



**AANI-FB-0180**

Request Samples



Check Inventory



76 x 47 x 0.2 mm  
**RoHS Compliant**  
MSL Level = N/A

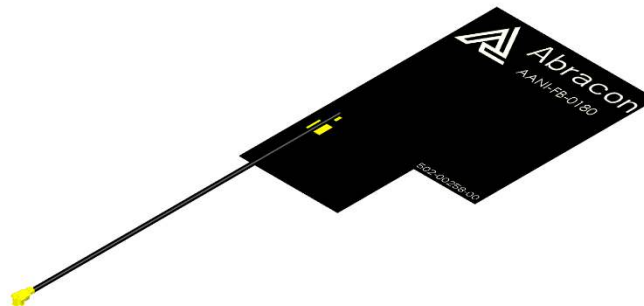
## Features

- Multiband Multi-Constellation Passive GNSS Antenna
- GNSS Peak Gain: 4.4 dBi
- GNSS Efficiency: 87 %
- Ground Plane Independent
- Flexible to Fit Inside Plastic Enclosures
- Fully Customizable Cable Length and Connector Options

## Applications

- UAVs and Drones
- Robotics and Autonomous Driving
- Real-Time Kinematic (RTK)
- Intelligent Transportation
- Precision Land Survey Positioning
- Precision Agriculture

## Product Image



**AANI-FB-0180**

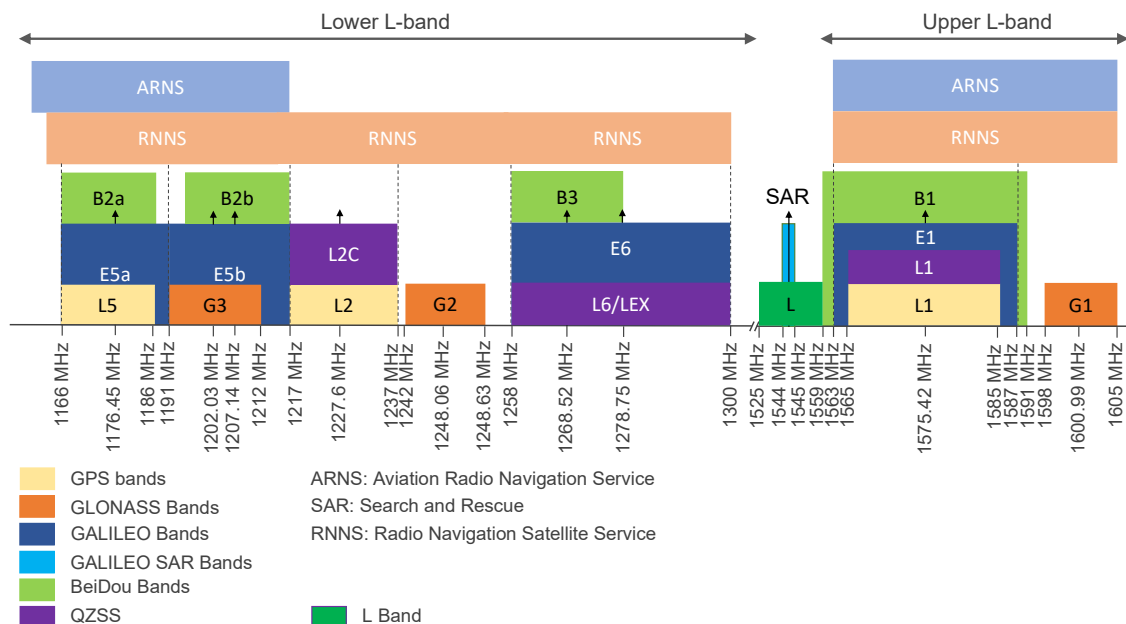
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**76 x 47 x 0.2 mm****RoHS Compliant****MSL Level = N/A****NSS Frequency Bands Covered**

