



# Datasheet

Cellular 4G LTE Direct Mount External Omni Antenna with SMA Male

**Model:** AECW009

**PN:** M02-0501010R0A

**Description:**

Waterproof 4G LTE Whip Antenna for Indoor or Outdoor Use

Operating Frequency: 698-960 MHz | 1710-2690 MHz

**Features:**

IP68 waterproof with a rubber washer

Peak Gain: 1.47dBi at 718 MHz, 4.30dBi at 2050 MHz

Max Efficiency: 77.78%

Connector: Built-in SMA Male (with pin)

Dimensions:  $\Phi 20 \times 122$  mm

RoHS Compliant





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## FEATURES & BENEFITS

- Omnidirectional Performance
- Monopole, Ground Plane Dependent
- Full 4G LTE Backward Compatibility
- Connector-Mounted, Whip Straight Antenna
- Weatherproof for Outdoor or Indoor Use

## APPLICATIONS

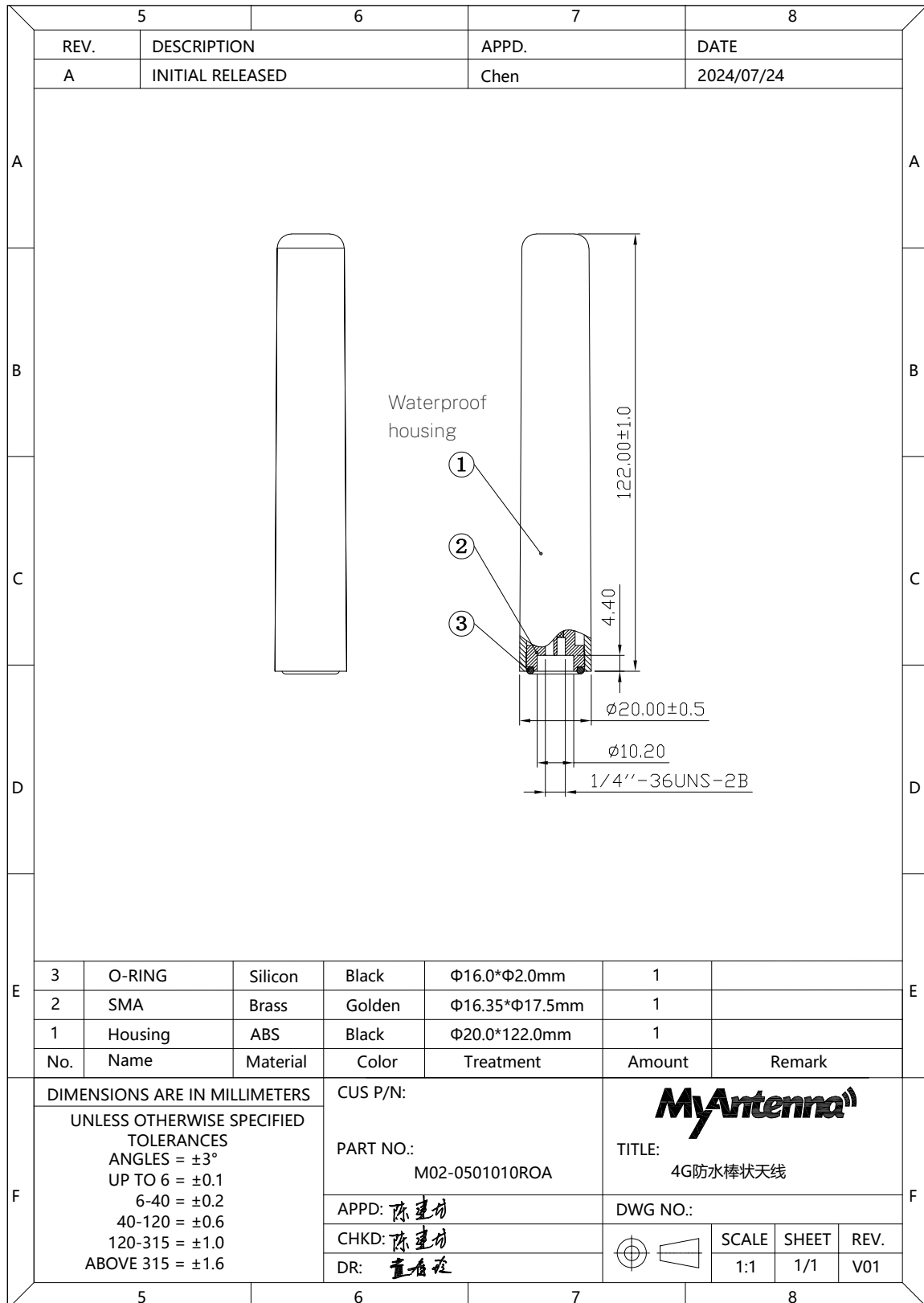
- IoT Devices
- Remote Monitoring Systems
- Cellular Gateways and Routers
- Vehicle Telematics
- Smart Grid and Utility Monitoring
- Industrial Automation Systems



