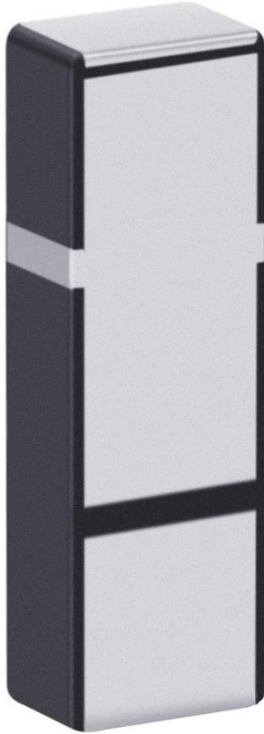


Description: 3-in-1 Combo GNSS L1+L2+L5
Ceramic SMD Antenna

Series: Chip Antenna

PART NUMBER: W3089



Features:

- 3 in1 –combo antenna
 - Port 1: 1170-1249 MHz
 - Port 2: 1559-1608 MHz
- Compact size 3.2 x 10 x 2mm
- Omni radiation pattern
- SMT mounting on PCB
- Tape & Reel packing
- MSL-1

Applications:

- Multiband GNSS Receivers
- All bands in one antenna: L1, L2, L45
- GNSS (GPS, Glonass, Beidou, Galileo)
- High precision navigation and location based services

Issue: 1944

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18110 SE 34th St Bldg 2 Suite 250
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Europe Headquarters
Pulse GmbH & Do, KG
Zeppelinstrasse 15
Herrenberg, Germany
Tel: 49 7032 7806 0

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: 3-in-1 Combo GNSS L1+L2+L5
Ceramic SMD Antenna

Series: Chip Antenna

PART NUMBER: W3089

ELECTRICAL SPECIFICATIONS

Antenna Type	ceramic
Frequency	1170-1249MHz; 1559-1608MHz
Nominal Impedance	50 Ω
Radiation Pattern	Omni
Return Loss	1170-1249MHz <-5 1559-1608 <-8
Gain	1dBi @ 1.2GHz -1dBi @ 1.6GHz
Efficiency	50% @ 1.2GHz 45% @ 1.6GHz
Polarization	Vertical
Power Withstanding	2W

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Description: 3-in-1 Combo GNSS L1+L2+L5
Ceramic SMD Antenna

Series: Chip Antenna

PART NUMBER: W3089

MECHANICAL SPECIFICATIONS

Weight	0.3 g
Overall Length	10[0.39] MM[INCHES]
Over all width	3.2[0.13] MM[INCHES]
Over all thickness	2[0.08] MM[INCHES]
MSL (Moisture Sensitivity Level)	1

ENVIRONMENTAL SPECIFICATIONS

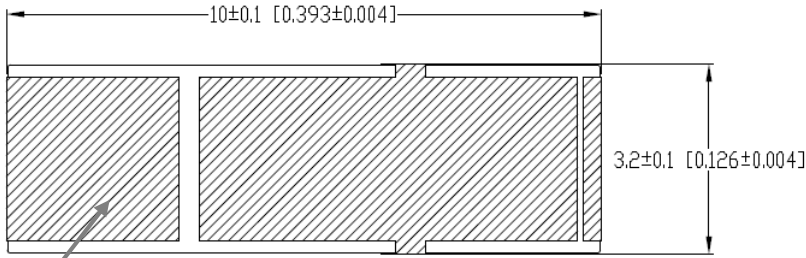
Operating Temperature	-40/+85 ° C
Storage Temperature	-40/+85 ° C
RoHS Compliant	Yes

Description: 3-in-1 Combo GNSS L1+L2+L5
 Ceramic SMD Antenna

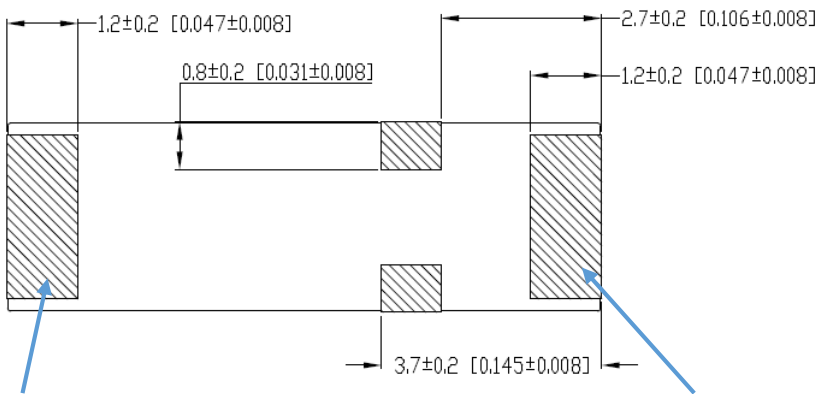
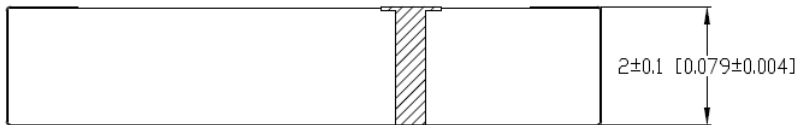
Series: Chip Antenna

