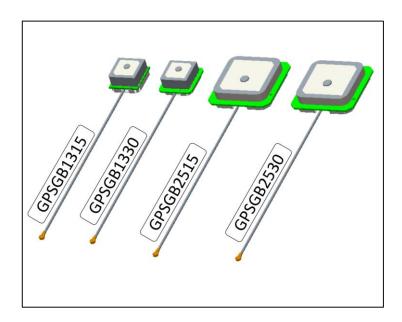




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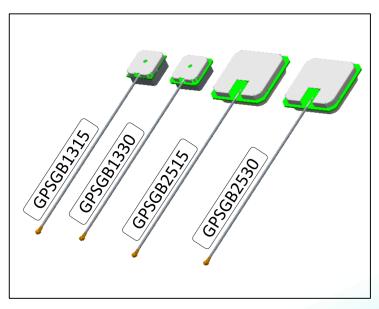
GPS/GLONASS/BEIDOU/COMPASS/Galileo

PART NUMBER: GPSGBXXXX



### Features:

- Satellite navigation active antenna
- Ultra low noise amplifiers
- High Gain (30dB) and Low Gain (15dB) LNA variants available
- High rejection filters to suppress out of band interference



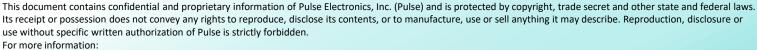
### **Applications:**

- GPS, GLONASS, BeiDou, Compass, Galileo satellite navigation system
- Asset tracking, Fleet management, IoT, M2M

All dimensions are in mm / inches

Issue: 1945

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



Pulse Worldwide Headquarters 12220 World Trade Drive San Diego, CA 92128 USA Tel:1-858-674-8100 Pulse/Larsen Antennas 3611 NE 112<sup>th</sup> Ave Vancouver, WA 98682 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



#### **TECHNICAL DATA SHEET**

**Description**:

GPS/GLONASS/BEIDOU/COMPASS/Galileo

PART NUMBER: GPSGBXXXX

## **Series: Internal Active GPS**

## This document covers all product variants of the following product family:

| Projects  | Ceramic Size(mm)           | PCB Size (mm) | Thickness (mm) | Cable                  | Connector   |
|-----------|----------------------------|---------------|----------------|------------------------|---|
| GPSGB1315 | 13 X 13 X 5<br>25 X 25 X 4 | 14 X 15 X 0.8 | 8.15           | Ф: 1.13mm<br>L : 100mm | I-PEX MHF 20278-112R-13<br>compatible with U.FL connector |
| GPSGB1330 |                            | 16 X 17 X 0.8 | 8.15           |                        |   |
| GPSGB2515 |                            | 30 X 30 X 0.8 | 8              |                        |   |
| GPSGB2530 |                            |               |                |                        |   |





## **Description**:

GPS/GLONASS/BEIDOU/COMPASS/Galileo

**PART NUMBER: GPSGBXXXX** 

#### **ELECTRICAL SPECIFICATIONS**

| Frequency                | $1561.098 \pm 2.046$ / $1575.42 \pm 1.023$ / | MHz                |
|--------------------------|--|--------------------|
| No of all local form     | $1602.5625 \pm 4$                            |                    |
| Nominal Impedance        | 50   | Ω                  |
| VSWR                     | 2:1  |                    |
| Gain (Radiating element) | -1   | $dBic \pm 1 \; dB$ |
| Gain (LNA gain)          | 15   | $dB\pm 2\;dB$      |
| Polarization             | RHCP   |                    |
| Out of Band Rejection    |  |                    |
| 698 MHz                  | >60  | dB                 |
| 960MHz                   | >50  | dB                 |
| 1710MHz                  | >55  | dB                 |
| 2170MHz                  | >55  | dB                 |
| 2400MHz                  | >55  | dB                 |
| 2700MHz                  | >55  | dB                 |







