



# FCC RADIO TEST REPORT

## FCC ID:Y8J-MC796

**Product :** MemontWireless Microphone

**Trade Name :** 

**Model Name :** MC796

**Serial Model :** N/A

**Report No. :** NTEK-2015NT11273245F

### Prepared for

AC RYAN ASIA PACIFIC PTE. LTD.  
60 KAKI BUKIT PLACE #01-12 EUNOS TECHPARK SINGAPORE  
415979

### Prepared by

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## TEST RESULT CERTIFICATION

**Applicant's name** ..... AC RYAN ASIA PACIFIC PTE. LTD.  
**Address** ..... 60 KAKI BUKIT PLACE #01-12 EUNOS TECHPARK SINGAPORE  
415979

**Manufacturer's Name**... AC RYAN ASIA PACIFIC PTE. LTD.  
**Address** ..... 60 KAKI BUKIT PLACE #01-12 EUNOS TECHPARK SINGAPORE  
415979

### Product description

**Product name** ..... MemontWireless Microphone

**Model and/or type** ..... MC796  
**reference** .....

**Serial Model** ..... N/A

**Standards** ..... FCC CFR47 Part 74

**Test procedure** ..... TIA/EIA-603C

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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**Date of Test** .....

**Date (s) of performance of tests** .....: 27 Nov 2015~27 Jan. 2016

**Date of Issue**.....: 27 Jan. 2016

**Test Result**.....: **Pass**

**Testing Engineer** : Jason Chen  
(Jason Chen)

**Technical Manager** : Brown Lu  
(Brown Lu)

**Authorized Signatory** : Sam. Chen  
(Sam Chen)

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### 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC CFR47 Part 74			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	N/A	
74.861(e)(1)(ii)	RF Output Power	PASS	
2.1047(a)	Modulation Characteristics	N/A(Note 2)	
2.1049(c)(1)	Occupied Bandwidth	PASS	
2.1053 & 74.861(e)(6)	Radiated Emissions	PASS	
2.1051	Spurious emissions at antenna terminals	PASS	
2.1055(a)(1)	Frequencies Stability	PASS	

NOTE:

(1) "N/A" denotes test is not applicable in this Test Report

(2) This product is a digital modulation, this test does not apply

Requirement for Radio Equipment on Certification:

1. RF output Power  
For transmitters, the power output shall be measured at the RF output terminals.
2. Modulation Characteristics  
For Voice Modulated Communication Equipment, a curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 100 to 5000Hz shall be submitted.
3. Occupied Bandwidth  
For radiotelephone transmitter, other than single sideband or indenpent sideband transmitter, where modulated by a 2.5KHz tone at an input level 16 dB greater than that necessary to produce 50 percent modulation.
4. Spurious Emission at Antenna Terminals  
The radio frequency voltage or power generated within the equipment and appearing on a spurious Frequency shall be checked at the equipment output terminal when properly loaded with a suitable artificial antenna.
5. Field Strength of Spurious Emission  
Measurements shall be made to detect spurious emission that may be radiated directly from the cabinet, control circuits, power leads, or intermediate ciruit elements under normal condition of installation and operation.
6. Frequencies Tolerance  
The frequency stability shall be measured with variation of ambient temperature.  
The frequency stability shall be measured with variation of primary supply voltage.

**1.1 TEST FACILITY**

NTEK Testing Technology Co., Ltd  
 Add.:1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.  
 FCC Registration No.:238937; IC Registration No.:9270A-1  
 CNAS Registration No.:L5516


**1.2 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 %.

No.	Item	Uncertainty
1	Conducted Emission Test	$\pm 1.38\text{dB}$
2	RF power,conducted	$\pm 0.16\text{dB}$
3	Spurious emissions,conducted	$\pm 0.21\text{dB}$
4	All emissions,radiated(<1G)	$\pm 4.68\text{dB}$
5	All emissions,radiated(>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^\circ\text{C}$
7	Humidity	$\pm 2\%$

## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

Equipment	MemontWireless Microphone	
Trade Name		
Model Name	MC796	
Serial Model	N/A	
Model Difference	N/A	
Product Description	The EUT is a MemontWireless Microphone	
	Operation Frequency:	614-698 MHz
	Modulation Type:	GFSK
	Number Of Channel	4CH(Please see Note 2.)
	Antenna Designation:	Please see Note 3.
	Antenna Gain (dBi)	1.0dBi
Channel List	Please refer to the Note 2.	
Ratings	DC 3.0V	
Adapter	N/A	
Battery	DC 1.5V*2 cell LR6	
Connecting I/O Port(s)	Please refer to the User's Manual	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.

Channel	Frequency (MHz)
01	695.7MHz
02	660.7MHz
03	679.7MHz
04	644.7MHz

3.

Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
A	N/A	N/A	Internal antenna	N/A	1.0	Antenna

## 2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

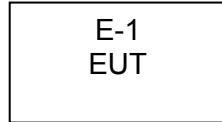
Pretest Mode	Description
Mode 1	CH01
Mode 2	CH02
Mode 3	CH03
Mode 4	CH04

For Radiated Emission	
Final Test Mode	Description
Mode 1	CH01
Mode 2	CH02
Mode 3	CH03
Mode 4	CH04




### 2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test



**2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)**

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Brand	Model/Type No.	Series No.	Note
E-1	MemontWireless Microphone		MC796	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

## 2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

### Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4407B	MY45108040	2015.07.06	2016.07.05	1 year
2	Test Receiver	R&S	ESPI	101318	2015.06.07	2016.06.06	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2015.07.06	2016.07.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2015.06.07	2016.06.06	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2015.06.07	2016.06.06	1 year
6	Horn Antenna	EM	EM-AH-10180	2011071402	2015.07.06	2016.07.05	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2015.07.06	2016.07.05	1 year
8	Amplifier	EM	EM-30180	060538	2015.12.22	2016.12.21	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	2015.06.08	2016.06.07	1 year
10	Power Meter	R&S	NRVS	100696	2015.07.06	2016.07.05	1 year
11	Power Sensor	R&S	URV5-Z4	0395.1619.05	2015.07.06	2016.07.05	1 year
12	Modulation Analyzer	HP	8920B	-	2015.07.06	2016.07.05	1 year
13	MXA Signal Analyzer	Agilent	N9020A	MY49100060	2015.11.19	2016.11.18	1 year
14	Substitution Antenna	Schwarzbeck	VULB 9160	9160-3309	2015.07.06	2016.07.05	1 year

### Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2015.06.06	2016.06.05	1 year
2	LISN	R&S	ENV216	101313	2015.08.24	2016.08.23	1 year
3	LISN	EMCO	3816/2	00042990	2015.08.24	2016.08.23	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2015.06.07	2016.06.06	1 year
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	2015.06.07	2016.06.06	1 year
6	Absorbing clamp	R&S	MOS-21	100423	2015.06.08	2016.06.07	1 year

1	Attenuation	MCE	24-10-34	BN9258	2015.06.08	2016.06.07	1 year
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### 3. EMC EMISSION TEST

#### 3.1 CONDUCTED EMISSION MEASUREMENT

##### 3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)		Standard
	Quasi-peak	Average	Quasi-peak	Average	
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	73.00	60.00	56.00	46.00	CISPR
5.0 -30.0	73.00	60.00	60.00	50.00	CISPR

0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	73.00	60.00	56.00	46.00	FCC
5.0 -30.0	73.00	60.00	60.00	50.00	FCC

