

FCC Test Report

Report No.: AGC10732230601FE08

APPLICATION PURPOSE:Original EquipmentPRODUCT DESIGNATION:WIRELESS MICROPHONEBRAND NAME:N/AMODEL NAME:M25DC, M6, M8, M9, M10, M11, M12, M13, M15, M15DC, M13, M20, M21, M22, M23, M26, M27, M28, M29, M30, M31, M32APPLICANT:ShenZhen HIPPO Digital CO., LtdDATE OF ISSUE:Iun. 14, 2023STANDARD(S):V1.0	FCC ID	:	2ASJU-M25DC
BRAND NAME:N/AMODEL NAME:M25DC, M6, M8, M9, M10, M11, M12, M13, M15, M15DC, MJ16DC, M18, M19, M20, M21, M22, M23, M26, M27, M28, M29, M30, M31, M32APPLICANT:ShenZhen HIPPO Digital CO., LtdDATE OF ISSUE:Jun. 14, 2023STANDARD(S):FCC Part 15.247REPORT VERSION:V1.0	APPLICATION PURPOSE	:	Original Equipment
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MODEL NAME: MJ16DC, M18, M19, M20, M21, M22, M23, M26, M27, M28, M29, M30, M31, M32APPLICANT: ShenZhen HIPPO Digital CO., LtdDATE OF ISSUE: Jun. 14, 2023STANDARD(S): FCC Part 15.247REPORT VERSION: V1.0	BRAND NAME	:	N/A
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REPORT VERSION : V1.0	DATE OF ISSUE	:	Jun. 14, 2023
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REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Jun. 14, 2023	Valid	Initial Release



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1. VERIFICATION OF COMPLIANCE

Address 3rd Floor, Building A, Dunfa Industrial Park, Hangcheng Avenue, Gushu, Xixiang, BaoAn District, Shenzhen, China Manufacturer ShenZhen HIPPO Digital CO., Ltd Address 3rd Floor, Building A, Dunfa Industrial Park, Hangcheng Avenue, Gushu, Xixiang, BaoAn District, Shenzhen, China Factory ShenZhen HIPPO Digital CO., Ltd Address 3rd Floor, Building A, Dunfa Industrial Park, Hangcheng Avenue, Gushu, Xixiang, BaoAn District, Shenzhen, China Factory ShenZhen HIPPO Digital CO., Ltd Address 3rd Floor, Building A, Dunfa Industrial Park, Hangcheng Avenue, Gushu, Xixiang, BaoAn District, Shenzhen, China Product Designation WIRELESS MICROPHONE Brand Name N/A Fest Model M25DC Series Model M21, M22, M23, M26, M27, M28, M29, M30, M31, M32 Declaration of Difference All the same except the colors Date of receipt of test item Jun. 08, 2023 Date of test Jun. 08, 2023-Jun. 13, 2023 Deviation No any deviation from the test method Condition of Test Sample Normal			
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Series ModelM21, M22, M23, M26, M27, M28, M29, M30, M31, M32Declaration of DifferenceAll the same except the colorsDate of receipt of test itemJun. 08, 2023Date of testJun. 08, 2023~Jun. 13, 2023DeviationNo any deviation from the test methodCondition of Test SampleNormalTest ResultPass	Test Model	M25DC	
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Condition of Test Sample Normal Fest Result Pass	Date of test	Jun. 08, 2023~Jun. 13, 2023	
Test Result Pass	Deviation	No any deviation from the test method	
	Condition of Test Sample	Normal	
Report Template AGCRT-US-BLE/RF	Test Result	Pass	
	Report Template	AGCRT-US-BLE/RF	

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC part 15.247.

XCI-Li Prepared By Cici Li Jun. 13, 2023 (Project Engineer) Calvin Lin Reviewed By Calvin Liu Jun. 13, 2023 (Reviewer) Max Zhang Approved By Max Zhang Jun. 13, 2023 Authorized Officer



2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as a "WIRELESS MICROPHONE". It is designed by way of utilizing the GFSK technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency	2.402 GHz to 2.480GHz	
RF Output Power	-1.588dBm (Max)	
Modulation	GFSK	
Number of channels	40 Channel	
Antenna Designation	Chip Antenna (Comply with requirements of the FCC part 15.203)	
Antenna Gain	1.75dBi	
Hardware Version	N9102-TX-V1.3	
Software Version	V1.0	
Power Supply	DC 3.7V by battery or DC 5V by Charging dock	

2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency
	0	2402 MHz
2400~2483.5MHz	1	2404 MHz
	:	:
	38	2478 MHz
	39	2480 MHz



2.3. RELATED SUBMITTAL(S)/GRANT(S)

This submittal(s) (test report) is intended for FCC ID: 2ASJU-M25DC filing to comply with the FCC Part 15.247 requirements.

