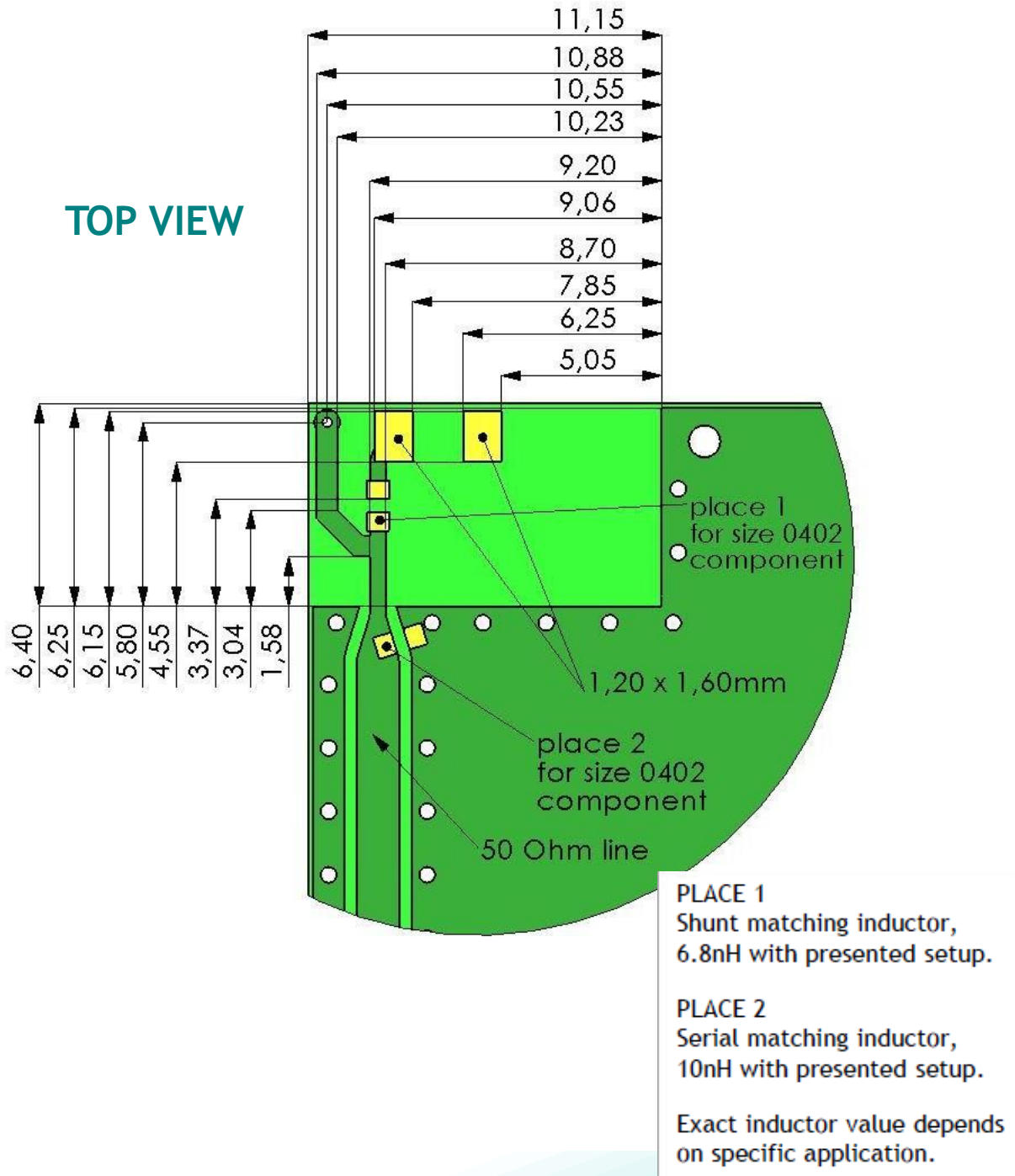


Antenna Terminal Configuration and Dimensions



No.	Terminal Name	Terminal Dimensions
1	Feed / GND	0.62 x 1.36 mm
2	Feed / GND	0.62 x 1.36 mm
Antenna is symmetrical. Either of terminals 1 or 2 can be Feed / GND		

Recommended test board layout for electrical characteristic measurement, test board outline size 80 x 37mm



