APPLICATION FOR CERTIFICATION

On Behalf of

Texas Instruments

TI-Nspire Navigator TM Wireless Cradle

Model No. : TI-Nspire Navigator TM Wireless Cradle

Brand: TEXAS INSTRUMENTS

FCC ID : V7R-TINAVWC

Prepared for

Texas Instruments

5800 Banner Drive Dallas, Texas, USA 75251

Prepared by

Audix Technology (Wujiang) Co., Ltd. EMC Dept.

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Report Number : ACWE-F0805003 Date of Test : May 11~13, 2008 Date of Report : May 16, 2008

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TEST REPORT CERTIFICATION

Applicant Texas Instruments Manufacturer Inventec Appliances (pudong)Corporation TI-Nspire Navigator TM Wireless Cradle **EUT Description** FCC ID V7R-TINAVWC TI-Nspire Navigator TM Wireless Cradle (A) Model No. (B) BRAND TEXAS INSTRUMENTS (C) POWER SUPPLY DC 3.7V Applicable Standards: FCC RULES AND REGULATIONS PART 15 SUBPART C, Sep. 2007 ANSI C63.4/2003 The device described above was tested by Audix Technology (Wujiang) Co., Ltd. EMC Dept.to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 subpart C section 15.207, 15.209&15.247 limits. The measurement results are contained in this test report and Audix Technology (Wujiang) Co., Ltd. EMC Dept.is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC limits. This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Audix Technology (Wujiang) Co., Ltd. EMC Dept. Date of Test May 11~13, 2008 Prepared by Reviewer Approved & Authorized Signer

1. SUMMARY OF MEASUREMENTS AND RESULTS

The EUT have been tested according to the applicable standards as referenced below.

Description of Test Item	Standard	Results
CONDUCTED EMISSION	Section 15.207	PASS
RADIATED EMISSION	Section 15.209& Section 15.205	PASS
6 dB BANDWIDTH	Section 15.247(a)(2)	PASS
MAXIMUM PEAK OUTPUT POWER	Section 15.247(b)(3)	PASS
BAND EDGES	Section 15.247(d)	PASS
POWER SPECTRAL DENSITY	Section 15.247(e)	PASS
EMISSION LIMITATIONS	Section 15.247(d)	PASS
MPE CALCULATION	Part 2: Section 2.1091	PASS

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Description : TI-Nspire Navigator TM Wireless Cradle

Model No. : TI-Nspire Navigator TM Wireless Cradle

FCC ID : V7R-TINAVWC

Brand : TEXAS INSTRUMENTS

Applicant : Texas Instruments

5800 Banner Drive Dallas, Texas, USA 75251

Manufacturer : Inventec Appliances (pudong)Corporation

No. 789 Pu Xing Road, Shanghai, PRC

Radio Technology : DSSS

Antenna Gain : 2.06dBi

Type of Network IEEE 802.11b/g

Frequency Range : 2412MHz ~ 2462MHz

Tested Frequency : 2412MHz (Channel 1)

2437MHz (Channel 6) 2462MHz (Channel 11)

Date of Receipt of Sample : May 06, 2008

Date of Test : May 11~13, 2008

2.2. EUT's Features and Accessories

2.2.1. Product Description and Features

The TI-NspireTM wireless sled are a moderately complex electronic product containing an IC, rechargeable battery, numerous miscellaneous discrete electronic components, and circuit board. This wireless sled contains features such as an 802.11b/g wireless, USB connectivity, and AC adapter for operation. The wireless sled is the UUT (Unit Under Test).

2.2.2. Test Samples and Accessories

Test Samples:

Quantity	Item
2	wireless sleds for compliance testing
6	wireless sleds to do 80/80 test protocol
2	spare wireless sleds to have on hand during EMC test

The TI-NspireTM wireless sled will be production level or equivalent units and the peripherals will be production units. Sample size is One (1) of each model is necessary for compliance testing. If 80/80 testing is necessary, 6 units will need to be tested.

Accessories:

SKU	Quantity / Description
XX/AD/AC9940/B	1ea AC-9940 UNIVERSAL ADAPTER
XX/AD/AC9926/A	2ea AC 9926 Adapter
NAV/AD/A	1ea AC-9930 TI NAVIGATOR POWER ADAPTER,
CBR2/BK/A	1ea CBR2
NS+/BKT/A	5ea TI-Nspire-CAS calculator
NSVSH/BK/A	1ea TI-Nspire View screen
NS+/BKT/A	1ea TI-Nspire-CAS calculator
	1ea Navigator Access Point/ "NAP" (NWB + WAG102)
	5ea TI-Nspire wireless sled
	1ea TI-Nspire Charging Bay
	1ea Golden Lap top

Cables:

SKU	Quantity / Description
	1ea 72 INCH USB STANDARD B TO STANDARD A
CBR2/CA/A	1ea 72 INCH USB STANDARD B TO MINI A,
	1ea 72 INCH USB STANDARD A TO MINI B,

2.3. Operating Condition of EUT

- 2.3.1. Set up the EUT as test setup diagram.
- 2.3.2. For conducted emission measurement, setup the EUT as the three test configurations; turn on all the equipment (note: the EUT was charged through the AC adapter), Drive the test software "ART (Version B9)", let EUT operate normal activity.
- 2.3.3. For other measurement items, keep the EUT be powered by the battery, Drive the test software "ART (Version B9)", let the EUT operate wireless TX activity under measurement.

2.4. Description of Test Facility

Name of Firm : Audix Technology (Wujiang) Co., Ltd. EMC Dept.

Site Location : No. 1289 Jiangxing East Road, the Eastern Part of

Wujiang Economic Development Zone

Jiangsu China 215200

Test Facilities : No. 1 conducted shielding enclosure

FCC filing on Sep. 13, 2006 Registration No.: 252588

No.1 10m semi-anechoic chamber

RF Fully anechoic chamber

NVLAP Lab Code : 200786-0

(NVLAP is a NATA accredited body under Mutual

Recognition Agreement)

DAR-Registration No. : DAT-P-264/07-00

2.5. Measurement Uncertainty

Test Item	Uncertainty
Conduction Test	±2.5dB
Radiation Test	±4.4dB(Horizontal)
(Distance: 3m)	±4.4dB (Vertical)

Remark: Uncertainty = $ku_c(y)$

Test Item	Uncertainty
6 dB Bandwidth	$\pm 2.8 \times 10^{-6}$ MHz
Maximum Peak Output Power	± 0.33dB
Band Edges	± 0.208dBm
Power Spectral Density	± 0.34dB
Emission Limitations	± 0.208dBm

Note: The measurement uncertainty was estimated by CISPR 16-4 " Uncertainty in EMC measurements"- First Edition May, 2003.

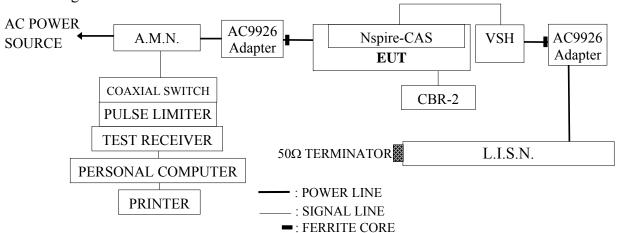
3. CONDUCTED EMISSION MEASUREMET

3.1. Test Equipment

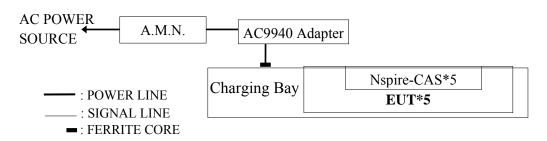
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R & S	ESCI	100352	Jan. 23, 2008	Jan. 22, 2009
2.	A.M.N	R & S	ESH2-Z5	100153	Apr. 01, 2008	Mar. 31, 2009
3.	L.I.S.N.	Kyoritsu	KNW-407	8-1793-4	Sep. 26, 2007	Sep. 25, 2008
4.	Pulse Limiter	R&S	ESH3-Z2	100605	Aug. 09, 2007	Aug. 08, 2008
_	50Ω Coaxial Switch	Anritsu	MP59B	6200547934	Aug. 20, 2007	Aug. 19, 2008
6.	50ohm Terminator	N/A	N/A	N/A	May 24, 2007	May 23, 2008

3.2. Block Diagram of Test Setup

3.2.1. Test Configuration A&B



3.2.2. Test Configuration C



3.3. Power line Conducted Emission Limit (FCC Part15 section 15.207)

Frequency	Maximum RF Line Voltage		
	Quasi-Peak Level Average Level		
150kHz ~ 500kHz	66 ~ 56 dBμV	$56 \sim 46 \text{ dB}\mu\text{V}$	
500kHz ~ 5MHz	56 dBμV	46 dBμV	
5MHz ~ 30MHz	60 dBμV	50 dBμV	

Remark1: If the average limit is met when using a Quasi-Peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary.

2.: The lower limit applies at the band edges.

3.4. Test Procedure

The measuring process is according to ANSI C63.4 and laboratory internal procedure TKC-301-015.

In the conducted emission measurement, the EUT and all peripheral devices were set up on a non-metallic table which was 0.8 meters height above the ground plane, and 0.4 meters far away from the vertical plane. The EUT (installed in PC system) was powered by AC mains through Artificial Mains Network (A.M.N), other peripheral devices were powered by AC mains through the second Line Impedance Stabilization Network (L.I.S.N). For the measurement, the A.M.N measuring port was terminated by a 50Ω measuring equipment and the second L.I.S.N measuring port was terminated by a 50Ω resistive load. All measurements were done on the phase and neutral line of the EUT's power cord. All cables or wires placement were verified to find out the maximum emission.

The bandwidth of measuring receiver was set at 9 kHz.

The required frequency band (0.15 MHz \sim 30 MHz) was pre-scanned with peak detector, the final measurement was measured with quasi-peak detector and average detector. (If the average limit is met when using a quasi-peak detector, the average detector is necessary).

The emission level is calculated automatically by the test system which uses the following equation:

Emission level ($dB\mu V$) = Meter-Reading ($dB\mu V$) + A.M.N factor (dB) + Cable loss (dB). (Cable loss include pulse limiter loss)

3.5. Conducted Emission Measurement Results

PASSED.

(All the emissions not reported below are too low against the prescribed limits.)