2.4. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2013). Radiated testing was performed at an antenna to EUT distance 3 meters.

2.5. SPECIAL ACCESSORIES

Refer to section 5.2.

2.6. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

2.7. ANTENNA REQUIREMENT

This intentional radiator is designed with a permanently attached antenna of an antenna to ensure that no antenna other than that furnished by the responsible party shall be used with the device. For more information of the antenna, please refer to the APPENDIX B: PHOTOGRAPHS OF EUT.



3. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y $\pm U$, where expended 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	$U_c = \pm 3.1 \text{ dB}$
Uncertainty of Radiated Emission below 1GHz	$U_c = \pm 4.0 \text{ dB}$
Uncertainty of Radiated Emission above 1GHz	$U_c = \pm 4.8 \text{ dB}$
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	$U_c = \pm 2 \%$



4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Low channel TX
2	Middle channel TX
3	High channel TX

Note:

- 1. Only the result of the worst case was recorded in the report, if no other cases.
- 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.

Software Setting FCC Assist 1.0.2.2 П Х _ 帮助(H) 串口设置 设备[COM2]打开成功 串 口 COM2(USB-SERIAL CH340) • 周一 6月 12 15:02:37 2023 TEST BLE 波特率 115200 Command_Type: TX_TEST_CMD 数据位 8 • ch_index: (0 - 2402) len_of_test_data: 0xff 校验位 None • Package_Payload: PRBS9 停止位 1 • reply data: 04 0E 04 01 1E 20 00 流 控 NoFlow • return status: 0x0 发送成功! 关闭 BR/EDR BLE Command_Type TX_TEST_CMD • ch_index (0 - 2402) • len_of_test_data Oxff • Package_Payload PRBS9 -PHY LE 1M PHY Modulation_Index standard Send configuration 清除日志



5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF TESTED SYSTEM

Radiated Emission Configure:



5.2. EQUIPMENT USED IN TESTED SYSTEM

ltem	Equipment	Model No.	ID or Specification	Remark
1	WIRELESS MICROPHONE	M25DC	2ASJU-M25DC	EUT
2	Battery	501220	DC 3.7V 80mAh	AE

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
15.247 (b)(3)	Peak Output Power	Compliant
15.247 (a)(2)	6 dB Bandwidth	Compliant
15.247 (d)	Conducted Spurious Emission	Compliant
15.247 (e)	Maximum Conducted Output Power Density	Compliant
15.209	Radiated Emission	Compliant
15.207	Conducted Emission	Not applicable

Note: 1.EUT has 2 TXs, and the 2 TXs are exactly the same. Both TXs have been tested, and only the worst TX1 data was recorded in the report.

2. The Wireless function of EUT didn't work when charging.



6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd	
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community Fuhai Street, Bao'an District, Shenzhen, Guangdong, China	
Designation Number	CN1259	
FCC Test Firm Registration Number	975832	
A2LA Cert. No.	5054.02	
Description	Attestation of Global Compliance (Shenzhen) Co., Ltd is accredited by A2LA	

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	Feb. 18, 2023	Feb. 17, 2024
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Aug. 04, 2022	Aug. 03, 2023
2.4GHz Filter	EM Electronics	2400-2500MHz	N/A	N/A	N/A
Attenuator	ZHINAN	E-002	N/A	Sep. 01, 2022	Aug. 31, 2023
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Oct. 31, 2021	Oct. 30, 2023
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	Mar. 12, 2022	Mar. 11, 2024
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	Mar. 23, 2023	Mar. 22, 2024
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	N/A	N/A
ANTENNA	SCHWARZBECK	VULB9168	494	Jan. 05, 2023	Jan. 04, 2025
Test software	Tonscend	JS32-RE (Ver.2.5)	N/A	N/A	N/A



7. PEAK OUTPUT POWER

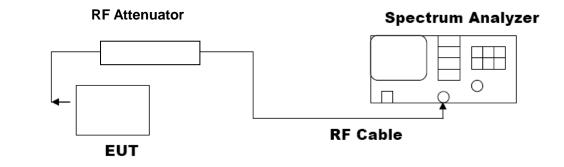
7.1. MEASUREMENT PROCEDURE

For peak power test:

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. RBW≥DTS bandwidth
- 3. VBW≥3*RBW.
- 4. SPAN≥VBW.
- 5. Sweep: Auto.
- 6. Detector function: Peak.
- 7. Trace: Max hold.

