433MHz + GPS Sensor Antenna

FEATURES & BENEFITS

- Lightweight, low profile and rugged design
- Easy installation with built-in bolt interface, can be directly screwed onto devices without additional screws.
- UV-resistant, Impact-resistant, dustproof and waterproof
- RF cables and connectors customization supported

APPLICATIONS

Various IoT applications, including,

- Smart valves
- Pressure/Level/Flow transmitters
- Temperature transmitters
- Water meters ect.

ORDER INFORMATION

Product Name	433 + GPS Sensor Antenna
Part Number	M02-0400580R0A
Dimensions	Ø32 x 68 mm
Weight	30 g
Color	Black
Mounting	Screw mount
433 Antenna Cable	Default IPEX 1 RF 1.13 black coaxial cable (Ø 1.13 x 172 mm) , customizable.
GPS Antenna Cable	Default IPEX 1 RF 1.13 gray coaxial cable (Ø 1.13 x 172 mm) , customizable.

REFERENCE GUIDE

Technical Features (MHz)		433MHz Antenna	GPS Antenna
		433±5	1575.42±2
Max VSWR		2.5:1	2.0:1
Max Efficiency		25.86%	/
Peak Gain		-3.99dBi	/
LNA	Gain	/	13.0±4dBi
	Noise Figure	/	1.5 Max
	DC Voltage	/	3.0±0.5V
	DC Current	/	4.2mA(@3.0V)
Radiation Pattern		Directional	
Polarization		Linear	
Input Impedance		50 Ω	
Operating Temperature		-40ºC to +85ºC	

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Storage Temperature	-40ºC to +85ºC
Relative Humidity	10 to 70%
Material Substance Compliance	RoHS Compliant
Dimensions (L x W x H)	Ø32 x 68 mm
All data were measured on a water meter as shown on cover with an 172-mm-long RF 1.13 cable. Application data might vary.	

ELECTRICAL PERFORMANCE

- Note

All data displayed in "ELECTRICAL PERFORMANCE" were measured on the water meter as shown below with an 85-mm-long RF 1.13 cable.