PART NUMBER: W3089

MECHANICAL DRAWING

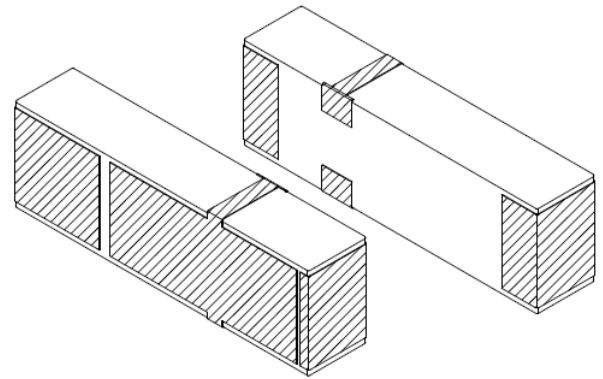


PATTERN



Port for 1170-1249 MHz

Port for 1559-1608 MHz



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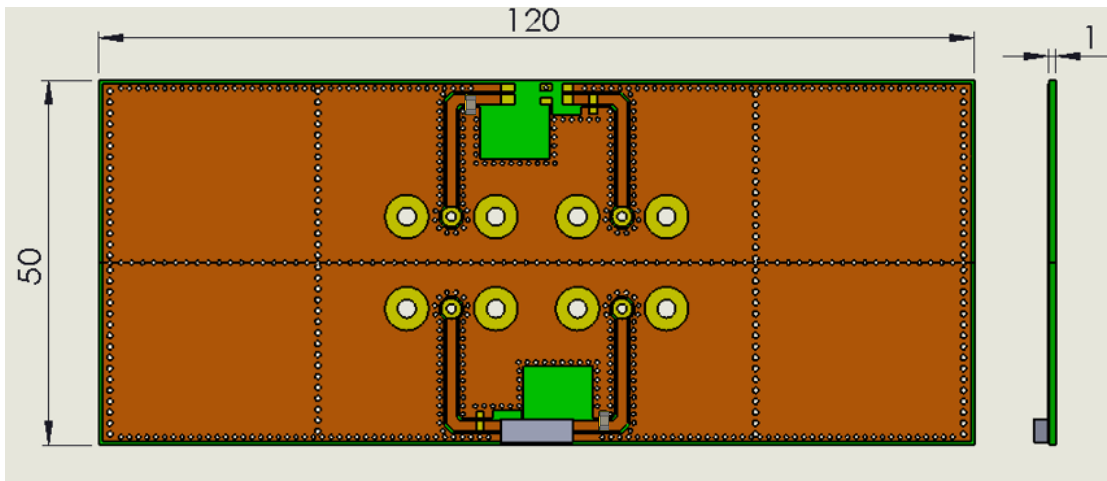
Series: Chip Antenna

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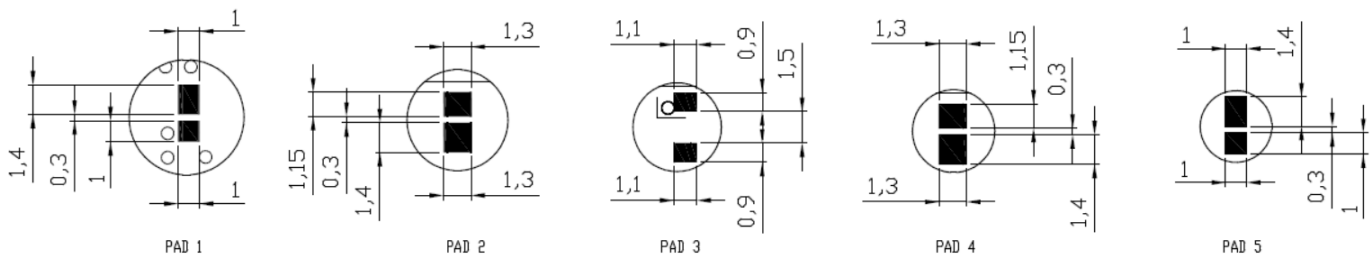
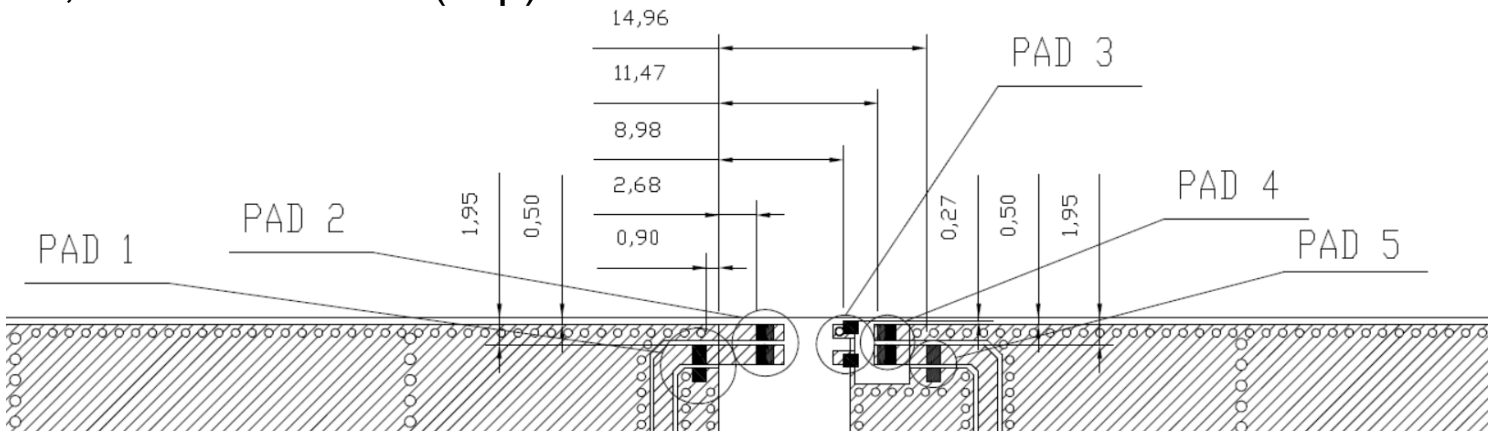
OTHER SPECIFICATIONS