|             |                          |                          |                          |                  |                |
|-------------|--------------------------|--------------------------|--------------------------|------------------|----------------|
| GPS         | L1<br>1575.42MHz         | L2<br>1227.6MHz          | L5<br>1176.45MHz         |                  |                |
|             | ■                        | ■                        | ■                        |                  |                |
| GLONASS     | G1<br>1598.06-1609.31MHz | G2<br>1242.93-1251.68MHz | G3<br>1202.025MHz        |                  |                |
|             | ■                        | ■                        | ■                        |                  |                |
| Galileo     | E1<br>1575.42MHz         | E5a<br>1176.45MHz        | E5b<br>1201.5MHz         | E6<br>1278.75MHz |                |
|             | ■                        | ■                        | ■                        | ■                |                |
| BeiDou      | B1C<br>1575.42MHz        | B2b<br>1207.14MHz        | B2a<br>1176.45MHz        | B3<br>1268.52MHz | B1I<br>1561MHz |
|             | ■                        | ■                        | ■                        | ■                | ■              |
| L-Band      | L-Band<br>1542MHz        |                          |                          |                  |                |
|             | ■                        |                          |                          |                  |                |
| QZSS        | L1<br>1575.42MHz         | L2<br>1227.6MHz          | L5<br>1176.45MHz         | L6<br>1278.75MHz |                |
|             | ■                        | ■                        | ■                        | ■                |                |
| IRNSS/NAVIC |                          |                          | L5<br>1176.45MHz         |                  |                |
|             |                          |                          | ■                        |                  |                |
| SBAS        | L1/E1/B1<br>1575.42MHz   |                          | L5/B2a/E5a<br>1176.45MHz |                  |                |
|             | ■                        |                          | ■                        |                  |                |



Frequency allocation: GNSS systems, upper L bands and lower L bands



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## Electrical Specification

| Parameters                  | Typ.                 |                |                      |                      |                      | Units    |
|-----------------------------|----------------------|----------------|----------------------|----------------------|----------------------|----------|
| Operating Frequency (Band)  | 1166.22-1186.68 (L5) | 1212-1242 (L2) | 1257.75-1299.75 (L6) | 1565.19-1585.65 (L1) | 1598.06-1605.37 (G1) | MHz      |
| VSWR                        | $\leq 2$             |                |                      |                      |                      | -        |
| Peak Gain                   | 2.9                  | 4.4            | 4.1                  | 3.4                  | 3.8                  | dBi      |
| Maximum Efficiency          | 65.2                 | 87             | 80.6                 | 63.1                 | 68.4                 | %        |
| Impedance                   | 50                   |                |                      |                      |                      | $\Omega$ |
| Polarization                | Linear               |                |                      |                      |                      | -        |
| Radiation Pattern (Azimuth) | Omni-directional     |                |                      |                      |                      | -        |
| Maximum Input Power         | 5                    |                |                      |                      |                      | W        |

Please note: All measurement data is based on the standard configuration (conducted in free space unless otherwise specified).

## Mechanical Specification

| Parameter                    | Specification    |
|------------------------------|------------------|
| Antenna Dimension            | 76 x 47 x 0.2 mm |
| Antenna Type                 | Flexible PCB     |
| Mounting Type                | Adhesive Mount   |
| RF Connector <sup>(1)</sup>  | u.FL/IPEX-1/MHF1 |
| RF Cable Type <sup>(1)</sup> | Ø1.13 mm         |
| Cable Length <sup>(1)</sup>  | 70 ± 2 mm        |

(1): Fully customizable RF Cable & Connector

## Environmental Specification

| Parameter             | Specification  |
|-----------------------|----------------|
| Operating Temperature | -40°C to +85°C |
| Storage Temperature   | -40°C to +85°C |
| RoHS Compliance       | Yes            |

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MSL Level = N/A

**Ordering Information**

| Part Number    | Description                                                                    | Connector Option |
|----------------|--------------------------------------------------------------------------------|------------------|
| AANI-FB-0180-1 | Full-Band Full-Constellation GNSS FPC Antenna 70 mm cable, and MHF1 connector  | u.FL/IPEX-1/MHF1 |
| AANI-FB-0180-2 | Full-Band Full-Constellation GNSS FPC Antenna 70 mm cable, and MMCX connector  | MMCX             |
| AANI-FB-0180-3 | Full-Band Full-Constellation GNSS FPC Antenna 70 mm cable, and SMA connector   | SMA              |
| AANI-FB-0180-4 | Full-Band Full-Constellation GNSS FPC Antenna 150 mm cable, and MHF1 connector | u.FL/IPEX-1/MHF1 |
| AANI-FB-0180-5 | Full-Band Full-Constellation GNSS FPC Antenna 150 mm cable, and MMCX connector | MMCX             |
| AANI-FB-0180-6 | Full-Band Full-Constellation GNSS FPC Antenna 150 mm cable, and SMA connector  | SMA              |
| AANI-FB-0180-7 | Full-Band Full-Constellation GNSS FPC Antenna 200 mm cable, and MHF1 connector | u.FL/IPEX-1/MHF1 |
| AANI-FB-0180-8 | Full-Band Full-Constellation GNSS FPC Antenna 200 mm cable, and MMCX connector | MMCX             |
| AANI-FB-0180-9 | Full-Band Full-Constellation GNSS FPC Antenna 200 mm cable, and SMA connector  | SMA              |

