Certification of Compliance

CFR 47 Part 15 Subpart C

Order No.	:	**STB14-0033(Y)**
Test Report No.	:	**W14WD-005**
Applicant	:	**Digitalcom Co., Ltd.**
Address of Applicant	:	**(Bucheon Techno Park Ssangyong, Samjeong-dong) 303-801, 397 Seokcheon-ro, Ojeong-gu, Bucheon-si, Gyeonggi-do 421-742, Korea**

Equipment Under Test (EUT)

Kind of Product	:	**Wireless Microphone**
Model Name	:	**CMP-9100TF**
FCC ID	:	**ZMUCMP-9100TF**
Buyer Model(s)	:	**RM-8000**
Standards	:	**FCC CFR Title 47 Part 15 Subpart C (15.249):2012 ANSI C63.4:2009, ANSI C63.10:2009**

Date of Receipt : April 03, 2014

Date of Test : April 07, 2014 ~ April 10, 2014

Date of Issue : April 24, 2014

Test Result : : ■ **Positive** □ **Negative**

Ji Hwan, Kim / Testing By Engineer

Chang Woo, Kim / General Manager

In the configuration tested, the EUT complied with the standards specified above.

Remarks :

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

Contents

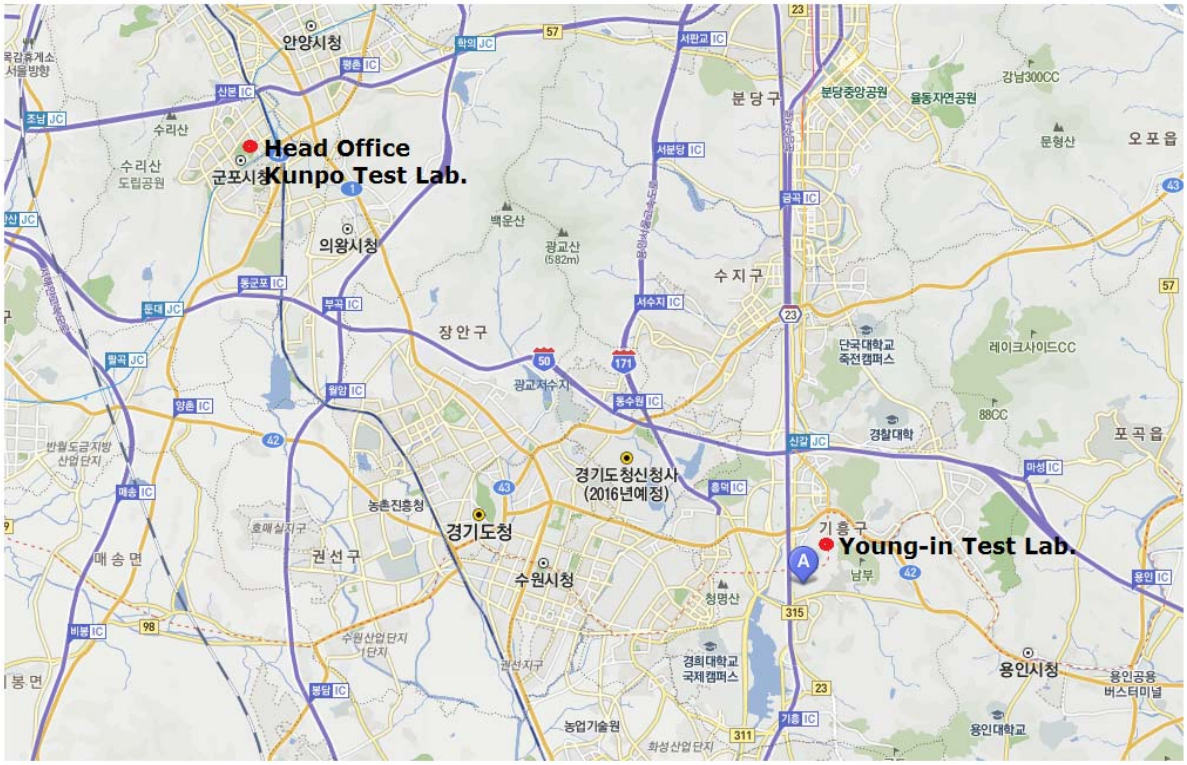
1. General Information

1.1 Information of Test Laboratory.

FCC E-Failing : Registration Number:323115

Name	:	**Standard Bank Co.,Ltd.**
Address Kunpo Test Lab. (Head Office)	:	**#507,508 Dongyoung Central Tower, 847-2 Keumjeong-dong, Kunpo City, Kyunggi-Do, Korea**
Yong-in Test Lab.	:	**#390 Bora-dong, Giheung-gu, Young-in city, Kyunggi-Do, Korea**
Radiated Emission (OATS)	:	**#390 Bora-dong, Giheung-gu, Young-in city, Kyunggi-Do, Korea**
Tel/Fax	:	**+82-31-393-9394 ~ 5 / +82-31-393-9392, 9303**

Web site : http://www.standardbank.co.kr E-mail : telecom@standardbank.co.kr

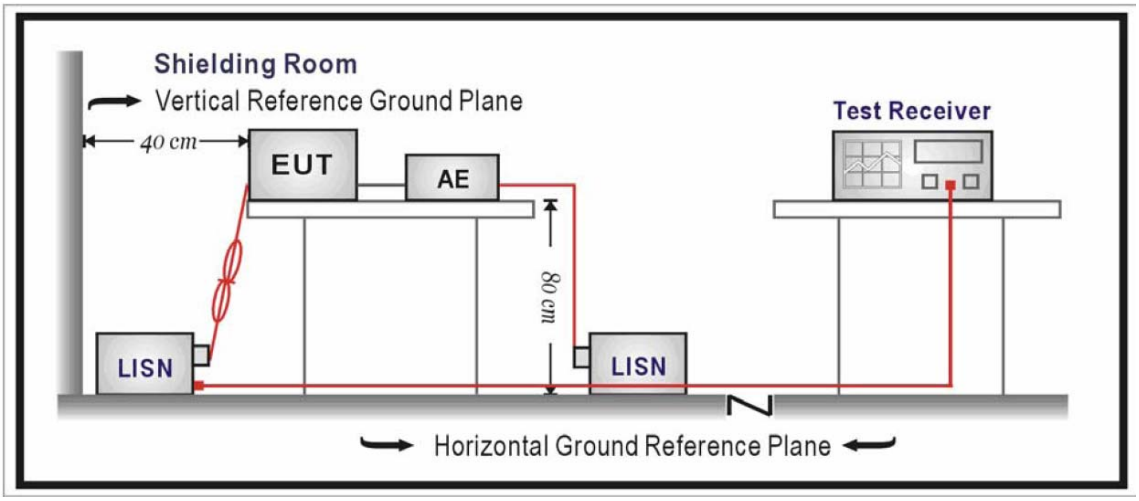


We , Standard Bank Co.,Ltd. are an independent EMC and RF and Safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited by the following accreditation Bodies in compliance with ISO 17025:

1.2 Description of Test

Conducted Emissions:

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50 uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50 ohm/50 uH coupling impedance with 50ohm termination.(Please refers to the block diagram of the test setup and photographs.)
Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed on conducted measurement.
Conducted emissions were invested over the frequency range from 0.15 MHz to 30 MHz using a receiver bandwidth of 9kHz.



