NORTHWEST EMC

Intel Corporation

Skylake

FCC 15.207:2015

FCC 15.225:2015

Report # INTE5613

NVLAP Lab Code: 200630-0

CERTIFICATE OF TEST

NORTHWEST EMC
2014-12-10

Last Date of Test: July 13, 2015
Intel Corporation
Model: Skylake

Radio Equipment Testing

Standards

Specification	Method
FCC 15.207:2015	ANSI C63.10:2009
FCC 15.225:2015	ANSI C63.10:2009

Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	Yes	Pass	
6.4	Field Strength of Fundamental	Yes	Pass	
6.4	Field Strength of Spurious Emissions < 30 MHz	Yes	Pass	
6.5	Field Strength of Spurious Emissions > 30 MHz	Yes	Pass	
6.8	Frequency Stability	Yes	Pass	

Deviations From Test Standards

None

Approved By:

Kyle Holgate, Operations Manager

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. 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. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information.

REVISION HISTORY

NORTHWEST EMC
REV 2014.10.14

Revision Number	Description	Date	Page Number
00	None		

ACCREDITATIONS AND AUTHORIZATIONS

NORTHWEST EMC
REV 2015.2.19

United States

FCC - Designated by the FCC as a Telecommunications Certification Body (TCB). Certification chambers, Open Area Test Sites, and conducted measurement facilities are listed with the FCC.

A2LA - Accredited by A2LA to ISO / IEC 17065 as a product certifier. This allows Northwest EMC to certify transmitters to FCC and IC specifications.

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

Canada

IC - Recognized by Industry Canada as a Certification Body (CB). Certification chambers and Open Area Test Sites are filed with IC.

European Union

European Commission – Validated by the European Commission as a Conformity Assessment Body (CAB) under the EMC directive and as a Notified Body under the R&TTE Directive.

Australia/New Zealand

ACMA - Recognized by ACMA as a CAB for the acceptance of test data.

Korea

MSIP / RRA - Recognized by KCC's RRA as a CAB for the acceptance of test data.

Japan

VCCI - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

Taiwan

BSMI – Recognized by BSMI as a CAB for the acceptance of test data.

NCC - Recognized by NCC as a CAB for the acceptance of test data.

Singapore

IDA – Recognized by IDA as a CAB for the acceptance of test data.

Israel

MOC – Recognized by MOC as a CAB for the acceptance of test data.

Hong Kong

OFCA – Recognized by OFCA as a CAB for the acceptance of test data.

Vietnam

MIC – Recognized by MIC as a CAB for the acceptance of test data.

SCOPE

For details on the Scopes of our Accreditations, please visit:
http://www.nwemc.com/accreditations/
http://gsi.nist.gov/global/docs/cabs/designations.html

MEASUREMENT UNCERTAINTY

TMU.2015.07.10

Measurement Uncertainty

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error qualified by a probability distribution.

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) for each test is on each data sheet. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable), and are available upon request.

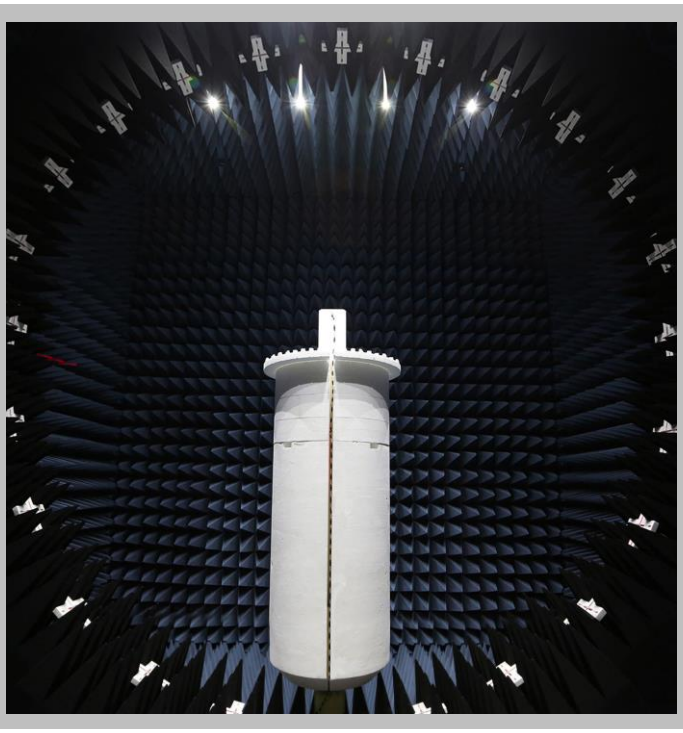
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

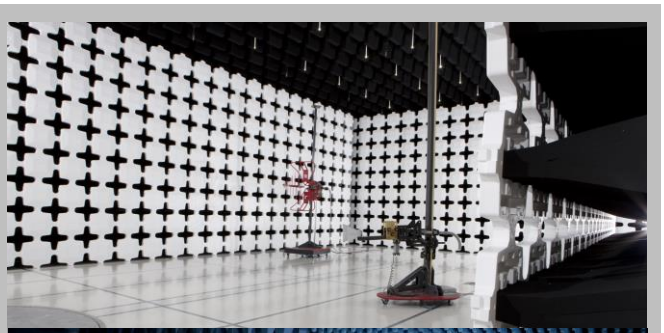
Test	+ MU	- MU
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	2.4 dB	-2.4 dB

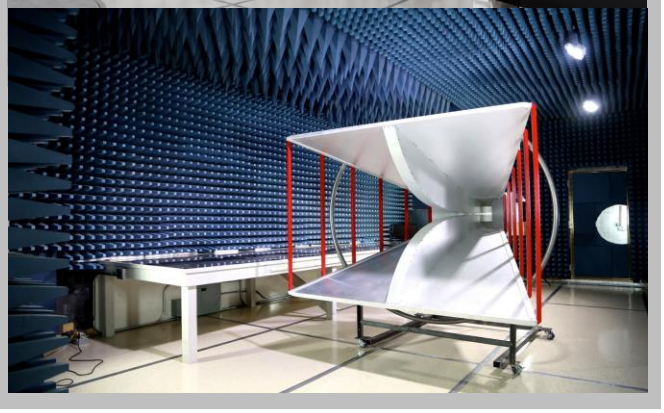
FACILITIES

NORTHWEST EMC
REV 2015.2.19

California	Minnesota	New York	Oregon	Texas	Washington
Labs OC01-13 41 Tesla Irvine, CA 92618 (949) 861-8918	Labs MN01-08, MN10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 554-8214	Labs EV01-12 22975 NW Evergreen Pkwy Hillsboro, OR 97124 (503) 844-4066	Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Labs NC01-05 19201 120th Ave NE Bothell, WA 9801 (425)984-6600
NVLAP					
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200761-0	NVLAP Lab Code: 200630-0	NVLAP Lab Code:201049-0	NVLAP Lab Code: 200629-0
Industry Canada					
2834B-1, 2834B-3	2834E-1	N/A	2834D-1, 2834D-*2*	2834G-1	2834F-1
BSMI					
SL2-IN-E-1154R	SL2-IN-E-1152R	N/A	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI					
A-0029	A-0109	N/A	A-0108	A-0201	A-0110
Recognized Phase I CAB for ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA					
US0158	US0175	N/A	US0017	US0191	US0157







PRODUCT DESCRIPTION

2014-12-10

Client and Equipment Under Test (EUT) Information

Company Name:	Intel Corporation
Address:	5200 N.E. Elam Young Parkway
City, State, Zip:	Hillsboro, OR 97124
Test Requested By:	Mike Lowe
Model:	Skylake
First Date of Test:	July 10, 2015
Last Date of Test:	July 13, 2015
Receipt Date of Samples:	July 10, 2015
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
802.11abgn/ac, 2x2 MIMO, Bluetooth, NFC, LTE, GSM

Testing Objective:
To demonstrate compliance to FCC Part 15.225 specifications.

CONFIGURATIONS

NORTHWEST EMC 2014-12-10

Configuration INTE5613- 1

Software/Firmware Running during test	
Description	**Version**
Windows 10	Beta
NFC SwissKnife	Unknown

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Tablet	Intel Corporation	SKL21-SDS	IASY515S0020

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Dp to passive HDMI	BizLink	H58962-001	1452
Ear Bud Headphones	Samsung	Unknown	None
Ear Bud Headphones	Unknown	Unknown	None
Lenovo Mouse	Lenovo	MOEUUO	44VE812

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
HDMI Cable	Unknown	1.6 m	No	dDp to passive HDMI	Not terminated
USB Cable	Unknown	1 m	No	Tablet	Not terminated
USB Cable	Unknown	1.8 m	No	Tablet	Not terminated

Configuration INTE5613- 3

Software/Firmware Running during test	
Description	**Version**
Windows 10	Beta
NFC SwissKnife	Unknown

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Tablet	Intel Corporation	SKL-SDS	IASY515S0020

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AC Adapter	Delta Electronics, Inc.	ADP-45GE AA	None

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Cable	Unknown	1 m	No	Monitor	AC Main

MODIFICATIONS

NORTHWEST EMC
2014-12-10

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	7/10/2015	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	7/10/2015	Field Strength of Spurious Emissions > 30 MHz	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.
3	7/13/2015	Field Strength of Spurious Emissions < 30 MHz	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.
4	7/13/2015	Powerline Conducted Emissions	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.
5	7/13/2015	Frequency Stability	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

POWERLINE CONDUCTED EMISSIONS

NORTHWEST EMC
WTD.2015.05.26
PSA-ESCI 2015.03.03, EmiR5 2015.05.29

TEST DESCRIPTION

Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 50 Ω measuring port is terminated by a 50 Ω EMI meter or a 50 Ω resistive load. All 50 Ω measuring ports of the LISN are terminated by 50Ω.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Receiver	Rohde & Schwarz	ESCI	ARH	3/11/2015	03/11/2016
Conducted Emissions Cable Assembly	None	Conducted Emissions	EVGA	5/12/2015	05/12/2016
High Pass Filter	TTE	H97-100K-50-720B	HHD	1/5/2015	01/05/2016
LISN	Solar Electronics	9252-50-R-24-BNC	LIP	1/27/2015	01/27/2016
LISN	Solar Electronics	9252-50-R-24-BNC	LIR	10/7/2014	10/07/2015

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	2.4 dB	-2.4 dB

CONFIGURATIONS INVESTIGATED

INTE5613-1

MODES INVESTIGATED

Tx, NFC 13.56 MHz, Type A, 106 kbps.

POWERLINE CONDUCTED EMISSIONS

NORTHWEST EMC
WTD.2015.05.26
PSA-ESCI 2015.03.03, EmiR5 2015.05.29

EUT:	Skylake	Work Order:	INTE5613
Serial Number:	020	Date:	07/13/2015
Customer:	Intel Corporation	Temperature:	24.4°C
Attendees:	Mike Lowe	Relative Humidity:	44.1%
Customer Project:	None	Bar. Pressure:	1018.2 mb
Tested By:	Jared Ison	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	INTE5613-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2015	ANSI C63.10:2009

TEST PARAMETERS

Run #:	4	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

None

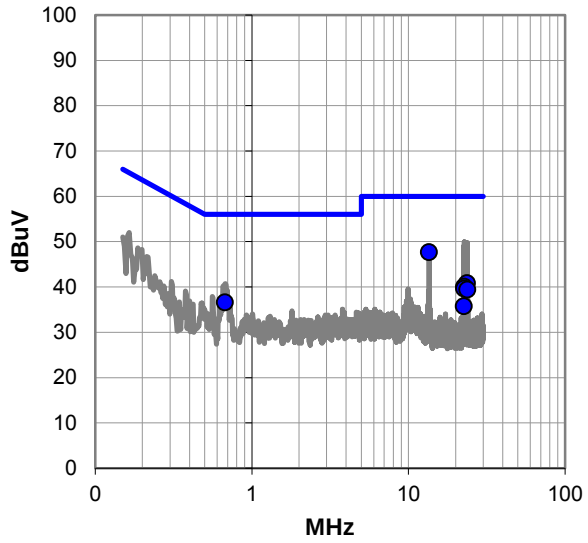
EUT OPERATING MODES

Tx, NFC 13.56 MHz, Type A, 106 kbps.

