

STS

LAB



## RADIO TEST REPORT

Report No: STS1511159F01

Issued for

MICA ELECTRONIC CORP/DBA VOCOPRO

1728 CURTISS COURT LA VERNE, CA 91750

Product Name:	wireless microphone
Brand Name:	VOCOPRO
Model No.:	UDH-DUAL
Series Model:	N/A
FCC ID:	2AAMDUDHDH
Test Standard:	FCC Part 15.247

Any reproduction of this document must be done in full. No single part of this document may be reproduced without permission from STS. All Test Data Presented in this report is only applicable to presented Test sample.

Shenzhen STS Test Services Co., Ltd.

1/F., Building B, Zhuoke Science Park, No.190,Chongqing Road,  
Fuyong Street, Bao'an District, Shenzhen, Guangdong,China

TEL: +86-755 3688 6288 FAX: +86-755 3688 6277 E-mail:sts@stsapp.com





## TEST RESULT CERTIFICATION

**Applicant's name** ..... MICA ELECTRONIC CORP/DBA VOCOPRO

Address ..... 1728 CURTISS COURT LA VERNE, CA 91750

**Manufacture's Name** ..... ENPING AOBIAO AUDIO CO.,LTD

Address ..... A7, Area 2, Enping Area, Jiangmen Industry Transposition Park, Enping City, Guangdong Province, China

### Product description

Product name ..... wireless microphone

Model and/or type reference ..... UDH-DUAL

Series Model ..... N/A

**Standards** ..... FCC Part15.247

Test procedure ..... ANSI C63.10-2013  
ANSI C63.4-2014

This device described above has been tested by STS, 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.

This report shall not be reproduced except in full, without the written approval of STS, this document may be altered or revised by STS, personal only, and shall be noted in the revision of the document.

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

Date (s) of performance of tests ..... 01 Dec. 2015~08 Dec. 2015

Date of Issue ..... 09 Dec. 2015

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

Testing Engineer : .....

(Jin Ming)

Technical Manager : .....

(Vita Li)



Authorized Signatory : .....

(Bovey Yang)



Table of Contents	Page
<b>1. SUMMARY OF TEST RESULTS</b>	<b>5</b>
1.1 TEST FACTORY	5
1.2 MEASUREMENT UNCERTAINTY	5
<b>2. GENERAL INFORMATION</b>	<b>6</b>
2.1 GENERAL DESCRIPTION OF EUT	6
2.2 DESCRIPTION OF TEST MODES	8
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	8
2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	9
2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS	10
<b>3. EMC EMISSION TEST</b>	<b>11</b>
3.1 CONDUCTED EMISSION MEASUREMENT	11
3.2 TEST PROCEDURE	12
3.3 TEST SETUP	12
3.4 EUT OPERATING CONDITIONS	12
3.5 TEST RESULTS	13
<b>4. RADIATED EMISSION MEASUREMENT</b>	<b>14</b>
4.1 RADIATED EMISSION LIMITS	14
4.2 TEST PROCEDURE	15
4.3 TEST SETUP	16
4.4 EUT OPERATING CONDITIONS	17
4.5 TEST RESULTS	17
<b>5. CONDUCTED SPURIOUS EMISSIONS</b>	<b>21</b>
5.1 REQUIREMENT	21
5.2 TEST PROCEDURE	21
5.3 TEST SETUP	21
5.4 EUT OPERATION CONDITIONS	21
5.5 TEST RESULTS	22
<b>6. POWER SPECTRAL DENSITY TEST</b>	<b>25</b>
6.1 APPLIED PROCEDURES / LIMIT	25
6.2 TEST PROCEDURE	25
6.3 TEST SETUP	25
6.4 EUT OPERATION CONDITIONS	25
6.5 TEST RESULTS	26



Table of Contents	Page
<b>7. BANDWIDTH TEST</b>	<b>28</b>
<b>7.1 APPLIED PROCEDURES / LIMIT</b>	<b>28</b>
<b>7.2 TEST PROCEDURE</b>	<b>28</b>
<b>7.3 TEST SETUP</b>	<b>28</b>
<b>7.4 EUT OPERATION CONDITIONS</b>	<b>28</b>
<b>7.5 TEST RESULTS</b>	<b>29</b>
<b>8. PEAK OUTPUT POWER TEST</b>	<b>31</b>
<b>8.1 APPLIED PROCEDURES / LIMIT</b>	<b>31</b>
<b>8.2 TEST PROCEDURE</b>	<b>31</b>
<b>8.3 TEST SETUP</b>	<b>31</b>
<b>8.4 EUT OPERATION CONDITIONS</b>	<b>31</b>
<b>8.5 TEST RESULTS</b>	<b>32</b>
<b>9. ANTENNA REQUIREMENT</b>	<b>33</b>
<b>9.1 STANDARD REQUIREMENT</b>	<b>33</b>
<b>9.2 EUT ANTENNA</b>	<b>33</b>
<b>10. EUT TEST PHOTO</b>	<b>34</b>



## 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	N/A	--
15.247 (a)(2)	6dB Bandwidth	PASS	--
15.247 (b)	Peak Output Power	PASS	--
15.247 (c)	Radiated Spurious Emission	PASS	--
15.247 (d)	Power Spectral Density	PASS	--
15.205	Band Edge Emission	PASS	--
15.203	Antenna Requirement	PASS	--

### NOTE:

(1)" N/A" denotes test is not applicable in this Test Report  
(2) All test are according to ANSI C63.10-2013 and ANSI C63.4-2014

### 1.1 TEST FACTORY

Shenzhen STS Test Services Co., Ltd.  
Add. : 1/F., Building B, Zhuoke Science Park, No.190,Chongqing Road,  
Fuyong Street, Bao'an District, Shenzhen, Guangdong,China  
CNAS Registration No.: L7649;

FCC Registration No.: 842334; IC Registration No.: 12108A-1

### 1.2 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 %.

No.	Item	Uncertainty
1	Conducted Emission (9KHz-150KHz)	$\pm 2.88\text{dB}$
2	Conducted Emission (150KHz-30MHz)	$\pm 2.67\text{dB}$
3	RF power,conducted	$\pm 0.70\text{dB}$
4	Spurious emissions,conducted	$\pm 1.19\text{dB}$
5	All emissions,radiated(<1G) 30MHz-200MHz	$\pm 2.83\text{dB}$
6	All emissions,radiated(<1G) 200MHz-1000MHz	$\pm 2.94\text{dB}$
7	All emissions,radiated(>1G)	$\pm 3.03\text{dB}$
8	Temperature	$\pm 0.5^\circ\text{C}$
9	Humidity	$\pm 2\%$



## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

Equipment	wireless microphone	
Trade Name	VOCOPRO	
Model Name	UDH-DUAL	
Series Model	N/A	
Model Difference	N/A	
Product Description	The EUT is a wireless microphone	
	Operation Frequency:	902.10~925.20 MHz
	Modulation Type:	GFSK
	Number Of Channel	43
	Antenna Designation:	Please see Note 3.
	Antenna Gain (dBi)	2 dbi
Channel List	Please refer to the Note 2.	
Battery	Rated Voltage: 3V	
Hardware version number	N/A	
Software versioning number	N/A	
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 List							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	902.10	19	912.00	37	921.90	--	--
02	902.65	20	912.55	38	922.45	--	--
03	903.20	21	913.10	39	923.00	--	--
04	903.75	22	913.65	40	923.55	--	--
05	904.30	23	914.20	41	924.10	--	--
06	904.85	24	914.75	42	924.65	--	--
07	905.40	25	915.30	43	925.20	--	--
08	905.95	26	915.85	--	--	--	--
09	906.50	27	916.40	--	--	--	--
10	907.05	28	916.95	--	--	--	--
11	907.60	29	917.50	--	--	--	--
12	908.15	30	918.05	--	--	--	--
13	908.70	31	918.60	--	--	--	--
14	909.25	32	919.15	--	--	--	--
15	909.80	33	919.70	--	--	--	--
16	910.35	34	920.25	--	--	--	--
17	910.90	35	920.80	--	--	--	--
18	911.45	36	921.35	--	--	--	--

3.

Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
A	VOCOPRO	UDH-DUAL	Built in Antenna	N/A	2	ANT



## 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	TX CH01/CH35/CH43

For Radiated Emission	
Final Test Mode	Description
Mode 1	TX CH01/CH35/CH43

Note:

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported
- (3) We have be tested for all avaiable U.S. voltage and frequencies(For 120V,50/60Hz) for which the device is capable of operation.
- (4) New battery is used for battery operating aquipment.

## 2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED





## 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	Mfr/Brand	Model/Type No.	Serial No.	Note
E-1	wireless microphone	VOCOPRO	UDH-DUAL	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note
N/A	N/A	N/A	N/A	N/A

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

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Spectrum Analyzer	Agilent	E4407B	MY50140340	2015.10.25	2016.10.24
Test Receiver	R&S	ESCI	101427	2015.10.25	2016.10.24
Bilog Antenna	TESEQ	CBL6111D	34678	2015.11.25	2016.11.24
Horn Antenna	Schwarzbeck	BBHA 9120D(1201)	9120D-1343	2015.03.06	2016.03.05
50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2015.06.06	2016.06.05
PreAmplifier	Agilent	8449B	60538	2015.10.25	2016.10.24
Loop Antenna	ARA	PLA-1030/B	1029	2015.06.08	2016.06.07

## Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESPI	102086	2015.11.20	2016.11.19
LISN	R&S	ENV216	101242	2015.10.25	2016.10.24
LISN	EMCO	3810/2NM	000-23625	2015.10.25	2016.10.24

## RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
USB RF power sensor	DARE	RPR3006W	15I00041SNO03	2015.10.25	2016.10.24
Spectrum Analyzer	Agilent	E4407B	MY50140340	2015.10.25	2016.10.24
Signal Analyzer	Agilent	N9020A	MY49100060	2015.11.18	2016.11.17



### 3. EMC EMISSION TEST

#### 3.1 CONDUCTED EMISSION MEASUREMENT

##### 3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

operating frequency band. In case the emission fall within the restricted band specified on Part 15.247&207(a) limit in the table below has to be followed.

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

0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	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.

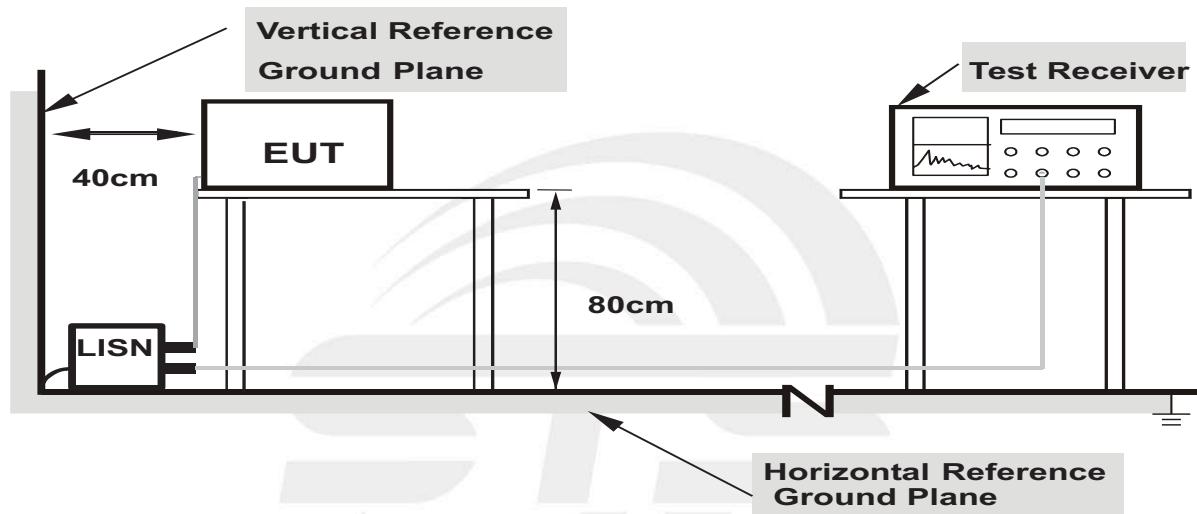
The following table is the setting of the receiver

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

### 3.2 TEST PROCEDURE

- a. The EUT was placed 0.4 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.

### 3.3 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 cm from other units and other metal planes

### 3.4 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.



## 3.5 TEST RESULTS

EUT :	wireless microphone	Model Name. :	UDH-DUAL
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	L/N
Test Voltage :	DC 3V	Test Mode :	N/A

**Note: N/A – The EUT from DC power.**





## 4. RADIATED EMISSION MEASUREMENT

### 4.1 RADIATED EMISSION LIMITS

6dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on Part 15.247&205(a), then the Part15.247&209(a) limit in the table below has to be followed.

