

Shenzhen Guangyuanfa Electronic Co., Ltd.

Antenna Test Report

Product Name: smart door lock

Antenna type: Internal Antenna

Antenna model: KD30

Antenna manufacturer: Shenzhen Guangyuanfa Electronic Co., Ltd.

Manufacturer's address: Room D606, Building D, Huahan Innovation Park, No. 16 Langshan Road, Songpingshan Community, Xili Sub-district, Nanshan District, Shenzhen City

Test Result: Pass

Test device [equipment: VNA

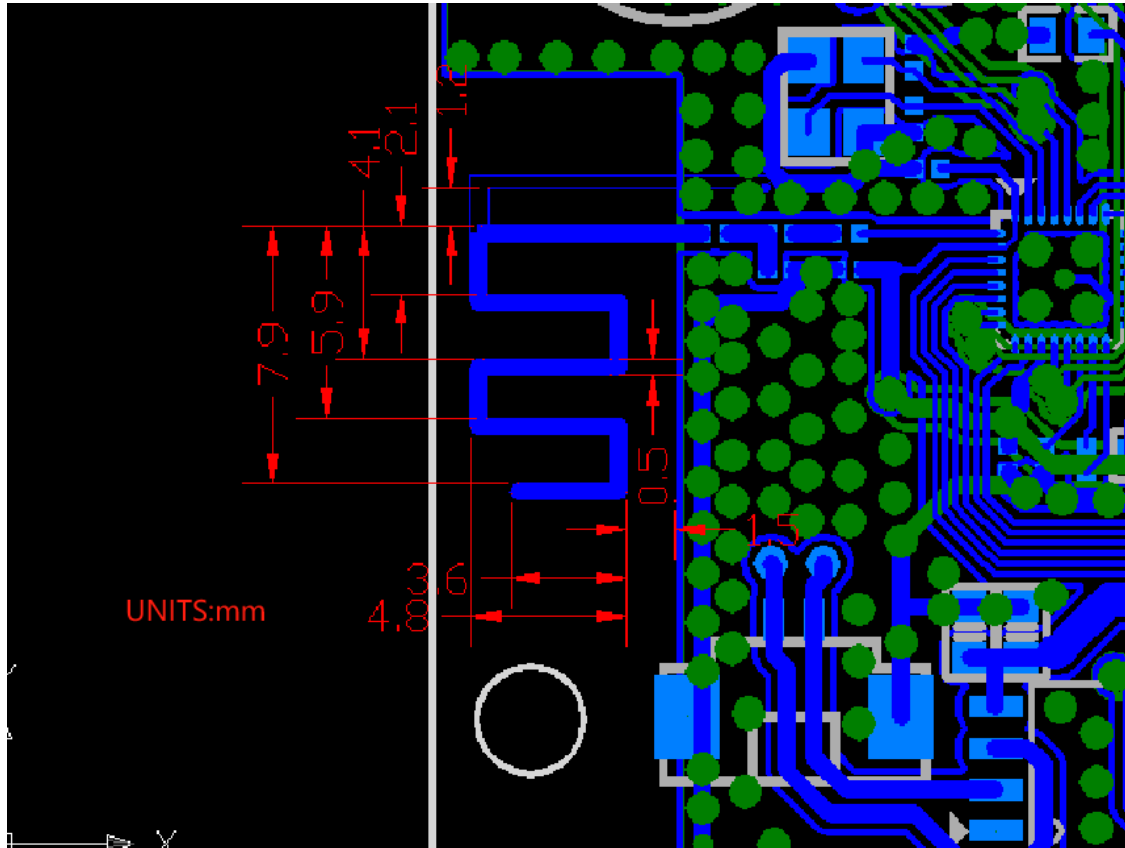
Unit type: E5071C

Periodic calibration: 2024.8-2025.8

Type de test : Shenzhen Guangyuanfa Electronic Co., Ltd.

Address:Room D606, Building D, Huahan Innovation Park, No. 16 Langshan Road, Songpingshan Community, Xili Sub-district, Nanshan District, Shenzhen City