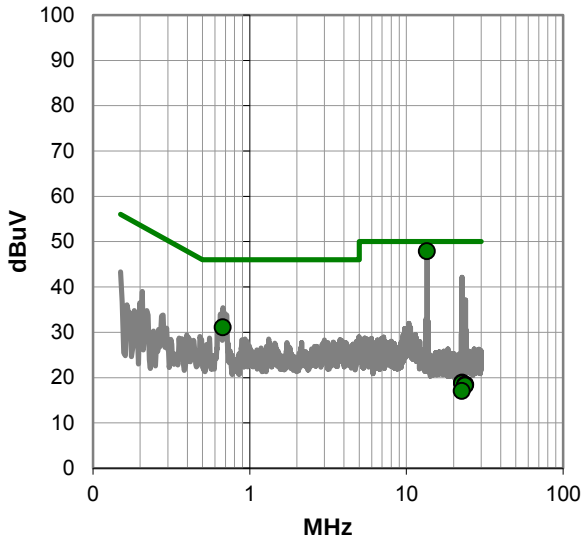
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

NORTHWEST EMC
WTD.2015.05.26
PSA-ESCI 2015.03.03, EmiR5 2015.05.29

RESULTS - Run #4

Quasi Peak Data - vs - Quasi Peak Limit

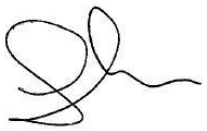
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	27.1	20.6	47.7	60.0	-12.3
23.681	19.6	21.2	40.8	60.0	-19.2
0.673	16.7	19.9	36.6	56.0	-19.4
22.700	18.9	21.1	40.0	60.0	-20.0
22.718	18.5	21.1	39.6	60.0	-20.4
23.749	18.2	21.2	39.4	60.0	-20.6
22.584	14.6	21.1	35.7	60.0	-24.3

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	27.3	20.6	47.9	50.0	-2.1
0.673	11.2	19.9	31.1	46.0	-14.9
22.700	-2.3	21.1	18.8	50.0	-31.2
22.718	-2.4	21.1	18.7	50.0	-31.3
23.749	-2.8	21.2	18.4	50.0	-31.6
23.681	-3.0	21.2	18.2	50.0	-31.8
22.584	-4.1	21.1	17.0	50.0	-33.0

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

NORTHWEST EMC
WTD.2015.05.26
PSA-ESCI 2015.03.03, EmiR5 2015.05.29

EUT:	Skylake	Work Order:	INTE5613
Serial Number:	020	Date:	07/13/2015
Customer:	Intel Corporation	Temperature:	24.4°C
Attendees:	Mike Lowe	Relative Humidity:	44.1%
Customer Project:	None	Bar. Pressure:	1018.2 mb
Tested By:	Jared Ison	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	INTE5613-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2015	ANSI C63.10:2009

TEST PARAMETERS

Run #:	5	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

None

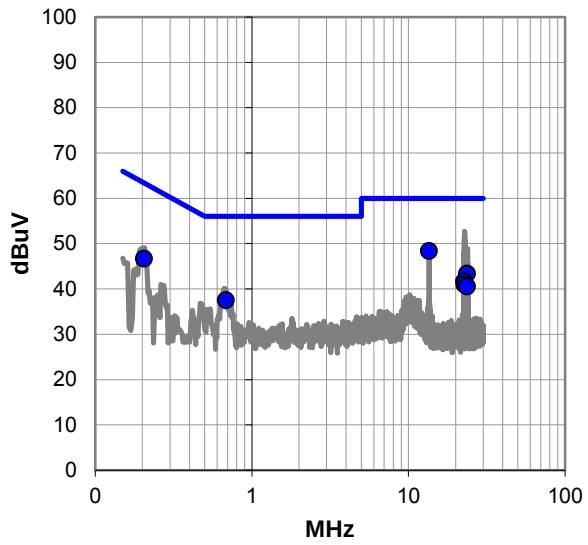
EUT OPERATING MODES

Tx, NFC 13.56 MHz, Type A, 106 kbps.

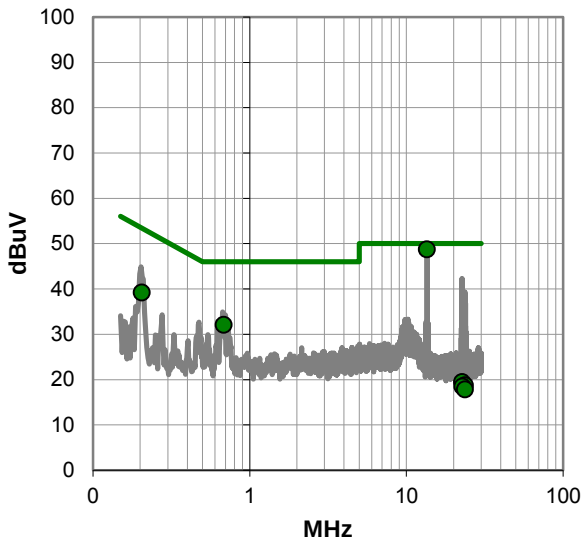
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

NORTHWEST EMC
WTD.2015.05.26
PSA-ESCI 2015.03.03, EmiR5 2015.05.29

RESULTS - Run #5

Quasi Peak Data - vs - Quasi Peak Limit

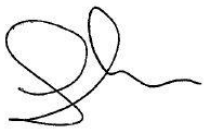
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	27.8	20.6	48.4	60.0	-11.6
23.681	22.1	21.2	43.3	60.0	-16.7
0.205	26.7	20.0	46.7	63.4	-16.7
22.707	20.5	21.1	41.6	60.0	-18.4
0.682	17.6	19.9	37.5	56.0	-18.5
22.859	19.8	21.2	41.0	60.0	-19.0
23.724	19.3	21.2	40.5	60.0	-19.5

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	28.1	20.6	48.7	50.0	-1.3
0.682	12.2	19.9	32.1	46.0	-13.9
0.205	19.2	20.0	39.2	53.4	-14.2
22.707	-1.7	21.1	19.4	50.0	-30.6
23.681	-2.5	21.2	18.7	50.0	-31.3
22.859	-2.7	21.2	18.5	50.0	-31.5
23.724	-3.4	21.2	17.8	50.0	-32.2

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF 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. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

MODES OF OPERATION

Tx, NFC 13.56 MHz

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

INTE5613 - 1

FREQUENCY RANGE INVESTIGATED

Start Frequency	13 MHz	Stop Frequency	14 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
Cable	None	3m Test Distance Cable	EVM	5/11/2015	12 mo
Antenna, Loop	EMCO	6502	AOA	6/24/2014	24 mo
Spectrum Analyzer	Agilent	E4443A	AFB	3/17/2015	12 mo

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

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was continuously transmitting while set to the channel specified.

While scanning, fundamental carrier from the EUT was maximized by rotating the EUT, adjusting the measurement antenna height and orientation in 3 orthogonal planes, the EUT and/or associated antenna is positioned in 3 orthogonal planes (per ANSI C63.10). An active loop antenna was used for this test in order to provide sufficient measurement sensitivity.

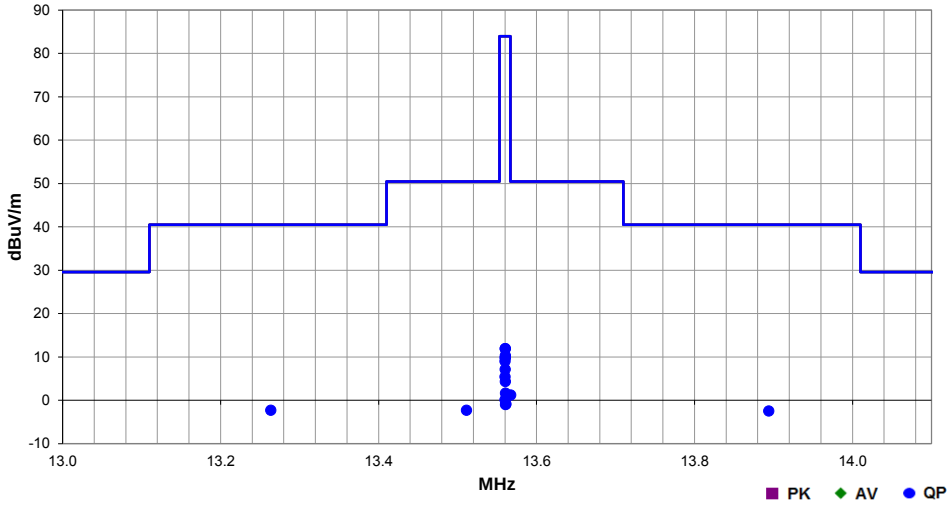
As outlined in 15.209(e) and 15.31(f)(2), measurements may be performed at a distance closer than what is specified with the limit. The limit at the specified distance is shown on the data sheet. Measurements are made at a closer distance and the data is adjusted using a distance correction factor of 40dB/decade for comparison to the limit.

FIELD STRENGTH OF FUNDAMENTAL

Work Order:	INTE5613	**Date:**	07/10/15		
Project:	None	**Temperature:**	24.2 °C		
Job Site:	EV11	**Humidity:**	42.4% RH		
Serial Number:	020	**Barometric Pres.:**	1011.6 mbar	**Tested by:**	Jared Ison
EUT:	Skylake				
Configuration:	1				
Customer:	Intel Corporation				
Attendees:	Mike Lowe				
EUT Power:	110VAC/60Hz				
Operating Mode:	Tx, NFC 13.56 MHz				
Deviations:	None				
Comments:	Reference data comments for modulation type, data rate, EUT oreintation and antenna oreintation.				

Test Specifications	**Test Method**
FCC 15.225:2015	ANSI C63.10:2009

Run #	2	**Test Distance (m)**	10	**Antenna Height(s)**	1(m)	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
12.927	6.0	10.9	1.0	230.0	10.0	0.0	Horz	QP	-19.1	-2.2	29.5	-31.7	Mod. Type F, 212 kbps, EUT On Side, Ant Perp to EUT/Ant Perp to Gnd
14.173	5.7	10.9	1.0	55.0	10.0	0.0	Horz	QP	-19.1	-2.5	29.5	-32.0	Mod. Type F, 212 kbps, EUT On Side, Ant Perp to EUT/Ant Perp to Gnd
13.264	5.9	10.9	1.0	174.0	10.0	0.0	Horz	QP	-19.1	-2.3	40.5	-42.8	Mod. Type F, 212 kbps, EUT On Side, Ant Perp to EUT/Ant Perp to Gnd
13.894	5.7	10.9	1.0	145.0	10.0	0.0	Horz	QP	-19.1	-2.5	40.5	-43.0	Mod. Type F, 212 kbps, EUT On Side, Ant Perp to EUT/Ant Perp to Gnd
13.567	9.4	10.9	1.0	114.0	10.0	0.0	Horz	QP	-19.1	1.2	50.5	-49.3	Mod. Type F, 212 kbps, EUT On Side, Ant Perp to EUT/Ant Perp to Gnd
13.511	5.9	10.9	1.0	342.0	10.0	0.0	Horz	QP	-19.1	-2.3	50.5	-52.8	Mod. Type F, 212 kbps, EUT On Side, Ant Perp to EUT/Ant Perp to Gnd
13.560	20.1	10.9	1.0	138.0	10.0	0.0	Horz	QP	-19.1	11.9	84.0	-72.1	Mod. Type F, 212 kbps, EUT On Side, Ant Perp to EUT/Ant Perp to Gnd
13.560	20.1	10.9	1.0	138.0	10.0	0.0	Horz	QP	-19.1	11.9	84.0	-72.1	Mod. Type F, 424 kbps, EUT On Side, Ant Perp to EUT/Ant Perp to Gnd
13.560	18.5	10.9	1.0	138.0	10.0	0.0	Horz	QP	-19.1	10.3	84.0	-73.7	Mod. Type A, 848 kbps, EUT On Side, Ant Perp to EUT/Ant Perp to Gnd
13.560	18.0	10.9	1.0	311.0	10.0	0.0	Horz	QP	-19.1	9.8	84.0	-74.2	Mod. Type A, 106 kbps, EUT On Side, Ant Perp to EUT/Ant Perp to Gnd
13.561	18.0	10.9	1.0	138.0	10.0	0.0	Horz	QP	-19.1	9.8	84.0	-74.2	Mod. Type A, 212 kbps, EUT On Side, Ant Perp to EUT/Ant Perp to Gnd
13.560	17.2	10.9	1.0	319.0	10.0	0.0	Horz	QP	-19.1	9.0	84.0	-75.0	Mod. Type A, 106 kbps, EUT Horz, Ant Perp to EUT/Ant Perp to Gnd
13.560	15.3	10.9	1.0	309.0	10.0	0.0	Horz	QP	-19.1	7.1	84.0	-76.9	Mod. Type A, 106 kbps, EUT Vert, Ant Perp to EUT/Ant Perp to Gnd
13.560	13.6	10.9	1.0	230.0	10.0	0.0	Horz	QP	-19.1	5.4	84.0	-78.6	Mod. Type A, 106 kbps, EUT On Side, Ant Para to EUT/Ant Perp to Gnd
13.561	12.5	10.9	1.0	193.0	10.0	0.0	Horz	QP	-19.1	4.3	84.0	-79.7	Mod. Type A, 106 kbps, EUT Horz, Ant Para to EUT/Ant Perp to Gnd
13.561	9.8	10.9	1.0	228.0	10.0	0.0	Vert	QP	-19.1	1.6	84.0	-82.4	Mod. Type A, 106 kbps, EUT On Side, Ant Perp to EUT/Ant Para to Gnd
13.560	8.3	10.9	1.0	255.0	10.0	0.0	Horz	QP	-19.1	0.1	84.0	-83.9	Mod. Type A, 106 kbps, EUT Vert, Ant Para to EUT/Ant Perp to Gnd
13.561	7.3	10.9	1.0	350.0	10.0	0.0	Vert	QP	-19.1	-0.9	84.0	-84.9	Mod. Type A, 106 kbps, EUT Vert, Ant Perp to EUT/Ant Para to Gnd
13.561	7.2	10.9	1.0	23.0	10.0	0.0	Vert	QP	-19.1	-1.0	84.0	-85.0	Mod. Type A, 106 kbps, EUT Horz, Ant Perp to EUT/Ant Para to Gnd