Note: Different cable and connector configurations that are not listed may be available upon request via [Abracon online support](#)

Full-Band Full-Constellation GNSS FPC Antenna



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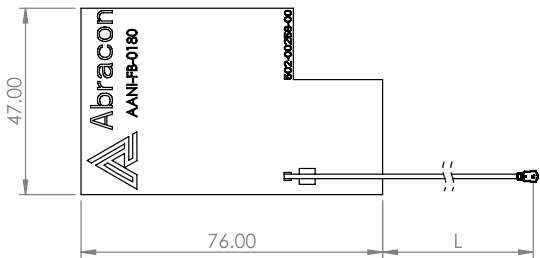


Check Inventory



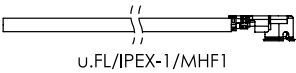
76 x 47 x 0.2 mm  
RoHS Compliant  
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Product Dimension

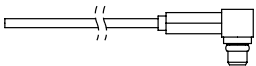


TOP VIEW

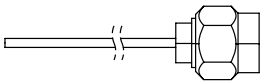
CONNECTOR



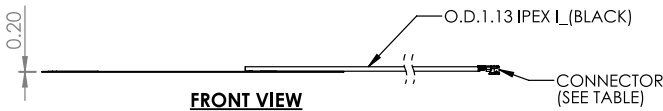
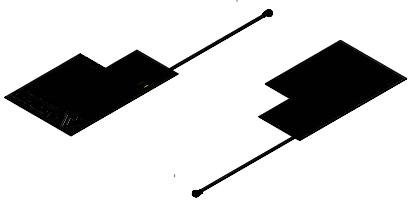
u.FL/IPEX-1/MHF1



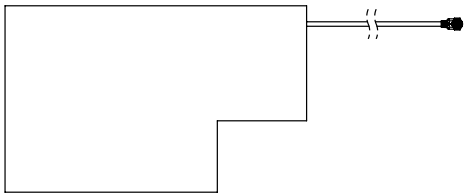
MMCX



SMA



FRONT VIEW



BOTTOM VIEW

| PART NUMBER    | CABLE LENGTH (L) | CONNECTOR        |
|----------------|------------------|------------------|
| AANI-FB-0180-1 | 70               | u.FL/IPEX-1/MHF1 |
| AANI-FB-0180-2 | 70               | MMCX             |
| AANI-FB-0180-3 | 70               | SMA              |
| AANI-FB-0180-4 | 150              | u.FL/IPEX-1/MHF1 |
| AANI-FB-0180-5 | 150              | MMCX             |
| AANI-FB-0180-6 | 150              | SMA              |
| AANI-FB-0180-7 | 200              | u.FL/IPEX-1/MHF1 |
| AANI-FB-0180-8 | 200              | MMCX             |
| AANI-FB-0180-9 | 200              | SMA              |

Unit: mm



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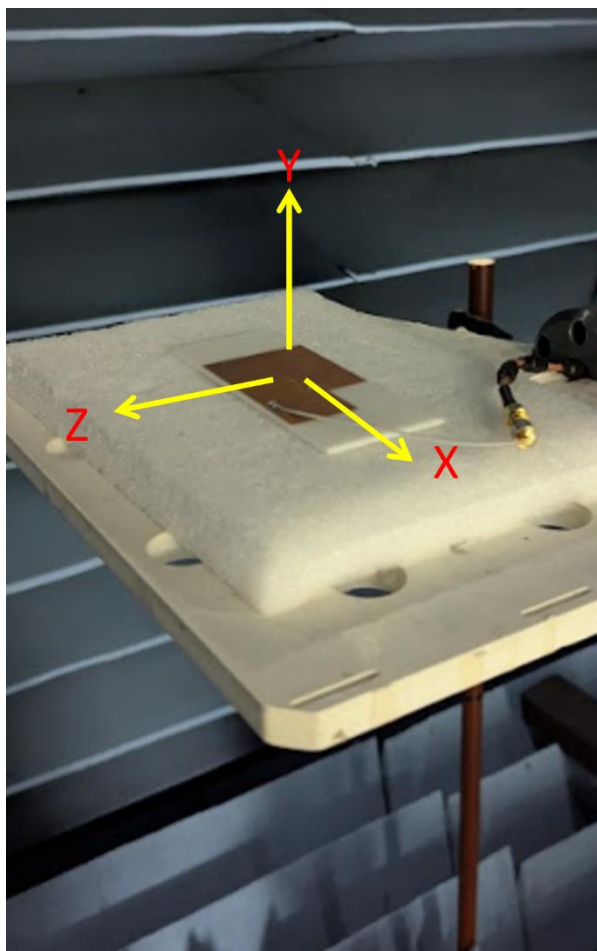