## ORDER INFORMATION

Product Name	Cellular 4G LTE Direct Mount External Omni Antenna with SMA Male
Model	AECW009
Part Number	M02-0501010R0A
Dimensions	Ø20 x 122 mm
Weight	31.4 g
Color	Black
Outer Shell Material	ABS
Mounting	Connector mount, direct mount
Cable	Customizable SMA coaxial cables or adapters.

# MECHANICAL DIMENSIONS





## REFERENCE GUIDE

Antenna		
Technical Features	698-960 MHz	1710-2690 MHz
Max VSWR	3.45:1	2.52:1
Peak Gain	1.47 dBi	4.30 dBi
Max Efficiency	77.78 %	73.37 %
Input Impedance	50 $\Omega$	
Polarization	Linear	
Radiation Pattern	Omnidirectional	
IP Rating	IP68	
Environmental		
Operating Temperature	-40°C to +85°C	
Storage Temperature	-40°C to +90°C	
Relative Humidity	Non-condensing 65°C 95% RH	
RoHS Compliant	Yes	
All data were measured with an RF cable. Application data might vary.		

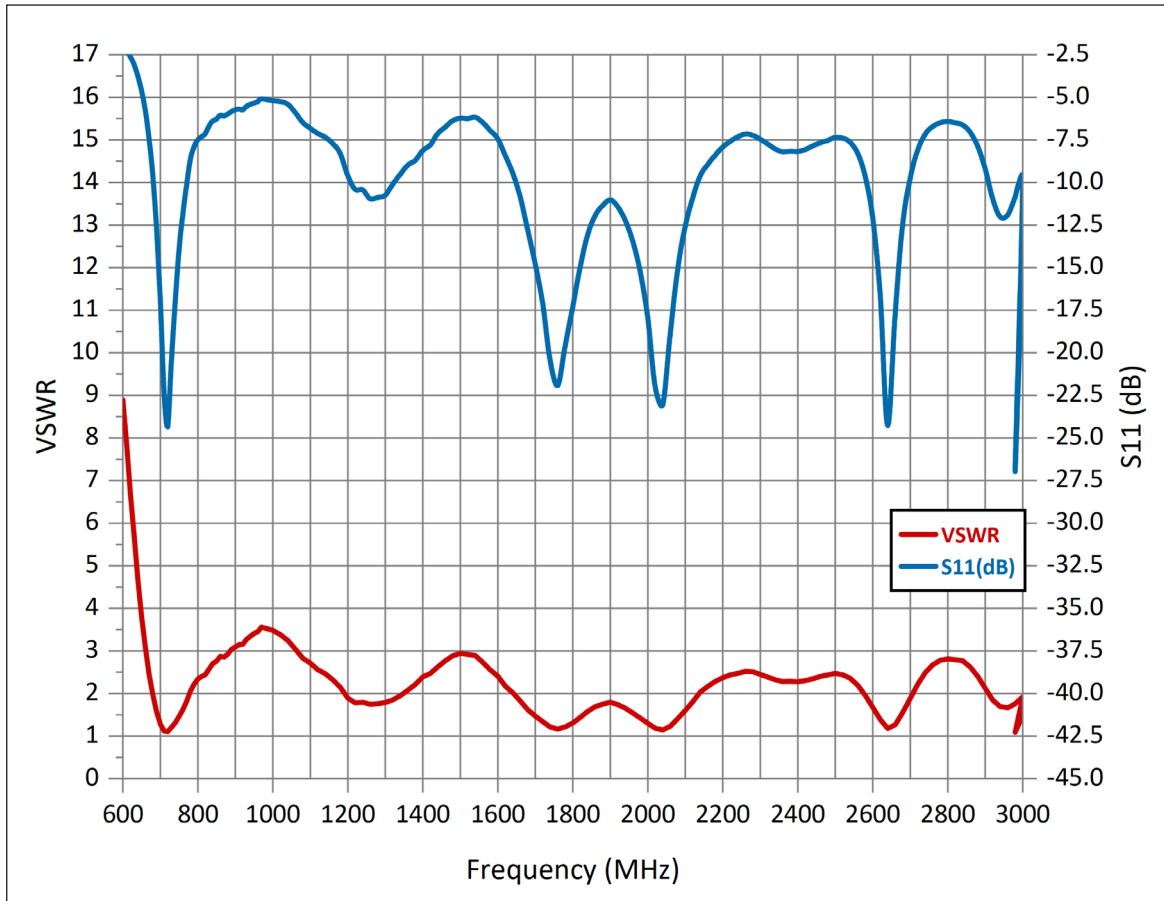


## ELECTRICAL PERFORMANCE

© Note

All data displayed in "ELECTRICAL PERFORMANCE" were measured with an RF cable.

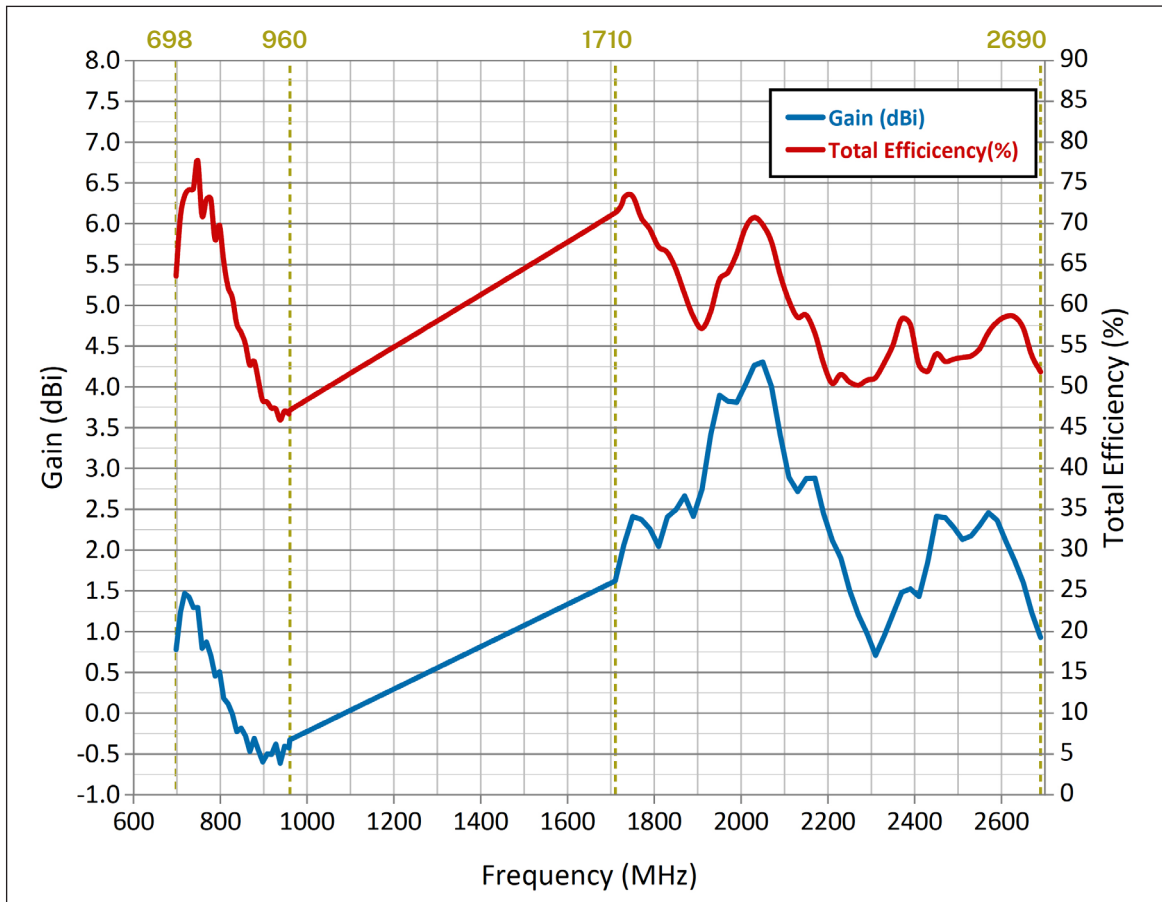
### VSWR and S11 (dB)