FIELD STRENGTH OF SPURIOUS EMISSIONS < 30 MHz

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. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

MODES OF OPERATION

Tx, NFC 13.56 MHz

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

INTE5613 - 1

FREQUENCY RANGE INVESTIGATED

Start Frequency	10 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
Cable	None	3m Test Distance Cable	EVM	5/11/2015	12 mo
Antenna, Loop	EMCO	6502	AOA	6/24/2014	24 mo
Spectrum Analyzer	Agilent	E4443A	AFB	3/17/2015	12 mo

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

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was continuously transmitting while set to the channel specified.

While scanning, emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height and orientation in 3 orthogonal planes, the EUT and/or associated antenna is positioned in 3 orthogonal planes (per ANSI C63.10). An active loop antenna was used for this test in order to provide sufficient measurement sensitivity.

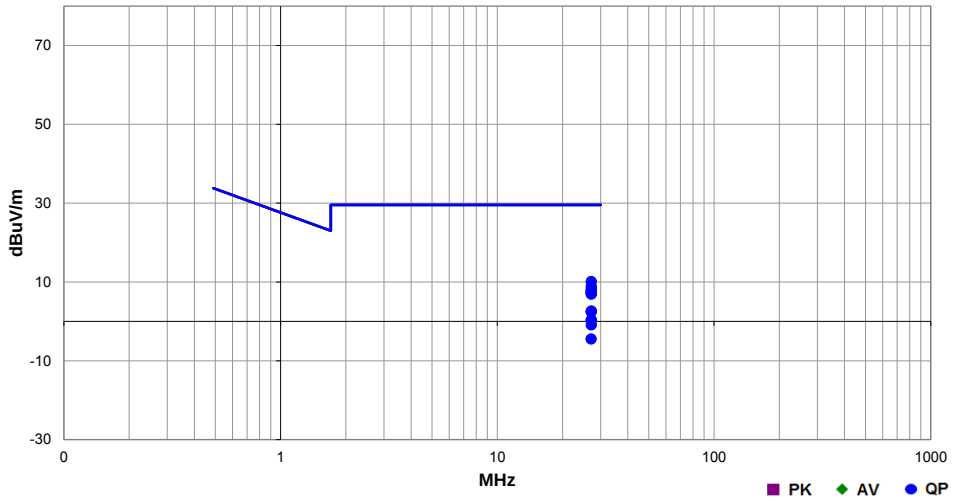
As outlined in 15.209(e) and 15.31(f)(2), measurements may be performed at a distance closer than what is specified with the limit. The limit at the specified distance is shown on the data sheet. Measurements are made at a closer distance and the data is adjusted using a distance correction factor of 40dB/decade for comparison to the limit.

FIELD STRENGTH OF SPURIOUS EMISSIONS < 30 MHz

Work Order:	INTE5613	**Date:**	07/13/15		
Project:	None	**Temperature:**	24.1 °C		
Job Site:	EV11	**Humidity:**	45.2% RH		
Serial Number:	020	**Barometric Pres.:**	1018.4 mbar	**Tested by:**	Jared Ison
EUT:	Skylake				
Configuration:	1				
Customer:	Intel Corporation				
Attendees:	Mike Lowe				
EUT Power:	110VAC/60Hz				
Operating Mode:	Tx, NFC 13.56 MHz				
Deviations:	NOne				
Comments:	Reference data comments for modulation type, data rate, EUT oreintation and antenna oreintation.				

Test Specifications	**Test Method**
FCC 15.225:2015	ANSI C63.10:2009

Run #	5	**Test Distance (m)**	10	**Antenna Height(s)**	1(m)	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
27.121	20.0	9.2	1.0	61.0	10.0	0.0	Horz	QP	-19.1	10.1	29.5	-19.4	Mod. Type F, 212 kbps, EUT Vert, Ant Perp to EUT/Ant Perp to Gnd
27.121	18.8	9.2	1.0	80.0	10.0	0.0	Horz	QP	-19.1	8.9	29.5	-20.6	Mod. Type F, 424 kbps, EUT Vert, Ant Perp to EUT/Ant Perp to Gnd
27.121	18.1	9.2	1.0	334.0	10.0	0.0	Horz	QP	-19.1	8.2	29.5	-21.3	Mod. Type F, 212 kbps, EUT Horz, Ant Perp to EUT/Ant Perp to Gnd
27.121	17.7	9.2	1.0	62.0	10.0	0.0	Horz	QP	-19.1	7.8	29.5	-21.7	Mod. Type A, 424 kbps, EUT Vert, Ant Perp to EUT/Ant Perp to Gnd
27.121	17.5	9.2	1.0	1.0	10.0	0.0	Horz	QP	-19.1	7.6	29.5	-21.9	Mod. Type F, 212 kbps, EUT On Side, Ant Perp to EUT/Ant Perp to Gnd
27.121	17.2	9.2	1.0	51.0	10.0	0.0	Horz	QP	-19.1	7.3	29.5	-22.2	Mod. Type A, 106 kbps, EUT Vert, Ant Perp to EUT/Ant Perp to Gnd
27.121	17.0	9.2	1.0	62.0	10.0	0.0	Horz	QP	-19.1	7.1	29.5	-22.4	Mod. Type A, 212 kbps, EUT Vert, Ant Perp to EUT/Ant Perp to Gnd
27.121	16.8	9.2	1.0	62.0	10.0	0.0	Horz	QP	-19.1	6.9	29.5	-22.6	Mod. Type A, 848 kbps, EUT Vert, Ant Perp to EUT/Ant Perp to Gnd
27.121	12.5	9.2	1.0	309.0	10.0	0.0	Horz	QP	-19.1	2.6	29.5	-26.9	Mod. Type F, 212 kbps, EUT On Side, Ant Para to EUT/Ant Perp to Gnd
27.121	12.3	9.2	1.0	-4.0	10.0	0.0	Horz	QP	-19.1	2.4	29.5	-27.1	Mod. Type F, 212 kbps, EUT Vert, Ant Para to EUT/Ant Perp to Gnd
27.121	10.3	9.2	1.0	63.0	10.0	0.0	Vert	QP	-19.1	0.4	29.5	-29.1	Mod. Type F, 212 kbps, EUT Vert, Ant Perp to EUT/Ant Para to Gnd
27.121	10.1	9.2	1.0	201.0	10.0	0.0	Horz	QP	-19.1	0.2	29.5	-29.3	Mod. Type F, 212 kbps, EUT Horz, Ant Para to EUT/Ant Perp to Gnd
27.120	9.0	9.2	1.0	14.0	10.0	0.0	Vert	QP	-19.1	-0.9	29.5	-30.4	Mod. Type F, 212 kbps, EUT On Side, Ant Perp to EUT/Ant Para to Gnd
27.070	5.4	9.2	1.0	309.0	10.0	0.0	Vert	QP	-19.1	-4.5	29.5	-34.0	Mod. Type F, 212 kbps, EUT Horz, Ant Perp to EUT/Ant Para to Gnd

FIELD STRENGTH OF SPURIOUS EMISSIONS > 30 MHz

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. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

MODES OF OPERATION

Tx, NFC 13.56 MHz

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

INTE5613 - 1

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	140 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
Cable	N/A	Bilog Cables	EVA	2/10/2015	12 mo
Pre-Amplifier	Miteq	AM-1616-1000	AOL	2/10/2015	12 mo
Antenna, Biconilog	EMCO	3141	AXE	8/29/2014	24 mo
Spectrum Analyzer	Keysight	N9010A	AFN	2/10/2015	12 mo

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

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was transmitting while set at the operating channel.

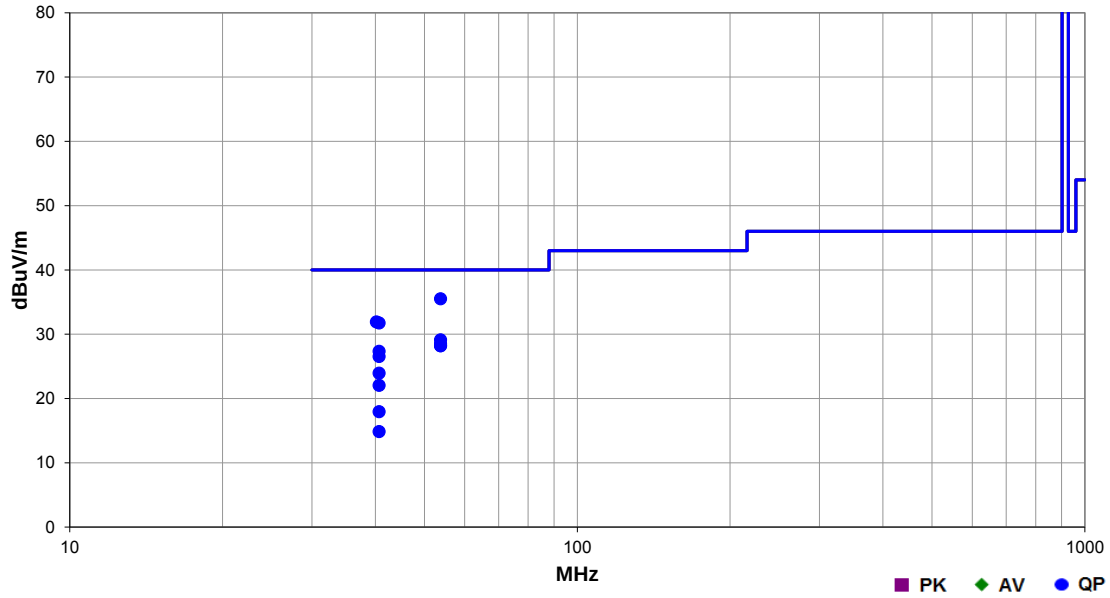
While scanning, emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.10:2009).

FIELD STRENGTH OF SPURIOUS EMISSIONS > 30 MHz

Work Order:	INTE5613	**Date:**	07/10/15		
Project:	None	**Temperature:**	24.7 °C		
Job Site:	EV01	**Humidity:**	41.2% RH		
Serial Number:	020	**Barometric Pres.:**	1011.2 mbar	**Tested by:**	Jared Ison
EUT:	Skylake				
Configuration:	1				
Customer:	Intel Corporation				
Attendees:	Mike Lowe				
EUT Power:	110VAC/60Hz				
Operating Mode:	Tx, NFC 13.56 MHz				
Deviations:	None				
Comments:	Reference data comments for modulation type, data rate, EUT oreintation and antenna oreintation.				

