

# Spectrum Technology, Inc.

## IX750 with IX-MC8775

June 06, 2008

Report No. SPTE0089.1

Report Prepared By



[www.nwemc.com](http://www.nwemc.com)

1-888-EMI-CERT

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**EMC Test Report**

**Certificate of Test**  
**Issue Date: June 06, 2008**  
**Spectrum Technology, Inc.**  
**Model: IX750 with IX-MC8775**

Emissions			
Test Description	Specification	Test Method	Pass/Fail
Out of Band Emissions	FCC 22H:2007	ANSI/TIA/EIA-603-C-2004	Pass
Out of Band Emissions	FCC 24E:2007	ANSI/TIA/EIA-603-C-2004	Pass
Effective Radiated Power	FCC 22H:2007	ANSI/TIA/EIA-603-C-2004	Pass
Effective Isotropic Radiated Power	FCC 24E:2007	ANSI/TIA/EIA-603-C-2004	Pass

**Modifications made to the product**  
**See the Modifications section of this report**

### Test Facility

The measurement facility used to collect the data is located at:

Northwest EMC, Inc.  
22975 NW Evergreen Parkway, Suite 400  
Hillsboro, OR 97124

Phone: (503) 844-4066 Fax: 844-3826

This site has been fully described in a report filed with and accepted by the FCC (Federal Communications Commission) and Industry Canada (Site Filing #3496A).

Approved By:



Ethan Schoonover, Sultan Lab Manager



NVLAP Lab Code: 200630-0

*This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America.*

*Product compliance is the responsibility of the client, therefore the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. This Report may only be duplicated in its entirety. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test.*

Revision Number	Description	Date	Page Number
00	None		

**FCC:** Accredited by NVLAP for performance of FCC radio, digital, and ISM device testing. Our Open Area Test Sites, certification chambers, and conducted measurement facilities have been fully described in reports filed with the FCC and accepted by the FCC in letters maintained in our files. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by the FCC as a Telecommunications Certification Body (TCB). This allows Northwest EMC to certify transmitters to FCC specifications in accordance with 47 CFR 2.960 and 2.962.



**NVLAP:** Northwest EMC, Inc. is accredited under the United States Department of Commerce, National Institute of Standards and Technology, and National Voluntary Laboratory Accreditation Program for satisfactory compliance with the requirements of ISO/IEC 17025 for Testing Laboratories. The NVLAP accreditation encompasses Electromagnetic Compatibility Testing in accordance with the European Union EMC Directive 2004/108/EC, and ANSI C63.4. Additionally, Northwest EMC is accredited by NVLAP to perform radio testing in accordance with the European Union R&TTE Directive 1999/5/EEC, the requirements of FCC, and the RSS radio standards for Industry Canada.



NVLAP LAB CODE 200629-0  
 NVLAP LAB CODE 200630-0  
 NVLAP LAB CODE 200676-0  
 NVLAP LAB CODE 200761-0

**Industry Canada:** Accredited by NVLAP for performance of Industry Canada RSS and ICES testing. Our Open Area Test Sites and certification chambers comply with RSS 212, Issue 1 (Provisional) and have been filed with Industry Canada and accepted. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by NIST and recognized by Industry Canada as a Certification Body (CB) per the APEC Mutual Recognition Arrangement (MRA). This allows Northwest EMC to certify transmitters to Industry Canada technical requirements.



**CAB:** Designated by NIST and validated by the European Commission as a Conformity Assessment Body (CAB) to conduct tests and approve products to the EMC directive and transmitters to the R&TTE directive, as described in the U.S. - EU Mutual Recognition Agreement.



**TÜV Product Service:** Included in TÜV Product Service Group's Listing of Recognized Laboratories. It qualifies in connection with the TÜV Certification after Recognition of Agent's Testing Program for the product categories and/or standards shown in TÜV's current Listing of CARAT Laboratories, available from TÜV. A certificate was issued to represent that this laboratory continues to meet TÜV's CARAT Program requirements. Certificate No. USA0604C.



**TÜV Rheinland:** Authorized to carryout EMC tests by order and under supervision of TÜV Rheinland. This authorization is based on "Conditions for EMC-Subcontractors" of November 1992.



**NEMKO:** Assessed and accredited by NEMKO (Norwegian testing and certification body) for European emissions and immunity testing. As a result of NEMKO's laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification (Authorization No. ELA 119).



**Australia/New Zealand:** The National Association of Testing Authorities (NATA), Australia has been appointed by the ACA as an accreditation body to accredit test laboratories and competent bodies for EMC standards. Accredited test reports or assessments by competent bodies must carry the NATA logo. Test reports made by an overseas laboratory that has been accredited for the relevant standards by an overseas accreditation body that has a Mutual Recognition Agreement (MRA) with NATA are also accepted as technical grounds for product conformity. The report should be endorsed with the respective logo of the accreditation body (NVLAP).



**VCCI:** Accepted as an Associate Member to the VCCI, Acceptance No. 564. Conducted and radiated measurement facilities have been registered in accordance with Regulations for Voluntary Control Measures, Article 8. (*Registration Numbers. - Hillsboro: C-1071, R-1025, C-2687, T-289, and R-2318, Irvine: R-1943, C-2766, and T-298, Sultan: R-871, C-1784, and T-294.*)



**BSMI:** Northwest EMC has been designated by NIST and validated by C-Taipei (BSMI) as a CAB to conduct tests as described in the APEC Mutual Recognition Agreement (US0017). License No.SL2-IN-E-1017.



**GOST:** Northwest EMC, Inc. has been assessed and accredited by the Russian Certification bodies Certinform VNIINMASH, CERTINFO, SAMTES, and Federal CHEC, to perform EMC and Hygienic testing for Information Technology Products. As a result of their laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification



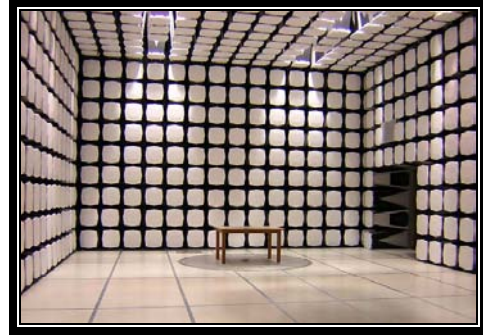
**MIC:** Northwest EMC, Inc is a CAB designated by MRA partners and recognized by Korea. (*Assigned Lab Numbers: Hillsboro: US0017, Irvine: US0158, Sultan: US0157*)



## SCOPE

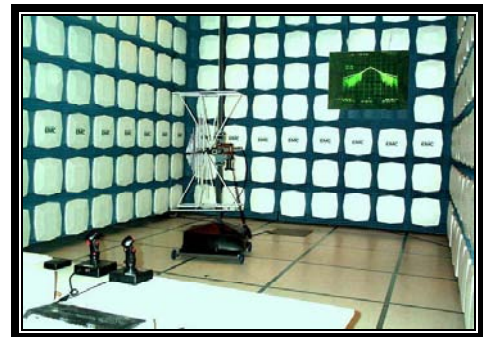
For details on the Scopes of our Accreditations, please visit:

<http://www.nwemc.com/accreditations/>



**California – Orange County Facility  
Labs OC01 – OC13**

41 Tesla Ave. Irvine, CA 92618  
(888) 364-2378 Fax: (503) 844-3826



**Oregon – Evergreen Facility  
Labs EV01 – EV11**

22975 NW Evergreen Pkwy. Suite 400 Hillsboro, OR 97124  
(503) 844-4066 Fax: (503) 844-3826



**Washington – Sultan Facility  
Labs SU01 – SU07**

14128 339<sup>th</sup> Ave. SE Sultan, WA 98294  
(888) 364-2378

**Party Requesting the Test**

<b>Company Name:</b>	Spectrum Technology, Inc.
<b>Address:</b>	209 Dayton Street Suite #205
<b>City, State, Zip:</b>	Edmonds, WA 98020
<b>Test Requested By:</b>	Rod Munro
<b>Model:</b>	IX750 with IX-MC8775
<b>First Date of Test:</b>	May 19, 2008
<b>Last Date of Test:</b>	May 27, 2008
<b>Receipt Date of Samples:</b>	May 19, 2008
<b>Equipment Design Stage:</b>	Production
<b>Equipment Condition:</b>	No Damage

**Information Provided by the Party Requesting the Test****Functional Description of the EUT (Equipment Under Test):**

Sierra Wireless MC8775 card in the IX750 handheld PC.

**Testing Objective:**

TCB certification of the Sierra Wireless MC8775 card in the IX750 handheld PC.

**CONFIGURATION 1 SPTE0089****Software/Firmware Running during test**

Description	Version
3G Watcher	R1.5.8.1115
Windows XP Professional	Version 2002 SP2

**EUT**

Description	Manufacturer	Model/Part Number	Serial Number
WAN radio	General Dynamics Itronix Corporation	IX-MC8775	IMEA 352678013763781

**Peripherals in test setup boundary**

Description	Manufacturer	Model/Part Number	Serial Number
Host Computer	General Dynamics Itronix Corporation	IX750	Unit 1
AC Adapter	Delta Electronics, Inc.	ADP-48HB B	LZW0787000957
USB Mouse	Dell	OYH933	FDE00FEE
USB Keyboard	Logitech	Y-UT76	967738-0403

**Cables**

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC	No	1.8 m	No	AC Adapter	AC Mains
DC	No	1.3 m	Yes	Host Computer	AC Adapter
USB	Yes	1.3 m	No	Host Computer	Mouse
USB	No	1.8m	No	Host Computer	Keyboard
Serial	Yes	1.0 m	No	Host Computer	Unterminated

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.



**Equipment modifications**

Item	Date	Test	Modification	Note	Disposition of EUT
1	5/19/2008	ERP / EIRP of Fundamental	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
2	5/27/2008	Out of Band Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

**MODES OF OPERATION**

PCS Band

**POWER SETTINGS INVESTIGATED**

120VAC/60Hz

**FREQUENCY RANGE INVESTIGATED**

Start Frequency	1850MHz	Stop Frequency	1910MHz
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**SAMPLE CALCULATIONS**

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

**TEST EQUIPMENT**

Description	Manufacturer	Model	ID	Last Cal.	Interval
Antenna, Horn	EMCO	3115	AHJ	5/24/2007	24
Signal Generator	Agilent	E8257D	TGX	12/7/2007	13
Power Meter	Gigatronics	8651A	SPM	12/7/2007	13
Power Sensor	Gigatronics	80701A	SPL	12/7/2007	13
Antenna, Horn	ETS	3115	AIB	11/14/2007	12
EV12 Cables		Double Ridge Horn Cables	EVT	5/14/2008	13
Spectrum Analyzer	Agilent	E4446A	AAY	12/18/2007	12

**MEASUREMENT BANDWIDTHS**

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

Measurements were made using the bandwidths and detectors specified. No video filter was used.

**MEASUREMENT UNCERTAINTY**

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

**TEST DESCRIPTION**

The antennas to be used with the EUT were tested. The EUT was transmitting and/or receiving while set at the lowest channel, a middle channel, and the highest channel available. While scanning, emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.4:2003).

The amplitude and frequency of the highest emissions were noted. The EUT was then replaced with a horn antenna. A signal generator was connected to the horn antenna and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the cable loss to the dipole antenna and its gain (dBi); the effective radiated power for each radiated spurious emission was determined.

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/19/08
Customer: Spectrum Technology, Inc.	Temperature: 22
Attendees: Rod Munro, Mark Harwood	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	
FCC 24E:2007	Test Method ANSI/TIA/EIA-603-C-2004

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

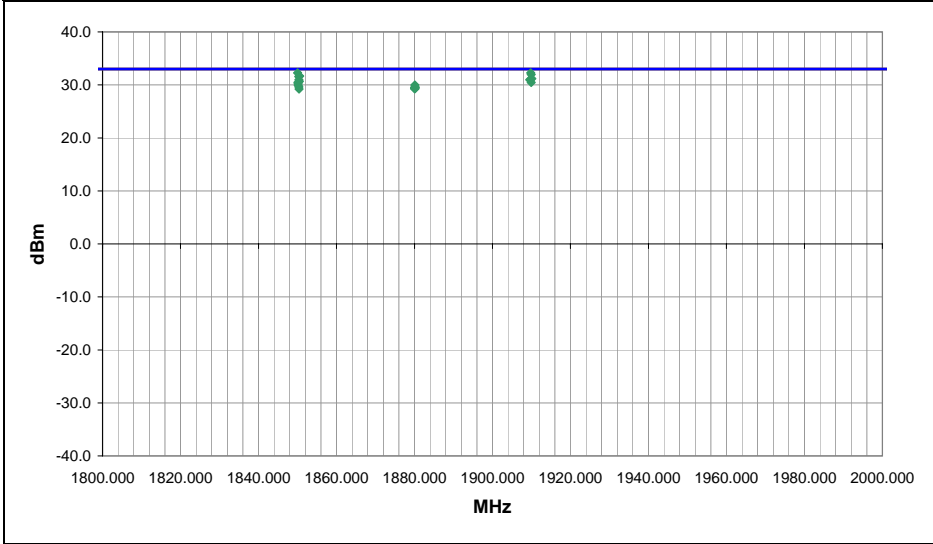
COMMENTS  
None

EUT OPERATING MODES  
PCS Band

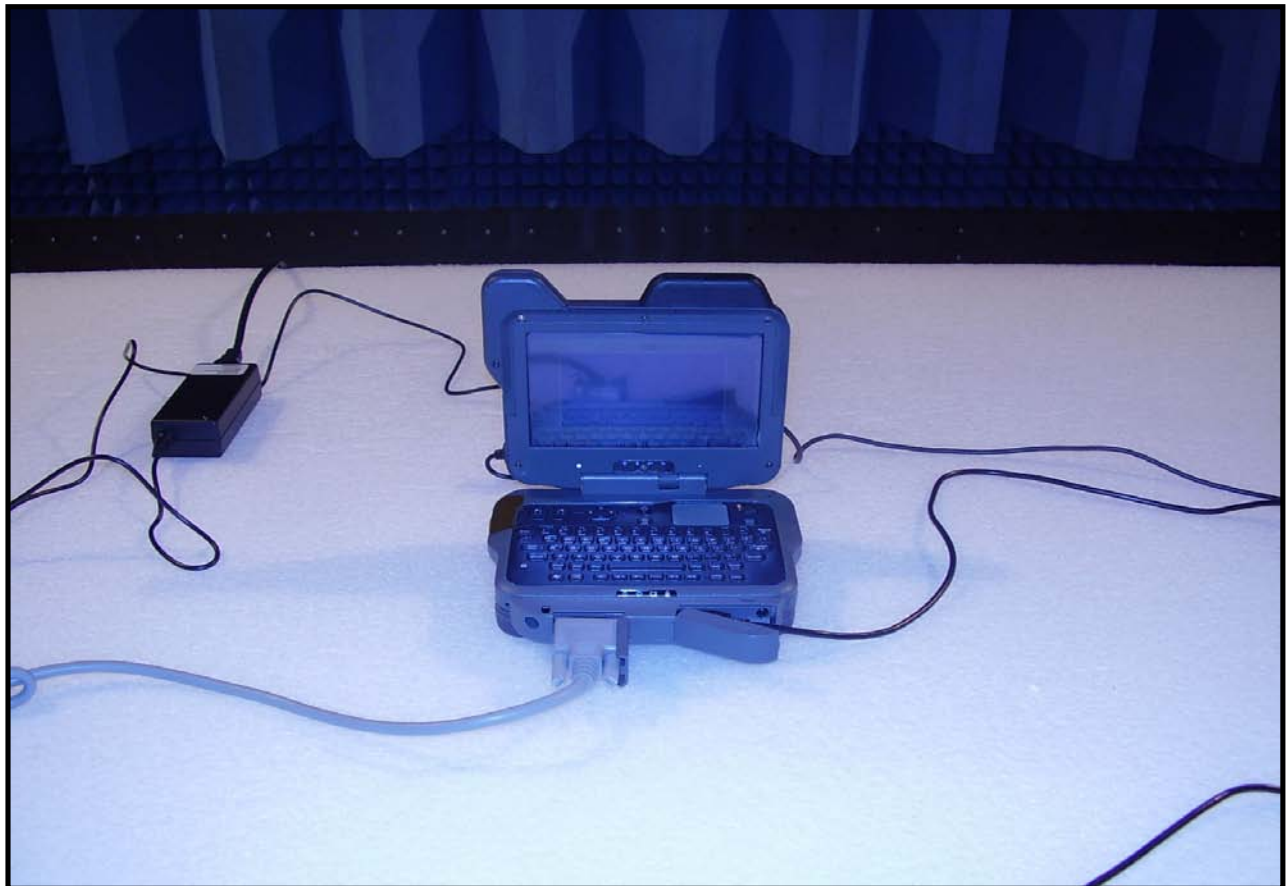
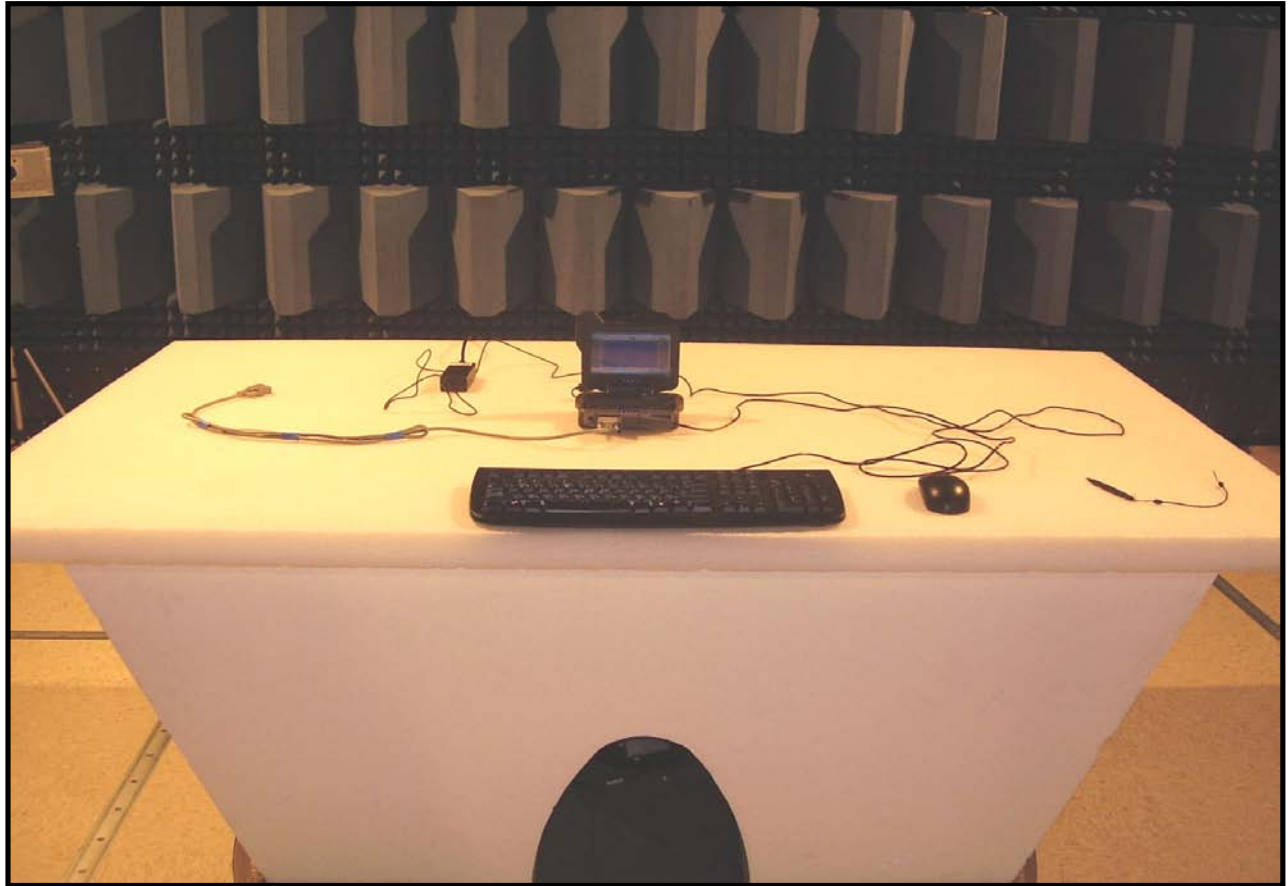
DEVIATIONS FROM TEST STANDARD  
No deviations.

