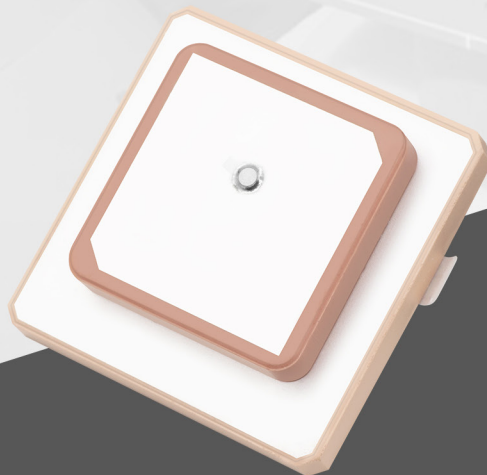




Datasheet

Circularly Polarized Passive GPS Embedded Ceramic Patch Antenna

Model: AIGC045

PN: M04-0104720R0A

Description:

GPS/GLONASS/BeiDou Passive Patch Antenna

Operating Frequency: 1171-1181 MHz&1570-1580 MHz

Features:

Ceramic Patch Element

Dimensions: 35x35x4+25x25x4mm

Tuned for 40 × 40 mm Ground Plane

Low Axial Ratio

Adhesive Mount

RoHS Compliant



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 Global Site: www.aboosty.com  China Site: www.aboosty.cn

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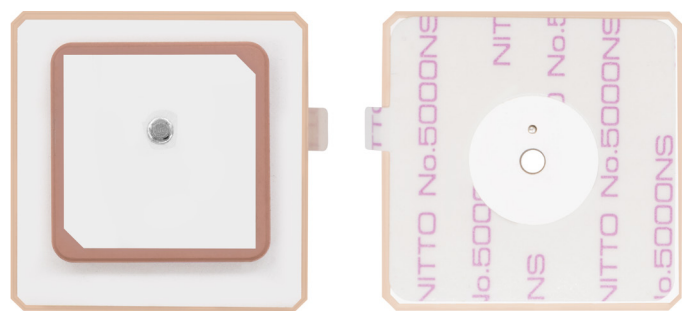
FEATURES & BENEFITS

- 35x35x4+25x25x4mm Embedded Ceramic Patch Element
- Miniaturized, Multi-system Compatible
- Low Axial Ratio
- Ground Plane Dependent
- RoHS Compliant
- Covering Bands: GPS (L1) / GLONASS (G1)/ BeiDou (B1))

APPLICATIONS

- Satellite Navigation Receivers
- Geodetic Surveying and Mapping
- Channel Surveying and Mapping
- Precision Agriculture
- Marine Surveying
- Asset and Fleet Tracking
- Oil, Gas, and Mining Industries
- M2M Applications
- Hand-held/Portable Devices

ANTENNA IMAGE AND MOUNTING



ORDER INFORMATION

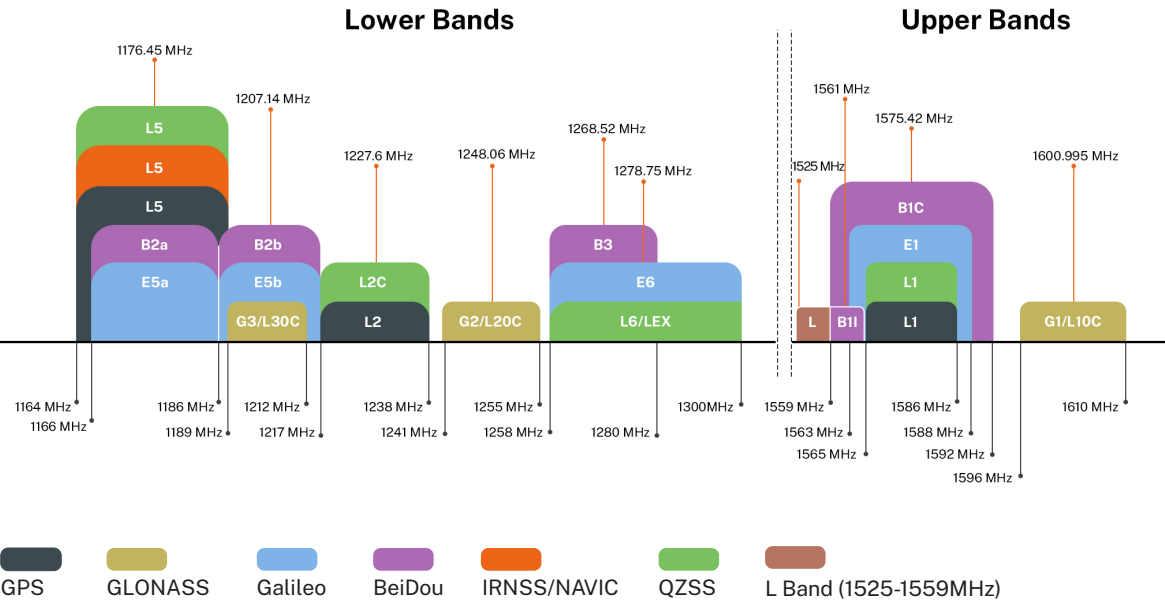
Product Name	Circularly Polarized Passive GPS Embedded Ceramic Stacked Patch Antenna
Model	AIGC045
Part Number	M04-0104720R0A
Dimensions	35x35x4+25x25x4mm
Weight	26.4 g
Mounting	Internal/Embedded/Adhesive Mount
MOQ	250 pcs
Custom Options	Logo, Packaging, Cable and Connectors