Limit Of Conducted Emission:

Test Specification

: According to FCC CFR Title 47 Part 15 Subpart C Section 15.207

Frequency (MHz)	Limit (dBuV)	
	Quasi-Peak	Average
0.15 to 0.5	66 to 56 *	56 to 46 *
0.5 to 5	56	46
5 to 30	60	50

- *Note :* * Decrease with the logarithm of the frequency

Radiated Emissions:

The measurement was performed over the frequency range of 30 MHz to 1 GHz using antenna as the input transducer to a Spectrum analyzer or a Field Intensity Meter. The measurement was made with the detector set for "quasi-peak" within a bandwidth of 120 kHz.

Procedure of Test Preliminary measurements were made at 3 meter using bi-log antennas, and spectrum analyzer to determine the frequency producing the max. Emission in Semi-Anechoic Chamber. Appropriate precaution was taken to ensure that all emission from the EUT were maximized and investigated. The system configuration, mode of operation, turn-table azimuth and height with respect to the antenna were noted for each frequency found. The spectrum was scanned from 30 MHz to 1000 MHz using bi-log antenna. Above 1 GHz, linearly polarized double ridge horn antennas were used. Final measurements were made at open site with 3-meters test distance using bi-log antenna or horn antenna. The 3 m Full Chamber have been verified in regular for its normalized site attenuation. The test equipment was placed on a wooden table. Sufficient time for the EUT, peripheral equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. Each frequency found during pre-scan measurements was re-examined by manual. The detector function was set to CISPR quasi-peak mode and the bandwidth of the receiver was set to 120 kHz or 1 MHz depending on the frequency of type of signal. The EUT, peripheral equipment and interconnecting cables were re-configured to the set-up producing the max. emission for the frequency and were placed on top of a 0.8-meter high nonmetallic 1 x 1.5 meter table. The EUT, peripheral equipment, and interconnecting cables were re-arranged and manipulated to maximize each emission. The turntable containing the system was rotated; the antenna height was varied 1 to 4 meters and stopped at the azimuth or height producing the maximum emission. Each emission was maximized by: varying the mode of operation to the EUT and/or peripheral equipment and changing the polarity of the antenna, whichever determined the worst-case emission.(The bandwidth below 1 GHz setting on the field strength meter is 120 kHz and above 1 GHz is 1 MHz.)

Radiated Emissions Test, 9 kHz to 30 MHz(Magnetic Field Test):

1. The preliminary radiated measurements were performed to determine the frequency producing the maximum emissions at a distance of 3 meters according to Section 15.31(f)(2).
2. The EUT was placed on the top of the 0.8-meter height, 1 x 1.5 meter non-metallic table.
3. Emissions from the EUT are maximized by adjusting the orientation of the Loop antenna and rotating the EUT on the turntable. Manipulating the system cables also maximizes EUT emissions if applicable.
4. To obtain the final measurement data, each frequency found during preliminary measurements was re-examined and investigated. The test-receiver system was set up to average, peak, and quasi-peak detector with specified bandwidth.

Limit Of Radiated Emission :

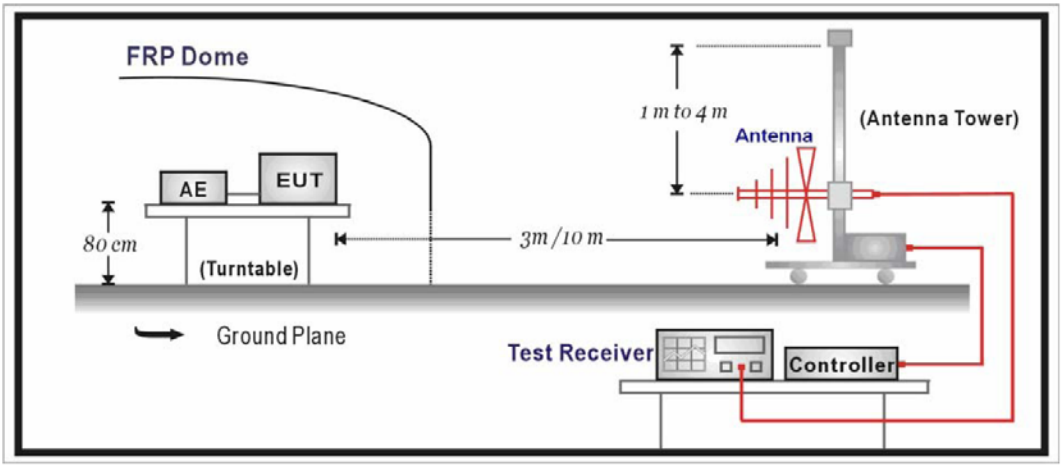
Test Specification

: According to FCC CFR Title 47 Part 15 Subpart C Section 15.209

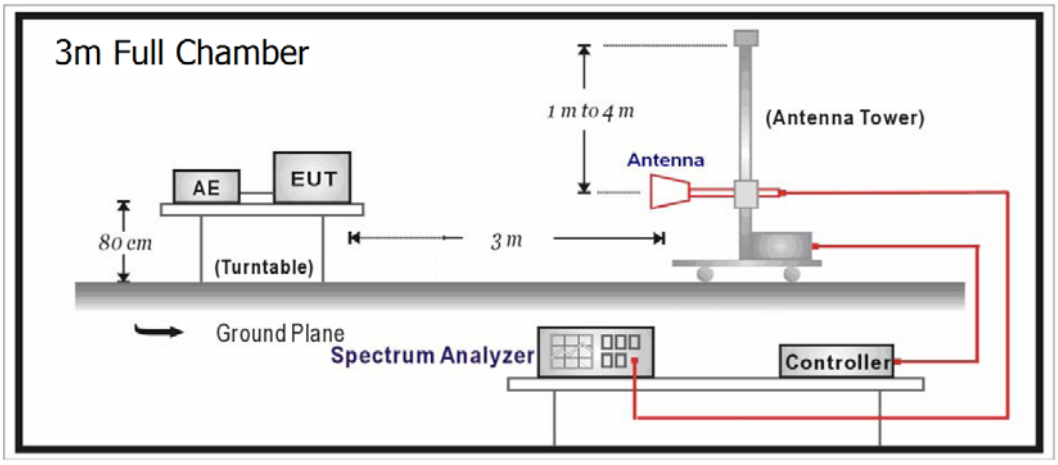
Limits		
Frequency (MHz)	uV/meter	dBuV/meter
30-88	100	40.00
88-216	150	43.52
216-960	200	46.02
Above 960	500	53.98

- *Note : 1. RF Voltage(dBuV)=20log RF Voltage(uV)*
  2. In the Above Table, the tighter limit applies at the band edges.
  3. Distance refers to the distance in meters between the measuring Instrument antenna and the closed point of any part of the device or System.

