

## Electromagnetic Emission

# FCC MEASUREMENT REPORT

### CERTIFICATION OF COMPLIANCE

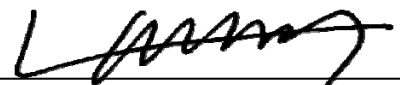
#### FCC Part 15 Certification Measurement

**PRODUCT** : FM Transmitter  
**MODEL/Serial No.** : MF-100 / NONE  
**FCC ID** : VRY-MF-100  
**APPLICANT** : CREZENN INC.  
3<sup>rd</sup> Floor, 2042-17, Jeongwang-dong, Siheung-si,  
Gyeonggi-do, 429-450 South Korea  
Attn. : Mr. Hung-Su, Park / CEO  
**MANUFACTURER** : CREZENN INC.  
3<sup>rd</sup> Floor, 2042-17, Jeongwang-dong, Siheung-si,  
Gyeonggi-do, 429-450 South Korea  
**FCC CLASSIFICATION** : DXX: Low Power Communication Device Transmitter  
**RULE PART(S)** : FCC Title 47, Part 15 Subpart C  
**FCC PROCEDURE** : ANSI C63.4-2003  
**TEST RESULT** : The above-mentioned device has been tested and passed.  
**TEST REPORT No.** : ETLE071009.685  
**DATES OF TEST** : October 22, 2007 ~ October 25, 2007  
**REPORT ISSUE DATE** : October 31, 2007  
**TEST LABORATORY** : ETL Inc. (FCC Registration Number : 95422)

This FM Transmitter, Model MF-100 has been tested in accordance with the measurement procedures specified in ANSI C63.4-2003 at the ETL Test Laboratory and has been shown to be complied with the electromagnetic radiated emission limits specified in FCC Rule Part15 Subpart C section15.239.

I attest to the accuracy of data. All measurement herein was performed by me or was made under my supervision and is correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

The results of testing in this report apply to the product/system which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.



Hyung Seok, Lee / Chief Engineer

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**#371-51, Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea**

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## FCC MEASUREMENT REPORT

**Scope** – Measurement and determination of electromagnetic emission(EME) of radio frequency devices including intentional radiators and/or unintentional radiators for compliance with the technical rules and regulations of the U.S Federal Communications Commission(FCC)

### General Information

<b>Applicant Name</b>	: CREZENN INC.
<b>Address</b>	: 3 <sup>rd</sup> Floor, 2042-17, Jeongwang-dong, Siheung-si, Gyeonggi-do, 429-450 South Korea
<b>Attention</b>	: Mr. Hung-Su, Park / CEO

- **EUT Type :** FM Transmitter
- **Model Number :** MF-100
- **S/N :** NONE
- **Freq. Range :** 88.10 MHz – 107.90 MHz
- **FCC Rule Part(s) :** FCC Part 15 Subpart C Section 15.239
- **Test Procedure :** ANSI C63.4-2003
- **FCC Classification :** DXX: Low Power Communication Device Transmitter
- **Dates of Tests :** October 22, 2007 ~ October 25, 2007
- **Place of Tests :** ETL Inc. Testing Lab.  
  
Radiated Emission test;  
#584, Sangwhal-ri, Ganam-myeon, Yaju-gun,  
Gyeonggi-do, 469-885, Korea  
  
Conducted Emission test;  
ETL Inc. Testing Lab.  
371-51, Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea
- **Test Report No. :** ETLE071009.685

## 1. INTRODUCTION

The measurement test for radiated and conducted emission test was conducted at the ETL Inc. The site is constructed in conformance with the requirements of the ANSI C63.4-2003 and CISPR Publication 16. The ETL has site descriptions on file with the FCC for 3 m and 10 m site configurations. Detailed description of test facility was found to be in compliance with FCC Rules according to the ANSI C63.4-2003 and registered to the Federal Communications Commission (FCC Registration Number : 95422).

The measurement procedure described in American National Standard for Method of Measurement of Radio-Noise Emission from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (ANSI C63.4-2003) was used in determining radiated and conducted emissions from the CREZENN INC. Model: MF-100

## 2. PRODUCT INFORMATION

### 2.1 Equipment Description

The Equipment Under Test (EUT) is the CREZENN INC. FM Transmitter. Model: MF-100.

This is FM transmitter. It's power 3,7 V from battery pack. FM transmitter is designed to operate on frequency in the 88.10 MHz ~ 107.90 MHz.

The amplified RF is transmitted loop wire antenna.

