

# 四系统全频内置测量天线 HX-CSX340A



HX-CSX340A is the 1 full-frequency built-in measuring antenna for 4 systems covering GPS, GLONASS, BDS and GALILEO, and can be compatible with 4G and WiFi working frequency bands to meet the requirements of multi-system compatibility of current measuring equipment. It can be widely used in geodetic mapping, marine

## Perfect compatibility between systems

The GNSS antenna is compatible and integrated with 4G and WiFi antennas, and the integrated design is convenient for the integrated design of RTK machine manufacturers. In addition, the isolation between the antennas of each system is deeply optimized, which systematically solves the electromagnetic compatibility problem that has plagued the RTK receiver, simplifies the design of the RTK machine, and the product is stable and reliable.

## Key Features

- Support GNSS 4 system full band signal
- Support 4G, WiFi  
Stable phase center ensures millimeter-level positioning accuracy

## Tracking in complex environments

The antenna unit has the characteristics of high gain and beam width of directional map, which ensures that the antenna still has a strong signal reception effect at low elevation angle, ensures that the satellite can be quickly locked in complex environments such as occlusion, and stably outputs GNSS navigation signals, such as forest and building occlusion.

## Lightweight and reliable structure

Using air medium and low loss microwave plate composite structure, the antenna performance is designed to the best, and the overall weight is lighter, the structure is more stable, the consistency is good, the electrical performance is more stable and reliable.

## Powerful anti-interference performance

The antenna LNA has excellent out-of-band suppression performance, which can suppress useless electromagnetic

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## Performance parameters

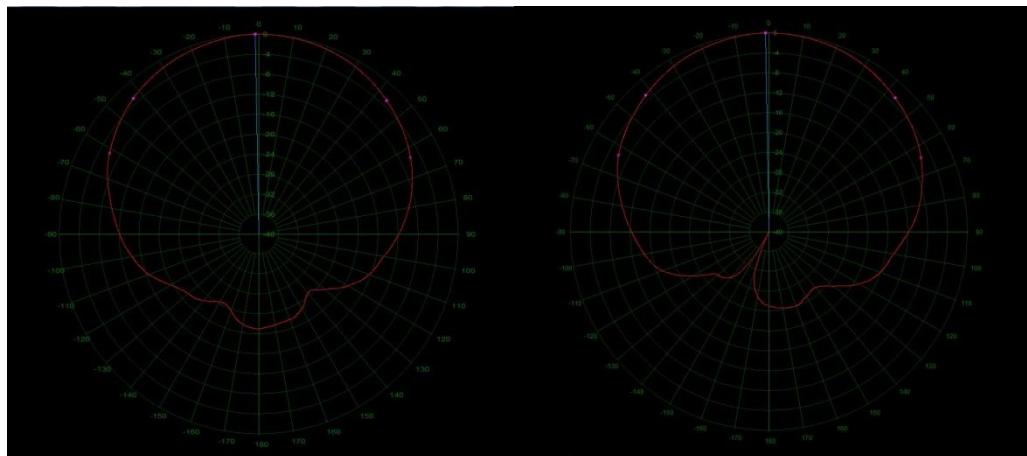
antenna characteristics		Structural characteristics	
Frequency range	GPS L1/L2/L5 BDS B1/B2/B3 GLONASS L1/L2/L3 GALILEO E1/E5a/E5b/E6 QZSS L1/L2/L5/L6 IRNSS L5 SBAS L1/L5 4G/WIFI L-Band	Noise factor	$\leq$ 2dB
		output standing wave	$\leq$ 2.0
		In-band flatness	$\pm$ 2dB
		Operating voltage	+3.3 ~ +12VDC
		Working current	$\leq$ 45mA
Impedance	50 Ohms	differential transmission delay	$\leq$ 5ns
polarization mode	right circular polarization		
Antenna Axial Ratio	$\leq$ 3dB		
horizontal plane cover angle	360 °		
output standing wave	$\leq$ 2.0		
Highest Gain	GNSS: 1176-1268 & 1525-1610MHz@5.9dBi 2G/3G/4G: 699-960 & 1710-2690MHz@2.8dBi WIFI: 2410-2480 & 5150-5850MHz@2.4dBi		
phase center error	$\pm$ 2mm	Joint form	GNSS: MCX female head 4G_1: IPEX generation cable (with lock) 4G_2: IPEX generation cable (with lock) WIFI: IPEX generation cable (with lock)
Low noise amplifier index		Installation method	4 M3 screw mounting
Gain	L2 Band: 34 $\pm$ 2dB L1 Band: 32 $\pm$ 2dB	Working environment	
		Working temperature	-40 °C ~ +85 °C
		Storage temperature	-55 °C ~ +85 °C
		Humidity	95% non-condensing

