
FCC Test Report

Report No.: AGC16840241201FR03A

FCC ID : 2BCRN-SHELLS3

APPLICATION PURPOSE : Class II Permissive Change

PRODUCT DESIGNATION : Smart Karaoke Machine

BRAND NAME : Ikarao

MODEL NAME : Shell S3

APPLICANT : Dongguan Aika Electronic Technology Co., Ltd.

DATE OF ISSUE : Sep. 17, 2025

STANDARD(S) : FCC Part 15 Subpart C §15.247

REPORT VERSION : V1.0

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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Sep. 17, 2025	Valid	Initial Release

Note: The original test report AGC16840241201FR03 (dated Feb. 05, 2025 and tested from Dec. 31, 2024 to Jan. 21, 2025) was modified on Sep. 17, 2025, including the following changes and additions:

- The EUT has added an HDMI circuit and interface.
- Change the name and address of the manufacture.
- Change the name and address of the factory.
- Update USB silk-screen printing.

For the above described change(s) the following tests were considered to be necessary:

Clause	Testing
§15.209	Radiated Spurious Emission

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1. General Information

Applicant	Dongguan Aika Electronic Technology Co., Ltd.
Address	Room 201, Building 2, No. 388, Bihu Road, Fenggang Town, Dongguan City, Guangdong Province, China
Manufacturer	Guangdong Taide Zhilian Technology Co., Ltd.
Address	No.388 Bihu Avenue, Fenggang Town, Dongguan City, Guangdong Province, China
Factory	Guangdong Taide Zhilian Technology Co., Ltd.
Address	No.388 Bihu Avenue, Fenggang Town, Dongguan City, Guangdong Province, China
Product Designation	Smart Karaoke Machine
Brand Name	Ikarao
Test Model	Shell S3
Series Model(s)	N/A
Difference Description	N/A
Date of receipt of test item	Aug. 25, 2025
Date of Test	Aug. 25, 2025~Sep. 17, 2025
Deviation from Standard	No any deviation from the test method
Condition of Test Sample	Normal
Test Result	Pass
Test Report Form No	AGCER-FCC-2.4GWLAN-V1

Note: The test results of this report relate only to the tested sample identified in this report.

Prepared By



CiCi Li

(Project Engineer)

Sep. 17, 2025

Reviewed By



Bibo Zhang

(Reviewer)

Sep. 17, 2025

Approved By



Angela Li

(Authorized Officer)

Sep. 17, 2025

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2. Product Information

2.1 Product Technical Description

Equipment Type	WLAN 2.4G
Frequency Band	2400MHz ~ 2483.5MHz
Operation Frequency	2412MHz ~ 2462MHz
Output Power (Average)	IEEE 802.11b:14.01dBm; IEEE 802.11g:12.54dBm; IEEE 802.11n(HT20):12.59dBm; IEEE 802.11n(HT40):12.48dBm
Output Power (Peak)	IEEE 802.11b:16.68dBm; IEEE 802.11g:20.10dBm; IEEE 802.11n(HT20):19.87dBm; IEEE 802.11n(HT40):20.55dBm
Modulation	802.11b:(DQPSK, DBPSK, CCK) DSSS 802.11g/n:(64-QAM,16-QAM, QPSK, BPSK) OFDM
Data Rate	802.11b:1/2/5.5/11Mbps 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 300Mbps
Number of channels	11
Hardware Version	V1
Software Version	V1.1.1
Antenna Designation	FPC Antenna
Antenna Gain	4.14dBi
Power Supply	DC7.3V by battery or DC 5V by adapter

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2.2 Table of Carrier Frequency

For 2412-2462MHz:

11 channels are provided for 802.11b/g/n(HT20):

Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz
04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz
10	2457 MHz	11	2462 MHz		

7 channels are provided for 802.11n(HT40):

Channel	Frequency	Channel	Frequency	Channel	Frequency
01	--	02	--	03	2422 MHz
04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz
10	--	11	--		

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2.3 IEEE 802.11n Modulation Scheme

