

FCC Test Report

Equipment : Integrity Mobile G1.5
Brand Name : MobileHelp
Model No. : IGM-02
Marketing Name : Integrity MD G1.5
FCC ID : PXTIGM-02
Standard : 47 CFR FCC Part 15.231
Operating Band : 433.92 MHz
Operation : Manually operated within 5 sec
Equipment Class : DSC
Applicant : Integrity Tracking LLC, dba MobileHelp
3701 FAU Blvd., Suite 300,
Boca Raton FL 33431, USA
Manufacturer : Daviscomms (Malaysia) Sdn Bhd
Plot 18, Lorong Perusahaan Maju 1,
Kawasan, Perusahaan Perai 4,
13600 Perai, Malaysia

The product sample received on Oct. 30, 2012 and completely tested on Nov. 30, 2012. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2009 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

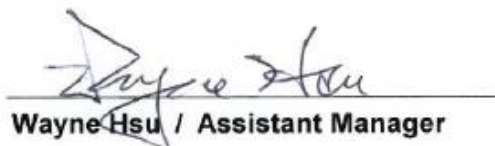

Wayne Hsu / Assistant Manager





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Summary of Test Result

Conformance Test Specifications					
Report Clause	Ref. Std. Clause	Description	Measured	Limit	Result
1.1.2	15.203	Antenna Requirement	Antenna connector mechanism complied	FCC 15.203	Complied
3.1	15.207	AC Power-line Conducted Emissions	[dBuV]: 0.1844300 MHz 43.84 (Margin 10.44dB) - AV 57.75 (Margin 6.53dB) - QP	FCC 15.207	Complied
3.2	15.231(c)	Emission Bandwidth	45.44 kHz	Fc(70~900MHz): BW ≤ fc x 0.25%	Complied
3.3	15.231(b)/(e)	Fundamental Emissions	[dBuV/m at 3m]: 79.18 (Margin 1.61dB) average	[dBuV/m at 3m]: average: 80.79	Complied
3.4	15.231(b)/(e)	Transmitter Radiated Unwanted Emissions	[dBuV/m at 3m]: 35.820MHz 34.76 (Margin 5.24dB) - PK	FCC 15.231 (b)/(e) or FCC 15.209, whichever limit permits higher field strength.	Complied
3.5	15.231(a)/(e)	Operation Restriction	Operated time and silent time are less than limits.	Manually operated within 5 sec	Complied



1 General Description

1.1 Information

1.1.1 RF General Information

RF General Information					
Frequency Range (MHz)	Modulation	Ch. Frequency (MHz)	Channel Number	Fundamental Field Strength (dBuV/m)	Co-location
433.92	ASK	433.92	1	79.18	N/A
Note 1: Field strength performed average level at 3m. Note 2: Co-location, Co-location is generally defined as simultaneously transmitting (co-transmitting) antennas within 20 cm of each other.					

1.1.2 Antenna Information

Antenna Category	
<input checked="" type="checkbox"/>	Integral antenna (antenna permanently attached)
<input type="checkbox"/>	External antenna (dedicated antennas) ; Unique antenna connector

1.1.3 Type of EUT

Identify EUT	
EUT Serial Number	N/A
Presentation of Equipment	<input type="checkbox"/> Production ; <input checked="" type="checkbox"/> Pre-Production ; <input type="checkbox"/> Prototype
Type of EUT	
<input checked="" type="checkbox"/>	Stand-alone
<input type="checkbox"/>	Combined (EUT where the radio part is fully integrated within another device) Combined Equipment - Brand Name / Model No.: ...
<input type="checkbox"/>	Plug-in radio (EUT intended for a variety of host systems) Host System - Brand Name / Model No.: ...
<input type="checkbox"/>	Other:

1.1.4 Test Signal Duty Cycle

Operated Mode for Worst Duty Cycle

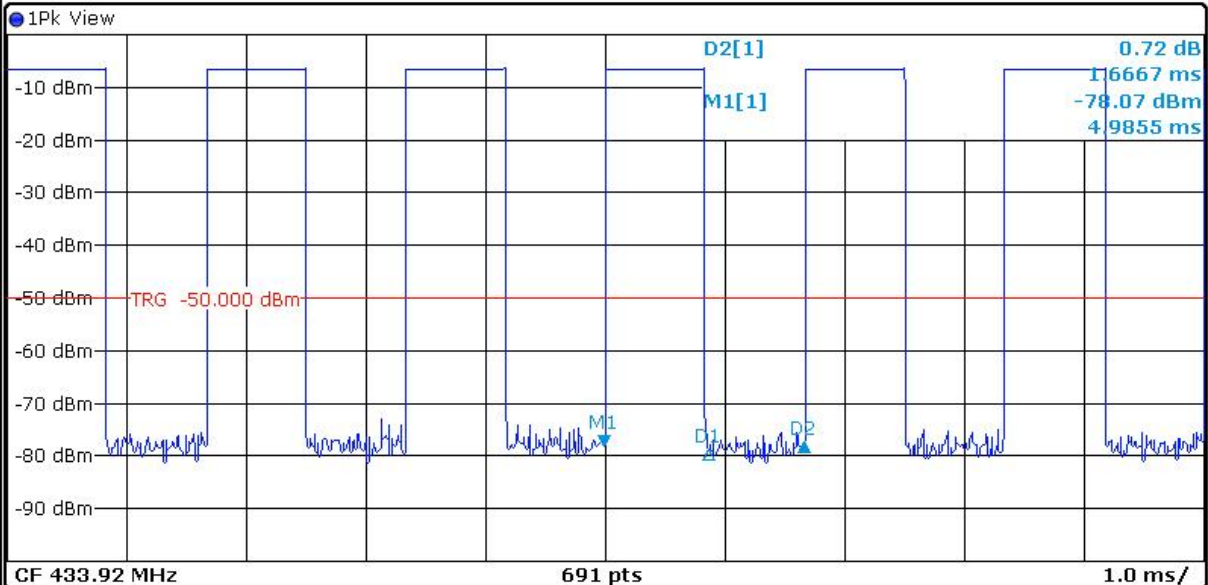
Operated normally mode for worst duty cycle

Operated test mode for worst duty cycle

Test Signal Duty Cycle (x)	Duty Cycle Correction Factor [dB] – (20 log x)
<input checked="" type="checkbox"/> 52.38%	5.62

Spectrum

Ref Level 0.00 dBm RBW 1 MHz
 Att 10 dB SWT 10 ms VBW 1 MHz
 TRG: VID
 IPk View



CF 433.92 MHz 691 pts 1.0 ms/

Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	4.9855 ms	-78.07 dBm		
D1	M1	1	869.6 μs	-0.64 dB		
D2	M1	1	1.6667 ms	0.72 dB		

Date: 30.NOV.2012 15:35:06

If worst duty < 100%, average emission = peak emission + 20 log (x)

1.1.5 EUT Operational Condition

Supply Voltage	<input checked="" type="checkbox"/> AC mains	<input checked="" type="checkbox"/> DC	
Type of DC Source	<input type="checkbox"/> Internal DC supply	<input checked="" type="checkbox"/> External DC adapter	<input checked="" type="checkbox"/> Battery

1.2 Accessories

Accessories				
AC Adapter	Brand Name	OKEY	Model Name	MSK-W05-1000
	Power Rating	Input : 100-240V~50/60Hz ; Output : 5V 10000mA		
Li-ion Battery	Brand Name	GEB	Model Name	GEB604042

Note: Regarding to more detail and other information, please refer to user manual.

1.3 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ◆ 47 CFR FCC Part 15
- ◆ ANSI C63.10-2009

1.4 Testing Location Information

Testing Location				
<input checked="" type="checkbox"/>	HWA YA	ADD : No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.		
		TEL : 886-3-327-3456	FAX : 886-3-327-0973	
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-HY	Bear	24°C / 62%	30-Nov-12
AC Conduction	CO04-HY	Richard	24.5°C / 48%	05-Nov-12
Radiated Emission	03CH02-HY	Hsiao	24.4C / 59%	05-Nov-12



1.5 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

Measurement Uncertainty			
Test Item		Uncertainty	Limit
AC power-line conducted emissions		±2.26 dB	N/A
Emission bandwidth		±1.42 %	N/A
RF output power, conducted		±0.63 dB	N/A
Power density, conducted		±0.81 dB	N/A
Unwanted emissions, conducted	30 – 1000 MHz	±0.51 dB	N/A
	1 – 18 GHz	±0.67 dB	N/A
	18 – 40 GHz	±0.83 dB	N/A
	40 – 200 GHz	N/A	N/A
All emissions, radiated	30 – 1000 MHz	±2.56 dB	N/A
	1 – 18 GHz	±3.59 dB	N/A
	18 – 40 GHz	±3.82 dB	N/A
	40 – 200 GHz	N/A	N/A
Temperature		±0.8 °C	N/A
Humidity		±3 %	N/A
DC and low frequency voltages		±3 %	N/A
Time		±1.42 %	N/A
Duty Cycle		±1.42 %	N/A

2 Test Configuration of EUT

2.1 The Worst Case Modulation Configuration




Modulation Used for Conformance Testing	
Test Mode	Field Strength (dBuV/m at 3 m)
ASK-Transmit	79.18

2.2 Test Channel Frequencies Configuration

Test Channel Frequencies Configuration	
Test Mode	Test Channel Frequencies (MHz)
ASK-Transmit	433.92-(F1)