A sample of use cases: Antenna mounted on a water meter

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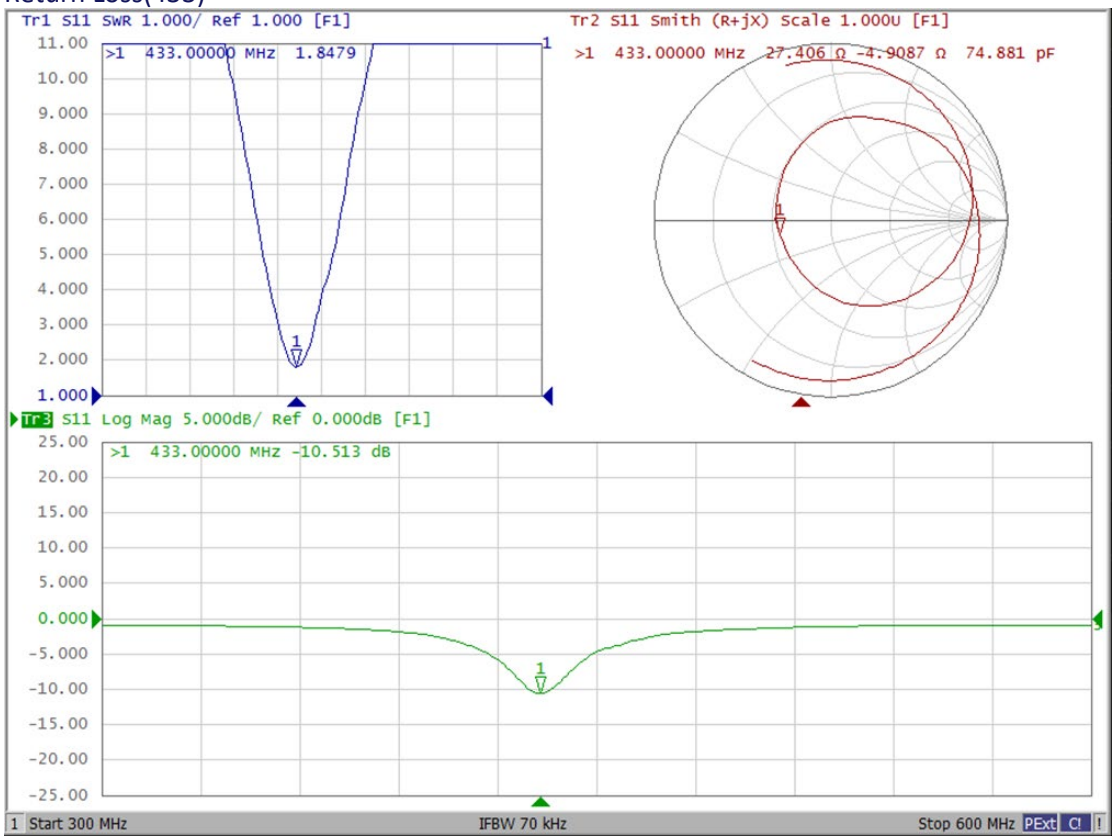
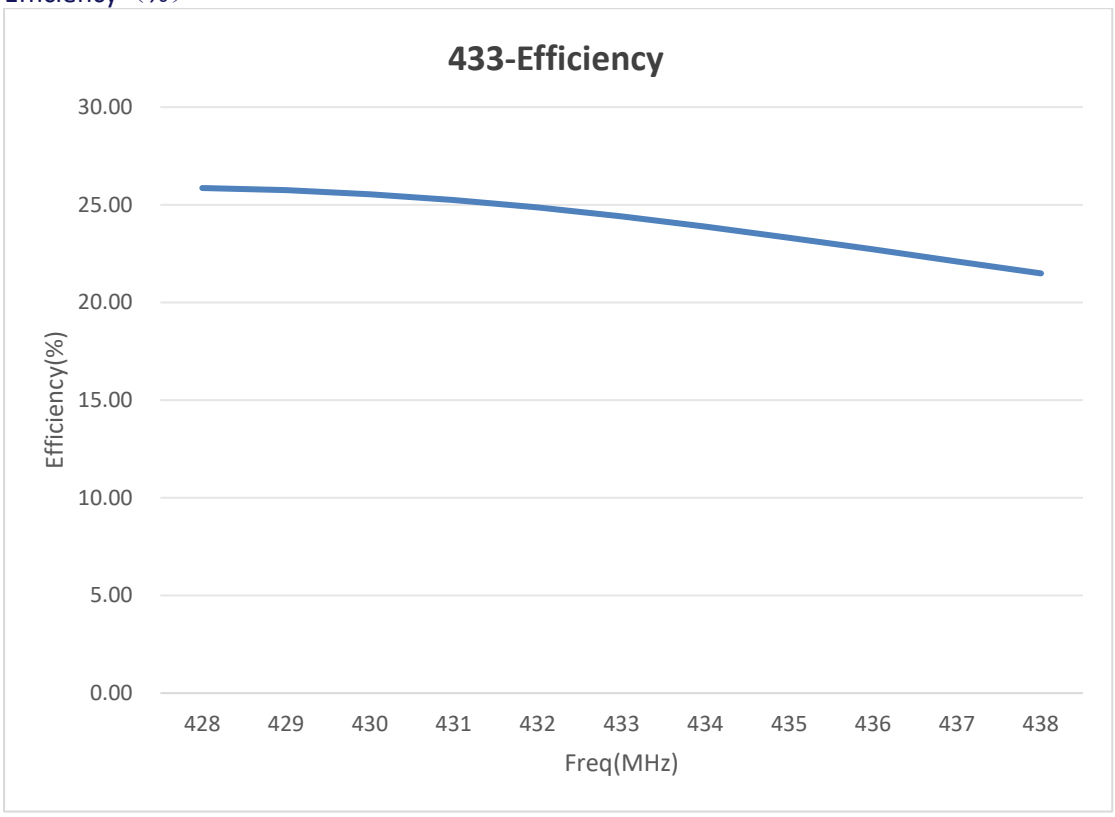
ELECTRICAL DATA (Data tested on a water meter with 172 mm of RF 1.13 cable)