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

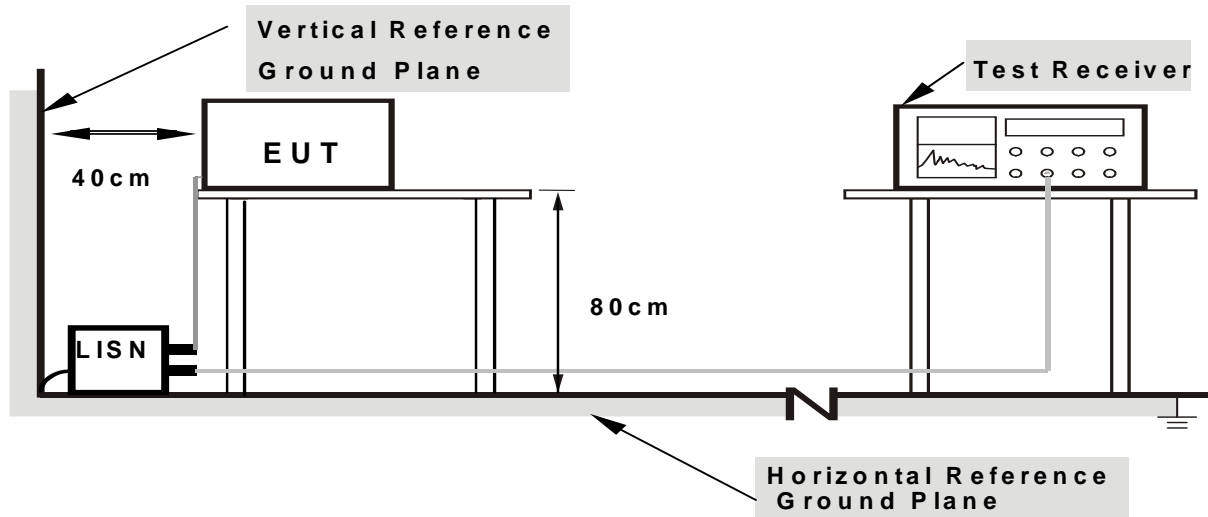
**3.1.2 TEST PROCEDURE**

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

**3.1.3 DEVIATION FROM TEST STANDARD**

No deviation

**3.1.4 TEST SETUP**



- Note:**
- 1.Support units were connected to second LISN.
  - 2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

**3.1.5 EUT OPERATING CONDITIONS**

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

**3.1.6 TEST RESULTS**

EUT :	MemontWireless Microphone	Model Name. :	MC796
Temperature :	26 °C	Relative Humidity :	56%
Pressure :	1010hPa	Phase :	N/A
Test Voltage :	N/A	Test Mode :	N/A

Note: No applicable, Since the EUT's Power supplied from DC 3V battery.

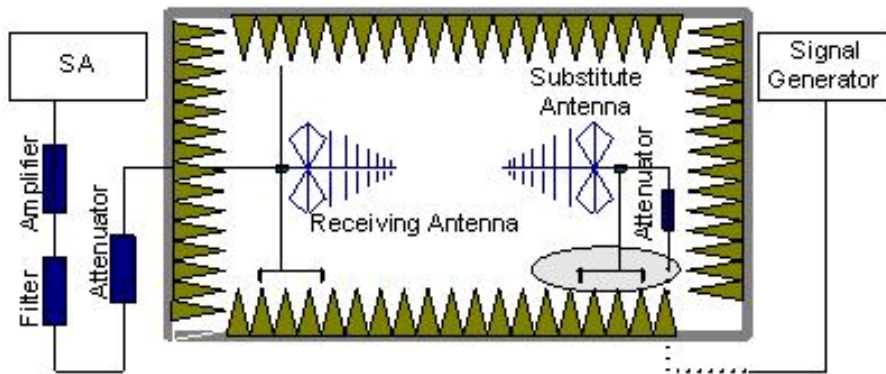
### 3.2 RADIATED EMISSION MEASUREMENT

#### 3.2.1 MEASUREMENT METHOD

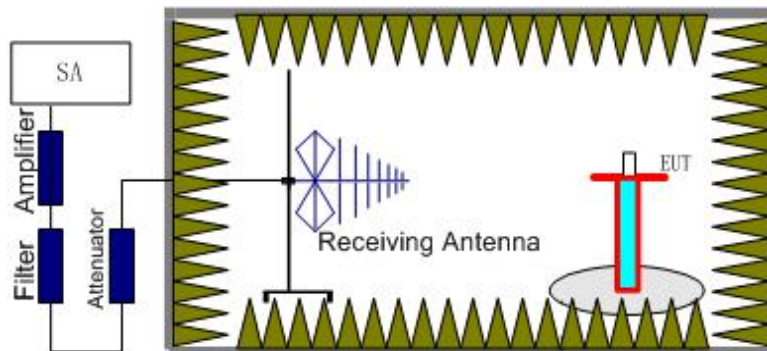
The measurements procedures specified in TIA-603D-2004 were used for testing. The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment. The resolution bandwidth is set 1MHz as outlined in Part 2.1053 ; 74.861 (e)  
 The measurements were performed on all modes at 3 typical channels(the Top Channel, the Middle Channel and the Bottom Channel) for each band.Only shown the worst data.

The procedure of radiated spurious emissions is as follows:

a) Pre-calibration With pre-calibration method, the Radiated Spurious Emissions(RSE) is calculated as,  $RSE = R_x \text{ (dBUV)} + CL \text{ (dB)} + SA \text{ (dB)} + Gain \text{ (dBi)} - 107 \text{ (dBUV to dBm)}$  The SA is calibrated using following setup.



b) EUT was placed on a 0.8 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the test item for emission measurements. The height of receiving antenna is 0.8m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the test item and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic were measured with peak detector and 1MHz bandwidth.



The substitution method is used. Substitution values at each frequency are measured before and saved to the test software. A "reference path loss" is established and the ARpl is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss and the air loss. The measurement results are obtained as described below:

Power=PMea+ARpl

### **3.2.2 PROVISIONS APPLICABLE**

(a) On any frequency outside a licensee's frequency block (e.g. A, D, B, etc.) within the USPCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least  $43+10\log(P)$  dB. The specification that emissions shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

### **3.2.3 EUT OPERATING CONDITIONS**

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



**3.2.4 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)**

EUT:	MemontWireless Microphone	Model Name. :	MC796
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.0V
Test Mode :	TX	Polarization :	--

Freq. (MHz)	Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	State P/F
--	--	--	--	N/A
--	--	--	--	N/A

**NOTE:**

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor =  $40 \log(\text{specific distance}/\text{test distance})$ (dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.

**3.2.5 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)**

EUT :	MemontWireless Microphone	Model Name :	MC796
Temperature :	20 °C	Relative Humidity :	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.0V
Test Mode :	TX		

Polar (H/V)	Frequency	Power	ARpl	PMea	Limits	Margin	Remark
	(MHz)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	
V	73.0231	-72.18	28.91	-43.27	-13.00	-30.27	peak
V	132.3986	-67.44	22.76	-44.68	-13.00	-31.68	peak
V	181.9526	-65.78	24.84	-40.94	-13.00	-27.94	peak
V	260.0185	-66.62	22.94	-43.68	-13.00	-30.68	peak
V	427.9823	-77.86	29.75	-48.11	-13.00	-35.11	peak
V	720.9751	-86.92	35.06	-51.86	-13.00	-38.86	peak
H	77.3788	-81.03	26.81	-54.22	-13.00	-41.22	peak
H	109.9567	-76.77	19.12	-57.65	-13.00	-44.65	peak
H	178.9713	-71.13	24.85	-46.28	-13.00	-33.28	peak
H	272.7951	-65.93	23.59	-42.34	-13.00	-29.34	peak
H	391.5327	-74.46	28.31	-46.15	-13.00	-33.15	peak
H	490.0541	-84.49	31.25	-53.24	-13.00	-40.24	peak

**Remark:**

Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit

### 3.2.6 TEST RESULTS (ABOVE 1000 MHZ)

EUT :	MemontWireless Microphone	Model Name :	MC796
Temperature :	20 °C	Relative Humidity :	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.0V
Test Mode :	TX		

