

OEM GNSS Antenna HX-CSX334A

Manufacturer: Shanghai Huace Navigation Technology Ltd.

Address: 577 Songying Road, Qingpu District, 201706 Shanghai, China



HX-CSX334A is an embedded multi-constellation multi-frequency GNSS antenna that covers GPS, GLONASS, BDS, and GALILEO and is also compatible with 4G. It can be widely used in geodetic surveying, marine surveying, channel surveying, dredging surveying, seismic monitoring, bridge deformation monitoring, landslide monitoring, port container operations, and other occasions.

GREAT COMPATIBILITY FOR SOLID RELIABILITY

This versatile antenna adopts a compact design that combines GNSS antenna, 4G antennas antenna, delivering great compatibility to be integrated into RTK applications. The layout of this multifunction antenna is specifically designed for realizing a perfect isolation effect among the different antennas embedded and ensuring outstanding reduction of interrelated influence.

STABLE PHASE CENTER FOR REMARKABLE PERFORMANCE

It features multi-point feeding capability, guaranteeing a reliable phase center for millimeter positioning accuracy. The BT antenna is placed around the GNSS, ensuring good structural symmetry, and ensuring the consistency of the positioning antenna's phase center.

TRACKING IN COMPLEX ENVIRONMENTS

This antenna exhibits superior high gain performance with ultralow signal loss, ensuring reliable satellite signal tracking. It also delivers wide beam width that covers wide frequencies with high marginal gain. These features in turn ensure the antenna a robust signal availability even in low elevation, making the antenna a perfect option in complex environments that have blockage, such as tree canopy and buildings.

RELIABLE AND ROBUST STRUCTURE

Utilizing self-developed air-spaced technology and low consumption microwave materials, GNSS antenna substrate is molded integrally through a mold, resulting in lower loss, lighter weight, smaller antenna dimensions, higher precision, good consistency, and more stable and reliable electrical performance.

STRONG ANTI-INTERFERENCE PERFORMANCE

The advanced LNA (Low Noise Amplifier) excels in improved signal filtering and out-of-band rejection and restrains unwanted electromagnetic interferences, plus strong multi-path reduction capacity over all GNSS frequency bands, providing strong anti-interference performance for consistent and reliable GNSS signals, even under complicated environments such as power grids, communication base stations, and broadcast stations.

KEY FEATURES

- Supports GPS, GLONASS, Galileo, BeiDou, QZSS, IRNSS and L-band correction service
- Supports Dual 4G
- Strong anti-Interference performance
- Powerful system compatibility, easy for machine integration

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Specifications

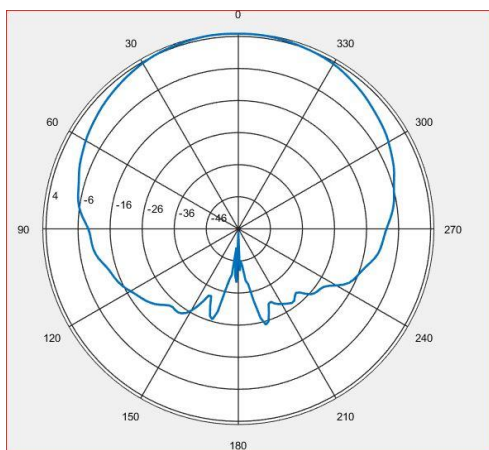
| PERFORMANCE | |
|------------------------|--|
| Frequency | GPS L1/L2/L5 BDS B1/B2/B3 GLONASS L1/L2/L3 GALILEO E1/E5a/E5b/E6 QZSS L1/L2/L5 IRNSS L5 SBAS L1/L5 L-Band 4G |
| Nominal Impedance | 50 Ω |
| Polarization | RHCP |
| Axial Ratio | $\leq 3\text{dB}$ |
| Azimuth Coverage | 360° |
| Azimuth Coverage | GNSS: ≤ 2.0 |
| Peak Gain | GNSS: 5dBi |
| Phase Center Deviation | $\pm 2\text{mm}$ |
| LOW NOISE AMPLIFIER | |
| LNA Gain | 35 \pm 2dB |
| Noise Figure | L2 frequency band $\leq 2\text{dB}$; L1 frequency band $\leq 2.5\text{dB}$ |
| VSWR | ≤ 2.0 |
| Passband Ripple | $\pm 2\text{dB}$ |
| Passband Ripple | +3.3 ~ +12VDC |

