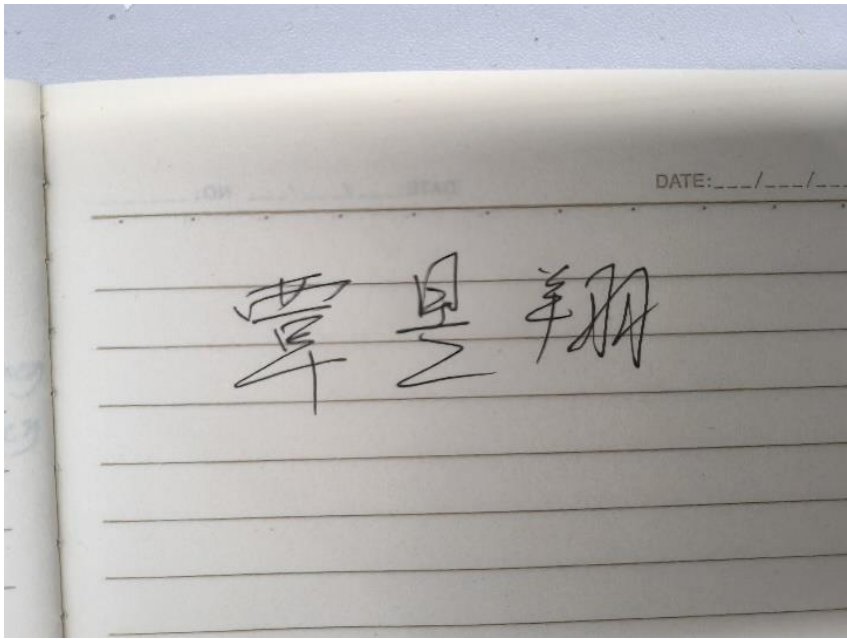


Billie Antenna Test Report

Applicant	Tonly Technology Co., Ltd.
Address	Section 37, Zhongkai High-tech Development Zone, Huizhou City, Guangdong Province, 516006 China

Manufacturer or Supplier	Tonly Technology Co., Ltd.
Address	Section 37, Zhongkai High-tech Development Zone, Huizhou City, Guangdong Province, 516006 China
Product	Wireless Speaker
Brand Name	Billie
Model	C2
Type	On Board
Max. Peak Gain	2.3dBi
Date of tests	3-1-2025