Test Specifications	**Test Method**
FCC 15.225:2015	ANSI C63.10:2009

Run #	2	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
53.768	45.5	-10.0	1.0	135.0	3.0	0.0	Vert	QP	0.0	35.5	40.0	-4.5	Mod. Type A, 212 kbps, EUT On Side
40.200	38.2	-6.3	1.0	315.0	3.0	0.0	Vert	QP	0.0	31.9	40.0	-8.1	Mod. Type A, 212 kbps, EUT On Side
40.692	38.2	-6.4	1.0	354.0	3.0	0.0	Vert	QP	0.0	31.8	40.0	-8.2	Mod. Type F, 212 kbps, EUT On Side
53.773	39.1	-10.0	2.9	143.0	3.0	0.0	Horz	QP	0.0	29.1	40.0	-10.9	Mod. Type A, 212 kbps, EUT On Side
53.767	38.5	-10.0	3.8	157.0	3.0	0.0	Horz	QP	0.0	28.5	40.0	-11.5	Mod. Type A, 106 kbps, EUT On Side
53.768	38.2	-10.0	3.8	157.0	3.0	0.0	Horz	QP	0.0	28.2	40.0	-11.8	Mod. Type A, 848 kbps, EUT On Side
53.775	38.2	-10.0	3.8	157.0	3.0	0.0	Horz	QP	0.0	28.2	40.0	-11.8	Mod. Type A, 424 kbps, EUT On Side
40.690	33.8	-6.4	3.7	256.0	3.0	0.0	Horz	QP	0.0	27.4	40.0	-12.6	Mod. Type F, 212 kbps, EUT On Side
40.690	33.0	-6.4	3.8	263.0	3.0	0.0	Horz	QP	0.0	26.6	40.0	-13.4	Mod. Type A, 212 kbps, EUT On Side
40.692	30.4	-6.4	1.0	241.0	3.0	0.0	Vert	QP	0.0	24.0	40.0	-16.0	Mod. Type F, 212 kbps, EUT Vert
40.692	28.5	-6.4	1.0	99.0	3.0	0.0	Vert	QP	0.0	22.1	40.0	-17.9	Mod. Type F, 212 kbps, EUT Horz
40.690	24.4	-6.4	3.0	24.0	3.0	0.0	Horz	QP	0.0	18.0	40.0	-22.0	Mod. Type F, 212 kbps, EUT Horz
40.690	21.3	-6.4	3.5	245.0	3.0	0.0	Horz	QP	0.0	14.9	40.0	-25.1	Mod. Type F, 212 kbps, EUT Vert

FREQUENCY STABILITY

NORTHWEST EMC

XMit 2015.01.14

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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval (mo)
Signal Generator	Keysight	N5182B	TFX	4/16/2015	36
DC Power Supply	Topward	TPS-2000	TPD	NCR	0
Near Field Probe	EMCO	7405	IPD	NCR	0
DC Block, 40 GHz - SMA	Fairview Microwave	SD3379	AMP	6/18/2015	12
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	7/30/2014	12
Humidity and Temperature Chamber	Cincinnati Sub Zero (CSZ)	ZPH-8-2-SCT/AC	TBI	NCR	0
Thermometer	Omegaette	HH311	DTY	1/21/2015	36
AC Power Source	Instek	APS-9050	TPK	NCR	0
Multimeter	Tektronix	DMM912	MMH	2/5/2013	36
DC Power Supply	Topward	TPS-2000	TPD	NCR	0
Spectrum Analyzer	Agilent	E4446A	AAQ	3/10/2015	12

TEST DESCRIPTION

Variation of Supply Voltage
The primary supply voltage was varied from 85% to 115% of nominal. The EUT can be operated from the public AC mains, so an AC lab supply was used to vary the supply voltage from 115% to 85% of 120 V, 60 Hz. The EUT can also be battery operated, so a DC lab supply was used to vary the supply voltage from the EUT's normal operating voltage to the battery end point voltage.

Variation of Ambient Temperature
Using a temperature chamber, the transmit frequency was recorded at the extremes of the specified temperature range (-20° to +50° C) and at 10°C intervals.

A Near Feld Probe measurement was made between the EUT's antenna port and a spectrum analyzer. Measurements were made at the frequency specified in the test data to determine frequency stability. If the frequency variation is less than 100 ppm, the EUT will meet the requirements of 15.225(e), and that the emissions are maintained within the band of operation.

FREQUENCY STABILITY

NORTHWEST EMC

XMit 2015.01.14

EUT:	Skylake			**Work Order:**	INTE5613
Serial Number:	020			**Date:**	07/13/15
Customer:	Intel Corporation			**Temperature:**	23°C
Attendees:	Mike Lowe			**Humidity:**	41%
Project:	None			**Barometric Pres.:**	1014
Tested by:	Jared Ison	**Power:**	110VAC/60Hz	**Job Site:**	EV06

TEST SPECIFICATIONS	**Test Method**
FCC 15.225:2015	ANSI C63.10:2009

COMMENTS

Reference data comments for modulation type, data rate, EUT oreintation and antenna oreintation.

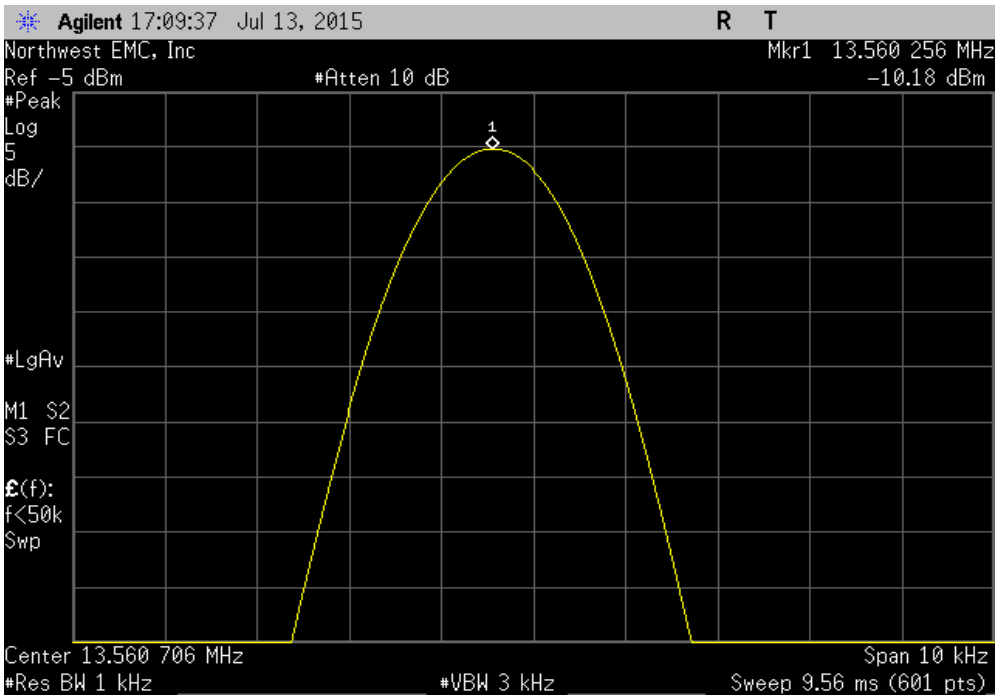
DEVIATIONS FROM TEST STANDARD

None

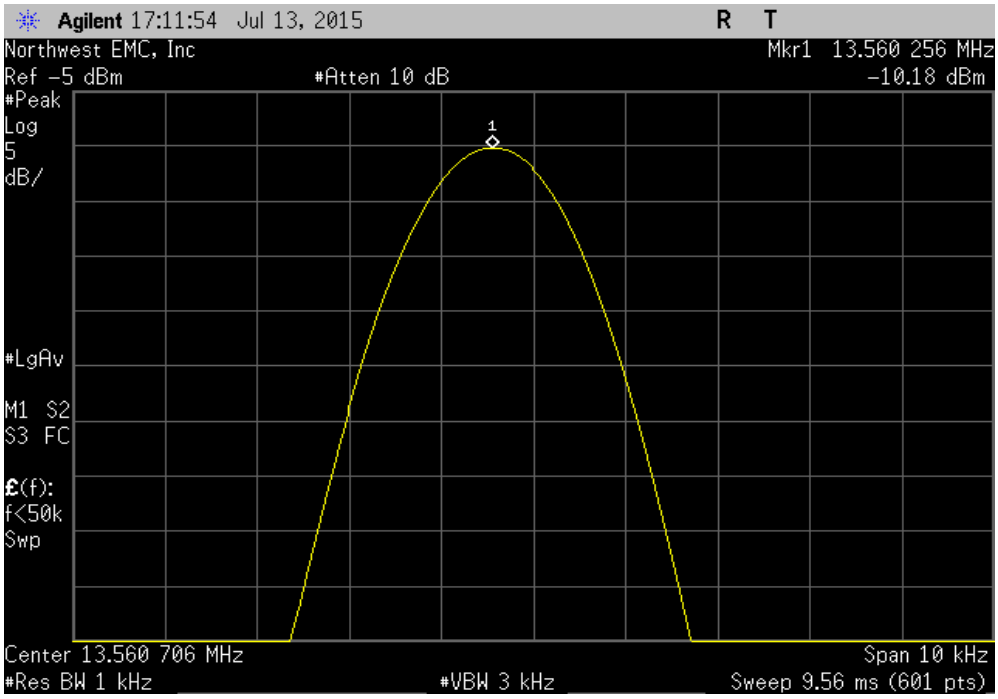
Configuration #	3	*Signature*

		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
Ambient Temperature Conditions, 22°C						
	Base					
	Nominal Voltage, 15.2 VDC	13.560256	13.56	18.9	100	Pass
	End Point Voltage, 12 VDC	13.560256	13.56	18.9	100	Pass
	115 % Line Voltage, 138 VAC/ 60 Hz	13.560256	13.56	18.9	100	Pass
	85 % Line Voltage, 102 VAC/ 60 Hz	13.560256	13.56	18.9	100	Pass
	Tablet					
	115 % Line Voltage, 138 VAC/ 60 Hz	13.560256	13.56	18.9	100	Pass
	85 % Line Voltage, 102 VAC/ 60 Hz	13.560256	13.56	18.9	100	Pass
	Nominal Voltage, 7.6 VDC	13.560256	13.56	18.9	100	Pass
	End Point Voltage, 6 VDC	13.560256	13.56	18.9	100	Pass
Temperature Conditions, +50° C						
	Base					
	Nominal Voltage, 15.2 VDC	13.560272	13.56	20.1	100	Pass
	Tablet					
	Nominal Voltage, 7.6 VDC	13.560273	13.56	20.1	100	Pass
Temperature Conditions, +40° C						
	Base					
	Nominal Voltage, 15.2 VDC	13.560256	13.56	18.9	100	Pass
	Tablet					
	Nominal Voltage, 7.6 VDC	13.560256	13.56	18.9	100	Pass
Temperature Conditions, +30° C						
	Base					
	Nominal Voltage, 15.2 VDC	13.560256	13.56	18.9	100	Pass
	Tablet					
	Nominal Voltage, 7.6 VDC	13.560256	13.56	18.9	100	Pass
Temperature Conditions, +20° C						
	Base					
	Nominal Voltage, 15.2 VDC	13.560256	13.56	18.9	100	Pass
	Tablet					
	Nominal Voltage, 7.6 VDC	13.560256	13.56	18.9	100	Pass
Temperature Conditions, +10° C						
	Base					
	Nominal Voltage, 15.2 VDC	13.560289	13.56	21.3	100	Pass
	Tablet					
	Nominal Voltage, 7.6 VDC	13.560289	13.56	21.3	100	Pass
Temperature Conditions, 0° C						
	Base					
	Nominal Voltage, 15.2 VDC	13.560306	13.56	22.6	100	Pass
	Tablet					
	Nominal Voltage, 7.6 VDC	13.560306	13.56	22.6	100	Pass
Temperature Conditions, -10° C						
	Base					
	Nominal Voltage, 15.2 VDC	13.560341	13.56	25.2	100	Pass
	Tablet					
	Nominal Voltage, 7.6 VDC	13.560339	13.56	25	100	Pass
Temperature Conditions, -20° C						
	Base					
	Nominal Voltage, 15.2 VDC	13.560339	13.56	25	100	Pass
	Tablet					
	Nominal Voltage, 7.6 VDC	13.560356	13.56	26.3	100	Pass