Below 1GHz Test Setup:



Above 1GHz Test Setup:



1.3 Measurement Uncertainty Calculations

Conducted Emissions

Type	Contribution	Probability Distribution	Uncertainty	Remark
B	Receiver Level	normal (k=2)	±0.0577 dB	Rlevel
	LISN			
	Attenuation : LISN-receiver	normal (k=2)	±0.0577 dB	Aatt
	Voltage Division Factor	normal (k=2)	±0.1155 dB	Ddivision
	Cable	normal (k=2)	±0.025 dB	Ccable
	Receiver			
	Input Impedance	normal (k=2)	±0.0115 dB	Iimpedance
	QP Sine-Wave Voltage Accuracy	normal (k=2)	±0.0981 dB	Aaccuracy
	QP-Pulse Amplitude Sensibility	normal (k=2)	±0.5312 dB	Ssensibility
	QP-Pulse Frequency Response	normal (k=2)	±0.0981 dB	Rresponse
	Random Noise	normal (k=2)	±0.0346 dB	Rrandom
	Mismatch AMN to Receiver	U-Shaped	+0.4041/-0.4619 dB	CISPR Theory
A	System Repeatability	Std deviation	±0.0761 dB	Ssystem
	Cable loss	Std deviation	±0.0017 dB	C_{CL}
Combined Standard Uncertainty		normal	± 1.6439 dB	
Expanded Uncertainty U		normal (k=2)	± 3.2878 dB	*(k=2, 95 %)*
3.29 dB (Confidence level about 95 %, k=2)				

Radiated Emission

Type	Contribution	Probability Distribution	Uncertainty	Remark
B	Antenna			Afactor
	Factor Frequency interpolation	normal (k=2)	±0.288 dB	Iinterpolation
	Height variation	rectangular	±1.155 dB	Hheight
	Direcvalupsy difference	rectangular	±0.577 dB	Ddirect
	Phase center location	rectangular	±0.025 dB	Pphase
	Cable loss	normal (k=2)	±0.025 dB	Ccable
	Receiver			
	Input Impedance	normal (k=2)	±0.012 dB	Iimpedance
	QP Sine-Wave Voltage Accuracy	normal (k=2)	±0.098 dB	Aaccuracy
	QP-Pulse Amplitude Sensibility	normal (k=2)	±0.531 dB	Ssensibility
	QP-Pulse Frequency Response	normal (k=2)	±0.098 dB	Rresponse
	Random Noise	normal (k=2)	±0.035 dB	Rrandom
	Mismatch : AMN – receiver $\lvert\Gamma_{antenna}\rvert$ =0.33 $\lvert\Gamma_{receiver}\rvert$ =0.33	U-Shaped	+0.520/-0.577 dB	CISPR Theory
	Site imperfection	Triangular	±1.633 dB	Ssite
	Table height	normal (k=2)	±0.058 dB	Stable
A	System Repeatability	Std deviation	±0.039 dB	Ssystem
Combined standard Uncertainty		normal	±2.335 dB	
Expanded Uncertainty U		normal (k=2)	± 4.67 dB	*(k=2, 95 %)*
4.67 dB (Confidence level about 95 %, k=2)				

1.4 Manufacturer Information

Manufacturer	:	Digitalcom Co., Ltd.
Address	:	(Bucheon Techno Park Ssangyong, Samjeong-dong) 303-801, 397 Seokcheon-ro, Ojeong-gu, Bucheon-si, Gyeonggi-do 421-742,Korea

1.5 General Description of EUT

Product Name	:	Wireless Microphone
Model Name	:	CMP-9100TF
Buyer Model(s)		RM-8000
FCC ID	:	ZMUCMP-9100TF
Serial No.	:	N/A

1.6 Details of EUT

Item	Specification
Product Type	Portable (Handheld) Device
Frequency Range	903 MHz ~ 927 MHz
Modulation Type	FM
Number of Channels	60 Channels
Antenna	Wire Antenna (1.02 dBi)
Operating Voltage	DC 3.7 V (Rechargeable Battery)

