

FCC Test Report

Equipment : Tablet
Brand Name : Getac
Model No. : F110
FCC ID : QYLF110
Standard : 47 CFR FCC Part 15.209
Operating Band : 83 kHz (channel frequency 83kHz)
FCC Classification : DCD (for Part 15 Low Power Transmitter Below 1705 kHz)
Applicant : Getac Technology Corporation.
5F., Building A, No. 209, Sec.1, Nangang Rd.,
Nangang Dist., Taipei City 11568, Taiwan, R.O.C.
Manufacturer : Getac Technology(Kunshan)Co., LTD.
No. 269, No. 2 Avenue,
Kunshan Comprehensive Free Trade Zone,
Jiangsu Province, P.R.C

The product sample received on Nov. 5, 2013 and completely tested on Nov. 07, 2013. 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:

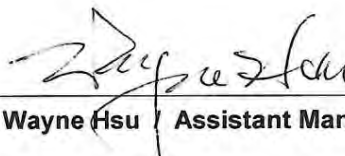

Wayne Hsu / Assistant Manager





Table of Contents

- 1 GENERAL DESCRIPTION5**
- 1.1 Information.....5
- 1.2 Accessories and Support Equipment6
- 1.3 Testing Applied Standards6
- 1.4 Testing Location Information6
- 1.5 Measurement Uncertainty7
- 2 TEST CONFIGURATION OF EUT8**
- 2.1 The Worst Case Modulation Configuration8
- 2.2 Test Channel Frequencies Configuration.....8
- 2.3 The Worst Case Measurement Configuration.....8
- 2.4 Test Setup Diagram9
- 3 TRANSMITTER TEST RESULT11**
- 3.1 AC Power-line Conducted Emissions11
- 3.2 Transmitter Radiated Emissions15
- 4 TEST EQUIPMENT AND CALIBRATION DATA26**

APPENDIX A. TEST PHOTOS

APPENDIX B. PHOTOGRAPHS OF EUT



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]:0.192415MHz 34.75 (Margin 19.18dB) - AV 52.11 (Margin 11.82dB) - QP	FCC 15.207	Complied
3.2	15.209	Transmitter Radiated Emissions	[dBuV/m at 3m]:385.990MHz 37.15 (Margin 8.85dB) - PK	FCC 15.209	Complied



1 General Description

1.1 Information

1.1.1 RF General Information

RF General Information				
Frequency Range	Modulation	Ch. Frequency (kHz)	Channel Number	Field Strength (dBuV/m)
83 kHz	OOK	83	1	81.30
Note 1: Field strength performed peak level at 3m.				

1.1.2 Antenna Information

Antenna Category	
<input type="checkbox"/>	Equipment placed on the market without antennas
<input checked="" type="checkbox"/>	Integral antenna (antenna permanently attached)
<input type="checkbox"/>	External antenna (dedicated antennas)

1.1.3 Type of EUT

Identify EUT	
EUT Serial Number	N/A
Presentation of Equipment	<input checked="" type="checkbox"/> Production ; <input 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	
<input type="checkbox"/>	Operated normally mode for worst duty cycle
<input checked="" type="checkbox"/>	Operated test mode for worst duty cycle
Test Signal Duty Cycle (x)	
<input checked="" type="checkbox"/>	100%

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 and Support Equipment

Accessories Information				
AC Adapter 1	Brand Name	DELTA	Model Name	ADP-65WH BB
	Power Rating	I/P: 100~240Vac, 1.5A ; O/P: 19 Vdc, 3.42A		
AC Adapter 2	Brand Name	Getac	Model Name	ADM-9019M
	Power Rating	I/P: 100~240Vac, 1.5A ; O/P: 19 Vdc, 4.74A		
Li-ion Battery	Brand Name	Getac Technology Corp	Model Name	BP3S1P2160-S
	Power Rating	11.4Vdc, 2160mAh		
Dock	Brand Name	Getac	Model Name	F110 office dock
Digitizer	Brand Name	KYE	Model Name	T116 EMR Digitizer

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 : 886-3-318-0055
Test Condition	Test Site No.	Test Engineer	Test Environment
AC Conduction	CO04-HY	David	21°C / 48%
Radiated Emission	03CH03-HY	Allen	24.9°C / 62%

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
AC power-line conducted emissions		±2.26 dB
Emission bandwidth		±1.42 %
Unwanted emissions, conducted	9 – 150 kHz	±0.38 dB
	0.15 – 30 MHz	±0.42 dB
	30 – 1000 MHz	±0.51 dB
All emissions, radiated	9 – 150 kHz	±2.49 dB
	0.15 – 30 MHz	±2.28 dB
	30 – 1000 MHz	±2.56 dB
Temperature		±0.8 °C
Humidity		±3 %
DC and low frequency voltages		±3 %
Time		±1.42 %
Duty Cycle		±1.42 %

2 Test Configuration of EUT

2.1 The Worst Case Modulation Configuration




Mode	Field Strength (dBuV/m at 3m)
Touch-Panel	86.11

2.2 Test Channel Frequencies Configuration

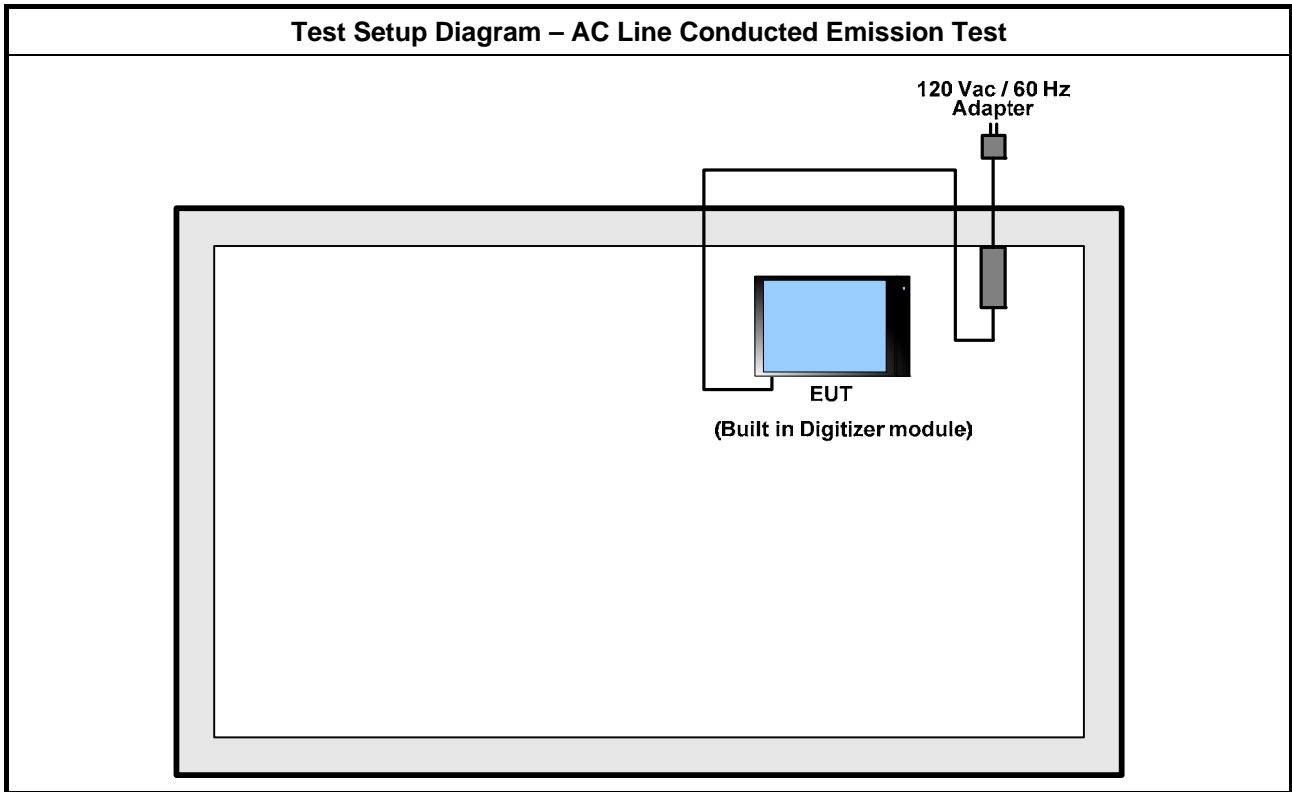
Mode	Test Channel Frequencies (kHz)
Touch-Panel	83-(F1)