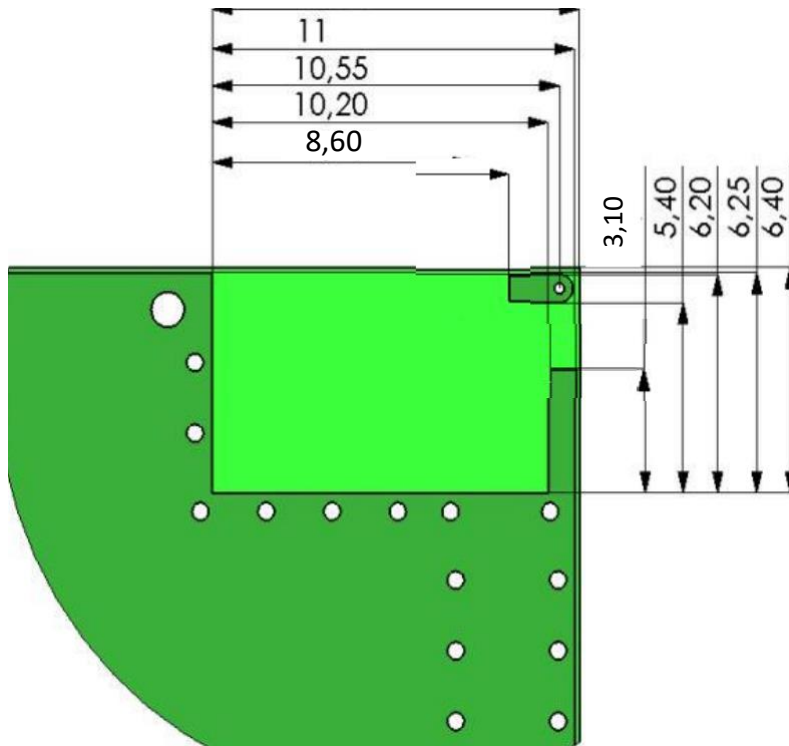
Issue: 2108

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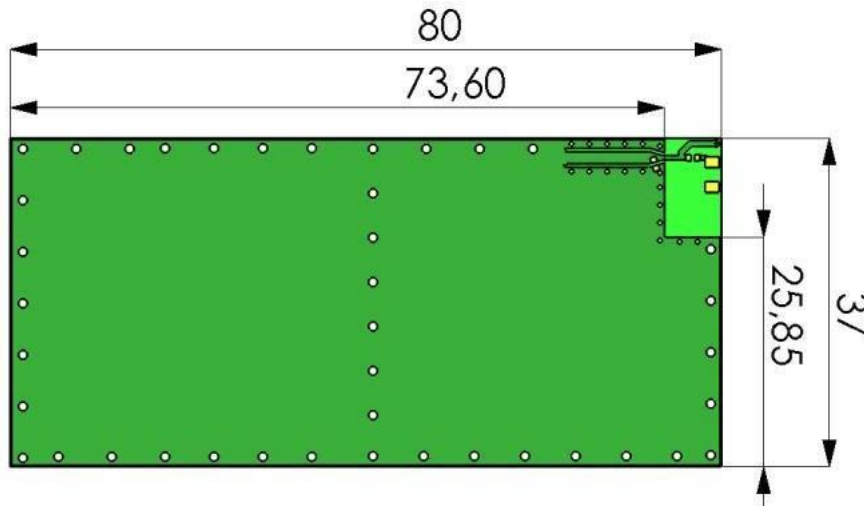
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BOTTOM VIEW



LAYOUT PLACEMENT ON GROUND PCB CORNER



PCB

Feed line should be designed to match 50 Ω characteristic impedance, depending on PWB material and thickness.