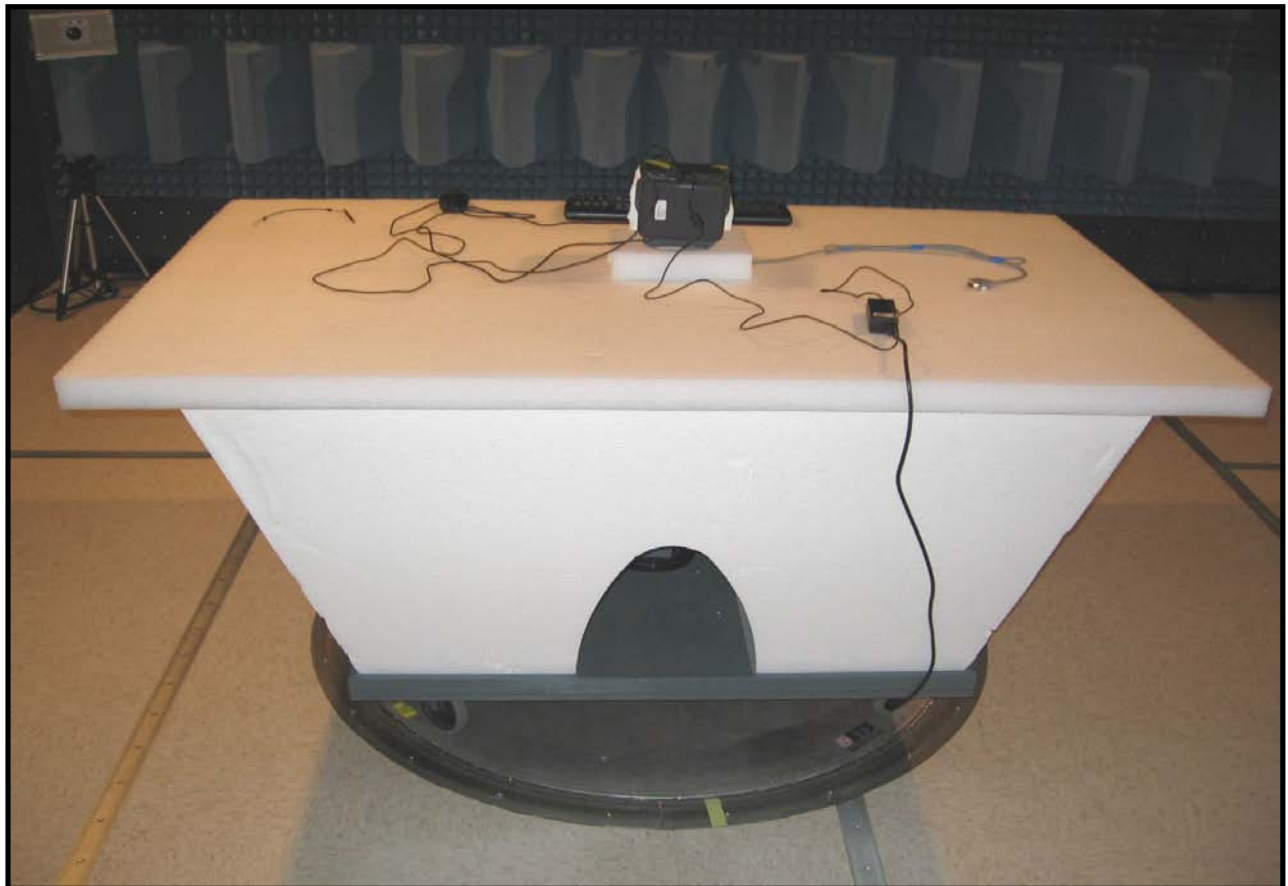
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Configuration #	1
Results	Pass

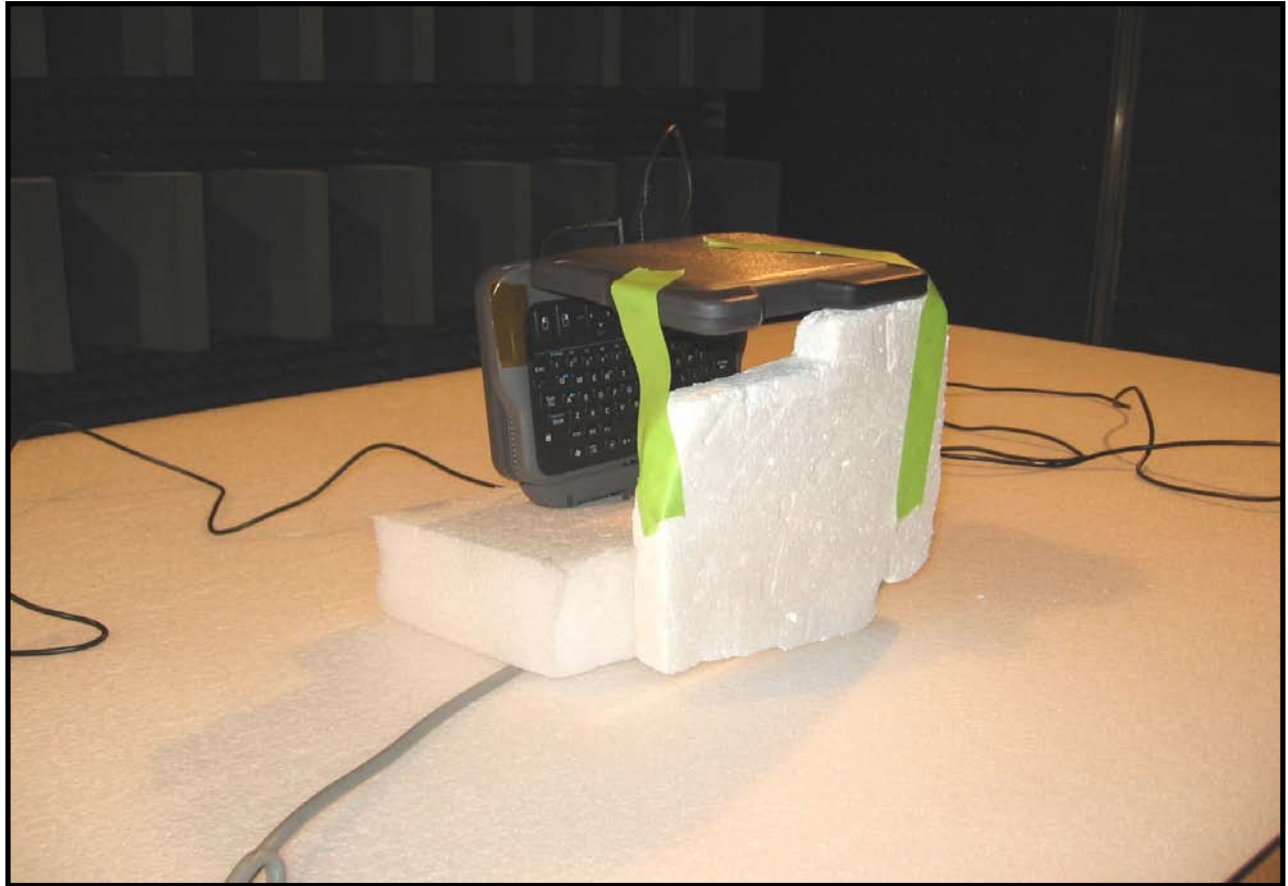
Signature *Holly Ashkannejhad*



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
1850.035	0.0	1.1	H-Horn	PK	1.69E+00	32.3	33.0	-0.7	GSM, Low channel, EUT on side
1909.793	124.0	1.1	H-Horn	PK	1.69E+00	32.3	33.0	-0.7	GSM, High channel, EUT screen horizontal
1909.950	125.0	1.1	H-Horn	PK	1.57E+00	32.0	33.0	-1.0	GPRS, High channel, EUT screen horizontal
1850.573	142.0	1.9	H-Horn	PK	1.47E+00	31.7	33.0	-1.3	GPRS, Low channel, EUT screen horizontal
1850.320	174.0	1.8	H-Horn	PK	1.44E+00	31.6	33.0	-1.4	GSM, Low channel, EUT screen vertical
1910.110	124.0	1.1	H-Horn	PK	1.31E+00	31.2	33.0	-1.8	Edge, High channel, EUT screen horizontal
1850.332	346.0	1.9	V-Horn	PK	1.25E+00	31.0	33.0	-2.0	GSM, Low channel, EUT screen horizontal
1909.545	325.0	1.1	V-Horn	PK	1.25E+00	31.0	33.0	-2.0	GPRS, High channel, EUT screen vertical
1909.717	70.0	1.1	V-Horn	PK	1.25E+00	31.0	33.0	-2.0	GSM, High channel, EUT screen vertical
1850.465	146.0	1.9	H-Horn	PK	1.17E+00	30.7	33.0	-2.3	Edge, Low channel, EUT screen horizontal
1909.917	355.0	1.1	V-Horn	PK	1.11E+00	30.5	33.0	-2.5	Edge, High channel, EUT screen vertical
1850.087	91.0	1.1	V-Horn	PK	1.11E+00	30.5	33.0	-2.5	EDGE, Low channel, EUT screen vertical
1850.142	94.0	1.1	V-Horn	PK	1.05E+00	30.2	33.0	-2.8	GPRS, Low channel, EUT screen vertical
1880.092	162.0	1.1	H-Horn	PK	9.96E-01	30.0	33.0	-3.0	GSM, Mid channel, EUT screen horizontal
1850.178	160.0	1.1	H-Horn	PK	9.84E-01	29.9	33.0	-3.1	GSM, Low channel, EUT screen horizontal
1850.360	107.0	1.4	V-Horn	PK	9.18E-01	29.6	33.0	-3.4	GSM, Low channel, EUT screen vertical
1880.138	127.0	1.1	H-Horn	PK	9.12E-01	29.6	33.0	-3.4	GPRS, Mid channel, EUT screen horizontal
1880.180	90.0	1.1	V-Horn	PK	8.88E-01	29.5	33.0	-3.5	GPRS, Mid channel, EUT screen vertical
1880.013	94.0	1.0	V-Horn	PK	8.81E-01	29.5	33.0	-3.5	Edge, Mid channel, EUT screen vertical
1880.135	124.0	1.1	H-Horn	PK	8.46E-01	29.3	33.0	-3.7	Edge, Mid channel, EUT screen horizontal







Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

#### MODES OF OPERATION

Cellular Band

#### POWER SETTINGS INVESTIGATED

120VAC/60Hz

#### FREQUENCY RANGE INVESTIGATED

Start Frequency	824MHz	Stop Frequency	849MHz
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#### SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

#### TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
EV12 Cables		Bilog Cables	EVS	5/14/2008	13
Antenna, Biconilog	EMCO	3141	AXE	1/15/2008	24
Signal Generator	Agilent	E8257D	TGX	12/7/2007	13
Power Meter	Gigatronics	8651A	SPM	12/7/2007	13
Power Sensor	Gigatronics	80701A	SPL	12/7/2007	13
Antenna, Dipole (part of ADA)	ETS	3121C-DB4	ADAA	NCR	0
Antenna, Dipole (ADAA included)	Roberts	Roberts	ADA	NCR	0
Spectrum Analyzer	Agilent	E4446A	AAY	12/18/2007	12

#### MEASUREMENT BANDWIDTHS

	Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
	0.01 - 0.15	1.0	0.2	0.2
	0.15 - 30.0	10.0	9.0	9.0
	30.0 - 1000	100.0	120.0	120.0
	Above 1000	1000.0	N/A	1000.0

Measurements were made using the bandwidths and detectors specified. No video filter was used.

#### MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

#### TEST DESCRIPTION

The fundamental emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height (1-4 meters) and polarization. The amplitude and frequency of the highest emission were noted. The EUT was then replaced with a ½ wave dipole that was successively tuned to the highest emission. A signal generator was connected to the dipole, and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded. The signal generator, amplifier, and cable were then connected to an analyzer and the power output was recorded. By factoring in the dipole antenna gain (dBi), the effective radiated power for the maximum fundamental emission was determined.

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/19/08
Customer: Spectrum Technology, Inc.	Temperature: 22
Attendees: Rod Munro	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: David Divergigelis	Power: 120VAC/60Hz
	Job Site: EV12

<b>TEST SPECIFICATIONS</b>	Test Method
FCC 22H:2007	ANSI/TIA/EIA-603-C-2004

<b>TEST PARAMETERS</b>	
Antenna Height(s) (m) 1 - 4	Test Distance (m) 3

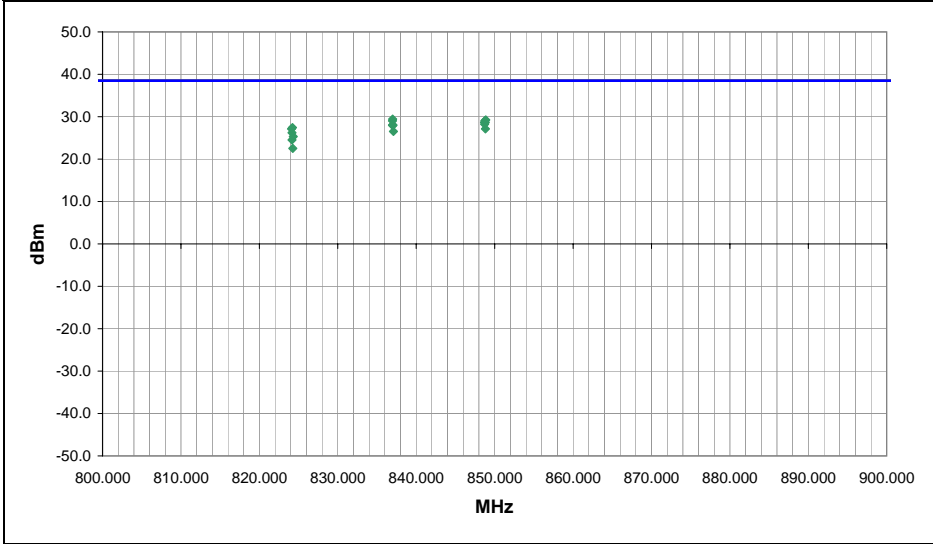
**COMMENTS**  
None

**EUT OPERATING MODES**  
Cellular Band

**DEVIATIONS FROM TEST STANDARD**  
No deviations.

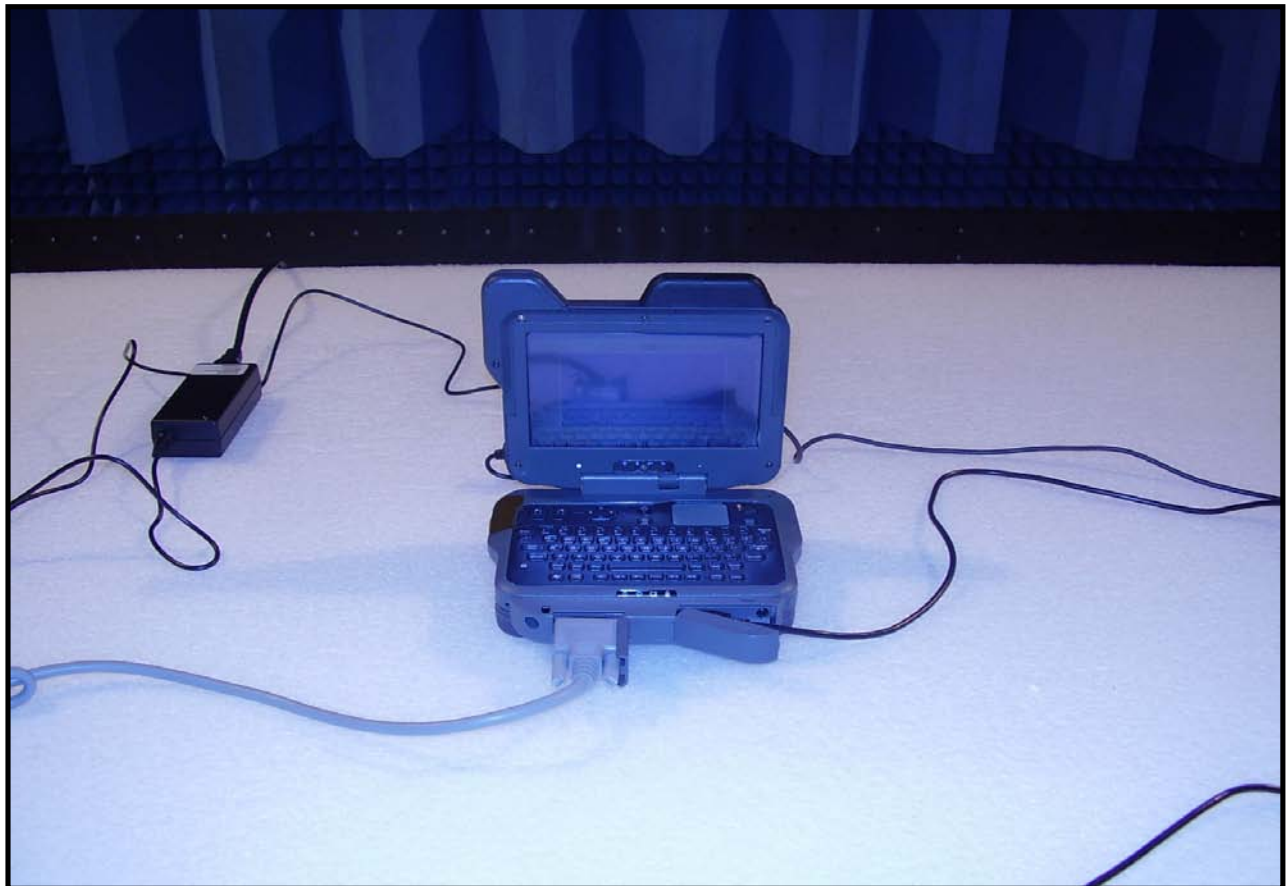
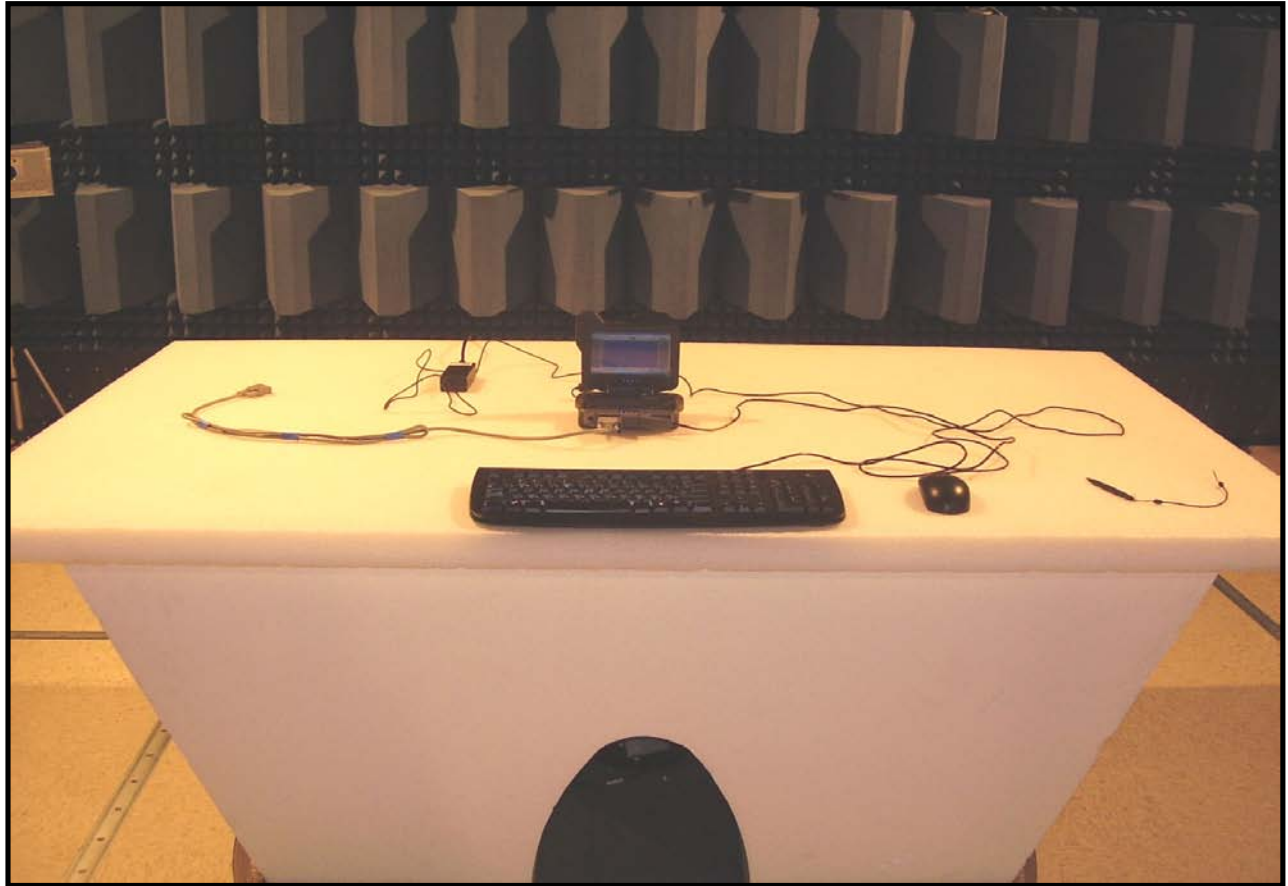
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Configuration #	1
Results	Pass

