

# GPS L1+L2+L5 : ACTIVE STACKED PATCH ANTENNA

APARC2511X-SGL2L5

Request Samples



Check Inventory



ESD Sensitive

25.0 x 25.0 x12.4 mm  
RoHS/RoHS II Compliant  
MSL Level = N/A

## Features

- Multiband GPS L1, L2, L5 Coverage
- High Gain LNA.
- Circular polarization.
- Compact Form Factor.
- Single Feed Stacked Patch
- Easy installation using IPEX Connector  
(Customizable Cable and Connector Options)

## Applications

- IoT
- M2M
- Logistics
- Navigation
- Geofencing
- Precision Farming
- Remote Monitoring
- Surveying and Mapping Systems

## Electrical Specifications

| Parameter            | Specification    |           |            | Unit | Note        |
|----------------------|------------------|-----------|------------|------|-------------|
|                      | L1               | L2        | L5         |      |             |
| Operating Frequency  | 1575.42±1.023    | 1227.6±10 | 1176.45±10 | MHz  |             |
| VSWR                 | 1.53             | 2.24      | 2.09       |      |             |
| Gain                 | -3.5             | -3        | -4         | dBi  | Zenith      |
| Impedance            | 50               |           |            | Ω    |             |
| Polarization         | RHCP             |           |            |      |             |
| Radiation Pattern    | Omni-directional |           |            |      | Azimuth     |
| <b>LNA</b>           |                  |           |            |      |             |
| Noise Figure         | 1                | 0.9       | 1.3        | dB   | (+25°C±5°C) |
| Gain                 | 29±3             | 30±3      | 27±3       | dB   | (+25°C±5°C) |
| Impedance            | 50               |           |            | Ω    |             |
| VSWR                 | 2.0              |           |            |      | Max         |
| Operating Voltage    | 3.0-5.0          |           |            | V    |             |
| Current Consumption* | 10               |           |            | mA   | Typ         |
|                      | 15               |           |            | mA   | Max         |

\*Note : Current Consumption @3.3V

# GPS L1+L2+L5 : ACTIVE STACKED PATCH ANTENNA

APARC2511X-SGL2L5

Request Samples



Check Inventory



ESD Sensitive

25.0 x 25.0 x 12.4 mm  
RoHS/RoHS II Compliant  
MSL Level = N/A

## Mechanical Specifications

| Parameter         | Specification                  |
|-------------------|--------------------------------|
| Antenna Dimension | 25 x 25 x 12.4 mm              |
| Mounting Type     | Surface Mount                  |
| RF Connector      | IPEX (female)                  |
| RF Cable          | Ø1.13 ±0.1 mm, L = 100 ± 10 mm |

\*Note: Cable Loss = Max.(-1.4dB/meter)

## Environmental Specification

| Parameter             | Specification  |
|-----------------------|----------------|
| Operating Temperature | -40°C to +85°C |
| Storage Temperature   | -40°C to +85°C |
| RoHS Compliance       | Yes            |
| PB Free               | No             |
| MSL                   | NA             |
| ESD Sensitive         | Yes            |
| Relative Humidity     | 40% to 95%     |

