

Product Name: Castle patch antenna with EVB - EVB+PB18DRS

Part Number: H2BDAB1A2T0100

Features:

- Supporting: (L1+L5) GPS/ BDS/Galileo/QZSS/IRNSS/GLONASS
- Stable and reliable in performances
- Low temperature coefficient of frequency
- RoHS 2.0 compliance

Applications:

- Automotive telematics
- Safety of life transportation
- Marine
- Navigation

Castle patch antenna with EVB

MODEL: EVB+PB18DRS

Version: A

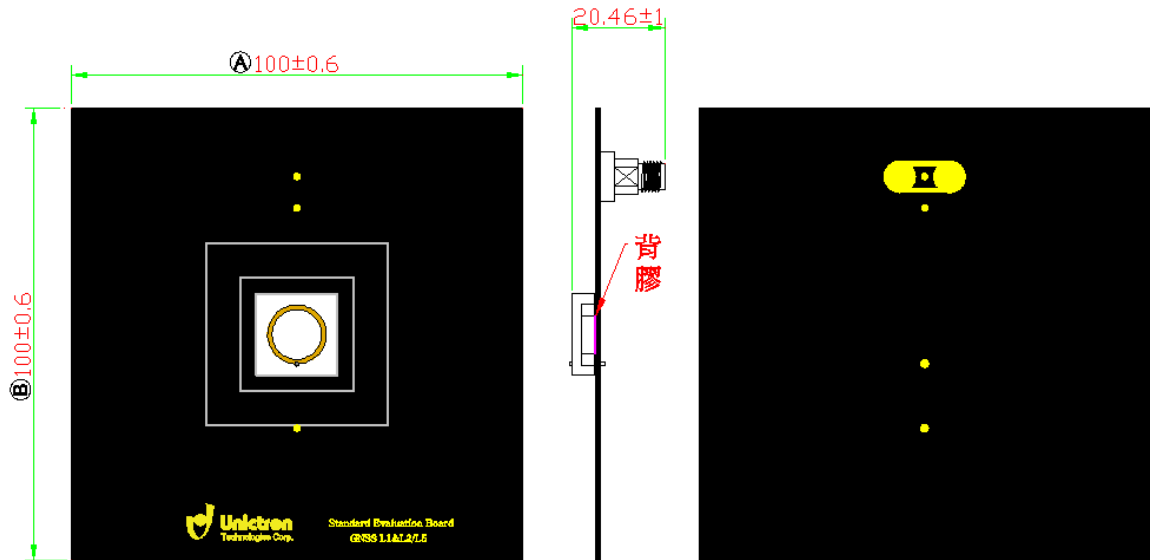
I. Patch Antenna Specifications:

| Items | Specifications | | |
|--|--|-------------|--|
| Navigation | GPS L1/ Galileo E1/ BDS B1/ QZSS L1 | GLONASS G1/ | GPS L5 Galileo E5a/ BDS B2/ QZSS L5 IRNSS L5 |
| Center Frequency (MHz) | 1575.42 | 1602 | 1176.5 |
| Return loss (dB) | < -10 Typ. | | |
| Peak Gain (dBi) | 3.1 Typ. | 2.0 Typ. | -0.8 Typ. |
| Average Gain(dB) | -3.6 Typ. | -4.5 Typ. | -6.0 Typ. |
| Efficiency (%) | 44 Typ. | 36 Typ. | 24 Typ. |
| Impedance (Ω) | 50 | | |
| Polarization | RHCP | | |

| Environmental Conditions | |
|---|-----------|
| Operation & Storage Temperature (°C) | -40 ~ +85 |
| Storage Temperature (°C) (Antenna with packing sealed) | -5 ~ +40 |
| Relative Humidity | 10 ~ 70 % |

© Unictron Technologies Corp.
All specifications subject to change without notice.

