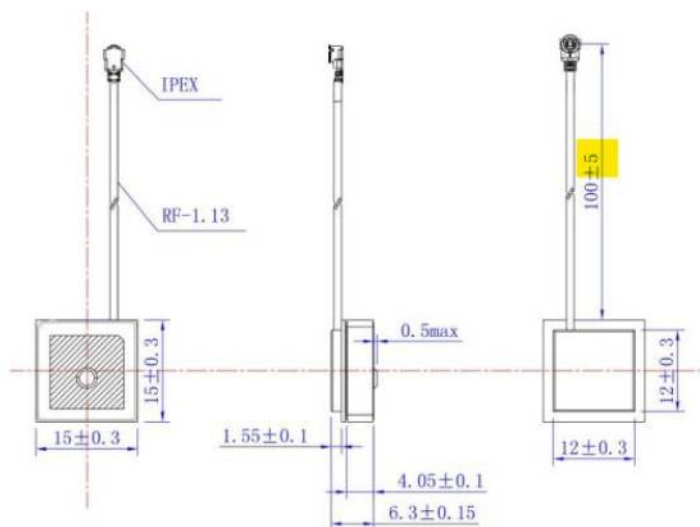


ECN/PCN No.: R0120

| For Manufacturer | | | |
|---|---|--|--|
| Product Description: GPS/GLONASS – Active Patch Antenna | Abracon Part Number / Part Series: APKD1507G2 | <input type="checkbox"/> Documentation only <input checked="" type="checkbox"/> ECN <input type="checkbox"/> EOL | <input type="checkbox"/> Series <input checked="" type="checkbox"/> Part Number |
| Affected Revision: I.R. | New Revision: A | Application: | <input type="checkbox"/> Safety <input checked="" type="checkbox"/> Non-Safety |

Prior to Change:

Cable length with large tolerance allowing for large variations.

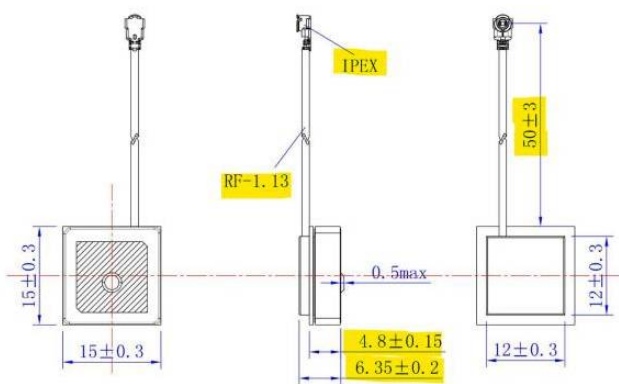


After Change:

A more strictly defined cable length to having the cable extend the correct length from the PCB edge to the connector, as shown in the datasheet (see below), with a stricter tolerance of 3 instead of 5 mm. Please note that this could cause a ~5 mm longer nominal cable length compared to previous orders prior to this change.

Product Dimension

Note: The cable length exemplified below is for the 50 mm option.



Cause/Reason for Change:

Demand for a more strict cable length.

| Change Plan | | |
|---|---|--|
| Effective Date: 2023-01-18 | Additional Remarks: N/A | |
| Change Declaration: Making the cable length more strictly defined. This could impact future orders with around 5 mm longer cable length than before. | | |
| Issued Date: 2023-01-18 | Issued By: <i>Jonatan Lindahl</i> | Issued Department: Engineering |
| Approval: <i>Syed Raza</i> VP | Approval: <i>Reuben Quintanilla</i> Quality Director | Approval: <i>Ying Huang</i> Purchasing Director |
| For Abracon EOL only | | |
| Last Time Buy (if applicable): | Alternate Part Number / Part Series: | |
| Additional Approval: | Additional Approval: | Additional Approval: |
| Customer Approval (If Applicable) | | |
| Qualification Status: <div style="text-align: center;"><input type="checkbox"/> Approved <input type="checkbox"/> Not accepted</div> <i>Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.</i> | | |
| Customer Part Number: | Customer Project: | |
| Company Name: | Company Representative: | Representative Signature: |
| Customer Remarks: | | |

GPS/GLONASS – Active Patch Antenna



APKD1507G2

Request Samples



Check Inventory



15 x 15 x 7 mm

RoHS/RoHS II Compliant

MSL Level = N/A

Features

- Ultra-Compact Active Patch
- Operates in the GPS/GLONASS bands
- LNA with high gain of 21 dB
- Polarization - RHCP
- Easy installation using cable & Connector
- Fully customizable cable and connector options for RF connection

Applications

- IoT
- M2M
- Logistics
- Navigation
- Geofencing
- Smart agriculture
- Industrial monitors
- Geo-tracking/Geolocation
- Surveying and mapping systems

Product Image

The two pictures below show APKD1507G2-0050S front and back.



