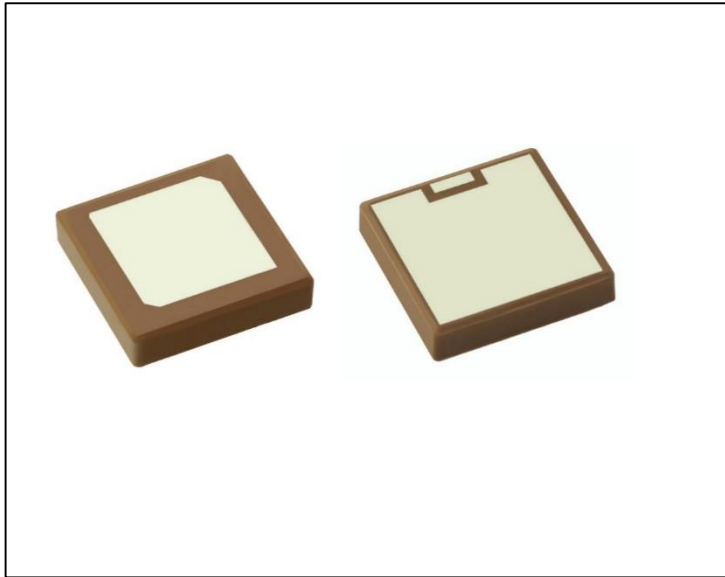


**Description:** 18x18x4mm GPS/Glonass SMD Mount

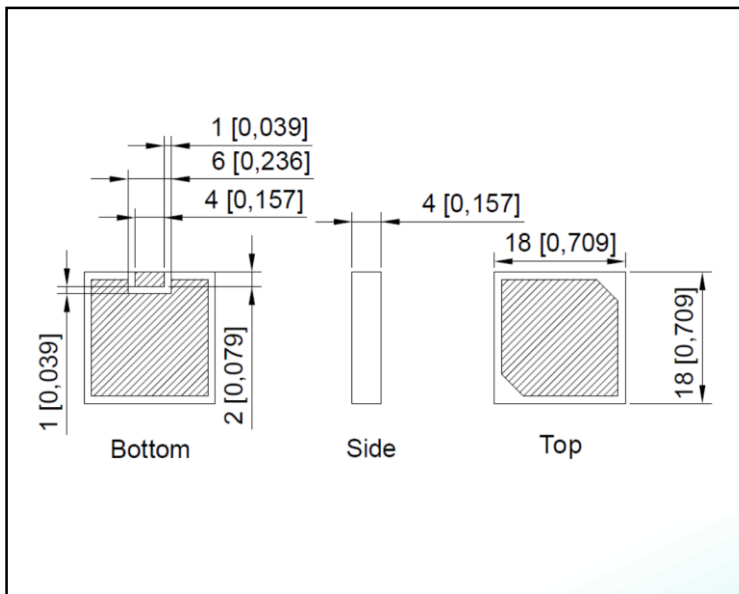
**Series:** Ceramic Patch

**PART NUMBER:** W3224



**Features:**

- 1575/1602MHz Dualband single feed antenna
- RHCP Polarization
- Zenith Gain +3dBiC
- SMD compatible
- Tape & Reel packing



All dimensions are in mm / inches

**Applications:**

- GPS and Glonass satellite receivers
- Tracking, Navigation, Satellite Positioning
- Fleet management
- Asset tracking

Issue: 1652

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

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and 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  
12220 World Trade Drive  
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 & Do, 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:** 18x18x4mm GPS/Glonass SMD  
Mount**Series:** Ceramic Patch**PART NUMBER:** W3224**ELECTRICAL SPECIFICATIONS**

Frequency	1575.42±1.023/1602.5625±4 MHz
Nominal Impedance	50 Ω
Return Loss*	<-10 dB
RHCP Gain (typical)*	2/2.5 dBiC
Zenith Axial Ratio(typical)*	9.5
Polarization:	RHCP