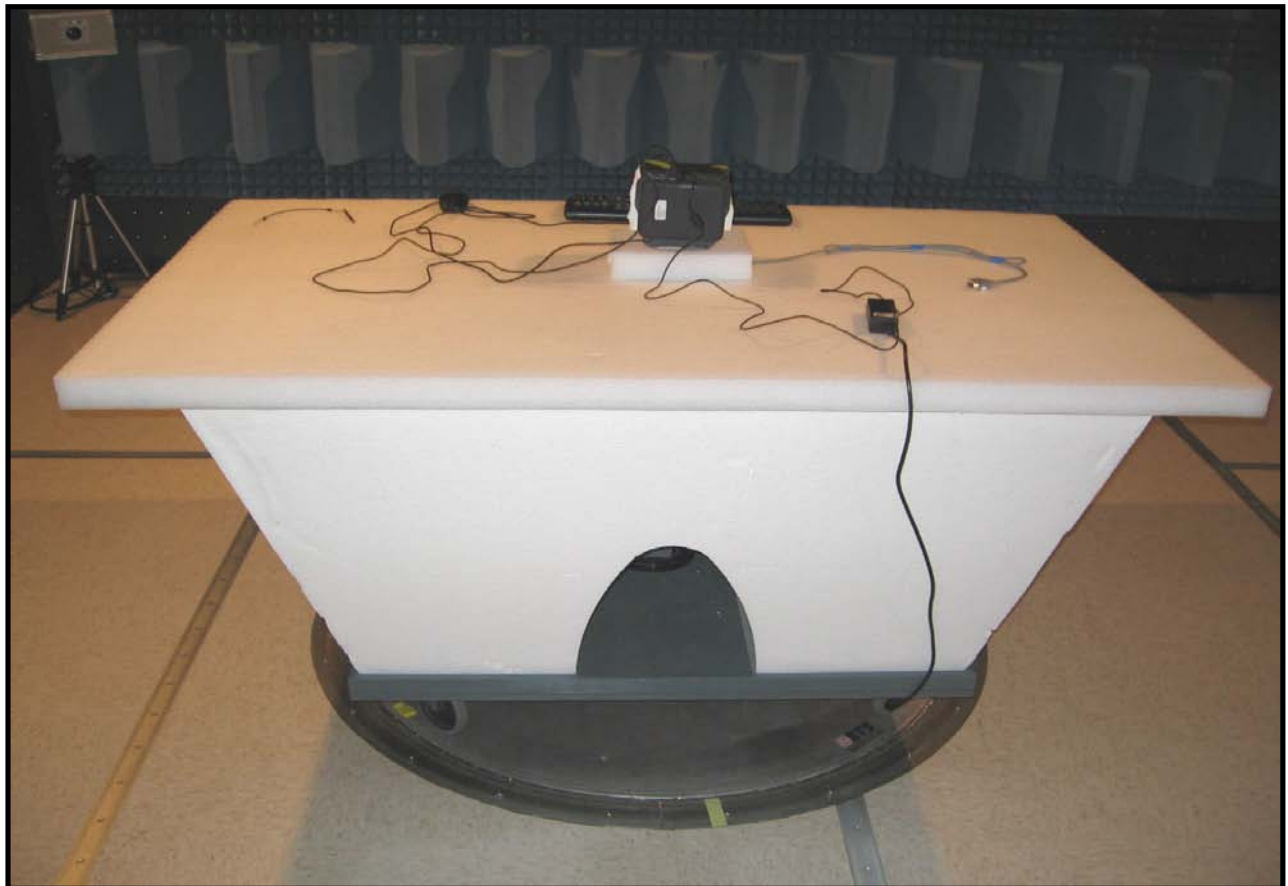
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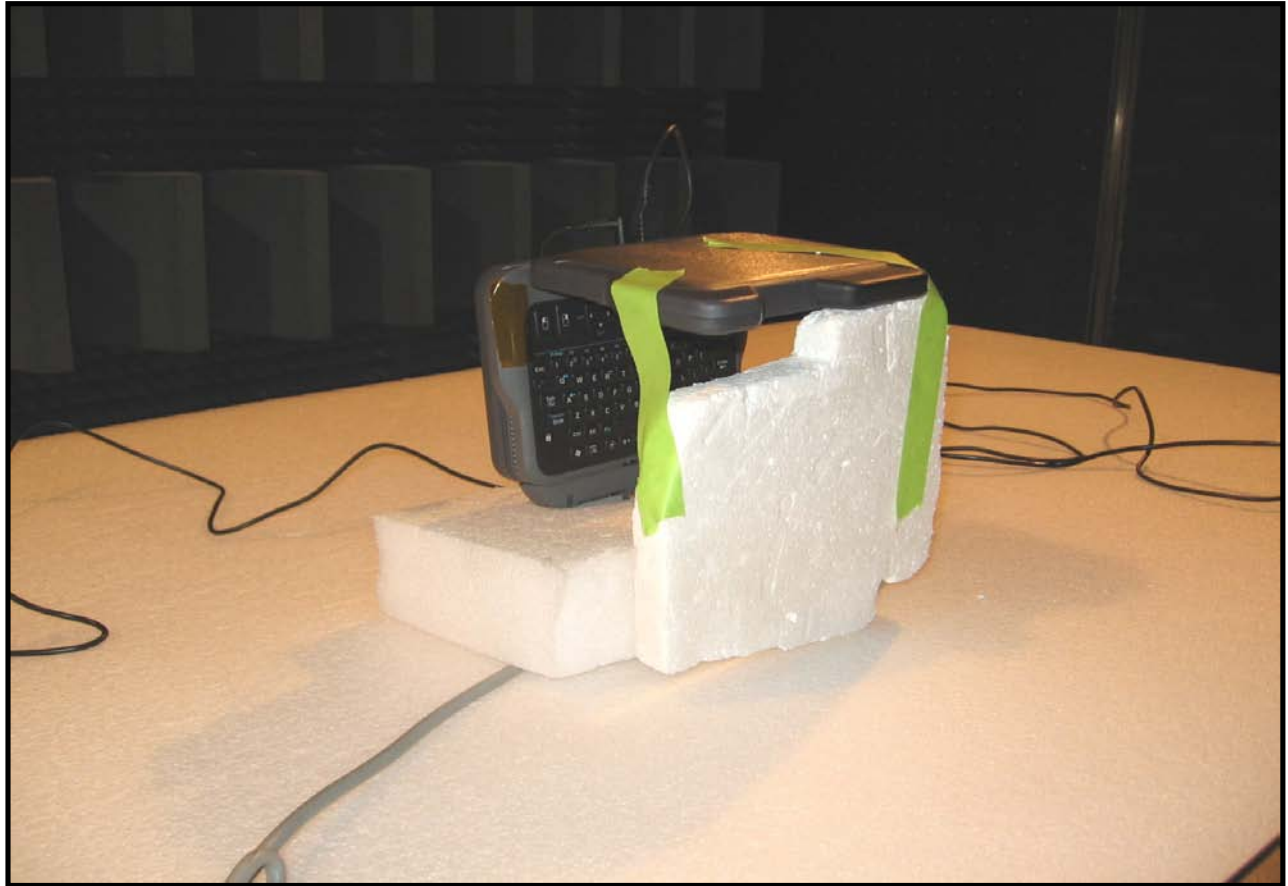


Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	ERP (Watts)	ERP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
836.998	319.0	1.0	H-Bilog	PK	8.77E-01	29.4	38.5	-9.1	Edge, Mid channel, EUT screen horizontal
848.860	123.0	1.0	H-Bilog	PK	8.38E-01	29.2	38.5	-9.3	GSM, High channel, EUT screen horizontal
836.977	319.0	1.0	H-Bilog	PK	8.00E-01	29.0	38.5	-9.5	GPRS, Mid channel, EUT screen horizontal
848.753	316.0	1.0	H-Bilog	PK	8.00E-01	29.0	38.5	-9.5	GPRS, High channel, EUT screen horizontal
848.702	321.0	1.0	H-Bilog	PK	7.30E-01	28.6	38.5	-9.9	Edge, High channel, EUT screen horizontal
848.797	139.0	1.2	V-Bilog	PK	7.30E-01	28.6	38.5	-9.9	GPRS, High channel, EUT screen vertical
848.720	57.0	1.1	V-Bilog	PK	6.65E-01	28.2	38.5	-10.3	GSM, High channel, EUT screen vertical
836.975	318.0	1.0	H-Bilog	PK	6.36E-01	28.0	38.5	-10.5	GSM, Mid channel, EUT screen horizontal
837.035	143.0	1.1	V-Bilog	PK	6.36E-01	28.0	38.5	-10.5	GPRS, Mid channel, EUT screen vertical
837.010	147.0	1.2	V-Bilog	PK	6.21E-01	27.9	38.5	-10.6	Edge, Mid channel, EUT screen vertical
824.228	316.0	1.0	H-Bilog	PK	5.54E-01	27.4	38.5	-11.1	Edge, Low channel, EUT screen horizontal
824.093	146.0	1.2	V-Bilog	PK	5.17E-01	27.1	38.5	-11.4	GPRS, Low channel, EUT screen vertical
848.837	87.0	1.2	V-Bilog	PK	5.17E-01	27.1	38.5	-11.4	Edge, High channel, EUT screen vertical
837.103	55.0	1.1	V-Bilog	PK	4.50E-01	26.5	38.5	-12.0	GSM, Mid channel, EUT screen vertical
824.153	0.0	1.0	H-Bilog	PK	4.20E-01	26.2	38.5	-12.3	GSM, Low channel, EUT screen horizontal
824.312	148.0	1.2	V-Bilog	PK	3.41E-01	25.3	38.5	-13.2	Edge, Low channel, EUT screen vertical
824.152	126.0	1.0	H-Bilog	PK	2.84E-01	24.5	38.5	-14.0	GPRS, Low channel, EUT screen horizontal
824.267	333.0	1.0	V-Bilog	PK	1.79E-01	22.5	38.5	-16.0	GSM, Low channel, EUT screen vertical









Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

**MODES OF OPERATION**

HSDPA (H-Set 5 QPSK)  
WCDMA (12.2k RMC)  
EDGE (EGPRS)  
GPRS  
GSM

**CHANNELS OF OPERATION FOR GSM/GPRS/EDGE CELLULAR BAND**

Low Channel, Ch. 128, 824.2MHz  
Mid Channel, Ch. 192, 837MHz  
High Channel, Ch. 251, 848.8MHz

**CHANNELS OF OPERATION FOR WCDMA/HSDPA CELLULAR BAND**

Low Channel, Ch. 4132, 826.4MHz  
Mid Channel, Ch. 4182, 836.4MHz  
High Channel, Ch. 4233, 946.6MHz

**POWER SETTINGS INVESTIGATED**

120VAC/60Hz

**FREQUENCY RANGE INVESTIGATED**

Start Frequency 30MHz Stop Frequency 26 GHz

**SAMPLE CALCULATIONS**

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

**TEST EQUIPMENT**

Description	Manufacturer	Model	ID	Last Cal.	Interval
Antenna, Dipole (part of ADA)	ETS	3121C-DB4	ADAA	NCR	0
Antenna, Dipole (ADAA included)	Roberts	Roberts	ADA	NCR	0
Signal Generator	Hewlett-Packard	8648D	TGC	12/7/2007	13
Power Meter	Gigatronics	8651A	SPM	12/7/2007	13
Power Sensor	Gigatronics	80701A	SPL	12/7/2007	13
Antenna, Horn	EMCO	3115	AHJ	5/24/2007	24
Low Pass Filter 0-425 MHz	Micro-Tronics	LPM50003	LFB	1/1/2007	17
Universal Radio Communication Test	Rhode & Schwarz	CMU200	BSU	12/21/2006	24
.5-1 GHz Notch Filter	K&L Microwave	3TNF-500/1000-N/N	HFT	8/29/2006	24
1-2 GHz Notch Filter	K&L Microwave	3TNF-1000/2000-N/N	HFU	8/29/2006	24
High Pass Filter	Micro-Tronics	50108	HGF	5/14/2008	13
High Pass Filter	Micro-Tronics	50111	HGE	5/14/2008	13
Attenuator	INMET	64671 6A-10dB	AUI	5/10/2008	13
Attenuator	Pasternack	PE7005-20	AUN	5/10/2008	13
Antenna, Horn	ETS	3160.07	AHZ	10/25/2007	12
EV12 Cables		Standard Gain Horn Cables	EVU	5/14/2008	13
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVH	5/14/2008	13
Antenna, Horn	ETS	3115	AIB	11/14/2007	12
EV12 Cables		Double Ridge Horn Cables	EVT	5/14/2008	13
Pre-Amplifier	Miteq	AMF-3D00100800-32-13P	AVF	4/4/2007	16
Antenna, Biconilog	EMCO	3141	AXE	1/15/2008	24
EV12 Cables		Bitlog Cables	EVS	5/14/2008	13
Pre-Amplifier	Miteq	AM-1616-1000	AVM	3/10/2008	13

**MEASUREMENT BANDWIDTHS**

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

Measurements were made using the bandwidths and detectors specified. No video filter was used.

**MEASUREMENT UNCERTAINTY**

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

**TEST DESCRIPTION**

The highest gain antenna to be used with the EUT was tested for final measurements. The EUT was configured for the lowest, a middle, and the highest transmit frequency in each operational band. For each configuration, the spectrum was scanned throughout the specified range. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.4:2003). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

For licensed transmitters, the FCC references TIA/EIA-603 as the measurement procedure standard. TIA/EIA-603 Section 2.2.12 describes a method for measuring radiated spurious emissions that utilizes an antenna substitution method:

At an approved test site, the transmitter is placed on a remotely controlled turntable, and the measurement antenna is placed 3 meters from the transmitter. The turntable azimuth is varied to maximize the level of spurious emissions. The height of the measurement antenna is also varied from 1 to 4 meters. The amplitude and frequency of the highest emissions are noted. The transmitter is then replaced with a ½ wave dipole that is successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator is connected to the dipole (horn antenna for frequencies above 1 GHz), and its output is adjusted to match the level previously noted for each frequency. The output of the signal generator is recorded, and by factoring in the cable loss to the antenna and its gain; the power (dBm) into an ideal ½ wave dipole antenna is determined for each radiated spurious emission.

For the purposes of preliminary measurements, the field strength of the spurious emissions can be measured and compared with a 3 meter limit. The 3 meter limit was calculated to be 82.5 dBuV/m at 3 meters. The final measurements must be made utilizing the substitution method described above.

# Out of Band Emissions

## EMC

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/20/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: None	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 22H:2007	ANSI/TIA/EIA-603-C-2004

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

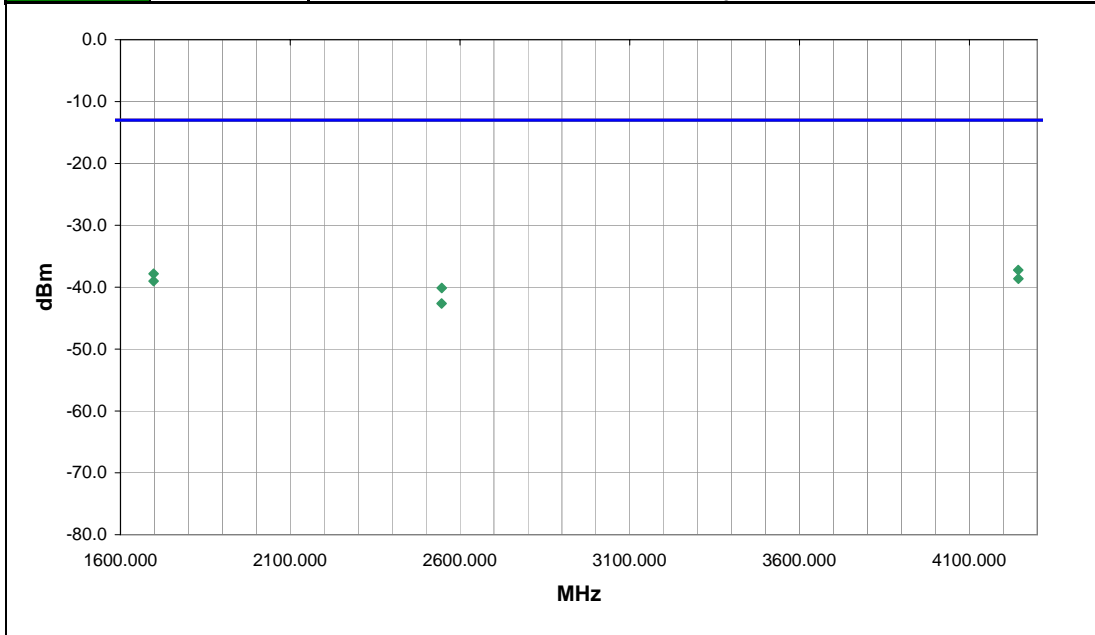
COMMENTS
None

EUT OPERATING MODES
Cellular Band, GSM, high channel

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	5
Configuration #	1
Results	Pass

Signature *Holly Ashkannejhad*



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
4243.873	152.0	1.8	H-Horn	PK	1.89E-07	-37.2	-13.0	-24.2	Screen horizontal
1697.468	257.0	1.2	V-Horn	PK	1.65E-07	-37.8	-13.0	-24.8	Screen vertical
4244.360	183.0	1.6	V-Horn	PK	1.37E-07	-38.6	-13.0	-25.6	Screen vertical
1697.597	174.0	1.2	H-Horn	PK	1.25E-07	-39.0	-13.0	-26.0	Screen horizontal
2546.308	22.0	1.4	H-Horn	PK	9.71E-08	-40.1	-13.0	-27.1	Screen horizontal
2545.832	234.0	1.2	V-Horn	PK	5.46E-08	-42.6	-13.0	-29.6	Screen vertical

# Out of Band Emissions

**EMC**

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/20/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: None	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 22H:2007	ANSI/TIA/EIA-603-C-2004

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS
None

**EUT OPERATING MODES**

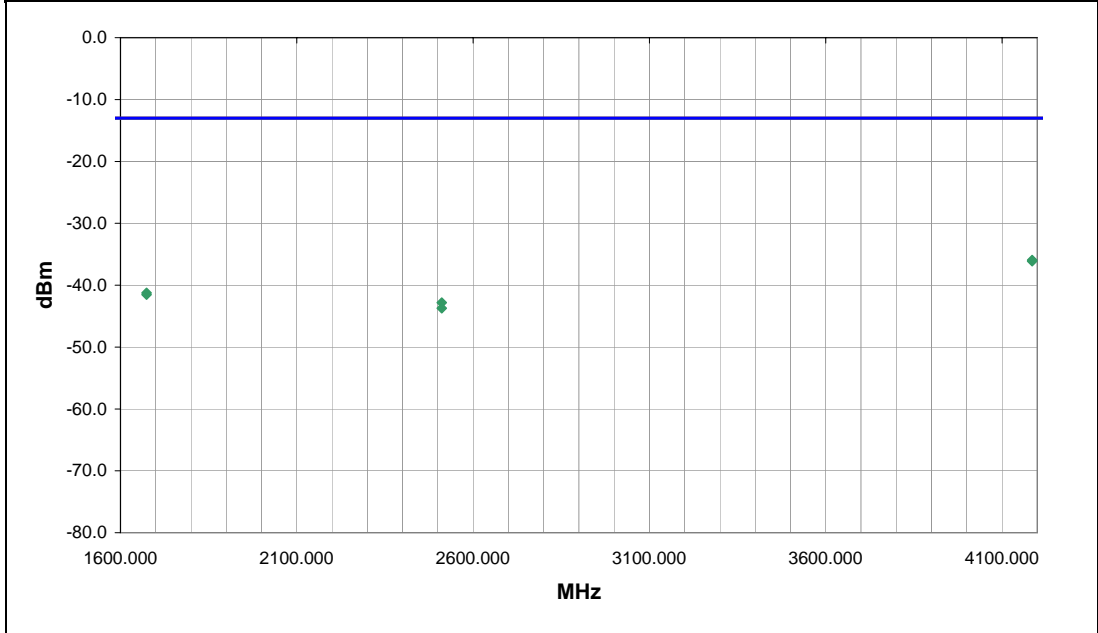
Cellular Band, GSM, mid channel

**DEVIATIONS FROM TEST STANDARD**

No deviations.