GPS/GLONASS – Active Patch Antenna



APKD1507G2

Request Samples



Check Inventory



15 x 15 x 7 mm
RoHS/RoHS II Compliant
 MSL Level = N/A

Part Number Builder

APK□1507G2-□□□□□

| Antenna Sub-Type / Mounting Type | | |
|----------------------------------|---------------|-------------------|
| Code | Sub-Type | Mounting Type |
| D (Standard) | Active Patch | Cable & connector |
| A | Passive Patch | Through Hole-Pin |
| C | Passive Patch | Cable & Connector |

| Cable length in 'mm' | |
|--|-------------|
| Cable length supported : Ø1.13 mm (50 mm to 500 mm) | |
| Code | Description |
| 0100 (Standard) | 100 mm |
| Other Examples : | |
| 0050 | 50 mm |
| 0200 | 200 mm |

| Cable Type & Connector Type | | |
|-----------------------------|-----------------------|-------------------|
| Code | Cable Type | Connector Type |
| S (Standard) | RF Ø1.13 mm or others | IPEX-1 (F) |
| A | | IPEX-4 (F) |
| B | | MMCX (F) |
| C | | MMCX (M) |
| D | | MCX (F) |
| E | | MCX (M) |
| F | | SMA (F) |
| G | | SMA (M) |
| H | | RP-SMA (F) |
| I | | RP-SMA (M) |
| J | | SMB (F) |
| K | | SMB (M) |
| L | | FAKRA-D (F) |

Example Configurations :

| Part Number | Antenna Sub-Type / Mounting Type | Cable length | Cable Type / Connector Type |
|------------------|--------------------------------------|--------------|-------------------------------------|
| APKD1507G2-0100S | Active Patch with Cable & Connector | 0100 mm | Ø1.13 mm with IPEX-1 (F) (Standard) |
| APKC1507G2-0050A | Passive Patch with Cable & Connector | 0050 mm | Ø1.13 mm with IPEX-4 (F) |

Note :

- For the standard part number (APKD1507G2-0100S), please refer to the packaging at the end of the document.
- For custom configurations (APK□1507G2-□□□□□), MOQs, pricing and packaging changes may be applicable.

GPS/GLONASS – Active Patch Antenna



APKD1507G2

Request Samples



Check Inventory



15 x 15 x 7 mm
RoHS/RoHS II Compliant
 MSL Level = N/A

Electrical Specification

| Parameter | Specification | | | Unit |
|--------------------------------|---------------|---------|---------|----------|
| | Min | Typ | Max | |
| ANTENNA | | | | |
| Operating Frequency | | 1575.42 | | MHz |
| | 1598.06 | | 1605.38 | |
| VSWR | | | 2.0 | |
| Bandwidth (RL = -10 dB) | 5 | | | MHz |
| Peak gain (on 15x15 mm ground) | | 1.0 | | dBi |
| Impedance | | 50 | | Ω |
| Polarization | RHCP | | | |
| LNA | | | | |
| Operating Frequency | 1556 | | 1608 | MHz |
| VSWR | | | 2.0 | |
| Noise Figure | | | 1.1 | dB |
| Gain (at 25°C) | 19 | 21 | 23 | dB |
| DC Current | 2.6 | 4.2 | 5.0 | mA |
| DC Voltage | 1.5 | 3.0 | 3.6 | V |

Mechanical Specification

| Parameter | Specification |
|--------------------|------------------------|
| Antenna Dimensions | 15 x 15 x 4 mm |
| Antenna Type | Active / Ceramic Patch |
| RF Connector | IPEX-1 (F) |
| RF Cable Type | Ø1.13mm |

Environmental Specification

| Parameter | Specification |
|-----------------------|----------------|
| Operating Temperature | -40°C to +85°C |
| Storage Temperature | -45°C to +85°C |
| Relative Humidity | 10% ~ 95% |
| ROHS Compliant | Yes |
| PB Free | Yes |
| ESD Sensitive | No |
| MSL Level | N/A |



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 Phone: 512-371-6159 | Fax: 512-351-8858
 For terms and conditions of sales, please visit:
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REVISED: 01-18-23

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GPS/GLONASS – Active Patch Antenna



