

OEM GNSS Antenna HX-CSX300A



HX-CSX300A is an embedded full frequency GNSS antenna covering GPS, GLONASS, BDS, GALILEO, and QZSS. It is also compatible with 4G, meeting the demand for multi-system compatibility in current survey devices. It can be widely used in various applications such as geodetic surveying, marine surveying, channel surveying, dredging surveying, seismic monitoring, bridge deformation monitoring, landslide monitoring, and port container operations.

HIGHLY INTEGRATED ANTENNA FOR EASY INTEGRATION

HX-CSX300A integrates GNSS antenna and 4G into one compact enclosure, greatly simplifying RTK integration. Deep optimization has been carried out for the isolation between antennas of various systems, systematically addressing the electromagnetic compatibility issues that have long troubled RTK receivers.

STABLE PHASE CENTER FOR ROBUST POSITIONING PERFORMANCE

It features multi-point feeding capability, guaranteeing a reliable phase center for millimeter positioning accuracy.

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 guarantee robust signal availability even in low elevation, making the antenna a perfect option for complex environments with blockage, such as forests and buildings.

RELIABLE STRUCTURE FOR STABLE PERFORMANCE

This antenna uses air dielectric and low-loss microwave board materials. The overall weight is reduced, the structure is more robust, and the electrical performance becomes more stable and reliable.

STRONG ANTI-INTERFERENCE PERFORMANCE

The advanced LNA (Low Noise Amplifier) excels in improved signal filtering and out-of-band rejection, perfectly restraining unwanted electromagnetic interferences. With strong multi-path reduction capacity for strong anti-interference performance, consistent and reliable GNSS signals can be achieved even under complicated environments such as power grids, communication base stations and broadcast stations.

Key Features

- Supports GPS, GLONASS, Beidou, Galileo, QZSS
- Supports 4G
- Anti-electromagnetic interference, tracking in complex environments
- Powerful system compatibility, easy for machine integration

MODEL: HX-CSX300A

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Specifications

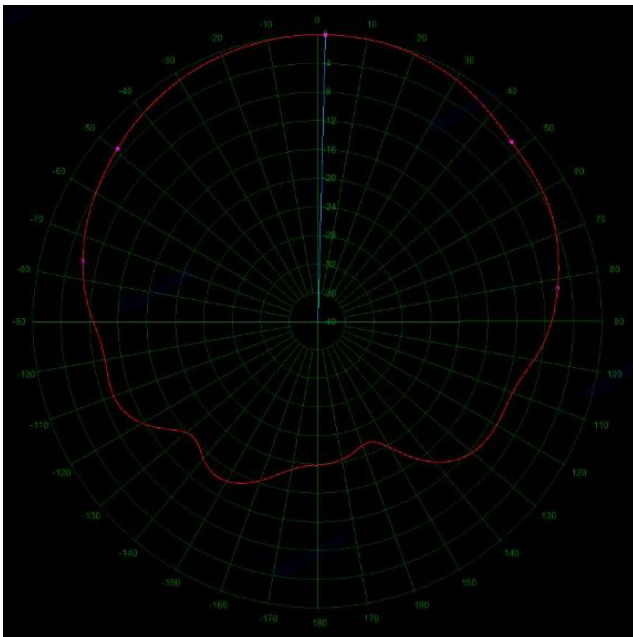
| PERFORMANCE | |
|------------------------|--|
| Signal Received | GPS L1/L2/L5 BDS B1I/B2I/B3I/B1C/B2a/B2b GLONASS L1/L2/L3 GALILEO E1/E5a/E5b/E6 QZSS L1、L2、L5、L6 IRNSS L5 L-Band 4G |
| Nominal Impedance | 50 Ω |
| Polarization | RHCP |
| Axial Ratio | $\leq 3\text{dB}$ |
| Azimuth Coverage | 360° |
| Azimuth Coverage | ≤ 2.0 |
| Peak Gain | GNSS: 5dBi 4G: 1dBi(Max) |
| Phase Center Deviation | $\pm 2\text{mm}$ |
| LOW NOISE AMPLIFIER | |