Allow trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power, after any corrections for external attenuators and cables.

7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) PEAK POWER TEST SETUP

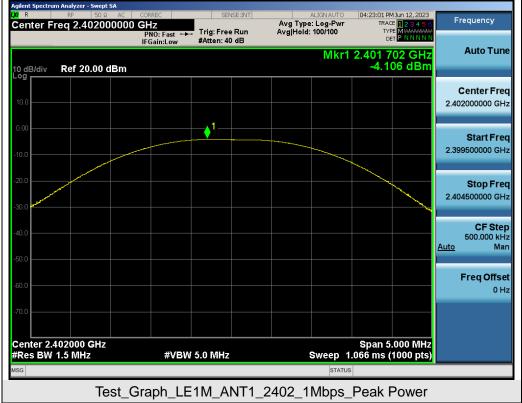




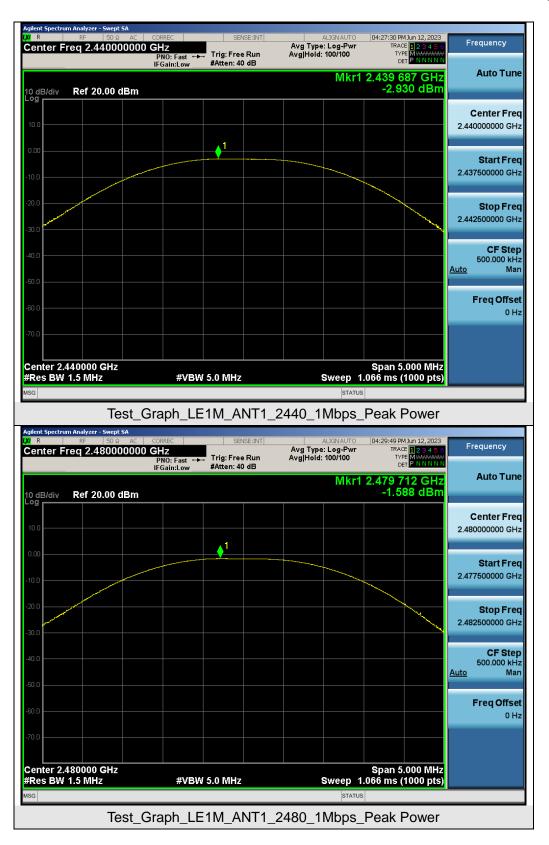
7.3. LIMITS AND MEASUREMENT RESULT

	Test Data of Conducted Output Power						
Test Mode	Test Channel (MHz)	Peak Power (dBm)	Limits (dBm)	Pass or Fail			
	2402	-4.106	≪30	Pass			
GFSK	2440	-2.930	≪30	Pass			
	2480	-1.588	≤30	Pass			

Test Graphs of Conducted Output Power









8. BANDWIDTH

8.1. MEASUREMENT PROCEDURE

6dB bandwidth:

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 kHz, VBW \ge 3×RBW.
- 4. Set SPA Trace 1 Max hold, then View.

Occupied bandwidth:

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set Span = approximately 2 to 5 times the 20 dB bandwidth, centered on a hoping channel The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW; Sweep = auto; Detector function = peak

4. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to ANSI C63.10 for compliance to FCC PART 15.247 requirements.

8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 7.2.