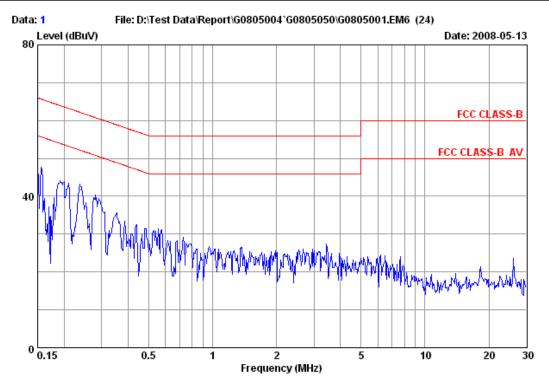
EUT was performed during this section testing and all the test results are attached in next pages.

Test Date: May 13, 2008 Temperature: 21.6 Humidity: 44%

Mode	Test Mode	Reference Test Data No.			
Mode	Test Mode	Neutral	Line		
1	Test Configuration #A	# 1	# 2		
2	Test Configuration #B	# 3	# 4		
3	Test Configuration #C	# 5	# 6		

NOTE 1 - The worst emission is detected at 0.15 MHz with corrected signal level of $51.74 \ dB\mu V$ (limit is $66.00 \ dB\mu V$), when the Line of the EUT is connected to LISN.





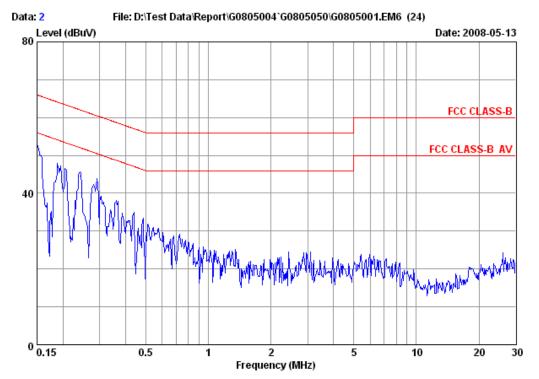
Site no. : No.1 Conducted Shielding Enclosure Data no. : 1
AMN / LISN. : ESH2-Z5 LISN Phase : NEUTRAL
Limit : FCC CLASS-B
Env. / Ins. : 21.6*C 44%/ESCI Engineer : Leo

TI-Nspire Navigator™ Wireless Cradle EUT : TI-Nspire Navigator Wireless Craffe M/N

Power Rating: DC 3.7V Test Mode: Test Configuration#A Memo: 120Vav/60Hz Charging

	Freq.	LISM. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.16	0.11	9.83	36.73	46.67	65.69	19.02	OP
2	0.19	0.11	9.83	34.09	44.03	63.98	19.95	QΡ
3	0.24	0.11	9.87	31.67	41.65	62.13	20.48	QΡ
4	0.35	0.12	9.95	24.61	34.68	58.87	24.19	QΡ
5	0.44	0.12	9.98	21.43	31.53	57.11	25.58	QΡ
6	0.56	0.12	9.99	20.30	30.41	56.00	25.59	ÖP





Site no AMN / LISM. :

Limit Env. / Ins.

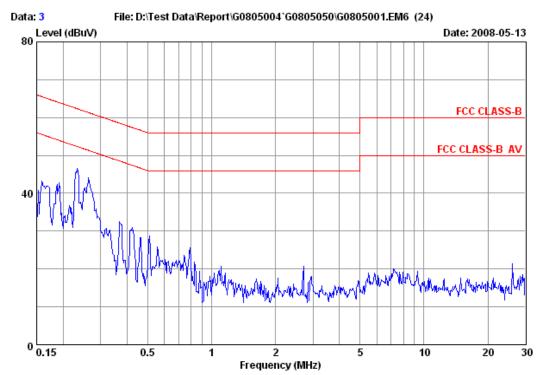
EIIT M/N : TI-Nspire Navigator Wireless Cradle
Power Rating: DC 3.7V
Test Mode : Total Control of the Power Rating of the Power Rat

Test Mode : Test Conriguration

Test Mode : 120Vav/60Hz Charging

	Freq.	LISN. Factor (dB)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBuV)	Limits (dBμV)	Margin (dB)	Remark
1	0.15	0.11	9.84	41.79	51.74	66.00	14.26	QP
2	0.19	0.11	9.83	36.92	46.86	64.11	17.25	QP
3	0.24	0.11	9.87	34.63	44.61	62.04	17.43	QP
4	0.29	0.12	9.92	32.92	42.96	60.46	17.50	QP
5	0.36	0.12	9.95	27.09	37.16	58.69	21.53	QP
6	0.44	0.13	9.98	23.82	33.93	57.11	23.18	QP





No.1 Conducted Shielding Enclosure Data no. : 3 ESH2-Z5 LISN Phase : NEUTRAL FCC CLASS-B 21.6*C 44%/ESCI Engineer : Leo Site no. : AMN / LISN. :

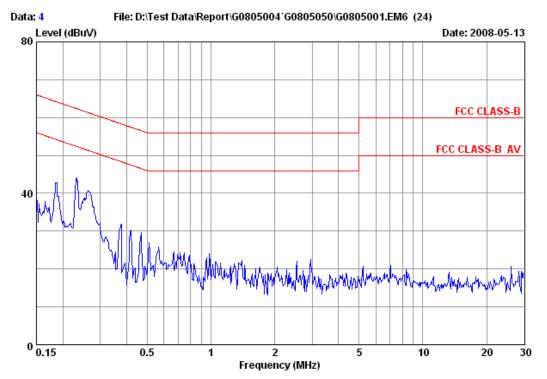
Limit Env. / Ins. :

TI-Nspire Navigator™ Wireless Cradle EUT : TI-Nspire Navigator Wireless Cradle M/N

Power Rating: DC 3.7V Test Mode : Test Configuration#B Memo : 120Vav/60Hz Charging

	Freq.	LISN. Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.16	0.11	9.83	32.38	42.32	65.52	23.20	QP
2	0.23	0.11	9.86	35.62	45.59	62.35	16.76	QP
3	0.26	0.11	9.89	33.22	43.22	61.34	18.12	QP
4	0.37	0.12	9.95	21.56	31.63	58.52	26.89	QP
5	0.42	0.12	9.97	19.91	30.00	57.42	27.42	QP
6	0.51	0.12	10.00	17.60	27.72	56.00	28.28	QP





Site no. : AMN / LISN. : No.1 Conducted Shielding Enclosure Data no. : 4 ESH2-Z5 LISN Phase : LINE FCC CLASS-B

Limit

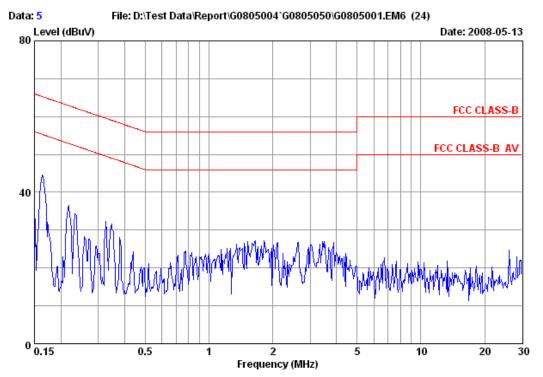
Env. / Ins. : 21.6*C 44%/ESCI Engineer : Leo

TI-Nspire Navigator™ Wireless Cradle TI-Nspire Navigator™ Wireless Cradle FHT M/N

Power Rating: DC 3.7V
Test Mode : Test Configuration#B
Memo : 120Vav/60Hz Charging

	Freq.	LISN. Factor (dB)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.19	0.11	9.83	31.84	41.78	64.15	22.37	QP
2	0.23	0.11	9.86	33.17	43.14	62.35	19.21	QP
3	0.27	0.11	9.90	29.53	39.54	61.25	21.71	QP
4	0.38	0.12	9.96	20.69	30.77	58.34	27.57	QP
5	0.47	0.13	9.99	18.43	28.55	56.54	27.99	QP
6	0.51	0.13	10.00	15.73	25.86	56.00	30.14	QP





Site no. : AMN / LISN. : No.1 Conducted Shielding Enclosure Data no. : 5 ESH2-Z5 LISN Phase : NEUTRAL FCC CLASS-B

Limit

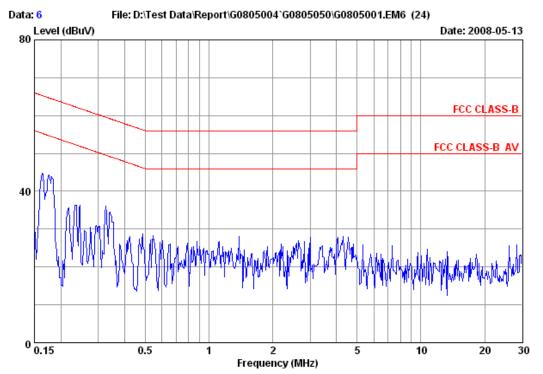
Engineer : Leo

21.6*C 44%/ESCI
TI-Nspire Navigator Wireless Cradle Env. / Ins. FIIT TI-Nspire Navigator Wireless Cradle M/N

Power Rating: DC 3.7V Test Mode: Test Configuration#C Memo: 120Vav/60Hz Charging

	Freq. (MHz)	LISM. Factor (dB)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1 2 3 4 5	0.16 0.22 0.33 0.38 1.66 3.51	0.11 0.11 0.11 0.12 0.16 0.20	9.83 9.85 9.94 9.96 9.84 9.92	32.65 26.62 21.31 16.94 16.26 15.92	42.59 36.58 31.36 27.02 26.26 26.04	65.34 62.92 59.53 58.30 56.00	22.75 26.34 28.17 31.28 29.74 29.96	QP QP QP QP QP QP





Site no. : AMN / LISN. : No.1 Conducted Shielding Enclosure Data no. : 6 ESH2-Z5 LISN Phase : LINE FCC CLASS-B

Limit

Env. / Ins. Engineer : Leo

21.6*C 44%/ESCI
TI-Nspire Navigator Wireless Cradle EUT : TI-Nspire Navigator Wireless Cradle M/N

Power Rating: DC 3.7V Test Mode: Test Configuration#C Memo: 120Vav/60Hz Charging

	Freq. (MHz)	LISM. Factor (dB)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1 2 3 4 5 6	0.16 0.25 0.33 0.54 1.38 4.31	0.11 0.11 0.12 0.13 0.16 0.22	9.83 9.88 9.94 9.99 9.86 9.92	32.93 25.40 25.11 17.16 17.97 16.90	42.87 35.39 35.17 27.28 27.99 27.04	65.34 61.86 59.57 56.00 56.00	22.47 26.47 24.40 28.72 28.01 28.96	QP QP QP QP QP QP