## **Description**:

GPS/GLONASS/BEIDOU/COMPASS/Galileo

**PART NUMBER: GPSGBXXXX** 

### **ELECTRICAL SPECIFICATIONS**

| Frequency                | $1561.098 \pm 2.046$ / $1575.42 \pm 1.023$ / | MHz               |
|--------------------------|--|-------------------|
| No of allowed by a       | $1602.5625 \pm 4$                            |                   |
| Nominal Impedance        | 50   | Ω                 |
| VSWR                     | 2:1  |                   |
| Gain (Radiating element) | -1   | $dBic \pm 1 \ dB$ |
| Gain (LNA gain)          | 30   | $dB\pm 2\;dB$     |
| Polarization             | RHCP   |                   |
| Out of Band Rejection    |  |                   |
| 698 MHz                  | >70  | dB                |
| 960MHz                   | >65  | dB                |
| 1710MHz                  | >60  | dB                |
| 2170MHz                  | >65  | dB                |
| 2400MHz                  | >65  | dB                |
| 2700MHz                  | >65  | dB                |





## **Description:**

GPS/GLONASS/BEIDOU/COMPASS/Galileo

**PART NUMBER: GPSGBXXXX** 

#### **ELECTRICAL SPECIFICATIONS**

| Frequency                | $1561.098 \pm 2.046$ / $1575.42 \pm 1.023$ / $1602.5625 \pm 4$ | MHz           |
|--------------------------|--|---------------|
| Nominal Impedance        | 50   | O             |
| VSWR                     | 2:1  | 42            |
| Gain (Radiating element) | 1  | dBic ± 1 dB   |
| Gain (LNA gain)          | •  | $dB \pm 2 dB$ |
| Polarization             | RHCP   | <u> </u>      |
| Out of Band Rejection    |  |               |
| 698 MHz                  | >60  | dB            |
| 960MHz                   | >50  |               |
| 1710MHz                  | >55  | dB            |
| 2170MHz                  | >55  | dB            |
| 2400MHz                  | >55  | dB            |
| 2700MHz                  | >55  | dB            |





## **Description**:

GPS/GLONASS/BEIDOU/COMPASS/Galileo

**PART NUMBER: GPSGBXXXX** 

#### **ELECTRICAL SPECIFICATIONS**

| Frequency                | $1561.098 \pm 2.046$ / $1575.42 \pm 1.023$ / $1602.5625 \pm 4$ | MHz           |
|--------------------------|--|---------------|
| Nominal Impedance        | 50   | 0             |
| VSWR                     | 2:1  | 22            |
|                          | 1  | dBic ± 1 dB   |
| Gain (Radiating element) | ı  | UDIC ± 1 UD   |
| Gain (LNA gain)          | 30   | $dB \pm 2 dB$ |
| Polarization             | RHCP   |               |
| Out of Band Rejection    |  |               |
| 698 MHz                  | >70  | dB            |
| 960MHz                   | >65  | dB            |
| 1710MHz                  | >60  | dB            |
| 2170MHz                  | >65  | dB            |
| 2400MHz                  | >65  | dB            |
| 2700MHz                  | >65  | dB            |



#### **TECHNICAL DATA SHEET**

**Description**:

GPS/GLONASS/BEIDOU/COMPASS/Galileo

PART NUMBER: GPSGBXXXX

### **Series: Internal Active GPS**

## **ELECTRICAL SPECIFICATIONS**

### **ALL GPSGBXXXX**

Noise Figure <2.4 dB

Operating Voltage 3.3-5 Vdc±0.5V

Current Consumption <6 mA







#### **TECHNICAL DATA SHEET**

**Description**:

GPS/GLONASS/BEIDOU/COMPASS/Galileo

PART NUMBER: GPSGBXXXX

**Series: Internal Active GPS** 

### **MECHANICAL SPECIFICATIONS**

Fixing system Adhesive Tape

#### **ENVIRONMENTAL SPECIFICATIONS**

Operating temperature

-40 ~ +85° C



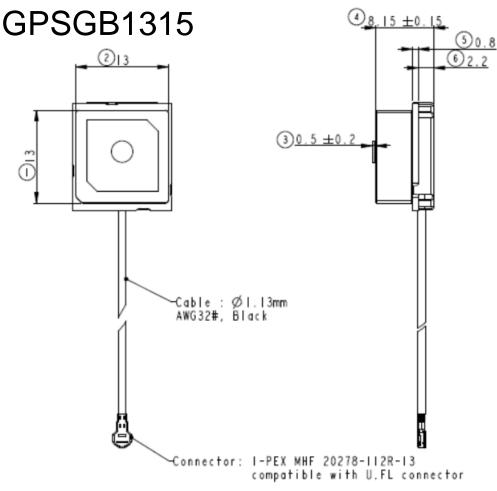


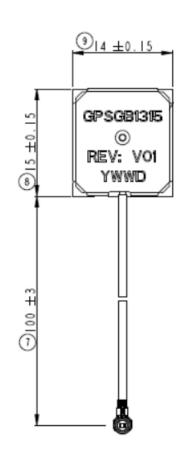
## **Description**:

