Product Creation Studio

Q Tablet and Q Pen

July 1, 2008

Report No. PROU0024.3

EMC Test Report

Report Prepared By

NORTHWEST EMC

www.nwemc.com
1-888-EMI-CERT

NORTHWEST EMC

22975 NW Evergreen Parkway
Suite 400
Hillsboro, Oregon 97124

Certificate of Test

Issue Date: July 1, 2008
Product Creation Studio
Model: Q Tablet and Q Pen

Emissions			
Test Description	**Specification**	**Test Method**	**Pass/Fail**
Radiated Emissions <30MHz	FCC 15.209:2007	ANSI C63.4:2003	**Pass**
Field Strength of Fundamental	FCC 15.209:2007	ANSI C63.4:2003	**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:

Don Facteau, IT Manager

NVLAP

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		

Accreditations and Authorizations

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-Gen, Issue 2 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. (*Site Filing Numbers - Hillsboro: 2834D-1, 2834D-2, Sultan: 2834C-1, Irvine: 2834B-1)*

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 TUV Product Service Group's Listing of Recognized Laboratories. It qualifies in connection with the TUV Certification after Recognition of Agent's Testing Program for the product categories and/or standards shown in TUV's current Listing of CARAT Laboratories, available from TUV. A certificate was issued to represent that this laboratory continues to meet TUV'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).*

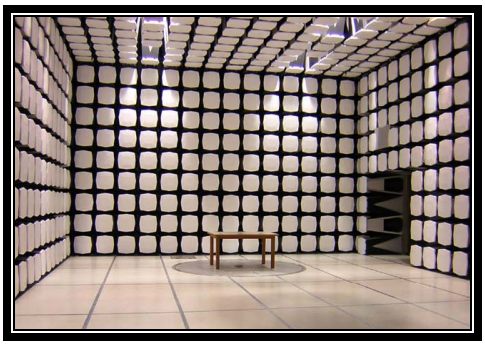
BSMI: Northwest EMC has been designated by NIST and validated by C-Taipei (BSMI) as a CAB to conduct tests as described in the APEC Mutual Recognition Agreement (US0017). License No.SL2-IN-E-1017.

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)*

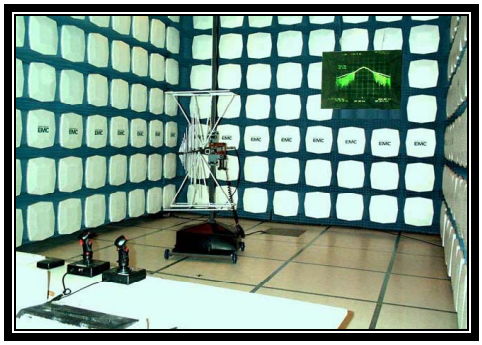
SCOPE

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 339th Ave. SE Sultan, WA 98294
(888) 364-2378

Party Requesting the Test

Company Name:	Product Creation Studio
Address:	5419 Ballard Avenue NW
City, State, Zip:	Seattle, WA 98107
Test Requested By:	Scott Thielman
Model:	Q Tablet and Q Pen
First Date of Test:	June 19, 2008
Last Date of Test:	June 19, 2008
Receipt Date of Samples:	June 4, 2008
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT (Equipment Under Test):

Wireless digitizing tablet controls the position of the cursor on a PC. A pen containing a battery and coil (operating at 150KHz) is used to provide the cursor location by holding it over the tablet writing area. .

Testing Objective:

Seeking TCB certification under 15.209.

EUT Photo

CONFIGURATION 1 PROU0024

Software/Firmware Running during test	
Description	**Version**
QwizHID Debugger	

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Pen	Product Creation Studio	Q Pen	Unknown

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Writing Tablet	Product Creation Studio	Q Tablet	Unknown

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AC Adapter	Delta Electronics, Inc.	ADP-75FB B	S4W0326044192
Laptop	Acer	ZG1S	LXT2506001326031C2EF01

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
DC	PA	1.5m	Yes	AC Adapter	Laptop
AC	No	1.5m	No	AC Adapter	AC Mains
USB	Yes	3.0m	No	Laptop	Tablet
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	6/19/2008	Field Strength 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	6/19/2008	Radiated Emissions <30MHz	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

Radiated Emissions <30MHz

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

Normal mode

POWER SETTINGS INVESTIGATED

Battery in Pen; Power over USB to tablet

FREQUENCY RANGE INVESTIGATED

Start Frequency	9 kHz	Stop Frequency	30 MHz

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, Loop	EMCO	6502	AZC	9/1/2006	24
EV11 Cables		3m Test Distance Cables	EVM	5/24/2008	13
Spectrum Analyzer	Agilent	E4443A	AAS	12/7/2007	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

Using the mode of operation and configuration noted within this report, a final radiated emissions test was performed. The frequency range investigated (scanned), is also noted in this report. Radiated emissions measurements were made at the EUT azimuth and antenna height such that the maximum radiated emissions level will be detected. This requires the use of a turntable and an antenna positioner. The preferred method of a continuous azimuth search is utilized for frequency scans of the EUT field strength with both polarities of the measuring antenna. A calibrated, linearly polarized antenna was positioned at the specified distance from the periphery of the EUT.

Tests were made with the antenna positioned in all available planes of polarization. The antenna was varied in height above the conducting ground plane to obtain the maximum signal strength. The measurements distance is specified in the report. The antenna height was varied from 1 to 4 meters. These height scans apply for all polarizations.

NORTHWEST EMC

Radiated Emissions <30MHz

PSA 2007.05.07
EMI 2008.1.9

EUT:	Q Tablet and Q Pen	Work Order:	PROU0024
Serial Number:	Unknown	Date:	06/19/08
Customer:	Product Creation Studio	Temperature:	22.96
Attendees:	None	Humidity:	38%
Project:	None	Barometric Pres.:	1018.8mb
Tested by:	Holly Ashkannejhad	Power: Battery	Job Site: EV11

TEST SPECIFICATIONS	Test Method
FCC 15.209:2007	ANSI C63.4:2003

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

COMMENTS

Pen on Tablet. Laptop remote. Emissions were investigated with a span of 50kHz.

