



**Boston Scientific Corporation**

**L331**

**FCC 95I:2014**

**FCC 15.109:2014**

**Report #: BSTN0453.4**



Report Prepared By Northwest EMC Inc.

NORTHWEST EMC – (888) 364-2378 – [www.nwemc.com](http://www.nwemc.com)

California – Minnesota – Oregon – New York – Washington

# CERTIFICATE OF TEST

**Last Date of Test: February 20, 2014**  
**Boston Scientific Corporation**  
**Model: L331**

Test Description	Specification	Test Method	Pass/Fail
Conducted Output Power	FCC 951:2014, FCC 2.1046:2014	ANSI/TIA/EIA-603-C:2004	Pass
Spurious Conducted Emissions	FCC 951:2014, FCC 2.1051:2014	ANSI/TIA/EIA-603-C:2004	Pass
Radiated Power (EIRP)	FCC 951:2014, FCC 2.1046:2014	ANSI/TIA/EIA-603-C:2004	Pass
Spurious Radiated Emissions	FCC 951:2014, FCC 2.1053:2014	ANSI/TIA/EIA-603-C:2004	Pass
Receiver Spurious Emissions	FCC 15.109:2014	ANSI C63.4:2009	Pass
Emission Bandwidth	FCC 951:2014, FCC 2.1049:2014	ANSI/TIA/EIA-603-C:2004	Pass
Emission Mask	FCC 951:2014, FCC 2.1049:2014	ANSI/TIA/EIA-603-C:2004	Pass
Frequency Stability	FCC 951:2014, FCC 2.1055:2014	ANSI/TIA/EIA-603-C:2004	Pass

## Deviations From Test Standards

None

**Approved By:**



Jeremiah Darden, Operations Manager



NVLAP Lab Code: 200881-0

*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		

## Barometric Pressure

The recorded barometric pressure has been normalized to sea level.

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## 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 Guide 65 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

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## Canada

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

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## 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.

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## Australia/New Zealand

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

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## Korea

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

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## Japan

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

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## 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.

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## Singapore

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

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## Hong Kong

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

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## Vietnam

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

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## Russia

**GOST** – Accredited by Certinform VNIINMASH, CERTINFO, SAMTES, and Federal CHEC to perform EMC and Hygienic testing for Information Technology products to GOST standards.

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## SCOPE

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

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

## 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.

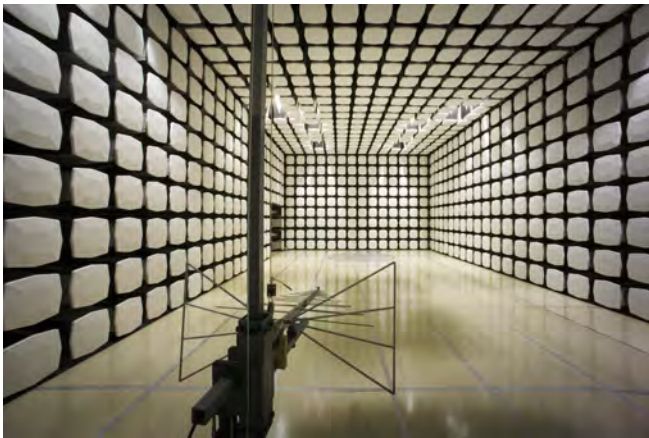
A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) for each test is on each data sheet. Our measurement 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 16-4-1 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.

<b>Test</b>	<b>+ MU</b>	<b>- MU</b>
Frequency Accuracy (Hz)	0.12	-0.01
Amplitude Accuracy (dB)	0.49	-0.49
Conducted Power (dB)	0.41	-0.41
Radiated Power via Substitution (dB)	0.69	-0.68
Temperature (degrees C)	0.81	-0.81
Humidity (% RH)	2.89	-2.89
Field Strength (dB)	4.00	-4.00
AC Powerline Conducted Emissions (dB)	2.70	-2.70



<b>Oregon</b> Labs EV01-12 22975 NW Evergreen Pkwy Hillsboro, OR 97124 (503) 844-4066	<b>California</b> Labs OC01-13 41 Tesla Irvine, CA 92618 (949) 861-8918	<b>New York</b> Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 685-0796	<b>Minnesota</b> Labs MN01-08 9349 W Broadway Ave. Brooklyn Park, MN 55445 (763) 425-2281	<b>Washington</b> Labs NC01-05, SU02, SU07 19201 120 <sup>th</sup> Ave. NE Bothell, WA 98011 (425) 984-6600
<b>VCCI</b>				
A-0108	A-0029		A-0109	A-0110
<b>Industry Canada</b>				
2834D-1, 2834D-2	2834B-1, 2834B-2, 2834B-3		2834E-1	2834C-1
<b>NVLAP</b>				
NVLAP Lab Code: 200630-0	NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200761-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200629-0





# PRODUCT DESCRIPTION

## Client and Equipment Under Test (EUT) Information

<b>Company Name:</b>	Boston Scientific Corporation
<b>Address:</b>	4100 Hamline Ave. N.
<b>City, State, Zip:</b>	St. Paul, MN 55112
<b>Test Requested By:</b>	Daniel Landherr
<b>Model:</b>	L331
<b>First Date of Test:</b>	February 07, 2014
<b>Last Date of Test:</b>	February 20, 2014
<b>Receipt Date of Samples:</b>	February 07, 2014
<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):

The L331 is an implantable Pacemaker that transmits in the MICS band of 402-405 MHz. The L331 and Hybrid contain identical electronics. The L331 is the finished product. Whereas the Hybrid is a development board that facilitates direct connect measurements.

### Testing Objective:

Seeking FCC authorization for the MICS transmitter, FCC Part 95.

## Configuration BSTN0453- 1

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
PG	Boston Scientific Corporation	L331	417249

Cables						
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2	
IS1 Lead, Model: 4063, SN: 305813	No	45cm	No	PG	Tissue Simulant	
IS1 Lead, Model: 45, SN: 28782266	No	44cm	No	PG	Tissue Simulant	

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

## Configuration BSTN0453- 2

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
PG	Boston Scientific Corporation	L331	417250

Cables						
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2	
IS1 Lead, Model: 4063, SN: 305813	No	45cm	No	PG	Tissue Simulant	
IS1 Lead, Model: 45, SN: 28782266	No	44cm	No	PG	Tissue Simulant	

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

## Configuration BSTN0453- 3

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
PG	Boston Scientific Corporation	L331	417251

Cables						
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2	
IS1 Lead, Model: 4063, SN: 305813	No	45cm	No	PG	Tissue Simulant	
IS1 Lead, Model: 45, SN: 28782266	No	44cm	No	PG	Tissue Simulant	

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





# CONFIGURATIONS

## Configuration BSTN0453- 10

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Hybrid	Boston Scientific Corporation	HYB0742	44817004

## Configuration BSTN0453- 11

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Hybrid	Boston Scientific Corporation	HYB0758	44817013

## Configuration BSTN0453- 12

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Hybrid	Boston Scientific Corporation	HYB0697	44817017

## Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2/7/2014	Emission Bandwidth	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	2/7/2014	Emission Mask	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	2/10/2014	Spurious Radiated 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.
4	2/10/2014	Receiver Spurious 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	2/11/2014	Radiated Power (EIRP)	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.
6	2/19/2014	Conducted Output Power	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.
7	2/19/2014	Spurious 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.
8	2/20/2014	Frequency Stability	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

## CONDUCTED OUTPUT POWER

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
DC Power Supply	EZ Digital Co	GP-4303D	TPY	NCR	0
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Attenuator, 20 dB 'SMA'	Fairview Microwave	SA18S5W-20	RFX	8/16/2013	12
Multimeter	Fluke	114	MMU	7/8/2011	36
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AFG	5/16/2012	24

### TEST DESCRIPTION

Per FCC Part 2.1046, RSS-GEN, the output power shall be measured at the RF terminal. The peak output power was measured with the EUT set to low, medium and high transmit frequencies. The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The EUT was transmitting at its maximum data rate. FCC Part 95 and RSS-243 have no conducted output power limit. It is a requirement to characterize this information and that data is contained within this datasheet.



# CONDUCTED OUTPUT POWER

XMit 2013.08.15  
PsaTx 2013.10.23

EUT: Hybrid	Work Order: BSTN0453
Serial Number: 44817004, 44817013, 44817017	Date: 02/19/14
Customer: Boston Scientific Corporation	Temperature: 23.9 C°C
Attendees: None	Humidity: 19%
Project: None	Barometric Pres.: 1010
Tested by: Johnny Candelas	Power: Battery
	Job Site: MN05

<b>TEST SPECIFICATIONS</b>	<b>Test Method</b>
FCC 95:2014	ANSI/TIA/EIA-603-C-2004

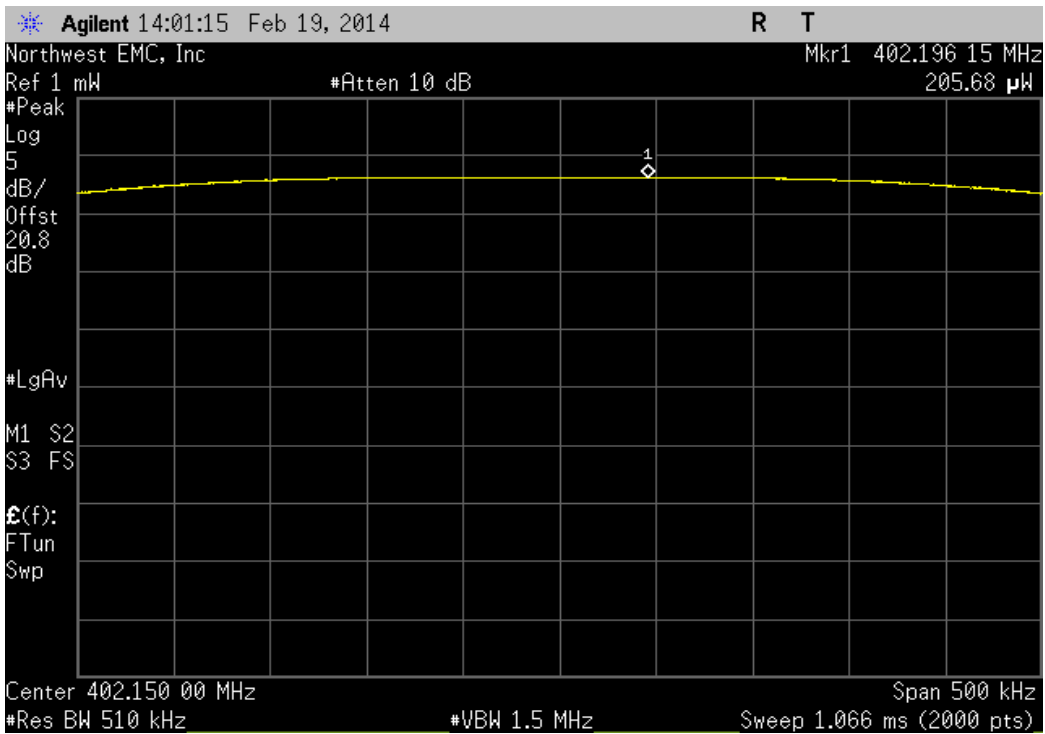
**COMMENTS**  
None

**DEVIATIONS FROM TEST STANDARD**  
None

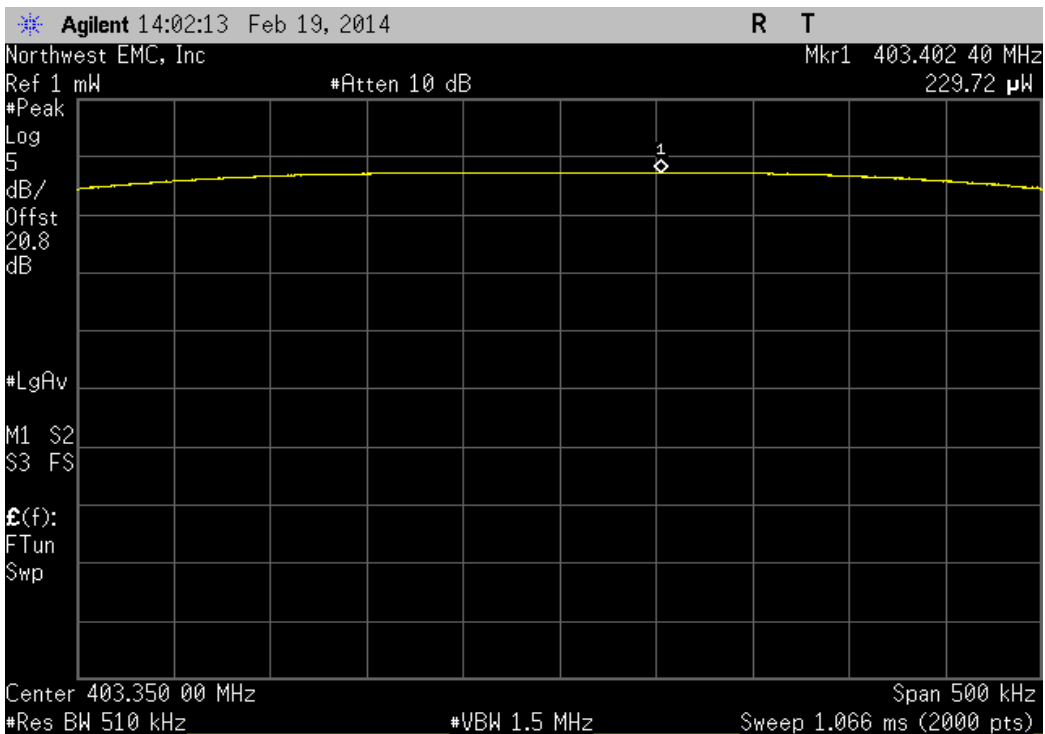
Configuration #	10, 11, 12	Signature 
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		Value	Limit	Result
<b>SN: 44817004</b>				
	Low Channel, 402.15 MHz	205.684 uW	N/A	N/A
	Mid Channel, 403.35 MHz	229.721 uW	N/A	N/A
	High Channel, 404.85 MHz	244.512 uW	N/A	N/A
<b>SN: 44817013</b>				
	Low Channel, 402.15 MHz	248.428 uW	N/A	N/A
	Mid Channel, 403.35 MHz	285.496 uW	N/A	N/A
	High Channel, 404.85 MHz	275.043 uW	N/A	N/A
<b>SN: 44817017</b>				
	Low Channel, 402.15 MHz	211.787 uW	N/A	N/A
	Mid Channel, 403.35 MHz	235.722 uW	N/A	N/A
	High Channel, 404.85 MHz	237.739 uW	N/A	N/A