2.3 The Worst Case Measurement Configuration

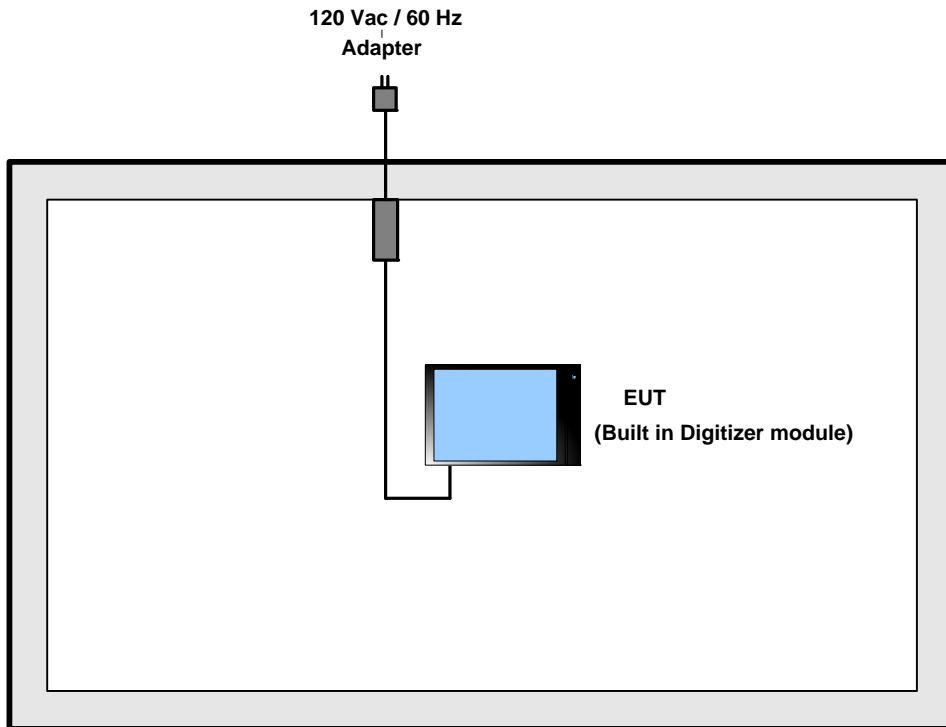
The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	Operating Mode Description
1	AC Power & Touch Panel

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

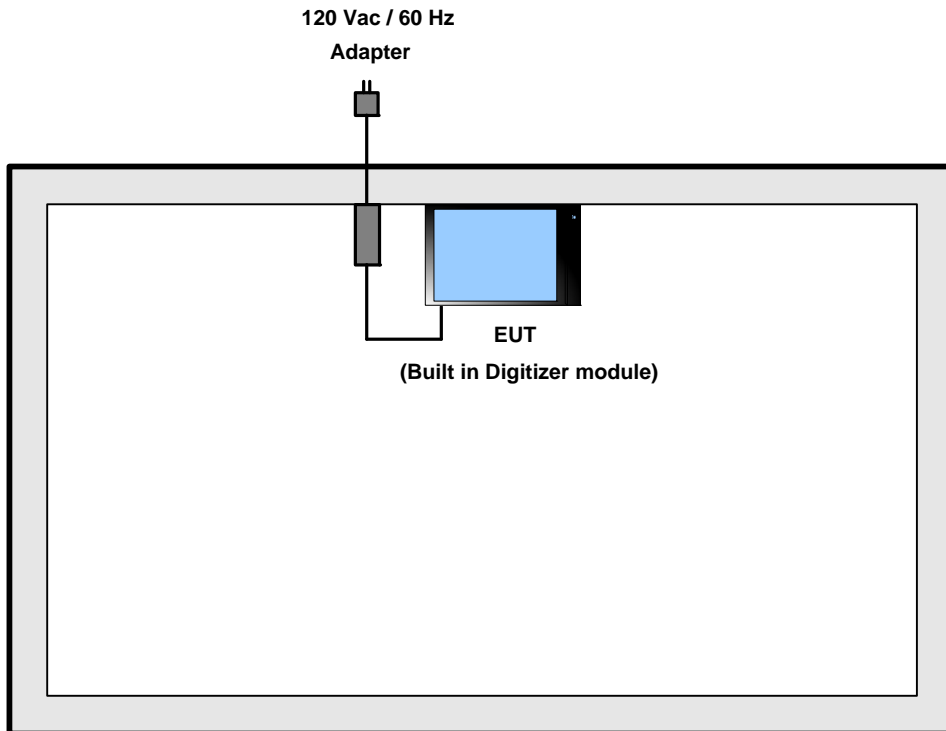
2.4 Test Setup Diagram



Test Setup Diagram - Radiated Below 30MHz Test



Test Setup Diagram - Radiated Above 30MHz Test



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.