GNSS FREQUENCY BANDS

GNSS Frequency Bands Covered					
GPS	L1	L2	L5		
	●	○	●		
GLONASS	G1	G2	G3		
	●	○	○		
Galileo	E1	E5a	E5b	E6	
	●	●	○	○	
Bei Dou	B1I	B1C	B2a	B2b	B3
	●	●	●	○	○
QZSS (Regional)	L1	L2C	L5	L6	
	●	○	●	○	
IRNSS(Regional)	L5				
	●				
SBAS	L1/E1/B1	L5/B2a/E5a	G1	G2	G3
	●	●	●	○	○

*SBAS systems: WASS(L1/L5), EGNOS(E1/E5a), SDCM(G1/G2/G3), SNAS(B1,B2a), GAGAN(L1/L5), QZSS(L1/L5), KAZZ(L1/L5).





REFERENCE GUIDE

Antenna		
Center Frequency	1176±5MHz	1575±5MHz
Frequency Band	L5	L1G1
Return Loss (dB)	≥ 10	≥ 10
Peak Gain (dBi)	-0.5	0.7
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 with a 40 x 40 mm ground plane. Application data might vary.				

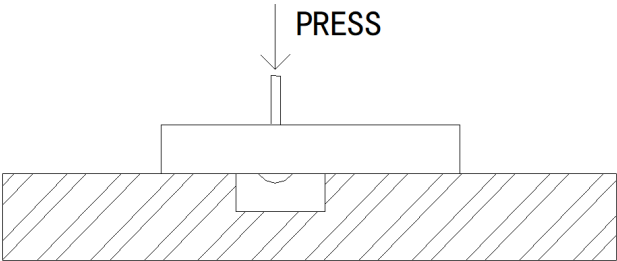
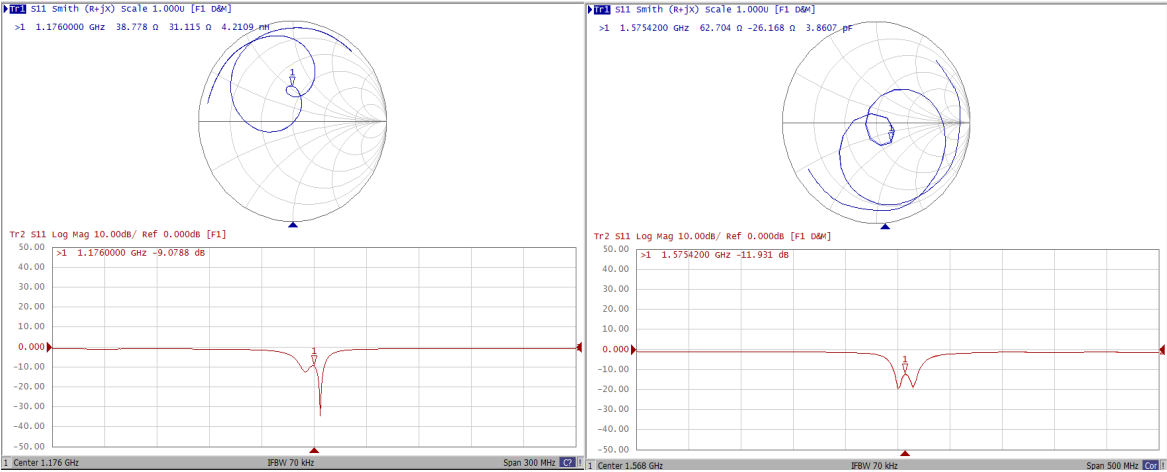