| Operation Current | $\leq 45\text{mA}$ |
|-----------------------|---------------------|
| Group Delay | $\leq 5\text{ns}$ |
| Ripple | |
| MECHANICAL | |
| Dimensions | 152.2*152.2*36.7 mm |
| Connector | I-PEX |
| ENVIRONMENT | |
| Operating Temperature | -40°C ~ +85°C |
| Storage Temperature | -55°C ~ +85°C |
| Humidity | 95% non-condensing |

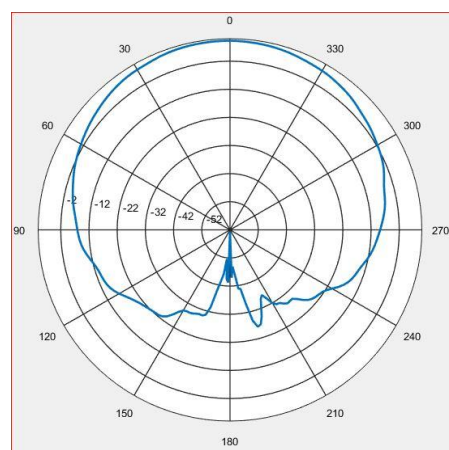
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GNSS Antenna Performance

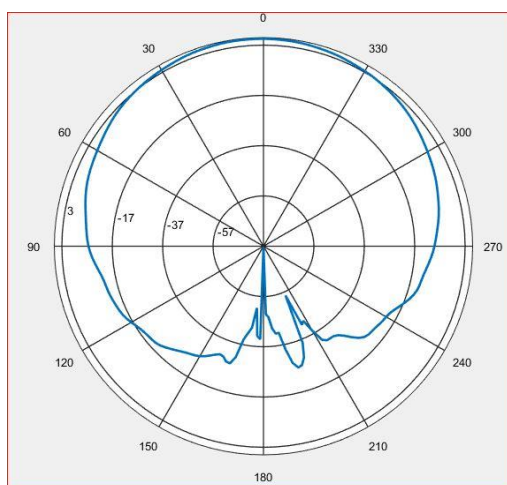
| Frequency (MHz) | 1176 | 1205 | 1227 | 1268 | 1542 | 1559 | 1575 | 1606 |
|-----------------|------|------|------|------|------|------|------|------|
| Gain (dBi) | 5.04 | 5.39 | 5.64 | 5.42 | 4.60 | 4.71 | 5.09 | 5.21 |