# GPS L1+L2+L5 : ACTIVE STACKED PATCH ANTENNA

APARC2511X-SGL2L5

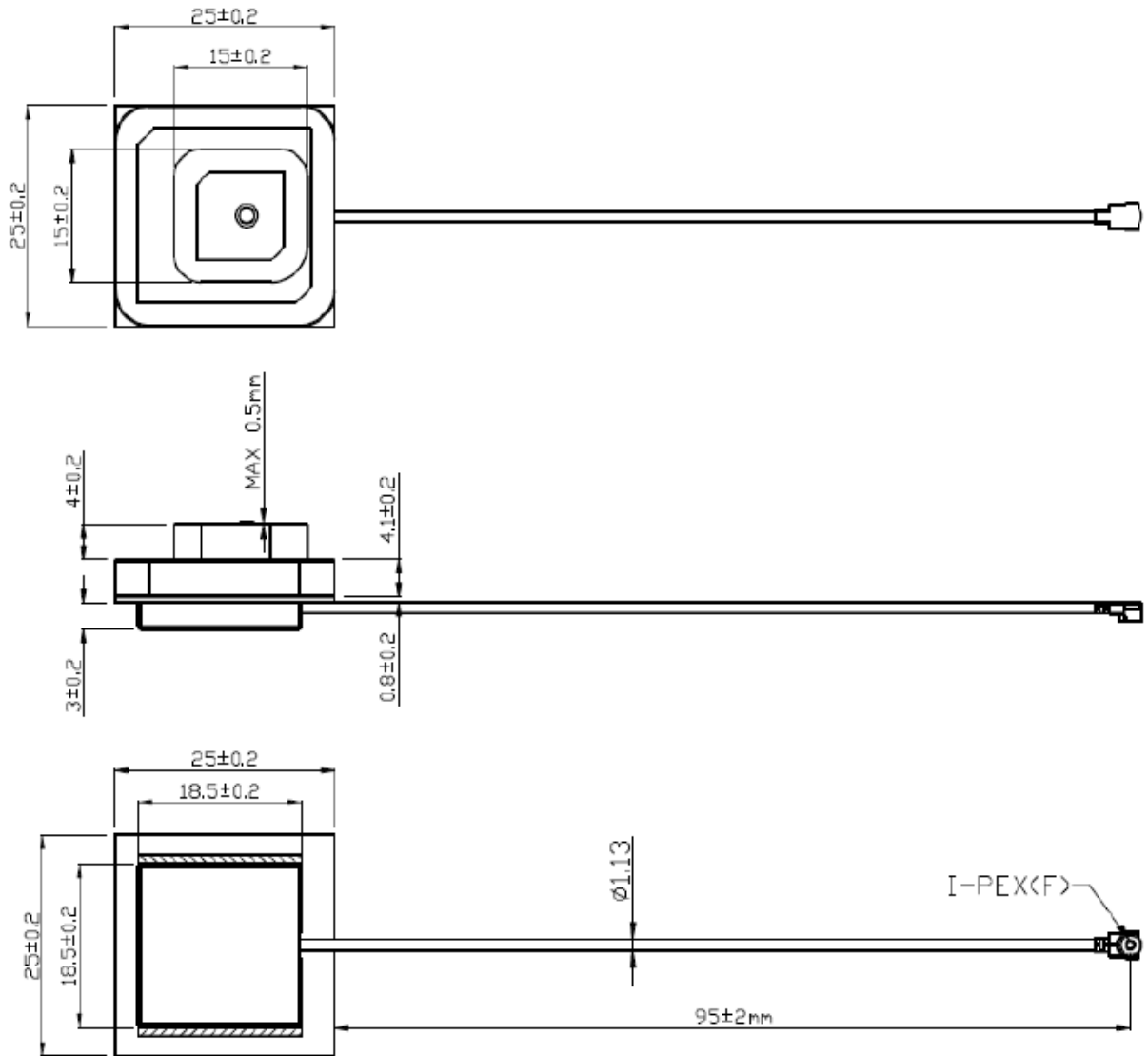
Request Samples 

Check Inventory 



25.0 x 25.0 x 12.4 mm  
RoHS/RoHS II Compliant  
MSL Level = N/A

## Product Dimension



Unit : mm

# GPS L1+L2+L5 : ACTIVE STACKED PATCH ANTENNA

APARC2511X-SGL2L5