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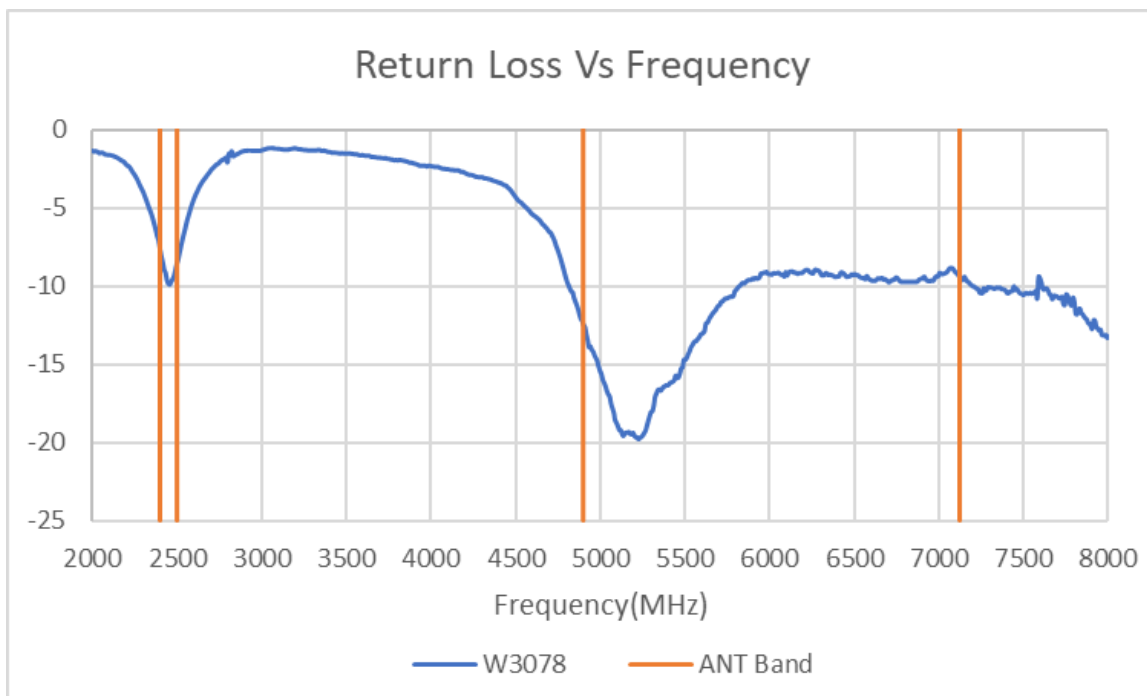
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CHARTS

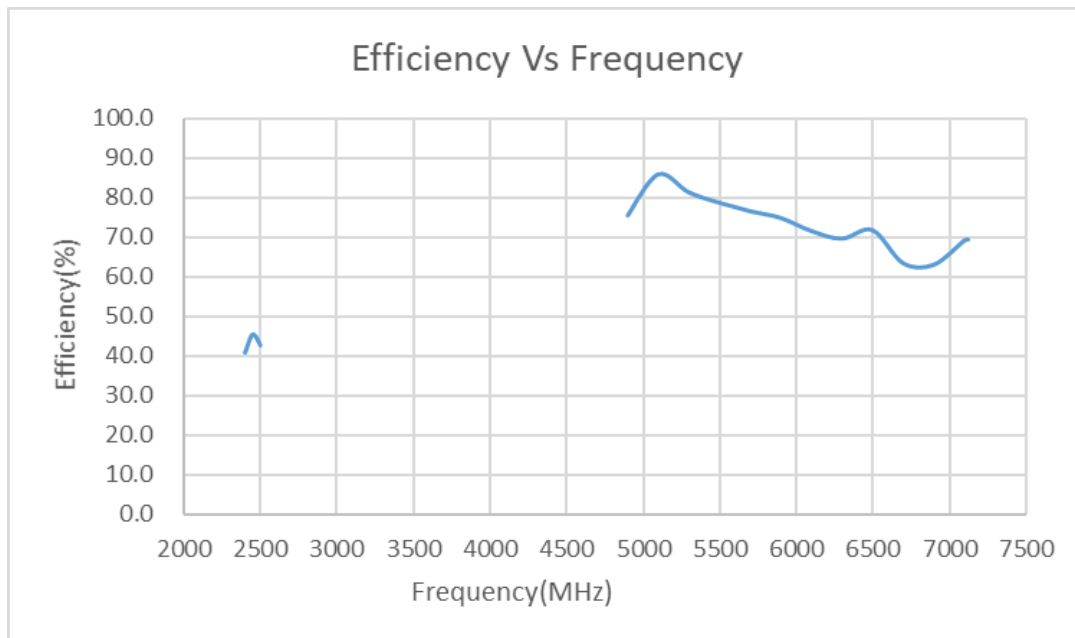
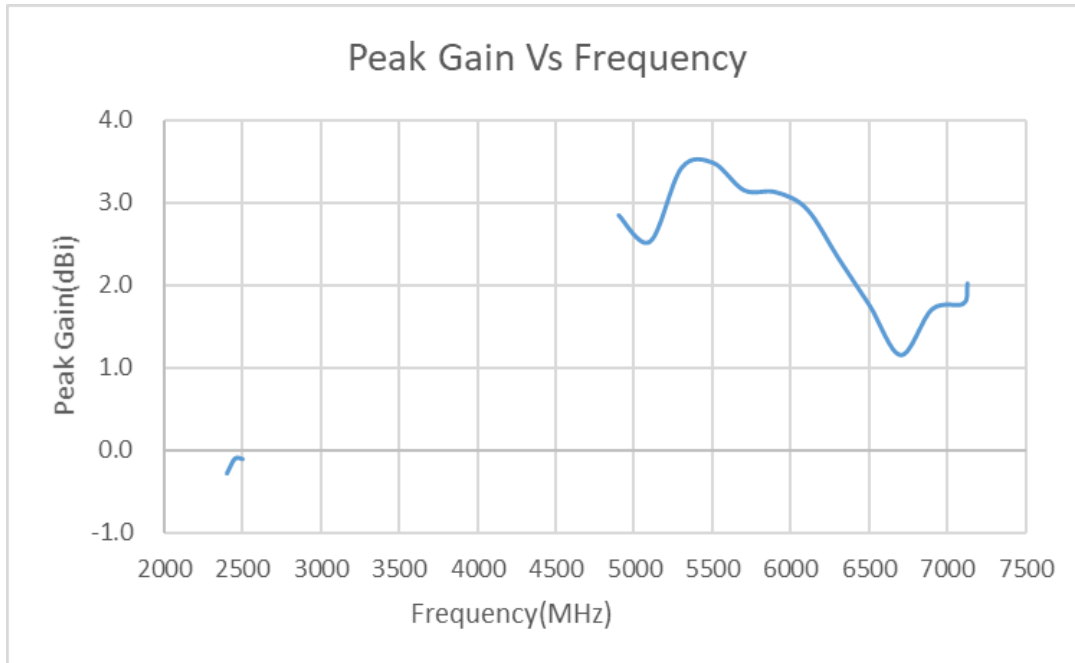
Typical Electrical Characteristics (T=25 °C)