| LNA Gain | 30 \pm 2dB |
|-----------------------|------------------------------------|
| Noise Figure | $\leq 2\text{dB}$ |
| VSWR | ≤ 2.0 |
| Passband Ripple | $\pm 2\text{dB}$ |
| Passband Ripple | +3.3 ~ +12VDC |
| Operation Current | $\leq 45\text{mA}$ |
| Group Delay Ripple | $\leq 5\text{ns}$ |
| MECHANICAL | |
| Dimensions | $\Phi 111.0 \times H19.8\text{mm}$ |
| Connector | GNSS: MMCX-JW 4G : IPEX1 |
| ENVIRONMENTAL | |
| Operating Temperature | -40°C ~ +85°C |
| Storage Temperature | -55°C ~ +85°C |
| Humidity | 95% non-condensing |

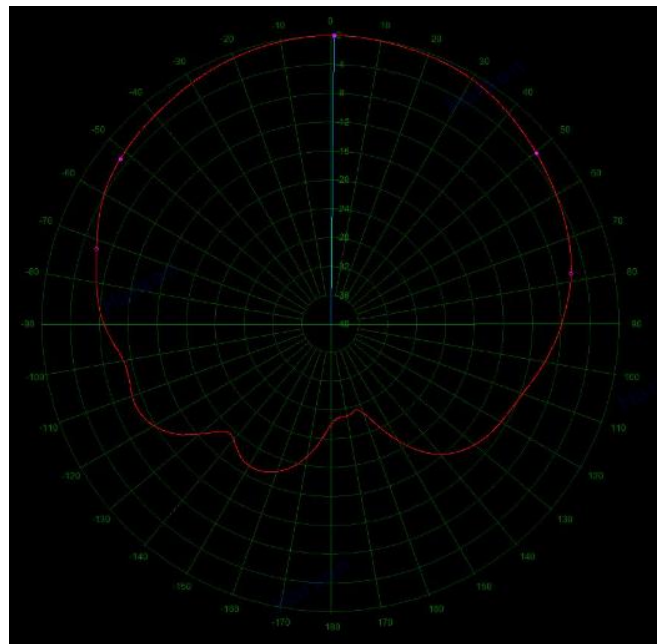
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GNSS Antenna Performance

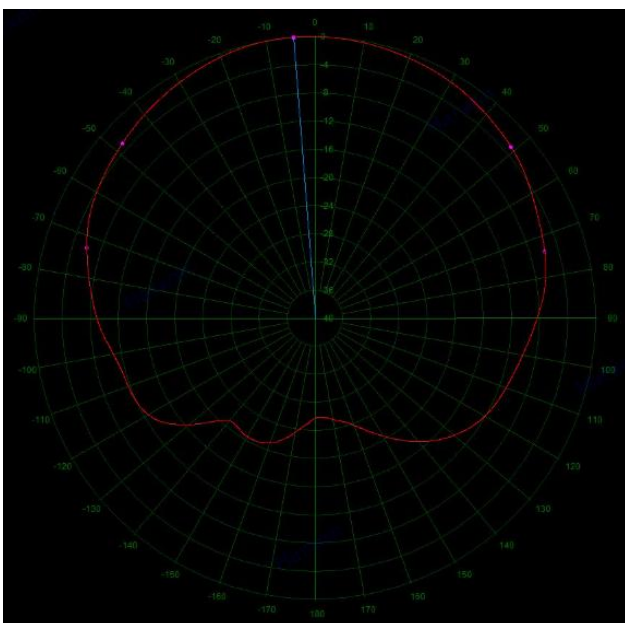
| Frequency (MHz) | 1176 | 1206 | 1227 | 1268 | 1559 | 1561 | 1575 | 1606 |
|-----------------|------|------|------|------|------|------|------|------|
| Gain (dBi) | 3.0 | 4.0 | 4.5 | 4.4 | 4.0 | 4.2 | 4.6 | 4.1 |