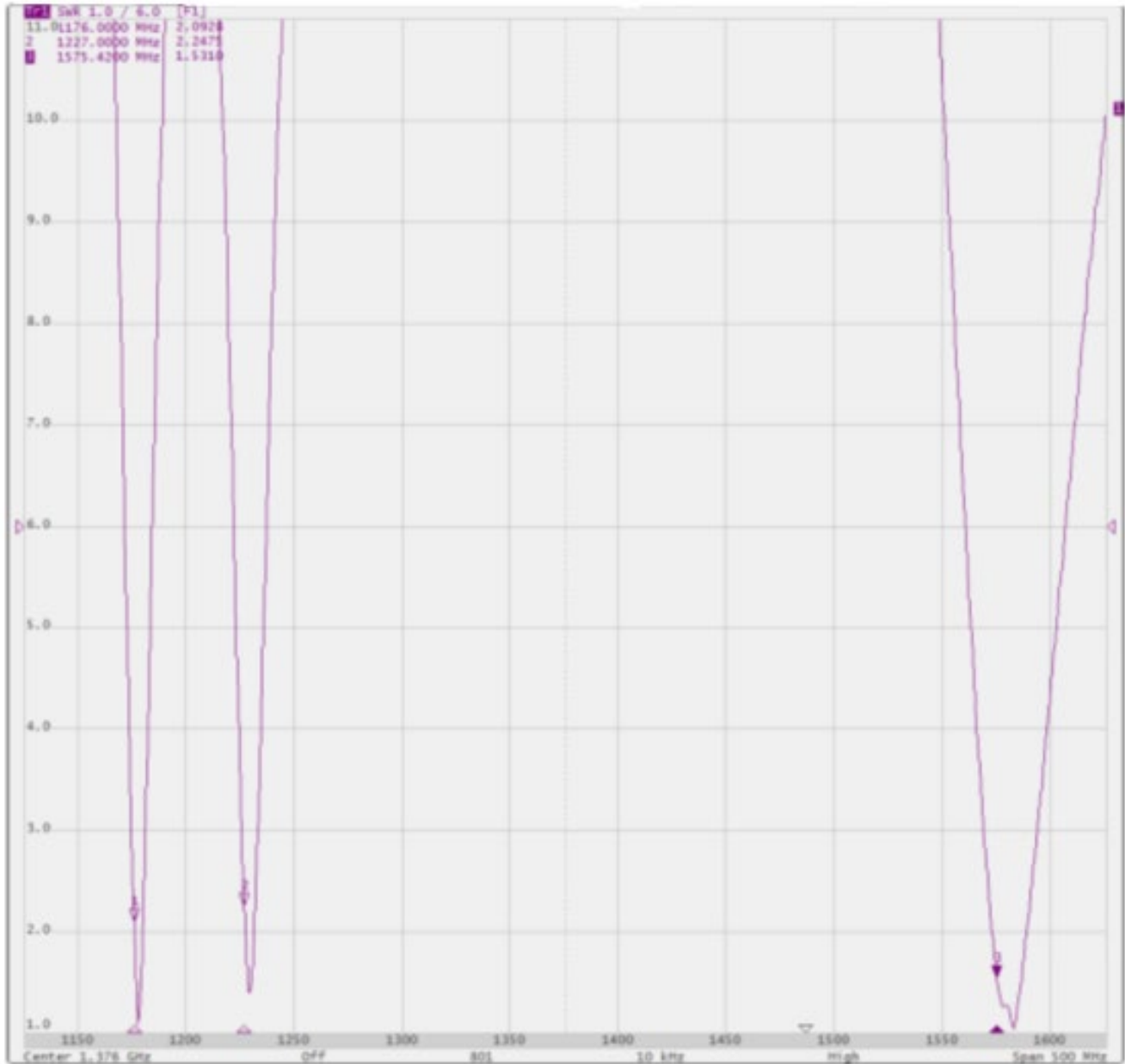
Request Samples 

Check Inventory 



25.0 x 25.0 x 12.4 mm  
RoHS/RoHS II Compliant  
MSL Level = N/A

## Test Measurement - Antenna Impedance Characteristics



# GPS L1+L2+L5 : ACTIVE STACKED PATCH ANTENNA

APARC2511X-SGL2L5