(Note: Data tested with an RF cable.)



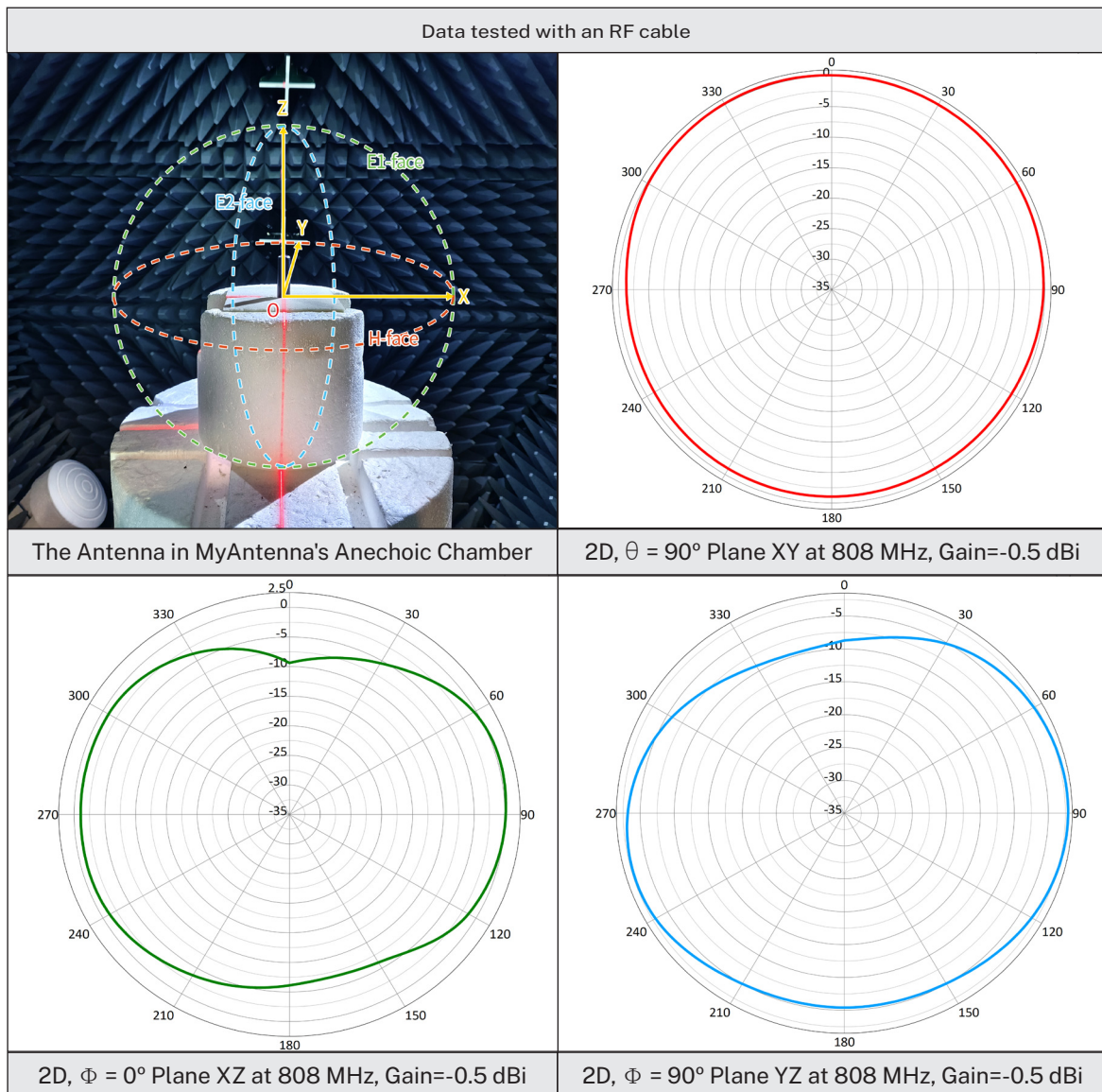
## Gain (dBi) and Total Efficiency (%)