SN: 44817004, Low Channel, 402.15 MHz			
	Value	Limit	Result
	205.684 uW	N/A	N/A

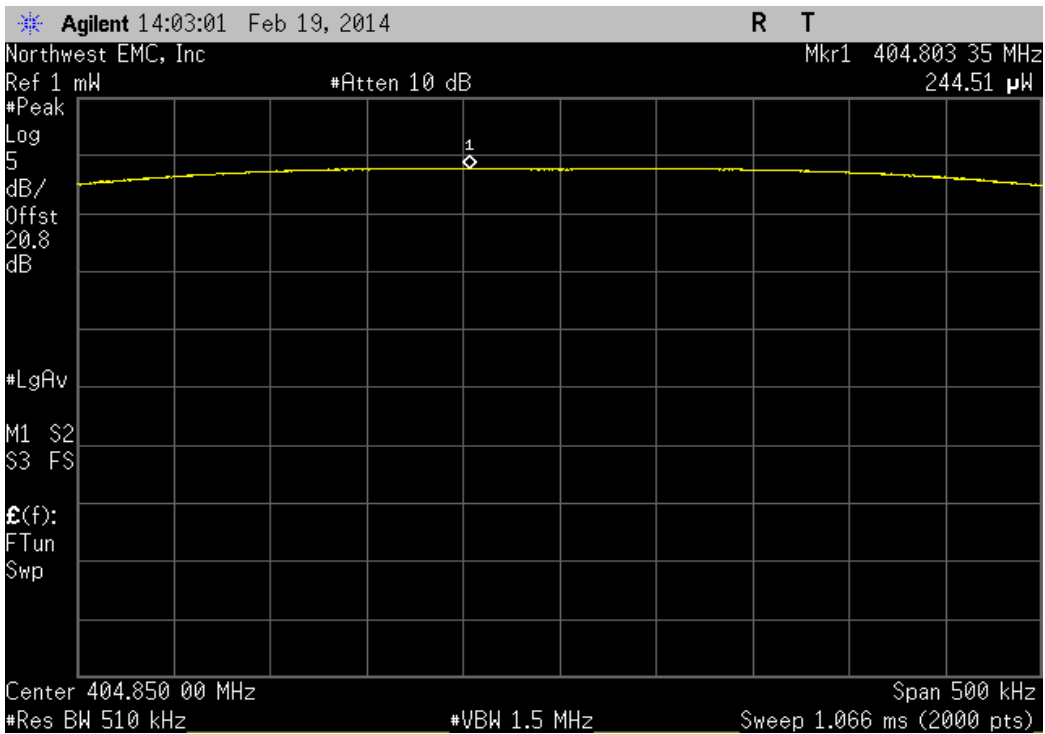


SN: 44817004, Mid Channel, 403.35 MHz			
	Value	Limit	Result
	229.721 uW	N/A	N/A



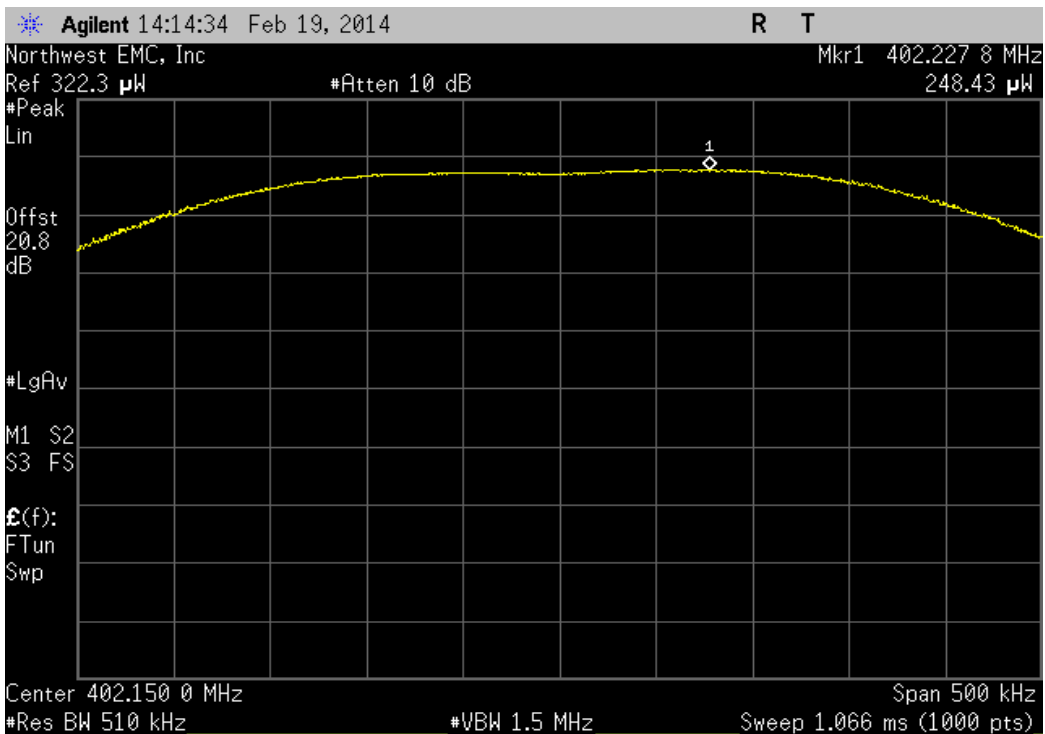
SN: 44817004, High Channel, 404.85 MHz

				Value	Limit	Result
				244.512 uW	N/A	N/A

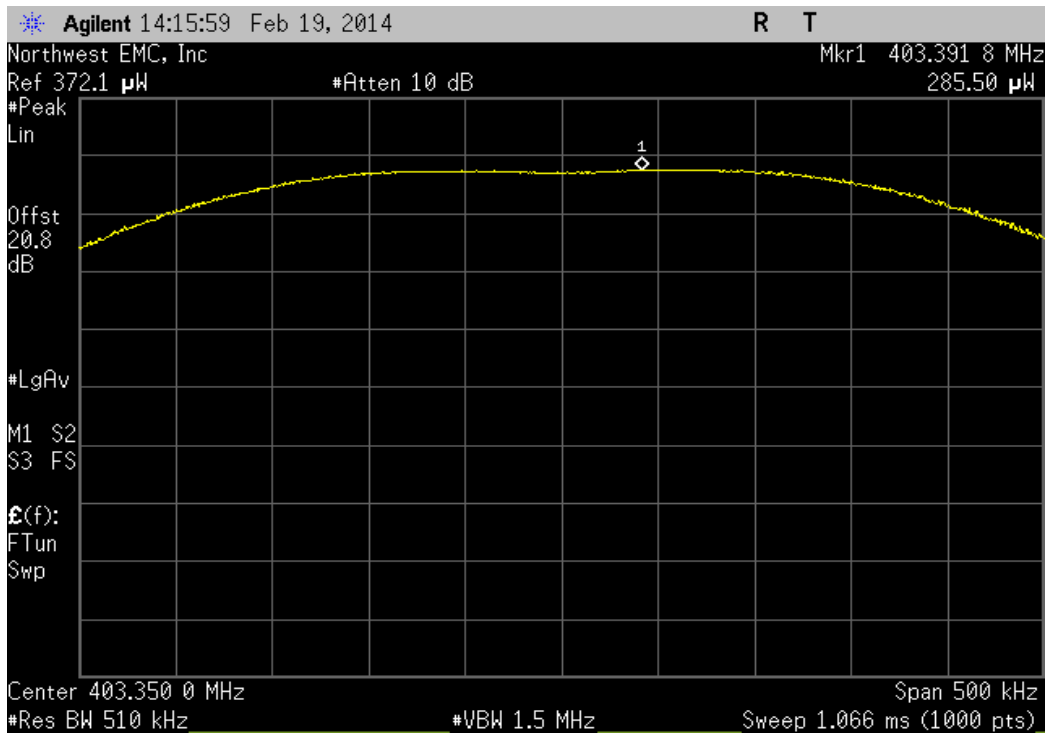


SN: 44817013, Low Channel, 402.15 MHz

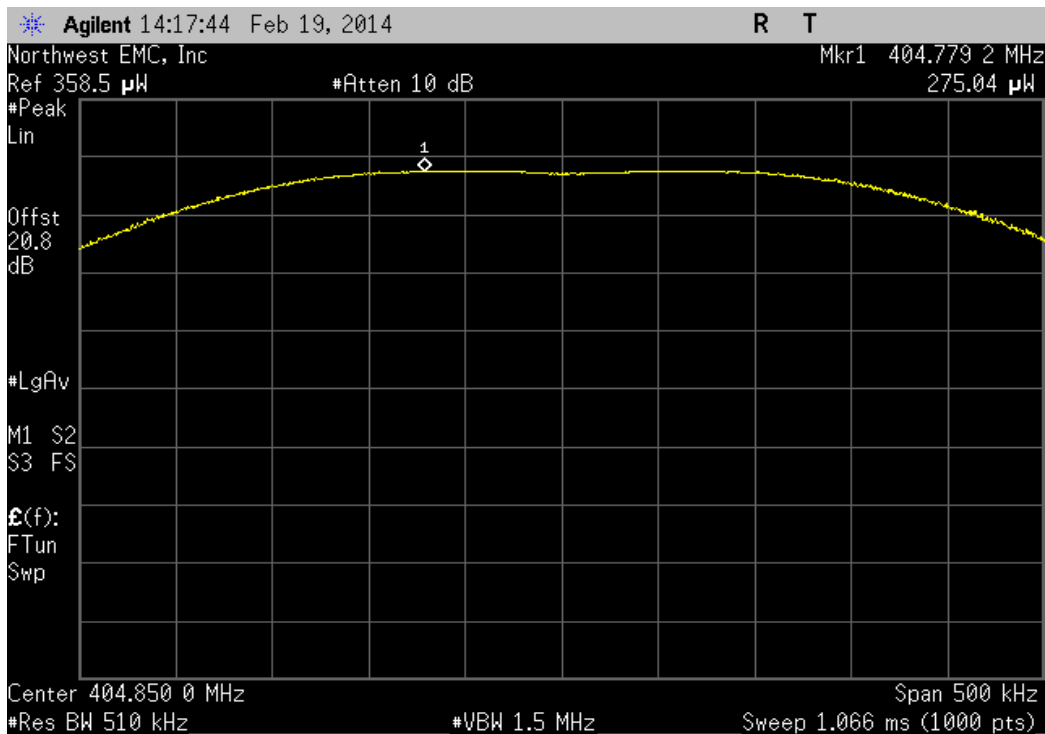
				Value	Limit	Result
				248.428 uW	N/A	N/A



SN: 44817013, Mid Channel, 403.35 MHz			
	Value	Limit	Result
	285.496 uW	N/A	N/A

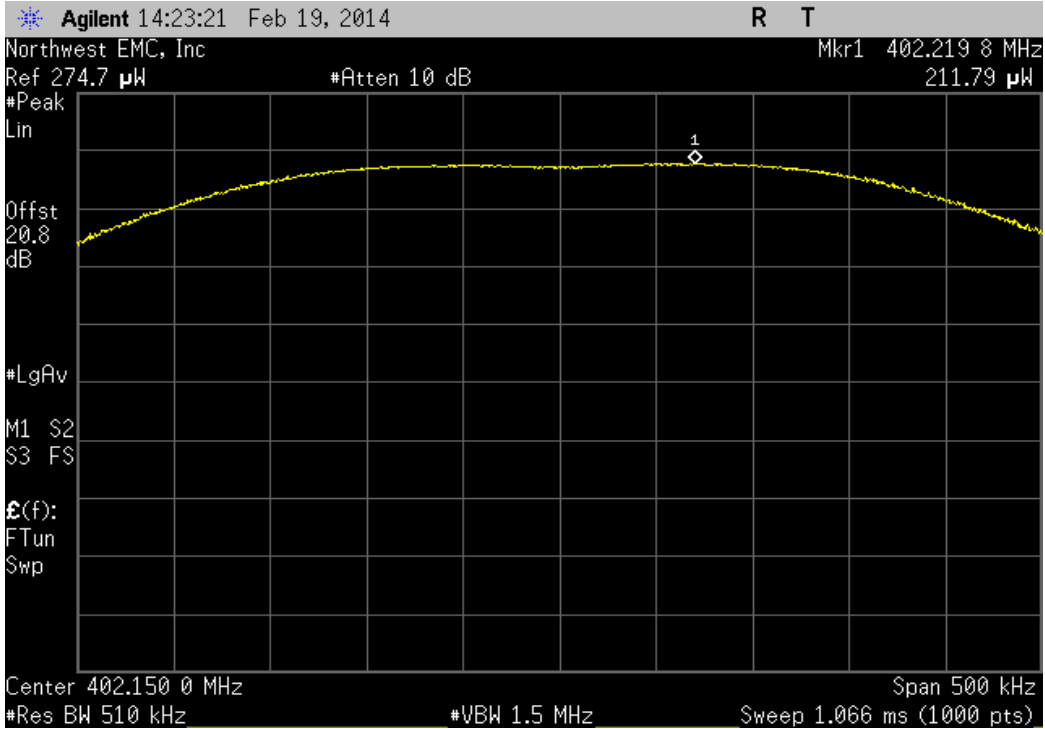


SN: 44817013, High Channel, 404.85 MHz			
	Value	Limit	Result
	275.043 uW	N/A	N/A



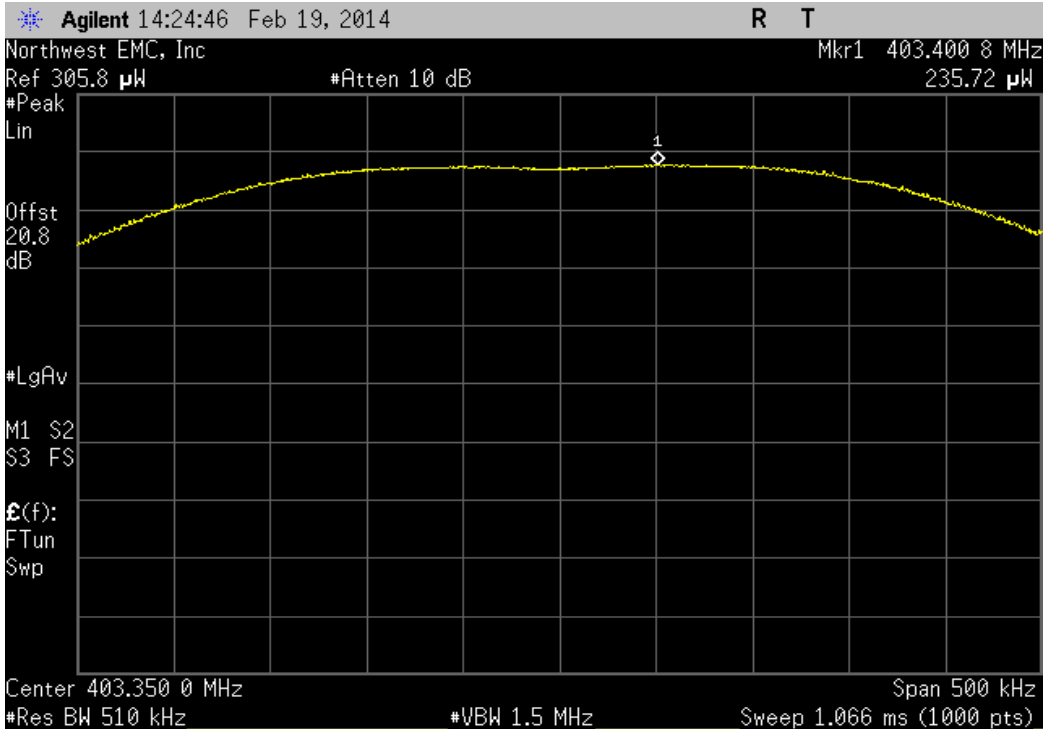
SN: 44817017, Low Channel, 402.15 MHz

				Value	Limit	Result
				211.787 uW	N/A	N/A



SN: 44817017, Mid Channel, 403.35 MHz

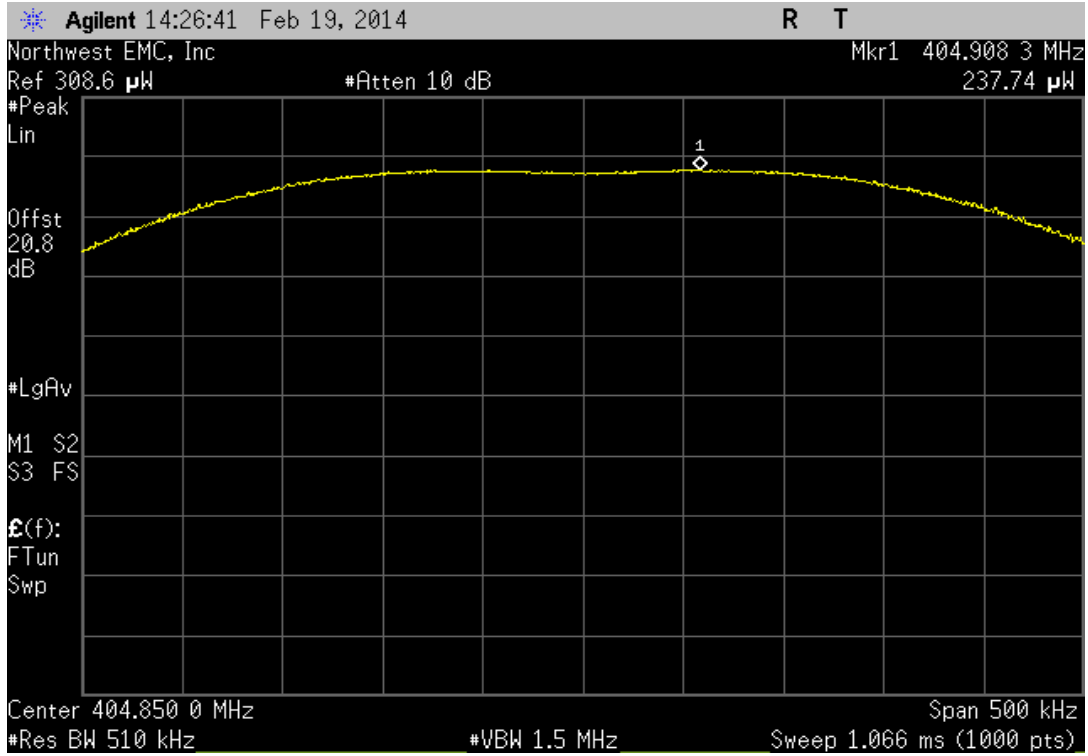
				Value	Limit	Result
				235.722 uW	N/A	N/A





SN: 44817017, High Channel, 404.85 MHz

				Value	Limit	Result
				237.739 uW	N/A	N/A



**SPURIOUS CONDUCTED  
EMISSIONS**

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
DC Power Supply	EZ Digital Co	GP-4303D	TPY	NCR	0
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Attenuator, 20 dB 'SMA'	Fairview Microwave	SA18S5W-20	RFX	8/16/2013	12
Multimeter	Fluke	114	MMU	7/8/2011	36
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AFG	5/16/2012	24

**TEST DESCRIPTION**

The spurious RF conducted emissions were measured with the EUT set to low, medium and high transmit frequencies. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at the data rate(s) listed in the datasheet. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.