8.3. LIMITS AND MEASUREMENT RESULTS

	Test Data of Occupied Bandwidth and DTS Bandwidth						
Test Mode	Test Channel (MHz)						
	2402	1.028	0.665	≥0.5	Pass		
GFSK	2440	1.029	0.667	≥0.5	Pass		
	2480	1.028	0.667	≥0.5	Pass		





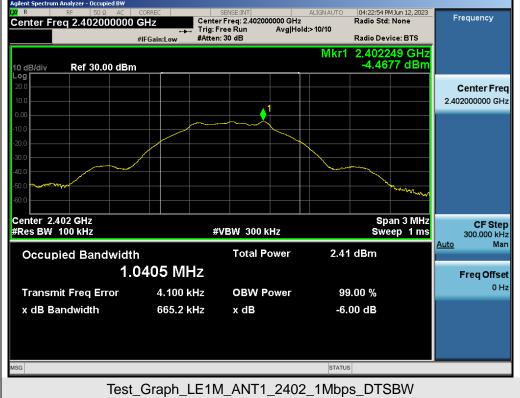
Test Graphs of Occupied Bandwidth





Test_Graph_LE1M_ANT1_2480_1Mbps_OBW









 Attestation of Global Compliance(Shenzhen)Co., Ltd

 Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

 Tel: +86-755 2523 4088
 E-mail: agc@agccert.com

 Web: http://www.agccert.com/



9. CONDUCTED SPURIOUS EMISSION

9.1. MEASUREMENT PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to ANSI C63.10 for compliance to FCC PART 15.247 requirements.

9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 7.2.

9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6.

9.4. LIMITS AND MEASUREMENT RESULT

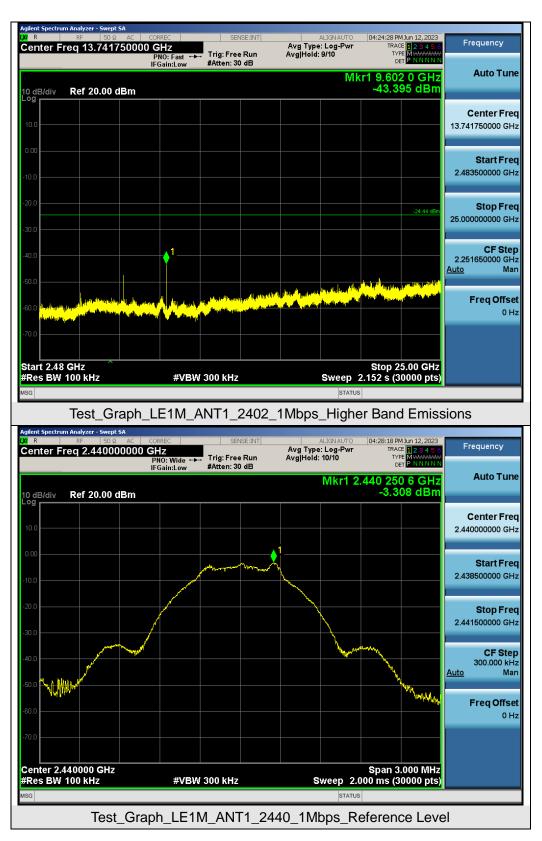
LIMITS AND MEASUREMENT RESULT					
Angliaghta Limita	Measurement Result				
Applicable Limits	Test Data	Criteria			
In any 100 kHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produce by the intentional radiator shall be at least 20 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power.	At least -20dBc than the reference level	PASS			



