

**Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm**

**Series: Chip Antenna**

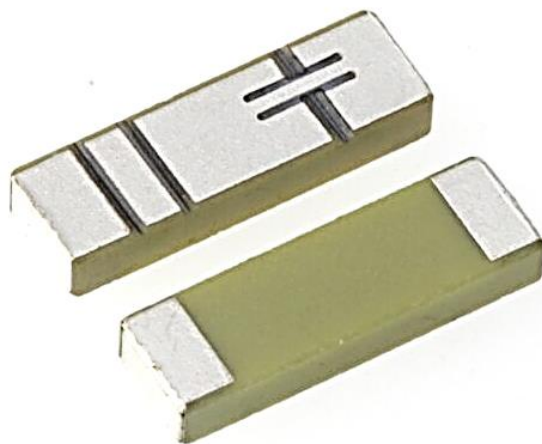
**PART NUMBER: W3006**

### Features:

- 2.4-2.5 / 5.15-7.125GHz WiFi-6E
- Peak gain 2.2 / 5.2 dBi
- Efficiency 60 / 70 %
- Compact size W x L x H (10 x 3.2 x 1.5 mm)
- Low weight: 240 mg
- Fully SMD compatible
- Tape and reel packing
- RoHS Compliant Product
- Moisture Sensitivity Level: MSL1

### Applications:

- Layout 1 for 2.4-2.5 / 5.15-5.85GHz
- Layout 2 for 2.4-2.5 / 5.15-7.125GHz
- IEEE 802.11a/b/g/n/x
- WiFi-6E
- 5 GHz WLAN
- 2.4 GHz WLAN
- 2.4 GHz ISM Band Systems
- 5GHz ISM Band Systems
- ZigBee IEEE 802.15.4



All dimensions are in inches/mm

#### Issue: 2108

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

#### PROPRIETARY INFORMATION

This document contains proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

For more information:

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

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

Europe Headquarters  
Pulse GmbH & Co, KG  
Zeppelinstrasse 15  
Herrenberg, Germany  
Tel: 49 7032 7806 0

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



Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm

Series: Chip Antenna

**PART NUMBER: W3006**

## ELECTRICAL SPECIFICATIONS

### *Layout and Matching for 2.4-2.5/5.15-5.85GHz*

|                      |                         |
|----------------------|-------------------------|
| Frequency            | 2.4-2.5 / 5.15-5.85 GHz |
| Return Loss          | -8 /-9 dB max           |
| Efficiency (typical) | 60 / 80 %               |
| Peak Gain (typical)  | 1.8 / 4.5dBi            |

### *Layout and Matching for 2.4-2.5/5.15-7.125GHz WiFi-6E*

|                      |                           |
|----------------------|---------------------------|
| Frequency            | 2.4-2.5 / 5.15-7.125 GHz  |
| Return Loss          | -5 /-5 dB max             |
| Efficiency (typical) | 65 / 75 %                 |
| Peak Gain (typical)  | 1.6 / 4.2dBi              |
| Nominal Impedance    | 50Ω                       |
| Polarization         | Linear                    |
| Interface            | SMD mount ceramic antenna |

**Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm**

**Series: Chip Antenna**

**PART NUMBER: W3006**

### MECHANICAL SPECIFICATIONS

|        |                   |
|--------|-------------------|
| Weight | 0.24g             |
| Size   | 10 x 3.2 x 1.5 mm |

### ENVIRONMENTAL SPECIFICATIONS

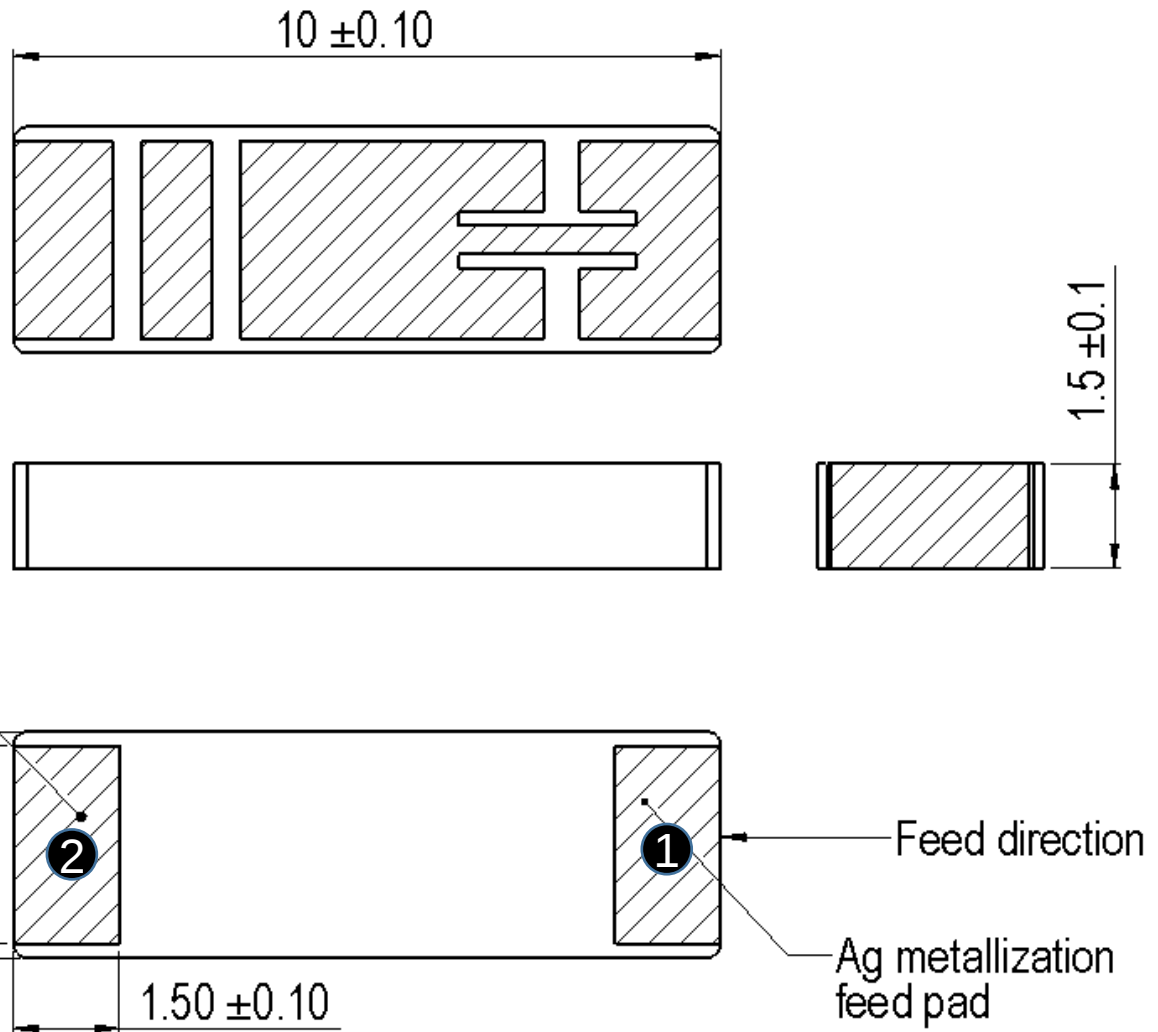
|                       |                            |
|-----------------------|----------------------------|
| Operating temperature | -40~+85° C                 |
| Temperature           | -40~+85° C                 |
| Humidity              | Cyclic 6 +25° C/+55° C 95% |
| Vibration             |                            |
| Sinusoidal 2-8Hz      | 7.5 mm                     |
| Sinusoidal 8-200Hz    | 20 m/s <sup>2</sup>        |
| Shocks                | 0.5 m/s                    |
| Salt mist             | 96 hours                   |

Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm

Series: Chip Antenna

**PART NUMBER: W3006**

## MECHANICAL DRAWING AND TERMINAL CONFIGURATION



| No.                                                                             | Terminal Name | Terminal Dimensions |
|---------------------------------------------------------------------------------|---------------|---------------------|
| 1                                                                               | Feed          | 1.5 x 2.75 mm       |
| 2                                                                               | Support pad   | 1.5 x 2.75 mm       |
| Antenna feed pad can be identified by looking top surface metallization pattern |               |                     |

Issue: 2108

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

PROPRIETARY INFORMATION

This document contains proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

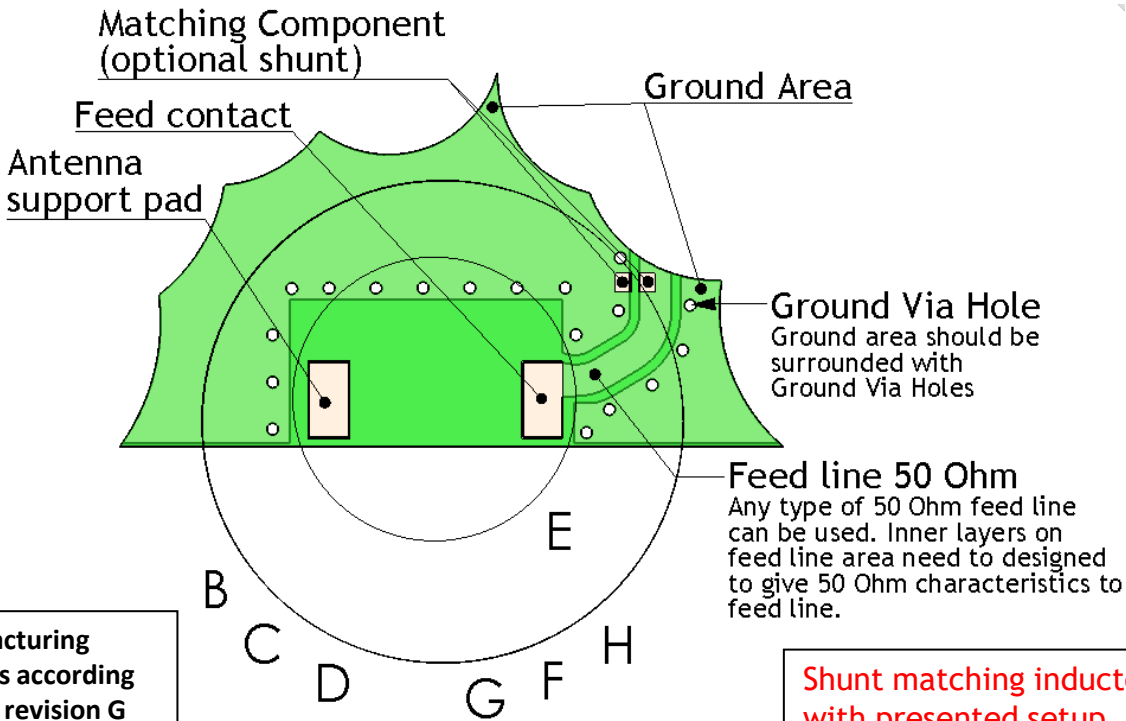
Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm

Series: Chip Antenna

PART NUMBER: W3006

## MECHANICAL DRAWING AND TERMINAL CONFIGURATION

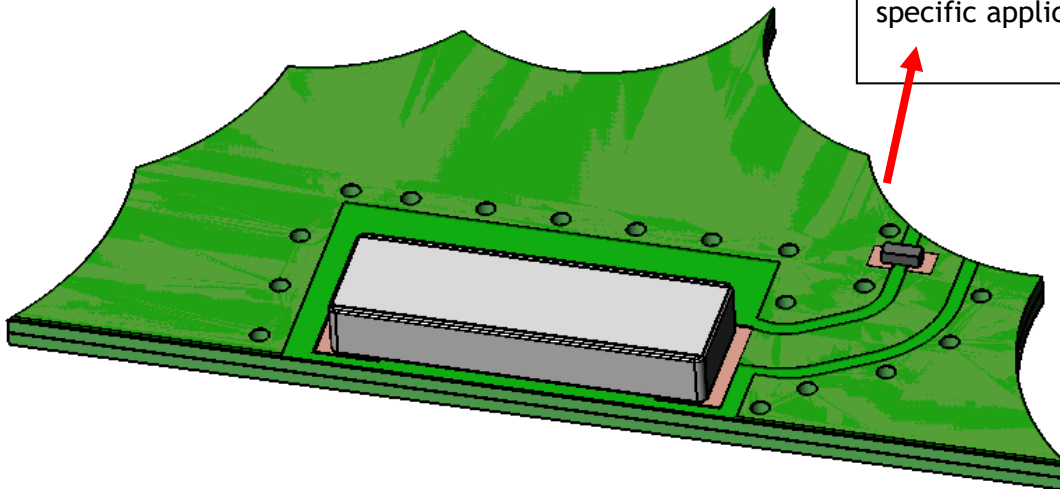
### Ground cleared under antenna



PWB manufacturing requirements according to IPC-A-600 revision G or similar

Shunt matching inductor, 1.5nH with presented setup. Same value for layout 1 and 2 reference boards.

Exact inductor value depends on specific application.



Issue: 2108

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

PROPRIETARY INFORMATION

This document contains proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm

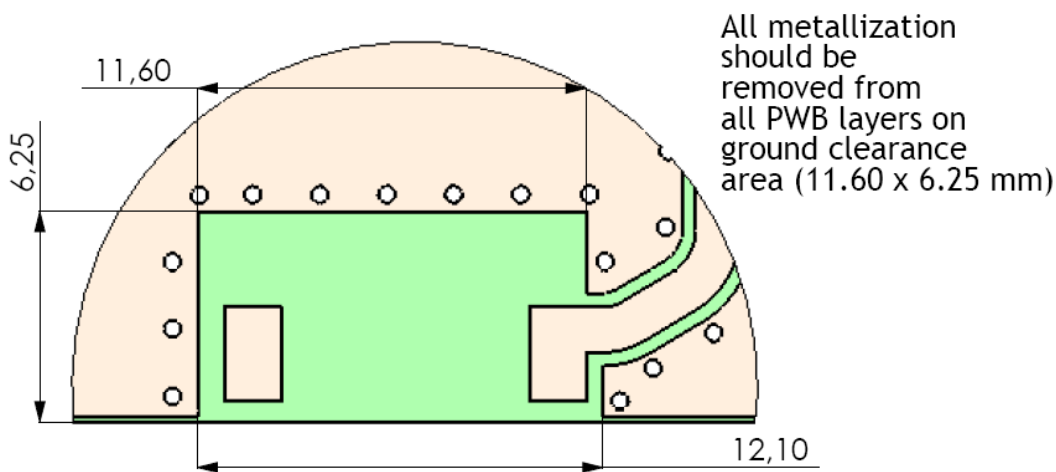
Series: Chip Antenna

**PART NUMBER: W3006**

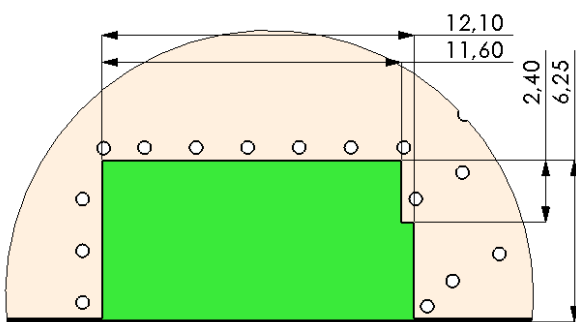
## MECHANICAL DRAWING AND TERMINAL CONFIGURATION

