

Applicant	G.Tech Technology Ltd.	Date	2025/7/15	Temperature	24.8°C
Product	Dongle	Tested by	Carl	Humidity	40%
Model	MD301-D	Frequency range	2405-2460MHZ	Antenna Type	PCB antenna
Testing laboratory	TUV Rheinland(Shenzhen) Co.,Ltd.				
Test Site Location	No.362, Huangguan Middle Road, Guanghua Street, Longhua District, Shenzhen, 518110, P.R. China				
Manufacturer	江门市合诚电子有限公司				
Test specification:	3GPP TS 34.114; 3GPP TR 37.902; 3GPP TR 25.914; IEEE Std 149-1979 Test procedure for antennas				
Dimension	8.7(L)*1.95(W)mm				
Return Loss	-10dB(MAX)				
VSWR	2MAX				
Peak Gain	3.93dbi				
Impedance	50Ω				
Operation Temperature	-20°C~+65°C				

Testing Condition

Environment Parameter	Ambient Pressure	Temperature	Voltage	Relative Humidity
Normal Temperature, Normal Voltage (NTNV)	100 to 102 KPa	23.6°C	AC 220V	59.5%

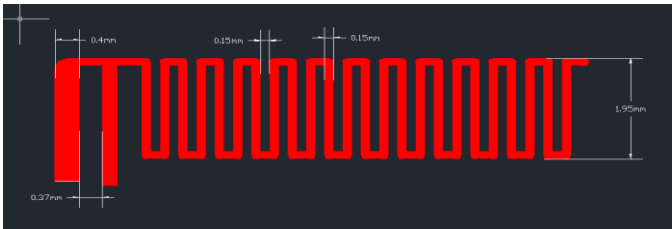
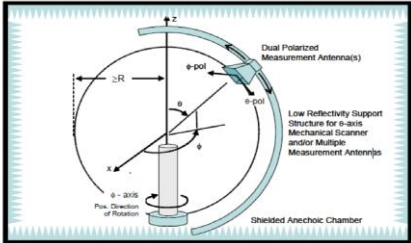
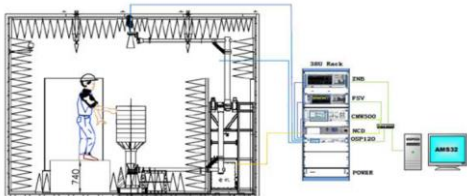
List of Equipment

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Vector Network Analyzer	R&S	ZNB 8	107040	2024.08.09	1 year
Signal and Spectrum Analyzer	R&S	FSV 7	103665	2024.08.09	1 year
Open switch and control platform	R&S	OSP120	102054	N/A	N/A
Positioner Controller	R&S	NCD	Jan-67	N/A	N/A
Test antenna	R&S	TC-TA18	101198	N/A	N/A

Test set up

Measurements are performed in a R&S TS8991 3D fully anechoic test system. The test system includes a high-performance RF-shielded, rectangular anechoic chamber, a distributed-axes system and R&S AMS32 data acquisition and analysis software.

Typical Setup for R&S TS8991



Frequency	Efficiency(dB)	Efficiency(%)	Peak Gain
2400.00	-3.17	48.20	3.80
2402.00	-3.21	47.80	3.74
2405.00	-3.19	47.96	3.77
2410.00	-2.93	50.90	3.93
2415.00	-3.12	48.75	3.80
2420.00	-3.01	50.02	3.90
2425.00	-3.13	48.59	3.69
2430.00	-3.02	49.87	3.79
2435.00	-3.04	49.66	3.70
2440.00	-2.84	52.04	3.76
2441.00	-2.78	52.69	3.84
2445.00	-2.80	52.49	3.81
2450.00	-2.83	52.14	3.75
2455.00	-2.85	51.82	3.67
2460.00	-2.94	50.77	3.43
2465.00	-3.05	49.54	3.41
2470.00	-3.31	46.83	3.14
2475.00	-3.24	47.45	3.24
2480.00	-3.58	43.86	2.93
2485.00	-3.58	43.87	2.95
2490.00	-3.65	43.19	2.92
2495.00	-3.64	43.28	2.91
2500.00	-3.94	40.36	2.53