Run #	6
Configuration #	1
Results	Pass

Signature *Holly Ashkannejhad*



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
4185.381	33.0	1.1	V-Horn	PK	2.55E-07	-35.9	-13.0	-22.9	Screen vertical
4185.426	125.0	1.8	H-Horn	PK	2.44E-07	-36.1	-13.0	-23.1	Screen horizontal
1673.799	222.0	1.2	V-Horn	PK	7.54E-08	-41.2	-13.0	-28.2	Screen vertical
1673.889	146.0	1.2	H-Horn	PK	7.03E-08	-41.5	-13.0	-28.5	Screen horizontal
2511.361	21.0	1.2	H-Horn	PK	5.21E-08	-42.8	-13.0	-29.8	Screen horizontal
2511.063	228.0	1.2	V-Horn	PK	4.24E-08	-43.7	-13.0	-30.7	Screen vertical

# Out of Band Emissions

## EMC

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/20/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: None	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 22H:2007	ANSI/TIA/EIA-603-C-2004

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

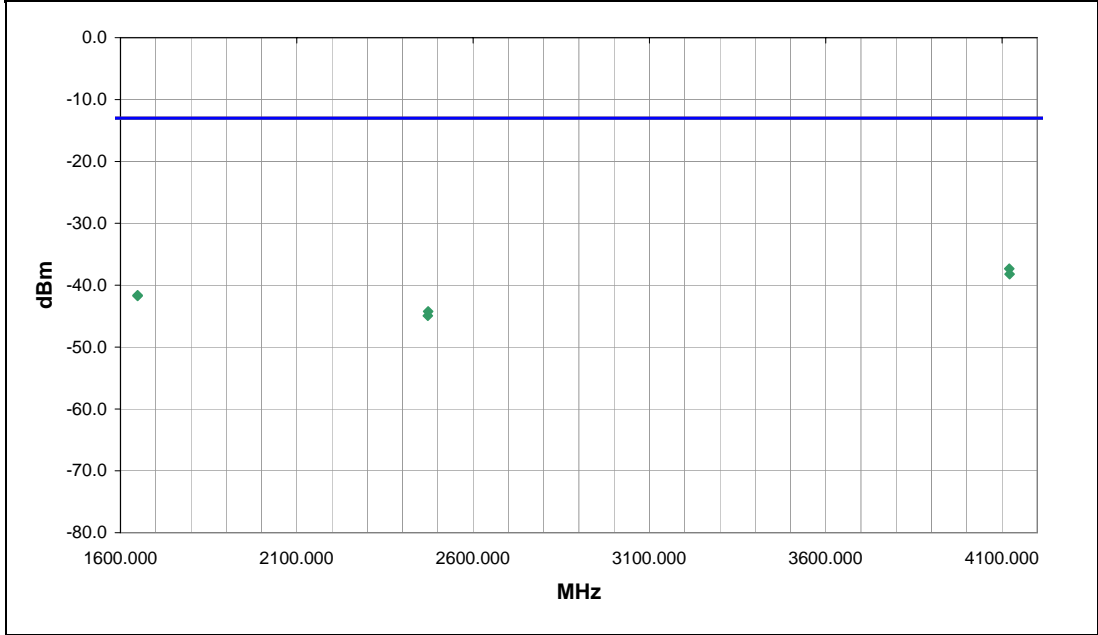
COMMENTS
None

EUT OPERATING MODES
Cellular Band, GSM, low channel

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	7
Configuration #	1
Results	Pass

Signature *Holly Ashkannejhad*



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
4120.577	150.0	1.9	H-Horn	PK	1.85E-07	-37.3	-13.0	-24.3	Screen horizontal
4121.347	3.0	1.2	V-Horn	PK	1.50E-07	-38.2	-13.0	-25.2	Screen vertical
1648.633	256.0	1.2	V-Horn	PK	6.87E-08	-41.6	-13.0	-28.6	Screen vertical
1648.773	180.0	1.8	H-Horn	PK	6.72E-08	-41.7	-13.0	-28.7	Screen horizontal
2472.457	124.0	1.2	V-Horn	PK	3.78E-08	-44.2	-13.0	-31.2	Screen vertical
2471.820	52.0	1.2	H-Horn	PK	3.21E-08	-44.9	-13.0	-31.9	Screen horizontal

# Out of Band Emissions

## EMC

EUT:	IX750 with IX-MC8775	Work Order:	SPT0089
Serial Number:	None	Date:	05/27/08
Customer:	Spectrum Technology, Inc.	Temperature:	23
Attendees:	None	Humidity:	30%
Project:	None	Barometric Pres.:	1016.8
Tested by:	Holly Ashkannejhad	Power:	120VAC/60Hz
		Job Site:	EV12

### TEST SPECIFICATIONS

FCC 22H:2007	Test Method
	ANSI/TIA/EIA-603-C-2004

### TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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### COMMENTS

None

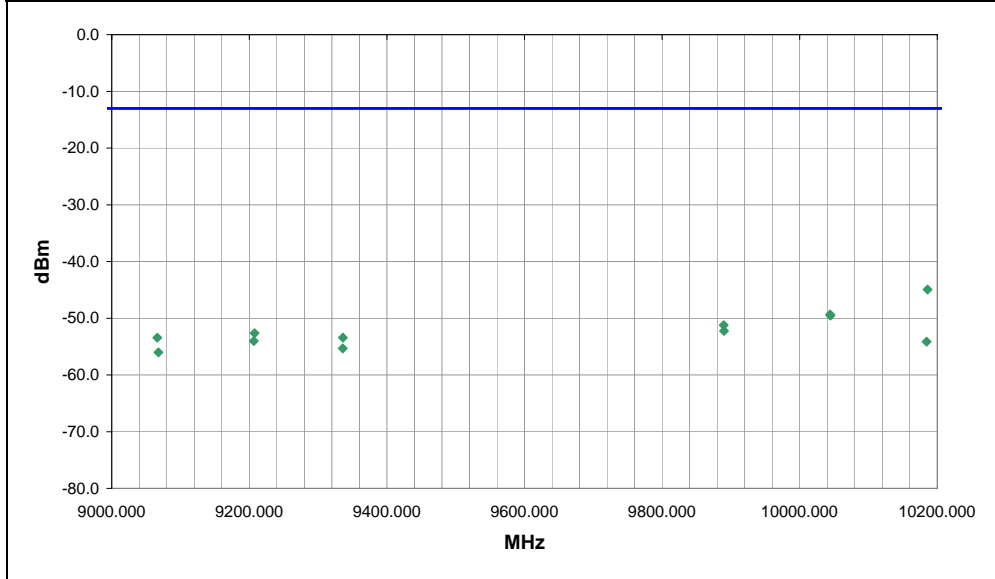
### EUT OPERATING MODES

Cellular Band, GSM

### DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	25	Signature <i>Holly Ashkannejhad</i>
Configuration #	1	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
10185.760	224.0	1.0	H-Horn	PK	3.21E-08	-44.9	-13.0	-31.9	GSM, High channel, Screen vertical
10044.110	50.0	1.0	V-Horn	PK	1.17E-08	-49.3	-13.0	-36.3	GSM, mid channel, Screen vertical
10044.700	216.0	1.0	H-Horn	PK	1.11E-08	-49.5	-13.0	-36.5	GSM, mid channel, Screen vertical
9889.540	56.0	1.0	V-Horn	PK	7.54E-09	-51.2	-13.0	-38.2	GSM, low channel, Screen vertical
9890.082	123.0	1.2	H-Horn	PK	5.99E-09	-52.2	-13.0	-39.2	GSM, low channel, Screen vertical
9207.642	283.0	1.0	H-Horn	PK	5.46E-09	-52.6	-13.0	-39.6	GSM, mid channel, Screen vertical
9066.310	112.0	1.0	V-Horn	PK	4.54E-09	-53.4	-13.0	-40.4	GSM, low channel, Screen vertical
9335.933	45.0	1.0	V-Horn	PK	4.54E-09	-53.4	-13.0	-40.4	GSM, High channel, Screen vertical
9206.450	270.0	1.0	V-Horn	PK	3.95E-09	-54.0	-13.0	-41.0	GSM, mid channel, Screen vertical
10184.360	320.0	1.3	V-Horn	PK	3.86E-09	-54.1	-13.0	-41.1	GSM, High channel, Screen vertical
9335.758	129.0	1.0	H-Horn	PK	2.93E-09	-55.3	-13.0	-42.3	GSM, High channel, Screen vertical
9067.893	314.0	1.0	H-Horn	PK	2.50E-09	-56.0	-13.0	-43.0	GSM, low channel, Screen vertical



# Out of Band Emissions

## EMC

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/21/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: None	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 22H:2007	ANSI/TIA/EIA-603-C-2004

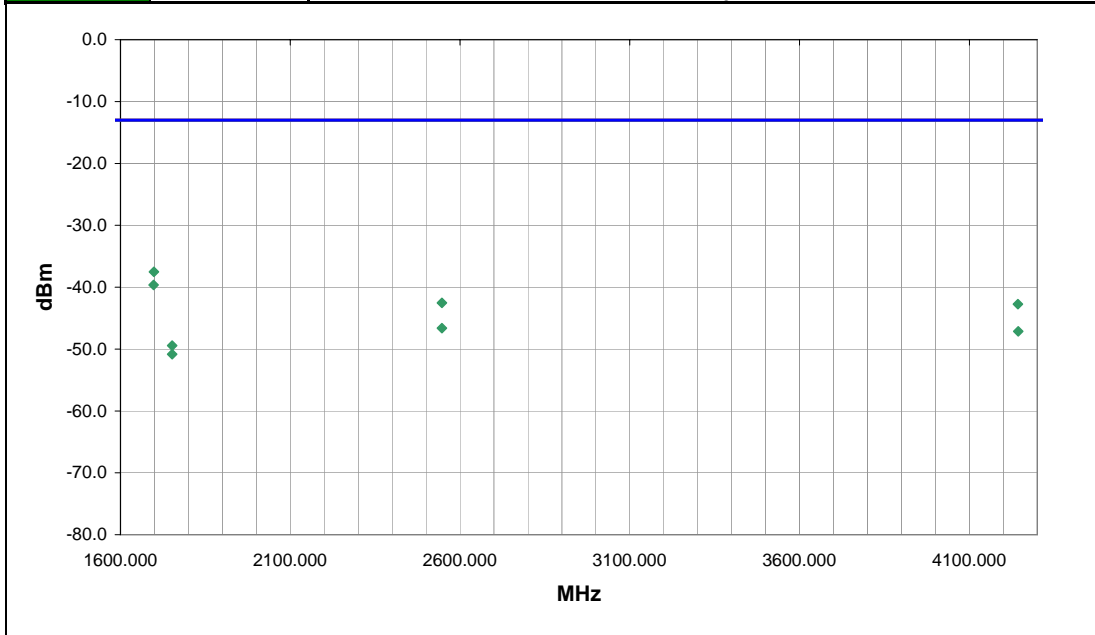
TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS
None

EUT OPERATING MODES
Cellular Band, GPRS, high channel
DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	12
Configuration #	1
Results	Pass

Signature *Holly Ashkannejhad*



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
1698.361	34.0	1.6	V-Horn	PK	1.77E-07	-37.5	-13.0	-24.5	Screen vertical
1697.454	275.0	1.0	H-Horn	PK	1.09E-07	-39.6	-13.0	-26.6	Screen horizontal
2546.486	115.0	1.1	H-Horn	PK	5.59E-08	-42.5	-13.0	-29.5	Screen horizontal
4243.040	84.0	1.7	H-Horn	PK	5.33E-08	-42.7	-13.0	-29.7	Screen horizontal
2546.493	15.0	1.0	V-Horn	PK	2.17E-08	-46.6	-13.0	-33.6	Screen vertical
4243.797	330.0	1.2	V-Horn	PK	1.94E-08	-47.1	-13.0	-34.1	Screen vertical
1752.117	172.0	1.0	H-Horn	PK	1.14E-08	-49.4	-13.0	-36.4	Screen horizontal
1752.247	294.0	2.3	V-Horn	PK	8.26E-09	-50.8	-13.0	-37.8	Screen vertical

# Out of Band Emissions

## EMC

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/21/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: None	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 22H:2007	ANSI/TIA/EIA-603-C-2004

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS
None

**EUT OPERATING MODES**

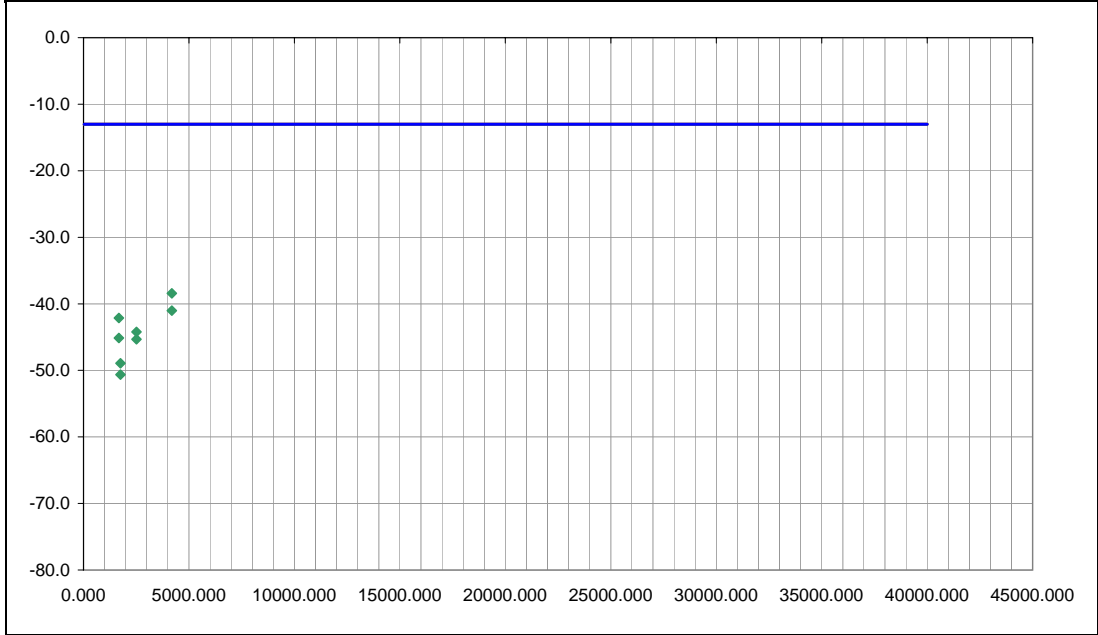
Cellular Band, GPRS, mid channel

**DEVIATIONS FROM TEST STANDARD**

No deviations.

Run #	13
Configuration #	1
Results	Pass

Signature *Holly Ashkannejhad*



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
4184.660	151.0	1.5	H-Horn	PK	1.44E-07	-38.4	-13.0	-25.4	Screen horizontal
4184.533	293.0	1.4	V-Horn	PK	7.89E-08	-41.0	-13.0	-28.0	Screen vertical
1673.893	149.0	1.0	H-Horn	PK	6.13E-08	-42.1	-13.0	-29.1	Screen horizontal
2511.493	162.0	1.0	H-Horn	PK	3.78E-08	-44.2	-13.0	-31.2	Screen horizontal
1674.013	26.0	1.0	V-Horn	PK	3.07E-08	-45.1	-13.0	-32.1	Screen vertical
2510.200	33.0	1.0	V-Horn	PK	2.93E-08	-45.3	-13.0	-32.3	Screen vertical
1751.980	79.0	1.8	V-Horn	PK	1.28E-08	-48.9	-13.0	-35.9	Screen vertical
1752.240	169.0	1.0	H-Horn	PK	8.65E-09	-50.6	-13.0	-37.6	Screen horizontal

# Out of Band Emissions

## EMC

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/21/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: None	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 22H:2007	ANSI/TIA/EIA-603-C-2004

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

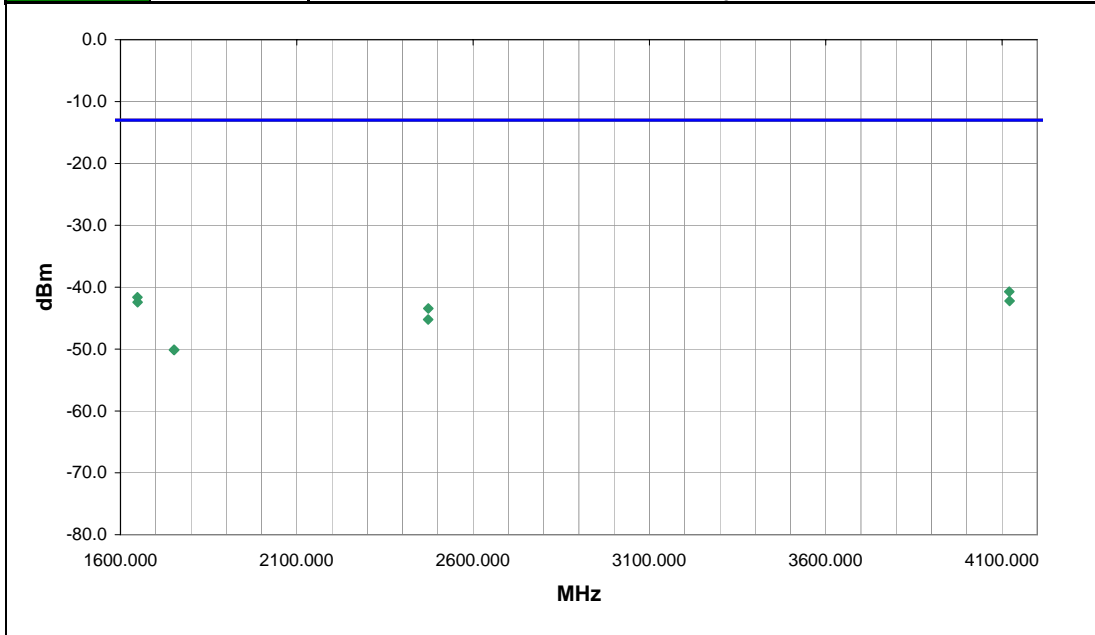
**COMMENTS**  
None

**EUT OPERATING MODES**  
Cellular Band, GPRS, low channel

**DEVIATIONS FROM TEST STANDARD**  
No deviations.

Run #	14
Configuration #	1
Results	Pass

Signature *Holly Ashkannejhad*



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
4120.657	310.0	1.0	V-Horn	PK	8.46E-08	-40.7	-13.0	-27.7	Screen vertical
1648.156	158.0	1.0	H-Horn	PK	6.87E-08	-41.6	-13.0	-28.6	Screen horizontal
4121.497	179.0	1.2	H-Horn	PK	5.99E-08	-42.2	-13.0	-29.2	Screen horizontal
1648.476	109.0	1.0	V-Horn	PK	5.72E-08	-42.4	-13.0	-29.4	Screen vertical
2472.807	175.0	1.4	H-Horn	PK	4.54E-08	-43.4	-13.0	-30.4	Screen horizontal
2472.470	117.0	1.2	V-Horn	PK	3.00E-08	-45.2	-13.0	-32.2	Screen vertical
1752.060	174.0	1.0	V-Horn	PK	9.71E-09	-50.1	-13.0	-37.1	Screen vertical
1752.114	149.0	1.0	H-Horn	PK	9.71E-09	-50.1	-13.0	-37.1	Screen horizontal