EUT OPERATING MODES

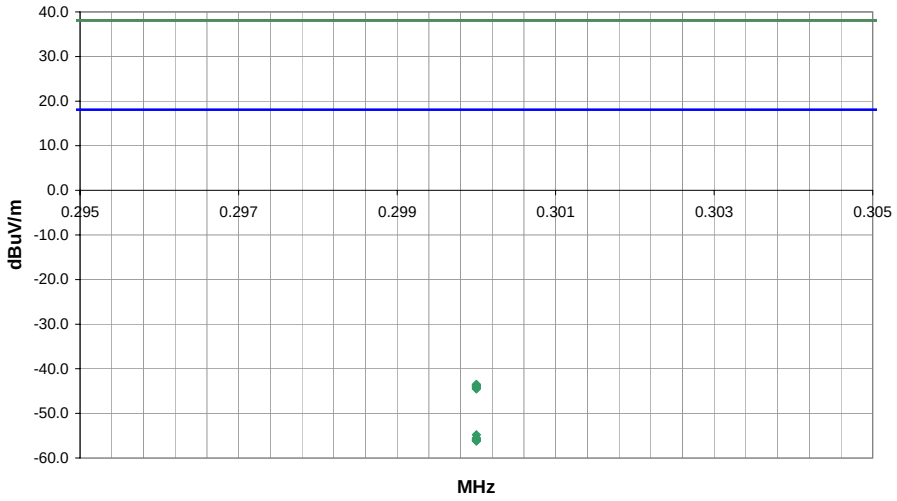
Normal mode

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	4
Configuration #	1
Results	Pass

Signature



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
0.300	31.5	12.8	83.0	1.2	1.0	0.0	See comments	AV	-99.1	-54.8	18.1	-72.9	Pen vertical. Ant perp to gnd; para to pen.
0.300	30.8	12.8	16.0	1.0	1.0	0.0	See comments	AV	-99.1	-55.5	18.1	-73.6	Pen horizontal. Ant para to gnd; perp to pen.
0.300	30.6	12.8	282.0	1.6	1.0	0.0	See comments	AV	-99.1	-55.7	18.1	-73.8	Pen horizontal. Ant perp to gnd; para to pen.
0.300	30.5	12.8	269.0	1.0	1.0	0.0	See comments	AV	-99.1	-55.8	18.1	-73.9	Pen horizontal. Ant perp to gnd; perp to pen.
0.300	30.2	12.8	339.0	1.0	1.0	0.0	See comments	AV	-99.1	-56.1	18.1	-74.2	Pen vertical. Ant perp to gnd; perp to pen.
0.300	30.2	12.8	7.0	1.4	1.0	0.0	See comments	AV	-99.1	-56.1	18.1	-74.2	Pen on side. Ant perp to gnd; para to pen.
0.300	30.1	12.8	238.0	1.0	1.0	0.0	See comments	AV	-99.1	-56.2	18.1	-74.3	Pen vertical. Ant perp to gnd; para to pen.
0.300	30.6	12.8	345.0	1.0	1.0	0.0	See comments	AV	-99.1	-55.7	18.1	-73.8	Pen horizontal. Ant perp to gnd; perp to pen.
0.300	42.8	12.8	339.0	1.0	1.0	0.0	See comments	PK	-99.1	-43.5	38.1	-81.6	Pen horizontal. Ant para to gnd; perp to pen.
0.300	42.6	12.8	345.0	1.0	1.0	0.0	See comments	PK	-99.1	-43.7	38.1	-81.8	Pen vertical. Ant perp to gnd; perp to pen.
0.300	42.5	12.8	238.0	1.0	1.0	0.0	See comments	PK	-99.1	-43.8	38.1	-81.9	Pen vertical. Ant para to gnd; perp to pen.
0.300	42.5	12.8	261.0	1.0	1.0	0.0	See comments	PK	-99.1	-43.8	38.1	-81.9	Pen horizontal. Ant perp to gnd; para to pen.
0.300	42.3	12.8	225.0	1.3	1.0	0.0	See comments	PK	-99.1	-44.0	38.1	-82.1	Pen on side. Ant para to gnd; perp to pen.
0.300	42.2	12.8	282.0	1.6	1.0	0.0	See comments	PK	-99.1	-44.1	38.1	-82.2	Pen on side. Ant perp to gnd; perp to pen.
0.300	42.1	12.8	16.0	1.0	1.0	0.0	See comments	PK	-99.1	-44.2	38.1	-82.3	Pen on side. Ant perp to gnd; para to pen.
0.300	41.9	12.8	7.0	1.4	1.0	0.0	See comments	PK	-99.1	-44.4	38.1	-82.5	Pen on side. Ant para to gnd; perp to pen.
0.300	41.8	12.8	83.0	1.2	1.0	0.0	See comments	PK	-99.1	-44.5	38.1	-82.6	Pen vertical. Ant para to gnd; perp to pen.
0.300	42.7	12.8	225.0	1.3	1.0	0.0	See comments	PK	-99.1	-43.6	38.1	-81.7	Pen on side. Ant perp to gnd; perp to pen.

NORTHWEST EMC

Radiated Emissions <30MHz

PSA 2007.05.07
EMI 2008.1.9

EUT:	Q Tablet and Q Pen	Work Order:	PROU0024
Serial Number:	Unknown	Date:	06/19/08
Customer:	Product Creation Studio	Temperature:	22.96
Attendees:	None	Humidity:	38%
Project:	None	Barometric Pres.:	1018.8mb
Tested by:	Holly Ashkannejhad	Power: Battery	Job Site: EV11

TEST SPECIFICATIONS	Test Method
FCC 15.209:2007	ANSI C63.4:2003

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

COMMENTS

Pen on Tablet. Laptop remote. Emissions were investigated with a span of 50kHz.