- *Note : Please refer to user`s manual and Antenna specification sheet.*

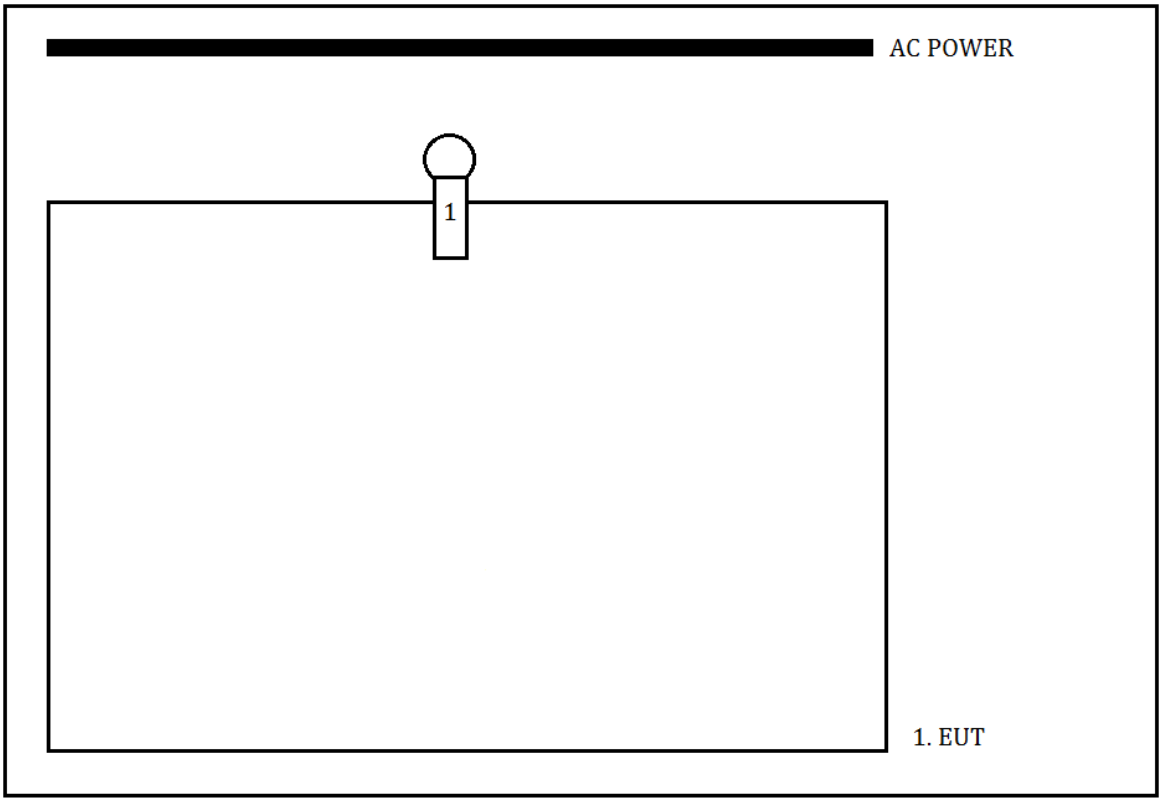
1.7 Description of Support Units

Product	Model No.	Serial No.	Manufacturer	Certification
-	-	-	-	-

1.8 Cable List

Device Form		Device To		Cable Spec.	
Name	I/O Port	Name	I/O port	Length(m)	Shield
-	-	-	-	-	-

1.9 Test Set-Up Configuration



1.10 Test Methodology And Configuration

- The EUT was placed in continuous transmit mode of operation. The location of EUT measurements has the Z plane was worst better than X plane and Y plane.

1.11 Standards Applicable for Testing

Table of tests to be carried out under FCC CFR 47 Part 15 Subpart C

Test Standards	Status
FCC CFR 47 Part 15 Subpart C	A
Deviation from Standard	No Deviation

- *Note : A : Indicates that the test is applicable*
  N/A : Indicates that the test is not applicable

2. SUMMARY

Section	Test Descriptions	Result
FCC 47 CFR 15.203	Antenna Requirement	
	- Test Result	PASS
FCC 47 CFR 15.207	Conducted Emissions	
	- Test Result	N/A*
FCC 47 CFR 15.209	Radiated Emissions	
	- Test Result	PASS
FCC 47 CFR 15.249	Field Strength of Fundamental & Harmonics Emissions	
	- Test Result	PASS

- *Note : * This test is not performed because the EUT uses DC battery.*

3. Equipment Under Test Condition

3.1 Antenna Requirement

3.1.1 Applicable Stamdard

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.

3.1.2 Applicable Construction

The antenna of the EUT is a wire antenna that is inside of EUT, so no consideration of replacement by the User.

3.1.3 Test Result

Pass

3.2 Field Strength of Fundamental & Harmonics Emissions

3.2.1 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Next of Cal.
Horn Ant.	A.H. Systems	SAS-571	1559	May. 08, 2014
Bi-log Ant.	Schwarzbeck	VULB 9160	3292	Apr. 11, 2015
Loop Ant.	Schwarzbeck	FMZB 1513	1513-167	Jan. 27, 2016
EMI Test Receiver	LIGNex1	ER-265	L0811B009	Jan. 28, 2015
Microwave Amplifier	Hewlett-Packard	8394B	3205A04032	Dec. 02, 2014

- *Note : 1. The calibaration inverval of the above test instrument is 12 month and the calibrations are traceable to RRA, KRISS, KTL and HCT.*
  2. The calibration interval of horn, Loop Ant.and bi-log Ant. is 24 months

Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable loss, and subtracting the Amplifier Gain (if any) from the measured reading. For the limit is employed average value, therefore the peak value can be transferred to average value by subtracting the duty factor. The basic equation with a sample calculation is as follows:

Peak = Reading + Corrected Factor

Where

Corr. Factor = Antenna Factor + Cable loss - Amplifier Gain (if any)

3.2.2 Field Strength of Fundamental & Harmonics Emissions

All emission form a digital device, including any network of conductors and apparatus connected thereto shall not exceed the level of field strength specified below:

FCC Part 15 Subpart C paragraph 15.249(a) Limit

Fundamental Frequency (MHz)	Field Strength of Fundamental (3 m)		Field Strength of Harmonics (3 m)	
	mV/m	dBuV/m	uV/m	dBuV/m
902-928	50	94	500	54

- *Note : 1. RF Field Strength (dBuV) = 20log RF Voltage(uV)*
  2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
  3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector

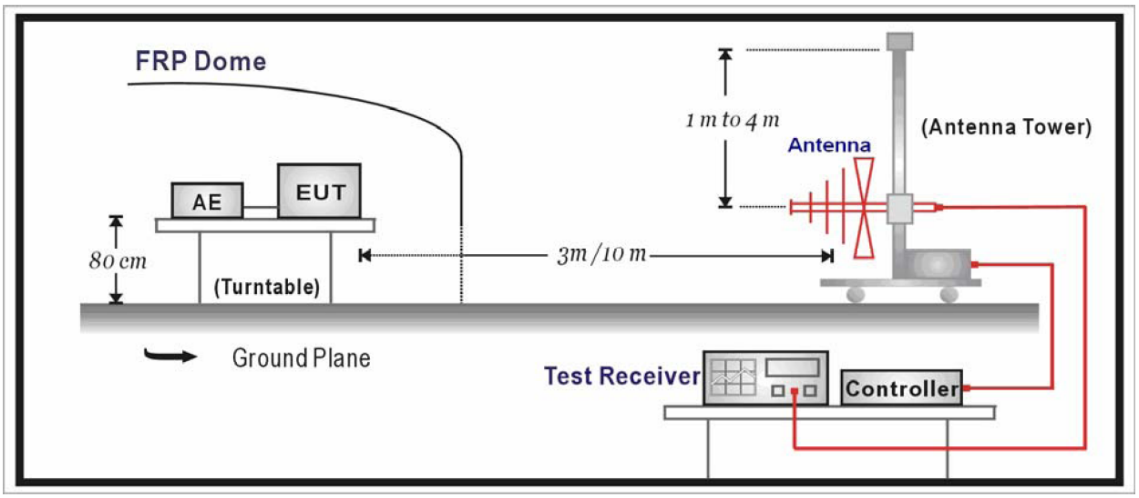
Frequencies in restricted band are complied to limit on Paragraph 15.209