Return Loss(433)



Efficiency（%）



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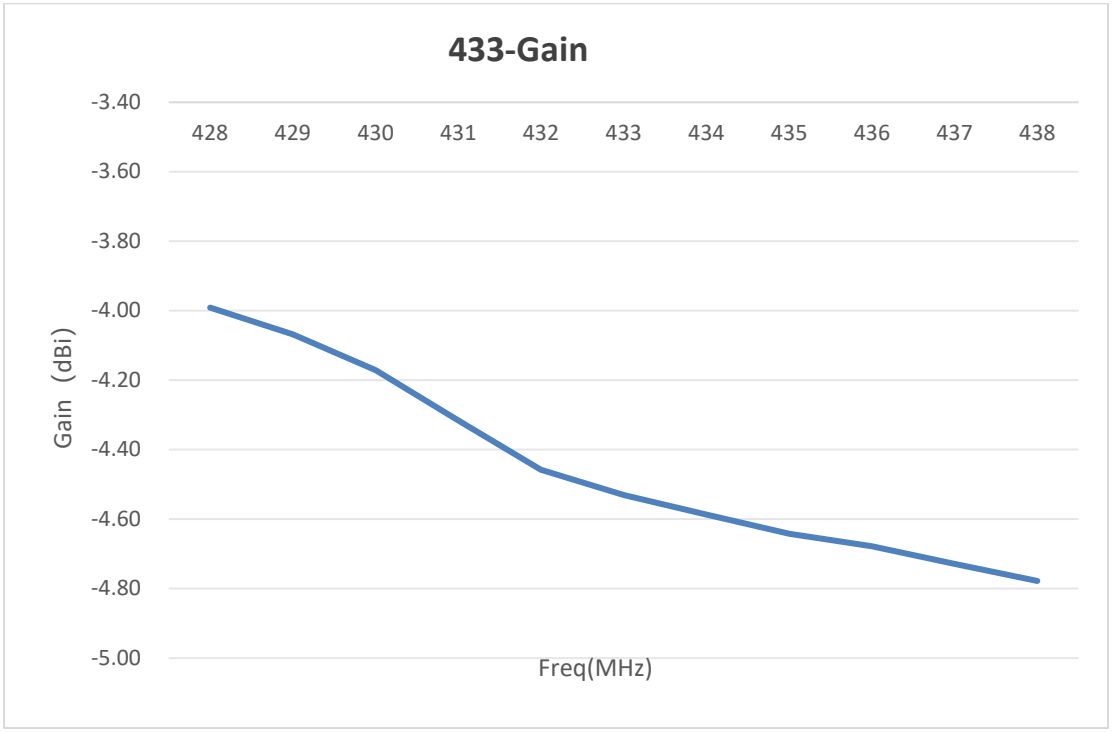
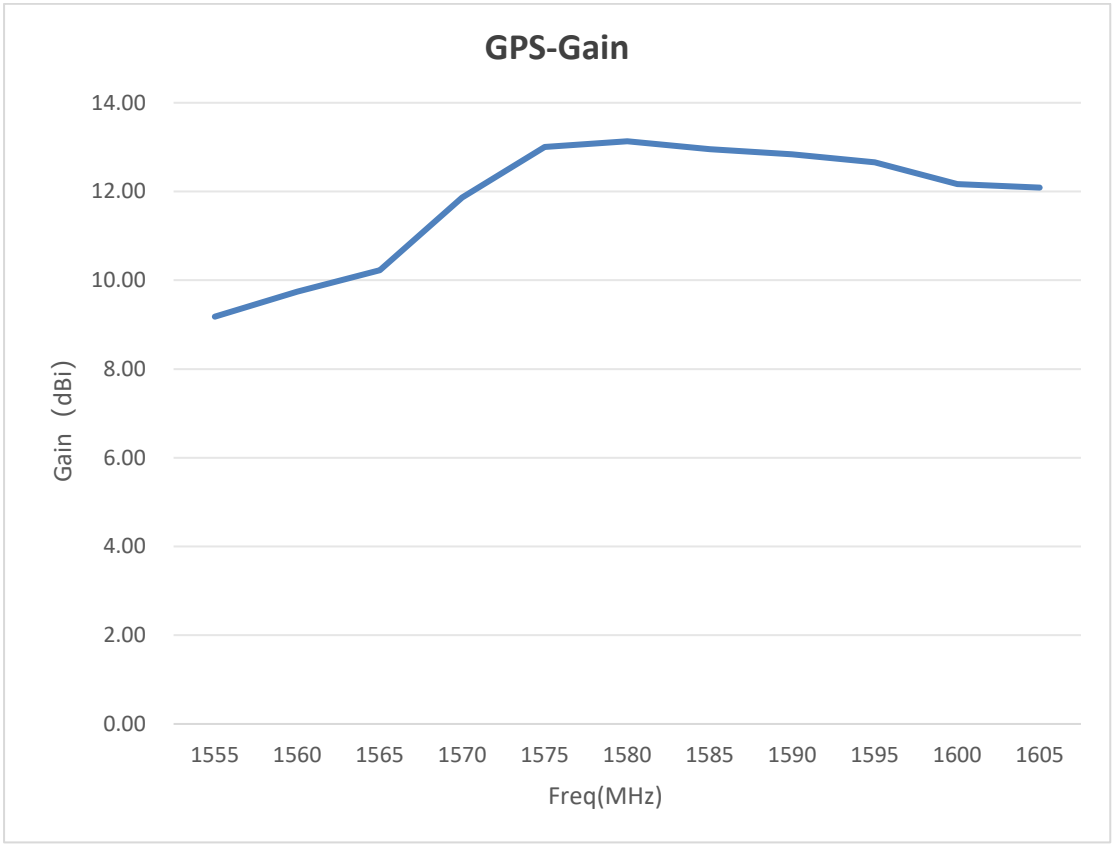
Peak Gain（dBi）