# Out of Band Emissions

## EMC

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/21/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: None	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 22H:2007	ANSI/TIA/EIA-603-C-2004

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

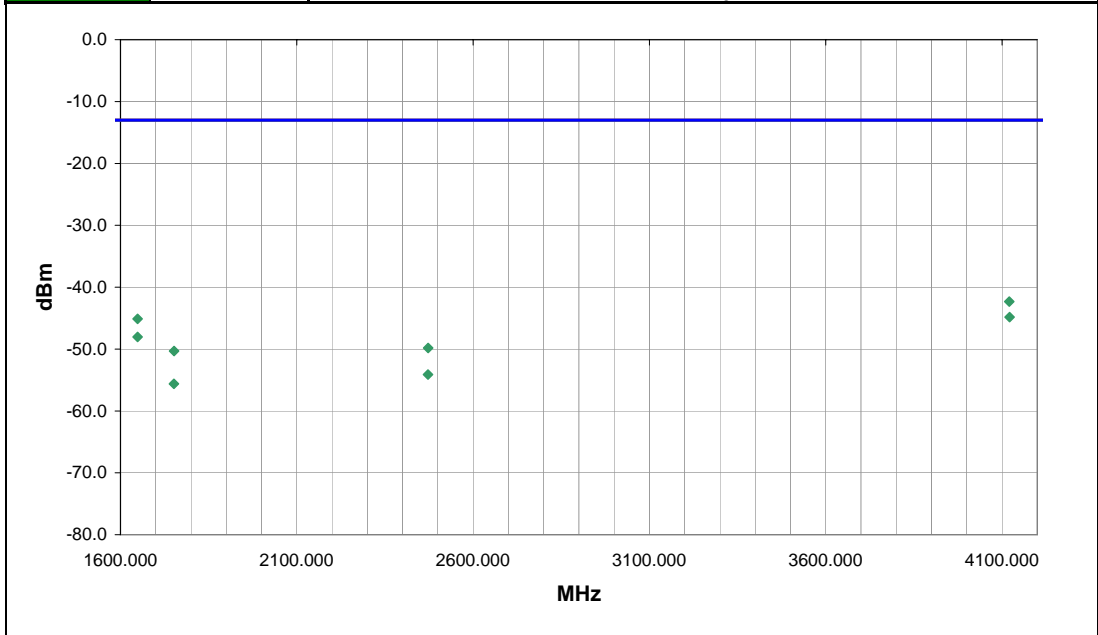
**COMMENTS**  
None

**EUT OPERATING MODES**  
Cellular Band, Edge, low channel

**DEVIATIONS FROM TEST STANDARD**  
No deviations.

Run #	10
Configuration #	1
Results	Pass

Signature *Holly Ashkannejhad*



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
4120.764	192.0	1.5	H-Horn	PK	5.85E-08	-42.3	-13.0	-29.3	Screen horizontal
4121.321	51.0	1.0	V-Horn	PK	3.29E-08	-44.8	-13.0	-31.8	Screen vertical
1648.566	3.0	1.0	V-Horn	PK	3.07E-08	-45.1	-13.0	-32.1	Screen vertical
1648.489	12.0	1.0	H-Horn	PK	1.57E-08	-48.0	-13.0	-35.0	Screen horizontal
2472.623	199.0	1.0	H-Horn	PK	1.04E-08	-49.8	-13.0	-36.8	Screen horizontal
1752.014	176.0	1.0	H-Horn	PK	9.27E-09	-50.3	-13.0	-37.3	Screen horizontal
2471.930	3.0	1.0	V-Horn	PK	3.86E-09	-54.1	-13.0	-41.1	Screen vertical
1751.577	0.0	2.2	V-Horn	PK	2.74E-09	-55.6	-13.0	-42.6	Screen vertical

# Out of Band Emissions

## EMC

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/20/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: None	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 22H:2007	ANSI/TIA/EIA-603-C-2004

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

**COMMENTS**  
None

**EUT OPERATING MODES**

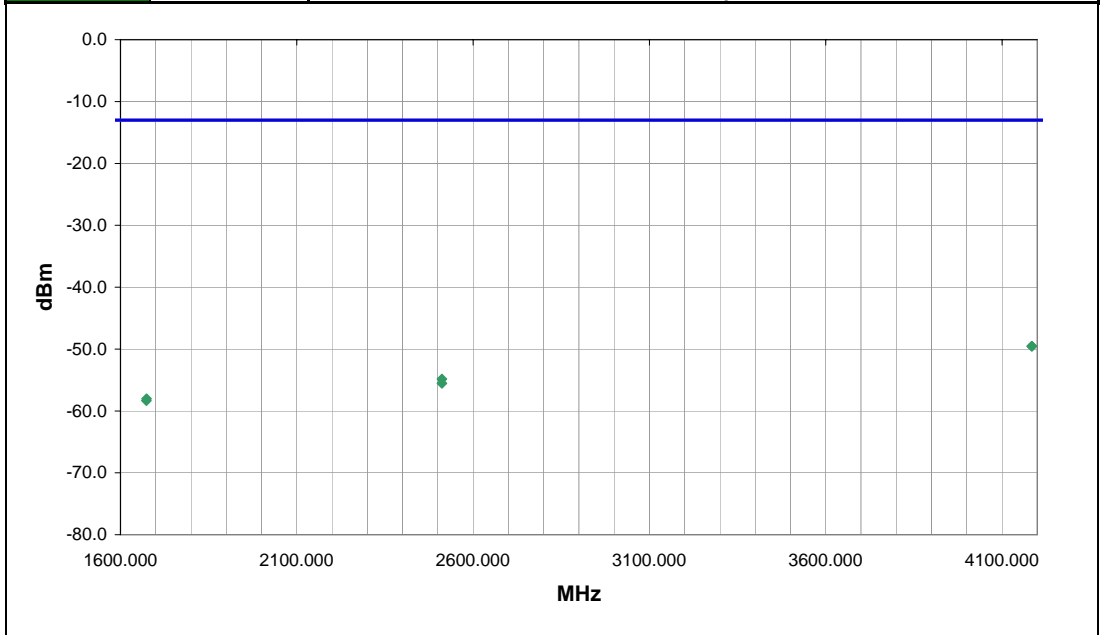
Cellular Band, Edge, mid channel

**DEVIATIONS FROM TEST STANDARD**

No deviations.

Run #	9
Configuration #	1
Results	Pass

Signature *Holly Ashkannejhad*



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
4184.306	156.0	1.2	H-Horn	PK	1.11E-08	-49.5	-13.0	-36.5	Screen horizontal
4185.058	286.0	1.2	V-Horn	PK	1.11E-08	-49.5	-13.0	-36.5	Screen vertical
2511.547	106.0	3.2	H-Horn	PK	3.29E-09	-54.8	-13.0	-41.8	Screen horizontal
2511.636	54.0	1.2	V-Horn	PK	2.80E-09	-55.5	-13.0	-42.5	Screen vertical
1674.036	7.0	1.0	V-Horn	PK	1.57E-09	-58.0	-13.0	-45.0	Screen vertical
1673.559	293.0	1.2	H-Horn	PK	1.47E-09	-58.3	-13.0	-45.3	Screen horizontal

# Out of Band Emissions

## EMC

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/21/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: None	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 22H:2007	ANSI/TIA/EIA-603-C-2004

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

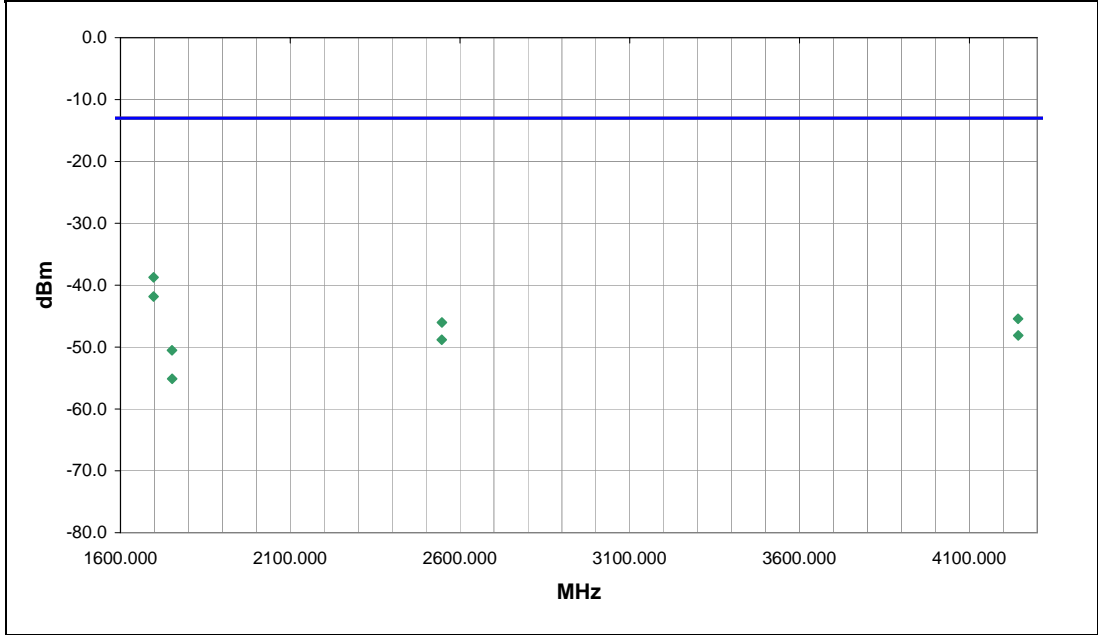
COMMENTS
None

EUT OPERATING MODES
Cellular Band, Edge, high channel

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	11
Configuration #	1
Results	Pass

Signature *Holly Ashkannejhad*



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
1697.694	38.0	1.6	V-Horn	PK	1.34E-07	-38.7	-13.0	-25.7	Screen vertical
1697.451	205.0	1.0	H-Horn	PK	6.56E-08	-41.8	-13.0	-28.8	Screen horizontal
4243.673	333.0	1.0	V-Horn	PK	2.86E-08	-45.4	-13.0	-32.4	Screen vertical
2546.566	28.0	1.0	V-Horn	PK	2.50E-08	-46.0	-13.0	-33.0	Screen vertical
4243.813	170.0	1.0	H-Horn	PK	1.54E-08	-48.1	-13.0	-35.1	Screen horizontal
2546.146	88.0	2.4	H-Horn	PK	1.31E-08	-48.8	-13.0	-35.8	Screen horizontal
1751.894	137.0	1.0	H-Horn	PK	8.85E-09	-50.5	-13.0	-37.5	Screen horizontal
1752.217	1.0	2.2	V-Horn	PK	3.07E-09	-55.1	-13.0	-42.1	Screen vertical

**Out of Band Emissions**

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/23/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: None	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: Rod Peloquin	Power: 120VAC/60Hz
	Job Site: EV12

<b>TEST SPECIFICATIONS</b>	Test Method
FCC 22H:2007	ANSI/TIA/EIA-603-C-2004

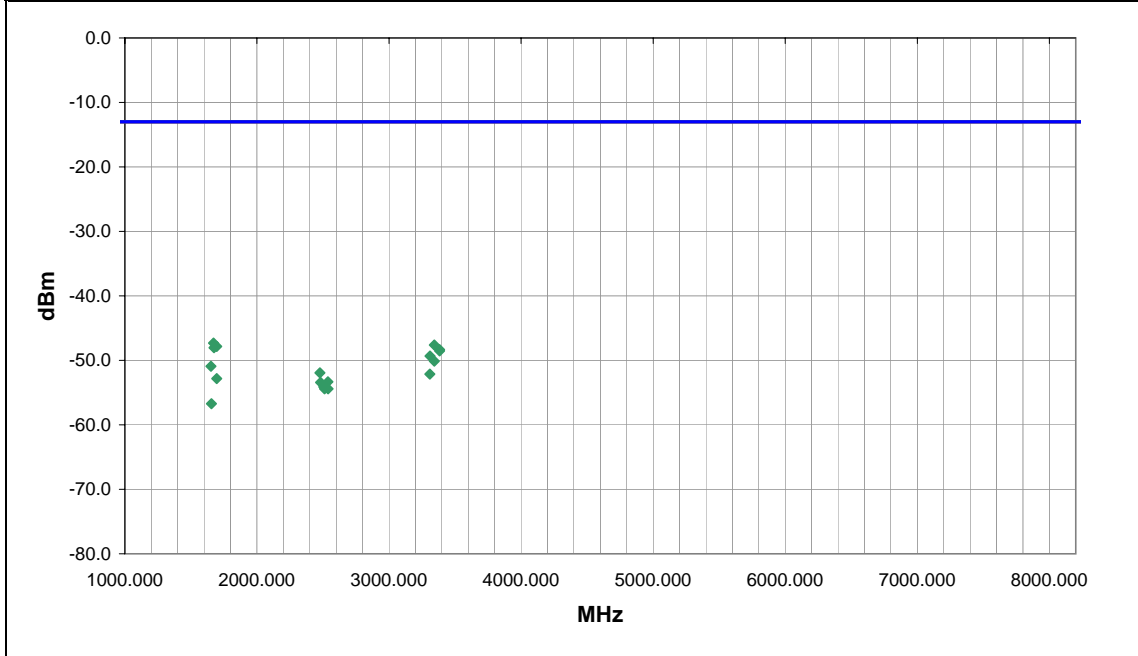
<b>TEST PARAMETERS</b>	
Antenna Height(s) (m) 1-4	Test Distance (m) 3

**COMMENTS**  
None

**EUT OPERATING MODES**  
Cellular Band, WCDMA

**DEVIATIONS FROM TEST STANDARD**  
No deviations.

Run #	20	 Signature
Configuration #	1	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
1671.200	178.0	1.0	H-Horn	PK	1.85E-08	-47.3	-13.0	-34.3	Mid channel
3342.740	326.0	1.0	H-Horn	PK	1.73E-08	-47.6	-13.0	-34.6	Mid channel
1695.040	1.0	1.9	H-Horn	PK	1.65E-08	-47.8	-13.0	-34.8	High channel
1674.380	278.0	1.0	V-Horn	PK	1.57E-08	-48.0	-13.0	-35.0	Mid channel
3383.560	338.0	1.0	H-Horn	PK	1.47E-08	-48.3	-13.0	-35.3	High channel
3383.300	269.0	1.3	V-Horn	PK	1.40E-08	-48.5	-13.0	-35.5	High channel
3309.860	190.0	1.0	H-Horn	PK	1.17E-08	-49.3	-13.0	-36.3	Low channel
3342.760	268.0	1.0	V-Horn	PK	9.71E-09	-50.1	-13.0	-37.1	Mid channel
1651.200	189.0	1.0	H-Horn	PK	8.07E-09	-50.9	-13.0	-37.9	Low channel
2477.340	310.0	1.4	H-Horn	PK	6.41E-09	-51.9	-13.0	-38.9	Low channel
3309.400	234.0	1.0	V-Horn	PK	6.13E-09	-52.1	-13.0	-39.1	Low channel
1694.820	1.0	1.9	V-Horn	PK	5.21E-09	-52.8	-13.0	-39.8	High channel
2537.280	3.0	1.0	H-Horn	PK	4.65E-09	-53.3	-13.0	-40.3	High channel
2482.180	258.0	1.0	V-Horn	PK	4.54E-09	-53.4	-13.0	-40.4	Low channel
2505.700	107.0	1.0	H-Horn	PK	3.86E-09	-54.1	-13.0	-41.1	Mid channel
2512.340	196.0	1.7	V-Horn	PK	3.61E-09	-54.4	-13.0	-41.4	Mid channel
2538.300	283.0	1.0	V-Horn	PK	3.61E-09	-54.4	-13.0	-41.4	High channel
1655.640	0.0	1.9	V-Horn	PK	2.12E-09	-56.7	-13.0	-43.7	Low channel

# Out of Band Emissions

**EMC**

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/23/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: None	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: David Divergigelis	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 22H:2007	ANSI/TIA/EIA-603-C-2004

TEST PARAMETERS
Antenna Height(s) (m)   1 - 4   Test Distance (m)   3

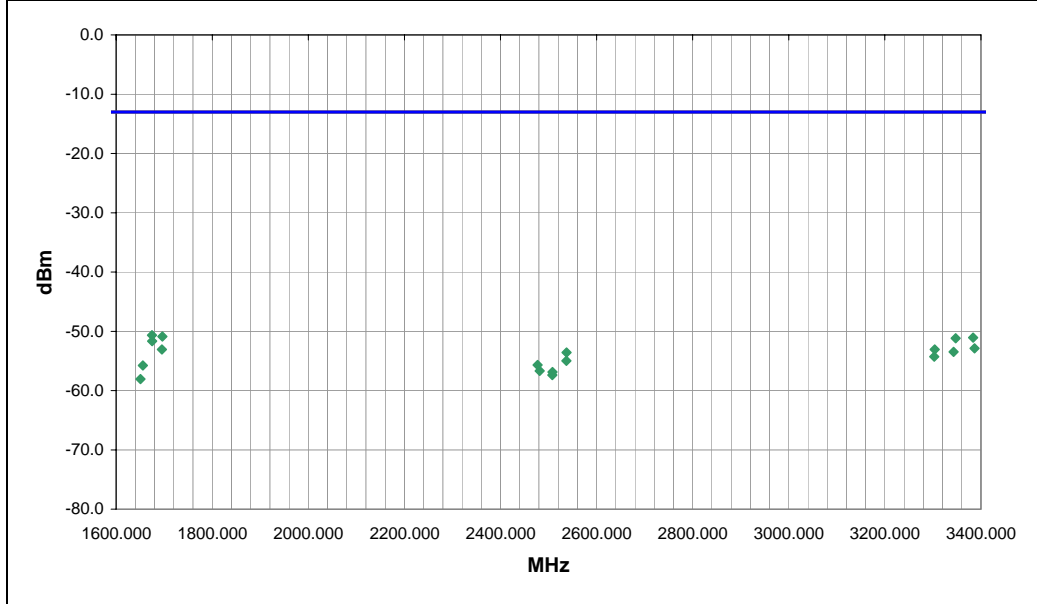
COMMENTS  
None

EUT OPERATING MODES  
Cellular Band, HSDPA

DEVIATIONS FROM TEST STANDARD  
No deviations.