PCB LAYOUT

1, PCB material, ISOLA 185HR, size, 120X50X1mm



2, Clearance area (Top)



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Ceramic SMD Antenna

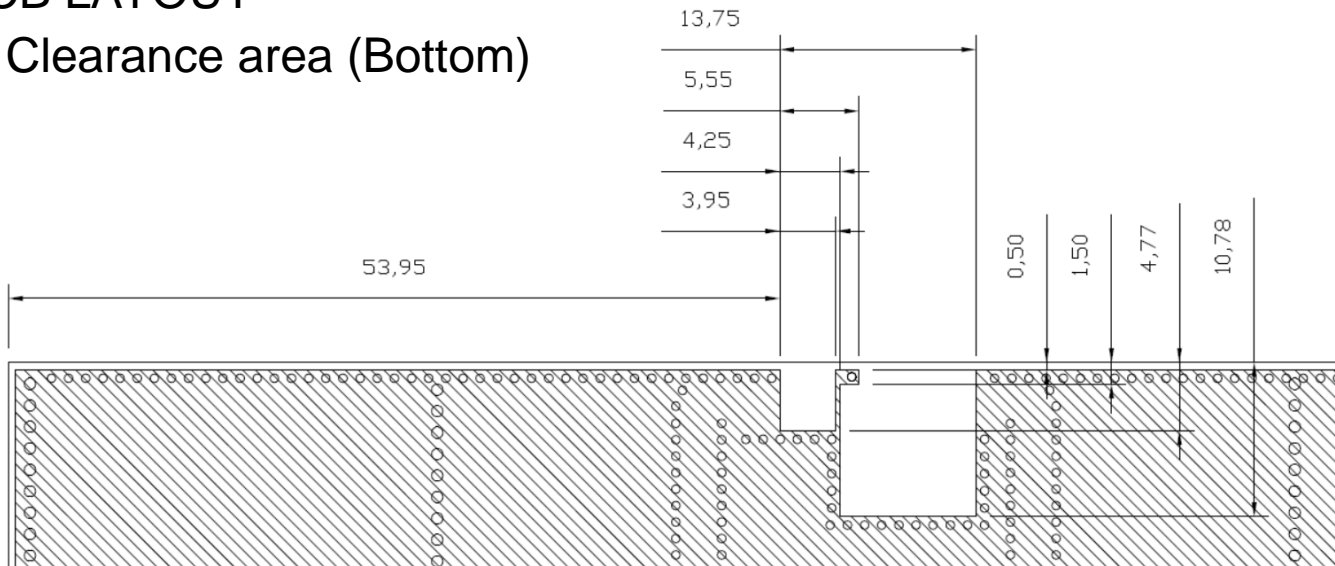
Series: Chip Antenna

PART NUMBER: W3089

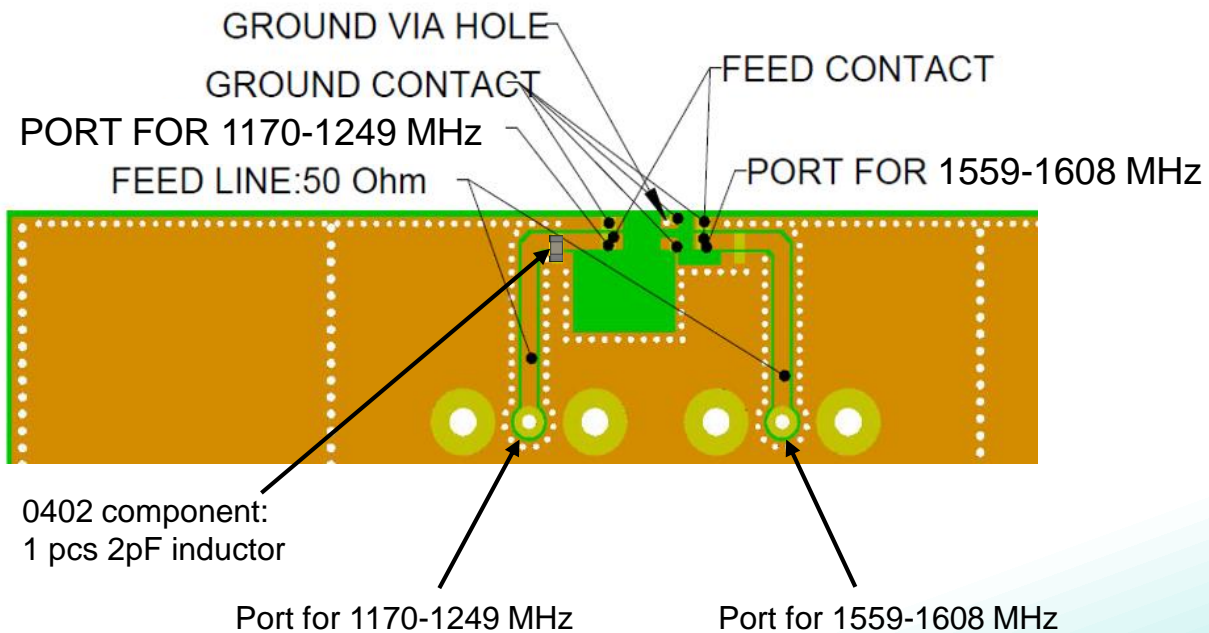
OTHER SPECIFICATIONS

PCB LAYOUT

3, Clearance area (Bottom)