\* Measured on 70 x 70 mm reference board

**Description:** 18x18x4mm GPS/Glonass SMD  
Mount

**Series:** Ceramic Patch

**PART NUMBER:** W3224

### MECHANICAL SPECIFICATIONS

Material	Ceramic
Metallization	Silver
Size	18 x 18 x 4 mm
Weight	6.1 g
Mounting type	SMD

### ENVIRONMENTAL SPECIFICATIONS

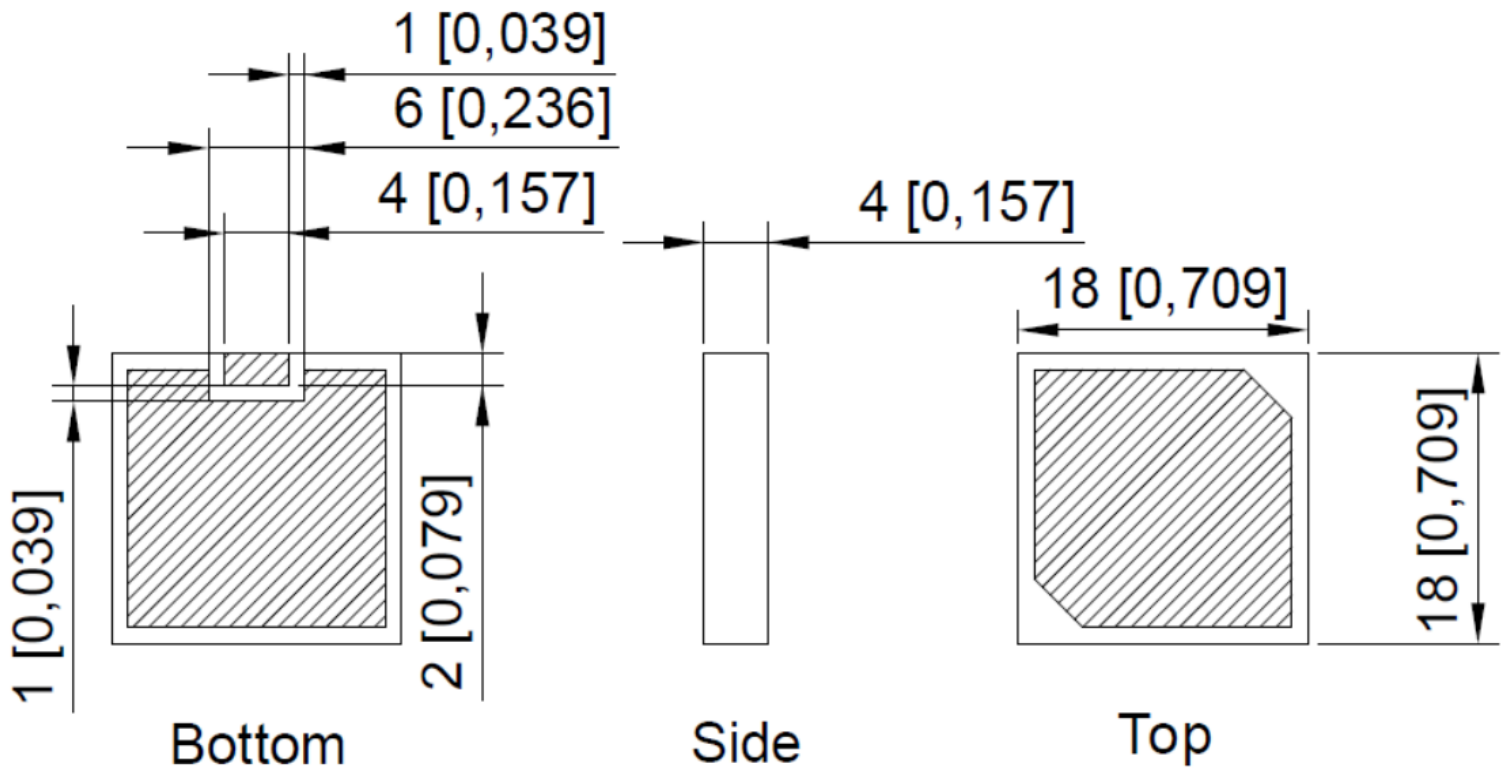
Operating temperature	-40/+85 ° C
-----------------------	-------------

**Description:** 18x18x4mm GPS/Glonass SMD Mount

**Series:** Ceramic Patch

**PART NUMBER:** W3224

**MECHANICAL DRAWING**



Issue: 1652

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

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and 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.