Polar (H/V)	Frequency	Power	ARpl	PMea	Limits	Margin	Detector Type
	(MHz)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	
CH 01							
V	1391.4253	-28.04	-13.05	-41.09	-13.00	-28.09	peak
V	1391.4253	-39.38	-13.05	-52.43	-13.00	-39.43	peak
H	2087.1134	-32.28	-11.13	-43.41	-13.00	-30.41	peak
H	2087.1134	-27.34	-11.13	-38.47	-13.00	-25.47	peak
CH 02							
V	1321.4038	-23.54	-13.61	-37.15	-13.00	-24.15	peak
V	1321.4038	-35.33	-13.61	-37.15	-13.00	-24.15	peak
H	1982.1152	-41.06	-12.85	-53.91	-13.00	-40.91	peak
H	1982.1152	-40.58	-12.85	-53.43	-13.00	-40.43	peak
CH 03							
V	1359.4116	-25.06	-13.41	-38.47	-13.00	-25.47	peak
V	1359.4116	-31.07	-13.41	-44.48	-13.00	-31.48	peak
H	2039.1124	-38.15	-12.19	-50.34	-13.00	-37.34	peak
H	2039.1124	-40.27	-12.19	-52.46	-13.00	-39.46	peak
CH 04							
V	1289.4034	-19.37	-13.66	-33.03	-13.00	-20.03	peak
V	1289.4034	-22.17	-13.66	-35.83	-13.00	-22.83	peak
H	2578.8005	-37.26	-7.71	-44.97	-13.00	-31.97	peak
H	2578.8005	-41.08	-7.71	-48.79	-13.00	-35.79	peak

## 4. RF OUTPUT POWER

### 4.1 Conducted Output Power

#### 4.0.1.1 APPLIED PROCEDURES / LIMIT

Test requirement: FCC CFR47 Part 74 Section 74.861(e)(1)(ii)

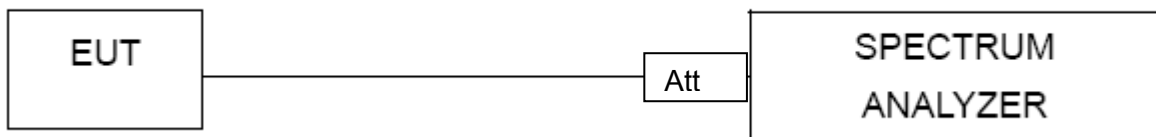
Test method: Based on TIA/EIA-603-C-2004

Limit: According to Part 74.861(e)(1)(ii), the output power shall not exceed 250mW (23.98 dBm).

#### 4.1.2 TEST PROCEDURE

The maximum peak output power was measured with a spectrum analyzer connected to the antenna terminal (conducted measurement) while EUT was operating in normal situation.

#### 4.1.3 TEST SETUP



#### 4.1.4 EUT OPERATION CONDITIONS

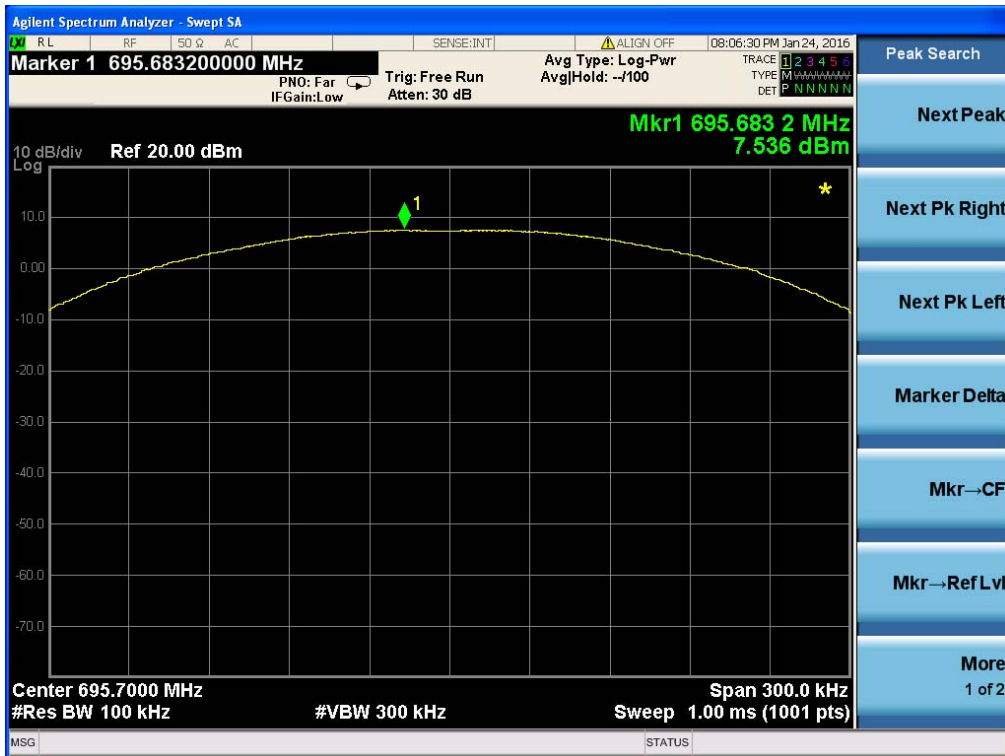
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

**4.1.5 TEST RESULTS**

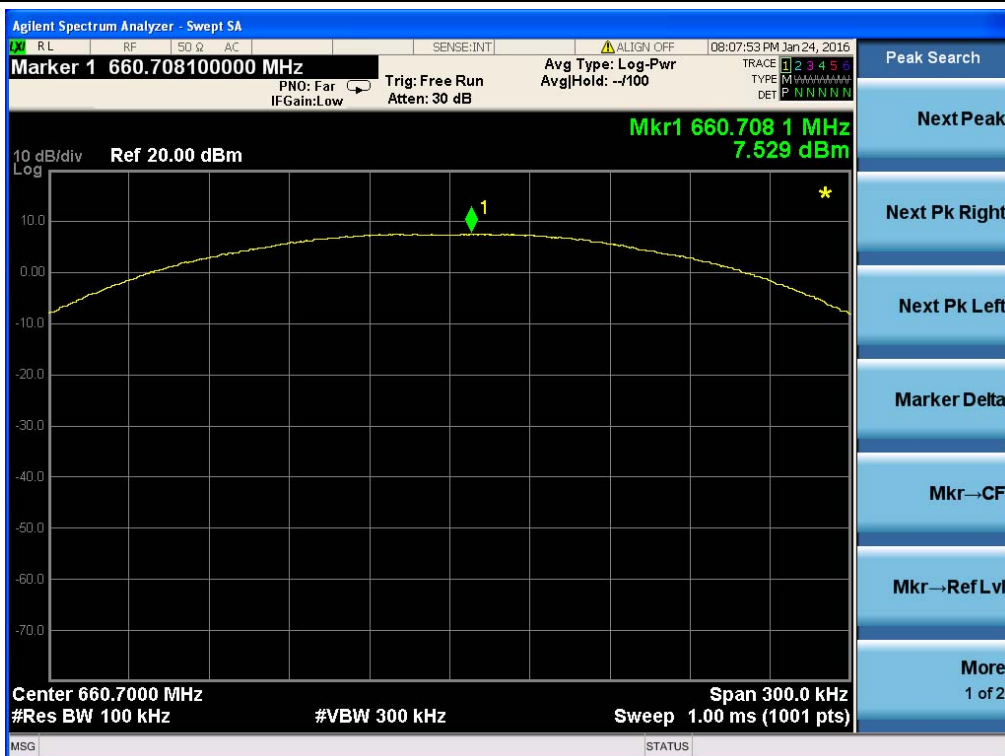
EUT :	MemontWireless Microphone	Model Name :	MC796
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 3.0V
Test Mode :	TX Mode		

Test Channe	Frequency	Maximum Conducted Output Power(PK)	LIMIT
	(MHz)	(dBm)	dBm
CH 01	695.7	7.536	23.98
CH 02	660.7	7.529	23.98
CH 03	679.7	7.426	23.98
CH 04	644.7	7.548	23.98