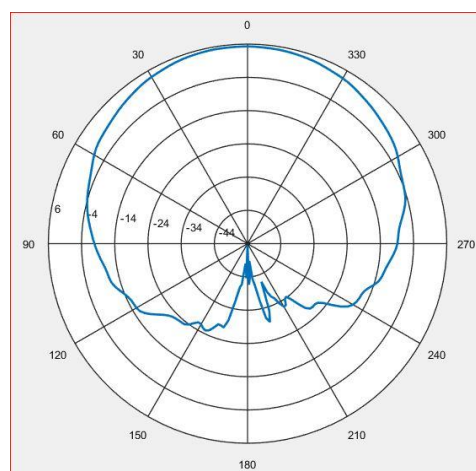
1176 MHz



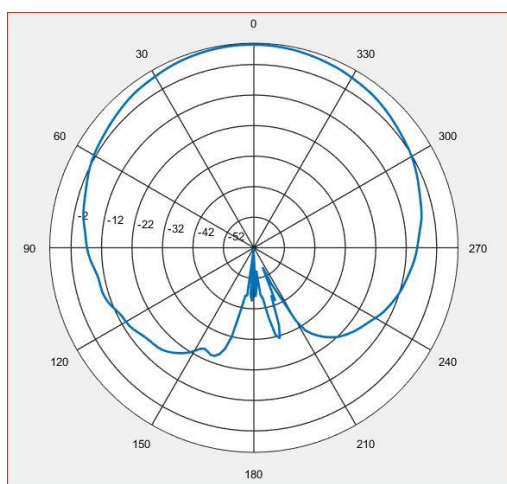
1205 MHz



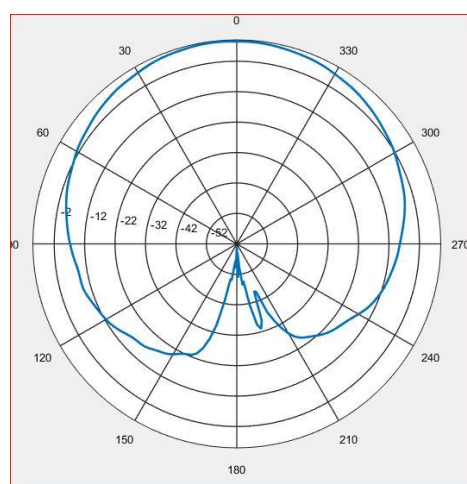
1227 MHz



1268 MHz

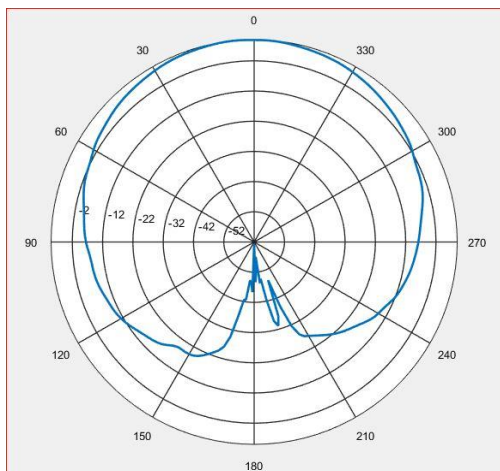


1542 MHz

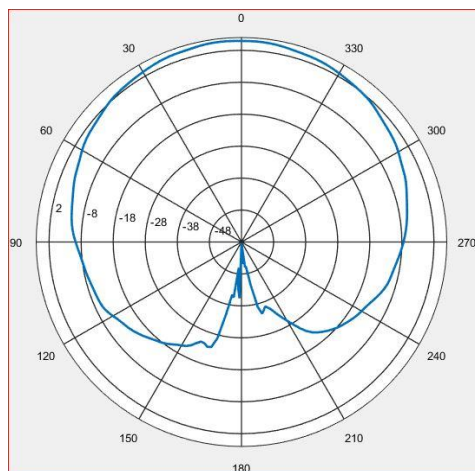


1559 MHz

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1575 MHz

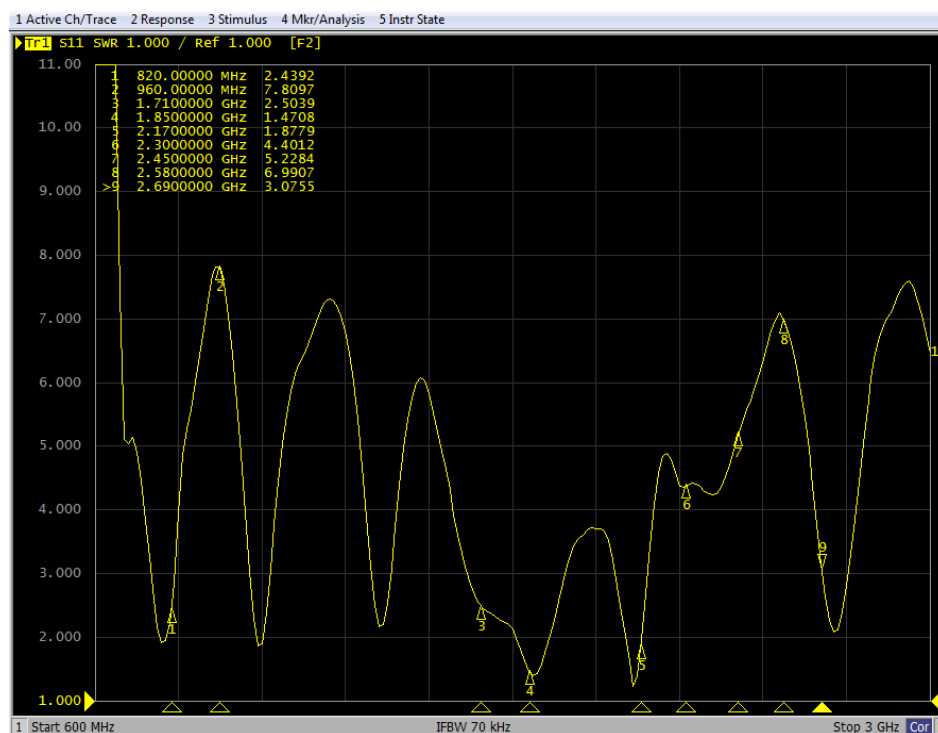


1606 MHz

4G-1 Antenna Performance

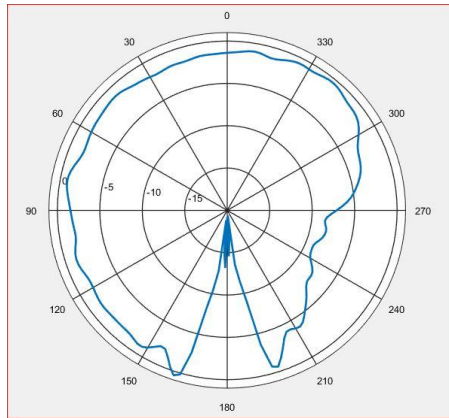
4G Antenna Performance

