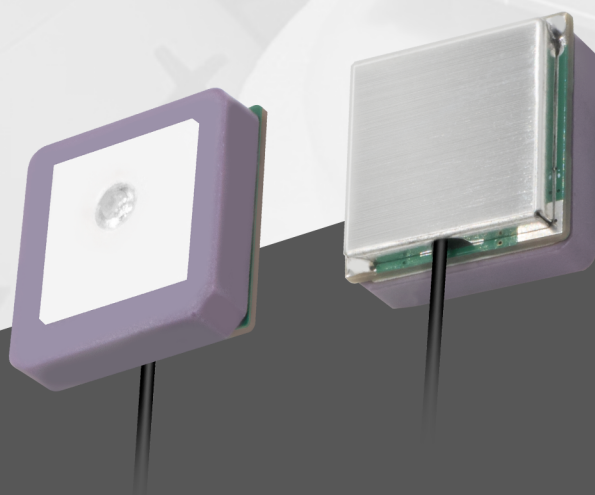




Datasheet

Circularly Polarized Active Ceramic RFID Antenna

Model: AILC001

PN: M01-0401550R0A

Description:

Operating Frequency: 902 -928 MHz

Features:

Ceramic Patch Element

Low Axial Ratio

Dimensions: 18 x 18 x 4 mm

PCB Board: 19 x 19 x 0.8 mm

Ground Plane Dependent

RoHS & Reach Compliant



ABOOSTY



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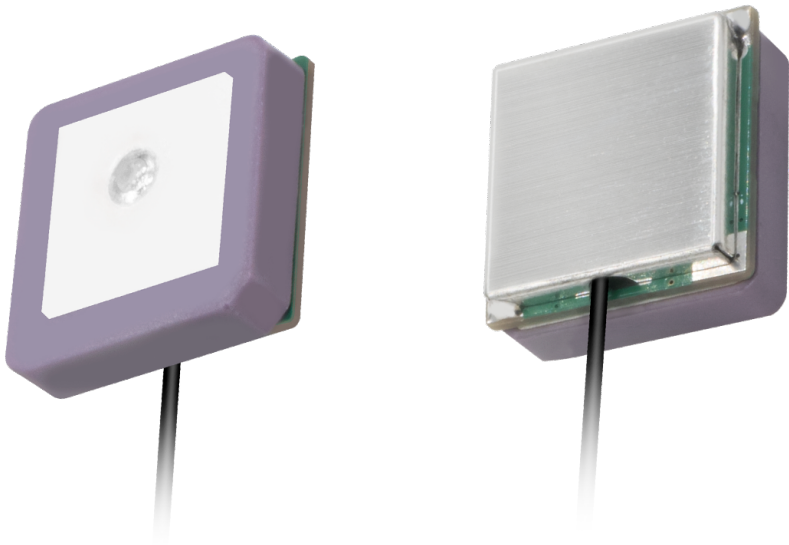


FEATURES & BENEFITS

- 18x18x4mm Embedded Ceramic Patch Element
- Miniaturized, Multi-system Compatible
- Low Axial Ratio
- Ground Plane Dependent
- RoHS & Reach Compliant

APPLICATIONS

- Handheld Smart Terminals
- Wide-Area IoT Data Backhaul
- Low-Power Wide-Area Network (LPWAN) Applications
- Retail & Asset Management
- M2M/Router & Gateway Devices
- Industrial Wireless Control & Telemetry



Antenna Diagram

ORDER INFORMATION

Product Name	Circularly Polarized Active Ceramic RFID Antenna
Model	AILC001
Part Number	M01-0401550R0A
Ceramic Patch Size	18x18x4mm
PCB Size	19x19x0.8mm
Weight	5.2 g
Mounting	Internal/Embedded/Adhesive Mount
Cable Length	150mm
Cable and Connector	IPEX 1, RF 1.13 (Ø 1.13 mm) coaxial cable, customizable.
Custom Options	Logo, Packaging, Cable and Connectors