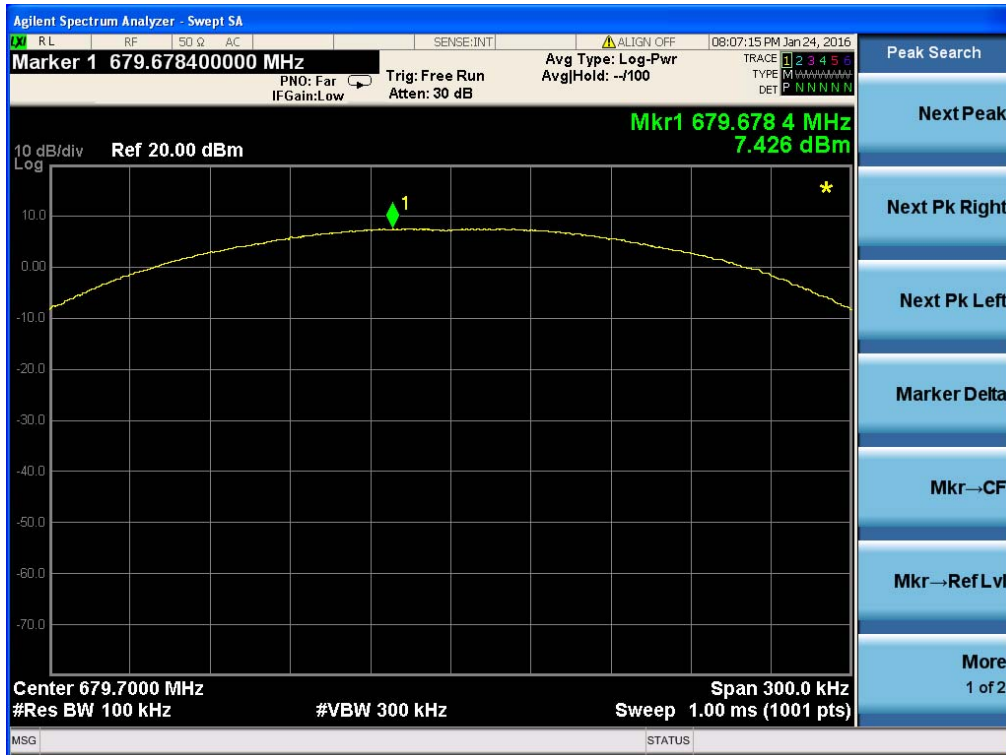
### TX CH01



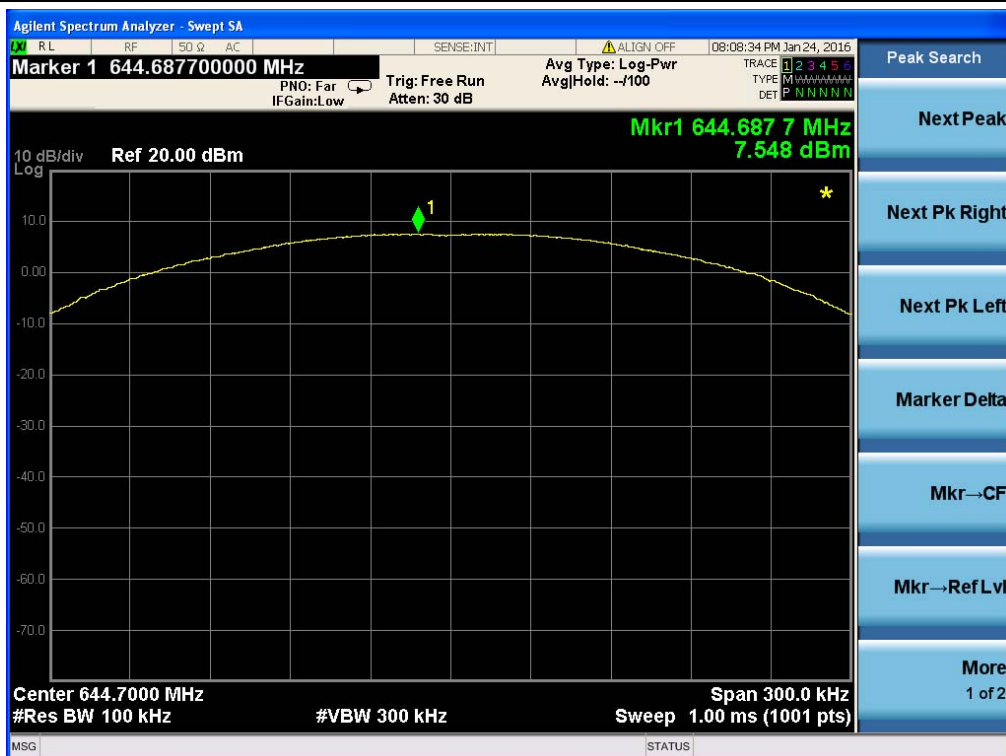
### CH 02



### TX CH03



### CH 04



#### 4.2. Radiated Output Power

##### 4.2.1 measurement method

The measurements procedures specified in TIA-603D-2004 were applied.

1. In an anechoic antenna test chamber, a half-wave dipole antenna for the frequency band of interest is placed at the reference centre of the chamber. An RF Signal source for the frequency band of interest is connected to the dipole with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A known (measured) power ( $P_{in}$ ) is applied to the input of the dipole, and the power received ( $P_r$ ) at the chamber's probe antenna is recorded.

2.The substitution method is used. Substitution values at each frequency are measured before and saved to the test software. A "reference path loss" is established as  $AR_{pl} = P_{in} + 2.15 - P_r$ . The  $AR_{pl}$  is the attenuation of "reference path loss", and including the gain of receive antenna, the cable loss and the air loss. The measurement results are obtained as described below:  $Power = P_{Mea} + AR_{pl}$

3. The EUT is substituted for the dipole at the reference centre of the chamber and a scan is performed to obtain the radiation pattern

4. From the radiation pattern, the co-ordinates where the maximum antenna gain occurs are identified.

5.The EUT is then put into continuously transmitting mode at its maximum power level.

6.Power mode measurements are performed with the receiving antenna placed at the coordinates determined in Step 3 to determine the output power as defined in Rule Part 74.861(e)(1)(ii),

The "reference path loss" from Step1 is added to this result.

7.This value is EIRP since the measurement is calibrated using a half-wave dipole antenna of known gain (2.15 dBi) and known input power ( $P_{in}$ ).

8. ERP can be calculated from EIRP by subtracting the gain of the dipole,  $ERP = EIRP - 2.15dBi$ .

9. Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

##### 4.2.2 PROVISIONS APPLICABLE

N/A



4.2.3 Measurement Result

Radiated Power (ERP)				
Frequency	Result		Limit (dBm)	Conclusion
	Max. Peak ERP (dBm)	Polarization Of Max. ERP		
695.7 MHz	4.162	Horizontal	23.98	Pass
695.7 MHz	4.036	Vertical	23.98	Pass
660.7 MHz	4.114	Horizontal	23.98	Pass
660.7 MHz	<b>5.002</b>	Vertical	23.98	Pass
679.7 MHz	4.206	Horizontal	23.98	Pass
679.7 MHz	4.384	Vertical	23.98	Pass
644.7 MHz	4.037	Horizontal	23.98	Pass
644.7 MHz	4.169	Vertical	23.98	Pass

## 5. MODULATION CHARACTERISTICS

### 5.1 APPLIED PROCEDURES / LIMIT

Test requirement: FCC CFR47 Part 2 Section 2.1047(a)

Test method: Based on TIA/EIA-603-C-2004

Requirement: According to Part 2.1047(a), for Voice Modulated Communication Equipment, the frequency response of the audio modulating circuit over a range of 100Hz to 5000Hz shall be measured.