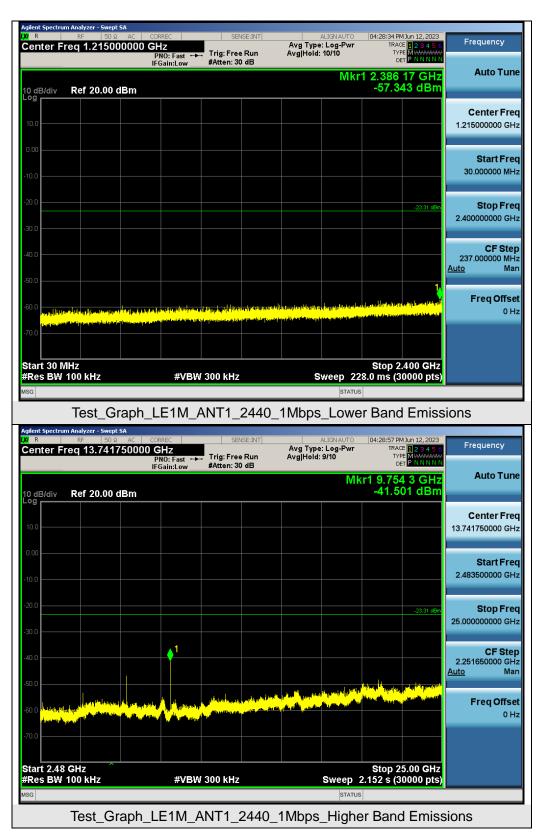


Test Graphs of Spurious Emissions in Non-Restricted Frequency Bands





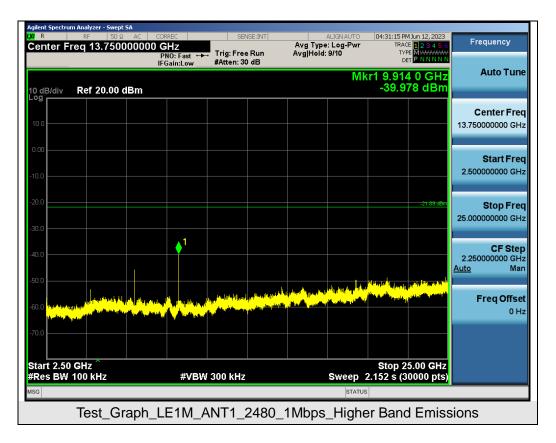




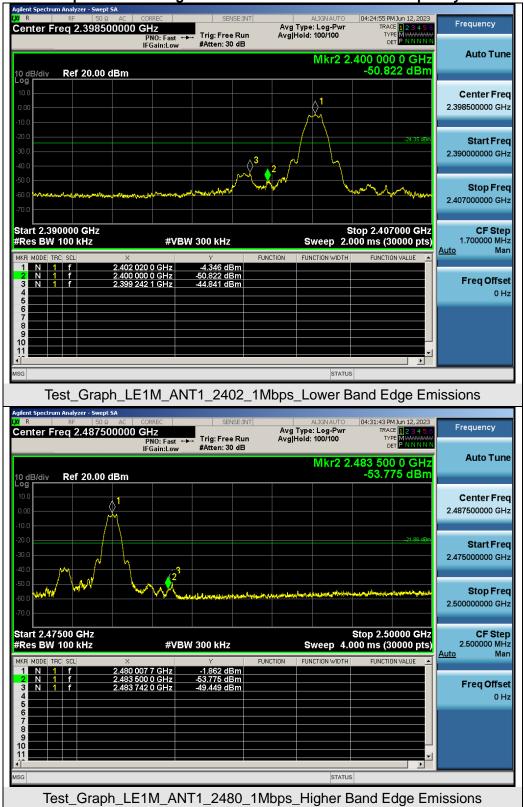












Test Graphs of Band Edge Emissions in Non-Restricted Frequency Bands



10. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY

10.1. MEASUREMENT PROCEDURE

- (1). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- (2). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- (3). Set the SPA Trace 1 Max hold, then View.

Note: The method of PKPSD in the KDB 558074 item 8.4 was used in this testing.

10.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

Refer to Section 7.2.

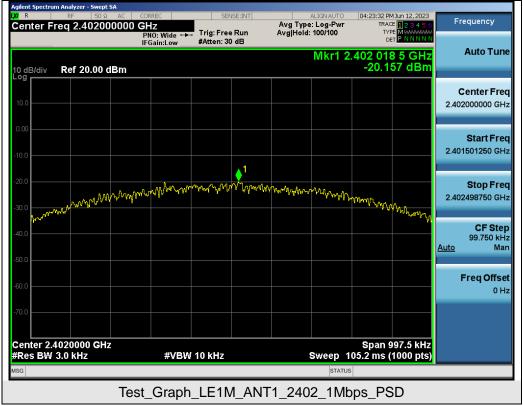
10.3. MEASUREMENT EQUIPMENT USED

Refer to Section 6.

