

**ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
INTENTIONAL RADIATOR CERTIFICATION TO
FCC PART 15 SUBPART C
REQUIREMENT T**

OF

Body feeling headphone

MODEL No.: KOR-FX

Trademark: N/A

FCC ID: 2ACWT-KOR-FX

REPORT NO: ES140805048E

ISSUE DATE: August 26, 2014

Prepared for
Shenzhen WEKUL Electronic Limited Company

**Room 1201, West Tower, Nanshan Digital Culture Industry Base,
Shenzhen, China**

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VERIFICATION OF COMPLIANCE

Applicant:	Shenzhen WEKUL Electronic Limited Company Room 1201, West Tower, Nanshan Digital Culture Industry Base, Shenzhen, China
Manufacturer:	Shenzhen WEKUL Electronic Limited Company Room 1201, West Tower, Nanshan Digital Culture Industry Base, Shenzhen, China
Product Description:	Body feeling headphone
Model Number:	KOR-FX
Date of Test:	August 5, 2014 to August 26, 2014

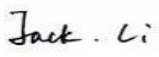
We hereby certify that:

The above equipment was tested by SHENZHEN EMTEK 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 C63.4 (2009) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.249.

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

Date of Test : August 5, 2014 to August 26, 2014

Prepared by : 
Joe Xia/Editor

Reviewer : 
Jack Li /Supervisor

Approve & Authorized Signer : 
Lisa Wang/Manager

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1. GENERAL INFORMATION

1.1. Product Description

Shenzhen WEKUL Electronic Limited Company

Model: Body feeling headphone (referred to as the EUT in this report) KOR-FX, It is designed by way of utilizing the GFSK modulation achieves the system operating.

A major technical descriptions of EUT is described as following:

- A). Operation Frequency: 2402MHz~2480MHz
- B). Modulation: FSK/GFSK
- C). Number of Channels: 158
- D). Channel space: 500KHz
- E). Antenna Type: PCB antenna
- F). Antenna Gain: -1dBi
- G). Power Supply: 6.0V DC(Supplied by 4*1.5V AAA Battery) or DC 5V from USB Port

1.2. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: 2ACWT-KOR-FX filing to comply with Section 15.249 of the FCC Part 15, Subpart C Rules.

1.3. Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2009). Radiated testing was performed at an antenna to EUT distance 3 meters.

1.4. Special Accessories

Not available for this EUT intended for grant.

1.5. Equipment Modifications

Not available for this EUT intended for grant.

1.6. Measurement Uncertainty

Measurement Type	Range	Confidence Level (%)	Calculated Uncertainty
AC Conducted Spurious Emissions	0.15 MHz to 30 MHz	95%	±3.00dB
Fundamental Fieldstrength	Not Applicable	95%	±2.94dB
Transmitter 20 dB Bandwidth	Not Applicable	95%	±0.92PPm
Radiated Spurious Emissions	30 MHz to 40 GHz	95%	±3.00dB

1.7. Test Facility

Site Description
 EMC Lab.

: Accredited by CNAS, 2010.10.29
 The certificate is valid until 2013.10.28
 The Laboratory has been assessed and proved to be in compliance with CNAS/CL01:2006(identical to ISO/IEC17025: 2005)
 The Certificate Registration Number is L2291

Accredited by TUV Rheinland Shenzhen 2010.5.25
 The Laboratory has been assessed according to the requirements ISO/IEC 17025

Accredited by FCC, October 28, 2010
 The Certificate Registration Number is 406365.

Accredited by Industry Canada, March 5, 2010
 The Certificate Registration Number is 46405-4480.

Name of Firm
 Site Location

: SHENZHEN EMTEK CO., LTD
 : Bldg 69, Majialong Industry Zone,
 Nanshan District, Shenzhen, Guangdong, China

2. SYSTEM TEST CONFIGURATION

2.1. EUT Configuration

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

2.2. EUT Exercise

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

2.3. Test Procedure

2.3.1 Conducted Emissions

The EUT is placed on a turn table which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4-2009 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and average detector mode.

2.3.2 Radiated Emissions

The EUT is placed on a turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. Emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4-2009.

2.4. Description of test modes

The EUT (Body feeling headphone) has been tested under normal operating condition. Pre-scanned tests, X, Y, Z in the three orthogonal panels, were conducted to determine the final configuration from all possible combinations. Let EUT transmit with highest power, and the worst result was reported with modulation GFSK. The 3 channels of lower, medium and higher were chosen for test.

Pretest Mode	Description
Mode 1	Low – 2402MHz
Mode 2	Middle – 2441MHz
Mode 3	High -2480MHz

For Conducted Test	
Final Test Mode	Description
ON	test under normal operating condition

For Radiated Test	
Mode 1	Low – 2402MHz
Mode 2	Middle – 2441MHz
Mode 3	High -2480MHz

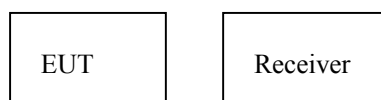
3. SUMMARY OF TEST RESULTS

FCC Part15, Subpart C (15.249)&Canada RSS-Gen:2010		
Standard Section	Test Item	Result
FCC		
15.207	Conducted Emission	Pass
15.209	Radiated Emission	Pass
15.249	Radiated Spurious Emission	Pass
15.249	Band edge test	Pass
15.249	20dB Bandwidth	Pass

Note: (1) "N/A" denotes test is not applicable in this test report.

3.1. CONFIGURATION OF TESTED SYSTEM

Fig. 2-1 Configuration of Tested System



3.2. DESCRIPTION OF SUPPORT UNITS

Equipment	Mfr/Brand	Model/Type No.	FCC ID / IC	Series No.	Note
Body feeling headphone	N/A	KOR-FX	2ACWT-KOR-FX	N/A	EUT

4. CONDUCTED EMISSIONS TEST

4.1. Measurement Procedure:

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured was complete.

4.2. Test SET-UP (Block Diagram of Configuration)

4.3. Measurement Equipment Used:

Conducted Emission Test Site # 1					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Test Receiver	Rohde & Schwarz	ESCS30	828985/018	05/17/2014	05/16/2015
L.I.S.N	Rohde & Schwarz	ESH2-Z5	834549/005	05/17/2014	05/16/2015
L.I.S.N	Rohde & Schwarz	ENV216	834549/005	05/17/2014	05/16/2015
50ΩCoaxial Switch	Anritsu	MP59B	M20531	05/17/2014	05/16/2015

4.4. Conducted Emission Limit

(7) Conducted Emission

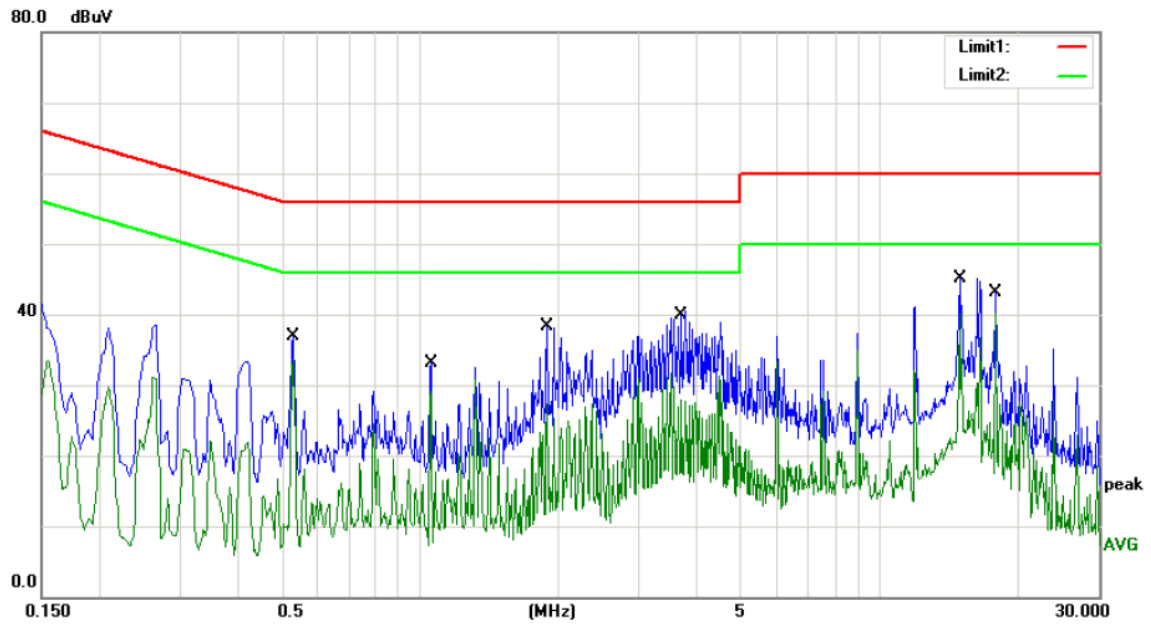
Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note:

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

4.5. Measurement Result:

Pass



Site Conduction #1

Phase: **L1**

Temperature: 26

Limit: (CE)FCC PART 15 class B_QP

Power: AC 120V/60Hz

Humidity: 60 %

EUT: Body feeling headphones

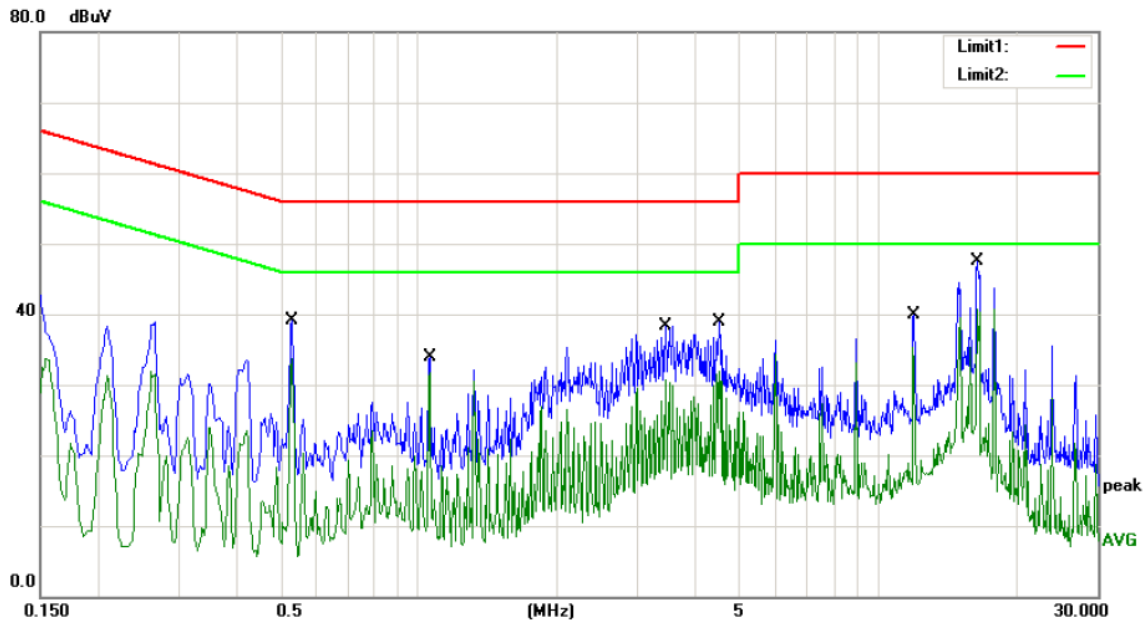
M/N: KOR-FX

Mode: ON

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.5300	36.83	0.00	36.83	56.00	-19.17	QP	
2		0.5300	33.66	0.00	33.66	46.00	-12.34	AVG	
3		1.0580	33.01	0.00	33.01	56.00	-22.99	QP	
4		1.0580	29.12	0.00	29.12	46.00	-16.88	AVG	
5		1.8900	38.21	0.00	38.21	56.00	-17.79	QP	
6		1.8900	27.26	0.00	27.26	46.00	-18.74	AVG	
7		3.7140	39.84	0.00	39.84	56.00	-16.16	QP	
8		3.7140	31.66	0.00	31.66	46.00	-14.34	AVG	
9		14.9140	45.11	0.00	45.11	60.00	-14.89	QP	
10	*	14.9140	40.15	0.00	40.15	50.00	-9.85	AVG	
11		17.8940	43.16	0.00	43.16	60.00	-16.84	QP	
12		17.8940	40.04	0.00	40.04	50.00	-9.96	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: WAP