#### 5.1.1 TEST PROCEDURE

(a) Test Configuration

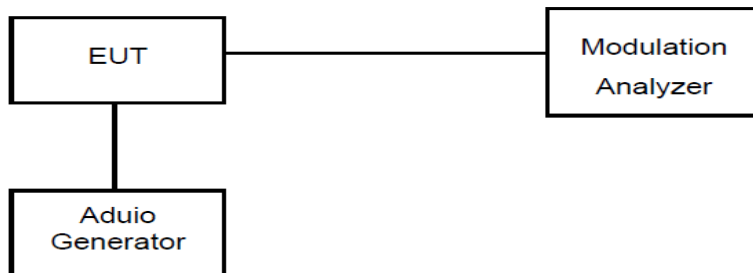
(b) Audio Frequency Response:

- 1) Apply a 1000 Hz tone and adjust the audio frequency generator to produce 20% of the rated system deviation.
- 2) Set the test receiver to measure rms deviation and record the deviation reading as DEVREF .
- 3) Set the audio frequency generator to the desired test frequency between 100 Hz and 5000 Hz.
- 4) Record the test receiver deviation reading as DEVFREQ .
- 5) Calculate the audio frequency response at the present frequency as:  
audio frequency response =  $20\lg(\text{DEVFREQ} / \text{DEVREF})$
- 6) Repeat steps 4) through 5) for all the desired test frequencies.

(c) Modulation Limiting:

- 1) Apply a 1000 Hz modulating signal to the transmitter from the audio frequency generator, and adjust the level to obtain 60% of full rated system deviation.
- 2) Measure both the instantaneous and steady-state deviation at and after the time of increasing the audio input level.
- 3) With the level from the audio frequency generator held constant at the level obtained in step e), slowly vary the audio frequency from 300 Hz to 3000Hz and observe the steady-state deviation. Record the maximum deviation.
- 4) Set the test receiver to measure peak negative deviation and repeat steps 1) through 3).
- 5) The values recorded in steps 3) and 4) are the modulation limiting.

#### TEST SETUP



#### 5.1.2 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

**5.1.3 TEST RESULTS**

EUT :	MemontWireless Microphone	Model Name :	MC796
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	N/A
Test Mode :	N/A		

This product is a digital modulation, this test does not apply

## 6. OCCUPIED BANDWIDTH OF EMISSION

### 6.1 APPLIED PROCEDURES / LIMIT

Test requirement: FCC CFR47 Part 2 Section 2.1049©(1)

Test method: Based on TIA/EIA-603-C-2004

Limit: According to FCC 74.861 (e)(5), the frequency emission bandwidth shall not exceed 200 kHz.

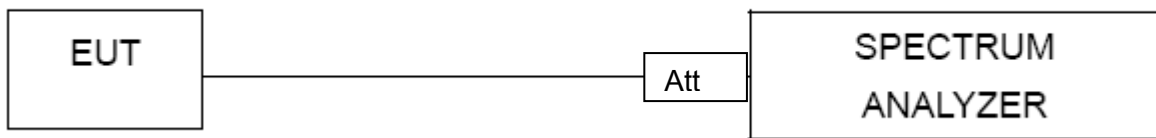
#### 6.1.1 TEST PROCEDURE

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Turn on the EUT and set it to any one convenient frequency within its operating range.

#### 6.1.2 DEVIATION FROM STANDARD

No deviation.

#### 6.1.3 TEST SETUP



#### 6.1.4 EUT OPERATION CONDITIONS

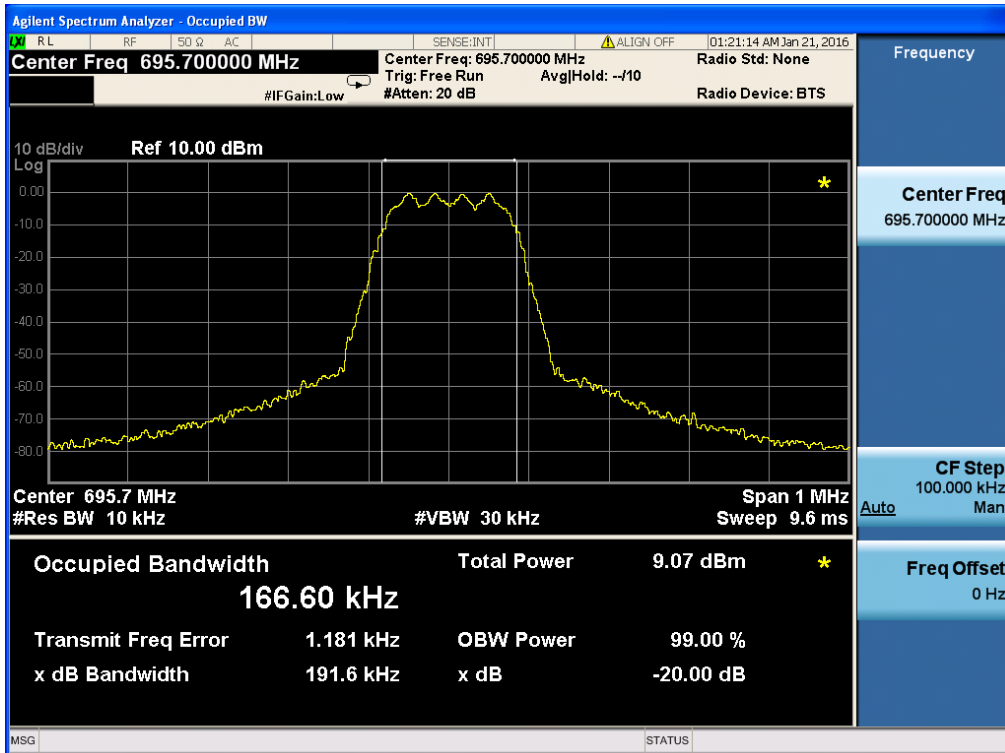
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

**6.1.5 TEST RESULTS**

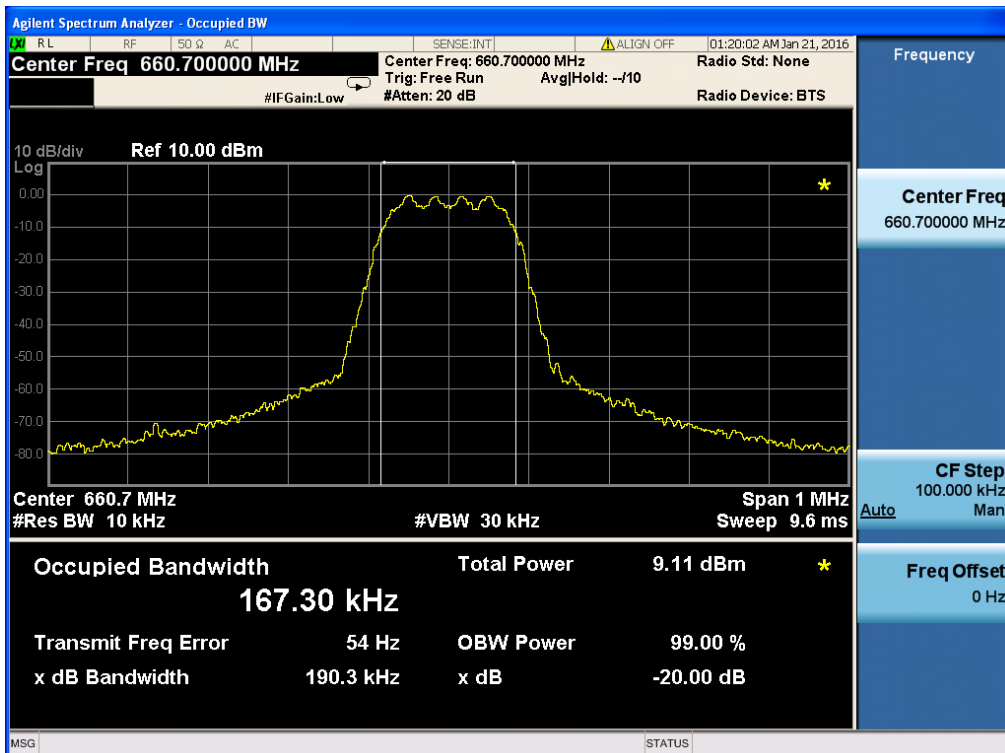
EUT :	MemontWireless Microphone	Model Name :	MC796
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 3.0V
Test Mode :	TX Mode		