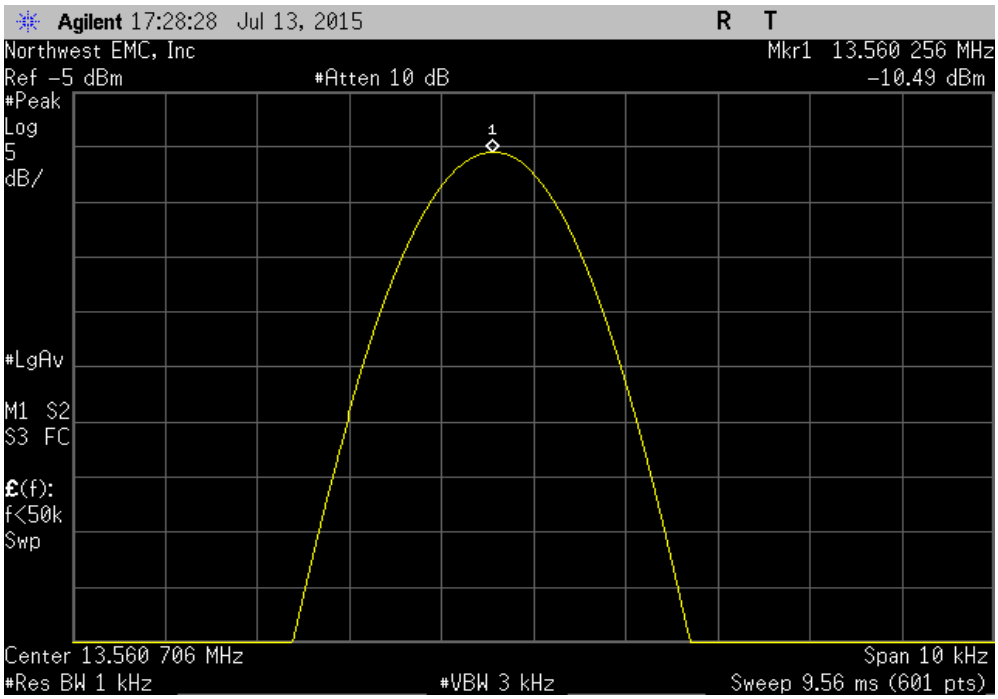
Ambient Temperature Conditions, 22°C, Base, Nominal Voltage, 15.2 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560256	13.56	18.9	100	Pass



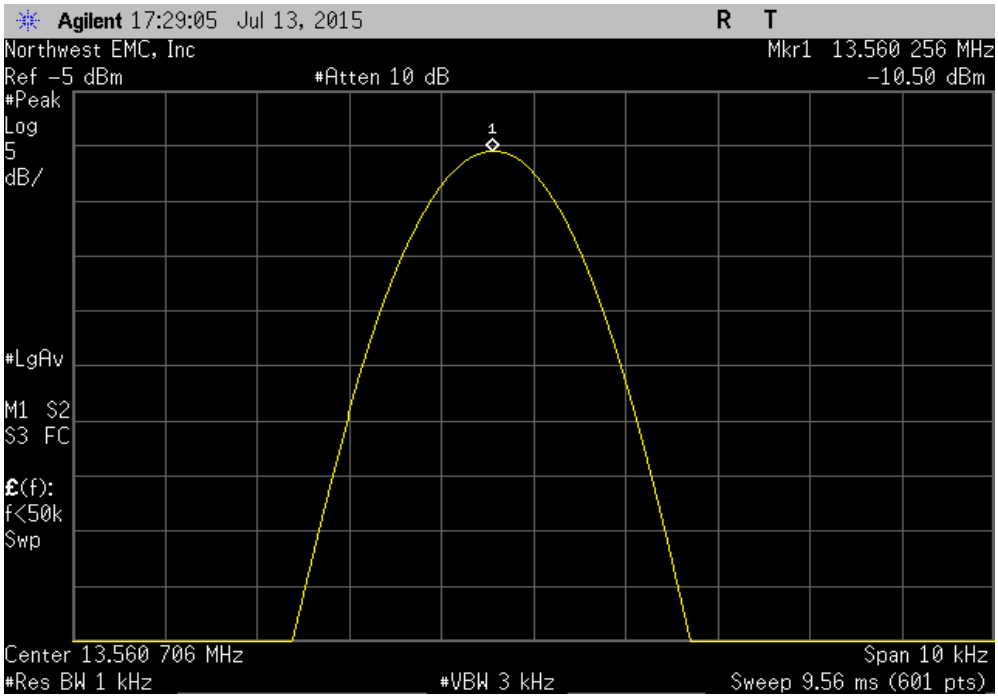
Ambient Temperature Conditions, 22°C, Base, End Point Voltage, 12 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560256	13.56	18.9	100	Pass



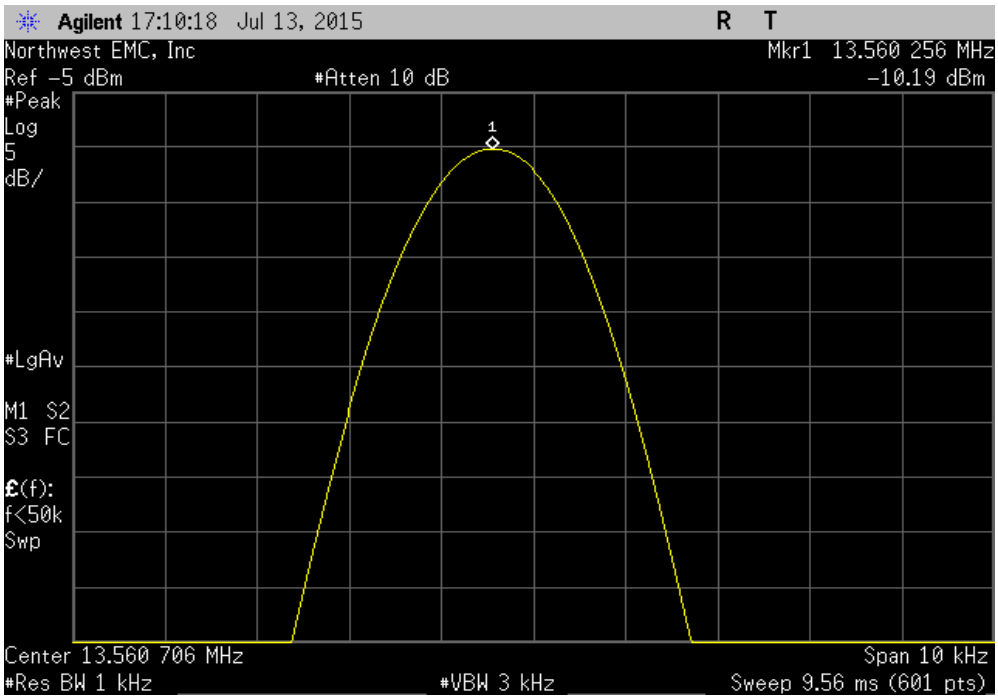
Ambient Temperature Conditions, 22°C, Base, 115 % Line Voltage, 138 VAC/ 60 Hz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560256	13.56	18.9	100	Pass



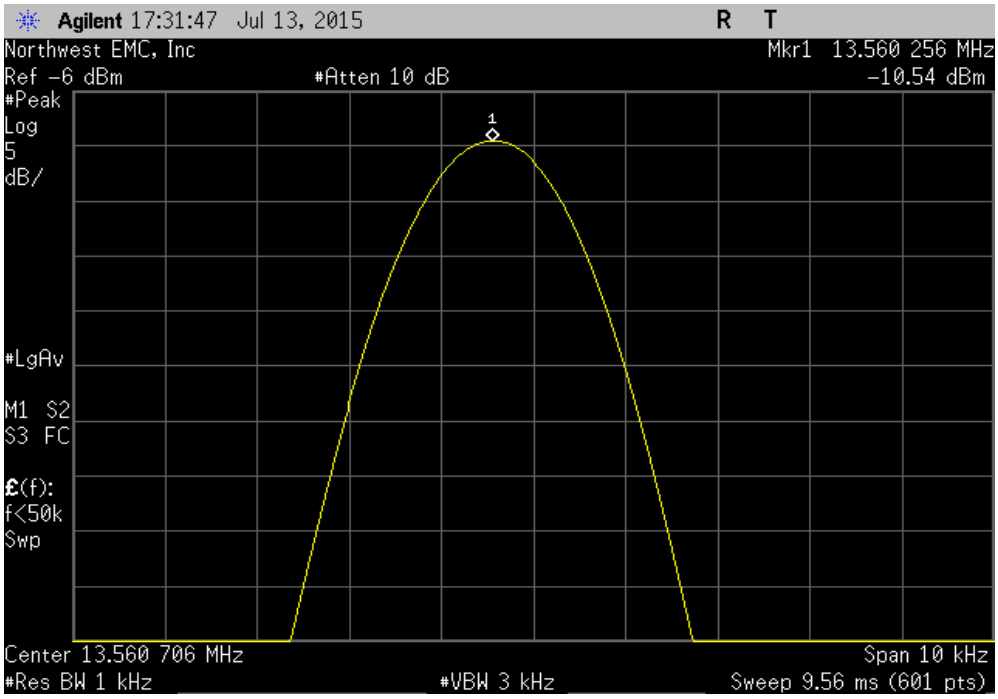
Ambient Temperature Conditions, 22°C, Base, 85 % Line Voltage, 102 VAC/ 60 Hz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560256	13.56	18.9	100	Pass



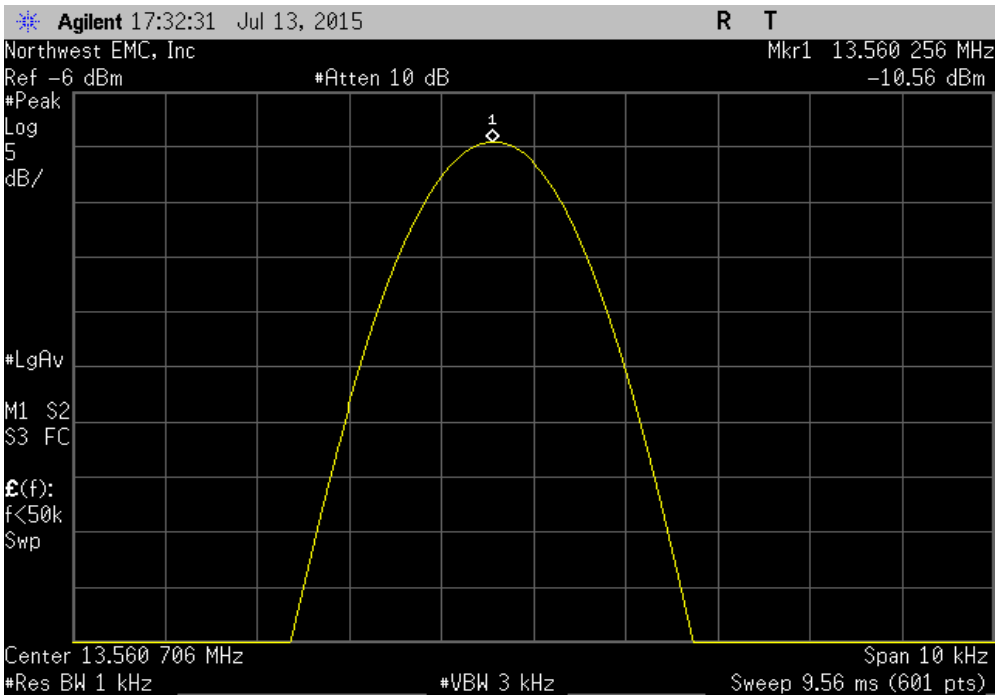
Ambient Temperature Conditions, 22°C, Tablet, 115 % Line Voltage, 138 VAC/ 60 Hz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560256	13.56	18.9	100	Pass