ELECTRICAL PERFORMANCE

⦿ Note

All data displayed in "ELECTRICAL PERFORMANCE" were measured with an 40 ×40 mm ground plane.

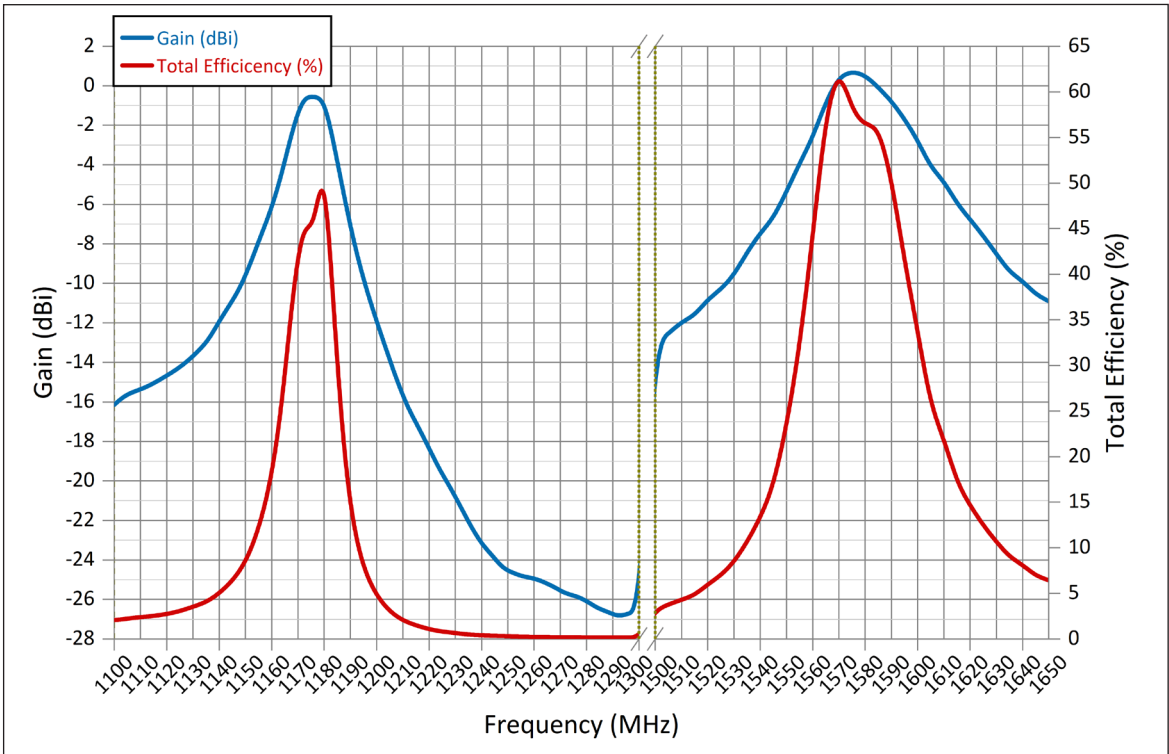
S11



Item	Specification After Test (MHz)
Center Frequency Change	±2.0
-10dB Bandwidth Change	±2.0



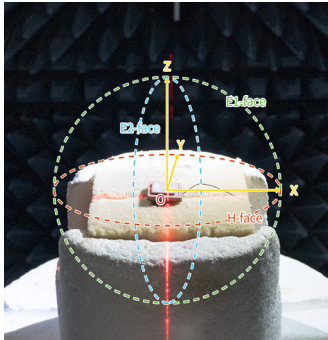
Passive Gain (dBi) and Total Efficiency (%)