MCS Index	N _{ss}	Modulation	R	N _{BPSC}	N _{CBPS}		N _{DBPS}		Data Rate(Mbps)	
									800nsGI	
					20MHz	40MHz	20MHz	40MHz	20MHz	40MHz
0	1	BPSK	1/2	1	52	108	26	54	6.5	13.5
1	1	QPSK	1/2	2	104	216	52	108	13.0	27.0
2	1	QPSK	3/4	2	104	216	78	162	19.5	40.5
3	1	16-QAM	1/2	4	208	432	104	216	26.0	54.0
4	1	16-QAM	3/4	4	208	432	156	324	39.0	81.0
5	1	64-QAM	2/3	6	312	648	208	432	52.0	108.0
6	1	64-QAM	3/4	6	312	648	234	489	58.5	121.5
7	1	64-QAM	5/6	6	312	648	260	540	65.0	135.0

Symbol	Explanation
NSS	Number of spatial streams
R	Code rate
NBPSC	Number of coded bits per single carrier
NCBPS	Number of coded bits per symbol
NDBPS	Number of data bits per symbol
GI	Guard interval

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2.4 Related Submittal(S) / Grant (S)

This submittal(s) (test report) is intended for FCC ID: 2BCRN-SHELLS3, filing to comply with Part 2, Part 15 of the Federal Communication Commission rules.

2.5 Test Methodology

The tests were performed according to following standards:

No.	Identity	Document Title
1	FCC 47 CFR Part 2	Frequency allocations and radio treaty matters; general rules and regulations
2	FCC 47 CFR Part 15	Radio Frequency Devices
3	ANSI C63.10-2020	American National Standard for Testing Unlicensed Wireless Devices

2.6 Special Accessories

Refer to section 4.4.

2.7 Equipment Modifications

Not available for this EUT intended for grant.

2.8 Antenna Requirement

Standard Requirement
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 15.247(b) (4) requirement: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi EUT Antenna: The non-detachable antenna inside the device cannot be replaced by the user at will. The gain of the antenna is 4.14dBi.

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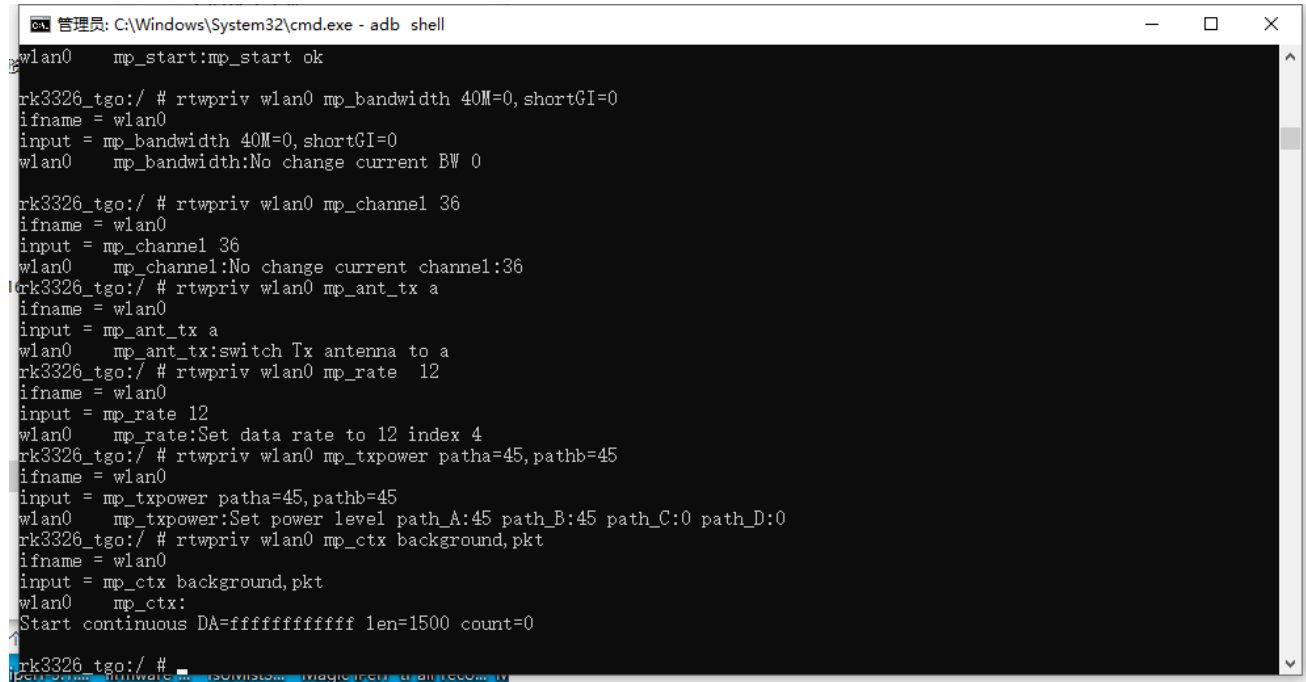
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2.9 Description of Test Software

For IEEE 802.11 mode:

The test utility software used during testing was “adb”.