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## Measurement Setup





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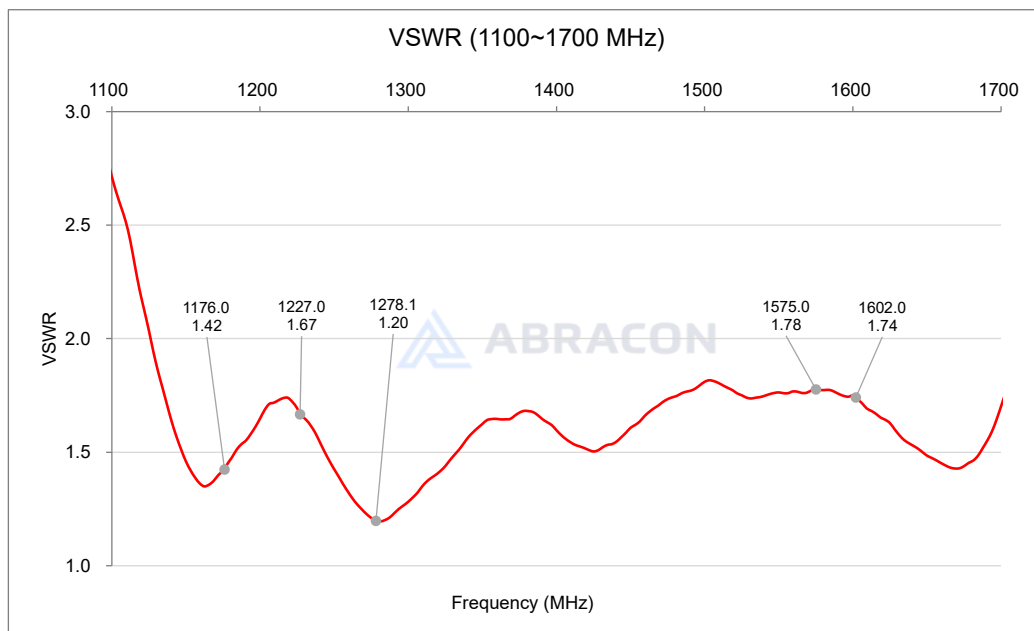
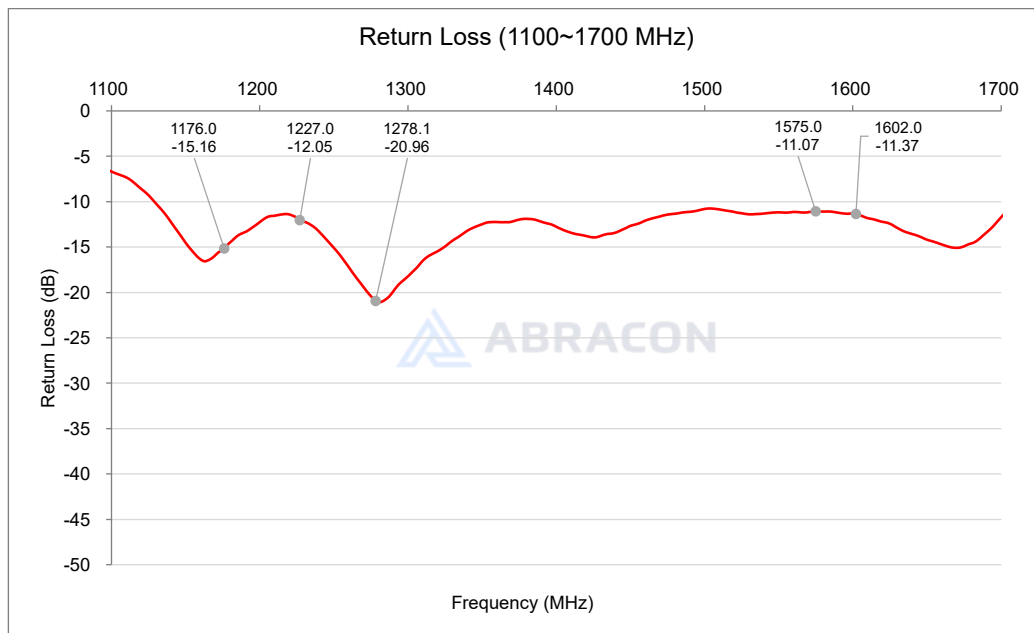