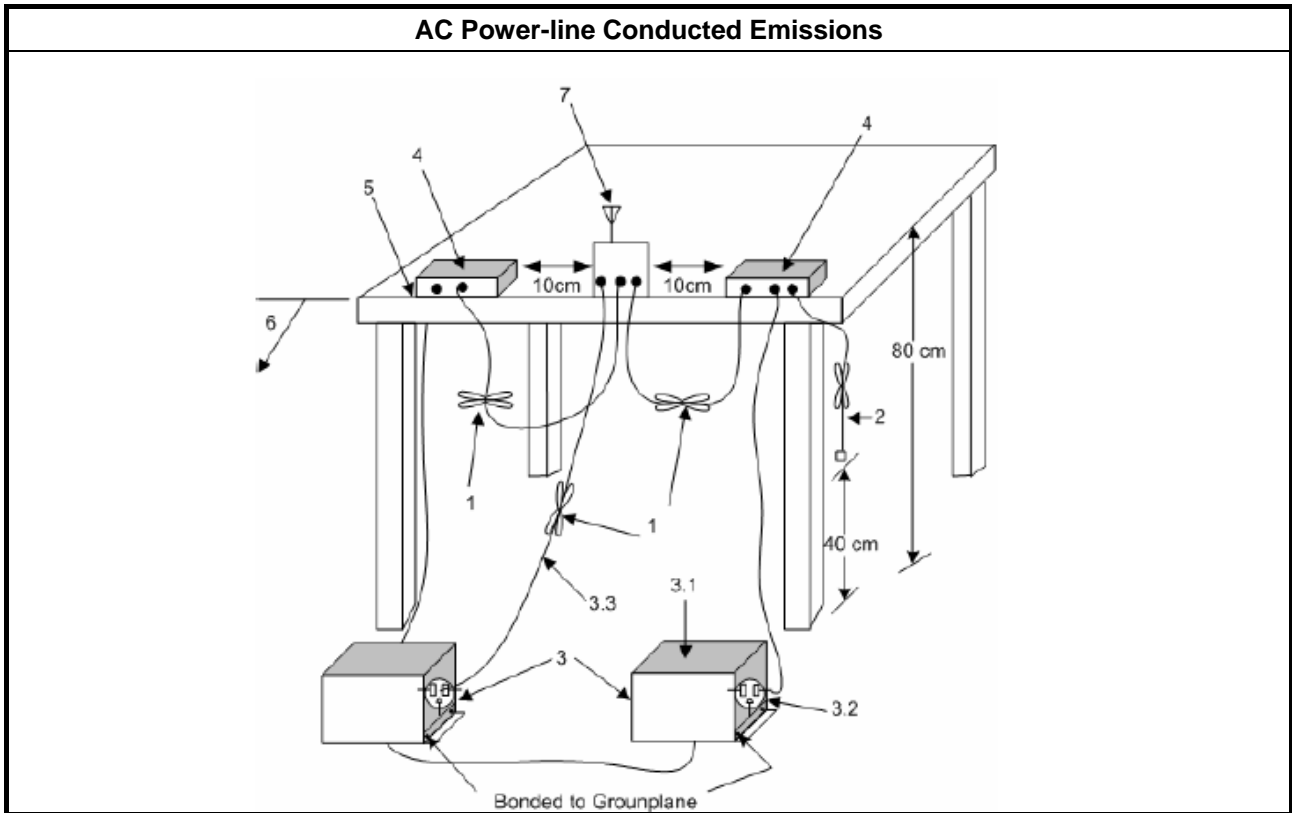
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

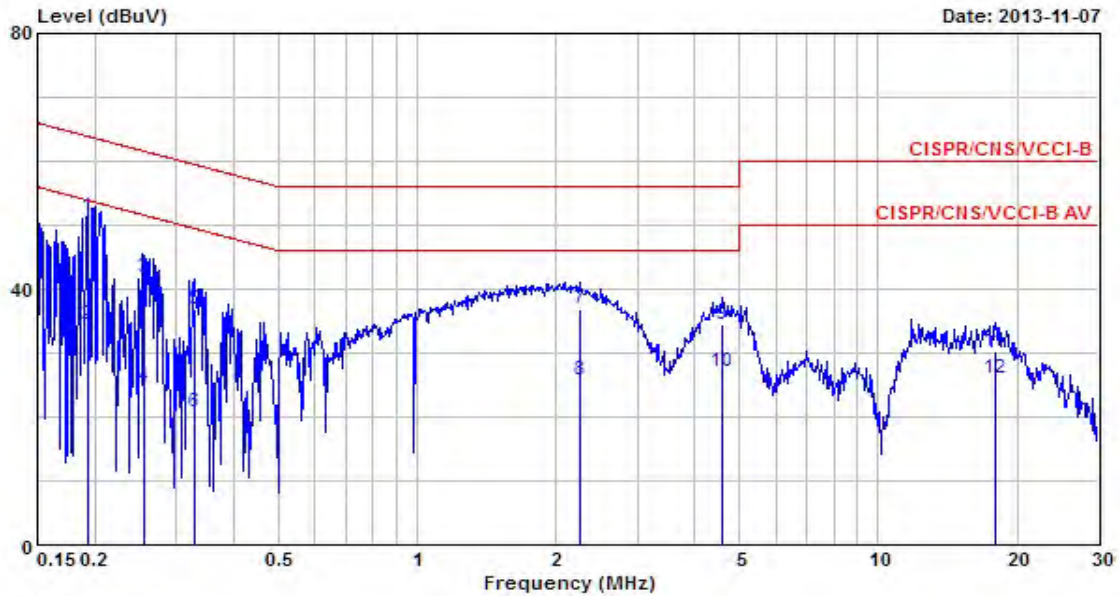
Test Method	
<input checked="" type="checkbox"/>	Refer as ANSI C63.10-2009, clause 6.2 for AC power-line conducted emissions.
<input checked="" type="checkbox"/>	If AC conducted emissions fall in operating band, then following below test method confirm final result.
<input type="checkbox"/>	Accept measurements done with a suitable dummy load replacing the antenna under the following conditions: (1) Perform the AC line conducted tests with the antenna connected to determine compliance with FCC 15.207 limits outside the transmitter's fundamental emission band; (2) Retest with a dummy load to determine compliance with FCC 15.207 limits within the transmitter's fundamental emission band.
<input checked="" type="checkbox"/>	For a device with a permanent antenna operating at or below 30 MHz, accept measurements done with a suitable dummy load, in lieu of the permanent antenna under the following conditions: (1) Perform the AC line conducted tests with the permanent antenna to determine compliance with the FCC 15.207 limits outside the transmitter's fundamental emission band; (2) Retest with a dummy load in lieu of the permanent antenna to determine compliance with the FCC 15.207 limits within the transmitter's fundamental emission band.