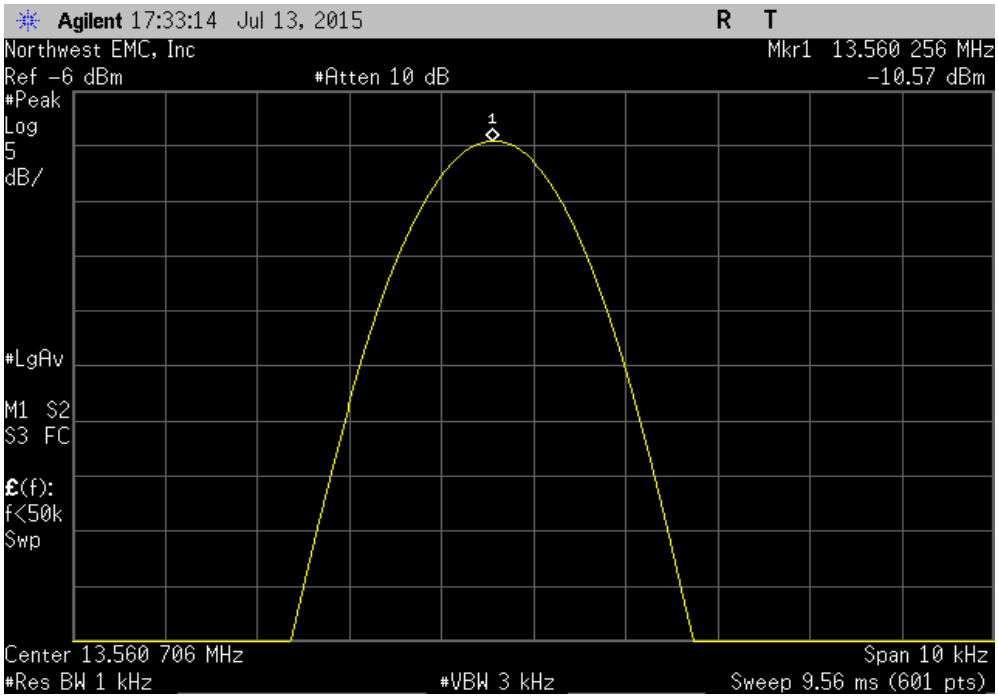
Ambient Temperature Conditions, 22°C, Tablet, 85 % Line Voltage, 102 VAC/ 60 Hz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560256	13.56	18.9	100	Pass



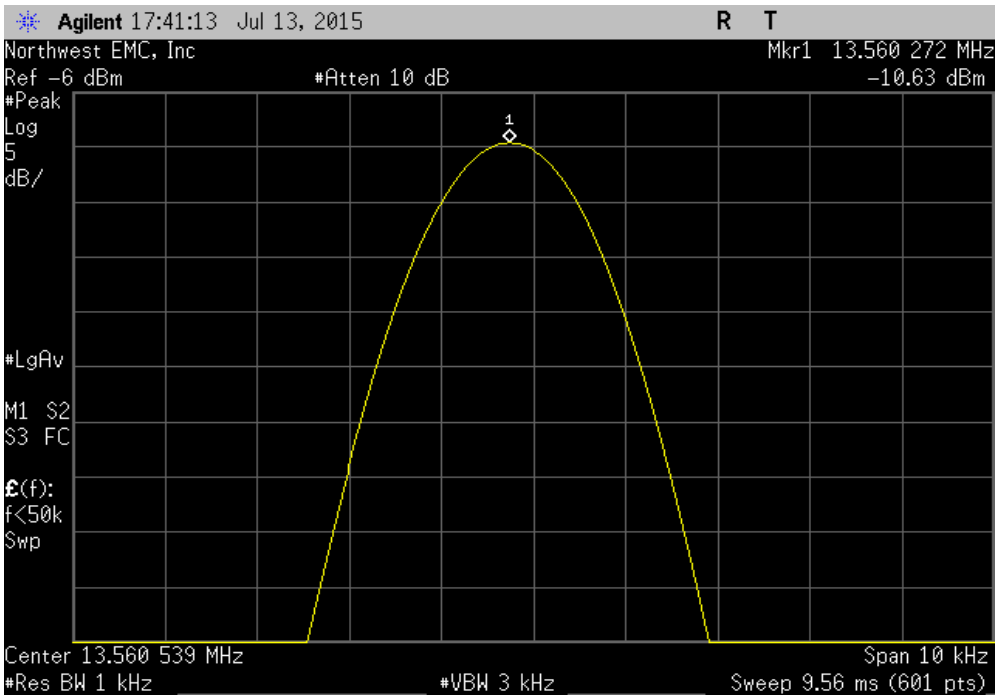
Ambient Temperature Conditions, 22°C, Tablet, Nominal Voltage, 7.6 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560256	13.56	18.9	100	Pass



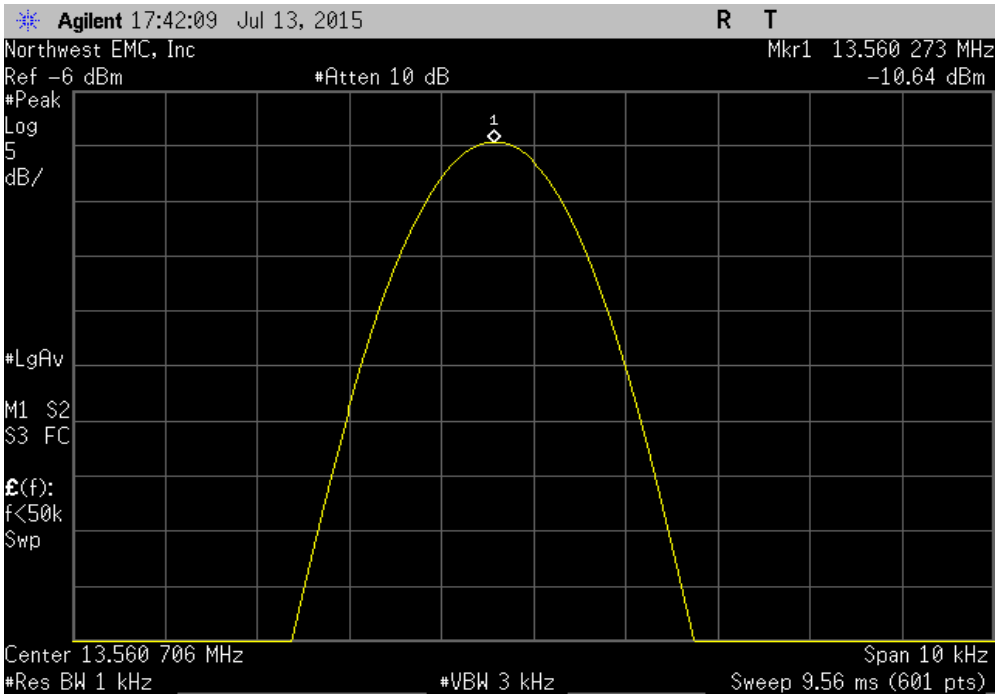
Ambient Temperature Conditions, 22°C, Tablet, End Point Voltage, 6 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560256	13.56	18.9	100	Pass



Temperature Conditions, +50° C, Base, Nominal Voltage, 15.2 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560272	13.56	20.1	100	Pass



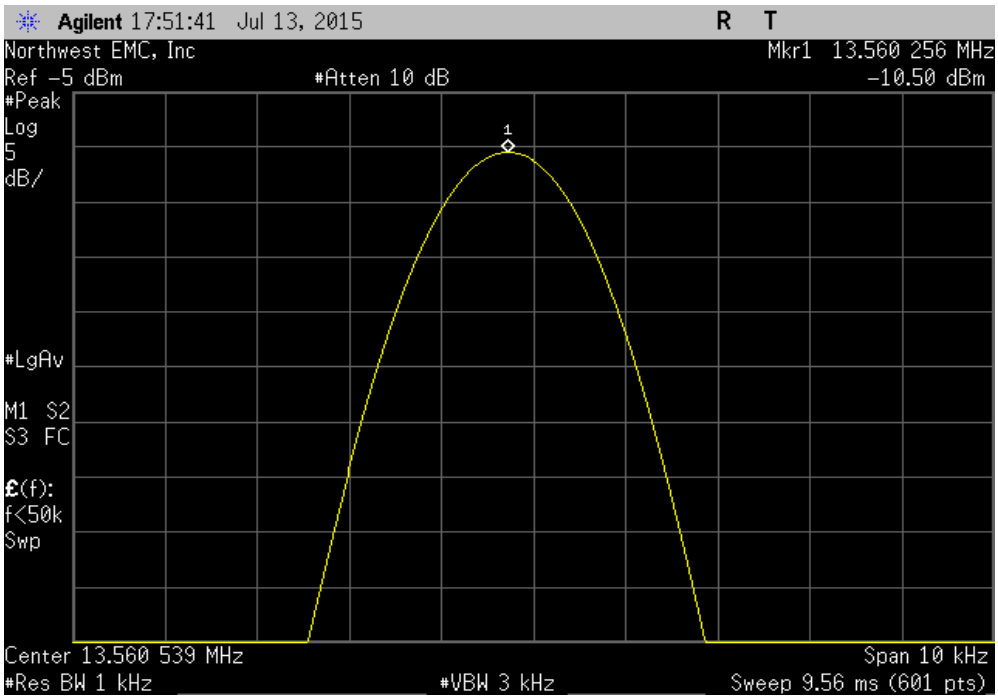
Temperature Conditions, +50° C, Tablet, Nominal Voltage, 7.6 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560273	13.56	20.1	100	Pass



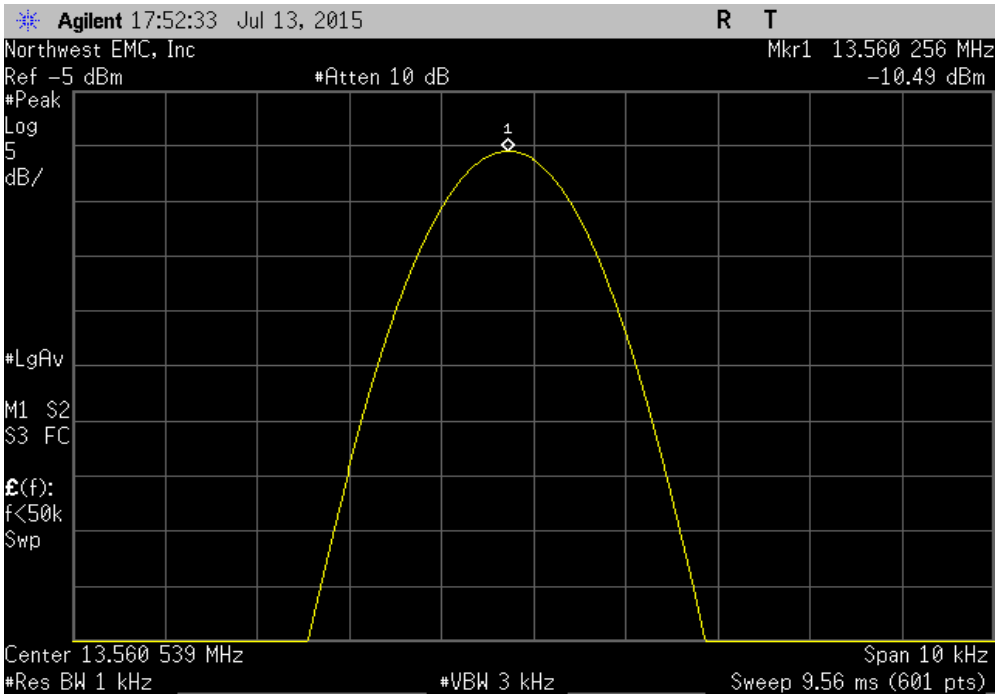
FREQUENCY STABILITY

XMit 2015.01.14

Temperature Conditions, +40° C, Base, Nominal Voltage, 15.2 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560256	13.56	18.9	100	Pass



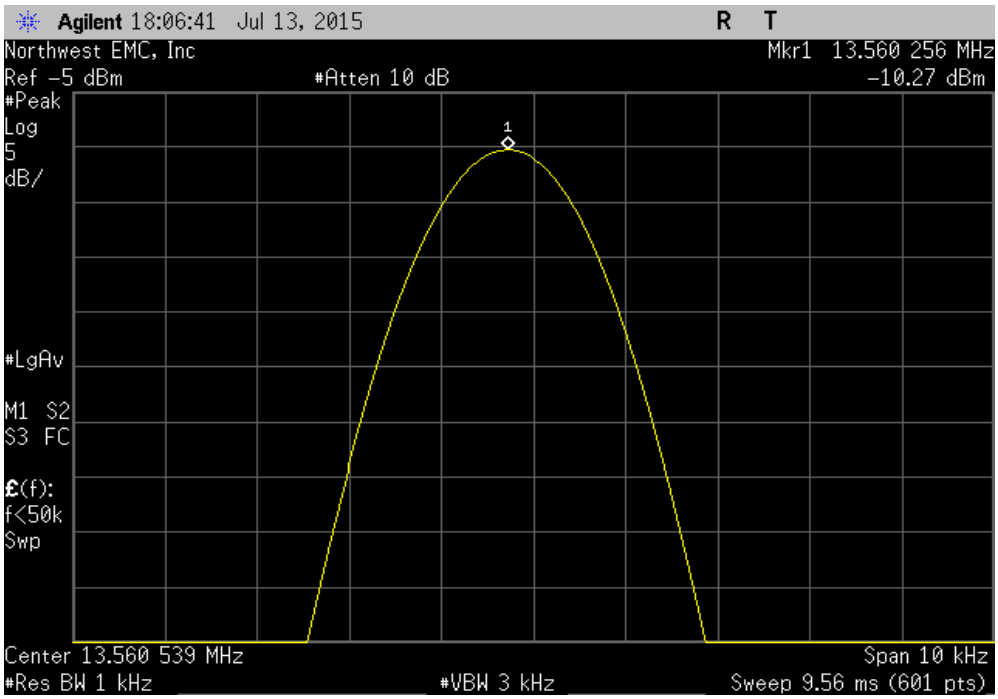
Temperature Conditions, +40° C, Tablet, Nominal Voltage, 7.6 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560256	13.56	18.9	100	Pass