REFERENCE GUIDE

Antenna	
Frequency	902 -928 MHz
Bandwidth	50 MHz
VSWR	<2.0
Efficiency (%)	19.21
Peak Gain (dBi)	-4.96
Axial Ratio (dB)	<3
Polarization	RHCP
Radiation Pattern	Directional
Input Impedance	50 Ω

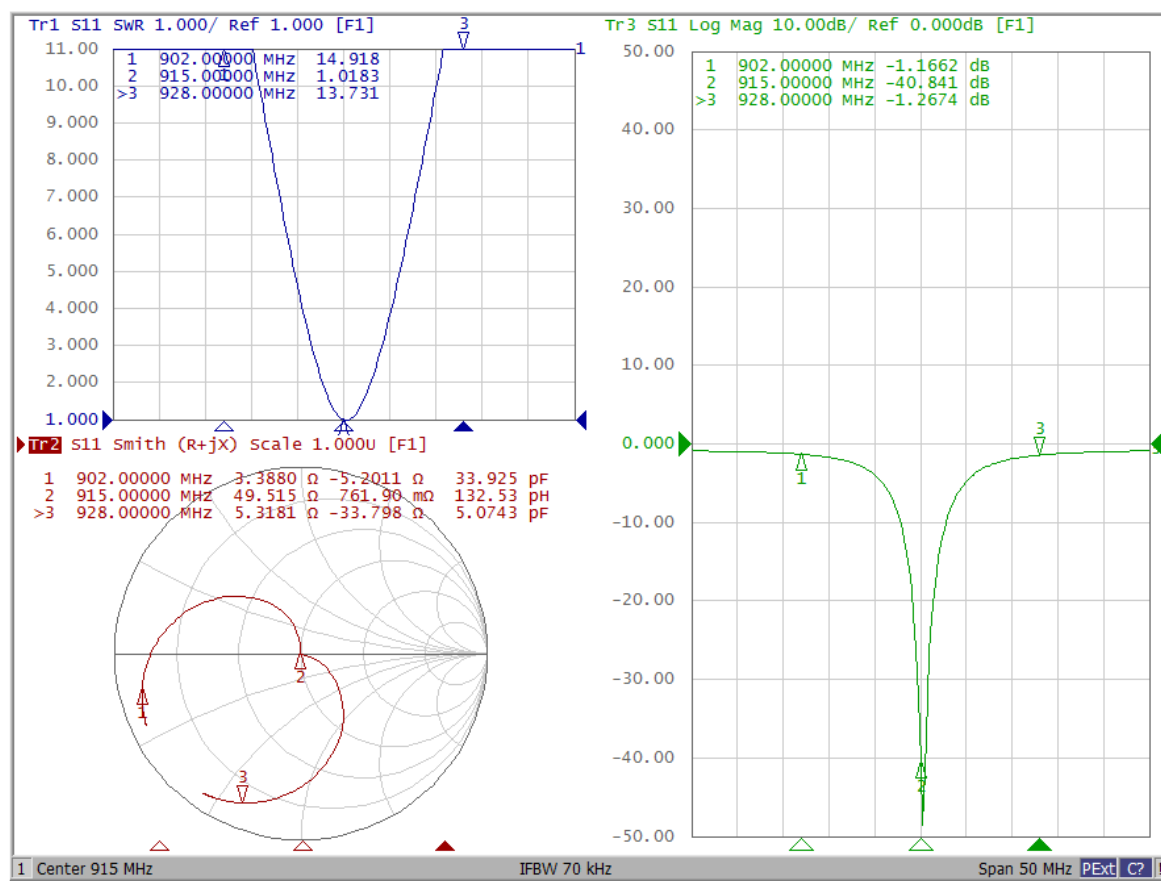
Environmental				
Operating Temperature	-40°C to +75°C			
Storage Temperature	-40°C to +85°C			
Relative Humidity	40% to 95%			
Vibration	Wave Form: Random Vibration			
	Test Time: 30min/Axis			
	Direction: X, Y, Z Axis			
	PSD Break Points for 9.8 RMS (m/s ²)	Frequency (Hz)	50	300
		Acceleration ((m/s ²) ² /Hz)	0.38416	0.38416
RoHS Compliant	Yes			
All data were measured using a 19×19 ground plane and one 150-mm-long RF1.13 cable. Application data may vary.				