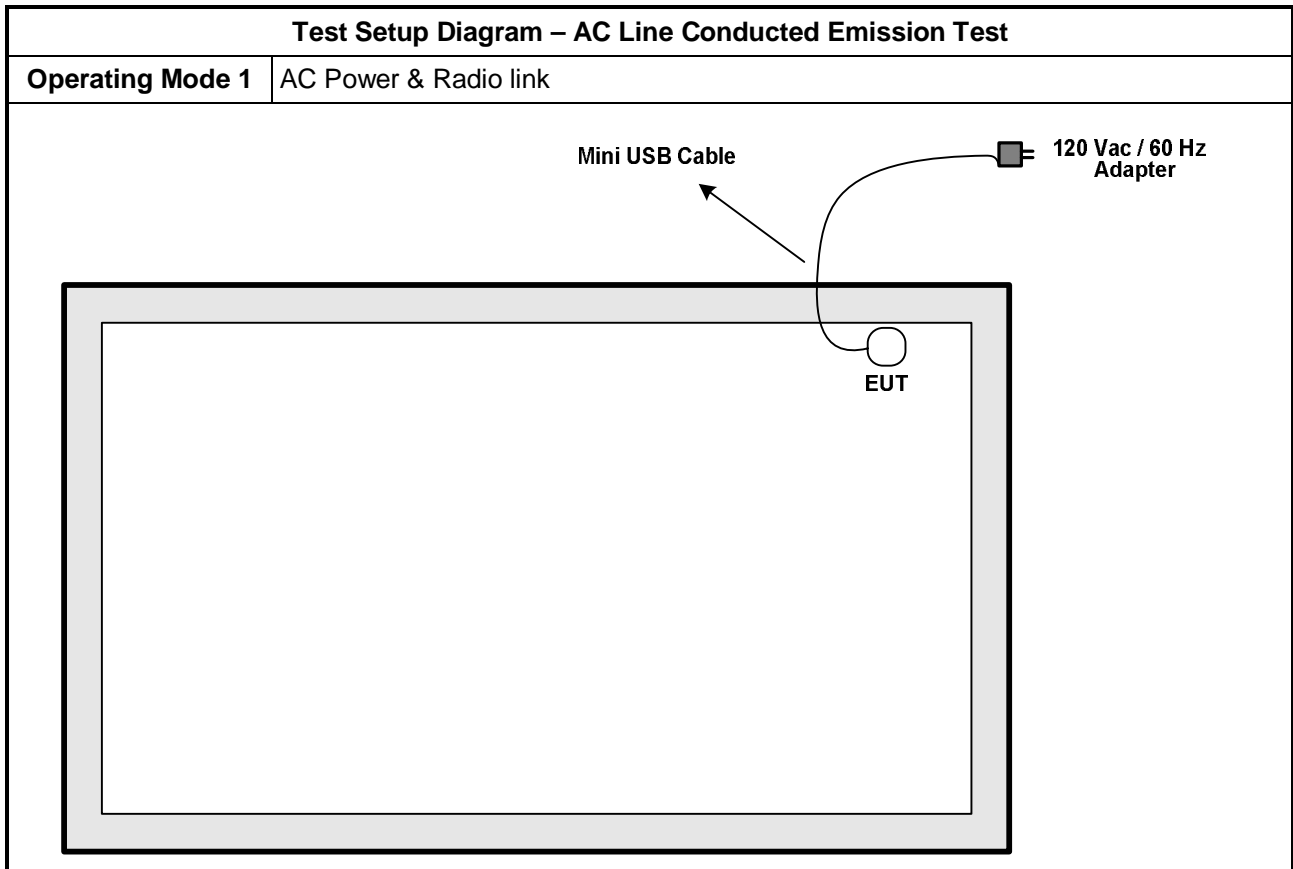
2.3 The Worst Case Measurement Configuration

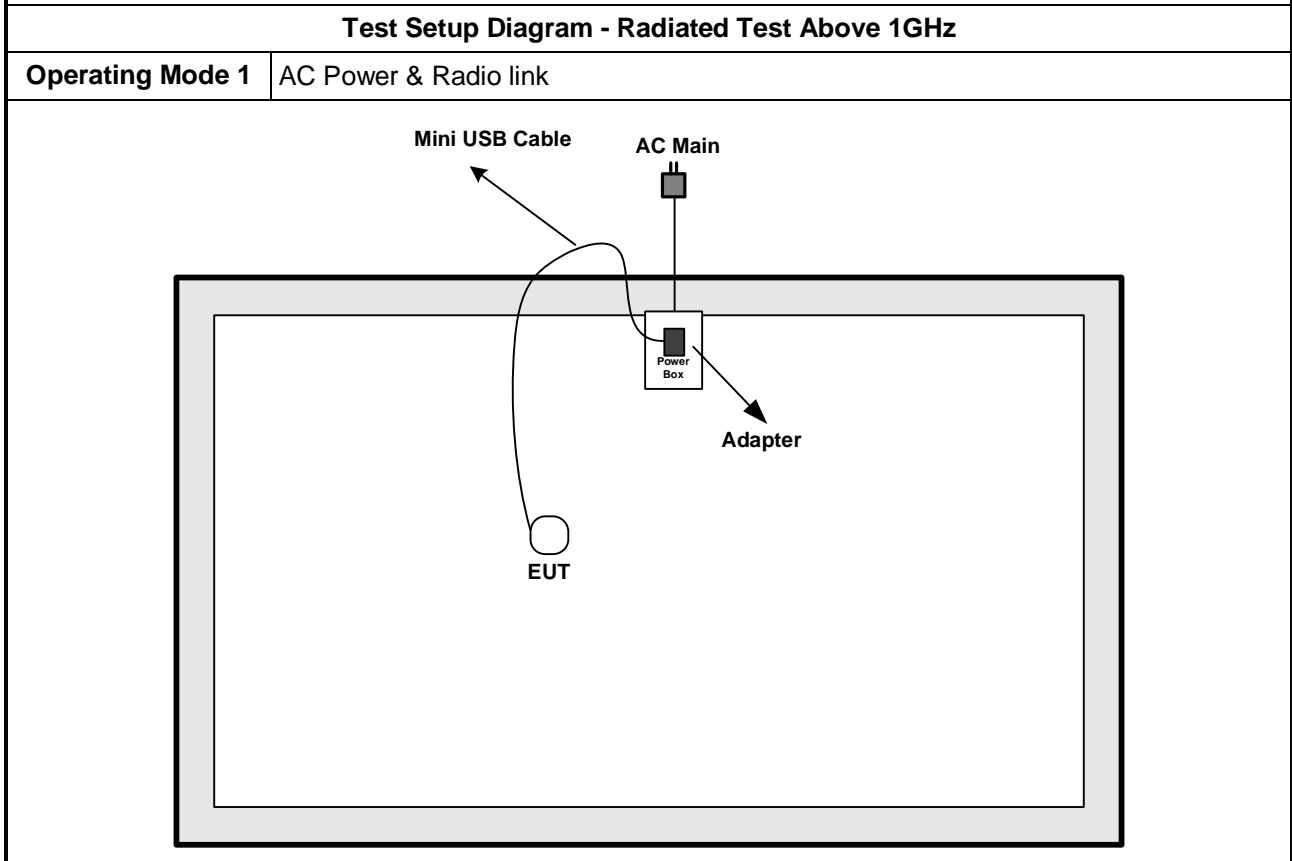
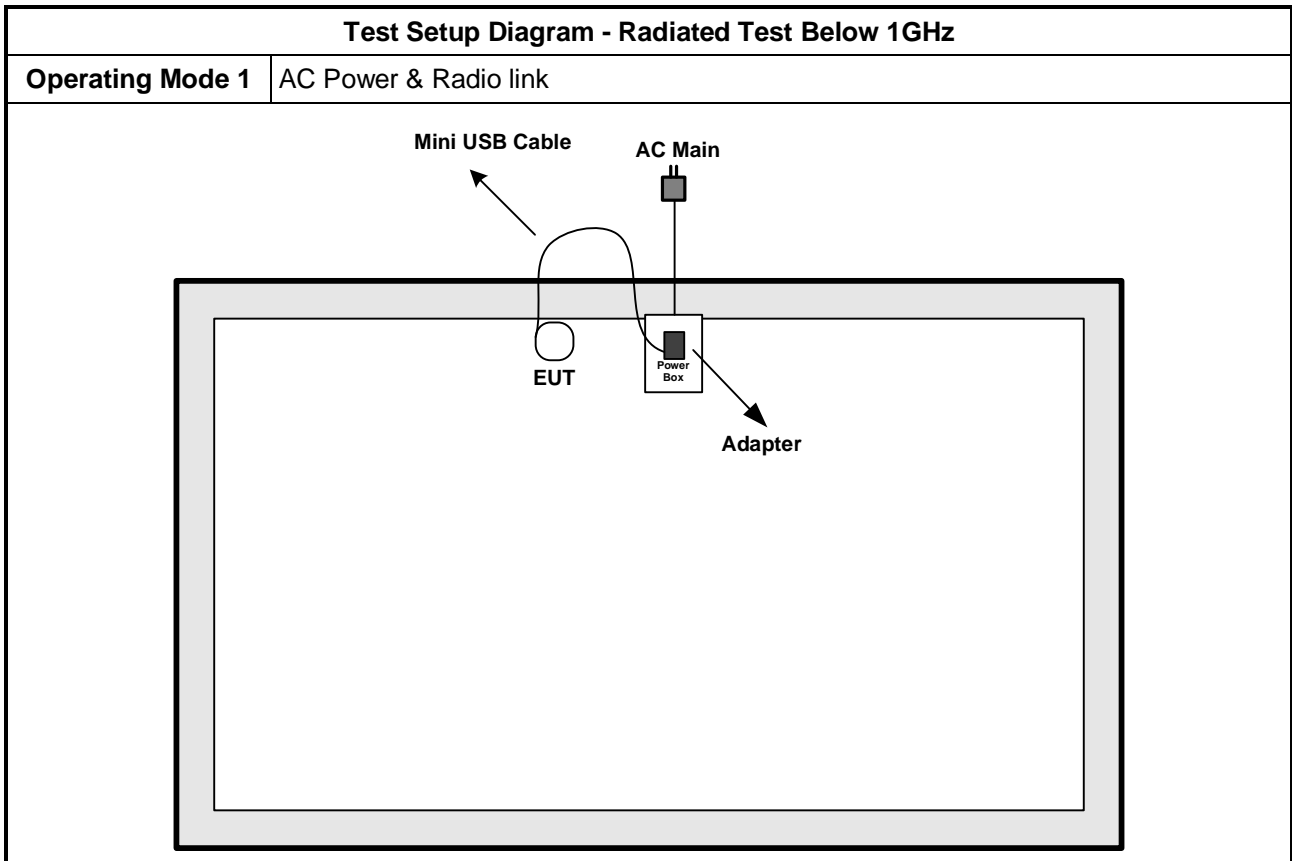
The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral (120Vac / 60Hz)
Operating Mode	Operating Mode Description
1	AC Power & Radio link