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	Neutral
Operating Function	AC Power & Touch Panel		



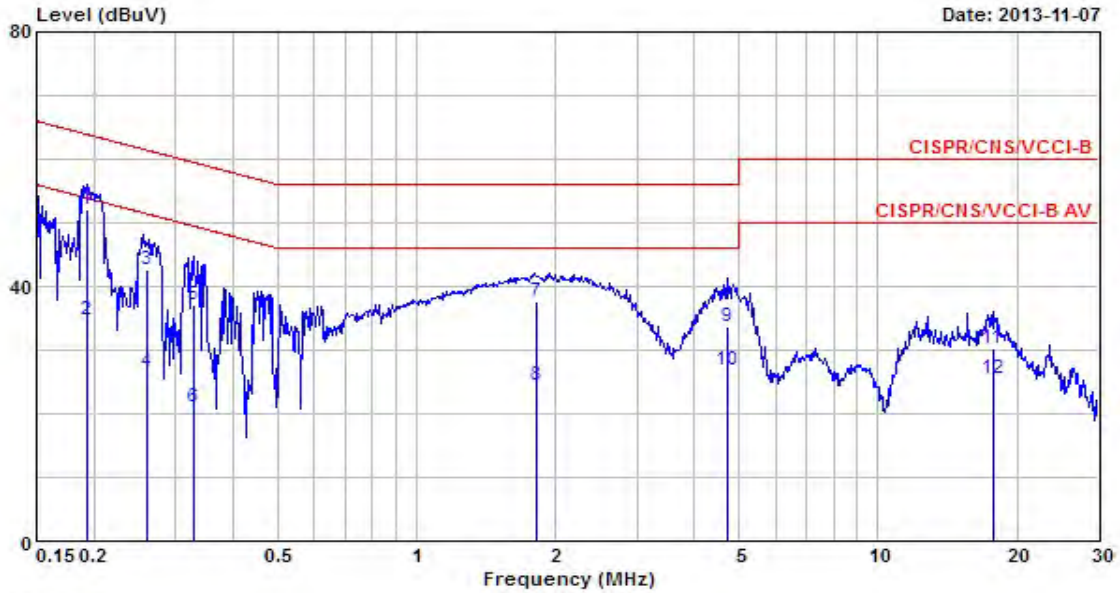
	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.1924380	51.20	-12.73	63.93	50.85	0.23	0.12	QP
2	0.1924380	34.48	-19.45	53.93	34.13	0.23	0.12	Average
3	0.2558610	41.97	-19.59	61.56	41.64	0.23	0.10	QP
4	0.2558610	24.74	-26.82	51.56	24.41	0.23	0.10	Average
5	0.3285820	36.88	-22.61	59.49	36.56	0.22	0.10	QP
6	0.3285820	20.80	-28.69	49.49	20.48	0.22	0.10	Average
7	2.250	36.76	-19.24	56.00	36.22	0.26	0.28	QP
8	2.250	25.76	-20.24	46.00	25.22	0.26	0.28	Average
9	4.570	34.50	-21.50	56.00	34.00	0.31	0.19	QP
10	4.570	27.16	-18.84	46.00	26.66	0.31	0.19	Average
11	17.940	30.29	-29.71	60.00	29.55	0.54	0.20	QP
12	17.940	26.09	-23.91	50.00	25.35	0.54	0.20	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.)
 Note 3: When emissions are in operating band over limits, retest with a dummy load for final in-band results.



AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	AC Power & Touch Panel		



Peak	Freq (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Read Level (dBuV)	LISN Factor (dB)	Cable Loss (dB)	Remark
1	0.1924150	52.11	-11.82	63.93	51.88	0.11	0.12	QP
2	0.1924150	34.75	-19.18	53.93	34.52	0.11	0.12	Average
3	0.2609220	42.62	-18.78	61.40	42.41	0.11	0.10	QP
4	0.2609220	26.65	-24.75	51.40	26.44	0.11	0.10	Average
5	0.3285820	37.14	-22.35	59.49	36.94	0.10	0.10	QP
6	0.3285820	20.94	-28.55	49.49	20.74	0.10	0.10	Average
7	1.810	37.63	-18.37	56.00	37.21	0.13	0.29	QP
8	1.810	24.52	-21.48	46.00	24.10	0.13	0.29	Average
9	4.700	33.79	-22.21	56.00	33.44	0.17	0.18	QP
10	4.700	26.84	-19.16	46.00	26.49	0.17	0.18	Average
11	17.750	30.31	-29.69	60.00	29.81	0.30	0.20	QP
12	17.750	25.51	-24.49	50.00	25.01	0.30	0.20	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.)
 Note 3: When emissions are in operating band over limits, retest with a dummy load for final in-band results.

3.2 Transmitter Radiated Emissions

3.2.1 Transmitter Radiated Emissions Limit

Transmitter Radiated Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: the frequency bands 9-90 kHz, 110-490 kHz measurements employing an average detector and other below 1GHz measurements employing a CISPR quasi-peak detector.

3.2.2 Measuring Instruments

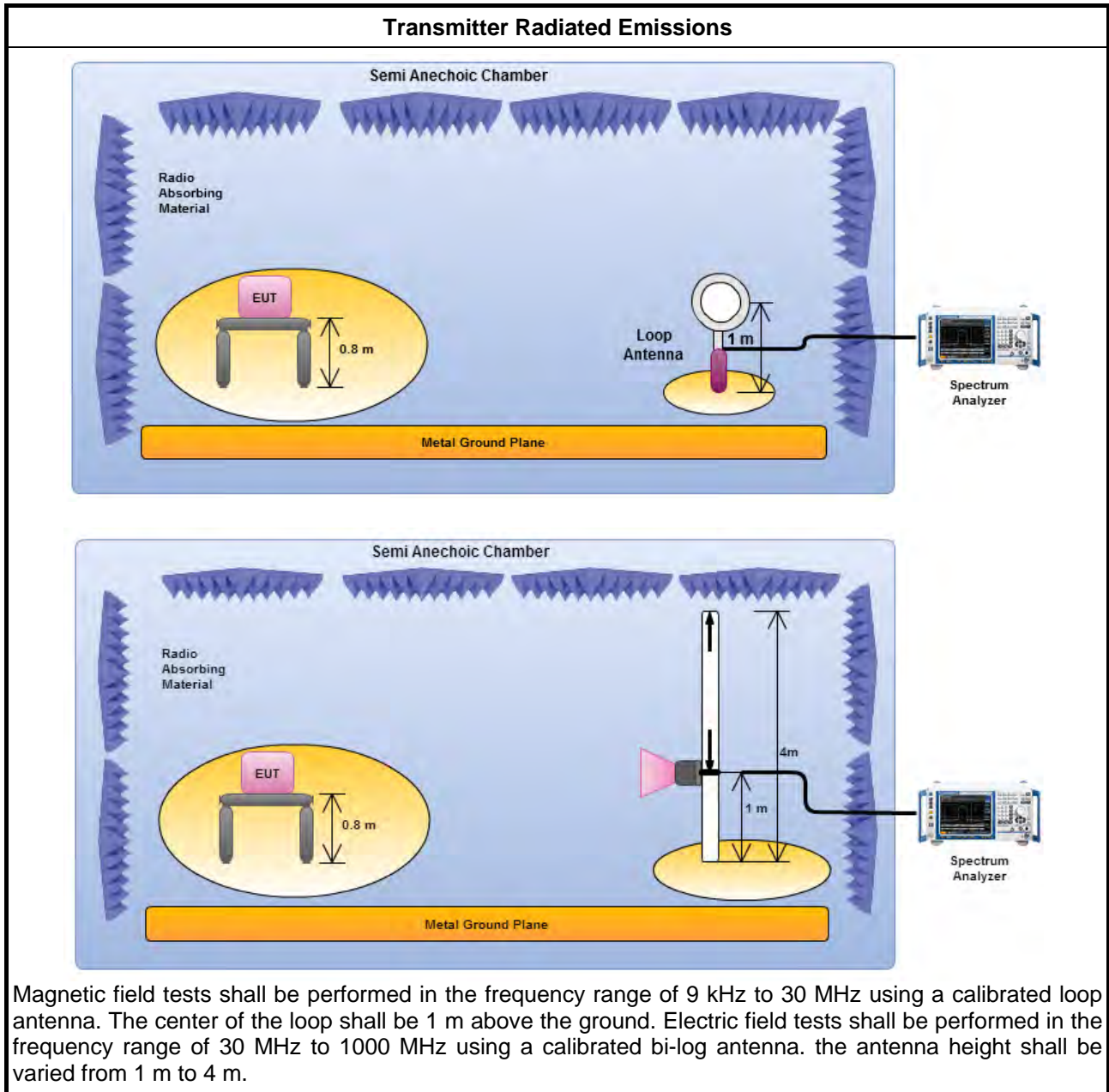
Refer a test equipment and calibration data table in this test report.