II. Antenna Dimensions (unit: mm):

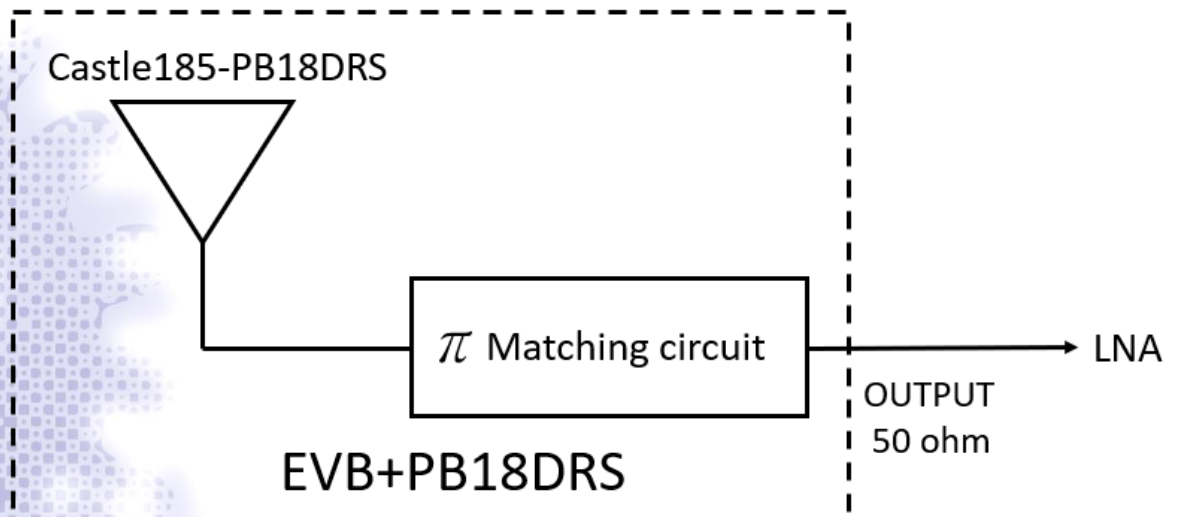


© Unictron Technologies Corp.
All specifications subject to change without notice.

NOTE:

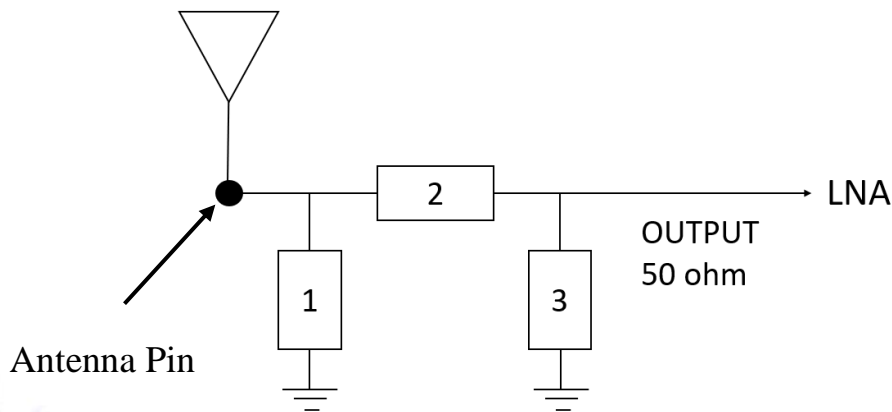
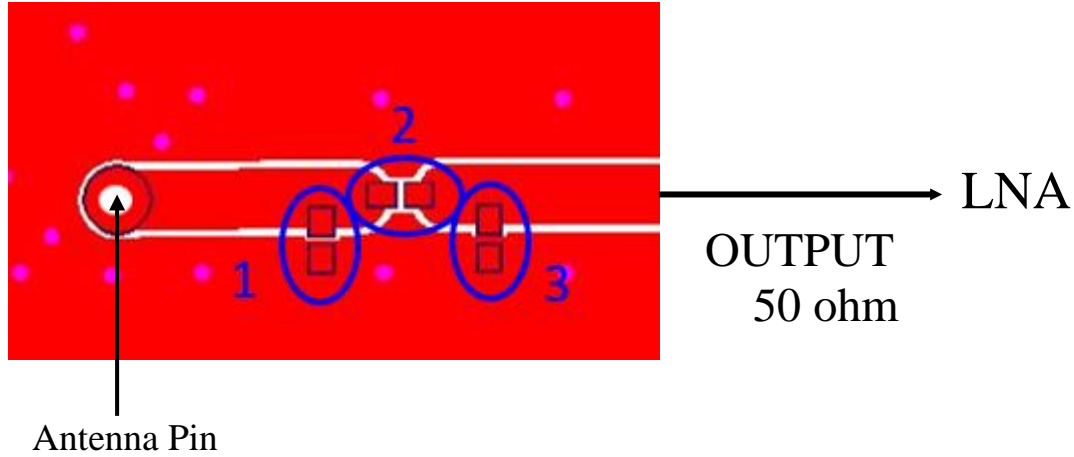
1. All materials are RoHS 2.0 compliant.
2. "A~B" Critical Dimensions.
3. "()" Reference Dimensions.

III. Block Diagram



IV. Matching circuit

With the following recommended values of matching and tuning components, at our standard 100 x 100 mm² evaluation board. However, these are typical reference values which may need to be changed when circuit boards or part vendors are different.