APKD1507G2

Request Samples



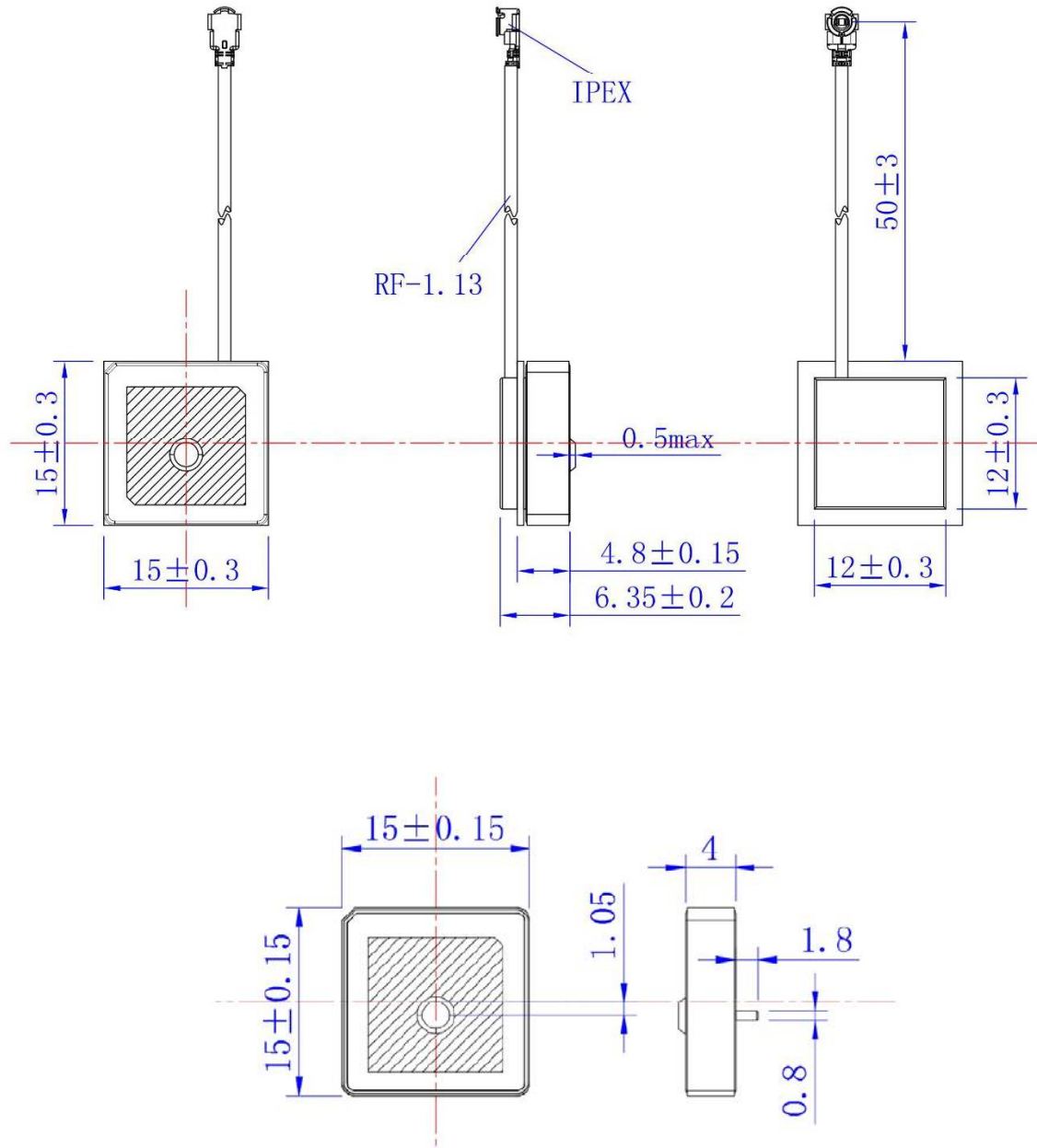
Check Inventory



15 x 15 x 7 mm
RoHS/RoHS II Compliant
MSL Level = N/A

Product Dimension

Note: The cable length exampled below is for the 50 mm option.