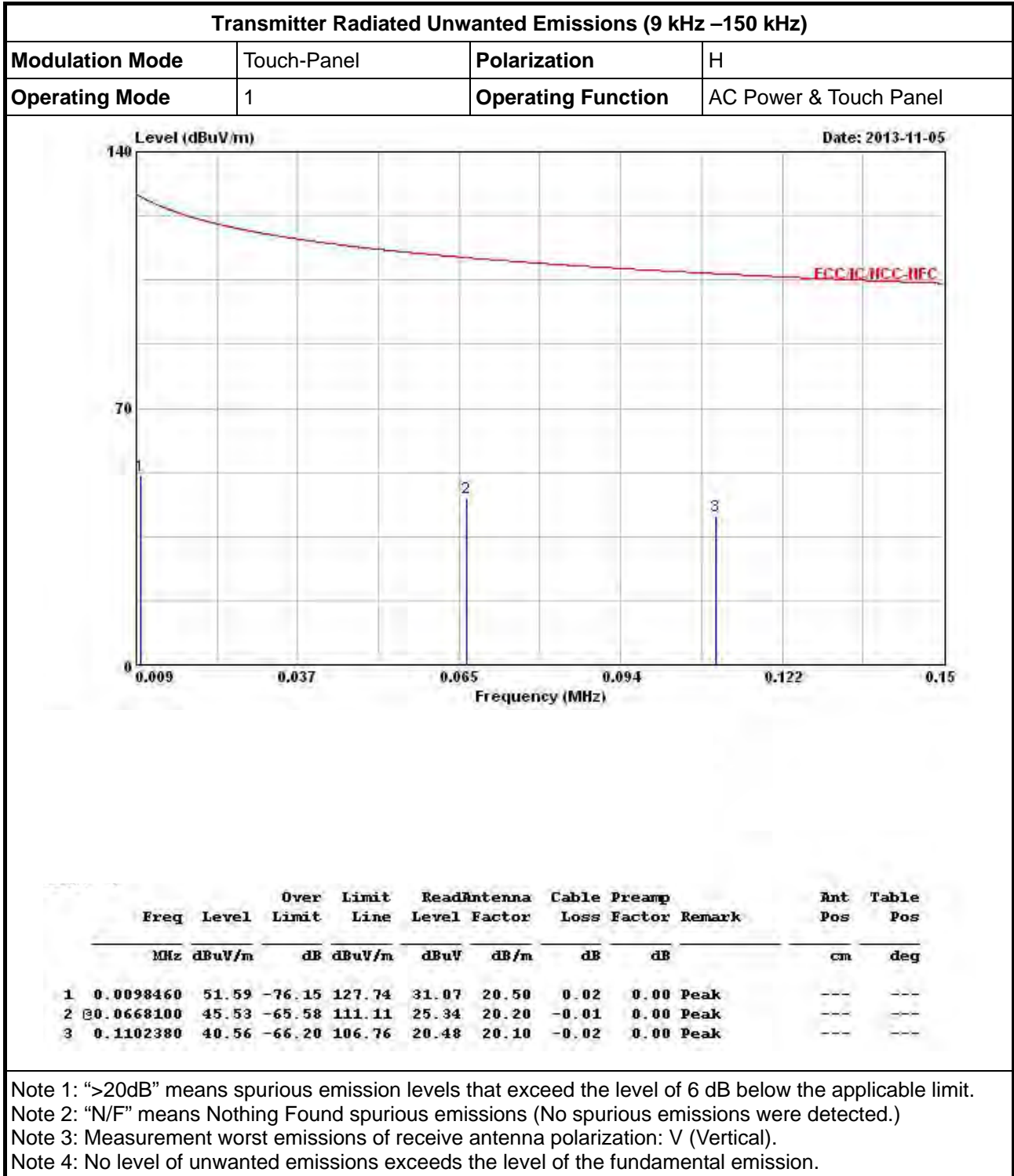
3.2.3 Test Procedures

Test Method	
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1 GHz and test distance is 3m.
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz. The frequency bands 9-90 kHz, 110-490 kHz measurements employing an average detector and other below 30MHz measurements employing a CISPR quasi-peak detector. Test distance is 3m.
<input checked="" type="checkbox"/>	At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the requirements; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be following below methods.
<input type="checkbox"/>	The results shall be extrapolated to the specified distance by making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor.
<input checked="" type="checkbox"/>	The results shall be by using the square of an inverse linear distance extrapolation factor (40 dB/decade).
<input checked="" type="checkbox"/>	For radiated measurement. Loop antenna was rotated about the horizontal and vertical axis and the equipment to be measured and the test antenna shall be oriented to obtain the maximum emitted field strength level.
<input checked="" type="checkbox"/>	The any unwanted emissions level shall not exceed the fundamental emission level.
<input checked="" type="checkbox"/>	All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