Typical Return Loss S11, measured on the test board



CHARTS

Free space efficiency and maximum gain



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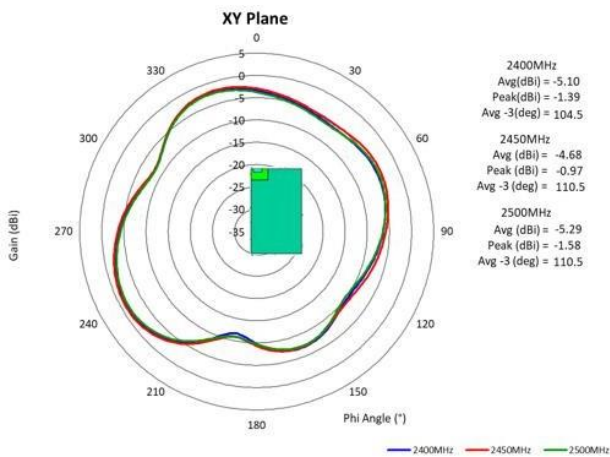
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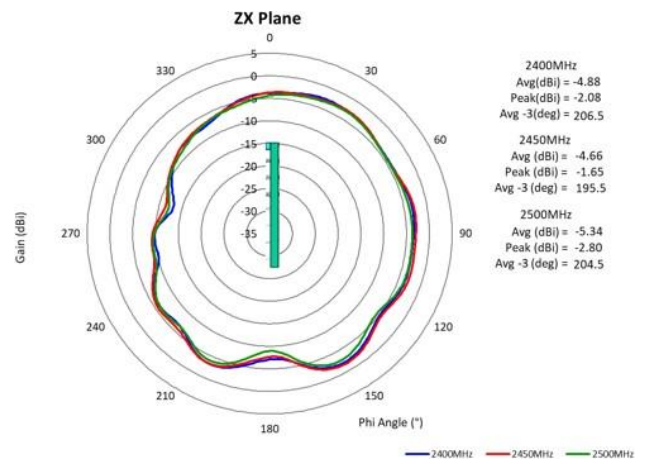
CHARTS