Unit : mm

GPS/GLONASS – Active Patch Antenna



APKD1507G2

Request Samples

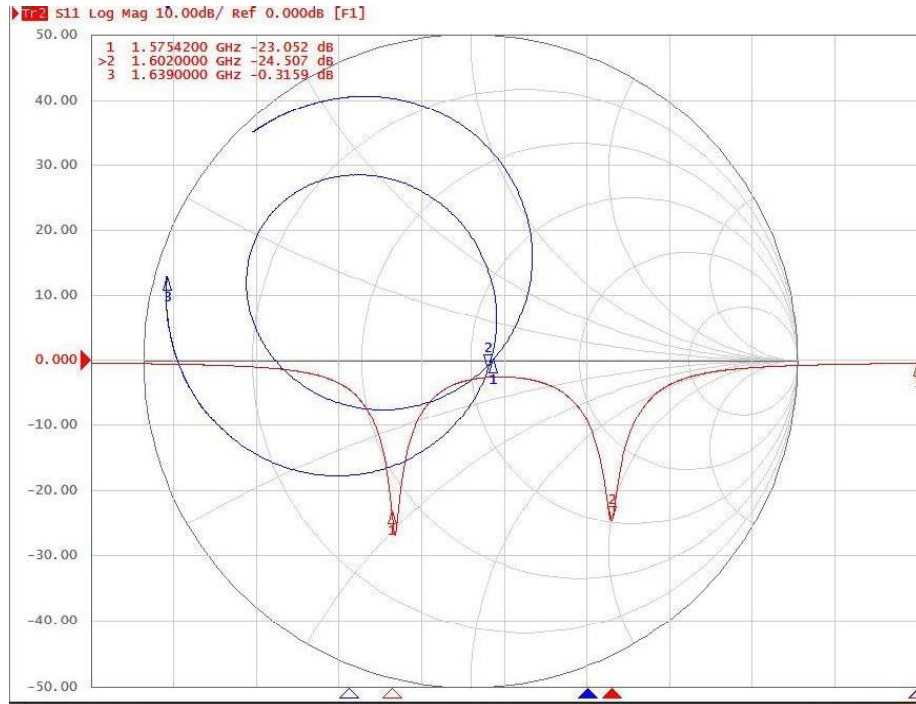


Check Inventory



15 x 15 x 7 mm
RoHS/RoHS II Compliant
MSL Level = N/A

Test Measurement – Impedance Characteristics (Active/Passive Antenna)



Test Measurement – LNA Gain at 3.0 V (Active Antenna)



GPS/GLONASS – Active Patch Antenna



APKD1507G2

Request Samples

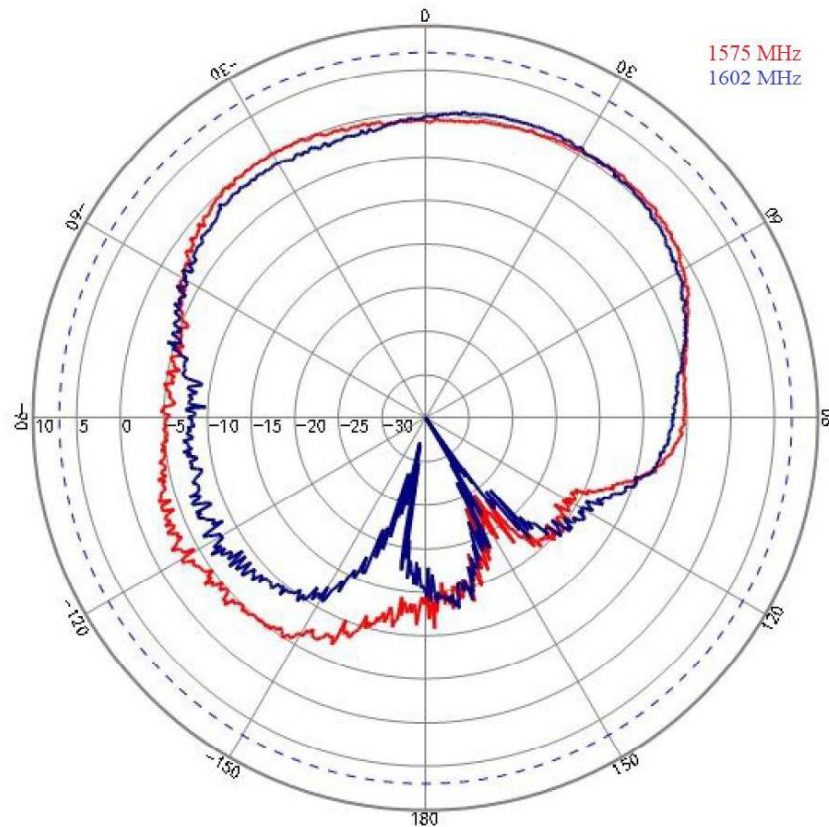


Check Inventory



15 x 15 x 7 mm
RoHS/RoHS II Compliant
MSL Level = N/A

Radiation Characteristics – 2D Elevation Pattern



Packaging Information

Number of Antenna/ Carton: 1600 pcs
Dimension of the Carton: 52 x 29 x 16 cm
Weight of the Carton: 11 kg
Weight of 1 pc : 6g (active antenna)

ATTENTION: Abracon LLC's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependent Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon LLC is required. Please contact Abracon LLC for more information.



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