| Frequency (MHz) | 820 | 890 | 960 | 1710 | 1810 | 1910 | 2010 | 2110 | 2210 | 2310 | 2410 | 2510 | 2610 | 2690 |
|--------------------|------|-------|-------|-------|------|------|------|------|------|------|------|-------|-------|------|
| Gain (dBi) | 0.72 | -4.00 | -6.75 | -0.31 | 3.01 | 2.42 | 2.13 | 1.64 | 0.38 | 0.85 | 0.49 | -0.95 | -0.07 | 2.41 |

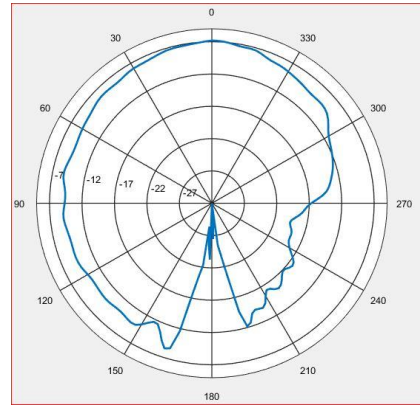


4G Antenna VSWR

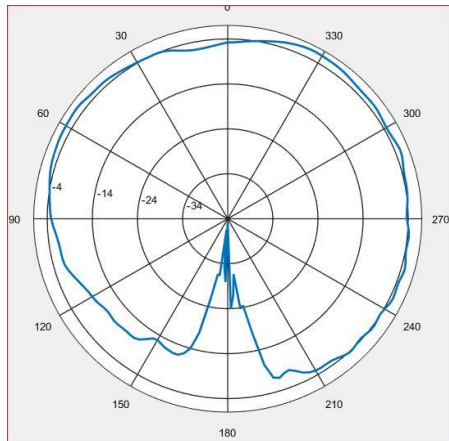
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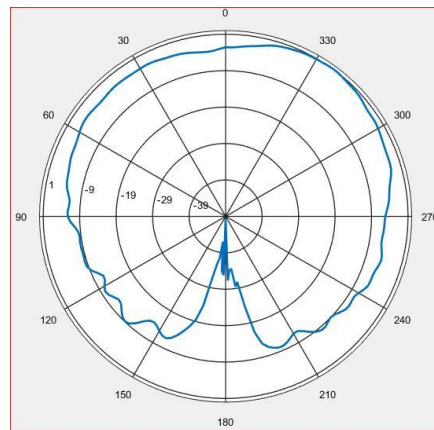
820 MHz