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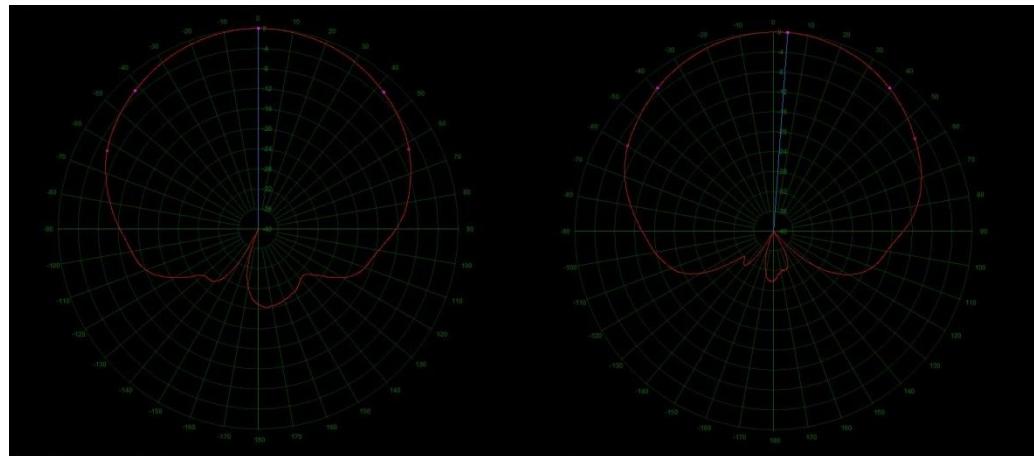
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北斗星通旗下企业

## GNSS antenna performance

Frequency (MHz)	1176	1205	1227	1268	1542	1559	1575	1606
Gain (dBi)	2.4	4.8	5.9	5.6	4.8	5.7	5.8	5.3