EUT OPERATING MODES

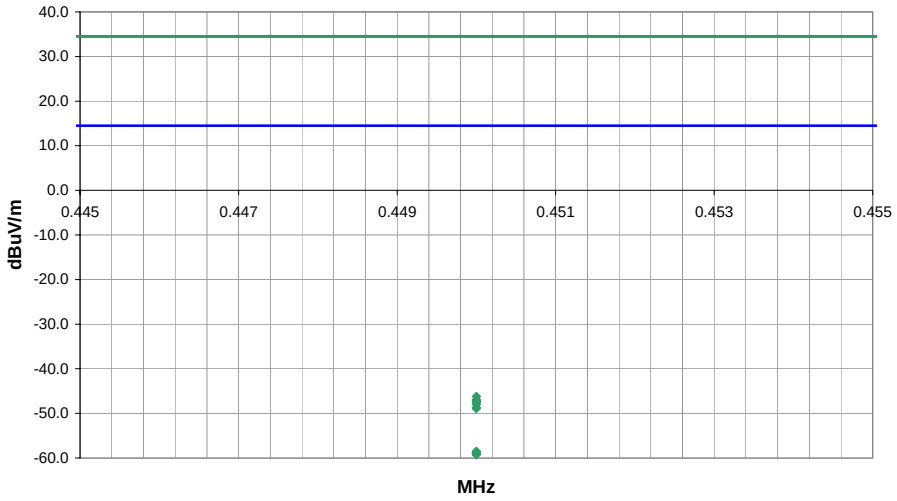
Normal mode

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	4
Configuration #	1
Results	Pass

Signature



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
0.450	27.8	12.8	345.0	2.3	1.0	0.0	See comments	AV	-99.1	-58.5	14.5	-73.0	Pen horizontal. Ant para to gnd; perp to pen.
0.450	27.6	12.8	169.0	2.7	1.0	0.0	See comments	AV	-99.1	-58.7	14.5	-73.2	Pen on side. Ant para to gnd; perp to pen.

NORTHWEST EMC

Radiated Emissions <30MHz

PSA 2007.05.07
EMI 2008.1.9

EUT:	Q Tablet and Q Pen	Work Order:	PROU0024
Serial Number:	Unknown	Date:	06/19/08
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Attendees:	None	Humidity:	38%
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Normal mode

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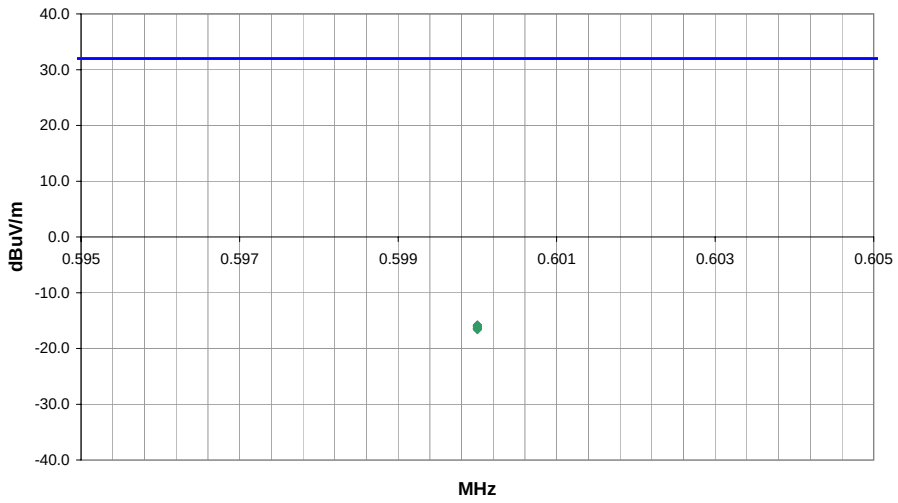

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
0.600	30.5	12.8	186.0	1.0	1.0	0.0	See comments	QP	-59.1	-15.8	32.0	-47.8	Pen horizontal. Ant para to gnd; perp to pen.
0.600	30.5	12.8	245.0	1.5	1.0	0.0	See comments	QP	-59.1	-15.8	32.0	-47.8	Pen on side. Ant perp to gnd; perp to pen.
0.600	30.3	12.8	334.0	2.0	1.0	0.0	See comments	QP	-59.1	-16.0	32.0	-48.0	Pen on side. Ant perp to gnd; para to pen.
0.600	30.2	12.8	343.0	1.0	1.0	0.0	See comments	QP	-59.1	-16.1	32.0	-48.1	Pen vertical. Ant perp to gnd; para to pen.
0.600	30.2	12.8	231.0	1.3	1.0	0.0	See comments	QP	-59.1	-16.1	32.0	-48.1	Pen vertical. Ant para to gnd; perp to pen.
0.600	29.9	12.8	323.0	1.7	1.0	0.0	See comments	QP	-59.1	-16.4	32.0	-48.4	Pen horizontal. Ant perp to gnd; perp to pen.
0.600	29.9	12.8	20.0	1.0	1.0	0.0	See comments	QP	-59.1	-16.4	32.0	-48.4	Pen on side. Ant para to gnd; perp to pen.
0.600	29.8	12.8	272.0	1.8	1.0	0.0	See comments	QP	-59.1	-16.5	32.0	-48.5	Pen horizontal. Ant perp to gnd; para to pen.
0.600	29.7	12.8	54.0	1.4	1.0	0.0	See comments	QP	-59.1	-16.6	32.0	-48.6	Pen vertical. Ant perp to gnd; perp to pen.

