



EMISSIONS TEST REPORT

Report Number: 100806529BOX-014

Project Number: G100806529

Report Issue Date: 08/28/2012

Product Designation: Wireless Pendant Control Unit

Standards: FCC Part 15:2012 Subpart C Section 15.247,
FCC Part 15:2012 Subpart B Class B,
RSS-210 Issue 8 December 2010,
ICES-003 Issue 4 February 2004,
RSS-Gen Issue 3 December 2010+Notice 2012-DRS-0126
IC RSS-102 Issue 4 March 2010

Tested by:
Intertek Testing Services NA, Inc.
70 Codman Hill Road
Boxborough, MA 01719

Client:
FXI, Inc.
120 Concord Road
Aston, PA 19014

Report prepared by

Kouma Sinn / Senior Project Engineer, EMC

Report reviewed by

Nicholas Abbondante / Transmitter Staff Engineer

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1 Introduction and Conclusion

The tests indicated in section 2.0 were performed on the product constructed as described in section 4.0. The remaining test sections are the verbatim text from the actual data sheets used during the investigation. These test sections include the test name, the specified test Method, a list of the actual Test Equipment Used, documentation Photos, Results and raw Data. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the product tested **complies** with the requirements of the standard(s) indicated. The results obtained in this test report pertain only to the item(s) tested.

2 Test Summary

Section	Test full name	Result
3	Client Information	--
4	Description of Equipment Under Test	--
5	System Setup and Method	--
6	RF Output Power, Human RF Exposure and Duty Cycle (CFR47 FCC Part 15 Subpart C 15.247(b)(3), KDB 558074v01 06/15/2012, IC RSS-210 A8.4(4), IC RSS-102 Issue 4 March 2010, CFR47 Part 2.1093)	Pass
7	Transmitter Radiated Spurious Emissions (CFR47 FCC Part 15 Subpart C 15.247(d), IC RSS-210 A8.5, KDB 558074v01 06/15/2012 Section 5.4)	Pass
8	6 dB Bandwidth (CFR47 FCC Part 15 Subpart C 15.247(a)(2), IC RSS-210 A8.2(a), IC RSS-Gen Section 4.6.2, KDB 558074v01 06/15/2012 Section 5.1)	Pass
9	Peak Power Spectral Density (FCC 15:2011 Subpart C Section 15.247 (e), RSS-210 Issue 8 December 2010, A8.2 (b), KDB 558074v01 06/15/2012 Section 5.3)	Pass
10	Band Edge Compliance (FCC 15:2011 Subpart C Section 15.247 (d), RSS-210 Issue 8 December 2010, A8.5, KDB 558074v01 06/15/2012 Section 5.4.2.2.4)	Pass
--	Receiver Radiated Spurious FCC Part 15:2012 Subpart B Section 15.109 (a) RSS-Gen 3 December 2010, Section 6	Exempt, above 960MHz
11	Digital Device Radiated Spurious Emissions (CFR47 FCC Part 15 Subpart B 15.109, IC ICES-003 Issue 4 February 2004)	Pass
--	AC Mains Conducted Emissions FCC Part 15:2011 Section 15.207 (a) RSS-Gen Issue 3 December 2010, 7.2.2 (Table 2)	N/A
12	Revision History	--

Notes: The AC Mains conducted emissions test is not applicable as the EUT is battery powered.

3 Client Information

This EUT was tested at the request of:

Company: FXI, Inc.
120 Concord Road
Aston, PA 19014
Contact: Mr. Chris Weyl
Telephone: (610) 245-2742
Fax: None
Email: cweyl@fxi.com

4 Description of Equipment Under Test

Equipment Under Test			
Description	Manufacturer	Model Number	Serial Number
Wireless Pendant Control Unit	FXI, Inc.	Pendant	BOX1208061022-001

Receive Date:	08/06/2012
Received Condition:	Good
Type:	Production

Description of Equipment Under Test (provided by client)

The product will be a low-cost advanced pressure redistribution support surface for patients at risk from bed sores with the ability to deliver low air loss (LAL) therapy via modular plug-and-play variants. The support surface will maintain support characteristics in its static, non-powered state. The system will be comprised of a 12v powered blower/ pump control unit powered thru a Hospital grade, in line, power supply. The control unit is embedded in the side of a multilayer foam mattress. The Control unit shall actuated be from a wireless handheld pendant device.

This product is intended to service primarily the acute care and long term care environments. The device utilizes an integral antenna and operates in the range from 2405 to 2480 MHz.

Equipment Under Test Power Configuration			
Rated Voltage	Rated Current	Rated Frequency	Number of Phases
3 Alkaline AA Batteries	N/A	N/A	N/A

Operating modes of the EUT:

No.	Descriptions of EUT Exercising
1	Transmit
2	Idle/Receive

5 System Setup and Method

Cables					
Qty	Description	Length (m)	Shielding	Ferrites	Termination
	None				

Support Equipment			
Description	Manufacturer	Model Number	Serial Number
None			

5.1 Method:

Configuration as required by ANSI C63.4:2003, FCC Part 15:2012 Subpart C Section 15.247, RSS-210 Issue 8 December 2010, RSS-Gen Issue 3 December 2010, and KDB 558074v01 06/15/2012.

5.2 EUT Block Diagram:



6 Maximum Peak Output Power, Human RF Exposure and Duty Cycle

6.1 Method

Tests are performed in accordance with ANSI C63.4:2003, CFR47 FCC Part 15 Subpart C 15.247, IC RSS-210 Issue 8 December 2010, IC RSS-Gen Issue 3 December 2010, KDB 558074v01 06/15/2012, KDB 447498, and IC RSS-102 Issue 4 March 2010.

TEST SITE: 10m ALSE

The 10m ALSE is 13m (Length) x 21m (Depth) x 10m (Height) with the effective size in terms of space from the tips of the absorber is 12m (Length) x 20m (Depth) x 8.5m (Height). This chamber achieves broadband performance using a unique arrangement of hybrid and ferrite tile absorber. This chamber has a built in 3m diameter turntable (Embedded type). The metal structure of the table makes electrical connection around the entire circumference of the turntable to the ground plane with a metal brush type connection. The turntable is located on one end of the chamber and the antennas are mounted 3 and 10 meters away at the other end of the chamber on the adjustable Antenna Mast. The antenna mast is a non-conductive bore sighted type with remote control of antenna height and polarization. The Antenna Mast and the turntable can be remotely controlled through the controller located in the adjacent Control room. A wooden table 80 cm high is used for table-top equipment.

Measurement Uncertainty

For radiated emissions, U_{lab} (3.5 dB at 3m and 3.5 dB at 10m below 1 GHz, and 4.2 dB at 3m above 1 GHz) < U_{CISPR} (5.2 dB), which is the reference value in CISPR 16-4-2 Table 1, hence the compliance of the product is only based on the measured value, and no measurement uncertainty correction is required, based on CISPR 22 and CISPR 11 (for 2006 and later revisions) Clause 11.

Sample Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF - AG$$

Where

- FS = Field Strength in dB μ V/m
- RA = Receiver Amplitude (including preamplifier) in dB μ V
- CF = Cable Attenuation Factor in dB
- AF = Antenna Factor in dB
- AG = Amplifier Gain in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows.

Assume a receiver reading of 52.0 dB μ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving a field strength of 32 dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

RA = 52.0 dB μ V
AF = 7.4 dB/m
CF = 1.6 dB
AG = 29.0 dB
FS = 32 dB μ V/m

To convert from dB μ V to μ V or mV the following was used:

$$UF = 10^{(NF / 20)} \text{ where } UF = \text{Net Reading in } \mu\text{V}$$

NF = Net Reading in dB μ V

Example:

$$FS = RA + AF + CF - AG = 52.0 + 7.4 + 1.6 - 29.0 = 32.0$$
$$UF = 10^{(32 \text{ dB}\mu\text{V} / 20)} = 39.8 \mu\text{V/m}$$

6.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
DAV003'	Weather Station	Davis Instruments	7400	PE80529A39A	08/17/2011	09/17/2012
HORN2'	HORN ANTENNA	EMCO	3115	9602-4675	10/24/2011	10/24/2012
145-416'	Cables 145-400 145-402 145-404 145-408	Huber + Suhner	3m Track B cables	multiple	09/04/2011	09/04/2012
145128'	EMI Receiver 40 GHz (20 Hz - 40 GHz)	Rohde & Schwarz	ESI	8392831001	08/23/2011	09/23/2012

Software Utilized:

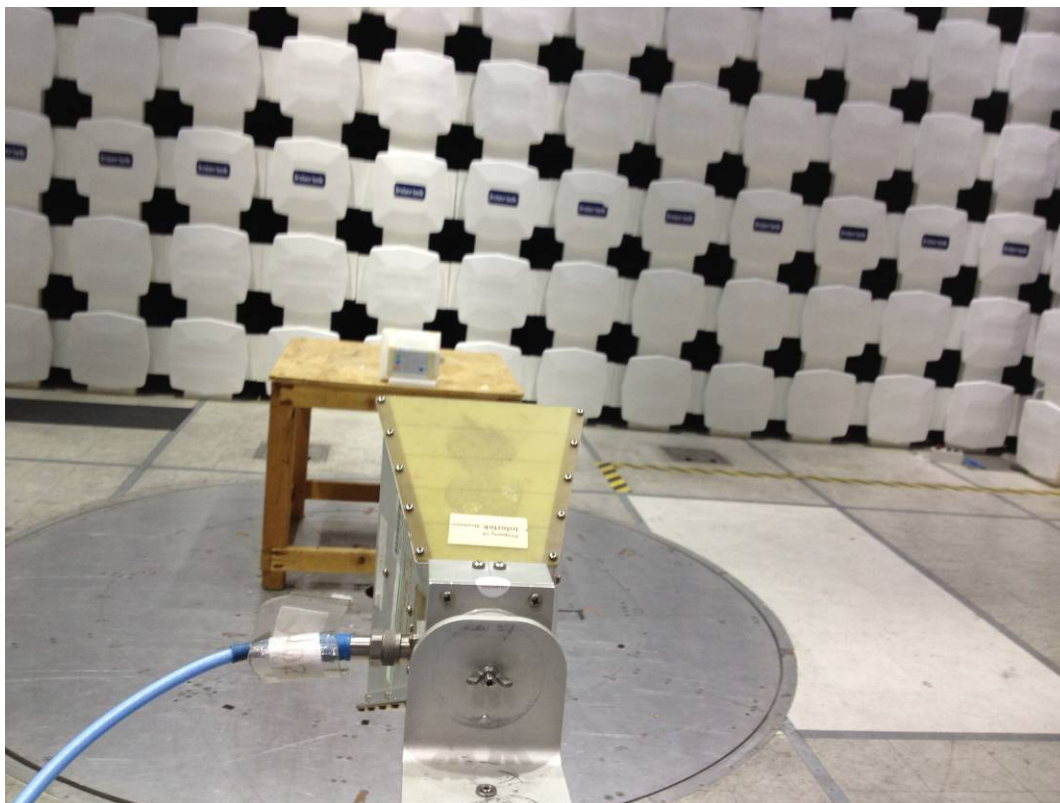
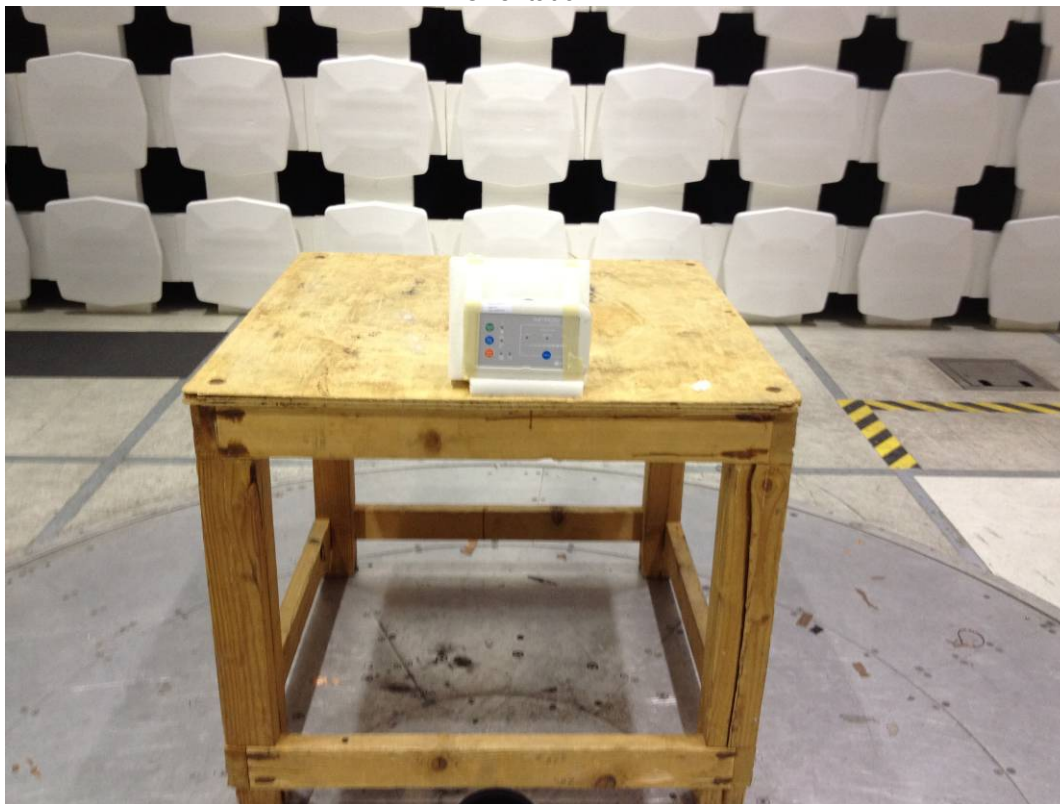
Name	Manufacturer	Version
Excel 2003	Microsoft	(11.8231.8221) SP3
EMI Boxborough.xls	Intertek	08/27/10

6.3 Results:

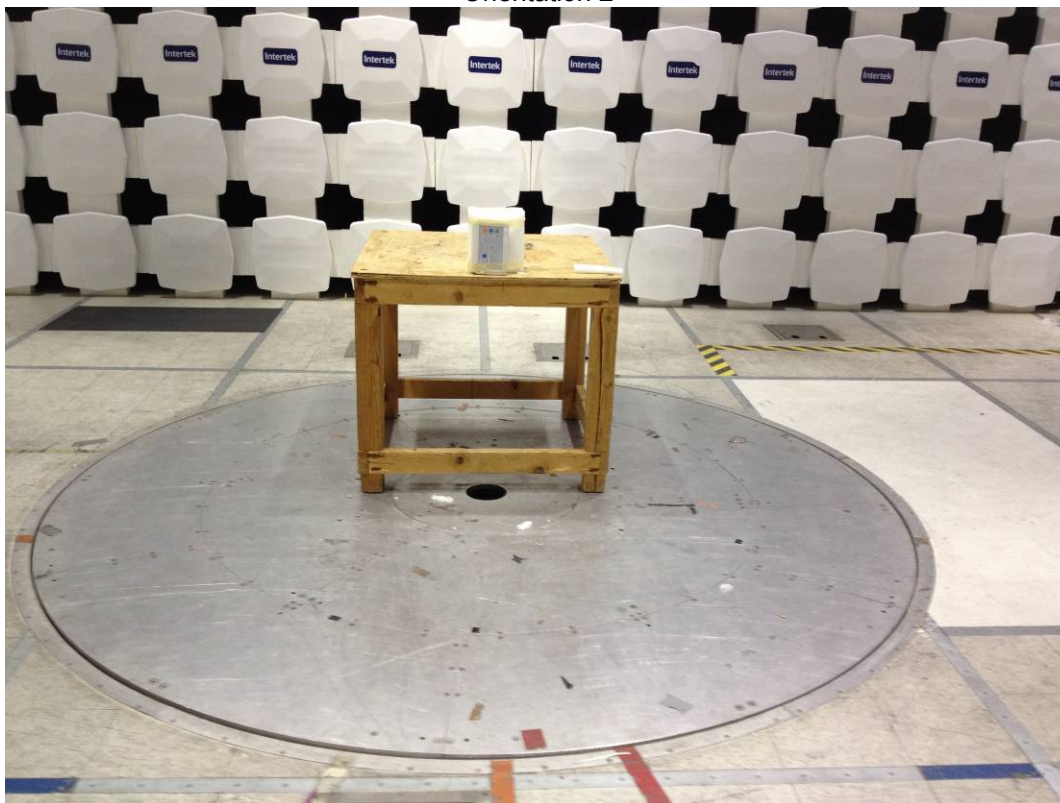
The EIRP must not exceed 36 dBm. The sample tested was found to comply.

6.4 Setup Photographs:

Orientation 1



Orientation 2



Orientation 3



6.5 Test Data:

Fundamental Frequencies Radiated Emissions

Company: FXI
 Model #: Pendant
 Serial #: BOX1208061022-002 (Intertek Assigned)
 Engineers: Kouma Sinn
 Project #: G100806529
 Standard: FCC Part 15 Subpart C 15.247
 Receiver: R&S ESI (145-128) 08-23-2012
 PreAmp: PRE145014 12-16-2012.txt
 PreAmp Used? (Y or N): N
 Antenna & Cables: SHF
 Antenna: HORN2 V3m 10-24-2012.txt
 Cable(s): 145-416 3mTrkB 09-04-2012.txt
 Location: 10m Chamber
 Barometer: DAV003
 Filter: NONE
 Temp/Humidity/Pressure: 21C 69% 1004mbar
 Limit Distance (m): 3
 Test Distance (m): 3
 Voltage/Frequency: Battery Powered
 Frequency Range: Frequencies Shown
 Net = Reading (dBuV/m) + Antenna Factor (dB1/m) + Cable Loss (dB) - Preamp Factor (dB) - Distance Factor (dB)
 Peak: PK Quasi-Peak: QP Average: AVG RMS: RMS; NF = Noise Floor, RB = Restricted Band; Bandwidth denoted as RBW/VBW

Detector Type	Ant. Pol. (V/H)	Frequency MHz	Reading dB(uV)	Antenna Factor dB(1/m)	Cable Loss dB	Pre-amp Factor dB	Distance Factor dB	EIRP Net dBm	EIRP Limit dBm	Margin dB	Bandwidth
Note: RF Output Power (Pendant), power setting to 4.5 dBm											
Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP											
CH11 - 2405MHz, No pre-amp, Orientation 1 - EUT on its long side											
PK	H	2405.000	61.52	28.33	5.93	0.00	0.00	0.56	36.00	-35.44	5/10MHz
PK	V	2405.000	63.61	28.55	5.93	0.00	0.00	2.87	36.00	-33.13	5/10MHz
CH11 - 2405MHz, No pre-amp, Orientation 2 - EUT on its short side											
PK	H	2405.000	62.22	28.33	5.93	0.00	0.00	1.26	36.00	-34.74	5/10MHz
PK	V	2405.000	63.56	28.55	5.93	0.00	0.00	2.82	36.00	-33.18	5/10MHz
CH11 - 2405MHz, No pre-amp, Orientation 3 - EUT flat											
PK	H	2405.000	65.99	28.33	5.93	0.00	0.00	5.03	36.00	-30.97	5/10MHz
PK	V	2405.000	60.22	28.55	5.93	0.00	0.00	-0.52	36.00	-36.52	5/10MHz
CH18 - 2440MHz, No pre-amp, Orientation 1 - EUT on its long side											
PK	H	2440.000	61.32	28.43	5.98	0.00	0.00	0.51	36.00	-35.49	5/10MHz
PK	V	2440.000	58.99	28.60	5.98	0.00	0.00	-1.65	36.00	-37.65	5/10MHz
CH18 - 2440MHz, No pre-amp, Orientation 2 - EUT on its short side											
PK	H	2440.000	54.42	28.43	5.98	0.00	0.00	-6.39	36.00	-42.39	5/10MHz
PK	V	2440.000	54.55	28.60	5.98	0.00	0.00	-6.09	36.00	-42.09	5/10MHz
CH18 - 2440MHz, No pre-amp, Orientation 3 - EUT flat											
PK	H	2440.000	61.58	28.43	5.98	0.00	0.00	0.77	36.00	-35.23	5/10MHz
PK	V	2440.000	55.60	28.60	5.98	0.00	0.00	-5.04	36.00	-41.04	5/10MHz
CH26 - 2480MHz, No pre-amp, Orientation 1 - EUT on its long side											
PK	H	2480.000	58.48	28.54	6.03	0.00	0.00	-2.16	36.00	-38.16	5/10MHz
PK	V	2480.000	53.35	28.67	6.03	0.00	0.00	-7.17	36.00	-43.17	5/10MHz
CH26 - 2480MHz, No pre-amp, Orientation 2 - EUT on its short side											
PK	H	2480.000	53.74	28.54	6.03	0.00	0.00	-6.90	36.00	-42.90	5/10MHz
PK	V	2480.000	50.08	28.67	6.03	0.00	0.00	-10.44	36.00	-46.44	5/10MHz
CH26 - 2480MHz, No pre-amp, Orientation 3 - EUT flat											
PK	H	2480.000	57.84	28.54	6.03	0.00	0.00	-2.80	36.00	-38.80	5/10MHz
PK	V	2480.000	51.12	28.67	6.03	0.00	0.00	-9.40	36.00	-45.40	5/10MHz

The EUT was measured in a radiated fashion. The RF output power was measured using a resolution bandwidth which encompassed the entire emission bandwidth. The data obtained was adjusted for equipment losses and converted from a field strength reading to a power reading using the provisions of FCC KDB 558074 and RSS-Gen 4.6. The human RF exposure limit is 1 mW/cm². The power density S generated by some value of EIRP at a given distance d is related by the equation:

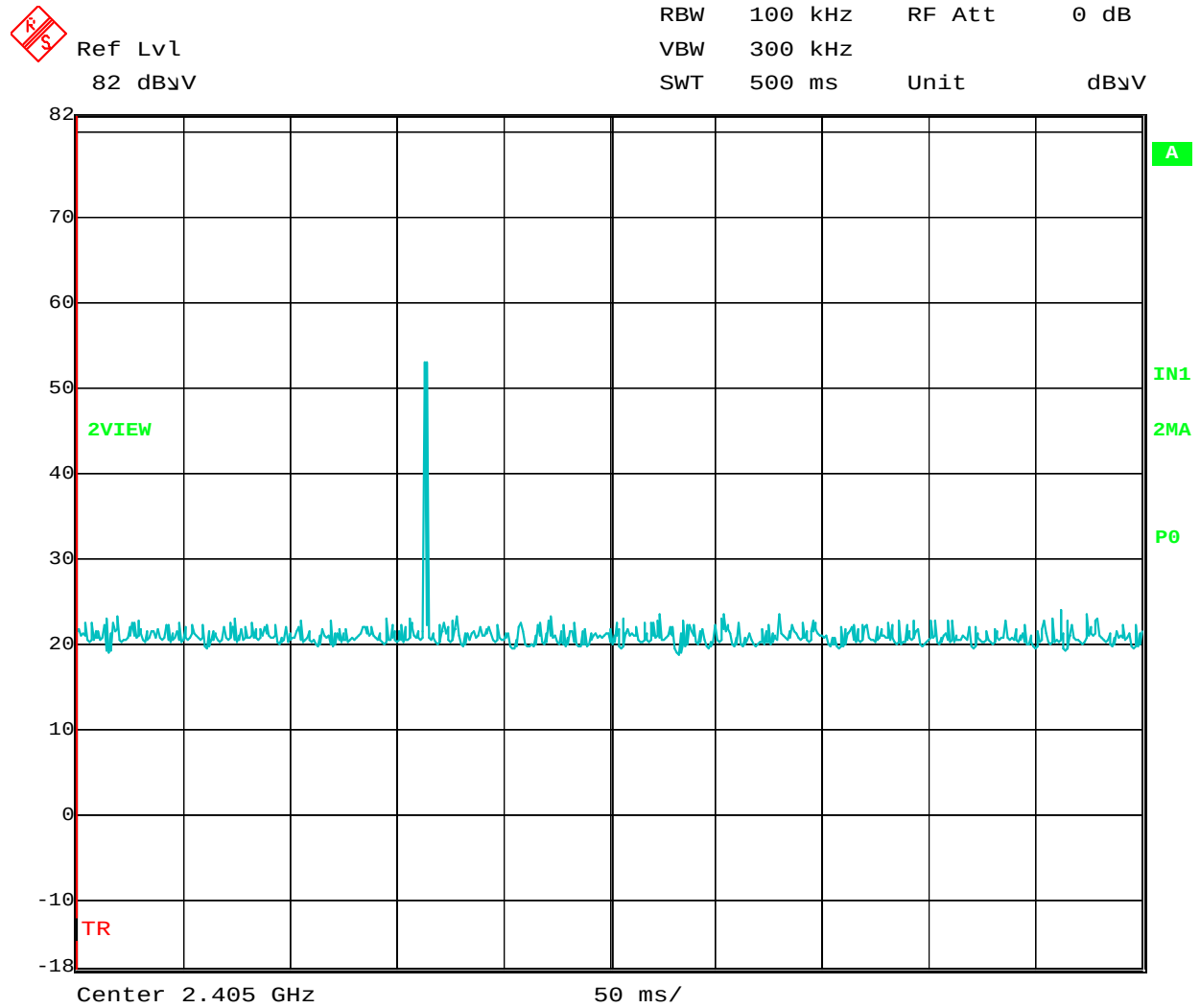
$$S = \text{EIRP} / (4\pi d^2)$$

The distance, given a maximum EIRP of 5.03 dBm (3.18 mW), at which the radiated power density of the EUT is equal to the human RF exposure limit is 0.5 cm from the antenna. This result does not take averaging into account. The EUT is exempt from FCC SAR RF Exposure evaluation because the output power is below the 60/f(GHz) average power exemption threshold of 24.2 mW.