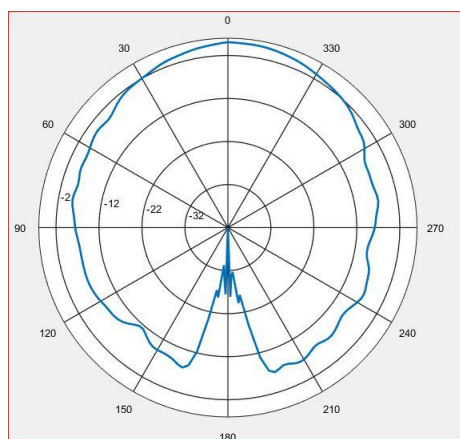
960 MHz



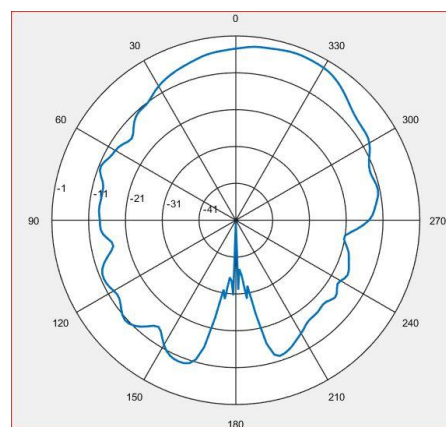
1710 MHz



1910 MHz

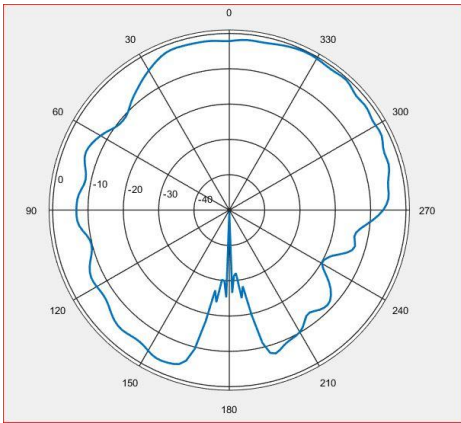


2110 MHz



2510 MHz

OEM GNSS Antenna HX-CSX334A

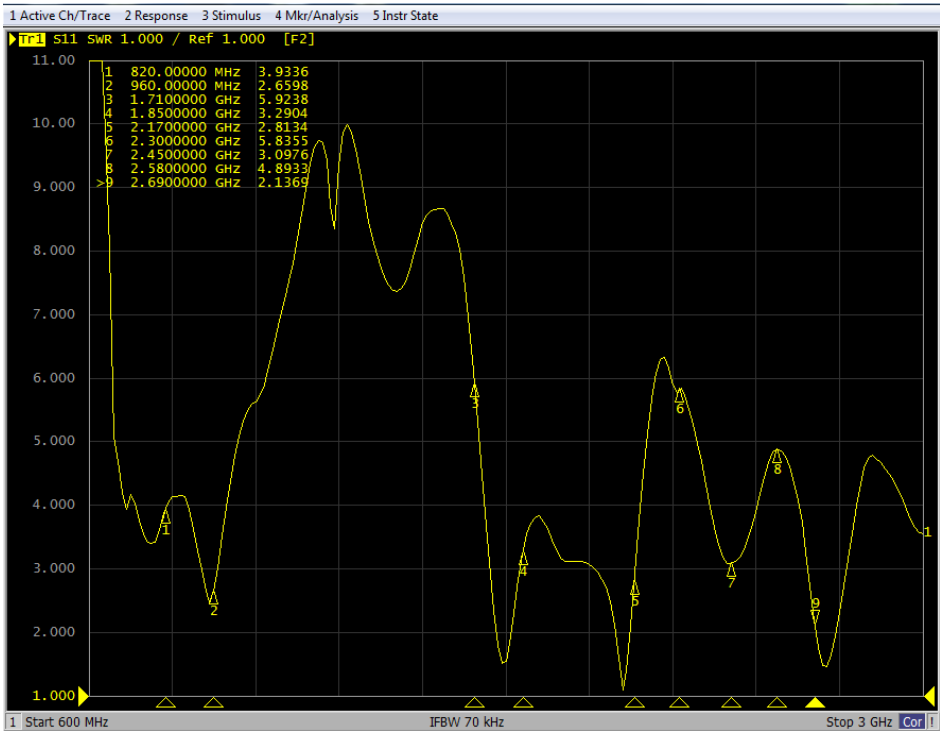


2690 MHz

4G-2 Antenna Performance

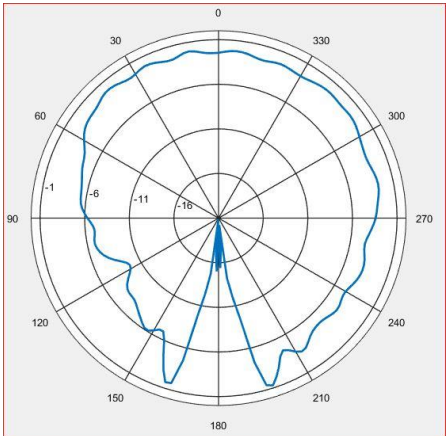
4G Antenna Performance

| Frequency (MHz) | 820 | 890 | 960 | 1710 | 1810 | 1910 | 2010 | 2110 | 2210 | 2310 | 2410 | 2510 | 2610 | 2690 |