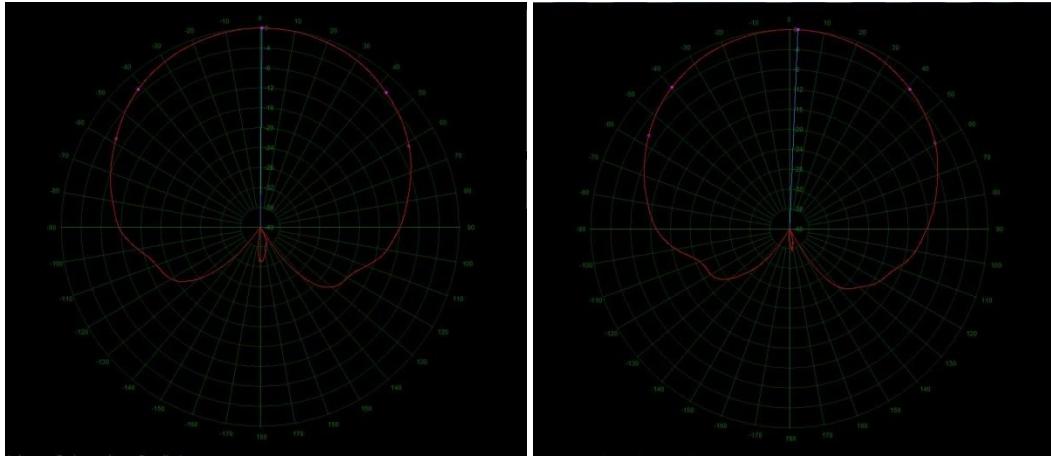


1176MHz 1205MHz

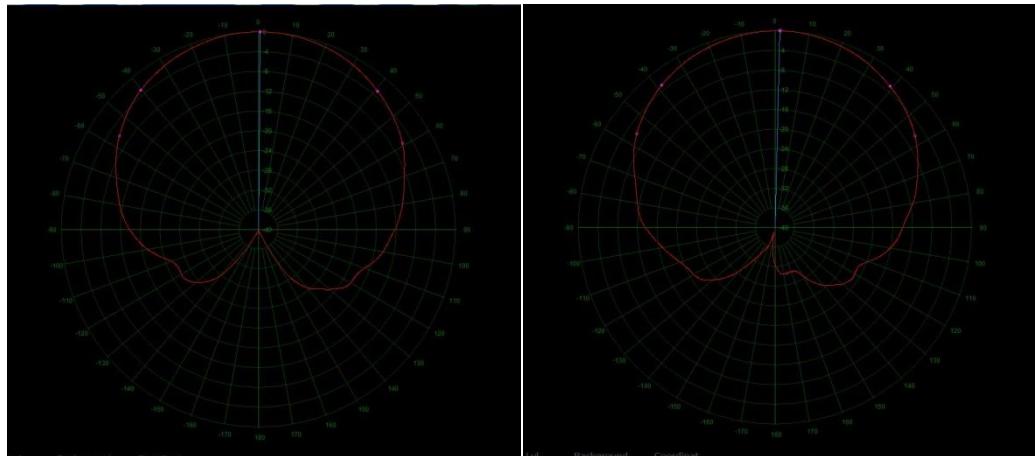


1227MHz 1268MHz

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1542MHz 1559MHz



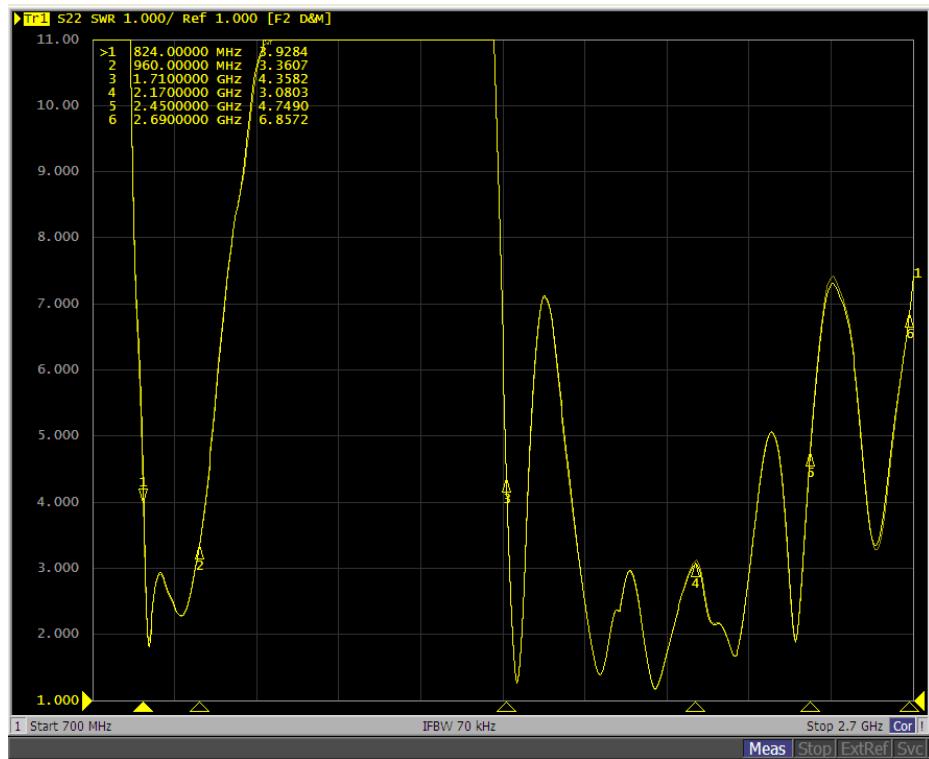
1575MHz 1606MHz

## 4G Antenna Performance

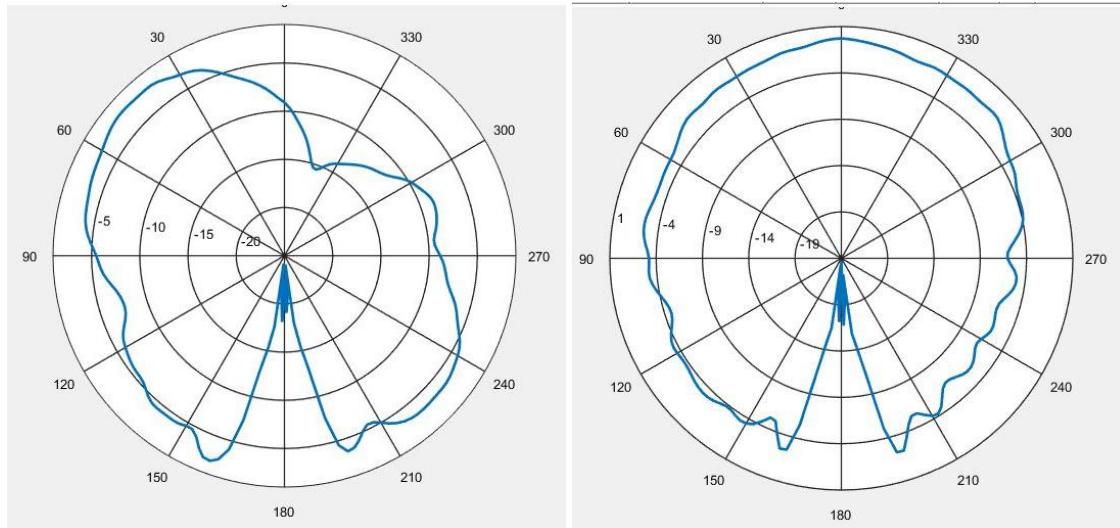
### 4G-1 Antenna Performance

Frequency( MHz)	820	890	960	1710	1810	1910	2010	2110	2210	2310	2410	2510	2610	2690
Gain( dBi)	0.1	1.1	-0.2	-0.7	0.5	2.3	1.8	-0.5	1.7	2.8	-1	1.7	1.5	-2.4