# SPURIOUS CONDUCTED EMISSIONS

XMit 2013.08.15  
PsaTx 2013.10.23

EUT: Hybrid	Work Order: BSTN0453
Serial Number: 44817004, 44817013, 44817017	Date: 02/19/14
Customer: Boston Scientific Corporation	Temperature: 23.9 C°C
Attendees: None	Humidity: 19%
Project: None	Barometric Pres.: 1010
Tested by: Johnny Candelas	Power: Battery
	Job Site: MN05

TEST SPECIFICATIONS		Test Method	
FCC 95:2014		ANSI/TIA/EIA-603-C-2004	

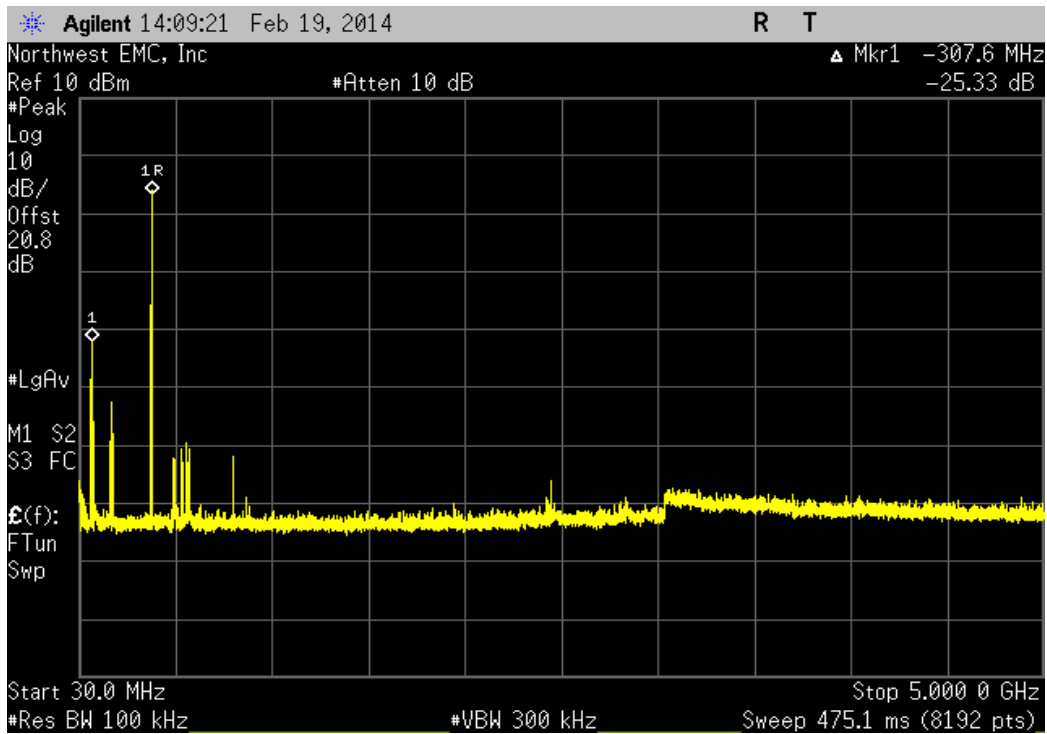
COMMENTS  
None

DEVIATIONS FROM TEST STANDARD  
None

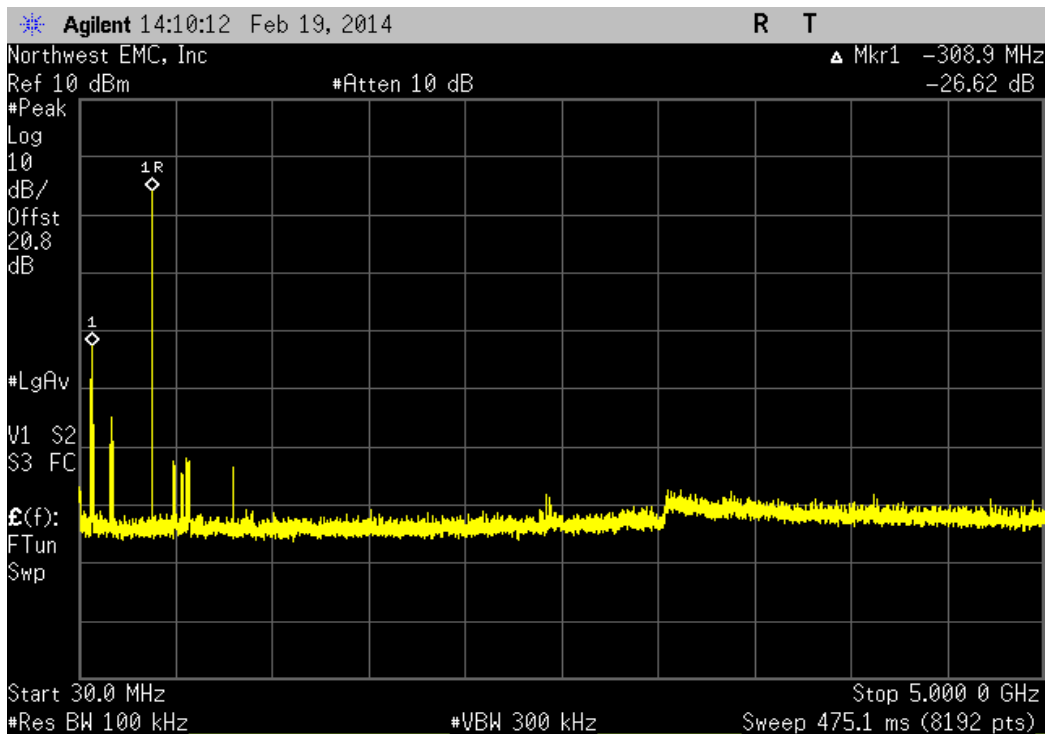
Configuration #	10, 11, 12	Signature 
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		Frequency Range	Value	Limit	Result
SN: 44817004	Low Channel, 402.15 MHz	30 MHz - 5 GHz	-25.33 dBc	N/A	N/A
	Mid Channel, 403.35 MHz	30 MHz - 5 GHz	-26.62 dBc	N/A	N/A
	High Channel, 404.85 MHz	30 MHz - 5 GHz	-27.26 dBc	N/A	N/A
SN: 44817013	Low Channel, 402.15 MHz	30 MHz - 5 GHz	-26.3 dBc	N/A	N/A
	Mid Channel, 403.35 MHz	30 MHz - 5 GHz	-27 dBc	N/A	N/A
	High Channel, 404.85 MHz	30 MHz - 5 GHz	-27.63 dBc	N/A	N/A
SN: 44817017	Low Channel, 402.15 MHz	30 MHz - 5 GHz	-28.02 dBc	N/A	N/A
	Mid Channel, 403.35 MHz	30 MHz - 5 GHz	-29.33 dBc	N/A	N/A
	High Channel, 404.85 MHz	30 MHz - 5 GHz	-28.89 dBc	N/A	N/A

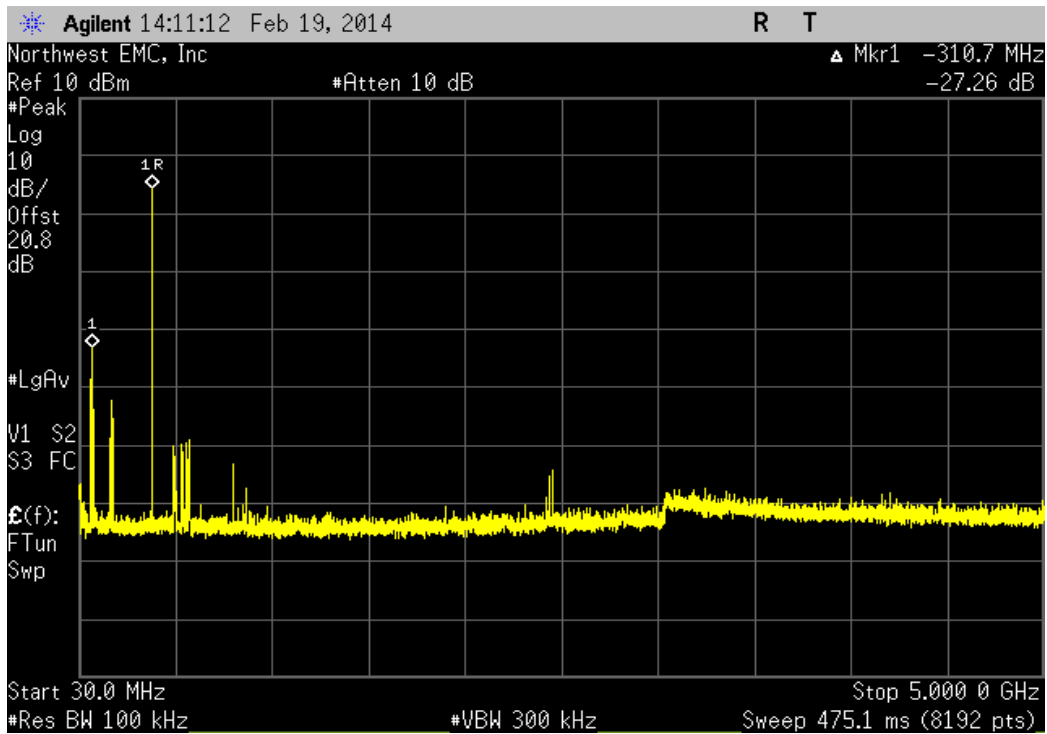
SN: 44817004, Low Channel, 402.15 MHz				
Frequency Range	Value	Limit	Result	
30 MHz - 5 GHz	-25.33 dBc	N/A	N/A	



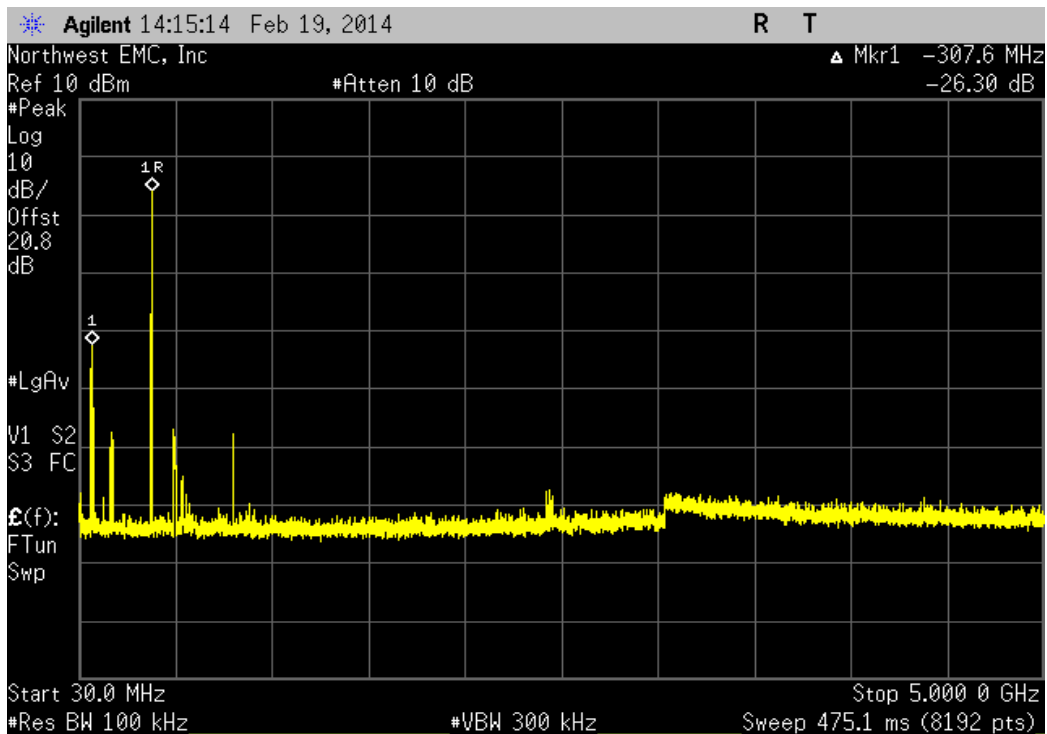
SN: 44817004, Mid Channel, 403.35 MHz				
Frequency Range	Value	Limit	Result	
30 MHz - 5 GHz	-26.62 dBc	N/A	N/A	



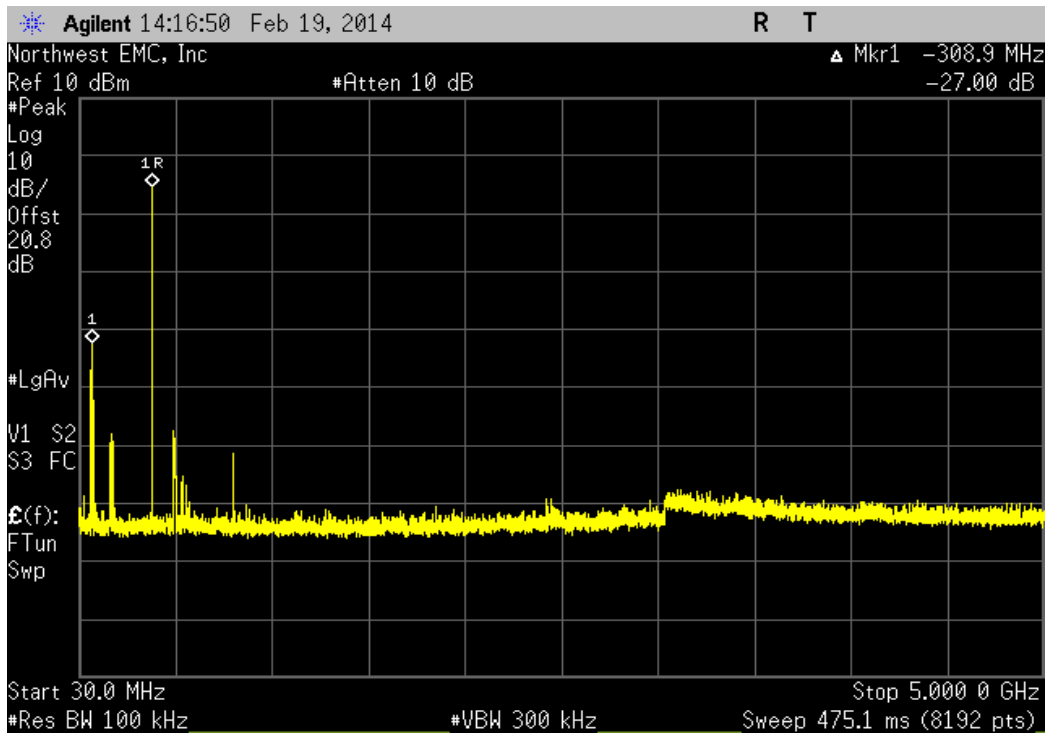
SN: 44817004, High Channel, 404.85 MHz				
Frequency Range	Value	Limit	Result	
30 MHz - 5 GHz	-27.26 dBc	N/A	N/A	