4, PCB Features



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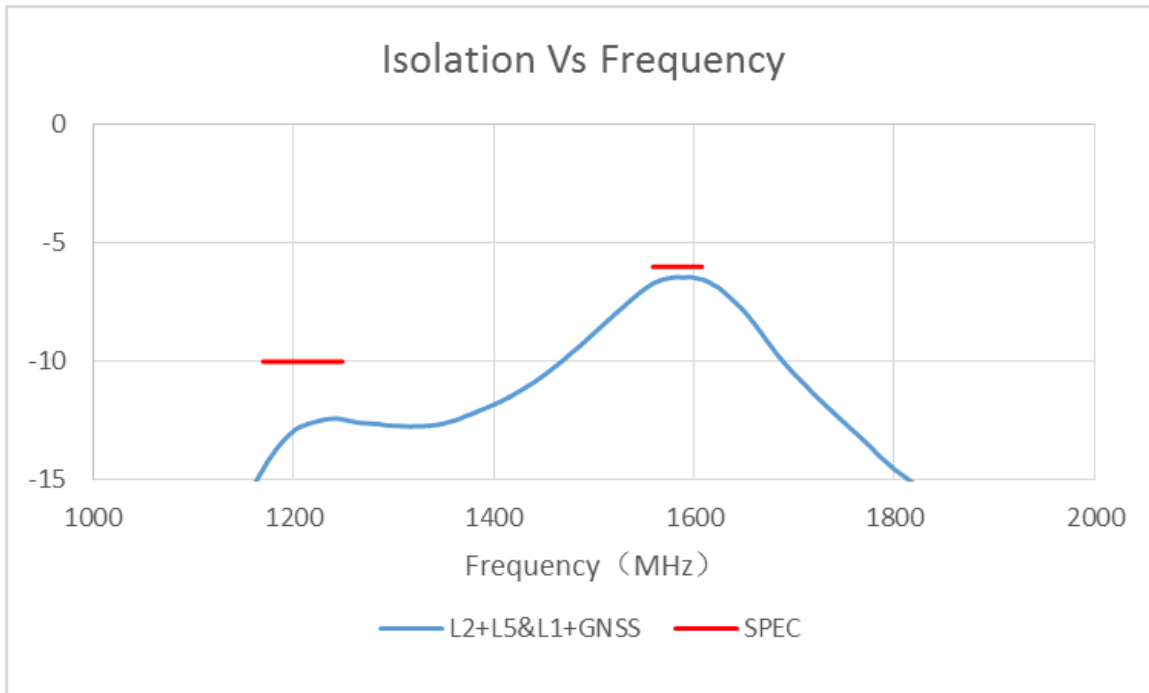
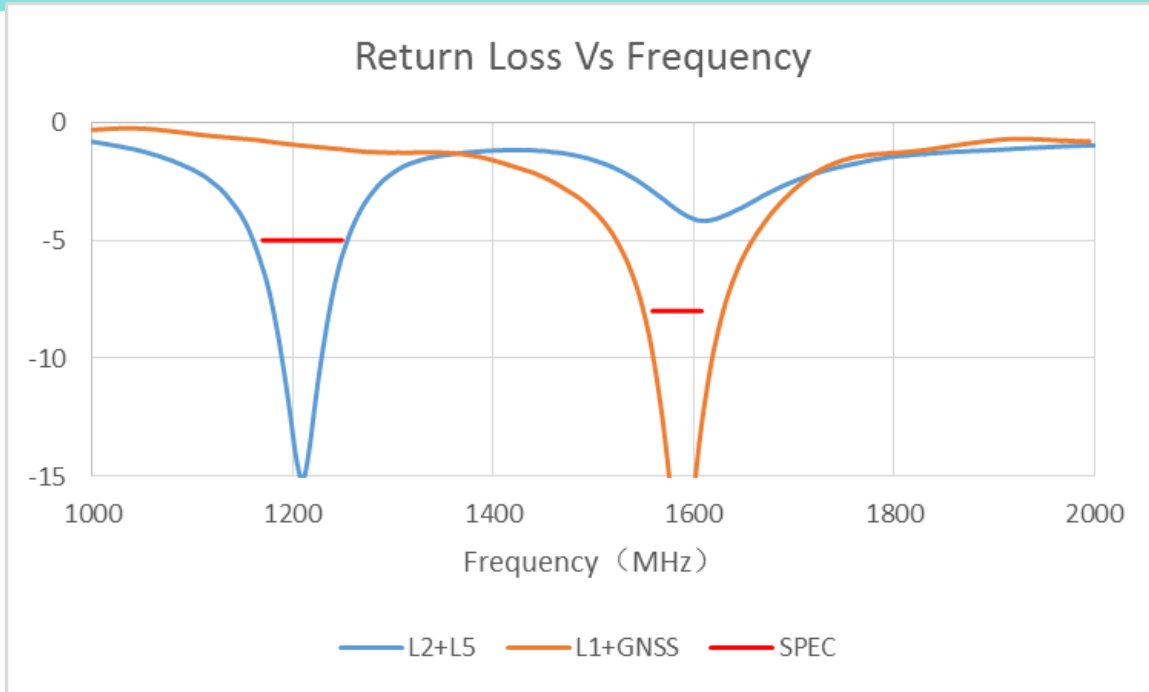
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Description: 3-in-1 Combo GNSS L1+L2+L5
Ceramic SMD Antenna