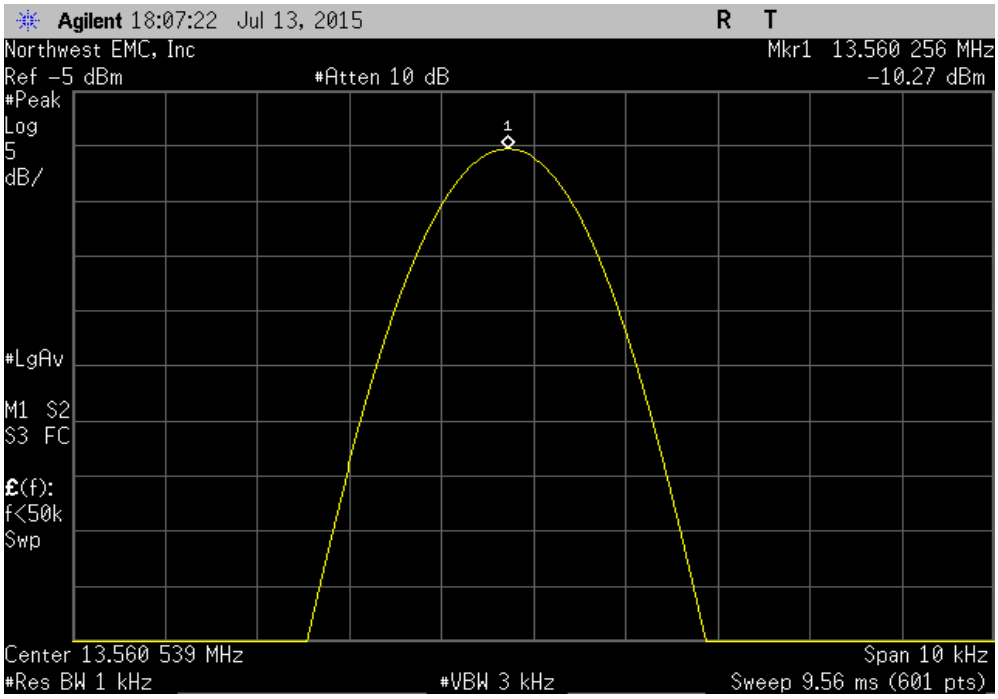
FREQUENCY STABILITY

XMit 2015.01.14

Temperature Conditions, +30° C, Base, Nominal Voltage, 15.2 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560256	13.56	18.9	100	Pass



Temperature Conditions, +30° C, Tablet, Nominal Voltage, 7.6 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560256	13.56	18.9	100	Pass

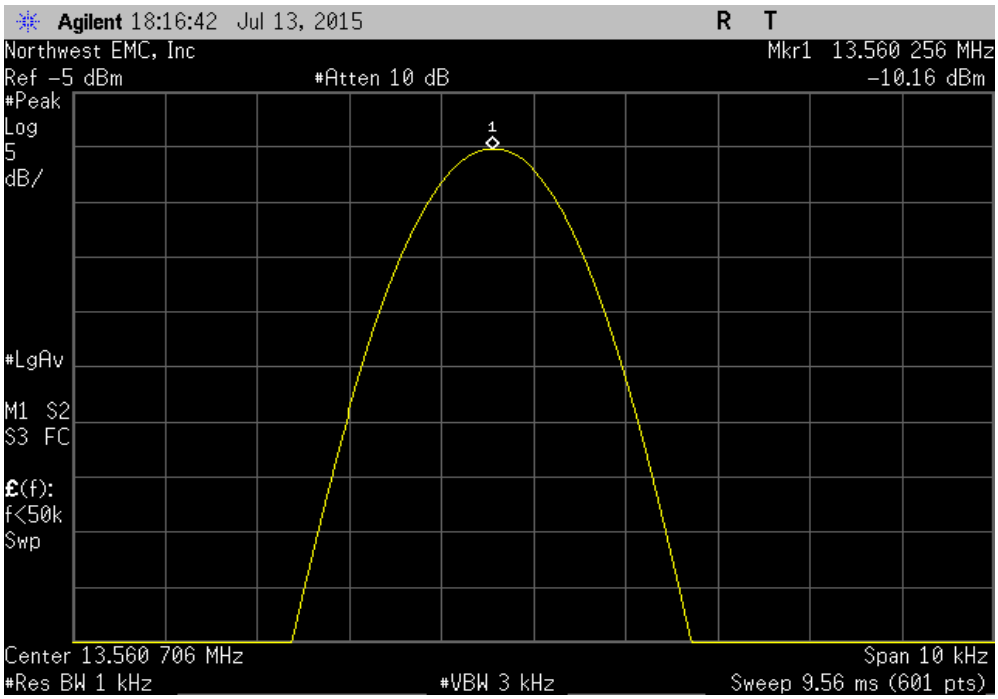


FREQUENCY STABILITY

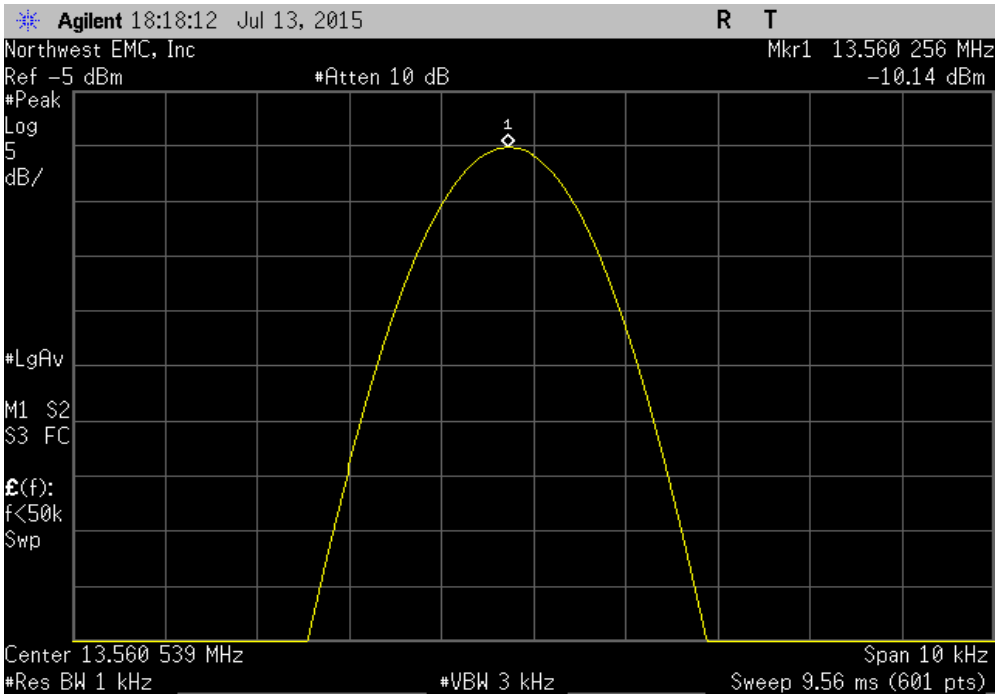
NORTHWEST EMC

XMit 2015.01.14

Temperature Conditions, +20° C, Base, Nominal Voltage, 15.2 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560256	13.56	18.9	100	Pass



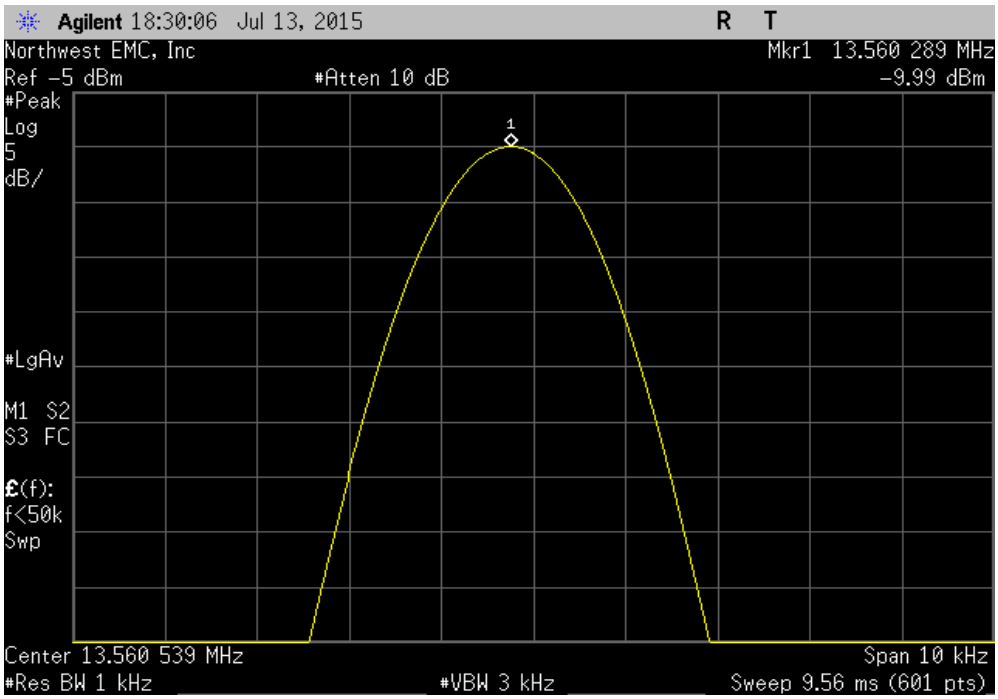
Temperature Conditions, +20° C, Tablet, Nominal Voltage, 7.6 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560256	13.56	18.9	100	Pass