Site Conduction #1

Phase: **N**

Temperature: 26

Limit: (CE)FCC PART 15 class B_QP

Power: AC 120V/60Hz

Humidity: 60 %

EUT: Body feeling headphones

M/N: KOR-FX

Mode: ON

Note:

No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.5300	39.16	0.00	39.16	56.00	-16.84	QP	
2	0.5300	33.65	0.00	33.65	46.00	-12.35	AVG	
3	1.0580	33.94	0.00	33.94	56.00	-22.06	QP	
4	1.0580	31.71	0.00	31.71	46.00	-14.29	AVG	
5	3.4420	38.39	0.00	38.39	56.00	-17.61	QP	
6	3.4420	30.74	0.00	30.74	46.00	-15.26	AVG	
7	4.5220	38.99	0.00	38.99	56.00	-17.01	QP	
8	4.5220	31.81	0.00	31.81	46.00	-14.19	AVG	
9	11.9340	39.87	0.00	39.87	60.00	-20.13	QP	
10	11.9340	35.28	0.00	35.28	50.00	-14.72	AVG	
11	16.4020	47.45	0.00	47.45	60.00	-12.55	QP	
12 *	16.4020	40.76	0.00	40.76	50.00	-9.24	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: WAP

5. RADIATED EMISSION TEST

5.1. Measurement Procedure

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter Semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter Semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- The height of the equipment or of the substitution antenna shall be 0.8 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.
- 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 AV detector mode re-measured.
- 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.

When spectrum scanned from 30 MHz to 1GHz setting resolution bandwidth 120 kHz and video bandwidth 300kHz.

EMI Test Receiver	Setting
Attenuation	Auto
RB	120kHz
VB	300kHz
Detector	QP
Trace	Max hold

When spectrum scanned above 1GHz setting resolution bandwidth 1MHz, video bandwidth 3MHz.

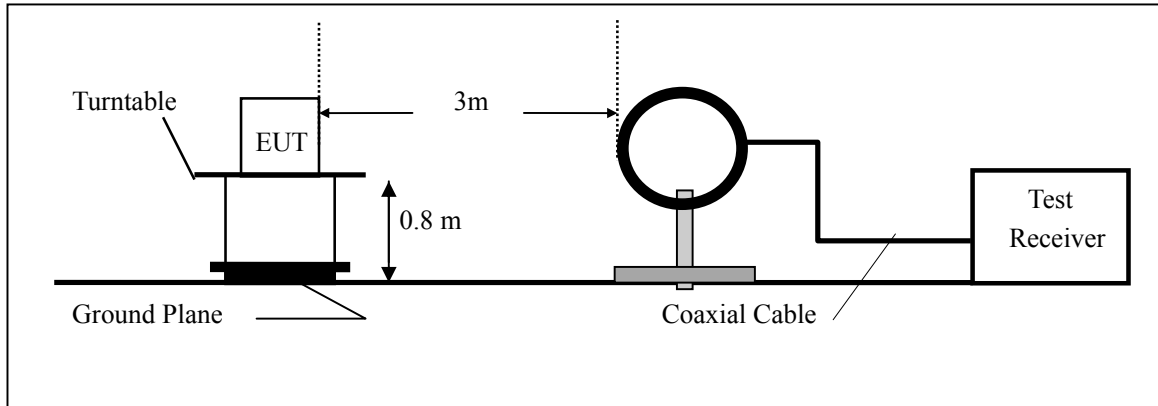
EMI Test Receiver	Setting
Attenuation	Auto
RB	1MHz
VB	3MHz
Detector	Peak
Trace	Max hold

When spectrum scanned above 1GHz setting resolution bandwidth 1MHz, video bandwidth 10Hz.

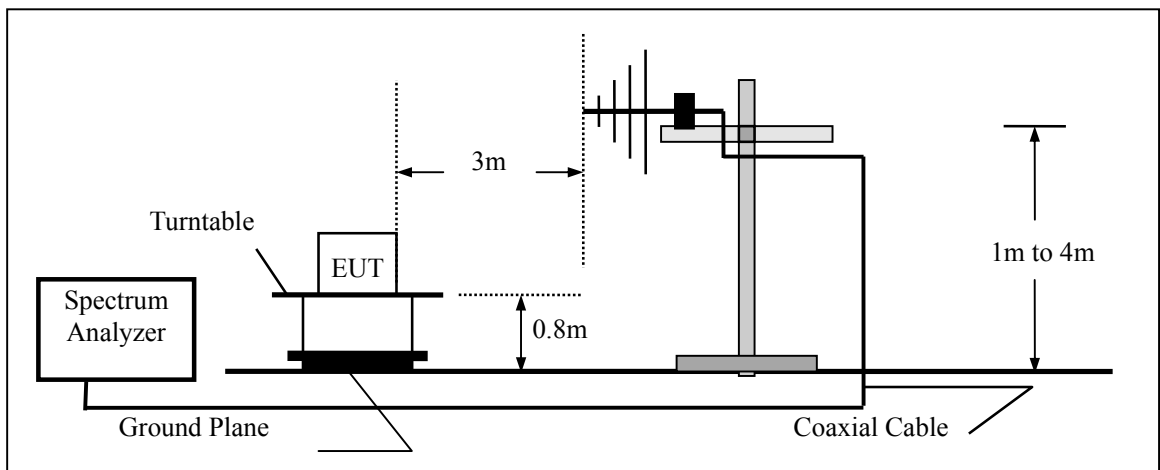
EMI Test Receiver	Setting
Attenuation	Auto
RB	1MHz
VB	10Hz
Detector	Peak
Trace	Max hold

5.2. Test SET-UP (Block Diagram of Configuration)

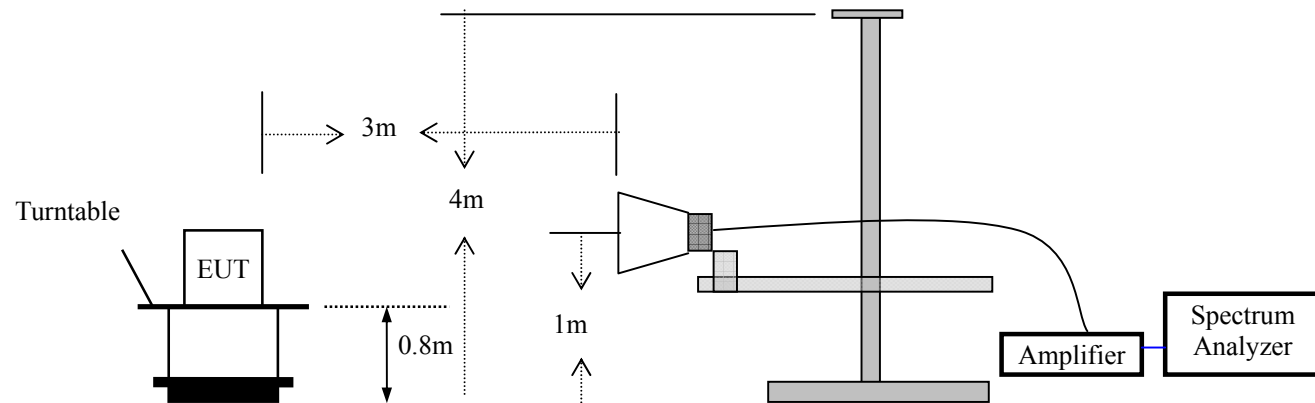
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



5.3 Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Rohde & Schwarz	FSP7	839511/010	05/17/2014	05/16/2015
Spectrum Analyzer	HP	E4407B	839840481	05/17/2014	05/16/2015
EMI Test Receiver	Rohde & Schwarz	ESCS30	828985/018	05/17/2014	05/16/2015
Pre-Amplifier	HP	8447D	2944A07999	05/17/2014	05/16/2015
Bilog Antenna	Schwarzbeck	VULB9163	142	05/17/2014	05/16/2015
Loop Antenna	ARA	PLA-1030/B	1029	05/17/2014	05/16/2015
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170399	05/17/2014	05/16/2015
Horn Antenna	Schwarzbeck	BBHA 9120	D143	05/17/2014	05/16/2015

5.4 Radiated Emission Limit

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
960~1000	500	3

Harmonic emissions limits comply with below 54 dBuV/m at 3m. Other emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or comply with the radiated emissions limits specified in section 1 5.209(a) limit in the table below has to be followed.

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission level (dBuV/m)=20log Emission level (uV/m).

Limits of radiated emission measurement (FCC 15.209)

FREQUENCY (MHz)	(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).

