

# TEST REPORT

**Applicant:** Gemstar Technology(Yangzhou) Co.Ltd  
**Address:** Room 606, Guofa building, #3110 Renmin Road, Suzhou, Jiangsu Province  
**Equipment Type:** Remote control  
**Model Name:** BV Somfy Zigbee RCU Ysia TDBU 2023  
**Brand Name:** UEI  
**Test Standard:** IEEE Std 149-2021  
**Sample Arrival Date:** Jan. 22, 2024  
**Test Date:** Jan. 23, 2024  
**Date of Issue:** Jan. 31, 2024

**ISSUED BY:**

Shenzhen BALUN Technology Co., Ltd.



**Tested by:** Mai Jintian

**Checked by:** Sunny Zou

**Approved by:** Tolan Tu  
(Testing Director)

*Mai Jintian*

*Sunny Zou*

*Tolan Tu*

# 1 GENERAL INFORMATION

## 1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

## 1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	<input checked="" type="checkbox"/> Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	<input type="checkbox"/> 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China

## 2 PRODUCT INFORMATION

### 2.1 Applicant Information

Applicant	Gemstar Technology(Yangzhou) Co.Ltd
Address	Room 606, Guofa building, #3110 Renmin Road, Suzhou, Jiangsu Province

### 2.2 Manufacturer Information

Manufacturer	N/A
Address	N/A

### 2.3 General Description for Equipment under Test (EUT)

EUT Name	Remote control
Model Name Under Test	BV Somfy Zigbee RCU Ysia TDBU 2023
Antenna Type	PCB Antenna
Dimensions	21*6mm

Note: This sample contains test data for two EUT. In this report, 1# represent the free space test data corresponding to the EUT 1, 2# represent the free space test data corresponding to the EUT 2, 3# represent the left-hand test data corresponding to the EUT 1, 4# represent the left-hand test data corresponding to the EUT 2, 5# represent the right-hand test data corresponding to the EUT 1, 6# represent the right-hand test data corresponding to the EUT 2.

### 2.4 Ancillary Equipment

Note: Not applicable.

### 2.5 Technical Information

Frequency Range	2300MHz ~ 2600MHz
Test Frequencies	2300MHz, 2310MHz, 2320MHz, 2330MHz, 2340MHz, 2350MHz, 2360MHz, 2370MHz, 2380MHz, 2390MHz, 2400MHz, 2405MHz, 2410MHz, 2420MHz, 2430MHz, 2440MHz, 2450MHz, 2460MHz, 2470MHz, 2480MHz, 2490MHz, 2500MHz, 2510MHz, 2520MHz, 2530MHz, 2540MHz, 2550MHz, 2560MHz, 2570MHz, 2580MHz, 2590MHz, 2600MHz

### 3 SUMMARY OF TEST RESULTS

#### 3.1 Test Standards

No.	Identity	Document Title
1	IEEE Std 149-2021	IEEE Standard Test Procedures for Antennas

#### 3.2 Test Verdict

Report Section	Description	Remark
ANNEX A.1	Gain and Efficiency	--
ANNEX B	Radiation Pattern	--