The EUT is exempt from Industry Canada SAR RF Exposure evaluation as referenced in RSS-102 because the operating frequency is between 2.2 and 3.0 GHz and the EIRP does not exceed 20 milliwatts.

Duty Cycle

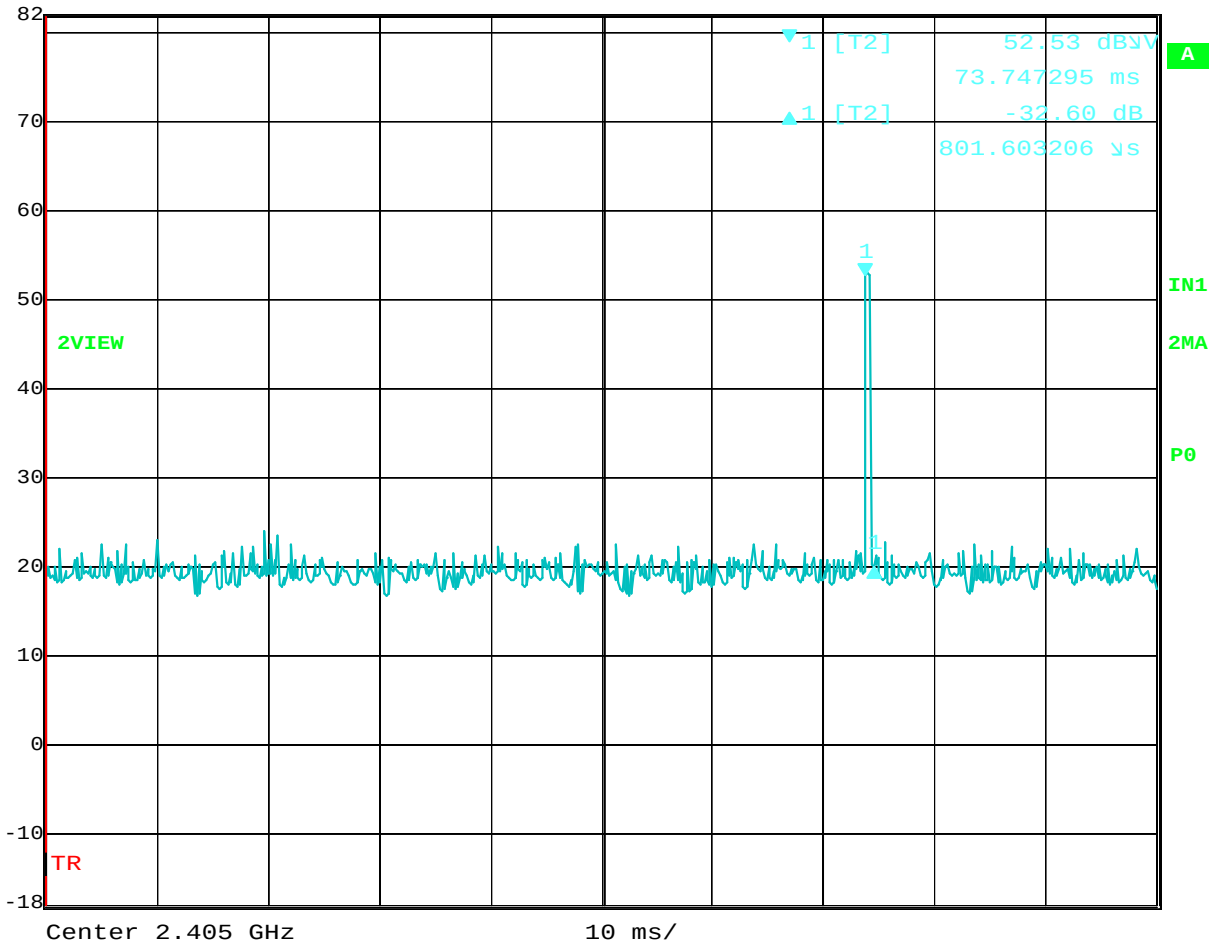
The worst-case duty cycle for typical EUT operation is shown below. The pulse train repeats over a larger than 100ms period.



Date: 7.AUG.2012 17:44:11



Delta 1 [T2] RBW 100 kHz RF Att 0 dB
 Ref Lvl -32.60 dB VBW 300 kHz
 82 dBμV 801.603206 μs SWT 100 ms Unit dBμV



Date: 7.AUG.2012 17:46:04

Average Factor = $20 \cdot \text{LOG}(0.801/100) = 41.9 \text{ dB}$

Test Personnel: Vathana F. Ven *VSV*
 Kouma Sinn *KPS*

Test Date: 08/07/2012
 08/09/2012

Supervising Engineer:
 (Where Applicable) N/A
 Product Standard: FCC Part 15.247, RSS-210
 Input Voltage: 120VAC/60Hz

Test Levels: Emissions below the limits specified in Section 6.3
 Ambient Temperature: 21, 21 °C
 Relative Humidity: 72, 69 %
 Atmospheric Pressure: 1006, 1004 mbar

Pretest Verification w/ Ambient Signals or BB Source: Yes

Deviations, Additions, or Exclusions: None

7 Transmitter Radiated Spurious Emissions

7.1 Method

Tests are performed in accordance with CFR47 FCC Part 15 Subpart C 15.247(d), IC RSS-210 A8.5, KDB 558074v01 06/15/2012 Section 5.4.

TEST SITE: 10m ALSE

The 10m ALSE is 13m (Length) x 21m (Depth) x 10m (Height) with the effective size in terms of space from the tips of the absorber is 12m (Length) x 20m (Depth) x 8.5m (Height). This chamber achieves broadband performance using a unique arrangement of hybrid and ferrite tile absorber. This chamber has a built in 3m diameter turntable (Embedded type). The metal structure of the table makes electrical connection around the entire circumference of the turntable to the ground plane with a metal brush type connection. The turntable is located on one end of the chamber and the antennas are mounted 3 and 10 meters away at the other end of the chamber on the adjustable an Antenna Mast. The antenna mast is a non-conductive bore sighted type with remote control of antenna height and polarization. The Antenna Mast and the turntable can be remotely controlled through the controller located in the adjacent Control room. A wooden table 80 cm high is used for table-top equipment.

Measurement Uncertainty

For radiated emissions, U_{lab} (3.5 dB at 3m and 3.5 dB at 10m below 1 GHz, and 4.2 dB at 3m above 1 GHz) $< U_{CISPR}$ (5.2 dB), which is the reference value in CISPR 16-4-2 Table 1, hence the compliance of the product is only based on the measured value, and no measurement uncertainty correction is required, based on CISPR 22 and CISPR 11 (for 2006 and later revisions) Clause 11.

Sample Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF - AG$$

Where

- FS = Field Strength in dB μ V/m
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- AF = Antenna Factor in dB
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In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows.

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RA = 52.0 dB μ V
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FS = 32 dB μ V/m

To convert from dB μ V to μ V or mV the following was used:

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NF = Net Reading in dB μ V

Example:

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$$UF = 10^{(32 \text{ dB}\mu\text{V} / 20)} = 39.8 \mu\text{V/m}$$

7.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
DAV003'	Weather Station	Davis Instruments	7400	PE80529A39A	08/17/2011	09/17/2012
HORN2'	HORN ANTENNA	EMCO	3115	9602-4675	10/24/2011	10/24/2012
145-416'	Cables 145-400 145-402 145-404 145-408	Huber + Suhner	3m Track B cables	multiple	09/04/2011	09/04/2012
CBL030'	High Frequency Cable 40GHz	Megaphase	TM40 K1K1 80	CBL030	02/08/2012	02/08/2013
HEW62'	Synthesized Sweep Generator	Hewlett Packard	83620A	3213A01244	04/16/2012	04/16/2014
MAN1	Digital 4 Line Barometer	Mannix	0ABA116	MAN1	08/13/2012	08/13/2014
145034	BiLog Antenna (30 MHz to 1GHz)	Schaffner Chase EMC	CBL6111C	2564	02/07/2012	02/07/2013
145-410	Cables 145-400 145-403 145-405 145-406 145-407	Huber + Suhner	10m Track A Cables	multiple	09/04/2011	09/04/2012
145003	Preamplifier (150 KHz to 1.3 GHz)	Hewlett Packard	8447D	2443A04077	10/04/2011	10/04/2012
145128	EMI Receiver 40 GHz (20 Hz - 40 Ghz)	Rohde & Schwarz	ESI	8392831001	08/23/2011	09/23/2012
ROS001'	Spectrum Analyzer 20Hz - 40 GHz	Rohde & Schwarz	FSEK-30	100225	02/10/2012	02/10/2013
EMC02'	ANTENNA, RIDGED GUIDE, 1-18 GHZ	EMCO	3115	2784	01/18/2012	01/18/2013

Software Utilized:

Name	Manufacturer	Version
C5	Teseq	Build 5.26.46.46
Excel 2003	Microsoft	(11.8231.8221) SP3
EMI Boxborough.xls	Intertek	08/27/10

7.3 Results:

The sample tested was found to comply.

In any 100 kHz bandwidth outside the frequency band, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in 15.205(a), must also comply with the radiated emission limits specified in 15.209(a) (see 15.205(c)).

FCC Part 15.209(a) & RSS-210 A8.5 – Restricted Band Radiated Spurious/Harmonics Limits

Frequency (MHz)	Field Strength		Test Distance (meters)
	$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$	
30–88	100	40.00	3
88–216	150	43.52	3
216–960	200	46.02	3
Above 960	500	53.98	3

FCC Part 15.247(d) & RSS-210 A8.5 – Non Restricted Band Radiated Spurious/Harmonics Limits

7.4 Setup Photographs:

30-1000 MHz Test Setup Photos



1-18 GHz Test Setup Photo



18-25 GHz Test Setup Photo



7.5 Plots/Data:

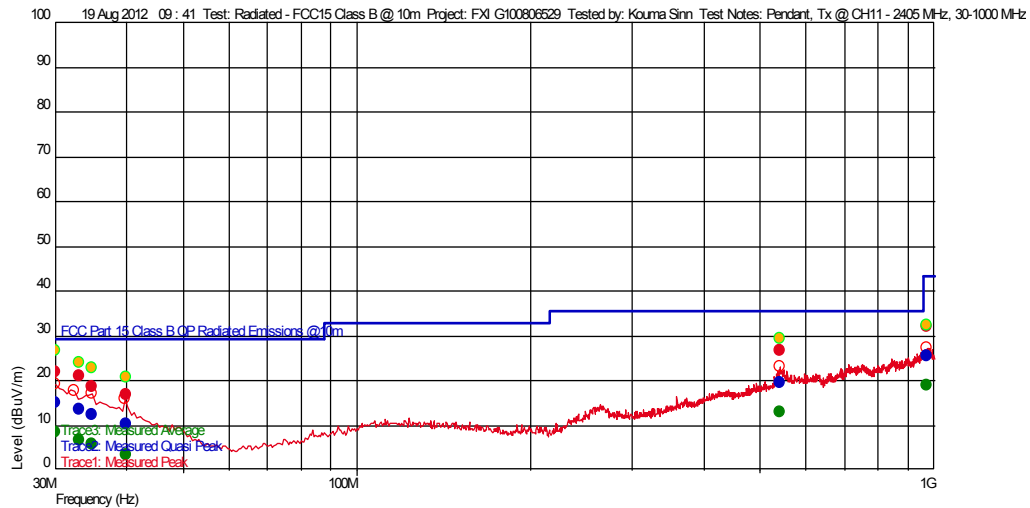
Channel 11, 30-1000 MHz Radiated Spurious Emissions

Test Information

Test Details
 Test: Radiated - FCC15 Class B @ 10m
 Project: FXI G100806529
 Test Notes: Pendant, Tx @ CH11 - 2405 MHz, 30-1000 MHz
 Temperature: 21C
 Humidity: 64%, 1004mbar
 Tested by: Kouma Sinn
 Test Started: 19 Aug 2012 09 : 41

Additional Information

Prescan Emission Graph



- Measured Peak Value
- Measured Quasi Peak Value
- Measured Average Value
- Maximum Value of Mast and Turntable
- Swept Peak Data
- Swept Quasi Peak Data
- Swept Average Data

Emissions Test Data

Trace1: Measured Peak

Frequency(Hz)	Level (dBuV/m)	AF	PA+CL	Limit(dBuV/m)	Margin(dBuV/m)	Hor (--), Ver ()	Azimuth (deg)(Deg)	Mast Height(m)	RBW(Hz)	Comment
39.943086295 M	16.95	14.034	-26.080	29.540	-12.59		322	1.15	120 k	
973.437274407 M	32.17	25.000	-22.372	43.540	-11.37	--	102	1.68	120 k	
34.843686936 M	18.67	16.578	-26.098	29.540	-10.87		213	4.00	120 k	
541.291983942 M	26.78	21.922	-23.977	35.540	-8.76	--	232	2.96	120 k	
33.034268818 M	21.01	17.386	-26.104	29.540	-8.53	--	108	4.00	120 k	
30.080561122 M	21.97	19.044	-26.115	29.540	-7.57		28	3.88	120 k	

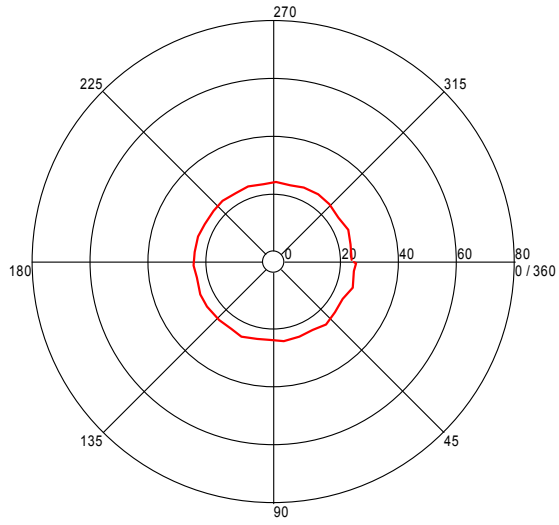
Trace2: Measured Quasi Peak

Frequency(Hz)	Level (dBuV/m)	AF	PA+CL	Limit(dBuV/m)	Margin(dBuV/m)	Hor (--), Ver ()	Azimuth (deg)(Deg)	Mast Height(m)	RBW(Hz)	Comment
39.943086295 M	10.23	14.034	-26.080	29.540	-19.31		322	1.15	120 k	
973.437274407 M	25.55	25.000	-22.372	43.540	-17.99	--	102	1.68	120 k	
34.843686936 M	12.42	16.578	-26.098	29.540	-17.12		213	4.00	120 k	
541.291983942 M	19.41	21.922	-23.977	35.540	-16.13	--	232	2.96	120 k	
33.034268818 M	13.45	17.386	-26.104	29.540	-16.09	--	108	4.00	120 k	
30.080561122 M	15.09	19.044	-26.115	29.540	-14.45		28	3.88	120 k	

Azimuth Plots

Turntable Plot (30.080561122 MHz)

Level (dBuV/m)

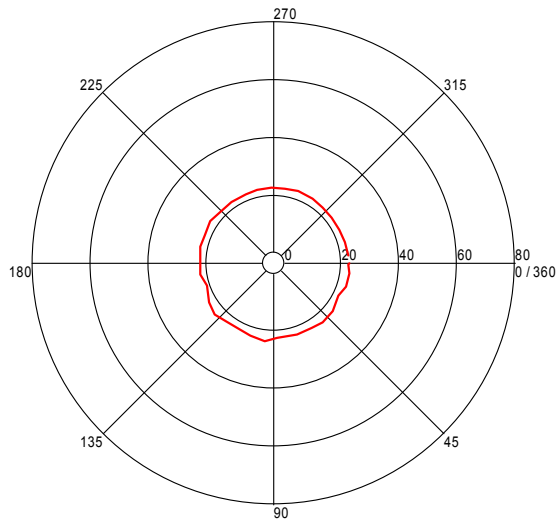


All Polarities

Azimuth (Degrees)

Turntable Plot (33.034268818 MHz)

Level (dBuV/m)

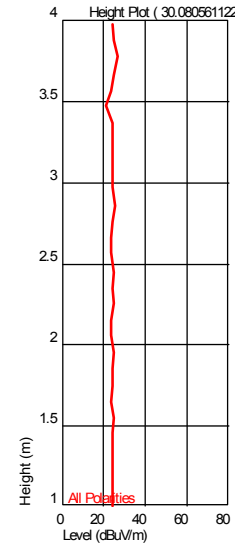


All Polarities

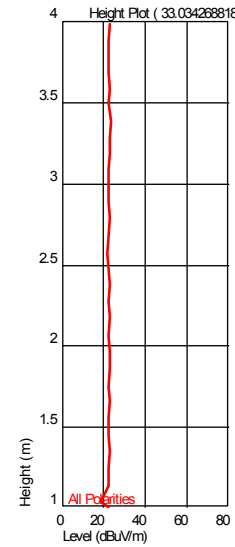
Azimuth (Degrees)

Turntable Plots

Height Plot (30.080561122 MHz)

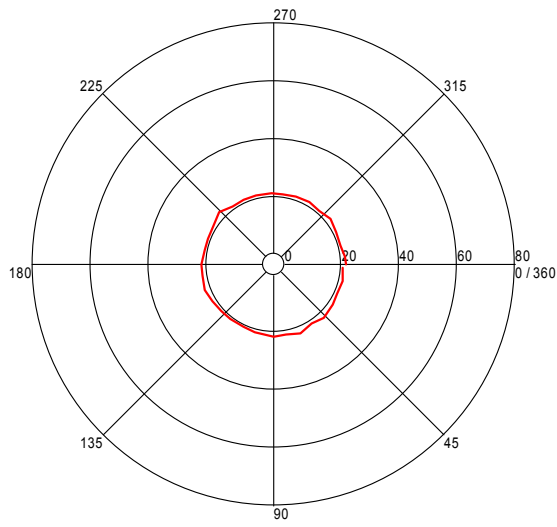


Height Plot (33.034268818 MHz)



Turntable Plot (34.843686936 MHz)

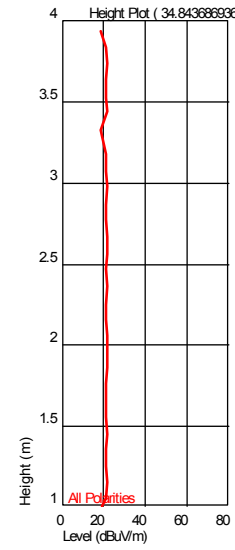
Level (dBuV/m)



All Polarities

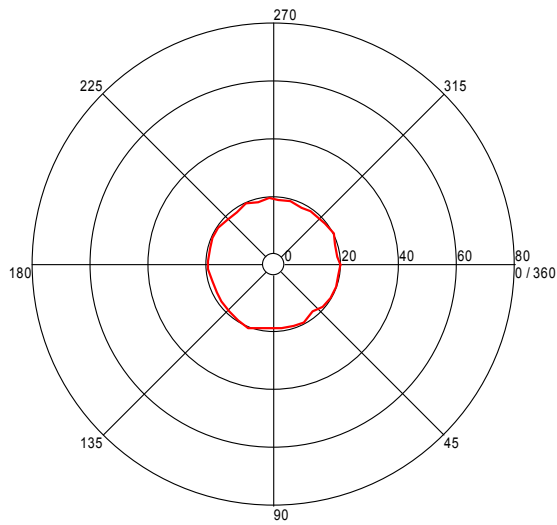
Azimuth (Degrees)