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Freq(MHz)	Gain（dBi）	Efficiency(%)
428	-3.99	25.86
429	-4.07	25.75
430	-4.17	25.54
431	-4.32	25.25
432	-4.46	24.86
433	-4.53	24.40
434	-4.59	23.88
435	-4.64	23.31
436	-4.68	22.72
437	-4.73	22.10
438	-4.78	21.49

Freq(MHz)	Gain（dBi）
1555	9.18
1560	9.74
1565	10.23
1570	11.86
1575	13.01
1580	13.13
1585	12.96
1590	12.84
1595	12.65
1600	12.17
1605	12.09

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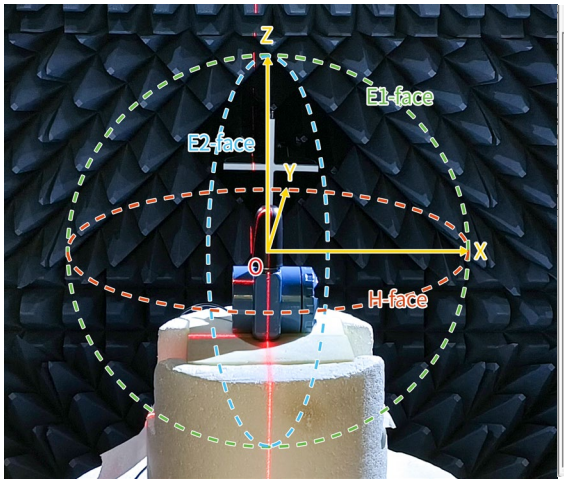
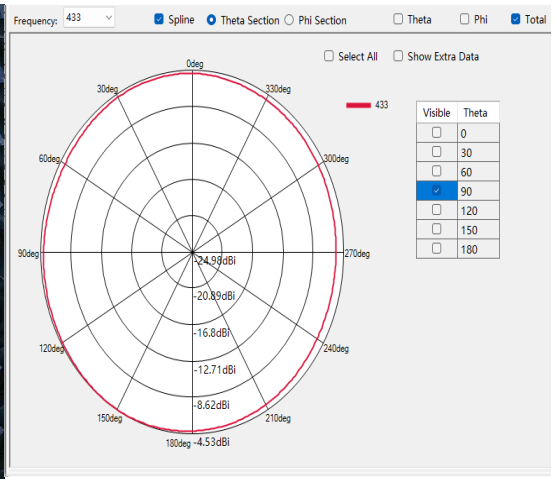
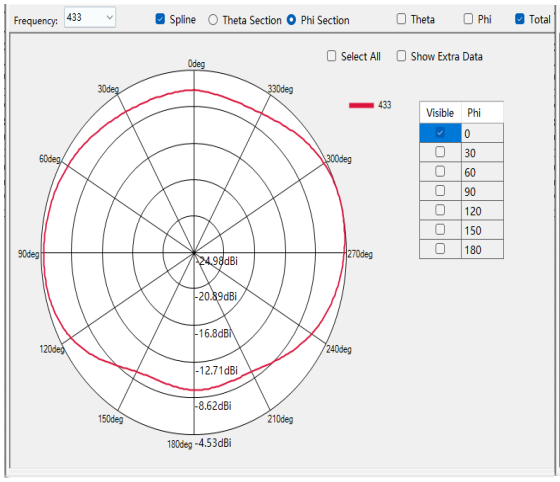
RADIATION PATTERNS(Data tested on a water meter with 172 mm of RF 1.13 cable)