|--------------------|-------|------|-------|-------|------|------|------|------|-------|-------|------|------|------|------|
| Gain (dBi) | -0.82 | 0.25 | -1.69 | -3.19 | 3.29 | 0.38 | 1.42 | 2.69 | -3.32 | -1.73 | 1.17 | 0.58 | 1.60 | 4.45 |

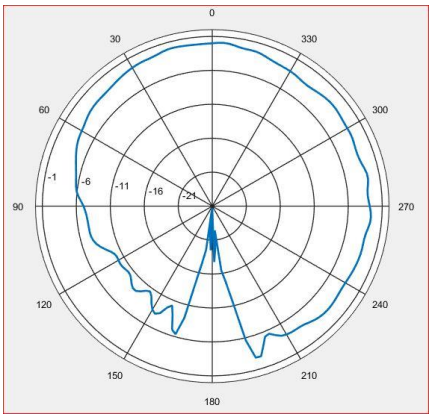


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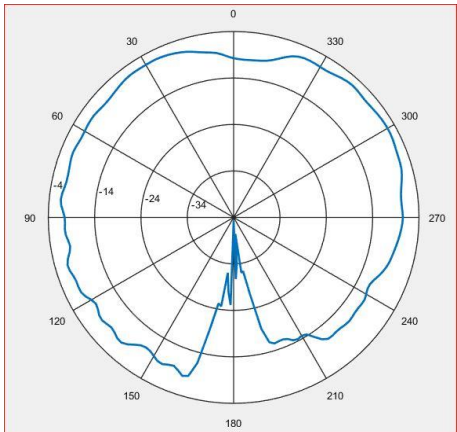
4G Antenna VSWR