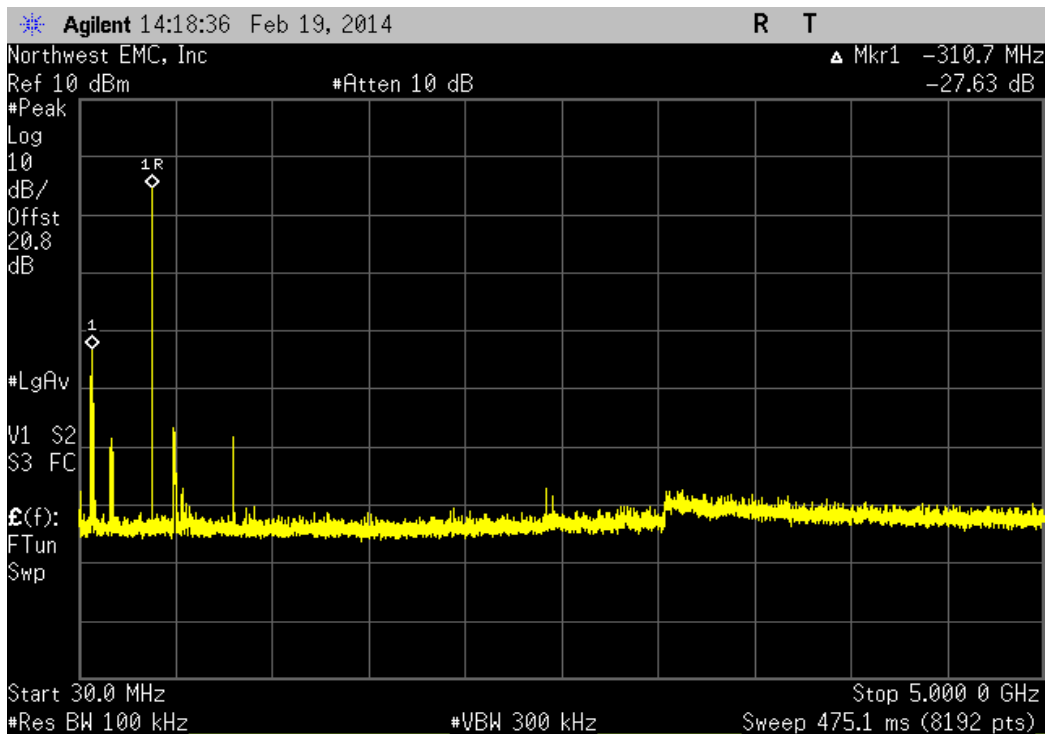
SN: 44817013, Low Channel, 402.15 MHz				
Frequency Range	Value	Limit	Result	
30 MHz - 5 GHz	-26.3 dBc	N/A	N/A	



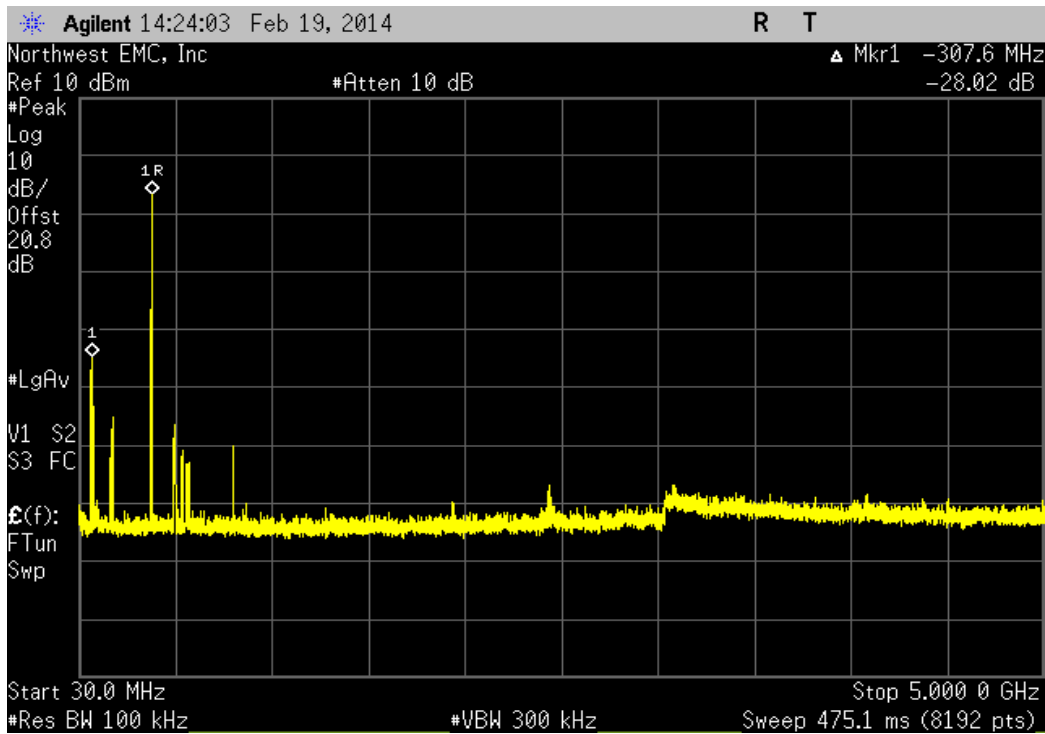
SN: 44817013, Mid Channel, 403.35 MHz				
Frequency Range	Value	Limit	Result	
30 MHz - 5 GHz	-27 dBc	N/A	N/A	



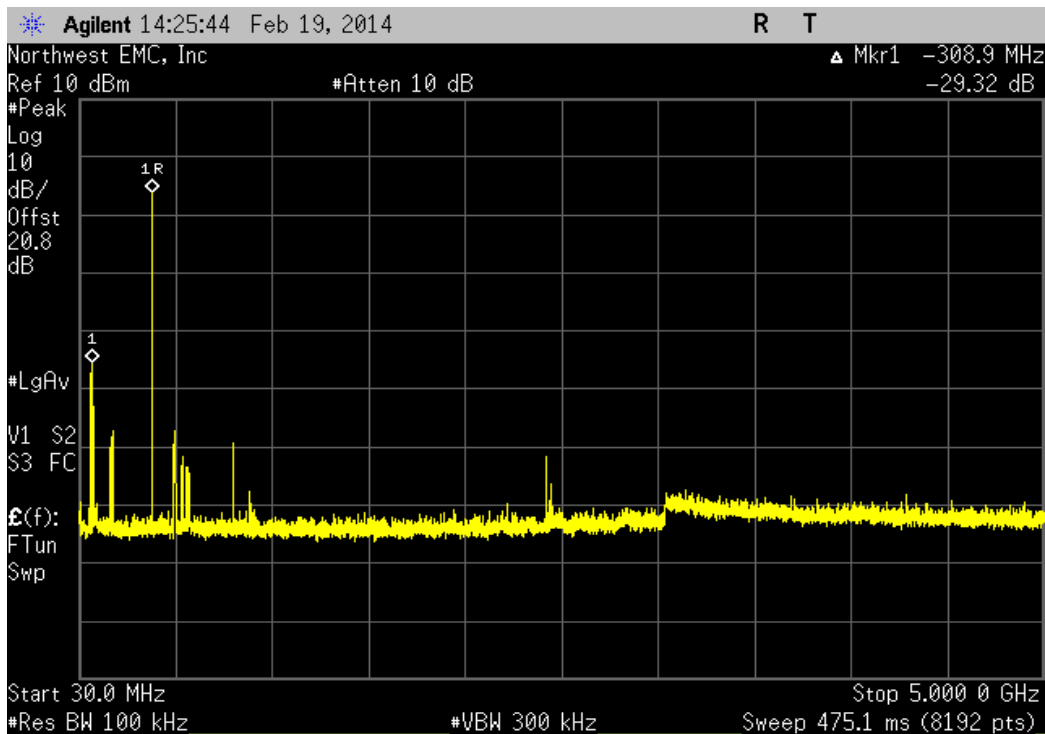
SN: 44817013, High Channel, 404.85 MHz				
Frequency Range	Value	Limit	Result	
30 MHz - 5 GHz	-27.63 dBc	N/A	N/A	



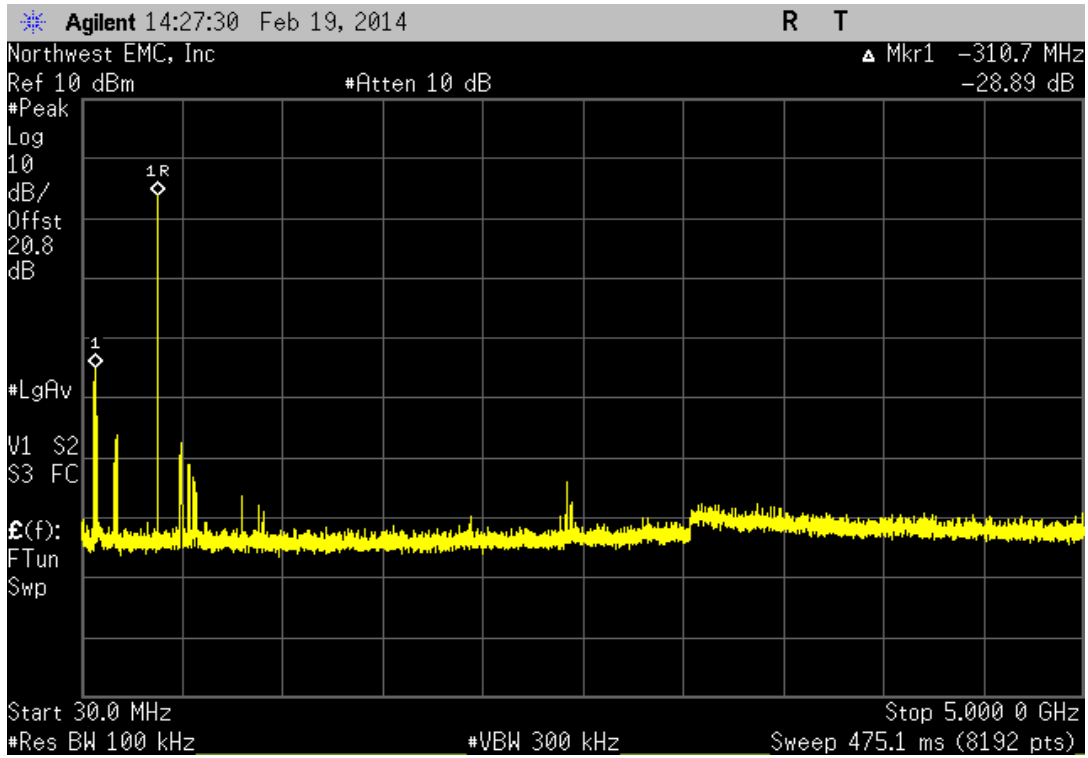
SN: 44817017, Low Channel, 402.15 MHz				
Frequency Range	Value	Limit	Result	
30 MHz - 5 GHz	-28.02 dBc	N/A	N/A	



SN: 44817017, Mid Channel, 403.35 MHz				
Frequency Range	Value	Limit	Result	
30 MHz - 5 GHz	-29.33 dBc	N/A	N/A	



SN: 44817017, High Channel, 404.85 MHz			
Frequency Range	Value	Limit	Result
30 MHz - 5 GHz	-28.89 dBc	N/A	N/A





## RADIATED POWER (EIRP)

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

Transmitting MICS at Low, Mid, High Channel: 402.15 MHz, 403.35 MHz, & 404.85 MHz, CW

### POWER SETTINGS INVESTIGATED

Battery

### CONFIGURATIONS INVESTIGATED

BSTN0453 - 1

BSTN0453 - 2

BSTN0453 - 3

### FREQUENCY RANGE INVESTIGATED

Start Frequency	402 MHz	Stop Frequency	405 MHz
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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, Dipole	EMCO	3121C-DB4	ADI	12/21/2012	36 mo
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36 mo
Power Sensor	Agilent	N8481A	SQN	8/27/2012	24 mo
Power Meter	Agilent	N1913A	SQL	8/27/2012	24 mo
Pre-Amplifier	Miteq	AM-1616-1000	PAD	5/20/2013	12 mo
MN05 Cables	ESM Cable Corp.	Bilog Cables	MNH	5/20/2013	12 mo
Antenna, Bilog	Teseq	CBL 6141B	AYD	12/17/2013	12 mo
Spectrum Analyzer	Agilent	N9010A	AFI	1/27/2013	24 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


Per 95.627(g)(3), the maximum radiated field strength for a MICS transmitter is 25uW EIRP. The Field Strength of the Fundamental data was converted to EIRP with the formula based upon the Friis transmission equation with 6 dB removed due to reflections from the ground plane:  $EIRP = ((E/2)*d)^2/30$  where E is V/m and d = distance = 3m, and  $EIRP = W$ .

The Field Strength of the Fundamental was measured in the far-field at an FCC Listed Semi-anechoic Chamber. Spectrum analyzer and linearly polarized antennas were used to measure the radiated field strength of the fundamental.

The orientation of the EUT and measurement antenna were manipulated to maximize the level of emissions. The turntable azimuth was varied to maximize the level of radiated emissions. The height of the measurement antenna was also varied from 1 to 4 meters. The amplitude and frequency of the emissions were noted.

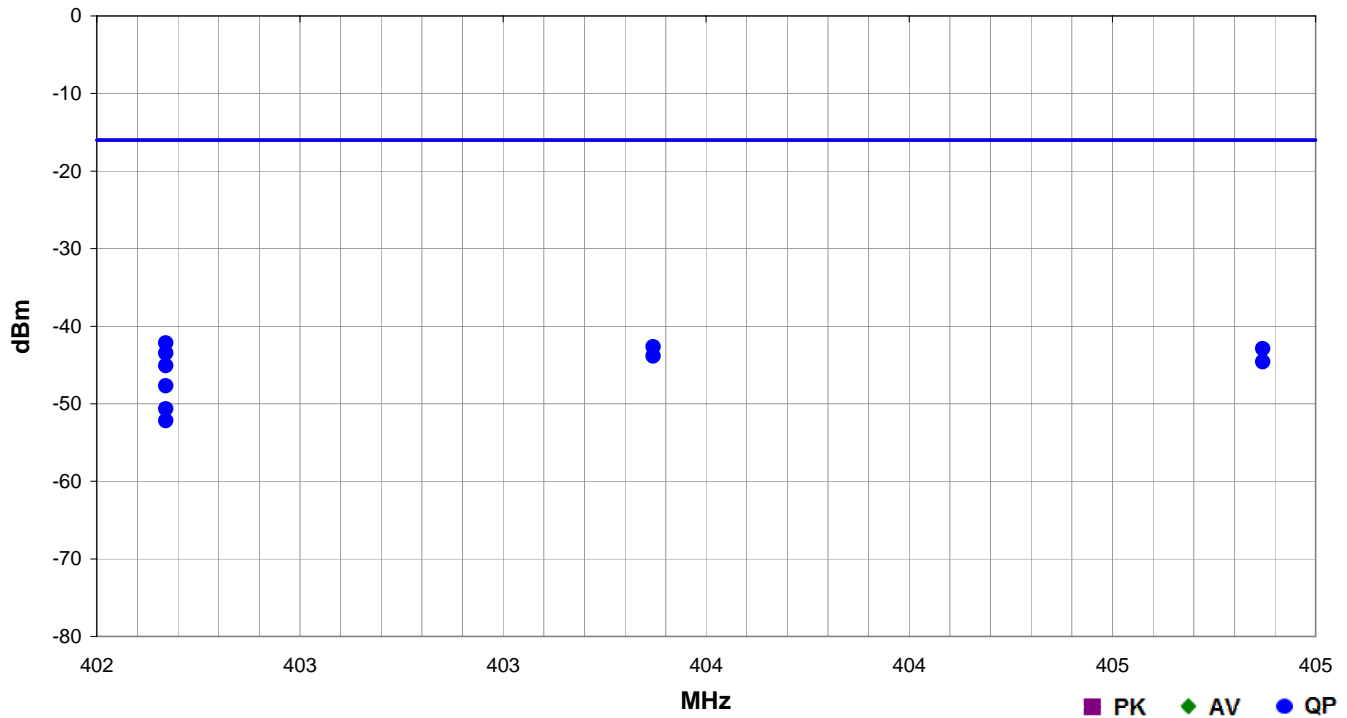
The EUT was configured to transmit in a fixture that simulates the human torso. The dimensions of the test fixture and the characteristics of the tissue substitute material met the requirements 95.627(i) and FCC KDB 617965. The height of the transmitter was 1.5-meter above the reference ground plane.