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emission Bandwidth, Fundamental Emissions, Radiated Unwanted Emissions		
Test Condition	Radiated measurement		
User Position	<input type="checkbox"/> EUT will be placed in fixed position.		
	<input type="checkbox"/> EUT will be placed in mobile position and operating multiple positions. EUT shall be performed two orthogonal planes. The worst planes is X.		
	<input checked="" type="checkbox"/> EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions. EUT shall be performed three orthogonal planes. The worst planes is X.		
Operating Mode < 1GHz	<input checked="" type="checkbox"/> 1. AC Power & Radio link		
Test Mode	ASK-Transmit		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			

The Worst Case Mode for Following Conformance Tests	
Tests Item	Operation Restriction (silent time and operated time)
Test Condition	Radiated measurement
Test Mode	Operated normally mode for worst duty cycle condition.

2.4 Test Setup Diagram





3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

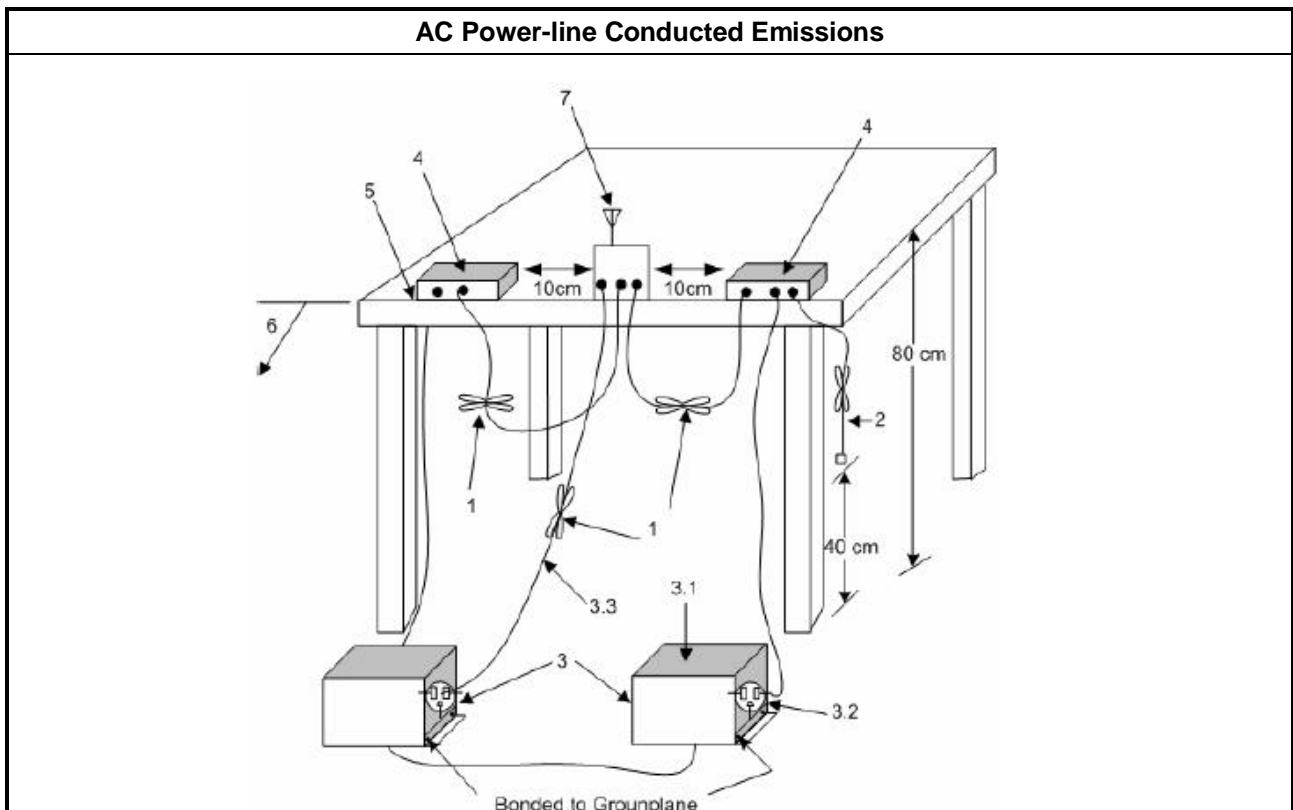
3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

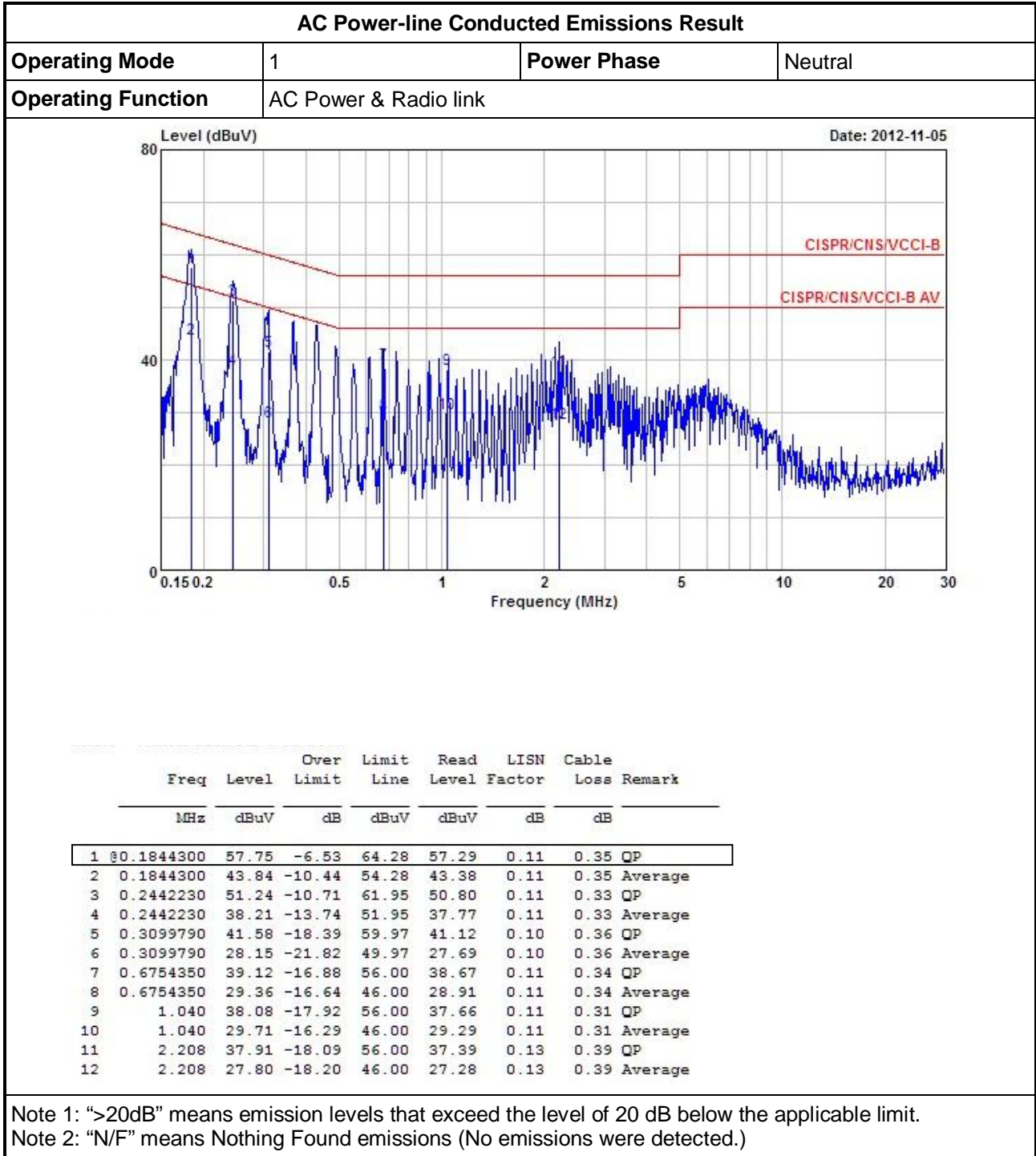
3.1.3 Test Procedures

Test Method
<input checked="" type="checkbox"/> Refer as ANSI C63.10-2009, clause 6.2 for AC power-line conducted emissions.