NORTHWEST EMC

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Project:	None	Barometric Pres.:	1018.8mb
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Normal mode

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Configuration #	1
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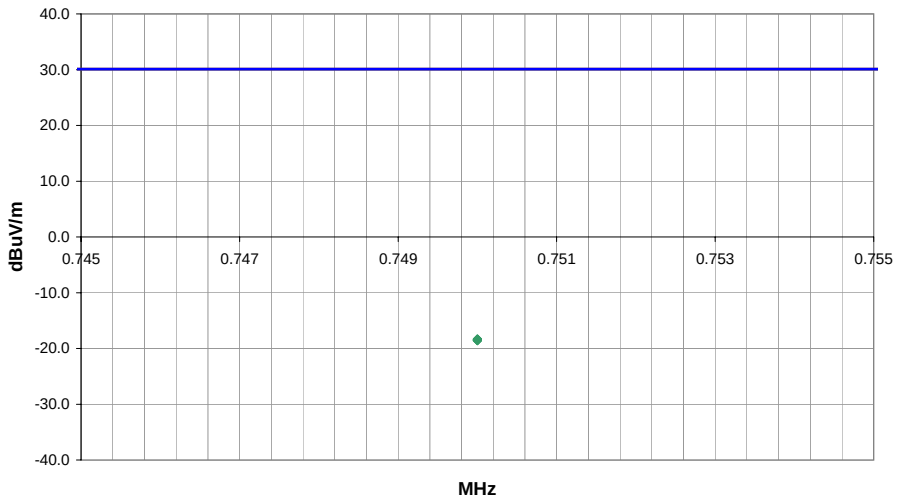
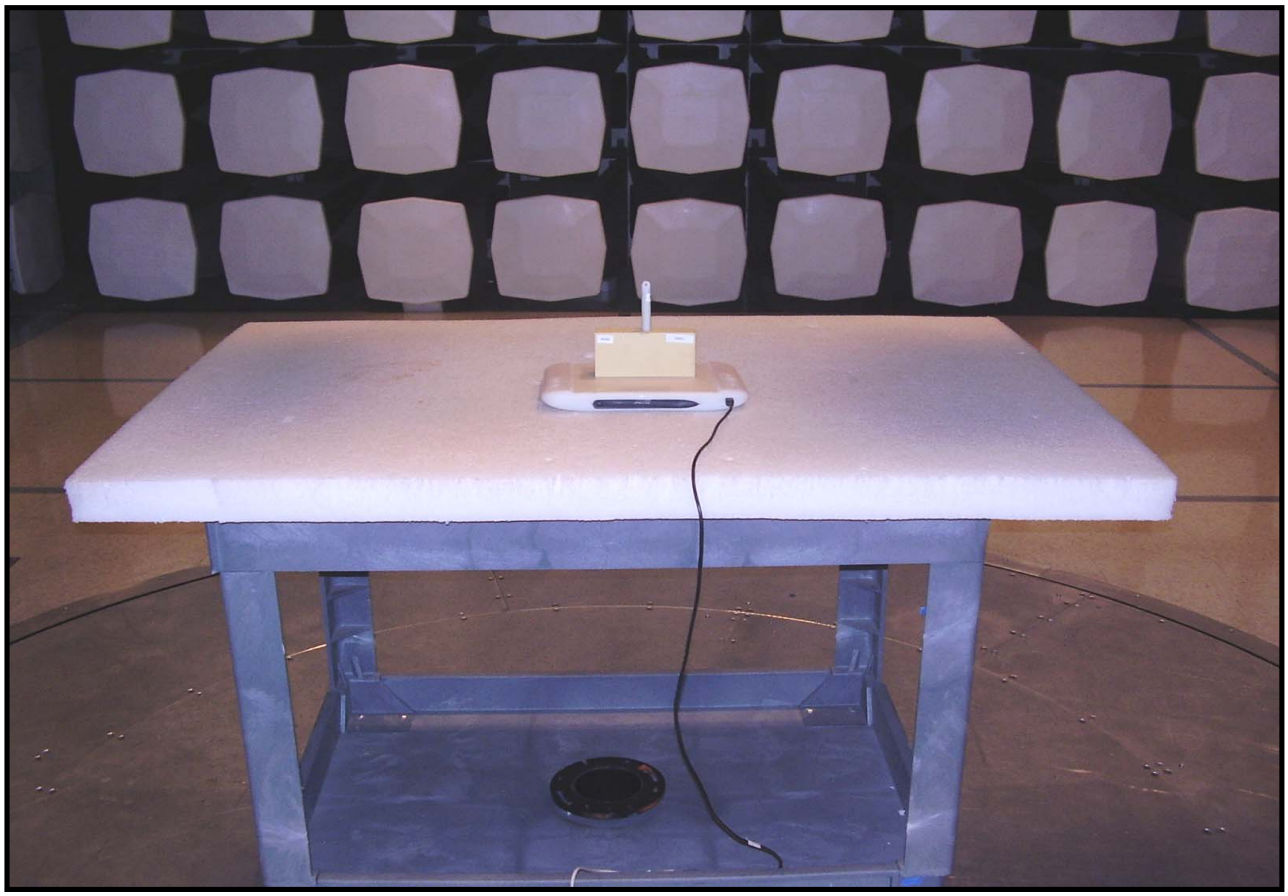
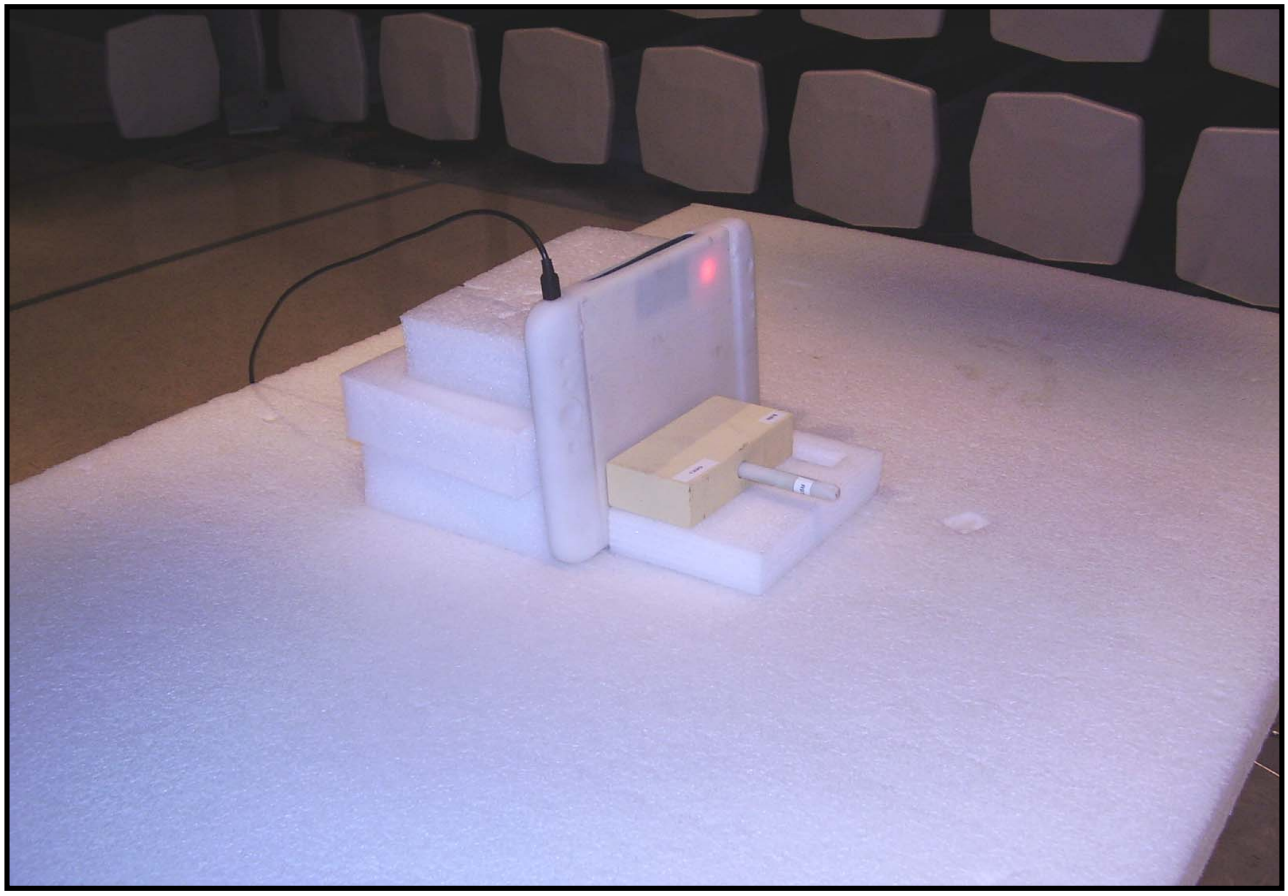
Signature