Height Plot (34.843686936 MHz)



Turntable Plot (39.943086295 MHz)

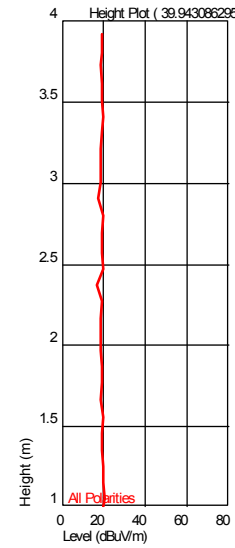
Level (dBuV/m)



All Polarities

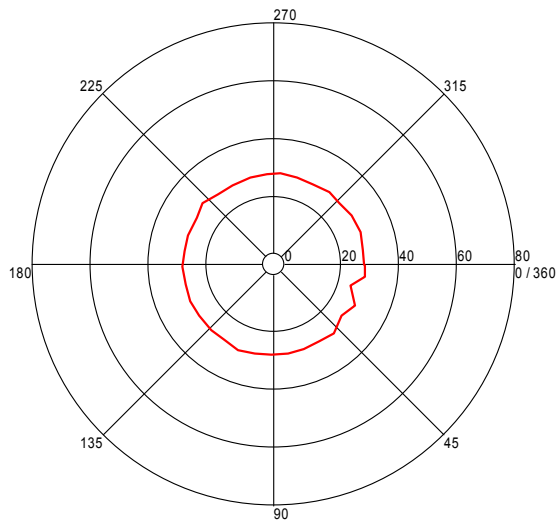
Azimuth (Degrees)

Height Plot (39.943086295 MHz)



Turntable Plot (541.291983942 MHz)

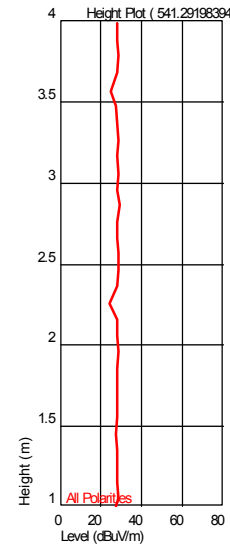
Level (dBuV/m)



All Polarities

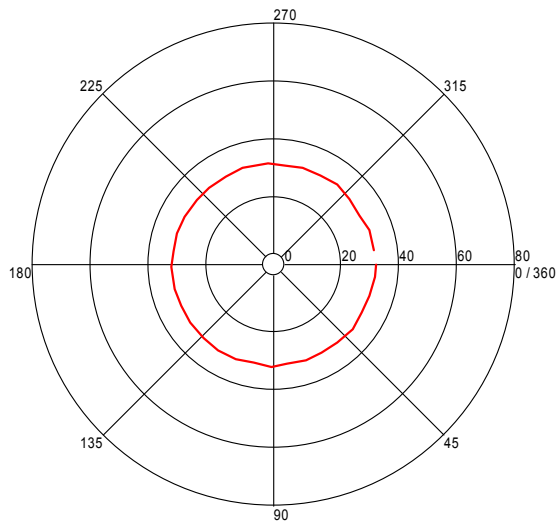
Azimuth (Degrees)

Height Plot (541.291983942 MHz)



Turntable Plot (973.437274407 MHz)

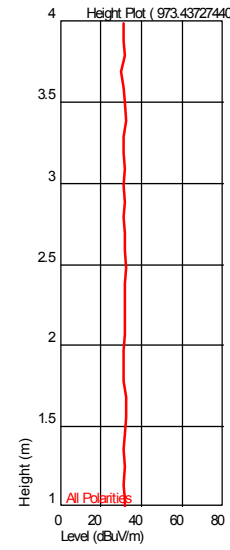
Level (dBuV/m)



All Polarities

Azimuth (Degrees)

Height Plot (973.437274407 MHz)



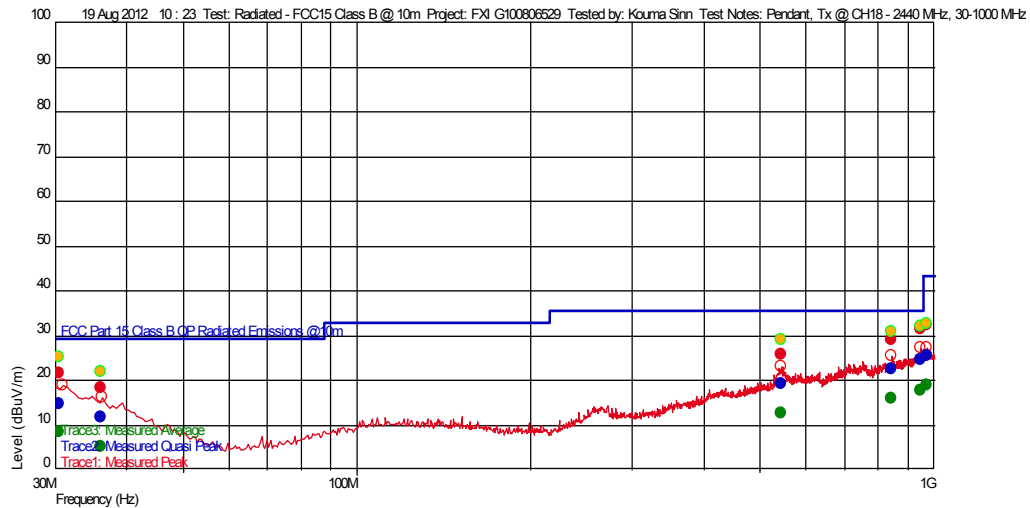
Channel 18, 30-1000 MHz Radiated Spurious Emissions

Test Information

Test Details
 Test: Radiated - FCC15 Class B @ 10m
 Project: FXI G100806529
 Test Notes: Pendant, Tx @ CH18 - 2440 MHz, 30-1000 MHz
 Temperature: 21C
 Humidity: 64%, 1004mbar
 Tested by: Kouma Sinn
 Test Started: 19 Aug 2012 10 : 23

Additional Information

Prescan Emission Graph



- Measured Peak Value
- Measured Quasi Peak Value
- Measured Average Value
- Maximum Value of Mast and Turntable

- Swept Peak Data
- Swept Quasi Peak Data
- Swept Average Data

Emissions Test Data

Trace1: Measured Peak

Frequency(Hz)	Level (dBuV/m)	AF	PA+CL	Limit(dBuV/m)	Margin(dBuV/m)	Hor (--), Ver ()	Azimuth (deg)(Deg)	Mast Height(m)	RBW(Hz)	Comment
972.431663072 M	32.26	25.000	-22.375	43.540	-11.28		343	3.86	120 k	
36.109218166 M	18.42	15.945	-26.094	29.540	-11.12	--	151	3.30	120 k	
545.071543509 M	25.84	21.690	-23.974	35.540	-9.70		360	2.27	120 k	
30.519839792 M	21.62	18.736	-26.113	29.540	-7.92		349	3.36	120 k	
845.465932076 M	29.14	23.381	-23.030	35.540	-6.40	--	221	2.60	120 k	
948.796392838 M	31.41	24.504	-22.434	35.540	-4.13		168	4.00	120 k	

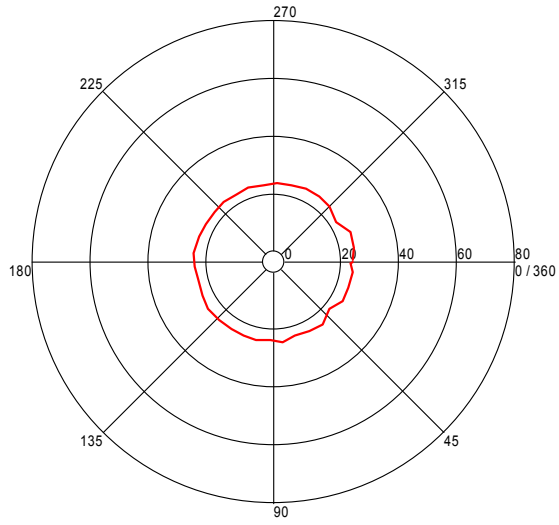
Trace2: Measured Quasi Peak

Frequency(Hz)	Level (dBuV/m)	AF	PA+CL	Limit(dBuV/m)	Margin(dBuV/m)	Hor (--), Ver ()	Azimuth (deg)(Deg)	Mast Height(m)	RBW(Hz)	Comment
972.431663072 M	25.55	25.000	-22.375	43.540	-17.99		343	3.86	120 k	
36.109218166 M	11.79	15.945	-26.094	29.540	-17.75	--	151	3.30	120 k	
545.071543509 M	19.18	21.690	-23.974	35.540	-16.36		360	2.27	120 k	
30.519839792 M	14.90	18.736	-26.113	29.540	-14.64		349	3.36	120 k	
845.465932076 M	22.63	23.381	-23.030	35.540	-12.91	--	221	2.60	120 k	
948.796392838 M	24.57	24.504	-22.434	35.540	-10.97		168	4.00	120 k	

Azimuth Plots

Turntable Plot (30.519839792 MHz)

Level (dBuV/m)

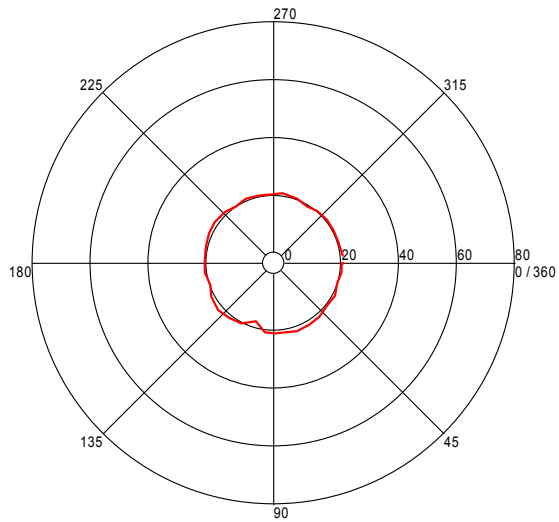


All Polarities

Azimuth (Degrees)

Turntable Plot (36.109218166 MHz)

Level (dBuV/m)

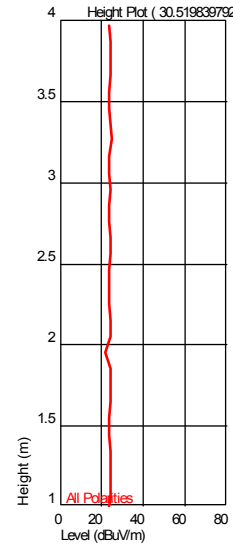


All Polarities

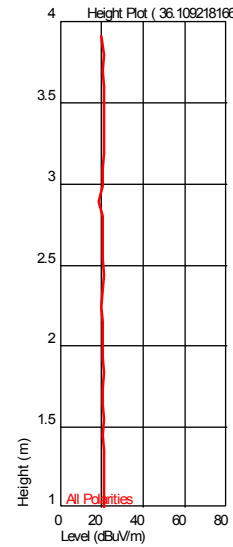
Azimuth (Degrees)

Turntable Plots

Height Plot (30.519839792 MHz)

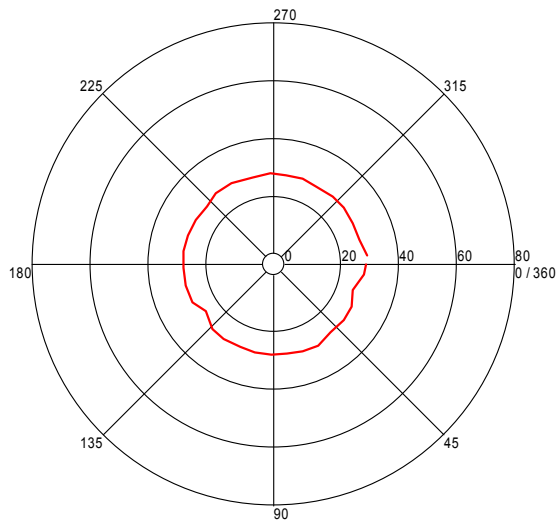


Height Plot (36.109218166 MHz)



Turntable Plot (545.071543509 MHz)

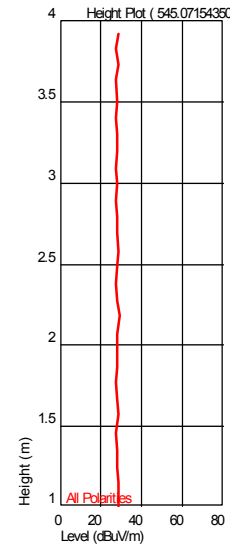
Level (dBuV/m)



All Polarities

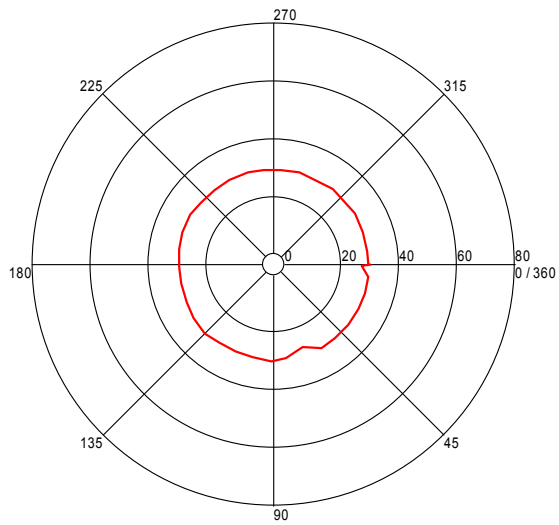
Azimuth (Degrees)

Height Plot (545.071543509 MHz)



Turntable Plot (845.465932076 MHz)

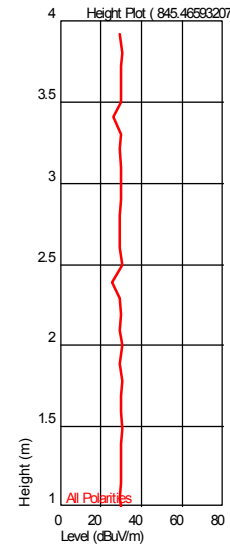
Level (dBuV/m)



All Polarities

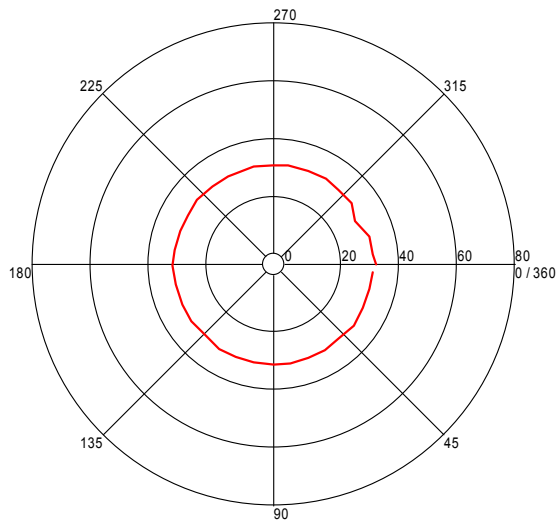
Azimuth (Degrees)

Height Plot (845.465932076 MHz)



Turntable Plot (948.796392838 MHz)

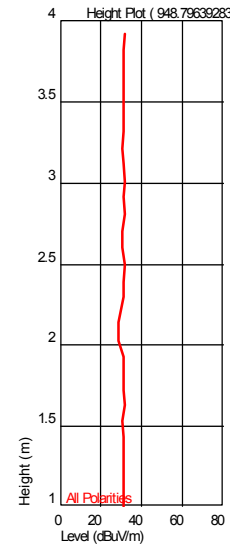
Level (dBuV/m)



All Polarities

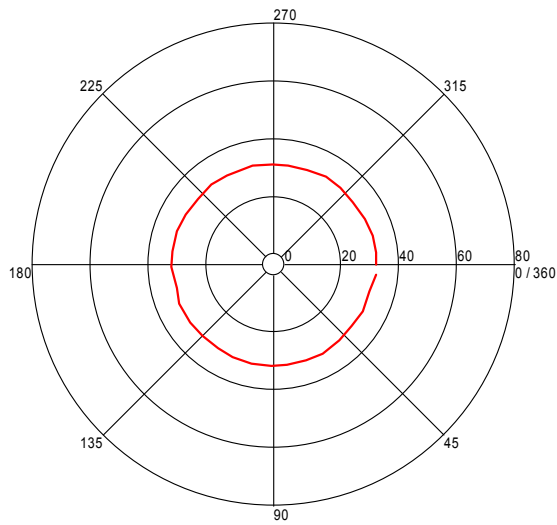
Azimuth (Degrees)

Height Plot (948.796392838 MHz)



Turntable Plot (972.431663072 MHz)

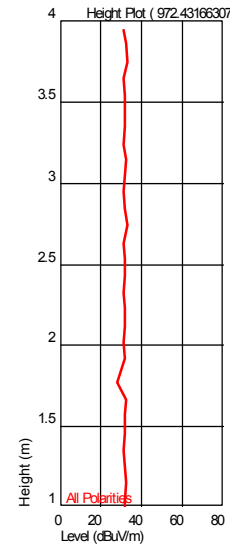
Level (dBuV/m)



All Polarities

Azimuth (Degrees)

Height Plot (972.431663072 MHz)



Channel 26, 30-1000 MHz Radiated Spurious Emissions

Test Information

Test Details

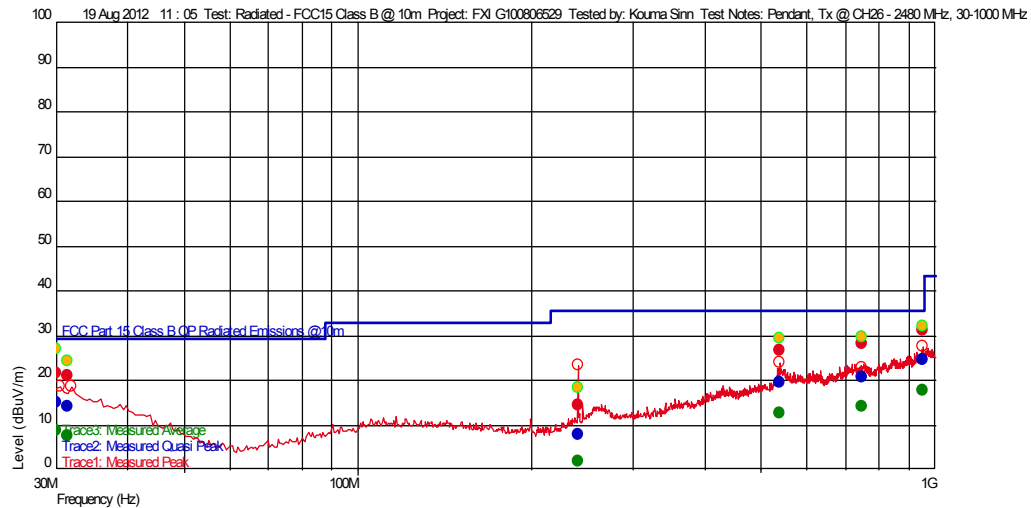
Test: Radiated - FCC15 Class B @ 10m
 Project: FXI G100806529
 Test Notes: Pendant, Tx @ CH26 - 2480 MHz, 30-1000 MHz
 Temperature: 21C
 Humidity: 64%, 1004mbar
 Tested by: Kouma Sinn
 Test Started: 19 Aug 2012 11 : 05

User Entry

Radiated - FCC15 Class B @ 10m
 FXI G100806529
 Pendant, Tx @ CH26 - 2480 MHz, 30-1000 MHz
 21C
 64%, 1004mbar
 Kouma Sinn
 19 Aug 2012 11 : 05

Additional Information

Prescan Emission Graph



- Measured Peak Value
- Measured Quasi Peak Value
- Measured Average Value
- Maximum Value of Mast and Turntable

- Swept Peak Data
- Swept Quasi Peak Data
- Swept Average Data

Emissions Test Data

Trace1: Measured Peak

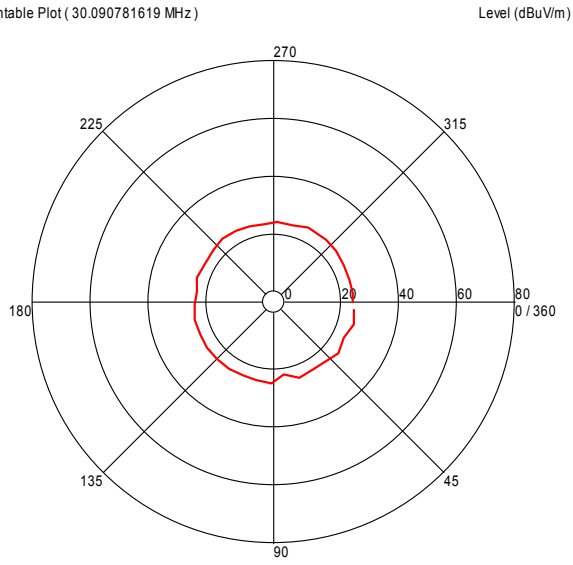
Frequency(Hz)	Level (dBuV/m)	AF	PA+CL	Limit(dBuV/m)	Margin(dBuV/m)	Hor (--), Ver ()	Azimuth (deg)(Deg)	Mast Height(m)	RBW(Hz)	Comment
241.359920192 M	14.61	11.490	-24.177	35.540	-20.93	--	1	4.00	120 k	
539.794188238 M	26.77	21.959	-23.978	35.540	-8.77		311	3.29	120 k	
31.410821868 M	20.91	18.236	-26.110	29.540	-8.63	--	18	1.85	120 k	
30.090781619 M	21.71	19.036	-26.115	29.540	-7.83		7	3.44	120 k	
746.159919549 M	28.13	22.270	-23.430	35.540	-7.41		284	2.67	120 k	
951.809419283 M	31.30	24.528	-22.423	35.540	-4.24	--	359	3.64	120 k	

Trace2: Measured Quasi Peak

Frequency(Hz)	Level (dBuV/m)	AF	PA+CL	Limit(dBuV/m)	Margin(dBuV/m)	Hor (--), Ver ()	Azimuth (deg)(Deg)	Mast Height(m)	RBW(Hz)	Comment
241.359920192 M	7.87	11.490	-24.177	35.540	-27.67	--	1	4.00	120 k	
539.794188238 M	19.56	21.959	-23.978	35.540	-15.98		311	3.29	120 k	
31.410821868 M	14.29	18.236	-26.110	29.540	-15.25	--	18	1.85	120 k	
746.159919549 M	20.89	22.270	-23.430	35.540	-14.65		284	2.67	120 k	
30.090781619 M	15.09	19.036	-26.115	29.540	-14.45		7	3.44	120 k	
951.809419283 M	24.60	24.528	-22.423	35.540	-10.94	--	359	3.64	120 k	