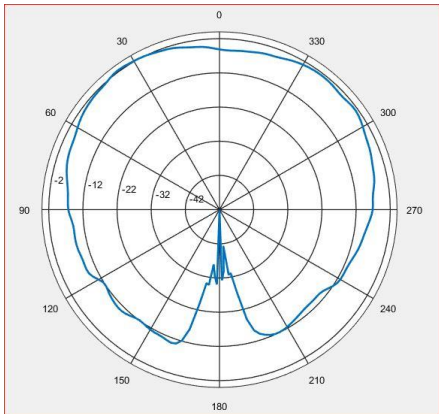
820 MHz



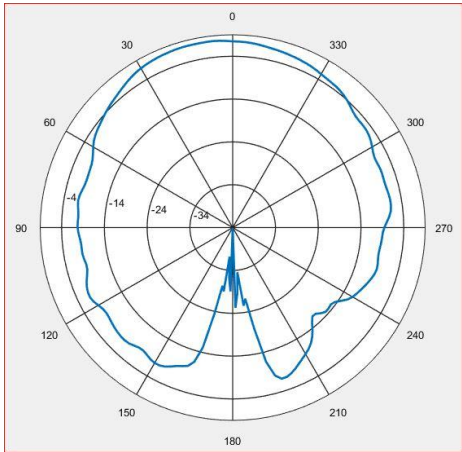
960 MHz



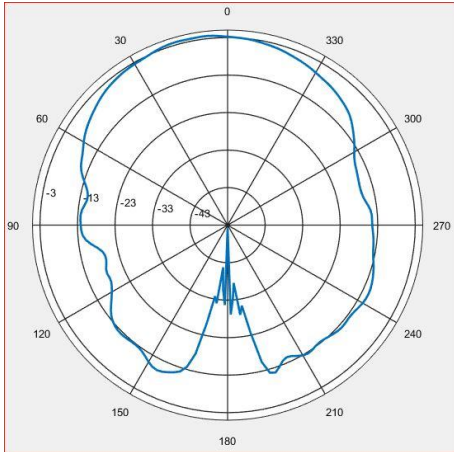
1710MHz



1910 MHz

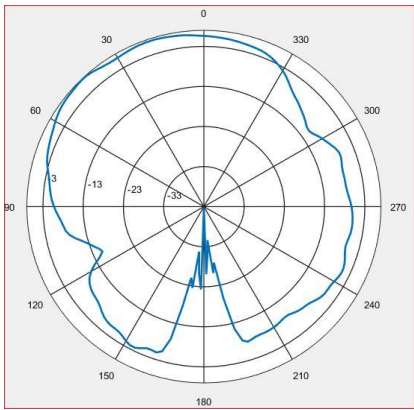


2110 MHz



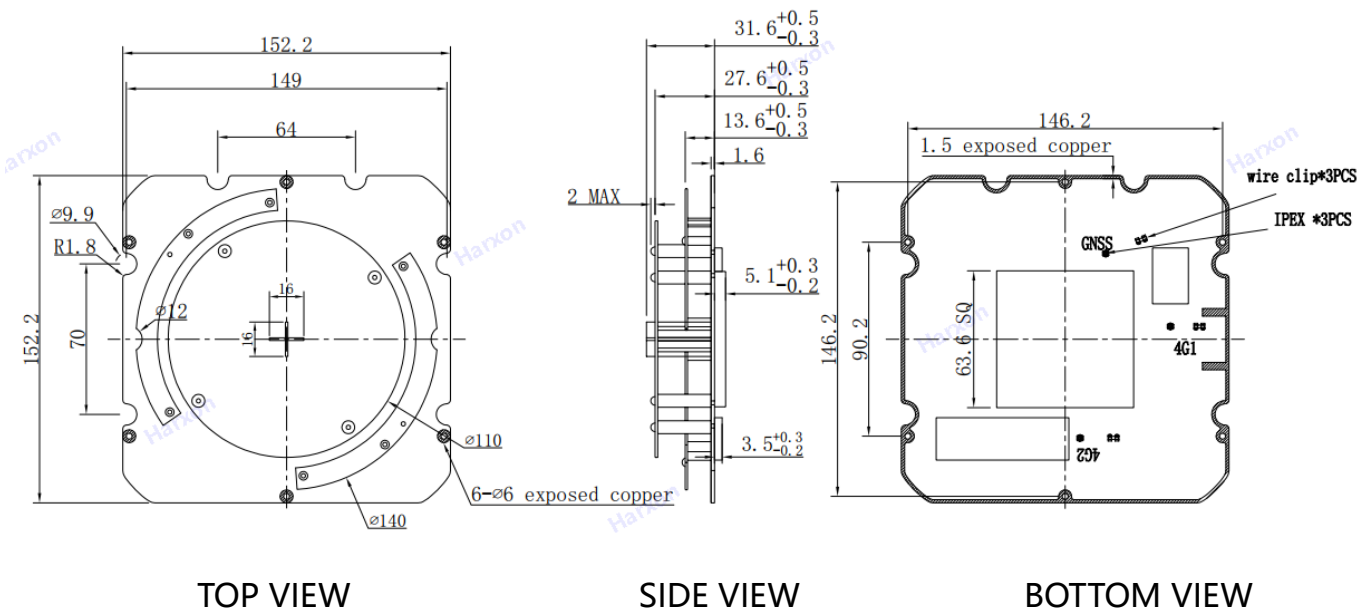
2510 MHz

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2690 MHz

Structure & Phase Center Drawing (mm)



Undeclared Tolerance:±0.3mm