#### LIMITS OF RADIATED EMISSION MEASUREMENT (Frequency Range 9kHz-1000MHz)

Frequencies (MHz)	Field Strength (micorvolts/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

#### LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak
Start Frequency	1000 MHz(Peak/AV)
Stop Frequency	10th carrier harmonic(Peak/AV)
RB / VB (emission in restricted band)	1 MHz / 3 MHz for peak 1 MHz / 10 Hz for average

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

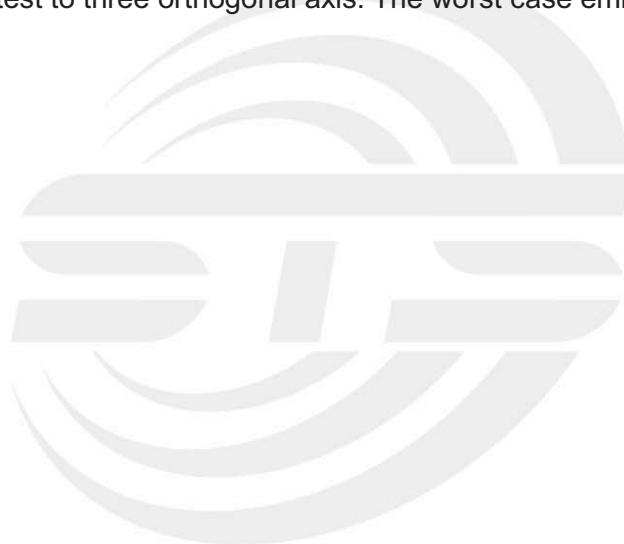


#### 4.2 TEST PROCEDURE

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters(above 1GHz is 1.5 m) above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m(above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

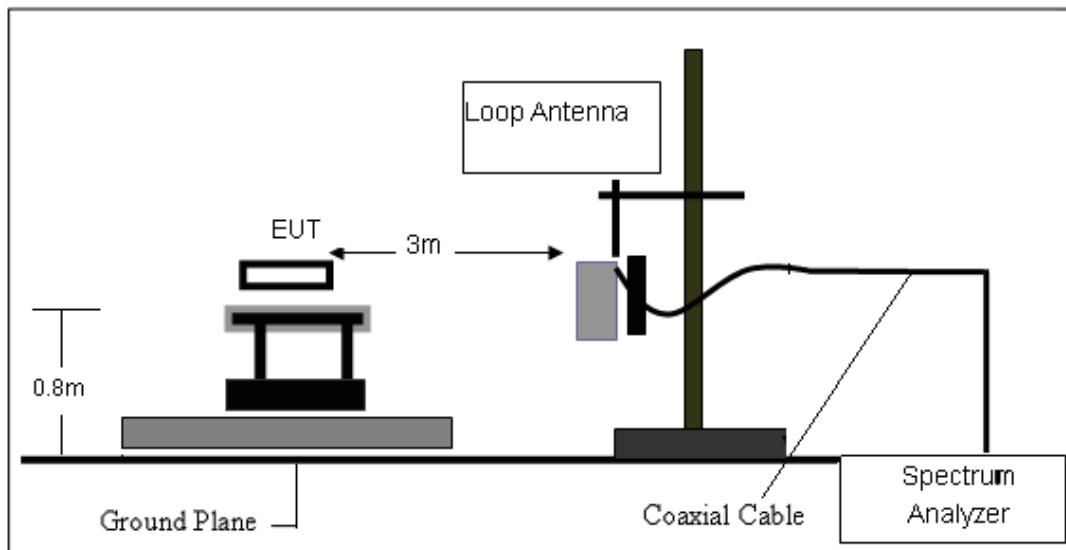
Note:

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

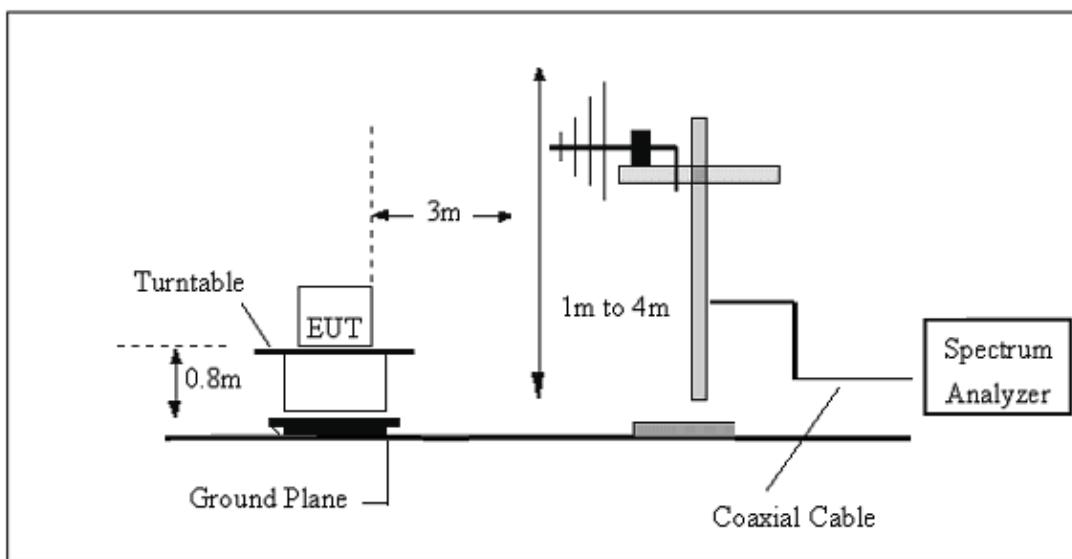


#### 4.3 TEST SETUP

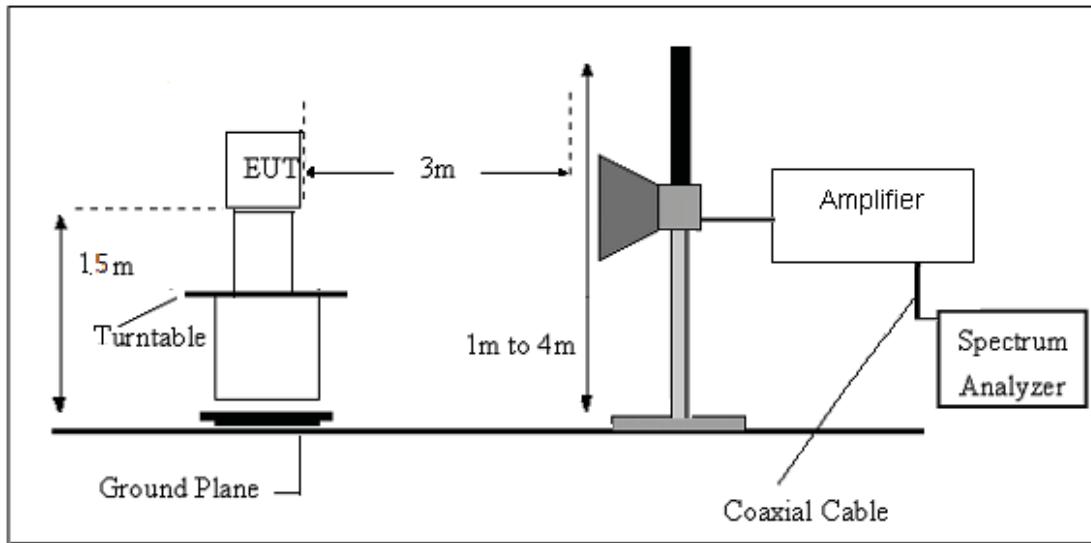
##### (A) Radiated Emission Test-Up Frequency Below 30MHz