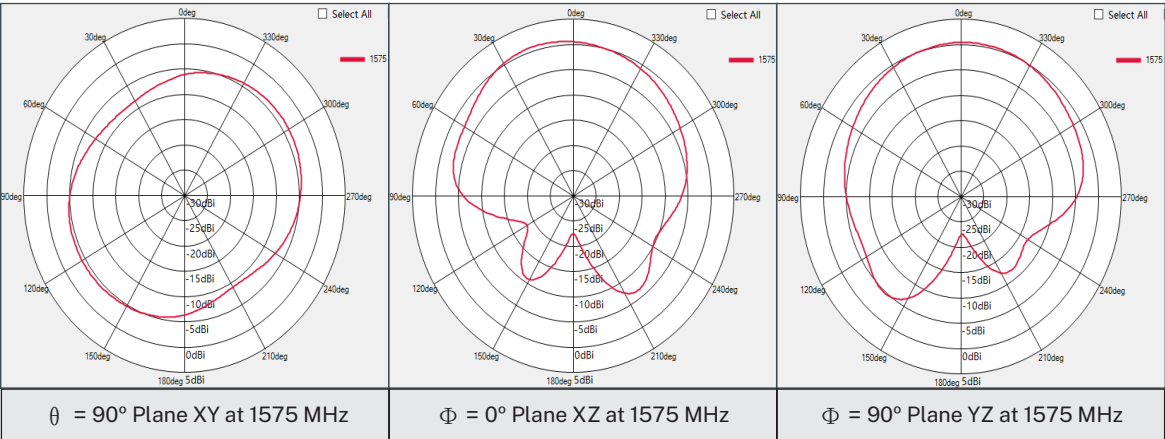
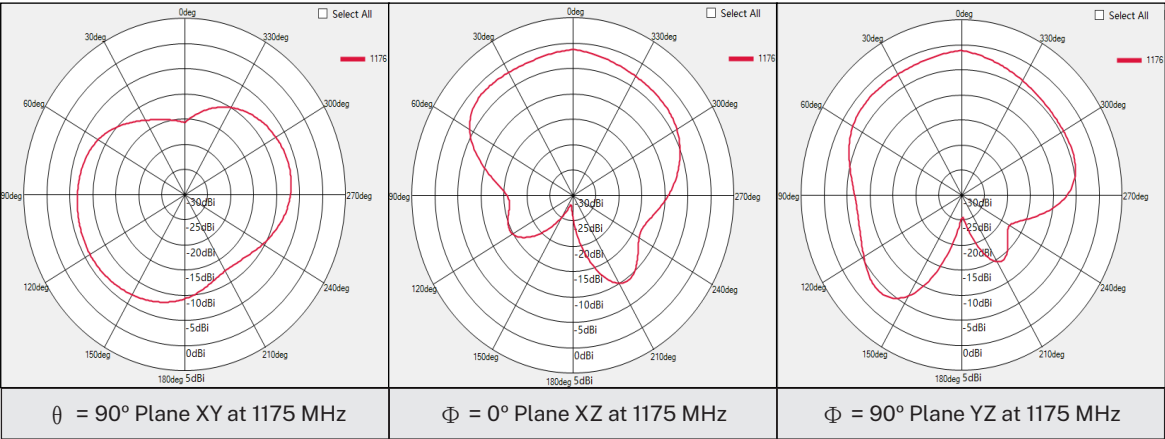
Freq (MHz)	Gain (dBi)	Effi. (%)	Freq (MHz)	Gain (dBi)	Effi. (%)	Freq (MHz)	Gain (dBi)	Effi. (%)	Freq (MHz)	Gain (dBi)	Effi. (%)
1100	-16.14	2.06	1184	-3.12	34.23	1268	-25.39	0.19	1560	-2.61	44.2
1104	-15.67	2.19	1188	-5.85	18.79	1272	-25.7	0.18	1565	-0.82	57.39
1108	-15.46	2.36	1192	-8.29	11.04	1276	-25.82	0.18	1570	0.47	62.89
1112	-15.26	2.44	1196	-10.25	7.04	1280	-26.07	0.17	1575	0.74	57.91
1116	-14.98	2.56	1200	-11.93	4.79	1284	-26.43	0.17	1580	0.54	56.32
1120	-14.67	2.75	1204	-13.51	3.33	1288	-26.62	0.16	1585	-0.08	56.29
1124	-14.33	2.98	1208	-15.02	2.39	1292	-26.87	0.16	1590	-0.78	50.47
1128	-13.92	3.34	1212	-16.32	1.81	1296	-26.73	0.16	1595	-1.67	41.46
1132	-13.43	3.72	1216	-17.3	1.4	1300	-26.52	0.17	1600	-2.76	33.74
1136	-12.85	4.21	1220	-18.35	1.09	1500	-13.09	3.19	1605	-4.12	25.58
1140	-11.91	5.03	1224	-19.42	0.87	1505	-12.54	3.78	1610	-4.81	21.98
1144	-11.09	6.09	1228	-20.31	0.72	1510	-11.95	4.32	1615	-5.98	17.11
1148	-10.23	7.5	1232	-21.29	0.59	1515	-11.63	4.81	1620	-6.76	14.64
1152	-8.98	9.65	1236	-22.31	0.48	1520	-10.8	6.01	1625	-7.6	12.47
1156	-7.55	12.99	1240	-23.19	0.41	1525	-10.31	6.98	1630	-8.51	10.65
1160	-6.18	17.89	1244	-23.76	0.36	1530	-9.57	8.44	1635	-9.42	9.01
1164	-4.35	25.95	1248	-24.41	0.32	1535	-8.41	10.67	1640	-9.88	8.14
1168	-2.16	37.96	1252	-24.66	0.27	1540	-7.45	13.28	1645	-10.55	6.94
1172	-0.56	45.68	1256	-24.85	0.25	1545	-6.7	16.76	1650	-10.9	6.43
1176	-0.54	44.67	1260	-24.92	0.23	1550	-5.34	23.38			
1180	-0.65	53.17	1264	-25.13	0.21	1555	-3.93	31.97			