ELECTRICAL PERFORMANCE

Note

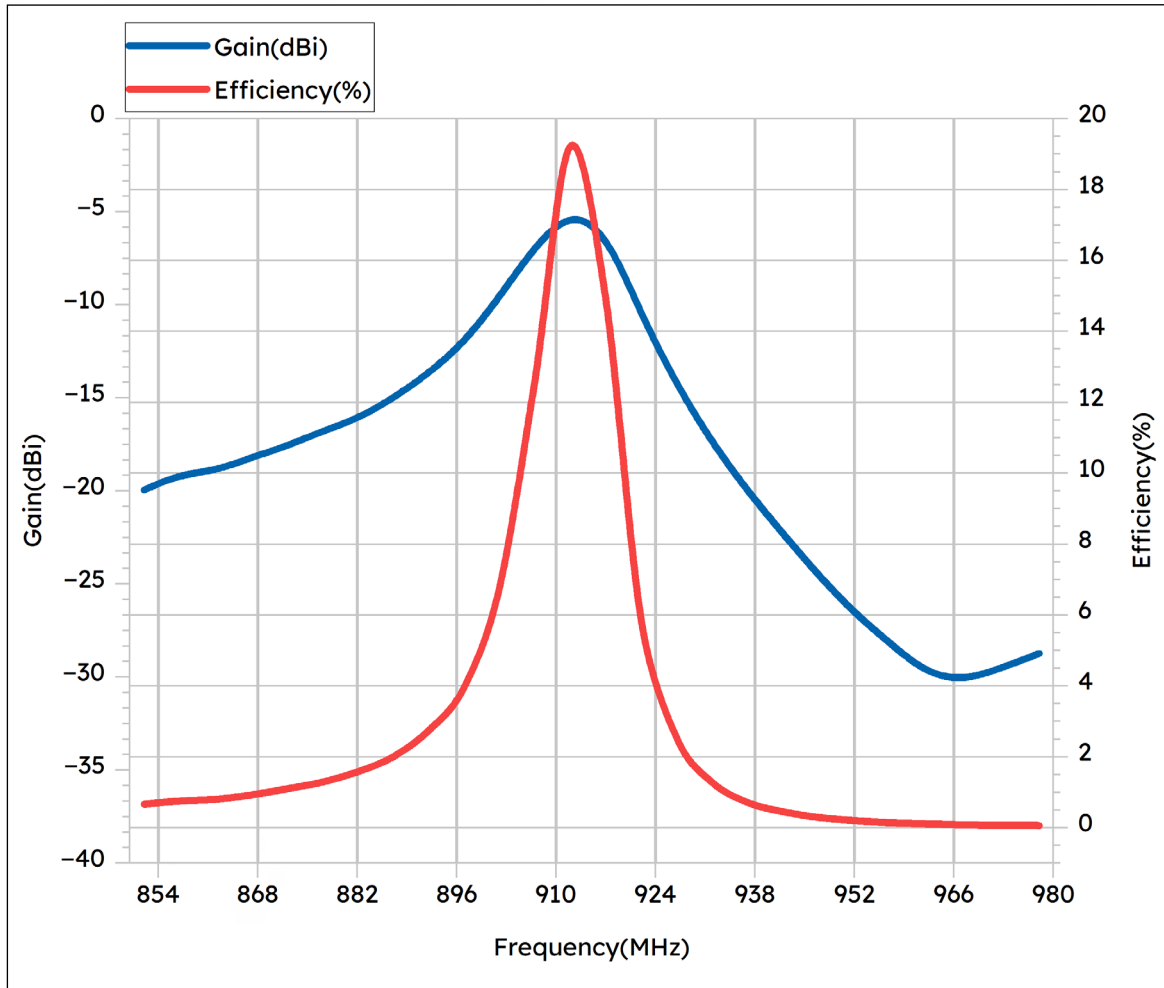
All data were measured using a 19×19 ground plane and one 150-mm-long RF1.13 cable. Application data may vary.