# 四系统全频内置测量天线 HX-CSX340A



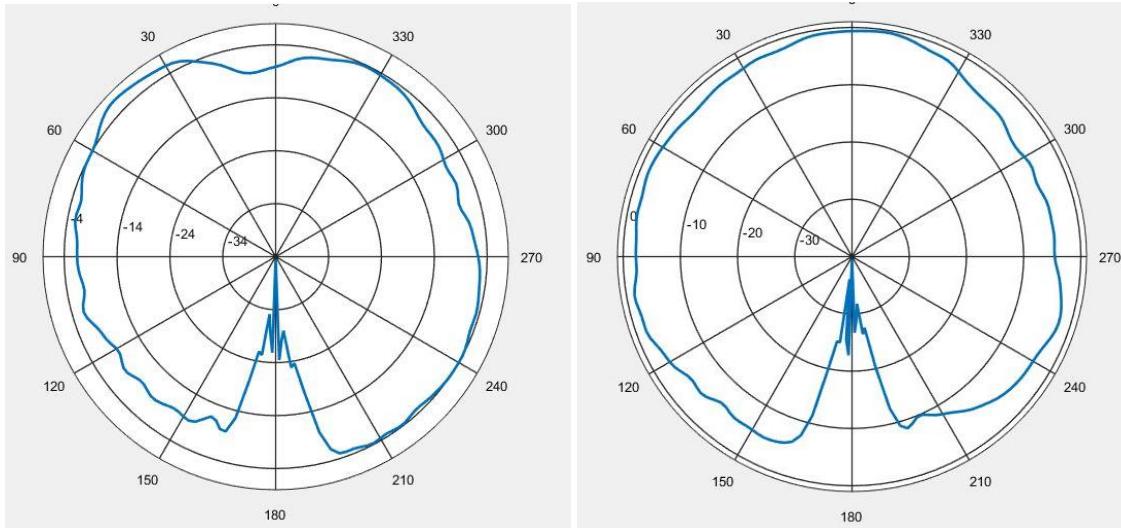
4G-1 standing wave ratio



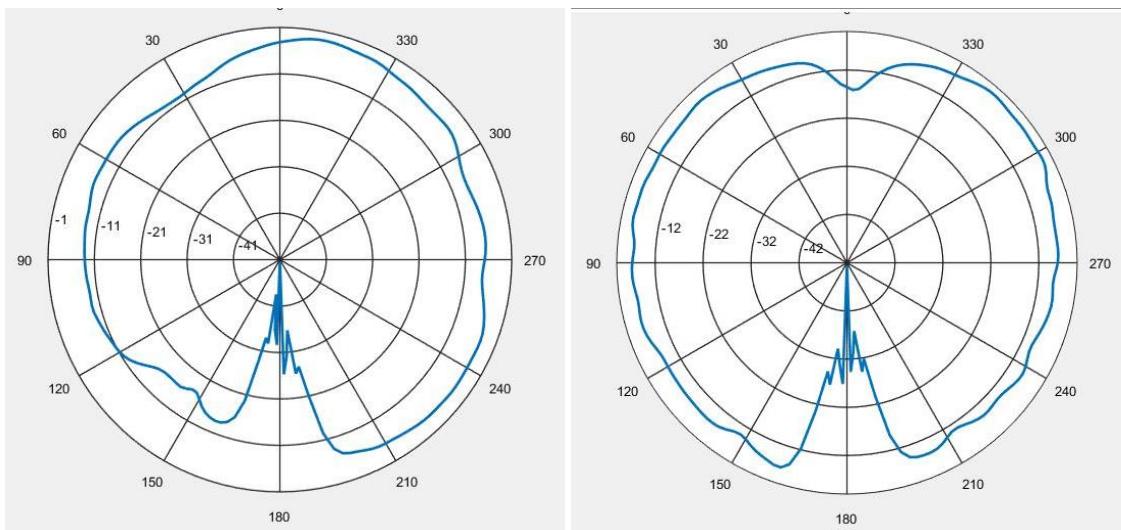
820MHz 960MHz

# 四系统全频内置测量天线 HX-CSX340A

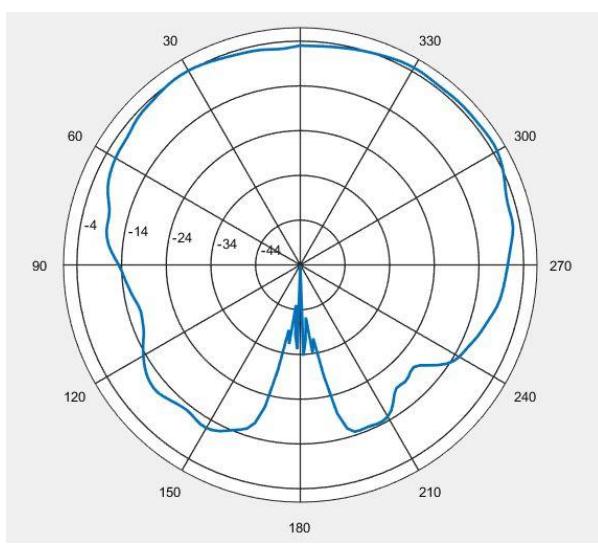
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1710MHz 1910MHz