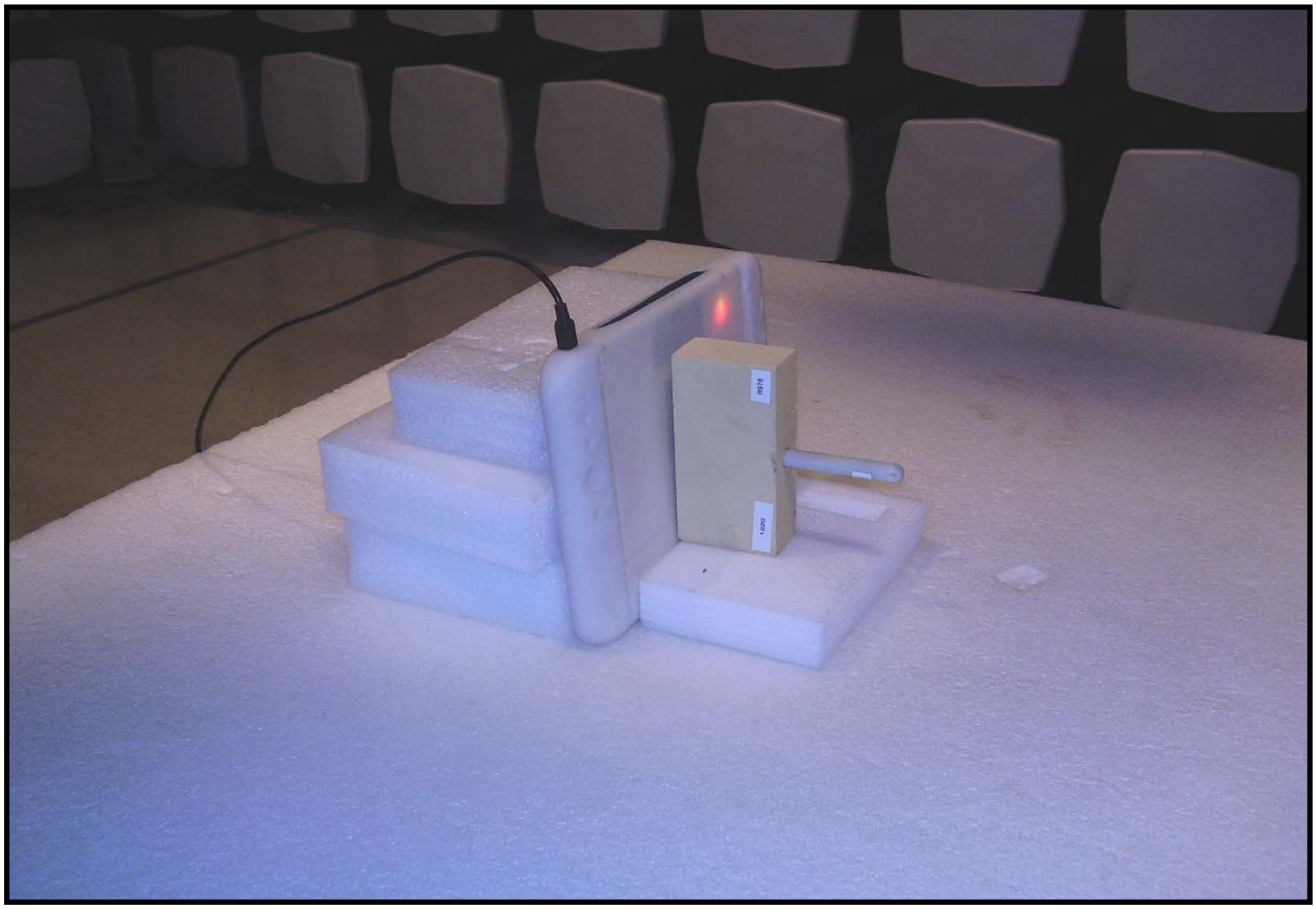
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
0.750	28.0	12.8	-1.0	2.7	1.0	0.0	See comments	QP	-59.1	-18.3	30.1	-48.4	Pen horizontal. Ant perp to gnd; para to pen.
0.750	28.0	12.8	144.0	2.4	1.0	0.0	See comments	QP	-59.1	-18.3	30.1	-48.4	Pen on side. Ant perp to gnd; perp to pen.
0.750	27.9	12.8	260.0	1.0	1.0	0.0	See comments	QP	-59.1	-18.4	30.1	-48.5	Pen vertical. Ant para to gnd; perp to pen.
0.750	27.9	12.8	240.0	1.8	1.0	0.0	See comments	QP	-59.1	-18.4	30.1	-48.5	Pen on side. Ant perp to gnd; para to pen.
0.750	27.8	12.8	75.0	2.2	1.0	0.0	See comments	QP	-59.1	-18.5	30.1	-48.6	Pen vertical. Ant perp to gnd; perp to pen.
0.750	27.8	12.8	40.0	1.9	1.0	0.0	See comments	QP	-59.1	-18.5	30.1	-48.6	Pen vertical. Ant perp to gnd; para to pen.
0.750	27.8	12.8	66.0	2.5	1.0	0.0	See comments	QP	-59.1	-18.5	30.1	-48.6	Pen horizontal. Ant perp to gnd; perp to pen.
0.750	27.7	12.8	16.0	1.0	1.0	0.0	See comments	QP	-59.1	-18.6	30.1	-48.7	Pen on side. Ant para to gnd; perp to pen.
0.750	27.7	12.8	188.0	1.0	1.0	0.0	See comments	QP	-59.1	-18.6	30.1	-48.7	Pen horizontal. Ant para to gnd; perp to pen.

