

EMISSIONS TEST REPORT

Report Number: 100719224BOX-007b

Project Number: G100719224

Report Issue Date: 10/25/2012

Product Designation: P-cone, Model/Article: AA40967-11

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 5 August 2012,
RSS-Gen Issue 3 December 2010+Notice DRS 2012-DRS0126,
CENELEC EN 55022:2010,
AS/NZS CISPR 22:2009

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

Client:
Adidas International
1895 J. W. Foster Boulevard
Canton, MA 2021

Report prepared by



Kouma Sinn / Senior Project Engineer, EMC

Report reviewed by



Nicholas Abbondante / Staff Engineer, EMC

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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, Duty Cycle, and Human RF Exposure (CFR47 FCC Part 15 Subpart C 15.247(b)(3), KDB 558074v01 01/18/2012, IC RSS-210 A8.4(4), IC RSS-102 Issue 4 March 2010)	Pass
7	Transmitter Radiated Spurious Emissions (CFR47 FCC Part 15 Subpart C 15.247(d), IC RSS-210 A8.5, KDB 558074v01 01/18/2012 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 01/18/2012 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 01/18/2012 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 01/18/2012 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, AS/NZS CISPR 22:2009, CENELEC EN 55022:2010)	Pass
12	AC Mains Conducted Emissions FCC Part 15:2011 Section 15.207 (a) RSS-Gen Issue 3 December 2010, 7.2.2 (Table 2)	Pass
13	Revision History	--

3 Client Information

This EUT was tested at the request of:

Company: Adidas International
 1895 J. W. Foster Boulevard
 Canton, MA 2021

Contact: Mr. Evan Locke
Telephone: (781) 401-7260
Fax: Not Available
Email: Evan.Locke@adidas-Group.com

4 Description of Equipment Under Test

Equipment Under Test			
Description	Manufacturer	Article/Model Number	Serial Number
MiCoach P-cone	Adidas International	AA40967-11	BOX1205300925-001 (Intertek Assigned)
MiCoach P-cone	Adidas International	AA40967-11	P-CONE 5

Receive Date:	05/29/2012, 06/26/2012
Received Condition:	Good
Type:	Production

Description of Equipment Under Test (provided by client)

The PCONE is part of a MiCoach Wireless Data Collection System. Wireless communication to a host via a Maxstream external dipole whip antenna model: A24-HASM-450 with 2.14 dBi gain and Zigbee application with O-PQSK modulation is used. The Zigbee transceiver operates in the 2400-2483.5MHz band from 2405-2480MHz.

Equipment Under Test Power Configuration			
Rated Voltage	Rated Current	Rated Frequency	Number of Phases
3.7 VDC From Base Station	N/A	N/A	N/A
3.7VDC From USB Power Adapter	N/A	N/A	N/A

Notes: Both the Base Station and USB Power Adapter powered from 120VAC/60Hz.

Operating modes of the EUT:	
No.	Descriptions of EUT Exercising
1	Transmit
2	Receive
3	RF Communication Link

5 System Setup and Method

Cables (PCONE on Tripod)					
ID	Description	Length (m)	Shielding	Ferrites	Termination
1	RS232	1.76	Foil	None	Junction Point
2	RS232	0.59	Foil	None	USB Adapter
3	USB	0.55	Braid	None	Power Supply
4	USB	0.32	Braid	None	Laptop
5	RS232	0.59	Foil	None	Not Terminated

Support Equipment (PCONE on Tripod)			
Description	Manufacturer	Model Number	Serial Number
Serial-To-USB Adapter	Staple	Not Labeled	Not Labeled
Laptop	HP	Compaq nc6400	None
PCONE USB Power Adapter	Touch Electronics, Ltd	SA01-3US05R-A	None

Cables (RF Communication Link)					
ID	Description	Length (m)	Shielding	Ferrites	Termination
1	RS232	1.6	Foil	None	Base Station
2	USB (GPS)	2.9	Braid	None	Laptop
3	AC Mains Power	3	None	None	AC Source

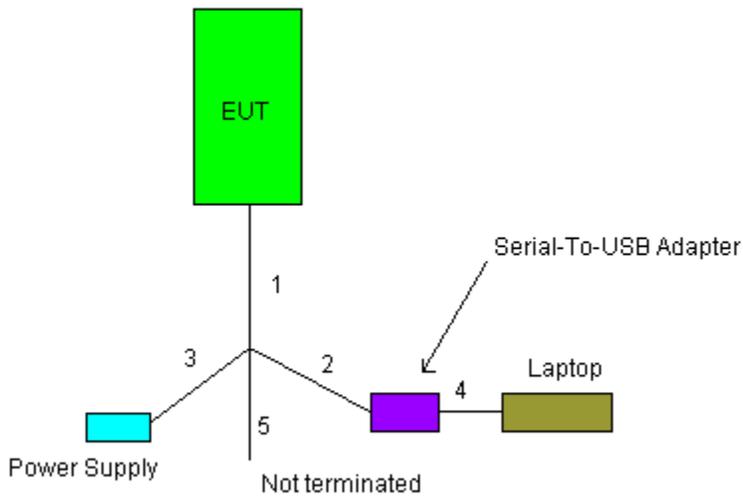
Support Equipment (RF Link Communication)			
Description	Manufacturer	Model Number	Serial Number
Adidas iPad	Apple	Not labeled	Not Labeled
MiCoach Wireless Data Collection System	Adidas International	Base Station	BOX1206261026 (Intertek Assigned)
MiCoach Wireless Data Collection System	Adidas International	POD	061251670
iPad USB Power Adapter	Apple	Not labeled	Not Labeled
Laptop	Levono	V750 1066	WB06069153

5.1 Method:

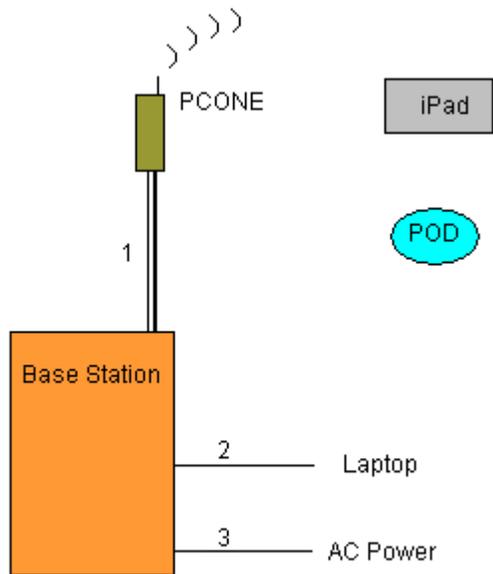
Configuration as required by ANSI C63.4:2003, FCC Part 15:2012 Subpart C Section 15.247, RSS-210 Issue 8 December 2010, RSS-Gen Issue 3 December 2010, and KDB 558074v01 01/18/2012.

5.2 EUT Block Diagram:

PCONE on Tripod



PCONE with support Base Station (RF Communication Link)



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

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 01/18/2012, 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:

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

$$NF = \text{Net Reading in dB}\mu\text{V}$$

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	08/02/2012
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
WEI18'	20 dB, Attenuator DC-18GHz	Weinschel Corp	47-20-34	BF0570	07/16/2012	07/16/2013
ROS001'	Spectrum Analyzer 20Hz - 40 GHz	Rohde & Schwartz	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

6.3 Results:

The EIRP must not exceed 36 dBm. The human RF Exposure limit is 1 mW/cm². The sample tested was found to comply.

6.4 Setup Photograph:



RF Exposure:

The EUT is a mobile device and was measured in both a radiated and conducted fashion. The RF output power was measured using a resolution bandwidth larger than the bandwidth of the emission. The data obtained was adjusted for equipment losses and converted from a radiated field strength reading to a power reading using the provisions of KDB 558074 and RSS-Gen 4.6. The conducted measurement was adjusted for rated antenna gain for comparison to the limits. The human RF exposure limit is 1 mW/cm². The power density S in mW/cm² generated by some value of EIRP in mW at a given distance d in cm is related by the equation:

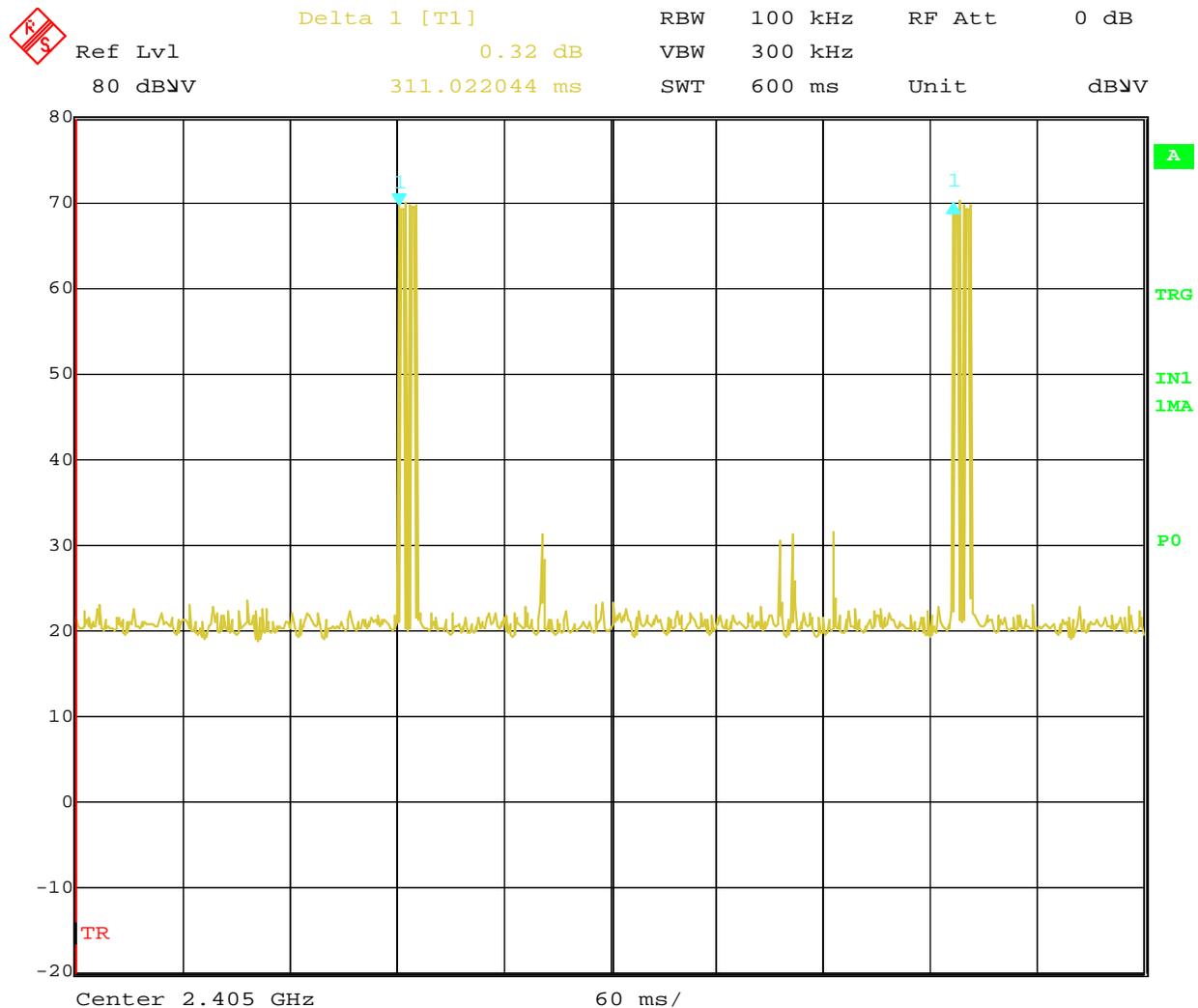
$$S = \text{EIRP} / (4\pi d^2)$$

The distance, given a maximum EIRP of 22.85 dBm (192.8 mW) based on the worst case radiated measurement and a maximum EIRP of 22.27 dBm based on the worst case conducted measurement, at which the radiated power density of the EUT is equal to the human RF exposure limit is 3.9 cm from the antenna. This result does not take averaging into account.

The EUT is exempt from IC RF exposure evaluation as referenced in IC RSS-102 Issue 4 March 2010 section 2.5.2 because the operating frequency is above 1.5 GHz and the EIRP does not exceed 5W (37.0 dBm).

Duty Cycle

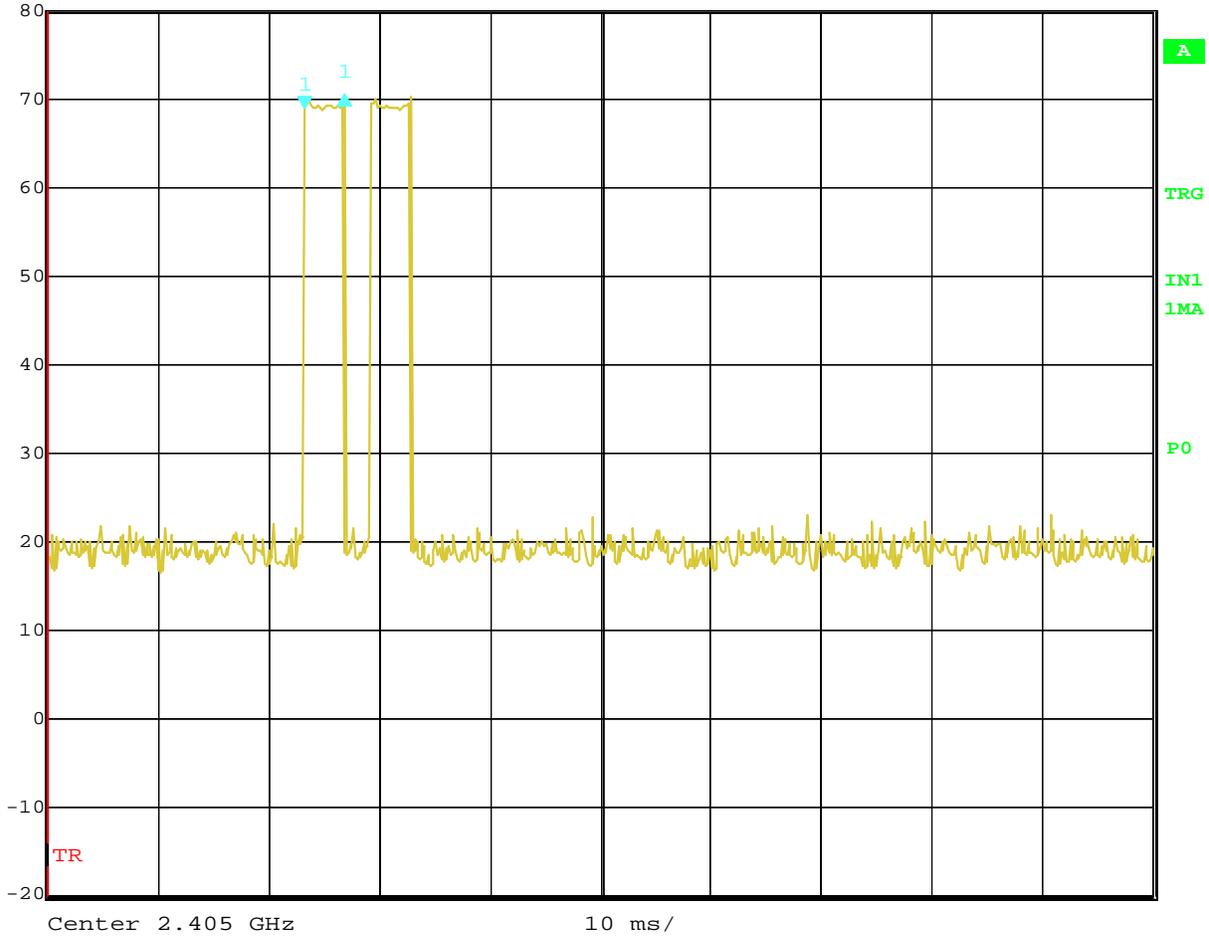
The worst-case duty cycle for typical EUT operation is shown below. The pulse train repeats over a larger than 100ms period.



Date: 6 JUN. 2012 20:33:38



	Delta 1 [T1]	RBW	100 kHz	RF Att	0 dB
Ref Lvl	1.49 dB	VBW	300 kHz		
80 dBμV	3.607214 ms	SWT	100 ms	Unit	dBμV



Date: 6 JUN. 2012 20:30:21

Average factor = $20 \cdot \text{LOG}((3.607 \cdot 2) / 100) = -22.84 \text{ dB}$

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

Test Date: 06/05/12, 06/06/2012
07/16/2012

Supervising Engineer: N/A
 (Where Applicable)
 Product Standard: FCC Part 15.247, RSS-210 Annex 8
USB power from 120VAC/60Hz AC
 Input Voltage: Adapter

Emissions below the
 specified limits
 Test Levels: 21, 21 °C
 Ambient Temperature:
 Relative Humidity: 53, 58 %
 Atmospheric Pressure: 1003, 1002 mbar

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

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 01/18/2012 Section 5.4.

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$$NF = \text{Net Reading in dB}\mu\text{V}$$

Example:

$$FS = RA + AF + CF - AG = 52.0 + 7.4 + 1.6 - 29.0 = 32.0$$

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

7.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
~145106	Bilog Antenna (30MHz - 5GHz)	Sunol Sciences	JB5	A111003	08/15/2011	08/15/2012
~145003	Preamplifier (150 KHz to 1.3 GHz)	Hewlett Packard	8447D	2443A04077	10/04/2011	10/04/2012
~145 128	EMI Test Receiver (20Hz - 40GHz)	Rohde & Schwarz	ESI	837771/027	08/23/2011	08/23/2012
~145-410	Cables 145-400 145-406 145-407 145-405 145-403	Huber + Suhner	10m Track A Cables	multiple	09/04/2011	09/04/2012
~145-416	Cables 145-400 145-408 145-402 145-404	Huber + Suhner	3m Track B cables	multiple	09/04/2011	09/04/2012
~HORN2	HORN ANTENNA	EMCO	3115	9602-4675	10/24/2011	10/24/2012
~145 014	Preamplifier (1 GHz to 26.5 GHz)	Hewlett Packard	8449B	3008A00232	12/16/2011	12/16/2012
~DAV002	Weather Station	Davis Instruments	7400	PE80519A93	08/17/2011	08/17/2012
~PRE8	PREAMPLIFIER 1- 40 GHz	MITEQ	NSP4000-NF	507145	01/26/2012	01/26/2013
~CBL030	High Frequency Cable 40GHz	Megaphase	TM40 K1K1 80	CBL030	02/08/2012	02/08/2013
~EMC04	ANTENNA, RIDGED GUIDE, 18-40 GHZ	EMCO	3116	2090	02/08/2012	02/08/2013
~MEG005'	High Frequency Cable	Megaphase	TM40-K1K1-197	8148601-001	02/07/2012	02/07/2013
~REA004	3GHz High Pass Filter	Reactel, Inc	7HSX-3G/18G-S11	06-1	11/30/2011	11/30/2012
WEI18'	20 dB, Attenuator DC-18GHz	Weinschel Corp	47-20-34	BP0570	07/16/2012	07/16/2013
ROS001'	Spectrum Analyzer 20Hz - 40 GHz	Rohde & Schwartz	FSEK-30	100225	02/10/2012	02/10/2013
REA006'	18GHz High Pass Filter	Reactel, Inc	7HS-18G/40G K11	(06)1	05/12/2011	Verified
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
C5	Teseq	Build 5.26.00.3

7.3 Results:

The sample tested was found to comply.