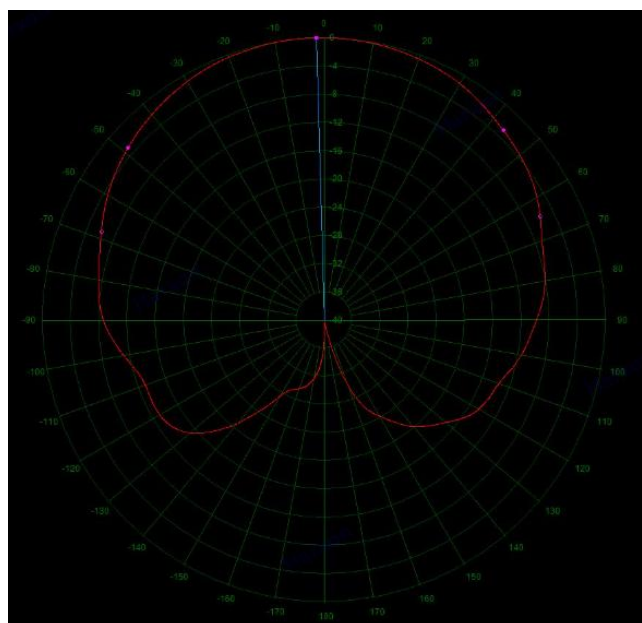
1176MHz



1227MHz

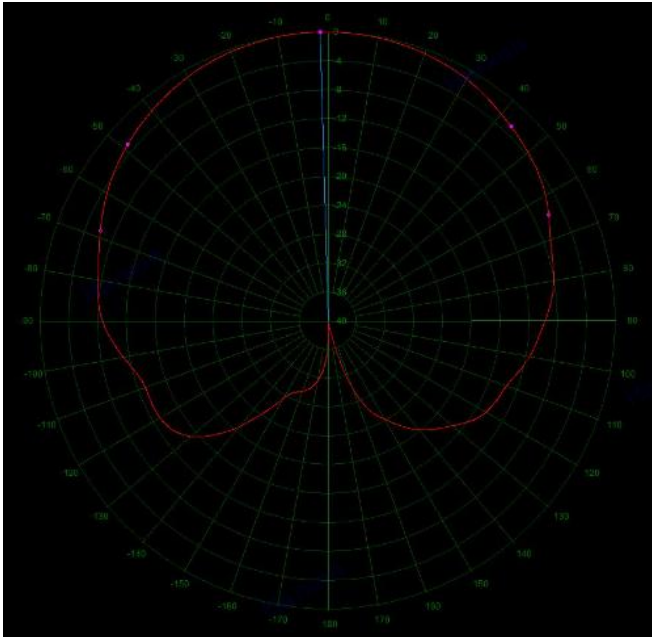


1268MHz

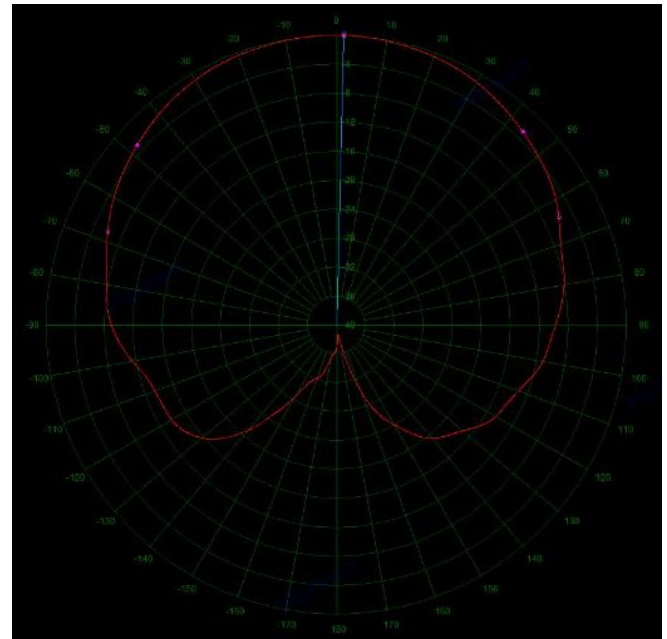


1559MHz

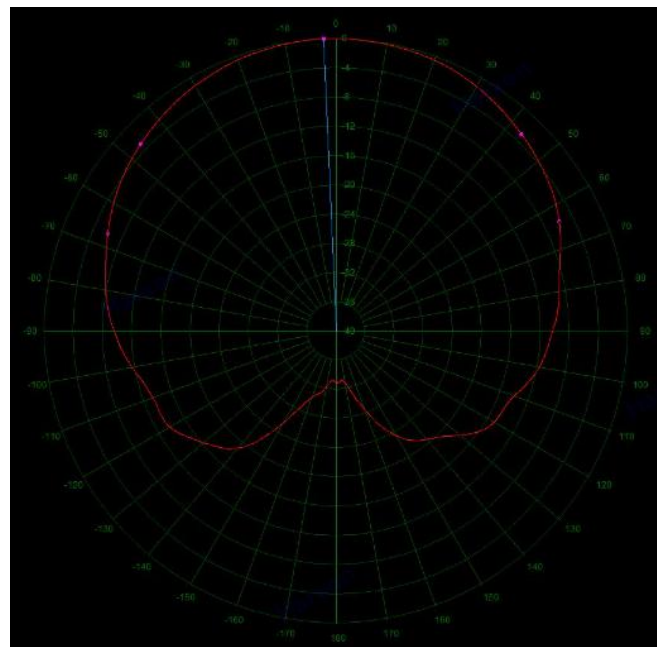