4. RADIATED EMISSION MEASUREMENT

4.1. Test Equipment

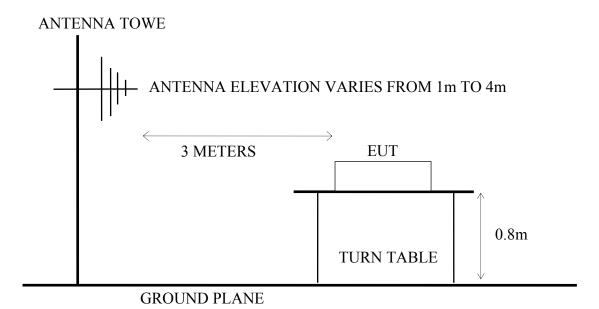
The following test equipment was used during the radiated emission measurement:

						1	
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.	
1.	Spectrum Analyzer	Agilent	E7405A	MY45107028	Apr. 01, 2008	Mar.31, 2009	
2.	Spectrum Analyzer	Agilent	E7405A	MY45107030	Apr. 01, 2008	Mar.31, 2009	
3.	Pre-Amplifier	Agilent	8447D	2944A10918	Aug. 20, 2007	Aug. 19, 2008	
4.	Pre-Amplifier	Agilent	8447D	2944A10922	Aug. 20, 2007	Aug. 19, 2008	
5.	Bi-log Antenna	Schaffner	CBL6112D	22251	Mar. 20, 2008	Mar 10 2000	
٥.	(Horizontal)	Schaffilei	CBL0112D	22231	Wiai. 20, 2008	Mai. 19, 2009	
6.	Bi-log Antenna	Schaffner	CBL6112D	22253	Apr 10 2008	Apr. 09, 2009	
0.	(Vertical)	Scharmer	CDL0112D	22233	Apr. 10, 2008	Apr. 09, 2009	
7.	Horn Antenna	ESCO	3116	62640	May 14, 2007	May 13, 2008	
8.	Test Receiver	R&S	ESCI	100351	Jan. 23, 2008	Jan. 22, 2009	
9.	Microware Preamplifier	Agilent	8449B	3008A02229	Apr. 01, 2008	Mar. 31, 2009	
10.	50Ω Coaxial Switch # 1	ANRITSU	MP59B	6200547935	Aug.14, 2007	Aug. 13, 2008	
11.	50Ω Coaxial Switch # 2	ANRITSU	MP59B	6200547937	Aug.14, 2007	Aug. 13, 2008	
12.	50Ω Coaxial Switch # 3	ANRITSU	MP59B	6200547938	Aug.14, 2007	Aug. 13, 2008	

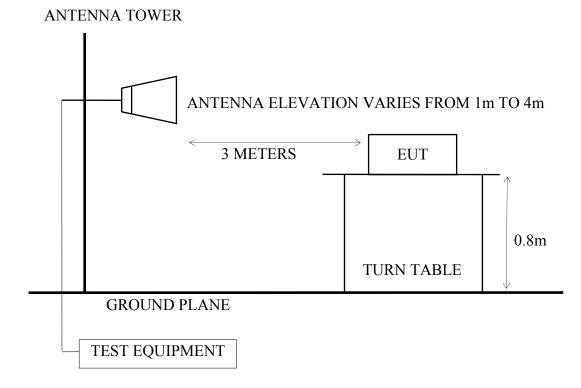
- 4.2. Block Diagram of Test Setup (At No.1 10m Semi-Anechoic chamber)
- 4.2.1. Block Diagram of Test Setup between EUT and simulators

EUT (WIRELESS CRADLE) (POWERED BY 3.7V BATTERY)

4.2.2. No. 1 10m Semi-Anechoic Chamber Setup Diagram (Test distance: 3m) for 30-1000MHz



4.2.3. No. 1 10m Semi-Anechoic Chamber Setup Diagram (Test distance: 3m) for above 1GHz



4.3. Radiated Emission Limits (FCC Part15 section 15.209)

Frequency	Distance Meters	Field Strengths Limits		
MHz	Distance Wieters	$\mu V/m$	dBµV/m	
30 ~ 88	3	100	40.0	
88 ~ 216	3	150	43.5	
216 ~ 960	3	200	46.0	
Above 960	3	500	54.0	
Above 1000	3		BμV/m (Peak) μV/m (Average)	

Remark: (1) Emission level $(dB\mu V/m) = 20 \log Emission level (\mu V/m)$

(2) The tighter limit applies at the edge between two frequency bands.

4.4. Test Procedure

The measuring process is according to ANSI C63.4 and laboratory internal procedure TKC-301-024.

In the radiated emission measurement, the EUT and all simulators were set up on a non-metallic turn table which was 0.8 meters above the ground plane. Measurement distance between EUT and receiving antennas was set at 3 meters. The specified distance is the distance between the antennas and the closest periphery of EUT. During the radiated measurement, the EUT was rotated 360° and receiving antennas were moved from $1 \sim 4$ meters for finding maximum emission. One receiving antenna was used for both horizontal and vertical polarization detection. All cables or wires placement were verified to find out the maximum emission.

The bandwidth of measuring receiver (or spectrum analyzer) was set to 120 kHz below 1GHz, and set to 1MHz above 1GHz.

The required frequency band $(30 \text{MHz} \sim 25000 \text{ MHz})$ was pre-scanned with peak detector, all final measurements were measured with quasi-peak detector below 1GHz and measured with average detector above 1GHz.

The emission level is calculated automatically by the test system which uses the following equation:

Emission Level ($dB\mu V/m$) = Meter-Reading ($dB\mu V$) + Antenna Factor (dB/m) + Cable Loss (dB)

4.5. Radiated Emission Measurement Results

4.5.1. Type of Network: IEEE 802.11g Data of Test: May. 12, 2008

Ambient temperature: 17 Relative humidity: 40%

Data Rate: 6Mbps

Test Frequency band: TX 2412MHz

Peak

Frequency (MHz)	Antenna Polarization	Emission Level (dBµV)	Limit (dBµV)	Margin (dB)
4808.00	Horizontal	53.33	74.00	20.67
7236.00	Horizontal	56.81	74.00	17.19
9648.00	Horizontal	58.46	74.00	15.54
12060.00	Horizontal	62.16	74.00	11.84

Average

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4809.00	Horizontal	25.70	54.00	28.30
7237.00	Horizontal	34.57	54.00	19.43
9648.00	Horizontal	36.74	54.00	17.26
12060.00	Horizontal	40.06	54.00	13.94

Note 1.: All the emissions (up to 25GHz) not reported are too low to be measured.

Note 2.: The emission behavior belongs to narrowband spurious emission.

Peak

Frequency (MHz)	Antenna Polarization	Emission Level (dBµV)	Limit (dBµV)	Margin (dB)
4808.00	Vertical	55.26	74.00	18.74
7236.00	Vertical	57.16	74.00	16.84
9648.00	Vertical	59.30	74.00	14.70
12060.00	Vertical	62.38	74.00	11.62

Average

_	0				
	Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
	(MHz)	Polarization	(dBµV)		
	4809.00	Vertical	25.88	54.00	28.12
	7238.00	Vertical	25.93	54.00	18.07
	9649.00	Vertical	37.16	54.00	16.84
	12060.00	Vertical	40.02	54.00	13.98

Note 1.: All the emissions (up to 25GHz) not reported are too low to be measured.

4.5.2. Type of Network: IEEE 802.11g Data of Test: May. 12, 2008

Ambient temperature: 17 Relative humidity: 40%

Data Rate: 6Mbps

Test Frequency band: TX 2437MHz

Peak

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4859.00	Horizontal	53.81	74.00	20.19
7311.00	Horizontal	56.63	74.00	17.37
9748.00	Horizontal	59.18	74.00	14.82
12185.00	Horizontal	63.24	74.00	10.76

Average

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4859.00	Horizontal	26.21	54.00	27.79
7311.00	Horizontal	34.80	54.00	19.20
9749.00	Horizontal	37.10	54.00	16.90
12187.00	Horizontal	40.80	54.00	13.20

Note 1.: All the emissions (up to 25GHz) not reported are too low to be measured.

Note 2.: The emission behavior belongs to narrowband spurious emission.

Peak

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4859.00	Vertical	53.54	74.00	20.46
7311.00	Vertical	56.62	74.00	17.38
9748.00	Vertical	59.37	74.00	14.63
12185.00	Vertical	63.57	74.00	10.43

Average

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4859.00	Vertical	26.13	54.00	27.87
7311.00	Vertical	34.70	54.00	19.30
9748.00	Vertical	37.06	54.00	16.94
12185.00	Vertical	40.76	54.00	13.24

Note 1.: All the emissions (up to 25GHz) not reported are too low to be measured.

4.5.3. Type of Network: IEEE 802.11g Data of Test: May. 12, 2008

Ambient temperature: 17 Relative humidity: 40%

Data Rate: 6Mbps

Test Frequency band: TX 2462MHz

Peak

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4944.00	Horizontal	56.32	74.00	17.68
7386.00	Horizontal	56.80	74.00	17.20
9848.00	Horizontal	60.14	74.00	13.86
12310.00	Horizontal	64.65	74.00	9.35

Average

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4944.00	Horizontal	25.51	54.00	28.49
7386.00	Horizontal	34.45	54.00	19.55
9848.00	Horizontal	37.77	54.00	16.23
12310.00	Horizontal	42.13	54.00	11.87

Note 1.: All the emissions (up to 25GHz) not reported are too low to be measured.

Note 2.: The emission behavior belongs to narrowband spurious emission.

Peak

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4944.00	Vertical	58.52	74.00	15.48
7386.00	Vertical	55.50	74.00	18.50
9848.00	Vertical	59.68	74.00	14.32
12310.00	Vertical	64.06	74.00	9.94

Average

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	$(dB\mu V)$		
4944.00	Vertical	24.61	54.00	29.39
7387.00	Vertical	34.33	54.00	19.67
9848.00	Vertical	37.56	54.00	16.44
12310.00	Vertical	41.38	54.00	12.62

Note 1.: All the emissions (up to 25GHz) not reported are too low to be measured.