Software Setting Diagram



```

管理员: C:\Windows\System32\cmd.exe - adb shell
wlan0    mp_start:mp_start ok

rk3326_tgo:/ # rtwpriv wlan0 mp_bandwidth 40M=0,shortGI=0
ifname = wlan0
input = mp_bandwidth 40M=0,shortGI=0
wlan0    mp_bandwidth:No change current BW 0

rk3326_tgo:/ # rtwpriv wlan0 mp_channel 36
ifname = wlan0
input = mp_channel 36
wlan0    mp_channel:No change current channel:36

rk3326_tgo:/ # rtwpriv wlan0 mp_ant_tx a
ifname = wlan0
input = mp_ant_tx a
wlan0    mp_ant_tx:switch Tx antenna to a

rk3326_tgo:/ # rtwpriv wlan0 mp_rate 12
ifname = wlan0
input = mp_rate 12
wlan0    mp_rate:Set data rate to 12 index 4

rk3326_tgo:/ # rtwpriv wlan0 mp_txpower patha=45,pathb=45
ifname = wlan0
input = mp_txpower patha=45,pathb=45
wlan0    mp_txpower:Set power level path_A:45 path_B:45 path_C:0 path_D:0

rk3326_tgo:/ # rtwpriv wlan0 mp_ctx background,pkt
ifname = wlan0
input = mp_ctx background,pkt
wlan0    mp_ctx:

Start continuous DA=ffffffff len=1500 count=0

rk3326_tgo:/ #
  
```

Test Mode	Channel	Power Index
802.11b	L/M/H	38
802.11g	L/M/H	46
802.11n-HT20	L/M/H	46
802.11n-HT40	L/M/H	46

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3. Test Environment

3.1 Address of The Test Laboratory

Laboratory: Attestation of Global Compliance (Shenzhen) Co., Ltd.

Address: 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

3.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L5488

Attestation of Global Compliance (Shenzhen) Co., Ltd. has been assessed and proved to follow CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories).

A2LA-Lab Cert. No.: 5054.02

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to follow ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 975832

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files with Registration 975832.

IC-Registration No.: 24842 (CAB identifier: CN0063)

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the Certification and Engineering Bureau of Industry Canada. The acceptance letter from the IC is maintained in our files with Registration 24842.

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3.3 Environmental Conditions

	Normal Conditions
Temperature range (°C)	15 - 35
Relative humidity range	20 % - 75 %
Pressure range (kPa)	86 - 106

3.4 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

Item	Measurement Uncertainty
Uncertainty of Conducted Emission for AC Port	$U_c = \pm 2.9 \text{ dB}$
Uncertainty of Radiated Emission below 1GHz	$U_c = \pm 3.9 \text{ dB}$
Uncertainty of Radiated Emission above 1GHz	$U_c = \pm 4.9 \text{ dB}$
Uncertainty of total RF power, conducted	$U_c = \pm 0.8 \text{ dB}$
Uncertainty of RF power density, conducted	$U_c = \pm 2.6 \text{ dB}$
Uncertainty of spurious emissions, conducted	$U_c = \pm 2 \%$
Uncertainty of Occupied Channel Bandwidth	$U_c = \pm 2 \%$