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1561MHz



1575MHz

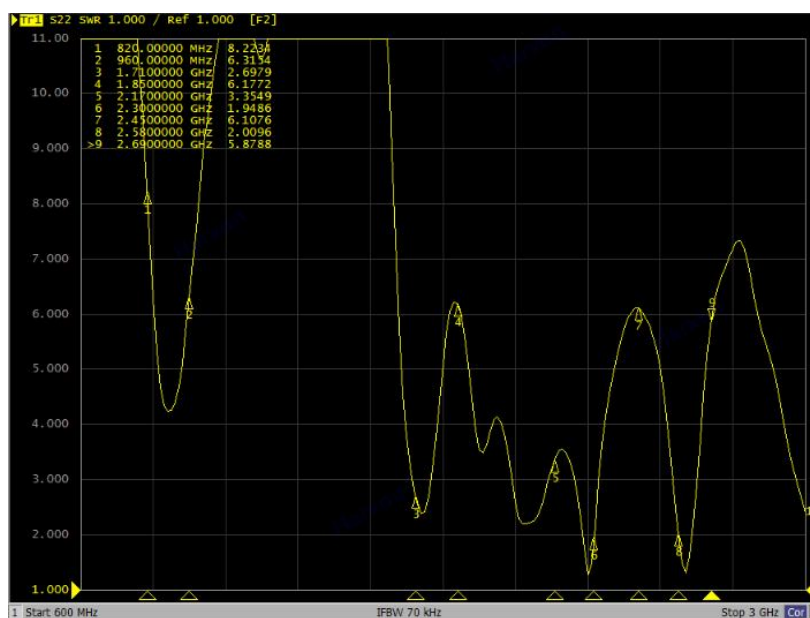


1606MHz

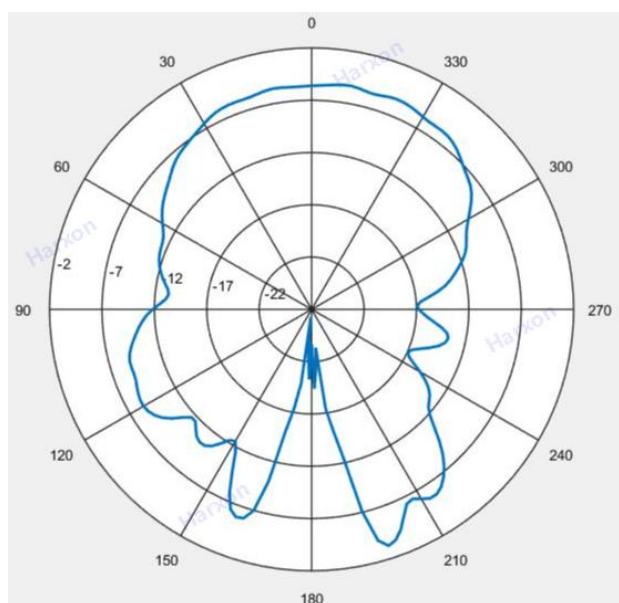
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4G Antenna Performance