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76 x 47 x 0.2 mm  
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## Reflection Characteristics – Return Loss & VSWR





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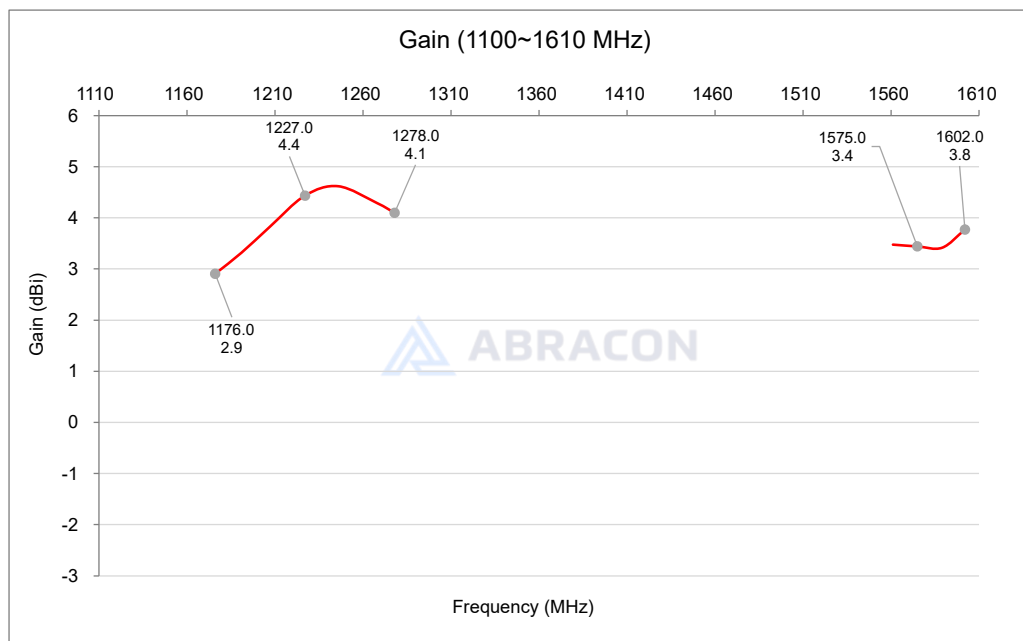


76 x 47 x 0.2 mm

RoHS Compliant

MSL Level = N/A

## Radiation Characteristics –Passive Peak Gain





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Request Samples

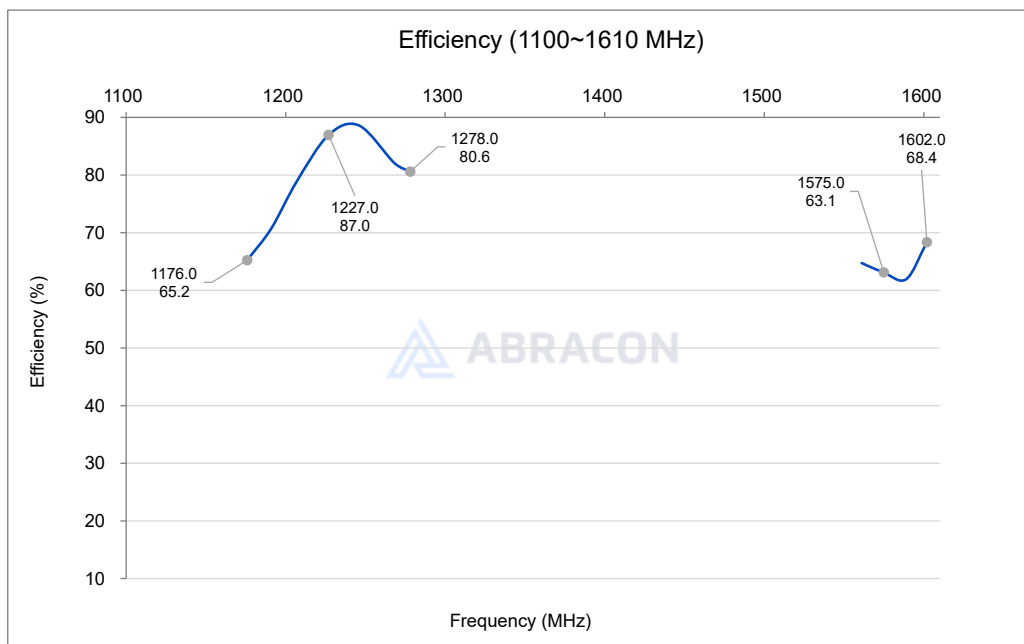


Check Inventory



76 x 47 x 0.2 mm  
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MSL Level = N/A