Frequency	99% Bandwidth (kHz)	Limit (kHz)	Result
695.7 MHz	191.6	200	PASS
660.7 MHz	190.3	200	PASS
679.7 MHz	186.8	200	PASS
644.7 MHz	186.1	200	PASS

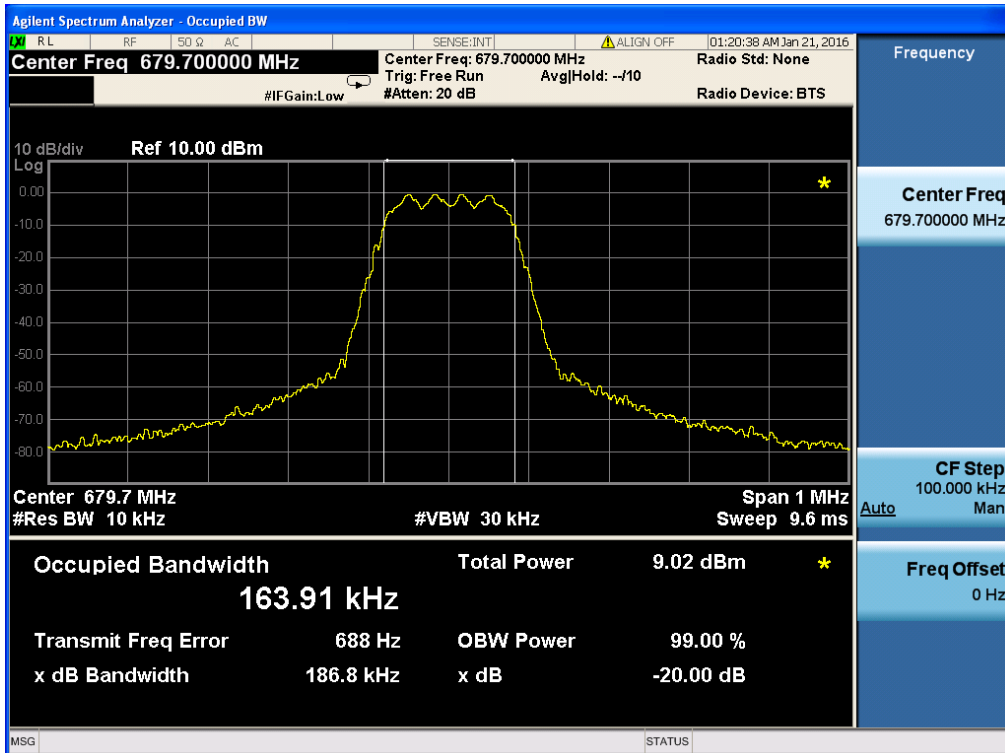
### TX CH01



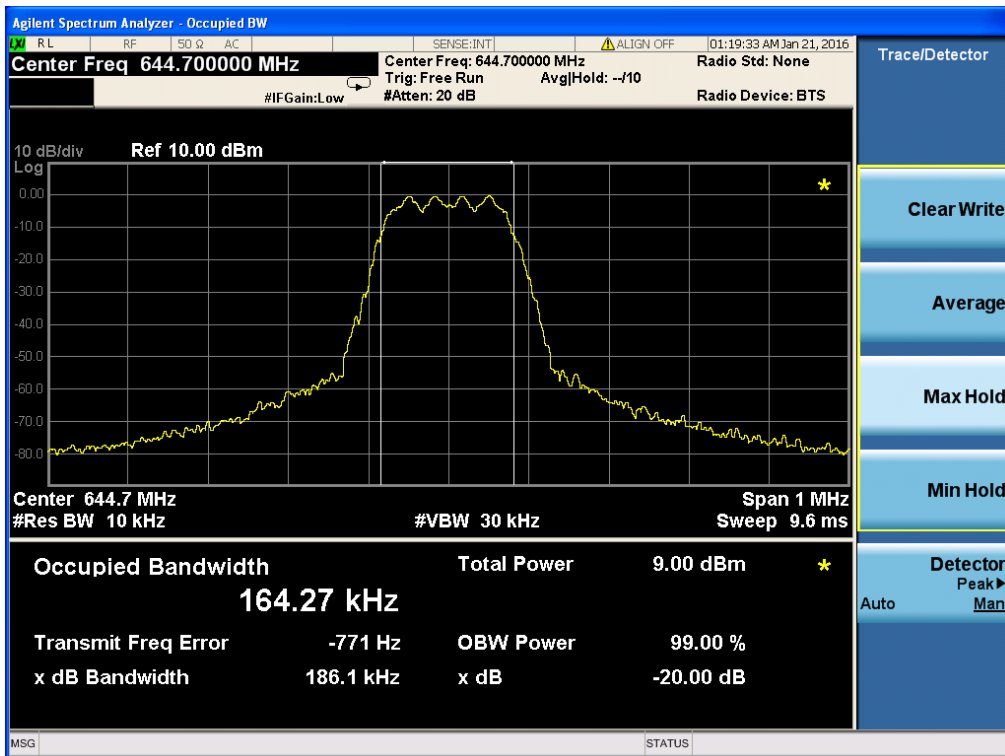
### CH 02



### TX CH03



### CH 04



## 7. SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Test requirement: FCC CFR47 Part 2 Section 2.1053

Test method: Based on TIA/EIA-603-C-2004

Limit: According to Part 74.861 (e)(6), the mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(i) on any frequency removed from the operating frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: at least 25 dB.

(ii) on any frequency removed from the operating frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: at least 35 dB.

(iii) on any frequency removed from the operating frequency by more than 250 percent up to and the authorized bandwidth shall be attenuated below the un-modulated carrier by at least  $43 + 10 \text{ Log} (\text{output power in watts})\text{dB}$ .

### 7.1 TEST PROCEDURE

1. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
2. Set the SA on Max-Hold Mode, and then keep the EUT in transmitting mode. Record all the signals from each channel until each one has been recorded.
3. Set the SA on View mode and then plot the result on SA screen.
4. Repeat above procedures until all frequencies measured were complete.

### 7.2 EUT OPERATION CONDITIONS

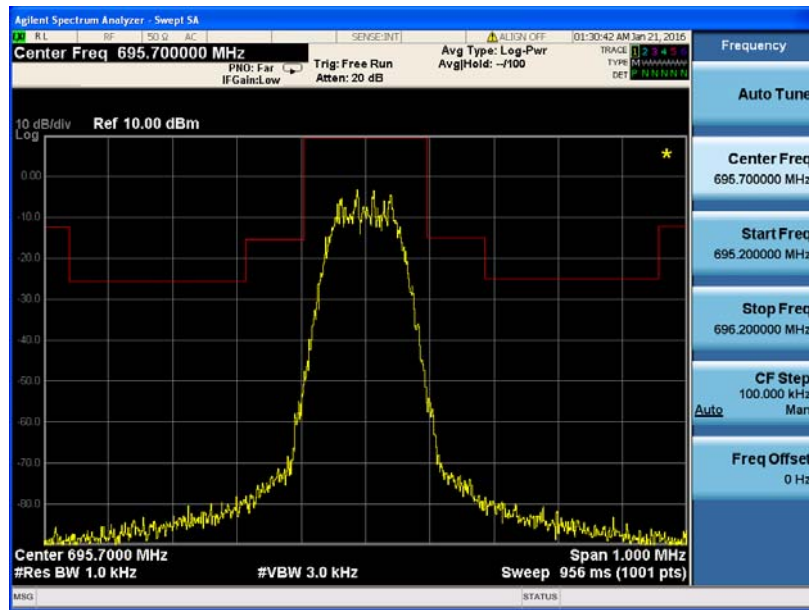
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