#### 3.3 Test Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

Item	Uncertainty
VSWR(S11)	$\pm 0.61$
Gain	$\pm 1.92\text{dB}$

## 4 GENERAL TEST CONFIGURATIONS

### 4.1 Test Condition

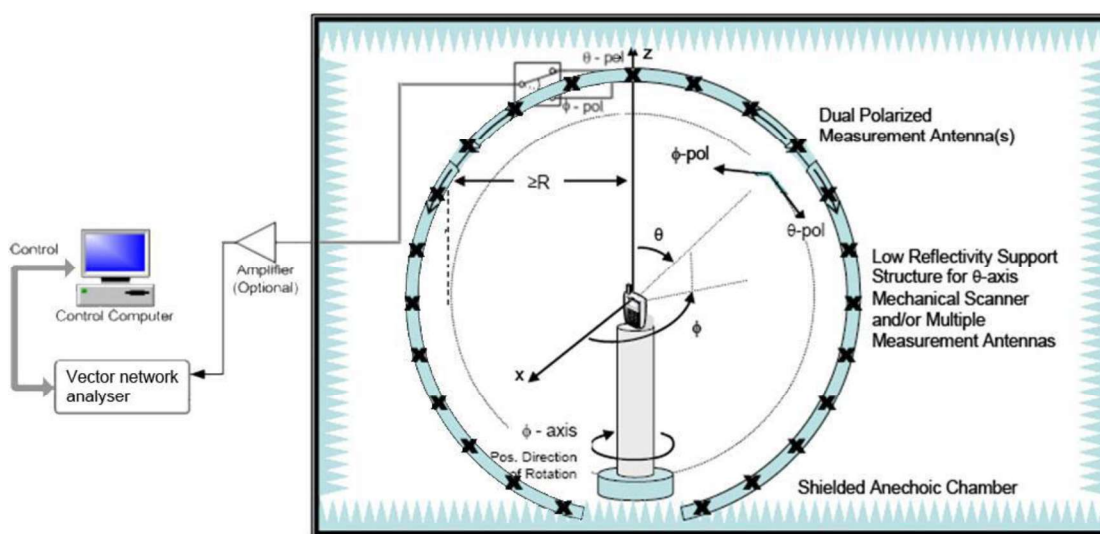
Environment Parameter	Selected Values During Tests			
	Ambient Pressure(KPa)	Temperature(°C)	Voltage	Relative Humidity (%)
Normal Temperature, Normal Voltage (NTNV)	101	21.8	N/A	45

### 4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
SG24 Multi-probe Antenna Measurement System	SATIMO	SG24-L	1101855-0001	2021.11.12	2024.11.11
Vector Network Analyzer	Agilent	E5071B	MY42404001	2024.1.16	2025.1.15
Description	Manufacturer	Name		Version	
Test Software	MVG	SPM		V 1.8	

### 4.3 Test Setup

#### 4.3.1 Antenna gain, efficiency and radiation pattern test setup



## ANNEX A TEST RESULTS

### A.1 Gain and Efficiency

1#(EUT1)

Frequency	Gain (dBi)	Efficiency (%)
2300MHz	4.58	64
2310MHz	4.53	64
2320MHz	4.70	63
2330MHz	4.81	65
2340MHz	4.99	67
2350MHz	4.96	70
2360MHz	5.01	73
2370MHz	5.23	73
2380MHz	5.52	75
2390MHz	<b>5.63</b>	76
2400MHz	5.61	76
2405MHz	5.49	75
2410MHz	5.44	75
2420MHz	5.19	75
2430MHz	5.32	77
2440MHz	5.54	<b>78</b>
2450MHz	5.58	76
2460MHz	5.40	75
2470MHz	5.38	75
2480MHz	5.49	76
2490MHz	5.47	74
2500MHz	5.51	73
2510MHz	5.34	73
2520MHz	5.12	70
2530MHz	5.02	65
2540MHz	5.11	64
2550MHz	4.92	62
2560MHz	4.67	63
2570MHz	4.25	61
2580MHz	4.06	58
2590MHz	4.13	55
2600MHz	4.20	53

2#(EUT2)

Frequency	Gain (dBi)	Efficiency (%)
2300MHz	4.93	66
2310MHz	4.95	66
2320MHz	4.97	66
2330MHz	5.09	68
2340MHz	5.20	71
2350MHz	5.41	74
2360MHz	5.67	77
2370MHz	5.93	77
2380MHz	6.23	80
2390MHz	<b>6.32</b>	81
2400MHz	6.31	81
2405MHz	6.19	81
2410MHz	6.14	81
2420MHz	5.88	81
2430MHz	5.98	83
2440MHz	6.22	<b>84</b>
2450MHz	6.24	83
2460MHz	6.07	82
2470MHz	6.05	82
2480MHz	6.16	83
2490MHz	6.11	80
2500MHz	6.14	80
2510MHz	5.97	79
2520MHz	5.71	76
2530MHz	5.54	71
2540MHz	5.55	69
2550MHz	5.30	67
2560MHz	5.01	67
2570MHz	4.57	65
2580MHz	4.34	62
2590MHz	4.38	58
2600MHz	4.47	56