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3.5 List of Equipment Used

● Radiated Spurious Emission							
Used	Equipment No.	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
☒	AGC-EM-E046	EMI Test Receiver	R&S	ESCI	10096	2025-01-14	2026-01-13
☒	AGC-EM-E061	Spectrum Analyzer	Agilent	N9010A	MY53470504	2025-05-08	2026-05-07
☒	AGC-EM-E086	Loop Antenna	ZHINAN	ZN30900C	18051	2024-03-05	2026-03-04
☒	AGC-EM-E001	Wideband Antenna	SCHWARZBECK	VULB9168	D69250	2025-03-14	2027-03-13
☒	AGC-EM-E029	Broadband Ridged Horn Antenna	ETS	3117	00034609	2025-03-27	2026-03-26
☒	AGC-EM-E082	Horn Antenna	SCHWARZBECK	BBHA 9170	#768	2023-09-24	2025-09-23
☒	AGC-EM-E146	Pre-amplifier	ETS	3117-PA	00246148	2024-07-24	2026-07-23
☒	AGC-EM-A119	2.4G Filter	SongYi	N/A	N/A	2025-05-16	2026-05-15
☒	AGC-EM-A138	6dB Attenuator	Eeatsheep	LM-XX-6-5W	N/A	2025-05-16	2027-05-15
☐	AGC-EM-A139	6dB Attenuator	Eeatsheep	LM-XX-6-5W	N/A	2025-05-16	2027-05-15

● Test Software					
Used	Equipment No.	Test Equipment	Manufacturer	Model No.	Version Information
☒	AGC-EM-S003	RE Test System	FARA	EZ-EMC	VRA-03A
☐	AGC-EM-S004	RE Test System	Tonscend	TS+Ver2.1(JS32-RE)	4.0.0.0
☒	AGC-EM-S011	RSE Test System	Tonscend	TS+-Ver2.1(JS36-RSE)	4.0.0.0

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4. System Test Configuration

4.1 EUT Configuration

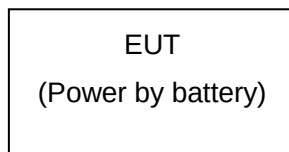
The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

4.2 EUT Exercise

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

4.3 Configuration of Tested System

Radiated Emission Configure:



4.4 Equipment Used in Tested System

The following peripheral devices and interface cables were connected during the measurement:

☐ Test Accessories Come From The Laboratory

No.	Equipment	Manufacturer	Model No.	Specification Information	Cable
1	--	--	--	--	--

☐ Test Accessories Come From The Manufacturer

No.	Equipment	Manufacturer	Model No.	Specification Information	Cable
1	--	--	--	--	--

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4.5 Summary of Test Results

Item	FCC Rules	Description of Test	Result
1	§15.247 (d)&15.209	Radiated Spurious Emission	Pass

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5. Description of Test Modes

Summary table of Test Cases	
Test Item	Data Rate / Modulation
	2.4G WLAN – 802.11b/g/n (DSSS/OFDM)
Radiated & Conducted Test Cases	Mode 1: 802.11b_TX CH01_2412 MHz_1 Mbps(Battery powered or AC/DC adapter)
	Mode 2: 802.11b_TX CH06_2437 MHz_1 Mbps(Battery powered or AC/DC adapter)
	Mode 3: 802.11b_TX CH11_2462 MHz_1 Mbps(Battery powered or AC/DC adapter)
	Mode 4: 802.11g_TX CH01_2412 MHz_6 Mbps(Battery powered or AC/DC adapter)
	Mode 5: 802.11g_TX CH06_2437 MHz_6 Mbps(Battery powered or AC/DC adapter)
	Mode 6: 802.11g_TX CH11_2462 MHz_6 Mbps(Battery powered or AC/DC adapter)
	Mode 7: 802.11n-HT20_TX CH01_2412 MHz_MCS0 Mbps(Battery powered or AC/DC adapter)
	Mode 8: 802.11n-HT20_TX CH06_2437 MHz_MCS0 Mbps(Battery powered or AC/DC adapter)
	Mode 9: 802.11n-HT20_TX CH11_2462 MHz_MCS0 Mbps(Battery powered or AC/DC adapter)
	Mode 10: 802.11n-HT40_TX CH03_2422 MHz_MCS0 Mbps(Battery powered or AC/DC adapter)
	Mode 11: 802.11n-HT40_TX CH06_2437 MHz_MCS0 Mbps(Battery powered or AC/DC adapter)
	Mode 12: 802.11n-HT40_TX CH09_2452 MHz_MCS0 Mbps(Battery powered or AC/DC adapter)
Note: 1. The battery is full-charged during the test. 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode. 3. For Conducted Test method, a temporary antenna connector is provided by the manufacture.	