10.4. LIMITS AND MEASUREMENT RESULT

	Test Data of Conducted Output Power Spectral Density						
Test Mode	Test Channel (MHz)	Power density (dBm/3kHz)	Limit (dBm/3kHz)	Pass or Fail			
	2402	-20.157	≤8	Pass			
GFSK 1M	2440	-19.203	≪8	Pass			
	2480	-17.710	≪8	Pass			

Test Graphs of Conducted Output Power Spectral Density









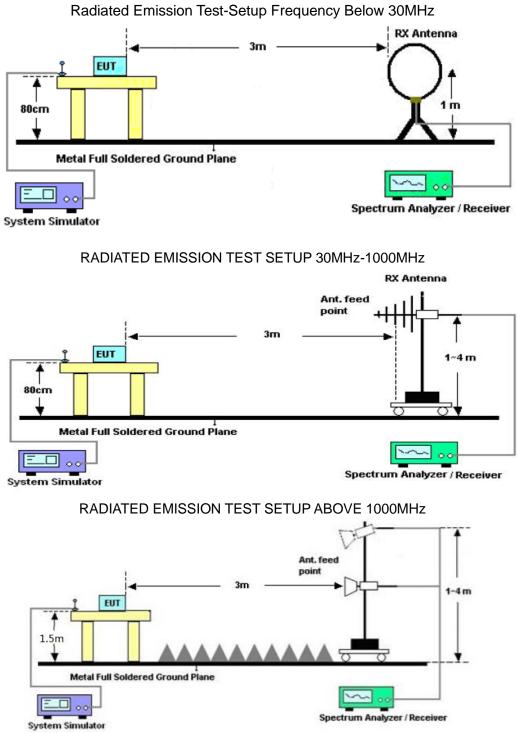
11. RADIATED EMISSION

11.1. MEASUREMENT PROCEDURE

- 1. 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.
- 2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3. 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.
- 4. 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.
- 5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- 6. 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.
- 7. 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 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.



11.2. TEST SETUP





11.3. LIMITS AND MEASUREMENT RESULT

15.209 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.

11.4. TEST RESULT

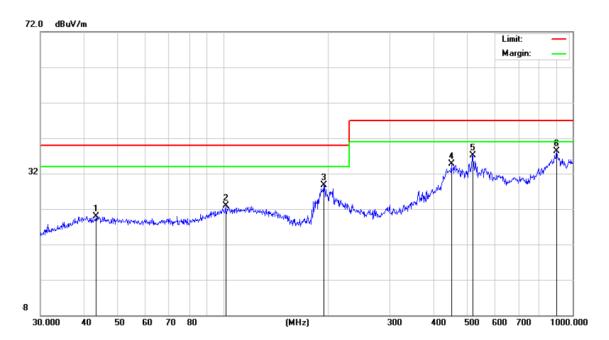
Radiated emission below 30MHz

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



EUT	WIRELESS MICROPHONE	Model Name	M25DC			
Temperature	25° C	Relative Humidity	55.4%			
Pressure	960hPa	Test Voltage	Normal Voltage			
Test Mode	Mode 3	Antenna	Horizontal			

Radiated emission from 30MHz to 1000MHz



No.	Mk.	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		43.3534	6.33	13.67	20.00	40.00	-20.00	peak
2		101.6443	6.62	16.22	22.84	40.00	-17.16	peak
3		193.7728	14.97	13.78	28.75	40.00	-11.25	peak
4		449.5558	9.96	24.77	34.73	47.00	-12.27	peak
5		517.2480	12.25	24.77	37.02	47.00	-9.98	peak
6	*	900.1474	6.44	31.78	38.22	47.00	-8.78	peak

RESULT: PASS



EUT	WIRELESS MICROPHONE	Model Name	M25DC
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical



18.00

24.05

24.62

30.78

28.46

37.08

36.45

37.01

40.00

47.00

47.00

47.00

-11.54

-9.92

-10.55

-9.99

peak

peak

peak

peak

RESULT:	PASS
Note:	

3

4

5

6

*

196.5098

501.1789

556.7744

945.4398

1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.

2. All test modes had been tested. The mode 3 is the worst case and recorded in the report.

10.46

13.03

11.83

6.23



Test Mode

Vertical

Radiated emission above 1GHz

EUT	WIRELESS MICROPHONE	Model Name	M25DC
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4804.011	48.51	0.08	48.59	74.00	-25.41	peak
4804.011	42.33	0.08	42.41	54.00	-11.59	AVG
7206.022	48.12	2.21	50.33	74.00	-23.67	peak
7206.022	40.19	2.21	42.40	54.00	-11.60	AVG
Remark:						
actor = Anter	nna Factor + Cable	Loss – Pre-	amplifier.			