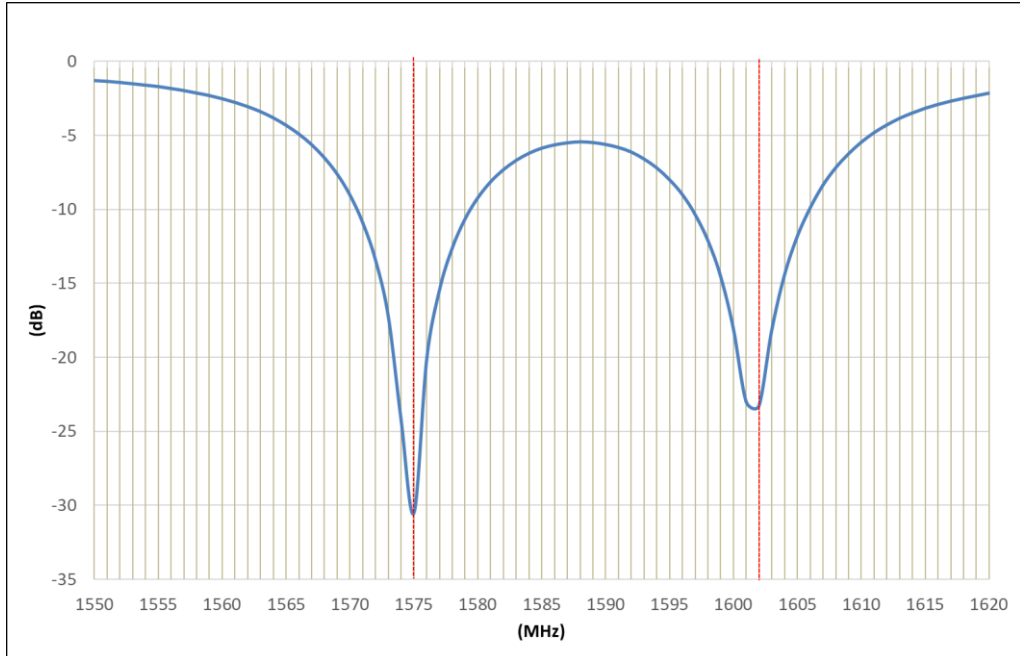


| System Matching Circuit Component | | | |
|-----------------------------------|-------------|--------|-----------|
| Location | Description | Vendor | Tolerance |
| 1 | N/A | - | - |
| 2 | 0Ω, (0402) | - | - |
| 3 | N/A | - | - |

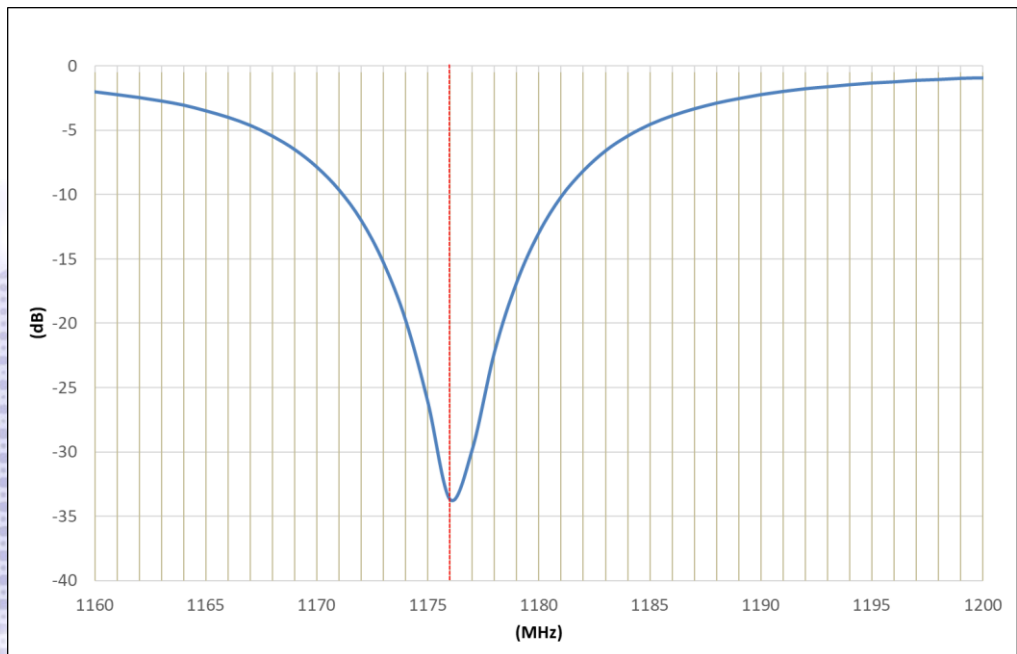
V. Properties:

a) Return loss (dB)