Tested and Approved by Yuxiang Qin



1. Antenna Overview



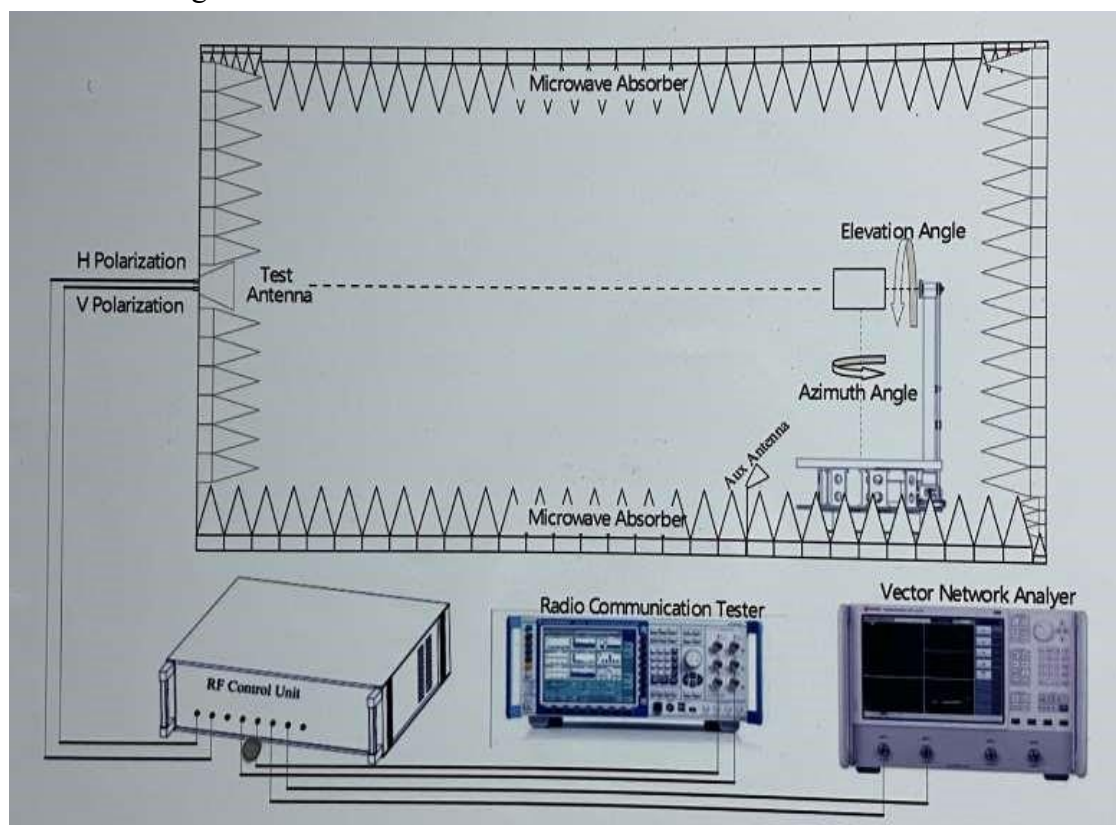
2. Test standard

Name	Parameter	Method	Standard no.
Antenna performance	Radiation efficiency	IEEE Standard Test Procedures for Antennas	ANSI/IEEE Std 149-1979

3. Equipment list

Equipment	Manufacturer	Model No	Serial No.	Last Cal.	Due Date
Network Aanlyzer	Agilent	E5071C	MY46630767	2024.4.27	2025.4.26
Microwave chamber	GTS	GTS Maxsign-Dart7000		2024.4.27	2025.4.26
Turn table	GTS	Dart-700 turn table		2024.7.27	2025.7.26
Turn table controller	GTS	Dart-700 turn table controller		2024.7.27	2025.7.26
Broad-Band Horn Antenna	GTS	AT-6000	MA-D0460	2024.4.27	2025.4.26
Test Software	GTS	Libra Version-3.0.3.1	/	/	/

4. Test Configuration



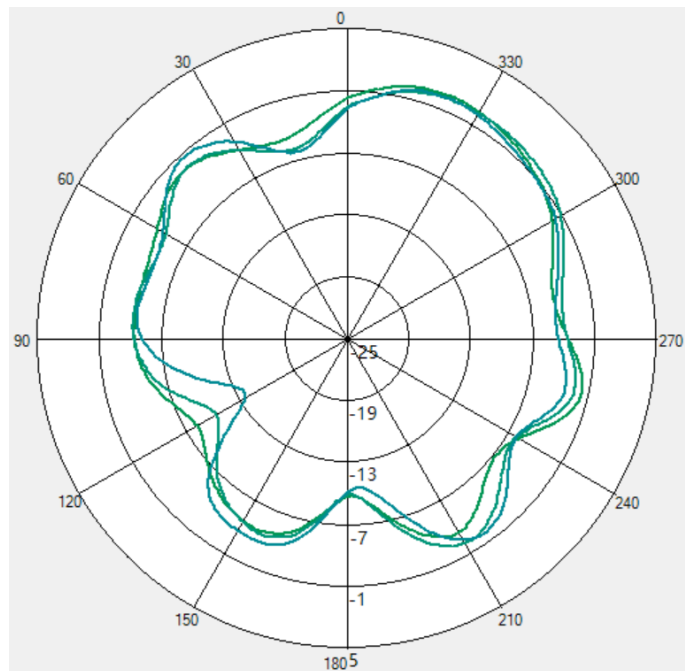
Test step flow:

- 1) Maintain the test ambient temperature of 23 ± 2 C, the instrument is powered on and preheated for more than 30 minutes;
- 2) Turn on the darkroom power supply, connect the test cable, and set up the sample according to the standard;
- 3) Outline sets the test content objectives and conducts calibration tests;
- 4) Run the software, when the test is completed, export the corresponding test diagram and test data, and save to the corresponding directory.