##### (B) Radiated Emission Test-Up Frequency 30MHz~1GHz



##### (C) Radiated Emission Test-Up Frequency Above 1GHz





#### 4.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

#### 4.5 TEST RESULTS

(Between 9KHz – 30 MHz)

EUT:	wireless microphone	Model Name. :	UDH-DUAL
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3V
Test Mode :	N/A	Polarization :	--

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

#### 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.



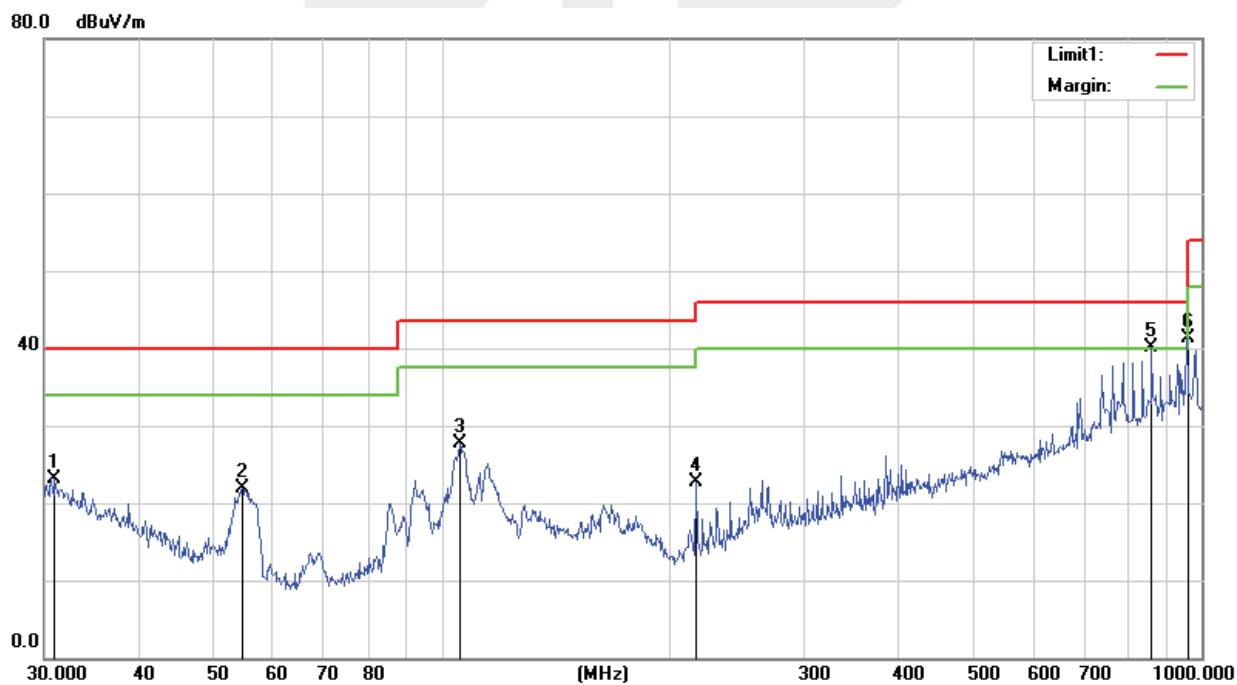
Between 30-1000MHz

EUT :	wireless microphone	Model Name. :	UDH-DUAL
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	Horizontal
Test Voltage :	DC 3V	Test Mode :	Mode 1

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
30.9618	4.83	18.22	23.05	40.00	-16.95	QP
54.6428	15.43	6.38	21.81	40.00	-18.19	QP
105.6414	16.54	11.23	27.77	43.50	-15.73	QP
216.0240	12.65	10.09	22.74	46.00	-23.26	QP
860.0352	13.53	26.62	40.15	46.00	-5.85	QP
960.0000	12.70	28.66	41.36	46.00	-4.64	QP

Remark:

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



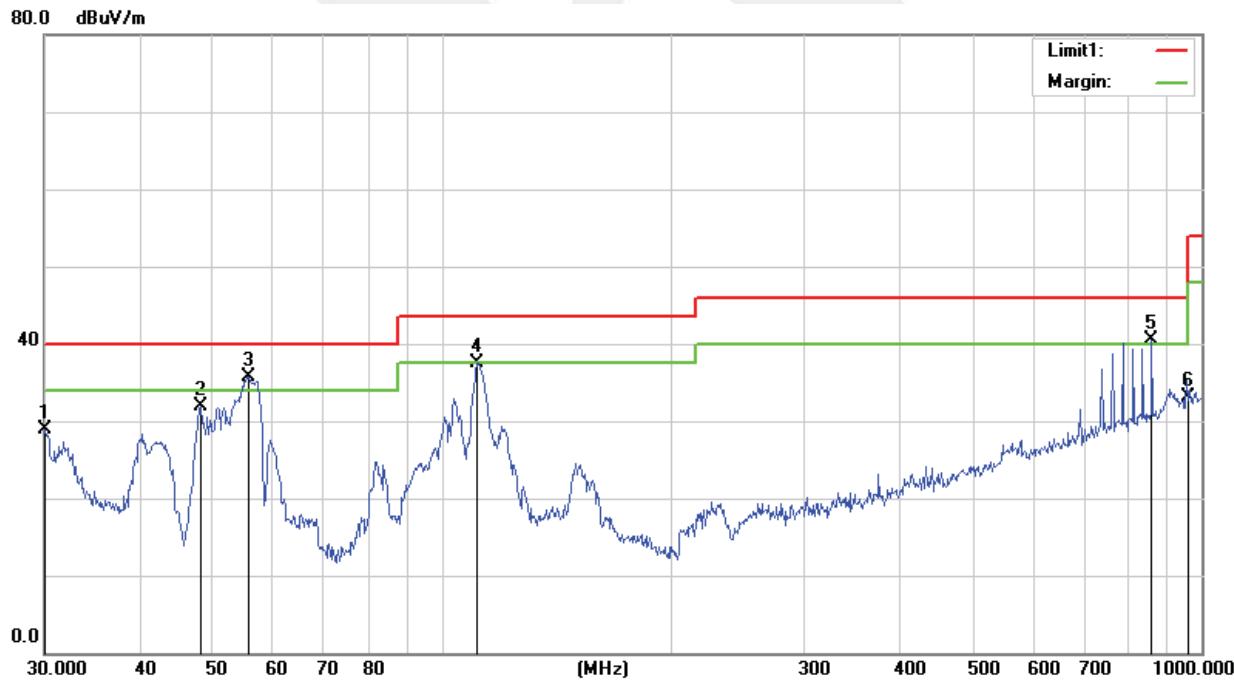


EUT :	wireless microphone	Model Name. :	UDH-DUAL
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	Vertical
Test Voltage :	DC 3V	Test Mode :	Mode 1