Azimuth Plots

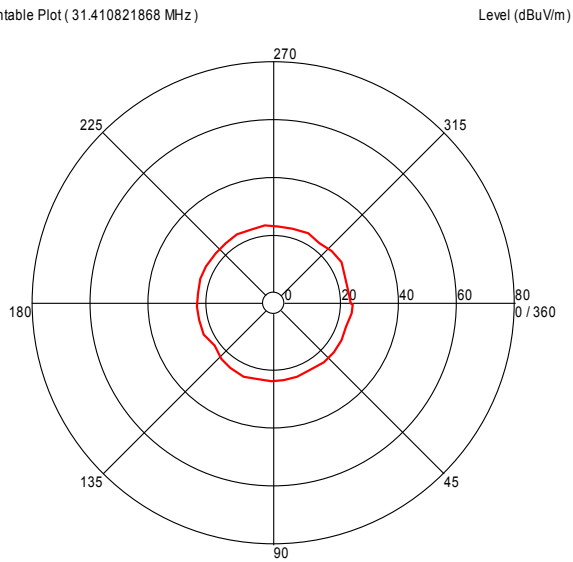
Turntable Plot (30.090781619 MHz)



All Polarities

Azimuth (Degrees)

Turntable Plot (31.410821868 MHz)

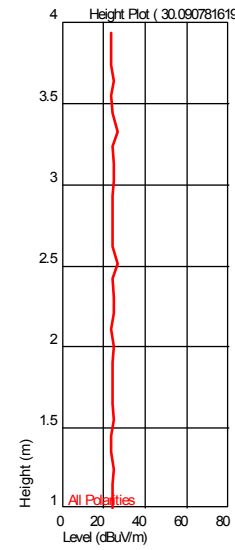


All Polarities

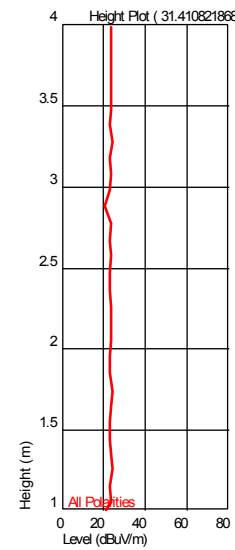
Azimuth (Degrees)

Turntable Plots

Height Plot (30.090781619 MHz)

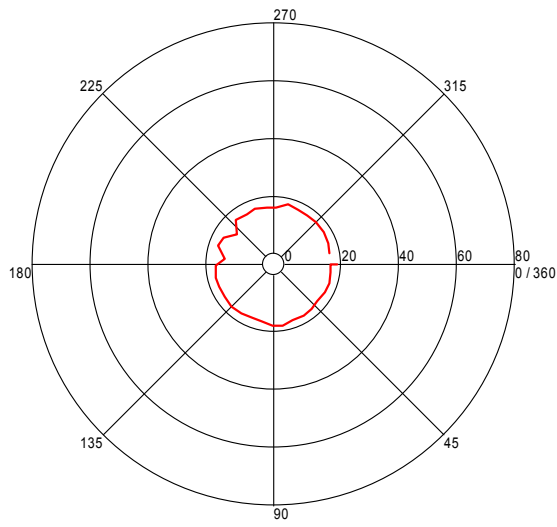


Height Plot (31.410821868 MHz)



Turntable Plot (241.359920192 MHz)

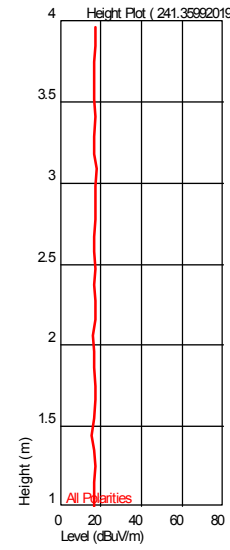
Level (dBuV/m)



All Polarities

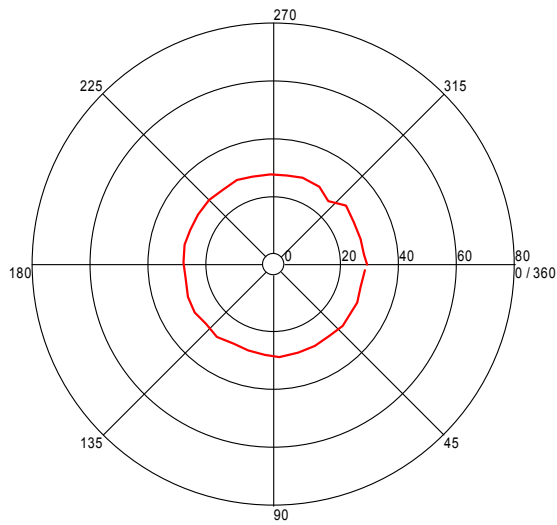
Azimuth (Degrees)

Height Plot (241.359920192 MHz)



Turntable Plot (539.794188238 MHz)

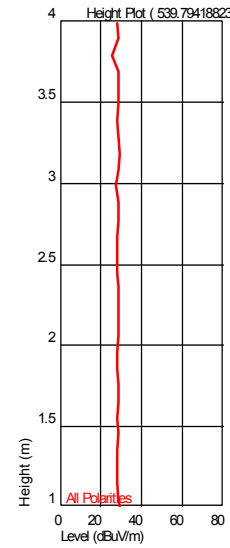
Level (dBuV/m)



All Polarities

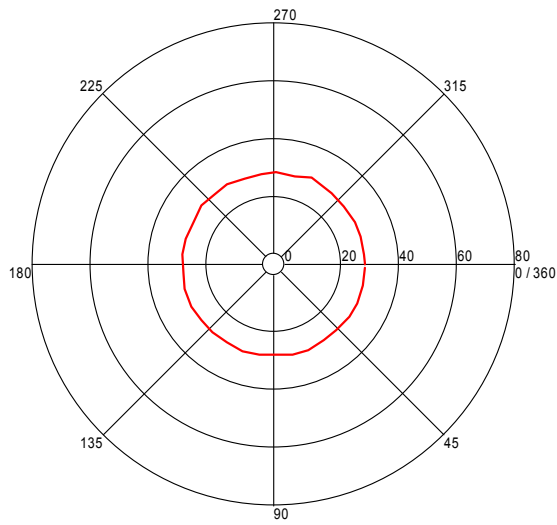
Azimuth (Degrees)

Height Plot (539.794188238 MHz)



Turntable Plot (746.159919549 MHz)

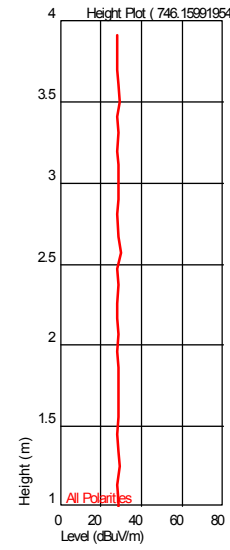
Level (dBuV/m)



All Polarities

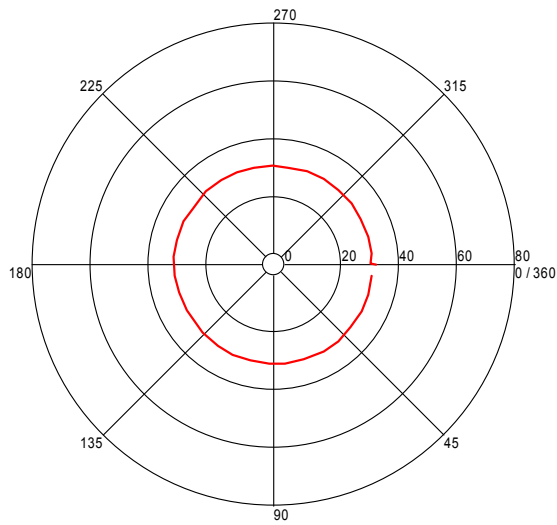
Azimuth (Degrees)

Height Plot (746.159919549 MHz)



Turntable Plot (951.809419283 MHz)

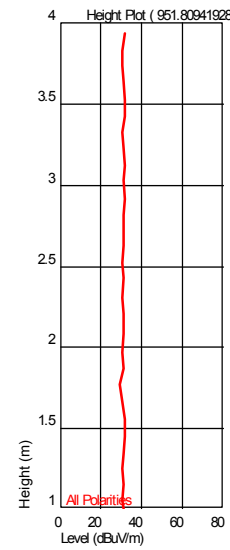
Level (dBuV/m)



All Polarities

Azimuth (Degrees)

Height Plot (951.809419283 MHz)



Channel 11, 1-25 GHz Radiated Spurious Emissions

CH 11 Radiated Emissions

Company: FXI Antenna & Cables: SHF Bands: N, LF, HF, SHF
 Model #: Pendant Antenna: HORN2 V3m 10-24-2012.txt HORN2 H3m 10-24-2012.txt
 Serial #: BOX1208061022-002 (Intertek Assigned) Cable(s): 145-416 3mTrkB 09-04-2012.txt
 Engineers: Kouma Sinn Location: 10m Chamber Barometer: DAV003 Filter: REA002
 Project #: G100806529 Date(s): 08/09/12
 Standard: FCC Part 15 Subpart C 15.247 Temp/Humidity/Pressure: 21C 69% 1004mbar
 Receiver: R&S ESI (145-128) 08-23-2012 Limit Distance (m): 3
 PreAmp: PRE145014 12-16-2012.txt Test Distance (m): 3
 PreAmp Used? (Y or N): Y Voltage/Frequency: Battery powered Frequency Range: 1-25GHz
 Net = Reading (dBuV/m) + Antenna Factor (dB1/m) + Cable Loss (dB) - Preamp Factor (dB) - Distance Factor (dB)
 Peak: PK Quasi-Peak: QP Average: AVG RMS: RMS; NF = Noise Floor, RB = Restricted Band; Bandwidth denoted as RBW/VBW

Detector Type	Ant. Pol. (V/H)	Frequency MHz	Reading dB(uV)	Antenna Factor dB(1/m)	Cable Loss dB	Pre-amp Factor dB	Distance Factor dB	Net dB(uV/m)	Limit dB(uV/m)	Margin dB	Bandwidth	
CH11 - 2405MHz, Orientation 1 - EUT on its long side, Spurious Emissions from 1-18GHz, REA002												
PK	V	4810.000	61.91	33.08	9.17	34.54	0.00	69.61	74.00	-4.39	1/3MHz	RB
AVG	V	4810.000	20.01	33.08	9.17	34.54	0.00	27.71	54.00	-26.29	1/3MHz	RB
PK	H	7215.000	52.55	36.00	10.85	35.66	0.00	63.75	74.15	-10.41	1/3MHz	
PK	V	9620.000	30.39	37.89	13.16	35.85	0.00	45.59	74.15	-28.56	100/300kHz	
PK	V	12025.000	35.89	39.52	14.97	35.38	0.00	55.00	74.00	-19.00	1/3MHz	RB
AVG	V	12025.000	-6.01	39.52	14.97	35.38	0.00	13.10	54.00	-40.90	1/3MHz	RB
PK	V	14430.000	23.76	42.14	15.16	34.64	0.00	46.42	74.15	-27.73	100/300kHz	
PK	V	16835.000	24.00	39.85	25.50	37.74	0.00	51.62	74.15	-22.53	100/300kHz	
CH11 - 2405MHz, Orientation 2 - EUT on its short side, Spurious Emissions from 1-18GHz, REA002												
PK	H	4810.000	59.78	32.86	9.17	34.54	0.00	67.26	74.00	-6.74	1/3MHz	RB
AVG	H	4810.000	17.88	32.86	9.17	34.54	0.00	25.36	54.00	-28.64	1/3MHz	RB
PK	H	7215.000	49.24	36.00	10.85	35.66	0.00	60.44	73.87	-13.44	1/3MHz	
PK	V	9620.000	29.49	37.89	13.16	35.85	0.00	44.69	73.87	-29.18	100/300kHz	
PK	V	12025.000	37.67	39.52	14.97	35.38	0.00	56.78	74.00	-17.22	1/3MHz	RB
AVG	V	12025.000	-4.23	39.52	14.97	35.38	0.00	14.88	54.00	-39.12	1/3MHz	RB
PK	V	14430.000	23.42	42.14	15.16	34.64	0.00	46.08	73.87	-27.79	100/300kHz	
PK	V	16835.000	23.55	39.85	25.50	37.74	0.00	51.17	73.87	-22.70	100/300kHz	
CH11 - 2405MHz, Orientation 3 - EUT flat, Spurious Emissions from 1-18GHz, REA002												
PK	H	4810.000	62.98	32.86	9.17	34.54	0.00	70.46	74.00	-3.54	1/3MHz	RB
AVG	H	4810.000	21.08	32.86	9.17	34.54	0.00	28.56	54.00	-25.44	1/3MHz	RB
PK	H	7215.000	51.43	36.00	10.85	35.66	0.00	62.63	76.77	-14.05	1/3MHz	
PK	V	9620.000	29.00	37.89	13.16	35.85	0.00	44.20	76.77	-32.57	100/300kHz	
PK	V	12025.000	38.00	39.52	14.97	35.38	0.00	57.11	74.00	-16.89	1/3MHz	RB
AVG	V	12025.000	-3.90	39.52	14.97	35.38	0.00	15.21	54.00	-38.79	1/3MHz	RB
PK	V	14430.000	23.42	42.14	15.16	34.64	0.00	46.08	76.77	-30.69	100/300kHz	
PK	V	16835.000	23.55	39.85	25.50	37.74	0.00	51.17	76.77	-25.60	100/300kHz	
Hand scan. No emissions were detected from 18-25 GHz. Equipment used: EMC04, ROS001, CBL030												

Channel 18, 1-25 GHz Radiated Spurious Emissions

Project #: G100806529 Date(s): 08/09/12
 Standard: FCC Part 15 Subpart C 15.247 Temp/Humidity/Pressure: 21C 69% 1004mbar
 Receiver: R&S ESI (145-128) 08-23-2012 Limit Distance (m): 3
 PreAmp: PRE145014 12-16-2012.txt Test Distance (m): 3
 PreAmp Used? (Y or N): Y Voltage/Frequency: Battery powered Frequency Range: 1-25GHz
 Net = Reading (dBuV/m) + Antenna Factor (dB1/m) + Cable Loss (dB) - Preamplifier Factor (dB) - Distance Factor (dB)
 Peak: PK Quasi-Peak: QP Average: AVG RMS: RMS; NF = Noise Floor, RB = Restricted Band; Bandwidth denoted as RBW/VBW

Detector Type	Ant. Pol. (V/H)	Frequency MHz	Reading dB(uV)	Antenna Factor dB(1/m)	Cable Loss dB	Pre-amp Factor dB	Distance Factor dB	Net dB(uV/m)	Limit dB(uV/m)	Margin dB	Bandwidth
CH18 - 2440MHz, Orientation 1 - EUT on its long side, Spurious Emissions from 1-18GHz, REA002											
PK	H	4880.000	58.33	32.97	9.28	34.41	0.00	66.17	74.00	-7.83	1/3MHz RB
AVG	H	4880.000	16.43	32.97	9.28	34.41	0.00	24.27	74.00	-49.73	1/3MHz RB
PK	H	7320.000	47.40	36.42	10.97	35.73	0.00	59.05	74.00	-14.95	1/3MHz RB
AVG	H	7320.000	5.50	36.42	10.97	35.73	0.00	17.15	74.00	-56.85	1/3MHz RB
PK	H	9760.000	31.76	37.95	13.35	35.35	0.00	47.71	72.10	-24.39	100/300kHz RB
PK	V	12200.000	34.59	39.18	14.88	35.45	0.00	53.21	74.00	-20.79	1/3MHz RB
AVG	V	12200.000	-7.31	39.18	14.88	35.45	0.00	11.31	54.00	-42.69	1/3MHz RB
PK	V	14640.000	25.00	41.60	15.25	34.87	0.00	46.98	74.00	-27.02	100/300kHz RB
PK	V	17080.000	23.16	40.72	18.66	37.60	0.00	44.94	54.00	-9.06	100/300kHz RB
CH18 - 2440MHz, Orientation 2 - EUT on its short side, Spurious Emissions from 1-18GHz, REA002											
PK	H	4880.000	59.06	32.97	9.28	34.41	0.00	66.90	74.00	-7.10	1/3MHz RB
AVG	H	4880.000	17.16	32.97	9.28	34.41	0.00	25.00	74.00	-49.00	1/3MHz RB
PK	V	7320.000	47.30	36.46	10.97	35.73	0.00	59.00	74.00	-15.00	1/3MHz RB
AVG	V	7320.000	47.30	36.46	10.97	35.73	0.00	59.00	74.00	-15.00	1/3MHz RB
PK	H	9760.000	31.00	37.95	13.35	35.35	0.00	46.95	63.34	-16.39	100/300kHz RB
PK	V	12200.000	34.59	39.18	14.88	35.45	0.00	53.21	74.00	-20.79	1/3MHz RB
AVG	V	12200.000	-7.31	39.18	14.88	35.45	0.00	11.31	54.00	-42.69	1/3MHz RB
PK	V	14640.000	25.00	41.60	15.25	34.87	0.00	46.98	63.34	-16.36	100/300kHz RB
PK	V	17080.000	23.16	40.72	18.66	37.60	0.00	44.94	63.34	-18.40	100/300kHz RB
CH18 - 2440MHz, Orientation 3 - EUT flat, Spurious Emissions from 1-18GHz, REA002											
PK	H	4880.000	62.08	32.97	9.28	34.41	0.00	69.92	74.00	-4.08	1/3MHz RB
AVG	H	4880.000	20.18	32.97	9.28	34.41	0.00	28.02	74.00	-45.98	1/3MHz RB
PK	H	7320.000	48.00	36.42	10.97	35.73	0.00	59.65	74.00	-14.35	1/3MHz RB
AVG	H	7320.000	6.10	36.42	10.97	35.73	0.00	17.75	74.00	-56.25	1/3MHz RB
PK	H	9760.000	24.58	37.95	13.35	35.35	0.00	40.53	72.24	-31.71	100/300kHz RB
PK	V	12200.000	34.59	39.18	14.88	35.45	0.00	53.21	74.00	-20.79	1/3MHz RB
AVG	V	12200.000	-7.31	39.18	14.88	35.45	0.00	11.31	54.00	-42.69	1/3MHz RB
PK	V	14640.000	25.00	41.60	15.25	34.87	0.00	46.98	72.24	-25.26	100/300kHz RB
PK	V	17080.000	23.16	40.72	18.66	37.60	0.00	44.94	72.24	-27.30	100/300kHz RB
Hand scan. No emissions were detected from 18-25 GHz. Equipment used: EMC04, ROS001, CBL030											

Channel 26, 1-25 GHz Radiated Spurious Emissions

CH 26 Radiated Emissions

Company: FXI	Antenna & Cables: SHF Bands: N, LF, HF, SHF
Model #: Pendant	Antenna: HORN2 V3m 10-24-2012.txt HORN2 H3m 10-24-2012.txt
Serial #: BOX1208061022-002 (Intertek Assigned)	Cable(s): 145-416 3mTrkB 09-04-2012.txt
Engineers: Kouma Sinn	Location: 10m Chamber Barometer: DAV003 Filter: REA002
Project #: G100806529	Date(s): 08/09/12
Standard: FCC Part 15 Subpart C 15.247	Temp/Humidity/Pressure: 21C 69% 1004mbar
Receiver: R&S ESI (145-128) 08-23-2012	Limit Distance (m): 3
PreAmp: PRE145014 12-16-2012.txt	Test Distance (m): 3
PreAmp Used? (Y or N): Y	Voltage/Frequency: Battery powered
	Frequency Range: 1-25GHz
Net = Reading (dBuV/m) + Antenna Factor (dB1/m) + Cable Loss (dB) - Preamp Factor (dB) - Distance Factor (dB)	

Peak: PK Quasi-Peak: QP Average: AVG RMS: RMS; NF = Noise Floor, RB = Restricted Band; Bandwidth denoted as RBW/VBW

Detector Type	Ant. Pol. (V/H)	Frequency MHz	Reading dB(uV)	Antenna Factor dB(1/m)	Cable Loss dB	Pre-amp Factor dB	Distance Factor dB	Net dB(uV/m)	Limit dB(uV/m)	Margin dB	Bandwidth	
CH26 - 2480MHz, Orientation 1 - EUT on its long side, Spurious Emissions from 1-18GHz, REA002												
PK	H	4960.000	57.83	33.15	9.41	34.25	0.00	66.14	74.00	-7.86	1/3MHz	RB
AVG	H	4960.000	15.93	33.15	9.41	34.25	0.00	24.24	74.00	-49.76	1/3MHz	RB
PK	V	7440.000	44.38	36.58	11.10	35.81	0.00	56.24	74.00	-17.76	1/3MHz	RB
AVG	V	7440.000	2.48	36.58	11.10	35.81	0.00	14.34	74.00	-59.66	1/3MHz	RB
PK	V	9920.000	30.00	38.27	13.57	34.78	0.00	47.05	67.82	-20.77	100/300kHz	
PK	H	12400.000	38.67	38.93	14.79	35.52	0.00	56.87	74.00	-17.13	1/3MHz	RB
AVG	H	12400.000	-3.23	38.93	14.79	35.52	0.00	14.97	54.00	-39.03	1/3MHz	RB
PK	H	14880.000	23.38	40.42	15.75	35.32	0.00	44.23	67.82	-23.59	100/300kHz	
PK	H	17360.000	21.14	42.03	23.22	36.91	0.00	49.48	67.82	-18.34	100/300kHz	
CH26 - 2480MHz, Orientation 2 - EUT on its short side, Spurious Emissions from 1-18GHz, REA002												
PK	V	4960.000	55.47	33.30	9.41	34.25	0.00	63.92	74.00	-10.08	1/3MHz	RB
AVG	V	4960.000	13.57	33.30	9.41	34.25	0.00	22.02	74.00	-51.98	1/3MHz	RB
PK	V	7440.000	44.74	36.58	11.10	35.81	0.00	56.60	74.00	-17.40	1/3MHz	RB
AVG	V	7440.000	2.84	36.58	11.10	35.81	0.00	14.70	74.00	-59.30	1/3MHz	RB
PK	V	9920.000	30.24	38.27	13.57	34.78	0.00	47.29	62.65	-15.36	100/300kHz	
PK	H	12400.000	34.59	38.93	14.79	35.52	0.00	52.79	74.00	-21.21	1/3MHz	RB
AVG	H	12400.000	-7.31	38.93	14.79	35.52	0.00	10.89	54.00	-43.11	1/3MHz	RB
PK	H	14880.000	23.38	40.42	15.75	35.32	0.00	44.23	62.65	-18.42	100/300kHz	
PK	H	17360.000	21.14	42.03	23.22	36.91	0.00	49.48	62.65	-13.17	100/300kHz	
CH26 - 2480MHz, Orientation 3 - EUT flat. Started with fresh battery batery, Spurious Emissions from 1-18GHz, REA002												
PK	H	4960.000	59.53	33.15	9.41	34.25	0.00	67.84	74.00	-6.16	1/3MHz	RB
AVG	H	4960.000	17.63	33.15	9.41	34.25	0.00	25.94	74.00	-48.06	1/3MHz	RB
PK	V	7440.000	45.80	36.58	11.10	35.81	0.00	57.66	74.00	-16.34	1/3MHz	RB
AVG	V	7440.000	3.90	36.58	11.10	35.81	0.00	15.76	74.00	-58.24	1/3MHz	RB
PK	V	9920.000	32.66	38.27	13.57	34.78	0.00	49.71	67.03	-17.32	100/300kHz	
PK	H	12400.000	35.27	38.93	14.79	35.52	0.00	53.47	74.00	-20.53	1/3MHz	RB
AVG	H	12400.000	-6.63	38.93	14.79	35.52	0.00	11.57	54.00	-42.43	1/3MHz	RB
PK	H	14880.000	23.38	40.42	15.75	35.32	0.00	44.23	67.03	-22.80	100/300kHz	
PK	H	17360.000	21.14	42.03	23.22	36.91	0.00	49.48	67.03	-17.55	100/300kHz	
Hand scan. No emissions were detected from 18-25 GHz. Equipment used: EMC04, ROS001, CBL030												

Test Personnel(s):	<u>Kouma Sinn <i>KPS</i></u>	Test Date(s):	<u>08/09/2012</u>
Supervising Engineer: (Where Applicable)	<u>N/A</u>	Test Levels:	<u>Emissions below the limits specified in Section 9.3</u>
Product Standard:	<u>ETSI EN 300 328</u>	Ambient Temperature:	<u>21 °C</u>
Input Voltage:	<u>3 AA Batteries</u>	Relative Humidity:	<u>69 %</u>
Pretest Verification w/ Ambient Signals or BB Source:	<u>Yes</u>	Atmospheric Pressure:	<u>1004 mbar</u>
Pretest Verification w/ Ambient Signals or BB Source:	<u>Yes</u>		

Deviations, Additions, or Exclusions: None

8 6 dB Bandwidth

8.1 Method

Tests are performed in accordance with ANSI C63.4:2003, CFR47 FCC Part 15 Subpart C 15.247, IC RSS-210 Issue 8 December 2010, IC RSS-Gen Issue 3 December 2010, and KDB 558074v01 01/18/2012.