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6. Radiated Spurious Emission

6.1 Measurement Limits

- 15.209(a) Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note: All modes were tested for restricted band radiated emission, the test records reported below are the worst result compared to other modes.

6.2 Measurement Procedure

- The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
- For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
- Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- For emissions above 1GHz, use 1MHz RBW and 3MHz VBW for peak reading. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds.

As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the

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pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.

8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
 9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
 10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.
- ◆ The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Start ~Stop Frequency	9kHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150kHz~30MHz/RB 9kHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120kHz for QP
Start ~Stop Frequency	1GHz~26.5GHz 1MHz/3MHz for Peak, 1MHz/3MHz for Average

Receiver Parameter	Setting
Start ~Stop Frequency	9kHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150kHz~30MHz/RB 9kHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120kHz for QP

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- **Quasi-Peak Measurements below 1GHz**

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = as shown in the table above
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

- **Peak Measurements above 1GHz**

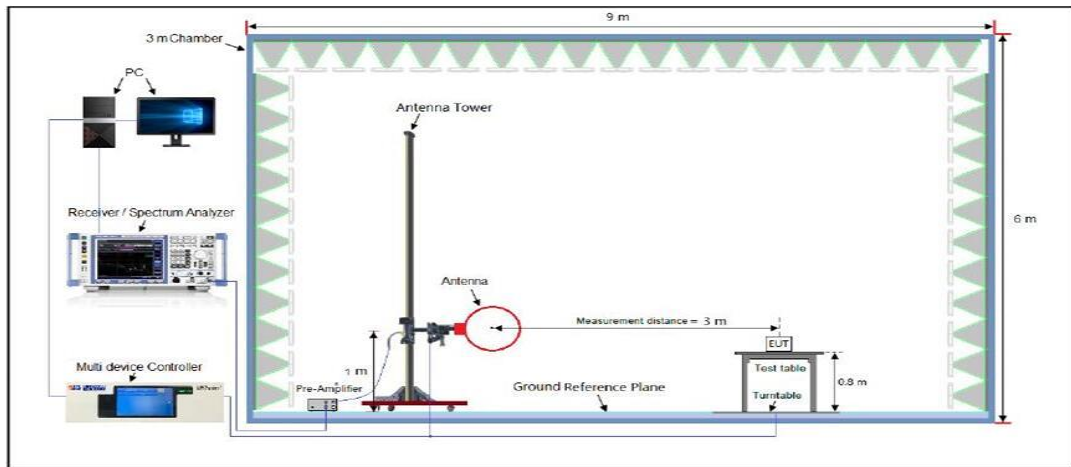
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

- **Average Measurements above 1GHz**

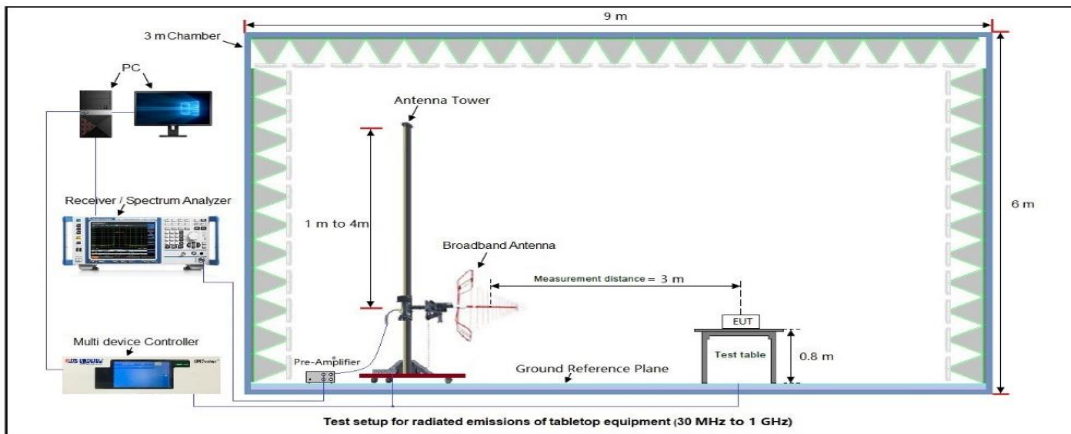
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW $\geq [3 \times \text{RBW}]$
4. Detector = Power averaging (rms)
5. Averaging type = power (i.e., rms)
6. Sweep time = auto
7. Perform a trace average of at least 100 traces.
8. The applicable correction factor is $[10 \cdot \log(1 / D)]$, where D is the duty cycle. The factor had been edited in the "Input Correction" of the Spectrum Analyzer.