## RADIATED POWER (EIRP)

Work Order:	BSTN0453	Date:	02/11/14	
Project:	None	Temperature:	22 °C	
Job Site:	MN05	Humidity:	8.1% RH	
Serial Number:	417249	Barometric Pres.:	1032 mbar	
EUT:	L331			
Configuration:	1			
Customer:	Boston Scientific Corporation			
Attendees:	Niharika Varanasi			
EUT Power:	Battery			
Operating Mode:	Transmitting MICS at Low, Mid, High Channel: 402.15 MHz, 403.35 MHz, & 404.85 MHz, CW			
Deviations:	None			
Comments:	None			


Test Specifications	Test Method
FCC 951:2013	ANSI/TIA/EIA-603-C:2004

Run #	28	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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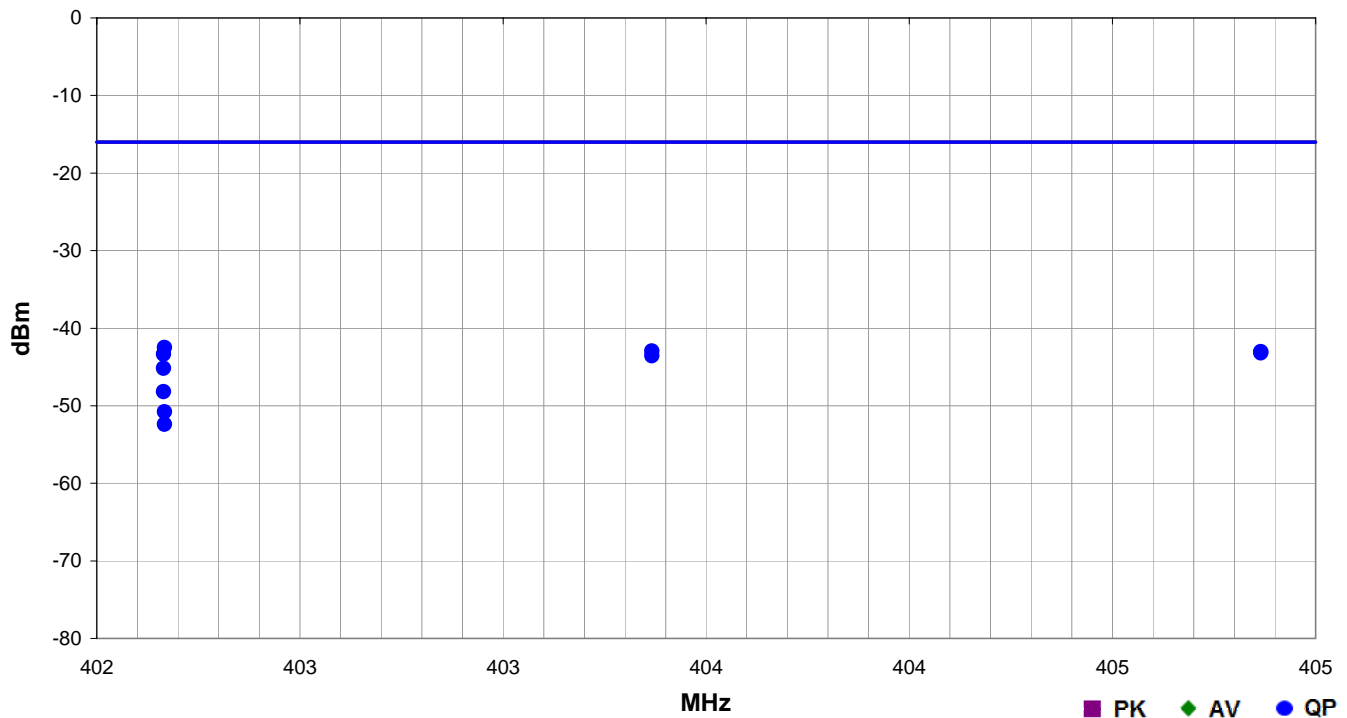
Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
402.170	1.6	0.0	Vert	QP	6.05E-08	-42.2	-16.0	-26.2	EUT Vert, Low Ch
403.370	1.6	0.0	Vert	QP	5.43E-08	-42.7	-16.0	-26.7	EUT Vert, Mid Ch
404.870	1.6	331.0	Vert	QP	5.11E-08	-42.9	-16.0	-26.9	EUT Vert, High Ch
402.170	1.2	266.0	Horz	QP	4.49E-08	-43.5	-16.0	-27.5	EUT Vert, Low Ch
403.370	1.1	267.0	Horz	QP	4.12E-08	-43.9	-16.0	-27.9	EUT Vert, Mid Ch
404.870	1.8	102.0	Horz	QP	3.45E-08	-44.6	-16.0	-28.6	EUT Vert, High Ch
402.170	1.6	328.0	Vert	QP	3.11E-08	-45.1	-16.0	-29.1	EUT on Side, Low Ch
402.170	2.7	263.0	Horz	QP	1.71E-08	-47.7	-16.0	-31.7	EUT on Side, Low Ch
402.170	1.7	340.0	Vert	QP	8.55E-09	-50.7	-16.0	-34.7	EUT Horz, Low Ch
402.170	2.0	235.0	Horz	QP	6.05E-09	-52.2	-16.0	-36.2	EUT Horz, Low Ch

## RADIATED POWER (EIRP)

Work Order:	BSTN0453	Date:	02/11/14	
Project:	None	Temperature:	22 °C	
Job Site:	MN05	Humidity:	8.1% RH	
Serial Number:	417250	Barometric Pres.:	1032 mbar	
EUT:	L331			
Configuration:	2			
Customer:	Boston Scientific Corporation			
Attendees:	Niharika Varanasi			
EUT Power:	Battery			
Operating Mode:	Transmitting MICS at Low, Mid, High Channel: 402.15 MHz, 403.35 MHz, & 404.85 MHz, CW			
Deviations:	None			
Comments:	None			


Test Specifications	Test Method
FCC 951:2013	ANSI/TIA/EIA-603-C:2004

Run #	27	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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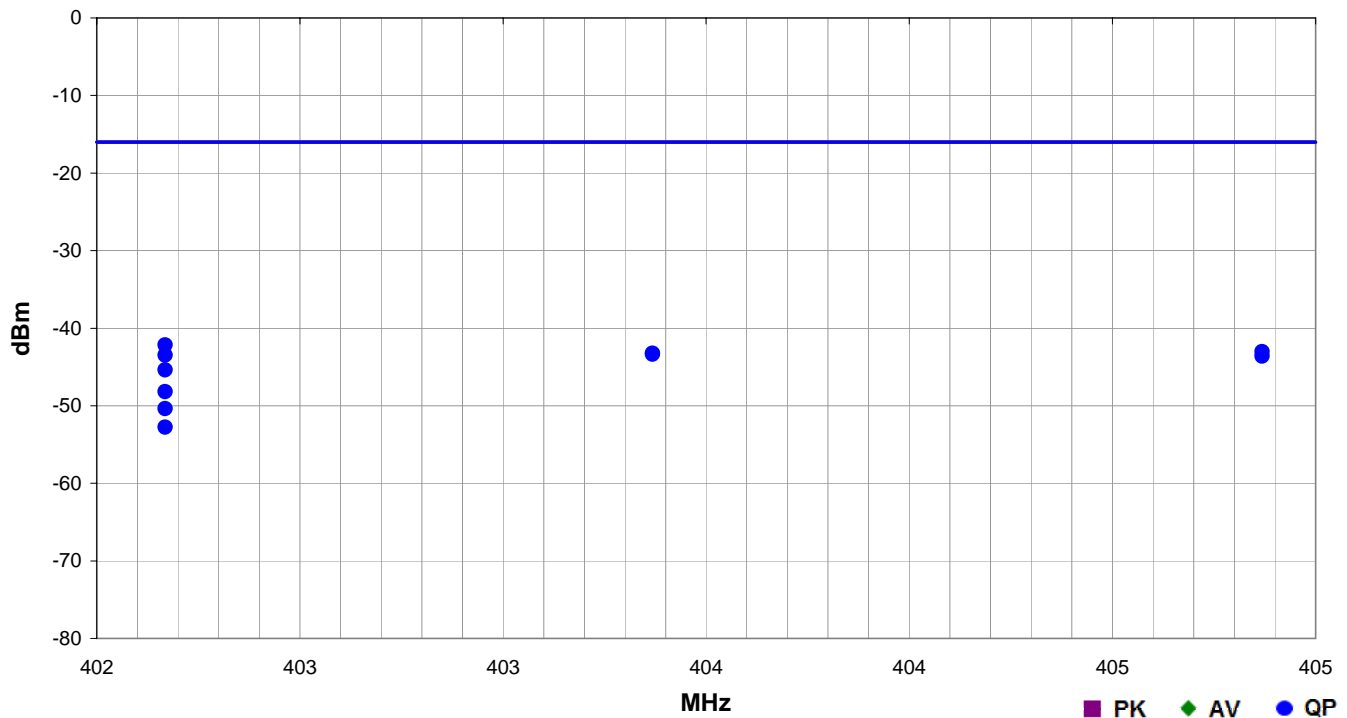
Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
402.167	1.6	351.0	Vert	QP	5.65E-08	-42.5	-16.0	-26.5	EUT Vert, Low Ch
403.367	1.6	344.0	Vert	QP	5.07E-08	-43.0	-16.0	-27.0	EUT Vert, Mid Ch
404.865	1.2	269.0	Horz	QP	4.99E-08	-43.0	-16.0	-27.0	EUT Vert, High Ch
404.865	1.6	0.0	Vert	QP	4.77E-08	-43.2	-16.0	-27.2	EUT Vert, High Ch
402.165	1.2	264.0	Horz	QP	4.59E-08	-43.4	-16.0	-27.4	EUT Vert, Low Ch
403.367	1.1	265.0	Horz	QP	4.41E-08	-43.6	-16.0	-27.6	EUT Vert, Mid Ch
402.165	1.6	315.0	Vert	QP	3.03E-08	-45.2	-16.0	-29.2	EUT on Side, Low Ch
402.165	2.7	261.0	Horz	QP	1.52E-08	-48.2	-16.0	-32.2	EUT on Side, Low Ch
402.167	1.7	341.0	Vert	QP	8.36E-09	-50.8	-16.0	-34.8	EUT Horz, Low Ch
402.167	1.2	239.0	Horz	QP	5.78E-09	-52.4	-16.0	-36.4	EUT Horz, Low Ch

## RADIATED POWER (EIRP)

Work Order:	BSTN0453	Date:	02/11/14	
Project:	None	Temperature:	22 °C	
Job Site:	MN05	Humidity:	8.1% RH	
Serial Number:	417251	Barometric Pres.:	1032 mbar	
EUT:	L331			
Configuration:	3			
Customer:	Boston Scientific Corporation			
Attendees:	Niharika Varanasi			
EUT Power:	Battery			
Operating Mode:	Transmitting MICS at Low, Mid, High Channel: 402.15 MHz, 403.35 MHz, & 404.85 MHz, CW			
Deviations:	None			
Comments:	None			

Test Specifications	Test Method
FCC 951:2013	ANSI/TIA/EIA-603-C:2004

Run #	26	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
402.168	1.6	354.0	Vert	QP	6.05E-08	-42.2	-16.0	-26.2	EUT Vert, Low Ch
404.868	1.6	346.0	Vert	QP	4.99E-08	-43.0	-16.0	-27.0	EUT Vert, High Ch
403.368	1.6	350.0	Vert	QP	4.73E-08	-43.3	-16.0	-27.3	EUT Vert, Mid Ch
403.368	1.1	263.0	Horz	QP	4.62E-08	-43.4	-16.0	-27.4	EUT Vert, Mid Ch
402.168	1.1	268.0	Horz	QP	4.49E-08	-43.5	-16.0	-27.5	EUT Vert, Low Ch
404.868	1.1	267.0	Horz	QP	4.35E-08	-43.6	-16.0	-27.6	EUT Vert, High Ch
402.168	1.6	321.0	Vert	QP	2.90E-08	-45.4	-16.0	-29.4	EUT on Side, Low Ch
402.168	2.7	262.0	Horz	QP	1.52E-08	-48.2	-16.0	-32.2	EUT on Side, Low Ch
402.168	1.7	352.0	Vert	QP	9.16E-09	-50.4	-16.0	-34.4	EUT Horz, Low Ch
402.168	1.1	247.0	Horz	QP	5.27E-09	-52.8	-16.0	-36.8	EUT Horz, Low Ch

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

Transmitting MICS at Low, Mid, High Channel: 402.15 MHz, 403.35 MHz, & 404.85 MHz, Psuedorandom.

## POWER SETTINGS INVESTIGATED

Battery

## CONFIGURATIONS INVESTIGATED

BSTN0453 - 1

BSTN0453 - 2

BSTN0453 - 3

## FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	5000 MHz
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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, Dipole	EMCO	3121C-DB4	ADI	12/21/2012	36 mo
Antenna, Horn	ETS	3115	AJA	5/13/2011	36 mo
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36 mo
Power Sensor	Agilent	N8481A	SQN	8/27/2012	24 mo
Power Meter	Agilent	N1913A	SQL	8/27/2012	24 mo
Pre-Amplifier	Miteq	AM-1616-1000	PAD	5/20/2013	12 mo
MN05 Cables	ESM Cable Corp.	Bilog Cables	MNH	5/20/2013	12 mo
Antenna, Bilog	Teseq	CBL 6141B	AYD	12/17/2013	12 mo
Spectrum Analyzer	Agilent	N9010A	AFI	1/27/2013	24 mo
Pre-Amplifier	Miteq	AMF-3D00100800-32-13P	AVF	8/30/2013	12 mo
MN04 Cables	ESM Cable Corp.	Double Ridge Horn Cables	MNS	8/30/2013	12 mo
Antenna, Horn	ETS	3115	AIB	8/23/2012	36 mo
Spectrum Analyzer	Agilent	E4440A	AFG	5/16/2012	24 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 highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. 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 the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.4:2009). A preamp was used for this test in order to provide sufficient measurement sensitivity.