3.2.4 Test Setup

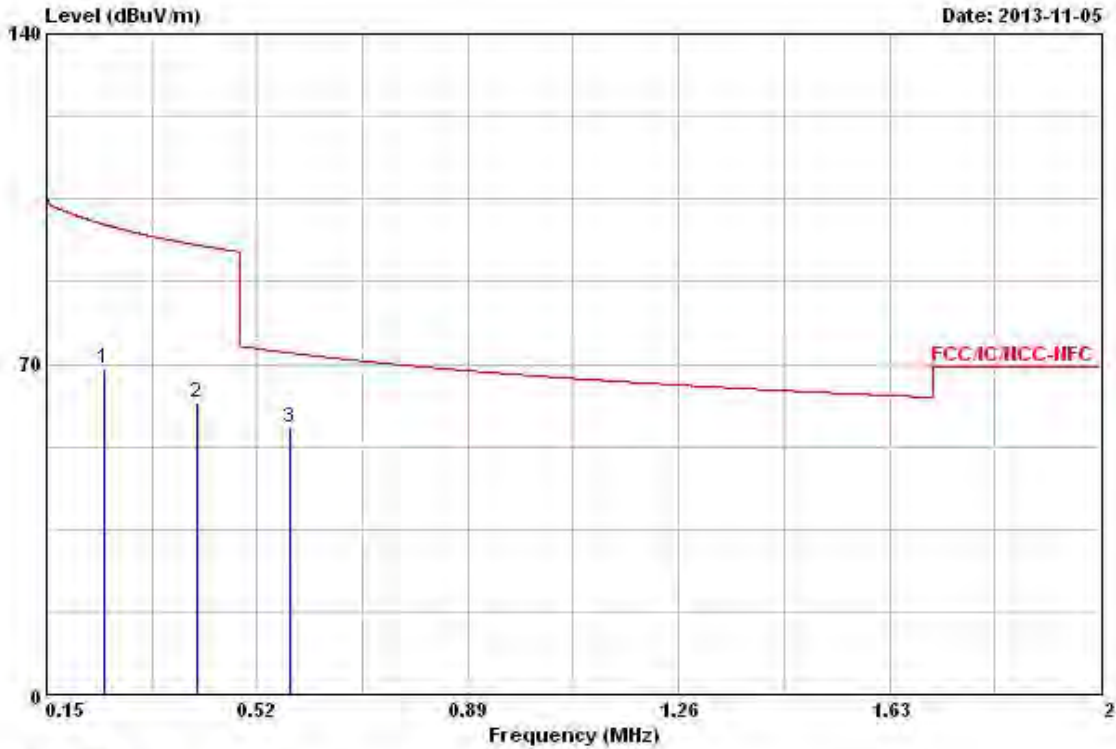


3.2.5 Transmitter Radiated Emissions (Below 30MHz)



Transmitter Radiated Unwanted Emissions (150 kHz – 2 MHz)

Modulation Mode	Touch-Panel	Polarization	H
Operating Mode	1	Operating Function	AC Power & Touch Panel



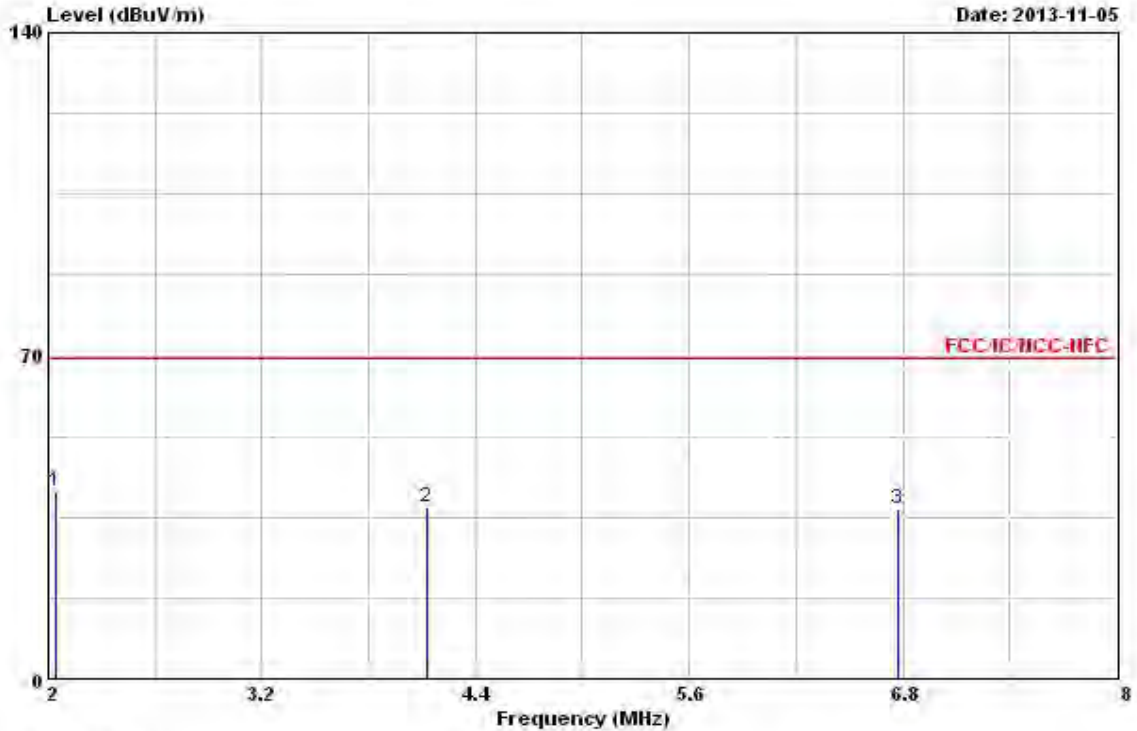
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	0.2499000	68.99	-30.67	99.66	48.93	20.10	-0.04	0.00	Peak	---	---
2	0.4145000	62.03	-33.23	95.26	42.01	20.10	-0.08	0.00	Peak	---	---
3	0.5773500	56.36	-16.02	72.38	36.39	20.06	-0.09	0.00	Peak	---	---

Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement worst emissions of receive antenna polarization: V (Vertical).
 Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.



Transmitter Radiated Unwanted Emissions (2 MHz – 8 MHz)

Modulation Mode	Touch-Panel	Polarization	H
Operating Mode	1	Operating Function	AC Power & Touch Panel