## Radiation Characteristics –Efficiency





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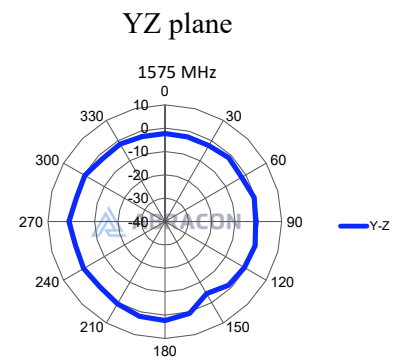
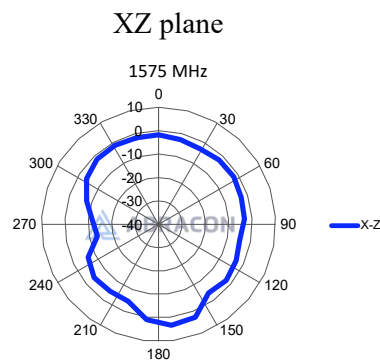
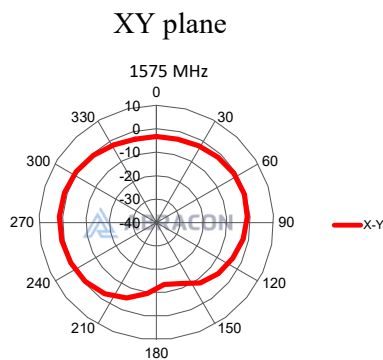
Check Inventory



76 x 47 x 0.2 mm  
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## Radiation Characteristics – 3D & 2D Pattern

1575MHz (L1 Band)





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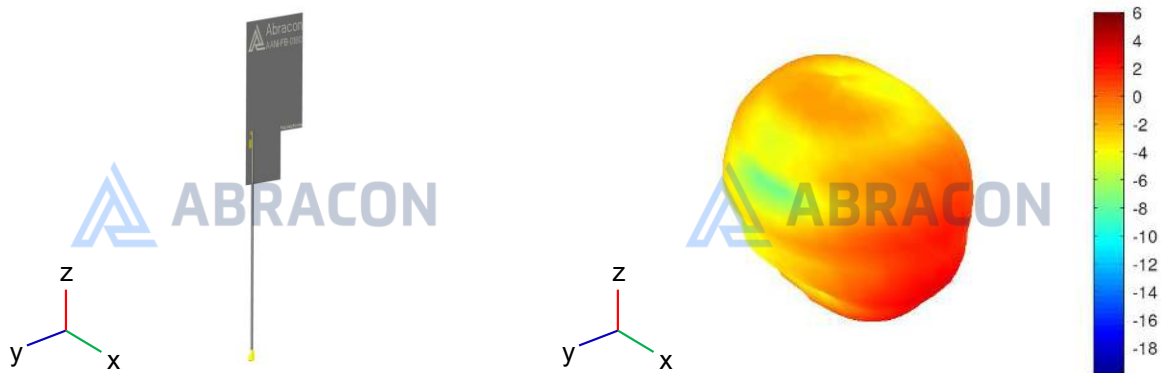


Check Inventory

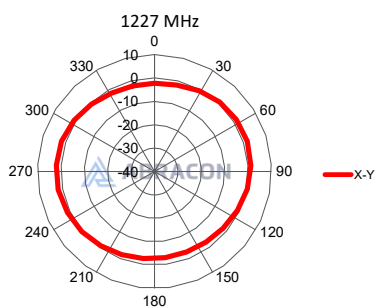


76 x 47 x 0.2 mm  
RoHS Compliant  
MSL Level = N/A

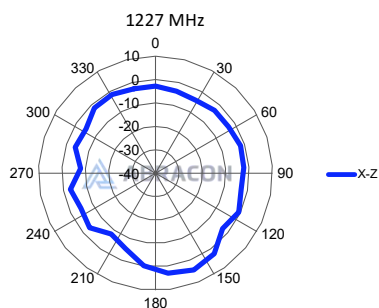
1227MHz (L2 Band)