### 1. Layout and Matching for 2.4-2.5/5.15-5.85GHz

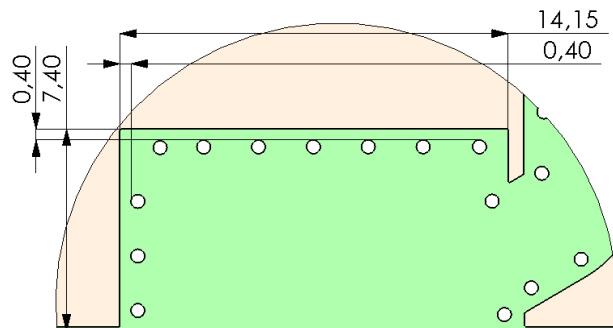
Ground clearance area (11.60 x 6.25 mm)



Opening in bottom/inner ground layers



Opening in other layers (no ground/ RF)



Issue: 2108

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

PROPRIETARY INFORMATION

This document contains proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm

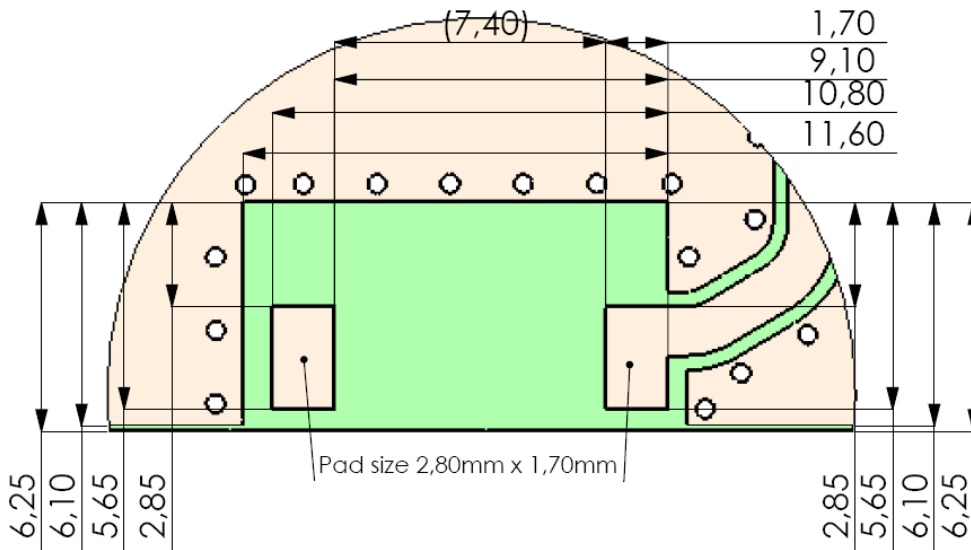
Series: Chip Antenna

**PART NUMBER: W3006**

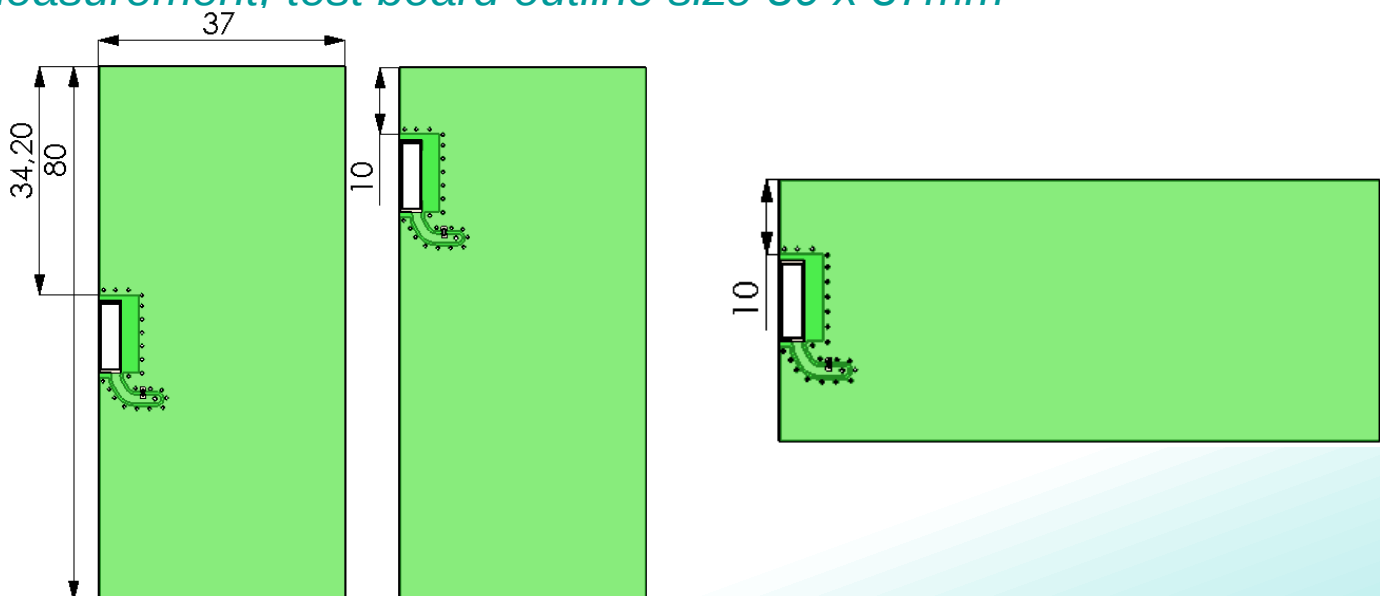
## MECHANICAL DRAWING AND TERMINAL CONFIGURATION

### *Recommended Antenna Pad Dimensions on PWB Layout (top surface)*

Pad dimensions in top copper



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



Issue: 2108

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

PROPRIETARY INFORMATION

This document contains proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm

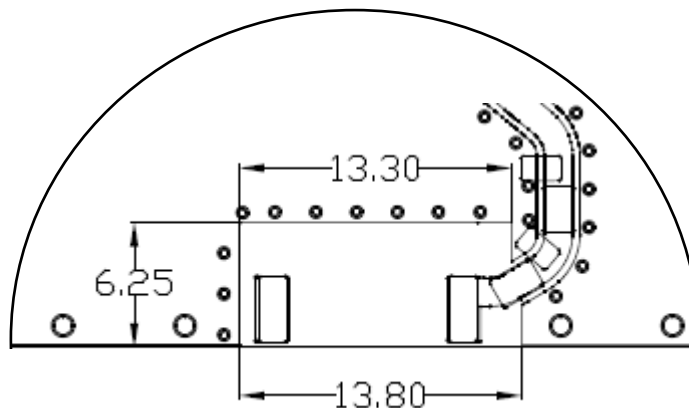
Series: Chip Antenna

**PART NUMBER: W3006**

## MECHANICAL DRAWING AND TERMINAL CONFIGURATION

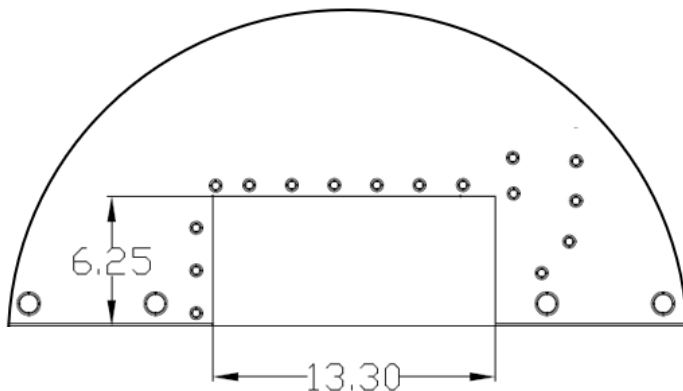
### 2. Layout and Matching for 2.4-2.5/5.15-7.125GHz

Ground clearance area (13.3 x 6.25 mm)