2.4-2.5 GHz Typical Free space Radiation Patterns

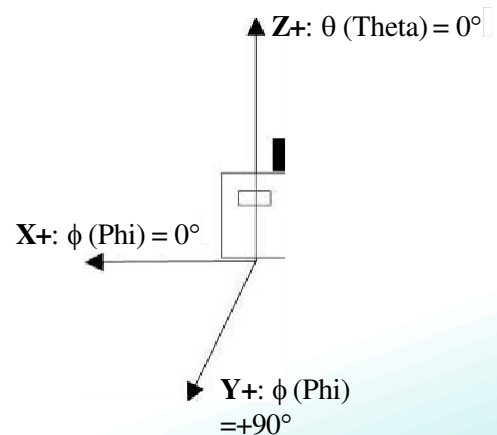
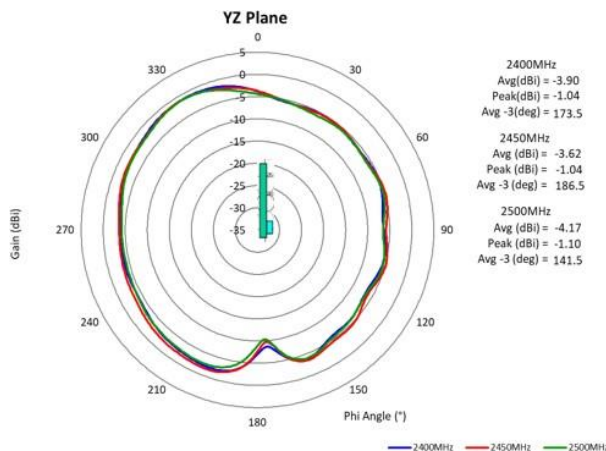
XY-PLANE



ZY-PLANE



ZX-PLANE



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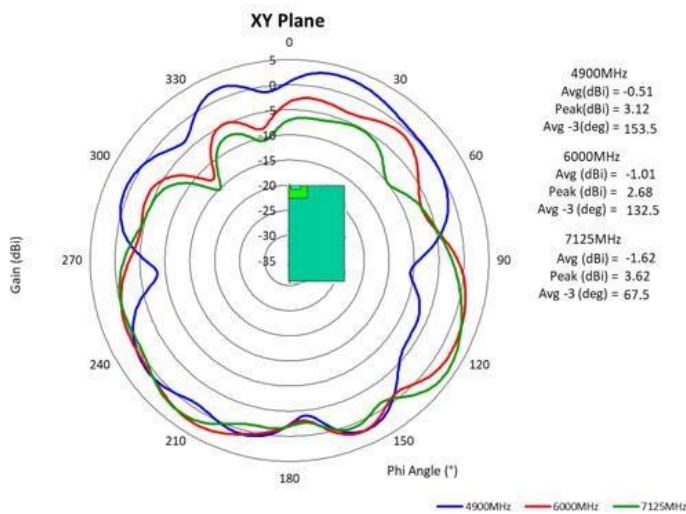
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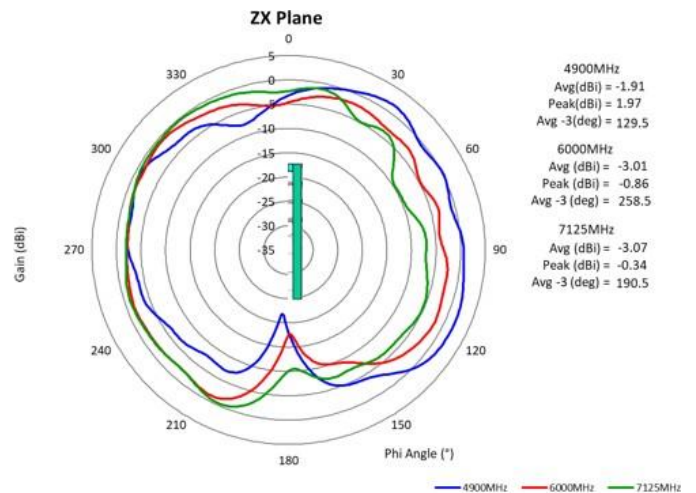
CHARTS