I. GNSS L1 Band

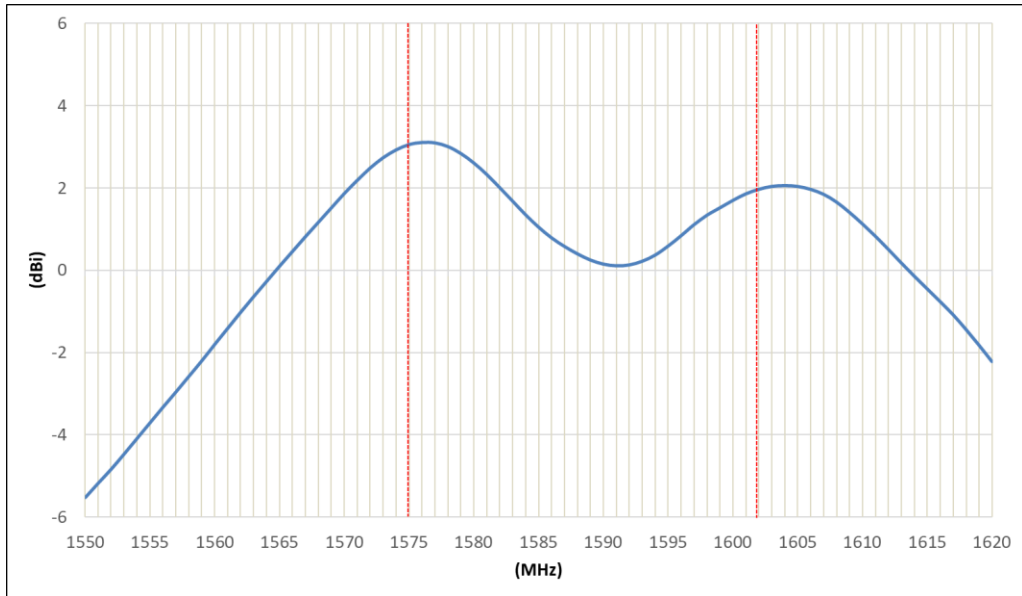


II. GNSS L5 Band

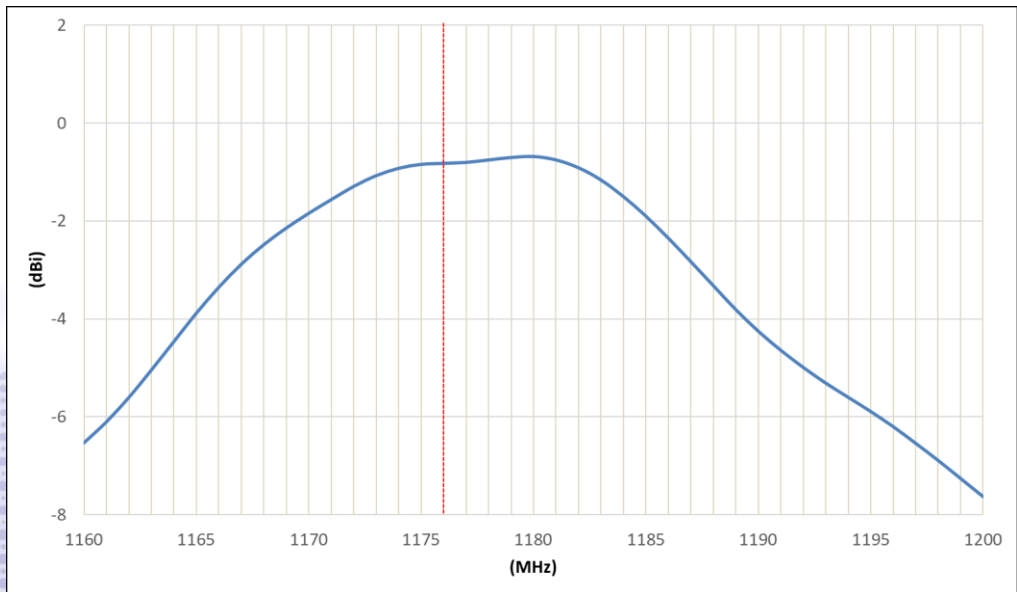


b) Peak Gain (dBi)

I. GNSS L1 Band



II. GNSS L5 Band



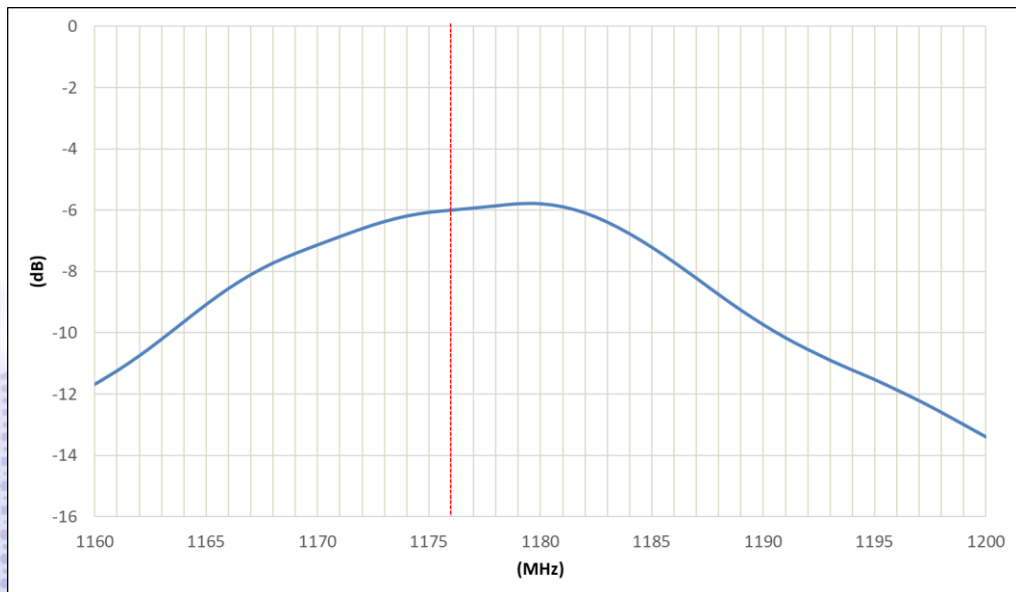
© Unictron Technologies Corp.
All specifications subject to change without notice.

c) Average Gain(dB)