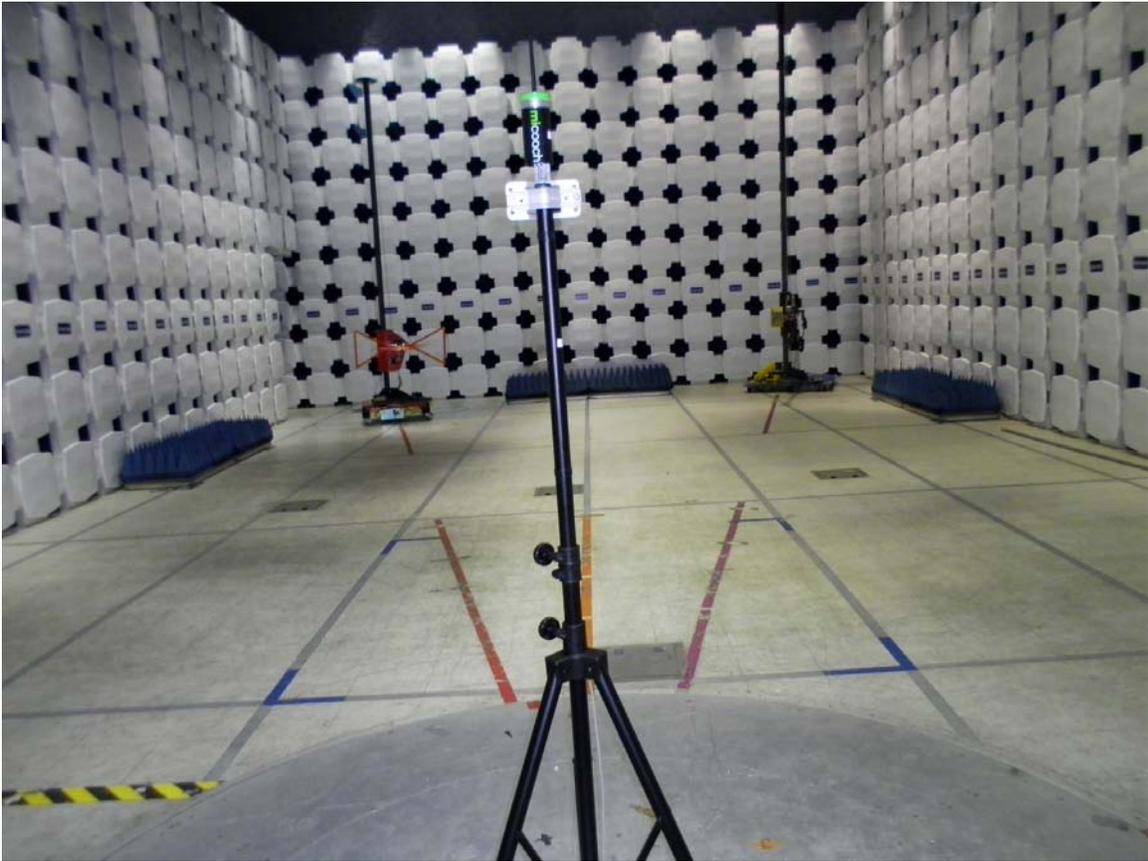
In any 100 kHz bandwidth outside the frequency band, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. 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

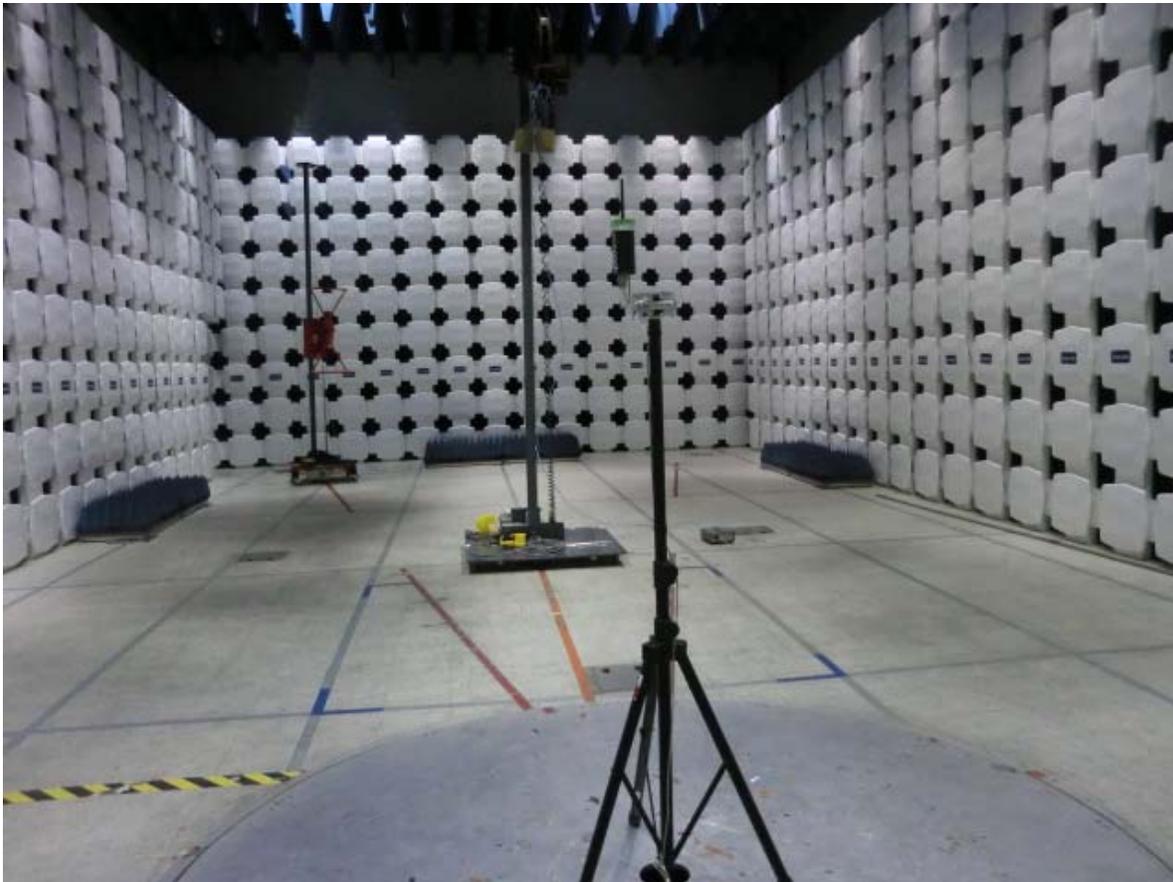
Frequency (MHz)	Field Strength		Test Distance (meters)
	$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$	
30–88	100	40.00	3
88–216	150	43.52	3
216–960	200	46.02	3
Above 960	500	53.98	3

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

7.4 Setup Photographs:



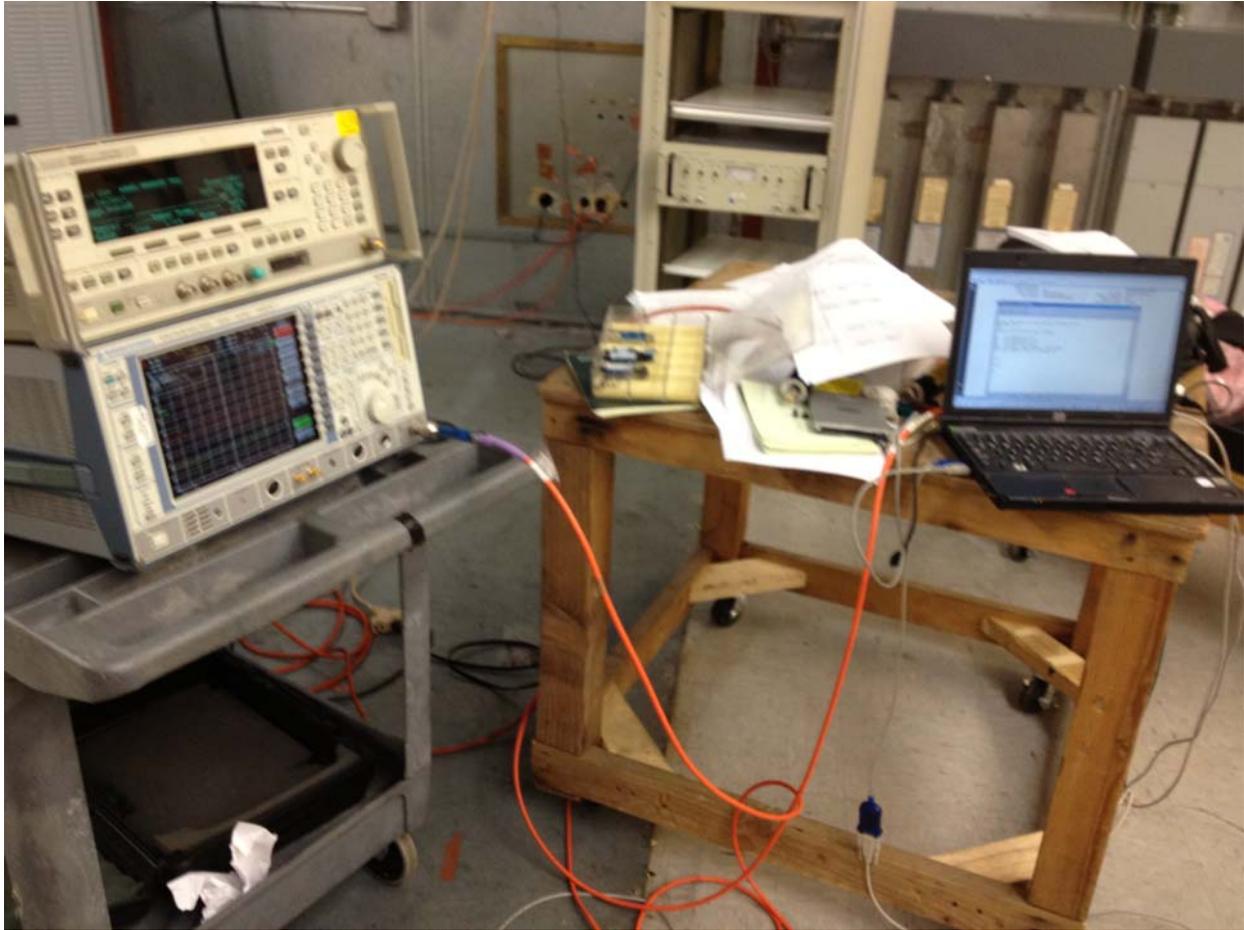
Scan from 30-1000MHz



Scan from 1-18 GHz



Hand scan from 18-25 GHz



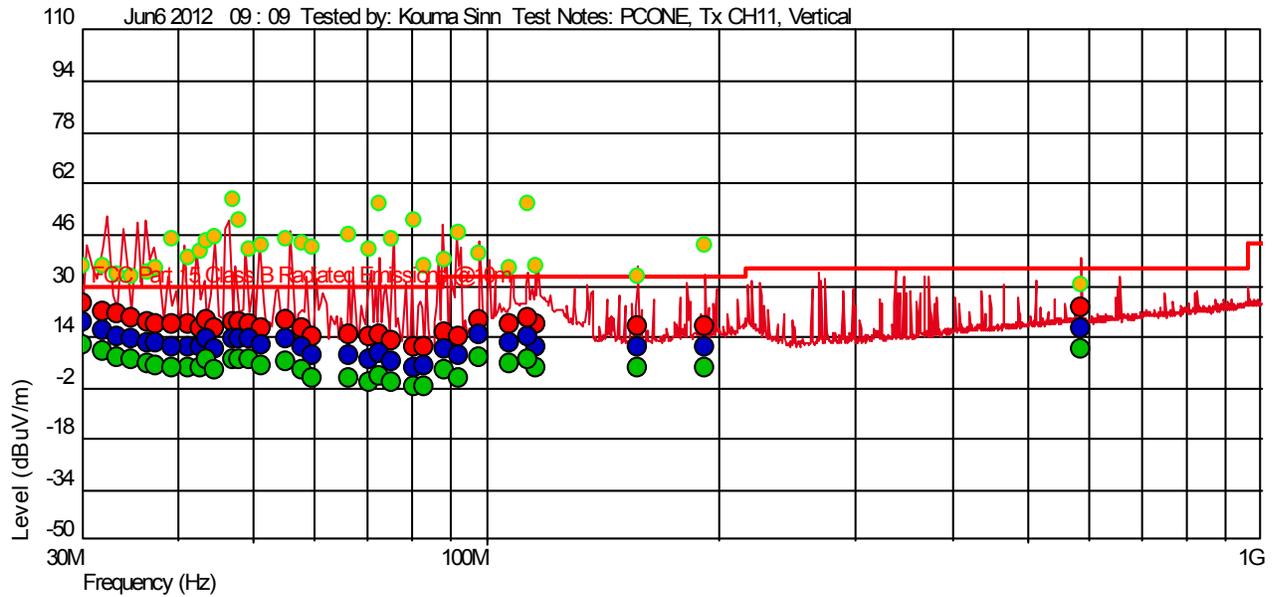
Antenna Port Conducted

7.5 Plots/Data:

Channel 11 Spurious Emissions From 30-1000MHz, Vertical Polarity

Test Information

Test Details	User Input
Test Notes:	PCONE, Tx CH11, Vertical
Temperature:	21 C
Humidity:	56 %, 1005 mbar
Tested by:	Kouma Sinn
Test Started:	Jun6 2012 09 : 09



- Measured Peak Value
 - Measured Quasi Peak Value
 - Measured Average Value
 - Maximum Value of Mast and Turntable
- Level (dBuV/m) = AF + CL + PA + Raw
 AF = Antenna Factor
 CL = Cable Losses
 PA = Pre-Amplifier
 Raw = Raw Instrument Reading (Not listed on Spot Tables)

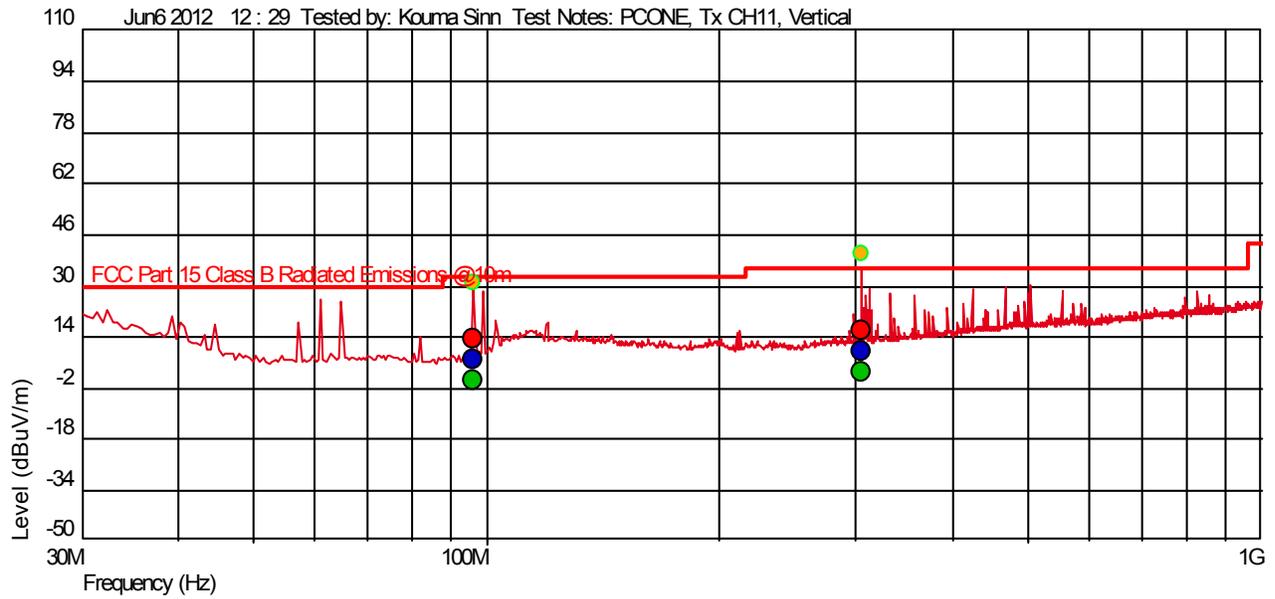
Measured: QP

Frequency (Hz)	Level (dBuV/m)	AF	PA+CL	Limit (dBuV/m)	Margin (dB)	Hor (--), Ver ()	Angle (Deg)	Mast Height (m)	Detector	RBW (Hz)
30.179180737 M	18.35	20.657	-26.108	29.54	-11.19		311	2.76	QP	120 k
31.887708856 M	16.11	19.290	-26.103	29.54	-13.43		197	3.04	QP	120 k
33.419995641 M	14.36	18.406	-26.098	29.54	-15.18		188	3.99	QP	120 k
34.811512016 M	13.27	17.432	-26.094	29.54	-16.27		153	3.21	QP	120 k
36.476308347 M	12.22	16.371	-26.089	29.54	-17.32		214	3.34	QP	120 k
37.484903152 M	11.85	15.658	-26.087	29.54	-17.69		195	3.26	QP	120 k
39.166510782 M	11.02	14.500	-26.082	29.54	-18.52		360	3.58	QP	120 k
41.264484325 M	11.12	13.088	-26.051	29.54	-18.42		209	4.00	QP	120 k
42.610487517 M	10.93	12.012	-26.021	29.54	-18.61		166	3.81	QP	120 k
43.51736808 M	13.34	11.441	-26.002	29.54	-16.20		150	1.19	QP	120 k
44.541260214 M	10.34	10.821	-25.980	29.54	-19.20		190	3.69	QP	120 k
47.176886982 M	13.13	9.276	-25.927	29.54	-16.41		182	3.56	QP	120 k
48.032643008 M	13.62	8.690	-25.911	29.54	-15.92		178	3.99	QP	120 k
49.392407054 M	13.36	8.243	-25.885	29.54	-16.18		196	1.45	QP	120 k
51.28263192 M	11.65	7.643	-25.863	29.54	-17.89		260	3.05	QP	120 k
55.114339924 M	13.67	7.289	-25.834	29.54	-15.87		177	1.58	QP	120 k
57.94555798 M	10.97	7.295	-25.814	29.54	-18.57		194	1.28	QP	120 k
59.69450015 M	7.97	7.469	-25.802	29.54	-21.57		217	1.19	QP	120 k
66.597795533 M	8.43	7.940	-25.810	29.54	-21.11		326	2.14	QP	120 k
70.485281679 M	6.92	7.951	-25.807	29.54	-22.62		186	3.96	QP	120 k
72.917078537 M	8.75	7.808	-25.767	29.54	-20.79		195	4.00	QP	120 k
75.620752607 M	6.14	7.700	-25.725	29.54	-23.40		205	3.96	QP	120 k
80.567156329 M	4.61	7.543	-25.645	29.54	-24.93		199	3.94	QP	120 k
82.917568517 M	4.71	7.692	-25.585	29.54	-24.83		194	3.94	QP	120 k
88.125606749 M	10.22	8.013	-25.457	33.04	-22.82		262	1.69	QP	120 k
92.127788992 M	7.89	8.513	-25.399	33.04	-25.15		257	3.97	QP	120 k
97.91311518 M	14.74	9.774	-25.363	33.04	-18.30		256	1.19	QP	120 k
107.424538022 M	12.25	11.985	-25.233	33.04	-20.79		179	1.38	QP	120 k
113.125161371 M	13.81	13.013	-25.148	33.04	-19.23		177	1.39	QP	120 k
116.142373749 M	11.04	13.328	-25.105	33.04	-22.00		155	2.74	QP	120 k
156.655288315 M	10.76	12.269	-24.630	33.04	-22.28		270	1.58	QP	120 k
190.974972084 M	10.94	11.797	-24.379	33.04	-22.10		255	3.03	QP	120 k
584.598263347 M	16.44	18.892	-24.035	35.54	-19.10		180	3.36	QP	120 k

Channel 11 Spurious Emissions From 30-1000MHz, Horizontal Polarity

Test Information

Test Details Test Notes: Tested by: Test Started:	User Input PCONE, Tx CH11, Horizontal Kouma Sinn Jun6 2012 12 : 29
--	---



- Measured Peak Value
 - Measured Quasi Peak Value
 - Measured Average Value
 - Maximum Value of Mast and Turntable
- Level (dBuV/m) = AF + CL + PA + Raw
 AF = Antenna Factor
 CL = Cable Losses
 PA = Pre-Amplifier
 Raw = Raw Instrument Reading (Not listed on Spot Tables)

Measured: QP

Frequency (Hz)	Level (dBuV/m)	AF	PA+CL	Limit (dBuV/m)	Margin (dB)	Hor (--), Ver ()	Angle (Deg)	Mast Height (m)	Detector	RBW (Hz)
96.335292651 M	6.81	9.267	-25.372	33.04	-26.23	--	21	3.22	QP	120 k
305.076686876 M	9.75	13.703	-24.099	35.54	-25.79	--	195	2.46	QP	120 k

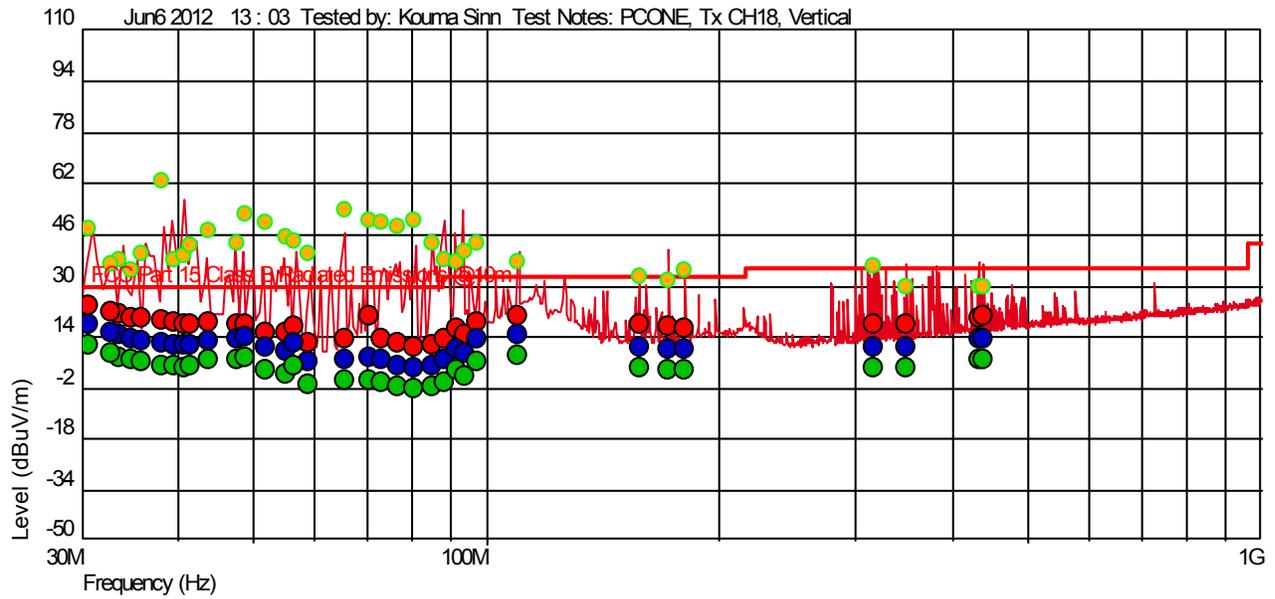
Notes: Typo on the plot, it should be horizontal.