S11





Passive Gain (dBi) and Total Efficiency (%)



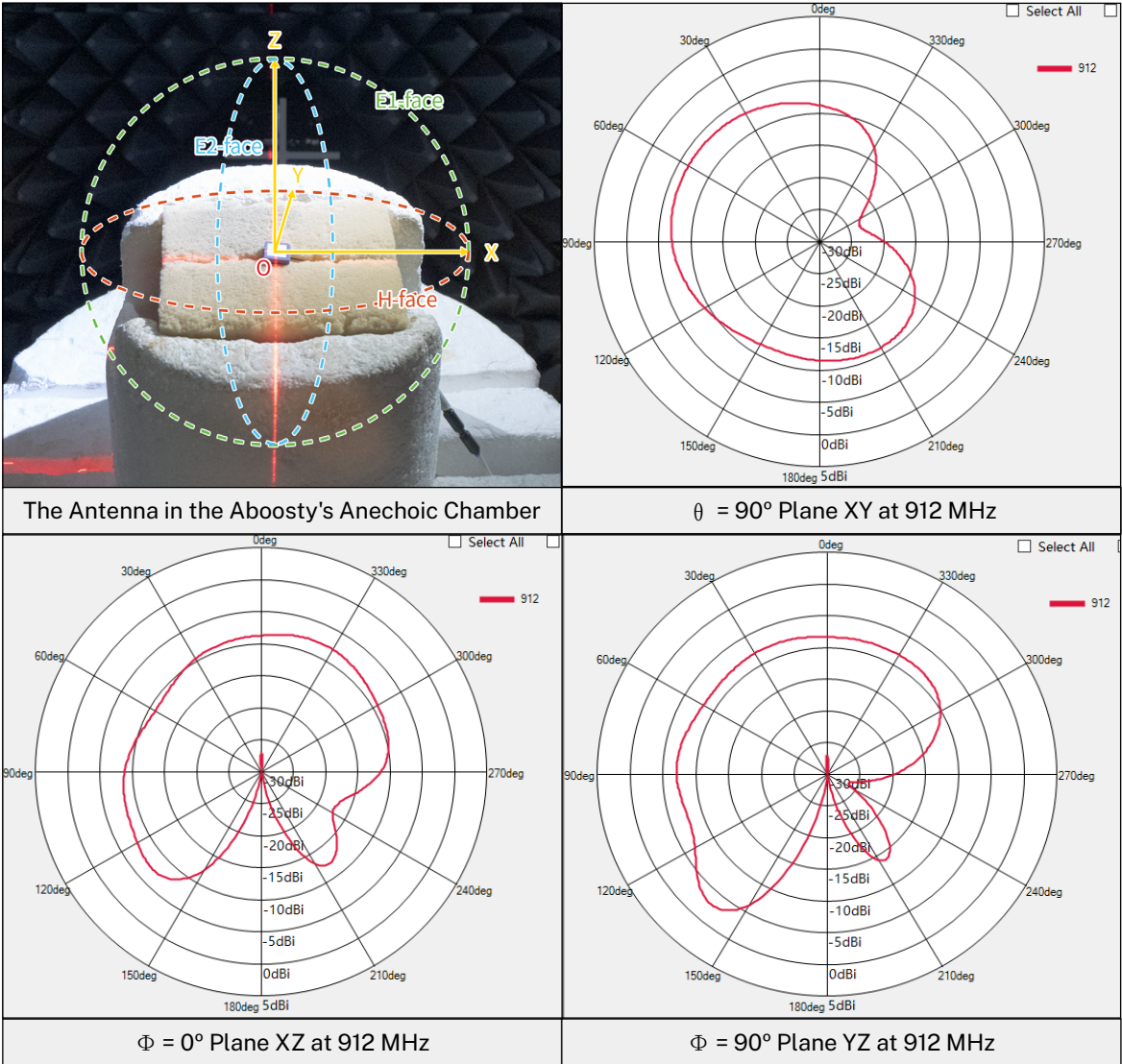
Freq (MHz)	Gain (dBi)	Efficiency (%)	Freq (MHz)	Gain (dBi)	Efficiency (%)
852	-19.96	0.66	917	-6.05	14.93
857	-19.11	0.75	922	-10.53	5.87
862	-18.92	0.8	927	-14.32	2.53
867	-18.21	0.92	932	-17.41	1.28
872	-17.6	1.09	937	-20.02	0.71
877	-16.8	1.28	942	-22.32	0.45
882	-16.13	1.57	947	-24.55	0.29
887	-15.03	1.99	952	-26.55	0.2
892	-13.7	2.72	957	-28.17	0.14
897	-12.07	3.93	962	-29.76	0.11
902	-9.59	6.74	967	-30.19	0.08
907	-6.86	12.55	972	-29.61	0.07