4.5.4. Type of Network : IEEE 802.11b Data of Test: May. 12, 2008

Ambient temperature: 17 Relative humidity: 40%

Data Rate: 1Mbps

Test Frequency band: TX 2412MHz

Peak

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4808.00	Horizontal	57.20	74.00	16.80
7236.00	Horizontal	57.11	74.00	16.89
9648.00	Horizontal	59.50	74.00	14.50
12060.00	Horizontal	62.32	74.00	11.68

Average

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4807.00	Horizontal	25.53	54.00	28.47
7236.00	Horizontal	35.08	54.00	18.92
9647.00	Horizontal	36.86	54.00	17.14
12060.00	Horizontal	40.17	54.00	13.83

Note 1.: All the emissions (up to 25GHz) not reported are too low to be measured.

Note 2.: The emission behavior belongs to narrowband spurious emission.

Peak

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4808.00	Vertical	57.49	74.00	16.51
7236.00	Vertical	56.41	74.00	17.59
9648.00	Vertical	58.90	74.00	15.10
12060.00	Vertical	61.63	74.00	12.37

Average

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	$(dB\mu V)$		
4809.00	Vertical	26.68	54.00	27.32
7238.00	Vertical	35.67	54.00	18.33
9649.00	Vertical	36.79	54.00	17.21
12060.00	Vertical	39.46	54.00	14.54

Note 1.: All the emissions (up to 25GHz) not reported are too low to be measured.

4.5.5. Type of Network: IEEE 802.11b Data of Test: May. 12, 2008

Ambient temperature: 17 Relative humidity: 40%

Data Rate: 1Mbps

Test Frequency band: TX 2437MHz

Peak

Frequency (MHz)	Antenna Polarization	Emission Level (dBµV)	Limit (dBµV)	Margin (dB)
4859.00	Horizontal	55.95	74.00	18.05
7311.00	Horizontal	56.62	74.00	17.38
9748.00	Horizontal	59.19	74.00	14.81
12185.00	Horizontal	63.64	74.00	10.36

Average

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	$(dB\mu V)$		
4860.00	Horizontal	25.70	54.00	28.30
7312.00	Horizontal	35.10	54.00	18.90
9749.00	Horizontal	37.00	54.00	17.00
12188.00	Horizontal	40.85	54.00	13.15

Note 1.: All the emissions (up to 25GHz) not reported are too low to be measured.

Note 2.: The emission behavior belongs to narrowband spurious emission.

Peak

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4859.00	Vertical	58.80	74.00	15.20
7311.00	Vertical	55.49	74.00	18.51
9748.00	Vertical	58.75	74.00	15.25
12185.00	Vertical	62.61	74.00	11.39

Average

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4859.00	Vertical	25.86	54.00	28.14
7312.00	Vertical	33.95	54.00	20.05
9750.00	Vertical	36.61	54.00	17.39
12186.00	Vertical	40.13	54.00	13.87

Note 1.: All the emissions (up to 25GHz) not reported are too low to be measured.

4.5.6. Type of Network: IEEE 802.11b Data of Test: May. 12, 2008

Ambient temperature: 17 Relative humidity: 40%

Data Rate: 1Mbps

Test Frequency band: TX 2462MHz

Peak

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4944.00	Horizontal	58.90	74.00	15.10
7386.00	Horizontal	57.42	74.00	16.58
9848.00	Horizontal	59.61	74.00	14.39
12310.00	Horizontal	64.55	74.00	9.45

Average

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4943.00	Horizontal	25.56	54.00	28.44
7385.00	Horizontal	35.55	54.00	18.45
9847.00	Horizontal	37.83	54.00	16.17
12310.00	Horizontal	42.18	54.00	11.82

Note 1.: All the emissions (up to 25GHz) not reported are too low to be measured.

Note 2.: The emission behavior belongs to narrowband spurious emission.

Peak

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4944.00	Vertical	58.42	74.00	15.58
7386.00	Vertical	55.78	74.00	18.22
9848.00	Vertical	59.44	74.00	14.56
12310.00	Vertical	64.10	74.00	9.90

Average

Frequency	Antenna	Emission Level	Limit (dBµV)	Margin (dB)
(MHz)	Polarization	(dBµV)		
4944.00	Vertical	24.62	54.00	29.38
7385.00	Vertical	34.82	54.00	19.18
9848.00	Vertical	41.21	54.00	12.79
12310.00	Vertical	41.39	54.00	12.61

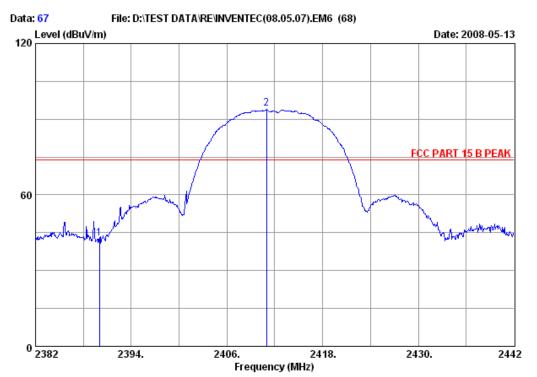
Note 1.: All the emissions (up to 25GHz) not reported are too low to be measured.

4.6. Spurious Emission Measurement Results in restricted band (FCC Part 15, 15.205)

4.6.1. IEEE 802.11b



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: NO.1 10m Semi-Anechoic Chamberta No. : 3m DRG3115/62593/3M/H Ant. Pol : FCC PART 15 B PEAK Site No.

Dis. / Ant. Limit : HORIZONTAL Ant. Pol

: Moon

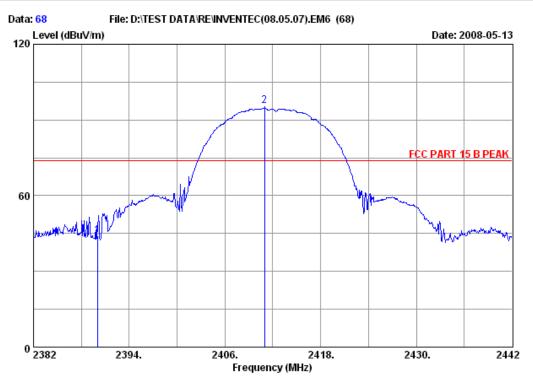
Env. / Ins. 17*C 40%/ESCI Engineer
TI-Nspire NavigatorTMWireless Cradle

M/N : TI-Nspire NavigatorTMWireless Cradle
Power Rating : DC 3.7V
Test Mode : TX 802.11b

Memo

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)			Limits Margi (dBµV/m) dB	n Remark
1 2	2390.00 2410.98	29.37 29.41	7.98 8.01	40.18 91.65	42.81 94.35	74.00 31.19 74.00 -20.39	





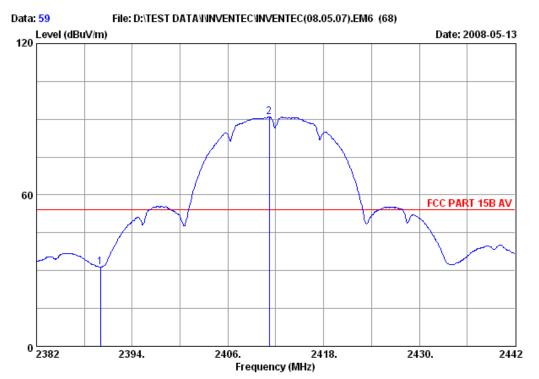
: NO.1 10m Semi-Anechoic Chamberta No. : 3m DRG3115/62593/3M/V Ant. Pol : FCC PART 15 B PEAK : 17*C 40%/ESCI Engineer Site No. Dis. / Ant. 68 VERTICAL Limit

Engineer : Moon

Env. / Ins. ENT : 17*C 40%/ESC1 Engineer
EUT : TI-Nspire NavigatorTMWireless Cradle
M/N : TI-Nspire NavigatorTMWireless Cradle
Power Rating : DC 3.7V
Test Mode : TX 802.11b
Memo : CH1

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)		ark
1 2	2390.00 2410.98	29. 47 29.52	7.98 8.01	41.46 92.69	44.19 95.50	74.00 29.81 Pea 74.00 -21.50 Pea	





: NO.1 10m Semi-Anechoic Chamberta NO. : 3m DRG311562593/3M/H Ant. pol : FCC PART 15B AV : 17*C 40%/ESCI Engineer : TI-Mspire NavigatorTMWireless Cradle berta NO. : 59 Ant. pol. : HORIZONTAL Site NO.

Dis. / Ant. Limit

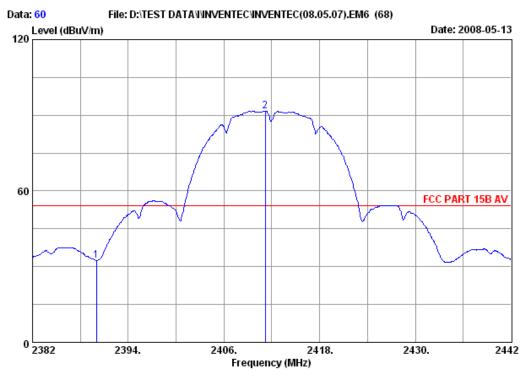
Env. / Ins. : Moon

EUT

TI-Nspire NavigatorTMWireless Cradle
Nower Rating: DC 3.7V
Test Mode: TX 802.11b
Memo: CH1

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1 2	2390.00	28.59	7.98	29.51	31.36	54.00	22.64	Average
	2411.16	28.64	8.01	88.95	90.88	54.00	-36.88	Average



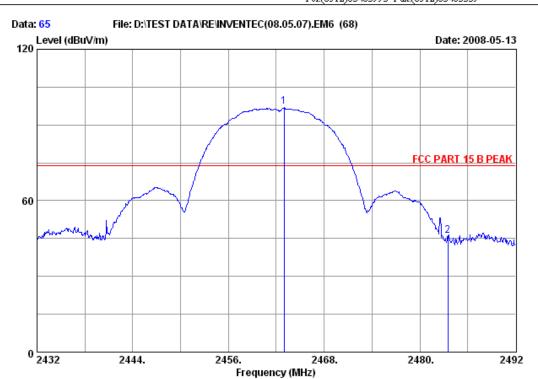


: NO.1 10m Semi-Anechoic Chamberta NO. : 3m DRG311562593/3M/V Ant. pol : FCC PART 15B AV : 17*C 40%/ESCI Engineer : TI-Mspire NavigatorTMWireless Cradle berta NO. : 60 Ant. pol. : VERTICAL Site NO. Dis. / Ant. Limit Env. / Ins. : Moon EUT

TI-Nspire NavigatorTMWireless Cradle
Nower Rating: DC 3.7V
Test Mode: TX 802.11b
Memo: CH1

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
_	2390.00	28.59	7.98	30.68	32.53	54.00	21.47	Average
	2411.16	28.64	8.01	89.82	91.75	54.00	-37.75	Average





Site No.