Channel 18 Spurious Emissions From 30-1000MHz, Vertical Polarity

Test Information

Test Details
 Test Notes:
 Tested by:
 Test Started:

User Input
 PCONE, Tx CH18, Vertical
 Kouma Sinn
 Jun6 2012 13:03



- Measured Peak Value
 - Measured Quasi Peak Value
 - Measured Average Value
 - Maximum Value of Mast and Turntable
- Level (dBuV/m) = AF + CL + PA + Raw
 AF = Antenna Factor
 CL = Cable Losses
 PA = Pre-Amplifier
 Raw = Raw Instrument Reading (Not listed on Spot Tables)

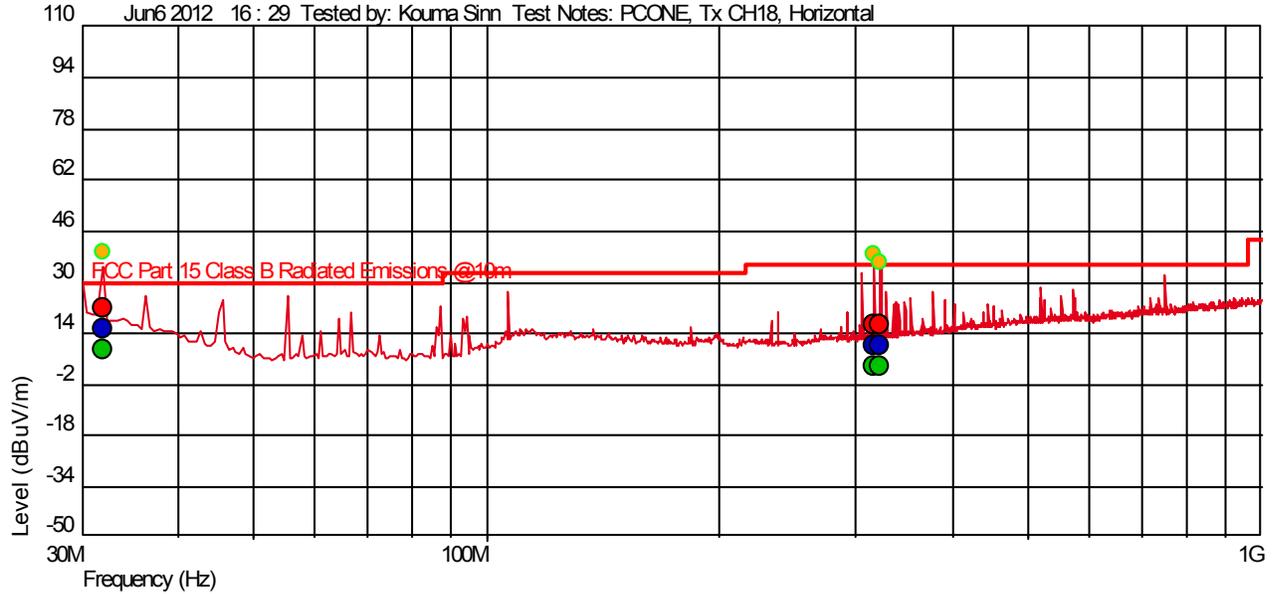
Measured: QP

Frequency (Hz)	Level (dBuV/m)	AF	PA+CL	Limit (dBuV/m)	Margin (dB)	Hor (--), Ver ()	Angle (Deg)	Mast Height (m)	Detector	RBW(Hz)
30.566644251 M	17.66	20.347	-26.107	29.54	-11.88		224	3.47	QP	120 k
32.831262669 M	15.18	18.784	-26.100	29.54	-14.36		268	3.58	QP	120 k
33.590024461 M	14.47	18.287	-26.098	29.54	-15.07		287	3.77	QP	120 k
34.845713693 M	13.36	17.408	-26.094	29.54	-16.18		137	3.21	QP	120 k
35.805143705 M	12.74	16.897	-26.091	29.54	-16.80		194	3.97	QP	120 k
38.083032721 M	11.85	15.334	-26.085	29.54	-17.69		185	3.09	QP	120 k
39.598864447 M	11.48	14.241	-26.081	29.54	-18.06		221	3.70	QP	120 k
40.694366591 M	11.35	13.514	-26.064	29.54	-18.19		310	4.00	QP	120 k
41.415586691 M	11.61	12.968	-26.048	29.54	-17.93		335	3.92	QP	120 k
43.899621579 M	12.98	11.250	-25.994	29.54	-16.56		321	3.59	QP	120 k
47.500556848 M	13.14	9.050	-25.921	29.54	-16.40		318	3.98	QP	120 k
48.858116285 M	13.83	8.443	-25.895	29.54	-15.71		177	3.58	QP	120 k
51.881585273 M	10.76	7.524	-25.859	29.54	-18.78		257	2.20	QP	120 k
55.068336741 M	9.59	7.293	-25.835	29.54	-19.95		179	3.07	QP	120 k
56.291538721 M	12.13	7.200	-25.826	29.54	-17.41		185	1.30	QP	120 k
58.909374234 M	6.02	7.391	-25.807	29.54	-23.52		357	1.19	QP	120 k
65.527655174 M	6.62	7.906	-25.808	29.54	-22.92		360	3.81	QP	120 k
70.398285539 M	7.34	7.960	-25.808	29.54	-22.20		253	3.84	QP	120 k
73.369494571 M	6.90	7.800	-25.760	29.54	-22.64		38	2.62	QP	120 k
76.887441591 M	5.22	7.700	-25.706	29.54	-24.32		259	3.80	QP	120 k
80.640904008 M	4.39	7.536	-25.643	29.54	-25.15		214	4.00	QP	120 k
85.143999255 M	5.21	7.714	-25.529	29.54	-24.33		229	3.82	QP	120 k
88.327855641 M	6.75	8.033	-25.452	33.04	-26.29		230	3.94	QP	120 k
91.282342253 M	10.31	8.356	-25.405	33.04	-22.73		226	1.30	QP	120 k
93.810866108 M	8.56	8.843	-25.388	33.04	-24.48		210	3.85	QP	120 k
97.084413323 M	13.50	9.525	-25.368	33.04	-19.54		271	2.20	QP	120 k
109.702093172 M	15.02	12.440	-25.198	33.04	-18.02		200	1.30	QP	120 k
157.477221277 M	11.00	12.200	-24.623	33.04	-22.04		306	3.26	QP	120 k
171.810732563 M	10.33	11.919	-24.513	33.04	-22.71		219	3.90	QP	120 k
180.565686796 M	10.43	11.657	-24.450	33.04	-22.61		213	1.66	QP	120 k
316.785348607 M	10.59	14.236	-24.063	35.54	-24.95		223	1.48	QP	120 k
348.817457056 M	11.00	14.553	-23.970	35.54	-24.54		188	2.66	QP	120 k
432.219706265 M	13.63	16.744	-23.942	35.54	-21.91		225	2.03	QP	120 k
438.79089306 M	13.73	16.724	-23.950	35.54	-21.81		221	3.63	QP	120 k

Channel 18 Spurious Emissions From 30-1000MHz, Horizontal Polarity

Test Information

Test Details: User Input
 Test Notes: PCONE, Tx CH18, Horizontal
 Tested by: Kouma Sinn
 Test Started: Jun6 2012 16 : 29



- Measured Peak Value
 - Measured Quasi Peak Value
 - Measured Average Value
 - Maximum Value of Mast and Turntable
- Level (dBuV/m) = AF + CL + PA + Raw
 AF = Antenna Factor
 CL = Cable Losses
 PA = Pre-Amplifier
 Raw = Raw Instrument Reading (Not listed on Spot Tables)

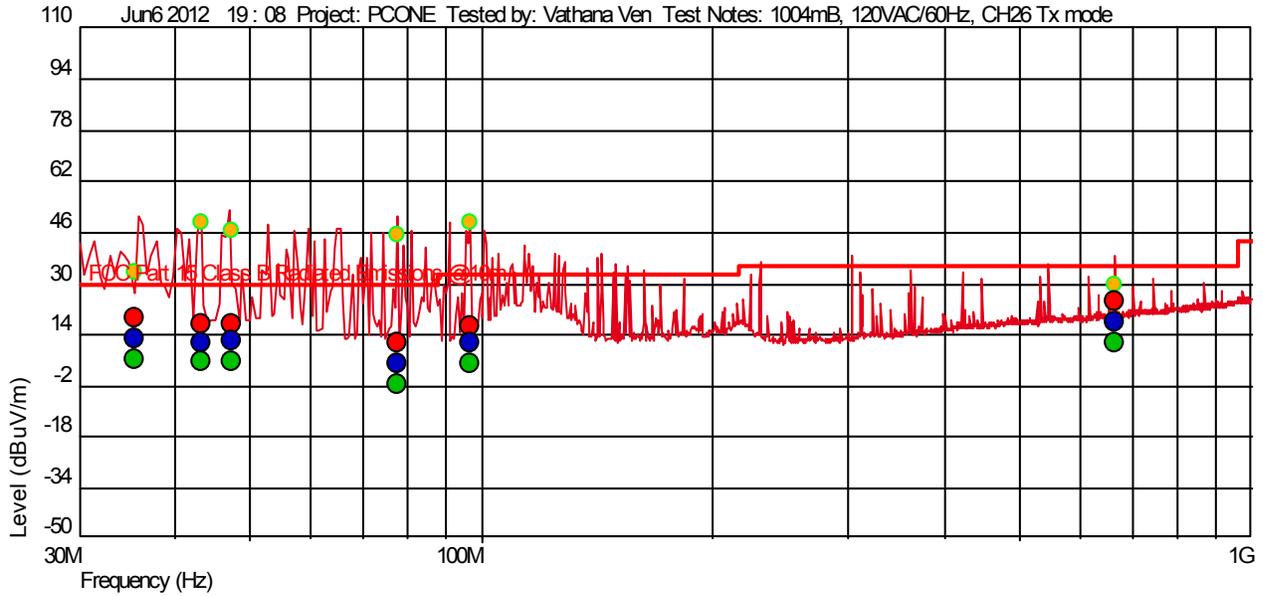
Measured: QP

Frequency (Hz)	Level (dBuV/m)	AF	PA+CL	Limit (dBuV/m)	Margin (dB)	Hor (-), Ver ()	Angle (Deg)	Mast Height (m)	Detector	RBW (Hz)
32.02854587 M	15.63	19.683	-26.102	29.54	-13.91	--	272	3.98	QP	120 k
315.934046018 M	10.19	14.119	-24.065	35.54	-25.35	--	245	1.52	QP	120 k
322.092986078 M	10.29	14.200	-24.047	35.54	-25.25	--	253	1.51	QP	120 k

Channel 26 Spurious Emissions From 30-1000MHz, Vertical Polarity

Test Information

Test Details	User Input
Project:	PCONE
Test Notes:	1004mB, 120VAC/60Hz, CH26 Tx mode
Temperature:	22 deg C
Humidity:	53%
Tested by:	Vathana Ven
Test Started:	Jun6 2012 19 : 08



- Measured Peak Value
 - Measured Quasi Peak Value
 - Measured Average Value
 - Maximum Value of Mast and Turntable
- Level (dBuV/m) = AF + CL + PA + Raw
 AF = Antenna Factor
 CL = Cable Losses
 PA = Pre-Amplifier
 Raw = Raw Instrument Reading (Not listed on Spot Tables)

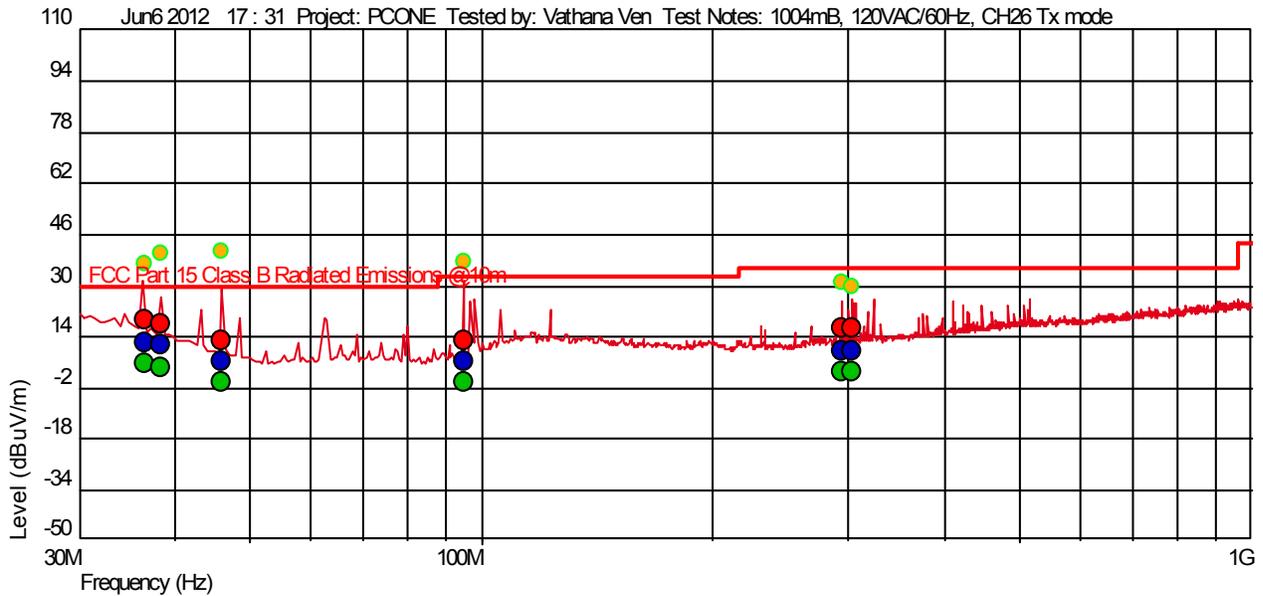
Measured: QP

Frequency (Hz)	Level (dBuV/m)	AF	PA+CL	Limit (dBuV/m)	Margin (dB)	Hor (- -), Ver ()	Angle(Deg)	Mast Height(m)	Detector	RBW (Hz)
35.483901234 M	13.02	17.058	-26.092	29.54	-16.52		27	2.20	QP	120 k
43.321732509 M	11.77	11.539	-26.006	29.54	-17.77		184	3.58	QP	120 k
47.481117681 M	12.19	9.063	-25.921	29.54	-17.35		189	2.18	QP	120 k
77.70184802 M	5.03	7.700	-25.694	29.54	-24.51		190	3.90	QP	120 k
96.63364516 M	11.72	9.427	-25.370	33.04	-21.32		173	1.69	QP	120 k
664.167089623 M	17.67	19.917	-23.824	35.54	-17.87		334	2.08	QP	120 k

Channel 26 Spurious Emissions From 30-1000MHz, Horizontal Polarity

Test Information

Test Details	User Input
Project:	PCONE
Test Notes:	1004mB, 120VAC/60Hz, CH26 Tx mode
Temperature:	22 deg C
Humidity:	53%
Tested by:	Vathana Ven
Test Started:	Jun6 2012 17 : 31



- Measured Peak Value
 - Measured Quasi Peak Value
 - Measured Average Value
 - Maximum Value of Mast and Turntable
- Level (dBuV/m) = AF + CL + PA + Raw
 AF = Antenna Factor
 CL = Cable Losses
 PA = Pre-Amplifier
 Raw = Raw Instrument Reading (Not listed on Spot Tables)

Measured: QP

Frequency (Hz)	Level (dBuV/m)	AF	PA+CL	Limit (dBuV/m)	Margin (dB)	Hor (--), Ver ()	Angle (Deg)	Mast Height(m)	Detector	RBW (Hz)
36.600066912 M	12.29	16.560	-26.089	29.54	-17.25	--	166	3.46	QP	120 k
38.359318515 M	11.34	15.377	-26.084	29.54	-18.20	--	155	2.40	QP	120 k
45.867490409 M	6.18	10.080	-25.953	29.54	-23.36	--	305	2.44	QP	120 k
94.951124305 M	6.11	8.890	-25.381	33.04	-26.93	--	164	2.41	QP	120 k
294.514451086 M	9.37	13.490	-24.123	35.54	-26.17	--	274	3.44	QP	120 k
302.675239253 M	9.64	13.607	-24.107	35.54	-25.90	--	225	3.38	QP	120 k

Channel 11, 18, and 26 Spurious Emissions above 1GHz, Vertical and Horizontal Polarity

Radiated Emissions

Company: Adidas International Antenna & Cables: SHF Bands: N, LF, HF, SHF
 Model #: PCONE Antenna: HORN2 V3m 10-24-2012.txt HORN2 H3m 10-24-2012.txt EMC04
 Serial #: BOX1205300925-001 (Intertek Assigned) Cable(s): 145-416 3mTrkB 09-04-2012.txt
 Engineers: Vathana Ven Location: 10m Chamber Barometer: DAV003 Filter: REA002
 Project #: G100719224 Date(s): 06/05/12 06/06/12
 Standard: FCC Part 15 Subpart C 15.247 Temp/Humidity/Pressure: 21C 53% 1002mbar
 Receiver: R&S ESI (145128) 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: 120VAC/60Hz 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