2110MHz 2450MHz

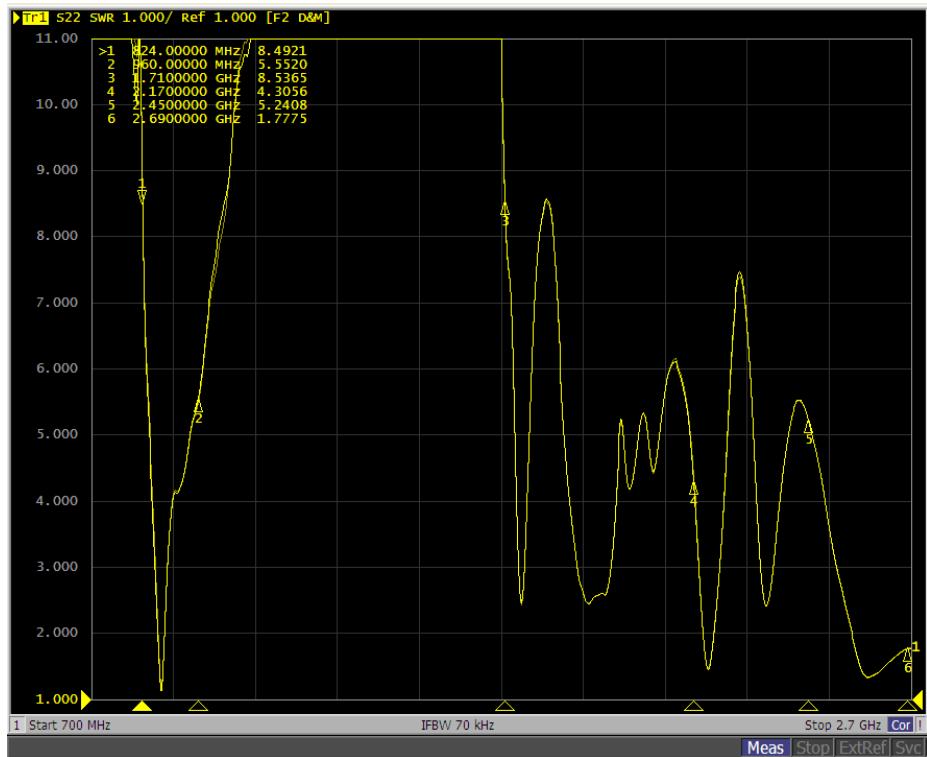


2690MHz

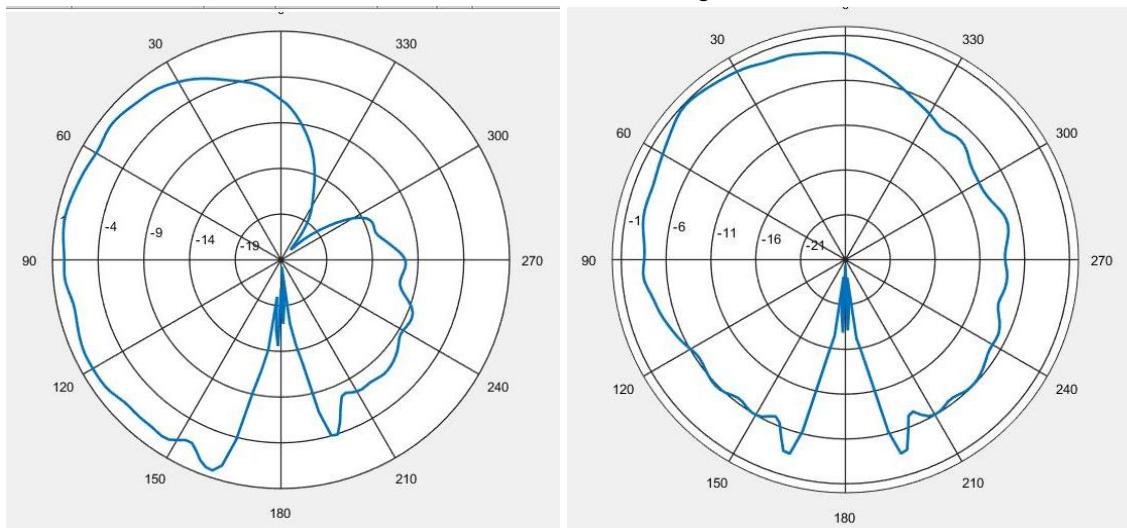
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## 4G-2 Antenna Performance

Frequency (MHz)	820	890	960	1710	1810	1910	2010	2110	2210	2310	2410	2510	2610	2690
Gain( dBi)	0.3	1.2	-1.1	-4	-1.1	2.8	-0.8	-0.3	0.4	-1.5	-0.7	1.5	2.5	2