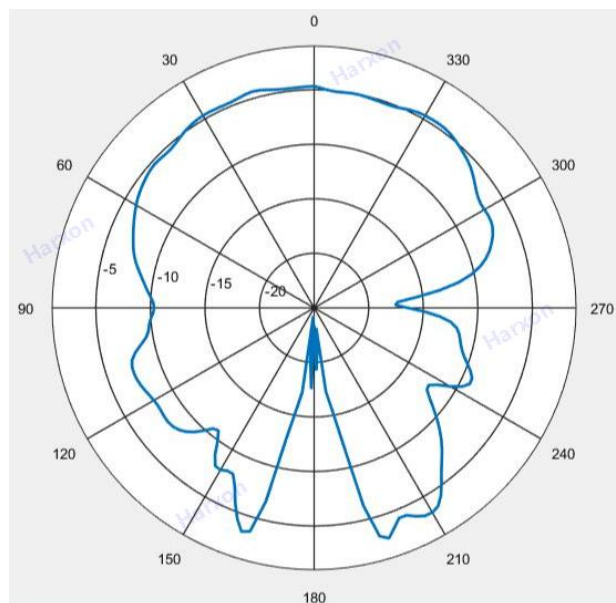
| Frequency (MHz) | 820 | 890 | 960 | 1710 | 1910 | 2110 | 2410 | 2450 | 2480 | 2690 |
|-----------------|------|-----|------|------|------|------|------|------|------|------|
| Gain (dBi) | -3.1 | 0.0 | -1.5 | 1.0 | -5.7 | 0.9 | -5.3 | -5.5 | -5.5 | -8.9 |