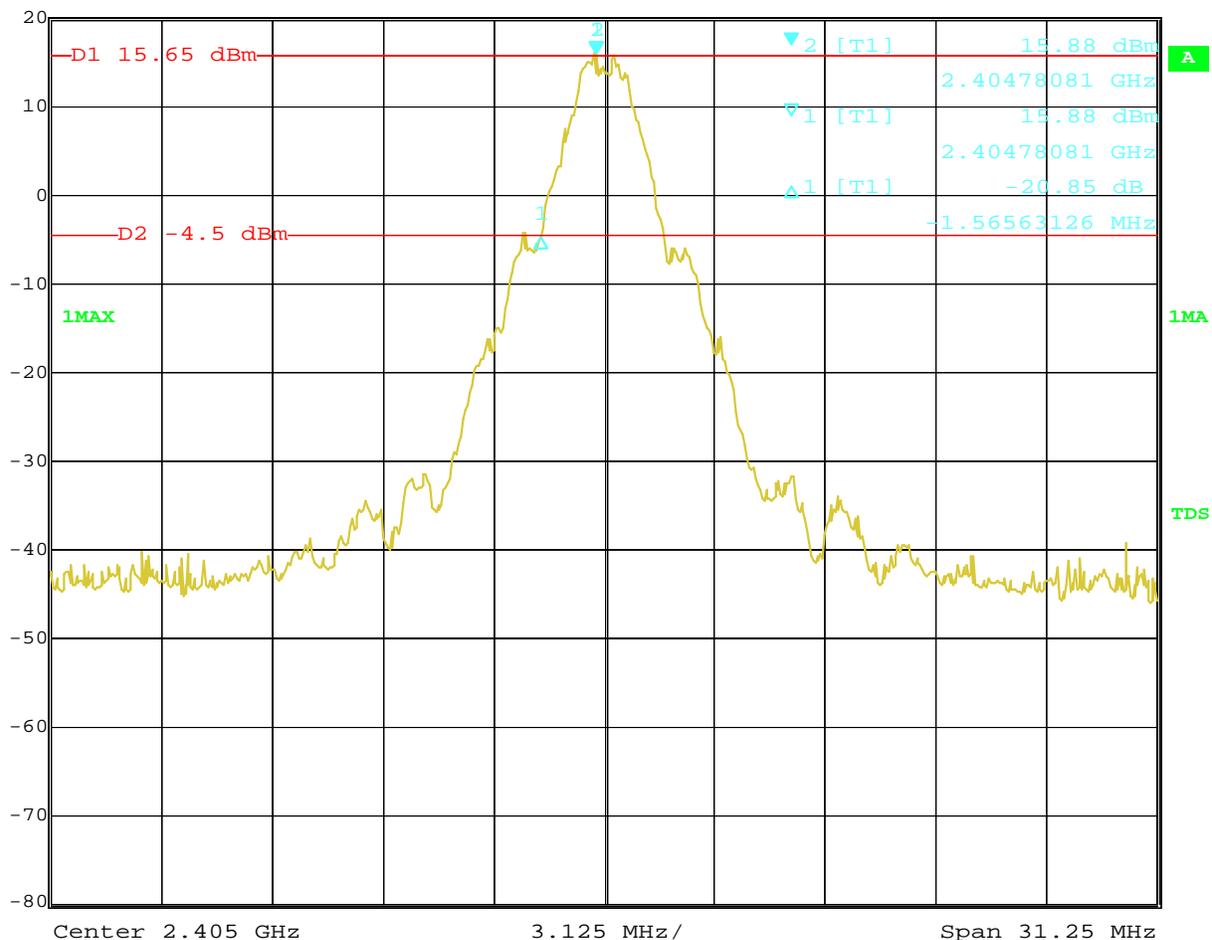
Detector Type	Ant. Pol. (V/H)	Frequency MHz	Reading dB(uV)	Antenna Factor dB(1/m)	Cable Loss dB	Pre-amp Factor dB	Distance Factor dB	Net dB(uV/m)	Limit dB(uV/m)	Margin dB	Bandwidth	FCC	IC	Harmonic?
Tx CH 11, F = 2405 MHz, Spurious emissions														
PK	V	4810.000	63.26	33.08	9.17	34.54	0.00	70.96	74.00	-3.04	1/3 MHz	RB		
AVG	V	4810.000	40.42	33.08	9.17	34.54	0.00	48.12	54.00	-5.88	1/3 MHz	RB		
PK	V	7215.000	52.13	36.12	10.85	35.66	0.00	63.44	92.82	-29.38	100/300 kHz			
PK	V	9620.000	27.59	37.89	13.16	35.85	0.00	42.79	92.82	-50.03	100/300 kHz			
PK	V	12025.000	38.71	39.52	14.97	35.38	0.00	57.82	74.00	-16.18	1/3 MHz	RB	Noise Floor	
AVG	V	12025.000	25.27	39.52	14.97	35.38	0.00	44.38	54.00	-9.62	1/3 MHz	RB	Noise Floor	
PK	V	14430.000	24.22	42.14	15.16	34.64	0.00	46.88	92.82	-45.94	100/300 kHz		Noise Floor	
PK	V	16835.000	23.51	39.85	25.50	37.74	0.00	51.13	92.82	-41.69	100/300 kHz		Noise Floor	
Tx CH 18, F = 2440 MHz, Spurious emissions														
PK	V	4880.000	66.00	33.13	9.28	34.41	0.00	74.00	74.00	-0.00	1/3 MHz			
AVG	V	4880.000	43.16	33.13	9.28	34.41	0.00	51.16	54.00	-2.84	1/3 MHz			
PK	V	7320.000	62.00	36.46	10.97	35.73	0.00	73.70	74.00	-0.30	1/3 MHz			
AVG	V	7320.000	39.16	36.46	10.97	35.73	0.00	50.86	54.00	-3.14	1/3 MHz			
PK	V	9760.000	31.51	38.04	13.35	35.35	0.00	47.55	92.98	-45.43	100/300 kHz		Noise Floor	
PK	V	12200.000	33.34	39.18	14.88	35.45	0.00	51.96	54.00	-2.04	1/3 MHz	RB	Noise Floor	
AVG	V	12200.000	24.00	39.18	14.88	35.45	0.00	42.62	54.00	-11.38	1/3 MHz	RB	Noise Floor	
PK	V	14640.000	24.60	41.60	15.25	34.87	0.00	46.58	92.98	-46.40	100/300 kHz		Noise Floor	
PK	V	17080.000	24.35	40.72	18.66	37.60	0.00	46.13	92.98	-46.85	100/300 kHz		Noise Floor	
Tx CH 26, F = 2480 MHz, Spurious emissions														
PK	V	4960.000	62.52	33.30	9.41	34.25	0.00	70.97	74.00	-3.03	1/3 MHz	RB		
AVG	V	4960.000	39.68	33.30	9.41	34.25	0.00	48.13	54.00	-5.87	1/3 MHz	RB		
PK	V	7440.000	59.56	36.58	11.10	35.81	0.00	71.42	74.00	-2.58	1/3 MHz	RB		
AVG	V	7440.000	36.72	36.58	11.10	35.81	0.00	48.58	54.00	-5.42	1/3 MHz	RB		
PK	V	9920.000	26.63	38.27	13.57	34.78	0.00	43.68	92.51	-48.83	100/300 kHz		Noise Floor	
PK	V	12400.000	36.78	38.98	14.79	35.52	0.00	55.03	74.00	-18.97	1/3 MHz	RB	Noise Floor	
AVG	V	12400.000	24.73	38.98	14.79	35.52	0.00	42.98	54.00	-11.02	1/3 MHz	RB	Noise Floor	
PK	V	14880.000	25.54	40.37	15.75	35.32	0.00	46.34	92.51	-46.17	100/300 kHz		Noise Floor	
PK	V	17360.000	24.15	42.09	23.22	36.91	0.00	52.55	92.51	-39.96	100/300 kHz		Noise Floor	

Average factor = 20*LOG((3.607*2)/100) = 22.84 dB, Average readings were obtained by subtracting 22.84dB from Peak readings.

Hand scans were performed from 18-25GHz at a distance of <1m, no emissions were detected above the measuring equipment noise floor.

Channel 11 Antenna Port Conducted Spurious Emissions (20 dB down from the carrier)

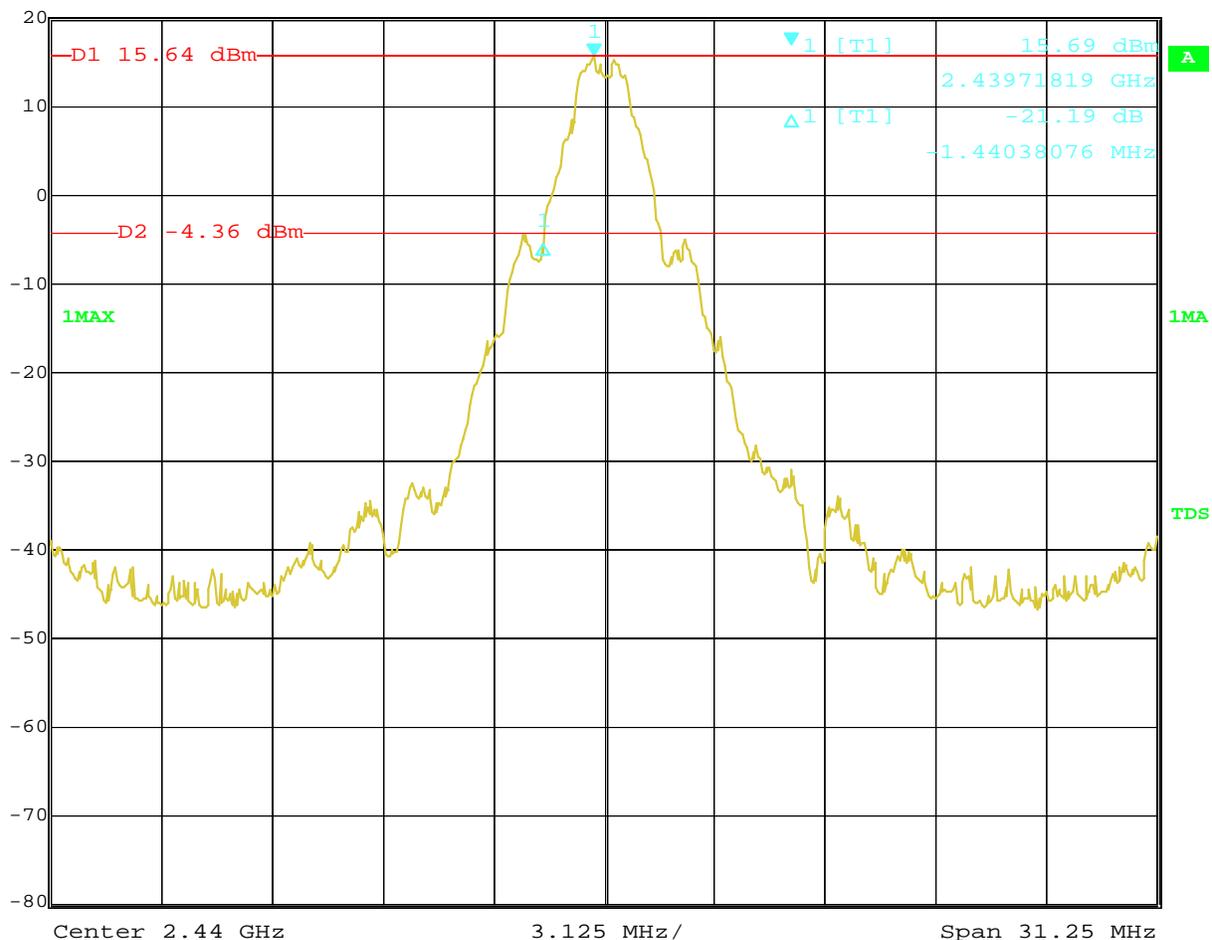
Max/Ref Lvl Marker 2 [T1] RBW 100 kHz RF Att 10 dB
20 dBm 15.88 dBm VBW 300 kHz
0 dBm 2.40478081 GHz SWT 8 ms Unit dBm



Date: 16.JUL.2012 22:12:32

Channel 18 Antenna Port Conducted Spurious Emissions (20 dB down from the carrier)

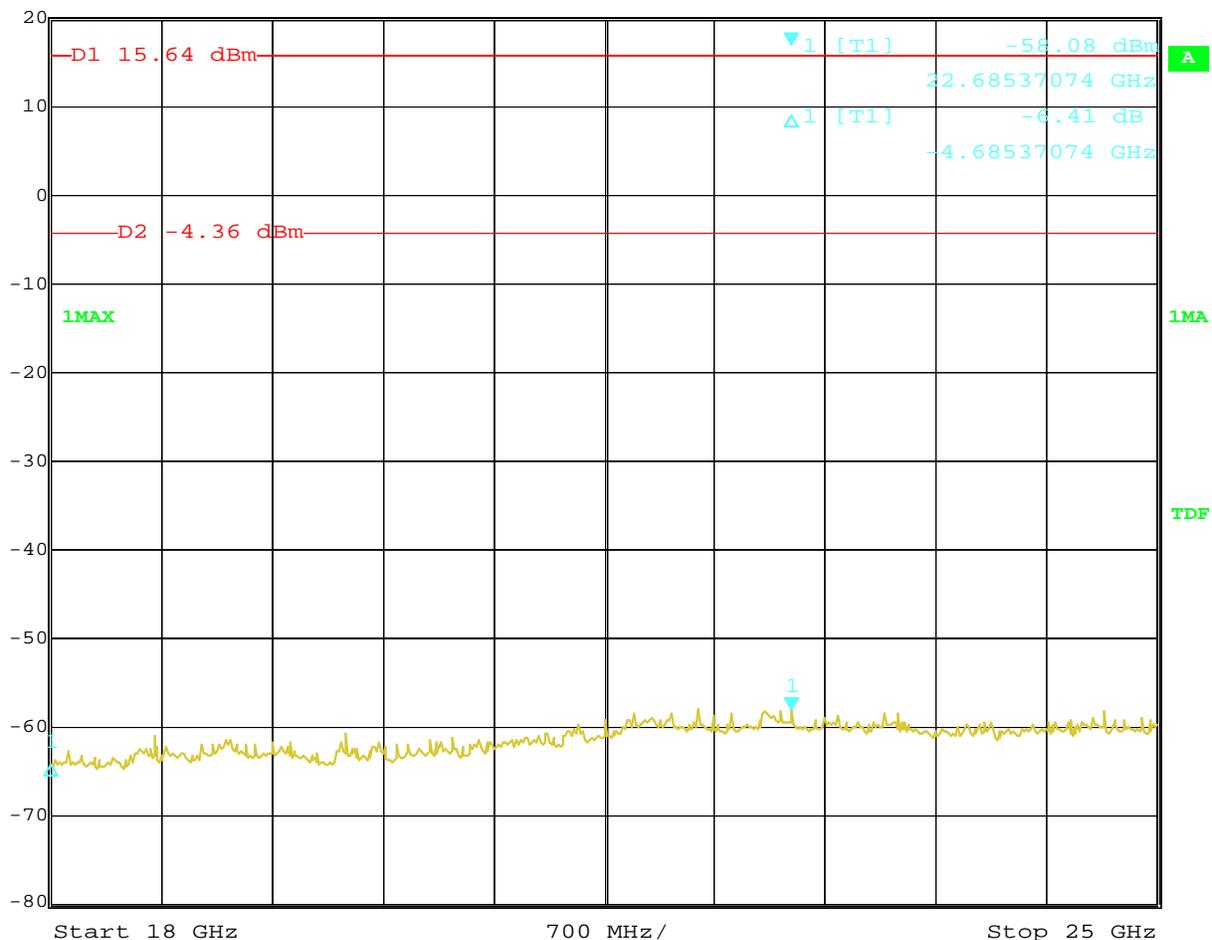
Max/Ref Lvl Marker 1 [T1] RBW 100 kHz RF Att 10 dB
20 dBm 15.69 dBm VBW 300 kHz
0 dBm 2.43971819 GHz SWT 8 ms Unit dBm



Date: 16.JUL.2012 22:44:33

Channel 18 Antenna Port Conducted Spurious Emissions (18 – 25 GHz)

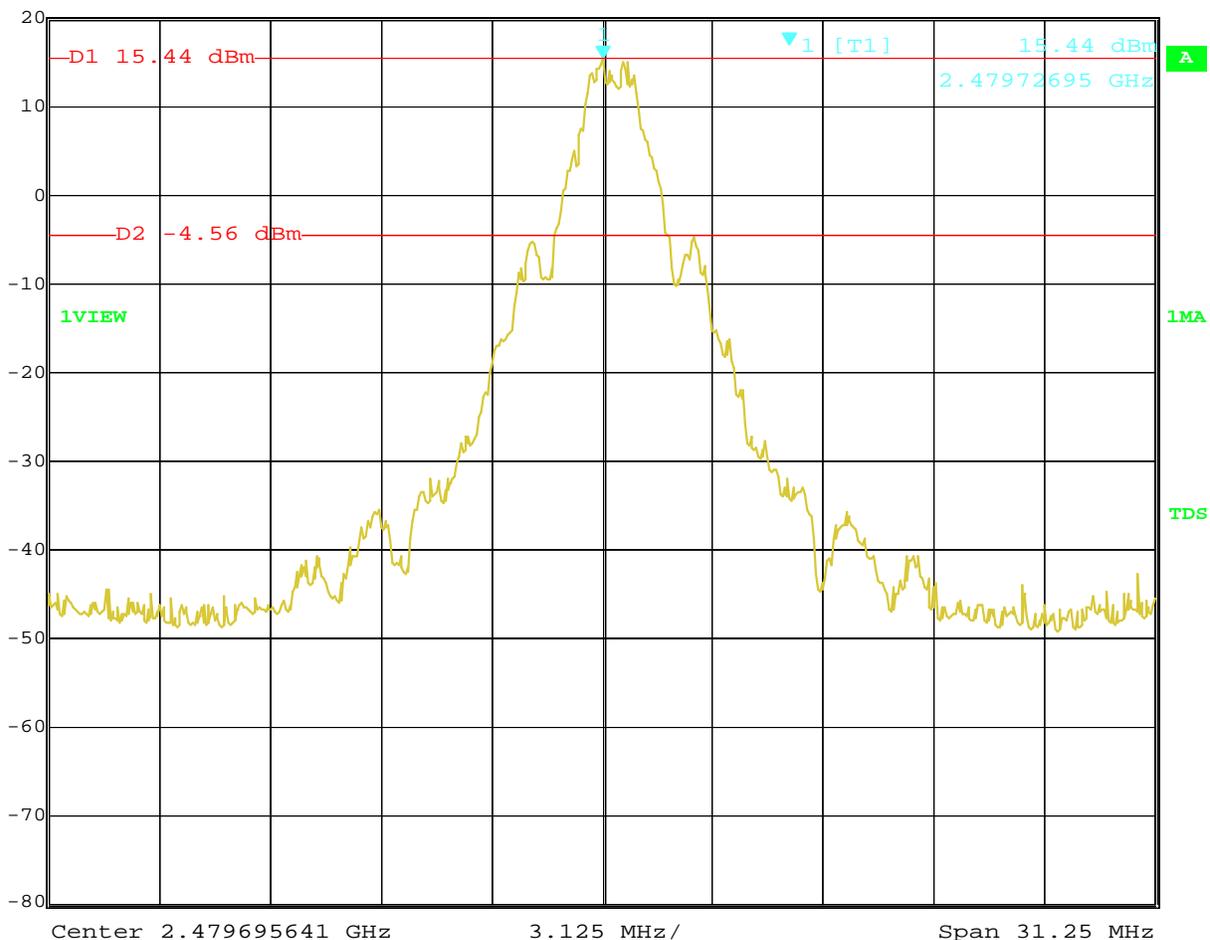
Max/Ref Lvl Marker 1 [T1] RBW 100 kHz RF Att 10 dB
20 dBm -58.08 dBm VBW 300 kHz
0 dBm 22.68537074 GHz SWT 1.75 s Unit dBm