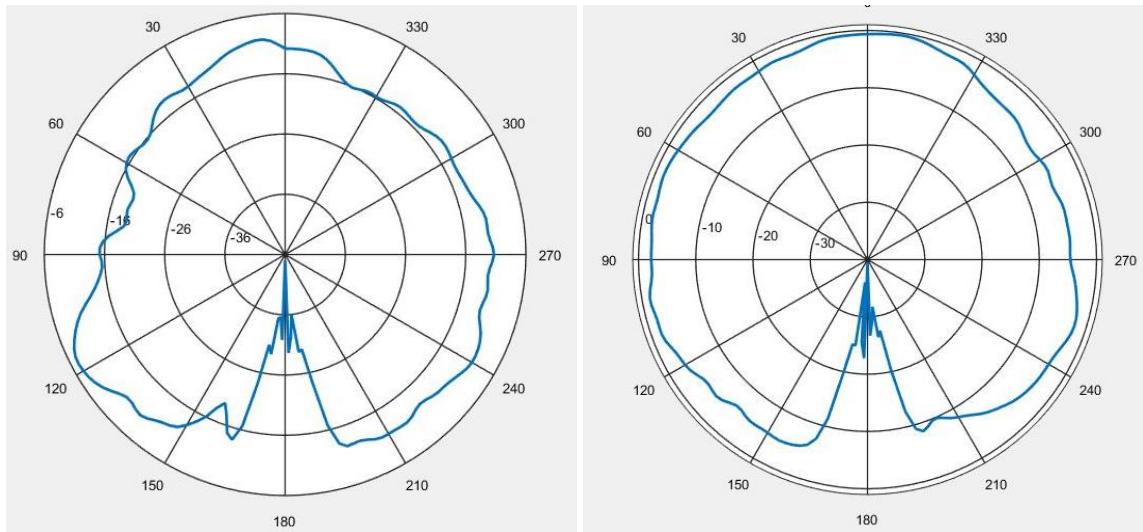
4G\_2 standing wave ratio



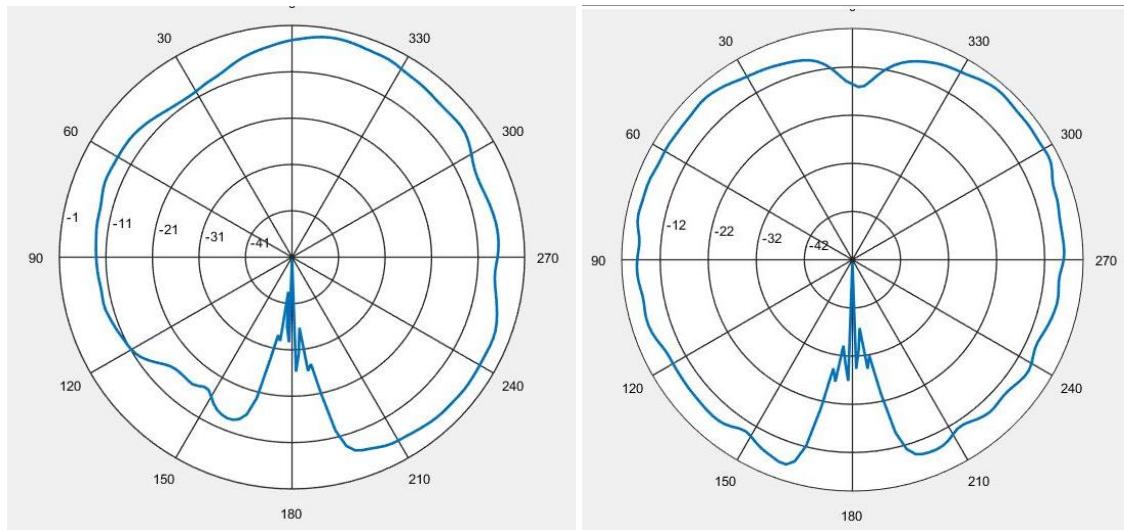
820MHz 960MHz

# 四系统全频内置测量天线 HX-CSX340A

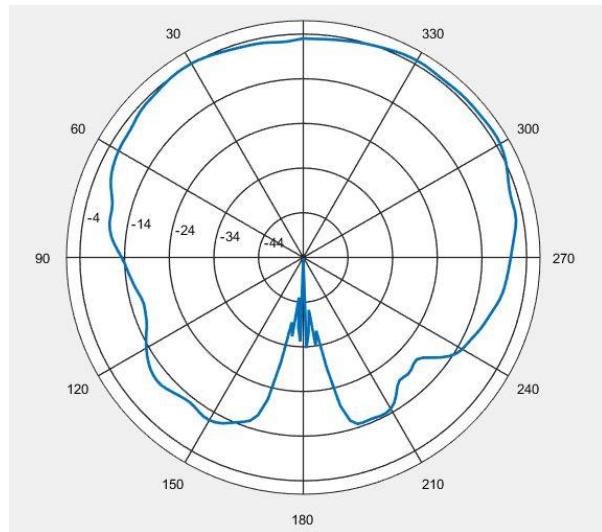
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1710MHz 1910MHz