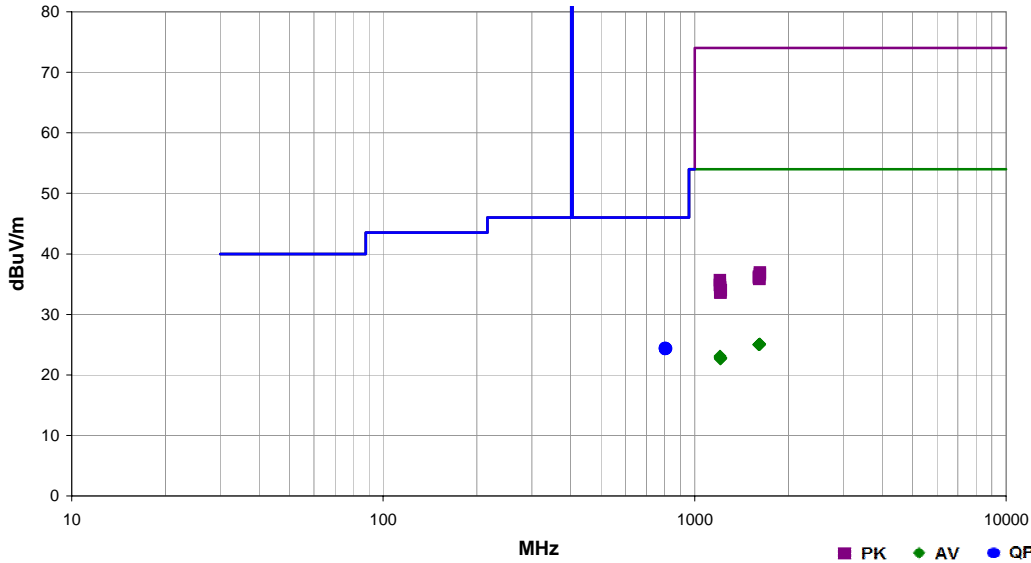
# SPURIOUS RADIATED EMISSIONS

PSA-ESCI 2012.12.14  
EmiR5 2014.01.02

<b>Work Order:</b>	BSTN0453	<b>Date:</b>	02/10/14	
<b>Project:</b>	None	<b>Temperature:</b>	22.7 °C	
<b>Job Site:</b>	MN04 & MN05	<b>Humidity:</b>	6.8% RH	
<b>Serial Number:</b>	417249	<b>Barometric Pres.:</b>	1034 mbar	
<b>EUT:</b>	L331			
<b>Configuration:</b>	1			
<b>Customer:</b>	Boston Scientific Corporation			
<b>Attendees:</b>	Niharika Varanasi			
<b>EUT Power:</b>	Battery			
<b>Operating Mode:</b>	Transmitting MICS at Low, Mid, High Channel: 402.15 MHz, 403.35 MHz, & 404.85 MHz, Psuedorandom.			
<b>Deviations:</b>	None			
<b>Comments:</b>	None			

Test Specifications	Test Method
FCC 951:2014	ANSI/TIA/EIA-603-C:2004

Run #	7	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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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
806.923	16.4	8.0	1.5	89.0	3.0	0.0	Vert	QP	0.0	24.4	46.0	-21.6	EUT Vert, Mid Ch
804.652	16.4	8.0	1.5	236.0	3.0	0.0	Vert	QP	0.0	24.4	46.0	-21.6	EUT Horz, Low Ch
803.867	16.4	8.0	1.5	183.0	3.0	0.0	Horz	QP	0.0	24.4	46.0	-21.6	EUT Vert, Low Ch
809.673	16.3	8.0	2.6	118.0	3.0	0.0	Horz	QP	0.0	24.3	46.0	-21.7	EUT Vert, High Ch
810.165	16.3	8.0	1.5	314.0	3.0	0.0	Vert	QP	0.0	24.3	46.0	-21.7	EUT Vert, High Ch
806.300	16.3	8.0	1.0	93.0	3.0	0.0	Horz	QP	0.0	24.3	46.0	-21.7	EUT Vert, Mid Ch
804.737	16.3	8.0	1.5	99.0	3.0	0.0	Vert	QP	0.0	24.3	46.0	-21.7	EUT on Side, Low Ch
804.515	16.3	8.0	1.5	69.0	3.0	0.0	Horz	QP	0.0	24.3	46.0	-21.7	EUT on Side, Low Ch
804.300	16.3	8.0	1.5	206.0	3.0	0.0	Vert	QP	0.0	24.3	46.0	-21.7	EUT Vert, Low Ch
804.115	16.3	8.0	3.1	358.0	3.0	0.0	Horz	QP	0.0	24.3	46.0	-21.7	EUT Horz, Low Ch
1618.265	30.9	-5.8	1.0	238.0	3.0	0.0	Horz	AV	0.0	25.1	54.0	-28.9	EUT Vert, High Ch
1613.995	30.9	-5.8	1.0	35.0	3.0	0.0	Horz	AV	0.0	25.1	54.0	-28.9	EUT Vert, Mid Ch
1613.965	30.9	-5.8	1.0	69.0	3.0	0.0	Vert	AV	0.0	25.1	54.0	-28.9	EUT Vert, Mid Ch
1607.605	30.9	-5.9	1.0	20.0	3.0	0.0	Vert	AV	0.0	25.0	54.0	-29.0	EUT Vert, Low Ch
1607.460	30.9	-5.9	1.0	6.0	3.0	0.0	Horz	AV	0.0	25.0	54.0	-29.0	EUT Vert, Low Ch
1618.940	30.8	-5.8	1.0	35.0	3.0	0.0	Vert	AV	0.0	25.0	54.0	-29.0	EUT Vert, High Ch
1207.175	31.8	-8.7	1.0	89.0	3.0	0.0	Vert	AV	0.0	23.1	54.0	-30.9	EUT Vert, Low Ch
1206.965	31.5	-8.7	1.0	19.0	3.0	0.0	Horz	AV	0.0	22.8	54.0	-31.2	EUT Vert, Low Ch
1214.120	31.4	-8.6	1.0	85.0	3.0	0.0	Horz	AV	0.0	22.8	54.0	-31.2	EUT Vert, High Ch
1213.250	31.4	-8.6	1.3	107.0	3.0	0.0	Vert	AV	0.0	22.8	54.0	-31.2	EUT Vert, High Ch
1211.320	31.4	-8.6	1.0	200.0	3.0	0.0	Horz	AV	0.0	22.8	54.0	-31.2	EUT Vert, Mid Ch
1210.625	31.3	-8.7	2.3	170.0	3.0	0.0	Vert	AV	0.0	22.6	54.0	-31.4	EUT Vert, Mid Ch
1620.530	42.7	-5.8	1.0	35.0	3.0	0.0	Vert	PK	0.0	36.9	74.0	-37.1	EUT Vert, High Ch
1620.085	42.4	-5.8	1.0	238.0	3.0	0.0	Horz	PK	0.0	36.6	74.0	-37.4	EUT Vert, High Ch
1608.230	42.1	-5.9	1.0	6.0	3.0	0.0	Horz	PK	0.0	36.2	74.0	-37.8	EUT Vert, Low Ch
1608.355	41.9	-5.9	1.0	20.0	3.0	0.0	Vert	PK	0.0	36.0	74.0	-38.0	EUT Vert, Low Ch
1613.295	41.7	-5.8	1.0	69.0	3.0	0.0	Vert	PK	0.0	35.9	74.0	-38.1	EUT Vert, Mid Ch
1613.070	41.7	-5.9	1.0	35.0	3.0	0.0	Horz	PK	0.0	35.8	74.0	-38.2	EUT Vert, Mid Ch
1206.920	44.3	-8.7	1.0	89.0	3.0	0.0	Vert	PK	0.0	35.6	74.0	-38.4	EUT Vert, Low Ch
1207.090	43.5	-8.7	1.0	19.0	3.0	0.0	Horz	PK	0.0	34.8	74.0	-39.2	EUT Vert, Low Ch
1209.280	43.1	-8.7	2.3	170.0	3.0	0.0	Vert	PK	0.0	34.4	74.0	-39.6	EUT Vert, Mid Ch
1214.760	42.6	-8.6	1.0	85.0	3.0	0.0	Horz	PK	0.0	34.0	74.0	-40.0	EUT Vert, High Ch
1210.025	42.3	-8.7	1.0	200.0	3.0	0.0	Horz	PK	0.0	33.6	74.0	-40.4	EUT Vert, Mid Ch
1213.425	42.2	-8.6	1.3	107.0	3.0	0.0	Vert	PK	0.0	33.6	74.0	-40.4	EUT Vert, High Ch



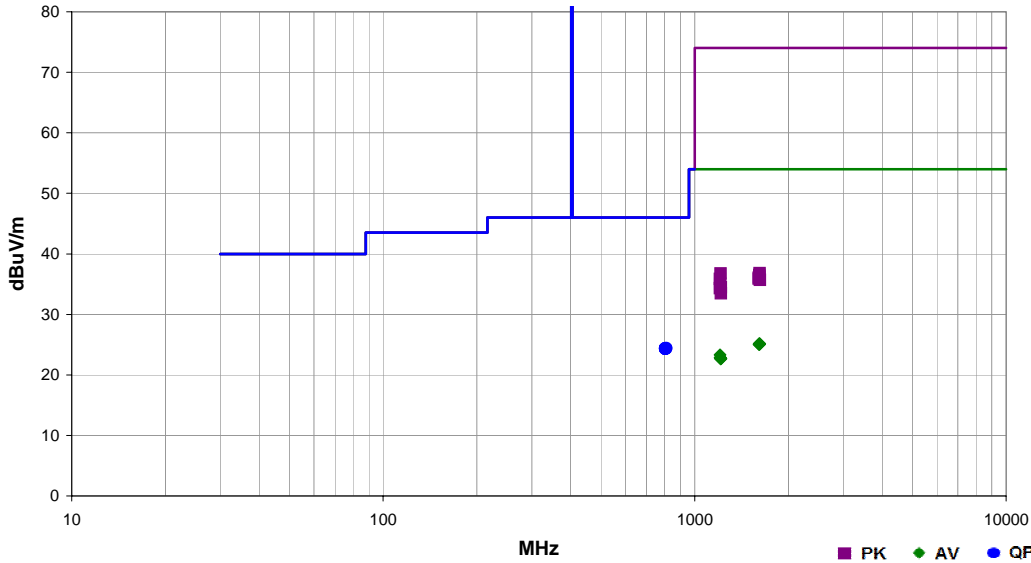
# SPURIOUS RADIATED EMISSIONS

PSA-ESCI 2012.12.14  
EmiR5 2014.01.02

<b>Work Order:</b>	BSTN0453	<b>Date:</b>	02/10/14	
<b>Project:</b>	None	<b>Temperature:</b>	22.7 °C	
<b>Job Site:</b>	MN04 & MN05	<b>Humidity:</b>	6.8% RH	
<b>Serial Number:</b>	417250	<b>Barometric Pres.:</b>	1034 mbar	
<b>EUT:</b>	L331			
<b>Configuration:</b>	2			
<b>Customer:</b>	Boston Scientific Corporation			
<b>Attendees:</b>	Niharika Varanasi			
<b>EUT Power:</b>	Battery			
<b>Operating Mode:</b>	Transmitting MICS at Low, Mid, High Channel: 402.15 MHz, 403.35 MHz, & 404.85 MHz, Psuedorandom.			
<b>Deviations:</b>	None			
<b>Comments:</b>	None			

Test Specifications	Test Method
FCC 951:2013	ANSI/TIA/EIA-603-C:2004

Run #	13	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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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
810.077	16.4	8.0	1.5	200.0	3.0	0.0	Vert	QP	0.0	24.4	46.0	-21.6	EUT Vert, High Ch
804.500	16.4	8.0	1.2	281.0	3.0	0.0	Horz	QP	0.0	24.4	46.0	-21.6	EUT Vert, Low Ch
809.850	16.3	8.0	1.3	3.0	3.0	0.0	Horz	QP	0.0	24.3	46.0	-21.7	EUT Vert, High Ch
806.895	16.3	8.0	1.5	18.0	3.0	0.0	Horz	QP	0.0	24.3	46.0	-21.7	EUT Vert, Mid Ch
806.728	16.3	8.0	1.5	22.0	3.0	0.0	Vert	QP	0.0	24.3	46.0	-21.7	EUT Vert, Mid Ch
804.800	16.3	8.0	1.5	78.0	3.0	0.0	Horz	QP	0.0	24.3	46.0	-21.7	EUT Horz, Low Ch
804.800	16.3	8.0	1.0	204.0	3.0	0.0	Vert	QP	0.0	24.3	46.0	-21.7	EUT Horz, Low Ch
804.695	16.3	8.0	1.5	11.0	3.0	0.0	Vert	QP	0.0	24.3	46.0	-21.7	EUT on Side, Low Ch
804.577	16.3	8.0	2.3	353.0	3.0	0.0	Horz	QP	0.0	24.3	46.0	-21.7	EUT on Side, Low Ch
804.472	16.3	8.0	3.0	316.0	3.0	0.0	Vert	QP	0.0	24.3	46.0	-21.7	EUT Vert, Low Ch
1613.630	31.0	-5.8	1.0	277.0	3.0	0.0	Horz	AV	0.0	25.2	54.0	-28.8	EUT Vert, Mid Ch
1608.200	31.0	-5.9	2.7	7.0	3.0	0.0	Vert	AV	0.0	25.1	54.0	-28.9	EUT Vert, Low Ch
1618.785	30.9	-5.8	2.9	348.0	3.0	0.0	Horz	AV	0.0	25.1	54.0	-28.9	EUT Vert, High Ch
1618.665	30.9	-5.8	1.0	224.0	3.0	0.0	Vert	AV	0.0	25.1	54.0	-28.9	EUT Vert, High Ch
1614.750	30.9	-5.8	1.0	298.0	3.0	0.0	Vert	AV	0.0	25.1	54.0	-28.9	EUT Vert, Mid Ch
1608.395	30.9	-5.9	2.9	44.0	3.0	0.0	Horz	AV	0.0	25.0	54.0	-29.0	EUT Vert, Low Ch
1207.110	32.0	-8.7	1.0	233.0	3.0	0.0	Vert	AV	0.0	23.3	54.0	-30.7	EUT Vert, Low Ch
1209.350	31.5	-8.7	1.3	54.0	3.0	0.0	Horz	AV	0.0	22.8	54.0	-31.2	EUT Vert, Mid Ch
1206.945	31.5	-8.7	1.0	167.0	3.0	0.0	Horz	AV	0.0	22.8	54.0	-31.2	EUT Vert, Low Ch
1213.375	31.4	-8.6	1.0	151.0	3.0	0.0	Vert	AV	0.0	22.8	54.0	-31.2	EUT Vert, High Ch
1214.130	31.3	-8.6	1.0	324.0	3.0	0.0	Horz	AV	0.0	22.7	54.0	-31.3	EUT Vert, High Ch
1210.830	31.3	-8.7	1.3	213.0	3.0	0.0	Vert	AV	0.0	22.6	54.0	-31.4	EUT Vert, Mid Ch
1618.410	42.6	-5.8	1.0	224.0	3.0	0.0	Vert	PK	0.0	36.8	74.0	-37.2	EUT Vert, High Ch
1211.360	45.4	-8.6	1.3	213.0	3.0	0.0	Vert	PK	0.0	36.8	74.0	-37.2	EUT Vert, Mid Ch
1614.065	42.3	-5.8	1.0	298.0	3.0	0.0	Vert	PK	0.0	36.5	74.0	-37.5	EUT Vert, Mid Ch
1612.420	42.1	-5.9	1.0	277.0	3.0	0.0	Horz	PK	0.0	36.2	74.0	-37.8	EUT Vert, Mid Ch
1610.030	42.0	-5.9	2.9	44.0	3.0	0.0	Horz	PK	0.0	36.1	74.0	-37.9	EUT Vert, Low Ch
1607.590	41.8	-5.9	2.7	7.0	3.0	0.0	Vert	PK	0.0	35.9	74.0	-38.1	EUT Vert, Low Ch
1206.950	44.5	-8.7	1.0	233.0	3.0	0.0	Vert	PK	0.0	35.8	74.0	-38.2	EUT Vert, Low Ch
1620.220	41.5	-5.8	2.9	348.0	3.0	0.0	Horz	PK	0.0	35.7	74.0	-38.3	EUT Vert, High Ch
1209.035	43.7	-8.7	1.3	54.0	3.0	0.0	Horz	PK	0.0	35.0	74.0	-39.0	EUT Vert, Mid Ch
1214.840	43.1	-8.6	1.0	324.0	3.0	0.0	Horz	PK	0.0	34.5	74.0	-39.5	EUT Vert, High Ch
1206.925	43.0	-8.7	1.0	167.0	3.0	0.0	Horz	PK	0.0	34.3	74.0	-39.7	EUT Vert, Low Ch
1215.955	42.1	-8.6	1.0	151.0	3.0	0.0	Vert	PK	0.0	33.5	74.0	-40.5	EUT Vert, High Ch

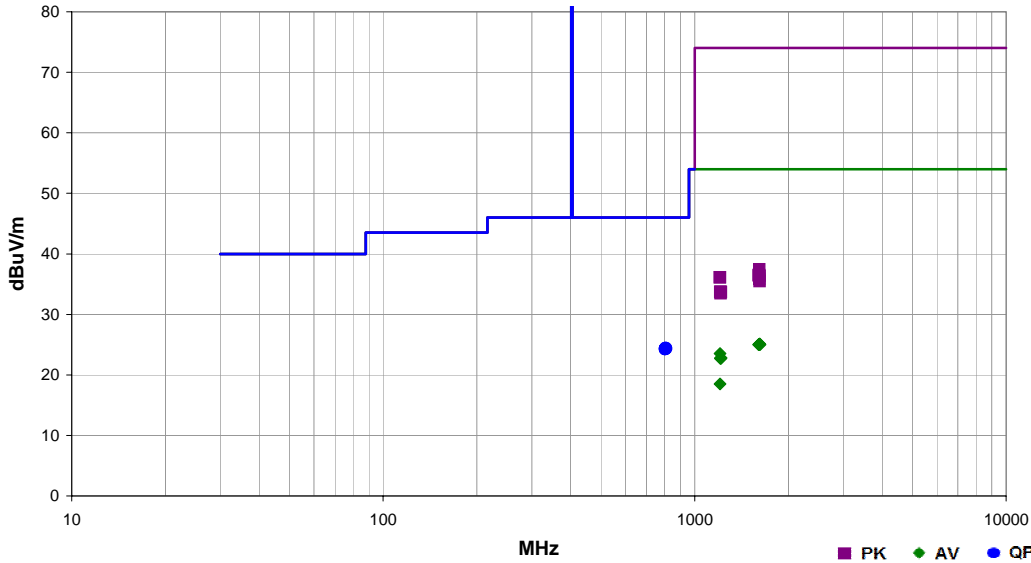


## SPURIOUS RADIATED EMISSIONS

Work Order:	BSTN0453	Date:	02/11/14	
Project:	None	Temperature:	22 °C	
Job Site:	MN04 & MN05	Humidity:	8.1% RH	
Serial Number:	417251	Barometric Pres.:	1032 mbar	
EUT:	L331			
Configuration:	3			
Customer:	Boston Scientific Corporation			
Attendees:	Niharika Varanasi			
EUT Power:	Battery			
Operating Mode:	Transmitting MICS at Low, Mid, High Channel: 402.15 MHz, 403.35 MHz, & 404.85 MHz, Psuedorandom.			
Deviations:	None			
Comments:	None			