TEST SITE: 10m ALSE

The 10m ALSE is 13m (Length) x 21m (Depth) x 10m (Height) with the effective size in terms of space from the tips of the absorber is 12m (Length) x 20m (Depth) x 8.5m (Height). This chamber achieves broadband performance using a unique arrangement of hybrid and ferrite tile absorber. This chamber has a built in 3m diameter turntable (Embedded type). The metal structure of the table makes electrical connection around the entire circumference of the turntable to the ground plane with a metal brush type connection. The turntable is located on one end of the chamber and the antennas are mounted 3 and 10 meters away at the other end of the chamber on the adjustable an Antenna Mast. The antenna mast is a non-conductive bore sighted type with remote control of antenna height and polarization. The Antenna Mast and the turntable can be remotely controlled through the controller located in the adjacent Control room. A wooden table 80 cm high is used for table-top equipment.

8.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
DAV003'	Weather Station	Davis Instruments	7400	PE80529A39A	08/17/2011	08/17/2012
HORN2'	HORN ANTENNA	EMCO	3115	9602-4675	10/24/2011	10/24/2012
145-416'	Cables 145-400 145-402 145-404 145-408	Huber + Suhner	3m Track B cables	multiple	09/04/2011	09/04/2012
145128'	EMI Receiver 40 GHz (20 Hz - 40 Ghz)	Rohde & Schwarz	ESI	8392831001	08/23/2011	08/23/2012

Software Utilized:

Name	Manufacturer	Version
None		

8.3 Results:

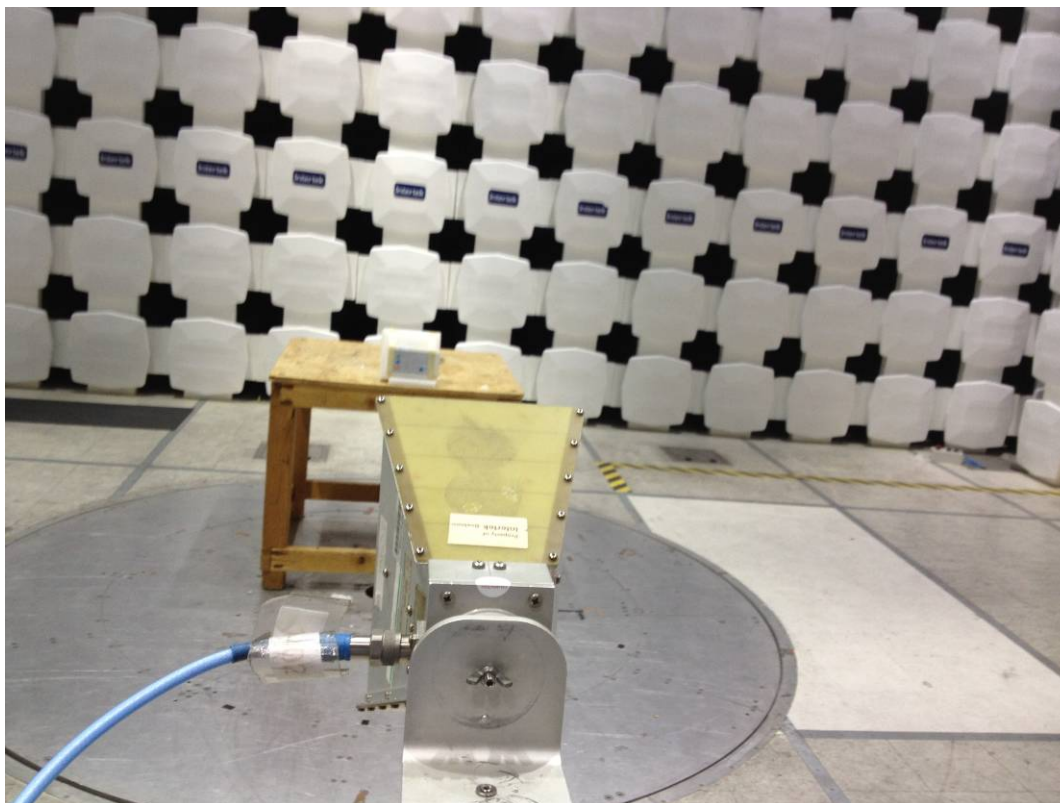
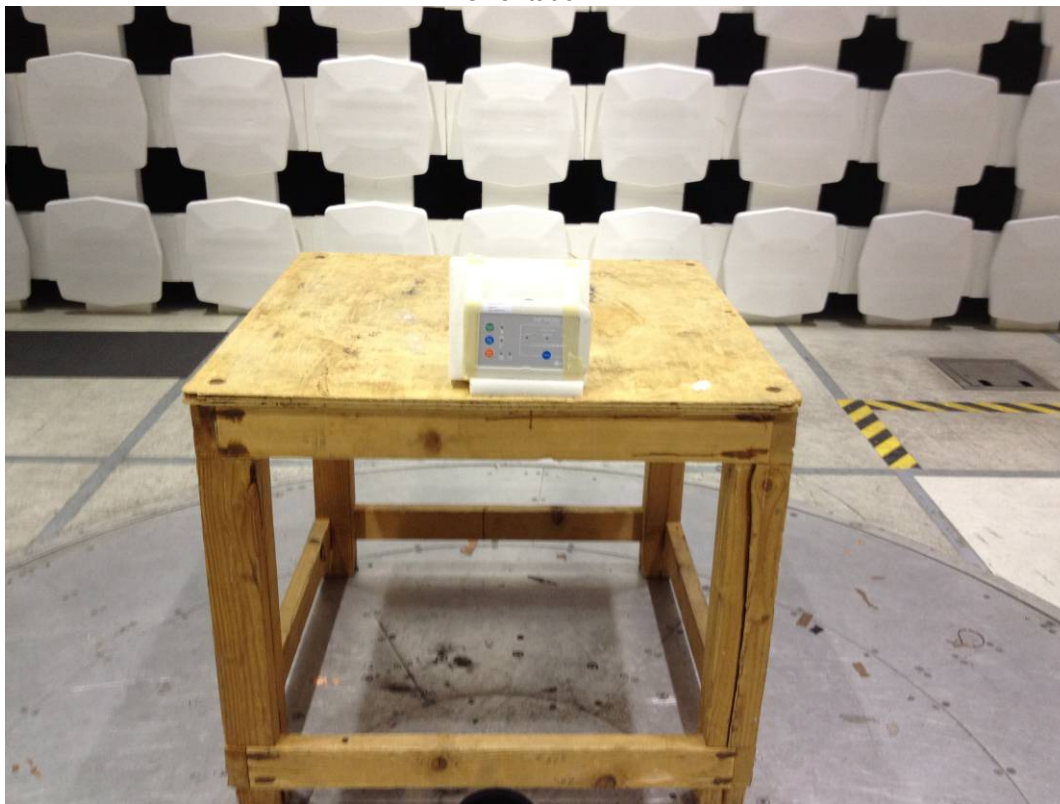
The 99% power bandwidth, or 6 dB bandwidth, must not be less than 500 kHz. The sample tested was found to comply.

Channels	6 dB Bandwidth	99% Power Bandwidth
Channel 11 (2405 MHz)	1.625 MHz	2.618 MHz
Channel 18 (2440 MHz)	1.603 MHz	2.625 MHz
Channel 26 (2480 MHz)	1.614 MHz	2.690 MHz

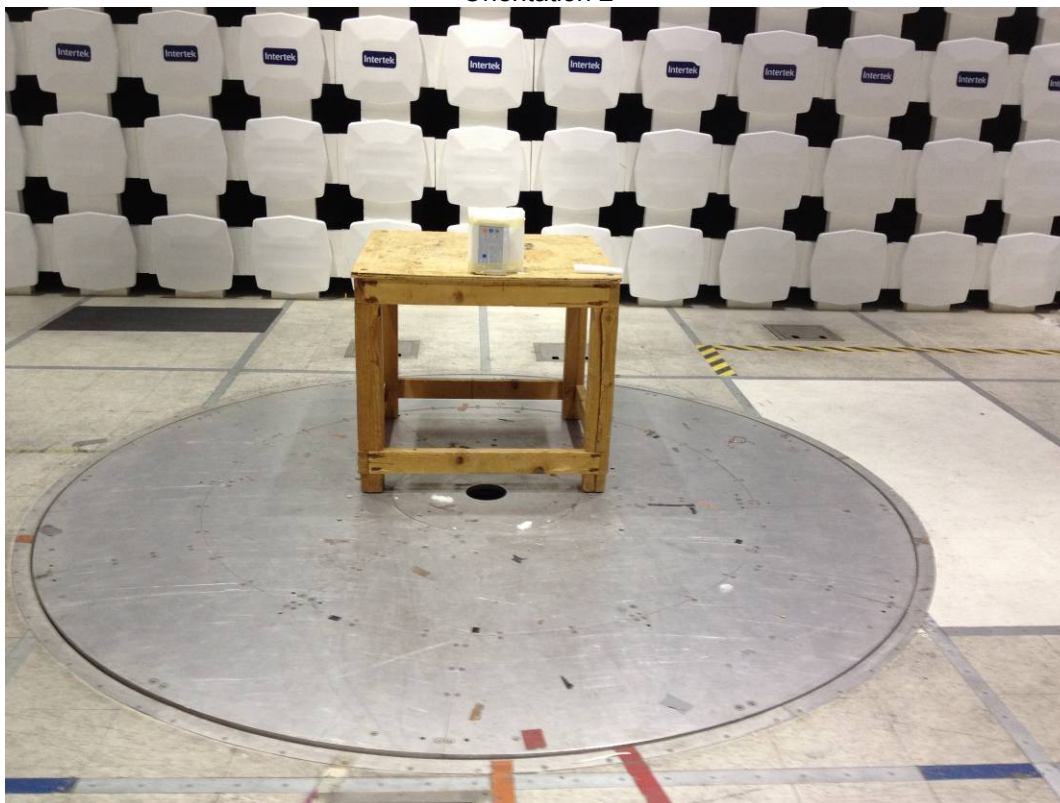
Plots were taken using an RBW of ~1-5% of the measured emission bandwidth, per KDB 558074v01 01/18/2012 and IC RSS-Gen Section 4.6.2.

8.4 Setup Photograph:

Orientation 1



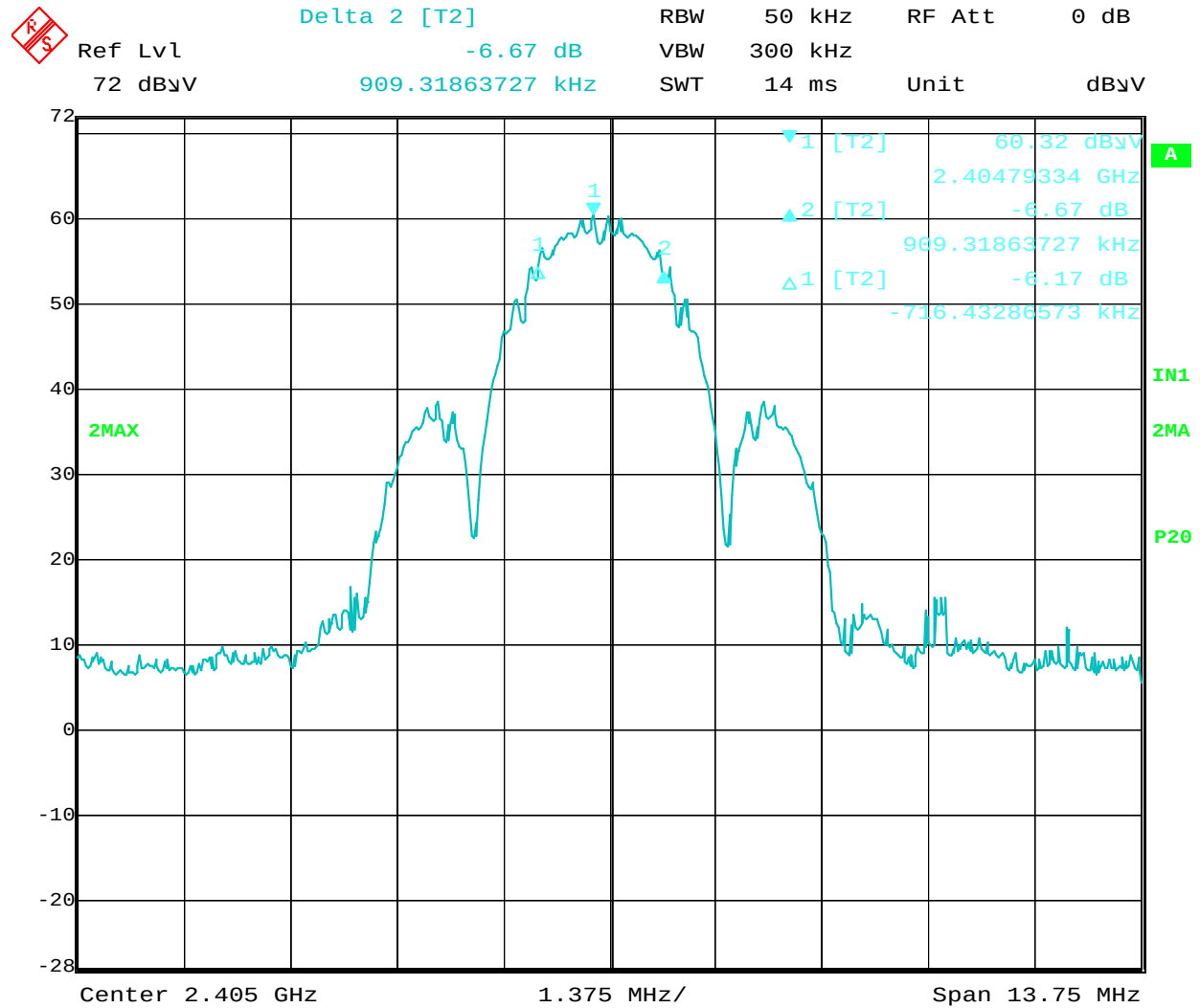
Orientation 2



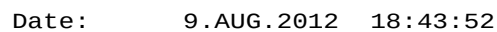
Orientation 3



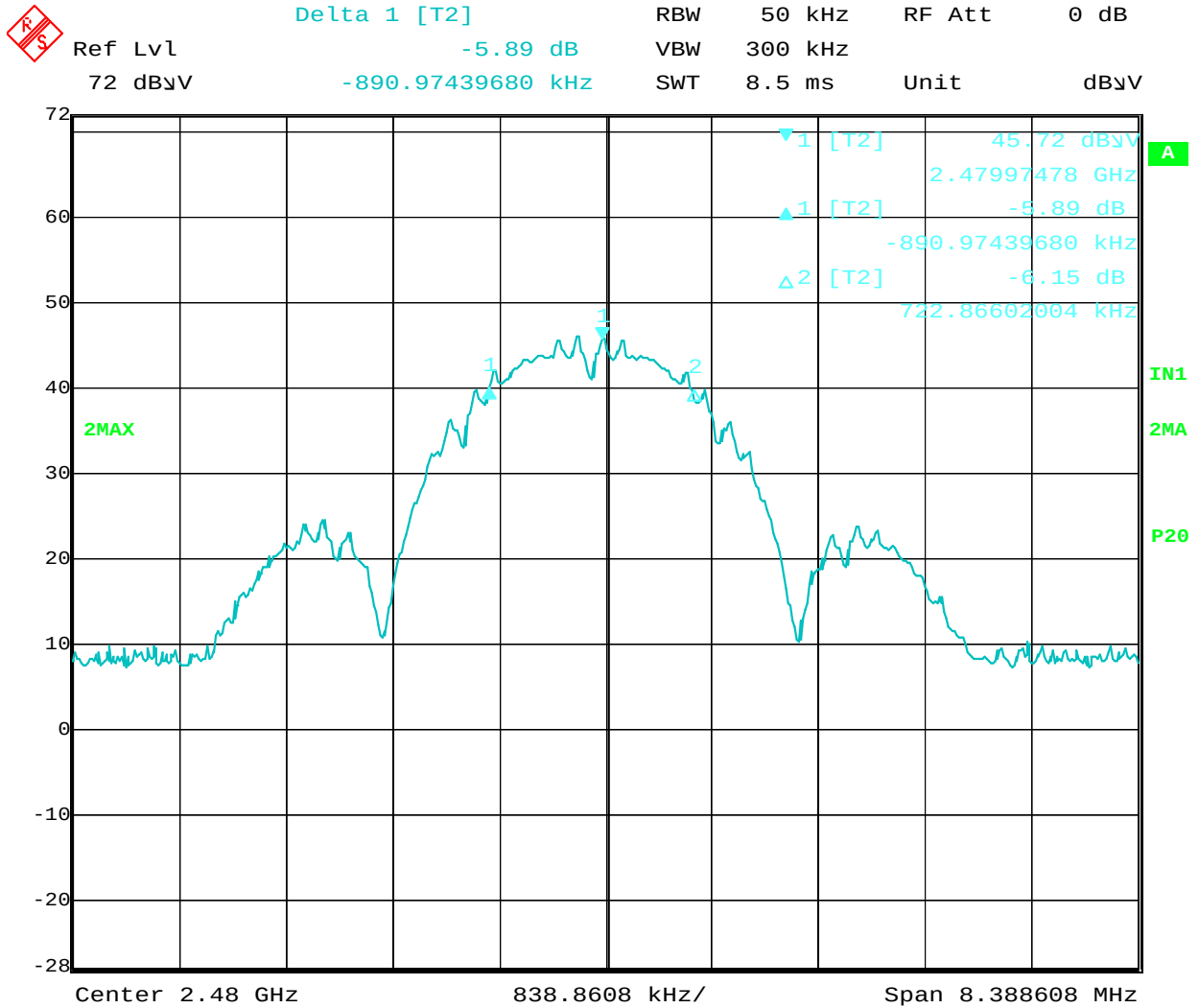
6 dB Bandwidth (Channel 11)



Date: 9.AUG.2012 21:18:52

dB_V

6 dB Bandwidth (Channel 26)

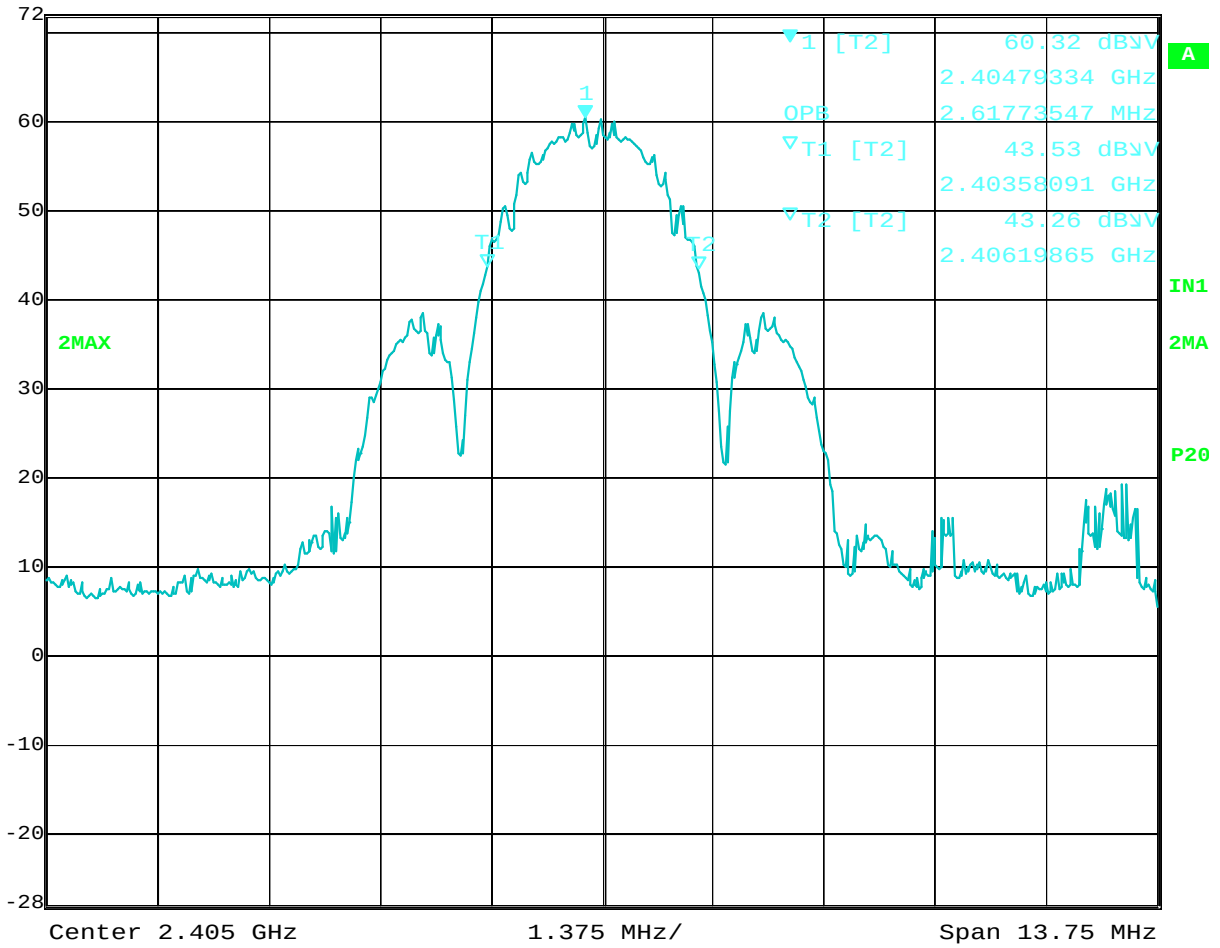


Date: 9.AUG.2012 20:48:21

99% Power Bandwidth (Channel 11)