3.1.4 Test Setup



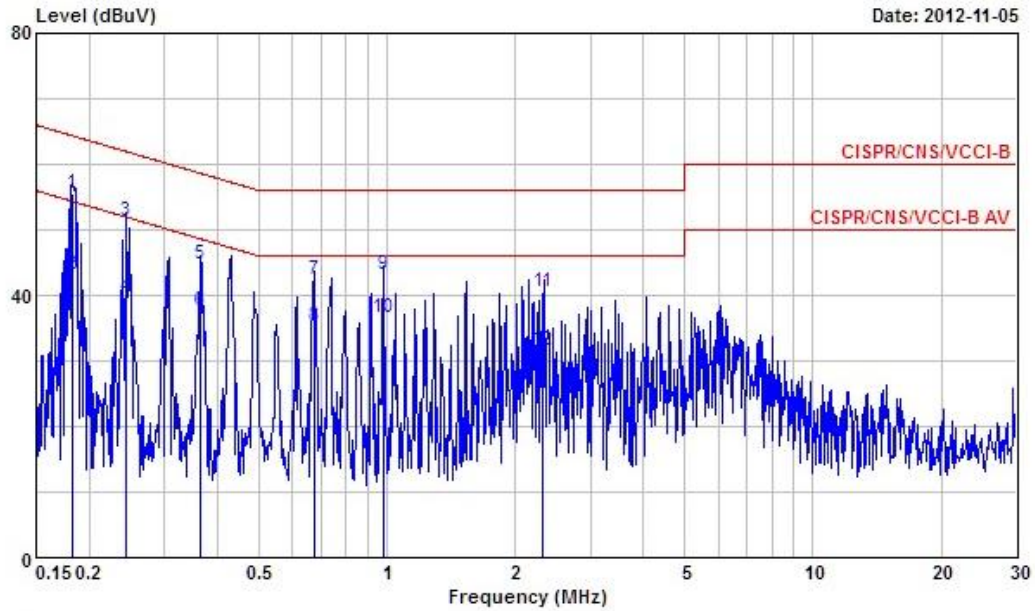
3.1.5 Test Result of AC Power-line Conducted Emissions





AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	AC Power & Radio link		



	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.1824860	55.51	-8.86	64.37	54.93	0.23	0.35	QP
2	0.1824860	43.25	-11.12	54.37	42.67	0.23	0.35	Average
3	0.2442230	51.20	-10.75	61.95	50.64	0.23	0.33	QP
4	0.2442230	39.62	-12.33	51.95	39.06	0.23	0.33	Average
5	0.3653120	44.65	-13.96	58.61	44.04	0.22	0.39	QP
6	0.3653120	37.63	-10.98	48.61	37.02	0.22	0.39	Average
7	0.6754350	42.29	-13.71	56.00	41.72	0.23	0.34	QP
8	0.6754350	35.24	-10.76	46.00	34.67	0.23	0.34	Average
9	0.9787140	43.03	-12.97	56.00	42.50	0.23	0.30	QP
10	0.9787140	36.58	-9.42	46.00	36.05	0.23	0.30	Average
11	2.328	40.56	-15.44	56.00	39.92	0.26	0.38	QP
12	2.328	31.71	-14.29	46.00	31.07	0.26	0.38	Average

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
<input checked="" type="checkbox"/>	Emission bandwidth falls completely within authorized band.
<input checked="" type="checkbox"/>	$F_c(70\sim 900\text{MHz}): BW \leq f_c \times 0.25\%$
<input type="checkbox"/>	$F_c(>900\text{MHz}): BW \leq f_c \times 0.5\%$

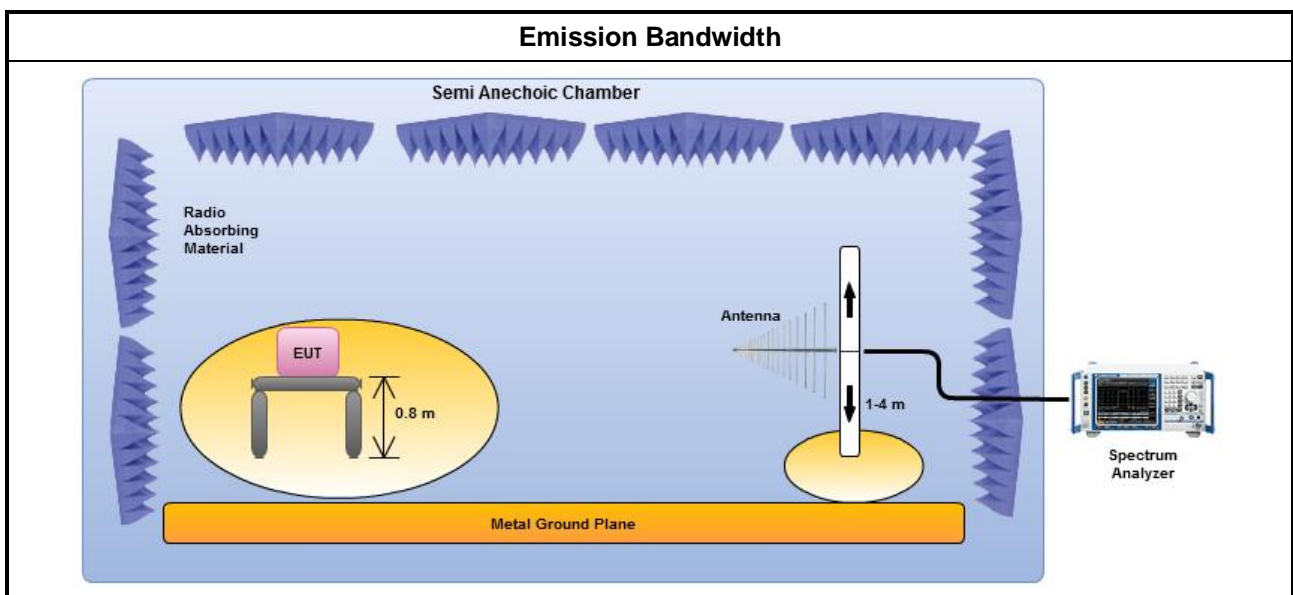
3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

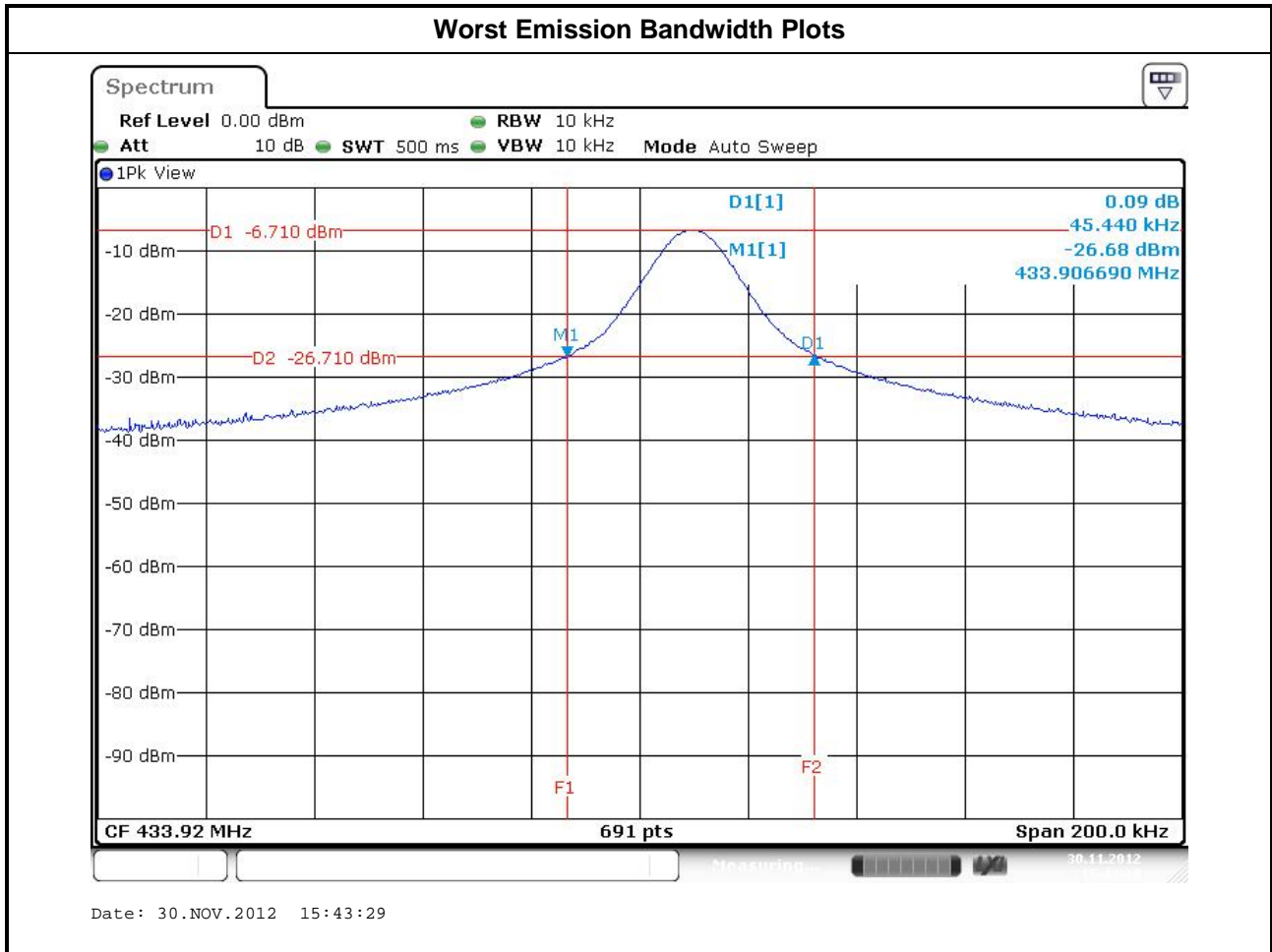
Test Method	
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.1 for 20 dB emission bandwidth and 99% occupied bandwidth measurement.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Emission Bandwidth Result			
Modulation Mode	Frequency (MHz)	99% Bandwidth (kHz)	20dB BW (kHz)
ASK-Transmit	433.92	100.72	45.44
Limit		1080	N/A
Result		Complied	