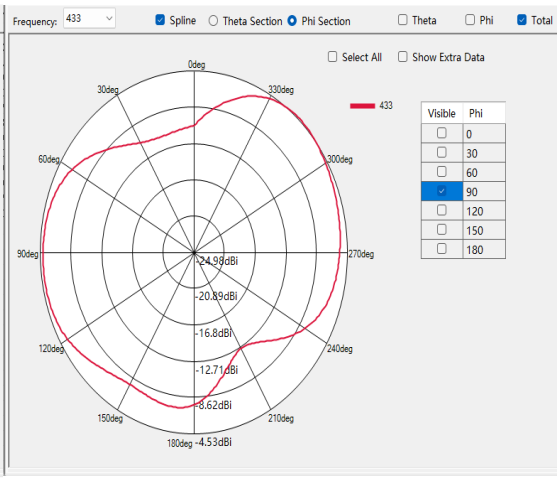
The Antenna in MyAntenna's Anechoic Chamber



θ = 90° Plane XY at 433MHz(433)



Φ = 0° Plane XZ at 433MHz(433)



Φ = 90° Plane YZ at 433MHz(433)

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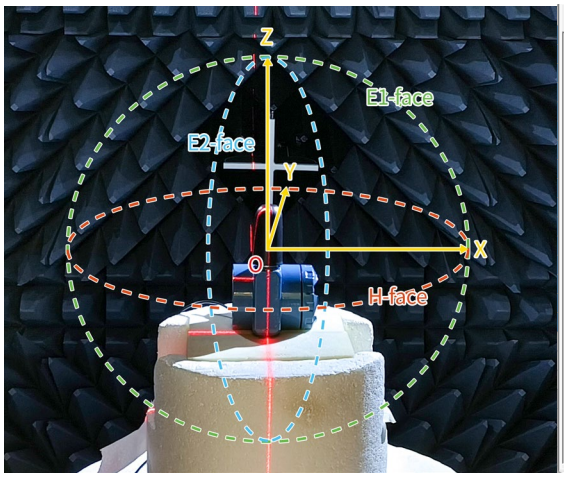
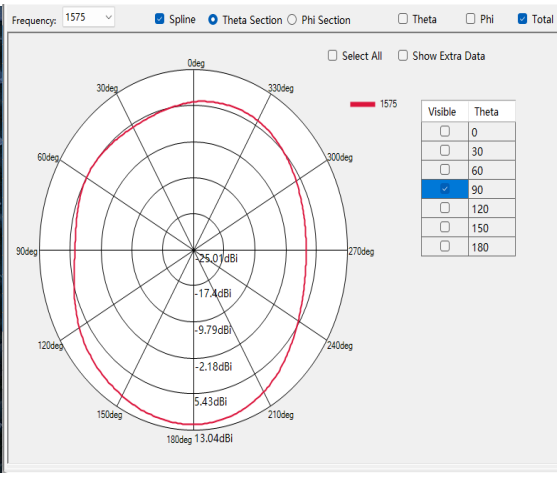
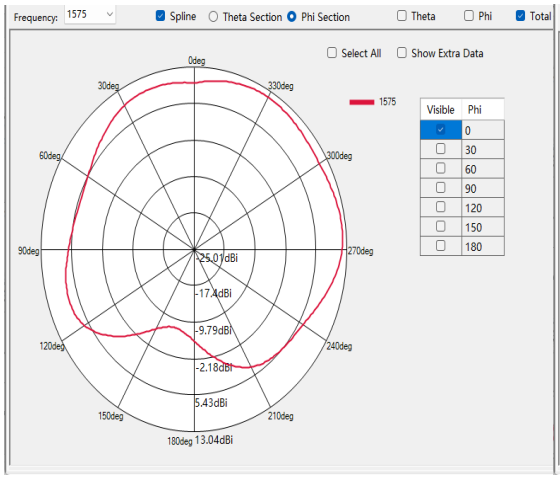