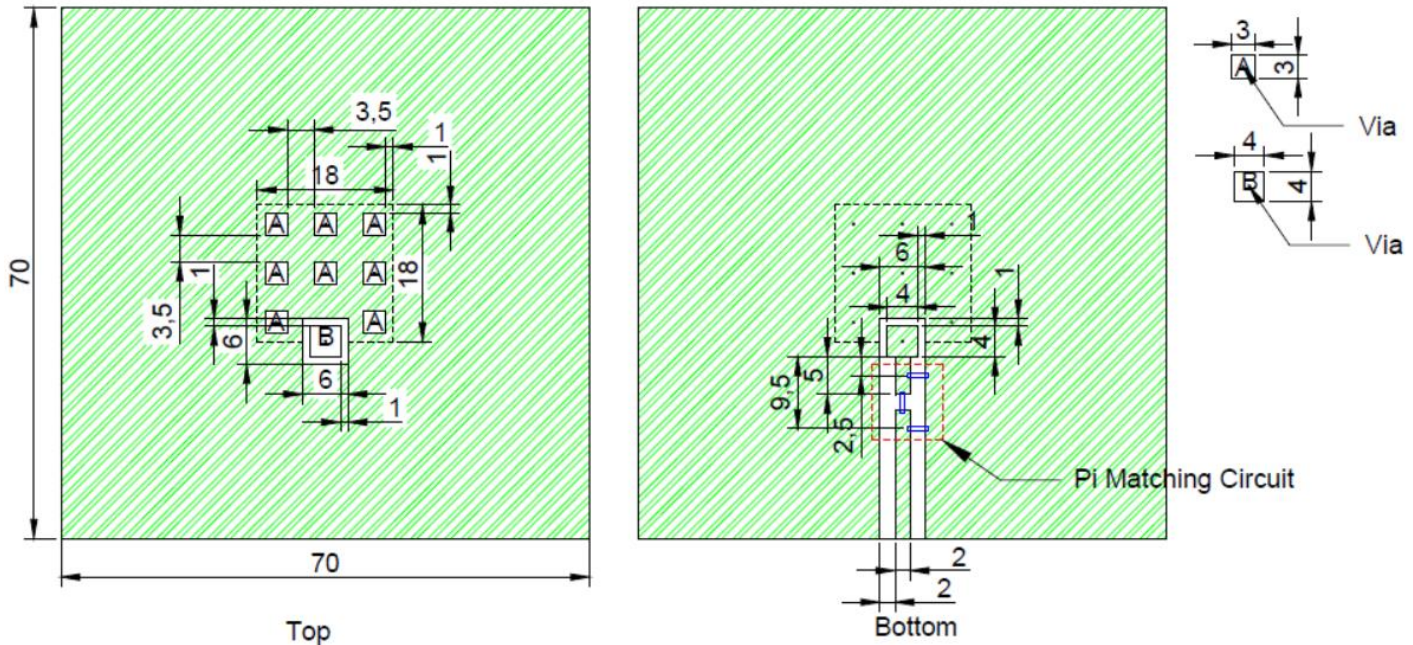
**Description:** 18x18x4mm GPS/Glonass SMD Mount