Radiated Emissions <30MHz





Radiated Emissions <30MHz



Field Strength of the Fundamental

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

Normal mode

POWER SETTINGS INVESTIGATED

Battery for Pen, Tablet power over USB

FREQUENCY RANGE INVESTIGATED

Start Frequency	130kHz	Stop Frequency	170kHz

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, Loop	EMCO	6502	AZC	9/1/2006	24
EV11 Cables		3m Test Distance Cables	EVM	5/24/2008	13
Spectrum Analyzer	Agilent	E4443A	AAS	12/7/2007	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

Using the mode of operation and configuration noted within this report, a final radiated emissions test was performed. The frequency range investigated (scanned), is also noted in this report. Radiated emissions measurements were made at the EUT azimuth and antenna height such that the maximum radiated emissions level will be detected. This requires the use of a turntable and an antenna positioner. The preferred method of a continuous azimuth search is utilized for frequency scans of the EUT field strength with both polarities of the measuring antenna. A calibrated, linearly polarized antenna was positioned at the specified distance from the periphery of the EUT.

Tests were made with the antenna positioned in all available planes of polarization. The antenna was varied in height above the conducting ground plane to obtain the maximum signal strength. The measurements distance is specified in the report. The antenna height was varied from 1 to 4 meters. These height scans apply for all polarizations.

NORTHWEST EMC

Field Strength of the Fundamental

PSA 2007.05.07
EMI 2008.1.9

EUT:	Q Tablet and Q Pen	Work Order:	PROU0024
Serial Number:	Unknown	Date:	06/19/08
Customer:	Product Creation Studio	Temperature:	22.96
Attendees:	None	Humidity:	38%
Project:	None	Barometric Pres.:	1018.8mb
Tested by:	Holly Ashkannejhad	Power: Battery	Job Site: EV11

TEST SPECIFICATIONS	Test Method
FCC 15.209:2007	ANSI C63.4:2003

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

COMMENTS

Pen on Tablet. Laptop remote. Maximum emissions in the 130kHz - 170kHz range were measured.

EUT OPERATING MODES

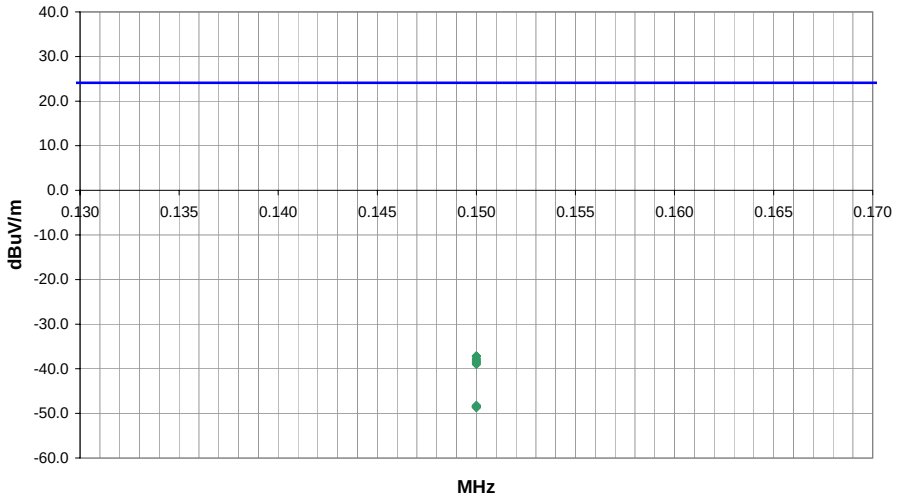
Normal mode

DEVIATIONS FROM TEST STANDARD

No deviations.