I. GNSS L1 Band



II. GNSS L5 Band



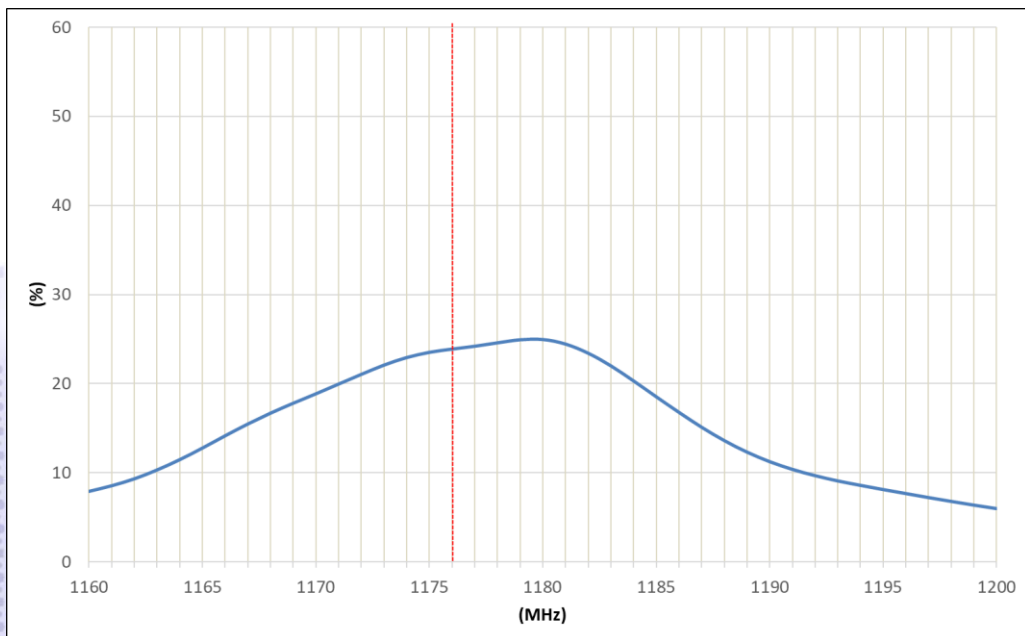
© Unictron Technologies Corp.
All specifications subject to change without notice.

d) Efficiency (%)

I. GNSS L1 Band



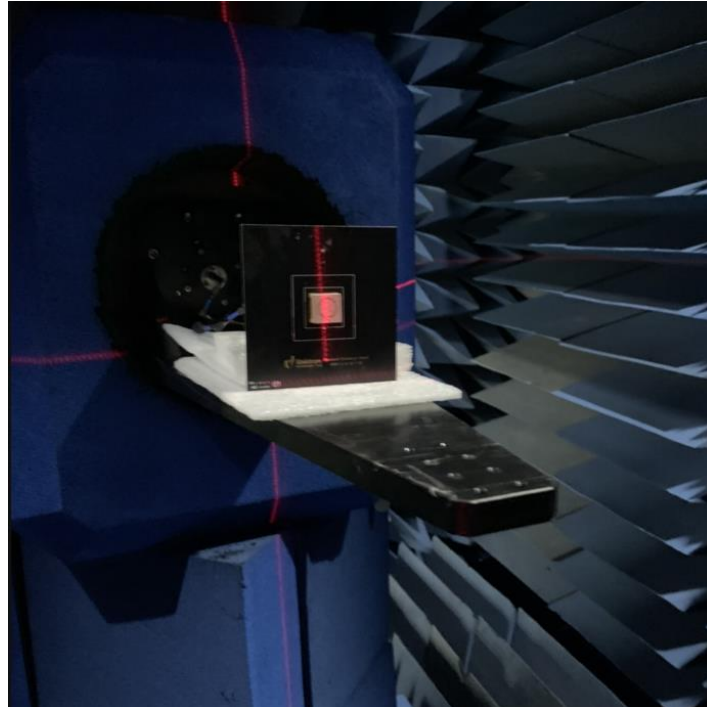
II. GNSS L5 Band



© Unictron Technologies Corp.
All specifications subject to change without notice.

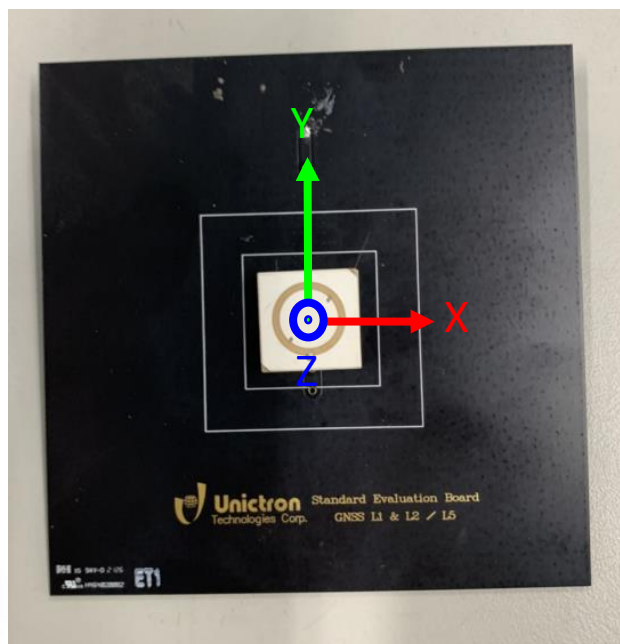
VI. Antenna Radiation Pattern Measurement:

The antenna radiation patterns are measured in Unictron's 3D Anechoic Chamber. The measurement setup is as show below.