3.3 Fundamental Emissions

3.3.1 Fundamental Emissions Limit

For manually operated within 5 sec, activated automatically within 5 sec, periodic transmissions		
Frequency Band (MHz)	Fundamental Limit (uV/m) at 3m	Fundamental Limit (dBuV/m) at 3m
40.66-40.70	2250	67
70-130	1250	61.9
130-174	1250-3750(**)	61.9-71.5
174-260	3750	71.5
260-470	3750-12500(**)	71.5-81.9
Above 470	12500	81.9

**1. Linear interpolations, the formulas for calculating the maximum permitted fundamental field strengths are as follows:
 (1) for the band 130 - 174 MHz, $\mu\text{V/m}$ at 3 meters = $56.81818 \times (\text{operating frequency, MHz}) - 6136.3636$;
 (2) for the band 260 - 470 MHz, $\mu\text{V/m}$ at 3 meters = $41.6667 \times (\text{operating frequency, MHz}) - 7083.3333$.
 Based on the average value of the measured emissions.

For periodic transmissions (lower field strength)		
Frequency Band (MHz)	Fundamental Limit (uV/m) at 3m	Fundamental Limit (dBuV/m) at 3m
40.66-40.70	1000	60
70-130	500	54
130-174	500-1500(**)	54-63.5
174-260	1500	63.5
260-470	1500-5000(**)	63.5-74
Above 470	5000	74

** 1. Linear interpolations, the formulas for calculating the maximum permitted fundamental field strengths are as follows:
 (1) for the band 130 - 174 MHz, $\mu\text{V/m}$ at 3 meters = $22.72727 \times (\text{operating frequency, MHz}) - 2454.545$;
 (2) for the band 260 - 470 MHz, $\mu\text{V/m}$ at 3 meters = $16.6667 \times (\text{operating frequency, MHz}) - 2833.3333$.
 Based on the average value of the measured emissions.

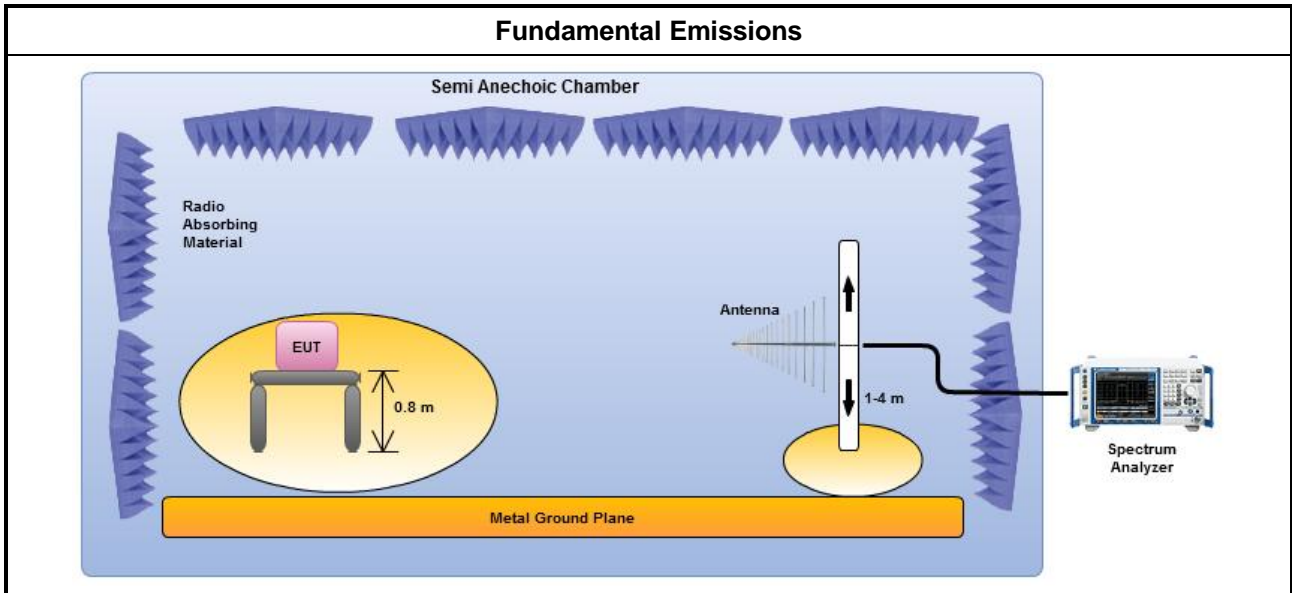
3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

<input checked="" type="checkbox"/>	For the transmitter emissions shall be measured using following options below:
<input type="checkbox"/>	Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW) – Duty cycle \geq 100%.
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions. Adjusted by a “duty cycle correction factor”, derived from $20 \log (\text{dwell time}/100 \text{ ms})$. Average emission = peak emission + $20 \log (\text{duty cycle})$.
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.
<input checked="" type="checkbox"/>	For radiated measurement, refer as ANSI C63.10, clause 6.5 for radiated emissions

3.3.4 Test Setup



3.3.5 Test Result of Fundamental Emissions

Field Strength of Fundamental Emissions Result					
Modulation Mode	Frequency (MHz)	Fundamental (dBuV/m)@3m	Margin (dB)	Limit (dBuV/m)@3m	Type
ASK-Transmit	433.92	84.79	16.00	100.79	peak
ASK-Transmit	433.92	79.18	1.61	80.79	average
Result		Complied			
Note 1: Measurement worst emissions of receive antenna polarization: Horizontal.					
Note 2: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).					

3.4 Transmitter Radiated Unwanted Emissions

3.4.1 Transmitter Radiated Unwanted Emissions Limit

For manually operated within 5 sec, activated automatically within 5 sec, periodic transmissions		
Unwanted emissions limit follow this table or the general limits FCC 15.209, whichever limit permits higher field strength.		
Frequency Band (MHz)	Spurious Limit (uV/m) at 3m	Spurious Limit (dBuV/m) at 3m
40.66-40.70	225	47
70-130	125	41.9
130-174	125-375(**)	41.9-51.5
174-260	375	51.5
260-470	375-1250(**)	51.5-61.9
Above 470	1250	61.9
**1. Linear interpolations, the formulas for calculating the maximum permitted fundamental field strengths are as follows: (1) for the band 130 - 174 MHz, $\mu\text{V/m}$ at 3 meters = $56.81818 \times (\text{operating frequency, MHz}) - 6136.3636$; (2) for the band 260 - 470 MHz, $\mu\text{V/m}$ at 3 meters = $41.6667 \times (\text{operating frequency, MHz}) - 7083.3333$. Based on the average value of the measured emissions.		

For periodic transmissions (lower field strength)		
Unwanted emissions limit follow this table or the general limits FCC 15.209, whichever limit permits higher field strength.		
Frequency Band (MHz)	Spurious Limit (uV/m) at 3m	Spurious Limit (dBuV/m) at 3m
40.66-40.70	100	40
70-130	50	34
130-174	50-150(**)	34-43.5
174-260	150	43.5
260-470	150-500(**)	43.5-54
Above 470	500	54
** 1. Linear interpolations, the formulas for calculating the maximum permitted fundamental field strengths are as follows: (1) for the band 130 - 174 MHz, $\mu\text{V/m}$ at 3 meters = $22.72727 \times (\text{operating frequency, MHz}) - 2454.545$; (2) for the band 260 - 470 MHz, $\mu\text{V/m}$ at 3 meters = $16.6667 \times (\text{operating frequency, MHz}) - 2833.3333$. Based on the average value of the measured emissions.		