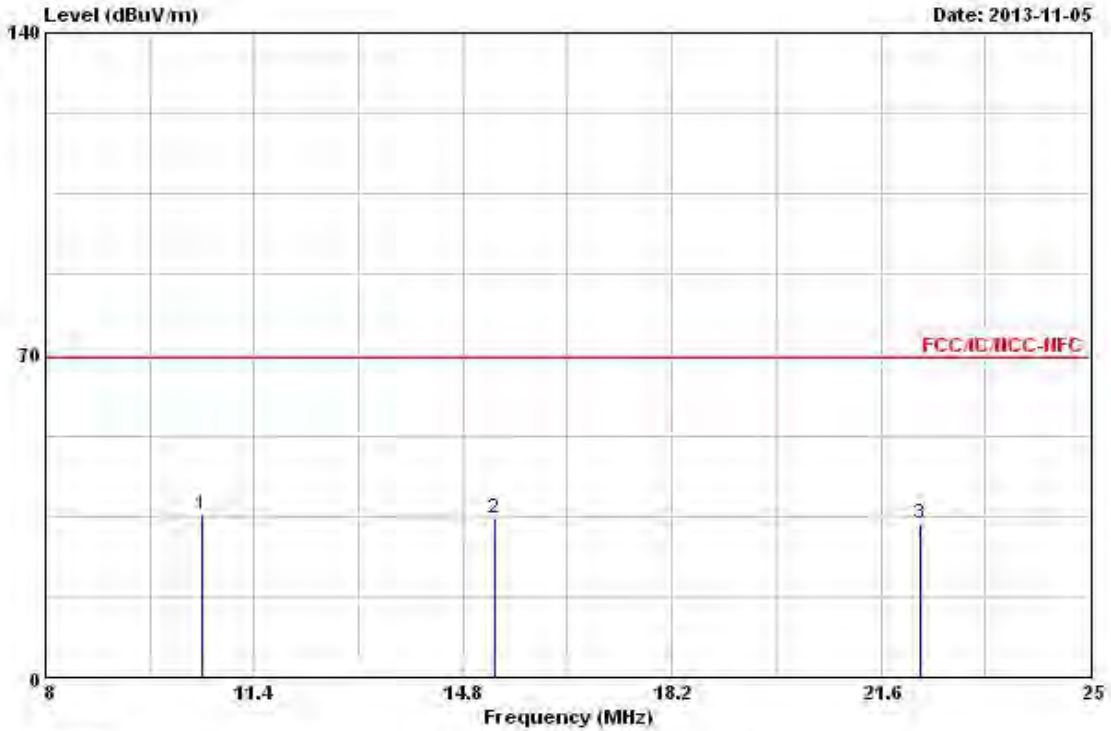


Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table
MHz	dBUV/m	dB	dBUV/m	dBUV	dB/m	dB	dB		cm	deg
1	2.040	40.61	-28.93	69.54	20.79	20.00	-0.18	0.00 Peak	---	---
2	4.130	37.37	-32.17	69.54	17.65	20.00	-0.28	0.00 Peak	---	---
3	6.770	36.89	-32.65	69.54	17.15	20.09	-0.35	0.00 Peak	---	---

Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement worst emissions of receive antenna polarization: V (Vertical).
 Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.



Transmitter Radiated Unwanted Emissions (8 MHz – 25 MHz)			
Modulation Mode	Touch-Panel	Polarization	H
Operating Mode	1	Operating Function	AC Power & Touch Panel



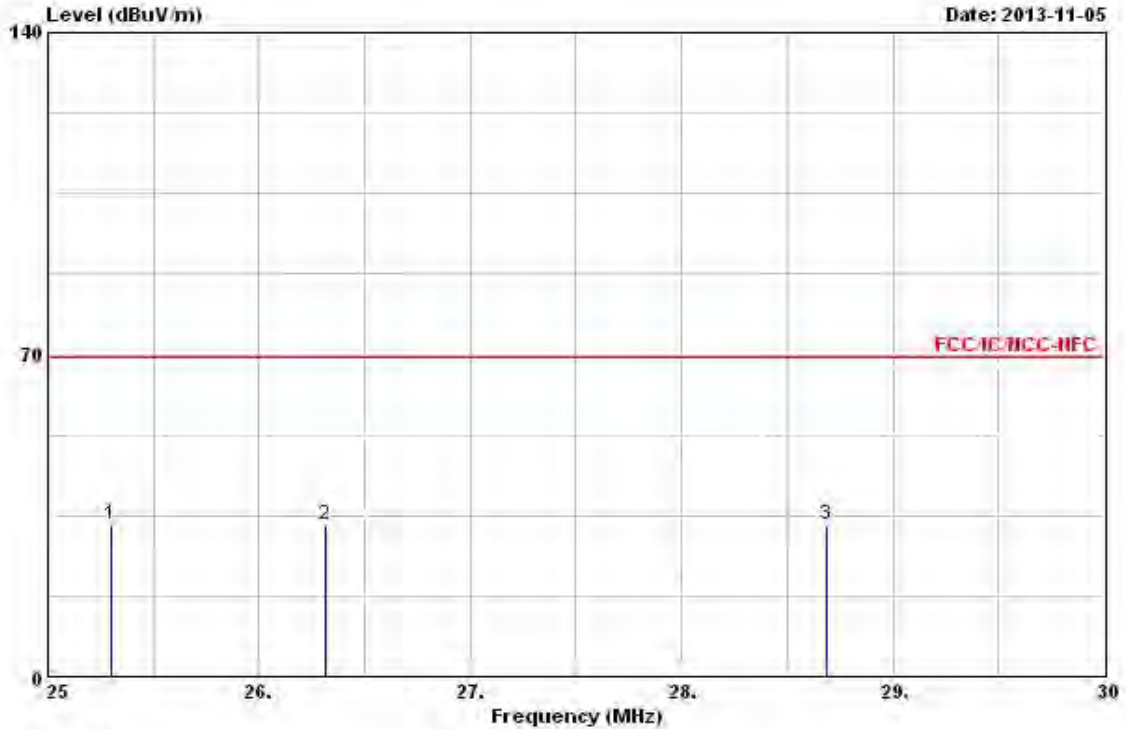
Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	10.550	35.12	-34.42	69.54	15.47	20.10	-0.45	0.00 Peak	---	---
2	15.310	34.61	-34.93	69.54	15.07	20.11	-0.57	0.00 Peak	---	---
3	22.250	33.57	-35.97	69.54	14.13	20.15	-0.71	0.00 Peak	---	---

Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement worst emissions of receive antenna polarization: V (Vertical).
 Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.



Transmitter Radiated Unwanted Emissions (25 MHz – 30 MHz)

Modulation Mode	Touch-Panel	Polarization	H
Operating Mode	1	Operating Function	AC Power & Touch Panel

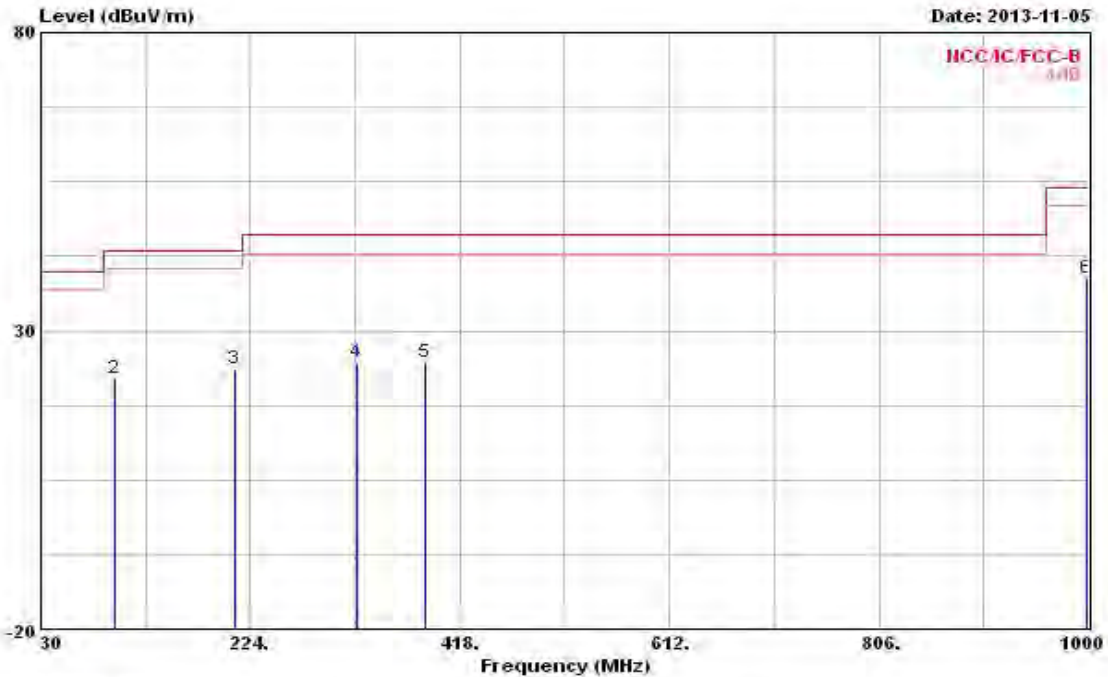


Freq	Level	Over Limit	Limit Line	ReadAntenna	Cable Preamp	Loss Factor	Remark	Ant Pos	Table Pos		
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg		
1	25.300	33.01	-36.53	69.54	13.69	20.10	-0.78	0.00	Peak	---	---
2	26.310	33.04	-36.50	69.54	13.74	20.10	-0.80	0.00	Peak	---	---
3	28.690	33.14	-36.40	69.54	13.86	20.10	-0.82	0.00	Peak	---	---

Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement worst emissions of receive antenna polarization: V (Vertical).
 Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.