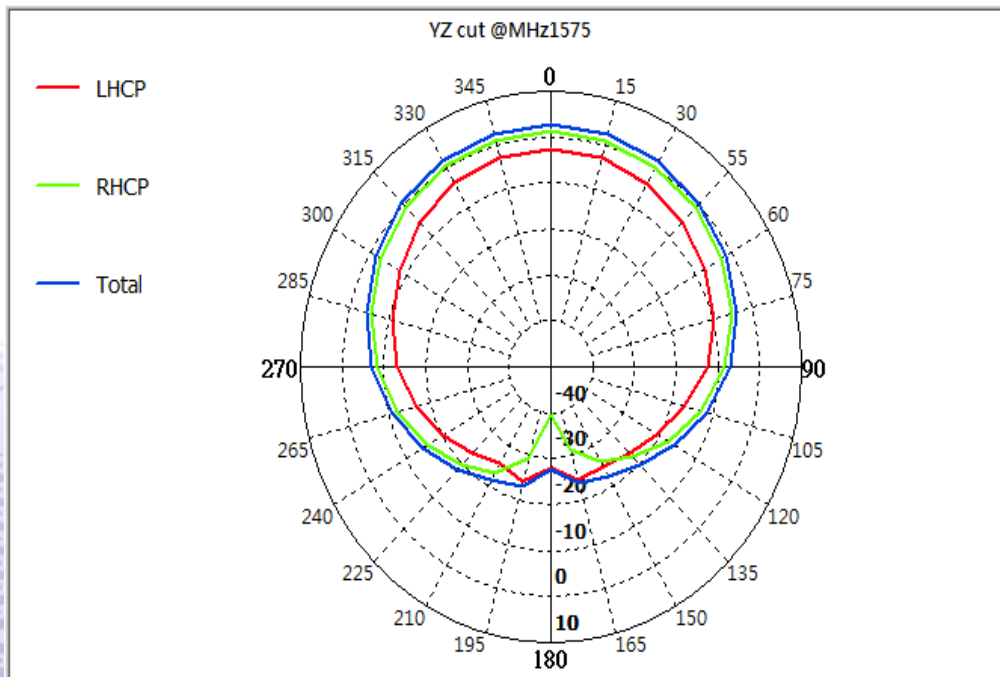
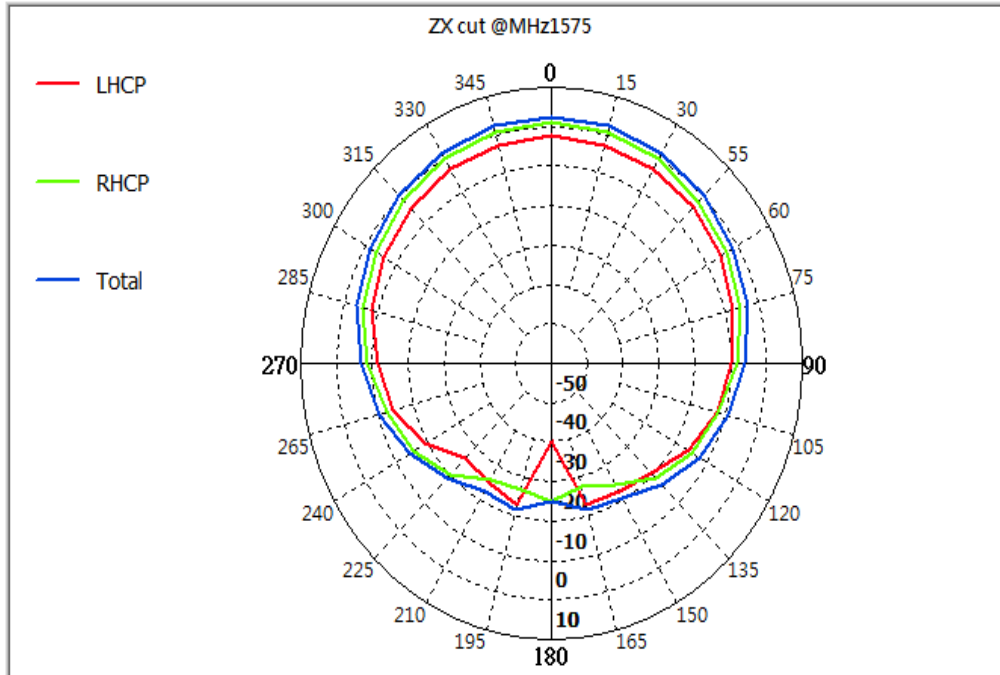


© Unictron Technologies Corp.
All specifications subject to change without notice.