Series: Chip Antenna

PART NUMBER: W3089

CHARTS



Issue: 1944

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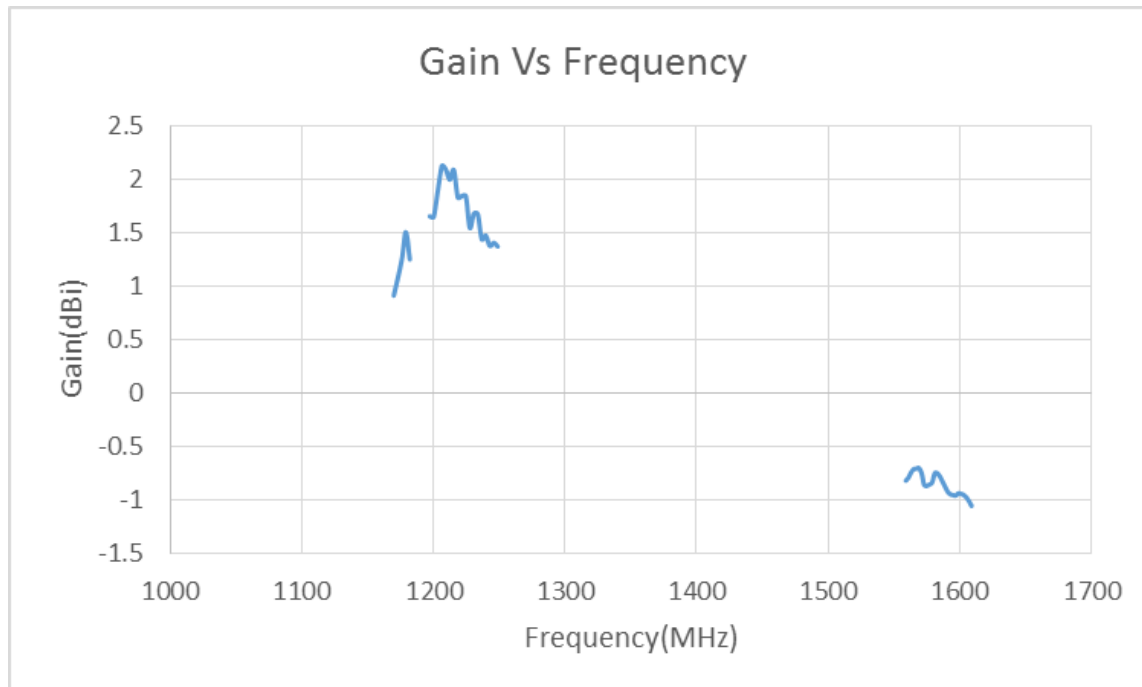
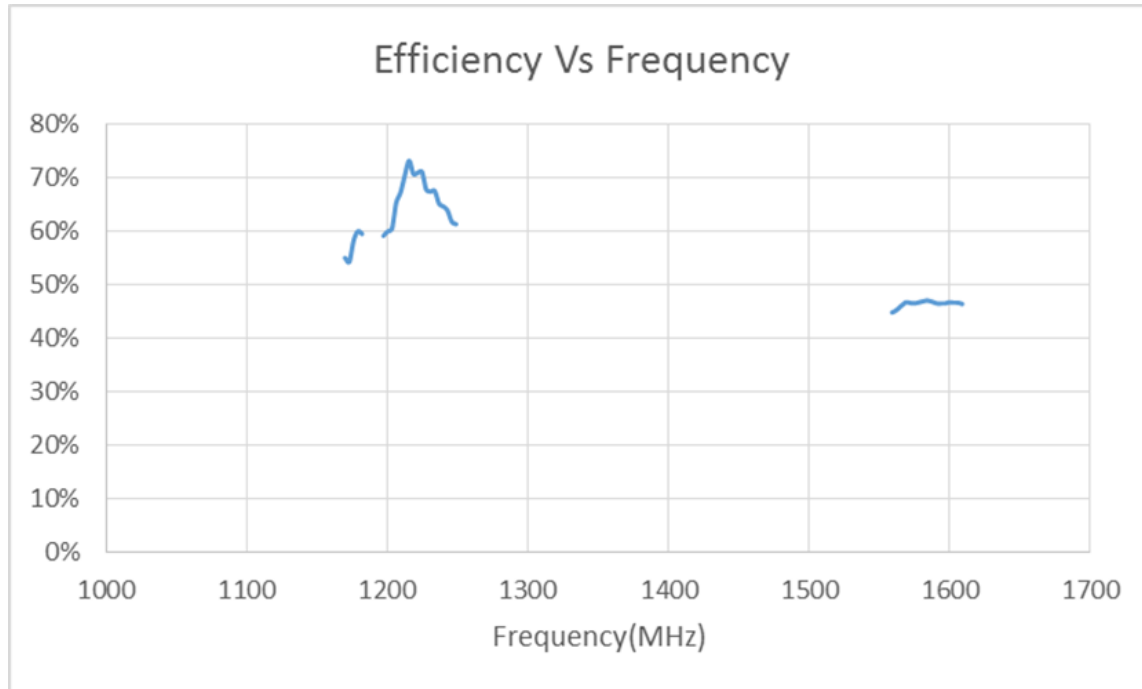
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Series: Chip Antenna