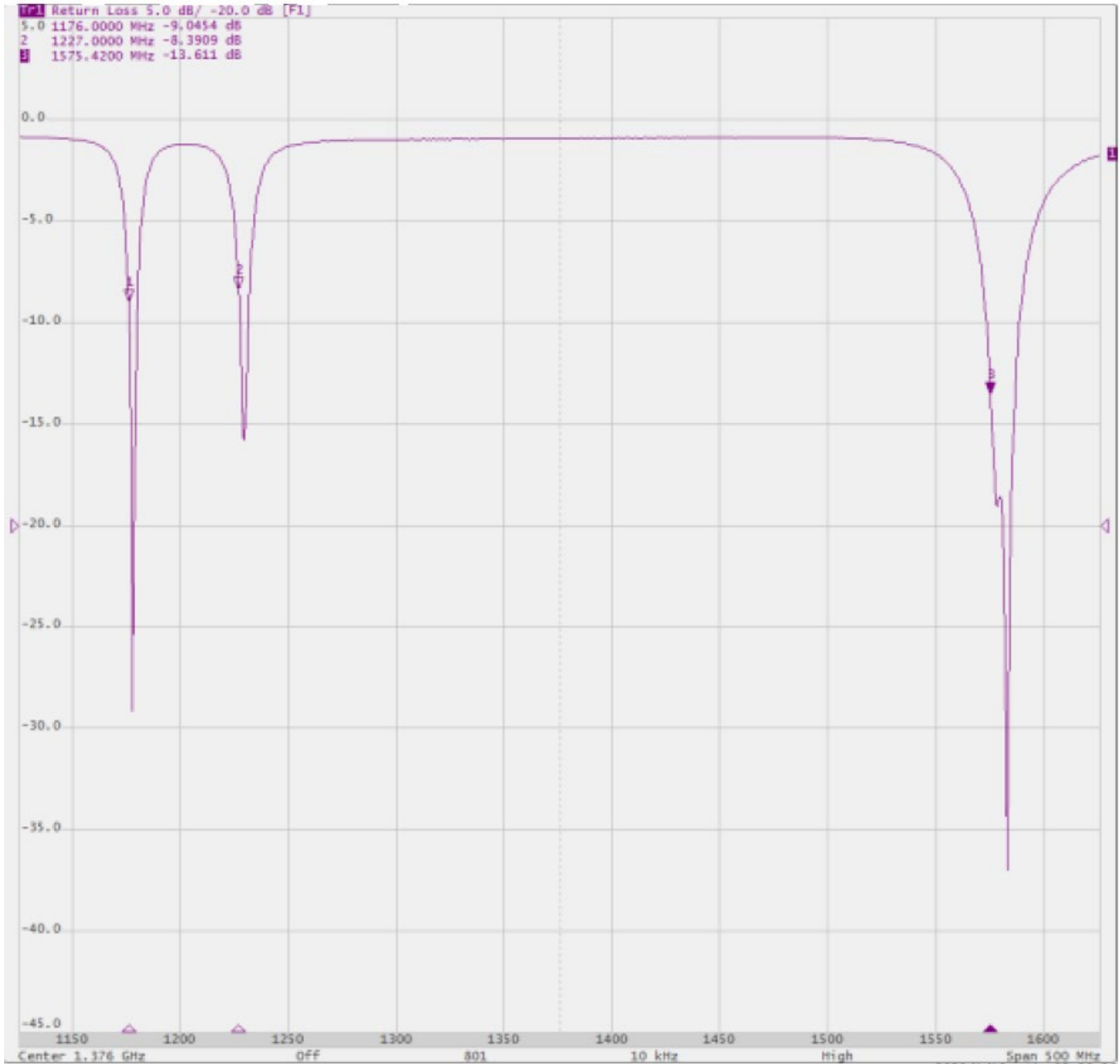
Request Samples 

Check Inventory 



ESD Sensitive

25.0 x 25.0 x12.4 mm  
RoHS/RoHS II Compliant  
MSL Level = N/A



# GPS L1+L2+L5 : ACTIVE STACKED PATCH ANTENNA

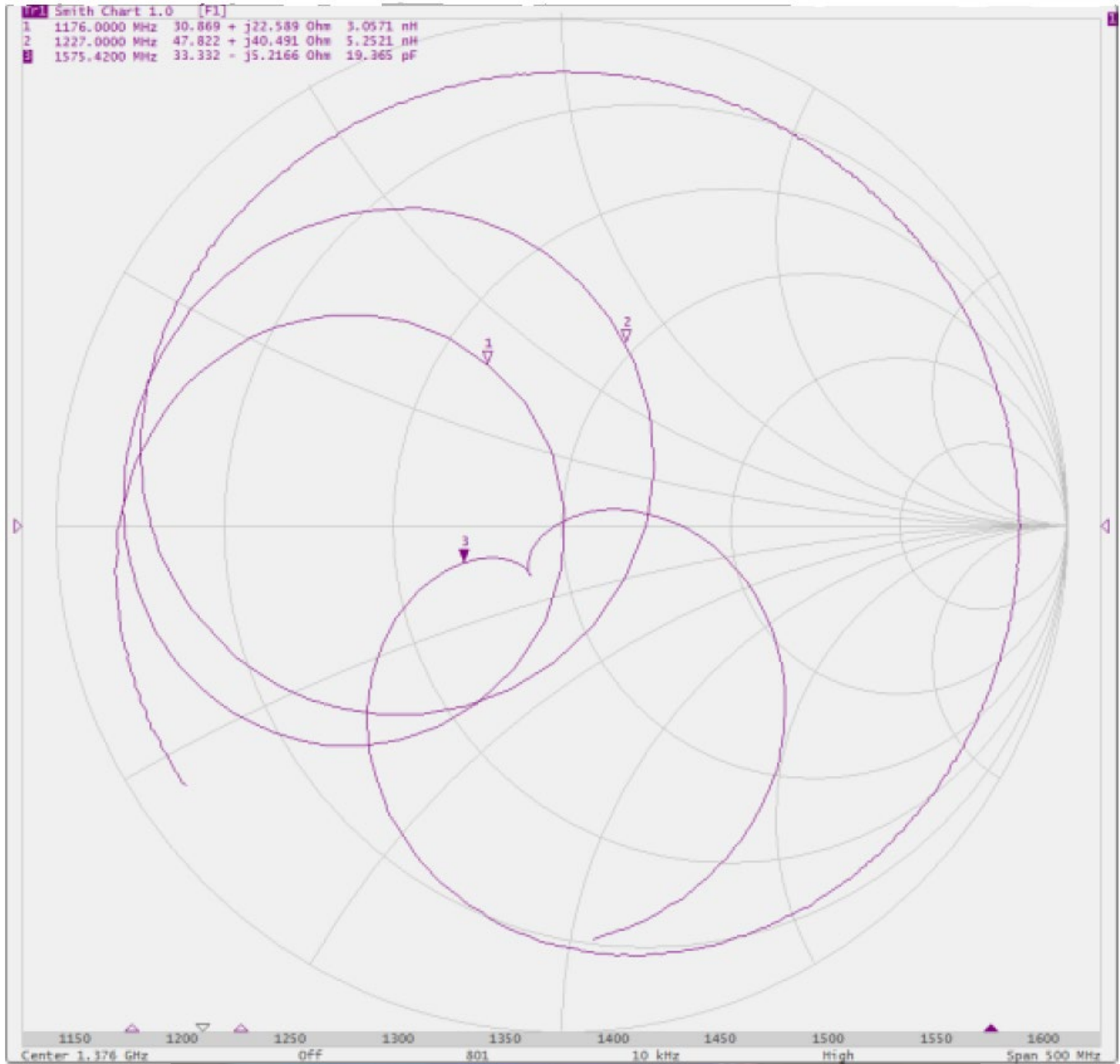
APARC2511X-SGL2L5

Request Samples 

Check Inventory 



25.0 x 25.0 x12.4 mm  
RoHS/RoHS II Compliant  
MSL Level = N/A



5101 Hidden Creek LN Spicewood TX 78669  
Phone: 512-371-6159 | Fax: 512-351-8858  
For terms and conditions of sales, please visit:  
[www.abracon.com](http://www.abracon.com)