Date: 16.JUL.2012 22:49:35

Channel 26 Antenna Port Conducted Spurious Emissions (20 dB down from the carrier)

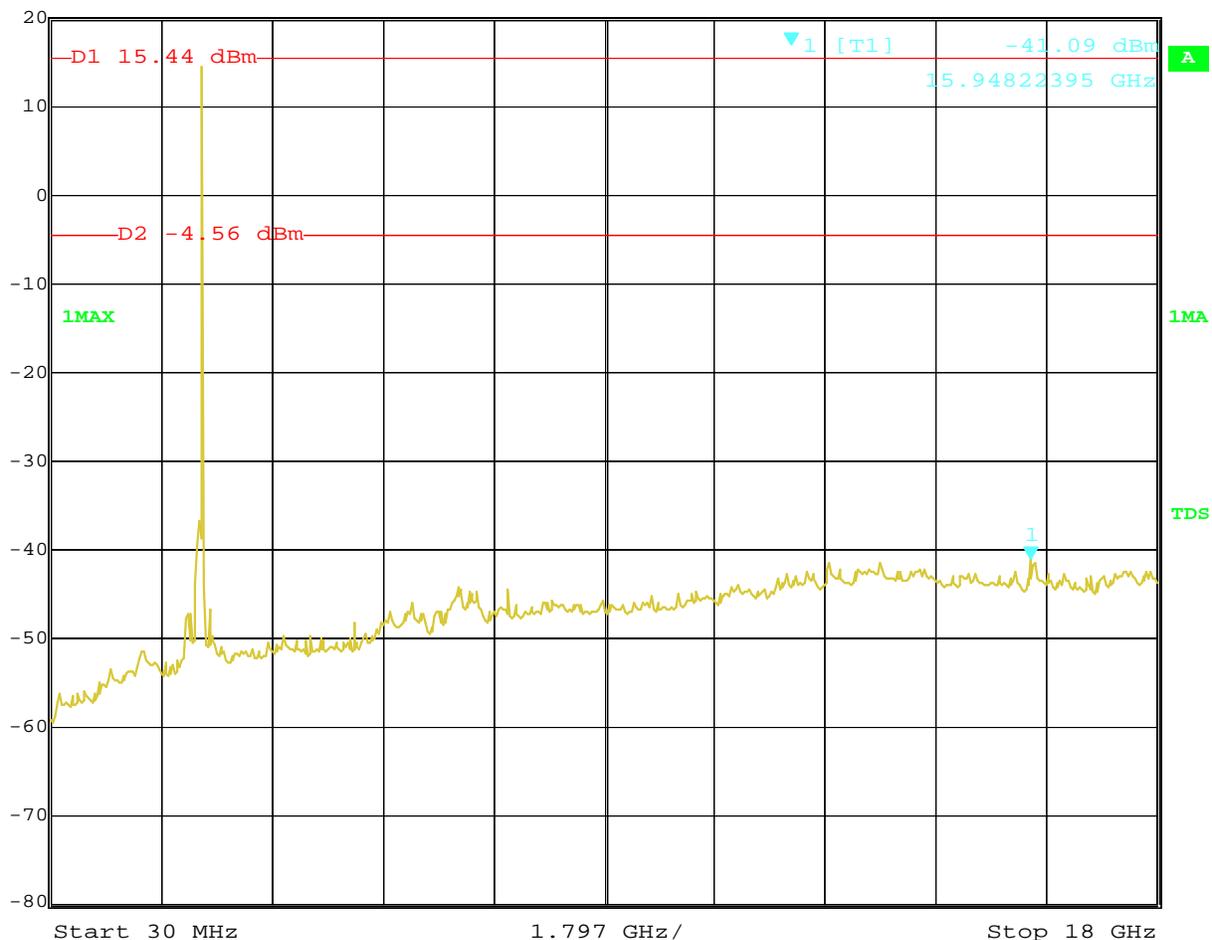
Max/Ref Lvl Marker 1 [T1] RBW 100 kHz RF Att 10 dB
20 dBm 15.44 dBm VBW 300 kHz
0 dBm 2.47972695 GHz SWT 8 ms Unit dBm



Date: 16.JUL.2012 22:56:44

Channel 26 Antenna Port Conducted Spurious Emissions (30 MHz – 18 GHz)

Max/Ref Lvl Marker 1 [T1] RBW 100 kHz RF Att 10 dB
20 dBm -41.09 dBm VBW 300 kHz
0 dBm 15.94822395 GHz SWT 4.5 s Unit dBm

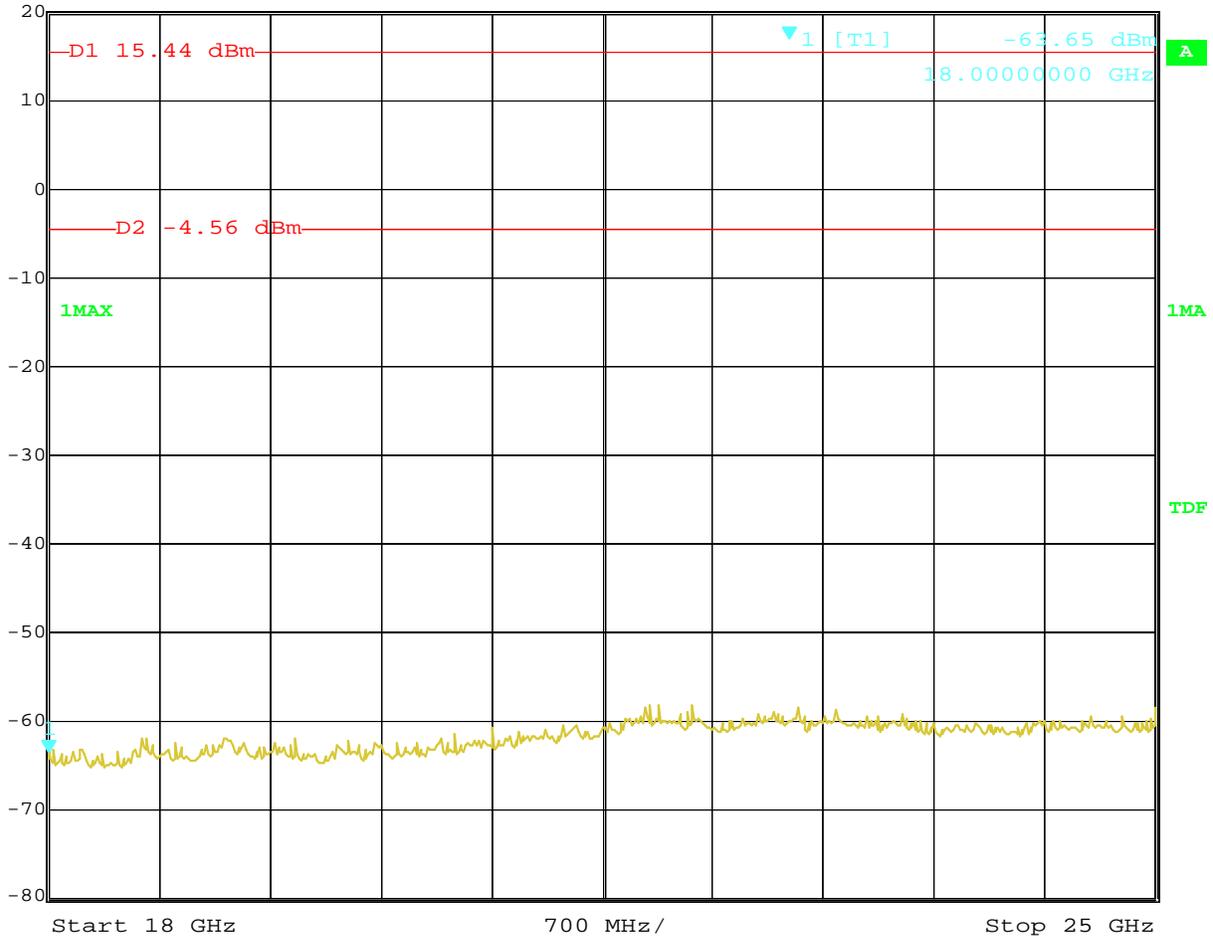


Date: 16.JUL.2012 22:58:48

Channel 26 Antenna Port Conducted Spurious Emissions (18 – 25 GHz)



Max/Ref Lvl Marker 1 [T1] RBW 100 kHz RF Att 10 dB
 20 dBm -63.65 dBm VBW 300 kHz
 0 dBm 18.00000000 GHz SWT 1.75 s Unit dBm



Date: 16 . JUL . 2012 23 : 04 : 24

Test Personnels: <u>Kouma Sinn <i>KPS</i></u>	Test Dates: <u>06/06/2012 Day Shift</u>
<u>Vathana F. Ven <i>VFV</i></u>	<u>07/16/2012</u>
Supervising Engineer: <u>N/A</u>	<u>06/06/2012 Night Shift</u>
(Where Applicable)	Test Levels: <u>Emissions below the specified limits</u>
Product Standard: <u>FCC Part 15.247, RSS-210 Annex 8</u>	Ambient Temperature: <u>21, 21, 21 °C</u>
<u>USB power from 120VAC/60Hz AC Adapter</u>	Relative Humidity: <u>56, 53, 58 %</u>
Input Voltage: _____	Atmospheric Pressure: <u>1005, 1002, 1002 mbar</u>
Pretest Verification w/ Ambient Signals or BB Source: <u>Ambient Signals</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	08/02/2012
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		

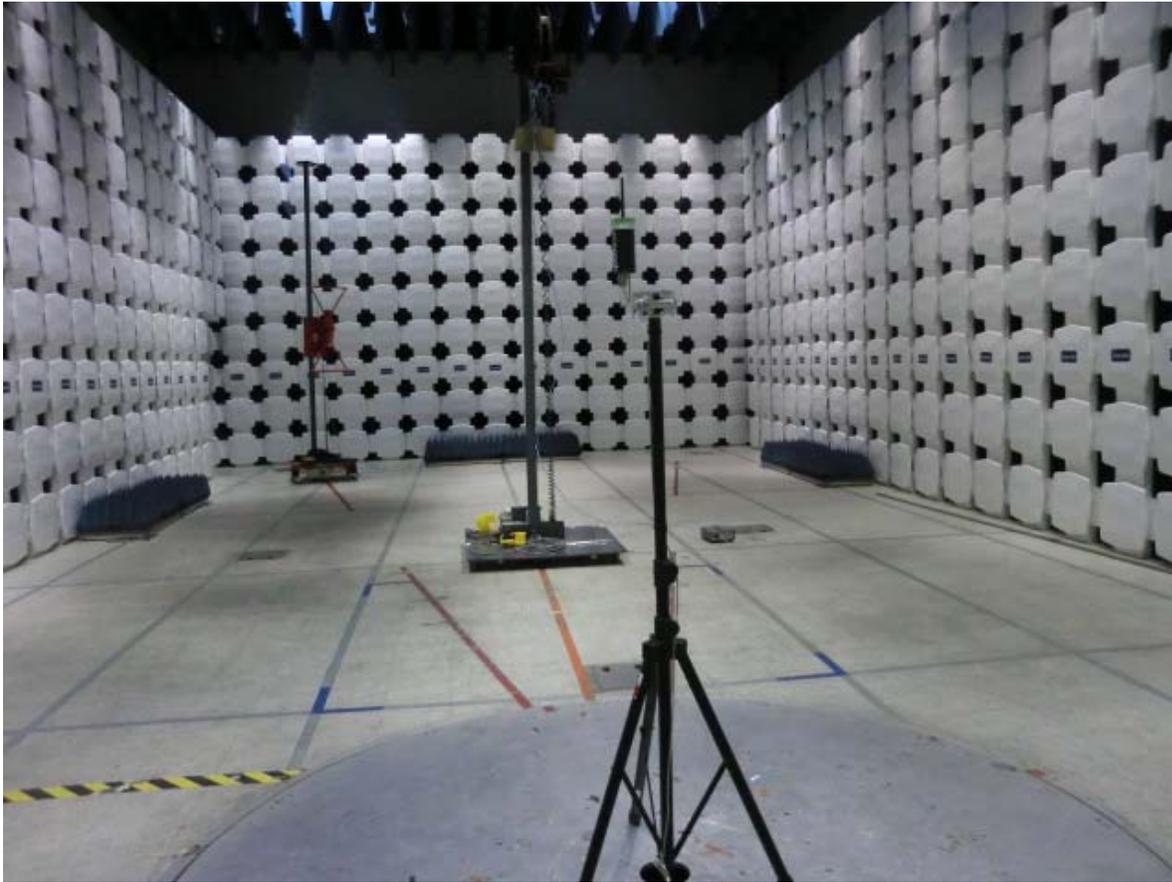
8.3 Results:

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)	1.540 MHz	3.560 MHz
Channel 18 (2440 MHz)	1.600 MHz	3.510 MHz
Channel 26 (2480 MHz)	1.580 MHz	3.430 MHz

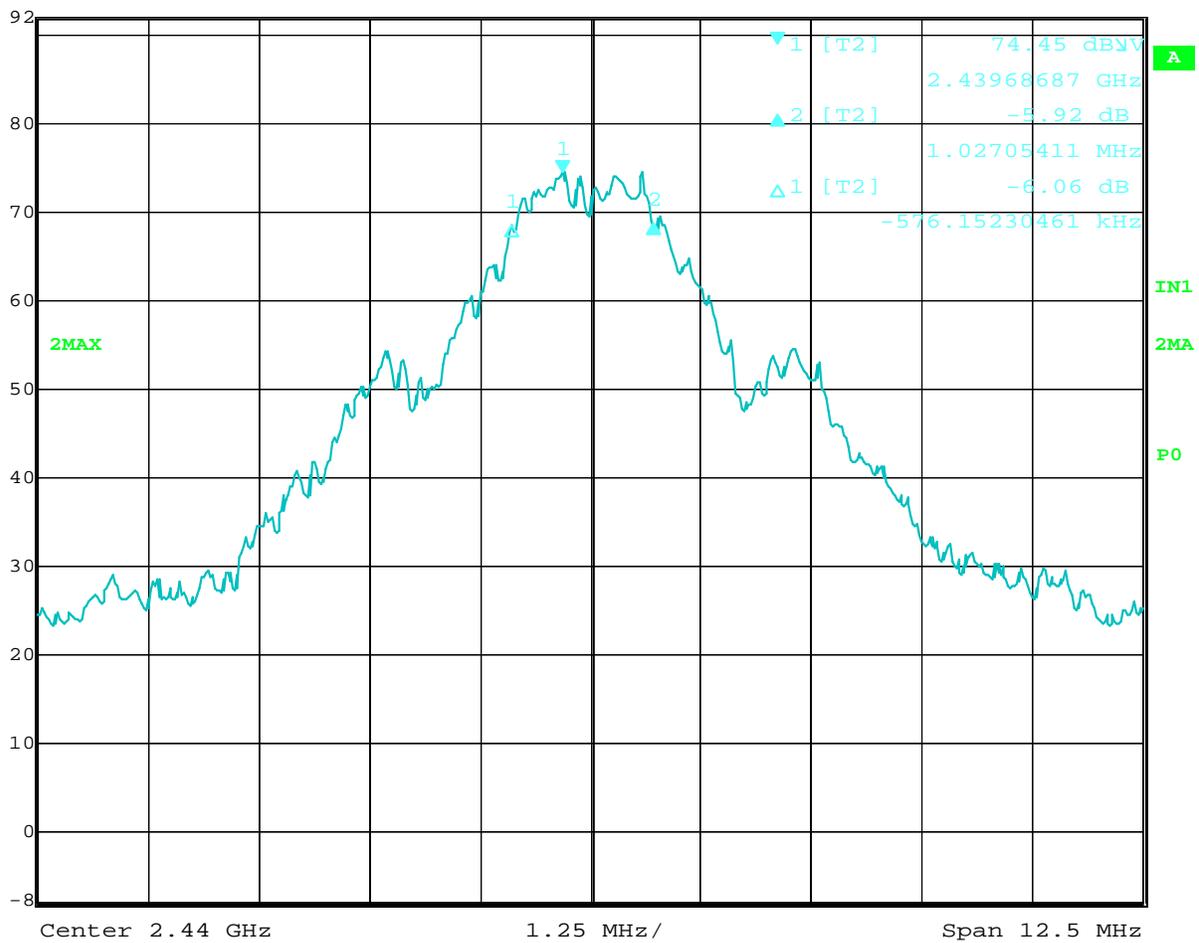
Plots were taken using an RBW of ~1-5% of the measured emission bandwidth, per KDB 558074v01 01/18/2012 and IC RSS-Gen Section 4.6.2.

8.4 Setup Photograph:



6 dB Bandwidth (Channel 18)

 Delta 2 [T2] RBW 50 kHz RF Att 0 dB
Ref Lvl -5.92 dB VBW 300 kHz
92 dBμV 1.02705411 MHz SWT 20 ms Unit dBμV

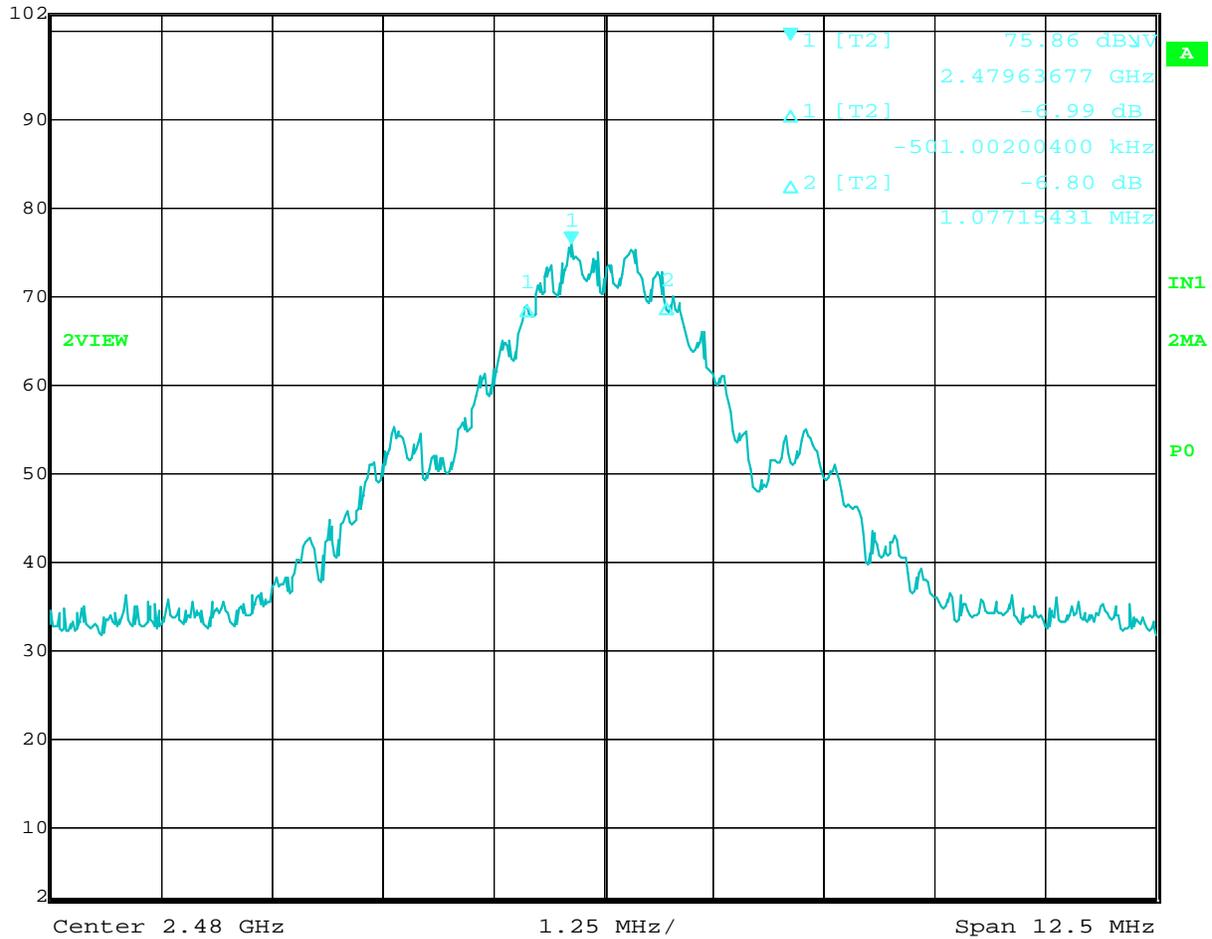


Date: 5.JUN.2012 19:09:31

6 dB Bandwidth (Channel 26)