4G Antenna VSWR

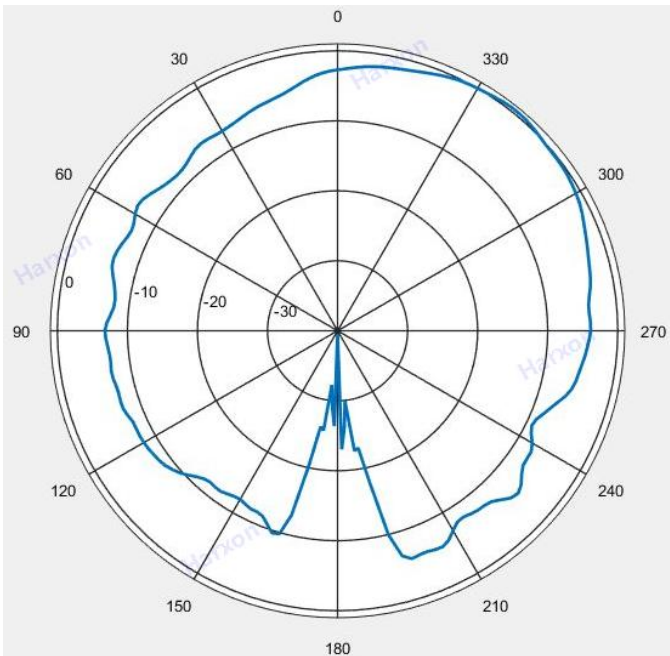


820MHz

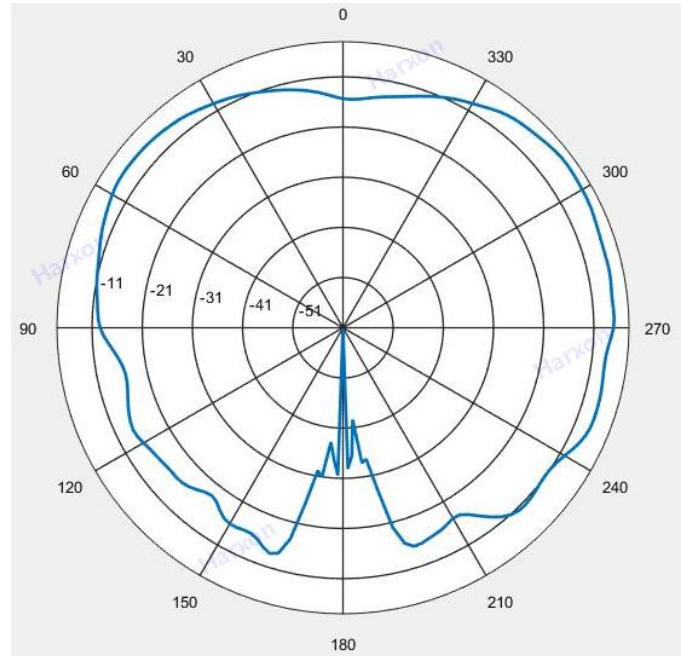


960MHz

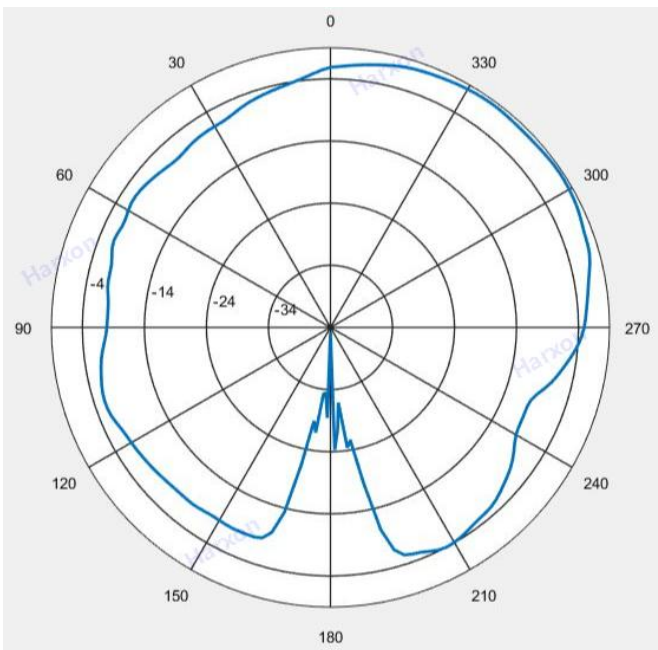
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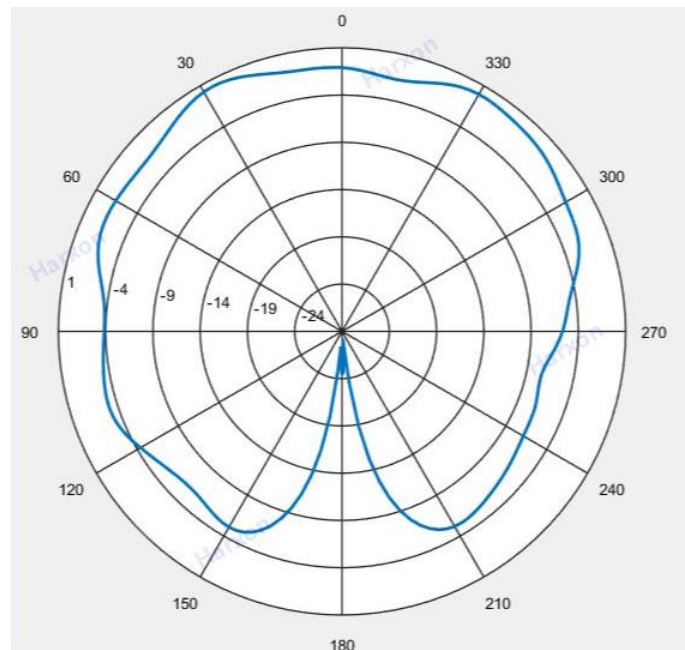
1710MHz