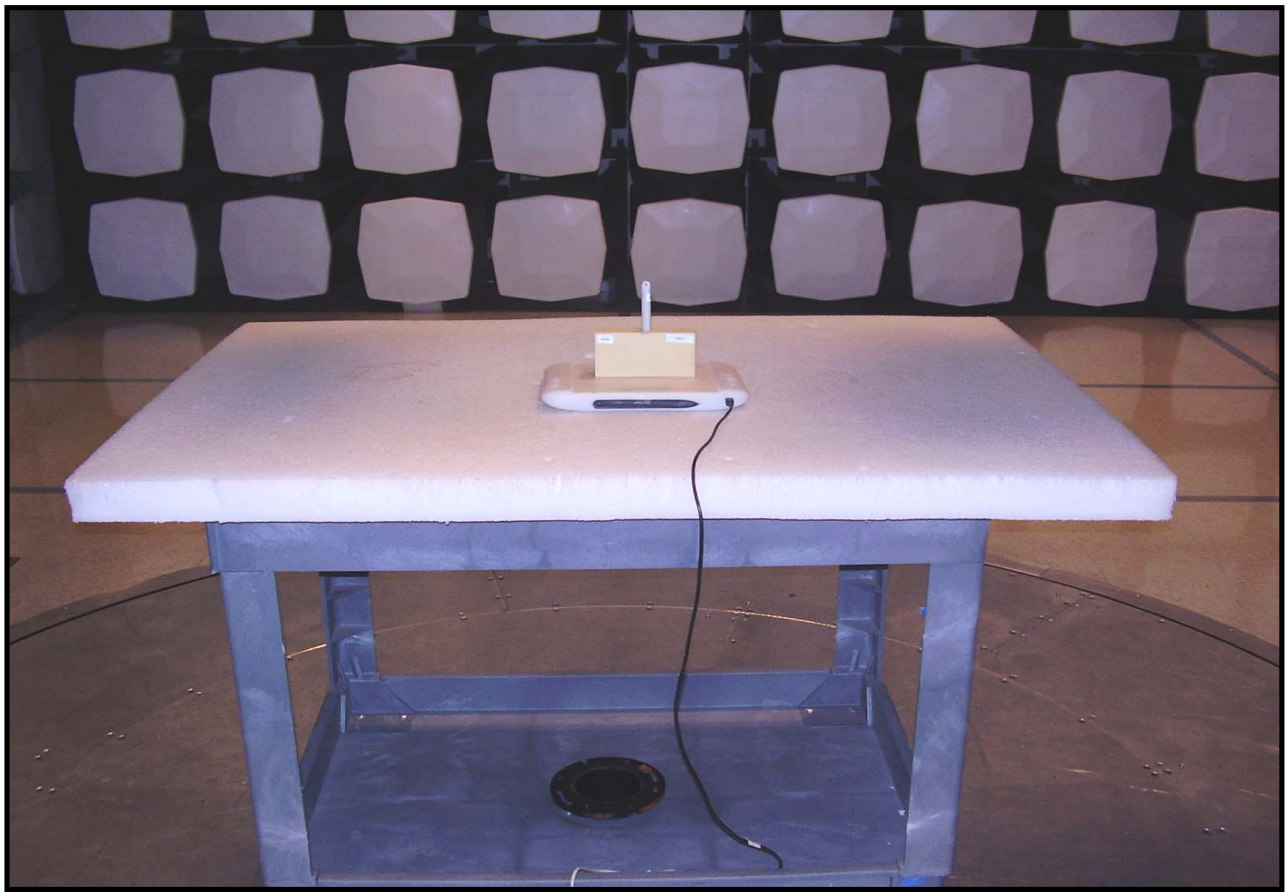
Run #	3
Configuration #	1
Results	Pass

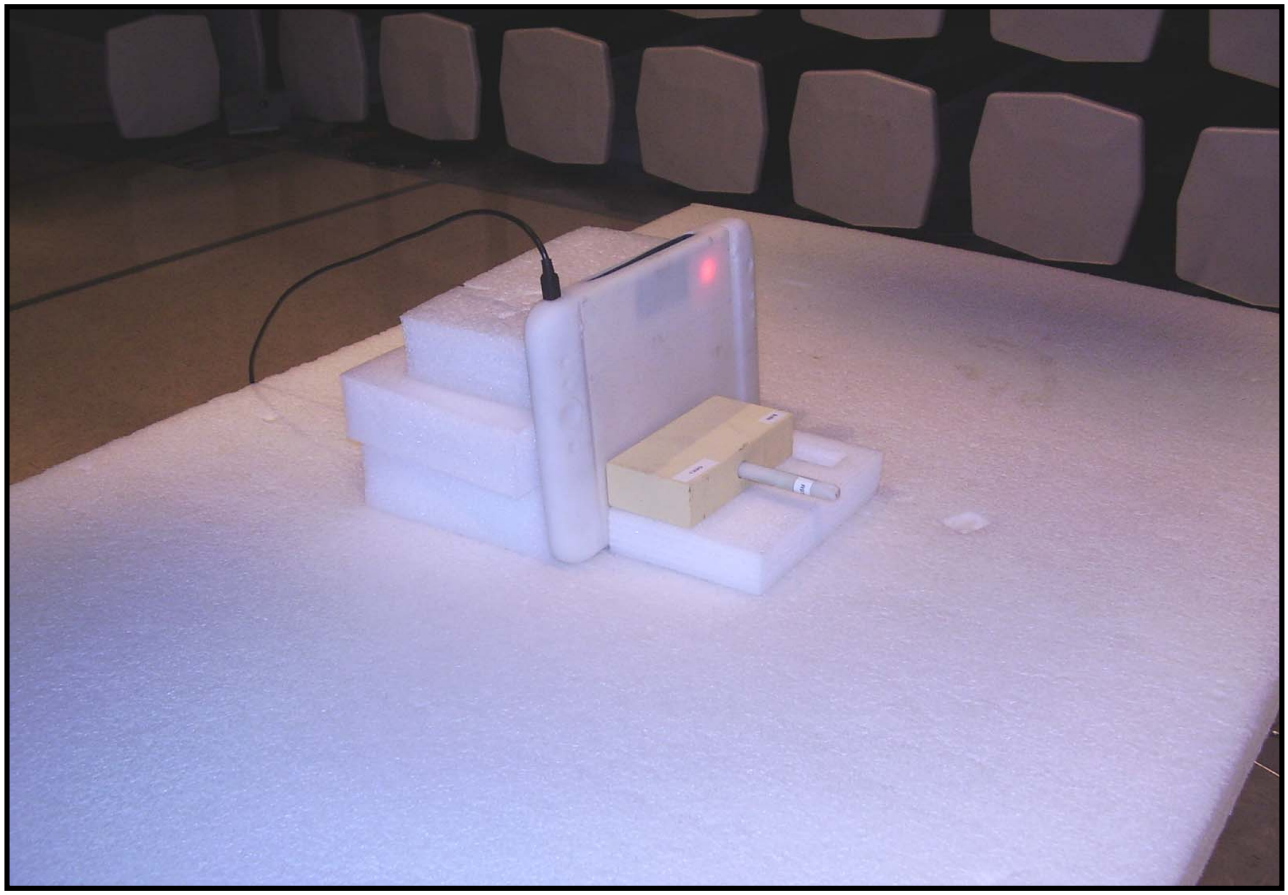
Signature



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
0.150	38.1	12.8	280.0	1.3	1.0	0.0	See comments	AV	-99.1	-48.2	24.1	-72.3	Pen on side. Ant perp to gnd; perp to pen.
0.150	37.9	12.8	279.0	1.0	1.0	0.0	See comments	AV	-99.1	-48.4	24.1	-72.5	Pen vertical. Ant para to gnd; perp to pen.
0.150	37.9	12.8	60.0	1.5	1.0	0.0	See comments	AV	-99.1	-48.4	24.1	-72.5	Pen horizontal. Ant perp to gnd; perp to pen.
0.150	37.8	12.8	275.0	1.0	1.0	0.0	See comments	AV	-99.1	-48.5	24.1	-72.6	Pen horizontal. Ant para to gnd; perp to pen.
0.150	37.8	12.8	22.0	1.0	1.0	0.0	See comments	AV	-99.1	-48.5	24.1	-72.6	Pen on side. Ant para to gnd; perp to pen.
0.150	37.8	12.8	207.0	1.1	1.0	0.0	See comments	AV	-99.1	-48.5	24.1	-72.6	Pen horizontal. Ant perp to gnd; para to pen.
0.150	37.8	12.8	127.0	1.0	1.0	0.0	See comments	AV	-99.1	-48.5	24.1	-72.6	Pen on side. Ant perp to gnd; para to pen.
0.150	37.7	12.8	74.0	1.0	1.0	0.0	See comments	AV	-99.1	-48.6	24.1	-72.7	Pen vertical. Ant perp to gnd; perp to pen.
0.150	37.6	12.8	235.0	1.2	1.0	0.0	See comments	AV	-99.1	-48.7	24.1	-72.8	Pen vertical. Ant perp to gnd; para to pen.