6.3 Measurement Setup (Block Diagram of Configuration)

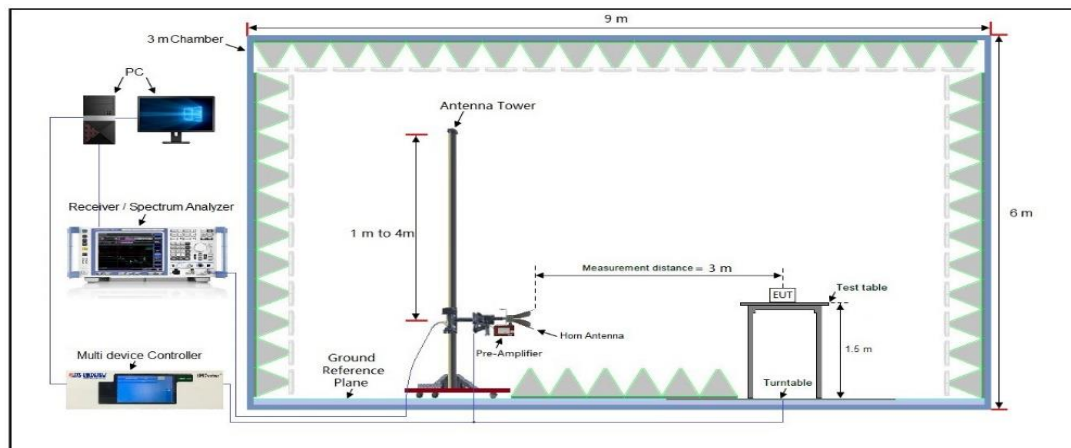
Radiated Emission Test Setup 9kHz-30MHz



Radiated Emission Test Setup 30MHz-1000MHz



Radiated Emission Test Setup Above 1000MHz



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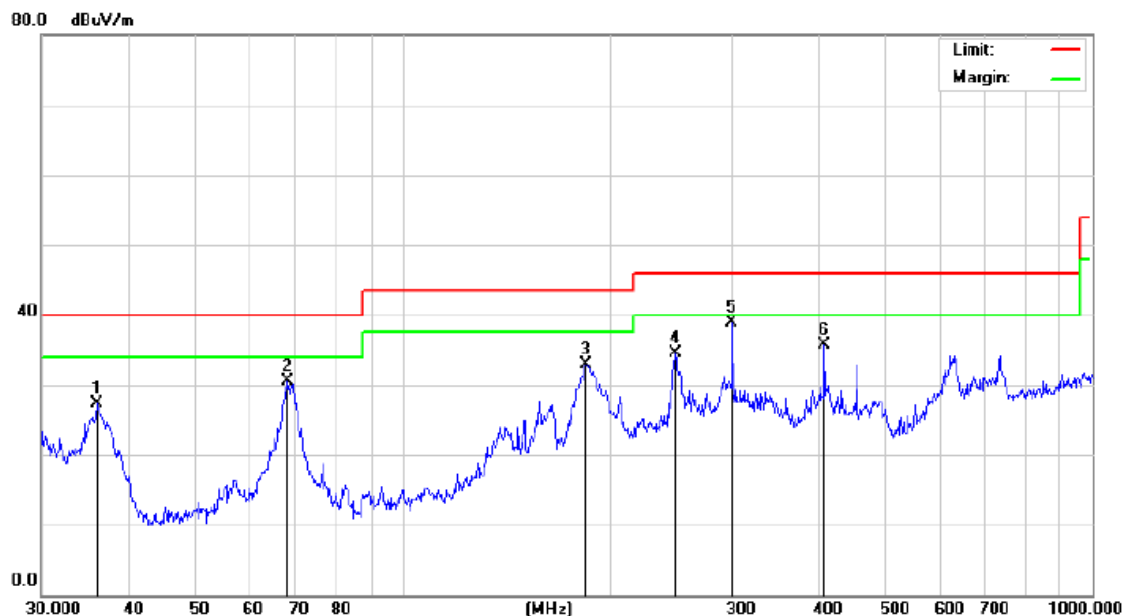
6.4 Measurement Result

Radiated Emission at 9kHz-30MHz

The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.