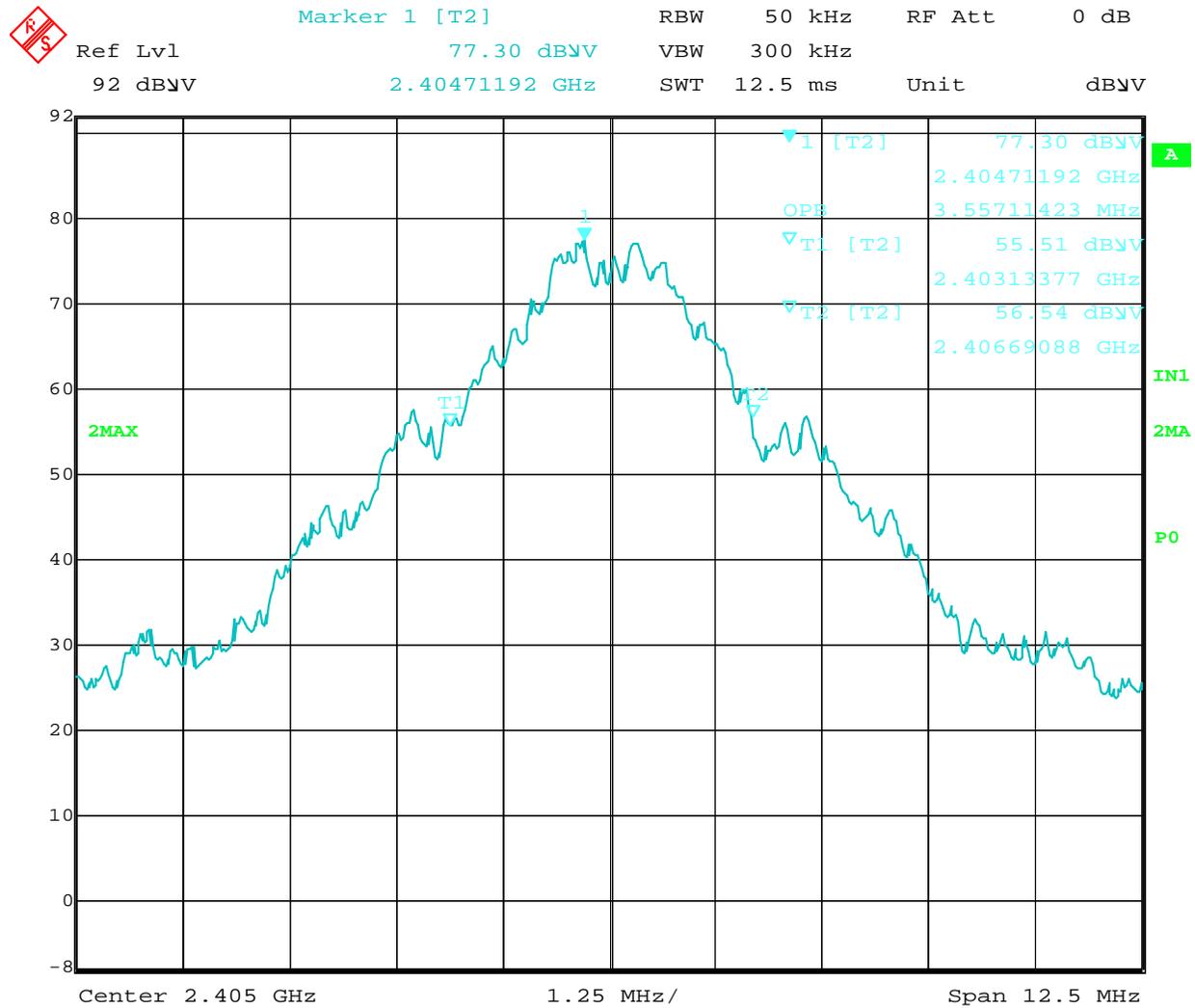


Marker 1 [T2] RBW 50 kHz RF Att 10 dB
75.86 dBμV
Ref Lvl 102 dBμV 2.47963677 GHz VBW 300 kHz
SWT 12.5 ms Unit dBμV



Date: 5.JUN.2012 17:48:16

99% Power Bandwidth (Channel 11)

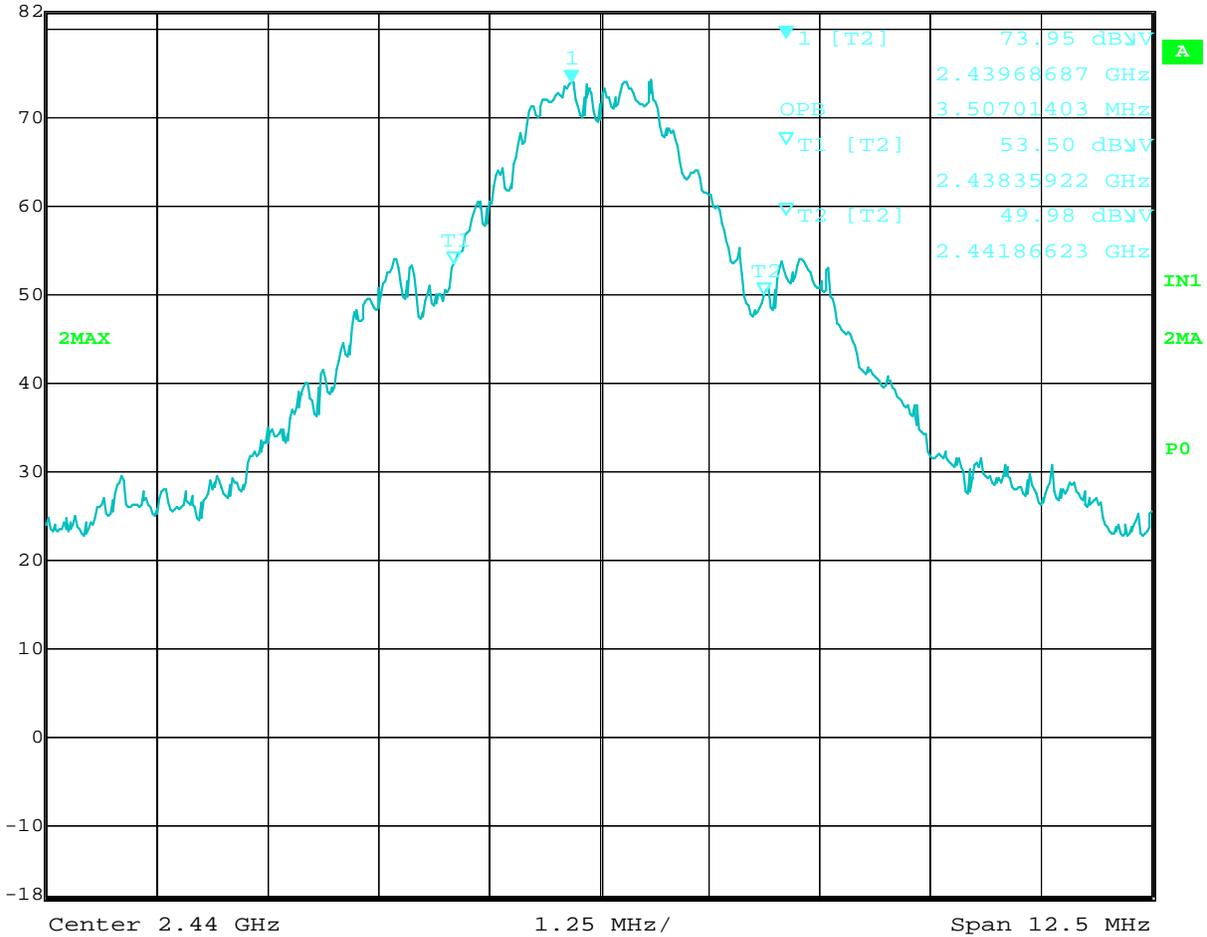


Date: 5.JUN.2012 19:52:09

99% Power Bandwidth (Channel 18)



Ref Lvl	Marker 1 [T2]	RBW	50 kHz	RF Att	0 dB
82 dBμV	73.95 dBμV	VBW	300 kHz		
	2.43968687 GHz	SWT	20 ms	Unit	dBμV

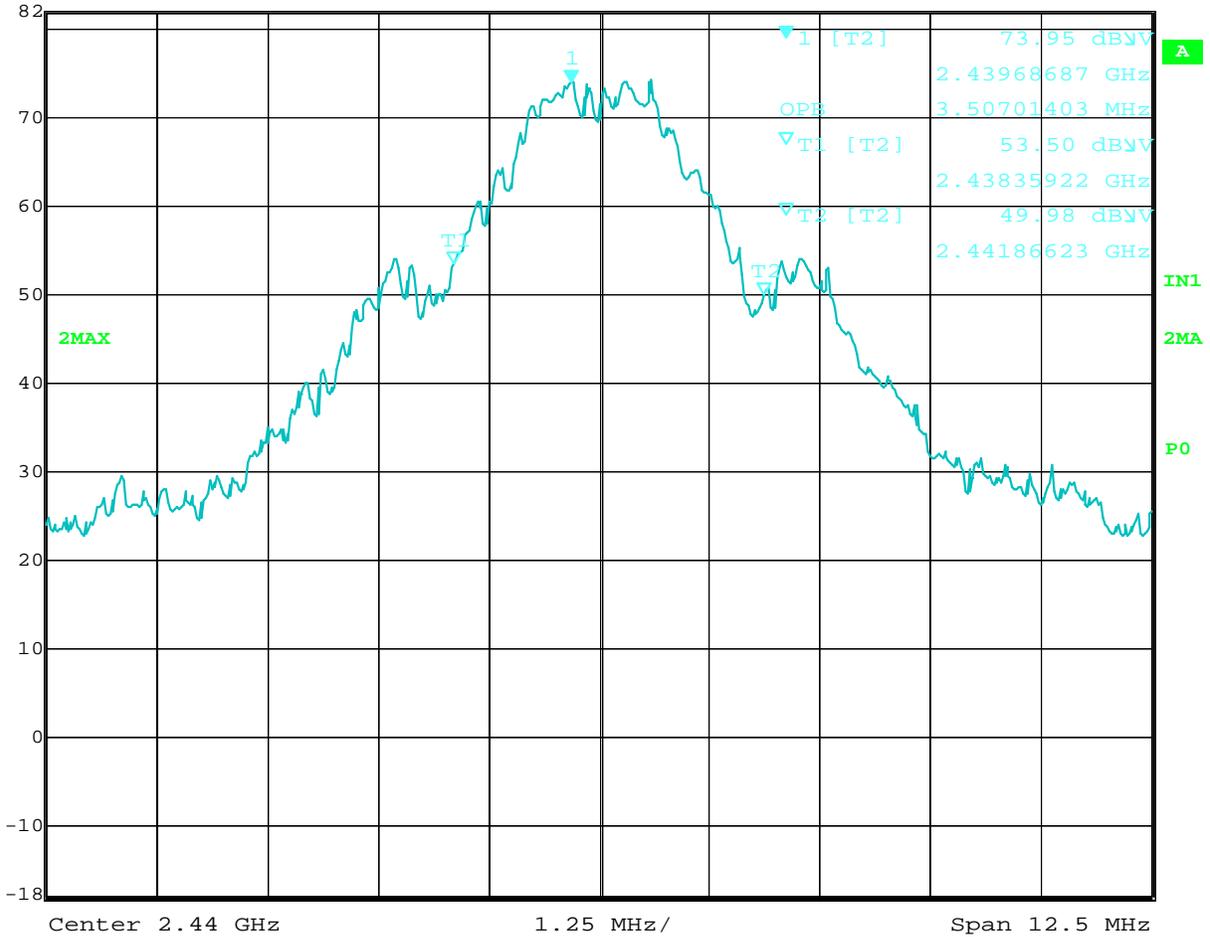


Date: 5.JUN.2012 19:16:42

99% Power Bandwidth (Channel 26)



Ref Lvl	73.95 dBμV	RBW	50 kHz	RF Att	0 dB
82 dBμV	2.43968687 GHz	VBW	300 kHz		
		SWT	20 ms	Unit	dBμV



Date: 5.JUN.2012 19:16:42

Test Personnel: <u>Vathana F. Ven <i>VSV</i></u>	Test Date: <u>06/05/2012</u>
Supervising Engineer: <u>N/A</u>	Test Levels: <u>>500kHz</u>
(Where Applicable) <u>N/A</u>	Ambient Temperature: <u>21 °C</u>
Product Standard: <u>FCC Part 15.247, RSS-210 Annex 8</u>	Relative Humidity: <u>56 %</u>
Input Voltage: <u>Adapter</u>	Atmospheric Pressure: <u>1005 mbar</u>
Pretest Verification w/ Ambient Signals or BB Source: <u>Ambient Signals</u>	

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	08/02/2012
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
MEG005'	High Frequency Cable	Megaphase	TM40-K1K1-197	8148601-001	02/07/2012	02/07/2013
WEI18'	20 dB, Attenuator DC-18GHz	Weinschel Corp	47-20-34	BP0570	07/16/2012	07/16/2013
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

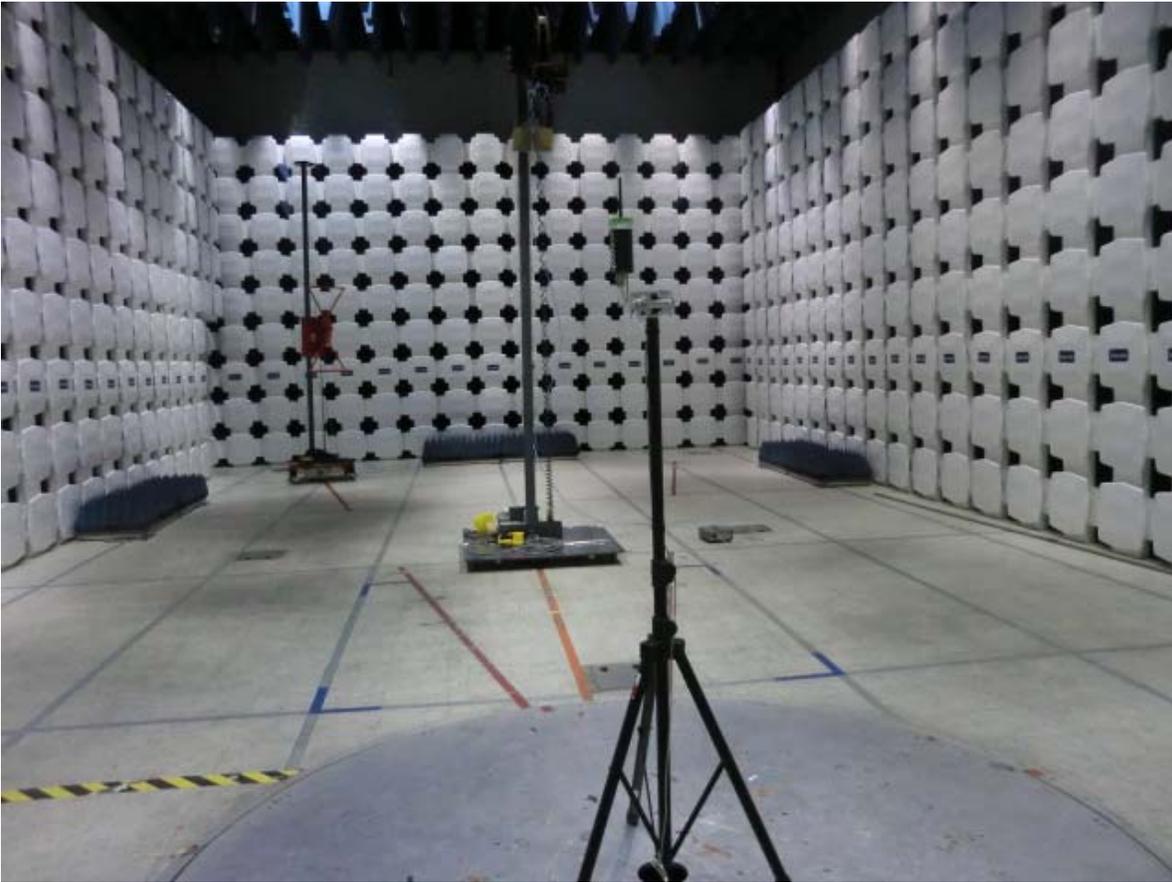
Software Utilized:

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

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 Photograph:



9.5 Test Data:

Radiated Emissions

Company: Adidas International Antenna & Cables: SHF Bands: N, LF, HF, SHF
 Model #: PCONE Antenna: HORN2 V3m 10-24-2012.txt HORN2 H3m 10-24-2012.txt
 Serial #: BOX1205300925-001 (Intertek Assigned) Cable(s): 145-416 3mTrkB 09-04-2012.txt NONE.
 Engineers: Vathana Ven Location: 10m Chamber Barometer: DAV003 Filter: NONE
 Project #: G100719224 Date(s): 06/05/12
 Standard: FCC Part 15 Subpart C 15.247 Temp/Humidity/Pressure: 21c 53% 1003mB
 Receiver: R&S ESI (145128) 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: 3.7VDC 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
Peak Power Spectral Density, normalized from 100kHz to 3 kHz using Bandwidth Correction Factor 10LOG(3/100 kHz)=-15.2 dB											
Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP											
PK	V	2405.000	78.50	28.55	5.93	0.00	0.00	2.56	8.00	-5.44	100/300 kHz
PK	V	2440.000	78.40	28.60	5.98	0.00	0.00	2.56	8.00	-5.44	100/300 kHz
PK	V	2480.000	77.81	28.67	6.03	0.00	0.00	2.09	8.00	-5.91	100/300 kHz

Antenna Port Conducted Power Spectral Density

Company: Adidas International Antenna & Cables: N Bands: N, LF, HF, SHF
 Model #: PCONE Antenna: None NONE.
 Serial #: P-CONE 1 (BOX1205300925-001) Cable(s): MEG005 NONE.
 Engineers: Kouma Sinn Location: EMC Lab Barometer: DAV004 Filter: NONE
 Project #: G100719224 Date(s): 0716/12 Attenuator: WEI18
 Standard: FCC Part 15.247, RSS-210 Temp/Humidity/Pressure: 21C 58% 1002mbar
 Receiver: ROS001 02-10-13 Limit Distance (m): N/A
 PreAmp: NONE Test Distance (m): N/A
 PreAmp Used? (Y or N): N Voltage/Frequency: 120VAC/60Hz Frequency Range: Fundamental Frequencies
 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 dBm	Antenna Factor dB(1/m)	Cable Loss dB	Pre-amp Factor dB	Correction Factor dB	Net dBm	Limit dBm	Margin dB	Bandwidth
Power level set to P255, CH11, CH18, CH26 normalized from 100kHz to 3 kHz using Bandwidth Correction Factor 10LOG(3/100 kHz)=-15.2 dB											
PK	V	2405.000	15.76	0.00	0.00	0.00	15.20	0.56	8.00	-7.44	100/300kHz
PK	V	2440.000	15.62	0.00	0.00	0.00	15.20	0.42	8.00	-7.58	100/300kHz
PK	V	2480.000	15.16	0.00	0.00	0.00	15.20	-0.04	8.00	-8.04	100/300kHz