### 2.2 General Specification

- Modulation: FM Stereo
- Transfer Type: FM(F3E)
- Frequency Adjustment: 0.1 MHz per step
- Audio Input Range: 20 Hz ~ 15 kHz
- Stereo Separation: 40 dB
- Current Consumption: 15 mA
- Dimensions: 42,5 x 24,5 x 13 mm
- Weight: 18 g
- Power Supply: Built-in Li-Ion 3,7 V Rechargeable Battery
- Battery Running Time: approx. 10 hours
- Charging Time: approx. 1 hour
- Charging with USB (Mini 5-Pin)

### 2.3 RF Output Frequency Range (88.10 MHz – 107.9 MHz)

FM transmitter is designed to operate verify maximum tuning range on frequency in the 88.10 MHz ~ 107.90 MHz from manufacturer's. Frequency Adjustment to 0.1 MHz per step.

[Table of total tuning range]

No.	Freq.	No.	Freq.	No.	Freq.	No.	Freq.	No.	Freq.
1	88.1	41	92.1	81	96.1	121	100.1	161	104.1
2	88.2	42	92.2	82	96.2	122	100.2	162	104.2
3	88.3	43	92.3	83	96.3	123	100.3	163	104.3
4	88.4	44	92.4	84	96.4	124	100.4	164	104.4
5	88.5	45	92.5	85	96.5	125	100.5	165	104.5
6	88.6	46	92.6	86	96.6	126	100.6	166	104.6
7	88.7	47	92.7	87	96.7	127	100.7	167	104.7
8	88.8	48	92.8	88	96.8	128	100.8	168	104.8
9	88.9	49	92.9	89	96.9	129	100.9	169	104.9
10	89.0	50	93.0	90	97.0	130	101.0	170	105.0
11	89.1	51	93.1	91	97.1	131	101.1	171	105.1
12	89.2	52	93.2	92	97.2	132	101.2	172	105.2
13	89.3	53	93.3	93	97.3	133	101.3	173	105.3
14	89.4	54	93.4	94	97.4	134	101.4	174	105.4
15	89.5	55	93.5	95	97.5	135	101.5	175	105.5
16	89.6	56	93.6	96	97.6	136	101.6	176	105.6
17	89.7	57	93.7	97	97.7	137	101.7	177	105.7
18	89.8	58	93.8	98	97.8	138	101.8	178	105.8
19	89.9	59	93.9	99	97.9	139	101.9	179	105.9
20	90.0	60	94.0	100	98.0	140	102.0	180	106.0
21	90.1	61	94.1	101	98.1	141	102.1	181	106.1
22	90.2	62	94.2	102	98.2	142	102.2	182	106.2
23	90.3	63	94.3	103	98.3	143	102.3	183	106.3
24	90.4	64	94.4	104	98.4	144	102.4	184	106.4
25	90.5	65	94.5	105	98.5	145	102.5	185	106.5
26	90.6	66	94.6	106	98.6	146	102.6	186	106.6
27	90.7	67	94.7	107	98.7	147	102.7	187	106.7
28	90.8	68	94.8	108	98.8	148	102.8	188	106.8
29	90.9	69	94.9	109	98.9	149	102.9	189	106.9
30	91.0	70	95.0	110	99.0	150	103.0	190	107.0
31	91.1	71	95.1	111	99.1	151	103.1	191	107.1
32	91.2	72	95.2	112	99.2	152	103.2	192	107.2
33	91.3	73	95.3	113	99.3	153	103.3	193	107.3
34	91.4	74	95.4	114	99.4	154	103.4	194	107.4
35	91.5	75	95.5	115	99.5	155	103.5	195	107.5
36	91.6	76	95.6	116	99.6	156	103.6	196	107.6
37	91.7	77	95.7	117	99.7	157	103.7	197	107.7
38	91.8	78	95.8	118	99.8	158	103.8	198	107.8
39	91.9	79	95.9	119	99.9	159	103.9	199	107.9
40	92.0	80	96.0	120	100.0	160	104.0		

## 3. DESCRIPTION OF TESTS

### 3.1 Conducted Emission Measurement

Conducted emissions measurements were made in accordance with § 13 in ANSI C63.4-2003 "measurement of intentional radiators ". The measurement were performed over the frequency range of 0.15 MHz to 30 MHz using a 50 $\Omega$ /50uH LISN as the input transducer to a spectrum analyzer or a field intensity meter. The measurements were made with the detector set for "Peak" amplitude within a bandwidth of 10 kHz or for "quasi-peak" within a bandwidth of 9 kHz.

#### - Procedure of Test

The line-conducted emission test is conducted inside a shielded anechoic chamber room with 1 m x 1,5 m x 0,8 m wooden table which is placed 0,4 m away from the vertical wall and 1,5 m away from the side wall of the chamber room. Two LISN are bonded to the shielded room. The EUT is powered from the LISN and the support equipment is powered from the other LISN. Power to the LISNs are filtered by a noise cut power line filters. All electrical cables are shielded by braided tinned steel tubing with inner  $\phi$  1,2 cm. If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and these supply lines will be connected to the LISN. Non-inductive bundling to a 1 m length shortened all interconnecting cables more than 1 m. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the EMI Test Receiver to determine the frequency producing the maximum emission from the EUT. The frequency producing the maximum level was reexamined using to set Quasi-Peak mode by manual, after scanned by automatic Peak mode from 0,15 MHz to 30 MHz. The bandwidth of the spectrum analyzer was set to 9 kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was maximized by switching power lines, varying the mode of operation or resolution, clock or data exchange speed, if applicable, whichever determined the worst-case emission. Each emission reported was calibrated using self-calibrating mode.