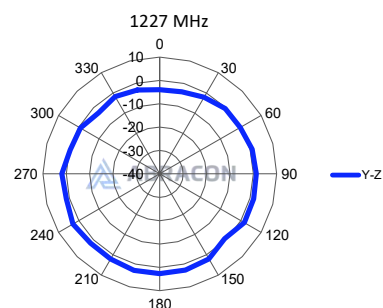
XY plane



XZ plane



YZ plane





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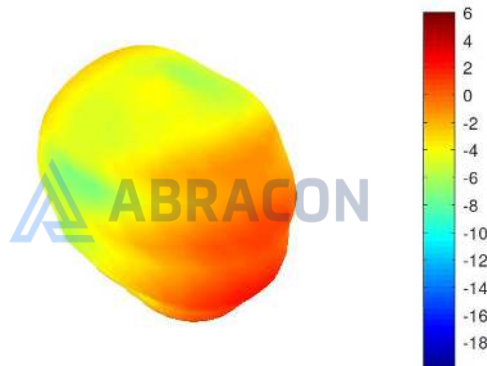
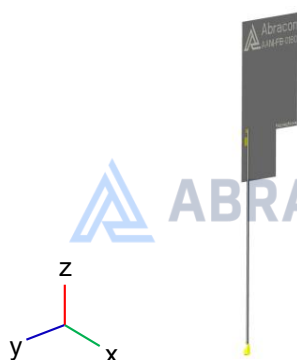


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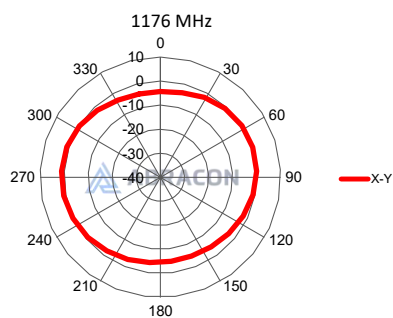


76 x 47 x 0.2 mm  
RoHS Compliant  
MSL Level = N/A

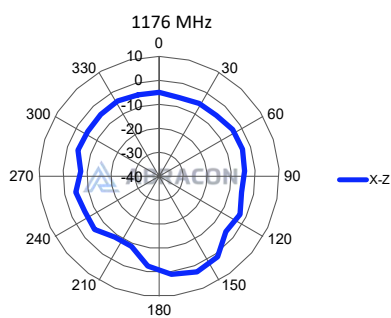
1176MHz (L5 Band)



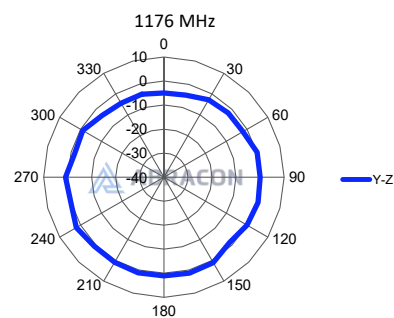
XY plane



XZ plane



YZ plane





**AANI-FB-0180**

Request Samples

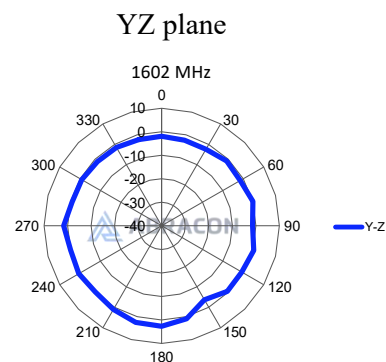
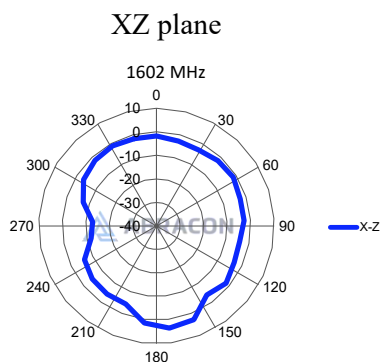
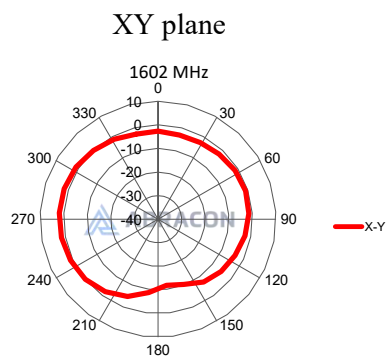
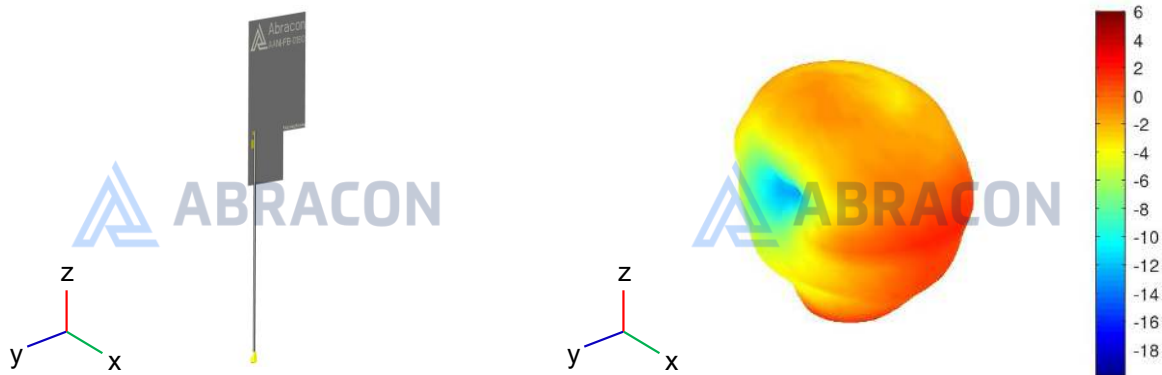