Ref Lvl	Marker 1 [T2]	RBW	50 kHz	RF Att	0 dB
72 dBμV	60.32 dBμV	VBW	300 kHz		
	2.40479334 GHz	SWT	14 ms	Unit	dBμV

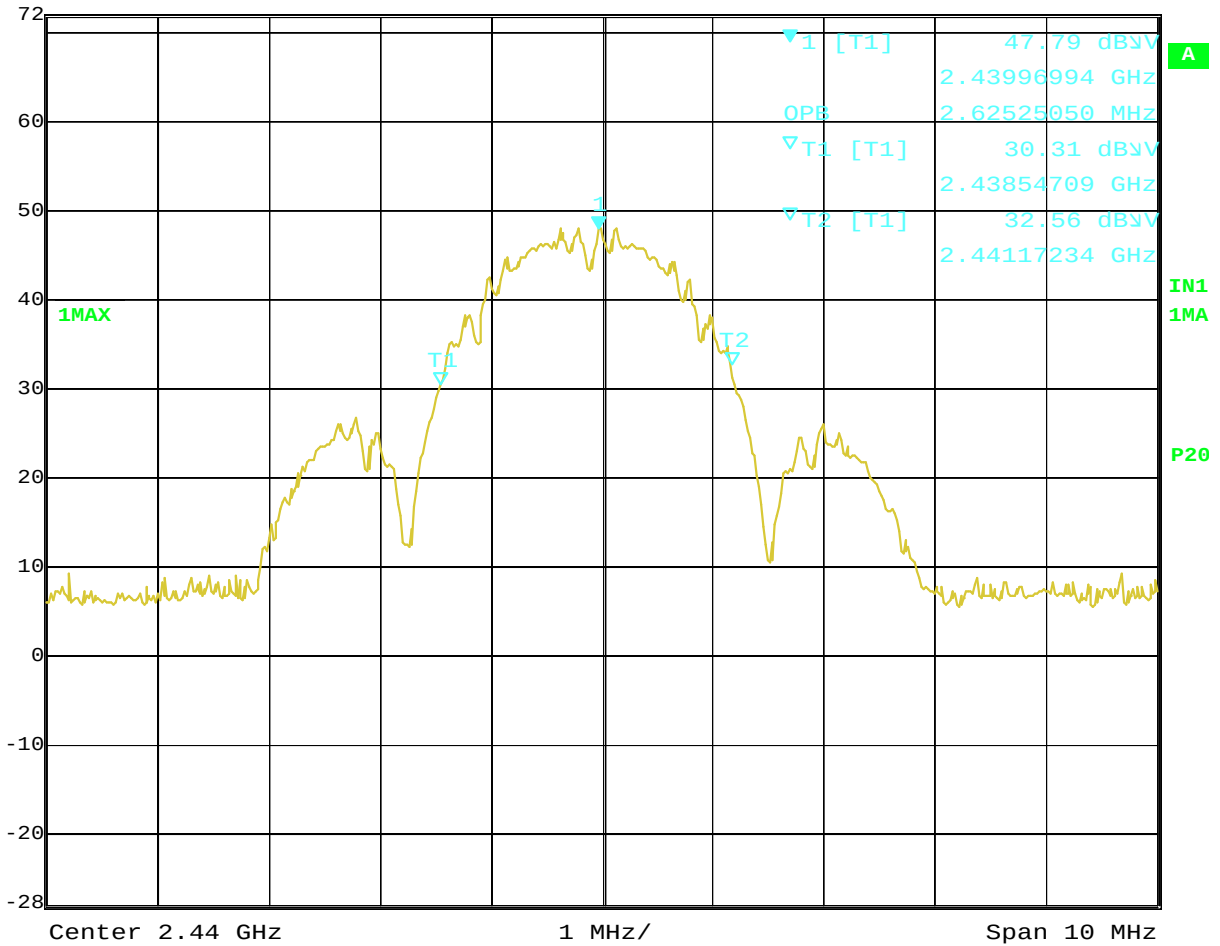


Date: 9.AUG.2012 21:19:27

99% Power Bandwidth (Channel 18)



Ref Lvl 72 dBμV
 Marker 1 [T1] 47.79 dBμV
 2.43996994 GHz
 RBW 50 kHz
 VBW 300 kHz
 SWT 10 ms
 RF Att 0 dB
 Unit dBμV

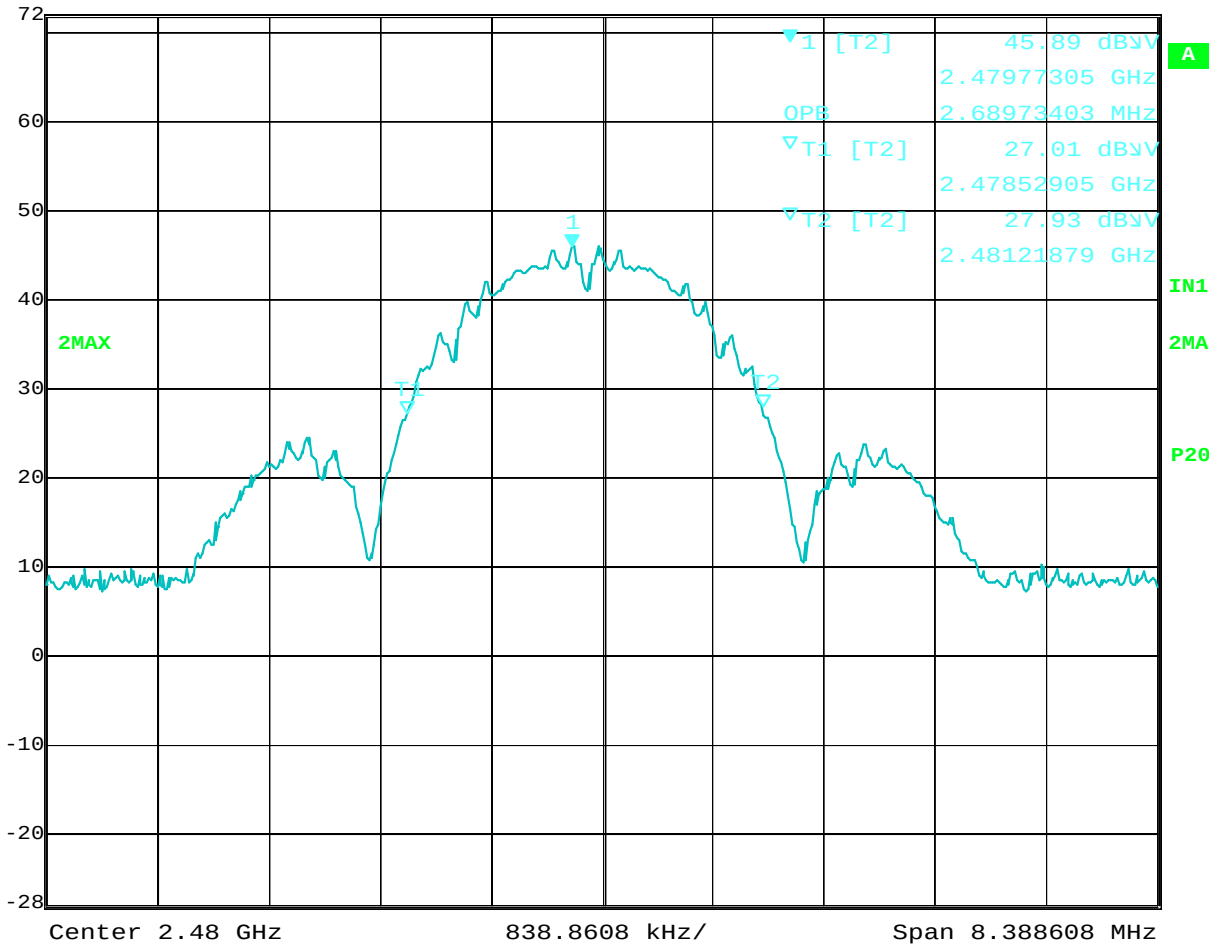


Date: 9.AUG.2012 18:49:49

99% Power Bandwidth (Channel 26)



Ref Lvl	Marker 1 [T2]	RBW	50 kHz	RF Att	0 dB
72 dBμV	45.89 dBμV	VBW	300 kHz		
	2.47977305 GHz	SWT	8.5 ms	Unit	dBμV



Date: 9.AUG.2012 20:48:59

Test Personnel: Vathana F. Ven *VFV*

Test Date: 08/09/2012

Supervising Engineer:
(Where Applicable) N/A
Product Standard: FCC Part 15.247, RSS-210 Annex 8

Test Levels: >500kHz
Ambient Temperature: Not recorded °C

Input Voltage: 3 AA Batteries

Relative Humidity: Not recorded %
Atmospheric Pressure: Not recorded mbar

Pretest Verification w/ Ambient
Signals or BB Source: **Ambient Signals**

Deviations, Additions, or Exclusions: None

9 Power Spectral Density

9.1 Method

Tests are performed in accordance with FCC 15 Subpart C Section 15.247 (e), RSS-210 Issue 8 December 2010, A8.2 (b), KDB 558074 Section 5.3.

TEST SITE: 10m ALSE

The 10m ALSE is 13m (Length) x 21m (Depth) x 10m (Height) with the effective size in terms of space from the tips of the absorber is 12m (Length) x 20m (Depth) x 8.5m (Height). This chamber achieves broadband performance using a unique arrangement of hybrid and ferrite tile absorber. This chamber has a built in 3m diameter turntable (Embedded type). The metal structure of the table makes electrical connection around the entire circumference of the turntable to the ground plane with a metal brush type connection. The turntable is located on one end of the chamber and the antennas are mounted 3 and 10 meters away at the other end of the chamber on the adjustable an Antenna Mast. The antenna mast is a non-conductive bore sighted type with remote control of antenna height and polarization. The Antenna Mast and the turntable can be remotely controlled through the controller located in the adjacent Control room. A wooden table 80 cm high is used for table-top equipment.

9.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
DAV003'	Weather Station	Davis Instruments	7400	PE80529A39A	08/17/2011	08/17/2012
HORN2'	HORN ANTENNA	EMCO	3115	9602-4675	10/24/2011	10/24/2012
145-416'	Cables 145-400 145-402 145-404 145-408	Huber + Suhner	3m Track B cables	multiple	09/04/2011	09/04/2012
145128'	EMI Receiver 40 GHz (20 Hz - 40 GHz)	Rohde & Schwarz	ESI	8392831001	08/23/2011	08/23/2012

Software Utilized:

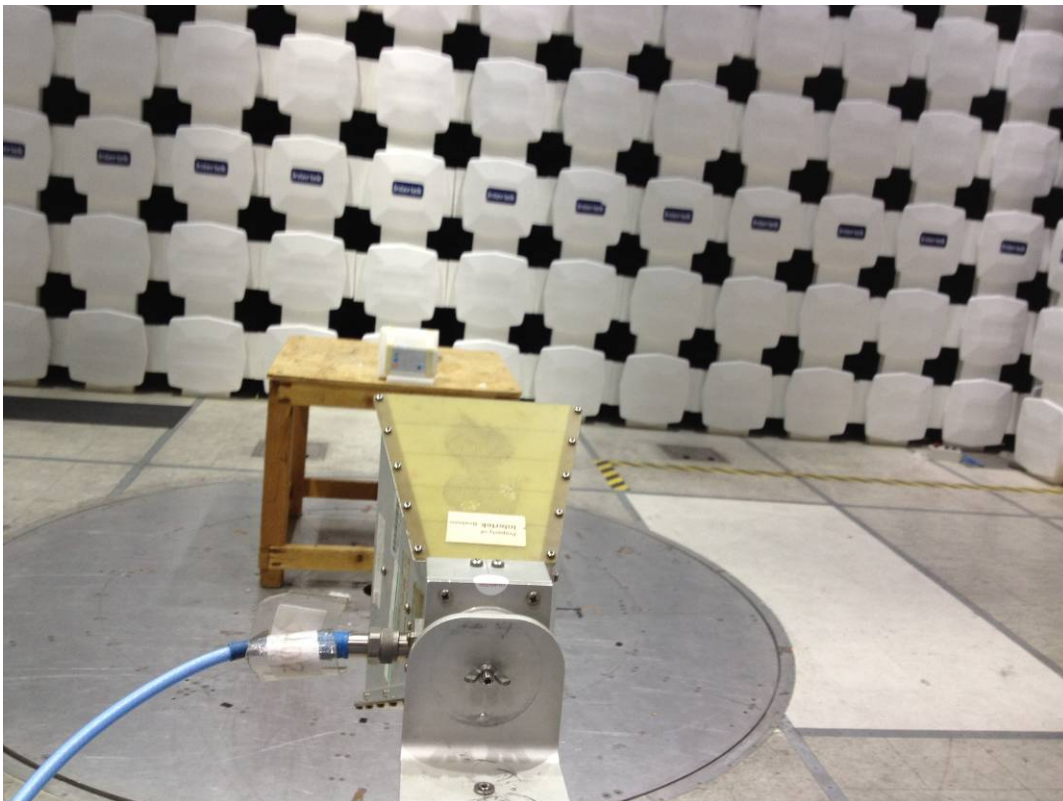
Name	Manufacturer	Version
Excel 2003	Microsoft	(11.8231.8221) SP3
EMI Boxborough.xls	Intertek	08/27/10

9.3 Results:

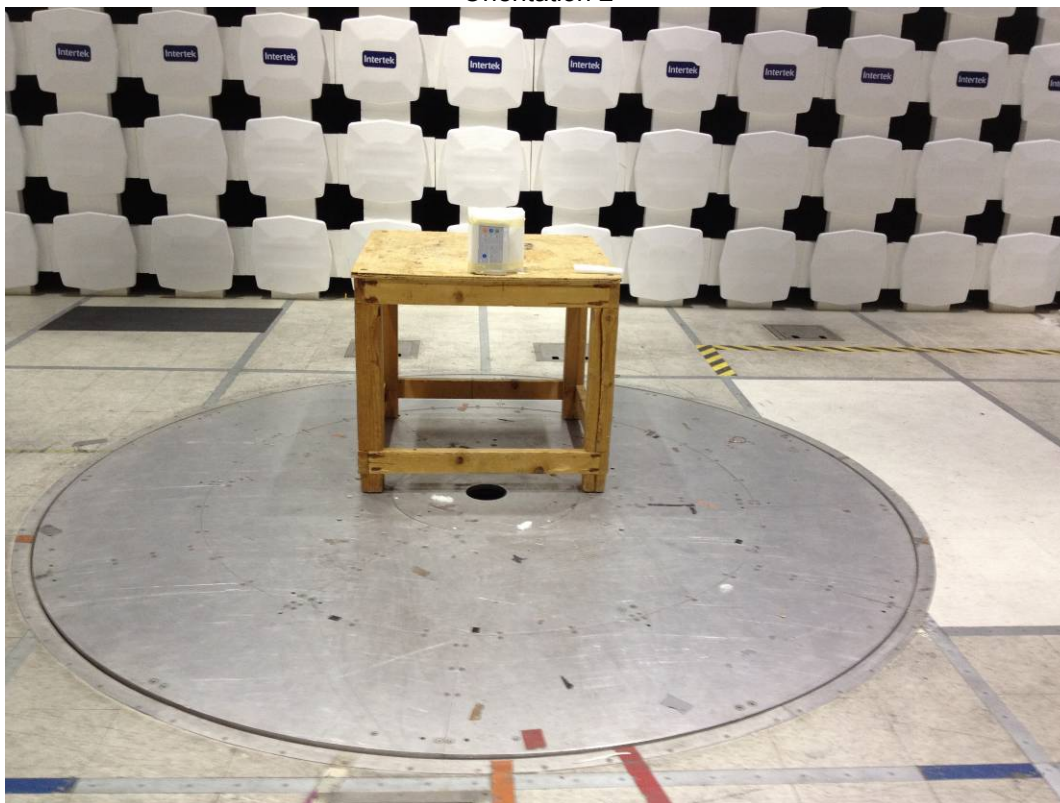
The peak power spectral density must not exceed 8 dBm in any 3 kHz bandwidth. The sample tested was found to comply.

9.4 Setup Photographs:

Orientation 1



Orientation 2



Orientation 3



9.5 Test Data:

Peak Spectral Density Radiated Emissions

Company: FXI
 Model #: Pendant
 Serial #: BOX1208061022-002 (Intertek Assigned)
 Engineers: Kouma Sinn
 Project #: G100806529
 Standard: FCC Part 15 Subpart C 15.247
 Receiver: R&S ESI (145-128) 08-23-2012
 PreAmp: PRE145014 12-16-2012.txt
 PreAmp Used? (Y or N): N
 Antenna & Cables: SHF Bands: N, LF, HF, SHF
 Antenna: HORN2 V3m 10-24-2012.txt HORN2 H3m 10-24-2012.txt
 Cable(s): 145-416 3mTrkB 09-04-2012.txt NONE.
 Location: 10m Chamber Barometer: DAV003 Filter: NONE
 Date(s): 08/09/12
 Temp/Humidity/Pressure: 21C 69% 1004mbar
 Limit Distance (m): 3
 Test Distance (m): 3
 Voltage/Frequency: Battery Powered Frequency Range: Frequencies Shown
 Net = Reading (dBuV/m) + Antenna Factor (dB1/m) + Cable Loss (dB) - Preamp Factor (dB) - Distance Factor (dB)
 Peak: PK Quasi-Peak: QP Average: AVG RMS: RMS; NF = Noise Floor, RB = Restricted Band; Bandwidth denoted as RBW/VBW

Detector Type	Ant. Pol. (V/H)	Frequency MHz	Reading dB(uV)	Antenna Factor dB(1/m)	Cable Loss dB	Pre-amp Factor dB	Distance Factor dB	EIRP Net dBm	EIRP Limit dBm	Margin dB	Bandwidth
Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP											
CH11 - 2405MHz, No pre-amp, Orientation 1 - EUT on its long side											
PK	H	2405.000	44.26	28.33	5.93	0.00	0.00	-16.70	8.00	-24.70	3/10kHz
PK	V	2405.000	46.64	28.55	5.93	0.00	0.00	-14.10	8.00	-22.10	3/10kHz
CH11 - 2405MHz, No pre-amp, Orientation 2 - EUT on its short side											
PK	H	2405.000	45.98	28.33	5.93	0.00	0.00	-14.98	8.00	-22.98	3/10kHz
PK	V	2405.000	51.72	28.55	5.93	0.00	0.00	-9.02	8.00	-17.02	3/10kHz
CH11 - 2405MHz, No pre-amp, Orientation 3 - EUT flat											
PK	H	2405.000	49.25	28.33	5.93	0.00	0.00	-11.71	8.00	-19.71	3/10kHz
PK	V	2405.000	43.11	28.55	5.93	0.00	0.00	-17.63	8.00	-25.63	3/10kHz
CH18 - 2440MHz, No pre-amp, Orientation 1 - EUT on its long side											
PK	H	2440.000	45.33	28.43	5.98	0.00	0.00	-15.48	8.00	-23.48	3/10kHz
PK	V	2440.000	42.86	28.60	5.98	0.00	0.00	-17.78	8.00	-25.78	3/10kHz
CH18 - 2440MHz, No pre-amp, Orientation 2 - EUT on its short side											
PK	H	2440.000	35.43	28.43	5.98	0.00	0.00	-25.38	8.00	-33.38	3/10kHz
PK	V	2440.000	35.30	28.60	5.98	0.00	0.00	-25.34	8.00	-33.34	3/10kHz
CH18 - 2440MHz, No pre-amp, Orientation 3 - EUT flat											
PK	H	2440.000	46.29	28.43	5.98	0.00	0.00	-14.52	8.00	-22.52	3/10kHz
PK	V	2440.000	38.71	28.60	5.98	0.00	0.00	-21.93	8.00	-29.93	3/10kHz
CH26 - 2480MHz, No pre-amp, Orientation 1 - EUT on its long side											
PK	H	2480.000	39.42	28.54	6.03	0.00	0.00	-21.22	8.00	-29.22	3/10kHz
PK	V	2480.000	34.79	28.67	6.03	0.00	0.00	-25.73	8.00	-33.73	3/10kHz
CH26 - 2480MHz, No pre-amp, Orientation 2 - EUT on its short side											
PK	H	2480.000	34.65	28.54	6.03	0.00	0.00	-25.99	8.00	-33.99	3/10kHz
PK	V	2480.000	30.6	28.67	6.03	0.00	0.00	-29.92	8.00	-37.92	3/10kHz
CH26 - 2480MHz, No pre-amp, Orientation 3 - EUT flat											
PK	H	2480.000	38.63	28.54	6.03	0.00	0.00	-22.01	8.00	-30.01	3/10kHz
PK	V	2480.000	31.36	28.67	6.03	0.00	0.00	-29.16	8.00	-37.16	3/10kHz

Test Personnel: Kouma Sinn *KPS*

Test Date: 08/09/2012

Supervising Engineer: (Where Applicable) N/A
 Product Standard: FCC Part 15.247, RSS-210 Annex 8

Test Levels: PSD must be below 8 dBm
 Ambient Temperature: 21 °C

Input Voltage: 3 AA Batteries

Relative Humidity: 69 %
 Atmospheric Pressure: 1004 mbar

Pretest Verification w/ Ambient Signals or BB Source: Ambient Signals

Deviations, Additions, or Exclusions: None

10 Band-edge Compliance

10.1 Method

Tests are performed in accordance with FCC Part 15 Subpart C Section 15.247, KDB558074, and RSS-210 Annex 8.