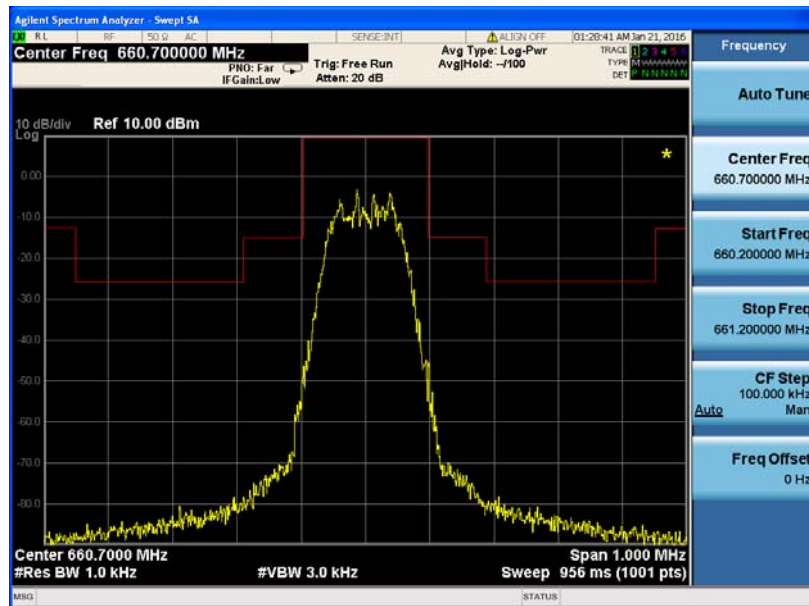
### 7.3 TEST RESULTS

EUT :	MemontWireless Microphone	Model Name :	MC796
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 3.0V