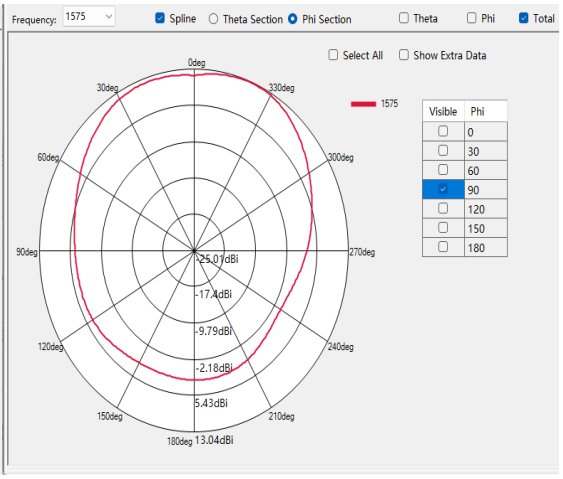
The Antenna in MyAntenna's Anechoic Chamber



θ = 90° Plane XY at 1575MHz(GPS)



Φ = 0° Plane XZ at 1575MHz(GPS)



Φ = 90° Plane YZ at 1575MHz(GPS)

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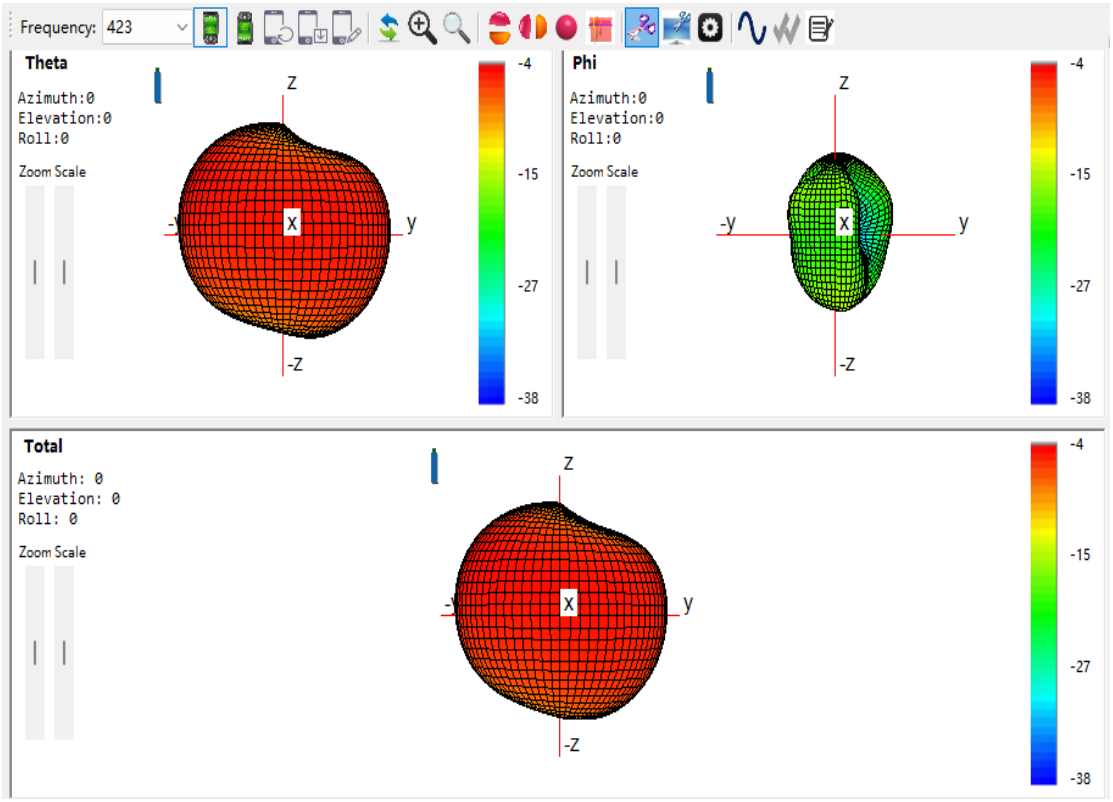
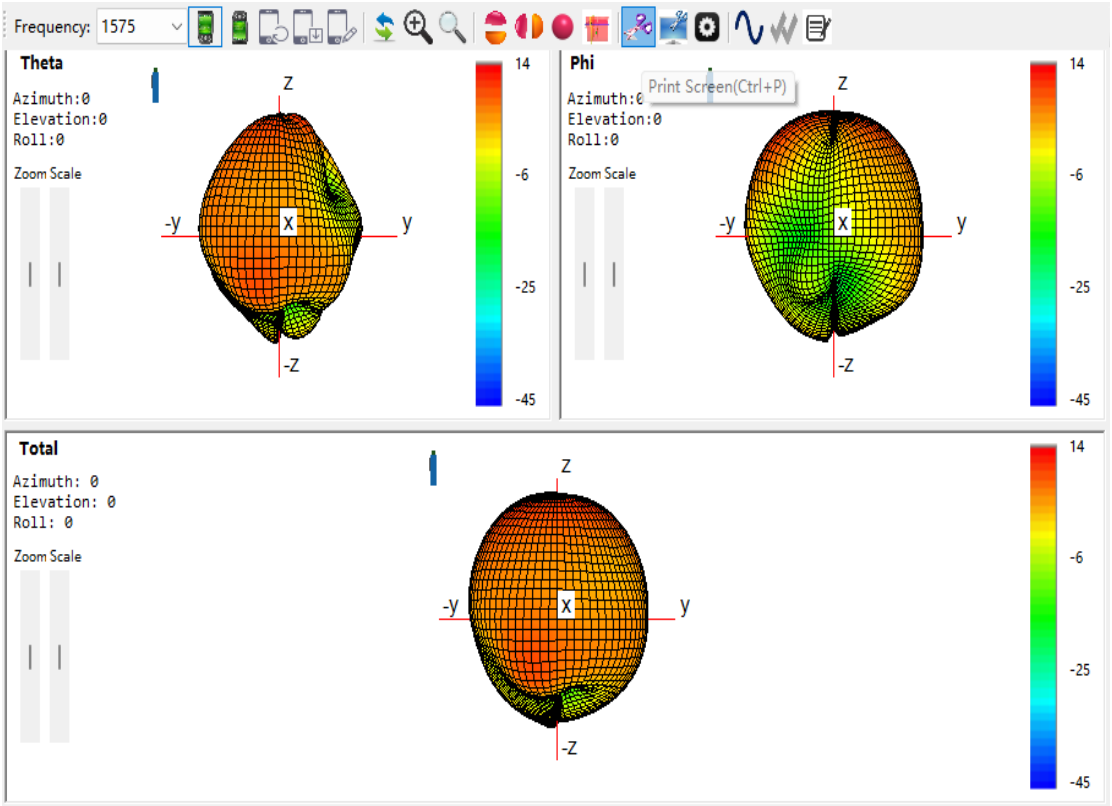
3D Radiation Pattern at 433MHz(433)



3D Radiation Pattern at 1575MHz(GPS)