#### 3.1.1 Limitation

##### (1) According to §15.207 Conducted limits

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the conducted limit is the following:

Frequency MHz	Quasi Peak dB uV	Average dB uV
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

## 3.2 Radiated Emission Measurement

Radiated emission measurements were in accordance with § 13 in ANSI C63.4-2003 "Measurement of Intentional radiators" The measurements were performed over the frequency range of 30 MHz to 40 GHz using antenna as the input transducer to a Spectrum analyzer or a Field Intensity Meter. The measurements were made with the detector set for "Peak, Quasi-peak, Average" within a bandwidth of 120 kHz and above 1GHz is 1 MHz.

### - Procedure of Test

Preliminary measurements were made at 3 meter using broadband antennas, and spectrum analyzer to determine the frequency producing the max. Emission in shielded room. Appropriate precaution was taken to ensure that all emission from the EUT were maximized and investigated. The system configuration, mode of operation, turntable azimuth and height with respect to the antenna were noted for each frequency found. The spectrum was scanned from 30 kHz to 1 GHz using Log-Bicon antenna. Above 1 GHz, linearly polarized double ridge horn antennas were used. Final measurements were made open site at 3-meters. The test equipment was placed on a wooden turntable. Sufficient time for the EUT, support 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 Peak, Quasi-peak, Average 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, support 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, support 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 max. Emission. Each emission was maximized by: varying the mode of operation to the EUT and/or support equipment and changing the polarity of the antenna, whichever determined the worst-case emission. Photographs of the worst-case emission can be seen in Photographs of the worst-case emission test setup can be seen in Appendix B.

## 3.2.1 Radiated Emission Limits

### (1) According to §15.239(b) out-of-band radiated emissions

This test was performed to measure radiated emissions on frequencies outside of the specified 200 kHz band and also to verify the EUT full compliance with § 15.209, as following:

Frequencies (MHz)	15.209 Limits and General Radiated Limits (dBuV/m@3 m)
30 – 88	40
88 – 216	43.5
216 – 960	46
Above 960	54



## (2) According to §15.239(b) Field strength of emissions

According to § 15.239(b), the field strength of emissions from intentional radiators operated under these frequency bands shall not exceed the following:

Frequencies (MHz)	15.239 Field Strength of Fundamental Limits (dBuV/m@3 m)
88 – 108	48 (Average)
	68(Peak)

## (3) According to §15.239(a) Occupied Bandwidth Measurement

Emissions from the intentional radiator shall be confined within a band 200 kHz wide centered on the operating frequency. The 200 kHz band shall lie wholly within the frequency range of 88.10 MHz – 107.90 MHz.

Position the EUT as shown in the radiated emission measurement and set it to any one measured frequency within its operating range and make sure the measuring instrument is operated in its linear range. Set both RBW and VBW of the spectrum analyzer to 10 kHz and 100 kHz respectively with a convenient frequency span including 200 kHz bandwidth of the emission.

The Measurements were performed at three channels: low (88.10 MHz), middle (98.00 MHz) and high (107.90 MHz). The spectrum trace data around transmitter fundamental frequency was obtained with the spectrum analyzer in “Max Hold” mode. The bandwidth value was determined between two points 20 dB down from the center frequency. The measured results are less than 200 kHz. The measured spectrum of the signal is shown in Figure 1. From the plot we see that in the worst case, the bandwidth is 57.00 kHz at 98.00 MHz.

## 4. TEST CONDITION

### 4.1 Test Configuration

The device was configured for testing in a typical fashion (as a customer would normally use it). During the tests, the following conditions and configurations were used.

### 4.2 EUT operation

The EUT was tested on the design frequency of the device. In the case of EUTs that can operate on more than one frequency, unless otherwise specified in the individual tests, measurements shall be made with the EUT set to a frequency or frequencies as provided in Table:

Frequency range over which device operates	Number of frequencies	Location in the range of operation
Less than 1 MHz	1	1 near middle
1 to 10 MHz	2	1 near top, 1 near bottom
More than 10 MHz	3	1 near top, 1 near middle, and 1, near bottom

The EUT was power 3,7 V from battery pack. FM transmitter is designed to operate on frequency in the 88.10 MHz ~ 107.90 MHz.

Operating Mode	The worst operating condition
- Frequency tuning 88.10 MHz	X
- Frequency tuning 98.00 MHz	X
- Frequency tuning 107.90 MHz	◎

◎ : Worst case investigated during the test.