GPS/GLONASS/BEIDOU/COMPASS/Galileo

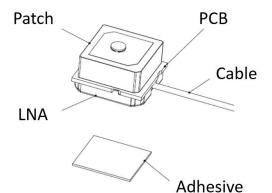
**PART NUMBER: GPSGBXXXX** 

#### **MECHANICAL DRAWING**





Suggested Receptacle: I-PEX 20279-001E-++ or I-PEX 2044I-001E-01



P.S.:

Adhesive tape material: 3M R16, T=0.4mm It's not assembled, but included in the sales package

Issue: 1945





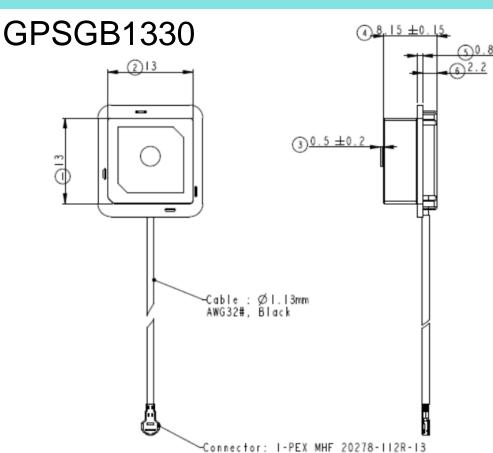


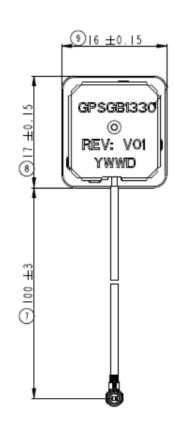
## **Description**:

GPS/GLONASS/BEIDOU/COMPASS/Galileo

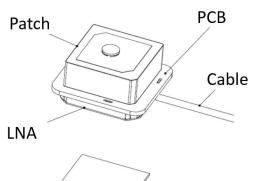
**PART NUMBER: GPSGBXXXX** 

### **MECHANICAL DRAWING**





Suggested Receptacle: I-PEX 20279-001E-++ or I-PEX 20441-001E-01



P.S.:

compatible with U.FL connector

Adhesive tape material: 3M R16, T=0.4mm It's not assembled, but included in the sales package

Issue: 1945



Adhesive



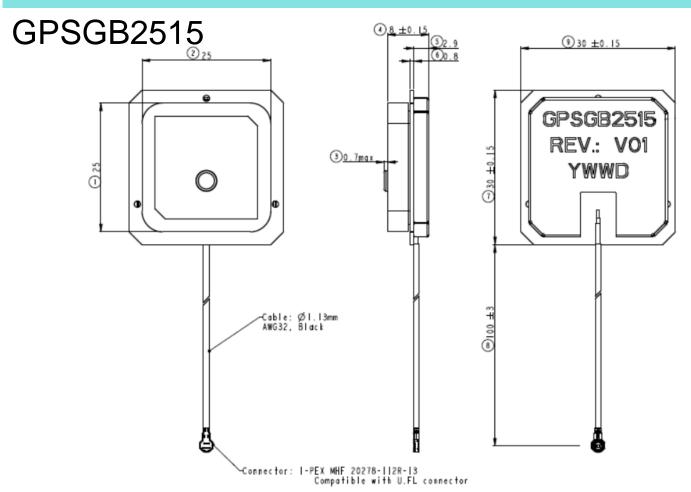


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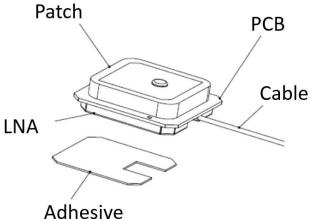
GPS/GLONASS/BEIDOU/COMPASS/Galileo