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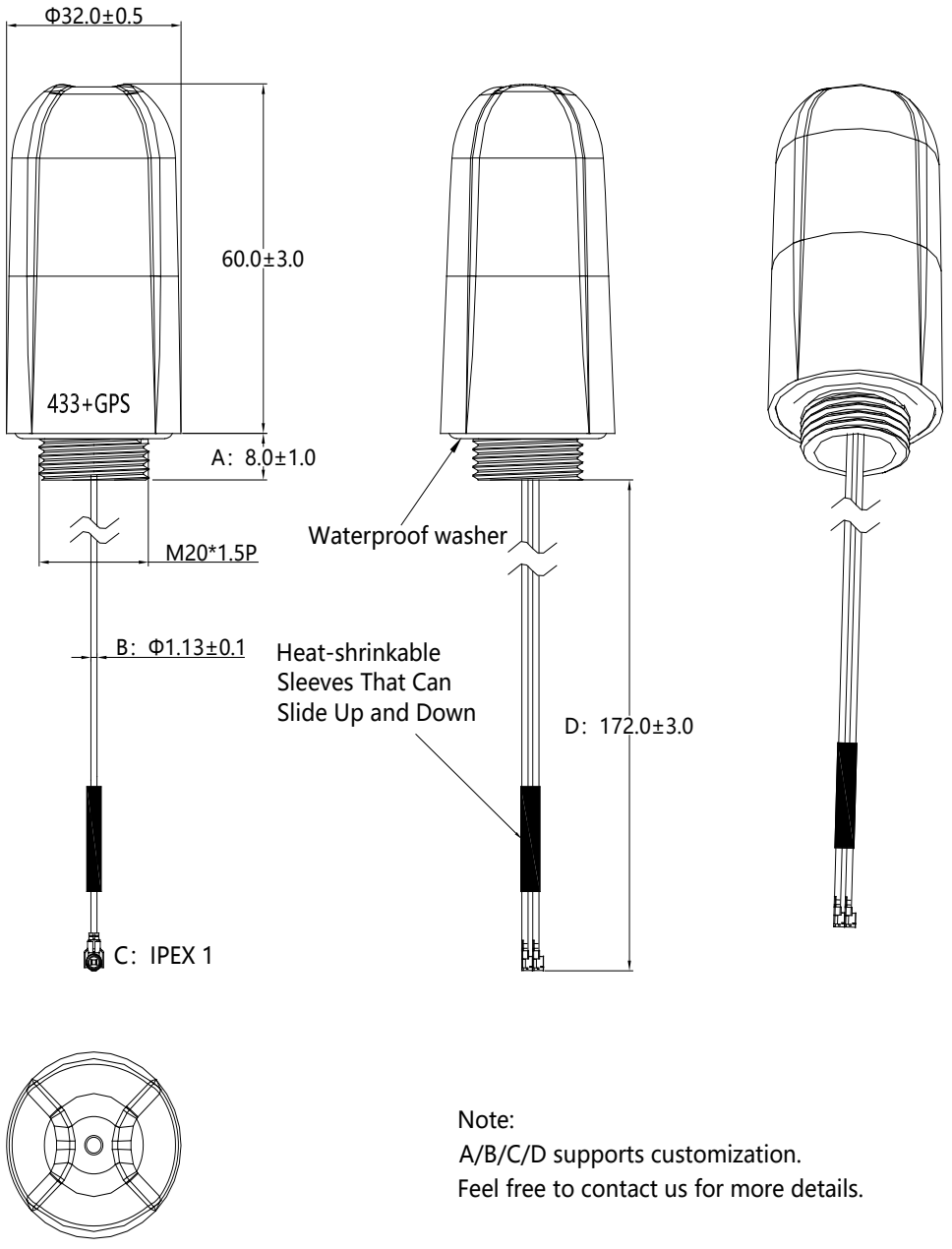
HOUSING CONFIGURATIONS



Note:
A/B/C/D supports customization.
Feel free to contact us for more details.

Aboosty™ is owned by Shenzhen MyAntenna RF Technology Co., Ltd. (often abbreviated as MyAntenna).

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