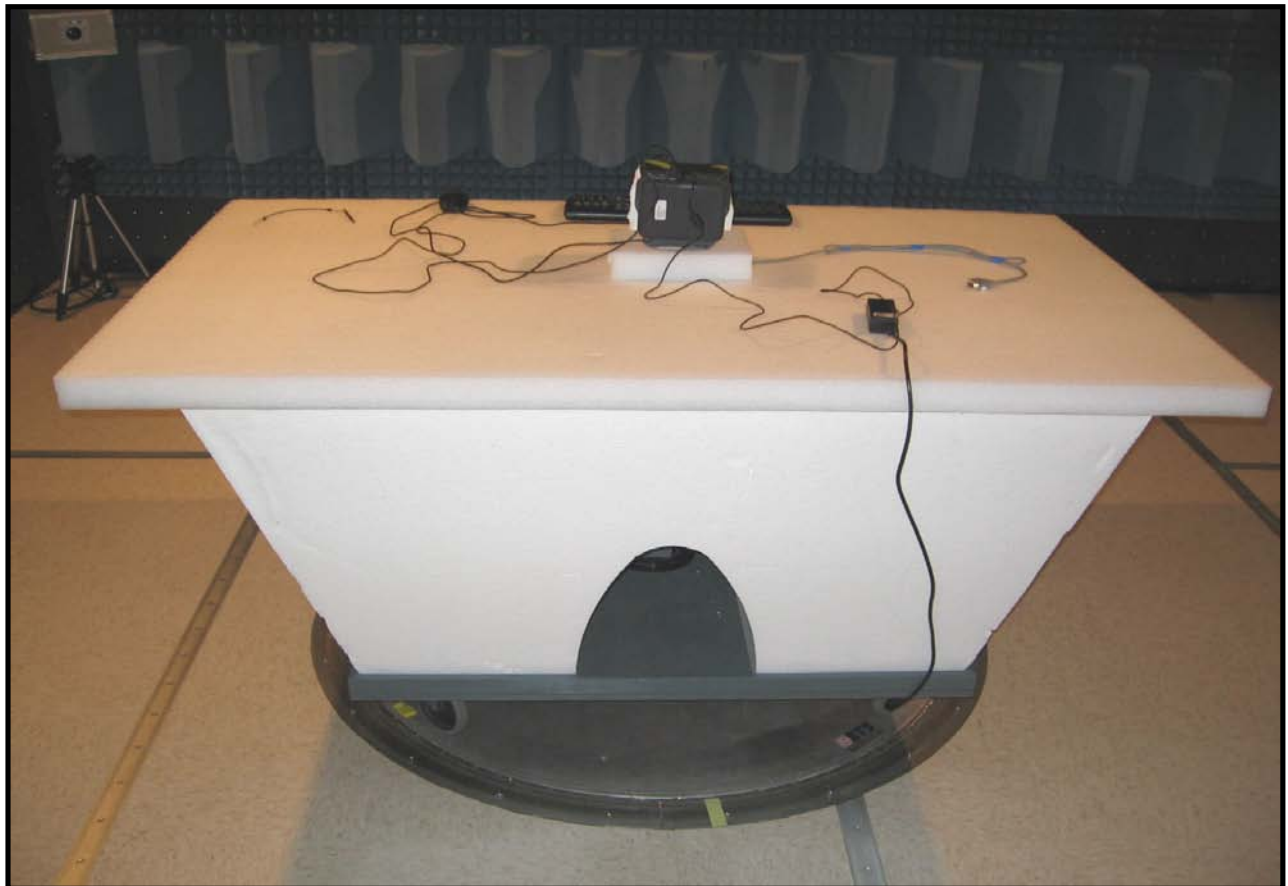
Run #	23
Configuration #	1
Results	Pass

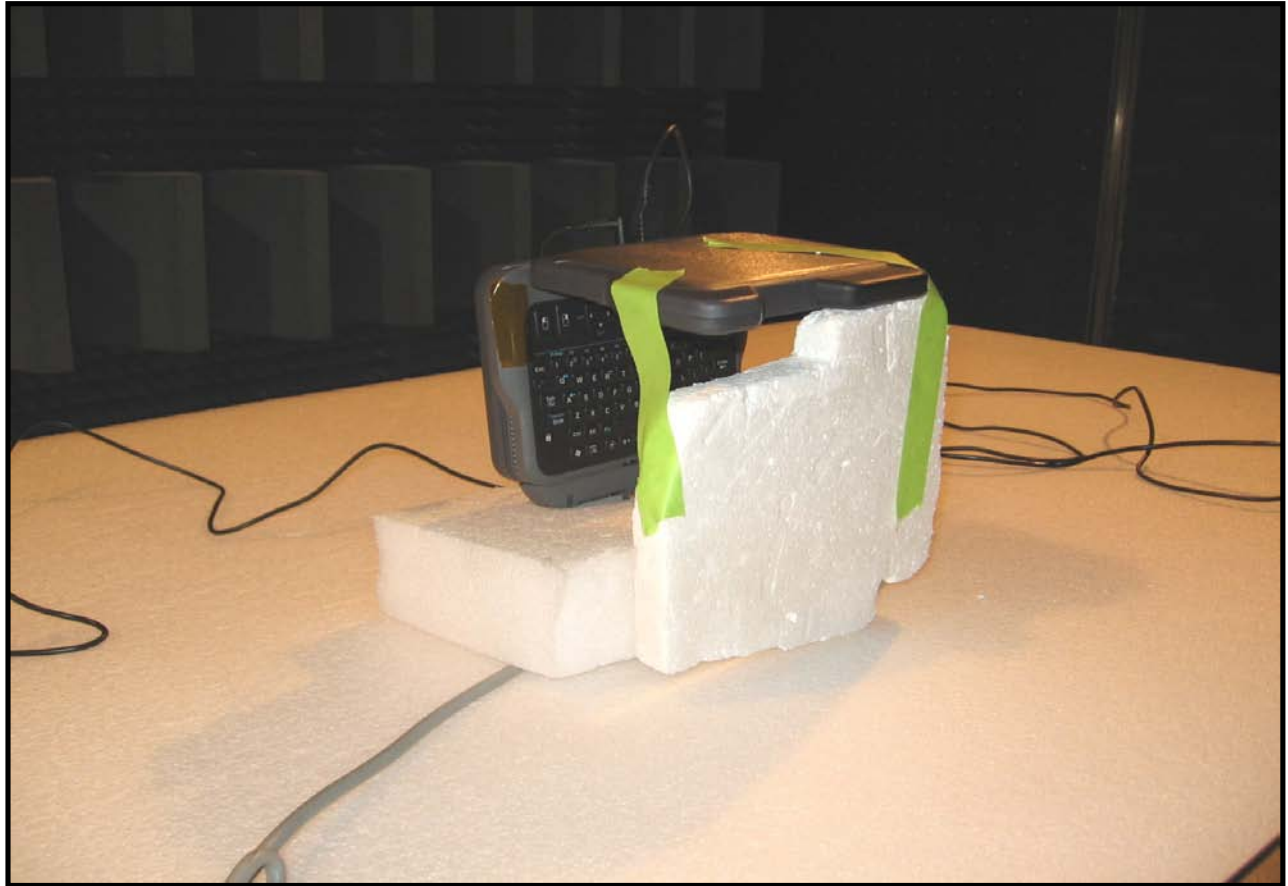
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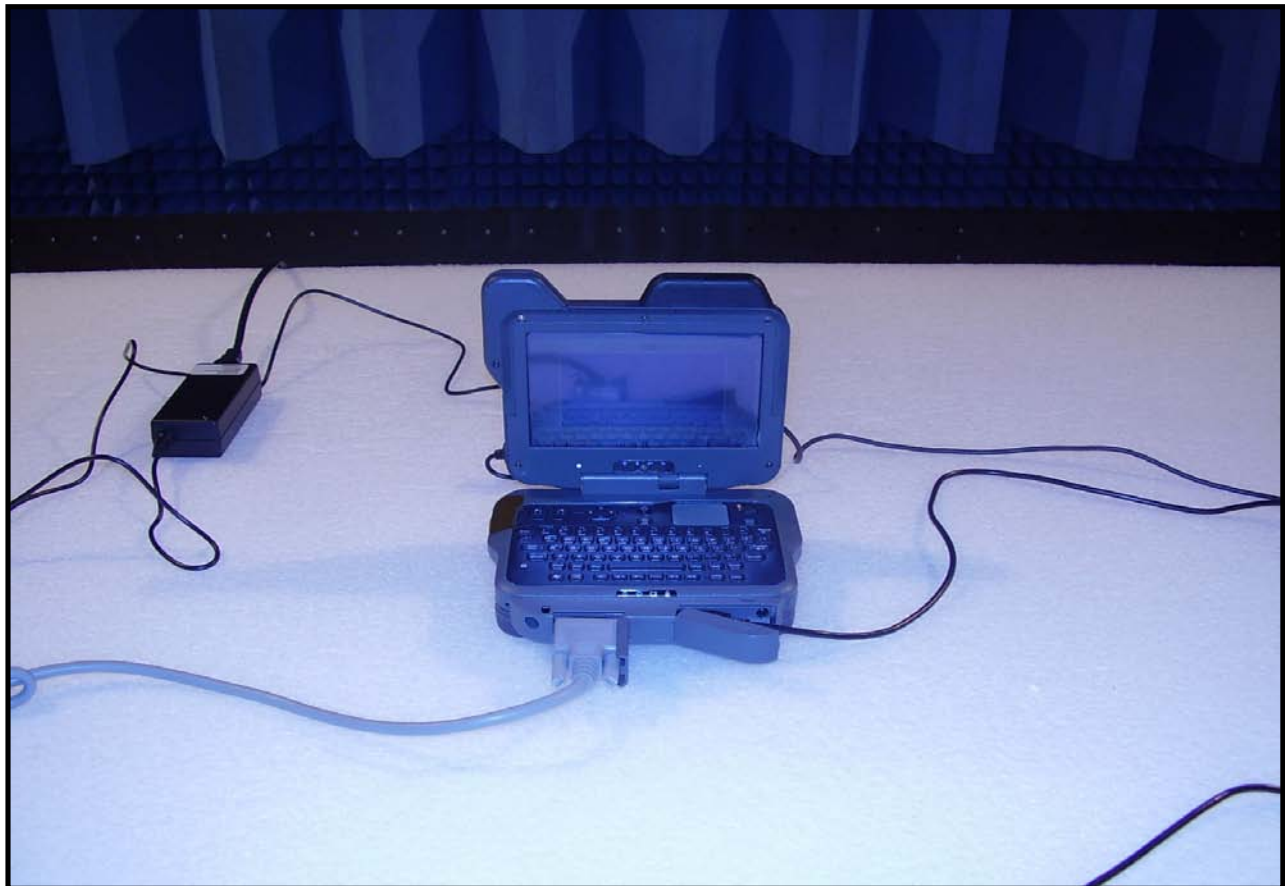
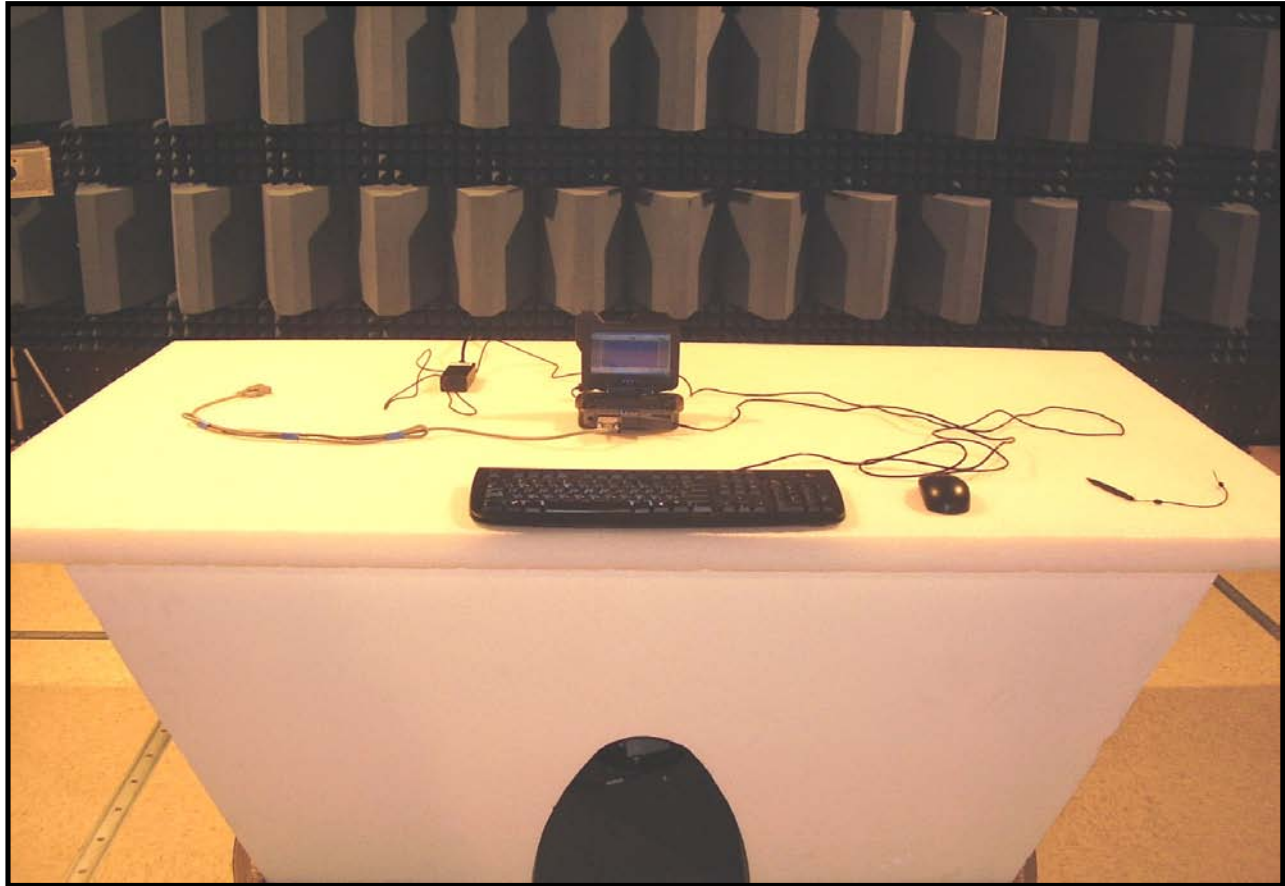


Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	ERP (Watts)	ERP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
1674.730	360.0	1.6	V-Horn	PK	8.57E-09	-50.7	-13.0	-37.7	Mid channel, Screen vertical
1696.110	7.0	1.3	V-Horn	PK	8.19E-09	-50.9	-13.0	-37.9	High channel, Screen vertical
3383.530	153.0	1.0	H-Horn	PK	7.82E-09	-51.1	-13.0	-38.1	High channel, Screen vertical
3347.280	162.0	1.0	H-Horn	PK	7.64E-09	-51.2	-13.0	-38.2	Mid channel, Screen vertical
1674.810	183.0	1.5	H-Horn	PK	6.81E-09	-51.7	-13.0	-38.7	Mid channel, Screen vertical
3386.560	44.0	1.2	V-Horn	PK	5.17E-09	-52.9	-13.0	-39.9	High channel, Screen vertical
1695.280	167.0	1.0	H-Horn	PK	4.93E-09	-53.1	-13.0	-40.1	High channel, Screen vertical
3303.600	329.0	1.3	H-Horn	PK	4.93E-09	-53.1	-13.0	-40.1	Low channel, Screen vertical
3342.980	226.0	2.0	V-Horn	PK	4.50E-09	-53.5	-13.0	-40.5	Mid channel, Screen vertical
2537.330	349.0	1.0	V-Horn	PK	4.40E-09	-53.6	-13.0	-40.6	High channel, Screen vertical
3302.820	104.0	1.4	V-Horn	PK	3.74E-09	-54.3	-13.0	-41.3	Low channel, Screen vertical
2537.290	114.0	1.4	H-Horn	PK	3.19E-09	-55.0	-13.0	-42.0	High channel, Screen vertical
2477.350	234.0	1.5	V-Horn	PK	2.71E-09	-55.7	-13.0	-42.7	Low channel, Screen vertical
1655.500	301.0	2.4	V-Horn	PK	2.65E-09	-55.8	-13.0	-42.8	Low channel, Screen vertical
2481.500	69.0	1.2	H-Horn	PK	2.15E-09	-56.7	-13.0	-43.7	Low channel, Screen vertical
2508.040	123.0	1.8	V-Horn	PK	2.06E-09	-56.9	-13.0	-43.9	Mid channel, Screen vertical
2507.810	321.0	1.0	H-Horn	PK	1.83E-09	-57.4	-13.0	-44.4	Mid channel, Screen vertical
1650.580	223.0	1.8	H-Horn	PK	1.56E-09	-58.1	-13.0	-45.1	Low channel, Screen vertical









Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

**MODES OF OPERATION**

HSDPA (H-Set 5 QPSK)  
WCDMA (12.2k RMC)  
GSM  
GPRS  
EDGE (EGPRS)

**CHANNELS INVESTIGATED FOR WCDMA/HSDPA PCS BAND**

Low Channel, Ch. 512, 1850.2MHz  
Mid Channel, Ch. 661, 1880MHz  
High Channel, Ch. 810, 1909.8MHz

**CHANNELS INVESTIGATED FOR GSM/GPRS/EDGE PCS BAND**

Low Channel, Ch. 9262, 1852.4MHz  
Mid Channel, Ch. 9400, 1880MHz  
High Channel, Ch. 9538, 1907.6MHz

**POWER SETTINGS INVESTIGATED**

120VAC/60Hz

**FREQUENCY RANGE INVESTIGATED**

Start Frequency 30 MHz Stop Frequency 26 GHz

**SAMPLE CALCULATIONS**

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

**TEST EQUIPMENT**

Description	Manufacturer	Model	ID	Last Cal.	Interval
Antenna, Dipole (part of ADA)	ETS	3121C-DB4	ADAA	NCR	0
Antenna, Dipole (ADAA included)	Roberts	Roberts	ADA	NCR	0
Signal Generator	Hewlett-Packard	8648D	TGC	12/7/2007	13
Power Meter	Gigatronics	8651A	SPM	12/7/2007	13
Power Sensor	Gigatronics	80701A	SPL	12/7/2007	13
Antenna, Horn	EMCO	3115	AHJ	5/24/2007	24
Low Pass Filter 0-425 MHz	Micro-Tronics	LPM50003	LFB	1/1/2007	17
Universal Radio Communication Test	Rhode & Schwarz	CMU200	BSU	12/21/2006	24
.5-1 GHz Notch Filter	K&L Microwave	3TNF-500/1000-N/N	HFT	8/29/2006	24
1-2 GHz Notch Filter	K&L Microwave	3TNF-1000/2000-N/N	HFU	8/29/2006	24
High Pass Filter	Micro-Tronics	50108	HGF	5/14/2008	13
High Pass Filter	Micro-Tronics	50111	HGE	5/14/2008	13
Attenuator	INMET	64671 6A-10dB	AUI	5/10/2008	13
Attenuator	Pasternack	PE7005-20	AUN	5/10/2008	13
Antenna, Horn	EMCO	3160-09	AHG	NCR	0
EV01 Cables		6GHz Standard Gain Horn C	EVD	7/25/2007	13
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	7/25/2007	13
Antenna, Horn	ETS	3160-08	AIA	11/28/2007	12
EV12 Cables		Standard Gain Horn Cables	EVU	5/14/2008	13
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVI	5/14/2008	13
Antenna, Horn	ETS	3160.07	AHZ	10/25/2007	12
EV12 Cables		Standard Gain Horn Cables	EVU	5/14/2008	13
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVH	5/14/2008	13
Antenna, Horn	ETS	3115	AIB	11/14/2007	12
EV12 Cables		Double Ridge Horn Cables	EVT	5/14/2008	13
Pre-Amplifier	Miteq	AMF-3D00100800-32-13P	AVF	4/4/2007	16
Antenna, Biconilog	EMCO	3141	AXE	1/15/2008	24
EV12 Cables		Bilog Cables	EVS	5/14/2008	13
Pre-Amplifier	Miteq	AM-1616-1000	AVM	3/10/2008	13

**MEASUREMENT BANDWIDTHS**

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

Measurements were made using the bandwidths and detectors specified. No video filter was used.