**PART NUMBER: GPSGBXXXX** 

### **MECHANICAL DRAWING**



Suggested Receptacle: I-PEX 20279-001E-++
ir I-PEX 20441-001E-01



P.S.:

Adhesive tape material: 3M R16, T=0.4mm It's not assembled, but included in the sales package

Issue: 1945

ROHS



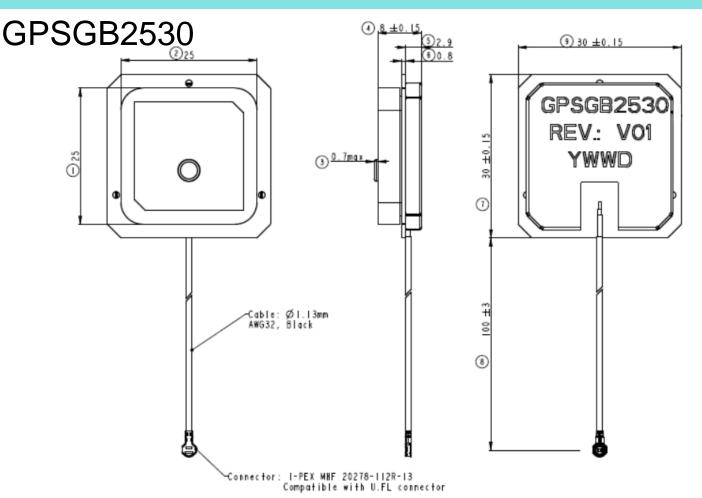


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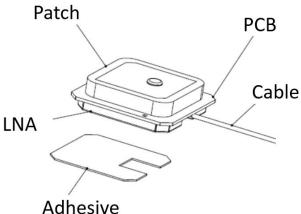
GPS/GLONASS/BEIDOU/COMPASS/Galileo

**PART NUMBER: GPSGBXXXX** 

### **MECHANICAL DRAWING**



Suggested Receptacle: I-PEX 20279-001E-++ or I-PEX 20441-001E-01



P.S.:

Adhesive tape material: 3M R16, T=0.4mm It's not assembled, but included in the sales package

Issue: 1945

ROHS





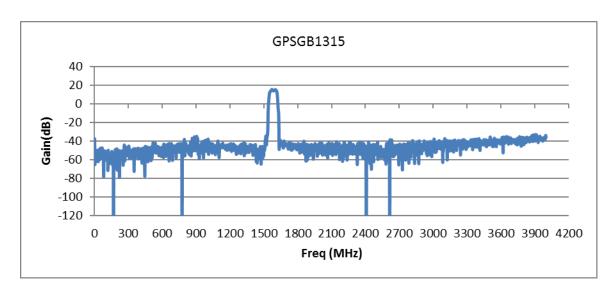
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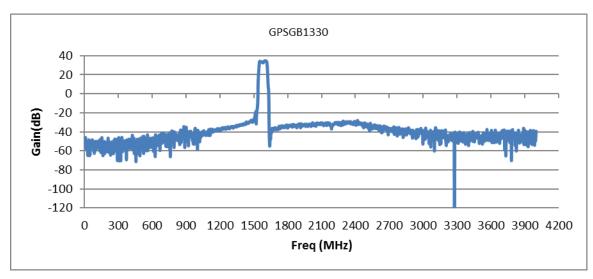
GPS/GLONASS/BEIDOU/COMPASS/Galileo

**PART NUMBER: GPSGBXXXX** 

### **CHARTS**

# LNA Gain and out-of-band rejection









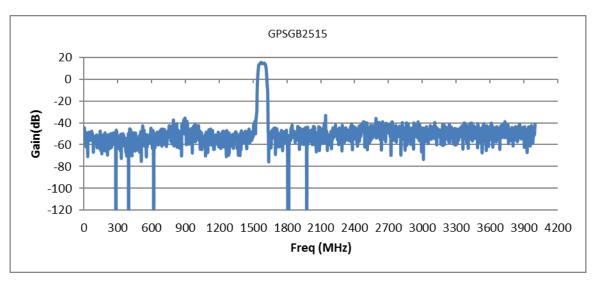
## **Description**:

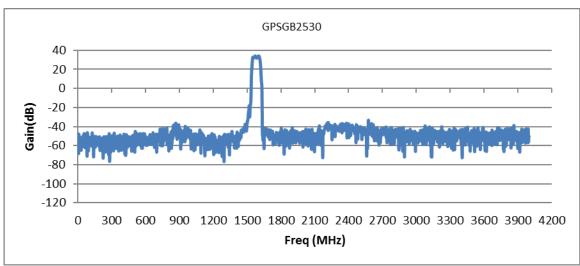
GPS/GLONASS/BEIDOU/COMPASS/Galileo

PART NUMBER: GPSGBXXXX

#### **CHARTS**

# LNA Gain and out-of-band rejection









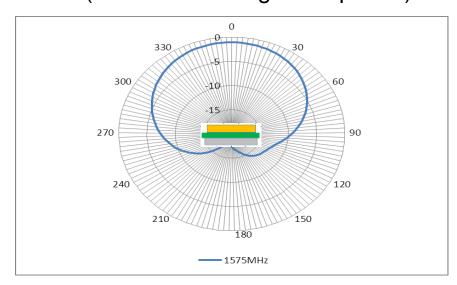
## **Description**:

GPS/GLONASS/BEIDOU/COMPASS/Galileo

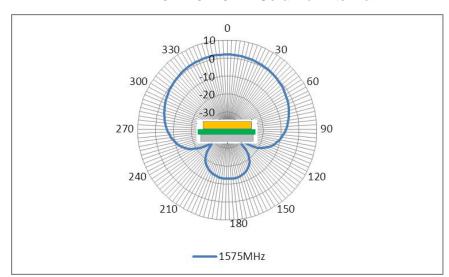
PART NUMBER: GPSGBXXXX

#### **CHARTS**

## Radiation Pattern (70mm x 70mm ground plane ) GPS & Galileo



13 X 13 X 5mm Ceramic Antenna



25 X 25 X 4mm Ceramic Antenna







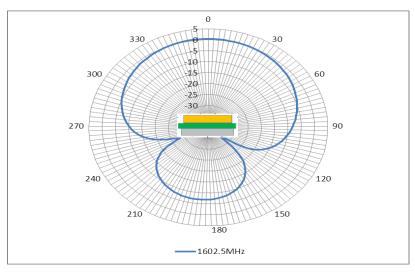
## **Description**:

GPS/GLONASS/BEIDOU/COMPASS/Galileo

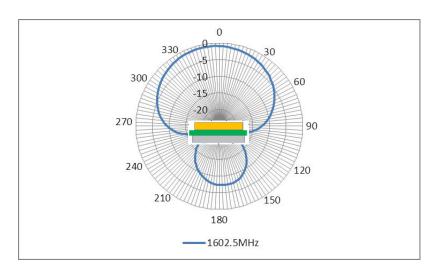
PART NUMBER: GPSGBXXXX

#### **CHARTS**

## Radiation Pattern (70mm x 70mm ground plane ) GLONASS



13 X 13 X 5mm Ceramic Antenna



25 X 25 X 4mm Ceramic Antenna





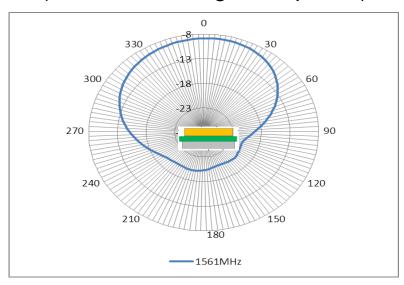
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GPS/GLONASS/BEIDOU/COMPASS/Galileo

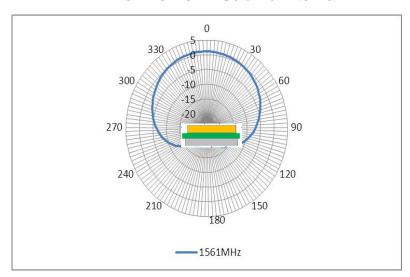
PART NUMBER: GPSGBXXXX

#### **CHARTS**

# Radiation Pattern (70mm x 70mm ground plane ) BD2



13 X 13 X 5mm Ceramic Antenna



25 X 25 X 4mm Ceramic Antenna

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