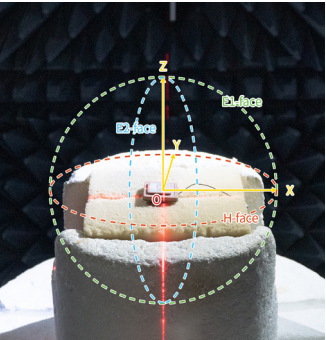
2D Radiation Patterns (L1 and L5 Band)



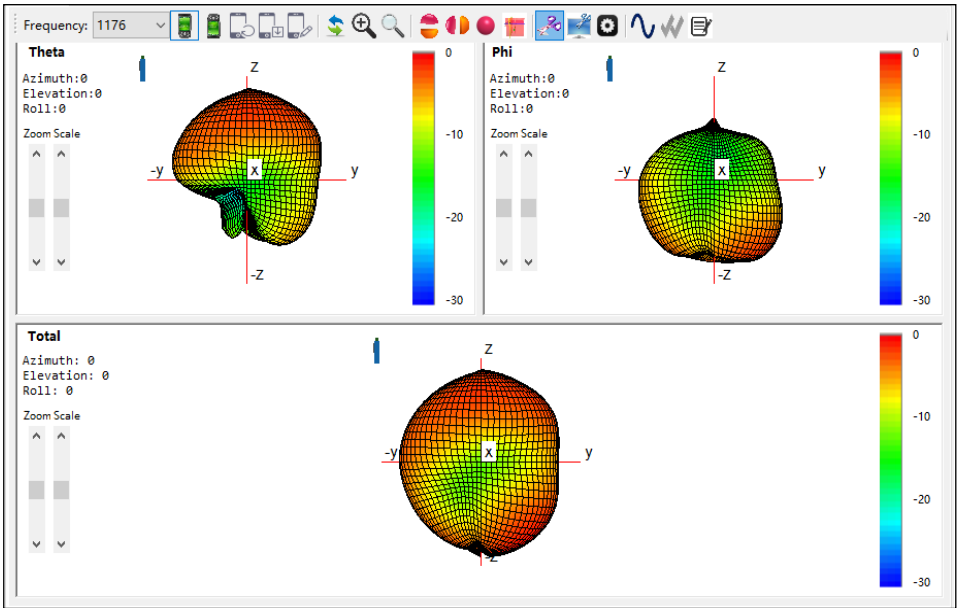
The Antenna in the Aboosty's Anechoic Chamber