**MEASUREMENT UNCERTAINTY**

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

**TEST DESCRIPTION**

The highest gain antenna to be used with the EUT was tested for final measurements. The EUT was configured for the lowest, a middle, and the highest transmit frequency in each operational band. For each configuration, the spectrum was scanned throughout the specified range. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.4:2003). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

For licensed transmitters, the FCC references TIA/EIA-603 as the measurement procedure standard. TIA/EIA-603 Section 2.2.12 describes a method for measuring radiated spurious emissions that utilizes an antenna substitution method:

At an approved test site, the transmitter is placed on a remotely controlled turntable, and the measurement antenna is placed 3 meters from the transmitter. The turntable azimuth is varied to maximize the level of spurious emissions. The height of the measurement antenna is also varied from 1 to 4 meters. The amplitude and frequency of the highest emissions are noted. The transmitter is then replaced with a 1/2 wave dipole that is successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator is connected to the dipole (horn antenna for frequencies above 1 GHz), and its output is adjusted to match the level previously noted for each frequency. The output of the signal generator is recorded, and by factoring in the cable loss to the antenna and its gain; the power (dBm) into an ideal 1/2 wave dipole antenna is determined for each radiated spurious emission.

For the purposes of preliminary measurements, the field strength of the spurious emissions can be measured and compared with a 3 meter limit. The 3 meter limit was calculated to be 82.5 dBuV/m at 3 meters. The final measurements must be made utilizing the substitution method described above.

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/21/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: Rod Munro	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: David Divergigelis	Power: 120VAC/60Hz
	Job Site: EV12

<b>TEST SPECIFICATIONS</b>	Test Method
FCC 24E:2007	ANSI/TIA/EIA-603-C-2004

<b>TEST PARAMETERS</b>	
Antenna Height(s) (m) 1 - 4	Test Distance (m) 3

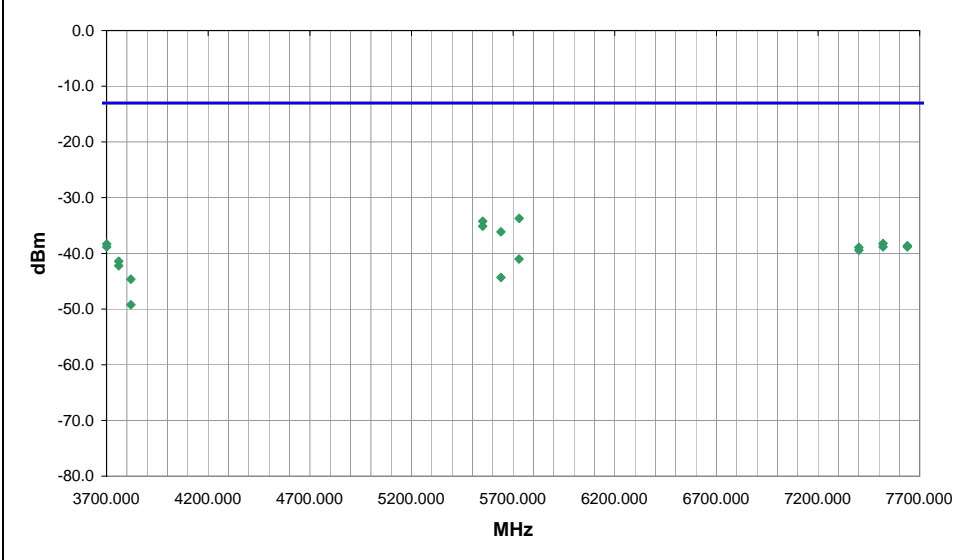
**COMMENTS**  
None

**EUT OPERATING MODES**  
PCS Band, GSM

**DEVIATIONS FROM TEST STANDARD**  
No deviations.

Run #	15
Configuration #	1
Results	Pass

Signature *[Handwritten Signature]*



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
5729.573	55.0	1.0	V-Horn	PK	4.24E-07	-33.7	-13.0	-20.7	High channel, EUT screen vertical
5550.830	100.0	1.4	H-Horn	PK	3.78E-07	-34.2	-13.0	-21.2	Low channel, EUT screen horizontal
5550.725	302.0	1.3	V-Horn	PK	3.07E-07	-35.1	-13.0	-22.1	Low channel, EUT screen horizontal
5640.322	227.0	1.0	V-Horn	PK	2.44E-07	-36.1	-13.0	-23.1	Mid channel, EUT screen vertical
7519.663	314.0	1.0	V-Horn	PK	1.50E-07	-38.2	-13.0	-25.2	Mid channel, EUT screen vertical
3700.407	137.0	1.0	H-Horn	PK	1.47E-07	-38.3	-13.0	-25.3	Low channel, EUT screen horizontal
7639.388	4.0	1.0	V-Horn	PK	1.37E-07	-38.6	-13.0	-25.6	High channel, EUT screen vertical
7519.545	91.0	1.0	H-Horn	PK	1.31E-07	-38.8	-13.0	-25.8	Mid channel, EUT screen horizontal
7639.315	338.0	1.0	H-Horn	PK	1.31E-07	-38.8	-13.0	-25.8	High channel, EUT screen horizontal
3700.438	353.0	1.0	V-Horn	PK	1.31E-07	-38.8	-13.0	-25.8	Low channel, EUT screen vertical
7401.157	168.0	1.0	H-Horn	PK	1.28E-07	-38.9	-13.0	-25.9	Low channel, EUT screen horizontal
7401.077	124.0	1.0	V-Horn	PK	1.14E-07	-39.4	-13.0	-26.4	Low channel, EUT screen vertical
5729.460	121.0	1.6	H-Horn	PK	7.89E-08	-41.0	-13.0	-28.0	High channel, EUT screen horizontal
3759.890	360.0	1.0	V-Horn	PK	7.20E-08	-41.4	-13.0	-28.4	Mid channel, EUT screen vertical
3760.123	138.0	1.0	H-Horn	PK	5.99E-08	-42.2	-13.0	-29.2	Mid channel, EUT screen horizontal
5640.087	71.0	1.4	H-Horn	PK	3.69E-08	-44.3	-13.0	-31.3	Mid channel, EUT screen horizontal
3819.947	103.0	1.4	V-Horn	PK	3.44E-08	-44.6	-13.0	-31.6	High channel, EUT screen vertical
3819.727	135.0	1.3	H-Horn	PK	1.19E-08	-49.2	-13.0	-36.2	High channel, EUT screen horizontal

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/21/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: Rod Munro	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: David Divergigelis	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	
FCC 24E:2007	Test Method: ANSI/TIA/EIA-603-C-2004

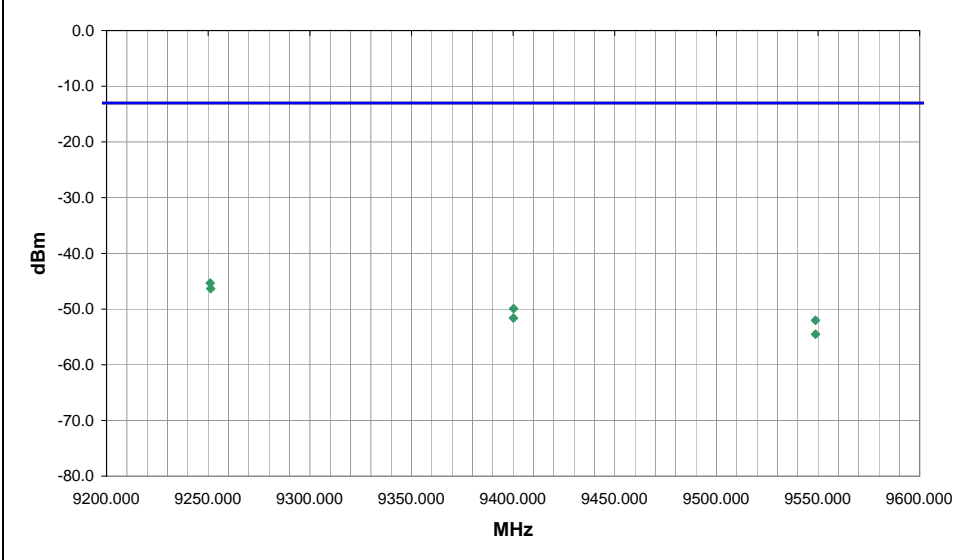
TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

**COMMENTS**  
None

**EUT OPERATING MODES**  
PCS Band, GSM

**DEVIATIONS FROM TEST STANDARD**  
No deviations.

Run #	16	<i>Signature</i> 
Configuration #	1	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
9250.967	42.0	1.0	V-Horn	PK	2.93E-08	-45.3	-13.0	-32.3	Low channel, EUT screen vertical
9251.236	177.0	1.0	H-Horn	PK	2.33E-08	-46.3	-13.0	-33.3	Low channel, EUT screen horizontal
9400.260	20.0	1.0	V-Horn	PK	1.02E-08	-49.9	-13.0	-36.9	Mid channel, EUT screen vertical
9400.145	125.0	1.0	H-Horn	PK	6.87E-09	-51.6	-13.0	-38.6	Mid channel, EUT screen horizontal
9548.769	24.0	1.0	V-Horn	PK	6.27E-09	-52.0	-13.0	-39.0	High channel, EUT screen vertical
9548.790	28.0	1.3	H-Horn	PK	3.52E-09	-54.5	-13.0	-41.5	High channel, EUT screen horizontal

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/27/08
Customer: Spectrum Technology, Inc.	Temperature: 23
Attendees: none	Humidity: 30%
Project: None	Barometric Pres.: 1016.8
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	
FCC 24E:2007	Test Method ANSI/TIA/EIA-603-C-2004

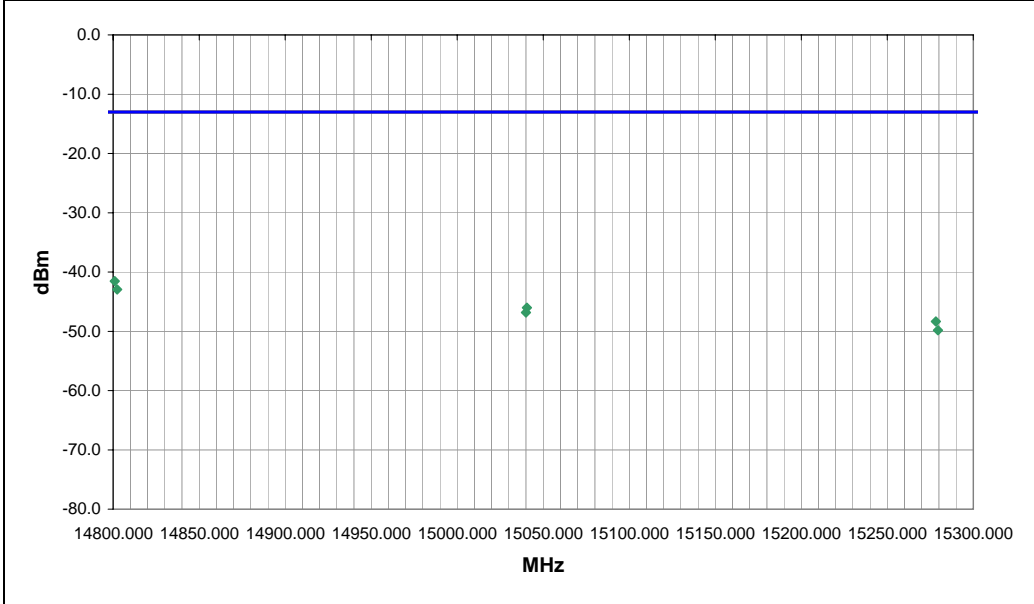
TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

**COMMENTS**  
None

**EUT OPERATING MODES**  
PCS Band, GSM

**DEVIATIONS FROM TEST STANDARD**  
No deviations.

Run #	26	Signature <i>Holly Ashkannejhad</i>
Configuration #	1	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
14800.930	241.0	1.0	H-Horn	PK	7.03E-08	-41.5	-13.0	-28.5	Low channel, Screen vertical
14802.280	236.0	1.0	V-Horn	PK	5.09E-08	-42.9	-13.0	-29.9	Low channel, Screen vertical
15040.540	211.0	1.0	V-Horn	PK	2.50E-08	-46.0	-13.0	-33.0	Mid channel, Screen vertical
15039.920	242.0	1.0	H-Horn	PK	2.08E-08	-46.8	-13.0	-33.8	Mid channel, Screen vertical
15278.220	286.0	1.0	H-Horn	PK	1.47E-08	-48.3	-13.0	-35.3	High channel, Screen vertical
15279.470	332.0	1.0	V-Horn	PK	1.04E-08	-49.8	-13.0	-36.8	High channel, Screen vertical

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/27/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: Rod Munro	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 24E:2007	ANSI/TIA/EIA-603-C-2004

TEST PARAMETERS	
Antenna Height(s) (m) 1 - 4	Test Distance (m) 3

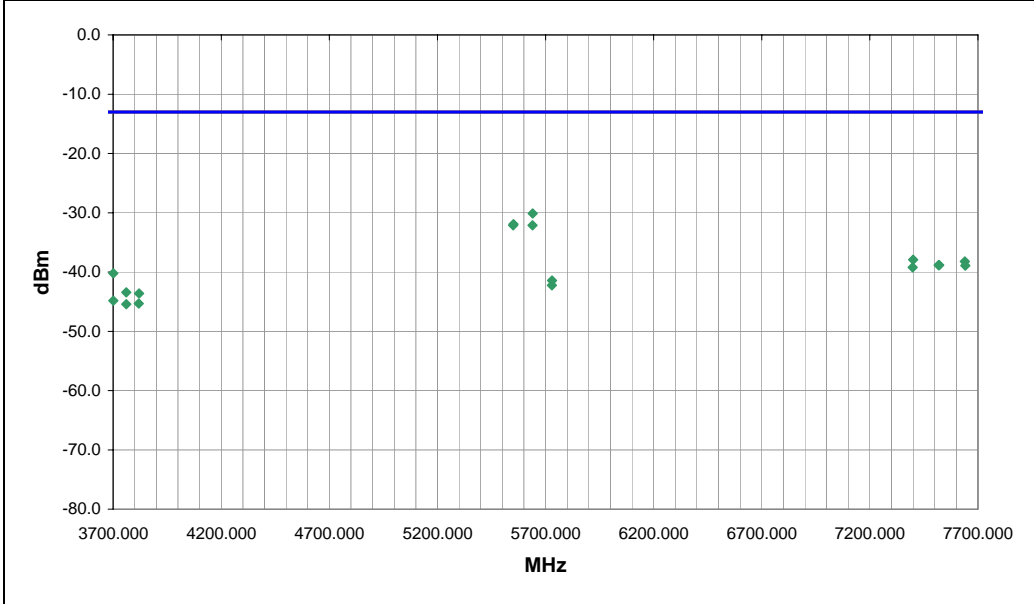
COMMENTS  
None

EUT OPERATING MODES  
Transmitting PCS Band, GPRS

DEVIATIONS FROM TEST STANDARD  
No deviations.

Run #	28
Configuration #	1
Results	Pass

Signature *Holly Ashkannejhad*



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
5640.375	257.0	1.0	V-Horn	PK	9.71E-07	-30.1	-13.0	-17.1	Mid channel, Screen vertical
5551.275	251.0	1.0	V-Horn	PK	6.41E-07	-31.9	-13.0	-18.9	Low channel, Screen vertical
5550.475	240.0	1.0	H-Horn	PK	6.13E-07	-32.1	-13.0	-19.1	Low channel, Screen vertical
5639.942	233.0	1.0	H-Horn	PK	6.13E-07	-32.1	-13.0	-19.1	Mid channel, Screen vertical
7400.308	103.0	2.2	H-Horn	PK	1.61E-07	-37.9	-13.0	-24.9	Low channel, Screen vertical
7639.092	302.0	1.3	V-Horn	PK	1.50E-07	-38.2	-13.0	-25.2	High channel, Screen vertical
7517.667	202.0	2.7	H-Horn	PK	1.31E-07	-38.8	-13.0	-25.8	Mid channel, Screen vertical
7520.542	262.0	1.0	V-Horn	PK	1.31E-07	-38.8	-13.0	-25.8	Mid channel, Screen vertical
7641.475	0.0	2.4	H-Horn	PK	1.28E-07	-38.9	-13.0	-25.9	High channel, Screen vertical
7398.208	256.0	1.0	V-Horn	PK	1.19E-07	-39.2	-13.0	-26.2	Low channel, Screen vertical
3700.592	310.0	1.4	H-Horn	PK	9.49E-08	-40.2	-13.0	-27.2	Low channel, Screen vertical
5729.875	86.0	1.0	V-Horn	PK	7.20E-08	-41.4	-13.0	-28.4	High channel, Screen vertical
5729.283	252.0	1.3	H-Horn	PK	5.99E-08	-42.2	-13.0	-29.2	High channel, Screen vertical
3760.492	199.0	1.0	H-Horn	PK	4.54E-08	-43.4	-13.0	-30.4	Mid channel, Screen vertical
3820.183	172.0	1.0	V-Horn	PK	4.34E-08	-43.6	-13.0	-30.6	High channel, Screen vertical
3700.517	299.0	1.4	V-Horn	PK	3.29E-08	-44.8	-13.0	-31.8	Low channel, Screen vertical
3818.550	143.0	1.0	H-Horn	PK	2.93E-08	-45.3	-13.0	-32.3	High channel, Screen vertical
3760.442	241.0	1.3	V-Horn	PK	2.86E-08	-45.4	-13.0	-32.4	Mid channel, Screen vertical



# Out of Band Emissions

## EMC

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/27/08
Customer: Spectrum Technology, Inc.	Temperature: 23
Attendees: none	Humidity: 30%
Project: None	Barometric Pres.: 1016.8
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 24E:2007	ANSI/TIA/EIA-603-C-2004

TEST PARAMETERS
Antenna Height(s) (m)   1 - 4   Test Distance (m)   3

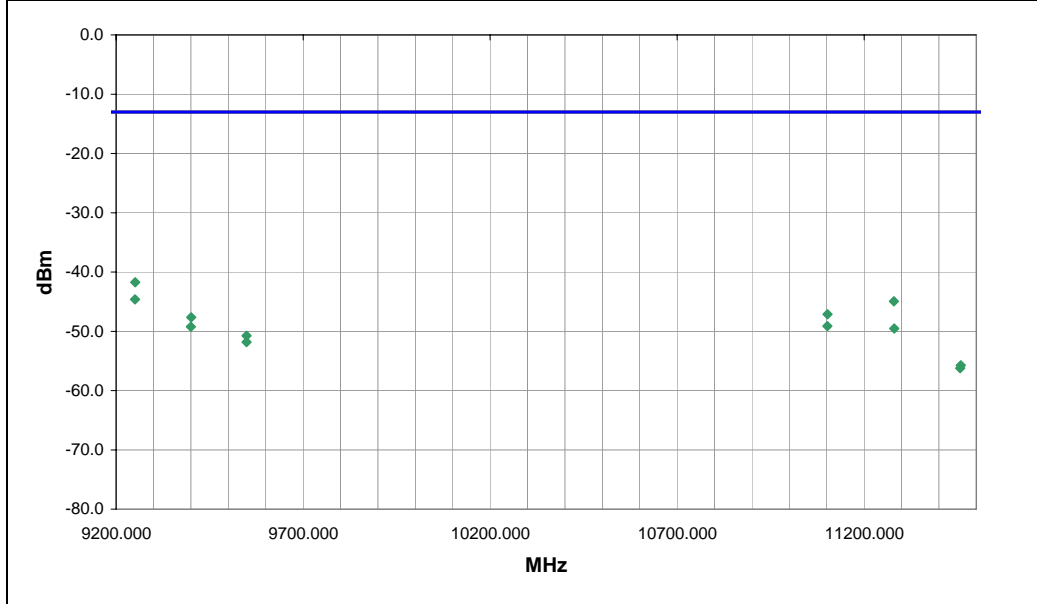
COMMENTS  
None

EUT OPERATING MODES  
PCS Band, GPRS

DEVIATIONS FROM TEST STANDARD  
No deviations.