Test Specifications	Test Method
FCC 951:2013	ANSI/TIA/EIA-603-C:2004

Run #	20	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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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
809.398	16.4	8.0	1.5	324.0	3.0	0.0	Vert	QP	0.0	24.4	46.0	-21.6	EUT Vert, High Ch
807.045	16.4	8.0	1.5	143.0	3.0	0.0	Horz	QP	0.0	24.4	46.0	-21.6	EUT Vert, Mid Ch
809.972	16.3	8.0	3.2	140.0	3.0	0.0	Horz	QP	0.0	24.3	46.0	-21.7	EUT Vert, High Ch
806.200	16.3	8.0	1.5	33.0	3.0	0.0	Vert	QP	0.0	24.3	46.0	-21.7	EUT Vert, Mid Ch
804.645	16.3	8.0	1.5	266.0	3.0	0.0	Horz	QP	0.0	24.3	46.0	-21.7	EUT Vert, Low Ch
804.565	16.3	8.0	1.5	167.0	3.0	0.0	Vert	QP	0.0	24.3	46.0	-21.7	EUT Vert, Low Ch
804.353	16.3	8.0	1.8	14.0	3.0	0.0	Vert	QP	0.0	24.3	46.0	-21.7	EUT on Side, Low Ch
804.302	16.3	8.0	1.5	180.0	3.0	0.0	Horz	QP	0.0	24.3	46.0	-21.7	EUT Horz, Low Ch
804.295	16.3	8.0	1.5	261.0	3.0	0.0	Horz	QP	0.0	24.3	46.0	-21.7	EUT on Side, Low Ch
804.030	16.3	8.0	2.6	118.0	3.0	0.0	Vert	QP	0.0	24.3	46.0	-21.7	EUT Horz, Low Ch
1618.955	30.9	-5.8	1.0	114.0	3.0	0.0	Vert	AV	0.0	25.1	54.0	-28.9	EUT Vert, High Ch
1614.640	30.9	-5.8	1.1	309.0	3.0	0.0	Vert	AV	0.0	25.1	54.0	-28.9	EUT Vert, Mid Ch
1614.220	30.9	-5.8	1.0	51.0	3.0	0.0	Horz	AV	0.0	25.1	54.0	-28.9	EUT Vert, Mid Ch
1620.410	30.8	-5.8	1.0	42.0	3.0	0.0	Horz	AV	0.0	25.0	54.0	-29.0	EUT Vert, High Ch
1607.840	30.9	-5.9	1.0	171.0	3.0	0.0	Vert	AV	0.0	25.0	54.0	-29.0	EUT Vert, Low Ch
1607.150	30.9	-5.9	1.0	267.0	3.0	0.0	Horz	AV	0.0	25.0	54.0	-29.0	EUT Vert, Low Ch
1207.005	32.2	-8.7	1.0	101.0	3.0	0.0	Vert	AV	0.0	23.5	54.0	-30.5	EUT Vert, Low Ch
1215.685	31.4	-8.6	1.0	346.0	3.0	0.0	Horz	AV	0.0	22.8	54.0	-31.2	EUT Vert, High Ch
1213.605	31.4	-8.6	1.0	15.0	3.0	0.0	Vert	AV	0.0	22.8	54.0	-31.2	EUT Vert, High Ch
1211.595	31.4	-8.6	1.0	233.0	3.0	0.0	Horz	AV	0.0	22.8	54.0	-31.2	EUT Vert, Mid Ch
1209.705	31.4	-8.7	2.0	180.0	3.0	0.0	Vert	AV	0.0	22.7	54.0	-31.3	EUT Vert, High Ch
1207.240	27.2	-8.7	3.3	110.0	3.0	0.0	Horz	AV	0.0	18.5	54.0	-35.5	EUT Vert, Low Ch
1613.775	43.3	-5.8	1.1	309.0	3.0	0.0	Vert	PK	0.0	37.5	74.0	-36.5	EUT Vert, Mid Ch
1609.145	42.4	-5.9	1.0	171.0	3.0	0.0	Vert	PK	0.0	36.5	74.0	-37.5	EUT Vert, Low Ch
1608.010	42.3	-5.9	1.0	267.0	3.0	0.0	Horz	PK	0.0	36.4	74.0	-37.6	EUT Vert, Low Ch
1618.970	42.2	-5.8	1.0	114.0	3.0	0.0	Vert	PK	0.0	36.4	74.0	-37.6	EUT Vert, High Ch
1207.355	44.8	-8.7	1.0	101.0	3.0	0.0	Vert	PK	0.0	36.1	74.0	-37.9	EUT Vert, Low Ch
1206.950	44.8	-8.7	3.3	110.0	3.0	0.0	Horz	PK	0.0	36.1	74.0	-37.9	EUT Vert, Low Ch
1612.035	41.7	-5.9	1.0	51.0	3.0	0.0	Horz	PK	0.0	35.8	74.0	-38.2	EUT Vert, Mid Ch
1618.300	41.3	-5.8	1.0	42.0	3.0	0.0	Horz	PK	0.0	35.5	74.0	-38.5	EUT Vert, High Ch
1210.170	42.4	-8.7	2.0	180.0	3.0	0.0	Vert	PK	0.0	33.7	74.0	-40.3	EUT Vert, Mid Ch
1215.455	42.3	-8.6	1.0	346.0	3.0	0.0	Horz	PK	0.0	33.7	74.0	-40.3	EUT Vert, High Ch
1214.555	42.3	-8.6	1.0	15.0	3.0	0.0	Vert	PK	0.0	33.7	74.0	-40.3	EUT Vert, High Ch
1210.870	42.1	-8.7	1.0	233.0	3.0	0.0	Horz	PK	0.0	33.4	74.0	-40.6	EUT Vert, Mid Ch



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

Receiving MICS at Low, Mid, High Channel: 402.15 MHz, 403.35 MHz, & 404.85 MHz.

## POWER SETTINGS INVESTIGATED

Battery

## CONFIGURATIONS INVESTIGATED

BSTN0453 - 1

BSTN0453 - 2

BSTN0453 - 3

## FREQUENCY RANGE INVESTIGATED

Start Frequency | 30 MHz | Stop Frequency | 5000 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, Dipole	EMCO	3121C-DB4	ADI	12/21/2012	36 mo
Antenna, Horn	ETS	3115	AJA	5/13/2011	36 mo
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36 mo
Power Sensor	Agilent	N8481A	SQN	8/27/2012	24 mo
Power Meter	Agilent	N1913A	SQL	8/27/2012	24 mo
Pre-Amplifier	Miteq	AM-1616-1000	PAD	5/20/2013	12 mo
MN05 Cables	ESM Cable Corp.	Bilog Cables	MNH	5/20/2013	12 mo
Antenna, Bilog	Teseq	CBL 6141B	AYD	12/17/2013	12 mo
Spectrum Analyzer	Agilent	N9010A	AFI	1/27/2013	24 mo
Pre-Amplifier	Miteq	AMF-3D00100800-32-13P	AVF	8/30/2013	12 mo
MN04 Cables	ESM Cable Corp.	Double Ridge Horn Cables	MNS	8/30/2013	12 mo
Antenna, Horn	ETS	3115	AIB	8/23/2012	36 mo
Spectrum Analyzer	Agilent	E4440A	AFG	5/16/2012	24 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 highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band receive frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.4). A preamp was used for this test in order to provide sufficient measurement sensitivity.

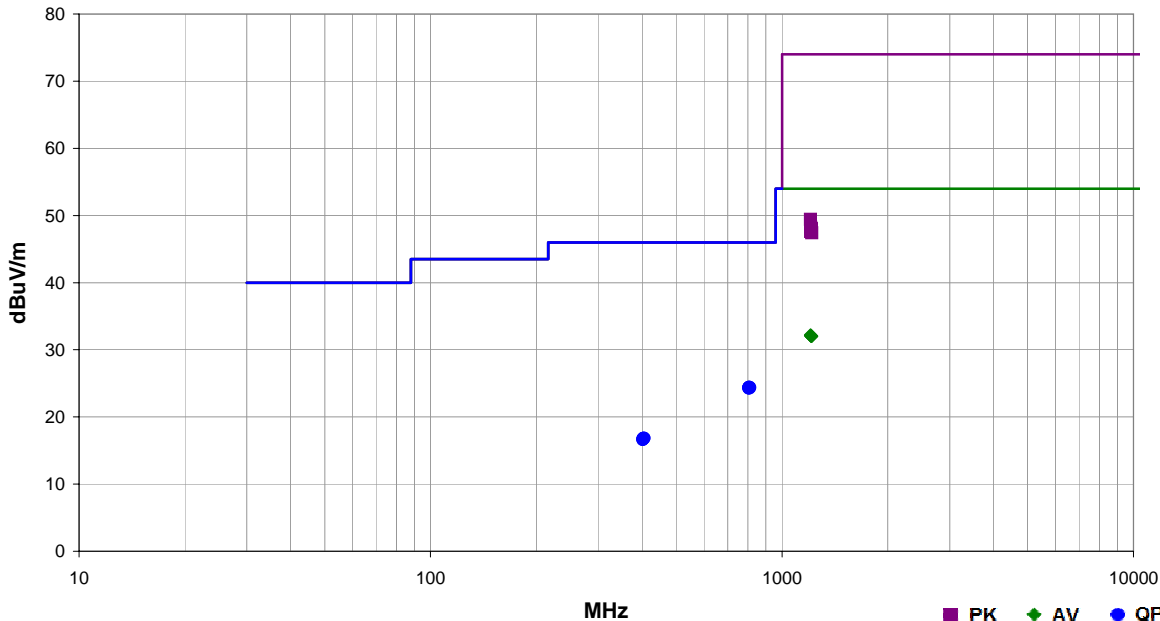


## RECEIVER SPURIOUS EMISSIONS

Work Order:	BSTN0453	Date:	02/10/14	
Project:	None	Temperature:	22.7 °C	
Job Site:	MN04 & MN05	Humidity:	6.8% RH	
Serial Number:	417249	Barometric Pres.:	1034 mbar	
EUT:	L331			
Configuration:	1			
Customer:	Boston Scientific Corporation			
Attendees:	Niharika Varanasi			
EUT Power:	Battery			
Operating Mode:	Receiving MICS at Low, Mid, High Channel: 402.15 MHz, 403.35 MHz, & 404.85 MHz.			
Deviations:	None			
Comments:	None			

Test Specifications	Class B	Test Method
FCC 15.109:2014		ANSI C63.4:2009

Run #	10	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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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
809.237	16.4	8.0	1.5	289.0	3.0	0.0	Vert	QP	0.0	24.4	46.0	-21.6	EUT Vert, High Ch
807.135	16.4	8.0	1.5	213.0	3.0	0.0	Vert	QP	0.0	24.4	46.0	-21.6	EUT Vert, Mid Ch
806.517	16.4	8.0	1.8	133.0	3.0	0.0	Horz	QP	0.0	24.4	46.0	-21.6	EUT Vert, Mid Ch
809.928	16.3	8.0	3.7	233.0	3.0	0.0	Horz	QP	0.0	24.3	46.0	-21.7	EUT Vert, High Ch
804.533	16.3	8.0	2.3	198.0	3.0	0.0	Vert	QP	0.0	24.3	46.0	-21.7	EUT Vert, Low Ch
804.425	16.3	8.0	1.5	214.0	3.0	0.0	Horz	QP	0.0	24.3	46.0	-21.7	EUT Vert, Low Ch
1206.865	27.1	5.1	1.0	0.0	3.0	0.0	Vert	AV	0.0	32.2	54.0	-21.8	EUT Vert, Low Ch
1206.875	27.0	5.1	1.0	95.0	3.0	0.0	Horz	AV	0.0	32.1	54.0	-21.9	EUT Vert, Low Ch
1213.305	26.9	5.1	1.0	19.0	3.0	0.0	Vert	AV	0.0	32.0	54.0	-22.0	EUT Vert, High Ch
1213.135	26.9	5.1	1.0	178.0	3.0	0.0	Horz	AV	0.0	32.0	54.0	-22.0	EUT Vert, High Ch
1211.220	26.9	5.1	1.5	152.0	3.0	0.0	Horz	AV	0.0	32.0	54.0	-22.0	EUT Vert, Mid Ch
1210.430	26.9	5.1	1.0	296.0	3.0	0.0	Vert	AV	0.0	32.0	54.0	-22.0	EUT Vert, Mid Ch
1206.935	44.3	5.1	1.0	0.0	3.0	0.0	Vert	PK	0.0	49.4	74.0	-24.6	EUT Vert, Low Ch
1207.615	43.1	5.1	1.0	95.0	3.0	0.0	Horz	PK	0.0	48.2	74.0	-25.8	EUT Vert, Low Ch
1214.505	42.9	5.1	1.0	178.0	3.0	0.0	Horz	PK	0.0	48.0	74.0	-26.0	EUT Vert, High Ch
1209.420	42.5	5.1	1.5	152.0	3.0	0.0	Horz	PK	0.0	47.6	74.0	-26.4	EUT Vert, Mid Ch
1209.425	42.5	5.1	1.0	296.0	3.0	0.0	Vert	PK	0.0	47.6	74.0	-26.4	EUT Vert, Mid Ch
1215.320	42.3	5.1	1.0	19.0	3.0	0.0	Vert	PK	0.0	47.4	74.0	-26.6	EUT Vert, High Ch
405.027	16.3	0.5	2.7	153.0	3.0	0.0	Horz	QP	0.0	16.8	46.0	-29.2	EUT Vert, High Ch
404.377	16.3	0.5	4.0	321.0	3.0	0.0	Vert	QP	0.0	16.8	46.0	-29.2	EUT Vert, High Ch
403.438	16.3	0.5	1.5	75.0	3.0	0.0	Vert	QP	0.0	16.8	46.0	-29.2	EUT Vert, Mid Ch
403.160	16.3	0.5	3.9	274.0	3.0	0.0	Horz	QP	0.0	16.8	46.0	-29.2	EUT Vert, Mid Ch
401.935	16.2	0.4	1.8	68.0	3.0	0.0	Vert	QP	0.0	16.6	46.0	-29.4	EUT Vert, Low Ch
401.738	16.2	0.4	1.5	350.0	3.0	0.0	Horz	QP	0.0	16.6	46.0	-29.4	EUT Vert, Low Ch