2D Radiation Gain Pattern

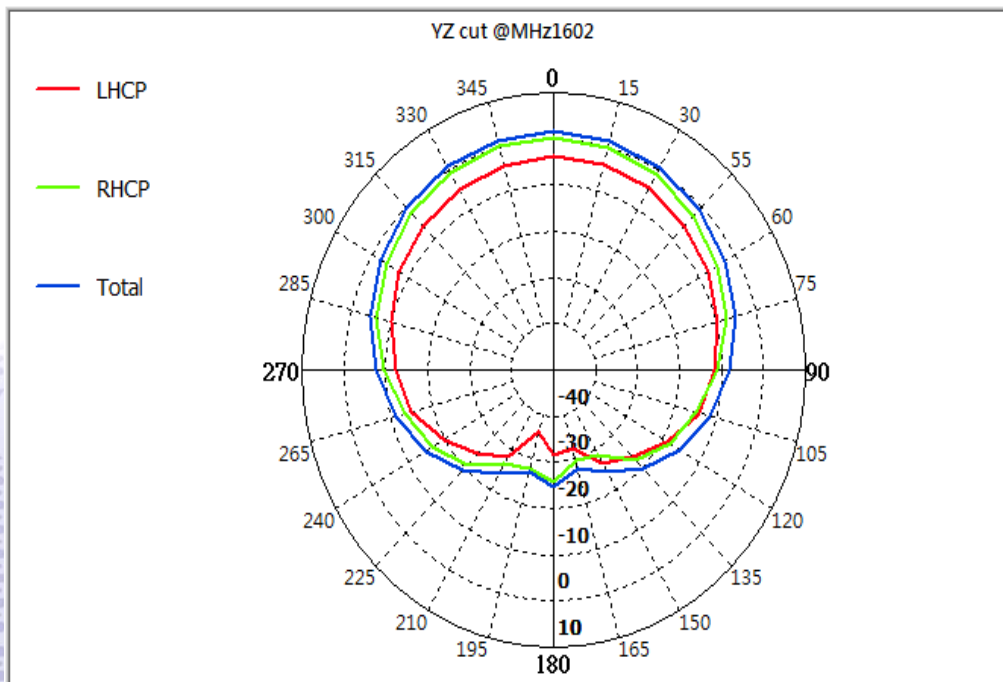
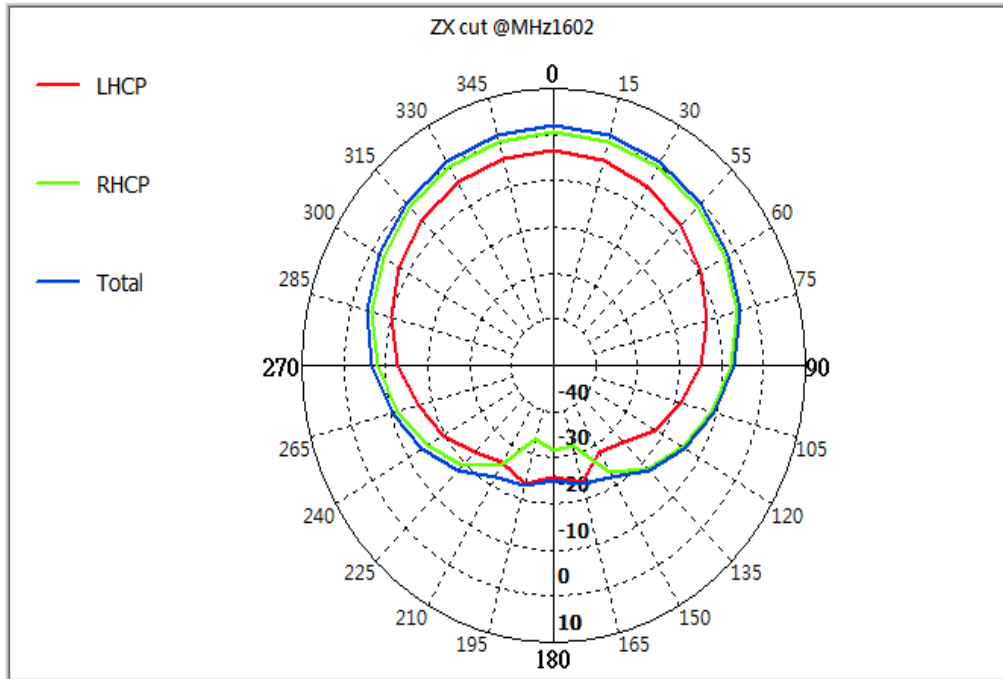


a) GNSS L1 Band @1575.42MHz (unit: dBi)