**Series:** Ceramic Patch

**PART NUMBER:** W3224

**OTHER SPECIFICATIONS**

**Test Condition Ground Plane (Example for PCB 1 mm)**



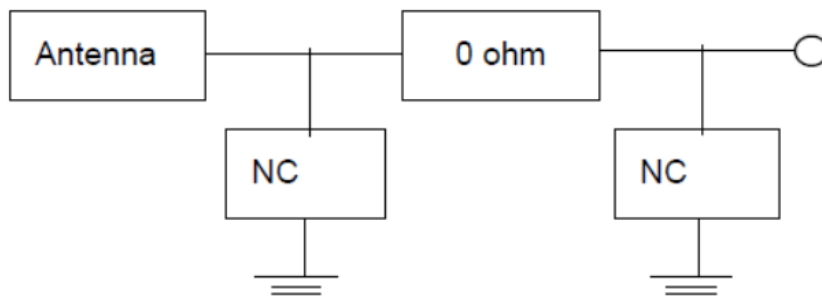
Unit : mm

A, B are Solder Pads

Bottom side needs  $\pi$  matching circuit.

Tolerance :  $\pm 0.2$  mm

$\pi$  matching circuit :



Issue: 1652

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

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and 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.

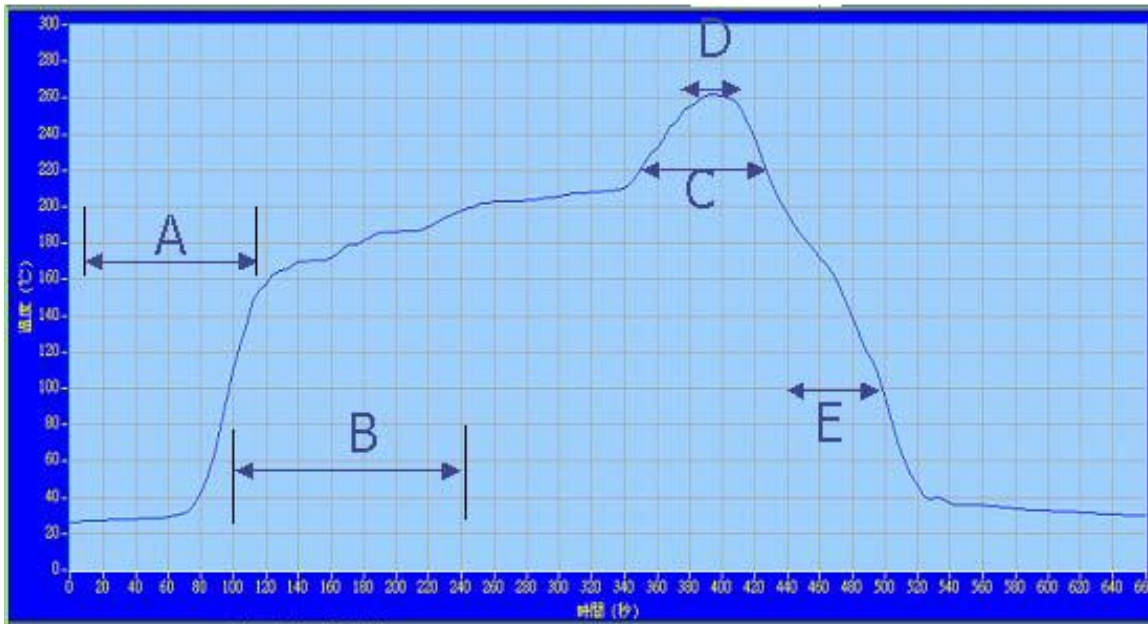
**Description:** 18x18x4mm GPS/Glonass SMD Mount

**Series:** Ceramic Patch

**PART NUMBER:** W3224

**OTHER SPECIFICATIONS**

**Recommendable Reflow Soldering**



A	Rising temperature	The normal to Preheating	60s to 120s
B	Preheating	80°C to 200°C	140s to 150
C	Temperature	220°C to 260°C to 220°C	80 to 90s
D	Main heating	if 260°C	20s~30s
E	Regular cooling	200°C to 100°C	1°C/s ~ 4°C/s