2110MHz 2450MHz

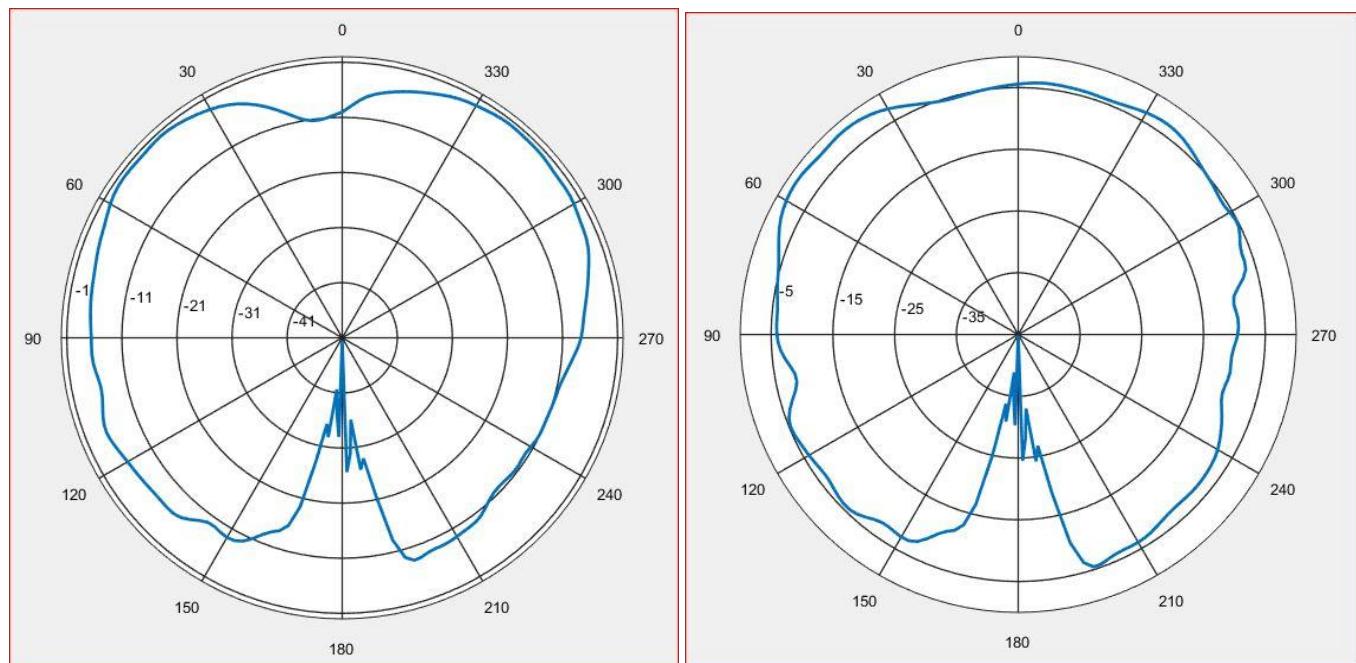


2690MHz

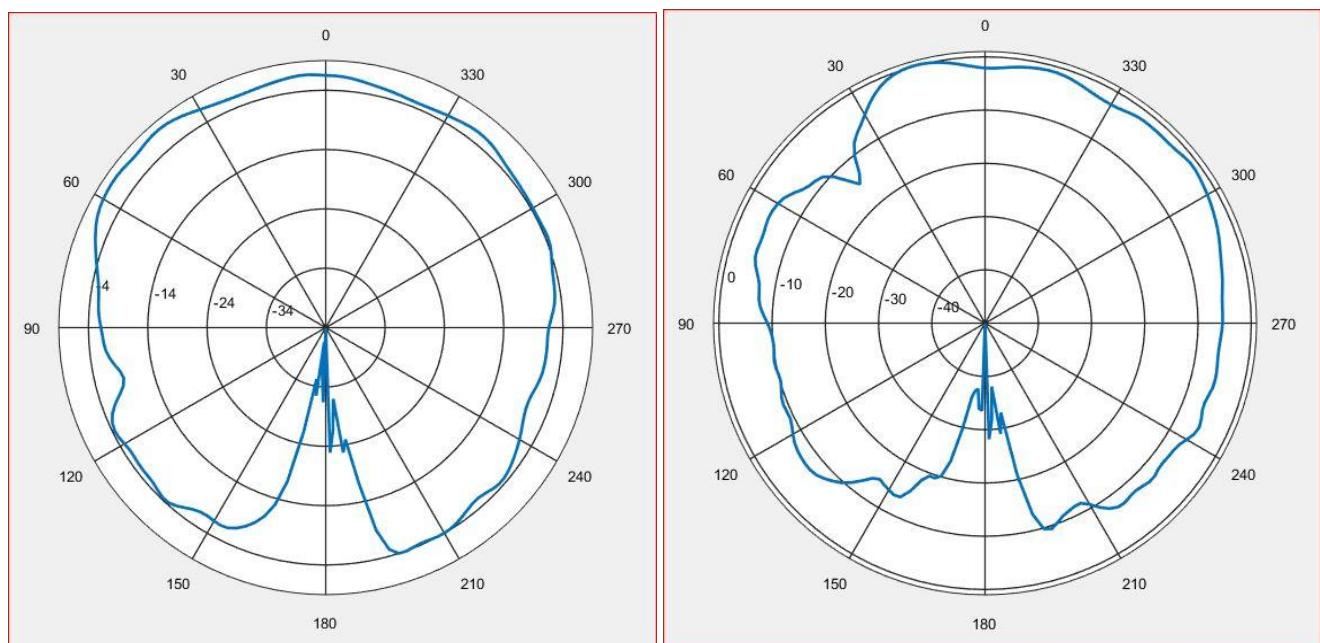
# 四系统全频内置测量天线 HX-CSX340A

## BT/WIFI Antenna Performance

Frequency( MHz)	2410	2450	2480	5100	5300	5500	5800
Gain( dBi)	1.4	1.0	1.3	0.5	2.1	1.5	2.4