REVISED: 02-03-20

ABRACON IS  
ISO9001-2015  
CERTIFIED

# GPS L1+L2+L5 : ACTIVE STACKED PATCH ANTENNA

APARC2511X-SGL2L5

Request Samples



Check Inventory

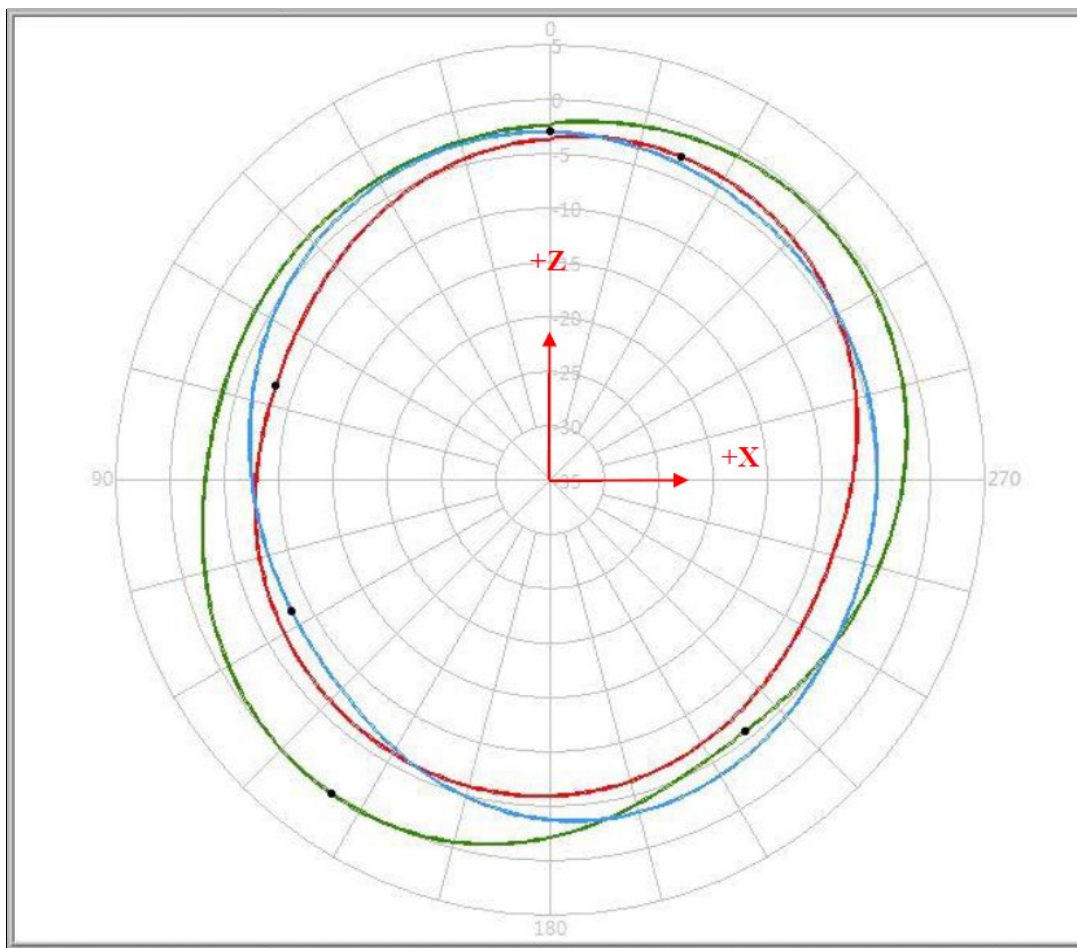


ESD Sensitive

25.0 x 25.0 x12.4 mm  
RoHS/RoHS II Compliant  
MSL Level = N/A

## Radiation Characteristics

### XZ-Plane



| Frequency (MHz) | Peak Gain (dBi) | Average Gain(dBi) |
|-----------------|-----------------|-------------------|
| 1176            | -2.94           | -5.82             |
| 1227            | 0.19            | -2.13             |
| 1575.42         | -2.96           | -4.72             |