TEST SITE: 10m ALSE

The 10m ALSE is 13m (Length) x 21m (Depth) x 10m (Height) with the effective size in terms of space from the tips of the absorber is 12m (Length) x 20m (Depth) x 8.5m (Height). This chamber achieves broadband performance using a unique arrangement of hybrid and ferrite tile absorber. This chamber has a built in 3m diameter turntable (Embedded type). The metal structure of the table makes electrical connection around the entire circumference of the turntable to the ground plane with a metal brush type connection. The turntable is located on one end of the chamber and the antennas are mounted 3 and 10 meters away at the other end of the chamber on the adjustable an Antenna Mast. The antenna mast is a non-conductive bore sighted type with remote control of antenna height and polarization. The Antenna Mast and the turntable can be remotely controlled through the controller located in the adjacent Control room. A wooden table 80 cm high is used for table-top equipment.

10.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
HORN2'	HORN ANTENNA	EMCO	3115	9602-4675	10/24/2011	10/24/2012
145-416'	Cables 145-400 145-402 145-404 145-408	Huber + Suhner	3m Track B cables	multiple	09/04/2011	09/04/2012
145128'	EMI Receiver 40 GHz (20 Hz - 40 Ghz)	Rohde & Schwarz	ESI	8392831001	08/23/2011	08/23/2012
ROS001'	Spectrum Analyzer 20Hz - 40 GHz	Rohde & Schwarz	FSEK-30	100225	02/10/2012	02/10/2013
DAV004'	Weather Station	Davis Instruments	7400	PE80529A61A	08/17/2011	08/17/2012

Software Utilized:

Name	Manufacturer	Version
Excel 2003	Microsoft	(11.8231.8221) SP3
EMI Boxborough.xls	Intertek	08/27/10

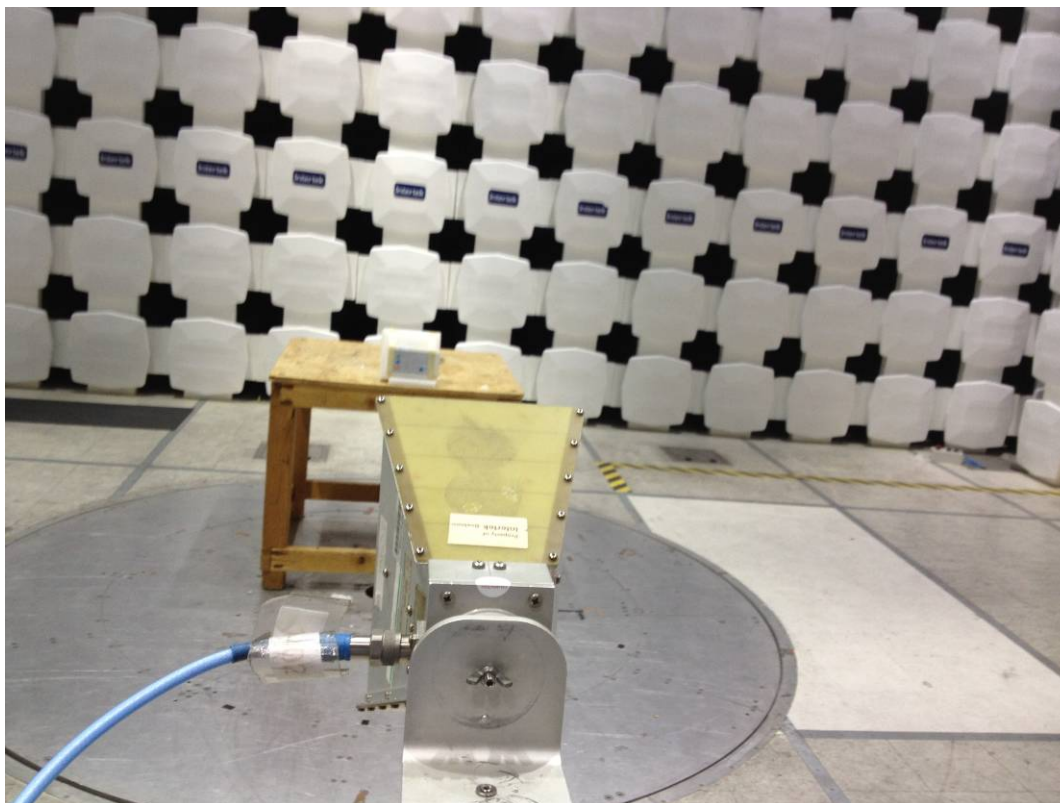
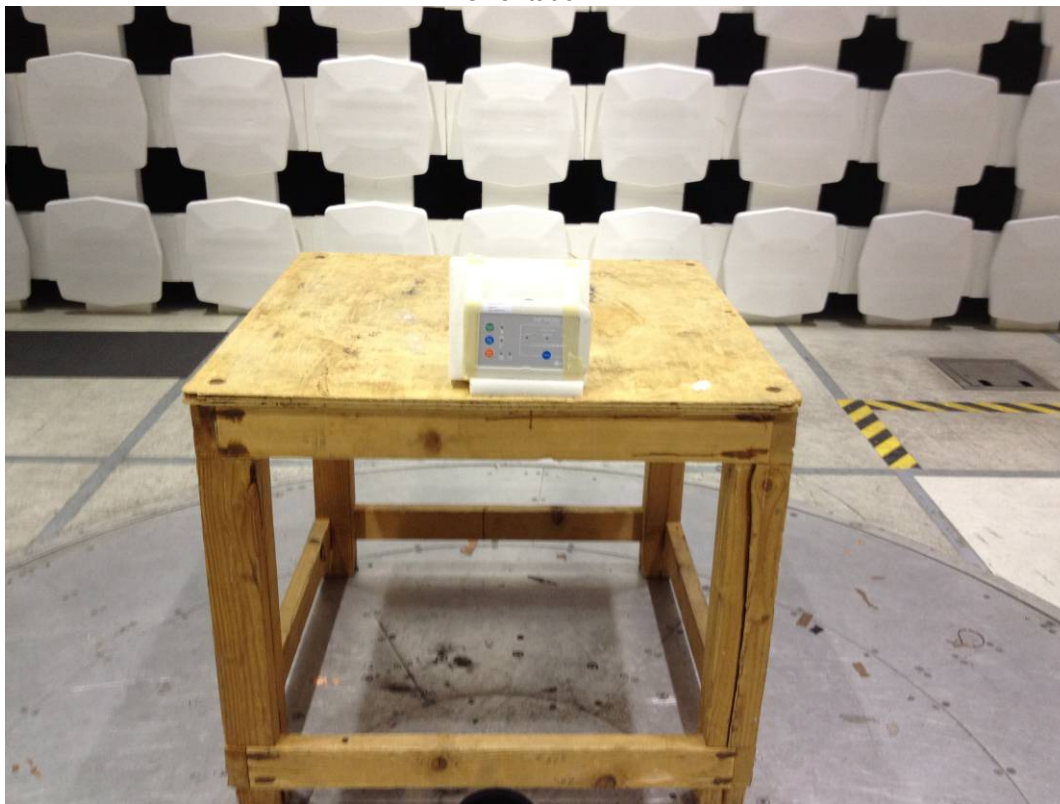
10.3 Results:

The sample tested was found to comply.

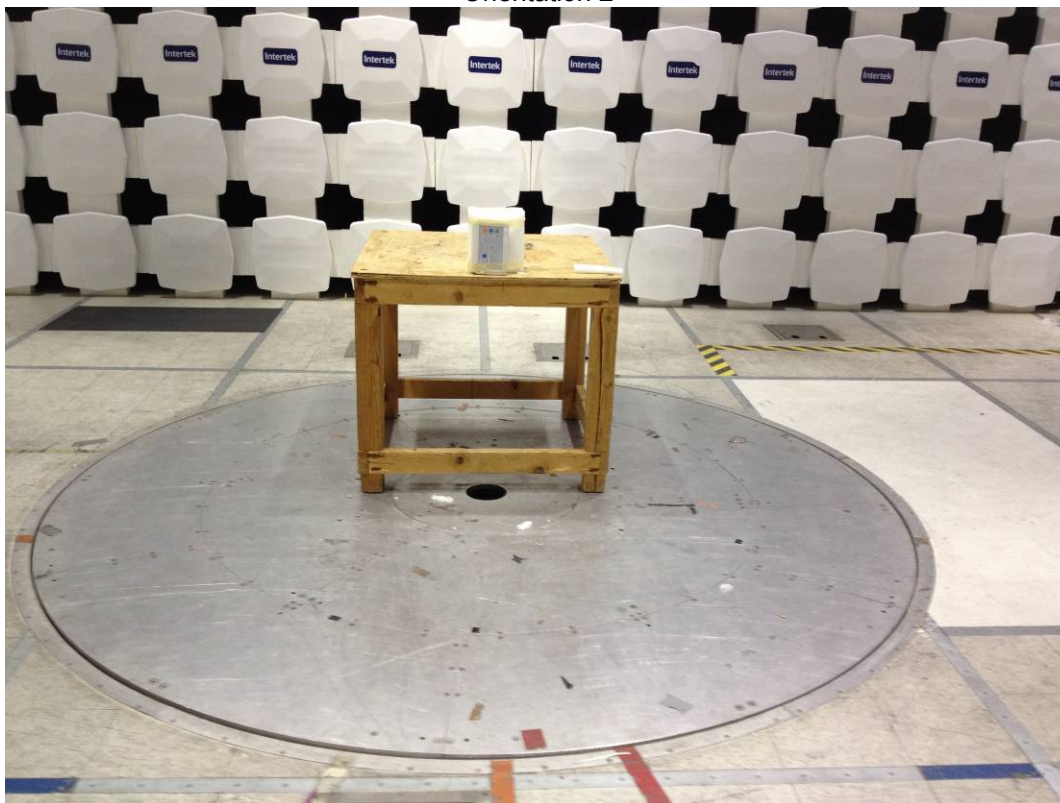
Spurious emissions at the band edges must be at least 20 dB lower than the fundamental field strength when measured with a 100 kHz bandwidth, without the need to be below the general limits of FCC Part 15 Section 15.209 and of RSS-Gen 7.2.5 Table 5. Emissions in restricted bands must meet the general limits of FCC Part 15 Section 15.209 and of RSS-Gen 7.2.5 Table 5.

10.4 Setup Photographs:

Orientation 1



Orientation 2



Orientation 3



10.5 Test Data:

Upper Band Edge

Intertek

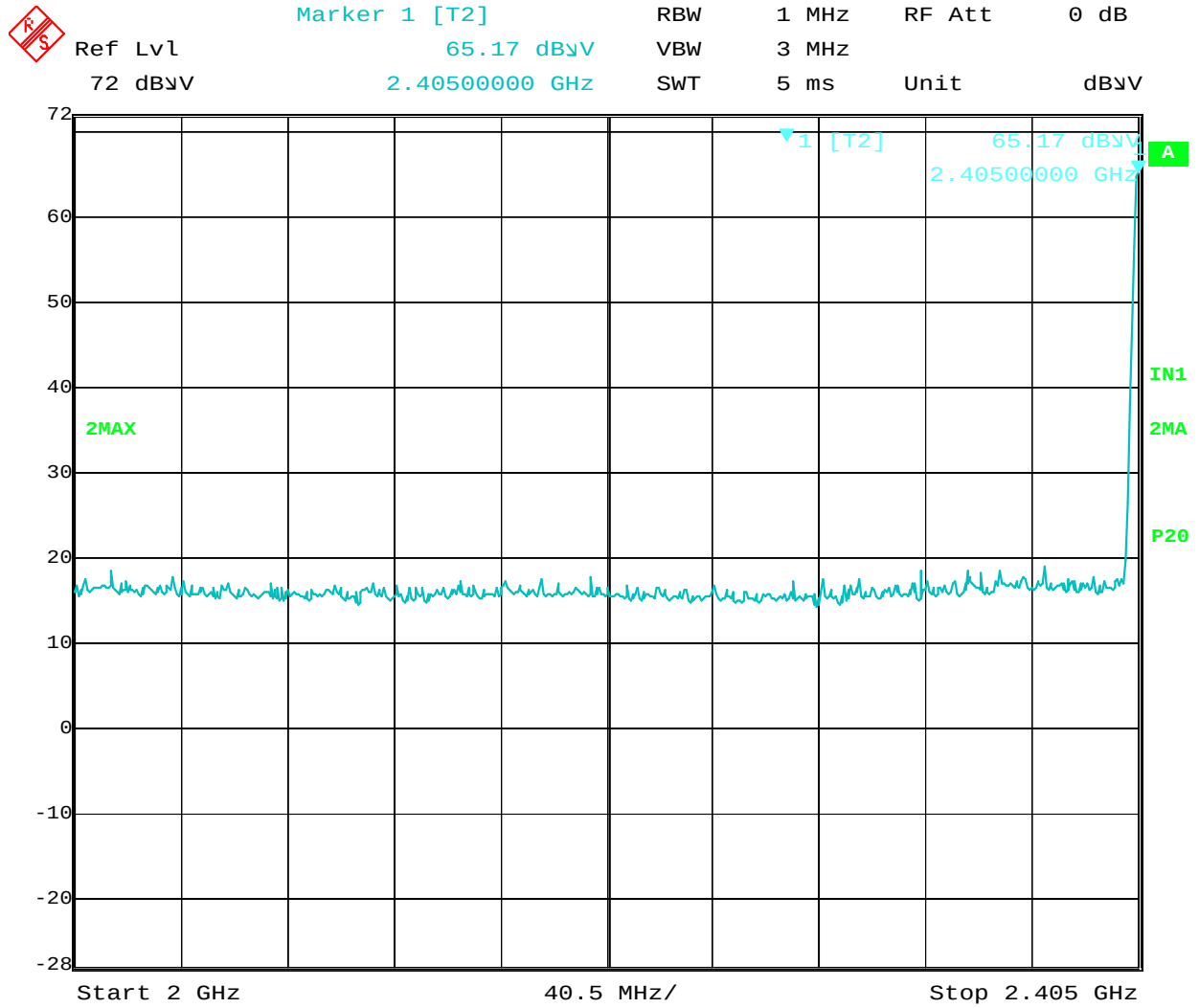
Upper Bandedge Radiated Emissions

Company: FXI
 Model #: Pendant
 Serial #: BOX1208061022-002 (Intertek Assigned)
 Engineers: Vathana Ven
 Project #: G100806529 Date(s): 08/09/12
 Standard: FCC Part 15 Subpart C 15.247
 Receiver: R&S ESI (145-128) 08-23-2012 Limit Distance (m): 3
 PreAmp: PRE145014 12-16-2012.txt Test Distance (m): 3
 PreAmp Used? (Y or N): N Voltage/Frequency: Battery powered Frequency Range:
 Net = Reading (dBuV/m) + Antenna Factor (dB1/m) + Cable Loss (dB) - Preamp Factor (dB) - Distance Factor (dB)
 Peak: PK Quasi-Peak: QP Average: AVG RMS: RMS; NF = Noise Floor, RB = Restricted Band; Bandwidth denoted as RBW/VBW

Antenna & Cables: SHF Bands: N, LF, HF, SHF
 Antenna: HORN2 V3m 10-24-2012.txt HORN2 H3m 10-24-2012.txt EMC04
 Cable(s): 145-416 3mTrkB 09-04-2012.txt
 Location: 10m Chamber Barometer: DAV003 Filter:
 Temp/Humidity/Pressure: 21C 69% 1004mbar

Detector Type	Ant. Pol. (V/H)	Frequency MHz	Reading dB(uV)	Antenna Factor dB(1/m)	Cable Loss dB	Pre-amp Factor dB	Distance Factor dB	Net dB(uV/m)	Limit dB(uV/m)	Margin dB	Bandwidth	
Note: Upper Band Edge Compliance												
PK	V	2483.500	27.42	28.67	6.04	0.00	0.00	62.13	74.00	-11.87	1/3 MHz	RB
AVG	V	2483.500	-14.48	28.67	6.04	0.00	0.00	20.23	54.00	-33.77	1/3 MHz	RB
Note: Upper Band Edge Compliance, Integrated to 1 MHz RBW Equivalent												
PK	V	2484.000	16.14	28.67	6.04	0.00	0.00	50.85	74.00	-23.15	10 kHz/30 kHz	RB
AVG	V	2484.000	-25.76	28.67	6.04	0.00	0.00	8.95	54.00	-45.05	10 kHz/30 kHz	RB
Note: Upper Band Edge Compliance, Integrated to 1 MHz RBW Equivalent												
PK	V	2484.000	18.24	28.67	6.04	0.00	0.00	52.95	74.00	-21.05	100/300kHz	RB
AVG	V	2484.000	-23.66	28.67	6.04	0.00	0.00	11.05	54.00	-42.95	100/300kHz	RB
Note: Upper Band Edge Compliance, Integrated to 1 MHz RBW Equivalent												
PK	V	2484.000	17.80	28.67	6.04	0.00	0.00	52.51	74.00	-21.49	500kHz/3MHz	RB
AVG	V	2484.000	-24.10	28.67	6.04	0.00	0.00	10.61	54.00	-43.39	500kHz/3MHz	RB

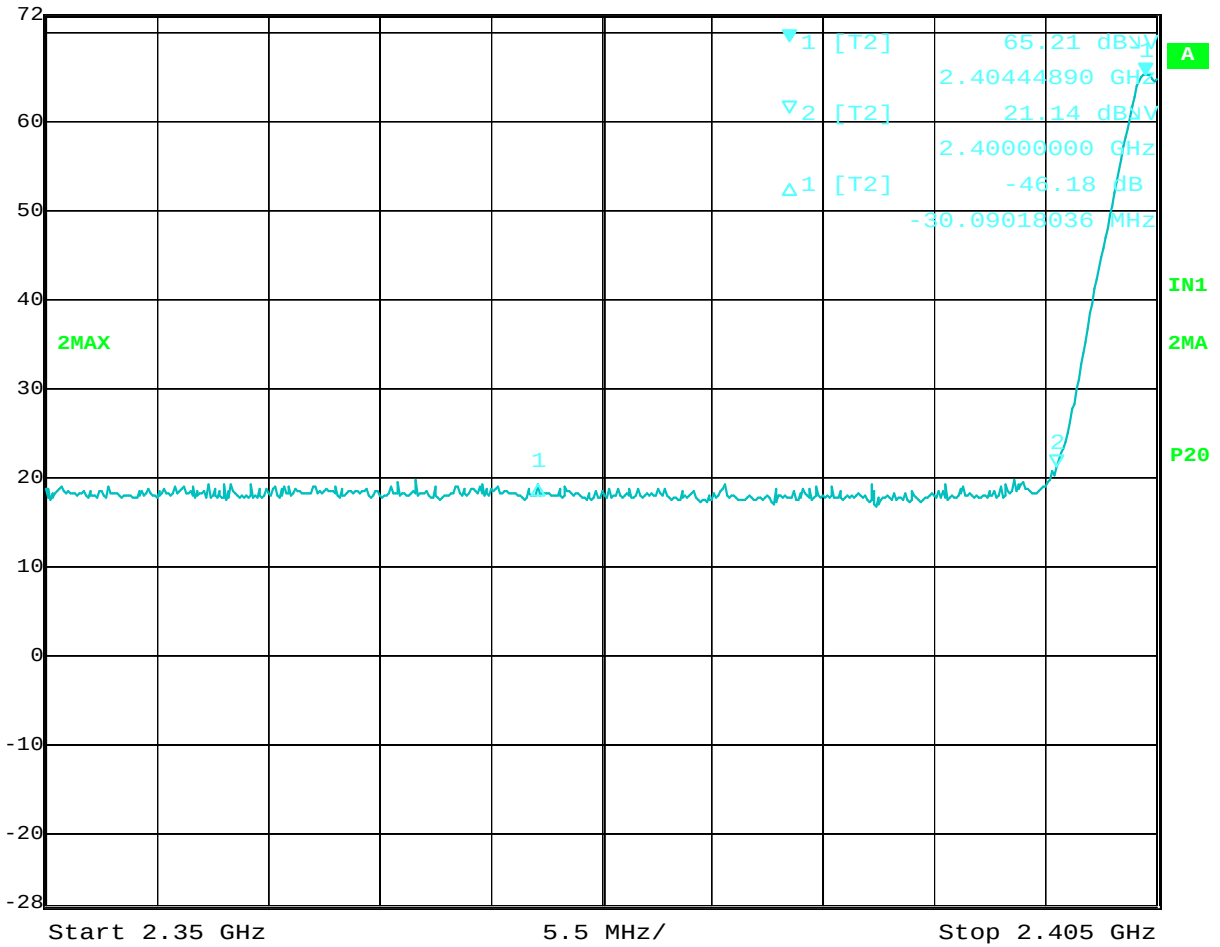
Lower Band Edge



Date: 9.AUG.2012 21:11:40



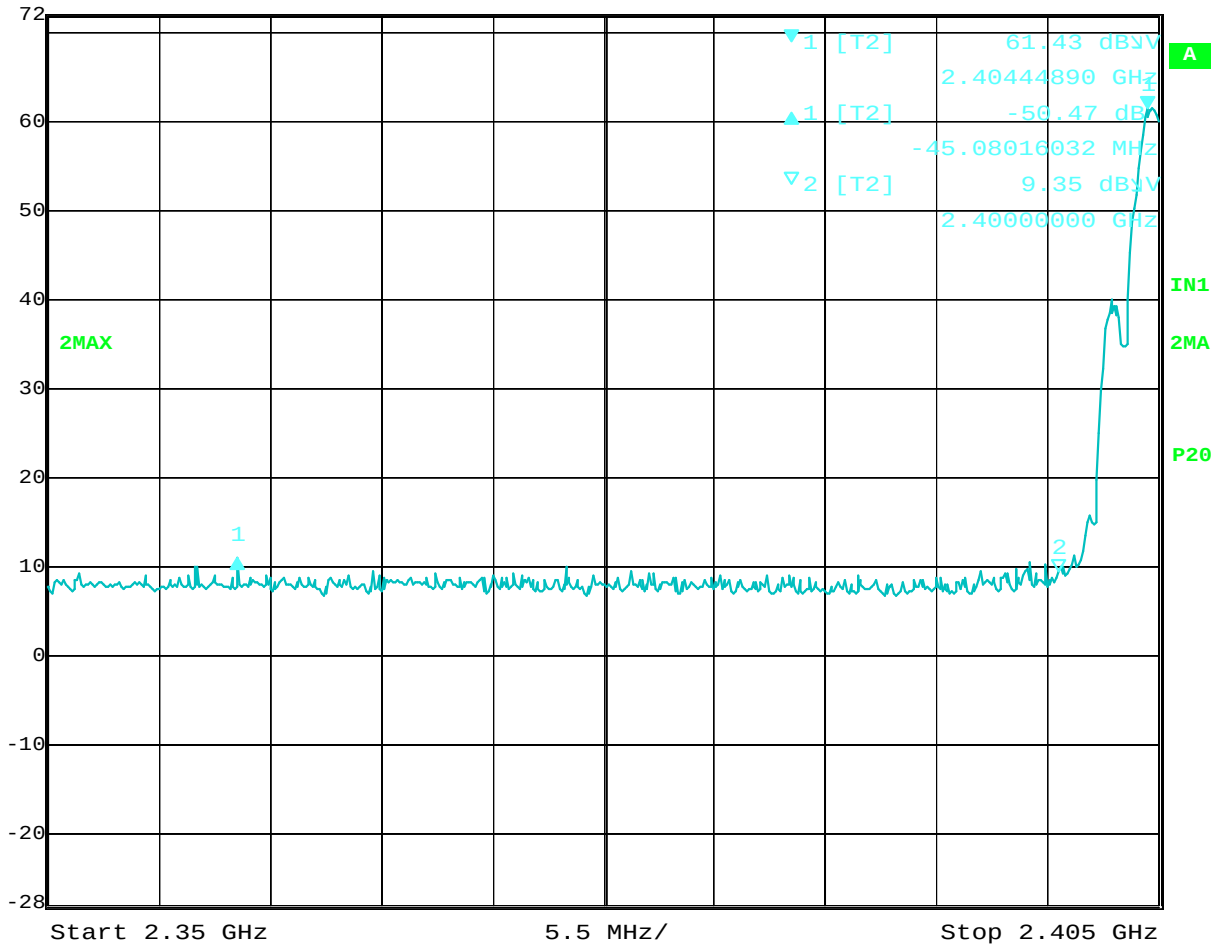
Marker 1 [T2] RBW 1 MHz RF Att 0 dB
 Ref Lvl 65.21 dBμV VBW 3 MHz
 72 dBμV 2.40444890 GHz SWT 5 ms Unit dBμV