Frequency Range (MHz)	Distance (m)	Field strength (dBuV/m)
0.009-0.490	3	20log 2400/F (kHz) + 80
0.490-1.705	3	20log 24000/F (kHz) + 40
1.705-30	3	20log 30 + 40
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

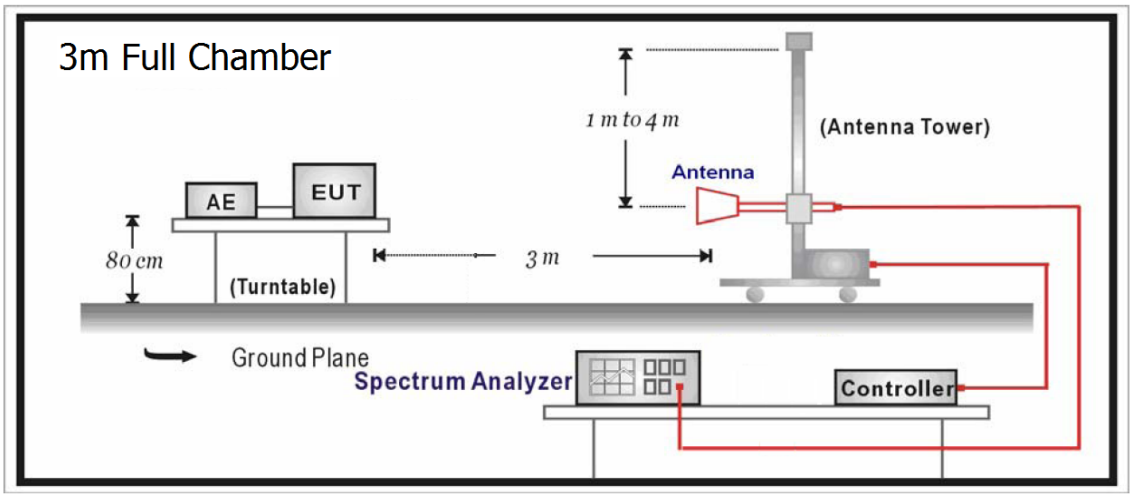
- *Note : 1. RF voltage (dBuV) = 20 log RF Voltage (uV)*
  2. In the Above Table, the tighter limit applies at the band edges.
  3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
  4. This device used to install a within vehicular. The location of EUT measurements has the Y-plane(Stand).
  5. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30 – 1000 MHz. As to 1 – 26.5 GHz, the final emission level got using PK and AV detector.
  6. If measurement is made at 3m distance.

3.2.3. Test Configuration

Below 1GHz Test Setup:



Above 1GHz Test Setup:



3.2.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2009 and tested according to test procedure of ANSI C63.10: 2009 for compliance to FCC 47CFR 15.249 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4: 2009 on radiated measurement.

The resolution bandwidth below 1 GHz setting on the field strength meter is 120 kHz and above 1 GHz is 1 MHz. Radiated emission measurements below 1 GHz are made using broadband Bilog antenna and above 1 GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement. The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna. The frequency range from 30 MHz to 10^{th} harmonics is checked.

3.2.5 Test Result

3.2.5.1 Low Channel

Test Item	Field Strength of Fundamental & Harmonics Emissions		
Test Mode	FM	Test Site	3 m Semi-Anechoic Chamber
Test Channel	Channel 01 (903.0 MHz)	Polarization	Horizontal & Vertical
Meas.Method	Radiated	Test Result	Pass

Frequency (MHz)	Reading (dBuV/m)	Pol. (H/V)	Detect Mode	Ant. Factor (dB/m)	Cable loss (dB)	Limit (dBuV/m)	Total (dBuV/m)	Margin (dB)
Below 30 MHz								
1.258	33.25	H	Quasi-Peak	19.79	0.24	65.61	53.28	12.33
1.316	33.86	V	Quasi-Peak	19.78	0.25	65.22	53.89	11.33
1.626	35.21	H	Quasi-Peak	19.77	0.26	63.38	55.24	8.14
1.721	34.24	V	Quasi-Peak	19.76	0.26	69.54	54.26	15.28
2.019	46.51	V	Quasi-Peak	19.75	0.26	69.54	66.52	3.02
2.078	41.31	H	Quasi-Peak	19.75	0.26	69.54	61.32	8.22
3.831	32.77	H	Quasi-Peak	19.87	0.25	69.54	52.89	16.65
6.316	34.10	H	Quasi-Peak	20.15	0.40	69.54	54.65	14.89
6.382	39.27	V	Quasi-Peak	20.16	0.41	69.54	59.84	9.70
9.982	34.23	V	Quasi-Peak	20.30	0.43	69.54	54.96	14.58
15.699	33.93	V	Quasi-Peak	20.00	0.58	69.54	54.51	15.03
Below 1 GHz								
60.08	16.07	V	Quasi-Peak	12.31	1.16	40.00	29.54	10.46
81.63	19.63	V	Quasi-Peak	6.41	1.11	40.00	27.15	12.85
86.84	19.40	V	Quasi-Peak	8.00	1.25	40.00	28.65	11.35
93.36	15.25	V	Quasi-Peak	9.81	1.52	43.50	26.58	16.92
346.31	18.11	V	Quasi-Peak	14.78	2.56	46.00	35.45	10.55
903.00	64.27	H	Quasi-Peak	23.29	4.47	94.00	92.03	1.97
Above 1 GHz								
1806.00	26.85	H	Peak	25.93	5.70	74.00	58.48	15.52
1806.00	7.97	H	Average	25.93	5.70	54.00	39.60	14.40

- *Note : 1. RF voltage (dBuV) = 20 log RF Voltage (uV)*
  2. The location of EUT measurements has the Z-plane.
  3. Other emissions present had amplitude at least 20 dB below the limit.