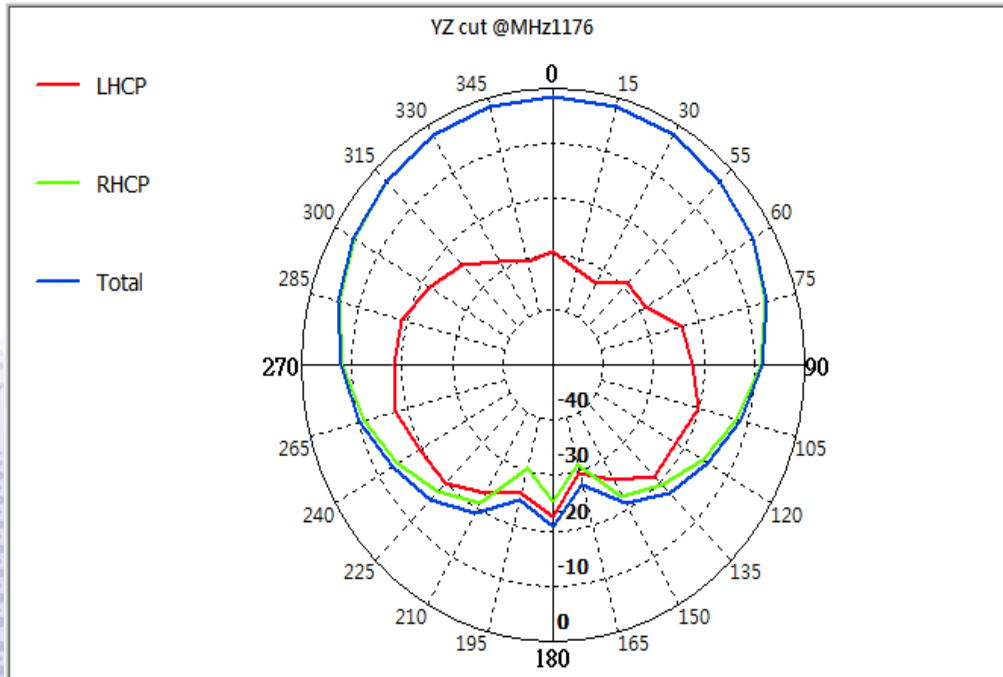
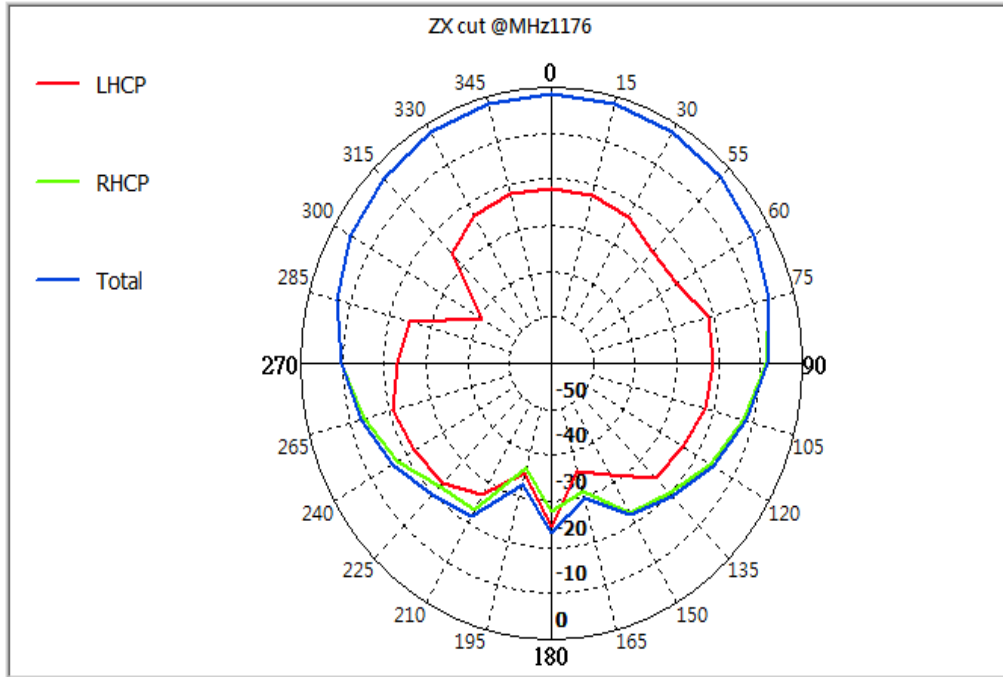
© Unictron Technologies Corp.
All specifications subject to change without notice.

b) GNSS L1 Band @1602MHz (unit: dBi)



© Unictron Technologies Corp.
All specifications subject to change without notice.

c) GNSS L5 Band @1176.5MHz (unit: dBi)



© Unictron Technologies Corp.
All specifications subject to change without notice.

VII. Packing:





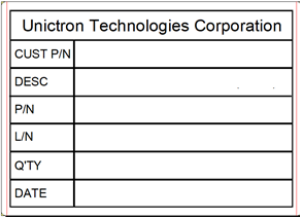
a) Weight:

Unit Weight: 40 ± 5 (g)

b) Quantity:

Each Pag : 1 pcs

Each outer carton : 50 pcs

| Step | Pictures | Descriptions |
|------|--|--|
| 1 |  | Place product into a double-layered antistatic bubble bag. |
| 2 |  | Place packaged product into a 1.3 cubic-foot carton. |
| 3 |  | Place 25 antistatic double layered bubble bag in an interlace pattern in each layer, with two layers per carton, total 50pcs per carton. |
| 4 |   | Seal the carton with packaging tape. Attach label to the top left corner on the side of the carton to complete packaging. |