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CHARTS



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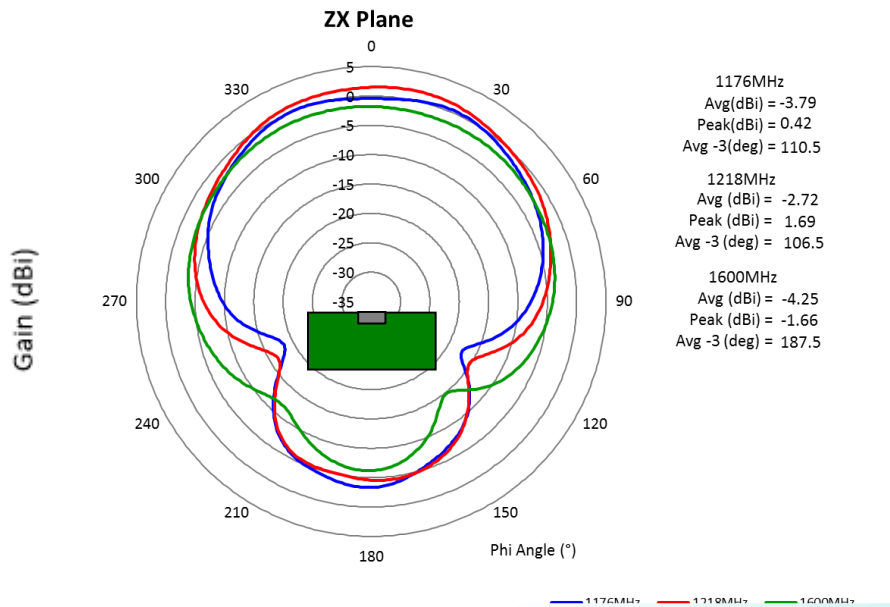
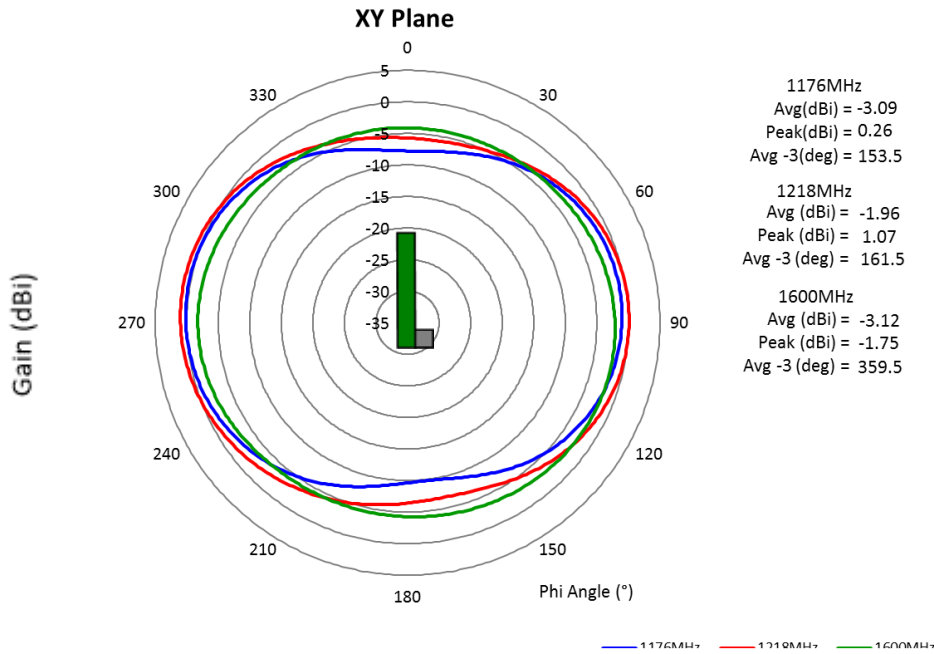
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CHARTS



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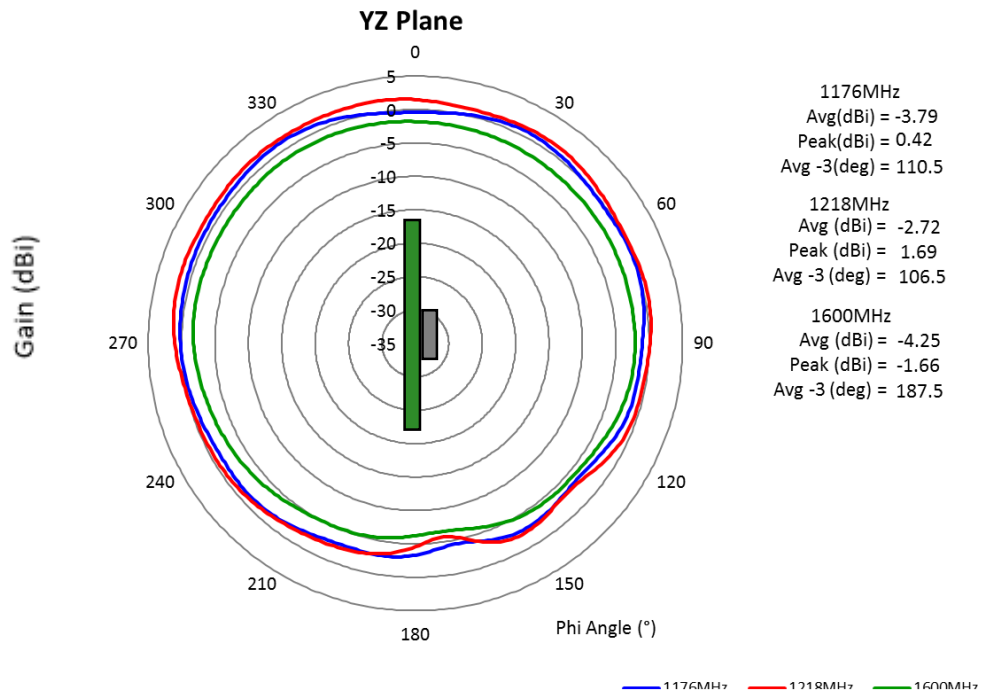
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CHARTS