3.2.5.2 Middle Channel

Test Item	Field Strength of Fundamental & Harmonics Emissions		
Test Mode	FM	Test Site	3 m Semi-Anechoic Chamber
Test Channel	Channel 30 (919.4 MHz)	Polarization	Horizontal & Vertical
Meas.Method	Radiated	Test Result	Pass

Frequency (MHz)	Reading (dBuV/m)	Pol. (H/V)	Detect Mode	Ant. Factor (dB/m)	Cable loss (dB)	Limit (dBuV/m)	Total (dBuV/m)	Margin (dB)
Below 30 MHz								
1.318	35.68	V	Quasi-Peak	19.78	0.25	65.20	55.71	9.49
1.667	35.54	V	Quasi-Peak	19.77	0.26	63.16	55.57	7.59
2.041	35.94	H	Quasi-Peak	19.75	0.26	69.54	55.95	13.59
2.051	47.17	V	Quasi-Peak	19.75	0.26	69.54	67.18	2.36
3.853	37.76	V	Quasi-Peak	19.87	0.25	69.54	57.88	11.66
6.396	42.10	V	Quasi-Peak	20.16	0.41	69.54	62.67	6.87
9.829	38.55	V	Quasi-Peak	20.29	0.41	69.54	59.25	10.29
Below 1 GHz								
60.67	19.21	V	Quasi-Peak	12.03	1.17	40.00	32.41	7.59
81.04	23.78	V	Quasi-Peak	6.23	1.07	40.00	31.08	8.92
82.34	23.84	V	Quasi-Peak	6.62	1.19	40.00	31.65	8.35
341.10	18.84	V	Quasi-Peak	14.64	2.60	46.00	36.08	9.92
367.86	15.41	V	Quasi-Peak	15.36	2.89	46.00	33.66	12.34
919.40	63.66	H	Quasi-Peak	23.40	4.37	94.00	91.43	2.57
Above 1 GHz								
1838.80	25.75	H	Peak	26.02	5.75	74.00	57.52	16.48
1838.80	6.28	H	Average	26.02	5.75	54.00	38.05	15.95

- *Note : 1. RF voltage (dBuV) = 20 log RF Voltage (uV)*

  2. The location of EUT measurements has the Z-plane.

  3. Other emissions present had amplitude at least 20 dB below the limit.

3.2.5.3 High Channel

Test Item	Field Strength of Fundamental & Harmonics Emissions		
Test Mode	FM	Test Site	3 m Semi-Anechoic Chamber
Test Channel	Channel 60 (927.0 MHz)	Polarization	Horizontal & Vertical
Meas.Method	Radiated	Test Result	Pass

Frequency (MHz)	Reading (dBuV/m)	Pol. (H/V)	Detect Mode	Ant. Factor (dB/m)	Cable loss (dB)	Limit (dBuV/m)	Total (dBuV/m)	Margin (dB)
Below 30 MHz								
1.265	32.37	H	Quasi-Peak	19.79	0.25	65.56	52.41	13.15
1.321	35.68	V	Quasi-Peak	19.78	0.25	65.19	55.71	9.48
1.859	38.63	H	Quasi-Peak	19.76	0.26	69.54	58.65	10.89
2.009	44.09	V	Quasi-Peak	19.75	0.26	69.54	64.10	5.44
2.097	42.02	H	Quasi-Peak	19.75	0.26	69.54	62.03	7.51
2.351	38.60	V	Quasi-Peak	19.73	0.25	69.54	58.58	10.96
3.874	37.82	V	Quasi-Peak	19.87	0.26	69.54	57.95	11.59
3.791	34.66	H	Quasi-Peak	19.86	0.25	69.54	54.77	14.77
6.316	40.16	V	Quasi-Peak	20.15	0.40	69.54	60.71	8.83
6.323	38.49	H	Quasi-Peak	20.15	0.40	69.54	59.04	10.50
9.749	32.19	H	Quasi-Peak	20.29	0.41	69.54	52.89	16.65
9.895	37.93	V	Quasi-Peak	20.30	0.42	69.54	58.65	10.89
Below 1 GHz								
58.07	18.84	V	Quasi-Peak	12.35	1.09	40.00	32.28	7.72
78.32	25.55	V	Quasi-Peak	6.20	1.27	40.00	33.02	6.98
82.34	23.76	V	Quasi-Peak	6.62	1.19	40.00	31.57	8.43
345.00	18.85	V	Quasi-Peak	14.74	2.68	43.50	36.27	7.23
371.77	15.51	V	Quasi-Peak	15.46	3.14	46.00	34.11	11.89
927.00	62.85	H	Quasi-Peak	23.45	4.43	94.00	90.73	3.27
Above 1 GHz								
1854.00	27.62	V	Peak	26.05	5.77	74.00	59.44	14.56
1854.00	7.95	V	Average	26.05	5.77	54.00	39.72	14.28

- *Note : 1. RF voltage (dBuV) = 20 log RF Voltage (uV)*

2. The location of EUT measurements has the Z-plane.

3. Other emissions present had amplitude at least 20 dB below the limit.

3.3 Band Edge

3.3.1 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Next of Cal.
Bi-log Ant.	Schwarzbeck	VULB 9160	3292	Apr. 11, 2015
EMI Test Receiver	LIGNex1	ER-265	L0811B009	Jan. 28, 2015
Microwave Amplifier	Hewlett-Packard	8394B	3205A04032	Dec. 02, 2014

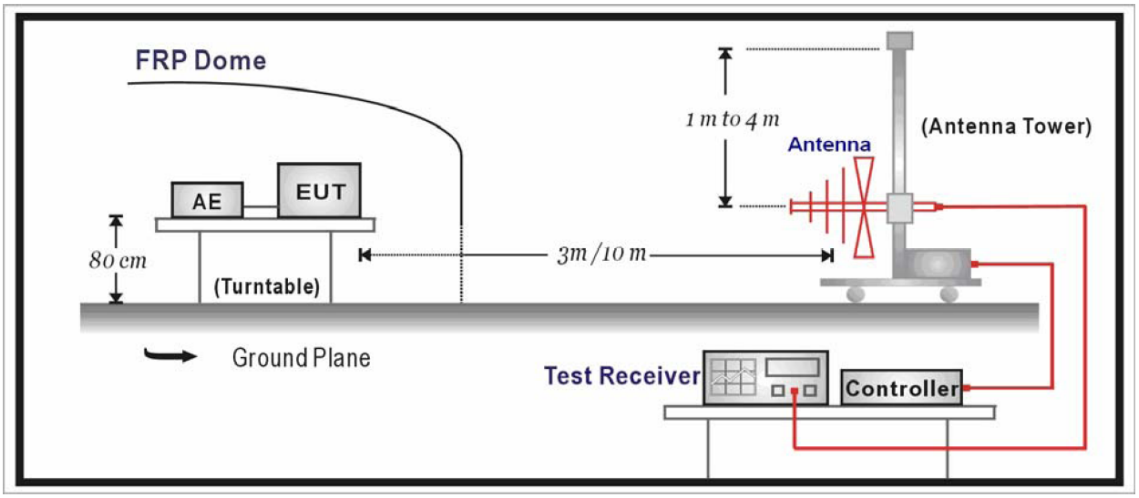
- *Note : 1. The calibaration inverval of the above test instrument is 12 month and the calibrations are traceable to RRA, KRISS, KTL and HCT.*
  2. The calibration interval of horn, Loop Ant.and bi-log Ant. is 24 months

3.3.2 Limit

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 to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.