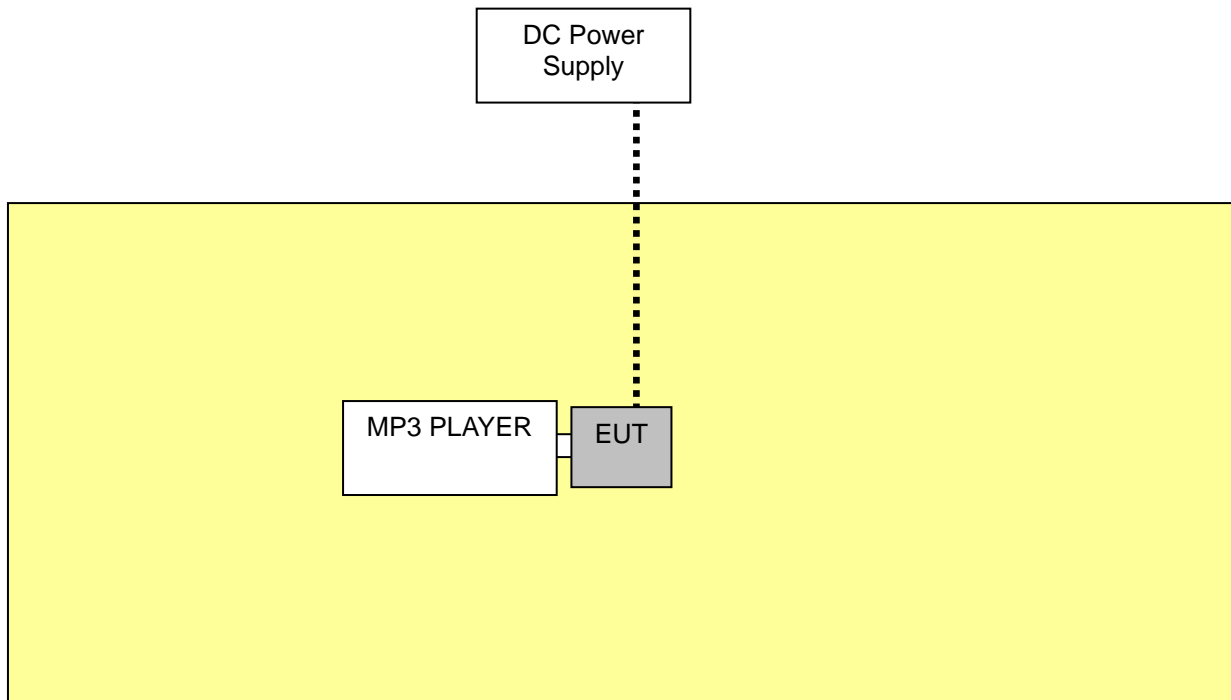
### 4.3 Support Equipment Used

Description	Model Name	Serial No.	Manufacturer
MP3 PLAYER	turbolinux	NONE	NONE

### 4.4 Type of Cables Used

Device from	Device to	Type of I/O port	Length(m)	Type of shield
EUT	MP3 PLAYER	Audio Input	0,02	-
EUT	DC Power Supply	DC Input	1,0	Unshielded

## 4.5 The setup drawing(s)



- \_\_\_\_\_ : Data Line
- : AC Power Line
- ..... : DC Power Line (DC 3,7 V)

## 5. TEST RESULTS

### 5.1 Summary of Test Results

The measurement results were obtained with the EUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum emission of the EUT are reported.

FCC Rule Parts	Measurement Required	Result
15.207	Conducted Emission	Passed
15.239(b)	Radiated Emissions of Field Strength	Passed
15.239(c)	Out-of-band Radiated Emissions	Passed
15.239(a)	Occupied Bandwidth Measurement	Passed

The data collected shows that the **CREZENN INC. / FM Transmitter / MF-100** complied with technical requirements of the Part 15.239 of the FCC Rules.

The equipment is not modified anything, mechanical or circuits to improve EMI status during a measurement. No EMI suppression device(s) was added and/or modified during testing.

## 5.2 Conducted Emissions

<b>EUT</b>	FM Transmitter / MF-100 (S/N: N/A)
<b>Limit apply to</b>	FCC Part15 Subpart C
<b>Test Date</b>	November 15, 2007
<b>Operating Condition</b>	RF transmit with frequency tuned mode
<b>Environment Condition</b>	Humidity Level: 40 %R.H., Temperature: 23,1 °C
<b>Result</b>	Passed by 15,10 dB

### Test data

The test is 88.10 MHz, 98.00 MHz, 107.90 MHz worst case

The following table shows the highest levels of conducted emissions on both polarizations of hot and neutral line.