1910MHz

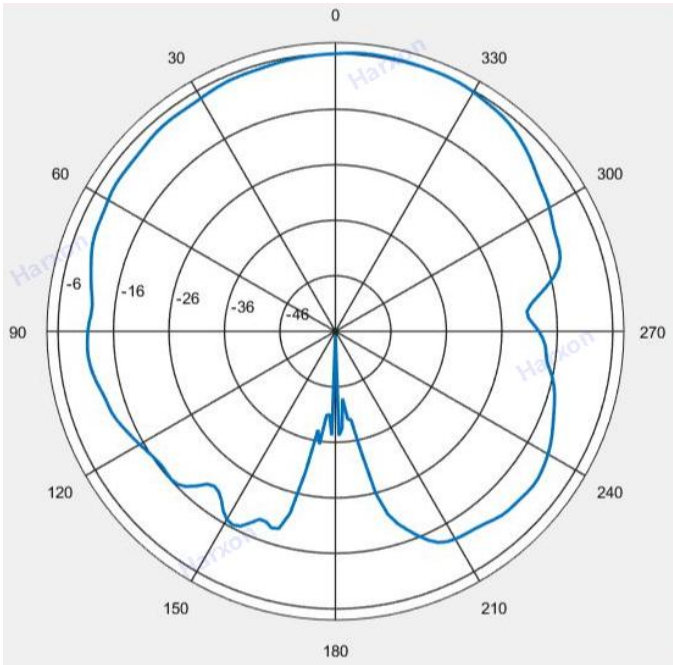


2110MHz

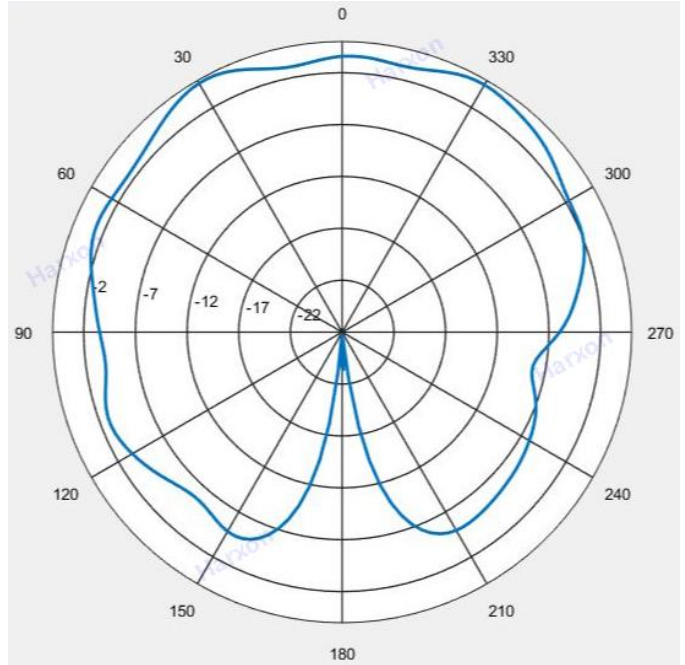


2410MHz

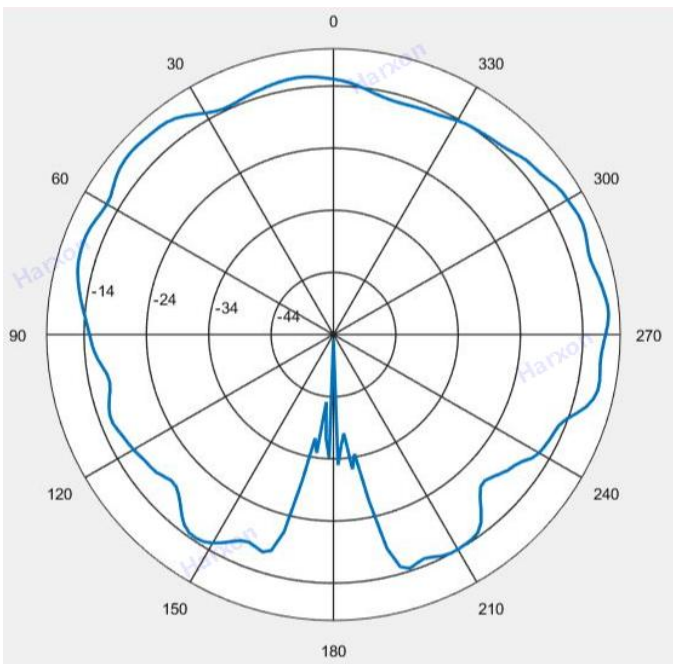
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2450MHz