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Description: 3-in-1 Combo GNSS L1+L2+L5
Ceramic SMD Antenna

Series: Chip Antenna

PART NUMBER: W3089

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

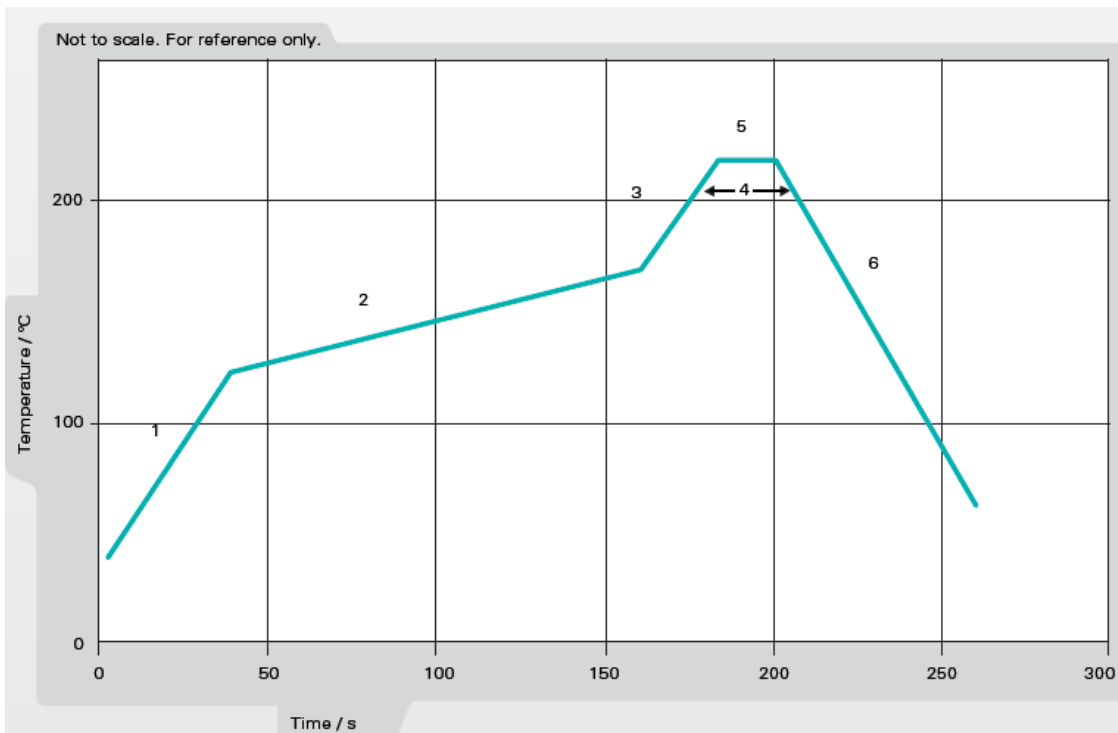


Figure 1. Minimum temperature profile recommendation for reflow soldering process