4.9-7.125 GHz Typical Free space Radiation Patterns

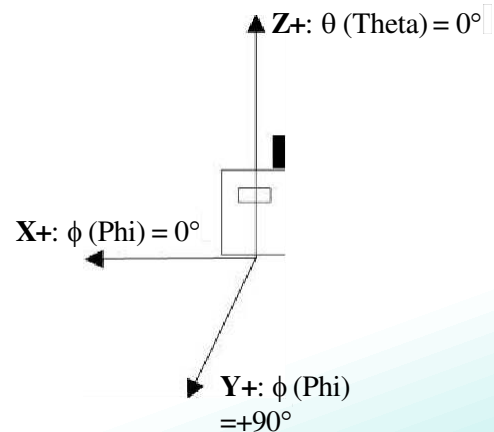
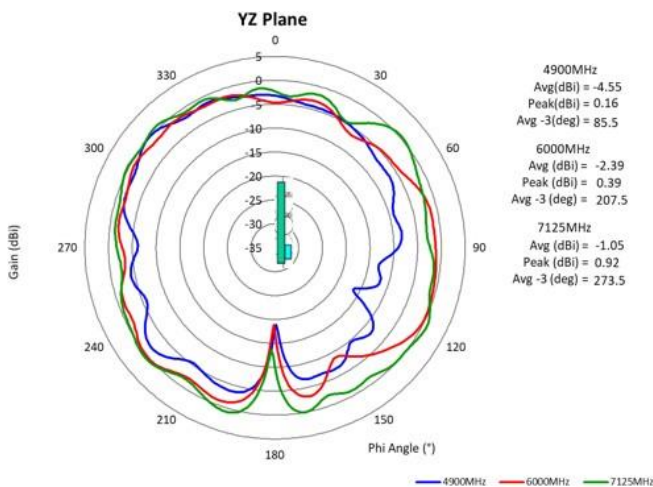
XY-PLANE



ZY-PLANE



ZX-PLANE



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ASSEMBLY

Recommendations For Soldering

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

Not to scale. For reference only.

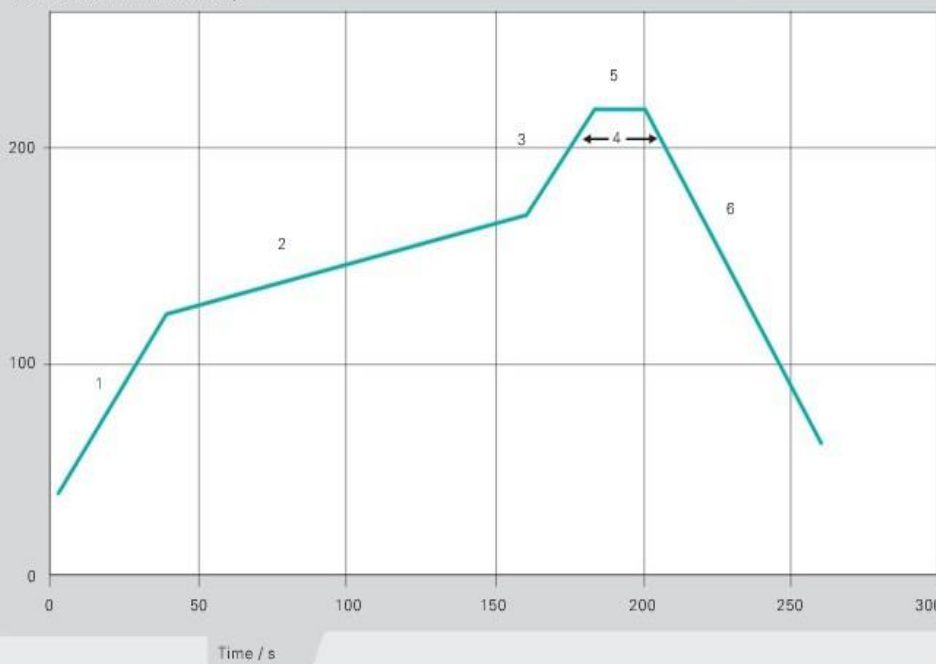


Figure 1. Minimum temperature profile recommendation for reflow soldering process