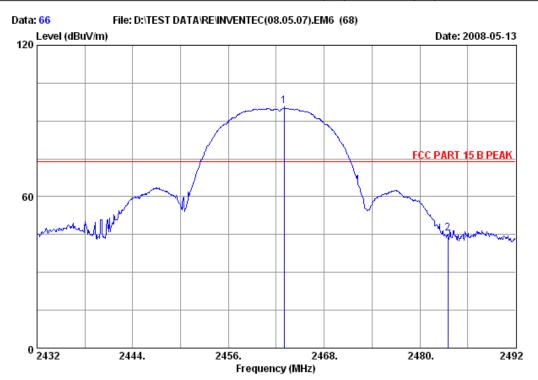
: 65 : HORIZONTAL Dis. / Ant.

Limit Env. / Ins. Engineer : Moon

ENV / Ins. : 1/*C 40%/ESC1 Engineer
EUT : TI-Nspire NavigatorTMWireless Cradle
M/N : TI-Nspire NavigatorTMWireless Cradle
Power Rating : DC 3.7V
Test Mode : TX 802.11b
Memo : CH11

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits Margin Remark (dBµV/m) dB
1 2	2462.96	29.52	8.10	94.37	97.28	74.00 -23.28 Peak
	2483.50	29.56	8.13	43.18	46.16	74.00 27.84 Peak





Site No. : 66 : VERTICAL Dis. / Ant. Limit

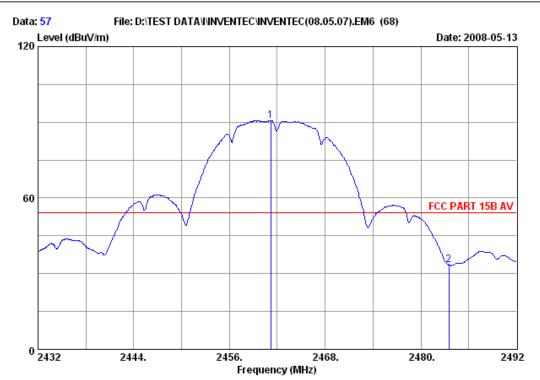
Env. / Ins. Engineer : Moon

ENV. / Ins. : 17*C 40%/ESC1 Engineer
EUT : TI-Nspire NavigatorTMWireless Cradle
M/N : TI-Nspire NavigatorTMWireless Cradle
Power Rating : DC 3.7V
Test Mode : TX 802.11b

Memo CH11

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµ∀)	Emission Level (dBµV/m)	Limits Margin Remark (dBµV/m) dB
1	2462.96	29.69	8.10	92.77	95.85	74.00 -21.85 Peak
2	2483.50	29.74	8.13	42.45	45.61	74.00 28.39 Peak





: NO.1 10m Semi-Anechoic Chamberta NO. : 3m DRG311562593/3M/H Ant. pol. : FCC PART 15B AV : 17*C 40%/ESCI Engineer : TI-Nspire NavigatorTMWireless Cradle aberta NO. : 57 Ant. pol. : HORIZONTAL Site NO.

Dis. / Ant. Limit

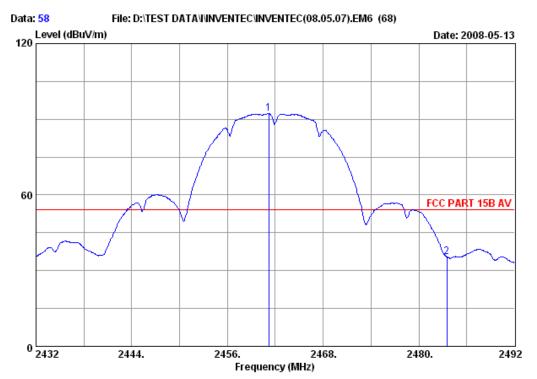
Env. / Ins. : Moon EUT

M/N : TI-Nspire NavigatorTMWireless Cradle
Power Rating : DC 3.7V
Test Mode : TX 802.11b

Memo : CH11

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
_	2461.16	28.78	8.10	88.54	90.71	54.00	-36.71	Average
	2483.50	28.83	8.13	31.29	33.54	54.00	20.46	Average





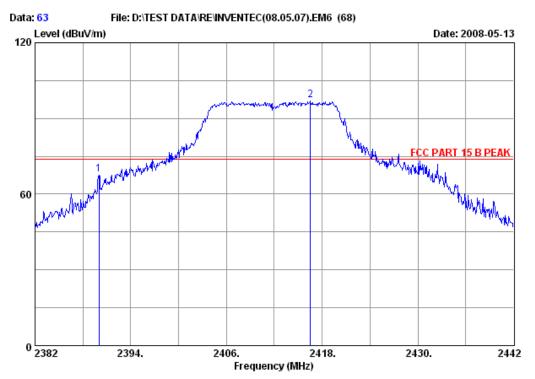
: NO.1 10m Semi-Anechoic Chamberta NO. : 3m DRG311562593/3M/V Ant. pol. : FCC PART 15B AV : 17*C 40%/ESCI Engineer : TI-Nspire NavigatorTMWireless Cradle berta NO. : 58 Ant. pol. : VERTICAL Site NO. Dis. / Ant. Limit Env. / Ins. : Moon EUT

M/N : TI-Nspire NavigatorTMWireless Cradle
Power Rating : DC 3.7V
Test Mode : TX 802.11b

Memo : CH11

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
_	2461.16	28.78	8.10	90.08	92.25	54.00	-38.25	Average
	2483.50	28.83	8.13	33.29	35.54	54.00	18.46	Average





63

HORIZONTAL

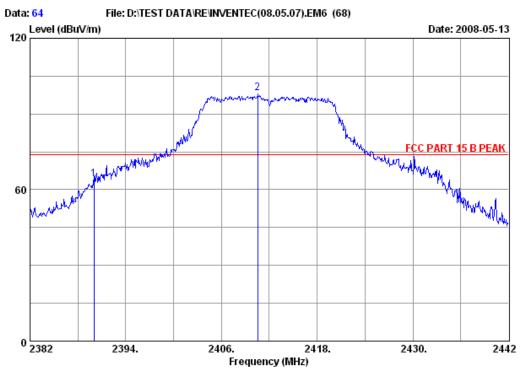
: Moon

Site No. : NO.1 10m Semi-Anechoic Chamberta No.
Dis. / Ant. : 3m DRG3115/62593/3M/H Ant. Pol
Limit : FCC PART 15 B PEAK
Env. / Ins. : 17*C 40%/ESCI Engineer
EUT : TI-Nspire NavigatorTMWireless Cradle
M/N : TI-Nspire NavigatorTMWireless Cradle
Power Rating : DC 3.7V
Test Mode : TX 802.11g
Memo : CH1

Memo

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits		Remark
1	2390.00	29.37	7.98	65.23	67.86	74.00	6. 14	Peak
2	2416.50	29.41	8.01	94.68	97.38	74.00 -	-23.38	Peak





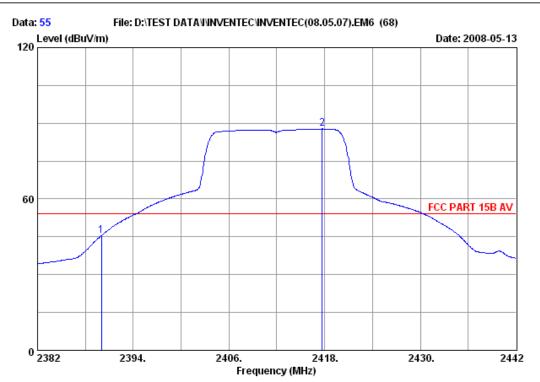
: 64 : VERTICAL Site No. Dis. / Ant. Limit

Env. / Ins. Engineer : Moon

ENV / Ins. : 1/*C 40%/ESC1 Engineer
EUT : TI-Nspire NavigatorTMWireless Cradle
M/N : TI-Nspire NavigatorTMWireless Cradle
Power Rating : DC 3.7V
Test Mode : TX 802.11g
Memo : CH1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)			Remark
1 2	2390.00	29.47	7.98	61.50	64.23	74.00 9.77	Peak
	2410.56	29.52	8.01	95.41	98.22	74.00 -24.22	Peak





: NO.1 10m Semi-Anechoic Chamberta NO. : 3m DRG311562593/3M/H Ant. pol : FCC PART 15B AV : 17*C 40%/ESCI Engineer : TI-Mspire NavigatorTMWireless Cradle berta NO. : 55 Ant. pol. : HORIZONTAL Site NO. Dis. / Ant. Limit Env. / Ins. : Moon

EUT

TI-Nspire NavigatorTMWireless Cradle
Nower Rating: DC 3.7V
Test Mode: TX 802.11g
Memo: CH1

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
_	2390.00	28.59	7.98	43.59	45.44	54.00	8.56	Average
	2417.70	28.64	8.01	85.84	87.77	54.00	-33.77	Average





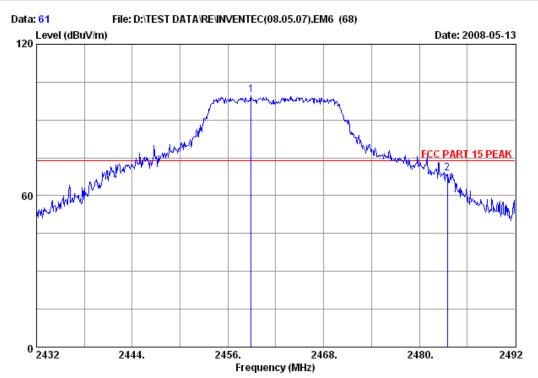
: NO.1 10m Semi-Anechoic Chamberta NO. : 3m DRG311562593/3M/V Ant. pol : FCC PART 15B AV : 17*C 40%/ESCI Engineer : TI-Mspire NavigatorTMWireless Cradle berta NO. : 56 Ant. pol. : VERTICAL Site NO. Dis. / Ant. Limit Env. / Ins. : Moon EUT

TI-Nspire NavigatorTMWireless Cradle
Nower Rating: DC 3.7V
Test Mode: TX 802.11g
Memo: CH1

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµ∀)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
_	2390.00	28.59	7.98	46.00	47.85	54.00	6.15	Average
	2410.50	28.64	8.01	85.91	87.84	54.00	-33.84	Average



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Site No. Dis. / Ant. Limit : 61 : HORIZONTAL

Env. / Ins. Engineer : Moon

ENT INS. : 17*C 40%/ESCI Engineer
EUT : TI-Nspire NavigatorTMWireless Cradle
M/N : TI-Nspire NavigatorTMWireless Cradle
Power Rating : DC 3.7V
Test Mode : TX 802.11g

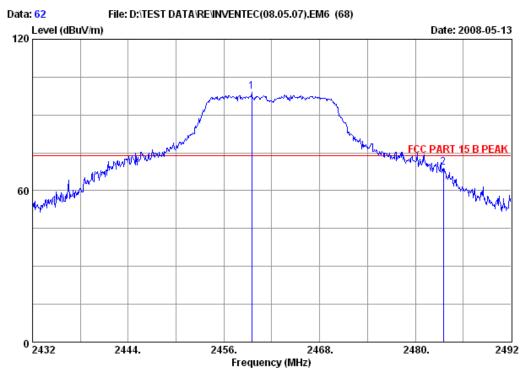
Memo CH11

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits Margin Remark
1	2458.88	29.52	8.10	97.02	99.93	74.00 -25.93 Peak
2	2483.50	29.56	8.13	65.82	68.80	74.00 5.20 Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading. 2. The emission levels that are 20dB below the official limit are not reported.