Frequency	Reading	Correct	Result	Limit	Margin	Remark
(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
30.1051	10.22	18.65	28.87	40.00	-11.13	QP
48.1625	22.75	9.07	31.82	40.00	-8.18	QP
55.6094	29.59	6.08	35.67	40.00	-4.33	QP
111.3468	25.72	11.87	37.59	43.50	-5.91	QP
860.0352	13.91	26.62	40.53	46.00	-5.47	QP
960.0000	4.44	28.66	33.10	46.00	-12.90	QP

## Remark:

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





Above 1000 MHz

EUT :	wireless microphone	Model Name :	UDH-DUAL
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 3V

Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
Low Channel (GFSK/902.10 MHz)							
1804.40	67.12	-13.80	53.32	74	-20.68	PK	Vertical
1804.40	48.12	-13.80	34.32	54	-19.68	AV	Vertical
2706.63	63.13	-10.80	52.33	74	-21.67	PK	Vertical
2706.62	42.45	-10.80	31.65	54	-22.35	AV	Vertical
1804.40	63.13	-13.80	49.33	74	-24.67	PK	Horizontal
1804.49	45.22	-13.80	31.42	54	-22.58	AV	Horizontal
Mid Channel (GFSK/920.80 MHz)							
1841.89	66.12	-13.80	52.32	74	-21.68	PK	Vertical
1841.87	50.14	-13.80	36.34	54	-17.66	AV	Vertical
2762.71	62.12	-10.80	51.32	74	-22.68	PK	Vertical
2706.71	45.21	-10.80	34.41	54	-19.59	AV	Vertical
1841.88	62.42	-13.80	48.62	74	-25.38	PK	Horizontal
1841.85	46.12	-13.80	32.32	54	-21.68	AV	Horizontal
High Channel (GFSK/925.20 MHz)							
1850.46	62.22	-13.80	48.42	74	-25.58	PK	Vertical
1850.41	46.41	-13.80	32.61	54	-21.39	AV	Vertical
2775.66	62.22	-10.80	51.42	74	-22.58	PK	Vertical
2775.61	46.41	-10.80	35.61	54	-18.39	AV	Vertical
1850.43	62.22	-13.80	48.42	74	-25.58	PK	Horizontal
1850.41	46.41	-13.80	32.61	54	-21.39	AV	Horizontal

Remark:

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

## 5. CONDUCTED SPURIOUS EMISSIONS

### 5.1 REQUIREMENT

According to FCC section 15.247(d), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

### 5.2 TEST PROCEDURE

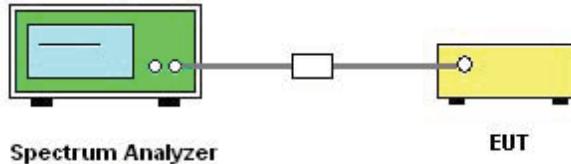
According to FCC section 15.247(d), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	30 MHz to 10th carrier harmonic
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

For Band edge

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	Lower Band Edge: 850 – 902 MHz Upper Band Edge: 923 – 950 MHz
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

### 5.3 TEST SETUP



The EUT which is powered by the Battery, is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. Make the measurement with the spectrum analyzer's resolution bandwidth(RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW.

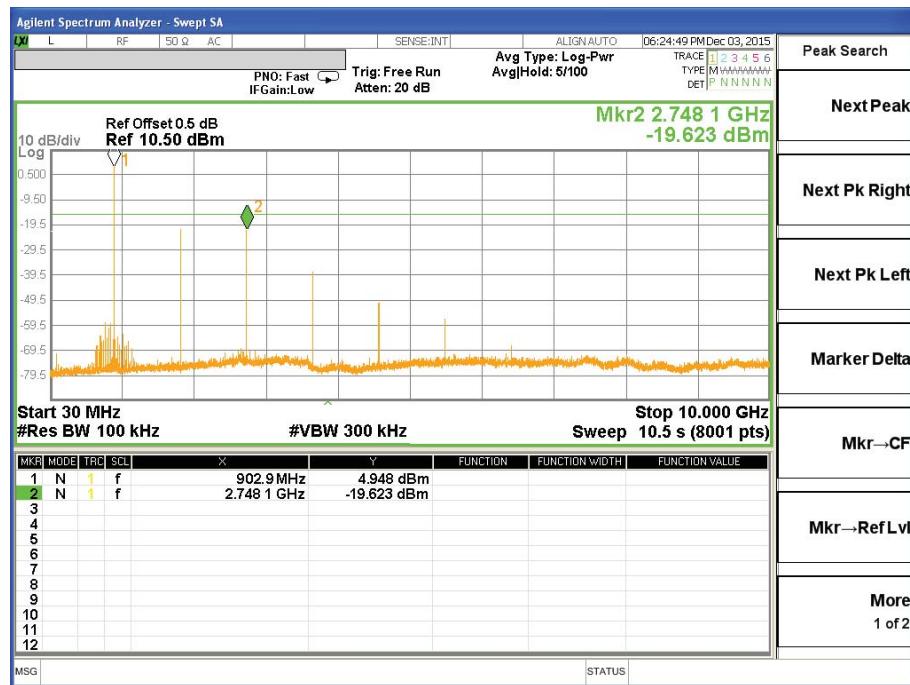
### 5.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

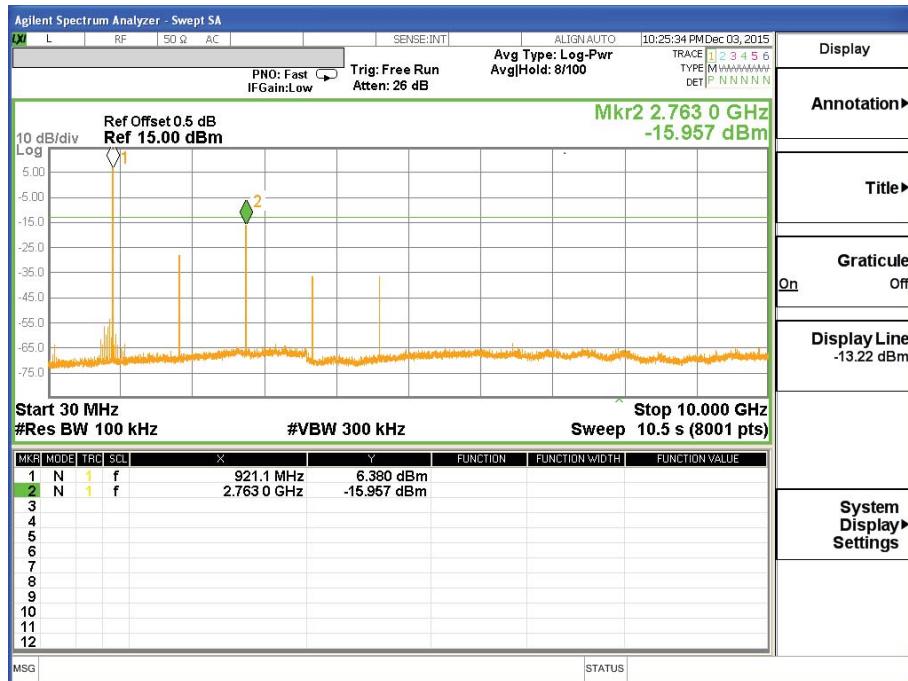
## 5.5 TEST RESULTS

EUT :	wireless microphone	Model Name :	UDH-DUAL
Temperature :	25 °C	Relative Humidity :	50%
Pressure :	1012 hPa	Test Voltage :	DC 3V
Test Mode :	TX Mode /CH01, CH35, CH43		