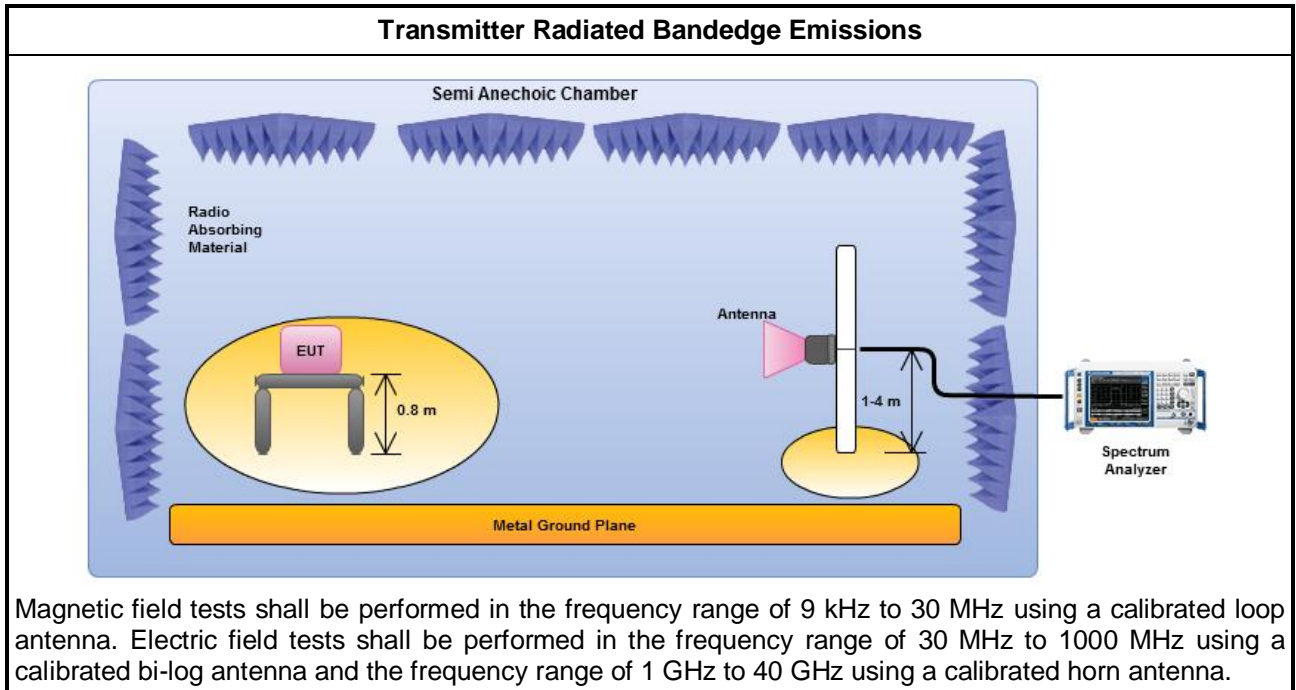
3.4.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method – General Information	
<input checked="" type="checkbox"/>	The average emission levels shall be measured in [duty cycle \geq 98 or duty factor].
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.2.2 bandedge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
<input checked="" type="checkbox"/>	For the transmitter unwanted emissions shall be measured using following options below:
<input type="checkbox"/>	Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW) – Duty cycle \geq 100%.
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions. Adjusted by a “duty cycle correction factor”, derived from $20\log(\text{dwell time}/100 \text{ ms})$. Average emission = peak emission + 20 log (duty cycle).
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.
<input checked="" type="checkbox"/>	For the transmitter bandedge emissions shall be measured using following options below:
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.2 for band-edge testing.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.3 for marker-delta method for band-edge measurements.
<input checked="" type="checkbox"/>	For radiated measurement.
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz.
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1000 MHz.
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.6 for radiated emissions from above 1 GHz.

3.4.4 Test Setup



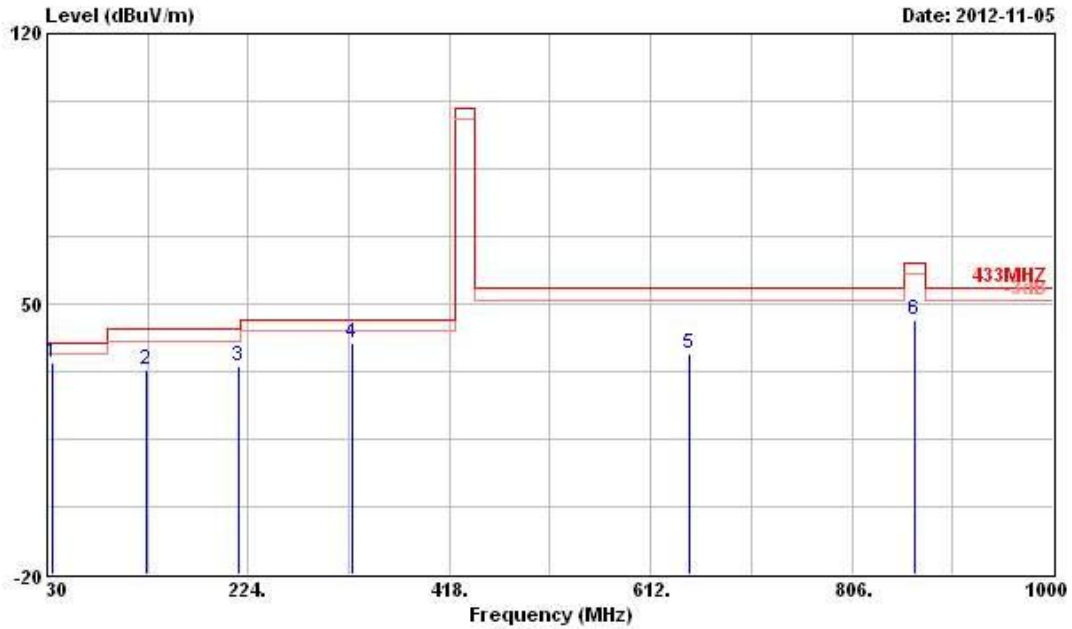
3.4.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

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



3.4.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Operating Mode	1	Test Freq. (FX)	F1
Operating Function	ASK-Transmit	Polarization	V



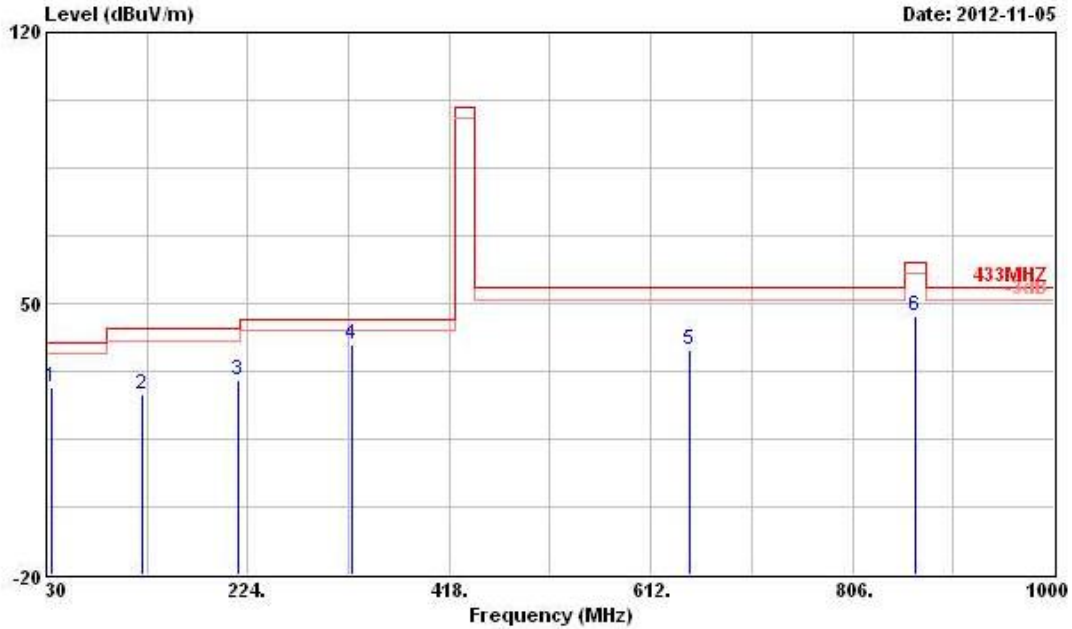
	Over	Limit	ReadAntenna	Cable	Preamp		Ant	Table			
Freq	Level	Limit	Level	Factor	Loss	Factor	Pos	Pos			
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg			
1	35.820	34.76	-5.24	40.00	47.55	14.15	0.98	27.92	Peak	---	---
2	125.060	33.16	-10.34	43.50	45.86	13.18	1.86	27.74	Peak	---	---
3	215.270	33.78	-9.72	43.50	46.75	11.86	2.54	27.37	Peak	---	---
4	323.910	39.79	-6.21	46.00	49.97	14.08	3.07	27.33	Peak	---	---
5	649.830	37.00	-17.00	54.00	41.47	19.51	4.39	28.37	Peak	---	---
6	867.110	45.99	-14.80	60.79	48.47	20.11	5.12	27.71	Peak	---	---

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
 Note 4: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).