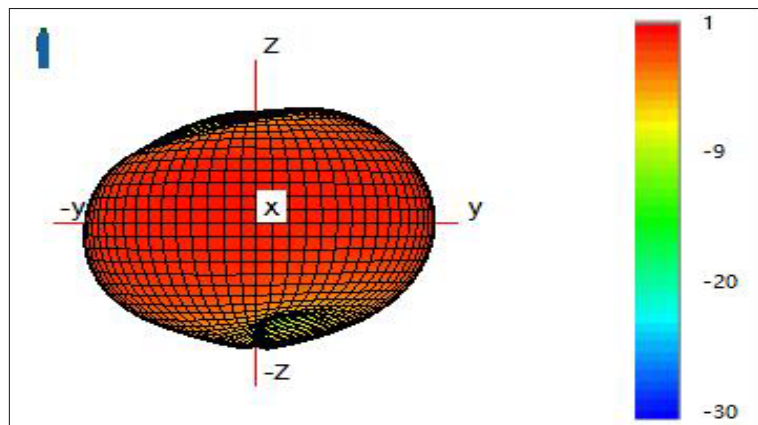
(Note: Data tested with an RF cable.)

Freq (MHz)	Gain (dBi)	Efficiency (%)	Freq (MHz)	Gain (dBi)	Efficiency (%)
698	0.78	63.57	1710	1.62	71.34
728	1.42	74.16	1810	2.04	67.14
758	0.80	70.99	1910	2.74	57.16
788	0.46	68.01	2010	4.03	69.45
818	0.12	62.28	2110	2.89	60.60
848	-0.18	56.67	2210	2.12	50.40
878	-0.31	53.16	2310	0.71	51.11
908	-0.50	48.12	2410	0.71	51.11
938	-0.61	45.91	2510	2.13	53.57
960	-0.33	47.12	2610	2.11	58.61
			2690	0.93	51.85