Detector mode: CISPR Quasi-Peak mode ( 6 dB Bandwidth : 9 kHz )

Frequency [MHz]	Result [dB $\mu$ V]		Phase (*H/**N)	Limit [dB $\mu$ V]		Margin [dB]	
	Quasi-peak	Average		Quasi-peak	Average	Quasi-peak	Average
0,185	42,00	—	H	64,20	54,20	22,20	—
0,289	41,50	—	N	60,50	50,50	19,00	—
0,299	42,50	—	N	60,20	50,20	17,70	—
0,426	42,20	—	N	57,30	47,30	15,10	—
1,245	39,10	—	H	56,00	46,00	16,90	—
2,154	37,40	—	H	56,00	46,00	18,60	—
2,445	37,00	—	N	56,00	46,00	19,00	—
2,536	37,30	—	H	56,00	46,00	18,70	—

NOTES: 1. \* H: HOT Line, \*\*N: Neutral Line

2. Margin value = Limit – Result

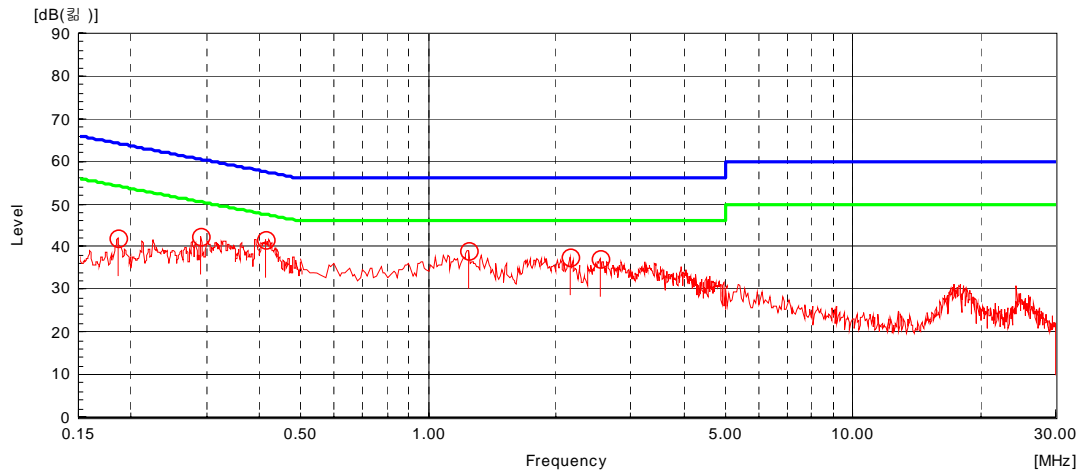
3. Measurement were performed at the AC Power Inlet in the frequency band of 150 kHz ~ 30 MHz according to the FCC Part 15.207



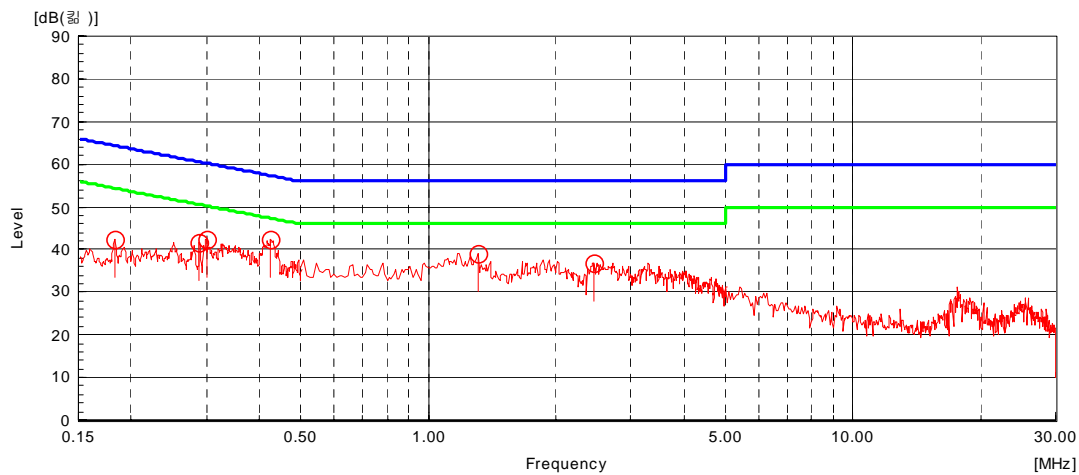
Test Engineer: K.K. Yoon


## Test plots


Hot



Neutral



Quasi-peak 

Average 

## 5.3 Radiated Emissions of Field Strength

<b>EUT</b>	FM Transmitter / MF-100 (S/N: N/A)
<b>Limit apply to</b>	FCC Part15 Subpart C
<b>Test Date</b>	October 22, 2007
<b>Operating Condition</b>	RF transmit with frequency tuned mode
<b>Environment Condition</b>	Humidity Level: 40 %R.H., Temperature: 23,1 °C
<b>Result</b>	Passed by 3,50 dB

The following table shows the highest levels of radiated emissions on both polarization of horizontal and vertical.