# GPS L1+L2+L5 : ACTIVE STACKED PATCH ANTENNA

APARC2511X-SGL2L5

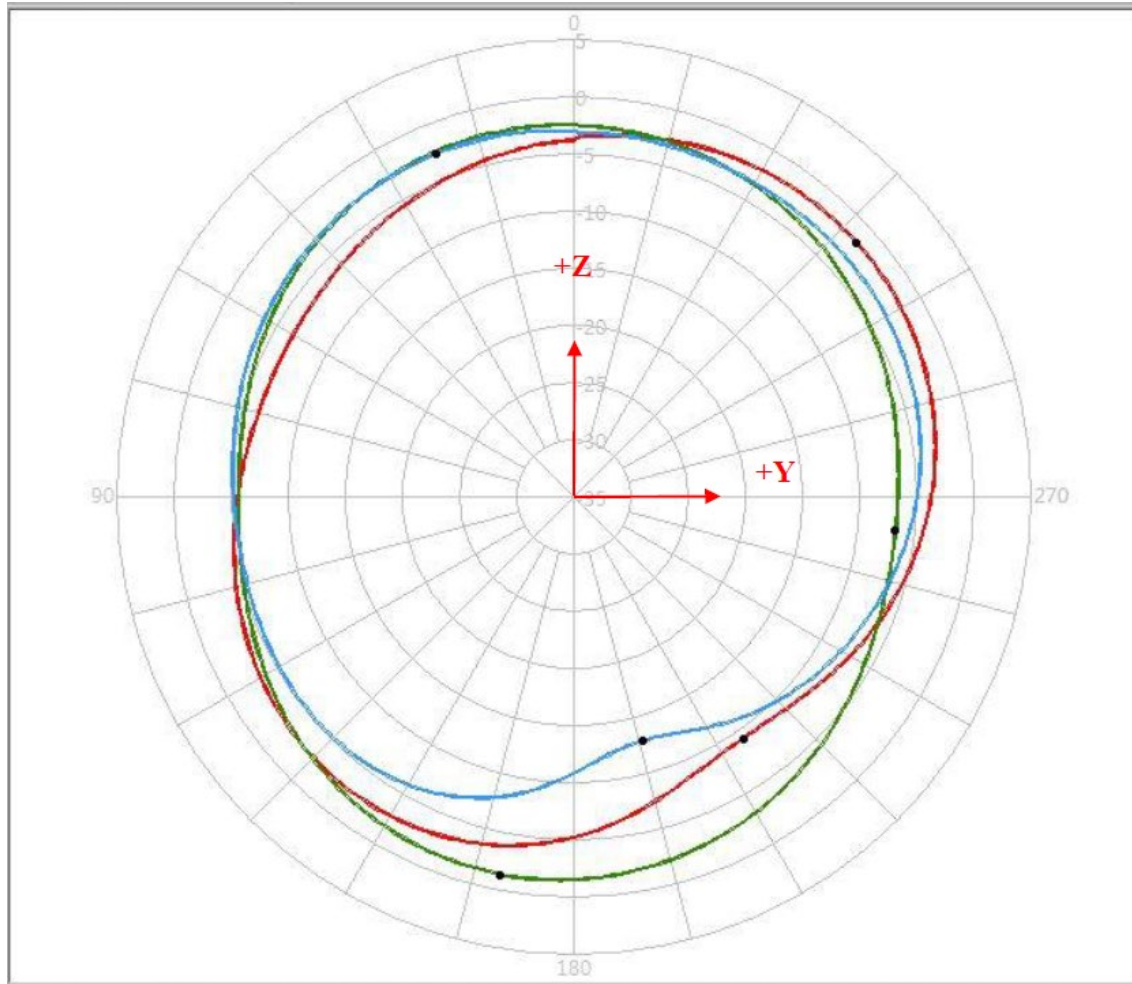
Request Samples 

Check Inventory 



25.0 x 25.0 x12.4 mm  
RoHS/RoHS II Compliant  
MSL Level = N/A

## YZ-Plane



| Frequency (MHz) | Peak Gain (dBi) | Average Gain (dBi) |
|-----------------|-----------------|--------------------|
| 1176 MHz        | -1.74           | -4.25              |
| 1227 MHz        | -1.37           | -3.58              |
| 1575.42 MHz     | -2.68           | -4.93              |



# GPS L1+L2+L5 : ACTIVE STACKED PATCH ANTENNA

APARC2511X-SGL2L5

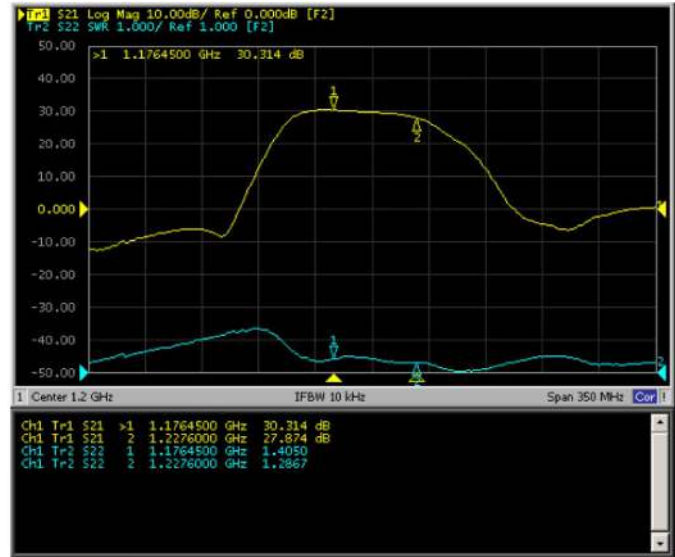
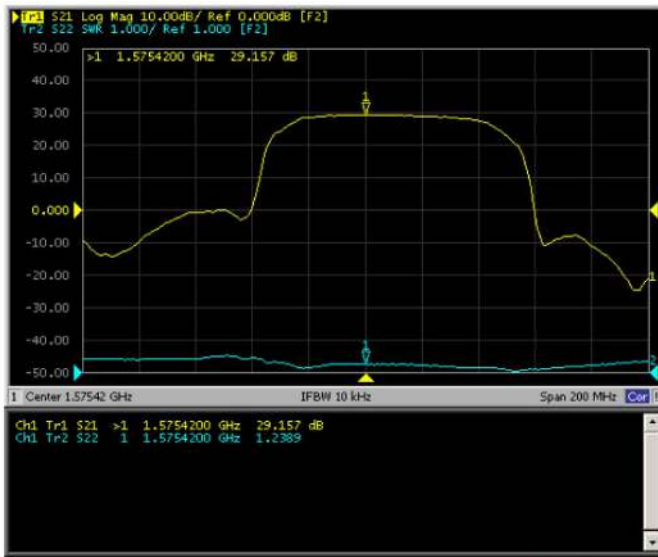
Request Samples 