Transmitter Radiated Unwanted Emissions (Below 1GHz)

Operating Mode	1	Test Freq. (FX)	F1
Operating Function	ASK-Transmit	Polarization	H



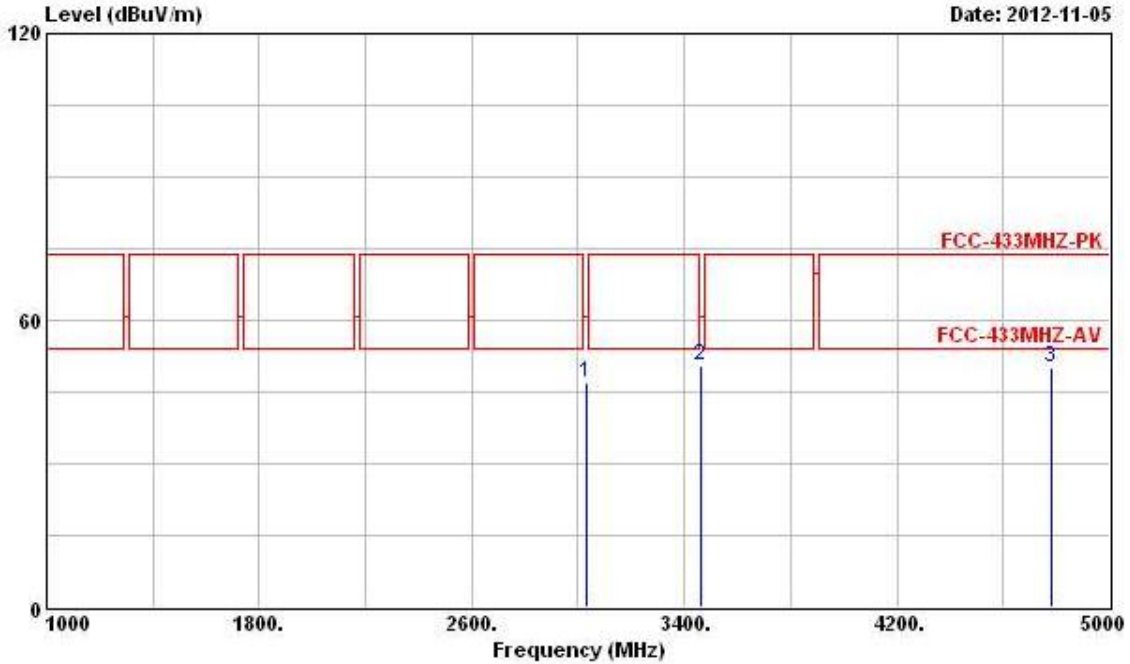
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	35.820	28.47	-11.53	40.00	41.26	14.15	0.98	27.92	Peak	---	---
2	122.150	26.36	-17.14	43.50	38.93	13.34	1.84	27.75	Peak	---	---
3	215.270	29.97	-13.53	43.50	42.94	11.86	2.54	27.37	Peak	---	---
4	323.910	39.21	-6.79	46.00	49.39	14.08	3.07	27.33	Peak	---	---
5	649.830	37.86	-16.14	54.00	42.33	19.51	4.39	28.37	Peak	---	---
6	867.110	46.88	-13.91	60.79	49.36	20.11	5.12	27.71	Peak	---	---

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
 Note 4: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).



3.4.7 Transmitter Radiated Unwanted Emissions (Above 1GHz)

Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Operating Mode	1	Test Freq. (FX)	F1
Operating Function	ASK-Transmit	Polarization	V



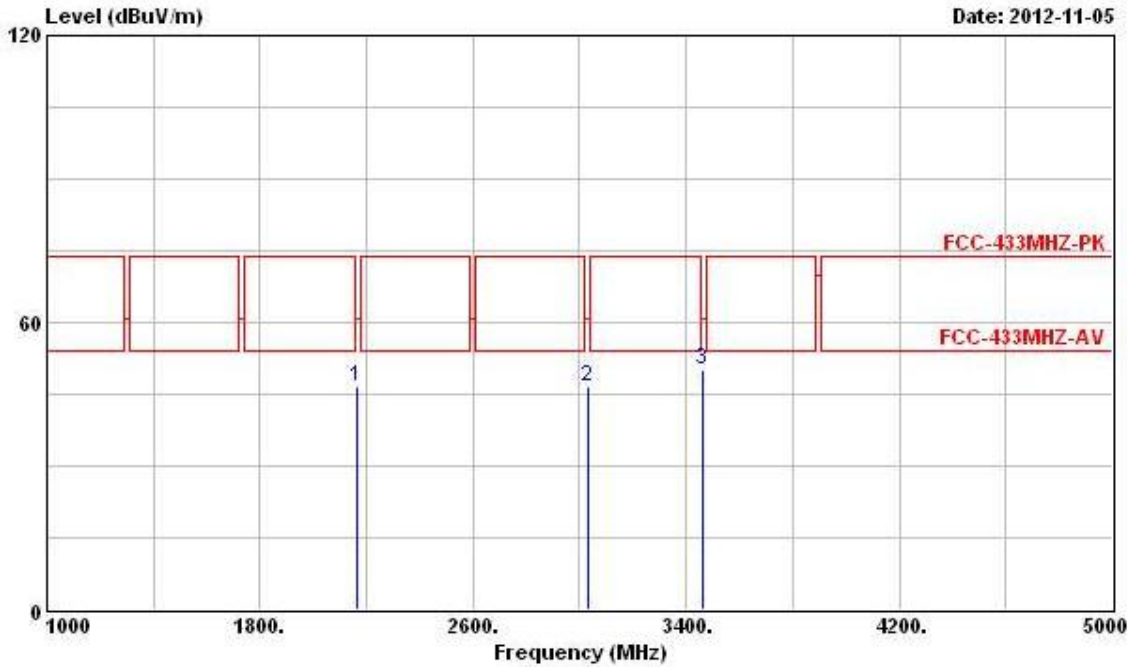
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	3031.000	47.07	-13.72	60.79	45.36	33.20	3.45	34.94	Peak	---	---
2	3464.000	50.50	-10.29	60.79	48.30	33.29	3.82	34.91	Peak	---	---
3	4784.000	50.15	-23.85	74.00	45.32	35.09	4.55	34.81	Peak	---	---

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
 Note 2: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
 Note 3: For the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
 Note 4: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Operating Mode	1	Test Freq. (FX)	F1
Operating Function	ASK-Transmit	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB		cm	deg
1	2165.000	46.52	-14.27	60.79	47.48	30.89	2.84	34.69	Peak	---	---
2	3031.000	46.60	-14.19	60.79	44.69	33.40	3.45	34.94	Peak	---	---
3	3464.000	50.06	-10.73	60.79	47.75	33.40	3.82	34.91	Peak	---	---

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
 Note 2: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
 Note 3: For the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
 Note 4: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).

3.5 Operation Restriction

3.5.1 Operation Restriction Limit

Operation Restriction Limit	
<input checked="" type="checkbox"/>	Manually operated: manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 sec of being released.
<input type="checkbox"/>	Activated automatically: transmitter activated automatically shall cease transmission within 5 sec after activation.
<input type="checkbox"/>	Periodic transmissions: permitted with total transmission time of 2 sec per hour or less.
<input type="checkbox"/>	Periodic transmissions (lower field strength): each transmission is not greater than 1 sec and the silent period between transmissions is at least 30 times the duration of the transmission but in no case less than 10 sec.

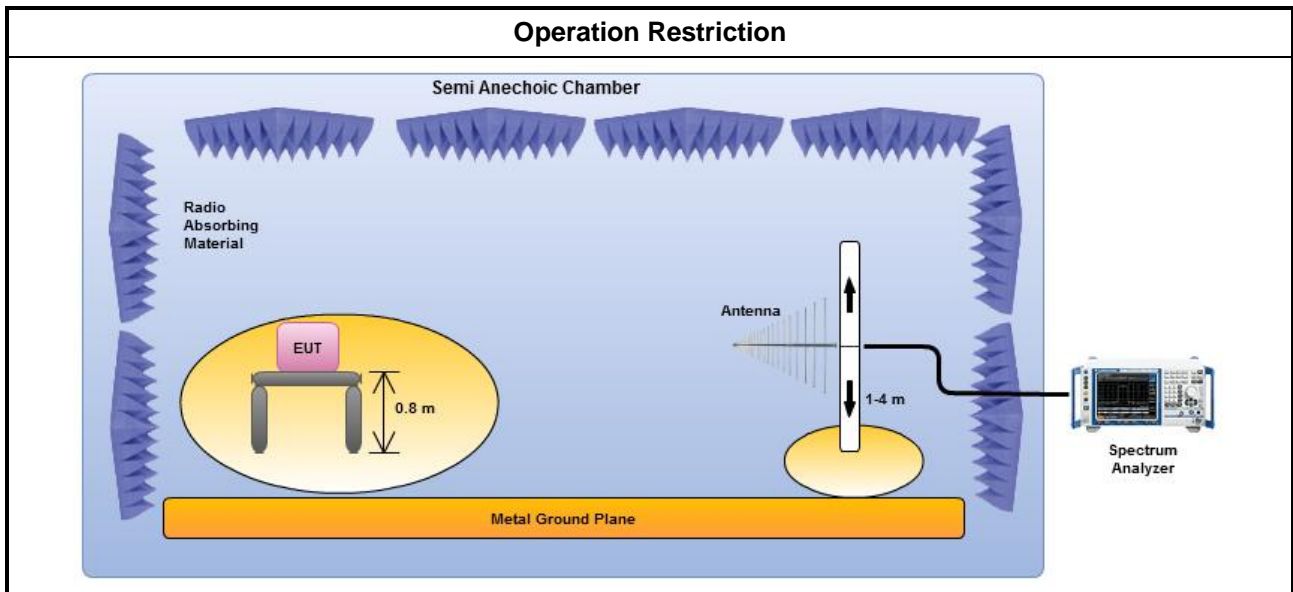
3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report. Activated automatically within 5 sec

3.5.3 Test Procedures

Test Method	
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 7.4 for periodic operation measurement.