## 2D and 3D Radiation Patterns (698-960 MHz)

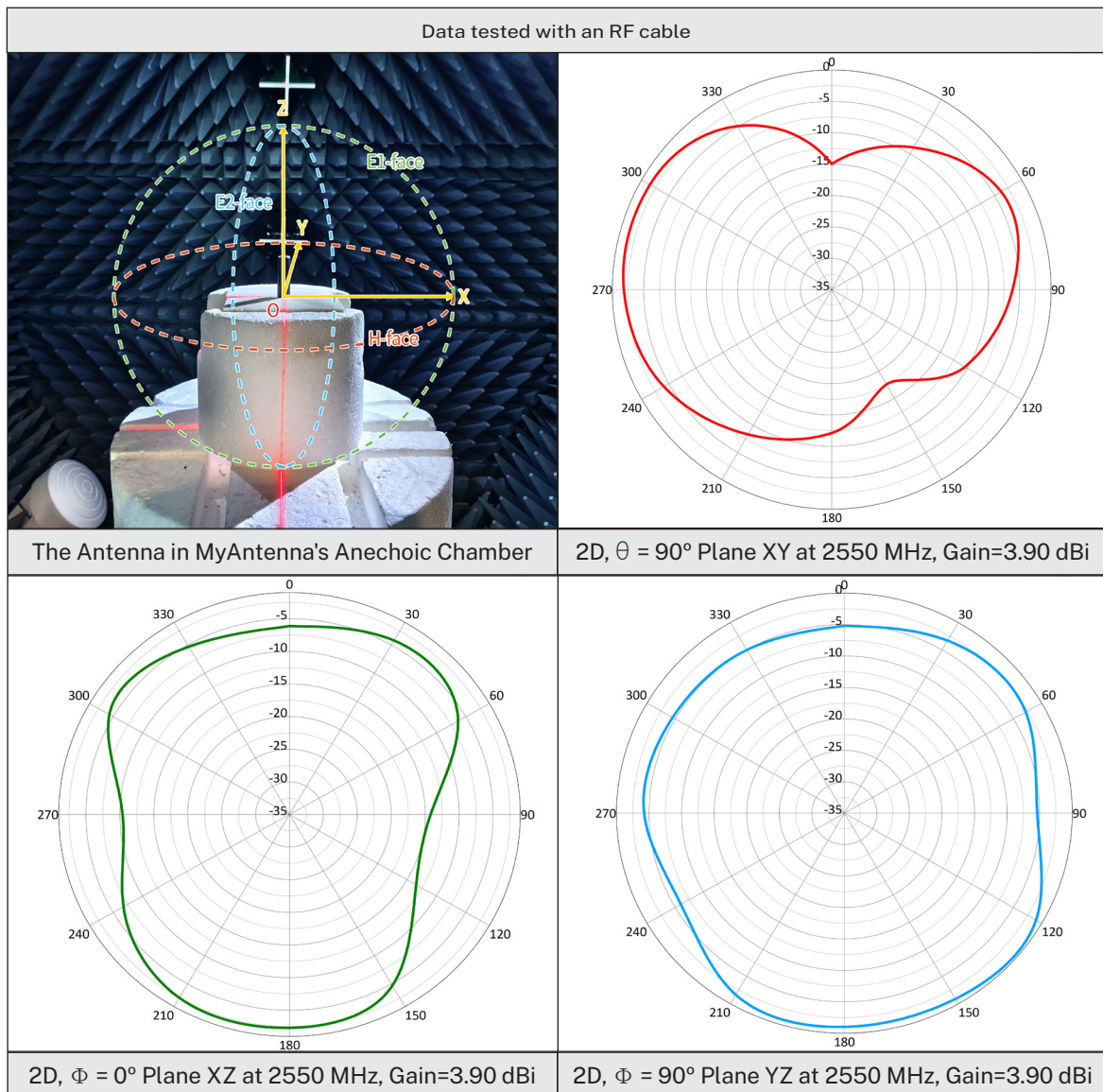


3D at 808 MHz Gain=-0.5 dBi  
 (Note: Data tested with an RF cable)

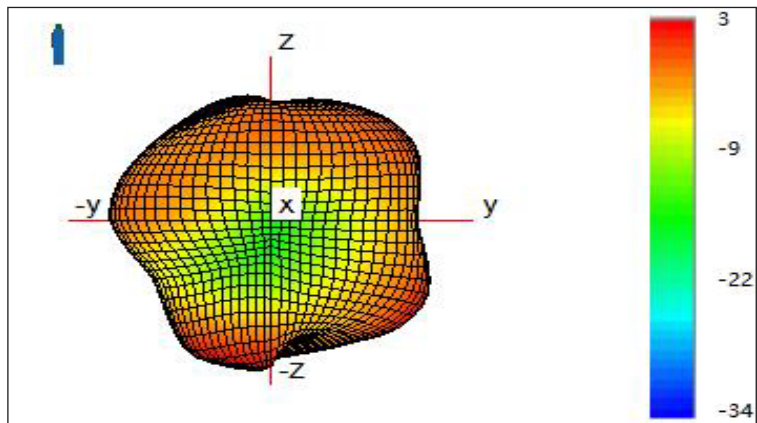




## 2D and 3D Radiation Patterns (1710-2690 MHz)









3D at 2550 MHz Gain=3.90 dBi  
(Note: Data tested with an RF cable)