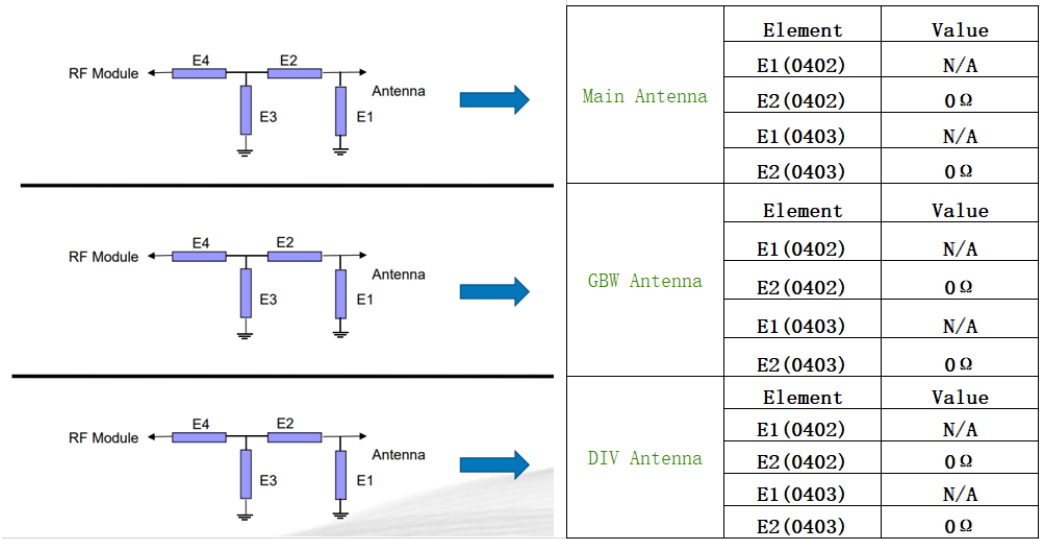
UNITS: mm



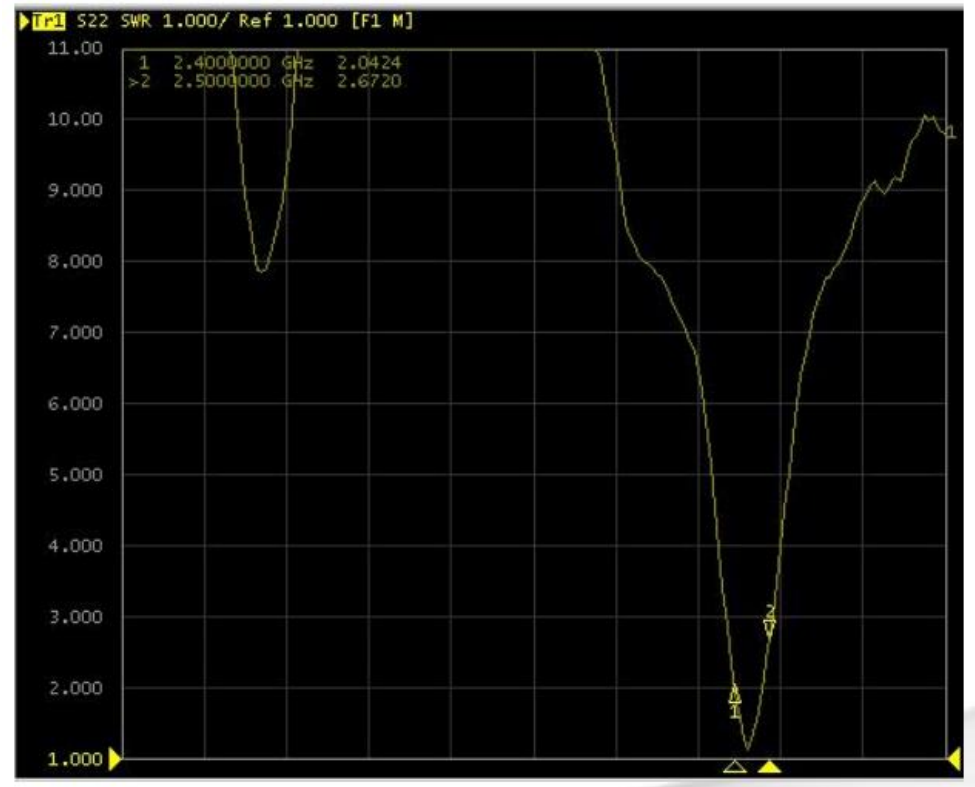
Antenna Test Configurations

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Network Analyzer	Agilent	E5071C	MY46110140	2025-05-30	2026-05-29
OTA Chamber	ETS	AMS-8923-150	TJ2235-Q1793	2022-11-30	2025-11-29
Antenna Measurement System	ETS	EMQuest EMQ-100 V1.13 Build 21267	1685	N/A	N/A