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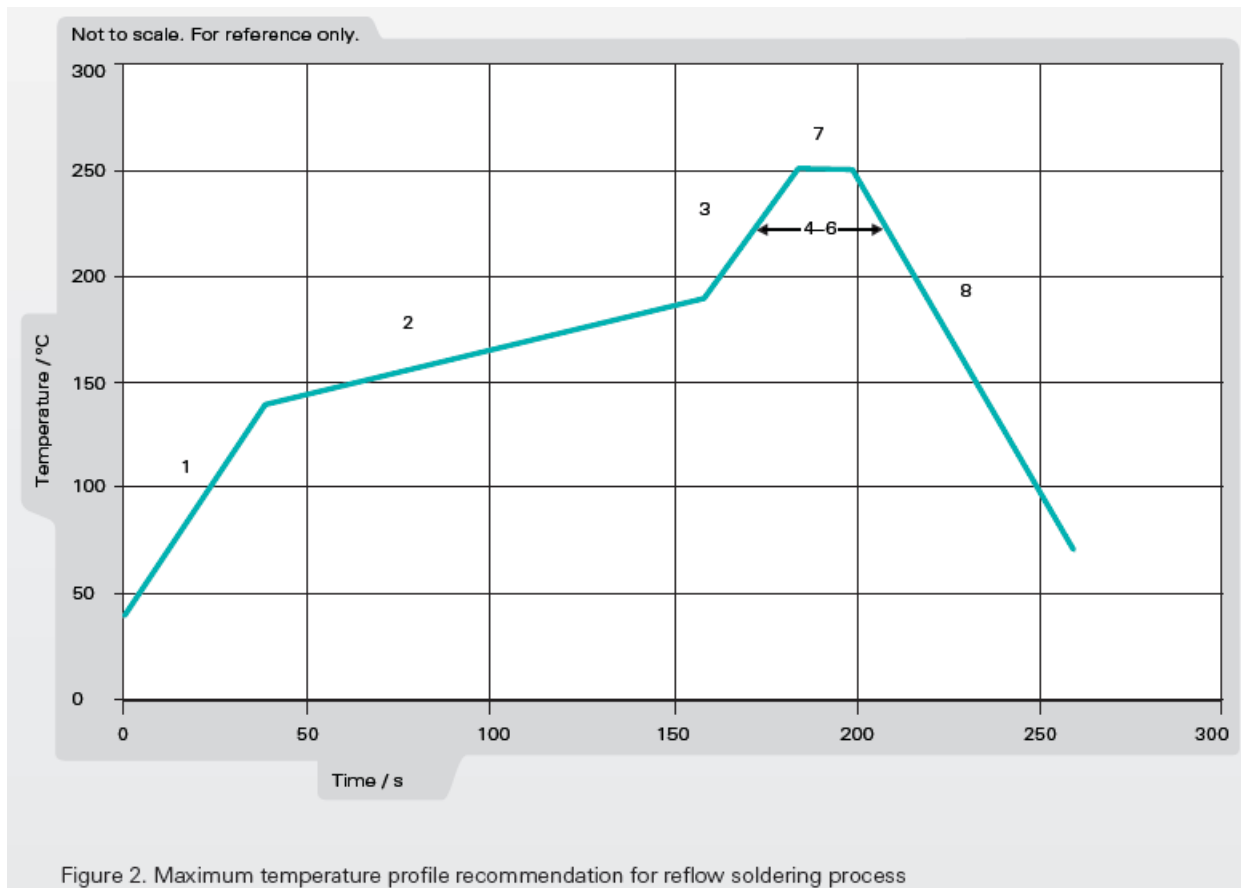
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Ceramic SMD Antenna

Series: Chip Antenna

PART NUMBER: W3089

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



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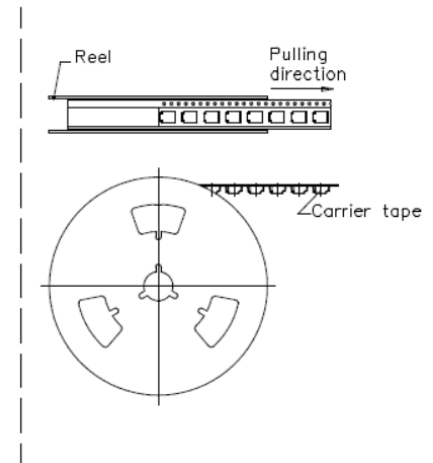
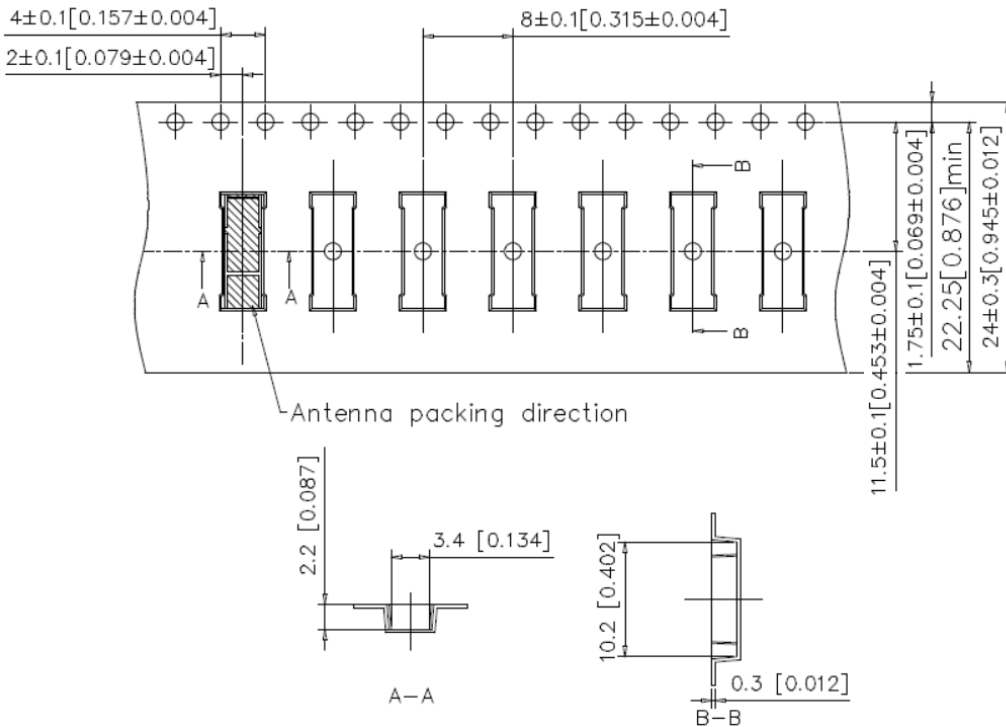
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PACKAGING

Taping package
1000PCS/Reel
3000PCS/Small box
6000PCS/Cartron box



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