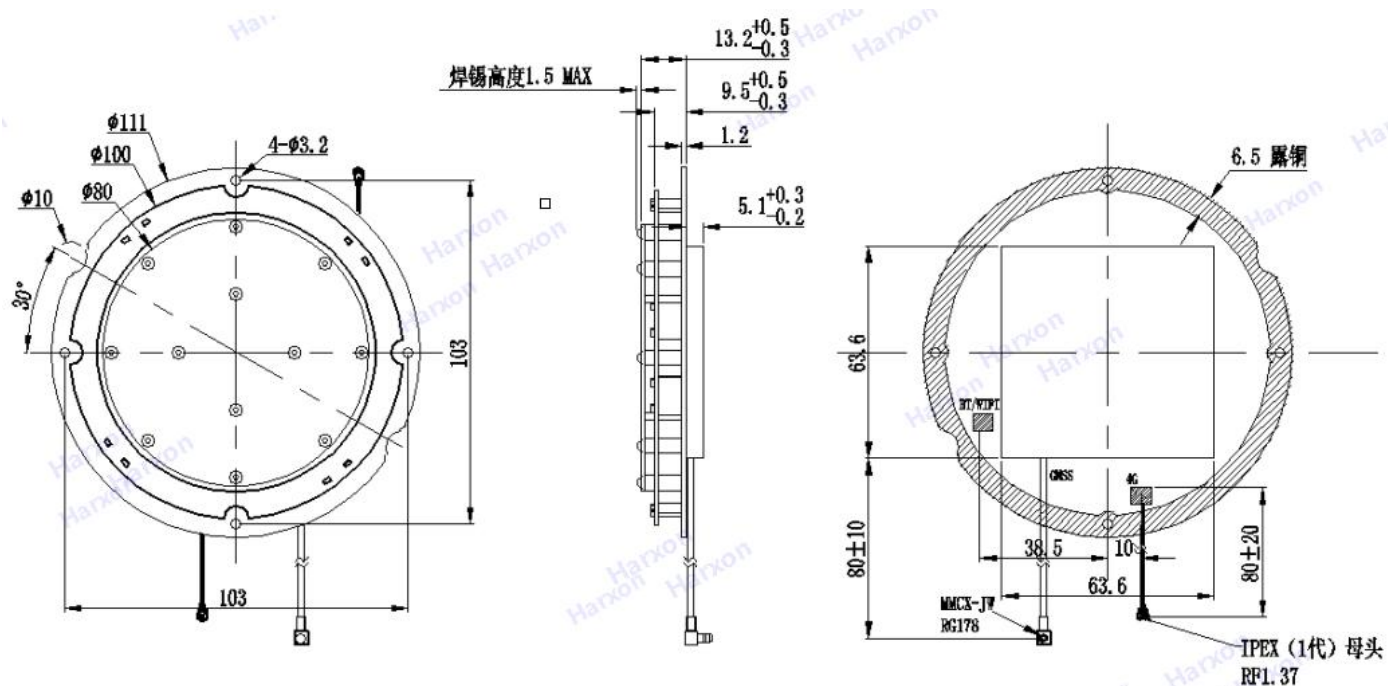
2480MHz



2690MHz

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Structure& Phase Center Drawing (mm) (Undeclared Tolerance:±0.3mm)



TOP VIEW

SIDE VIEW

BOTTOM VIEW

Label

Label size: 15*30mm, the content of the label is shown as below.