0.150	49.1	12.8	235.0	1.2	1.0	0.0	See comments	PK	-99.1	-37.2	44.1	-81.3	Pen vertical. Ant perp to gnd; para to pen.
0.150	49.2	12.8	207.0	1.1	1.0	0.0	See comments	PK	-99.1	-37.1	44.1	-81.2	Pen horizontal. Ant perp to gnd; para to pen.
0.150	48.3	12.8	275.0	1.0	1.0	0.0	See comments	PK	-99.1	-38.0	44.1	-82.1	Pen horizontal. Ant para to gnd; perp to pen.
0.150	49.1	12.8	60.0	1.5	1.0	0.0	See comments	PK	-99.1	-37.2	44.1	-81.3	Pen horizontal. Ant perp to gnd; perp to pen.
0.150	47.8	12.8	127.0	1.0	1.0	0.0	See comments	PK	-99.1	-38.5	44.1	-82.6	Pen on side. Ant perp to gnd; para to pen.
0.150	48.6	12.8	22.0	1.0	1.0	0.0	See comments	PK	-99.1	-37.7	44.1	-81.8	Pen on side. Ant para to gnd; perp to pen.
0.150	48.0	12.8	280.0	1.3	1.0	0.0	See comments	PK	-99.1	-38.3	44.1	-82.4	Pen on side. Ant perp to gnd; perp to pen.
0.150	47.6	12.8	279.0	1.0	1.0	0.0	See comments	PK	-99.1	-38.7	44.1	-82.8	Pen vertical. Ant para to gnd; perp to pen.
0.150	47.3	12.8	74.0	1.0	1.0	0.0	See comments	PK	-99.1	-39.0	44.1	-83.1	Pen vertical. Ant perp to gnd; perp to pen.

Field Strength of the Fundamental





Field Strength of the Fundamental