EUTWIRELESS MICROPHONEModel NameM25DCTemperature25° CRelative Humidity55.4%Pressure960hPaTest VoltageNormal Voltage

					Value Type
(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
47.12	0.08	47.20	74.00	-26.80	peak
42.39	0.08	42.47	54.00	-11.53	AVG
48.25	2.21	50.46	74.00	-23.54	peak
38.15	2.21	40.36	54.00	-13.64	AVG
-	47.12 42.39 48.25	47.12 0.08 42.39 0.08 48.25 2.21	47.12 0.08 47.20 42.39 0.08 42.47 48.25 2.21 50.46	47.12 0.08 47.20 74.00 42.39 0.08 42.47 54.00 48.25 2.21 50.46 74.00	47.12 0.08 47.20 74.00 -26.80 42.39 0.08 42.47 54.00 -11.53 48.25 2.21 50.46 74.00 -23.54

Antenna

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc01@agccert.com.

Mode 1



EUT	WIRELESS MICROPHONE	Model Name	M25DC
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4880.005	50.36	0.14	50.50	74.00	-23.50	peak
4880.005	43.27	0.14	43.41	54.00	-10.59	AVG
7320.140	46.33	2.36	48.69	74.00	-25.31	peak
7320.140	40.12	2.36	42.48	54.00	-11.52	AVG
lemark:						
actor = Anter	nna Factor + Cable	e Loss – Pre-	amplifier.			

EUT	WIRELESS MICROPHONE	Model Name	M25DC
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4880.050	50.11	0.14	50.25	74.00	-23.75	peak
4880.050	43.36	0.14	43.50	54.00	-10.50	AVG
7320.080	48.15	2.36	50.51	74.00	-23.49	peak
7320.080	41.11	2.36	43.47	54.00	-10.53	AVG
emark:						

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



EUT	WIRELESS MICROPHONE	Model Name	M25DC
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4960.012	48.78	0.22	49.00	74.00	-25.00	peak
4960.012	36.94	0.22	37.16	54.00	-16.84	AVG
7440.027	48.12	2.64	50.76	74.00	-23.24	peak
7440.027	36.56	2.64	39.20	54.00	-14.80	AVG
lemark:						
actor = Anter	nna Factor + Cable	e Loss – Pre-	amplifier.			

EUT	WIRELESS MICROPHONE	Model Name	M25DC
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4960.013	50.36	0.22	50.58	74	-23.42	peak
4960.013	42.33	0.22	42.55	54	-11.45	AVG
7440.027	46.25	2.64	48.89	74	-25.11	peak
7440.027	38.12	2.64	40.76	54	-13.24	AVG
Remark:						
emark.						
actor = Anter	nna Factor + Cable	Loss - Pre-	amplifier.			

RESULT: PASS

Note:

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.

Factor = Antenna Factor + Cable loss - Amplifier gain, Over=Measure-Limit.

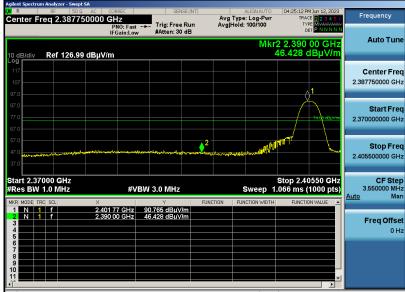
The "Factor" value can be calculated automatically by software of measurement system.



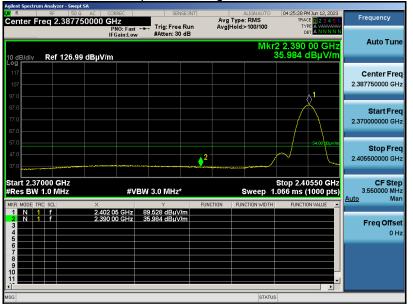
EUT	WIRELESS MICROPHONE	Model Name	M25DC
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

est result for band edge emission at restricted bands

Test Graph for Peak Measurement



Test Graph for Average Measurement

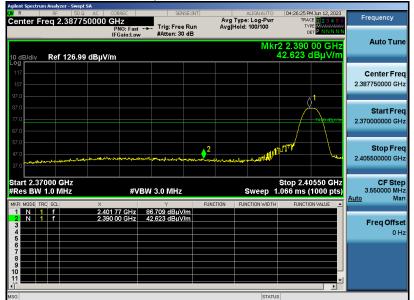


RESULT: PASS

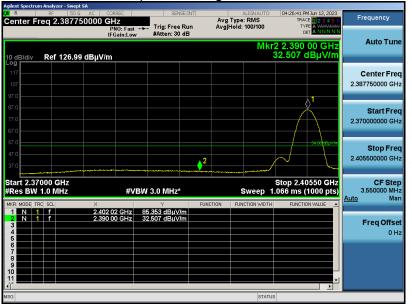


EUT	WIRELESS MICROPHONE	Model Name	M25DC
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical