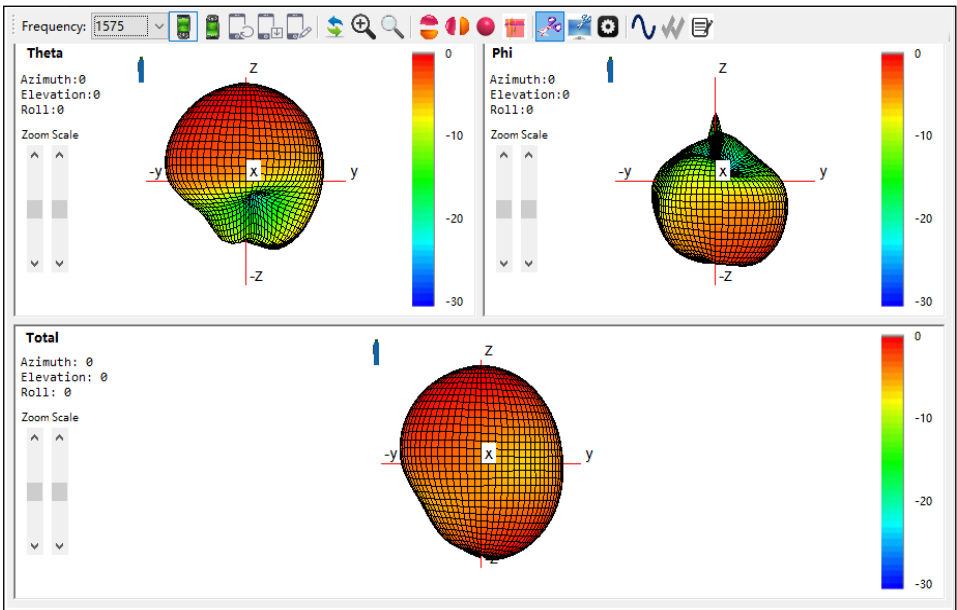
3D Radiation Patterns (L1 and L5 Band)