Detector mode : Peak mode

Measurement distance : 3 m

Frequency [MHz]	Reading [dB $\mu$ V]	Polarization (*H/**V)	Ant. Factor [dB]	Cable Loss [dB]	Result [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
88,10	34,09	V	8,04	2,87	45,00	68,0	23,00
98,00	33,07	V	9,07	2,76	44,90	68,0	23,10
107,90	31,00	V	9,75	2,86	43,60	68,0	24,40


Detector mode : Average mode

Measurement distance : 3 m

Frequency [MHz]	Reading [dB $\mu$ V]	Polarization (*H/**V)	Ant. Factor [dB]	Cable Loss [dB]	Result [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
88,10	33,59	V	8,04	2,87	44,50	48,0	3,50
98,00	32,17	V	9,07	2,76	44,00	48,0	4,00
107,90	30,50	V	9,75	2,86	43,10	48,0	4,90

### NOTES :

- \* H : Horizontal polarization , \*\* V : Vertical polarization
- Result = Reading + Antenna factor + Cable loss
- Margin value = Limit - Result
- Measurement was performed at three frequencies as bottom, middle and top of the operating frequency range.
- The EUT was tested in all the three orthogonal planes and the worst-case emission was vertical axes.



Test Engineer: K.K. Yoon

## 5.4 Out-of-band Radiated Emissions

EUT	FM Transmitter / MF-100 (S/N: N/A)
Limit apply to	FCC Part15 Subpart C
Test Date	October 22, 2007
Operating Condition	RF transmit with frequency tuned mode
Environment Condition	Humidity Level: 42 %R.H., Temperature: 22,0 °C
Result	Passed

### Radiated Emission Test Data

The following table shows the highest levels of radiated emissions on both polarization of horizontal and vertical. (The test is 88.10 MHz, 98.00 MHz, 107.90 MHz worst case)

Detector mode : CISPR Quasi-Peak mode ( 6 dB Bandwidth : 120 kHz )

Measurement Distance : 3 m

Frequency [MHz]	Reading [dB $\mu$ V]	Polarization (*H/**V)	Ant. Factor [dB]	Cable Loss [dB]	Result [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
	During test no emission found.						

#### NOTES :

1. \* H : Horizontal polarization , \*\* V : Vertical polarization
2. Result = Reading + Antenna factor + Cable loss
3. Margin value = Limit - Result
4. The EUT was tested in all the three orthogonal planes and the worst case of emissions was vertical axes.



Test Engineer: K.K. Yoon



## 5.5 Occupied Bandwidth Measurement

<b>EUT</b>	FM Transmitter / MF-100 (S/N: N/A)
<b>Limit apply to</b>	FCC Part15 Subpart C
<b>Test Date</b>	October 22, 2007
<b>Operating Condition</b>	The RF transmitting signal is FM modulation signal typical audio file of supplied form MP3 Player.
	Humidity Level: 41 %R.H., Temperature: 23,2 °C
<b>Result</b>	Passed

### Measurement Data

Center Frequency [MHz]	Measured occupied bandwidth [kHz]	Limit [kHz]	Result
88.10	< 100	200	Pass
98.00	< 100	200	Pass
107.90	< 100	200	Pass

#### NOTES :

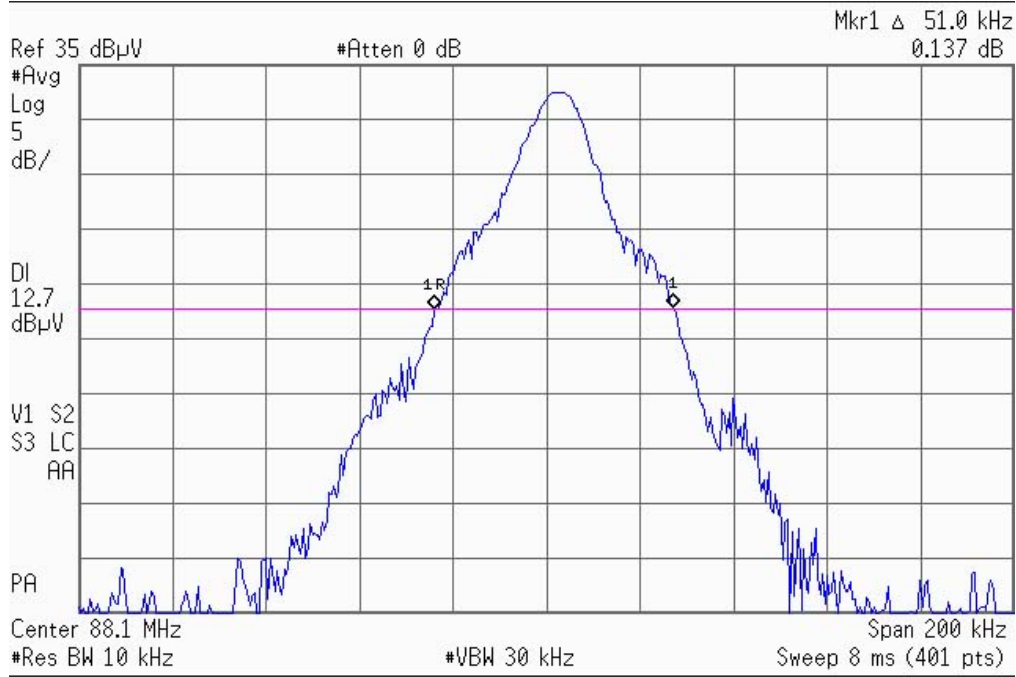
1. Please see the measured bandwidth plot in next page.
2. The occupied bandwidth shall be no wider than 200 kHz of the center frequency of the equipment operating within 88.10 MHz to 107.90 MHz. The bandwidth is determined at the points 20 dB down from the modulated carrier.
3. Spectrum analyzer settings  
Resolution bandwidth : 10 kHz  
Video bandwidth : 30 kHz  
Frequency span : 200 kHz