Date: 9.AUG.2012 21:15:14



Delta 1 [T2] RBW 100 kHz RF Att 0 dB
 Ref Lvl -50.47 dB VBW 300 kHz
 72 dBμV -45.08016032 MHz SWT 14 ms Unit dBμV



Date: 9.AUG.2012 21:16:36

Test Personnel: Vathana F. Ven *VSV*

Test Date: 08/09/2012

Supervising Engineer: (Where Applicable) N/A
 Product Standard: FCC Part 15.247, RSS-210 Annex 8

Test Levels: Emissions below the limits specified in Section 10.3

Ambient Temperature: 21 °C

Input Voltage: 3 AA Batteries

Relative Humidity: 69 %

Pretest Verification w/ Ambient Signals or BB Source: Ambient Signals

Atmospheric Pressure: 1004 mbar

11 Digital Device Radiated Spurious Emissions

11.1 Method

Tests are performed in accordance with CFR47 FCC Part 15 Subpart B, IC ICES-003, ANSI C 63.4:2003, and RSS-Gen.

TEST SITE: 10m ALSE

The 10m ALSE is 13m (Length) x 21m (Depth) x 10m (Height) with the effective size in terms of space from the tips of the absorber is 12m (Length) x 20m (Depth) x 8.5m (Height). This chamber achieves broadband performance using a unique arrangement of hybrid and ferrite tile absorber. This chamber has a built in 3m diameter turntable (Embedded type). The metal structure of the table makes electrical connection around the entire circumference of the turntable to the ground plane with a metal brush type connection. The turntable is located on one end of the chamber and the antennas are mounted 3 and 10 meters away at the other end of the chamber on the adjustable an Antenna Mast. The antenna mast is a non-conductive bore sighted type with remote control of antenna height and polarization. The Antenna Mast and the turntable can be remotely controlled through the controller located in the adjacent Control room. A wooden table 80 cm high is used for table-top equipment.

Measurement Uncertainty

For radiated emissions, U_{lab} (3.5 dB at 3m and 3.5 dB at 10m below 1 GHz, and 4.2 dB at 3m above 1 GHz) < U_{CISPR} (5.2 dB), which is the reference value in CISPR 16-4-2 Table 1, hence the compliance of the product is only based on the measured value, and no measurement uncertainty correction is required, based on CISPR 22 and CISPR 11 (for 2006 and later revisions) Clause 11.

Sample Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF - AG$$

Where

- FS = Field Strength in dB μ V/m
- RA = Receiver Amplitude (including preamplifier) in dB μ V
- CF = Cable Attenuation Factor in dB
- AF = Antenna Factor in dB
- AG = Amplifier Gain in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows.

Assume a receiver reading of 52.0 dB μ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving a field strength of 32 dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

RA = 52.0 dB μ V
AF = 7.4 dB/m
CF = 1.6 dB
AG = 29.0 dB
FS = 32 dB μ V/m

To convert from dB μ V to μ V or mV the following was used:

$$UF = 10^{(NF / 20)} \text{ where } UF = \text{Net Reading in } \mu\text{V}$$

NF = Net Reading in dB μ V

Example:

$$FS = RA + AF + CF - AG = 52.0 + 7.4 + 1.6 - 29.0 = 32.0$$
$$UF = 10^{(32 \text{ dB}\mu\text{V} / 20)} = 39.8 \mu\text{V/m}$$

11.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
145128	EMI Receiver 40 GHz (20 Hz - 40 Ghz)	Rohde & Schwarz	ESL	8392831001	08/23/2011	08/23/2012
MAN1	Digital 4 Line Barometer	Mannix	0ABA116	MAN1	08/13/2012	08/13/2014
145034	BiLog Antenna (30 MHz to 1GHz)	Schaffner Chase EMC	CBL6111C	2564	02/07/2012	02/07/2013
145-410	Cables 145-400 145-403 145-405 145-406 145-407	Huber + Suhner	10m Track A Cables	multiple	09/04/2011	09/04/2012
145003	Preamplifier (150 KHz to 1.3 GHz)	Hewlett Packard	8447D	2443A04077	10/04/2011	10/04/2012

Software Utilized:

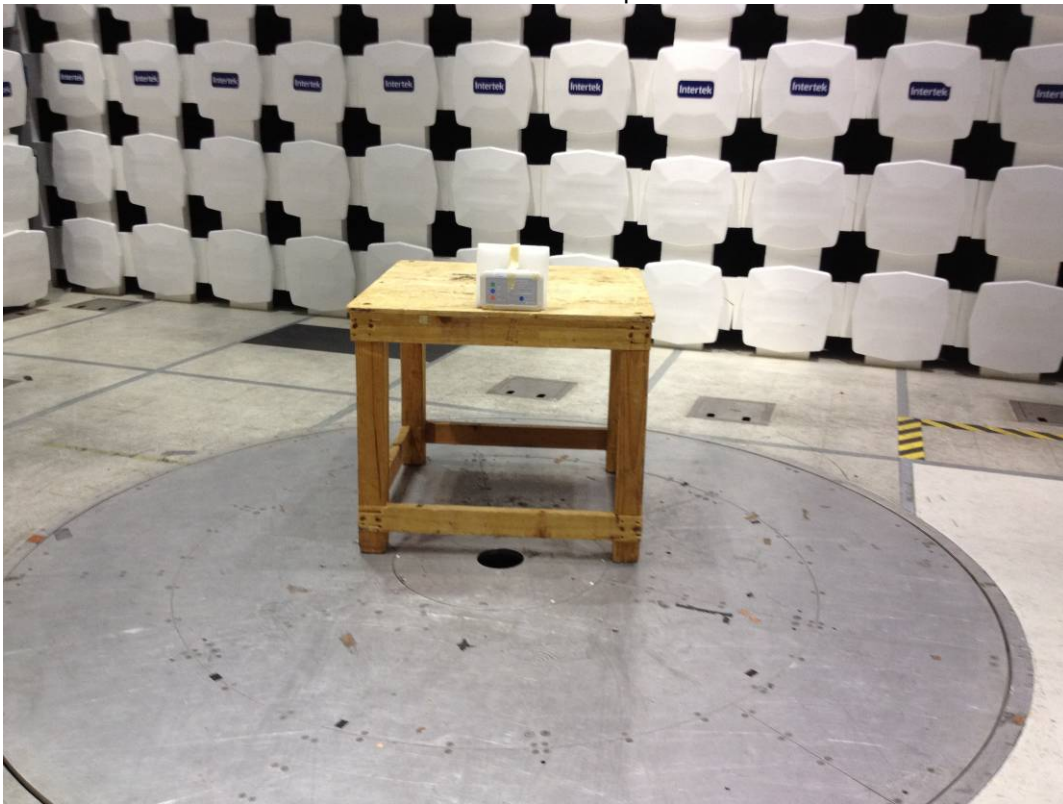
Name	Manufacturer	Version
C5	Teseq	Build 5.26.46.46

11.3 Results:

The sample tested was found to comply.

11.4 Setup Photograph:

30-1000 MHz Test Setup Photos



11.5 Test Data:

30-1000MHz Radiated Spurious Emissions

Test Information

Test Details

Test:

Project:

Test Notes:

Test Started:

User Entry

Radiated - FCC15 Class B @ 10m

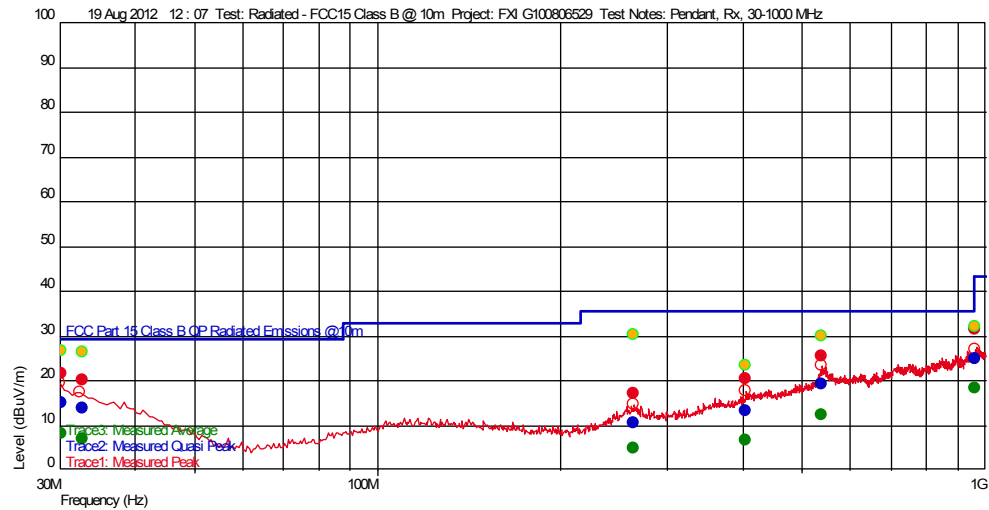
FXI G100806529

Pendant, Rx, 30-1000 MHz

19 Aug 2012 12 : 07

Additional Information

Prescan Emission Graph



- Measured Peak Value
- Measured Quasi Peak Value
- Measured Average Value
- Maximum Value of Mast and Turntable

- Swept Peak Data
- Swept Quasi Peak Data
- Swept Average Data

Emissions Test Data

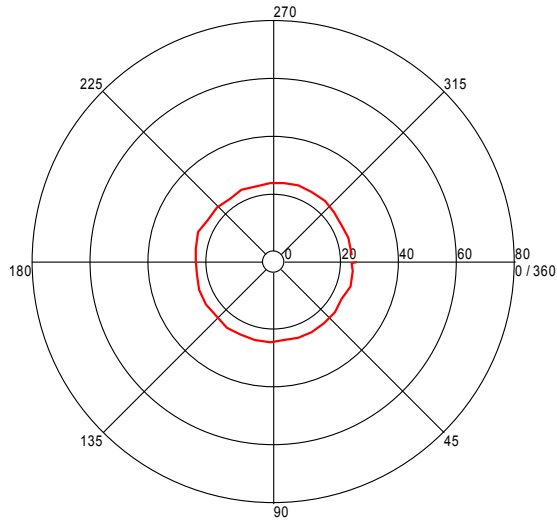
Trace2: Measured Quasi Peak

Frequency(Hz)	Level (dBuV/m)	AF	PA+CL	Limit(dBuV/m)	Margin(dBuV/m)	Hor (--), Ver ()	Azimuth (deg)(Deg)	Mast Height(m)	RBW(Hz)	Comment
264.049298643 M	10.67	14.100	-24.124	35.540	-24.87		278	1.56	120 k	
404.103006218 M	13.28	16.228	-23.902	35.540	-22.26		129	3.39	120 k	
960.917835182 M	24.95	24.637	-22.402	43.540	-18.59		103	2.78	120 k	
538.213025802 M	19.24	21.643	-23.979	35.540	-16.30	--	280	1.56	120 k	
32.692785852 M	13.76	17.584	-26.106	29.540	-15.78		65	2.38	120 k	
30.273346693 M	15.07	18.909	-26.114	29.540	-14.47		213	3.61	120 k	

Azimuth Plots

Turntable Plot (30.273346693 MHz)

Level (dBuV/m)

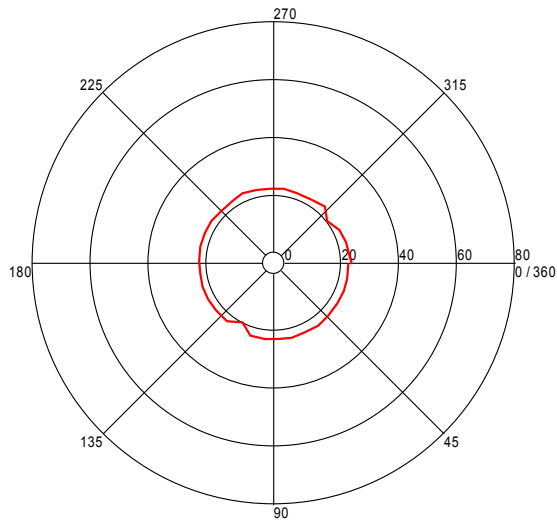


All Polarities

Azimuth (Degrees)

Turntable Plot (32.692785852 MHz)

Level (dBuV/m)

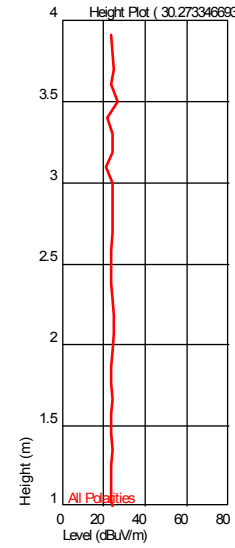


All Polarities

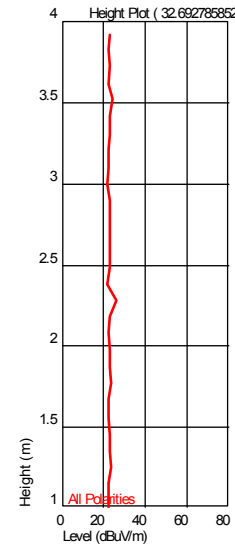
Azimuth (Degrees)

Turntable Plots

Height Plot (30.273346693 MHz)

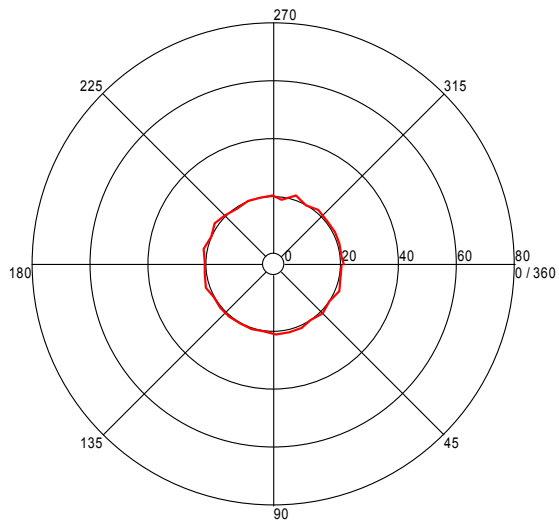


Height Plot (32.692785852 MHz)



Turntable Plot (264.049298643 MHz)

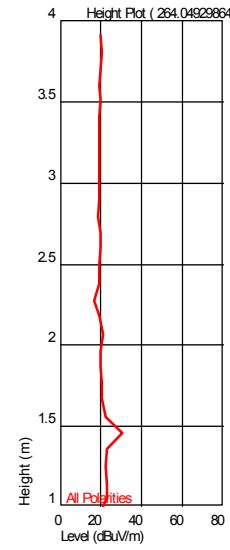
Level (dBuV/m)



All Polarities

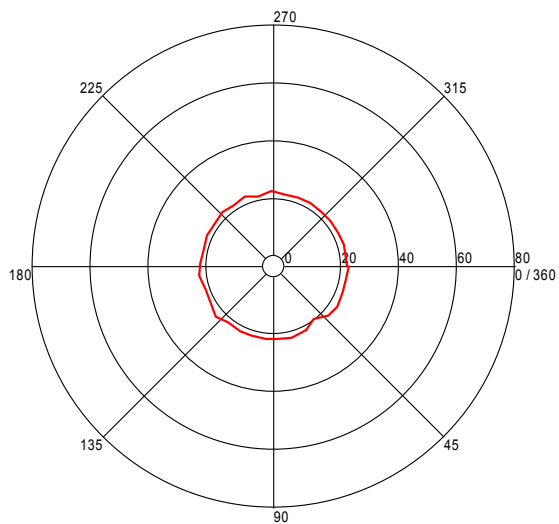
Azimuth (Degrees)

Height Plot (264.049298643 MHz)



Turntable Plot (404.103006218 MHz)

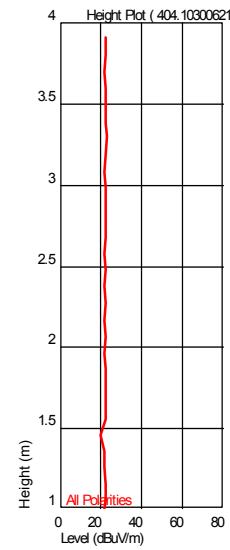
Level (dBuV/m)



All Polarities

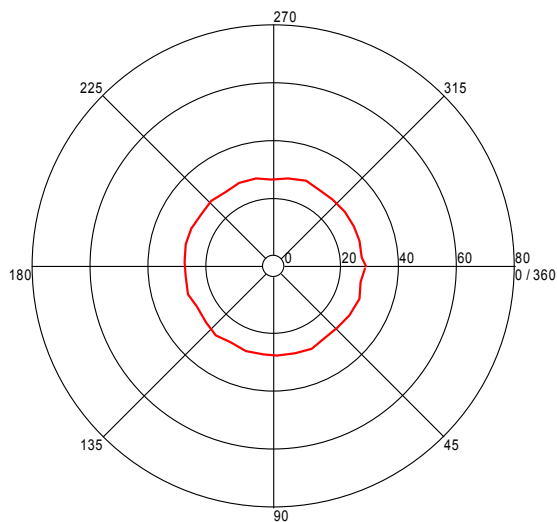
Azimuth (Degrees)

Height Plot (404.103006218 MHz)



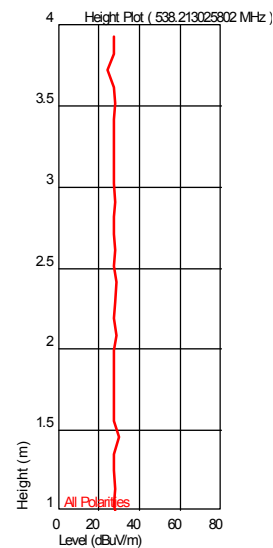
Turntable Plot (538.213025802 MHz)

Level (dBuV/m)



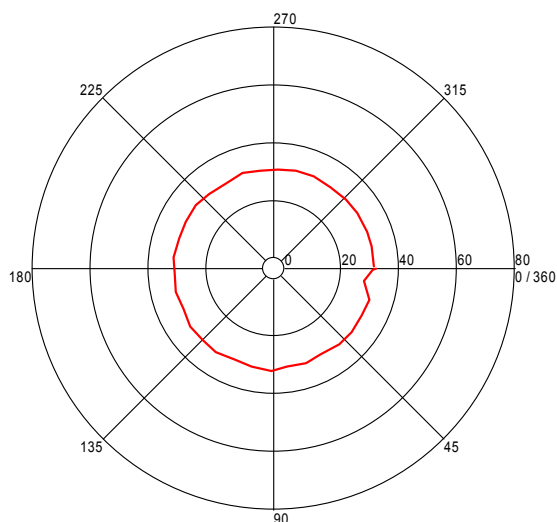
All Polarities

Azimuth (Degrees)



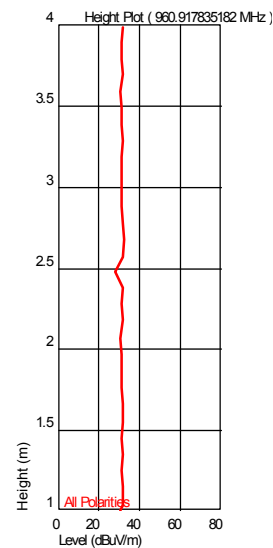
Turntable Plot (960.917835182 MHz)

Level (dBuV/m)



All Polarities

Azimuth (Degrees)



Test Personnel: Kouma Sinn *KPS*
Supervising/Reviewing Engineer:
(Where Applicable) N/A

Test Date: 08/19/2012

Product Standard: FCC Part 15.247 & RSS-210
Annex 8
Input Voltage: 3 AA Batteries
Pretest Verification w/
Ambient Signals or
BB Source: Ambient Signals

Test Levels: Per standard
Ambient Temperature: 22 °C
Relative Humidity: 5 %
Atmospheric Pressure: 1007 mbars

Deviations, Additions, or Exclusions: None

12 Revision History

Revision Level	Date	Report Number	Notes
0	08/28/2012	100806529BOX-014	Original Issue