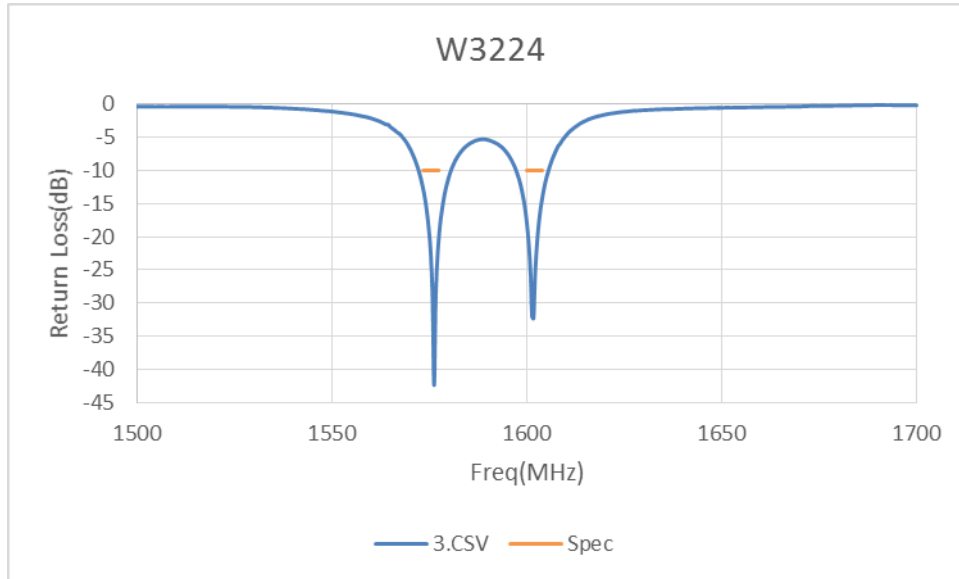
\* The thickness of Solder should be controlled to be higher than 0.1 mm.