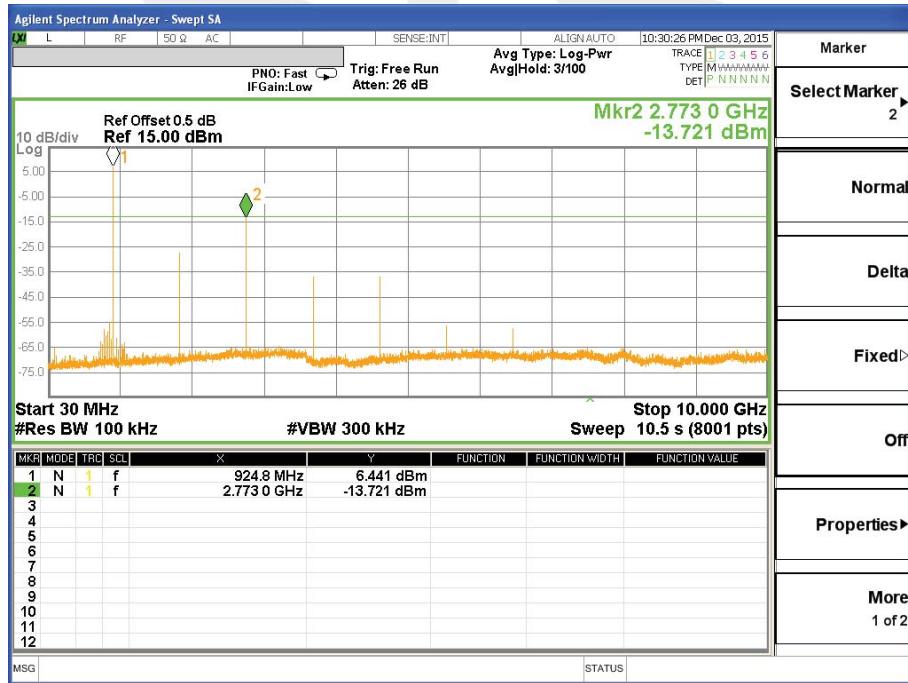
01 CH



35 CH



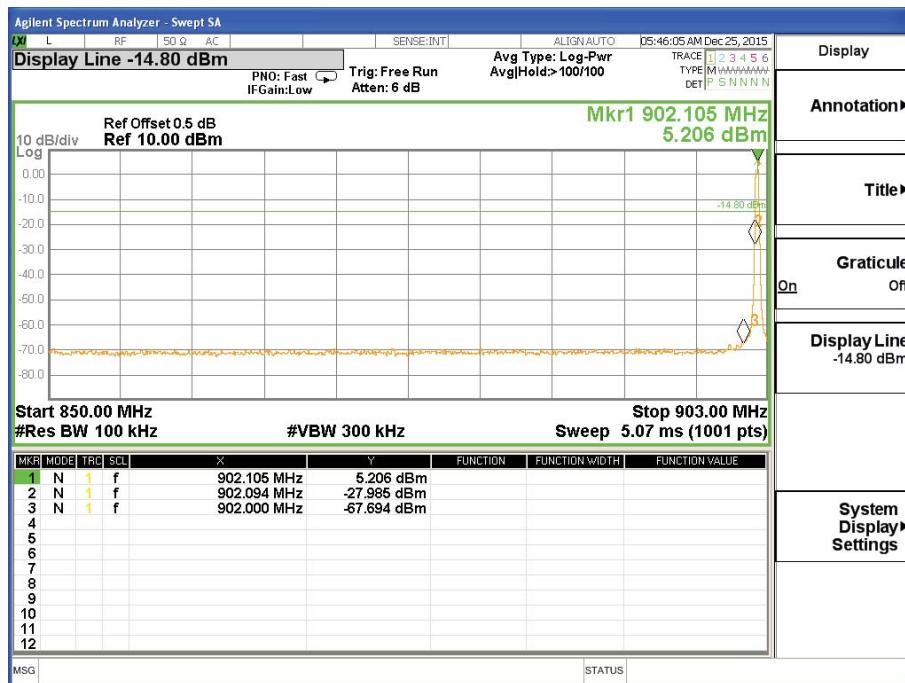
43 CH



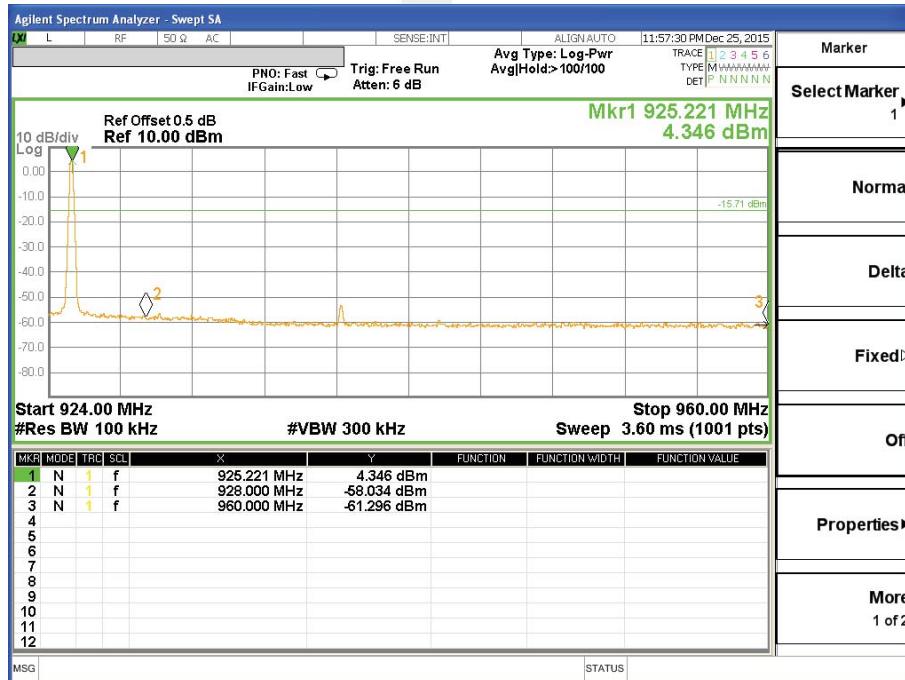


For Band edge

## 01 CH



## 43 CH





## 6. POWER SPECTRAL DENSITY TEST

### 6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8 dBm (in any 3KHz)	902.10-925.20	PASS

### 6.2 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the RBW to:  $100 \text{ kHz} \geq \text{RBW} \geq 3 \text{ kHz}$ .
4. Set the VBW  $\geq 3 \times \text{RBW}$ .
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