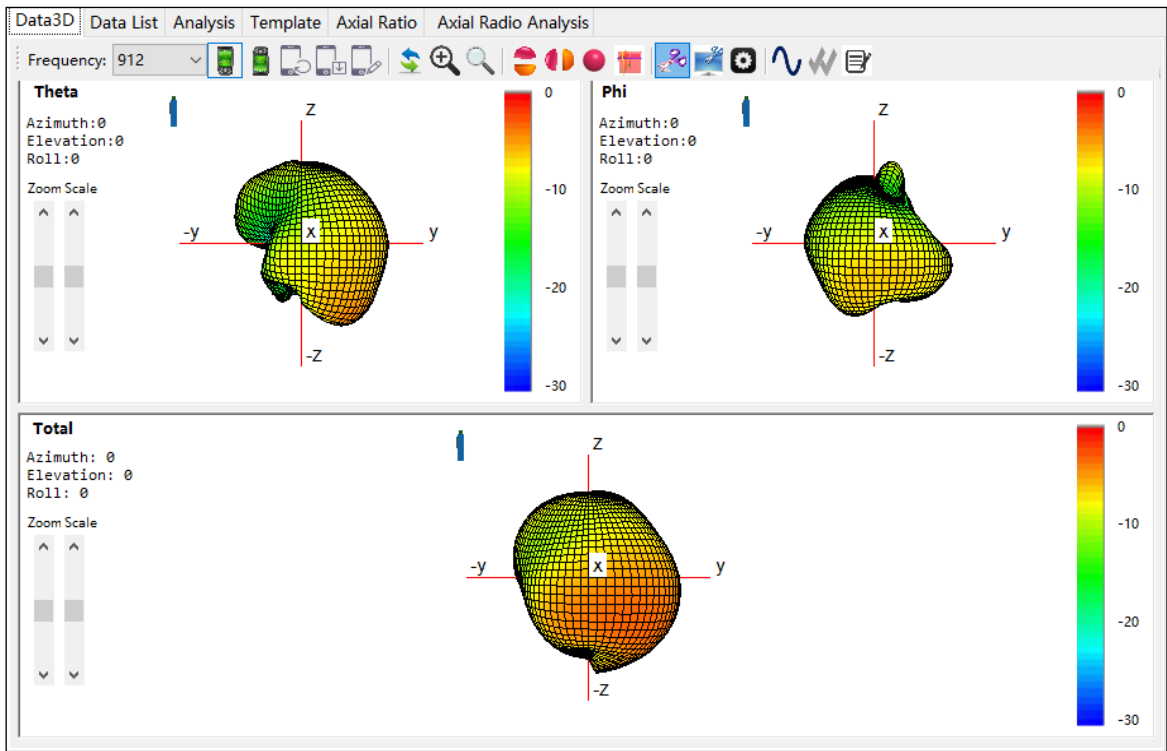


912	-4.96	19.21	978	-28.72	0.06
977	-28.88	0.07			



2D and 3D Radiation Patterns (912 MHz)