Limits of radiated emission measurement (FCC 15.249)

FCC Part15 (15.249) , Subpart C	
Limit	Frequency Range (MHz)
Field strength of fundamental 50000uV/m (94 dBV/m) @ 3 m	2400-2483.5
Field strength of harmonics 500uV/m (54 dBV/m) @ 3 m	Above 2483.5

5.5 Measurement Result

Transmitter Fundamental Field Strength

Operation Mode: 2402MHz Test Date : August 20, 2014
FCC Part: 15.249(a) Temperature : 24℃
Test Result: PASS Humidity : 55 %
Measured Distance: 3m Test By: WOLF
Test Method Used: As detailed in ANSI C63.4 Section 8 and relevant annexes

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
2402	V	92.18	55.41	114	94	-21.82	-38.59
2402	H	91.61	55.26	114	94	-22.39	-38.74

Operation Mode: 2441MHz Test Date : August 20, 2014
FCC Part: 15.249(a) Temperature : 24℃
Test Result: PASS Humidity : 55 %
Measured Distance: 3m Test By: WOLF
Test Method Used: As detailed in ANSI C63.4 Section 8 and relevant annexes

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
2441	V	91.77	55.72	114	94	-22.23	-38.28
2441	H	93.99	57.04	114	94	-20.01	-36.96

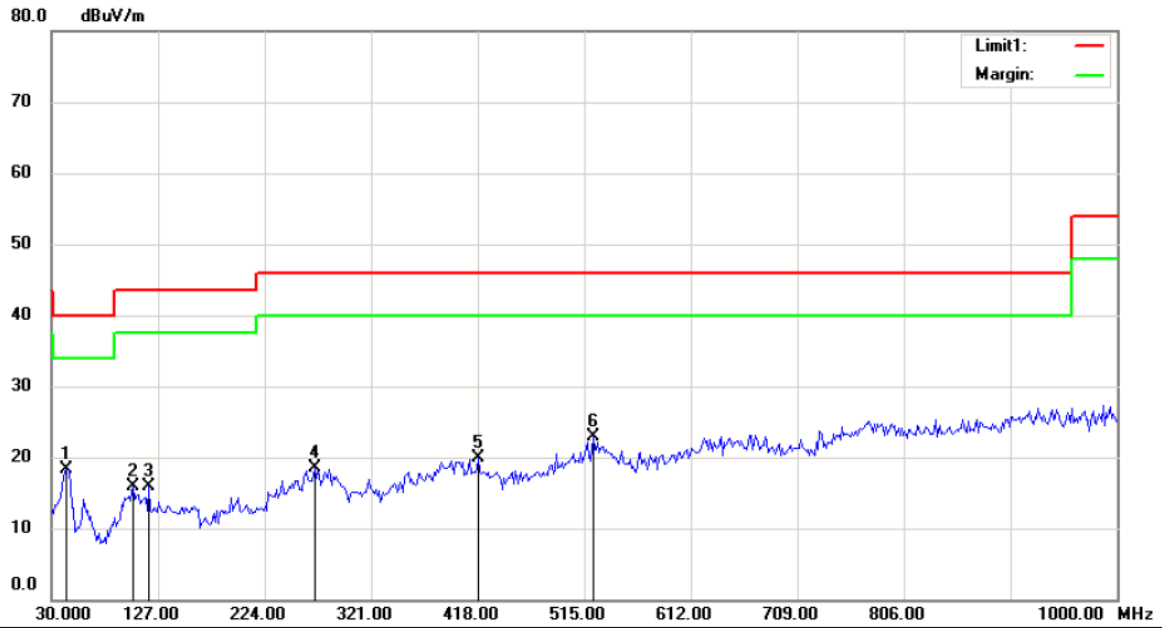
Operation Mode: 2480MHz Test Date : August 20, 2014
FCC Part: 15.249(a) Temperature : 24℃
Test Result: PASS Humidity : 55 %
Measured Distance: 3m Test By: WOLF
Test Method Used: As detailed in ANSI C63.4 Section 8 and relevant annexes

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
2480	V	91.65	54.89	114	94	-22.35	-39.11
2480	H	94.25	57.36	114	94	-19.75	-36.64

Operation Mode: TX Test Date : August 20, 2014
Frequency Range: 9KHz~30MHz Temperature : 24°C
Test Result: PASS Humidity : 55 %
Measured Distance: 3m Test By: WOLF

Freq. (MHz)	Ant.Pol. H/V	Emission Level (dBuV/m)	Limit 3m (dBuV/m)	Over (dB)
--	--	--	--	--

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.



Site 3m Chamber #1

Polarization: **Horizontal**

Temperature: 24 C

Limit: (RE)FCC PART 15 CLASS B

Power:

Humidity: 53 %

EUT: Body feeling headphones

M/N: KOR-FX

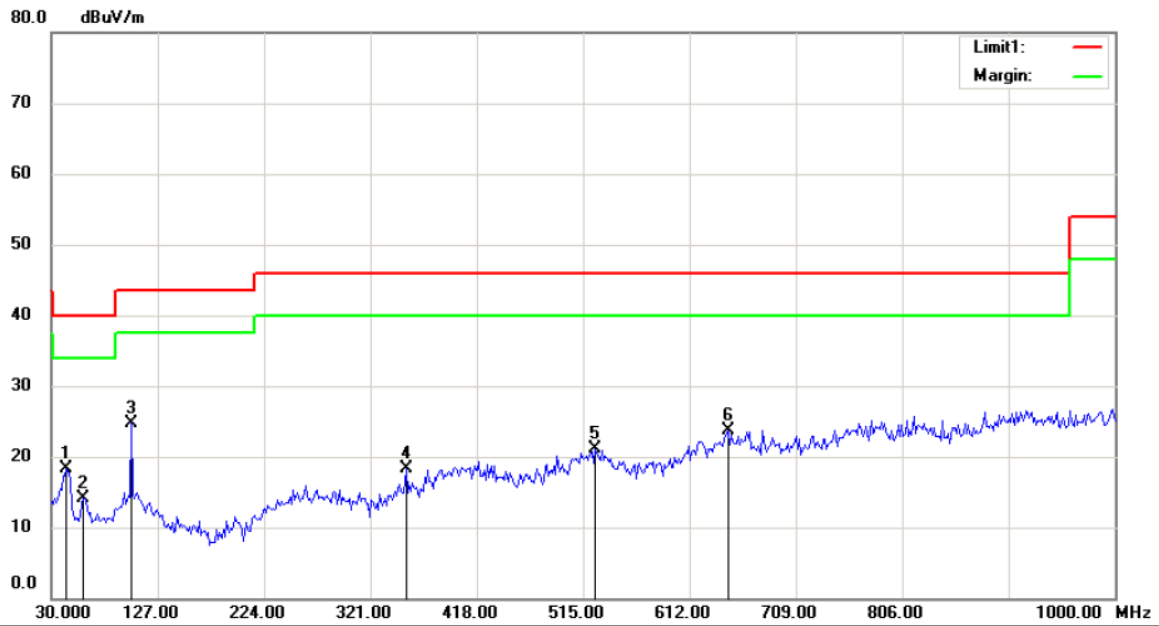
Mode:TX(2402)

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	43.9902	0.20	18.17	18.37	40.00	-21.63	QP		
2		104.6153	2.96	12.91	15.87	43.50	-27.63	QP		
3		118.6056	5.35	10.62	15.97	43.50	-27.53	QP		
4		269.3910	3.65	14.88	18.53	46.00	-27.47	QP		
5		418.6216	1.32	18.68	20.00	46.00	-26.00	QP		
6		522.7723	1.38	21.55	22.93	46.00	-23.07	QP		

*:Maximum data x:Over limit !:over margin

Operator: ZHL



Site 3m Chamber #1

Polarization: **Vertical**

Temperature: 24 C

Limit: (RE)FCC PART 15 CLASS B

Power:

Humidity: 53 %

EUT: Body feeling headphones

M/N: KOR-FX

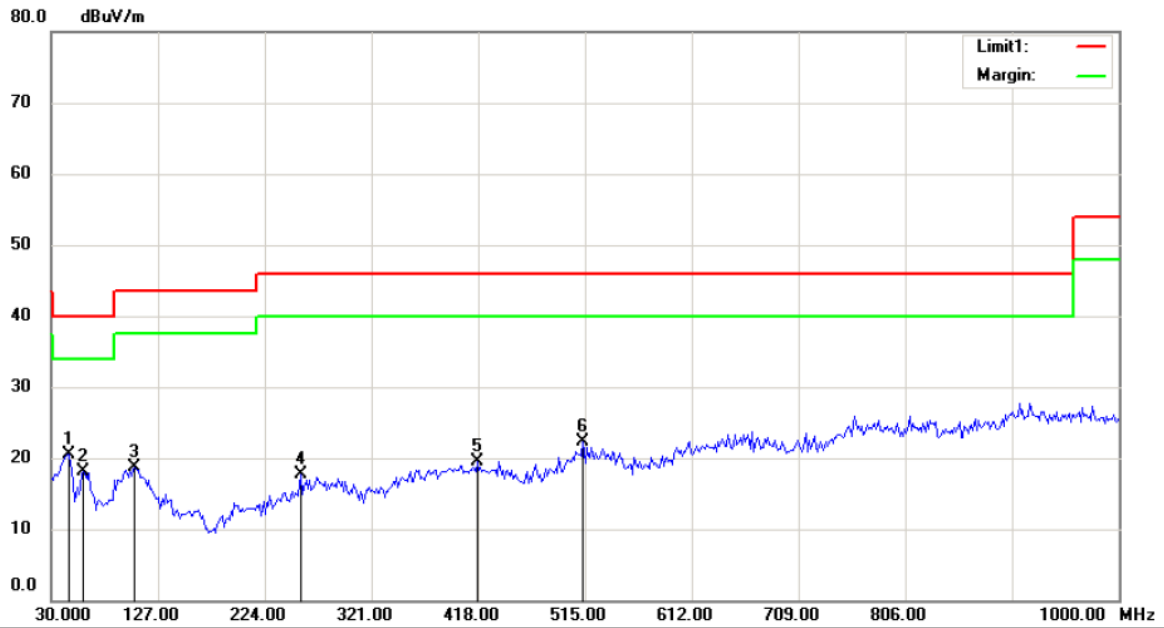
Mode:TX(2402)

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		43.9902	0.08	18.17	18.25	40.00	-21.75	QP		
2		59.5352	1.35	12.71	14.06	40.00	-25.94	QP		
3	*	103.0608	11.93	12.87	24.80	43.50	-18.70	QP		
4		353.3333	1.63	16.65	18.28	46.00	-27.72	QP		
5		525.8812	-0.63	21.69	21.06	46.00	-24.94	QP		
6		647.1312	0.77	22.95	23.72	46.00	-22.28	QP		

*:Maximum data x:Over limit !:over margin

Operator: ZHL



Site 3m Chamber #1

Polarization: **Horizontal**

Temperature: 24 C

Limit: (RE)FCC PART 15 CLASS B

Power:

Humidity: 53 %

EUT: Body feeling headphones

M/N: KOR-FX

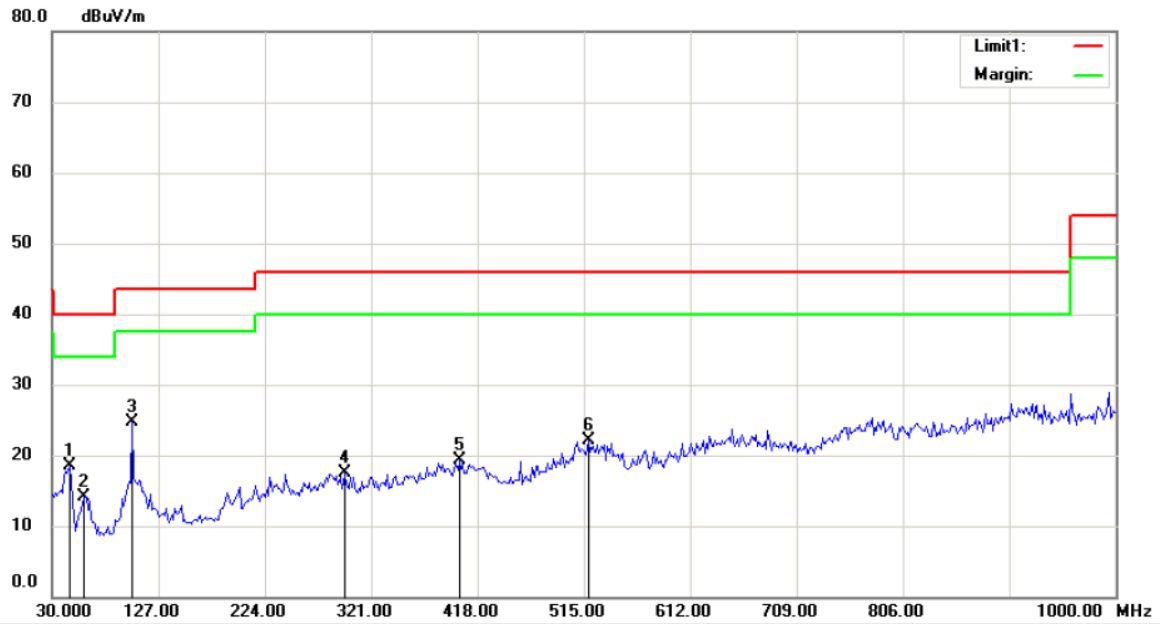
Mode:TX(2441)