Radiated Emission Test Results at 30MHz-1GHz

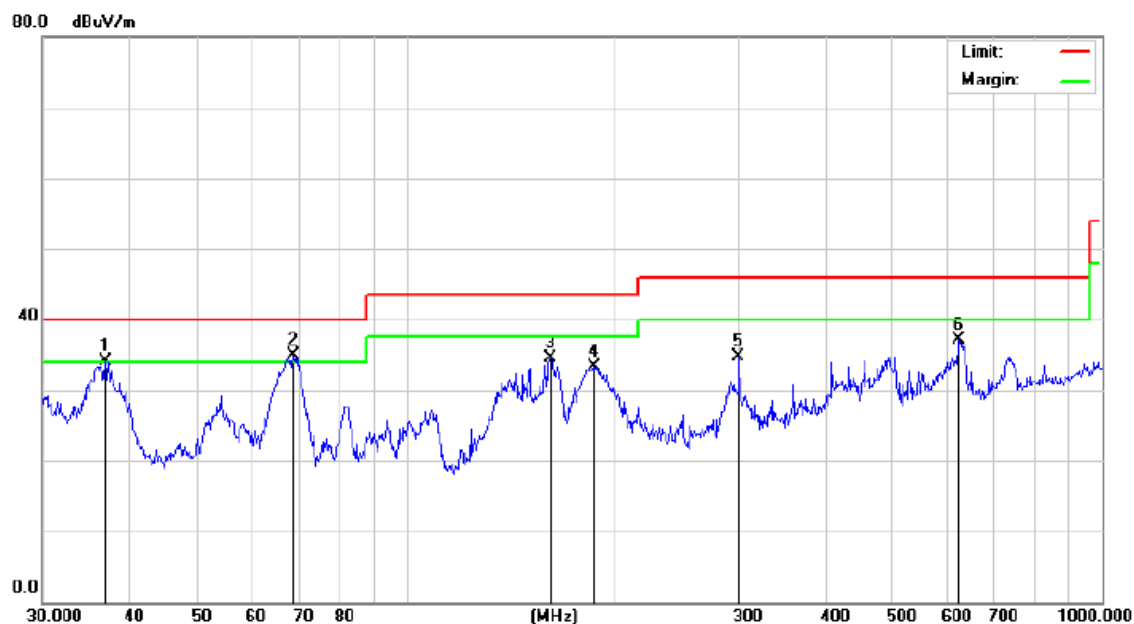
EUT Name	Smart Karaoke Machine	Model Name	Shell S3
Temperature	22.2°C	Relative Humidity	54.9%
Pressure	960hPa	Test Voltage	DC 7.3V
Test Mode	Mode 10	Antenna Polarity	Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		36.0007	57.23	-29.91	27.32	40.00	-12.68	peak
2		68.1514	55.82	-25.22	30.60	40.00	-9.40	peak
3		184.4898	55.46	-22.61	32.85	43.50	-10.65	peak
4		248.5519	55.91	-21.43	34.48	46.00	-11.52	peak
5	*	300.3672	58.39	-19.55	38.84	46.00	-7.16	peak
6		408.9460	52.94	-17.27	35.67	46.00	-10.33	peak

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Radiated Emission Test Results at 30MHz-1GHz			
EUT Name	Smart Karaoke Machine	Model Name	Shell S3
Temperature	22.2°C	Relative Humidity	54.9%
Pressure	960hPa	Test Voltage	DC 7.3V
Test Mode	Mode 10	Antenna Polarity	Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	!	36.8952	56.68	-22.64	34.04	40.00	-5.96	peak
2	*	68.6310	57.47	-22.54	34.93	40.00	-5.07	peak
3		160.9088	54.20	-19.79	34.41	43.50	-9.09	peak
4		185.7881	55.14	-21.83	33.31	43.50	-10.19	peak
5		300.3672	53.52	-18.79	34.73	46.00	-11.27	peak
6		622.8899	48.00	-10.97	37.03	46.00	-8.97	peak

RESULT: Pass

Note: 1. Factor=Antenna Factor + Cable loss- Pre-amplifier, Margin=Measurement-Limit.