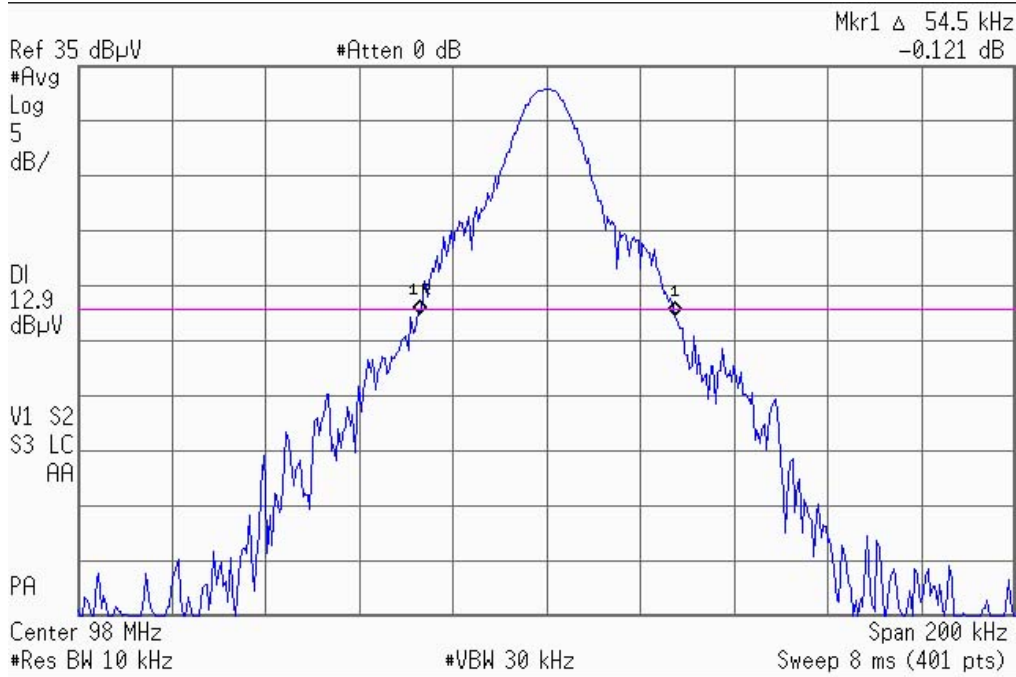
Test Engineer: K.K. Yoon

## 5. TEST RESULTS

### 88.10 MHz

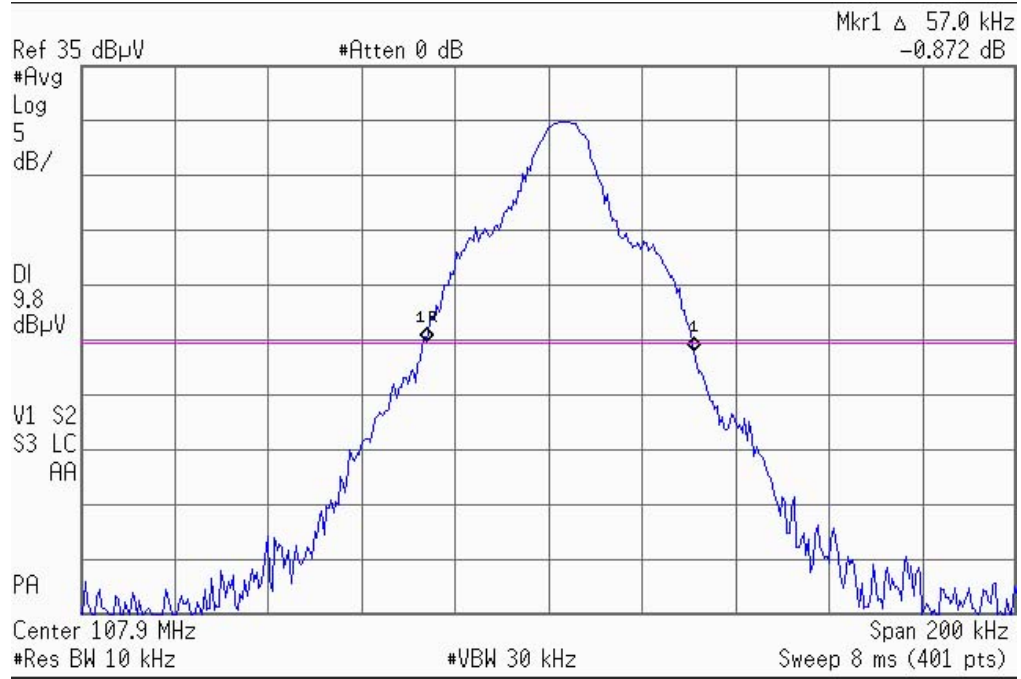


### 98.00 MHz



## 5. TEST RESULTS

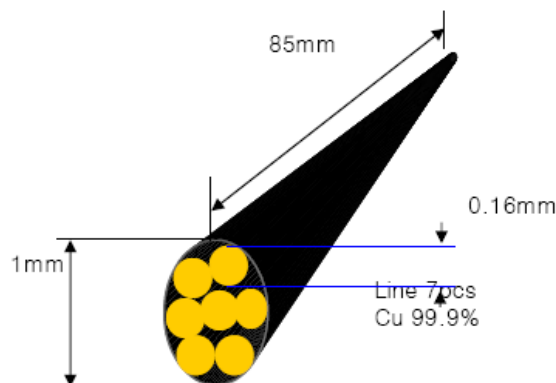
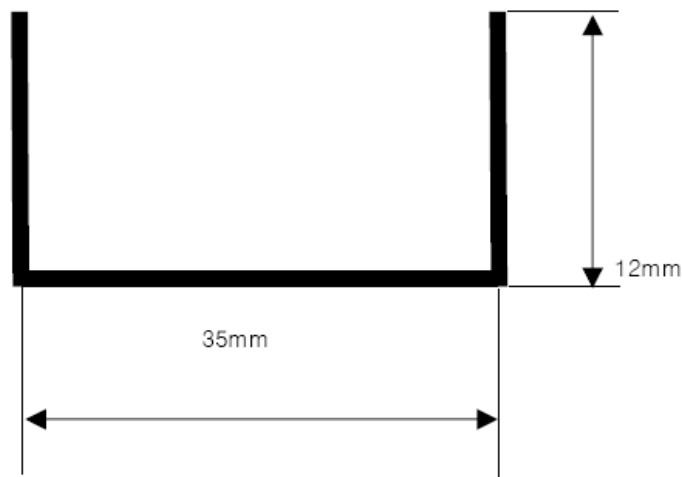
### 107.90 MHz



## 6. ANTENNA REQUIREMENT

### (1) 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.



## 7. SAMPLE CALCULATION

### Sample Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor.  
The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF$$

Where FS = Field Strength

RA = Receiver Amplitude

AF = Antenna Factor

CF = Cable Attenuation Factor

$$dB(\mu V) = 20 \log_{10} (uV) : \text{Equation}$$

Example : @ 88,10 MHz

$$\text{Limit} = 48,00 \text{ dBuV/m}$$

$$\text{Reading} = 33,59 \text{ dBuV}$$

$$\text{Antenna Factor} + \text{Cable Loss} = 8,04 + 2,87 = 10,91 \text{ dBuV/m}$$

$$\text{Total} = 44,50 \text{ dBuV/m}$$

$$\text{Margin} = 48,00 - 44,50 = 3,50 \text{ dB}$$

$$= 3,50 \text{ dB below Limit}$$

## 8. List of test equipments used for measurements

Test Equipment		Model	Mfg.	Serial No.	Cal. Due Date
<input checked="" type="checkbox"/>	EMI TEST Receiver	ESVS10	R & S	835165/001	08.05.03
<input checked="" type="checkbox"/>	EMI TEST Receiver	ESPI3	R & S	100478	08-10-04
<input checked="" type="checkbox"/>	LogBicon Antenna	VULB9165	Schwarzbeck	2023	08.08.28
<input checked="" type="checkbox"/>	Spectrum Analyzer	E7405A	Agilent	US41160290	08.10.18
<input checked="" type="checkbox"/>	LISN	3816-2	EMCO	1001	08-10-05
<input checked="" type="checkbox"/>	LISN	3816-2	EMCO	1002	08-10-05
<input checked="" type="checkbox"/>	Turn-Table	DETT-03	Daeil EMC	-	N/A
<input checked="" type="checkbox"/>	Antenna Master	DEAM-03	Daeil EMC	-	N/A

**End of Test Report**