3.3.3 Test Configuration

Below 1GHz Test Setup:



3.3.4 Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. The antenna can move up and down between 1 meter and 4 meters to fine out the maximum emission level.

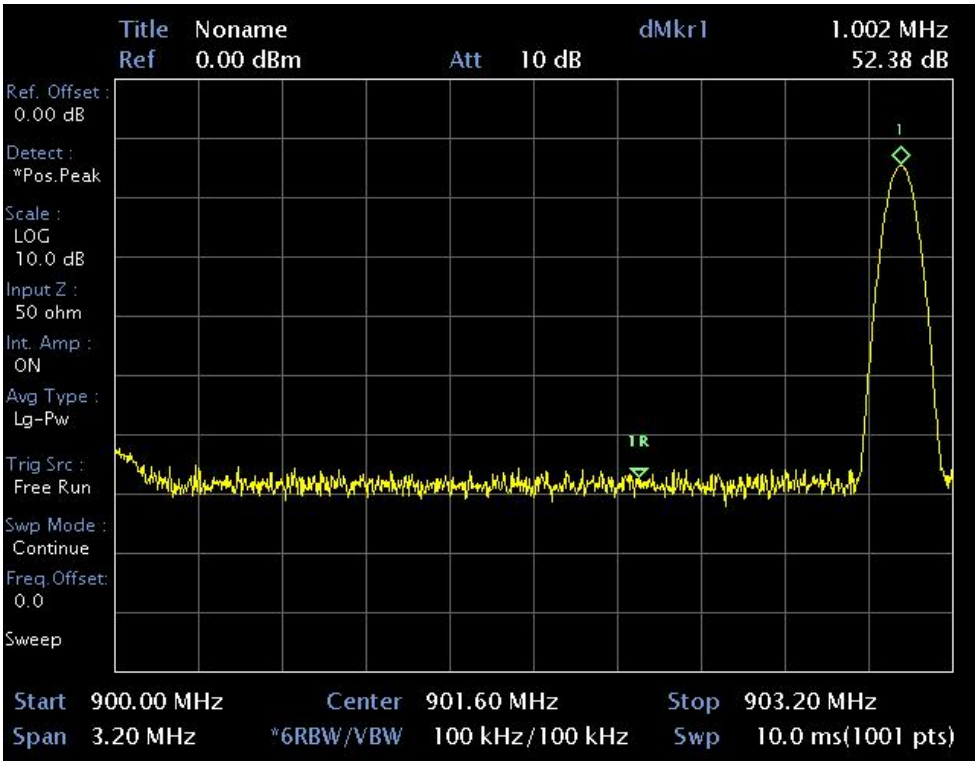
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2009 on radiated measurement.

The bandwidth below 1 GHz setting on the field strength meter is 120 kHz, above 1 GHz are 1 MHz.

3.3.5 Test Result

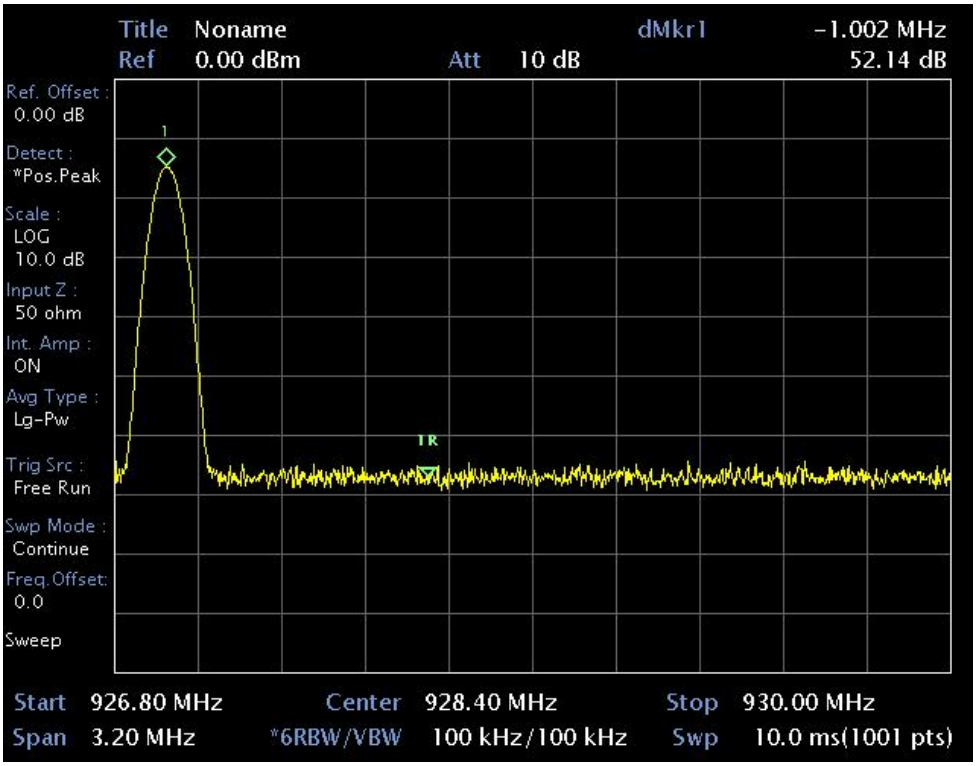
3.3.5.1 Low Channel

Test Item	Band Edge		
Test Mode	FM	Test Site	3 m Semi-Anechoic Chamber
Test Channel	Channel 01 (903.0 MHz)	Polarization	Horizontal & Vertical
Meas.Method	Radiated	Test Result	Pass



3.3.5.2 High Channel

Test Item	Band Edge		
Test Mode	FM	Test Site	3 m Semi-Anechoic Chamber
Test Channel	Channel 60 (927.0 MHz)	Polarization	Horizontal & Vertical
Meas.Method	Radiated	Test Result	Pass