### 6.3 TEST SETUP



### 6.4 EUT OPERATION CONDITIONS

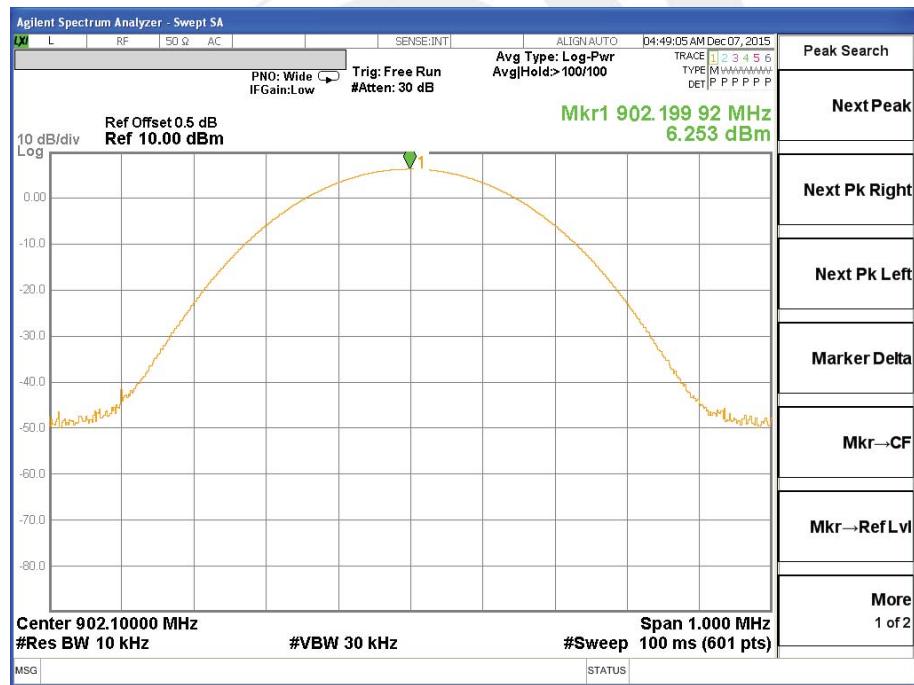
The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

## 6.5 TEST RESULTS

EUT :	wireless microphone	Model Name :	UDH-DUAL
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1015 hPa	Test Voltage :	DC 3V
Test Mode :	TX Mode /CH01, CH35, CH43		

Frequency	Power Density (dBm)	Limit (dBm)	Result
902.10 MHz	6.253	8	PASS
920.80 MHz	5.655	8	PASS
925.20 MHz	5.954	8	PASS

### TX CH01





## TX CH35



## TX CH43





## 7. BANDWIDTH TEST

### 7.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	>= 500KHz (6dB bandwidth)	902.10-925.20	PASS

### 7.2 TEST PROCEDURE

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz,  $VBW \geq 3RBW$ , peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be  $\geq 6$  dB.

### 7.3 TEST SETUP



### 7.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

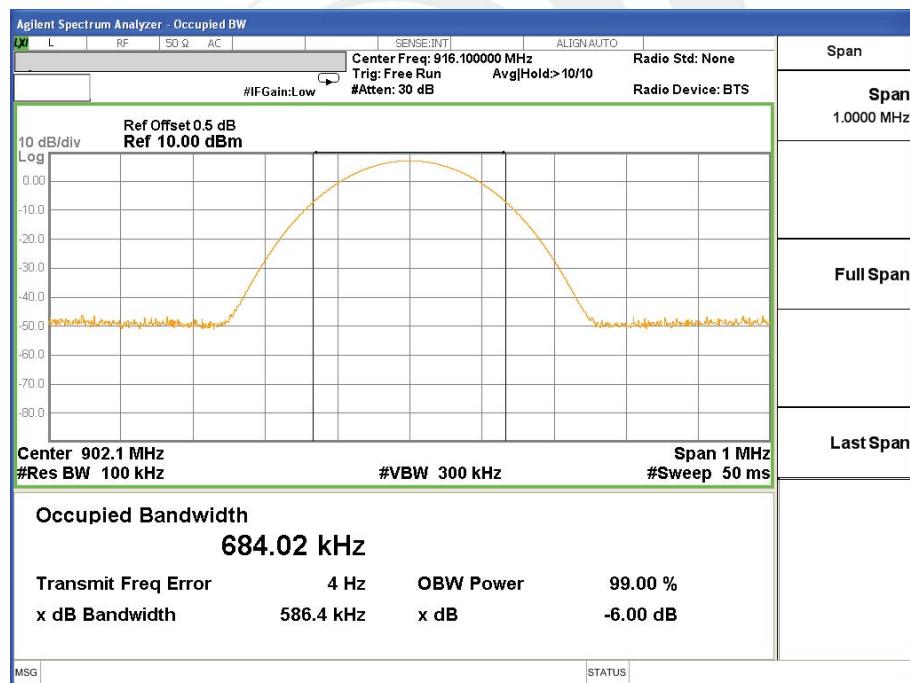
## 7.5 TEST RESULTS

EUT :	wireless microphone	Model Name :	UDH-DUAL
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 3V
Test Mode :	TX Mode /CH01, CH35, CH43		

Frequency	6dB Bandwidth (MHz)	Channel Separation (MHz)	Result
902.10 MHz	0.586	>=500KHz	PASS
920.80 MHz	0.591	>=500KHz	PASS
925.20 MHz	0.601	>=500KHz	PASS