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: NO.1 10m Semi-Anechoic Chamberta No. : 3m DRG3115/62593/3M/V Ant. Pol : FCC PART 15 B PEAK : 17*C 40%/ESCI Engineer Site No. Dis. / Ant. 62 VERTICAL Limit

Env. / Ins. Engineer : Moon

ENT INS. : 17*C 40%/ESCI Engineer
EUT : TI-Nspire NavigatorTMWireless Cradle
M/N : TI-Nspire NavigatorTMWireless Cradle
Power Rating : DC 3.7V
Test Mode : TX 802.11g

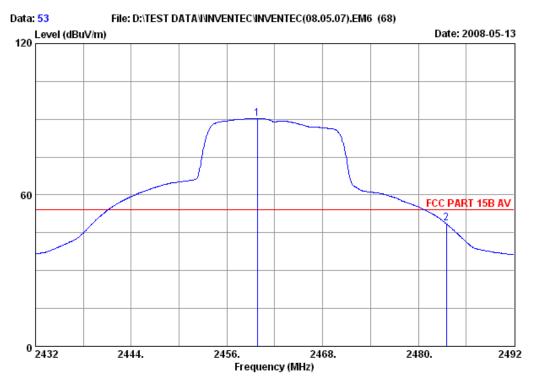
Memo CH11

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)		Limits Margin Remark (dBµV/m) dB
1 2	2459.48	29.69	8.10	96.25	99.33	74.00 -25.33 Peak
	2483.50	29.74	8.13	66.20	69.36	74.00 4.64 Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading. 2. The emission levels that are 20dB below the official limit are not reported.



Audix Technology (Wujiang) Co.,Ltd. No.1289, Jiang Xing East Road, The Eastern Part of Wu Jiang Econonic Development Zone, Jiang Su, China Tel: (0512)63403993 Fax: (0512)63403339



: NO.1 10m Semi-Anechoic Chamberta NO. : 3m DRG311562593/3M/H Ant. pol : FCC PART 15B AV : 17*C 40%/ESCI Engineer : TI-Nspire NavigatorTMWireless Cradle berta NO. : 53 Ant. pol. : HORIZONTAL Site NO.

Dis. / Ant. Limit

Env. / Ins. : Moon

EUT

M/N : TI-Nspire NavigatorTMWireless Cradle
Power Rating : DC 3.7V
Test Mode : TX 802.11g

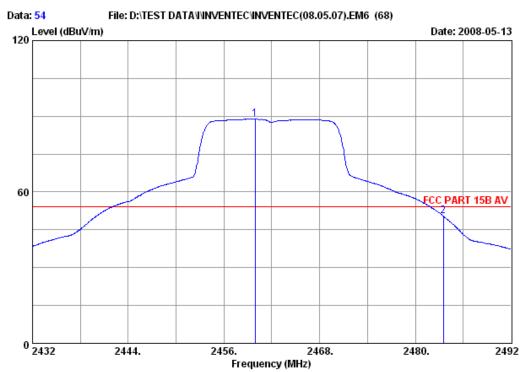
Memo CH11

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµ∀)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
_	. 2459.78	28.78	8.10	88.09	90.26	54.00	-36.26	Average
	! 2483.50	28.83	8.13	46.41	48.66	54.00	5.34	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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: NO.1 10m Semi-Anechoic Chamberta NO. : 3m DRG311562593/3M/V Ant. pol : FCC PART 15B AV : 17*C 40%/ESCI Engineer : TI-Nspire NavigatorTMWireless Cradle Site NO. : 54 : VERTICAL 54 Dis. / Ant. Limit Ant. pol. Env. / Ins. : Moon EUT

M/N : TI-Nspire NavigatorTMWireless Cradle
Power Rating : DC 3.7V
Test Mode : TX 802.11g

Memo CH11

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
_	2459.90	28.78	8.10	86.66	88.83	54.00	-34.83	Average
	2483.50	28.83	8.13	48.26	50.51	54.00	3.49	Average

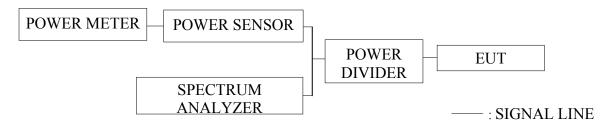
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

5. 6 dB BANDWIDTH MEASUREMENT

5.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4447A	MY45300136	Jan. 26. 2008	Jan. 25. 2009
2.	Power Meter	Agilent	N1911A	MY45100361	Jan. 22, 2008	Jan. 21, 2009
3.	Power Divider	Anritsu	K240C	o20346	Jan.08, 2008	Jan.07, 2009
4.	Power Sensor	Agilent	N1921A	MY45240521	Jan. 22, 2008	Jan. 21, 2009

5.2. Block Diagram of Test Setup



5.3. Specification Limits (§15.247(a)(2))

Systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Humidity: 40 %

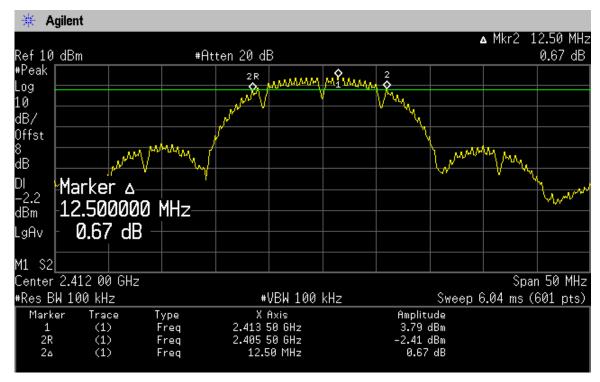
5.4. Test Results

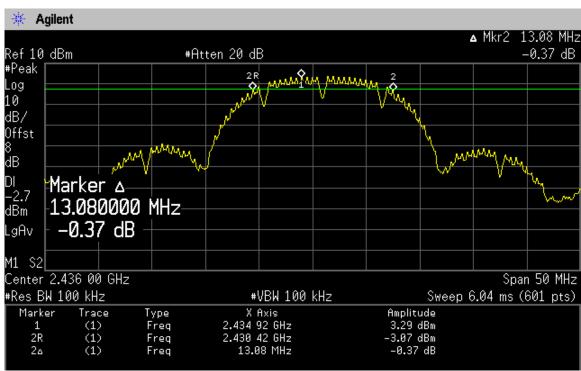
Test Date: May 11, 2008

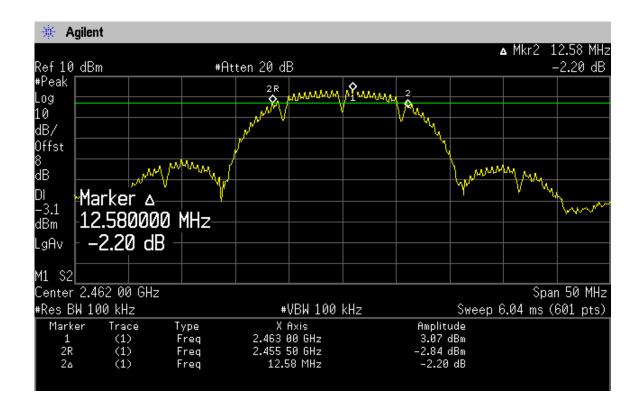
PASSED. All the test results are attached in next pages.

	3 /	•	•
Item	Channel	Test Frequency	6dB Bandwidth
	1	2412MHz	12.50MHz
802.11b	6	2436MHz	13.08MHz
	11	2462MHz	12.58MHz
	1	2412MHz	16.58MHz
802.11g	6	2437MHz	16.58MHz
	11	2462MHz	16.58MHz

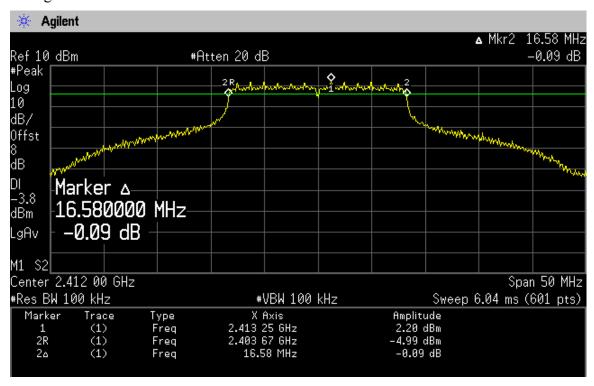
Temperature: 17

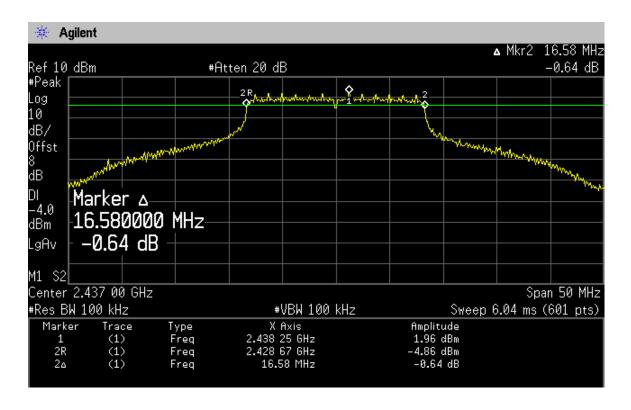


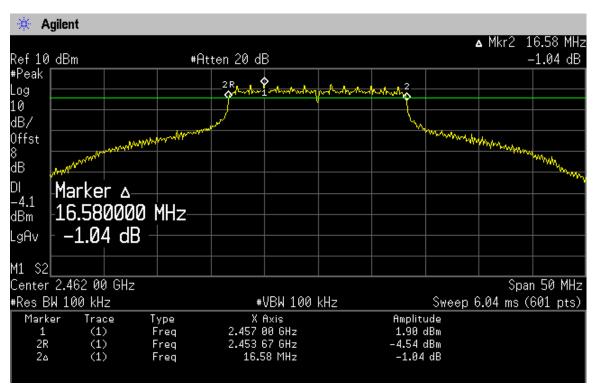




5.4.2.802.11g







6. MAXIMUM PEAK OUTPUT POWER MEASUREMENT

6.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4447A	MY45300136	Jan. 26. 2008	Jan. 25. 2009
2.	Power Meter	Agilent	N1911A	MY45100361	Jan. 22, 2008	Jan. 21, 2009
3.	Power Divider	Anritsu	K240C	o20346	Jan.08, 2008	Jan.07, 2009
4.	Power Sensor	Agilent	N1921A	MY45240521	Jan. 22, 2008	Jan. 21, 2009

6.2. Block Diagram of Test Setup

The same as section 5.2.