Run #	29
Configuration #	1
Results	Pass

Signature *Holly Ashkannejhad*



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
9251.025	30.0	1.1	V-Horn	PK	6.72E-08	-41.7	-13.0	-28.7	High channel, Screen vertical
9250.542	360.0	1.0	H-Horn	PK	3.44E-08	-44.6	-13.0	-31.6	High channel, Screen vertical
11279.590	62.0	1.0	H-Horn	PK	3.21E-08	-44.9	-13.0	-31.9	Mid channel, Screen vertical
11102.170	37.0	1.0	H-Horn	PK	1.94E-08	-47.1	-13.0	-34.1	High channel, Screen vertical
9400.500	35.0	1.0	V-Horn	PK	1.73E-08	-47.6	-13.0	-34.6	Mid channel, Screen vertical
11101.540	290.0	1.0	V-Horn	PK	1.22E-08	-49.1	-13.0	-36.1	High channel, Screen vertical
9399.708	86.0	1.0	H-Horn	PK	1.19E-08	-49.2	-13.0	-36.2	Mid channel, Screen vertical
11280.350	58.0	1.0	V-Horn	PK	1.11E-08	-49.5	-13.0	-36.5	Mid channel, Screen vertical
9548.725	327.0	1.0	V-Horn	PK	8.46E-09	-50.7	-13.0	-37.7	High channel, Screen vertical
9548.558	65.0	1.0	H-Horn	PK	6.56E-09	-51.8	-13.0	-38.8	High channel, Screen vertical
11458.600	3.0	1.0	V-Horn	PK	2.67E-09	-55.7	-13.0	-42.7	High channel, Screen vertical
11457.000	100.0	1.2	H-Horn	PK	2.38E-09	-56.2	-13.0	-43.2	High channel, Screen vertical

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/22/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: Rod Munro	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: Rod Peloquin	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	
FCC 24E:2007	Test Method: ANSI/TIA/EIA-603-C-2004

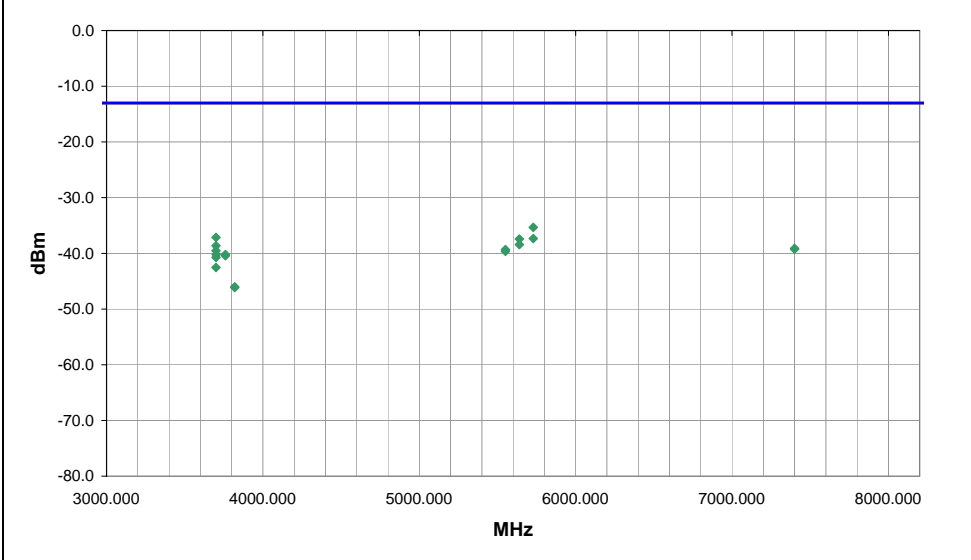
TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

**COMMENTS**  
None

**EUT OPERATING MODES**  
Transmitting PCS Band, EDGE

**DEVIATIONS FROM TEST STANDARD**  
No deviations.

Run #	17	 Signature
Configuration #	1	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
5729.396	292.0	1.0	V-Horn	PK	2.93E-07	-35.3	-13.0	-22.3	High channel, EUT on side
3700.383	356.0	1.0	H-Horn	PK	1.94E-07	-37.1	-13.0	-24.1	Low channel, EUT screen vertical
5729.279	13.0	1.0	H-Horn	PK	1.85E-07	-37.3	-13.0	-24.3	High channel, EUT screen horizontal
5639.788	294.0	1.0	V-Horn	PK	1.81E-07	-37.4	-13.0	-24.4	Mid channel, EUT screen on side
5640.096	28.0	1.1	H-Horn	PK	1.44E-07	-38.4	-13.0	-25.4	Mid channel, EUT screen horizontal
3700.392	298.0	1.3	V-Horn	PK	1.37E-07	-38.6	-13.0	-25.6	Low channel, EUT screen on side
7400.021	315.0	2.2	H-Horn	PK	1.22E-07	-39.1	-13.0	-26.1	Low channel, EUT screen vertical
7400.175	218.0	1.0	V-Horn	PK	1.19E-07	-39.2	-13.0	-26.2	Low channel, EUT screen on side
5550.600	17.0	1.0	H-Horn	PK	1.17E-07	-39.3	-13.0	-26.3	Low channel, EUT screen vertical
3700.333	272.0	1.4	V-Horn	PK	1.11E-07	-39.5	-13.0	-26.5	Low channel, EUT screen vertical
5550.508	286.0	1.1	V-Horn	PK	1.09E-07	-39.6	-13.0	-26.6	Low channel, EUT screen on side
3700.404	272.0	1.5	V-Horn	PK	9.49E-08	-40.2	-13.0	-27.2	Low channel, EUT screen horizontal
3760.125	323.0	1.3	V-Horn	PK	9.49E-08	-40.2	-13.0	-27.2	Mid channel, EUT screen on side
3760.108	351.0	1.0	H-Horn	PK	9.06E-08	-40.4	-13.0	-27.4	Mid channel, EUT screen horizontal
3700.375	144.0	1.0	H-Horn	PK	8.46E-08	-40.7	-13.0	-27.7	Low channel, EUT screen horizontal
3700.325	322.0	1.0	H-Horn	PK	5.59E-08	-42.5	-13.0	-29.5	Low channel, EUT screen on side
3819.529	337.0	1.1	H-Horn	PK	2.50E-08	-46.0	-13.0	-33.0	High channel, EUT screen horizontal
3820.000	221.0	1.0	V-Horn	PK	2.44E-08	-46.1	-13.0	-33.1	High channel, EUT on side

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/27/08
Customer: Spectrum Technology, Inc.	Temperature: 23
Attendees: none	Humidity: 30%
Project: None	Barometric Pres.: 1016.8
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 24E:2007	ANSI/TIA/EIA-603-C-2004

TEST PARAMETERS	
Antenna Height(s) (m) 1 - 4	Test Distance (m) 3

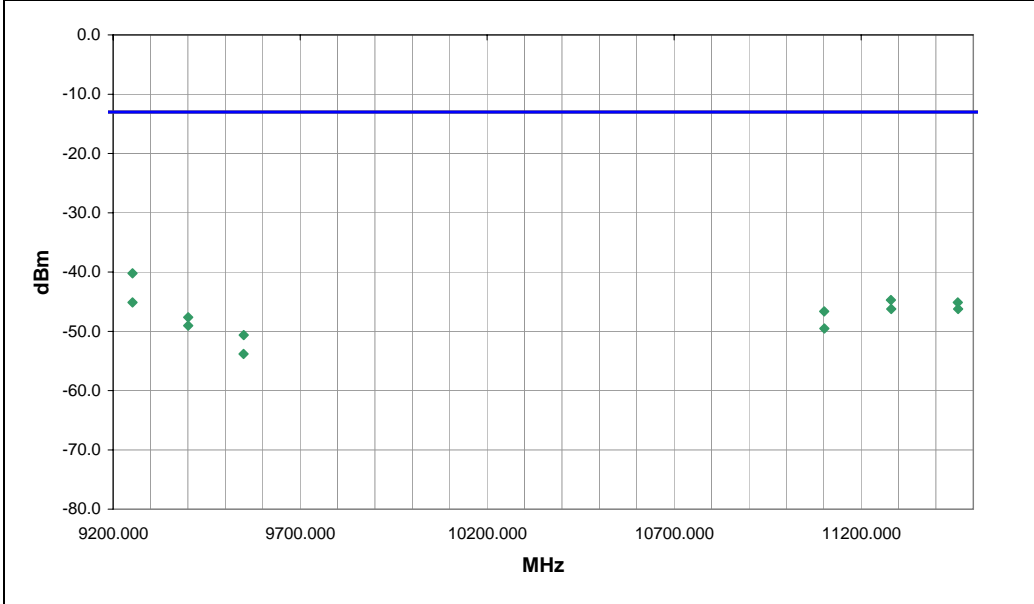
COMMENTS  
None

EUT OPERATING MODES  
PCS Band, Edge

DEVIATIONS FROM TEST STANDARD  
No deviations.

Run #	27
Configuration #	1
Results	Pass

Signature *Holly Ashkannejhad*



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
9251.658	36.0	1.0	V-Horn	PK	9.49E-08	-40.2	-13.0	-27.2	Low channel, Screen vertical
11279.850	61.0	1.0	H-Horn	PK	3.37E-08	-44.7	-13.0	-31.7	Mid channel, Screen vertical
9251.750	76.0	1.0	H-Horn	PK	3.07E-08	-45.1	-13.0	-32.1	Low channel, Screen vertical
11458.420	51.0	1.0	H-Horn	PK	3.07E-08	-45.1	-13.0	-32.1	High channel, Screen vertical
11280.420	217.0	1.0	V-Horn	PK	2.38E-08	-46.2	-13.0	-33.2	Mid channel, Screen vertical
11459.200	52.0	1.0	V-Horn	PK	2.38E-08	-46.2	-13.0	-33.2	High channel, Screen vertical
11101.220	44.0	1.0	H-Horn	PK	2.17E-08	-46.6	-13.0	-33.6	Low channel, Screen vertical
9400.442	312.0	1.0	H-Horn	PK	1.73E-08	-47.6	-13.0	-34.6	Mid channel, Screen vertical
9400.442	43.0	1.0	V-Horn	PK	1.25E-08	-49.0	-13.0	-36.0	Mid channel, Screen vertical
11101.530	291.0	1.0	V-Horn	PK	1.11E-08	-49.5	-13.0	-36.5	Low channel, Screen vertical
9549.292	321.0	1.0	V-Horn	PK	8.65E-09	-50.6	-13.0	-37.6	High channel, Screen vertical
9548.800	294.0	1.0	H-Horn	PK	4.14E-09	-53.8	-13.0	-40.8	High channel, Screen vertical

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/23/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: none	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: Holly Ashkannehad	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS		Test Method	
FCC 24E:2007		ANSI/TIA/EIA-603-C-2004	

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	0

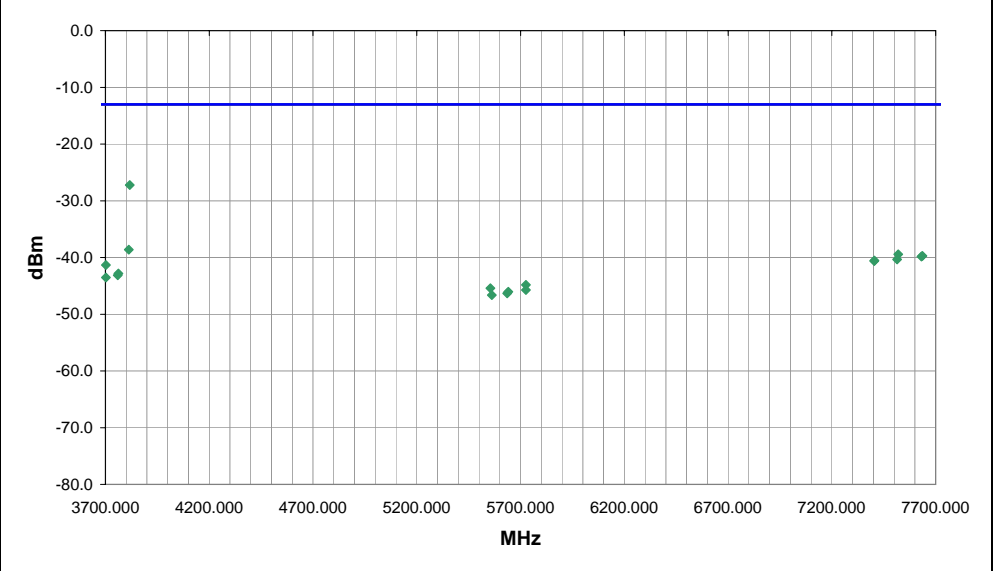
COMMENTS  
None

EUT OPERATING MODES  
PCS Band, WCDMA

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	21	Signature <i>Holly Ashkannehad</i>
Configuration #	1	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
3817.320	358.0	1.2	H-Horn	PK	1.89E-06	-27.2	-13.0	-14.2	High channel, EUT screen vertical
3812.780	248.0	1.0	V-Horn	PK	1.37E-07	-38.6	-13.0	-25.6	High channel, EUT screen vertical
7519.860	274.0	1.0	H-Horn	PK	1.14E-07	-39.4	-13.0	-26.4	Mid channel, EUT screen vertical
7636.320	274.0	1.0	H-Horn	PK	1.06E-07	-39.7	-13.0	-26.7	High channel, EUT screen vertical
7631.120	53.0	2.9	V-Horn	PK	1.04E-07	-39.8	-13.0	-26.8	High channel, EUT screen vertical
7514.140	30.0	1.0	V-Horn	PK	9.27E-08	-40.3	-13.0	-27.3	Mid channel, EUT screen vertical
7404.860	115.0	1.0	H-Horn	PK	8.85E-08	-40.5	-13.0	-27.5	Low channel, EUT screen vertical
7404.200	256.0	1.0	V-Horn	PK	8.65E-08	-40.6	-13.0	-27.6	Low channel, EUT screen vertical
3702.660	33.0	1.0	H-Horn	PK	7.36E-08	-41.3	-13.0	-28.3	Low channel, EUT screen vertical
3762.640	4.0	1.0	H-Horn	PK	5.21E-08	-42.8	-13.0	-29.8	Mid channel, EUT screen vertical
3758.980	260.0	1.0	V-Horn	PK	4.87E-08	-43.1	-13.0	-30.1	Mid channel, EUT screen vertical
3702.520	259.0	1.0	V-Horn	PK	4.44E-08	-43.5	-13.0	-30.5	Low channel, EUT screen vertical
5726.040	21.0	1.0	H-Horn	PK	3.29E-08	-44.8	-13.0	-31.8	High channel, EUT screen vertical
5554.440	232.0	1.0	H-Horn	PK	2.86E-08	-45.4	-13.0	-32.4	Low channel, EUT screen vertical
5726.200	334.0	1.0	V-Horn	PK	2.67E-08	-45.7	-13.0	-32.7	High channel, EUT screen vertical
5641.400	356.0	1.0	H-Horn	PK	2.50E-08	-46.0	-13.0	-33.0	Mid channel, EUT screen vertical
5635.760	320.0	1.0	V-Horn	PK	2.33E-08	-46.3	-13.0	-33.3	Mid channel, EUT screen vertical
5561.360	80.0	1.0	V-Horn	PK	2.17E-08	-46.6	-13.0	-33.6	Low channel, EUT screen vertical

EUT: IX750 with IX-MC8775	Work Order: SPTE0089
Serial Number: None	Date: 05/23/08
Customer: Spectrum Technology, Inc.	Temperature: 24
Attendees: none	Humidity: 30%
Project: None	Barometric Pres.: 1014
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz
	Job Site: EV12

<b>TEST SPECIFICATIONS</b>	Test Method
FCC 24E:2007	ANSI/TIA/EIA-603-C-2004

<b>TEST PARAMETERS</b>	
Antenna Height(s) (m) 1 - 4	Test Distance (m) 3

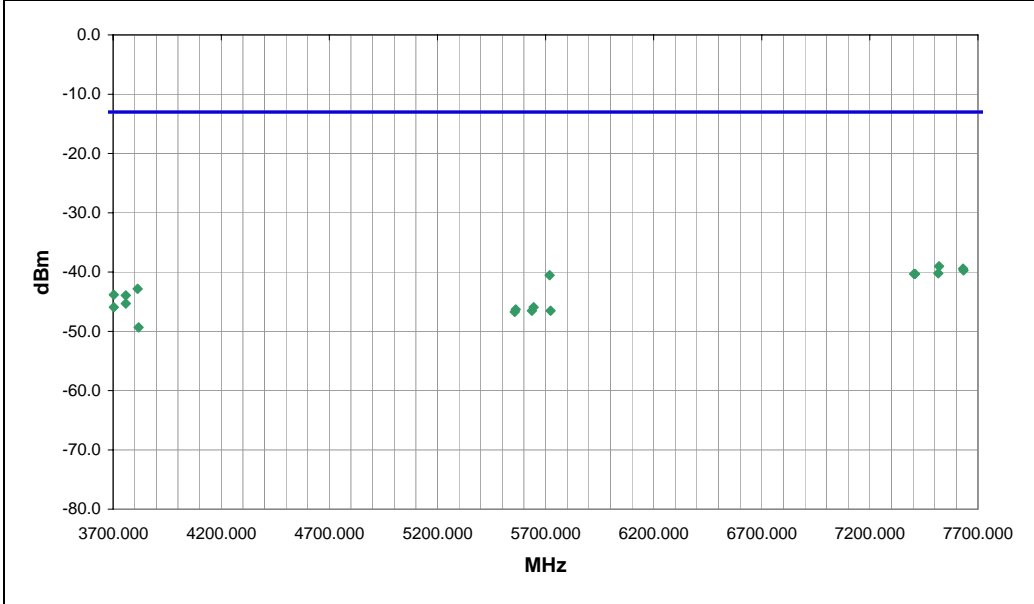
**COMMENTS**  
None

**EUT OPERATING MODES**  
PCS Band, HSDPA

**DEVIATIONS FROM TEST STANDARD**  
No deviations.

Run #	22
Configuration #	1
Results	Pass

Signature *Holly Ashkannejhad*



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
7519.883	13.0	1.0	H-Horn	PK	1.25E-07	-39.0	-13.0	-26.0	Mid channel, Screen vertical
7630.867	143.0	1.0	H-Horn	PK	1.14E-07	-39.4	-13.0	-26.4	High channel, Screen vertical
7633.033	274.0	1.0	V-Horn	PK	1.06E-07	-39.7	-13.0	-26.7	High channel, Screen vertical
7516.250	53.0	1.0	V-Horn	PK	9.49E-08	-40.2	-13.0	-27.2	Mid channel, Screen vertical
7404.683	8.0	1.0	H-Horn	PK	9.27E-08	-40.3	-13.0	-27.3	Low channel, Screen vertical
7409.050	348.0	1.0	V-Horn	PK	9.27E-08	-40.3	-13.0	-27.3	Low channel, Screen vertical
5718.950	263.0	1.0	V-Horn	PK	8.85E-08	-40.5	-13.0	-27.5	High channel, Screen vertical
3813.067	325.0	1.4	V-Horn	PK	5.21E-08	-42.8	-13.0	-29.8	High channel, Screen vertical
3702.900	0.0	1.4	H-Horn	PK	4.14E-08	-43.8	-13.0	-30.8	Low channel, Screen vertical
3758.583	207.0	1.0	H-Horn	PK	4.05E-08	-43.9	-13.0	-30.9	Mid channel, Screen vertical
3758.583	263.0	1.0	V-Horn	PK	2.93E-08	-45.3	-13.0	-32.3	Mid channel, Screen vertical
5644.617	316.0	1.0	H-Horn	PK	2.55E-08	-45.9	-13.0	-32.9	Mid channel, Screen vertical
3702.817	220.0	1.3	V-Horn	PK	2.55E-08	-45.9	-13.0	-32.9	Low channel, Screen vertical
5562.150	51.0	1.0	V-Horn	PK	2.33E-08	-46.3	-13.0	-33.3	Low channel, Screen vertical
5636.900	139.0	1.0	V-Horn	PK	2.22E-08	-46.5	-13.0	-33.5	Mid channel, Screen vertical
5723.500	252.0	1.0	H-Horn	PK	2.22E-08	-46.5	-13.0	-33.5	High channel, Screen vertical
5557.550	357.0	1.0	H-Horn	PK	2.12E-08	-46.7	-13.0	-33.7	Low channel, Screen vertical
3817.967	267.0	1.4	H-Horn	PK	1.17E-08	-49.3	-13.0	-36.3	High channel, Screen vertical