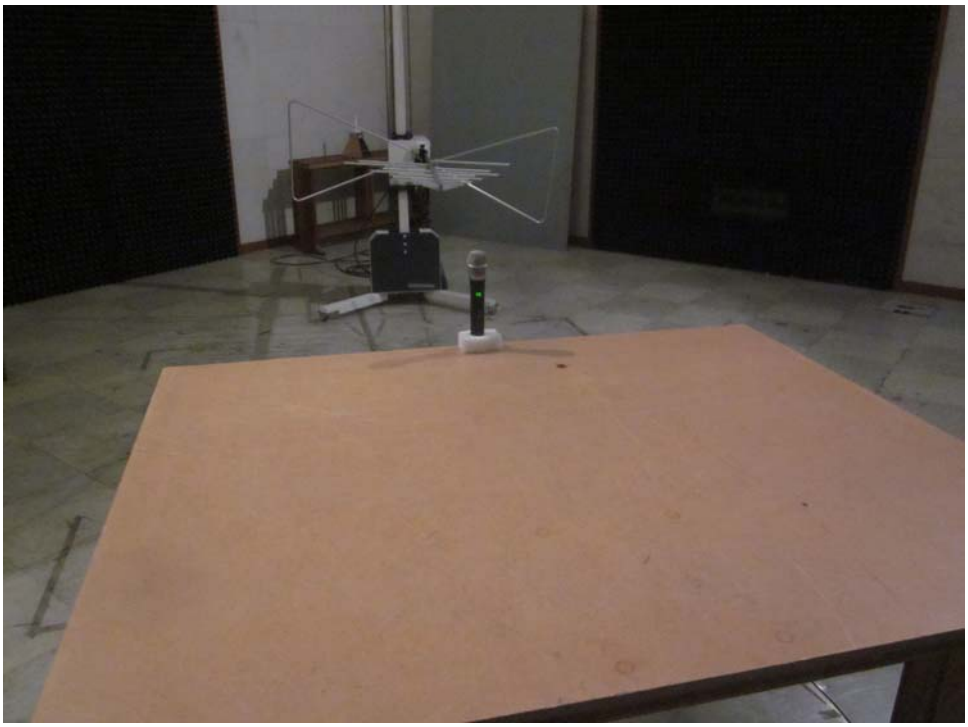


Appendix A. The Photo of Test Setup

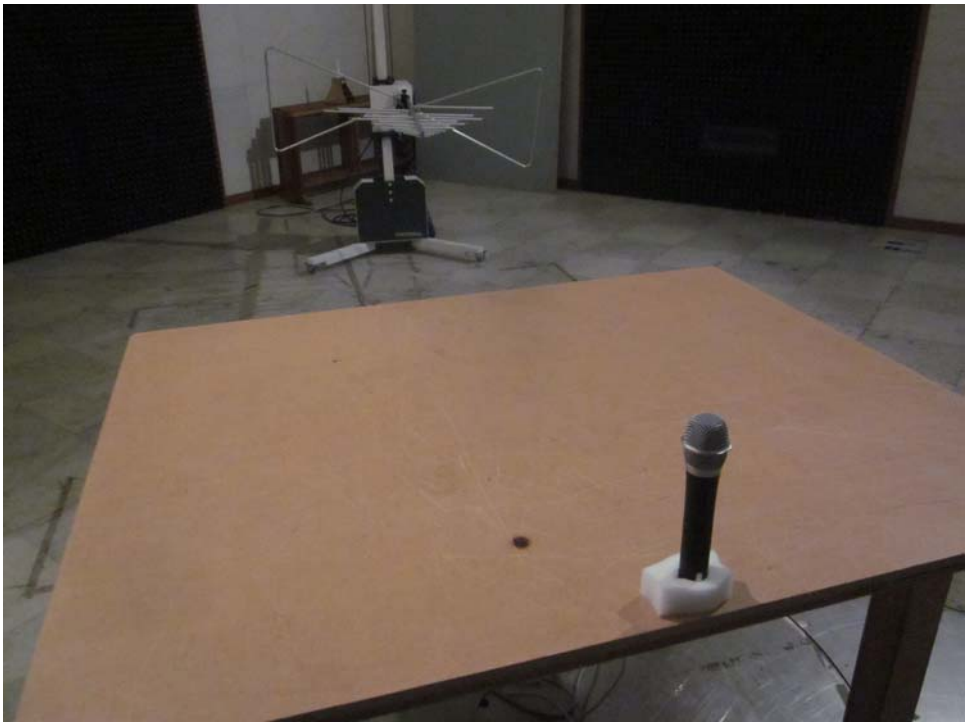
- **Front View of Radiated Emission (Below 30 MHz)**

- **Rear View of Radiated Emission (Below 30 MHz)**

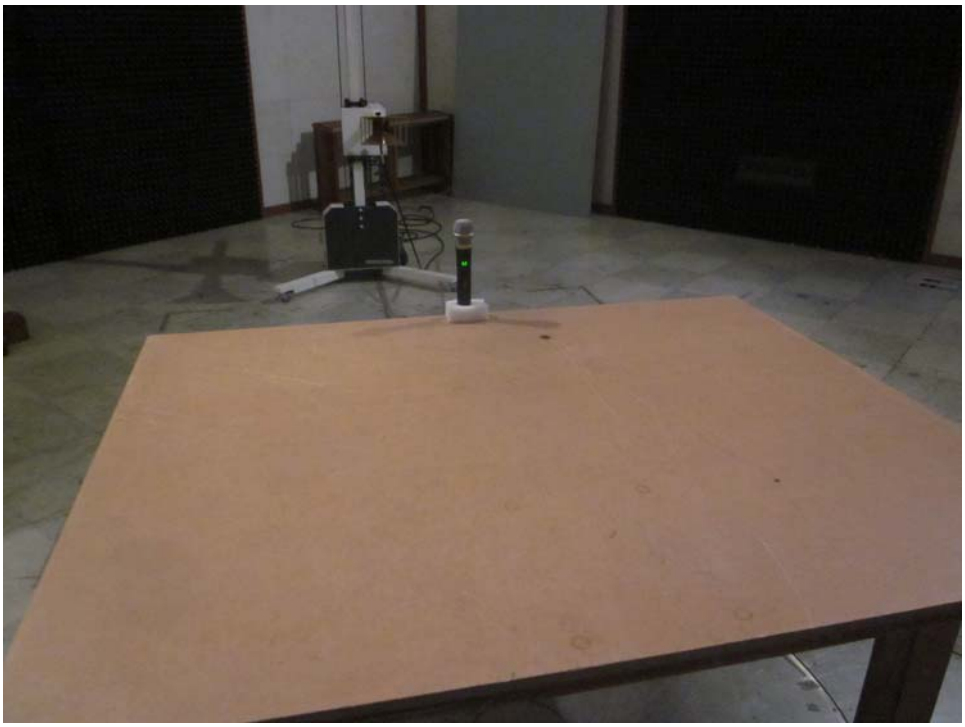
- **Front View of Radiated Emission (Below 30 MHz)**



- **Rear View of Radiated Emission (Below 30 MHz)**



- **Front View of Radiated Emission (Above 1 GHz)**



- **Rear View of Radiated Emission (Above 1 GHz)**

Appendix B. The Photo of Equipment Under Test

- **Front View of EUT**

- **Rear View of EUT**

- **Inner View of EUT**