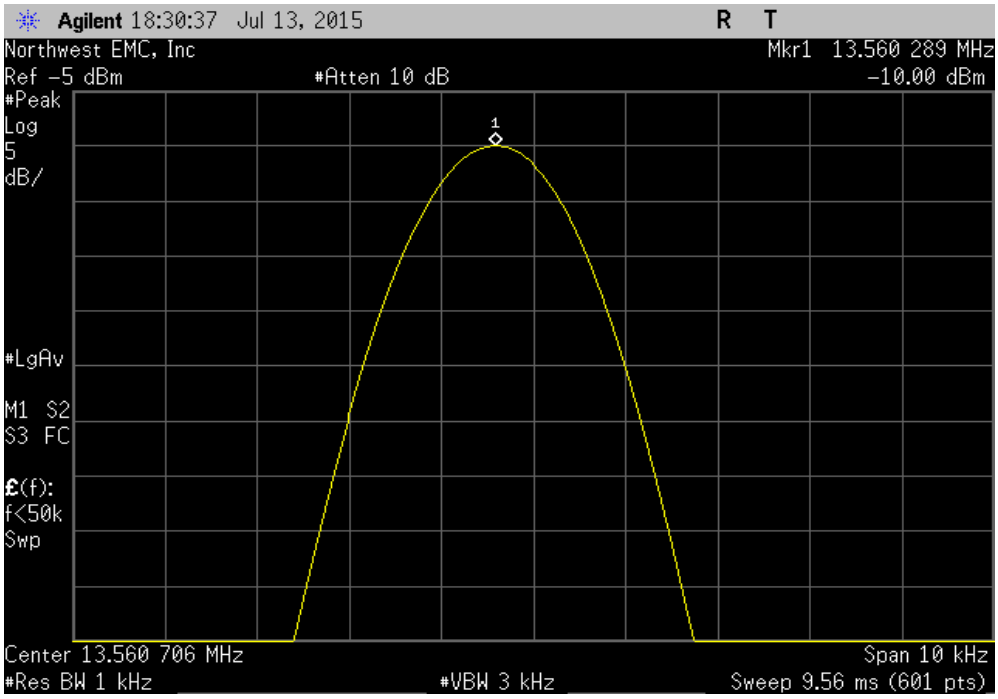
FREQUENCY STABILITY

XMit 2015.01.14

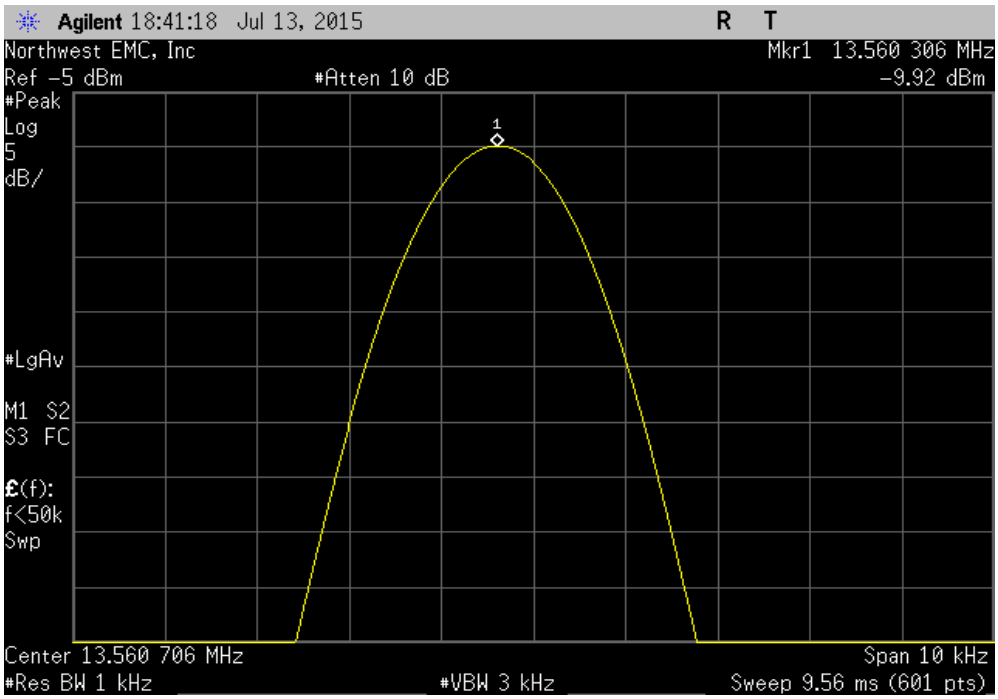
Temperature Conditions, +10° C, Base, Nominal Voltage, 15.2 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560289	13.56	21.3	100	Pass



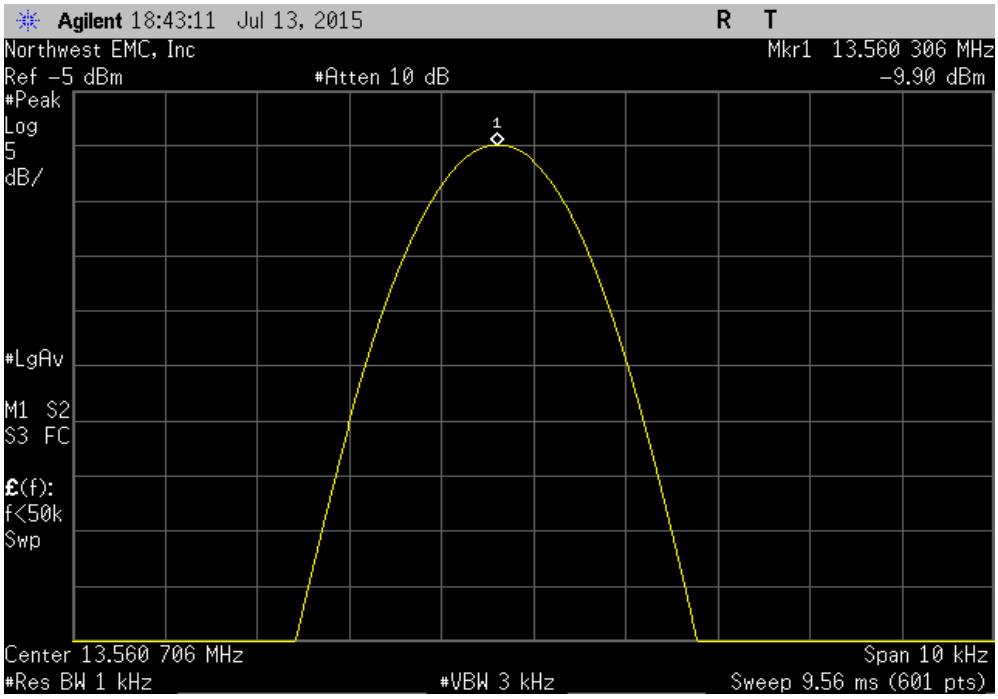
Temperature Conditions, +10° C, Tablet, Nominal Voltage, 7.6 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560289	13.56	21.3	100	Pass



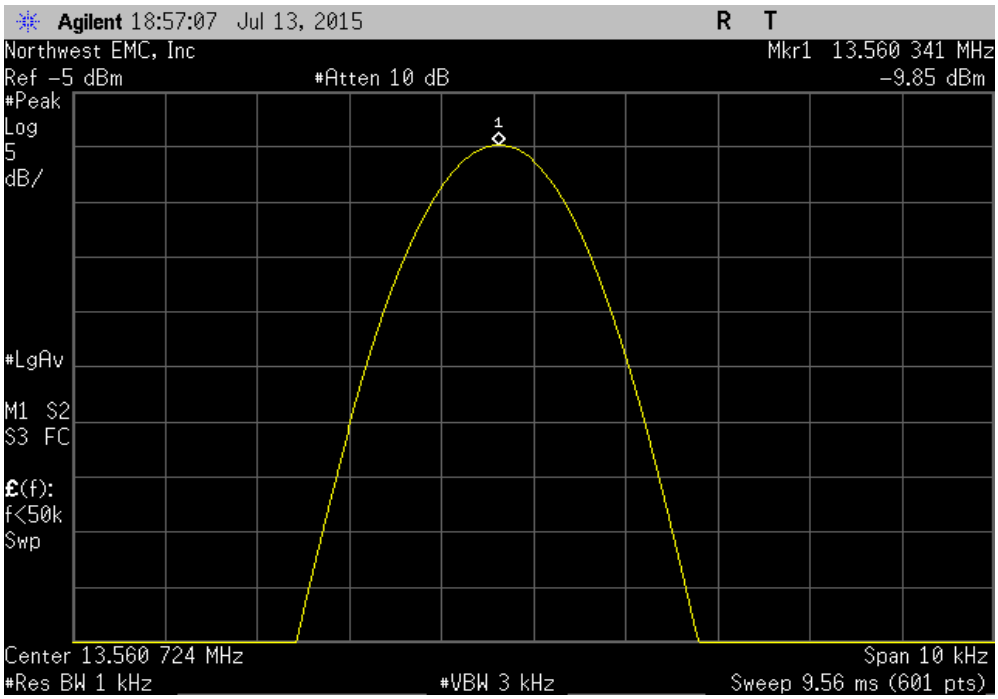
Temperature Conditions, 0° C, Base, Nominal Voltage, 15.2 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560306	13.56	22.6	100	Pass



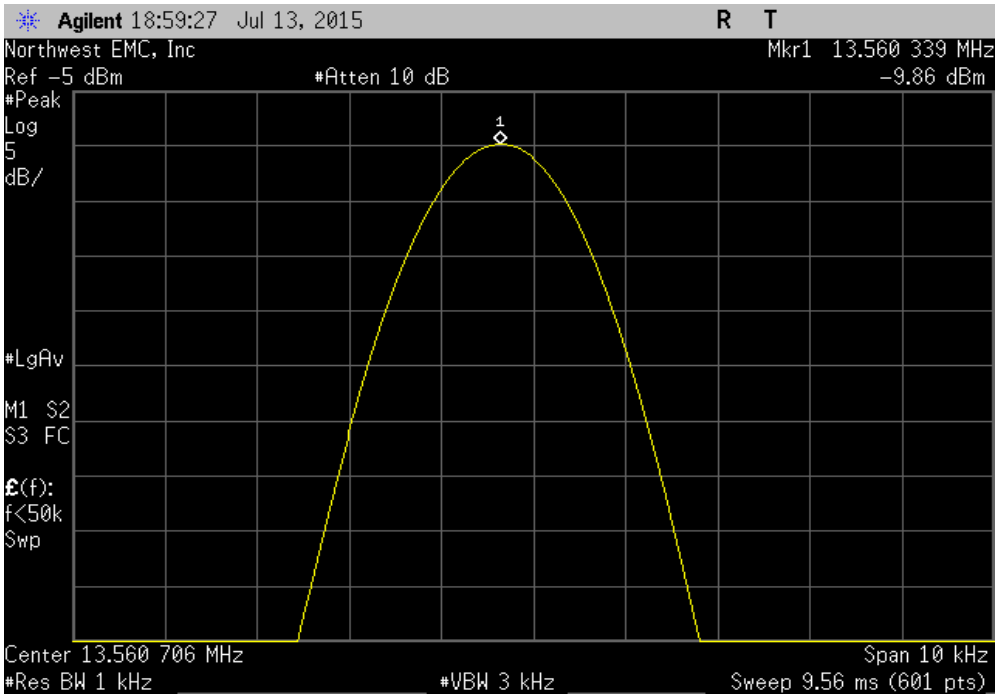
Temperature Conditions, 0° C, Tablet, Nominal Voltage, 7.6 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560306	13.56	22.6	100	Pass



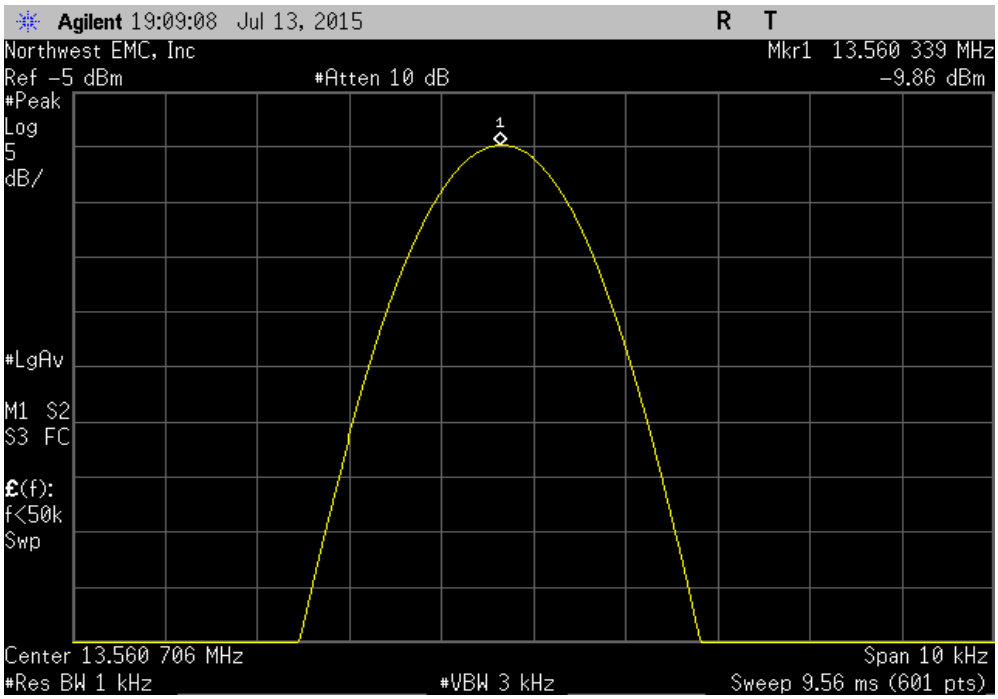
Temperature Conditions, -10° C, Base, Nominal Voltage, 15.2 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560341	13.56	25.2	100	Pass



Temperature Conditions, -10° C, Tablet, Nominal Voltage, 7.6 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560339	13.56	25	100	Pass



Temperature Conditions, -20° C, Base, Nominal Voltage, 15.2 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560339	13.56	25	100	Pass



Temperature Conditions, -20° C, Tablet, Nominal Voltage, 7.6 VDC						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.560356	13.56	26.3	100	Pass