**Description:** 18x18x4mm GPS/Glonass SMD Mount

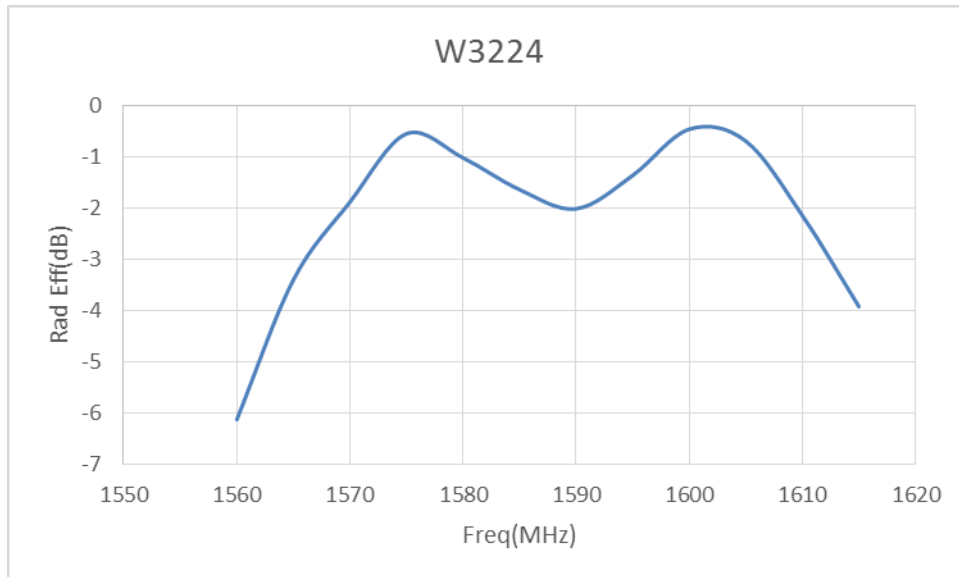
**Series:** Ceramic Patch

**PART NUMBER:** W3224

**CHARTS**



**Return Loss**



**Total Radiation Efficiency**

Issue: 1652

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

CONFIDENTIAL AND PROPRIETARY INFORMATION

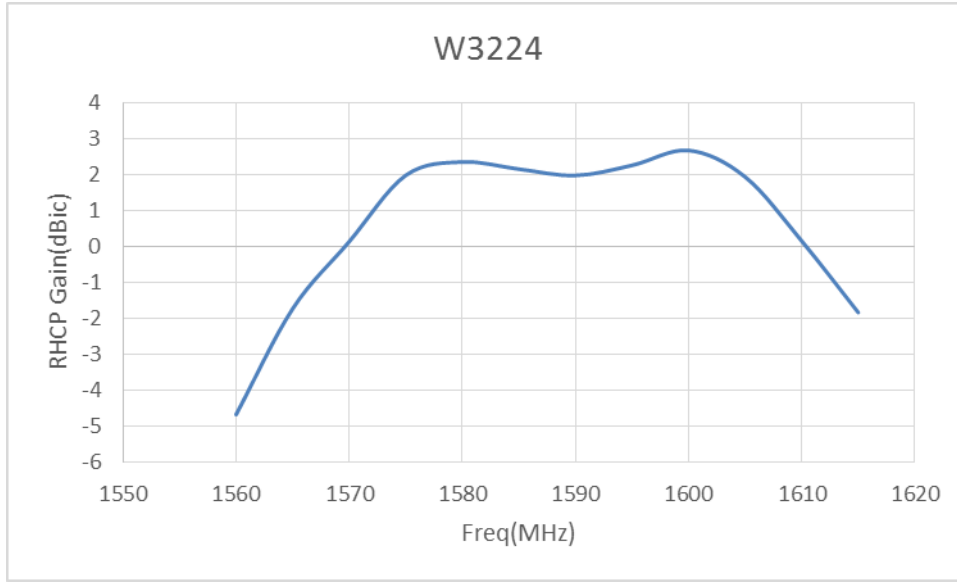
This document contains confidential and proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything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

**Description:** 18x18x4mm GPS/Glonass SMD Mount

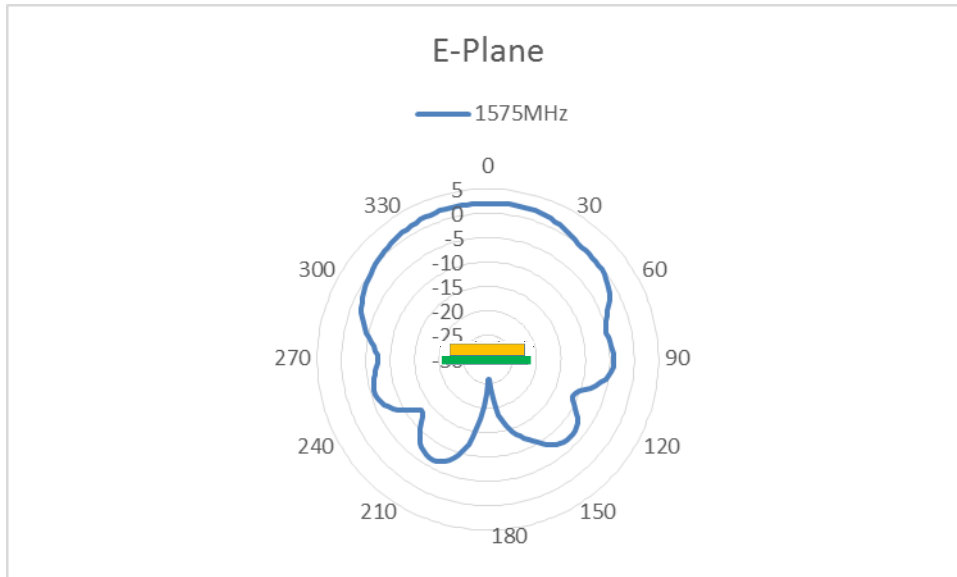
**Series:** Ceramic Patch

**PART NUMBER:** W3224

**CHARTS**



**Zenith RHCP Gain**



**GPS Radiation pattern on 70mmX70mm metal plane**

Issue: 1652

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

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and 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.