Notes: All factors are entered in the spectrum analyzer

Test Personnel: <u>Vathana F. Ven <i>VFV</i></u>	Test Date: <u>06/05/2012</u>
<u>Kouma Sinn <i>KPS</i></u>	<u>07/16/2012</u>
Supervising Engineer: <u>N/A</u>	PSD must be below
(Where Applicable)	Test Levels: <u>8 dBm</u>
Product Standard: <u>FCC Part 15.247, RSS-210 Annex 8</u>	Ambient Temperature: <u>21, 21 °C</u>
<u>USB power from 120VAC/60Hz AC Adapter</u>	Relative Humidity: <u>53, 58 %</u>
Input Voltage: <u>Adapter</u>	Atmospheric Pressure: <u>1003, 1002 mbar</u>
Pretest Verification w/ Ambient Signals or BB Source: <u>Ambient Signals</u>	

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
DAV003'	Weather Station	Davis Instruments	7400	PE80529A39A	08/17/2011	08/02/2012
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
WEI18'	20 dB, Attenuator DC-18GHz	Weinschel Corp	47-20-34	BP0570	07/16/2012	07/16/2013
ROS001'	Spectrum Analyzer 20Hz - 40 GHz	Rohde & Schwartz	FSEK-30	100225	02/10/2012	02/10/2013
MEG005'	High Frequency Cable	Megaphase	TM40-K1K1-197	8148601-001	02/07/2012	02/07/2013

Software Utilized:

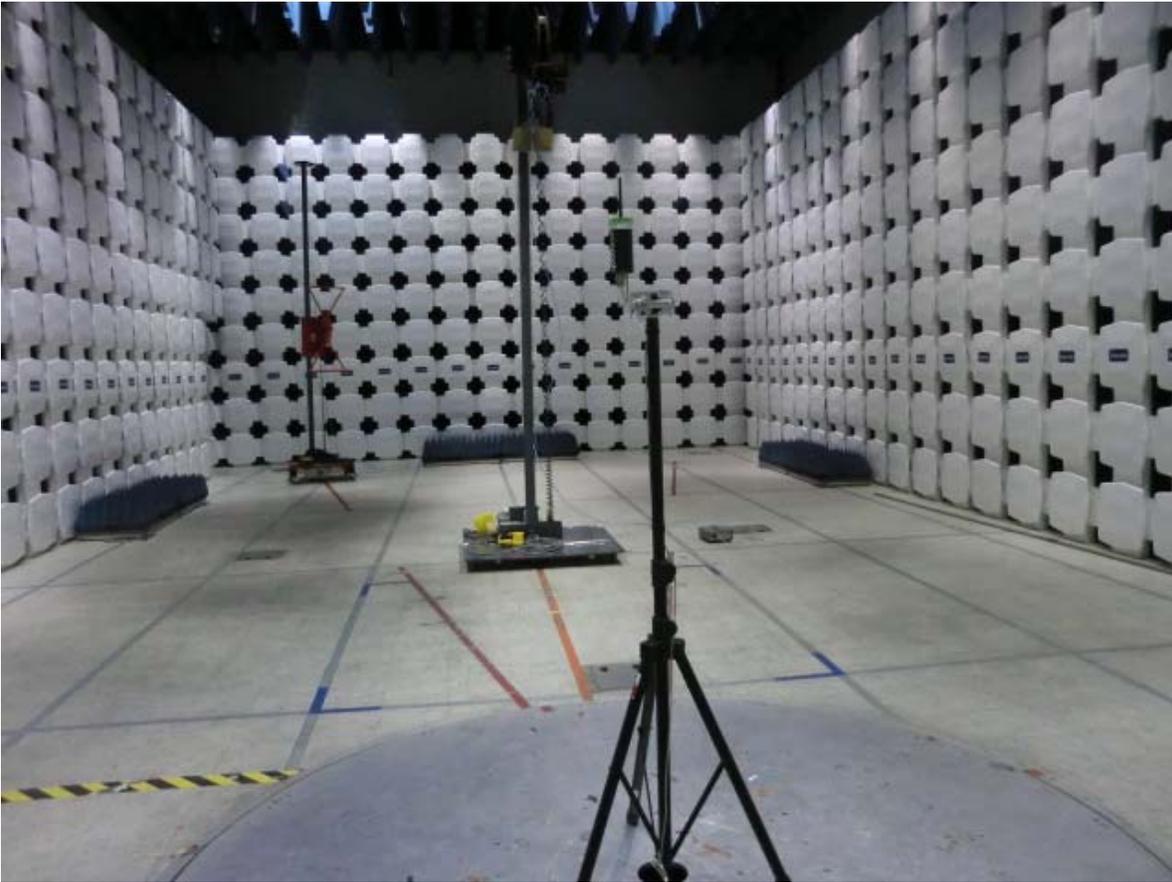
Name	Manufacturer	Version
None		

10.3 Results:

The sample tested was found to comply.

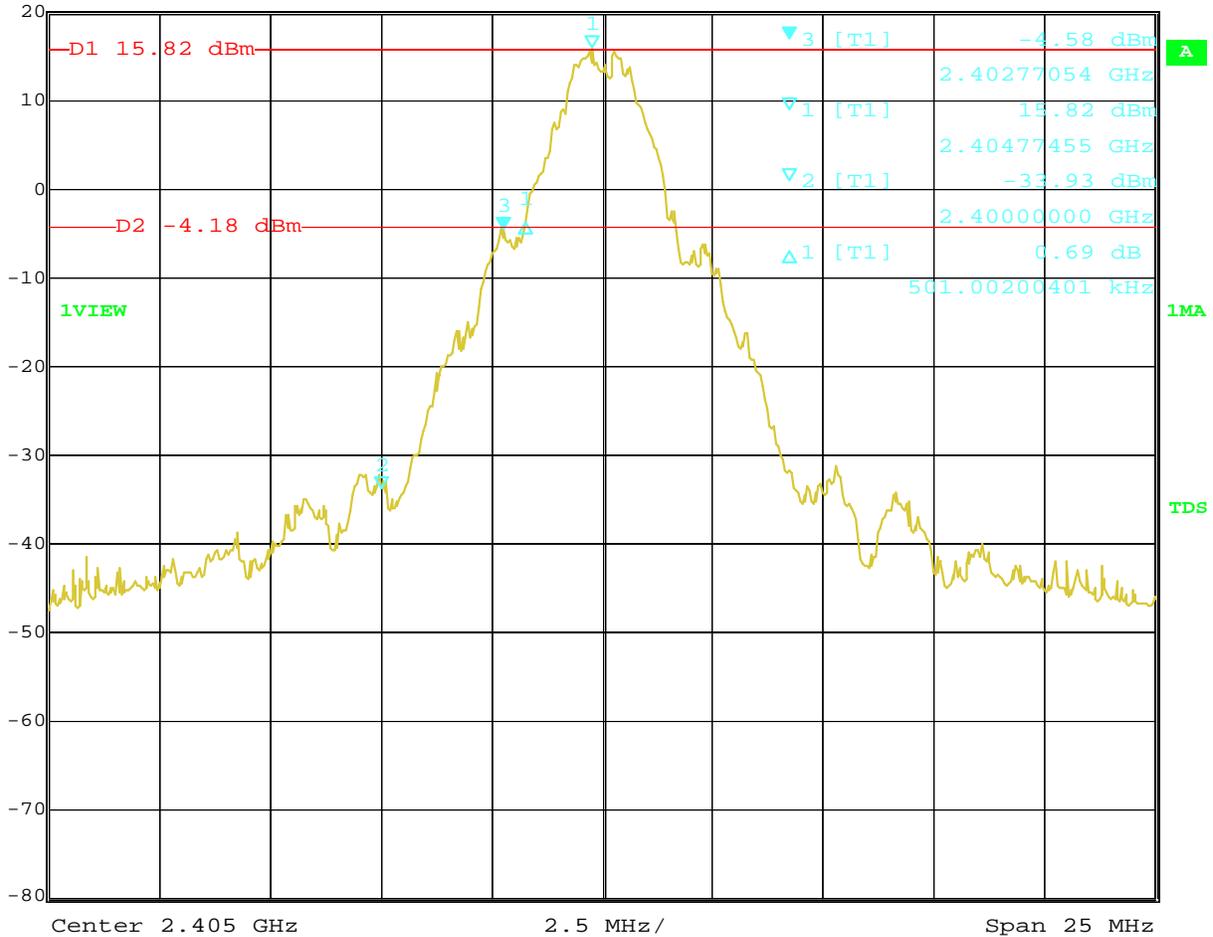
Spurious emissions at the band edges must be at least 20 dB lower than the fundamental field strength when measured with a 100 kHz bandwidth, without the need to be below the general limits of FCC Part 15 Section 15.209 and of RSS-Gen 7.2.5 Table 5. Emissions in restricted bands must meet the general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

10.4 Setup Photograph:



Lower Band Edge


 Max/Ref Lvl Marker 3 [T1] RBW 100 kHz RF Att 10 dB
 20 dBm -4.58 dBm VBW 300 kHz
 0 dBm 2.40277054 GHz SWT 6.5 ms Unit dBm



Date: 16.JUL.2012 23:11:51

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

Test Date: 06/06/2012
 07/16/2012

Supervising Engineer: N/A
 (Where Applicable)
 Product Standard: FCC Part 15.247, RSS-210 Annex 8
 USB power from 120VAC/60Hz AC
 Input Voltage: Adapter

Test Levels: Emissions below the limits specified in Section 10.3
 Ambient Temperature: 21, 21 °C
 Relative Humidity: 53, 58 %
 Atmospheric Pressure: 1002, 1002 mbar

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

11 Digital Device Radiated Spurious Emissions

11.1 Method

Tests are performed in accordance with CFR47 FCC Part 15 Subpart B, IC ICES-003, EN 55022, AS/NZS CISPR 22, 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:

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

$$NF = \text{Net Reading in dB}\mu\text{V}$$

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
~145106	Bilog Antenna (30MHz - 5GHz)	Sunol Sciences	JB5	A111003	08/15/2011	08/15/2012
~145003	Preamplifier (150 KHz to 1.3 GHz)	Hewlett Packard	8447D	2443A04077	10/04/2011	10/04/2012
~145 128	EMI Test Receiver (20Hz - 40GHz)	Rohde & Schwarz	ESI	837771/027	08/23/2011	08/23/2012
~145-410	Cables 145-400 145-406 145-407 145-405 145-403	Huber + Suhner	10m Track A Cables	multiple	09/04/2011	09/04/2012
~DAV002	Weather Station	Davis Instruments	7400	PE80519A93	08/17/2011	08/17/2012

Software Utilized:

Name	Manufacturer	Version
C5	Teseq	Build 5.26.00.3

11.3 Results:

The sample tested was found to comply.

11.4 Setup Photograph:

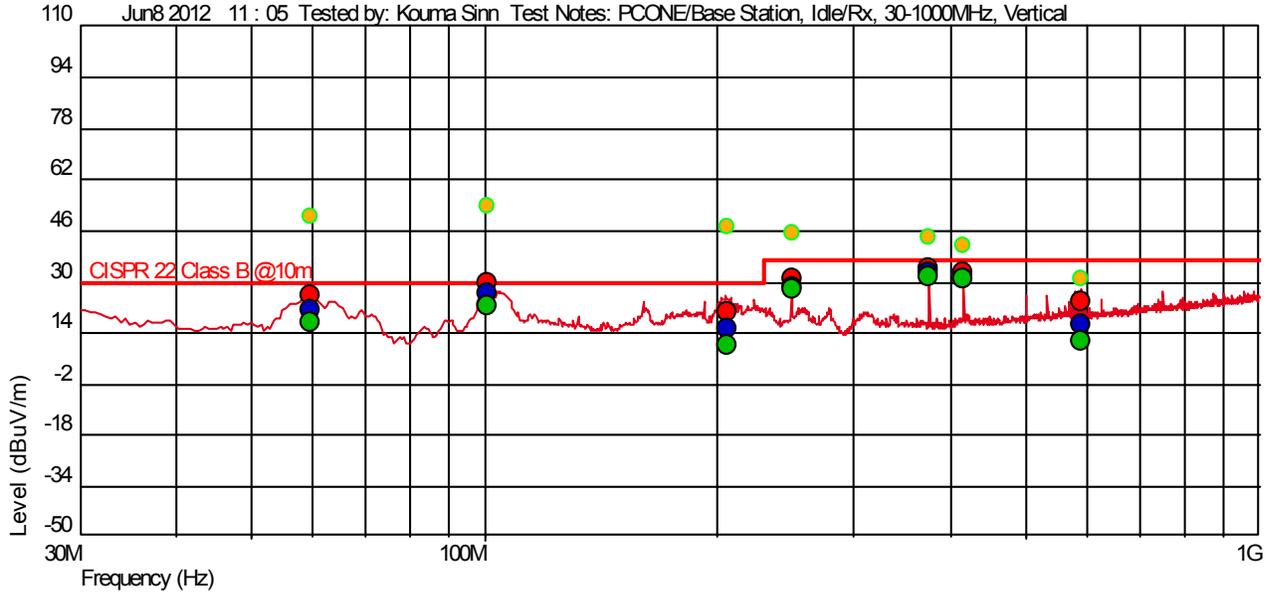


11.5 Test Data:

30-1000MHz, Vertical Polarity

Test Information

Test Details	User Input
Test Notes:	PCONE/Base Station, Idle/Rx, 30-1000MHz, Vertical
Temperature:	22 C
Humidity:	50%, 1002mbar
Tested by:	Kouma Sinn
Test Started:	Jun8 2012 11:05



- Measured Peak Value
 - Measured Quasi Peak Value
 - Measured Average Value
 - Maximum Value of Mast and Turntable
- Level (dBuV/m) = AF + CL + PA + Raw
 AF = Antenna Factor
 CL = Cable Losses
 PA = Pre-Amplifier
 Raw = Raw Instrument Reading (Not listed on Spot Tables)

Measured: QP

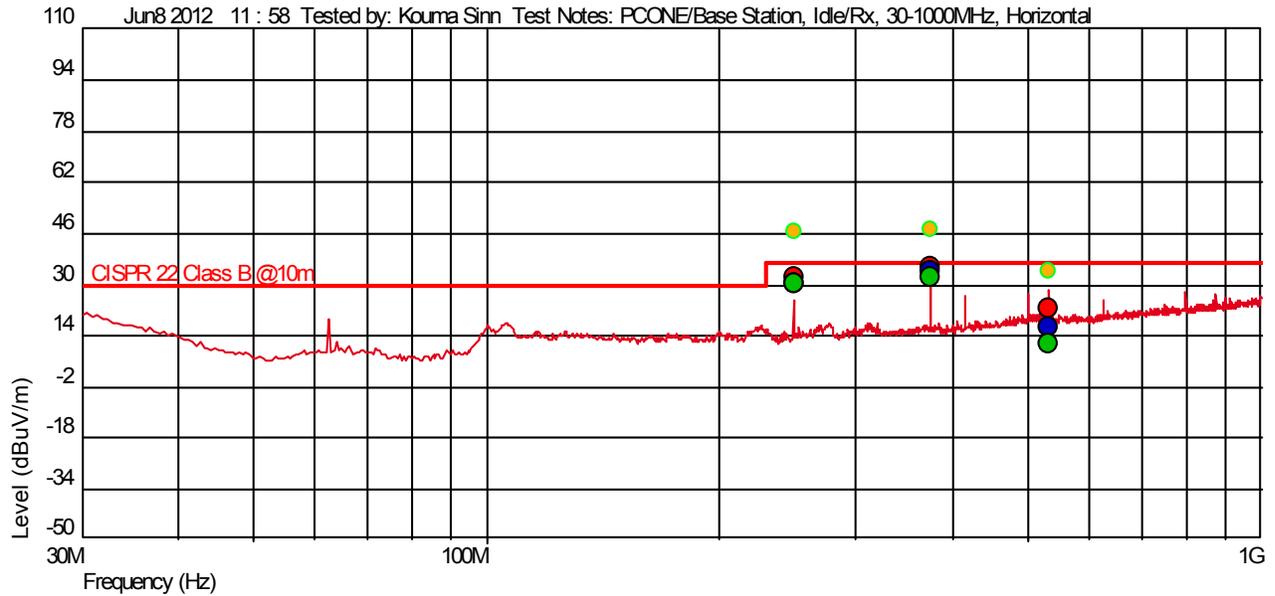
Frequency(Hz)	Level*(dBuV/m)	AF	PA+CL	Limit(dBuV/m)	Margin(dBuV/m)	Hor (--), Ver ()	Angle(Deg)	Mast Height(m)	Comment	Detector	RBW(Hz)
59.762614028 M	21.33	7.476	-25.802	30.00	-8.67		352	1.44		QP	120 k
100.660276136 M	26.62	10.398	-25.339	30.00	-3.38		284	3.57		QP	120 k
205.180227234 M	15.27	11.675	-24.305	30.00	-14.73		344	2.98		QP	120 k
248.990447533 M	28.68	11.980	-24.192	37.00	-8.32		309	1.30		QP	120 k
374.983522583 M	33.12	15.200	-23.932	37.00	-3.88		154	1.29		QP	120 k
414.996659956 M	31.25	16.200	-23.920	37.00	-5.75		106	1.19		QP	120 k
588.894900788 M	16.87	18.978	-24.039	37.00	-20.13		286	2.95		QP	120 k

Notes: Used CISPR 22 limits for all standards, CFR47 FCC Part 15 Subpart B, IC ICES-003, EN 55022, and AS/NZS CISPR 22.

30-1000MHz, Horizontal Polarity

Test Information

Test Details	User Input
Test Notes:	PCONE/Base Station, Idle/Rx, 30-1000MHz, Horizontal
Tested by:	Kouma Sinn
Test Started:	Jun8 2012 11:58



- Measured Peak Value
 - Measured Quasi Peak Value
 - Measured Average Value
 - Maximum Value of Mast and Turntable
- Level (dBuV/m) = AF + CL + PA + Raw
 AF = Antenna Factor
 CL = Cable Losses
 PA = Pre-Amplifier
 Raw = Raw Instrument Reading (Not listed on Spot Tables)

Measured: QP

Frequency(Hz)	Level*(dBuV/m)	AF	PA+CL	Limit(dBuV/m)	Margin(dBuV/m)	Hor (--), Ver ()	Angle(Deg)	Mast Height(m)	Comment	Detector	RBW(Hz)
249.011111106	30.55	11.60	-	37.00	-6.45	--	66	3.99		QP	120 k
M		0	24.192								
374.995413026	34.07	15.10	-	37.00	-2.93	--	181	3.41		QP	120 k
M		0	23.932								
531.360921725	16.41	18.15	-	37.00	-20.59	--	245	3.55		QP	120 k
M		4	24.019								

Notes: Used CISPR 22 limits for all standards, CFR47 FCC Part 15 Subpart B, IC ICES-003, EN 55022, and AS/NZS CISPR 22.

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

Test Date: 06/08/2012

Product Standard: FCC Part 15.247 & RSS-210
Annex 8
Input Voltage: RS232 power from
230VAC/50Hz AC Base Station

Test Levels: Per standard

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

Ambient Temperature: 22 °C

Relative Humidity: 50 %

Atmospheric Pressure: 1002 mbars

Deviations, Additions, or Exclusions: None

12 AC Mains Conducted Emissions

12.1 Method

Tests are performed in accordance with CFR47 FCC Part 15 Subpart B, IC ICES-003, EN 55022, AS/NZS CISPR 22, ANSI C 63.4:2003, and RSS-Gen.

TEST SITE: EMC Lab & Bump Out in AMAP Building

The EMC Lab has two Semi-anechoic Chambers and one Shielded Chamber. AC Mains Power is available at 120, 230, and 277 Single Phase; 208, 400, and 480 3-Phase. Large reference ground-planes are installed in the general lab area to facilitate EMC work not requiring a shielded environment.

The AMAP Building and Lab includes general lab space that can be used for testing where a shielded/enclosed environment is not required.