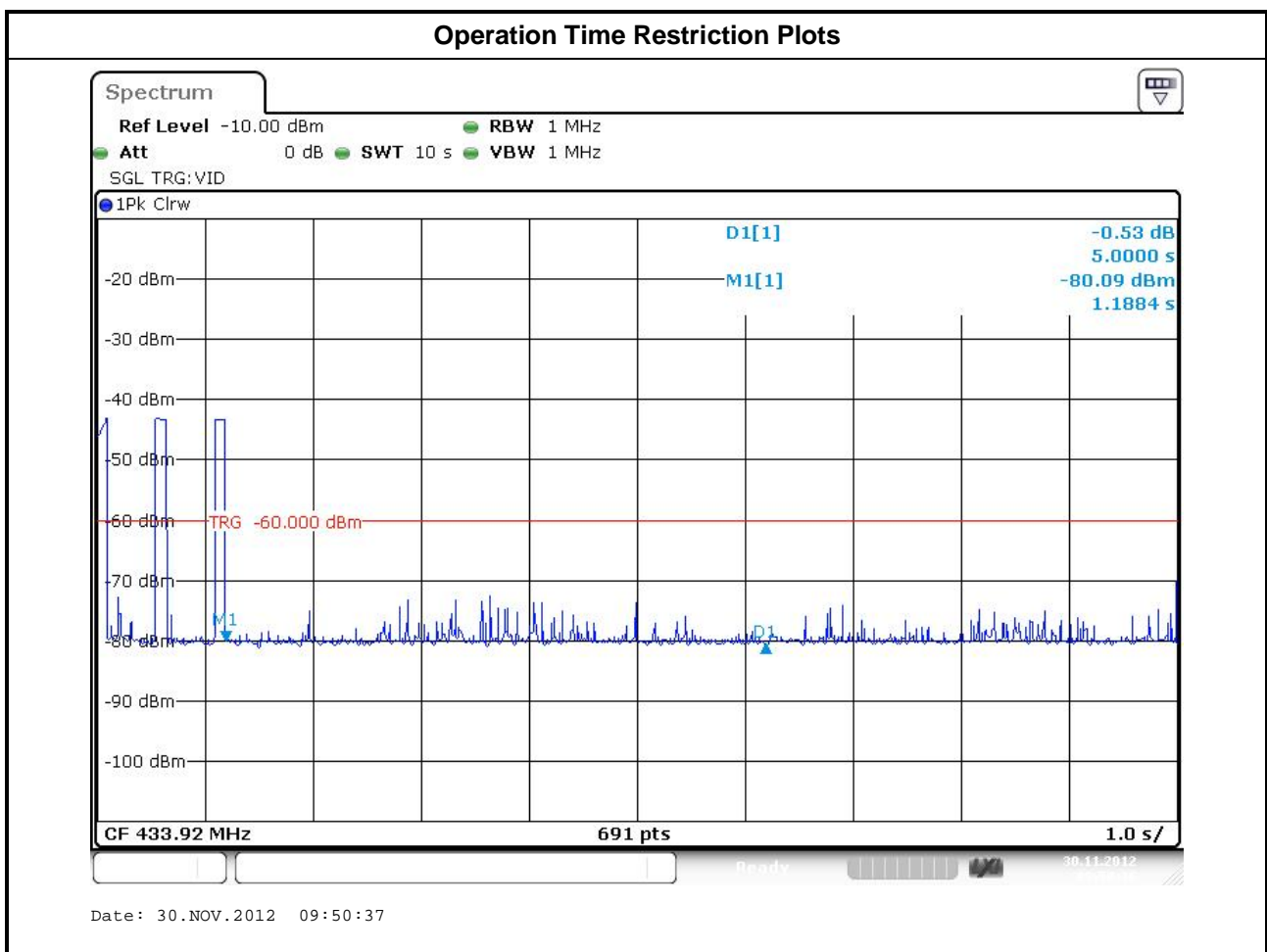
3.5.4 Test Setup





3.5.5 Test Result of Operation Restriction

Operation Restriction Limit	
<input checked="" type="checkbox"/>	Manually operated: manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 sec of being released.
<input type="checkbox"/>	Activated automatically: transmitter activated automatically shall cease transmission within 5 sec after activation.
<input type="checkbox"/>	Periodic transmissions: permitted with total transmission time of 2 sec per hour or less.
<input type="checkbox"/>	Periodic transmissions (lower field strength): each transmission is not greater than 1 sec and the silent period between transmissions is at least 30 times the duration of the transmission but in no case less than 10 sec.





4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz ~ 2.75GHz	Mar. 23, 2012	Conduction (CO04-HY)
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127-477	9kHz ~ 30MHz	Feb. 08, 2012	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz ~ 30MHz	Apr. 20, 2012	Conduction (CO04-HY)
RF Cable-CON	HUBER+SUHNER	RG213/U	CB049	9kHz ~ 30MHz	Apr. 25, 2012	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	Conduction (CO04-HY)

Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSP 40	100305	9KHz~40GHz	Feb. 21, 2012	Conducted (TH01-HY)
AC Power Source	G.W	APS-9102	EL920581	AC 0V ~ 300V	Jul. 02, 2012	Conducted (TH01-HY)
Temp. and Humidity Chamber	Giant Force	GTH-225-20-SP-SD	MAA1112-007	-20 ~ 100°C	Dec. 07, 2011	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Jun. 26, 2012	Conducted (TH01-HY)
Power Sensor	Anritsu	MA2411B	0917017	300MHz ~ 40GHz	Jan. 12, 2012	Conducted (TH01-HY)
Power Meter	Anritsu	ML2495A	0949003	300MHz ~ 40GHz	Jan. 12, 2012	Conducted (TH01-HY)
RF Cable-2m	HUBER+SUHNER	SUCOFLEX_104	SN 345675/4	1GHz ~ 26.5GHz	NA	Conducted (TH01-HY)
RF Cable-3m	HUBER+SUHNER	SUCOFLEX_104	SN 345669/4	1GHz ~ 26.5GHz	NA	Conducted (TH01-HY)

Note: Calibration Interval of instruments listed above is one year.



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSP40	100593	9kHz ~ 40GHz	Sep. 14, 2012	Radiation (03CH02-HY)
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz ~ 1GHz 3m	May 10, 2012	Radiation (03CH02-HY)
Amplifier	Agilent	8447D	2944A11146	100kHz ~ 1.3GHz	Jul. 23, 2012	Radiation (03CH02-HY)
Amplifier	Agilent	8449B	3008A02373	1GHz ~ 26.5GHz	Aug. 10, 2012	Radiation (03CH02-HY)
Horn Antenna	ETS-LINDGREN	3117	00091920	1GHz ~ 18GHz	Nov. 15, 2011	Radiation (03CH02-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA917015 4	15GHz ~ 40GHz	Jan.13, 2012	Radiation (03CH02-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	Nov. 11, 2011	Radiation (03CH02-HY)
RF Cable-high	SUHNER	SUCOFLEX106	03CH02-HY	1GHz ~ 40GHz	Mar. 06, 2012	Radiation (03CH02-HY)
Bilog Antenna	SCHAFFNER	CBL61128	2723	30MHz ~ 2GHz	Oct. 22, 2012	Radiation (03CH02-HY)
Turn Table	HD	DS 420	420/649/00	0~ 360 degree	N/A	Radiation (03CH02-HY)
Antenna Mast	HD	MA 240	240/559/00	1 ~ 4 m	N/A	Radiation (03CH02-HY)

Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Loop Antenna	R&S	HFH2-Z2	860004/0001	9 kHz - 30 MHz	Jul. 03, 2012	Radiation (03CH02-HY)

Note: Calibration Interval of instruments listed above is two year.

5 Certification of TAF Accreditation



Certificate No. : L1190-120405

財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

This is to certify that

Sporton International Inc.
EMC & Wireless Communications Laboratory
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien,
Taiwan, R.O.C.

is accredited in respect of laboratory

Accreditation Criteria : ISO/IEC 17025:2005
Accreditation Number : 1190
Originally Accredited : December 15, 2003
Effective Period : January 10, 2010 to January 09, 2013
Accredited Scope : Testing Field, see described in the Appendix
Specific Accreditation Program : Accreditation Program for Designated Testing Laboratory for Commodities Inspection
Accreditation Program for Telecommunication Equipment Testing Laboratory
Accreditation Program for BSMI Mutual Recognition Arrangement with Foreign Authorities

Jay-san Chen
Jay-San Chen
President, Taiwan Accreditation Foundation
Date: April 05, 2012

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