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ASSEMBLY

	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

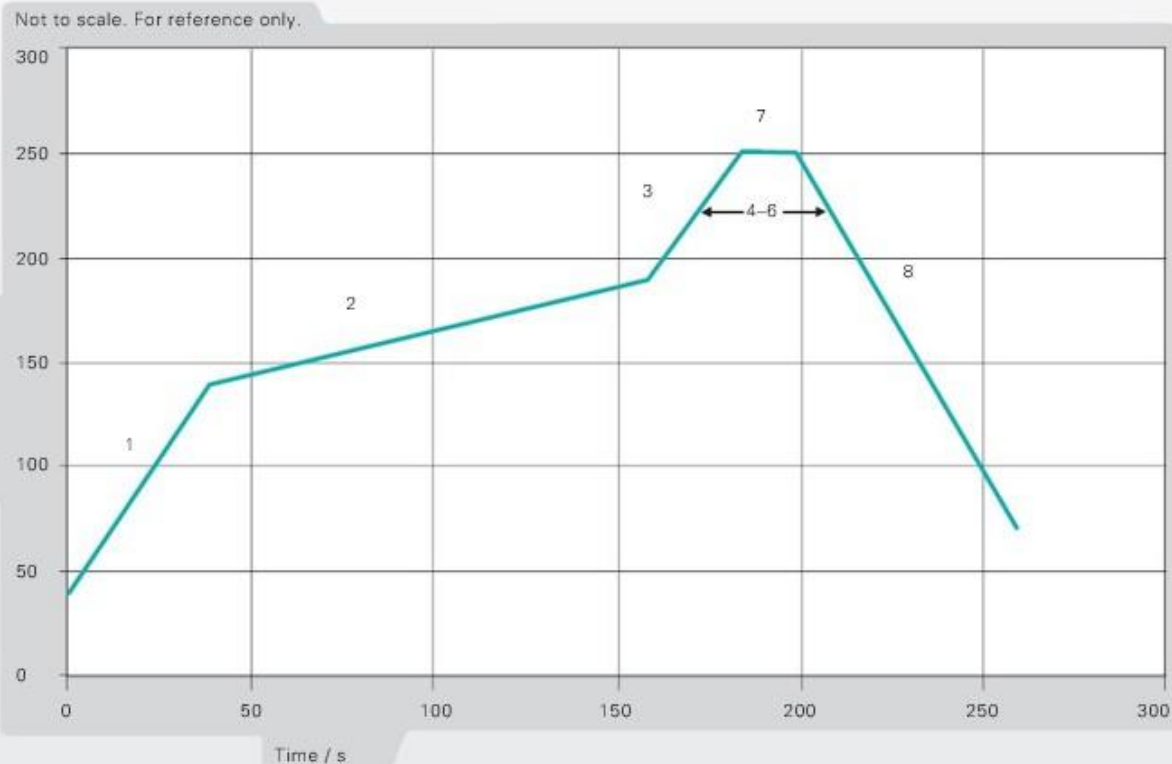


Figure 2. Maximum temperature profile recommendation for reflow soldering process