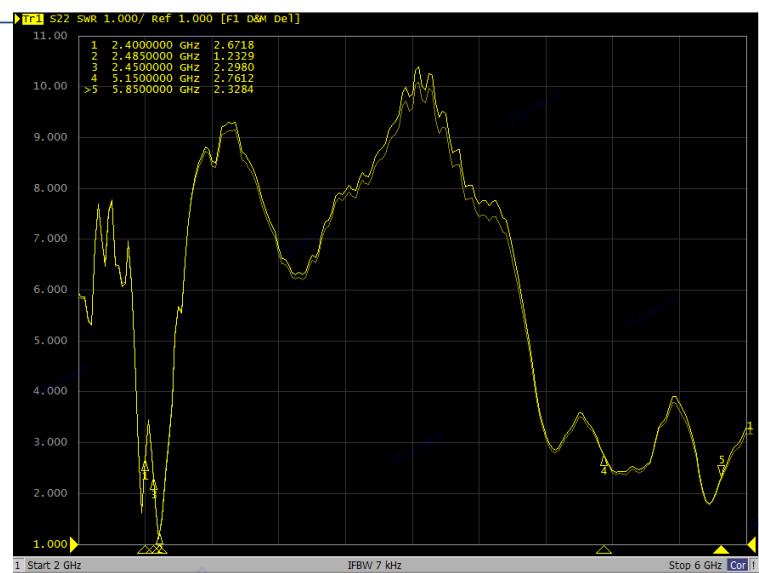
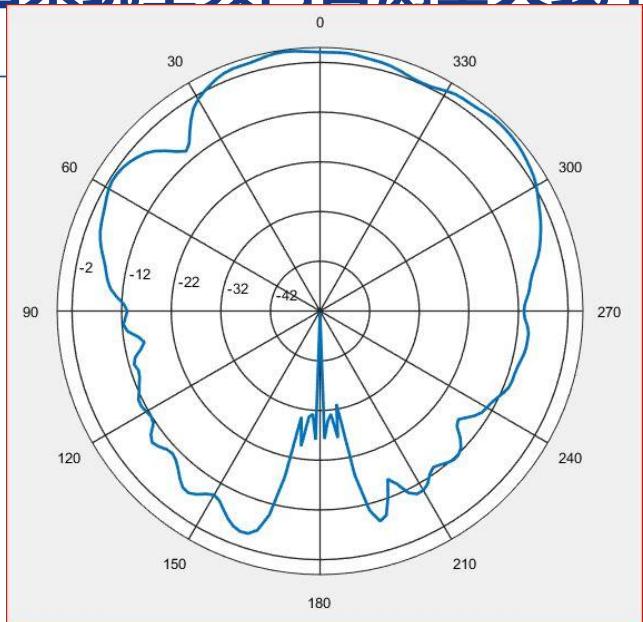


2410MHz 2450MHz



2480MHz 5150MHz

# 四系统全频内置测量天线 HX-CSX340A

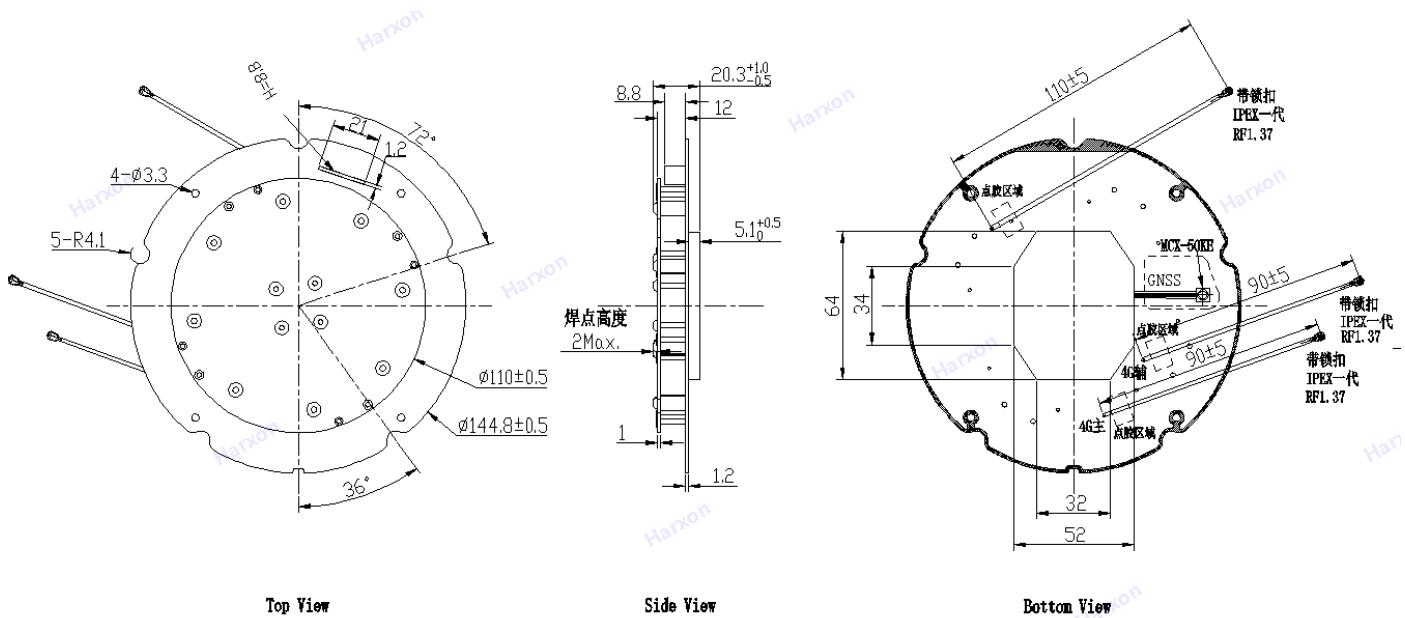


5850MHz BT/WIFI standing wave ratio

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Product 3 view (dimensional tolerance  $\pm 0.3\text{mm}$ )



## Product Label

Label size: 15\*30mm, label content as shown in the figure below (content is only schematic).



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## Documentation

No.		Code	
HQB.01-GF-3336b		0454	
Documentary/revised curriculum vitae			
Serial Number	Section/Clause	Abstract	Version Number
1	/	Initial creation	a
2	3 View	Modify cable length	B
3			
4			
5			

Preparation/Date	Review/Date	Approval/Date
1012134 2024-09-23	1012061 2024-09-23	1012015 2024-09-23

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