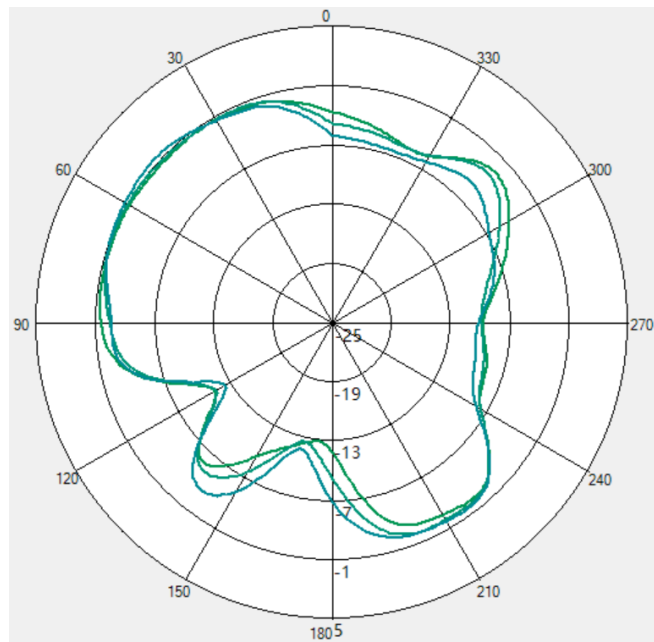
5. Antenna gain

Freq(MHz)	Peak Gain(dBi)	Efficiency(dB)	Efficiency(%)
2400	1.786631878	-3.655028724	43.10197073
2410	1.913155454	-3.756009422	42.11133969
2420	2.103529152	-3.620486401	43.44615627
2430	2.25407506	-3.555983075	44.0962535
2440	2.225750654	-3.590653306	43.74562939
2450	1.99808091	-3.736911726	42.29692813
2460	2.079926182	-3.684086181	42.81454982
2470	2.232494076	-3.611539224	43.53575472
2480	2.300502565	-3.631717335	43.33394887

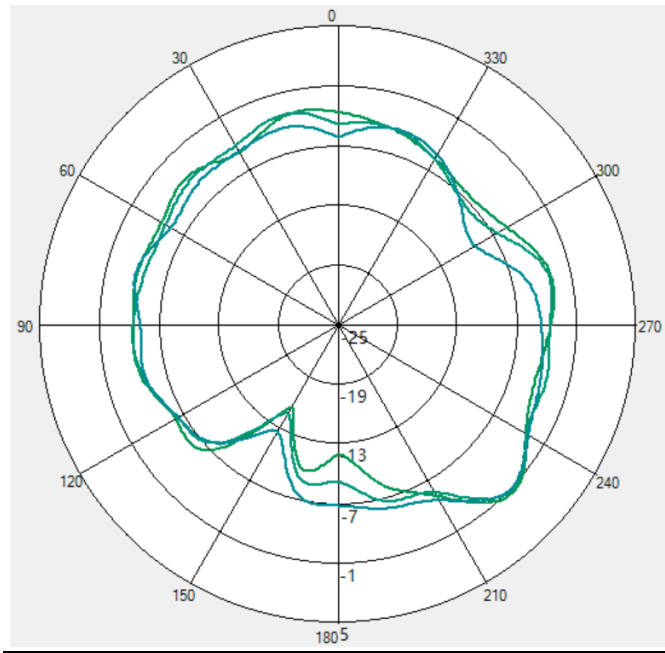
6. Antenna test data



Channel(MHz)	Max.(dBm)	Min.(dBm)
2402	0.468744	-9.72295
2441	0.342649	-10.3256
2480	0.139051	-13.4888



Channel(MHz)	Max.(dBm)	Min.(dBm)
2402	-1.16169	-12.2725
2441	-1.00025	-14.7568
2480	-0.46651	-12.3647



Channel(MHz)	Max.(dBm)	Min.(dBm)
2402	-0.69206	-15.3467
2441	-1.00025	-14.7568
2480	-1.1357	-12.5951