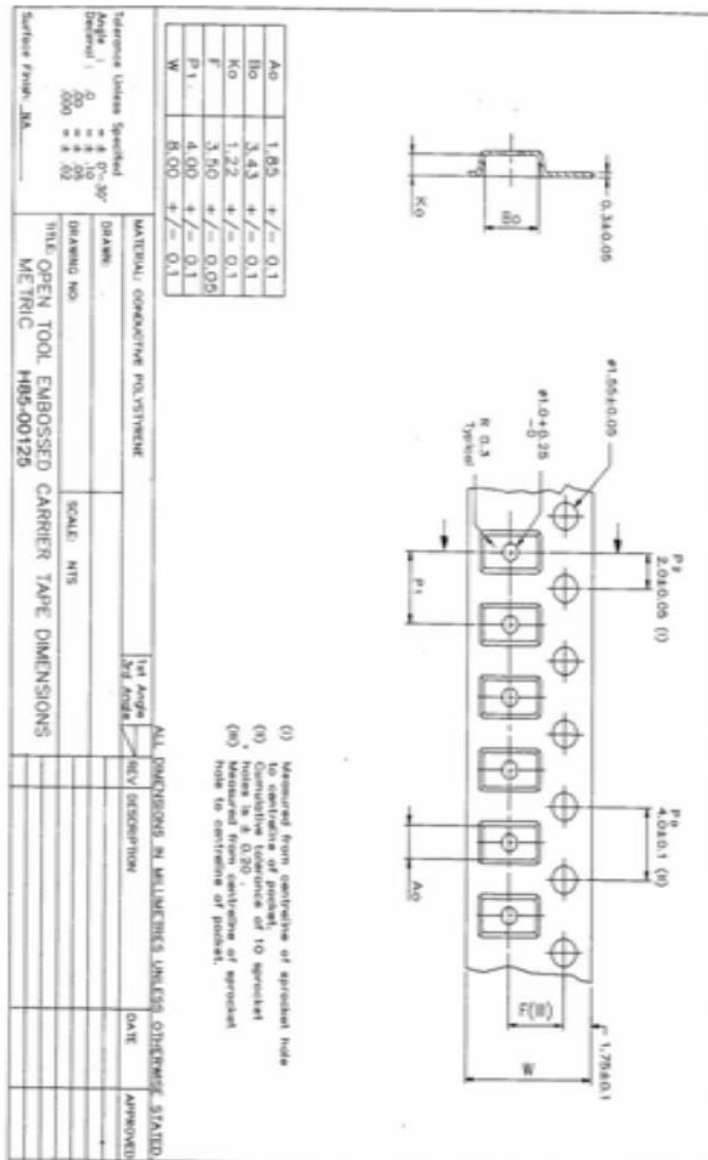
PACKAGING

W3078 Antenna Packing

General

Tape and reel packing is used. Carrier tape, reel and box dimensions are presented in following pictures.

Carrier tape



Issue: 2108

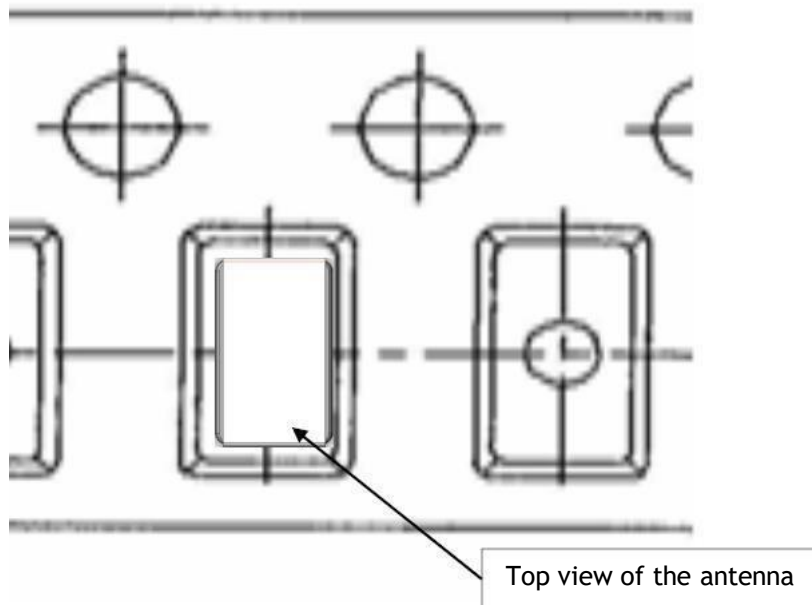
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PACKAGING

Block orientation: soldering pads facing down to the bottom of the carrier tape.

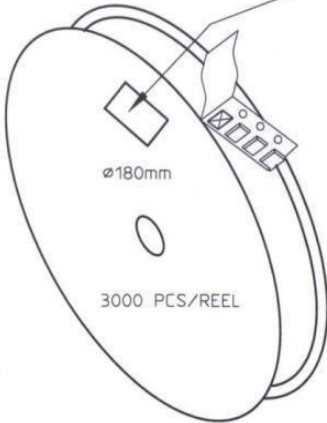


Top view of the carrier tape

PACKAGING

W3078 Antenna Packing

Reel and packing information:




REEL LABEL INFORMATION:
 - TRACEABILITY
 - QUANTITY
 - PRODUCT CODE

ø180mm
 3000 PCS/REEL


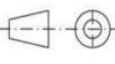
CARRIER TAPE H85-00125
 width=8,00 depth=1,22
 COVER TAPE H85-00126
 width=5,60

LENGTH OF TAPE:
 - Leader section: min 350 mm before component section
 - Trailer section: min 40 mm after component section.

Empty part cavities at leader and trailer section of the tape must be sealed with top cover tape.



BOX H85-00128 (182x182x132)	1 pcs
- LABEL	1 pcs/BOX
REEL H85-00127 (D180, W12)	10 pcs
- REEL LABEL	1 pcs/REEL

MATERIAL							
HANDLINGS							
		RATIO	DRWN	090507	PeHa	H	
			DGNER				G
			CHKD				F
			APPRD				E
PRODUCT	H90-0Y805		APPRD BY				D
							C
							B
							A
DENOMINATION	PACKING FORM		VERSION				MOD/DATE/NAME

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ASSEMBLY

W3078 Antenna Mechanical Outline