The Antenna in the Aboosty's Anechoic Chamber



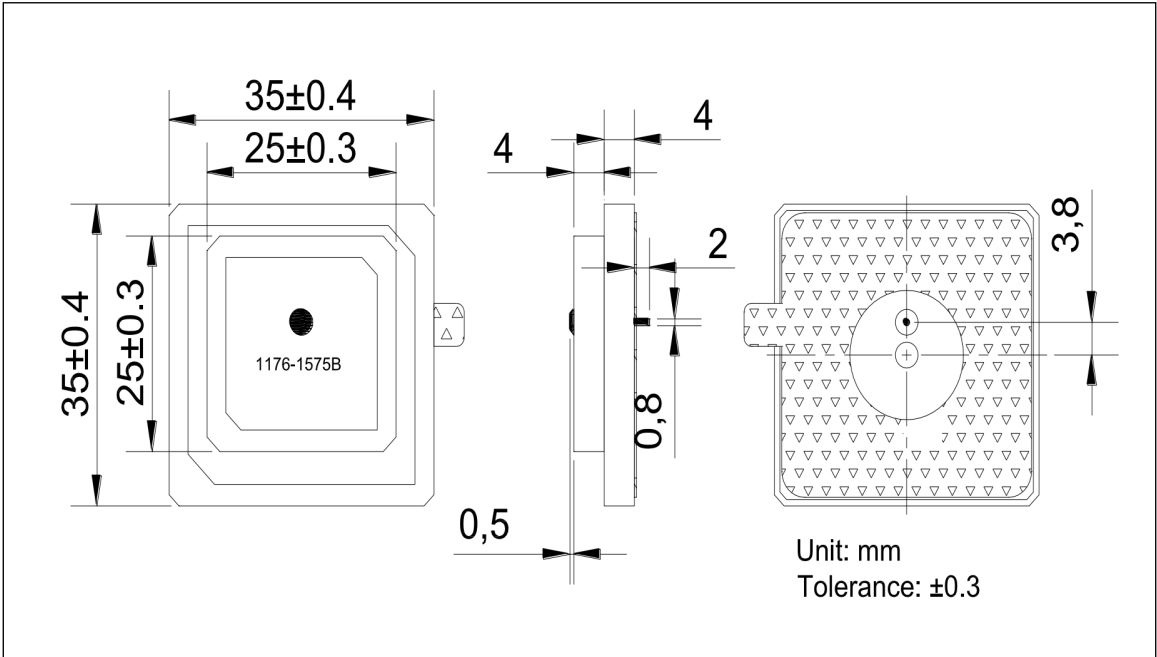
3D at 1175 MHz



3D at 1575 MHz



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



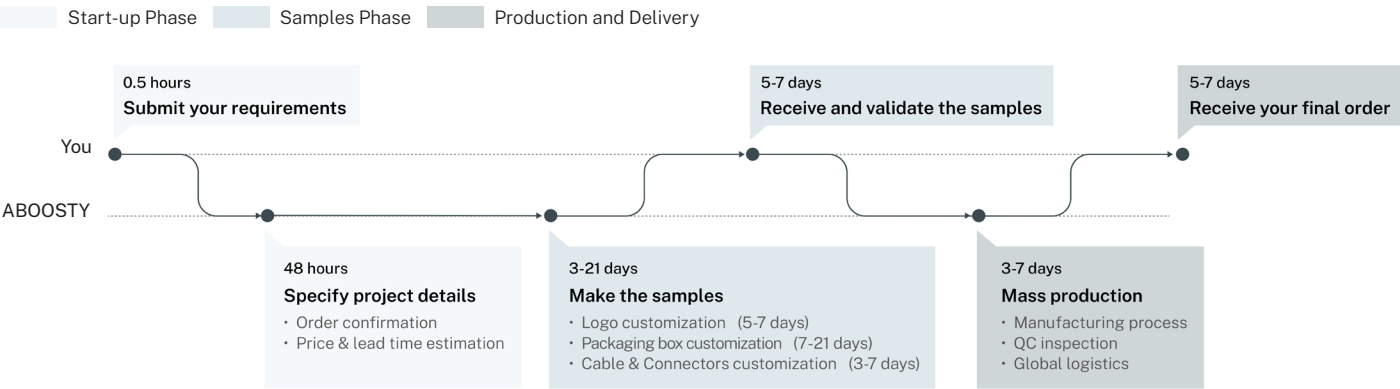
Professional team support & prompt reply within 24h

What We Provide

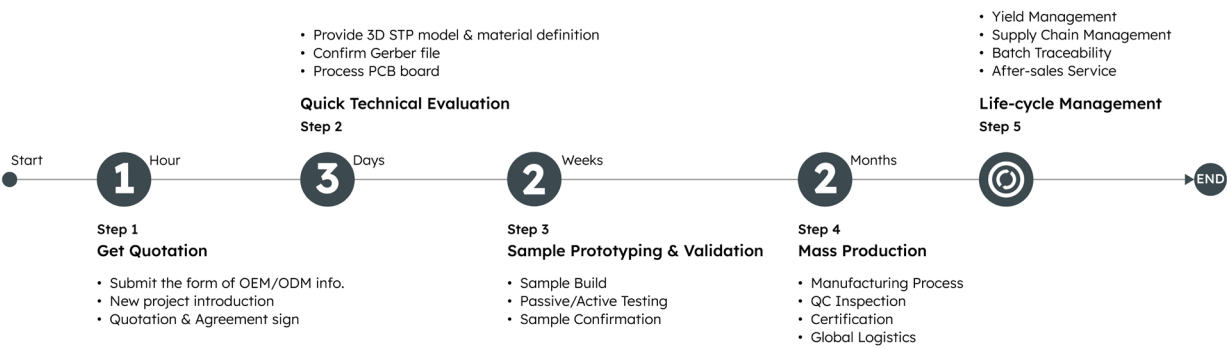
OEM/ODM Services	Light Customization	Deep Customization
	• Logo • Packaging • Cables & Connectors	• In-depth tailoring for specific applications • Functional enhancements • Environmental adaptations • Vertical certifications • ...

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.

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