Description of the matching circuit



Antenna standing wave



Passive efficiency

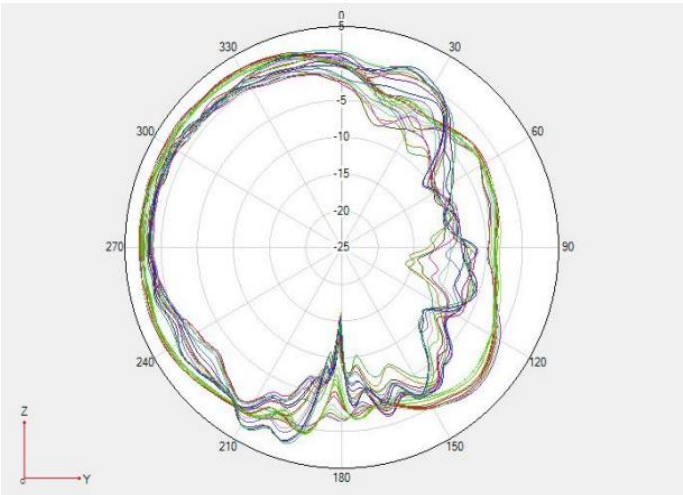
2.4

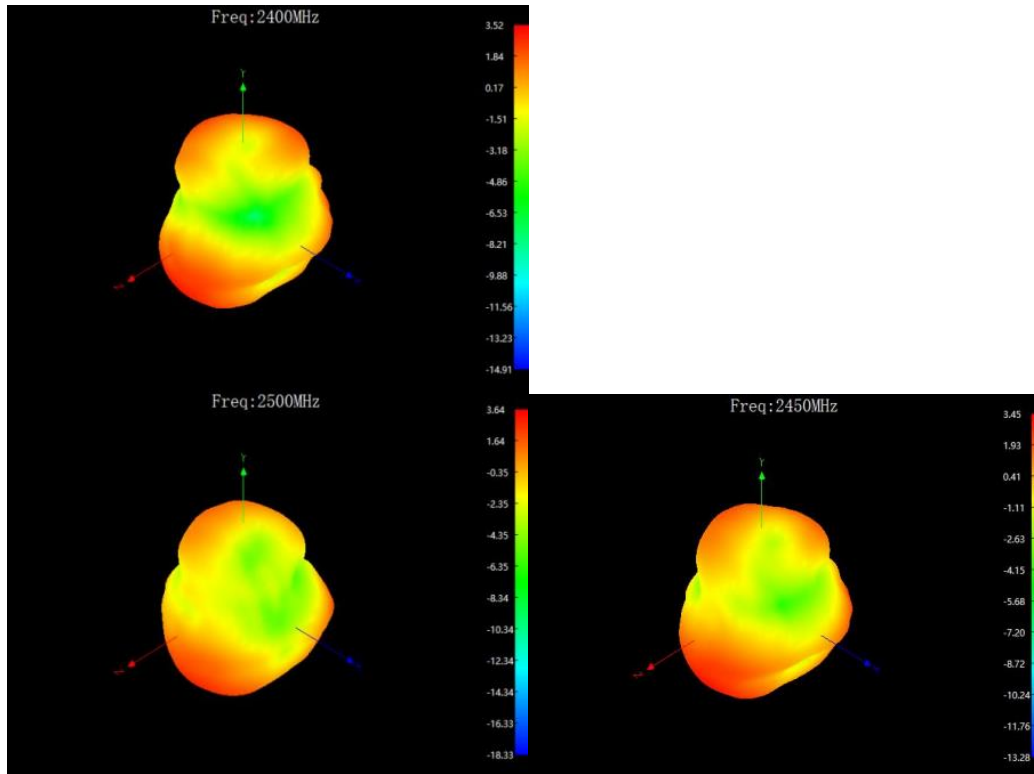
Frequency/Mhz	Efficiency / dB	Efficiency / %
2400	-4.84	32.8
2410	-5.03	31.38
2420	-5.25	29.82
2430	-5.38	28.96
2440	-4.94	32.09
2450	-4.61	34.62
2460	-4.45	35.91
2470	-4.65	34.25
2480	-4.91	32.27
2490	-4.96	31.91
2500	-4.72	33.7

增益

Frequency/MHz	MaxGain/dBi	AvgGain/dBi
2400	3.52	-1.09
2410	3.35	-1.17
2420	3.35	-1.26
2430	3.25	-1.31
2440	3.19	-1.13
2450	3.45	-0.99
2460	3.54	-0.92
2470	3.31	-1.01
2480	3.21	-1.12
2490	3.25	-1.14
2500	3.64	-1.04

2D3D directional diagram





Test: Luo Yehui

Laboratory: Shenzhen Guangyuanfa Electronic Co., Ltd.

Address: Room D606, Building D, Huahan Innovation Park, No. 16 Langshan Road, Songpingshan Community, Xili Sub-district, Nanshan District, Shenzhen City

Date: 2024-12-9