# WELCOME ALL ANTENNA OEM/ODM PROJECTS

## Why Choose ABOOSTY

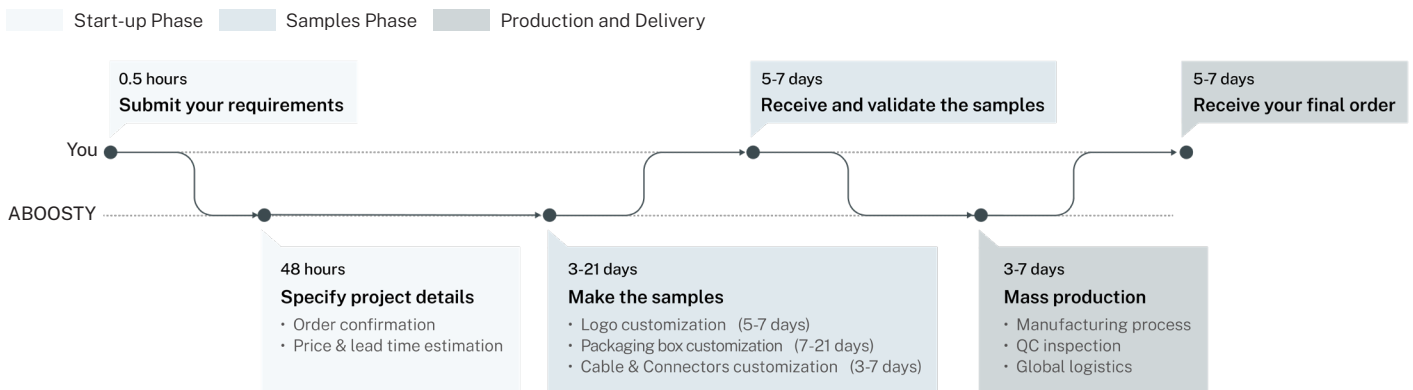
					
10+ years in antenna R&D, production, and OEM/ODM	MES system supported factory; 50M+ units annual output capacity	Factory directly competitive price	Quick price and lead time estimate	Innovative and patented design solutions	Professional team support & prompt reply within 24h

## What We Provide

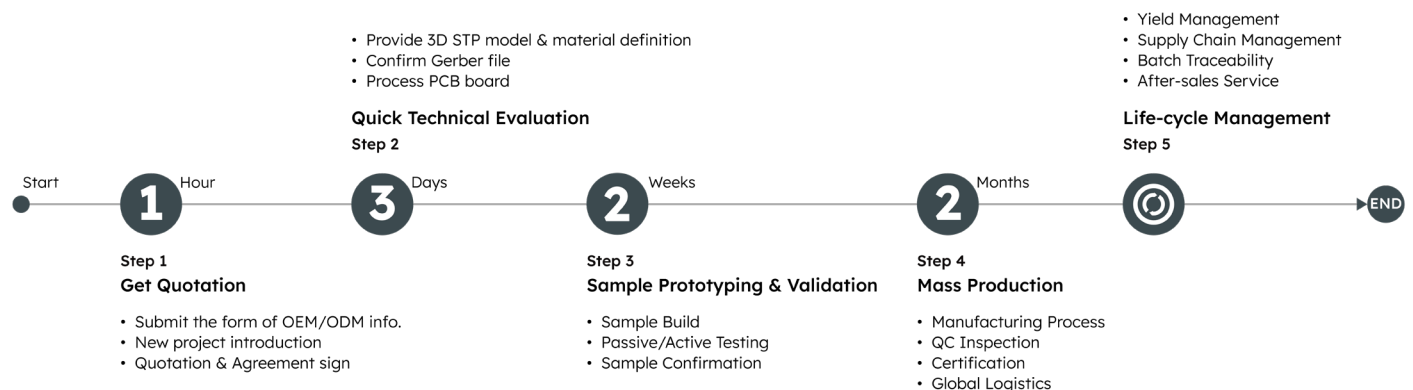
OEM/ODM Services	Light Customization	Deep Customization
	<ul style="list-style-type: none"> <li>• Logo</li> <li>• Packaging</li> <li>• Cables &amp; Connectors</li> </ul>	<ul style="list-style-type: none"> <li>• In-depth tailoring for specific applications</li> <li>• Functional enhancements</li> <li>• Environmental adaptations</li> <li>• Vertical certifications</li> <li>• ...</li> </ul>

## Custom Process

### Light Customization Process



### Deep Customization Process



**Note:** You can let us handle the PCB prototyping or do it yourself. Choosing self-prototyping may add 2 to 5 weeks to the timeline.


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