Check Inventory



76 x 47 x 0.2 mm  
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MSL Level = N/A

1602MHz (G1 Band)





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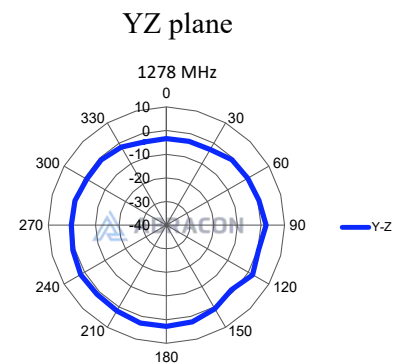
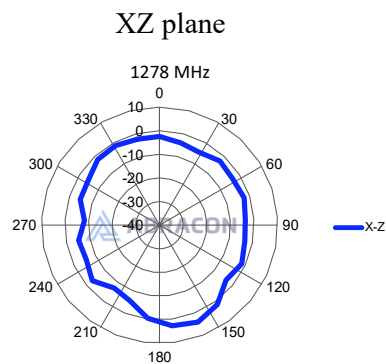
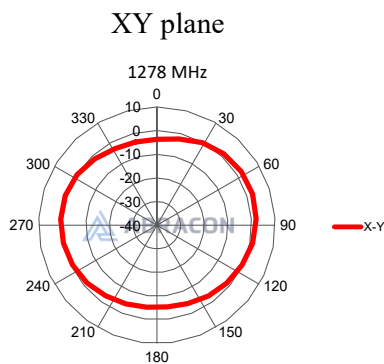
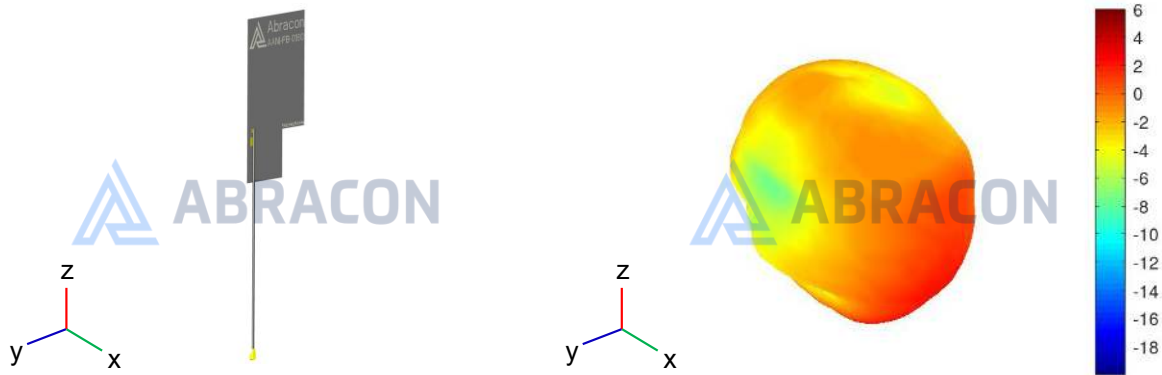


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76 x 47 x 0.2 mm  
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MSL Level = N/A

1278MHz (L6 Band)





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76 x 47 x 0.2 mm

**RoHS Compliant**

MSL Level = N/A

## Packaging

1. Number of Antenna/ bags: 50 pcs
2. Total Pcs / package: 1000 pcs

**ATTENTION:** Abracon LLC's products are Commercial-Off-The-Shelf ('COTS'), which are designed, intended, and validated for use in commercial, industrial, and automotive applications. The customer is responsible for testing and verifying the performance of an Abracon solution to meet their system-level requirements.



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**REVISED: 05-26-25**

ABRACON IS  
ISO9001-2015  
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