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	45.5448	3.48	17.11	20.59	40.00	-19.41	QP		
2		59.5352	5.31	12.71	18.02	40.00	-21.98	QP		
3		106.1697	5.90	12.87	18.77	43.50	-24.73	QP		
4		256.9551	3.48	14.25	17.73	46.00	-28.27	QP		
5		417.0672	0.81	18.72	19.53	46.00	-26.47	QP		
6		513.4455	1.15	21.22	22.37	46.00	-23.63	QP		

*:Maximum data x:Over limit !:over margin

Operator: ZHL



Site 3m Chamber #1

Polarization: **Vertical**

Temperature: 24 C

Limit: (RE)FCC PART 15 CLASS B

Power:

Humidity: 53 %

EUT: Body feeling headphones

M/N: KOR-FX

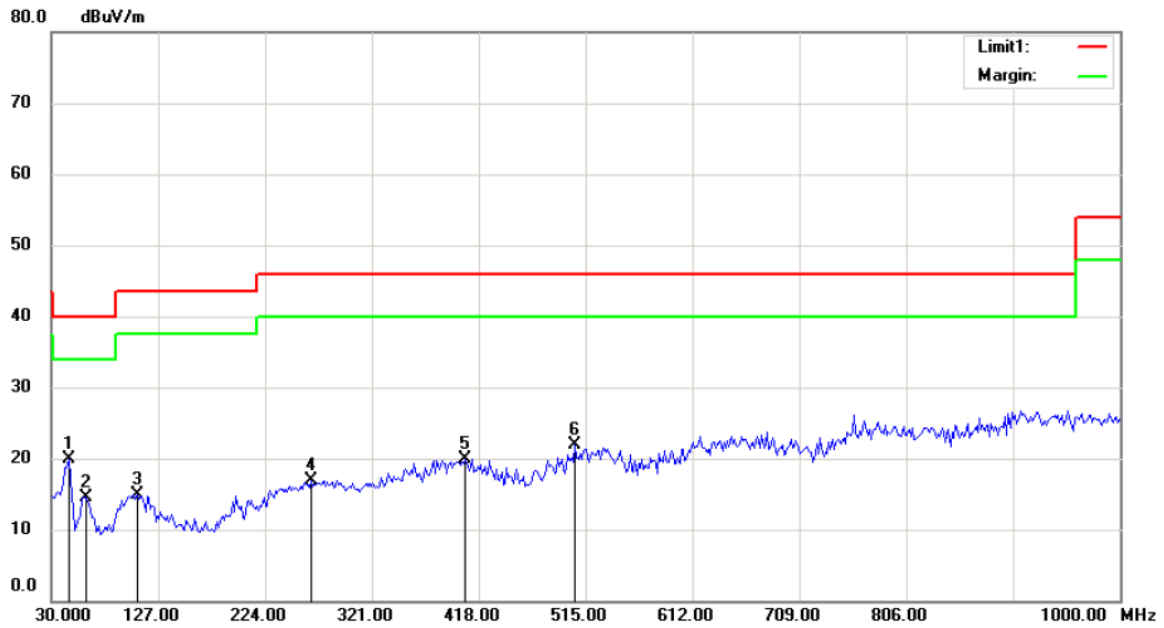
Mode:TX(2441)

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		45.5448	1.32	17.11	18.43	40.00	-21.57	QP		
2		59.5352	1.47	12.71	14.18	40.00	-25.82	QP		
3	*	103.0608	11.79	12.87	24.66	43.50	-18.84	QP		
4		297.3716	3.13	14.30	17.43	46.00	-28.57	QP		
5		401.5224	0.53	18.77	19.30	46.00	-26.70	QP		
6		519.6634	0.62	21.42	22.04	46.00	-23.96	QP		

*:Maximum data x:Over limit !:over margin

Operator: ZHL



Site 3m Chamber #1

Polarization: **Horizontal**

Temperature: 24 C

Limit: (RE)FCC PART 15 CLASS B

Power:

Humidity: 53 %

EUT: Body feeling headphones

M/N: KOR-FX

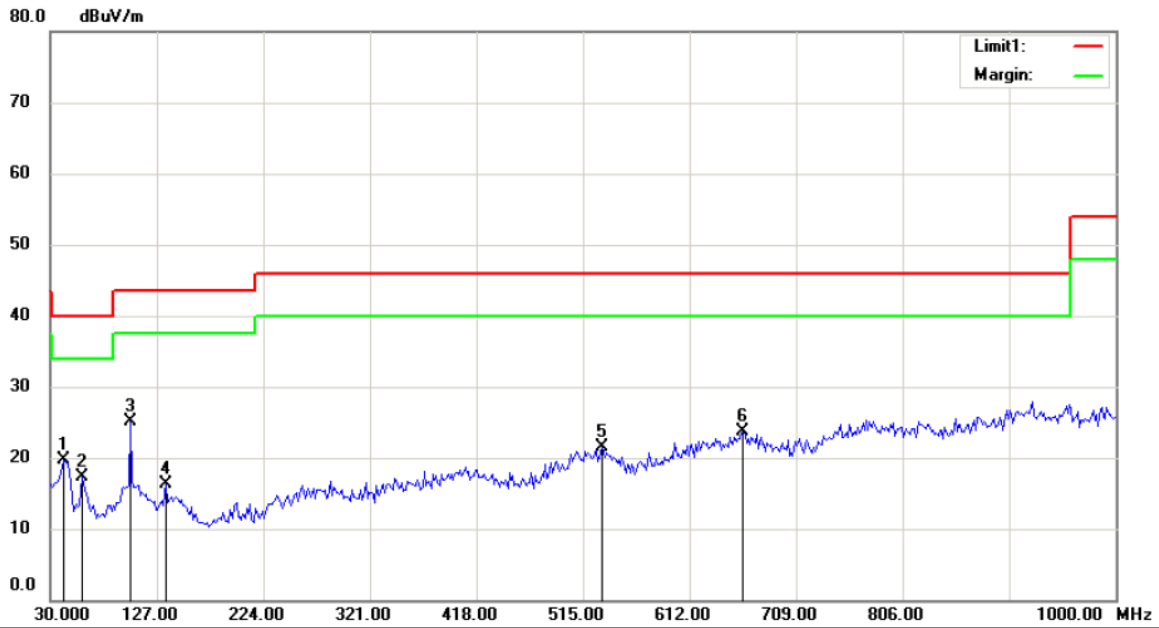
Mode:TX(2480)

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	45.5448	2.73	17.11	19.84	40.00	-20.16	QP		
2		61.0897	2.15	12.43	14.58	40.00	-25.42	QP		
3		107.7242	2.07	12.82	14.89	43.50	-28.61	QP		
4		266.2820	2.25	14.68	16.93	46.00	-29.07	QP		
5		406.1857	1.14	18.83	19.97	46.00	-26.03	QP		
6		505.6730	1.20	20.67	21.87	46.00	-24.13	QP		

*:Maximum data x:Over limit !:over margin

Operator: ZHL



Site 3m Chamber #1

Polarization: **Vertical**

Temperature: 24 C

Limit: (RE)FCC PART 15 CLASS B

Power:

Humidity: 53 %

EUT: Body feeling headphones

M/N: KOR-FX

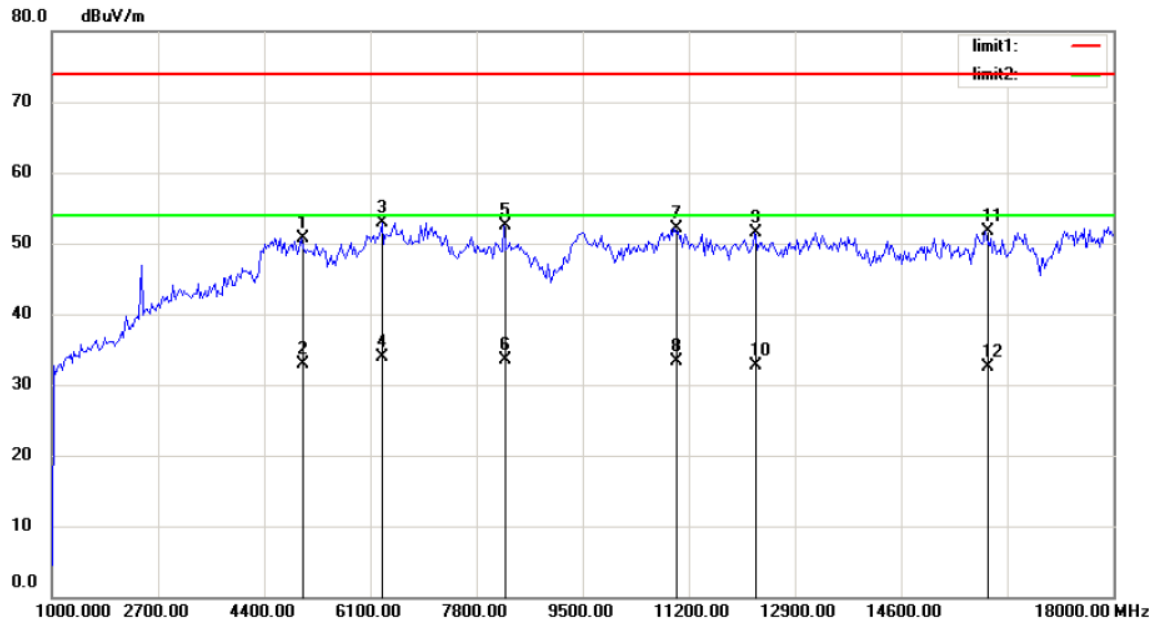
Mode:TX(2480)

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		42.4358	2.50	17.15	19.65	40.00	-20.35	QP		
2		59.5352	4.67	12.71	17.38	40.00	-22.62	QP		
3	*	103.0608	12.26	12.87	25.13	43.50	-18.37	QP		
4		135.7050	6.85	9.52	16.37	43.50	-27.13	QP		
5		532.0992	-0.11	21.67	21.56	46.00	-24.44	QP		
6		661.1216	0.55	23.20	23.75	46.00	-22.25	QP		

*:Maximum data x:Over limit !:over margin

Operator: ZHL



Site 3m Chamber #1

Polarization: **Horizontal**

Temperature: 24

Limit: (RE)FCC PART 15 CLASS B

Power:

Humidity: 53 %

EUT: Body feeling headphones

M/N: KOR-FX

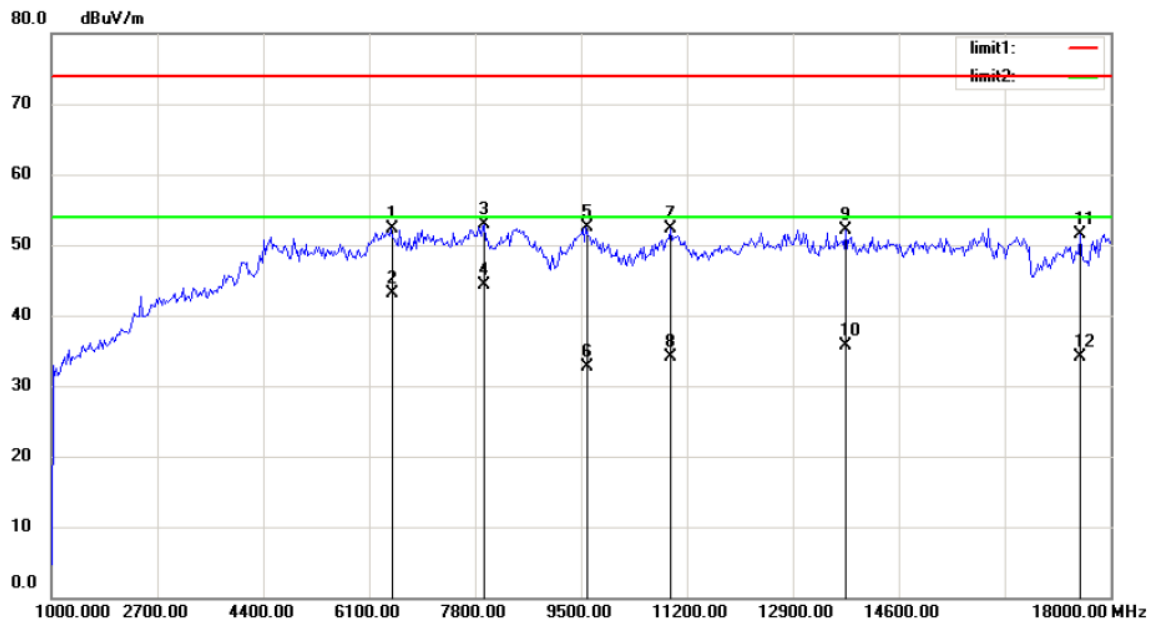
Mode:TX(2402)

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		5004.808	48.36	2.35	50.71	74.00	-23.29	peak			
2		5004.808	30.50	2.35	32.85	54.00	-21.15	AVG			
3		6285.256	46.84	6.11	52.95	74.00	-21.05	peak			
4	*	6285.256	27.80	6.11	33.91	54.00	-20.09	AVG			
5		8246.795	40.60	11.96	52.56	74.00	-21.44	peak			
6		8246.795	21.50	11.96	33.46	54.00	-20.54	AVG			
7		10971.15	33.60	18.51	52.11	74.00	-21.89	peak			
8		10971.15	14.70	18.51	33.21	54.00	-20.79	AVG			
9		12251.60	35.02	16.56	51.58	74.00	-22.42	peak			
10		12251.60	16.20	16.56	32.76	54.00	-21.24	AVG			
11		15956.73	29.51	22.16	51.67	74.00	-22.33	peak			
12		15956.73	10.30	22.16	32.46	54.00	-21.54	AVG			

*:Maximum data x:Over limit !:over margin

Operator: ZHL



Site 3m Chamber #1

Polarization: **Vertical**

Temperature: 24

Limit: (RE)FCC PART 15 CLASS B

Power:

Humidity: 53 %

EUT: Body feeling headphones

M/N: KOR-FX

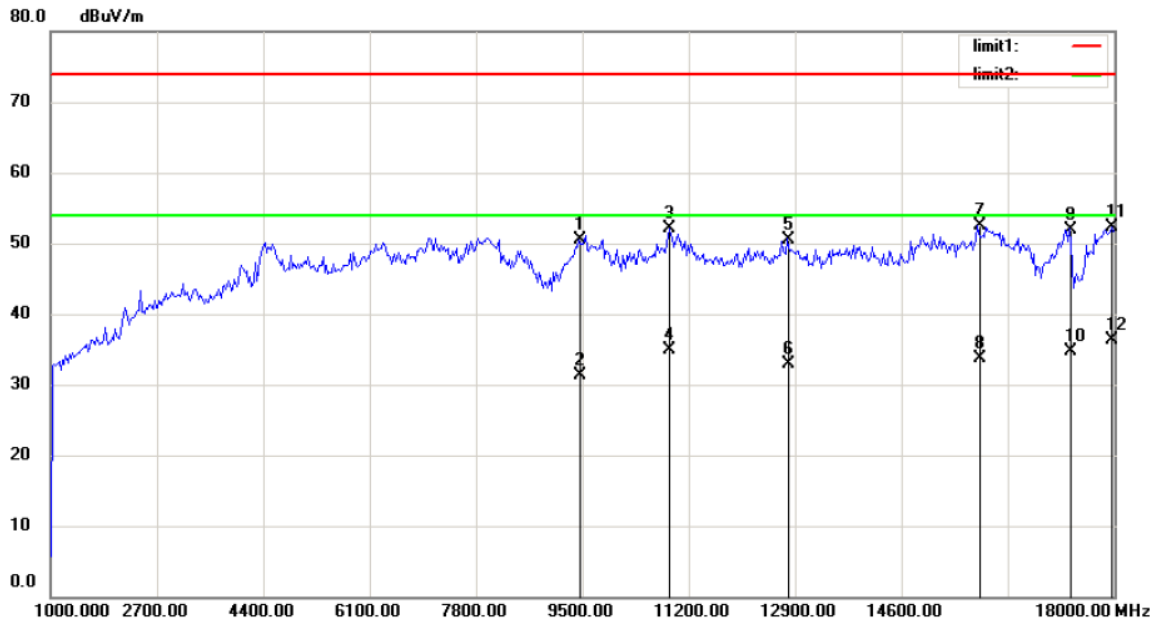
Mode:TX(2402)

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		6448.718	45.30	6.97	52.27	74.00	-21.73	peak			
2		6448.718	36.20	6.97	43.17	54.00	-10.83	AVG			
3		7947.115	42.30	10.52	52.82	74.00	-21.18	peak			
4	*	7947.115	33.80	10.52	44.32	54.00	-9.68	AVG			
5		9581.731	35.91	16.52	52.43	74.00	-21.57	peak			
6		9581.731	16.20	16.52	32.72	54.00	-21.28	AVG			
7		10943.91	33.99	18.33	52.32	74.00	-21.68	peak			
8		10943.91	15.70	18.33	34.03	54.00	-19.97	AVG			
9		13750.00	32.19	19.87	52.06	74.00	-21.94	peak			
10		13750.00	15.80	19.87	35.67	54.00	-18.33	AVG			
11		17509.61	23.05	28.46	51.51	74.00	-22.49	peak			
12		17509.61	5.60	28.46	34.06	54.00	-19.94	AVG			

*:Maximum data x:Over limit !:over margin

Operator: ZHL



Site 3m Chamber #1

Polarization: **Horizontal**

Temperature: 24

Limit: (RE)FCC PART 15 CLASS B

Power:

Humidity: 53 %

EUT: Body feeling headphones

M/N: KOR-FX

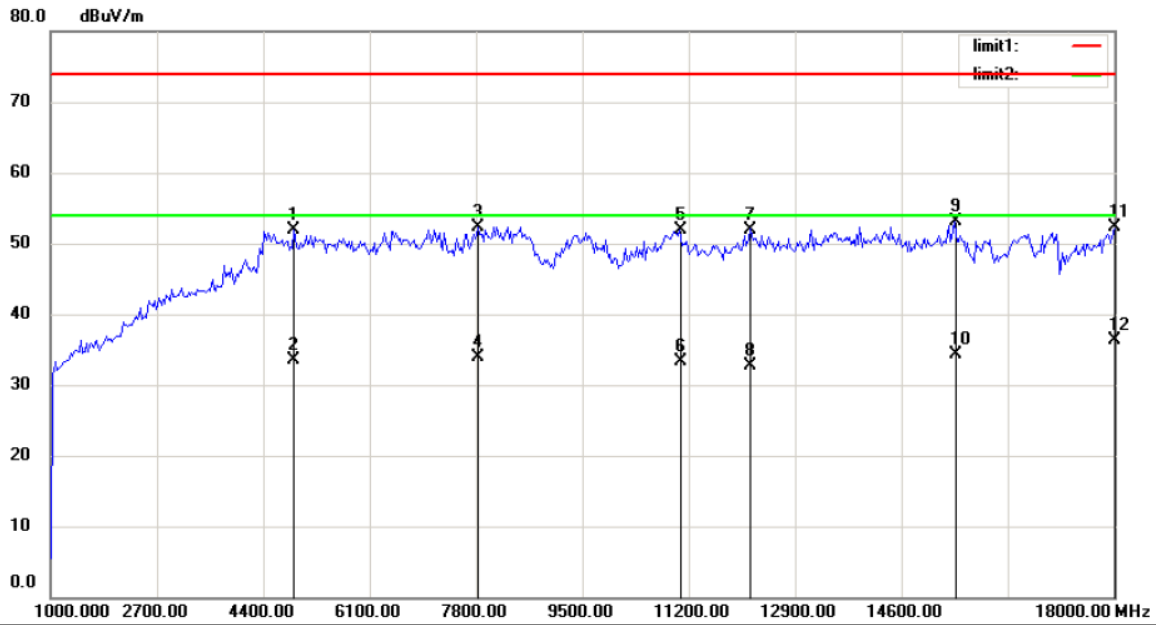
Mode:TX(2441)

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		9445.513	34.38	16.08	50.46	74.00	-23.54	peak			
2		9445.513	15.30	16.08	31.38	54.00	-22.62	AVG			
3		10889.42	34.05	17.97	52.02	74.00	-21.98	peak			
4		10889.42	16.90	17.97	34.87	54.00	-19.13	AVG			
5		12769.23	33.47	17.13	50.60	74.00	-23.40	peak			
6		12769.23	15.80	17.13	32.93	54.00	-21.07	AVG			
7		15820.51	30.66	21.78	52.44	74.00	-21.56	peak			
8		15820.51	11.90	21.78	33.68	54.00	-20.32	AVG			
9		17291.66	24.89	27.11	52.00	74.00	-22.00	peak			
10		17291.66	7.60	27.11	34.71	54.00	-19.29	AVG			
11		17972.75	24.50	27.82	52.32	74.00	-21.68	peak			
12	*	17972.75	8.50	27.82	36.32	54.00	-17.68	AVG			

*:Maximum data x:Over limit l:over margin

Operator: ZHL



Site 3m Chamber #1

Polarization: **Vertical**

Temperature: 24

Limit: (RE)FCC PART 15 CLASS B

Power:

Humidity: 53 %

EUT: Body feeling headphones

M/N: KOR-FX

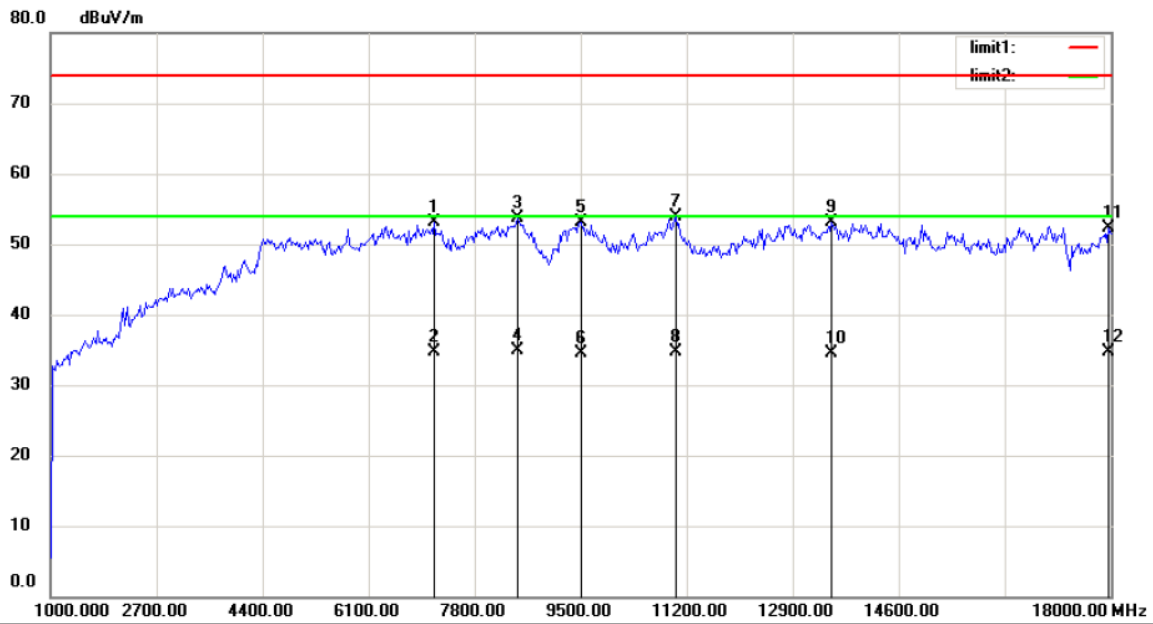
Mode:TX(2441)

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		4895.833	49.99	1.97	51.96	74.00	-22.04	peak			
2		4895.833	31.50	1.97	33.47	54.00	-20.53	AVG			
3		7838.141	42.35	10.01	52.36	74.00	-21.64	peak			
4		7838.141	23.80	10.01	33.81	54.00	-20.19	AVG			
5		11052.88	33.38	18.45	51.83	74.00	-22.17	peak			
6		11052.88	14.90	18.45	33.35	54.00	-20.65	AVG			
7		12197.11	35.43	16.57	52.00	74.00	-22.00	peak			
8		12197.11	16.20	16.57	32.77	54.00	-21.23	AVG			
9		15439.10	32.33	20.84	53.17	74.00	-20.83	peak			
10		15439.10	13.50	20.84	34.34	54.00	-19.66	AVG			
11		18000.00	24.52	27.78	52.30	74.00	-21.70	peak			
12	*	18000.00	8.60	27.78	36.38	54.00	-17.62	AVG			

*:Maximum data x:Over limit !:over margin

Operator: ZHL



Site 3m Chamber #1

Polarization: **Horizontal**

Temperature: 24

Limit: (RE)FCC PART 15 CLASS B

Power:

Humidity: 53 %

EUT: Body feeling headphones

M/N: KOR-FX

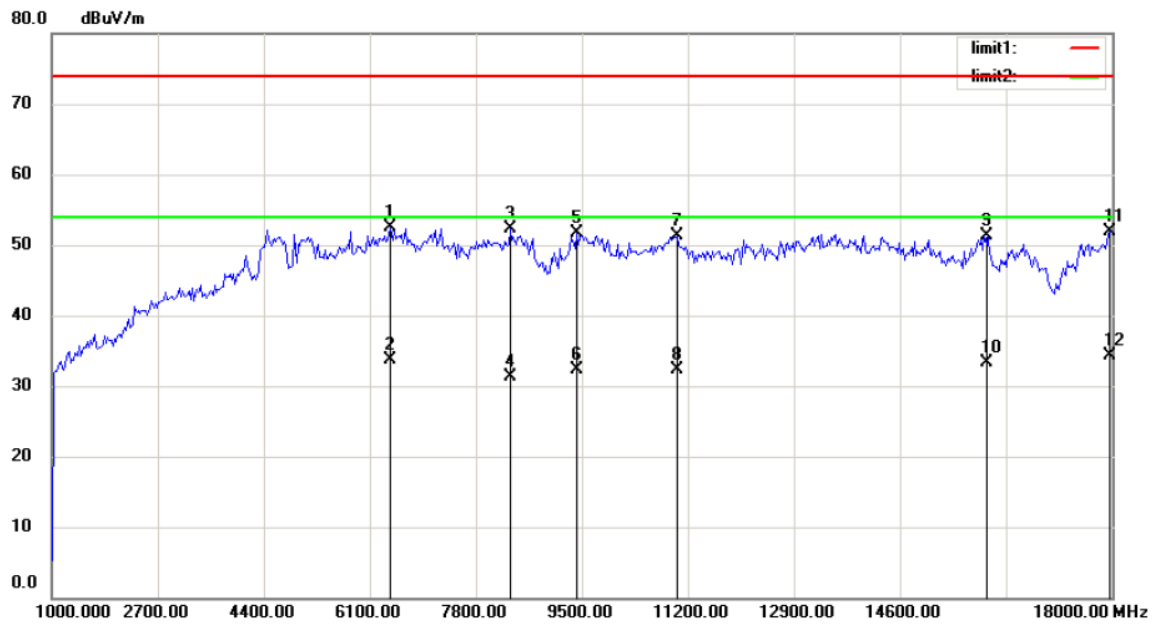
Mode:TX(2480)

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1		7157.051	44.11	9.03	53.14	74.00	-20.86	peak		
2		7157.051	25.70	9.03	34.73	54.00	-19.27	AVG		
3		8491.987	40.51	13.14	53.65	74.00	-20.35	peak		
4	*	8491.987	21.80	13.14	34.94	54.00	-19.06	AVG		
5		9500.000	36.16	16.94	53.10	74.00	-20.90	peak		
6		9500.000	17.50	16.94	34.44	54.00	-19.56	AVG		
7		11025.64	35.39	18.59	53.98	74.00	-20.02	peak		
8		11025.64	16.20	18.59	34.79	54.00	-19.21	AVG		
9		13532.05	33.76	19.30	53.06	74.00	-20.94	peak		
10		13532.05	15.20	19.30	34.50	54.00	-19.50	AVG		
11		17972.75	24.43	27.82	52.25	74.00	-21.75	peak		
12		17972.75	6.90	27.82	34.72	54.00	-19.28	AVG		

*:Maximum data x:Over limit !:over margin

Operator: ZHL



Site 3m Chamber #1

Polarization: **Vertical**

Temperature: 24

Limit: (RE)FCC PART 15 CLASS B

Power:

Humidity: 53 %

EUT: Body feeling headphones

M/N: KOR-FX

Mode:TX(2480)

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1		6421.474	45.61	6.84	52.45	74.00	-21.55			peak
2		6421.474	26.90	6.84	33.74	54.00	-20.26			AVG
3		8355.769	39.79	12.48	52.27	74.00	-21.73			peak
4		8355.769	18.90	12.48	31.38	54.00	-22.62			AVG
5		9418.269	35.95	15.66	51.61	74.00	-22.39			peak
6		9418.269	16.70	15.66	32.36	54.00	-21.64			AVG
7		11025.64	32.72	18.59	51.31	74.00	-22.69			peak
8		11025.64	13.80	18.59	32.39	54.00	-21.61			AVG
9		15956.73	29.10	22.16	51.26	74.00	-22.74			peak
10		15956.73	11.20	22.16	33.36	54.00	-20.64			AVG
11		17972.75	24.02	27.82	51.84	74.00	-22.16			peak
12	*	17972.75	6.40	27.82	34.22	54.00	-19.78			AVG

*:Maximum data x:Over limit !:over margin

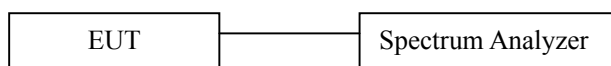
Operator: ZHL

6. BANDWIDTH TEST

6.1. Measurement Procedure

1. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. Make the measurement with the spectrum analyzer 's resolution bandwidth (RBW) =100kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement The 20dB bandwidth.
4. Measure and record the results in the test report.

6.2. Test SET-UP (Block Diagram of Configuration)



6.3. Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4407B	88156318	05/17/2014	05/16/2015

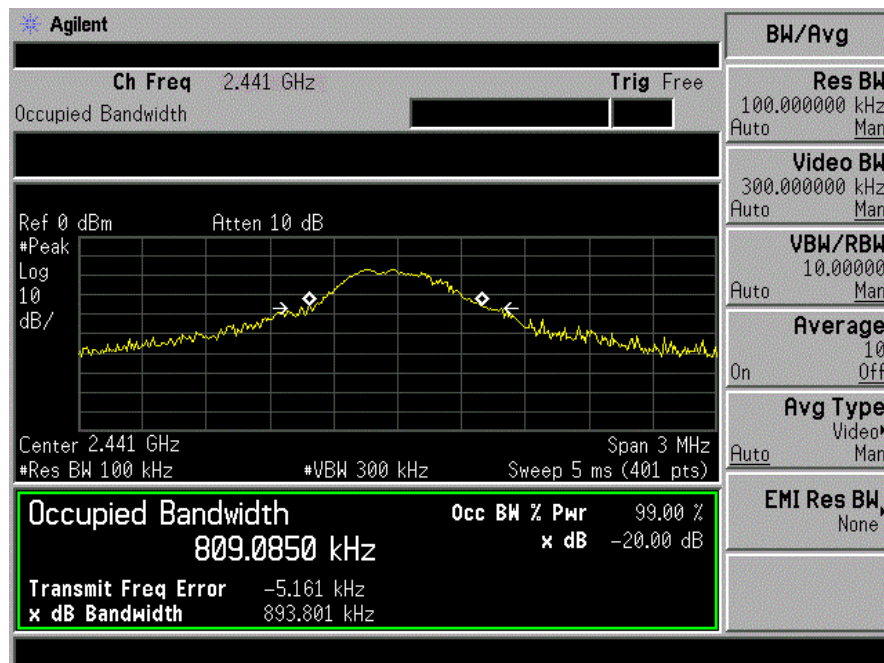
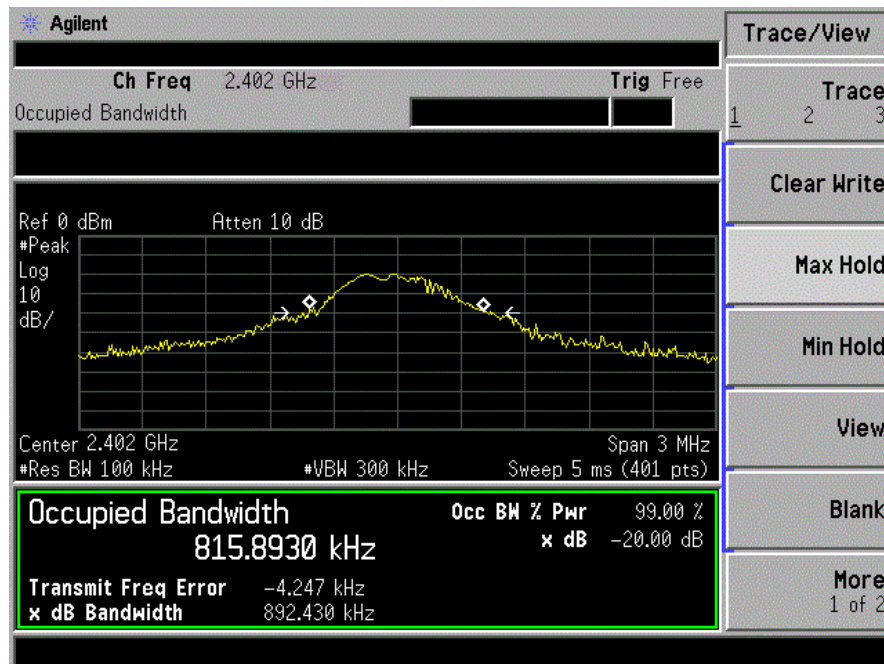
6.4. Measurement Results:

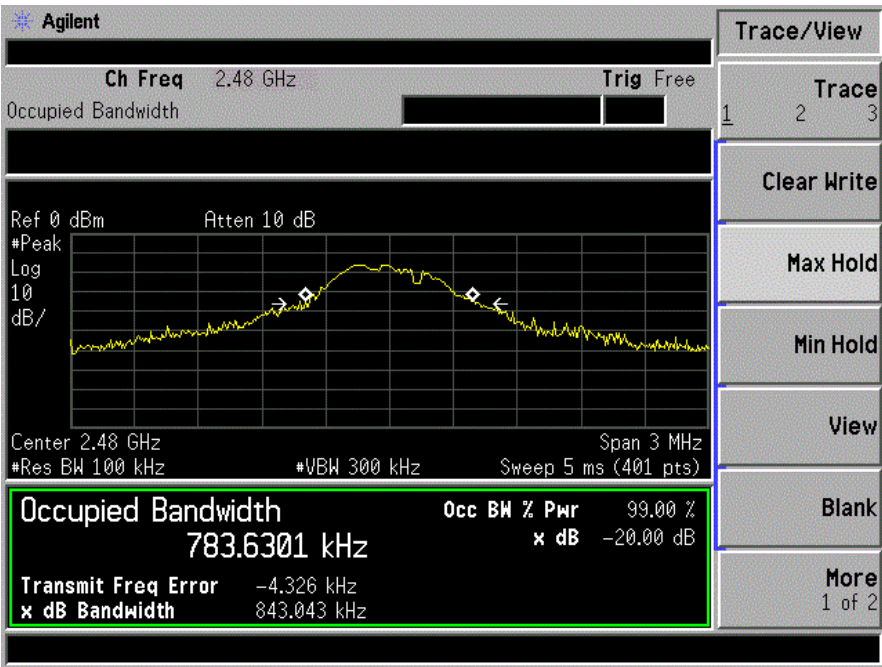
20dB Bandwidth test data Chart:

Refer to attached data chart.

Spectrum Detector:	PK	Test Date:	August 20, 2014
Test By:	Andy	Temperature:	24°C
Test Result:	PASS	Humidity:	55 %
Modulation:	GFSK		

Channel number	Channel frequency (MHz)	20dB Down BW(kHz)
CH1	2402	892.430
CH79	2441	893.801
CH158	2480	843.043





7. BAND EDGE TEST

7.1. Measurement Procedure.

1. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
2. The EUT was placed on a turntable with 0.8 meter above ground.
3. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
4. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
5. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for $f < 1$ GHz; $VBW \geq RBW$; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement.

For average measurement:
The RBW of test receiver/spectrum analyzer is 1MHz and the VBW for Average detection (AV) of test receiver/spectrum analyzer is 10Hz above 1GHz.

When spectrum scanned above 1GHz setting resolution bandwidth 1MHz, video bandwidth 3MHz.

EMI Test Receiver	Setting
Attenuation	Auto
RB	1MHz
VB	3MHz
Detector	Peak
Trace	Max hold

When spectrum scanned above 1GHz setting resolution bandwidth 1MHz, video bandwidth 10Hz.

EMI Test Receiver	Setting
Attenuation	Auto
RB	1MHz
VB	10Hz
Detector	Peak
Trace	Max hold

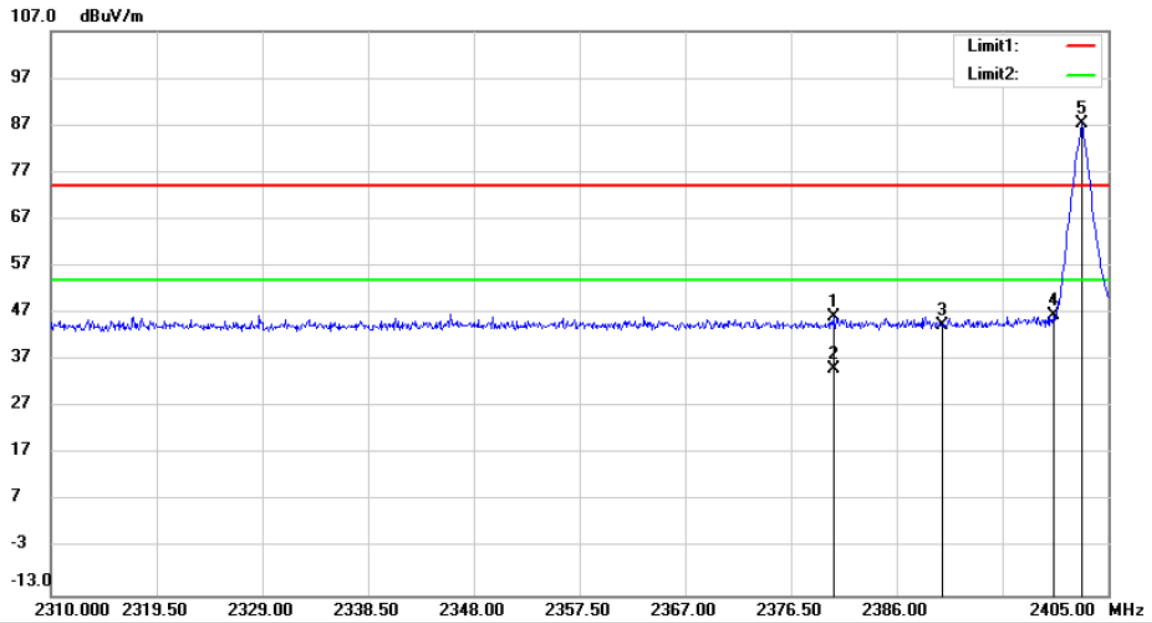
7.2. Test SET-UP (Block Diagram of Configuration)

As 5.2 Test set up (B) and (C)

7.3. Measurement Equipment Used:

Same as 5.3 Radiated Emission Measurement.

7.4. Measurement Results:

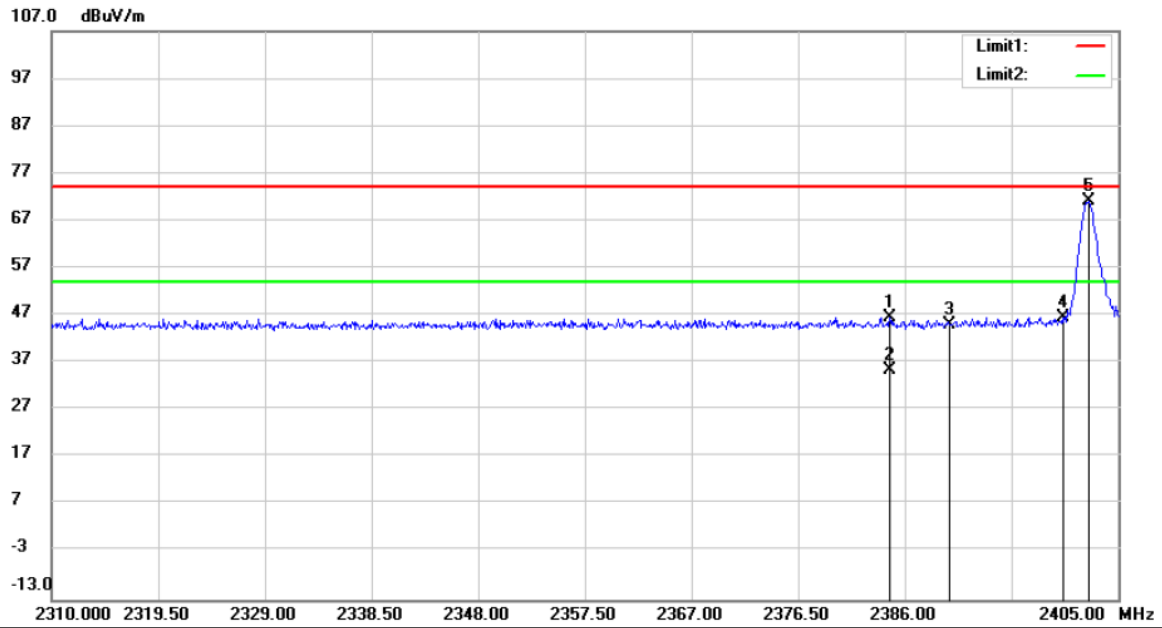


Site 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: Humidity: 53 %
EUT: Body feeling headphone
M/N: KOR-FX
Mode:TX2402
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1		2380.300	38.63	7.69	46.32	74.00	-27.68	peak		
2		2380.300	27.51	7.69	35.20	54.00	-18.80	AVG		
3		2390.000	36.84	7.73	44.57	74.00	-29.43	peak		
4		2400.000	38.66	7.76	46.42	74.00	-27.58	peak		
5	*	2402.625	79.55	7.76	87.31	74.00	13.31	peak		

*:Maximum data x:Over limit !:over margin

Operator:

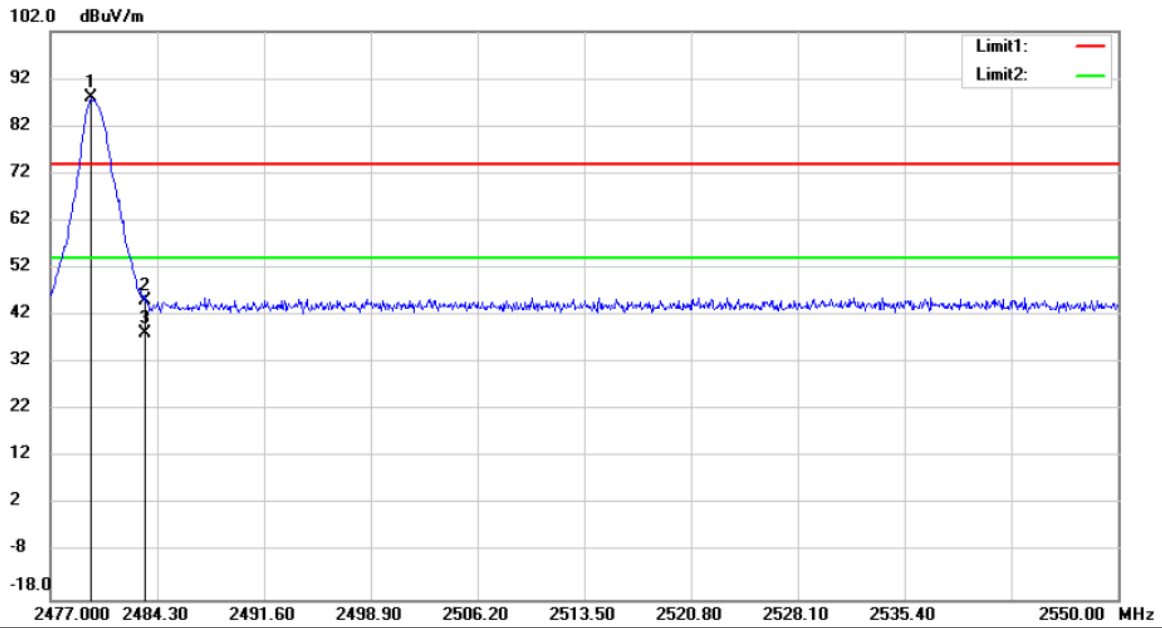


Site 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: Humidity: 53 %
EUT: Body feeling headphone
M/N: KOR-FX
Mode:TX2402
Note:

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		2384.670	38.94	7.71	46.65	74.00	-27.35	peak		
2		2384.670	27.85	7.71	35.56	54.00	-18.44	AVG		
3		2390.000	37.36	7.73	45.09	74.00	-28.91	peak		
4		2400.000	38.91	7.76	46.67	74.00	-27.33	peak		
5	*	2402.340	63.28	7.76	71.04	74.00	-2.96	peak		

*:Maximum data x:Over limit !:over margin

Operator:



Site 3m Chamber #3

Polarization: **Horizontal**

Temperature: 24 C

Limit: (RE)FCC PART 15 CLASS B

Power:

Humidity: 53 %

EUT: Body feeling headphone

M/N: KOR-FX

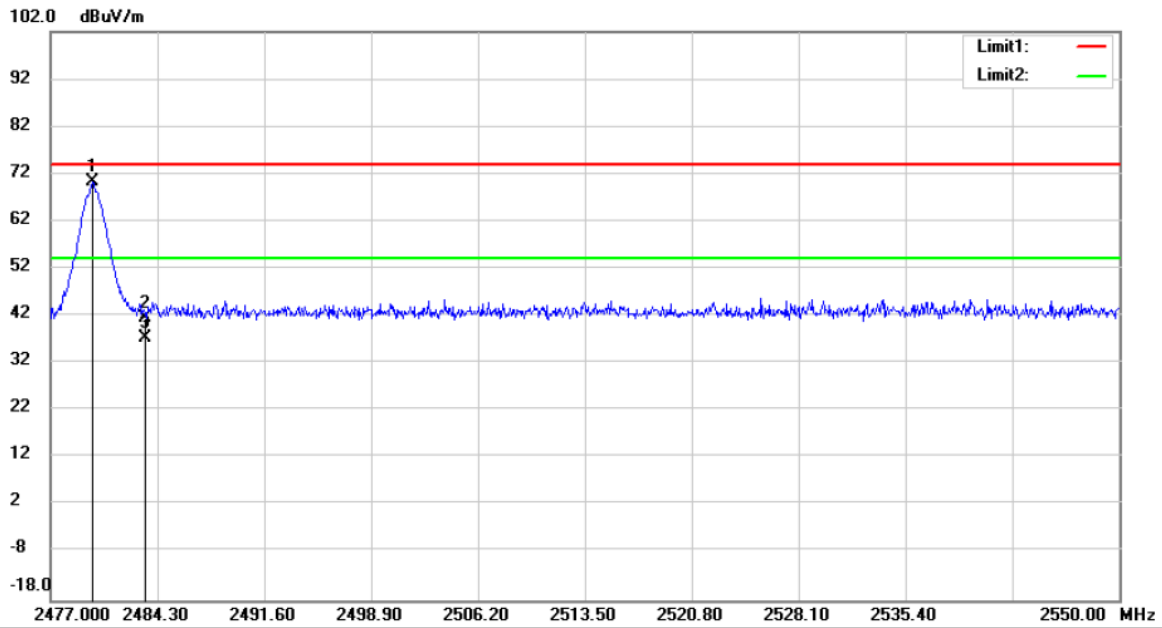
Mode:TX2480

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	2479.774	79.93	7.99	87.92	74.00	13.92	peak		
2		2483.500	37.06	8.01	45.07	74.00	-28.93	peak		
3		2483.500	30.24	8.01	38.25	54.00	-15.75	AVG		

*:Maximum data x:Over limit !:over margin

Operator:



Site 3m Chamber #3

Polarization: **Vertical**

Temperature: 24 C

Limit: (RE)FCC PART 15 CLASS B

Power:

Humidity: 53 %

EUT: Body feeling headphone

M/N: KOR-FX

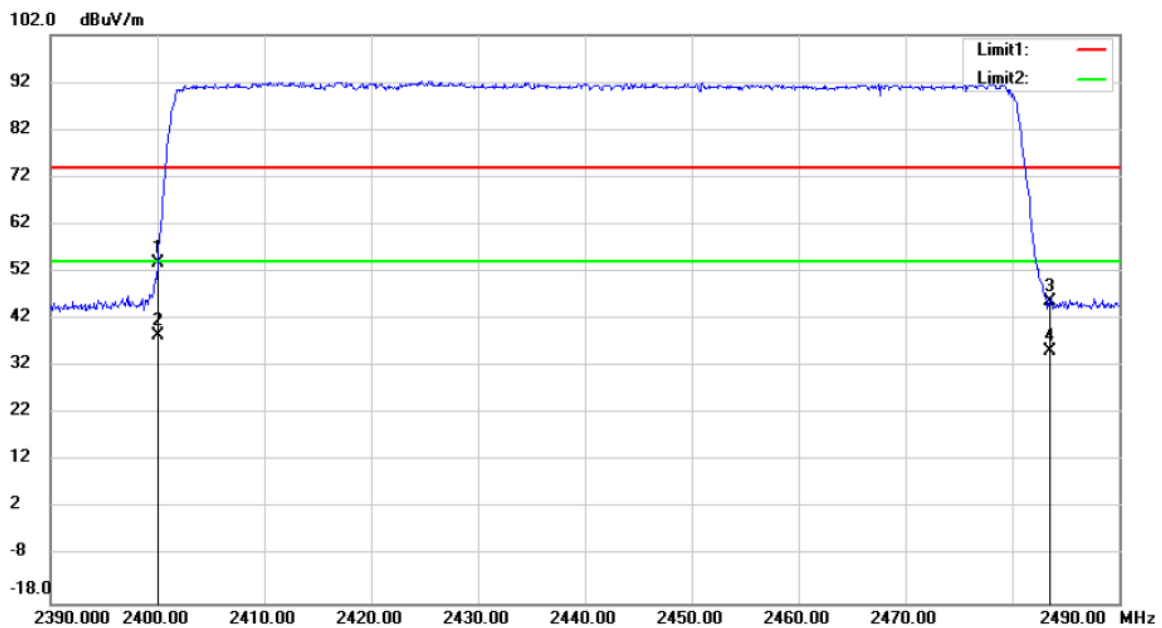
Mode:TX2480

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1	*	2479.847	62.34	7.99	70.33	74.00	-3.67	peak			
2		2483.500	33.65	8.01	41.66	74.00	-32.34	peak			
3		2483.500	29.24	8.01	37.25	54.00	-16.75	AVG			

*:Maximum data x:Over limit !:over margin

Operator:

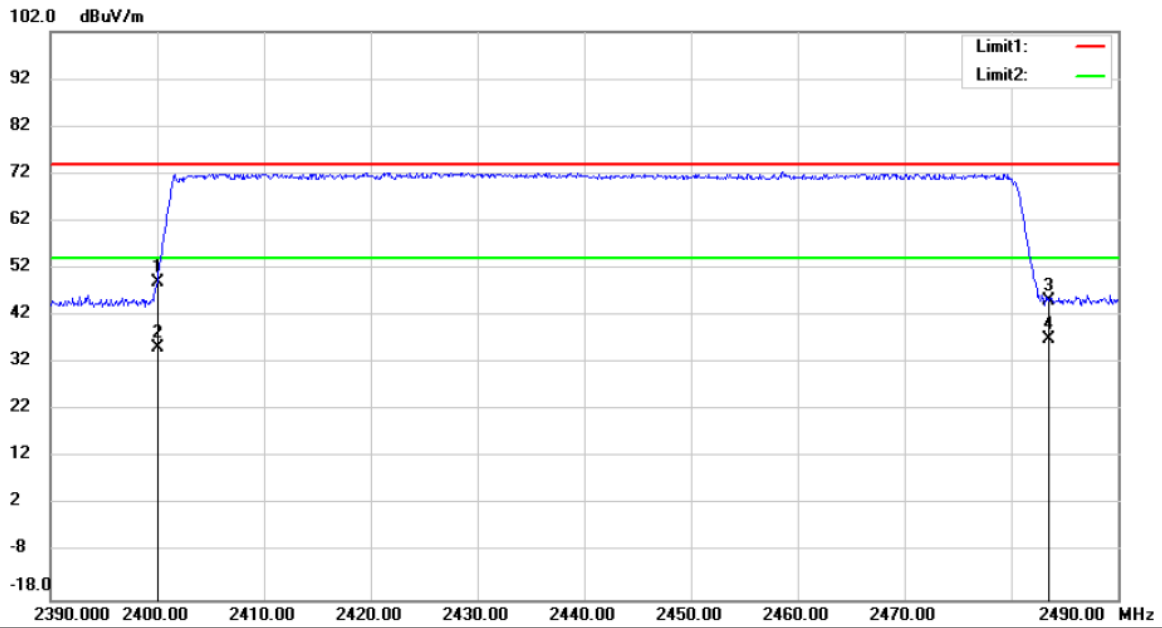


Site 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: Humidity: 53 %
EUT: Body feeling headphone
M/N: KOR-FX
Mode:Hopping
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		2400.000	45.98	7.76	53.74	74.00	-20.26	peak		
2	*	2400.000	30.70	7.76	38.46	54.00	-15.54	AVG		
3		2483.500	37.81	8.01	45.82	74.00	-28.18	peak		
4		2483.500	27.17	8.01	35.18	54.00	-18.82	AVG		

*:Maximum data x:Over limit !:over margin

Operator:



Site 3m Chamber #3

Polarization: **Vertical**

Temperature: 24 C

Limit: (RE)FCC PART 15 CLASS B

Power:

Humidity: 53 %

EUT: Body feeling headphone

M/N: KOR-FX

Mode:Hopping

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		2400.000	41.33	7.76	49.09	74.00	-24.91	peak		
2		2400.000	27.38	7.76	35.14	54.00	-18.86	AVG		
3		2483.500	37.11	8.01	45.12	74.00	-28.88	peak		
4	*	2483.500	29.14	8.01	37.15	54.00	-16.85	AVG		

*:Maximum data x:Over limit !:over margin

Operator:

8. Antenna Application

8.1 Antenna Requirement

For intentional device, according to FCC 47 CFR Section 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.

8.2 Result

The EUT'S antenna is PCB Antenna. The antenna's gain is -1dBi and meets the requirement.