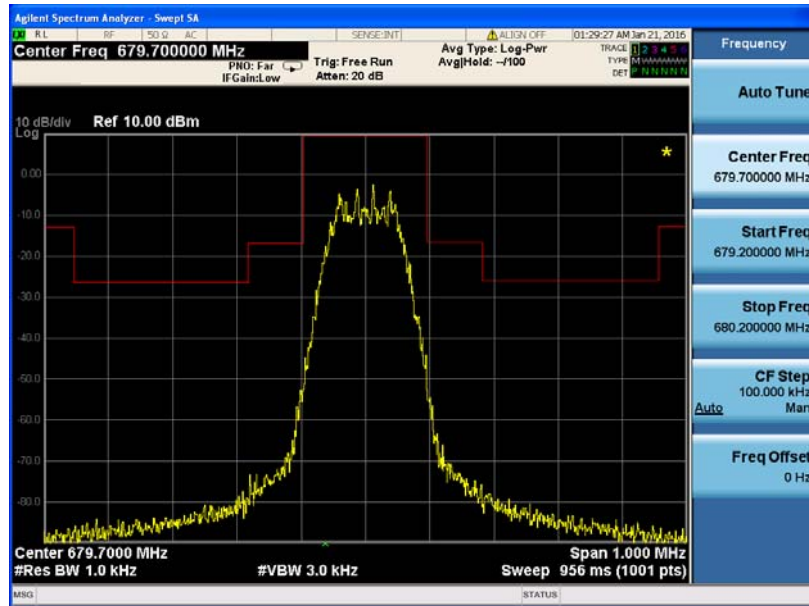
Emission Mask: 695.7MHz



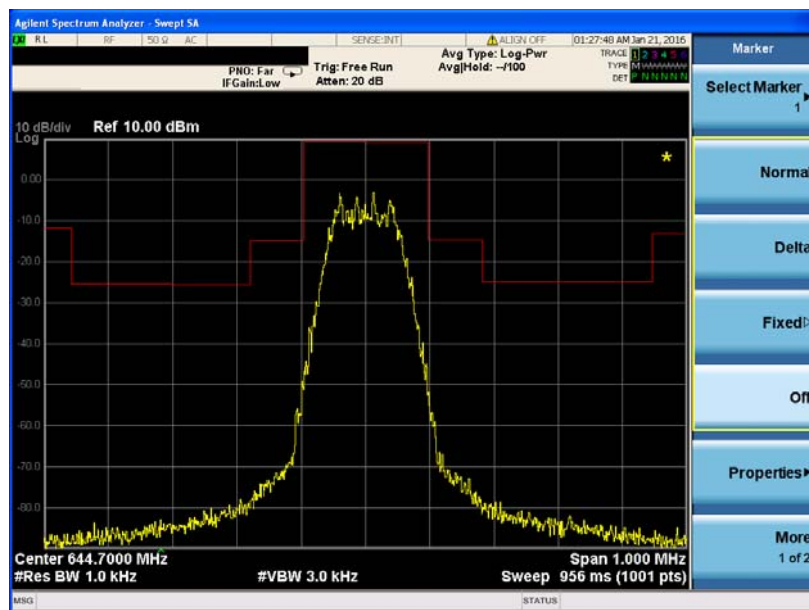
Emission Mask: 660.7MHz



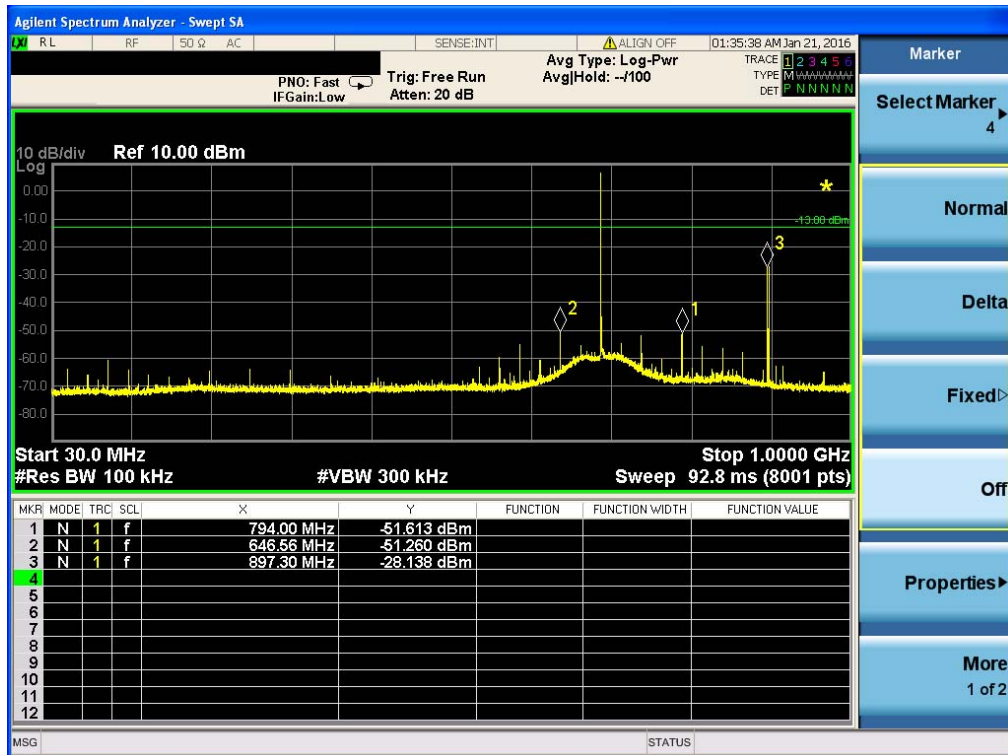
Emission Mask: 679.7MHz



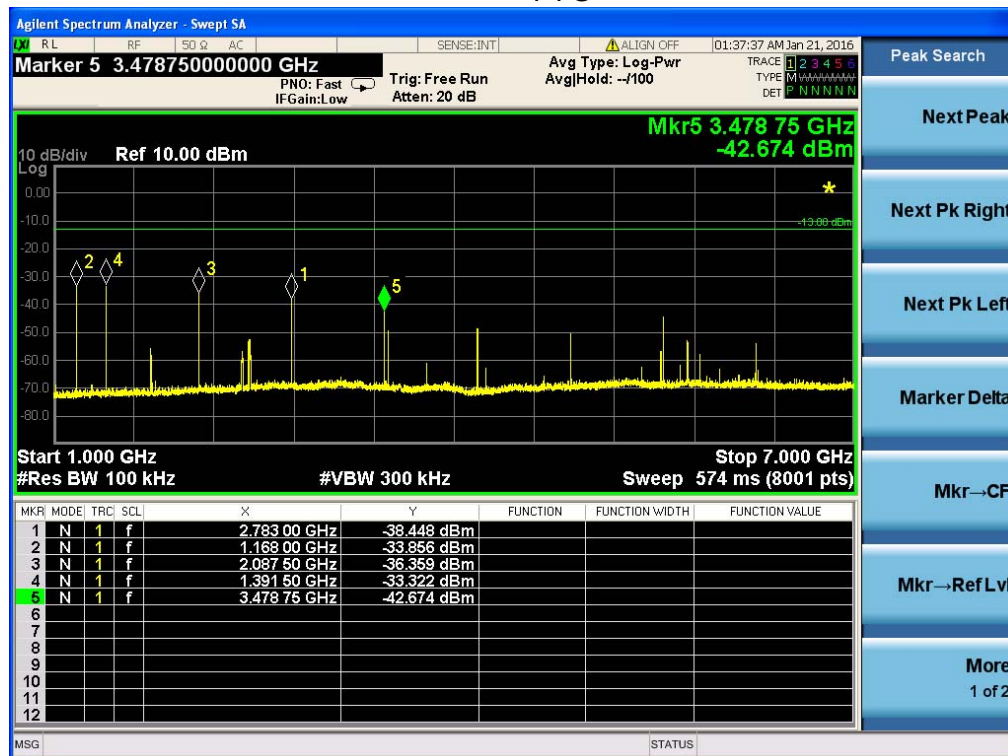
Emission Mask: 644.7MHz



### Conducted Spurious Emissions 695.7MHz 30-1G



### 1-7G









## 8. FREQUENCY STABILITY

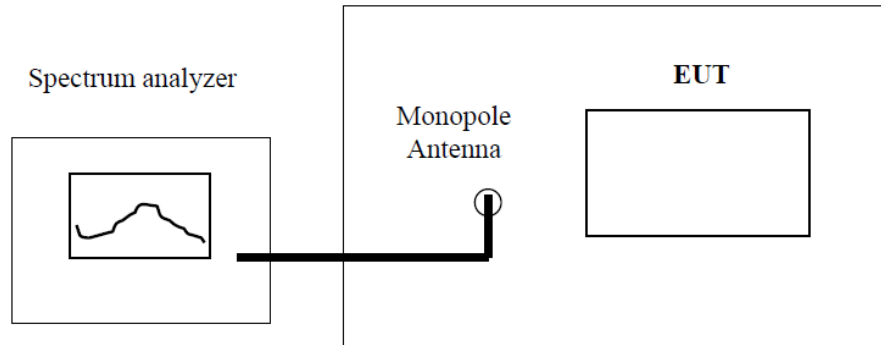
### 8.1 STANDARD REQUIREMENT

Test requirement: FCC CFR47 Part 2 Section 2.1055(a)(a)

Test method: Based on TIA/EIA-603-C-2004

Limit: According to FCC 74.86(e)(4), the frequency tolerance of the transmitter shall be 0.005 percent.

### 8.2 TEST CONFIGURATION



### 8.3 TEST PROCEDURE

#### A) Frequency stability versus input voltage

1. An external variable DC power supply was connected to the battery terminals of the equipment under test.
2. For hand carried , battery powered equipment primary supply voltage was reduced to the battery operating end point as specified by the manufacturer. The output frequency was recorded for each battery voltage.

#### B) Frequency stability versus environmental temperature

1. Setup the configuration per figure 1 for frequencies measured at an environmental chamber, Install new batteries in the EUT.
2. Turn on EUT and set SA center frequency to the EUT operation frequency, then set SA RBW to 30kHz, VBW to 100kHz and frequency span to 500 kHz. Record this frequency to be a reference.
3. Set the temperature of chamber to 50°C. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. While maintaining a constant temperature inside the chamber, turn the EUT on and measure the EUT operating frequency.
4. Repeat step 2 with a 10°C decreased per stage until the lowest temperature -30°C is measured, record all measurement frequencies.

### 8.4 TEST RESULT

a) Frequency stability versus input voltage

Power Supply	Reference Frequency (MHz)	Environment Temperature (°C)	Frequency Measured	Frequency Tolerance (%)
DC 2.4V	695.700	20	695.703	0.0004
DC 3.6V	695.700	20	695.709	0.0013
DC 2.4V	660.700	20	660.711	0.0017
DC 3.6V	660.700	20	660.704	0.0006
DC 2.4V	679.700	20	679.708	0.0012
DC 3.6V	679.700	20	679.707	0.0010
DC 2.4V	644.700	20	644.702	0.0003
DC 3.6V	644.700	20	644.704	0.0006

b) Frequency stability versus environmental temperature  
695.700MHz

Environment Temperature(°C)	Power Supply	Frequency Deviation measured with time Elapse(30 minutes)	
		MHz	%
50	DC 3.0V	695.702	0.0003
40	DC 3.0V	695.706	0.0009
30	DC 3.0V	695.703	0.0004
20	DC 3.0V	695.702	0.0003
10	DC 3.0V	695.704	0.0006
0	DC 3.0V	695.705	0.0007
-10	DC 3.0V	695.707	0.0010
-20	DC 3.0V	695.703	0.0004
-30	DC 3.0V	695.704	0.0006



660.700MHz

Environment Temperature(°C)	Power Supply	Frequency Deviation measured with time Elapse(30 minutes)	
		MHz	%
50	DC 3.0V	660.703	0.0005
40	DC 3.0V	660.709	0.0014
30	DC 3.0V	660.703	0.0005
20	DC 3.0V	660.708	0.0012
10	DC 3.0V	660.703	0.0005
0	DC 3.0V	660.706	0.0009
-10	DC 3.0V	660.704	0.0006
-20	DC 3.0V	660.705	0.0008
-30	DC 3.0V	660.701	0.0002

679.700MHz

Environment Temperature(°C)	Power Supply	Frequency Deviation measured with time Elapse(30 minutes)	
		MHz	%
50	DC 3.0V	679.703	0.0004
40	DC 3.0V	679.705	0.0007
30	DC 3.0V	679.705	0.0007
20	DC 3.0V	679.703	0.0004
10	DC 3.0V	679.701	0.0001
0	DC 3.0V	679.702	0.0003
-10	DC 3.0V	679.708	0.0012
-20	DC 3.0V	679.705	0.0007
-30	DC 3.0V	679.703	0.0004

644.700MHz

Environment Temperature(°C)	Power Supply	Frequency Deviation measured with time Elapse(30 minutes)	
		MHz	%
50	DC 3.0V	644.703	0.0005
40	DC 3.0V	644.701	0.0002
30	DC 3.0V	644.705	0.0008
20	DC 3.0V	644.708	0.0012
10	DC 3.0V	644.709	0.0014
0	DC 3.0V	644.701	0.0002
-10	DC 3.0V	644.706	0.0009
-20	DC 3.0V	644.702	0.0003
-30	DC 3.0V	644.703	0.0005

b) frequency range band edge.

Power Supply	Reference Frequency (MHz)	Environment Temperature (°C)	Frequency Measured	Frequency Tolerance (%)
DC 2.55V	698.00	20	695.709	-0.328
DC 3.45V	698.00	20	695.705	-0.329
DC 2.55V	614.00	20	644.703	5.000
DC 3.45V	614.00	20	644.708	5.001

**9. EUT TEST PHOTO**