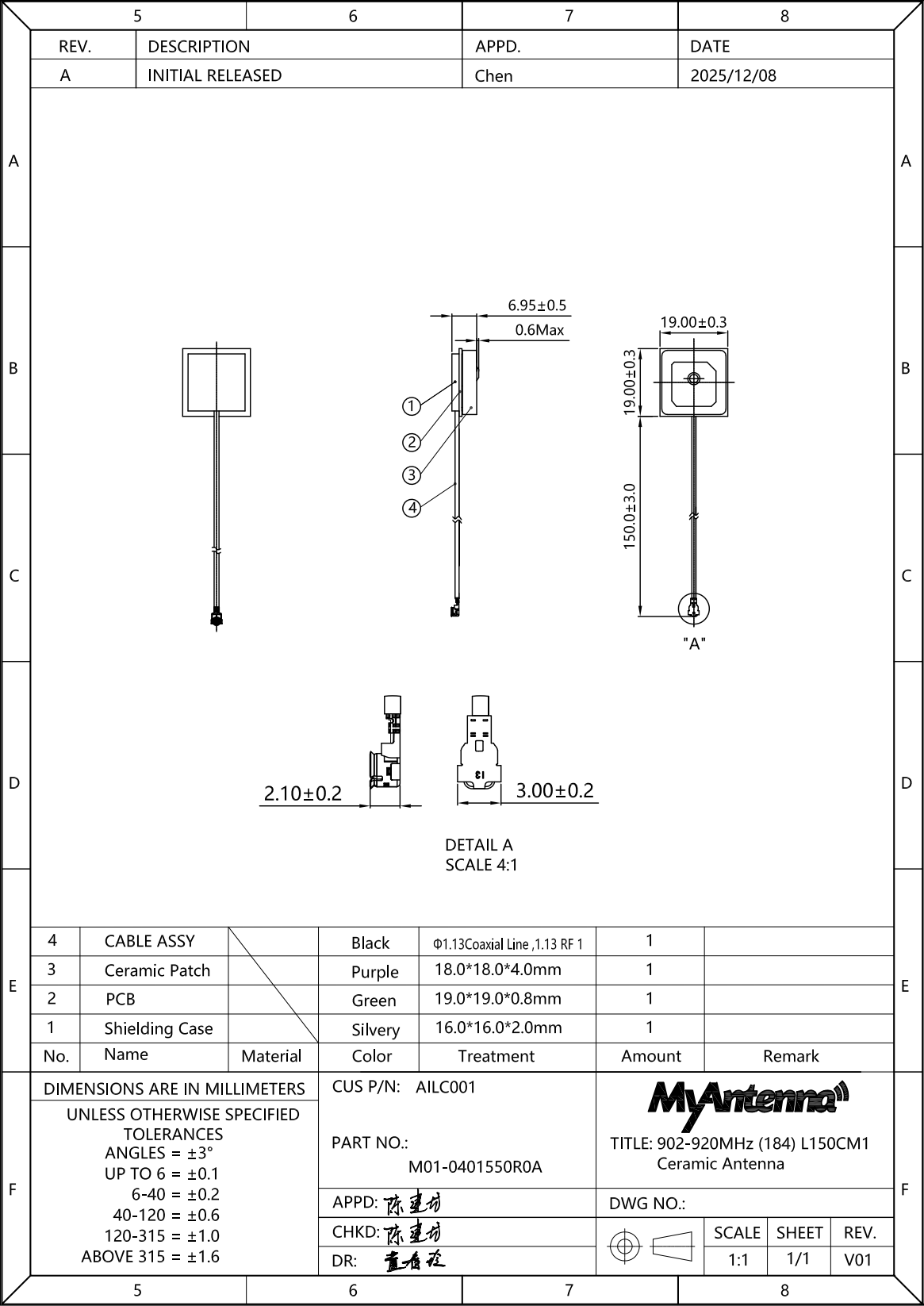




3D at 912 MHz, Gain=-6.05 dBi



MECHANICAL DIMENSIONS



ABOOSTY 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



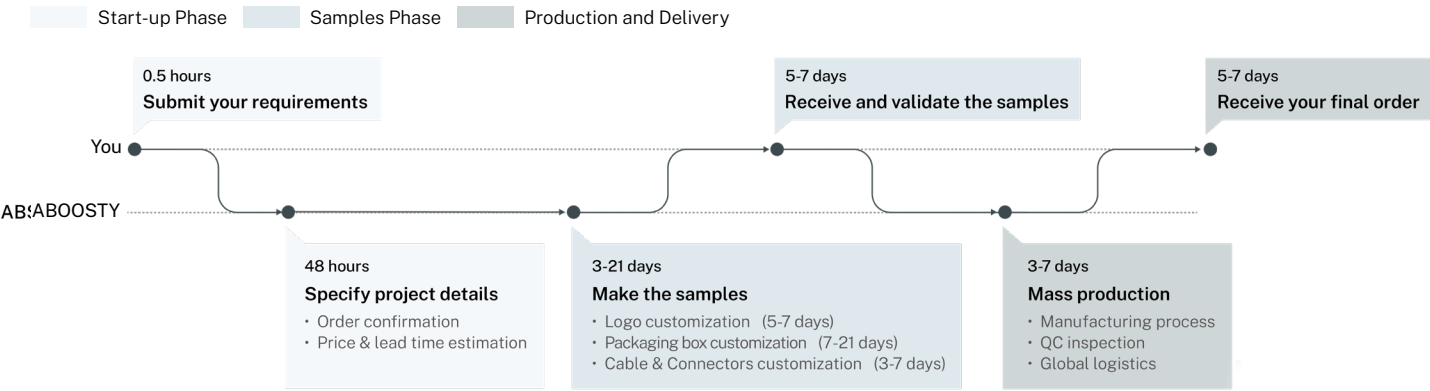
Professional team support & prompt reply within 24h

What We Provide

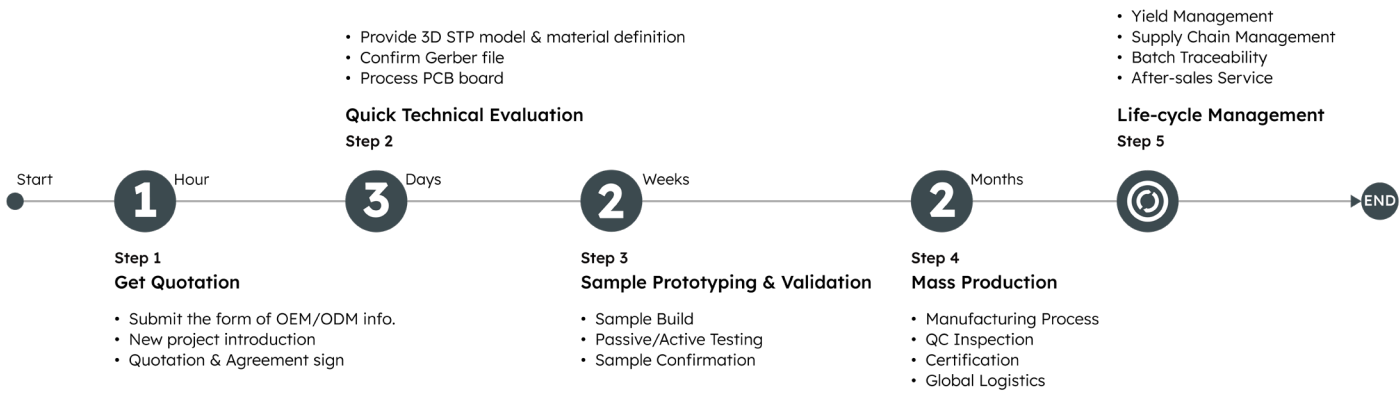
OEM/ODM Services	Light Customization	Deep Customization
	• Logo • Packaging • Cables & Connectors	• In-depth tailoring for specific applications • Functional enhancements • Environmental adaptations • Vertical certifications • ...

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.

Boost Your Signal
with Our Antennas

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Multi-band Combination Antennas

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