2. All test modes had been pre-tested. The mode 10 is the worst case and recorded in the report.

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Radiated Emissions Test Results above 1GHz

EUT Name	Smart Karaoke Machine	Model Name	Shell S3
Temperature	22.2°C	Relative Humidity	54.9%
Pressure	960hPa	Test Voltage	DC 7.3V
Test Mode	Mode 10	Antenna Polarity	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4844.000	48.52	0.08	48.6	74	-25.4	peak
4844.000	37.94	0.08	38.02	54	-15.98	AVG
7266.000	42.85	2.21	45.06	74	-28.94	peak
7266.000	31.53	2.21	33.74	54	-20.26	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT Name	Smart Karaoke Machine	Model Name	Shell S3
Temperature	22.2°C	Relative Humidity	54.9%
Pressure	960hPa	Test Voltage	DC 7.3V
Test Mode	Mode 10	Antenna Polarity	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4844.000	48.61	0.08	48.69	74	-25.31	peak
4844.000	38.42	0.08	38.5	54	-15.5	AVG
7266.000	42.61	2.21	44.82	74	-29.18	peak
7266.000	31.25	2.21	33.46	54	-20.54	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

RESULT: Pass

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Radiated Emissions Test Results above 1GHz

EUT Name	Smart Karaoke Machine	Model Name	Shell S3
Temperature	22.2°C	Relative Humidity	54.9%
Pressure	960hPa	Test Voltage	DC 7.3V
Test Mode	Mode 11	Antenna Polarity	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4874.000	48.62	0.14	48.76	74	-25.24	peak
4874.000	37.52	0.14	37.66	54	-16.34	AVG
7311.000	42.61	2.36	44.97	74	-29.03	peak
7311.000	31.53	2.36	33.89	54	-20.11	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT Name	Smart Karaoke Machine	Model Name	Shell S3
Temperature	22.2°C	Relative Humidity	54.9%
Pressure	960hPa	Test Voltage	DC 7.3V
Test Mode	Mode 11	Antenna Polarity	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4874.000	47.95	0.14	48.09	74	-25.91	peak
4874.000	37.54	0.14	37.68	54	-16.32	AVG
7311.000	42.64	2.36	45	74	-29	peak
7311.000	31.25	2.36	33.61	54	-20.39	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

RESULT: Pass

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Radiated Emissions Test Results above 1GHz

EUT Name	Smart Karaoke Machine	Model Name	Shell S3
Temperature	22.2°C	Relative Humidity	54.9%
Pressure	960hPa	Test Voltage	DC 7.3V
Test Mode	Mode 12	Antenna Polarity	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4904.000	48.62	0.22	48.84	74	-25.16	peak
4904.000	37.94	0.22	38.16	54	-15.84	AVG
7356.000	41.53	2.64	44.17	74	-29.83	peak
7356.000	31.25	2.64	33.89	54	-20.11	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT Name	Smart Karaoke Machine	Model Name	Shell S3
Temperature	22.2°C	Relative Humidity	54.9%
Pressure	960hPa	Test Voltage	DC 7.3V
Test Mode	Mode 12	Antenna Polarity	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4904.000	48.74	0.22	48.96	74	-25.04	peak
4904.000	37.29	0.22	37.51	54	-16.49	AVG
7356.000	42.61	2.64	45.25	74	-28.75	peak
7356.000	32.53	2.64	35.17	54	-18.83	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

RESULT: Pass

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Note:

1. The amplitude of other spurious emissions from 1G to 25 GHz which are attenuated more than 20 dB below the permissible value need not be reported.
2. Factor = Antenna Factor + Cable loss – Pre-amplifier gain, Margin = Emission Level-Limit.
3. The “Factor” value can be calculated automatically by software of measurement system.
4. All test modes had been pre-tested. The mode 802.11n40 is the worst case and recorded in the report.

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Appendix I: Photographs of Test Setup

Refer to the Report No.: AGC16840241201AP02A

Appendix II: Photographs of Test EUT

Refer to the Report No.: AGC16840241201AP03A

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3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
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7. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

-----End of Report-----

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