Test Graph for Peak Measurement



Test Graph for Average Measurement

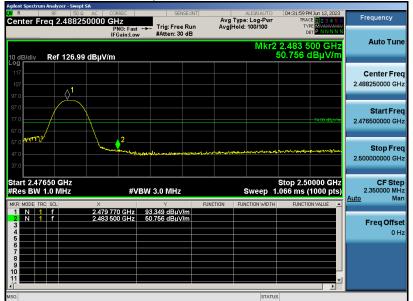


RESULT: PASS

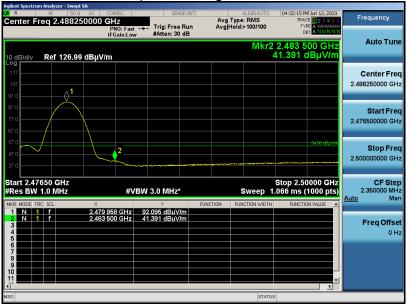


EUT	WIRELESS MICROPHONE	Model Name	M25DC
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal

Test Graph for Peak Measurement



Test Graph for Average Measurement

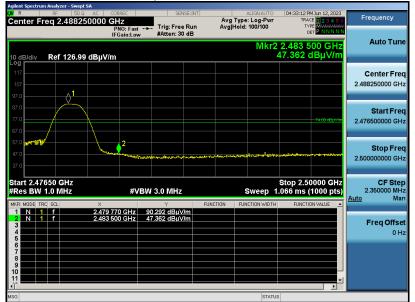


RESULT: PASS

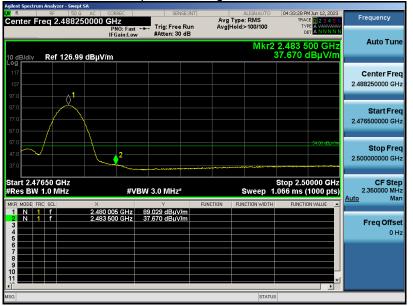


EUT	WIRELESS MICROPHONE	Model Name	M25DC
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

Test Graph for Peak Measurement



Test Graph for Average Measurement



RESULT: PASS

Note: The factor had been edited in the "Input Correction" of the Spectrum Analyzer.



12. LINE CONDUCTED EMISSION TEST

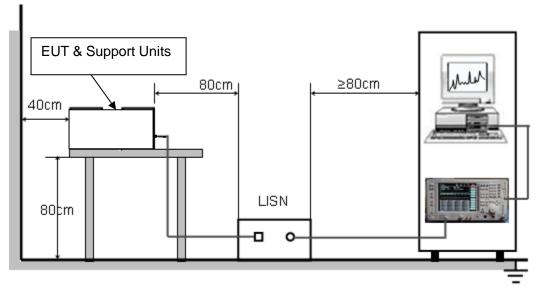
12.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage		
Frequency	Q.P.(dBuV)	Average(dBuV)	
150kHz~500kHz	66-56	56-46	
500kHz~5MHz	56	46	
5MHz~30MHz	60	50	

Note:

- 1. The lower limit shall apply at the transition frequency.
- 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

12.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST





12.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

- The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2. Support equipment, if needed, was placed as per ANSI C63.10.
- 3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4. All support equipment received AC120V/60Hz power from a LISN, if any.
- 5. The EUT received DC 5V power from adapter which received AC120V/60Hz power from a LISN.
- 6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 8. During the above scans, the emissions were maximized by cable manipulation.
- 9. The test mode(s) were scanned during the preliminary test.

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

12.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
- A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less – 2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
- 3. The test data of the worst case condition(s) was reported on the Summary Data page.

12.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

Note: The Wireless function of EUT didn't work when charging.



APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Refer to the Report No.: AGC10732230601AP01 **APPENDIX B: PHOTOGRAPHS OF EUT** Refer to the Report No.: AGC10732230601AP02

----END OF REPORT----



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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.

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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.

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