6.3. Specification Limits (§15.247(b)(3))

For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the *maximum conducted output power* is the highest total transmit power occurring in any mode.

6.4. Test Results

PASSED. All the test results are attached in next pages.

Test Date: May 11, 2008 Test Mode: 802.11b

Tes	Test Condition			Peak Power (dBm)			
Temperature (*C)	Voltage (V)	Data rate (Mbps)	CH 1 2412 MHz	CH 6 2437 MHz	CH 11 2462 MHz		
25	3.7	1	PK=15.8	PK=15.7	PK=15.6		
25	3.7	2	PK=15.7	PK=15.6	PK=15.6		
25	3.7	5.5	PK=15.5	PK=15.5	PK=15.3		
25	3.7	11	PK=15.6	PK=15.6	PK=15.4		

Test Date: May 11, 2008 Test Mode: 802.11g

Test Date. May 1	1, 2000	Test Mode. C	T 1				
Tes	t Condition		Peak Power (dBm)				
Temperature	Voltage	Data rate	CH 1	CH 6	CH 11		
(*C)	(V)	(Mbps)	2412 MHz	2437 MHz	2462 MHz		
25	3.7	6	PK=19.4	PK=19.8	PK=19.6		
25	3.7	9	PK=19.3	PK=19.6	PK=19.4		
25	3.7	12	PK=19.2	PK=19.7	PK=19.5		
25	3.7	18	PK=19.1	PK=19.7	PK=19.4		
25	3.7	24	PK=19.3	PK=19.5	PK=19.3		
25	3.7	36	PK=19.1	PK=19.6	PK=19.4		
25	3.7	48	PK=19.3	PK=19.5	PK=19.3		
25	3.7	54	PK=19.2	PK=19.5	PK=19.3		

7. BAND EDGES MEASUREMENT

7.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4447A	MY45300136	Jan. 26. 2008	Jan. 25. 2009
2.	Power Meter	Agilent	N1911A	MY45100361	Jan. 22, 2008	Jan. 21, 2009
3.	Power Divider	Anritsu	K240C	o20346	Jan.08, 2008	Jan.07, 2009
4.	Power Sensor	Agilent	N1921A	MY45240521	Jan. 22, 2008	Jan. 21, 2009

7.2. Block Diagram of Test Setup

The same as section 5.2.

7.3. Specification Limits (§15.247(d))

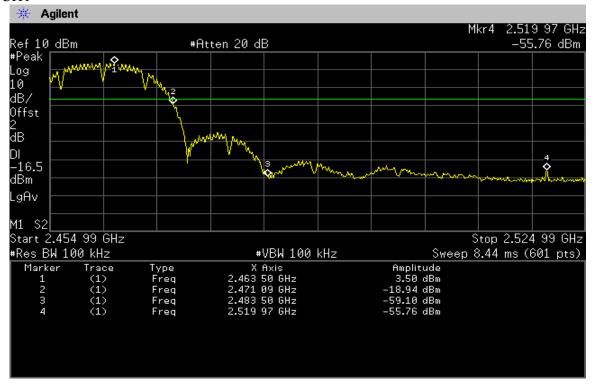
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

7.4. Test Results

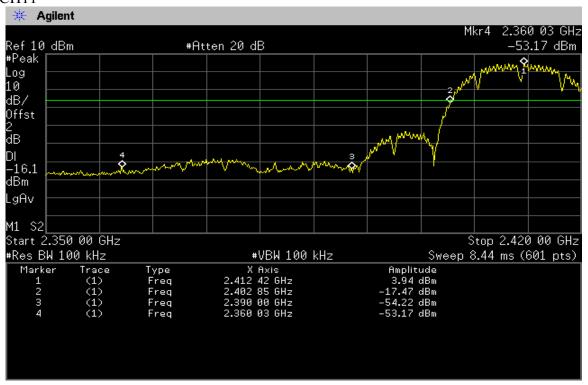
PASSED. The testing data was attached in the next pages.

7.4.1.802.11b

CH1

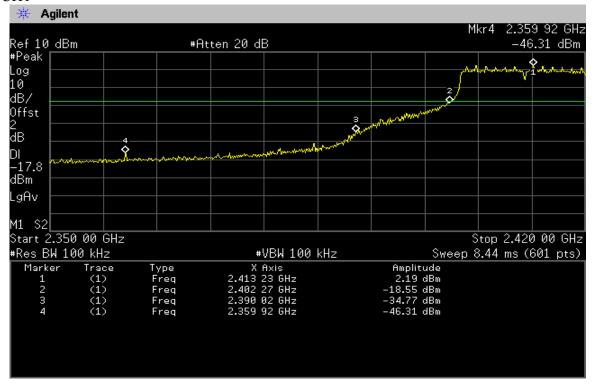


CH11

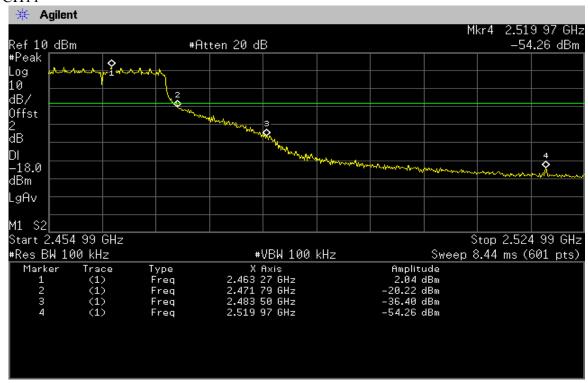


7.4.2.802.11g

CH1



CH11



8. POWER SPECTRAL DENSITY MEASUREMENT

8.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4447A	MY45300136	Jan. 26. 2008	Jan. 25. 2009
2.	Power Meter	Agilent	N1911A	MY45100361	Jan. 22, 2008	Jan. 21, 2009
3.	Power Divider	Anritsu	K240C	o20346	Jan.08, 2008	Jan.07, 2009
4.	Power Sensor	Agilent	N1921A	MY45240521	Jan. 22, 2008	Jan. 21, 2009

8.2. Block Diagram of Test Setup

The same as section 5.2.

8.3. Specification Limits (§15.247(e))

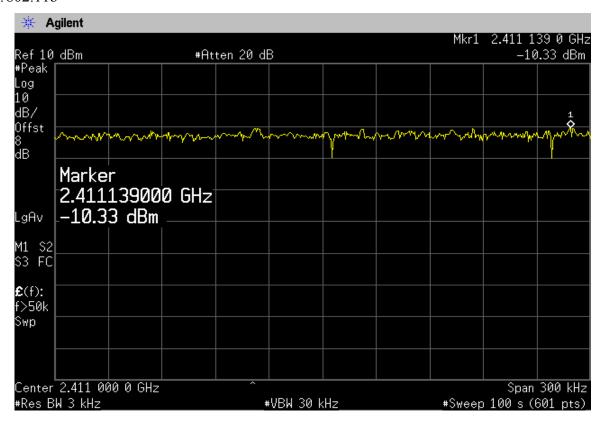
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

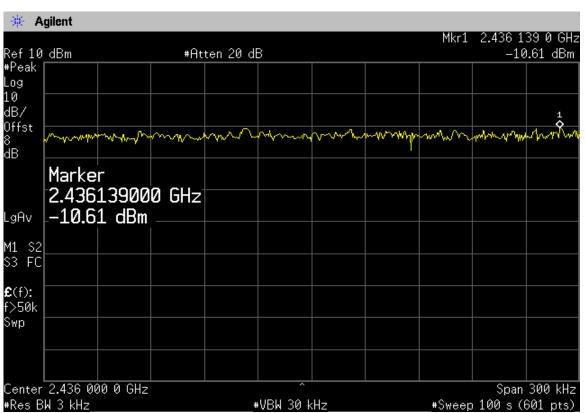
8.4. Test Results

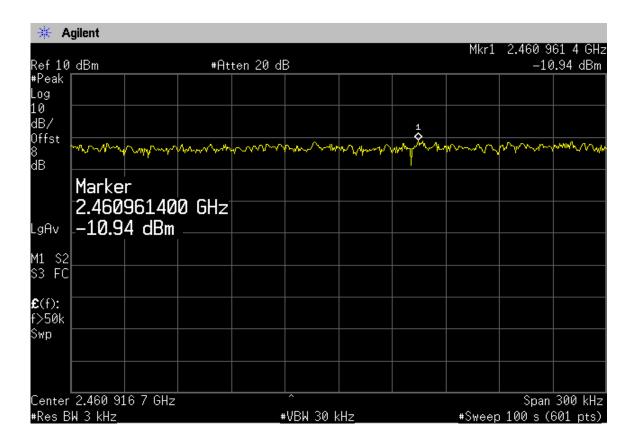
PASSED. All the test results are attached in next page.