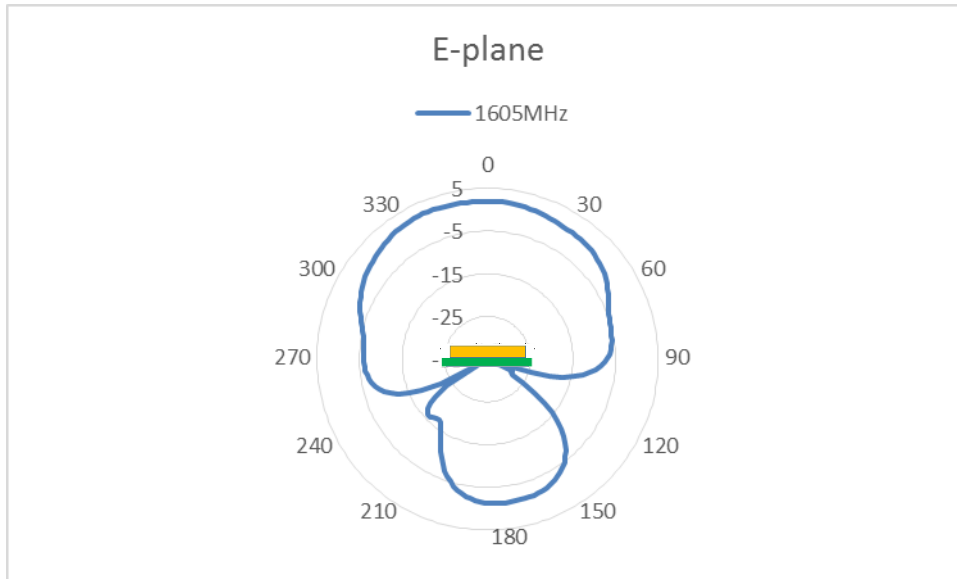


**Description:** 18x18x4mm GPS/Glonass SMD Mount

**Series:** Ceramic Patch

**PART NUMBER:** W3224

**CHARTS**



Glonass Radiation pattern on 70mmX70mm metal plane

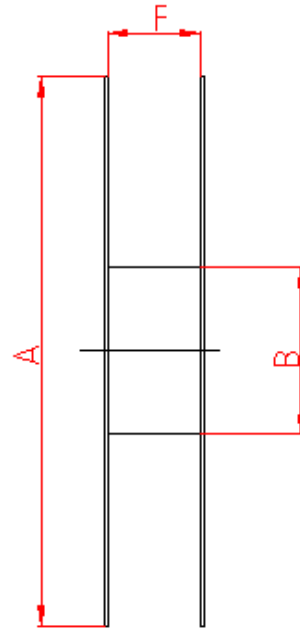
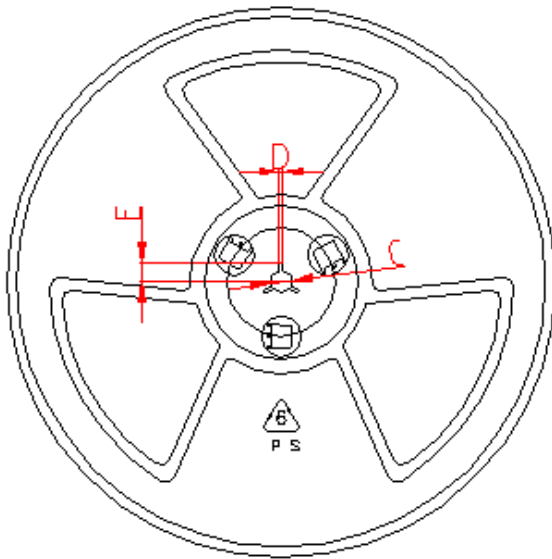
**Description:** 18x18x4mm GPS/Glonass SMD Mount

**Series:** Ceramic Patch

**PART NUMBER:** W3224

**PACKAGING**

Tape packing  
300PCS/reel



A	B	C	D	E	F
±2.0	±4.0	±0.2	±0.2	±2.0	±2.0
330	100	13.2	2	10.75	32.4

Issue: 1652

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

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and 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.