3.2.6 Transmitter Radiated Emissions (Above 30MHz)

Transmitter Radiated Emissions (Above 30MHz)			
Modulation Mode	Touch-Panel	Test Freq. (FX)	F1
Operating Function	Transmit	Polarization	V

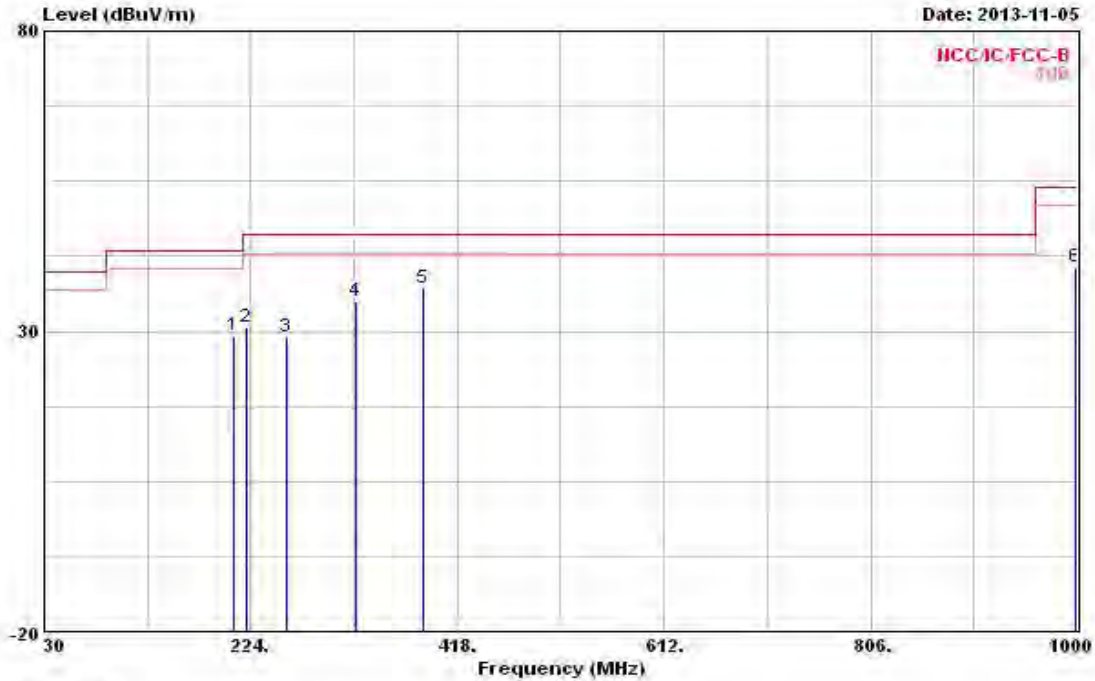


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	30.000	20.89	-19.11	40.00	28.88	18.85	0.77	27.61	Peak	---	---
2	97.900	22.00	-21.50	43.50	37.26	10.69	1.44	27.39	Peak	---	---
3	210.420	23.59	-19.91	43.50	38.97	9.45	2.13	26.96	Peak	---	---
4	322.940	24.74	-21.26	46.00	35.17	13.70	2.67	26.80	Peak	---	---
5	385.990	24.78	-21.22	46.00	34.02	15.08	2.92	27.24	Peak	---	---
6	998.060	38.76	-15.24	54.00	39.89	21.25	4.89	27.27	Peak	---	---

Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement worst emissions of receive antenna polarization: V (Vertical).
 Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.



Transmitter Radiated Emissions (Above 30MHz)			
Modulation Mode	Touch-Panel	Test Freq. (FX)	F1
Operating Function	Transmit	Polarization	H



Freq	Level	Over Limit	Limit Line	Read 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	207.510	29.30	-14.20	43.50	44.76	9.39	2.12	26.97 Peak	---	---
2	219.150	30.74	-15.26	46.00	45.93	9.57	2.17	26.93 Peak	---	---
3	256.980	28.94	-17.06	46.00	39.89	13.50	2.35	26.80 Peak	---	---
4	322.940	34.97	-11.03	46.00	45.40	13.70	2.67	26.80 Peak	---	---
5	385.990	37.15	-8.85	46.00	46.39	15.08	2.92	27.24 Peak	---	---
6	998.060	40.80	-13.20	54.00	41.93	21.25	4.89	27.27 Peak	---	---

Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement worst emissions of receive antenna polarization: V (Vertical).
 Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.



3.2.7 Test Result of Field Strength of Fundamental Emissions

Field Strength of Fundamental Emissions Result					
Modulation Mode	Frequency (MHz)	Fundamental (dBuV/m)@3m	Polarization	Margin (dB)	Limit (dBuV/m)@3m
Touch-Panel	F1	81.30	H	27.92	109.22
Result		Complied			
Note 1: Measurement worst emissions of receive antenna polarization: V (Vertical).					

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. 26, 2013	Conduction (CO04-HY)
LISN	SCHWARZBECK MESS-ELEKTRON IK	NSLK 8127	8127-477	9kHz ~ 30MHz	Jan. 21, 2013	Conduction (CO04-HY)
RF Cable-CON	HUBER+SUHNER	RG213/U	7.61183201e+012	9kHz ~ 30MHz	Nov. 09, 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
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz ~ 1GHz 3m	Dec. 01, 2012	Radiation (03CH03-HY)
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	May. 03, 2013	Radiation (03CH03-HY)
Spectrum	R&S	FSP30	100023	9kHz ~ 30GHz	Jul. 20, 2013	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30MHz ~ 1GHz	Sep. 21, 2013	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	Jan. 17, 2013	Radiation (03CH03-HY)
Turn Table	EM Electronics	EM Electronics	060615	0 ~ 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	MF	MF-7802	MF780208179	1 ~ 4 m	N/A	Radiation (03CH03-HY)

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Loop Antenna	TESEQ	HLA 6120	31244	9kHz ~ 30MHz	Dec. 02, 2012	Radiation (03CH03-HY)

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