Check Inventory 

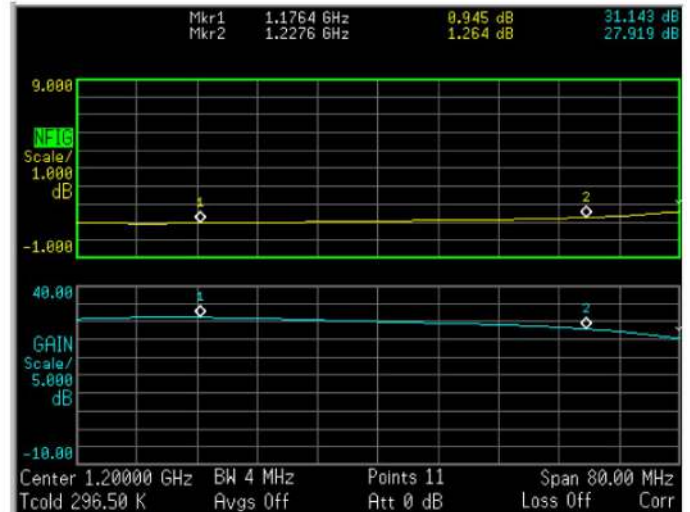
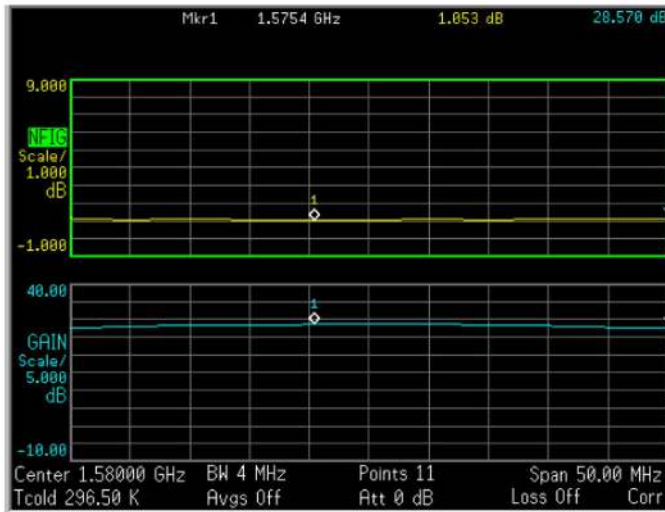


25.0 x 25.0 x12.4 mm  
 RoHS/RoHS II Compliant  
 MSL Level = N/A

## Test Measurements: LNA - Gain, Noise



LNA Gain @3.3V



LNA Noise Figure @3.3V

# GPS L1+L2+L5 : ACTIVE STACKED PATCH ANTENNA

APARC2511X-SGL2L5

Request Samples



Check Inventory



ESD Sensitive

25.0 x 25.0 x12.4 mm

RoHS/RoHS II Compliant

MSL Level = N/A

## Packaging Information

---

Number of Antenna/ Carton : 450

Dimension of the Carton : 390 x 320 x 290 mm

**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.



5101 Hidden Creek LN Spicewood TX 78669  
Phone: 512-371-6159 | Fax: 512-351-8858  
For terms and conditions of sales, please visit:  
[www.abracon.com](http://www.abracon.com)

REVISED: 02-03-20

ABRACON IS  
ISO9001-2015  
CERTIFIED