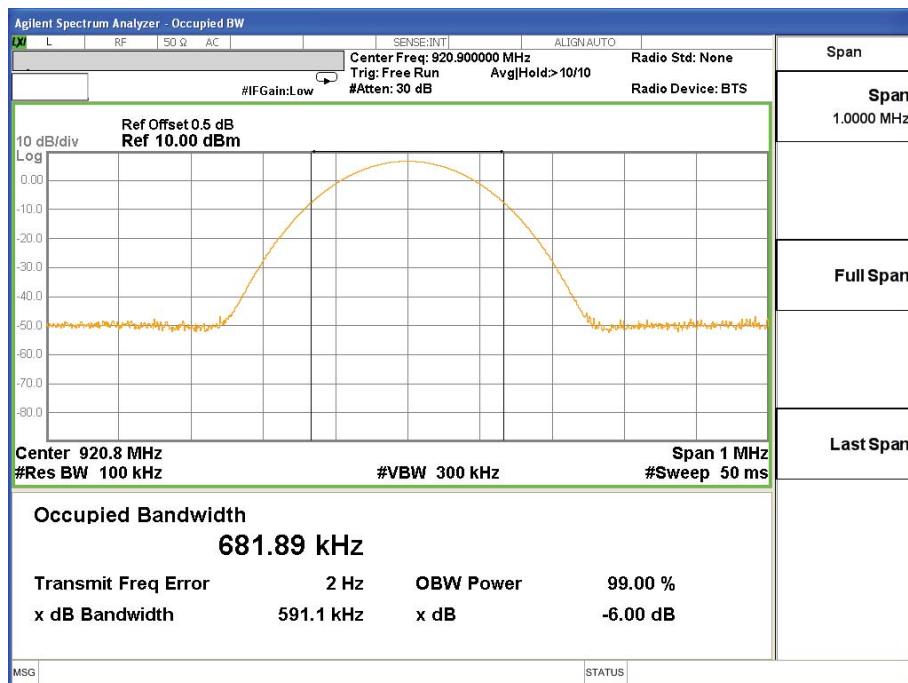
REMARK: PEAK DETECTOR IS USED

### TX CH 01

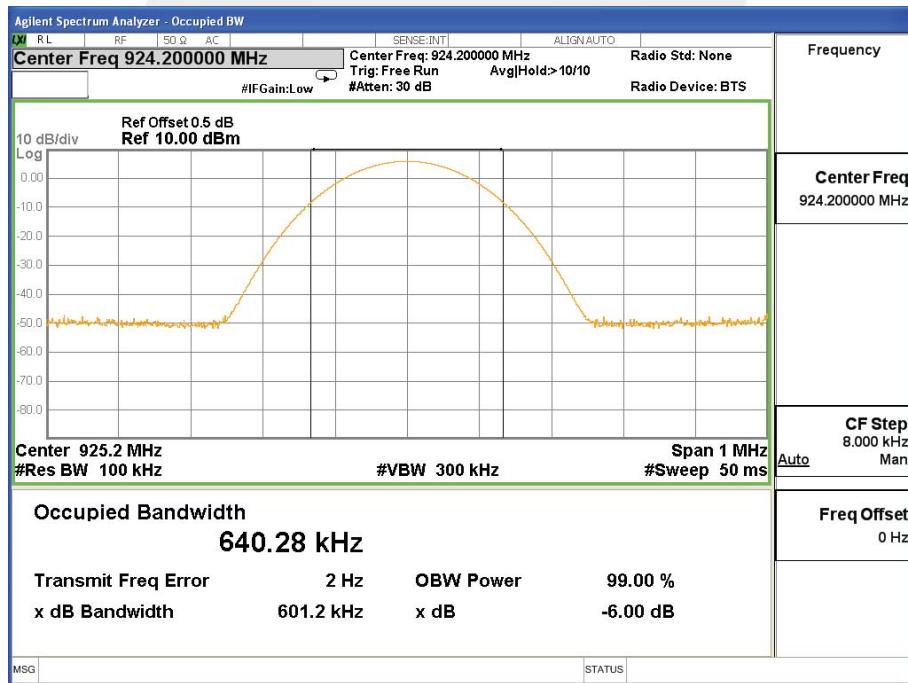




## TX CH 35



## TX CH 43





## 8. PEAK OUTPUT POWER TEST

### 8.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Peak Output Power	1 watt or 30dBm	902.10-925.20	PASS

### 8.2 TEST PROCEDURE

- The EUT was directly connected to the Power Sensor&PC

### 8.3 TEST SETUP



### 8.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



## 8.5 TEST RESULTS

EUT :	wireless microphone	Model Name :	UDH-DUAL
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 3V
Test Mode :	TX Mode /CH01, CH35, CH43		

TX Mode			
Test Channel	Frequency	Peak Conducted Output Power	LIMIT
	(MHz)	(dBm)	dBm
CH01	902.10	6.968	30
CH35	920.80	6.600	30
CH43	925.20	6.805	30



## 9. ANTENNA REQUIREMENT

### 9.1 STANDARD REQUIREMENT

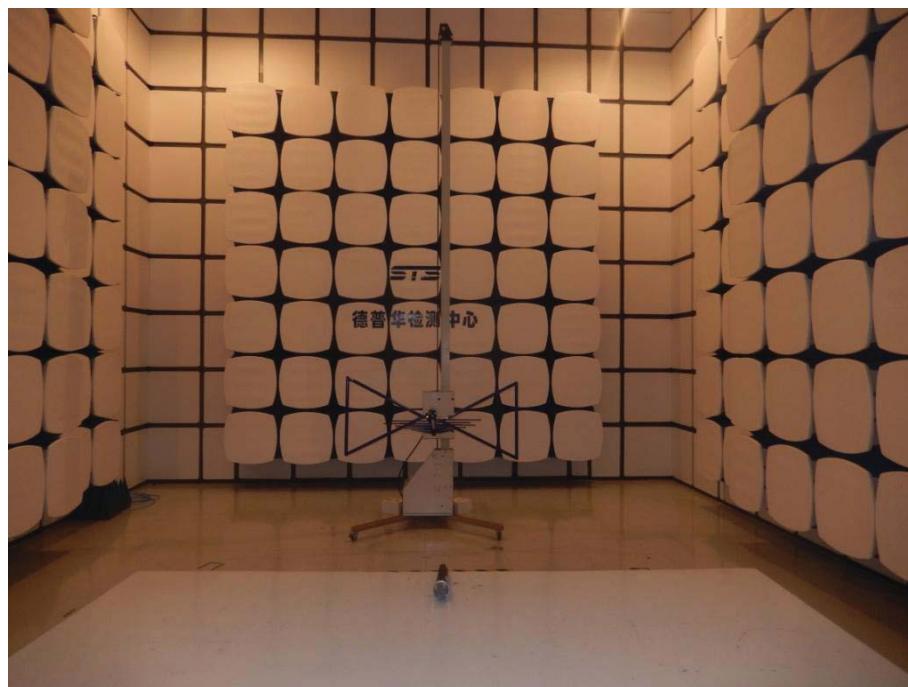
15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

### 9.2 EUT ANTENNA

The EUT antenna is Built in Antenna. It comply with the standard requirement.



## 10. EUT TEST PHOTO

**Radiated Measurement Photos**

\* \* \* \* \* END OF THE REPORT \* \* \* \* \*