Measurement Uncertainty

For conducted emissions, U_{lab} (3.2 dB in worst case) < U_{CISPR} (3.6 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 Calculations

The following is how net line-conducted readings were determined:

$$NF = RF + LF + CF + AF$$

Where NF = Net Reading in dB μ V

RF = Reading from receiver in dB μ V

LF = LISN Correction Factor in dB

CF = Cable Correction Factor in dB

AF = Attenuator Loss Factor in dB

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:

$$NF = RF + LF + CF + AF = 28.5 + 0.2 + 0.4 + 20.0 = 49.1 \text{ dB}\mu\text{V}$$

$$UF = 10^{(49.1 \text{ dB}\mu\text{V} / 20)} = 285.1 \mu\text{V/m}$$

12.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
~DS26A	Attenuator, 20dB	Mini Circuits	20dB, 50 ohm	DS26A	10/04/2011	10/04/2012
~ROS002	9kHz to 3GHz EMI Test Receiver	Rohde & Schwartz	ESCI 1166.5950K03	100067	06/13/2012	06/13/2013
~LISN10	LISN, 50uH, .01 - 50MHz, 24A	Solar Electronics	9252-50-R-24-BNC	941712	01/27/2012	01/27/2013
~CBLBNC15	Coaxial Cable	Pomona	RG58	CBLBNC51	09/08/2011	09/08/2012
~145-141A	Power Supply NSG 1007-5-208	California Instr. Co	5kVa	56119	03/22/2012	03/22/2014
~145-141B	Power Supply NSG 1007-5-208	California Instr. Co	5kVa	56120	03/22/2012	03/22/2014
~145-141C	Power Supply NSG 1007-5-208	California Instr. Co	5kVa	56121	03/22/2012	03/22/2014
~DAV004	Weather Station	Davis Instruments	7400	PE80529A61A	08/17/2011	08/17/2012
~ROS002	9kHz to 3GHz EMI Test Receiver	Rohde & Schwartz	ESCI 1166.5950K03	100067	06/13/2012	06/13/2013
~LISN11	LISN, 50uH, .01 - 50MHz, 24A	Solar Electronics	9252-50-R-24-BNC	941713	03/12/2012	03/12/2013
~DS26A	Attenuator, 20dB	Mini Circuits	20dB, 50 ohm	DS26A	10/04/2011	10/04/2012
~CBLBNC60	Coaxial Cable	Pomona	RG58	CBLBNC60	09/08/2011	09/08/2012

Software Utilized:

Name	Manufacturer	Version
EMI Boxborough.xls	Intertek	08/27/2010

12.3 Results:

12.3

The sample tested was found to comply.

12.3

The radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the table below

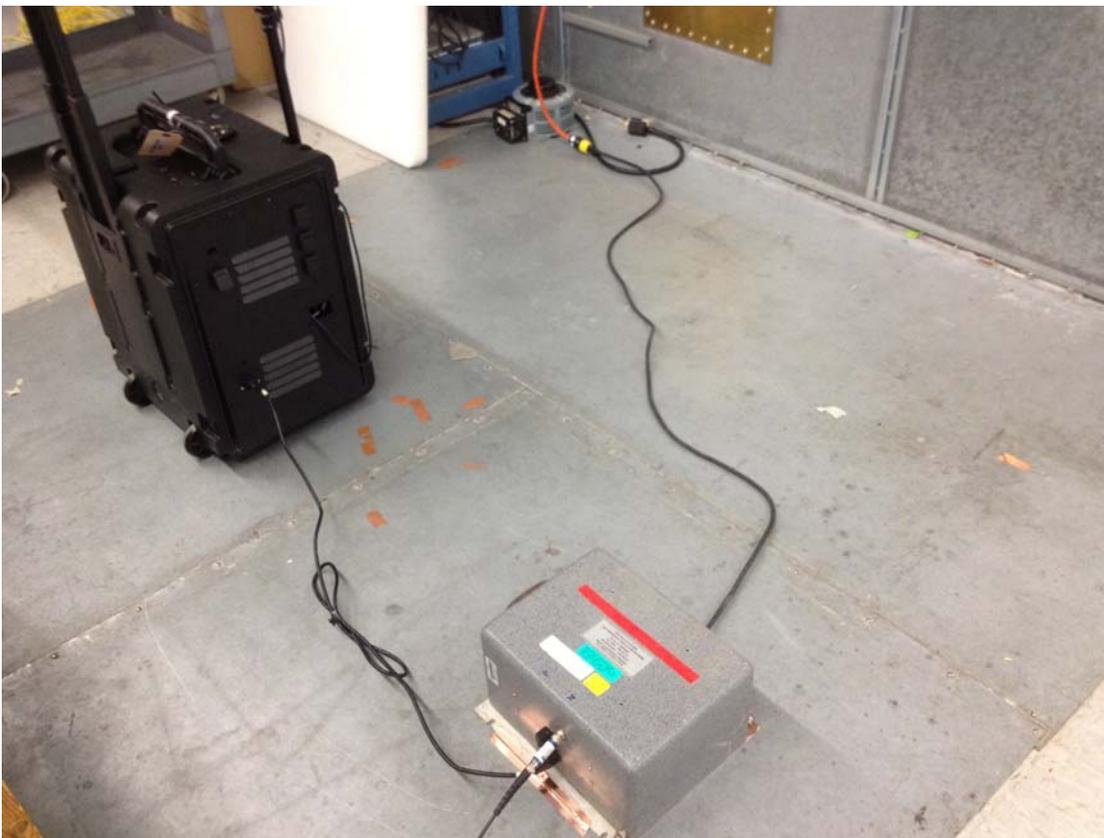
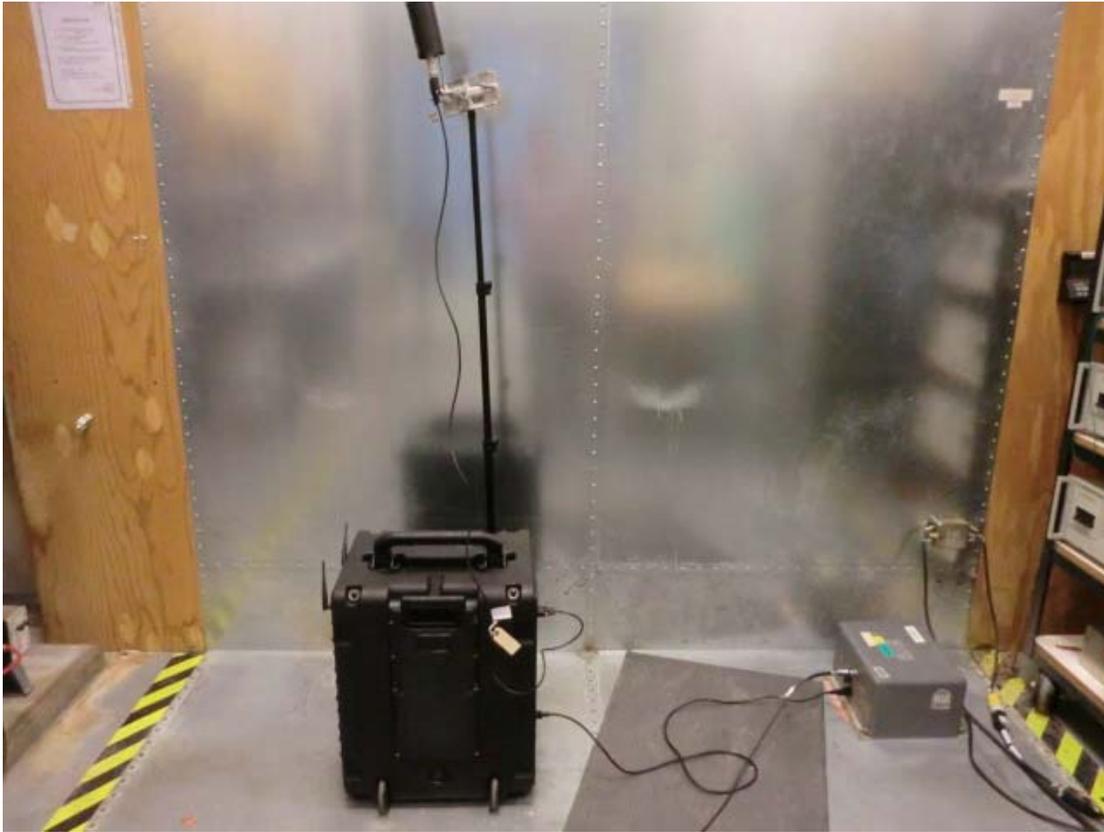
12.3

FCC Part 15.207 (a) & RSS-Gen Section 7.2.2 (Table 2)

Frequency of emission (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

*Decreases with the logarithm of the frequency.

12.4 Setup Photographs:



12.5 Test Data:

120VAC/60Hz Conducted Emissions (Receive Mode)

Company: Adidas International	Receiver: R&S ESCI (ROS002) 06-13-2013
Model #: Charging system w/GPS	Cable: CBLBNC51_9-08-2012.txt
Serial #: BOX1206081156-001	LISN 1: LISN10_line 1_01-27-2013.txt
Engineer(s): Vathana Ven	Location: 10m Chamber
Project #: G100719224	Date: 06/21/12
Notes: Charging system w/GPS mode	LISN 2: LISN10_line 2_01-27-2013.txt
Standard: FCC Part 15/Cispr22 Class B	LISN 3: NONE.
Barometer: DAV003	Temp/Humidity/Pressure: 23 deg C 58% 997 mB
Attenuator: DS26A_10-04-2012.txt	LISN 4: NONE.
Voltage/Frequency: 120VAC/60Hz	Frequency Range: 0.150-30MHz

Net is the sum of worst-case lisen, cable, & attenuator losses, and initial reading, factors are not shown
 Peak: PK Quasi-Peak: QP Average: AVG RMS: RMS; NF = Noise Floor; Bandwidth denoted as RBW/VBW

Detector Type	Frequency MHz	Reading Line 1 dB(uV)	Reading Line 2 dB(uV)	Reading Line 3 dB(uV)	Reading Line 4 dB(uV)	Net dB(uV)	QP Limit dB(uV)	Margin dB	Bandwidth
QP	0.200	14.00	13.60			34.88	63.61	-28.73	9/30 kHz
QP	0.333	9.50	9.40			30.34	59.38	-29.04	9/30 kHz
QP	10.793	12.40	11.30			33.55	60.00	-26.45	9/30 kHz
QP	11.260	12.80	10.30			33.95	60.00	-26.05	9/30 kHz
QP	11.591	12.40	8.70			33.56	60.00	-26.44	9/30 kHz
QP	21.588	15.50	11.50			36.95	60.00	-23.05	9/30 kHz

Detector Type	Frequency MHz	Reading Line 1 dB(uV)	Reading Line 2 dB(uV)	Reading Line 3 dB(uV)	Reading Line 4 dB(uV)	Net dB(uV)	Average Limit dB(uV)	Margin dB	Bandwidth
AVG	0.200	10.70	10.20			31.58	53.61	-22.03	9/30 kHz
AVG	0.333	4.30	4.10			25.14	49.38	-24.24	9/30 kHz
AVG	10.793	11.50	10.40			32.65	50.00	-17.35	9/30 kHz
AVG	11.260	9.80	7.60			30.95	50.00	-19.05	9/30 kHz
AVG	11.591	9.60	5.90			30.76	50.00	-19.24	9/30 kHz
AVG	21.588	13.90	9.90			35.35	50.00	-14.65	9/30 kHz

Notes: The PCONE was in receiving mode while the Base Station is in charging mode.

230VAC/50Hz Conducted Emissions (Receive Mode)

Company: Adidas International	Receiver: R&S ESCI (ROS002) 06-13-2013
Model #: Charging system w/GPS	Cable: CBLBNC51_9-08-2012.txt
Serial #: BOX1206081156-001	LISN 1: LISN10_line_1_01-27-2013.txt
Engineer(s): Vathana Ven	LISN 2: LISN10_line_2_01-27-2013.txt
Project #: G100719224	LISN 3: NONE.
Date: 06/21/12	LISN 4: NONE.
Notes: Charging system w/GPS mode	
Standard: FCC Part 15/Cispr22 Class B	
Barometer: DAV003	Temp/Humidity/Pressure: 23 deg C 58% 997 mB
Attenuator: DS26A_10-04-2012.txt	Attenuator: DS26A_10-04-2012.txt
Voltage/Frequency: 230VAC/50Hz	Frequency Range: 0.150-30MHz

Net is the sum of worst-case lisn, cable, & attenuator losses, and initial reading, factors are not shown
 Peak: PK Quasi-Peak: QP Average: AVG RMS: RMS: NF = Noise Floor; Bandwidth denoted as RBW/VBW

Detector Type	Frequency MHz	Reading Line 1 dB(uV)	Reading Line 2 dB(uV)	Reading Line 3 dB(uV)	Reading Line 4 dB(uV)	Net dB(uV)	QP Limit dB(uV)	Margin dB	Bandwidth
QP	0.200	13.10	13.30			34.17	63.61	-29.44	9/30 kHz
QP	0.333	14.00	16.80			37.65	59.38	-21.73	9/30 kHz
QP	10.793	14.20	14.20			35.36	60.00	-24.64	9/30 kHz
QP	11.260	13.00	12.80			34.15	60.00	-25.85	9/30 kHz
QP	11.591	10.40	10.80			31.97	60.00	-28.03	9/30 kHz
QP	21.588	17.60	18.40			39.87	60.00	-20.13	9/30 kHz

Detector Type	Frequency MHz	Reading Line 1 dB(uV)	Reading Line 2 dB(uV)	Reading Line 3 dB(uV)	Reading Line 4 dB(uV)	Net dB(uV)	Average Limit dB(uV)	Margin dB	Bandwidth
AVG	0.200	10.10	10.00			30.98	53.61	-22.63	9/30 kHz
AVG	0.333	10.50	13.60			34.45	49.38	-14.93	9/30 kHz
AVG	10.793	14.20	12.70			35.35	50.00	-14.65	9/30 kHz
AVG	11.260	11.50	11.50			32.67	50.00	-17.33	9/30 kHz
AVG	11.591	7.20	7.60			28.77	50.00	-21.23	9/30 kHz
AVG	21.588	15.80	16.50			37.97	50.00	-12.03	9/30 kHz

Notes: The PCONE was in receiving mode while the Base Station is in charging mode.

120VAC/60Hz Conducted Emissions (Transmit Mode)

Company: Adidas	Receiver: ROS002 6-13-13
Model #: PCONE	Cable: CBLBNC60_9-08-2012.txt
Serial #: See below	LISN 1: LISN11 [1] 03-12-13.txt
Engineer(s): Kouma Sinn	Location: EMC Lab
Project #: G100719224	Date: 07/02/12
Standard: FCC Part 15 and ICES-003 Class B	LISN 2: LISN11 [2] 03-12-13.txt
Barometer: DAV004	Temp/Humidity/Pressure: 21C 59% 1001mbar
	Attenuator: DS26A_10-04-2012.txt
Voltage/Frequency: 120VAC/60Hz	Frequency Range: 150kHz-30MHz

Net is the sum of worst-case lisn, cable, & attenuator losses, and initial reading, factors are not shown

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

Detector Type	Frequency MHz	Reading Line 1 dB(uV)	Reading Line 2 dB(uV)	Reading Line 3 dB(uV)	Reading Line 4 dB(uV)	Net dB(uV)	QP Limit dB(uV)	Margin dB	Bandwidth
QP	0.159	7.50	6.60			28.52	65.52	-37.00	9/30 kHz
QP	0.200	13.10	12.60			34.08	63.61	-29.53	9/30 kHz
QP	0.333	5.90	5.60			26.82	59.38	-32.56	9/30 kHz
QP	12.364	15.50	16.60			37.79	60.00	-22.21	9/30 kHz
QP	19.618	5.50	5.80			27.07	60.00	-32.93	9/30 kHz
QP	23.770	8.20	10.40			31.78	60.00	-28.22	9/30 kHz

Detector Type	Frequency MHz	Reading Line 1 dB(uV)	Reading Line 2 dB(uV)	Reading Line 3 dB(uV)	Reading Line 4 dB(uV)	Net dB(uV)	Average Limit dB(uV)	Margin dB	Bandwidth
AVG	0.159	2.00	3.40			24.49	55.52	-31.02	9/30 kHz
AVG	0.200	8.30	7.60			29.28	53.61	-24.33	9/30 kHz
AVG	0.333	1.70	1.40			22.62	49.38	-26.76	9/30 kHz
AVG	12.364	14.90	15.60			36.79	50.00	-13.21	9/30 kHz
AVG	19.618	0.90	1.30			22.57	50.00	-27.43	9/30 kHz
AVG	23.770	4.60	5.90			27.28	50.00	-22.72	9/30 kHz

RF Communication Link - Base Station Serial # BOX1206261026, POD Serial # 061251670, PCONE Serial # P-CONE 5

230VAC/50Hz Conducted Emissions (Transmit Mode)

Company: Adidas Receiver: ROS002 6-13-13
 Model #: PCONE Cable: CBLBNC60_9-08-2012.txt
 Serial #: See below LISN 1: LISN11 [1] 03-12-13.txt
 Engineer(s): Kouma Sinn Location: EMC Lab LISN 2: LISN11 [2] 03-12-13.txt
 Project #: G100719224 Date: 07/02/12 LISN 3: NONE
 Standard: EN 55022 Class B LISN 4: NONE
 Barometer: DAV004 Temp/Humidity/Pressure: 21C 59% 1001mbar Attenuator: DS26A_10-04-2012.txt
 Voltage/Frequency: 230VAC/50Hz Frequency Range: 150kHz-30MHz

Net is the sum of worst-case lisn, cable, & attenuator losses, and initial reading, factors are not shown

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

Detector Type	Frequency MHz	Reading Line 1 dB(uV)	Reading Line 2 dB(uV)	Reading Line 3 dB(uV)	Reading Line 4 dB(uV)	Net dB(uV)	QP Limit dB(uV)	Margin dB	Bandwidth
QP	0.159	19.80	20.20			41.29	65.52	-24.22	9/30 kHz
QP	0.200	16.70	17.10			38.16	63.61	-25.45	9/30 kHz
QP	0.338	13.70	13.50			34.62	59.25	-24.63	9/30 kHz
QP	12.500	14.40	8.20			35.59	60.00	-24.41	9/30 kHz
QP	19.618	8.60	8.80			30.07	60.00	-29.93	9/30 kHz
QP	23.782	11.70	10.20			33.11	60.00	-26.89	9/30 kHz

Detector Type	Frequency MHz	Reading Line 1 dB(uV)	Reading Line 2 dB(uV)	Reading Line 3 dB(uV)	Reading Line 4 dB(uV)	Net dB(uV)	Average Limit dB(uV)	Margin dB	Bandwidth
AVG	0.159	11.80	12.00			33.09	55.52	-22.42	9/30 kHz
AVG	0.200	12.00	12.40			33.46	53.61	-20.15	9/30 kHz
AVG	0.338	7.60	7.00			28.52	49.25	-20.73	9/30 kHz
AVG	12.500	13.10	3.50			34.29	50.00	-15.71	9/30 kHz
AVG	19.618	5.10	5.30			26.57	50.00	-23.43	9/30 kHz
AVG	23.782	7.30	6.00			28.71	50.00	-21.29	9/30 kHz

RF Communication Link - Base Station Serial # BOX1206261026, POD Serial # 061251670, PCONE Serial # P-CONE 5

Test Personnel: Vathana Ven *VSV* Test Dates: 06/21/2012
Kouma Sinn *KPS* 07/02/2012
 Supervising/Reviewing Engineer: _____
 (Where Applicable) N/A
 Product Standard: FCC 47CFR 15 Subpart B, RSS 310, ICES 003, EN 55022, AS/NZS CISPR 22 Test Levels: Per standard
RS232 power from 120/230VAC; 60/50Hz AC Base Station
 Input Voltage: _____
 Pretest Verification w/ Ambient Signals or BB Source: Ambient Signals Ambient Temperature: 23, 21 °C
 Relative Humidity: 58, 59 %
 Atmospheric Pressure: 997, 1001 mbars

Deviations, Additions, or Exclusions: None

13 Revision History

Revision Level	Date	Report Number	Notes
0	07/19/2012	100719224BOX-007a	Original Issue
1	10/25/2012	100719224BOX-007b	Updated product designation and model number to include final models, added RF exposure analysis, corrected antenna info