Test Date: May 11, 2008 Temperature: 17 Humidity: 40 %

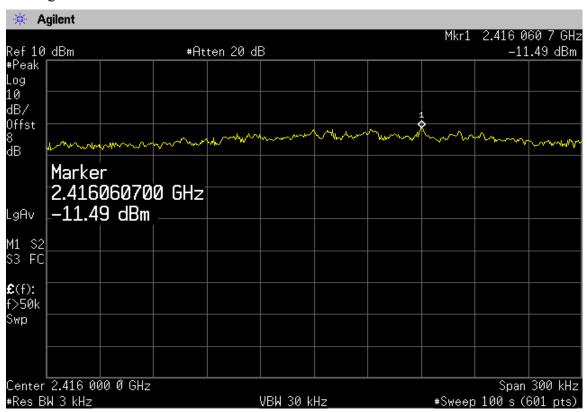
Item	Channel	Frequency(GHz)	Value(dBm)
	1	2.411139	-10.33
802.11b	6	2.436139	-10.61
	11	2.4609614	-10.94
	1	2.4160607	-11.49
802.11g	6	2.4388083	-11.36
	11	2.460117	-12.15

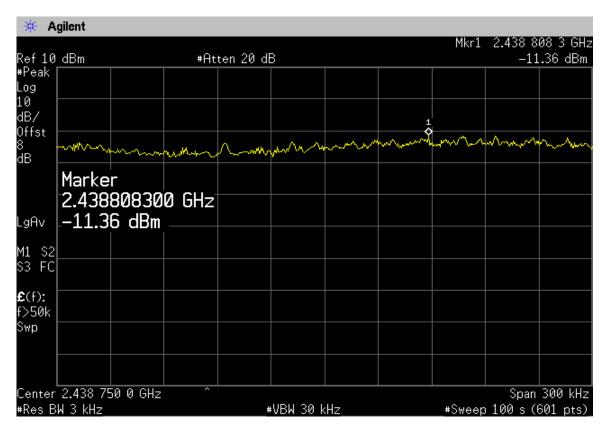


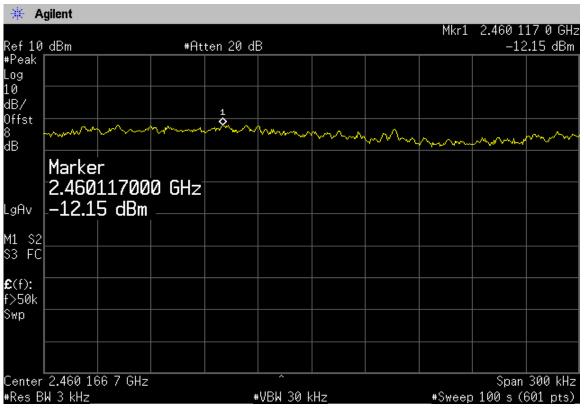




8.4.2.802.11g







9. EMISSION LIMITATIONS MEASUREMENT

9.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4447A	MY45300136	Jan. 26. 2008	Jan. 25. 2009
2.	Power Meter	Agilent	N1911A	MY45100361	Jan. 22, 2008	Jan. 21, 2009
3.	Power Divider	Anritsu	K240C	o20346	Jan.08, 2008	Jan.07, 2009
4.	Power Sensor	Agilent	N1921A	MY45240521	Jan. 22, 2008	Jan. 21, 2009

9.2. Block Diagram of Test Setup

The same as section 5.2.

9.3. Specification Limits (§15.247(d))

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

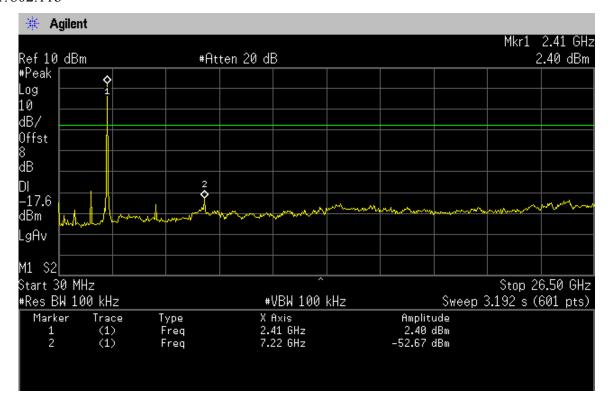
9.4. Test Results

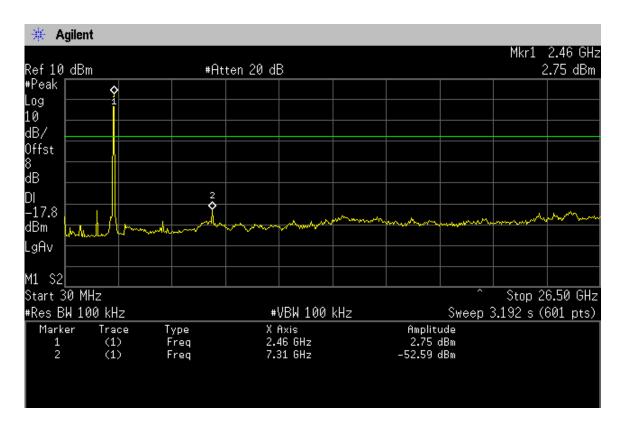
PASSED. All the test results are attached in next pages.

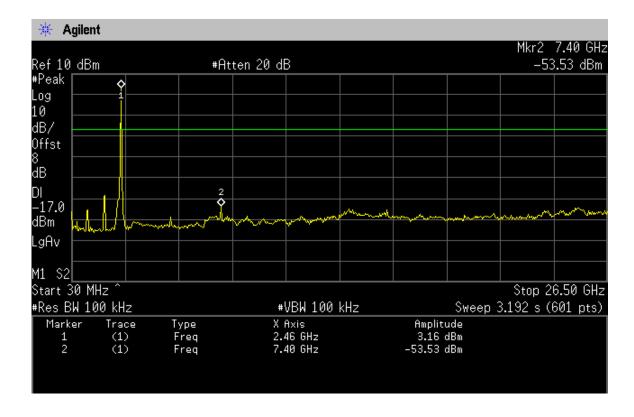
Test Date: May 11, 2008 Temperature: 17 Humidity: 40 %

Item	Channel	Frequency(GHz)	Amplitude(dBm)	
	1	7.22	-52.67	
802.11b	6	7.31	-52.59	
	11	7.40	-53.53	
	1	7.22	-53.84	
802.11g	6	7.31	-51.91	
	11	7.4	-53.51	

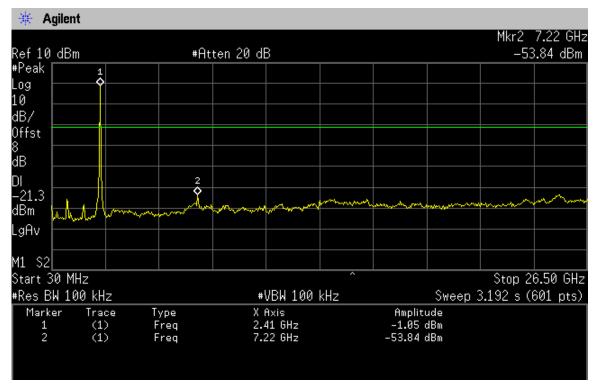
9.4.1.802.11b

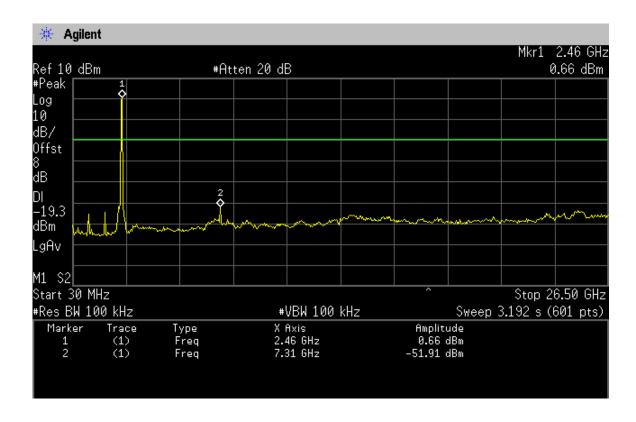


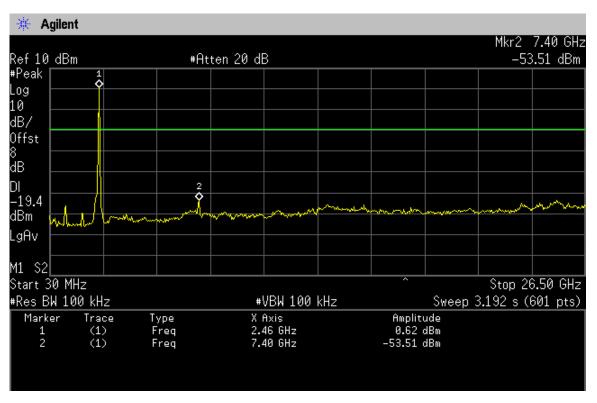




9.4.2. For 802.11g







10. MPE CALCULATIONS

Systems operating under the provision of 47 CFR 1.1307(b)(1) shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the FCC guidelines.

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the user or nearby persons and can therefore be considered a mobile transmitter per 47 CFR 2.1091(b). The MPE calculation for this exposure is shown below.

Using the Antennas with highest output power:

The peak radiated output power (EIRP) is calculated as follows:

Frequency (GHz)	Peak Output Power (dBm)	Antenna Gain (dBi)	EIRP (P+G) (dBm)	EIRP (mw)
2.4	19.8	2.06	21.86	153.46

 $\overline{EIRP} = P + G$ Where P = Power input to the antenna (mW). G = Power gain of the antenna (dBi)

The numeric gain (G) of the antenna with a gain specified in dB is determined by:

Frequency (GHz)	Antenna Gain (dBi)	Numeric Antenna Gain	
2.4	2.06	1.6069	

 $\overline{G} = \text{Log-1 (dB antenna gain/10)}$

Power density at the specific separation:

Frequency (GHz)	Numeric Power Gain of the Antenna (G) (dB)	Power input to the antenna (P) (mW)	Maximum Power Spectral Density S=PG/(4R2π) (mW/cm ²)	Maximum Power Spectral Density Limit (mW/cm²)
2.4	1.6069	95.50	0.1946	1.00

 $S = PG/(4R2\pi)$

 $S = Maximum power density (mW/cm^2)$

P = Power input to the antenna (mW).

G = Numeric power gain of the antenna

R = Distance to the center of the radiation of the antenna (20cm = limit for MPE) The maximum permissible exposure (MPE) for the general population is $1mW/cm^2$.

The power density at 20cm does not exceed the 1mW/cm² limit. Therefore, the exposure condition is compliant with FCC rules.

11. DEVIATION TO TEST SPECIFICATIONS

[NONE]