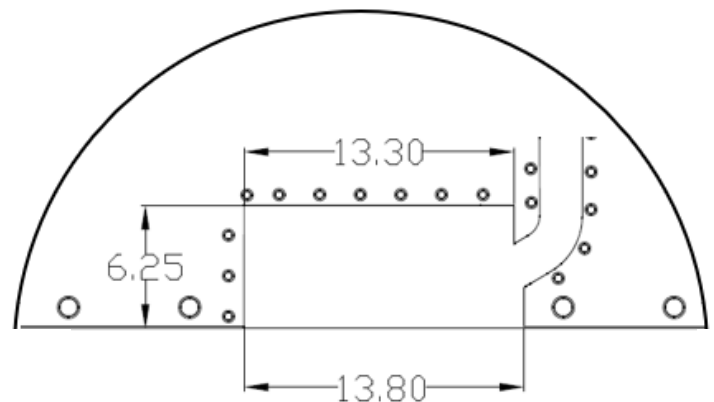


All metallization should be removed from all PWB layers on ground clearance area (13.3 x 6.25mm)

Opening in bottom/inner ground layers



Opening in other layers (no ground/RF)



Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm

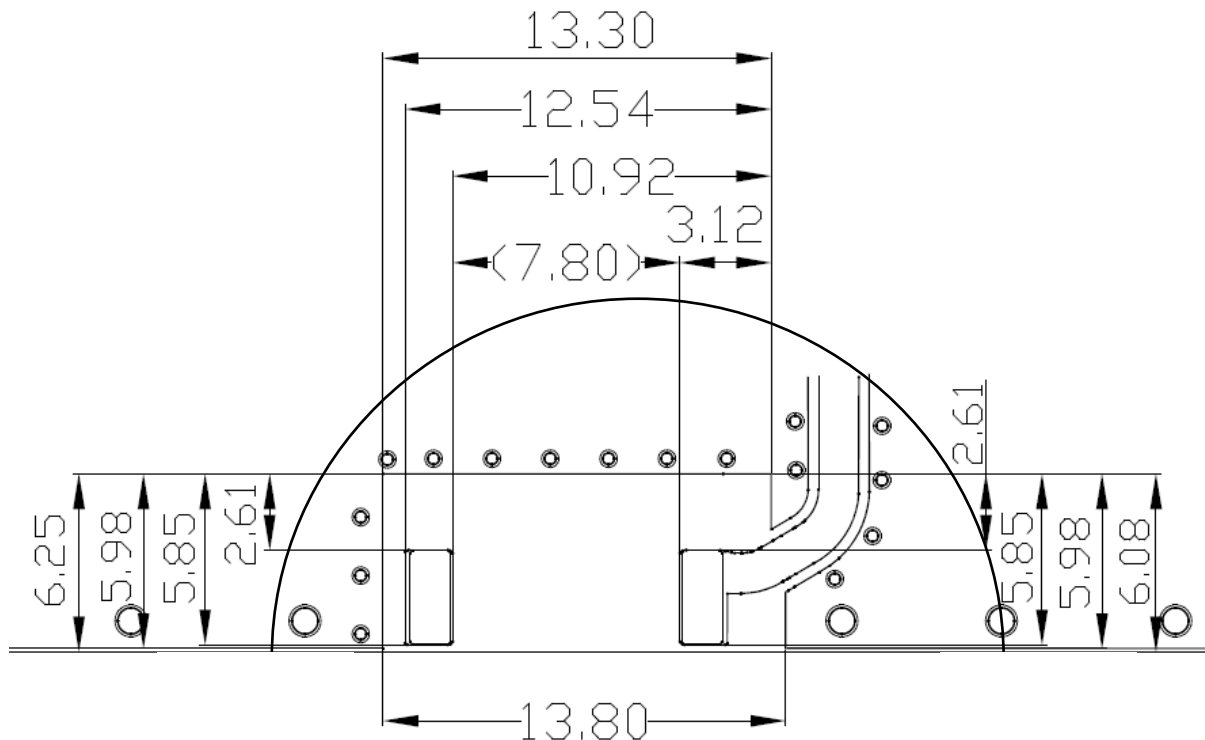
Series: Chip Antenna

**PART NUMBER: W3006**

## MECHANICAL DRAWING AND TERMINAL CONFIGURATION

### *Recommended Antenna Pad Dimensions on PWB Layout (top surface)*

Pad dimensions in top copper



Issue: 2108

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

PROPRIETARY INFORMATION

This document contains proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

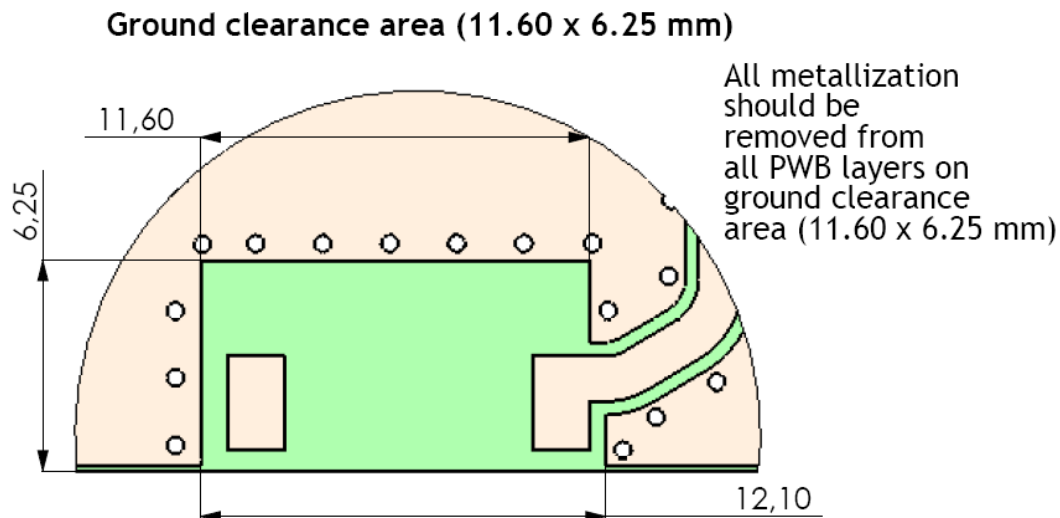
Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm

Series: Chip Antenna

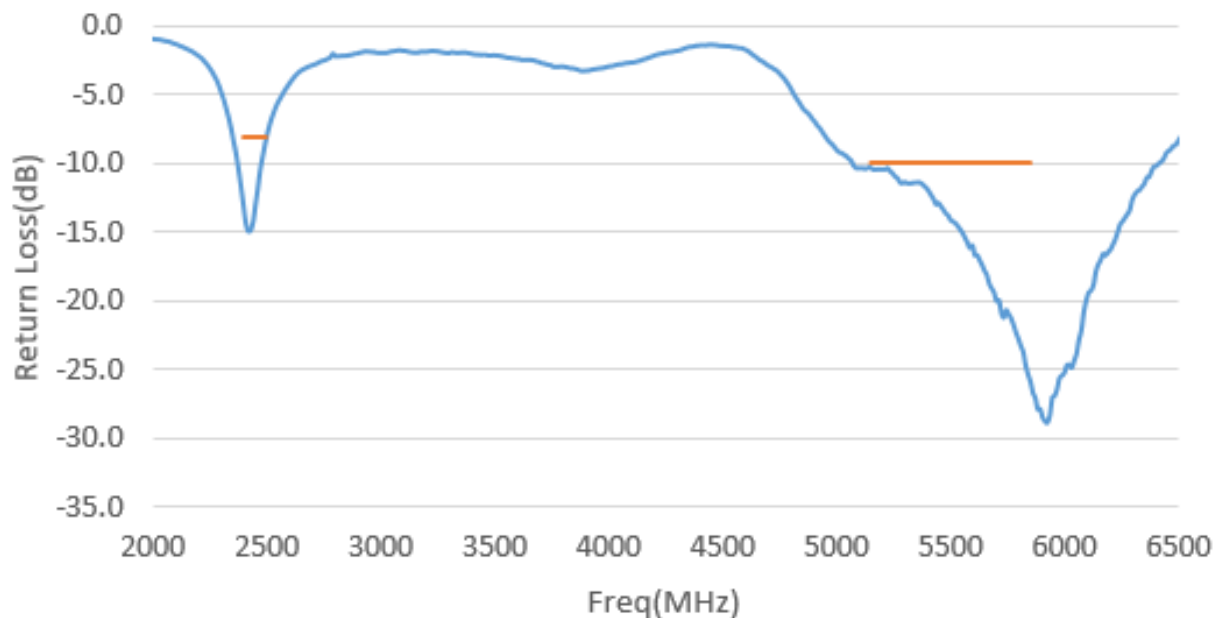
**PART NUMBER: W3006**

## Test setup

### 1. Layout and Matching for 2.4-2.5/5.15-5.85GHz



### Return Loss



Issue: 2108

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

PROPRIETARY INFORMATION

This document contains proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

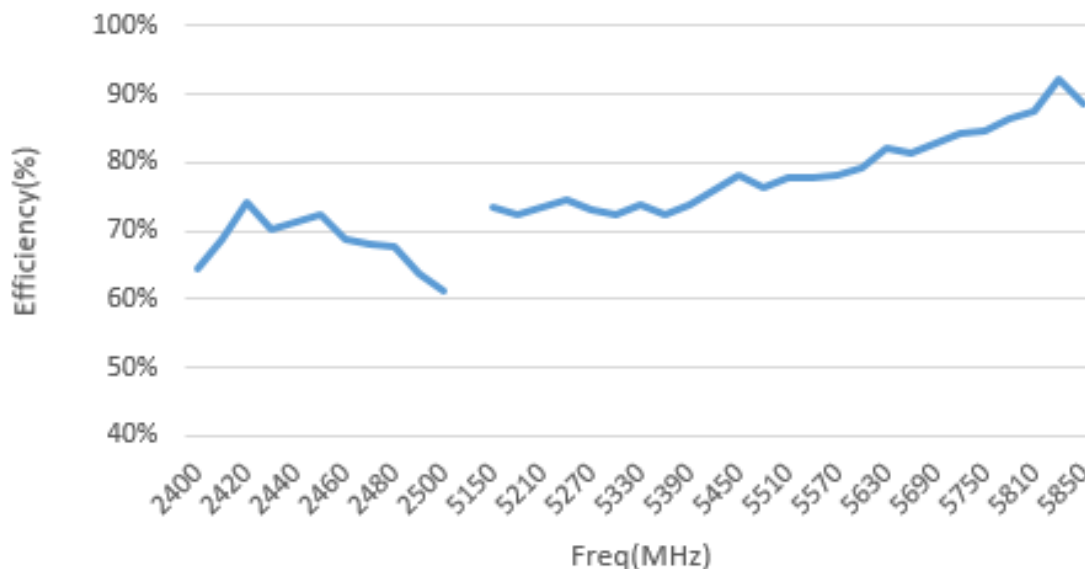
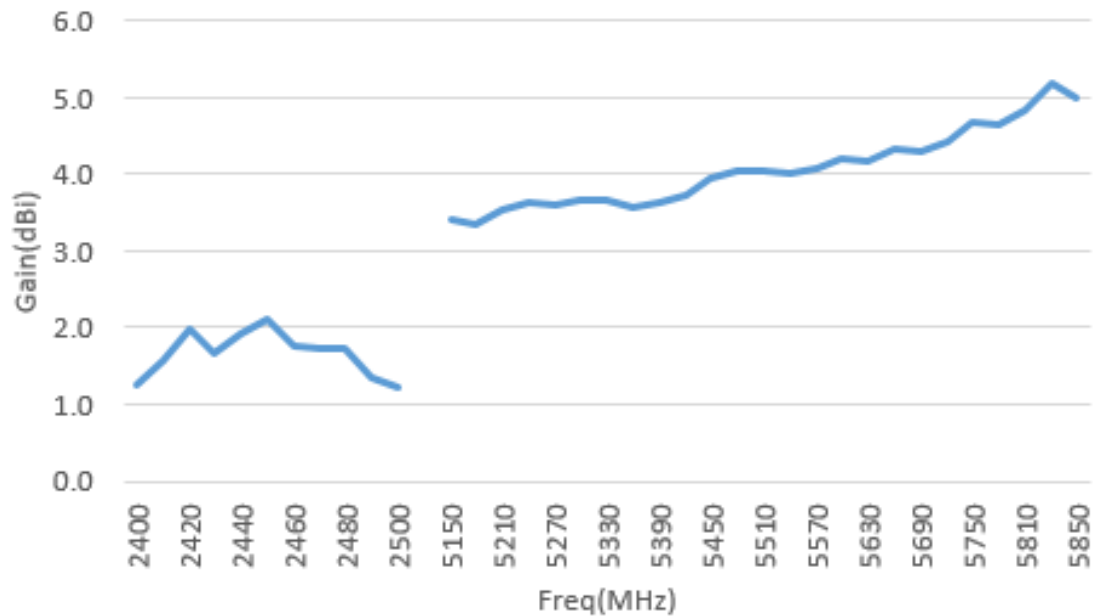
Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm

Series: Chip Antenna

**PART NUMBER: W3006**

## CHARTS

### 1. Layout and Matching for 2.4-2.5/5.15-5.85GHz



Issue: 2108

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

PROPRIETARY INFORMATION

This document contains proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

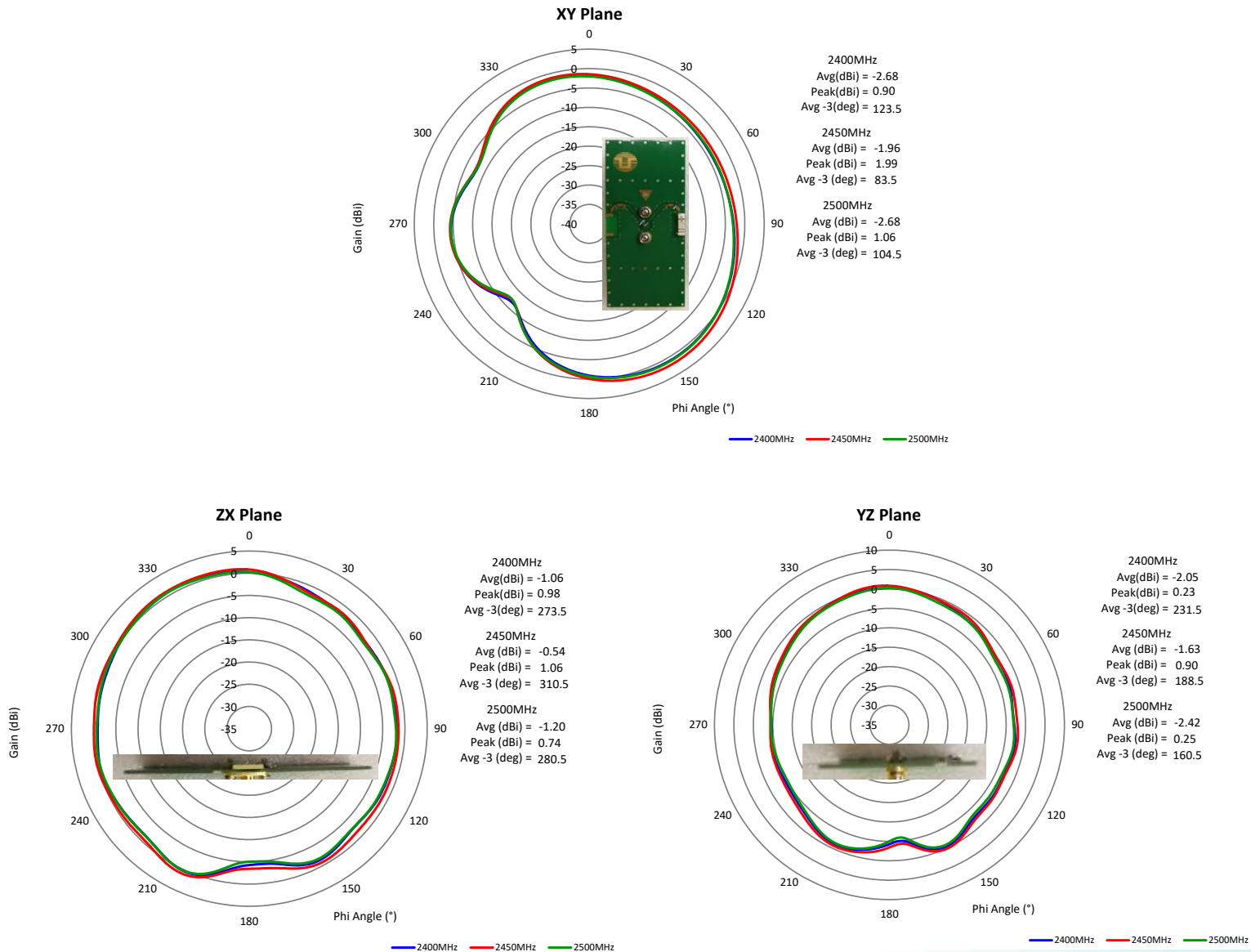
Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm

**PART NUMBER: W3006**

Series: Chip Antenna

## CHARTS

### 1. Layout and Matching for 2.4-2.5/5.15-5.85GHz



Issue: 2108

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

PROPRIETARY INFORMATION

This document contains proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

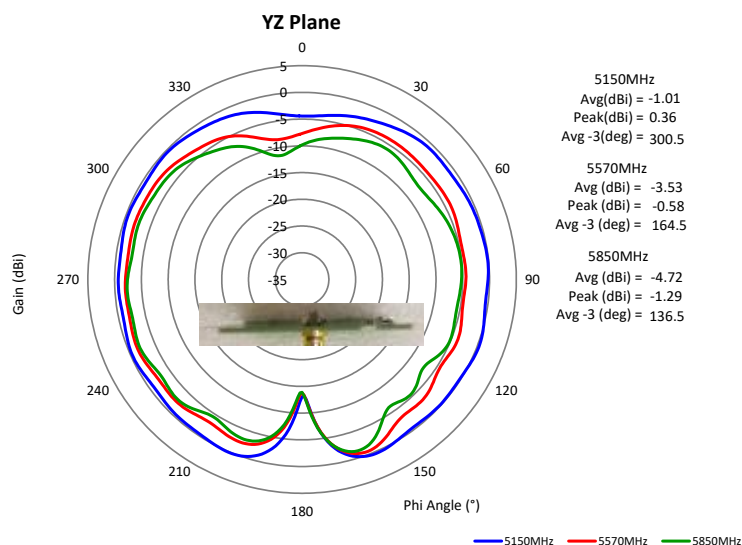
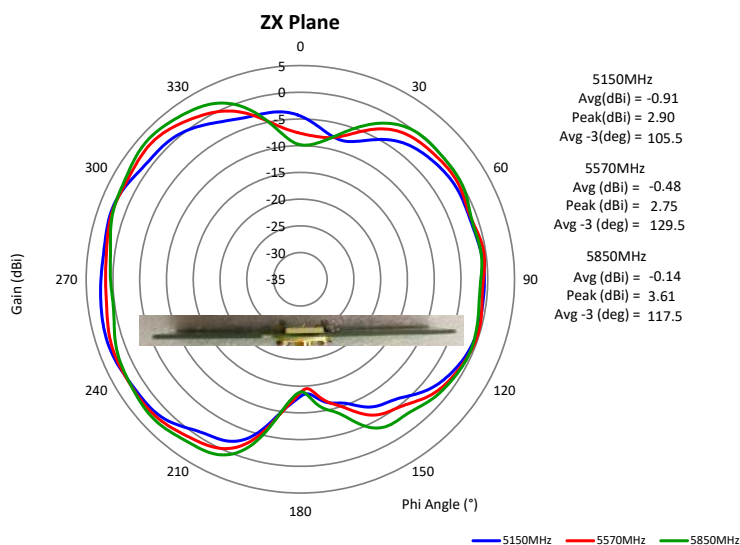
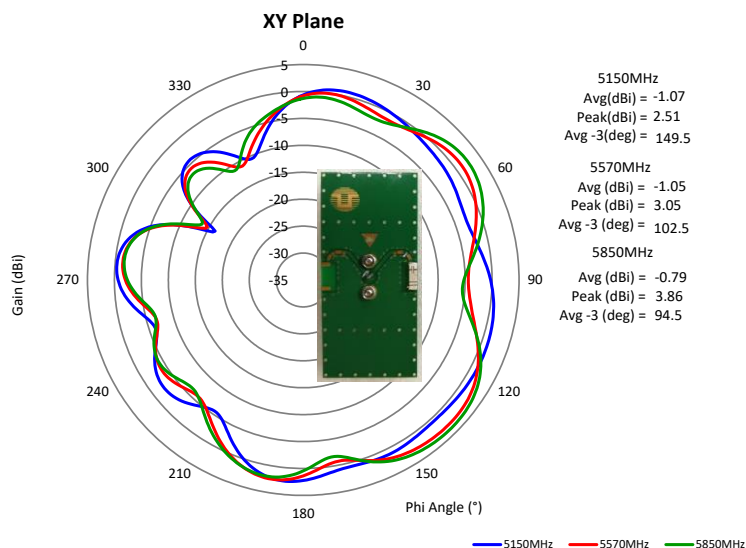
Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm

Series: Chip Antenna

**PART NUMBER: W3006**

### CHARTS

#### 1. Layout and Matching for 2.4-2.5/5.15-5.85GHz



Issue: 2108

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

PROPRIETARY INFORMATION

This document contains proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

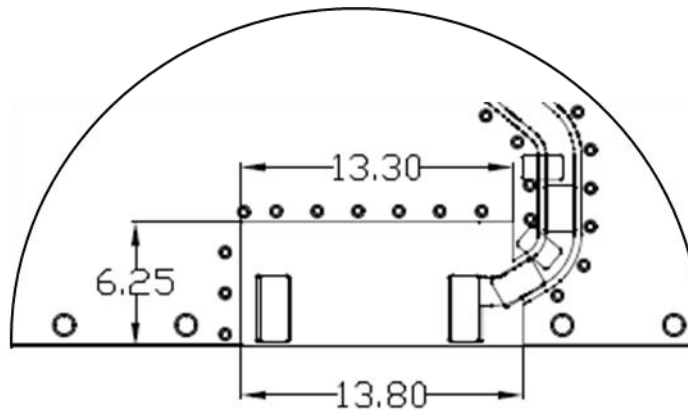
Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm

Series: Chip Antenna

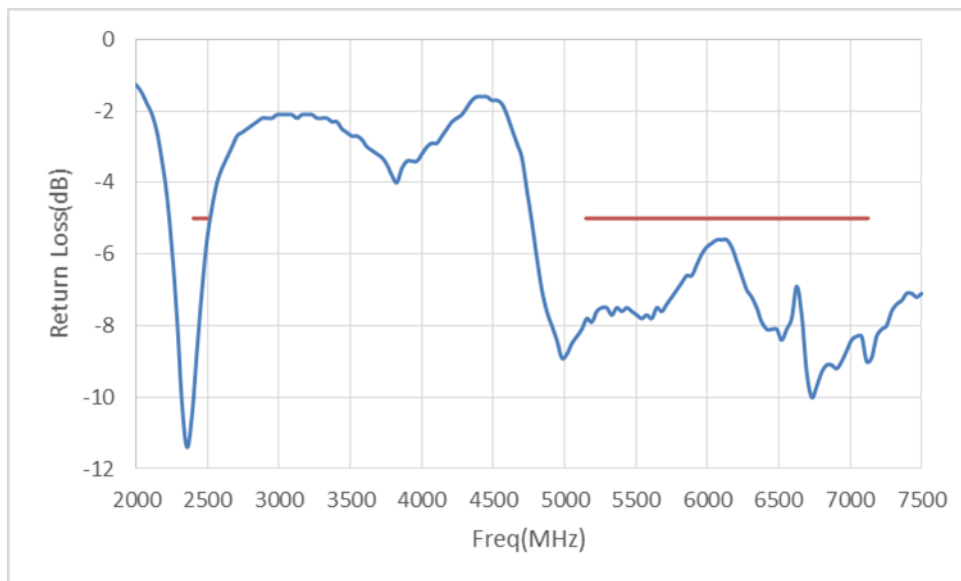
**PART NUMBER: W3006**

## Test setup

### 2. Layout and Matching for 2.4-2.5/5.15-7.125GHz



## Return Loss



Issue: 2108

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

PROPRIETARY INFORMATION

This document contains proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

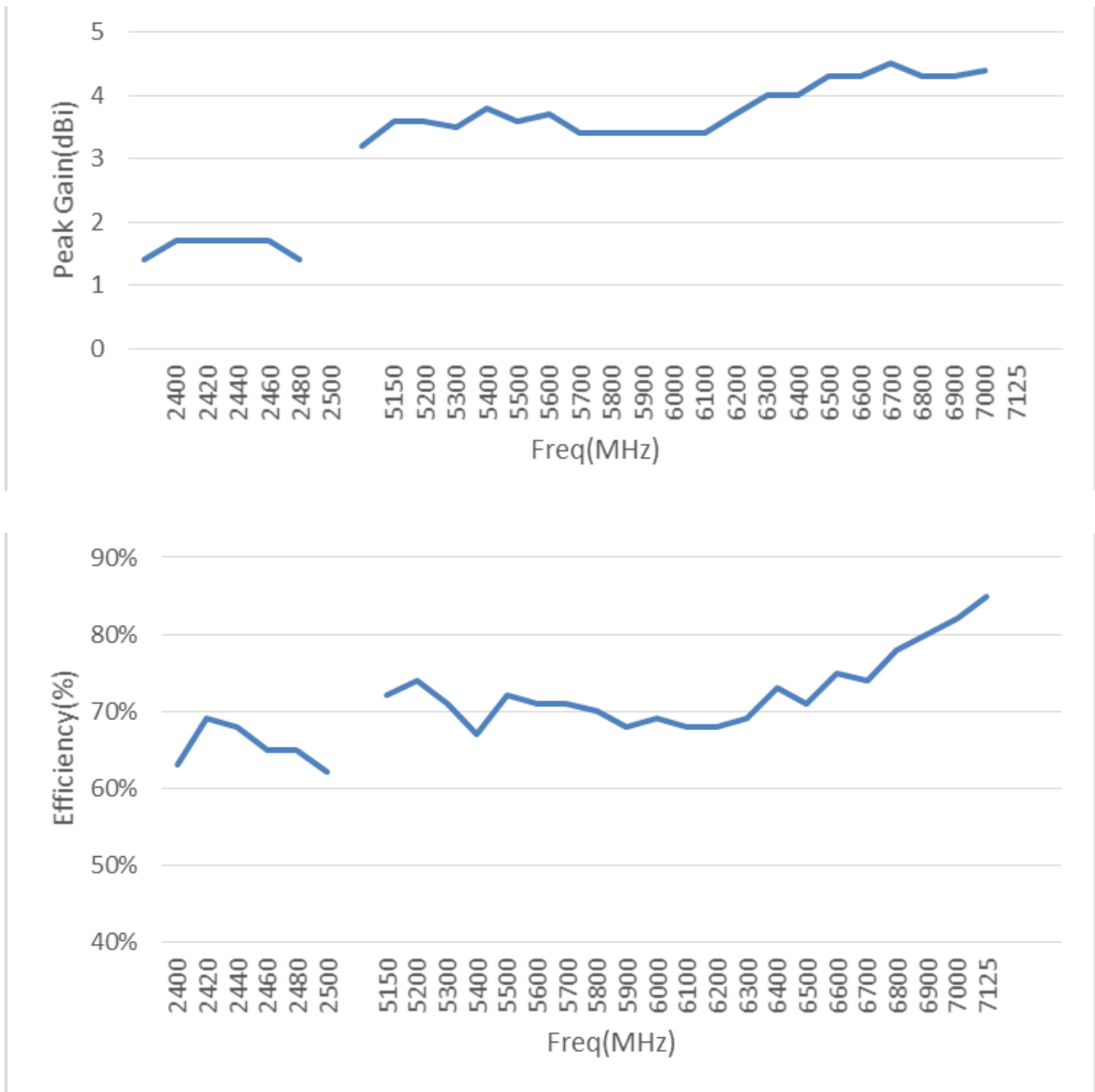
Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm

Series: Chip Antenna

**PART NUMBER: W3006**

## CHARTS

### 2. Layout and Matching for 2.4-2.5/5.15-7.125GHz



Issue: 2108

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

PROPRIETARY INFORMATION

This document contains proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

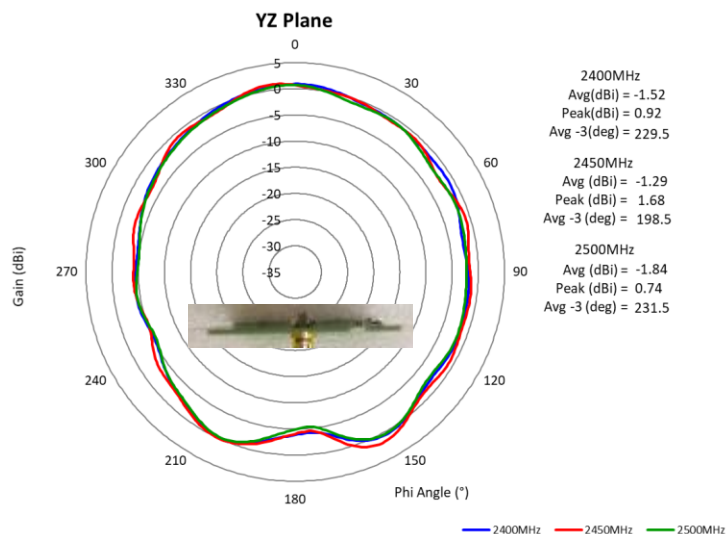
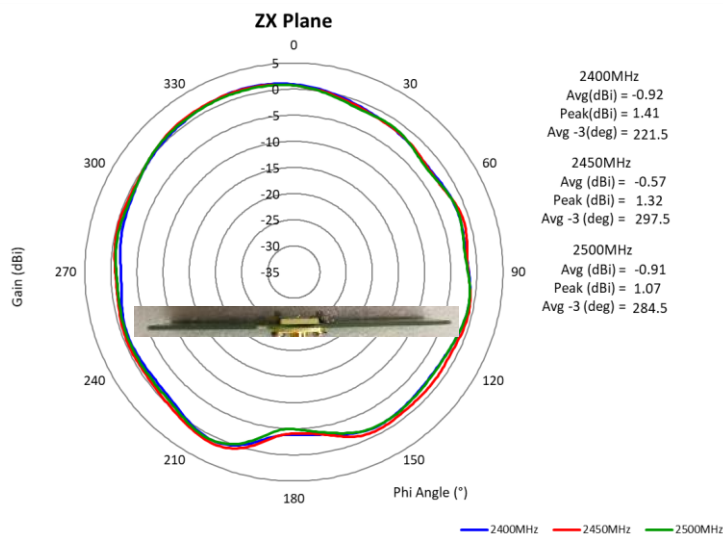
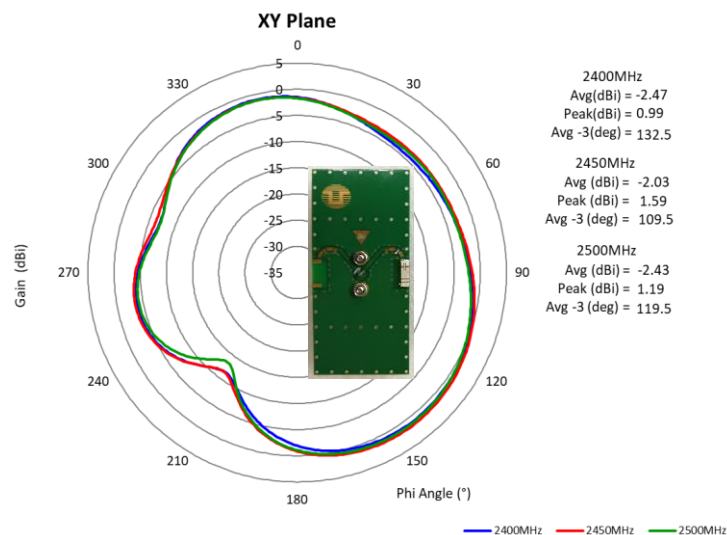
Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm

Series: Chip Antenna

**PART NUMBER: W3006**

## CHARTS

### 2. Layout and Matching for 2.4-2.5/5.15-7.125GHz



Issue: 2108

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

PROPRIETARY INFORMATION

This document contains proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

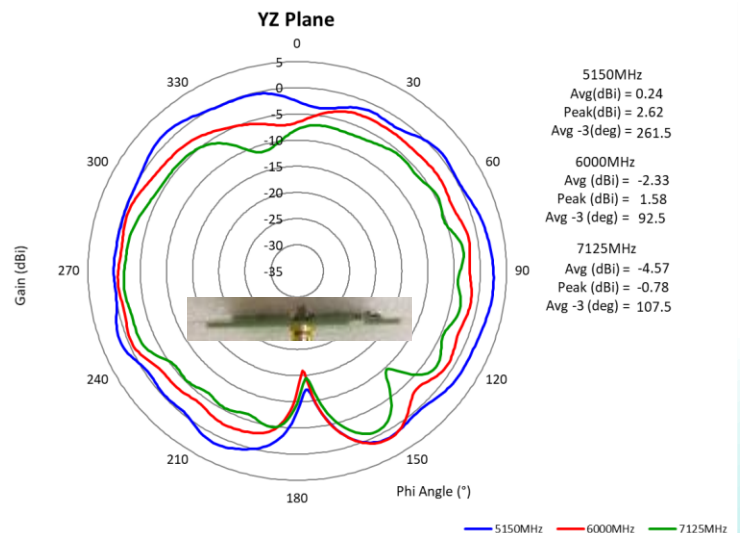
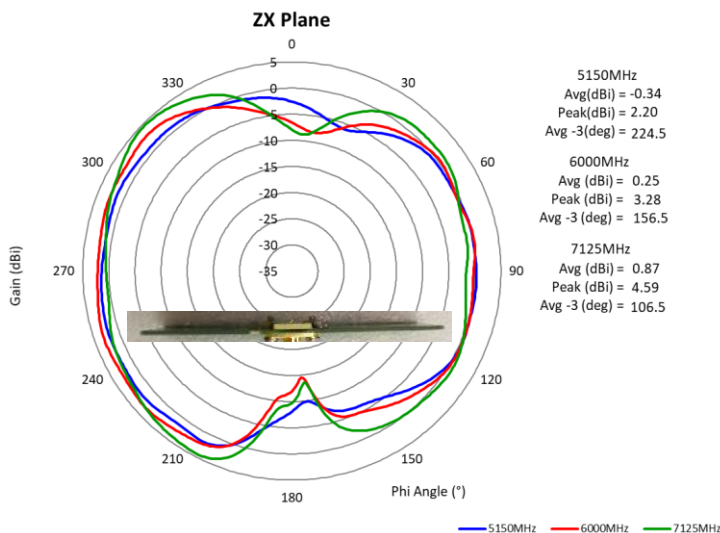
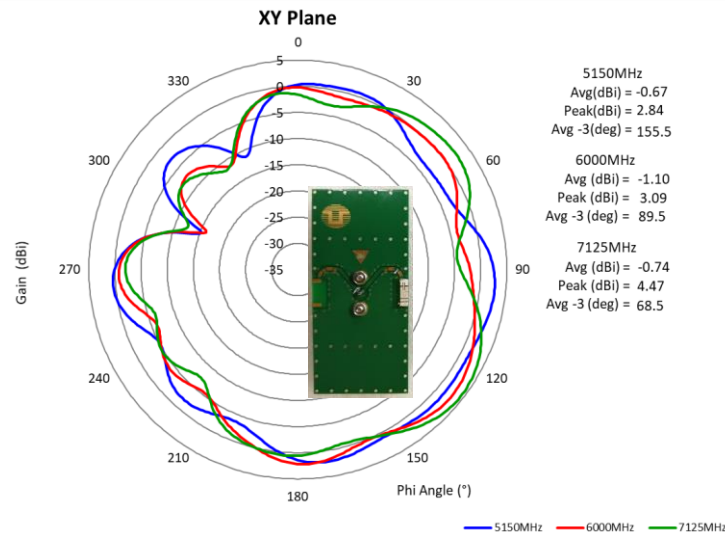
Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm

**PART NUMBER: W3006**

Series: Chip Antenna

## CHARTS

### 2. Layout and Matching for 2.4-2.5/5.15-7.125GHz



Issue: 2108

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

PROPRIETARY INFORMATION

This document contains proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

**Description: 2.4-2.5/5.15-7.125GHz Dual band  
Ceramic 10x3.2x1.5mm**

**Series: Chip Antenna**

**PART NUMBER: W3006**

## PACKAGING

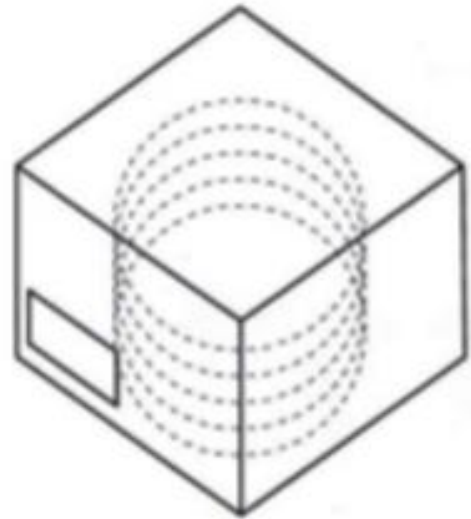
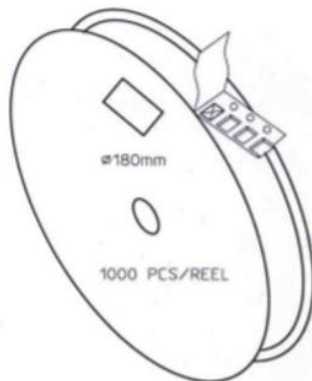
1000pcs antennas per 7" reel

3pcs 7" reel per inner package box

2pcs inner box per out box

Total 6000pcs antenna per out box

Out box size: 390mmx215mmx165mm



LEVEL

NOT MOISTURE SENSITIVE

1

These Devices do not require special storage conditions provided:

1. They are maintained at conditions equal to or less than 30°C and 85% RH.
2. They are solder reflowed at a peak body temperature which does not exceed 260°C.

Note: Level and body temperature defined by IPC/JEDEC J-STD-020