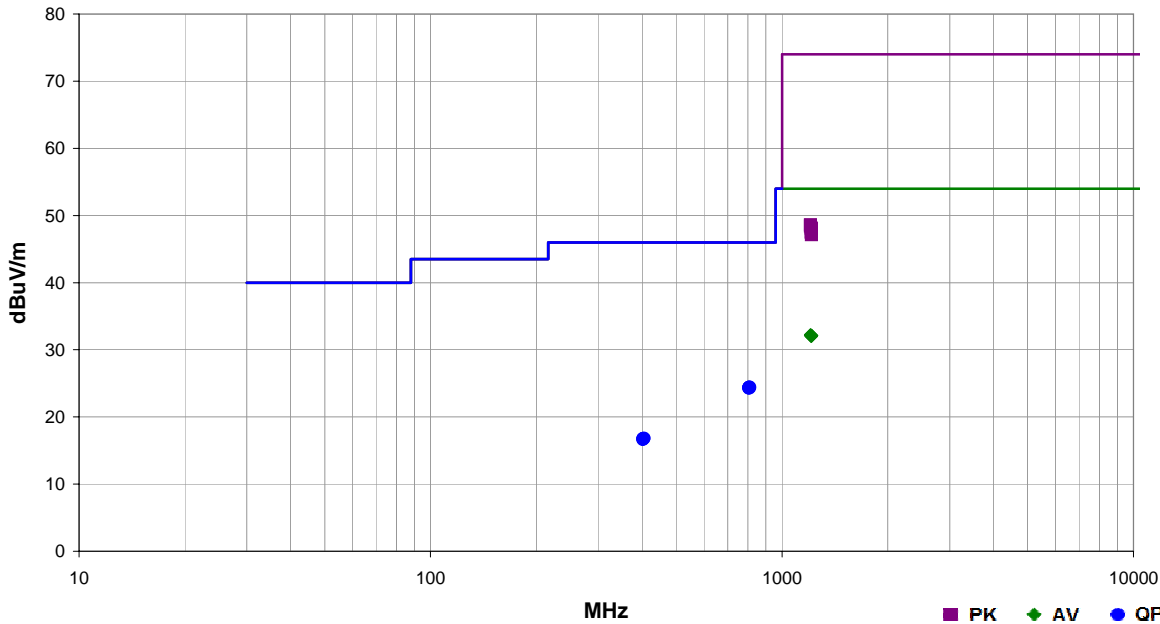


## RECEIVER SPURIOUS EMISSIONS

Work Order:	BSTN0453	Date:	02/10/14	
Project:	None	Temperature:	22.7 °C	
Job Site:	MN04 & MN05	Humidity:	6.8% RH	
Serial Number:	417250	Barometric Pres.:	1034 mbar	
EUT:	L331			
Configuration:	2			
Customer:	Boston Scientific Corporation			
Attendees:	Niharika Varanasi			
EUT Power:	Battery			
Operating Mode:	Receiving MICS at Low, Mid, High Channel: 402.15 MHz, 403.35 MHz, & 404.85 MHz.			
Deviations:	None			
Comments:	None			

Test Specifications	Class B	Test Method
FCC 15.109:2014		ANSI C63.4:2009

Run #	16	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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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
809.848	16.4	8.0	1.5	192.0	3.0	0.0	Horz	QP	0.0	24.4	46.0	-21.6	EUT Vert, High Ch
807.052	16.4	8.0	1.5	345.0	3.0	0.0	Horz	QP	0.0	24.4	46.0	-21.6	EUT Vert, Mid Ch
806.852	16.4	8.0	2.8	117.0	3.0	0.0	Vert	QP	0.0	24.4	46.0	-21.6	EUT Vert, Mid Ch
810.200	16.3	8.0	2.1	342.0	3.0	0.0	Vert	QP	0.0	24.3	46.0	-21.7	EUT Vert, High Ch
804.447	16.3	8.0	1.5	209.0	3.0	0.0	Horz	QP	0.0	24.3	46.0	-21.7	EUT Vert, Low Ch
803.868	16.3	8.0	1.5	225.0	3.0	0.0	Vert	QP	0.0	24.3	46.0	-21.7	EUT Vert, Low Ch
1207.070	27.1	5.1	1.2	203.0	3.0	0.0	Vert	AV	0.0	32.2	54.0	-21.8	EUT Vert, Low Ch
1207.040	27.1	5.1	3.3	122.0	3.0	0.0	Horz	AV	0.0	32.2	54.0	-21.8	EUT Vert, Low Ch
1213.855	27.0	5.1	1.0	130.0	3.0	0.0	Horz	AV	0.0	32.1	54.0	-21.9	EUT Vert, High Ch
1213.185	27.0	5.1	1.0	172.0	3.0	0.0	Vert	AV	0.0	32.1	54.0	-21.9	EUT Vert, High Ch
1211.565	26.9	5.1	1.0	19.0	3.0	0.0	Vert	AV	0.0	32.0	54.0	-22.0	EUT Vert, Mid Ch
1210.915	26.9	5.1	1.5	353.0	3.0	0.0	Horz	AV	0.0	32.0	54.0	-22.0	EUT Vert, Mid Ch
1205.090	43.5	5.1	1.2	203.0	3.0	0.0	Vert	PK	0.0	48.6	74.0	-25.4	EUT Vert, Low Ch
1207.110	43.3	5.1	3.3	122.0	3.0	0.0	Horz	PK	0.0	48.4	74.0	-25.6	EUT Vert, Low Ch
1211.590	43.0	5.1	1.0	19.0	3.0	0.0	Vert	PK	0.0	48.1	74.0	-25.9	EUT Vert, Mid Ch
1213.675	42.9	5.1	1.0	172.0	3.0	0.0	Vert	PK	0.0	48.0	74.0	-26.0	EUT Vert, High Ch
1210.215	42.4	5.1	1.5	353.0	3.0	0.0	Horz	PK	0.0	47.5	74.0	-26.5	EUT Vert, Mid Ch
1213.810	42.0	5.1	1.0	130.0	3.0	0.0	Horz	PK	0.0	47.1	74.0	-26.9	EUT Vert, High Ch
405.165	16.3	0.5	1.5	143.0	3.0	0.0	Horz	QP	0.0	16.8	46.0	-29.2	EUT Vert, High Ch
403.500	16.3	0.5	1.5	92.0	3.0	0.0	Horz	QP	0.0	16.8	46.0	-29.2	EUT Vert, Mid Ch
403.005	16.3	0.5	1.5	53.0	3.0	0.0	Vert	QP	0.0	16.8	46.0	-29.2	EUT Vert, Mid Ch
401.883	16.3	0.4	2.0	262.0	3.0	0.0	Horz	QP	0.0	16.7	46.0	-29.3	EUT Vert, Low Ch
404.390	16.2	0.5	1.4	324.0	3.0	0.0	Vert	QP	0.0	16.7	46.0	-29.3	EUT Vert, High Ch
401.980	16.2	0.4	1.5	226.0	3.0	0.0	Vert	QP	0.0	16.6	46.0	-29.4	EUT Vert, Low Ch

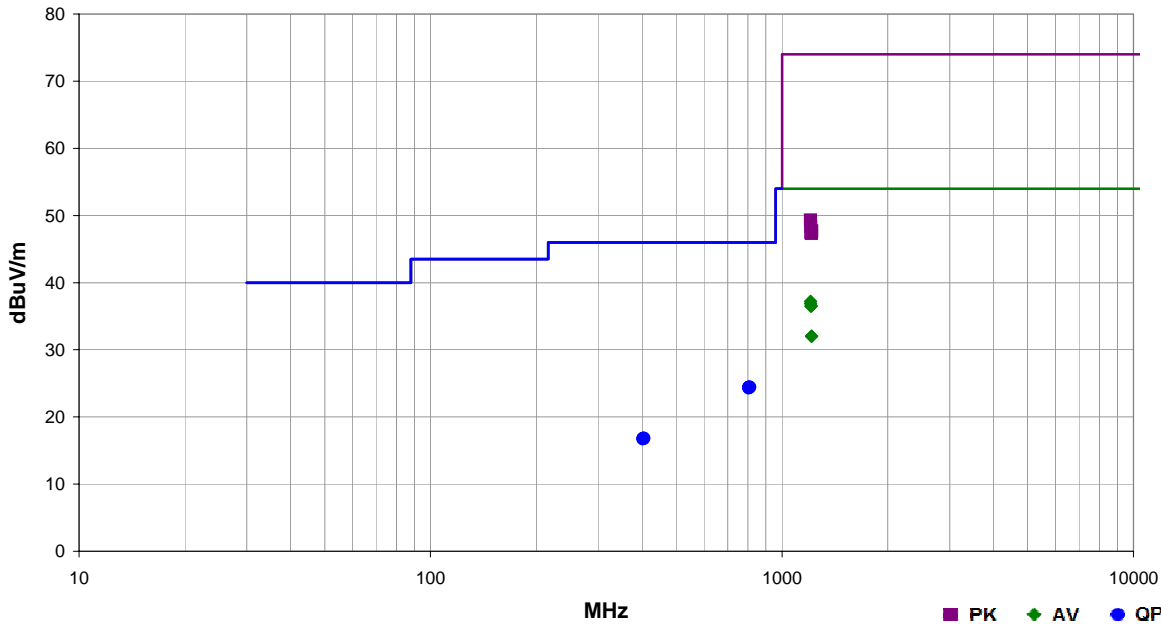


## RECEIVER SPURIOUS EMISSIONS

Work Order:	BSTN0453	Date:	02/11/14	
Project:	None	Temperature:	22 °C	
Job Site:	MN04 & MN05	Humidity:	8.1% RH	
Serial Number:	417251	Barometric Pres.:	1032 mbar	
EUT:	L331			
Configuration:	3			
Customer:	Boston Scientific Corporation			
Attendees:	Niharika Varanasi			
EUT Power:	Battery			
Operating Mode:	Receiving MICS at Low, Mid, High Channel: 402.15 MHz, 403.35 MHz, & 404.85 MHz.			
Deviations:	None			
Comments:	None			

Test Specifications	Class B	Test Method
FCC 15.109:2014		ANSI C63.4:2009

Run #	23	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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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
1207.060	32.1	5.1	1.0	219.0	3.0	0.0	Vert	AV	0.0	37.2	54.0	-16.8	EUT Vert, Low Ch
1206.740	31.8	5.1	4.0	10.0	3.0	0.0	Horz	AV	0.0	36.9	54.0	-17.1	EUT Vert, Low Ch
1210.290	31.4	5.1	1.0	190.0	3.0	0.0	Vert	AV	0.0	36.5	54.0	-17.5	EUT Vert, Mid Ch
1209.645	31.4	5.1	1.0	158.0	3.0	0.0	Horz	AV	0.0	36.5	54.0	-17.5	EUT Vert, Mid Ch
809.950	16.4	8.0	1.5	125.0	3.0	0.0	Horz	QP	0.0	24.4	46.0	-21.6	EUT Vert, High Ch
809.547	16.4	8.0	1.5	198.0	3.0	0.0	Vert	QP	0.0	24.4	46.0	-21.6	EUT Vert, High Ch
807.190	16.4	8.0	4.0	227.0	3.0	0.0	Horz	QP	0.0	24.4	46.0	-21.6	EUT Vert, Mid Ch
806.633	16.4	8.0	1.5	156.0	3.0	0.0	Vert	QP	0.0	24.4	46.0	-21.6	EUT Vert, Mid Ch
804.532	16.4	8.0	1.5	85.0	3.0	0.0	Vert	QP	0.0	24.4	46.0	-21.6	EUT Vert, Low Ch
804.432	16.3	8.0	1.5	34.0	3.0	0.0	Horz	QP	0.0	24.3	46.0	-21.7	EUT Vert, Low Ch
1213.205	26.9	5.1	1.9	203.0	3.0	0.0	Horz	AV	0.0	32.0	54.0	-22.0	EUT Vert, High Ch
1213.100	26.9	5.1	1.0	352.0	3.0	0.0	Vert	AV	0.0	32.0	54.0	-22.0	EUT Vert, High Ch
1206.710	44.2	5.1	1.0	219.0	3.0	0.0	Vert	PK	0.0	49.3	74.0	-24.7	EUT Vert, Low Ch
1207.465	43.2	5.1	4.0	10.0	3.0	0.0	Horz	PK	0.0	48.3	74.0	-25.7	EUT Vert, Low Ch
1214.960	42.6	5.1	1.9	203.0	3.0	0.0	Horz	PK	0.0	47.7	74.0	-26.3	EUT Vert, High Ch
1209.895	42.4	5.1	1.0	158.0	3.0	0.0	Horz	PK	0.0	47.5	74.0	-26.5	EUT Vert, Mid Ch
1210.850	42.3	5.1	1.0	190.0	3.0	0.0	Vert	PK	0.0	47.4	74.0	-26.6	EUT Vert, Mid Ch
1213.705	42.2	5.1	1.0	352.0	3.0	0.0	Vert	PK	0.0	47.3	74.0	-26.7	EUT Vert, High Ch
404.710	16.3	0.5	3.3	316.0	3.0	0.0	Vert	QP	0.0	16.8	46.0	-29.2	EUT Vert, High Ch
404.437	16.3	0.5	1.5	279.0	3.0	0.0	Horz	QP	0.0	16.8	46.0	-29.2	EUT Vert, High Ch
403.767	16.3	0.5	2.6	223.0	3.0	0.0	Horz	QP	0.0	16.8	46.0	-29.2	EUT Vert, Mid Ch
403.550	16.3	0.5	1.5	124.0	3.0	0.0	Vert	QP	0.0	16.8	46.0	-29.2	EUT Vert, Mid Ch
402.633	16.3	0.5	1.5	203.0	3.0	0.0	Horz	QP	0.0	16.8	46.0	-29.2	EUT Vert, Low Ch
402.080	16.3	0.4	1.5	168.0	3.0	0.0	Vert	QP	0.0	16.7	46.0	-29.3	EUT Vert, Low Ch

**EMISSION BANDWIDTH**

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
Near Field Probe Set	ETS	7405	IPO	NCR	0 mo
Spectrum Analyzer	Agilent	E4440A	AFG	5/16/2012	24 mo

**TEST DESCRIPTION**

Per 47 CFR 95.633(e)(3), the emission bandwidth was determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 20 dB down relative to the maximum level of the modulated carrier. A spectrum analyzer using a peak detector with no video filtering was used with a resolution bandwidth equal to approximately 1.0 percent of the emission bandwidth of the EUT.



# EMISSION BANDWIDTH

XMit 2013.08.15  
PsaTx 2013.10.23

EUT: L331	Work Order: BSTN0453
Serial Number: 417249, 417250, 417251	Date: 02/07/14
Customer: Boston Scientific Corporation	Temperature: 23.5°C
Attendees: Niharika Varanasi	Humidity: 8%
Project: None	Barometric Pres.: 1023.3
Tested by: Trevor Buls	Power: Battery
	Job Site: MN05

TEST SPECIFICATIONS	
FCC 95:2014	ANSI/TIA/EIA-603-C-2004
TEST METHOD	

COMMENTS

None

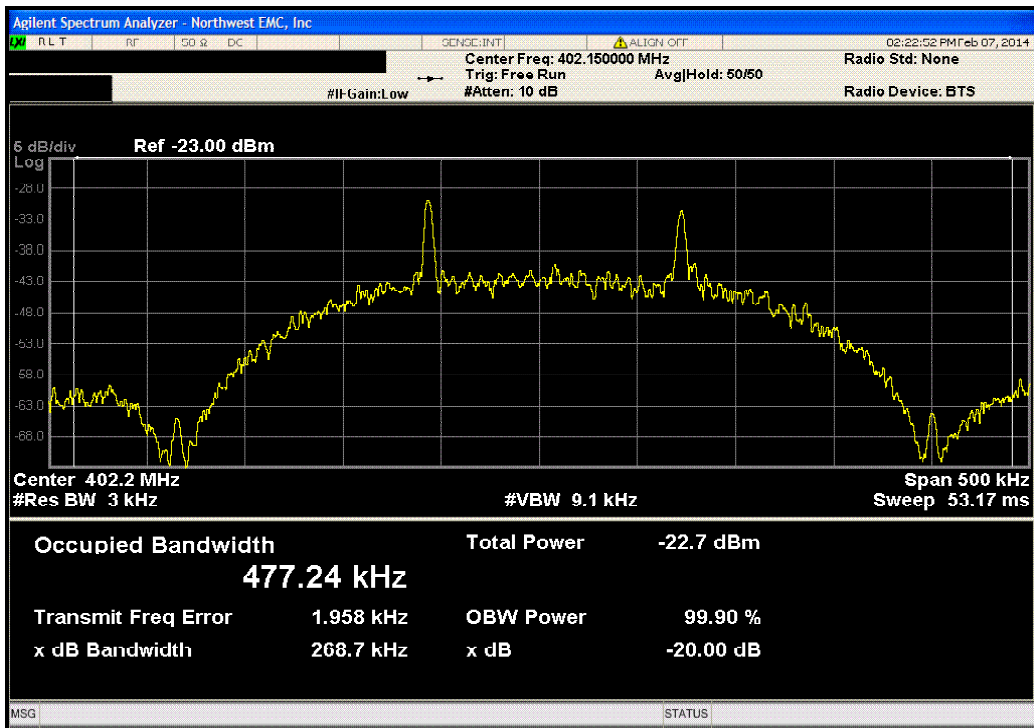
DEVIATIONS FROM TEST STANDARD

None

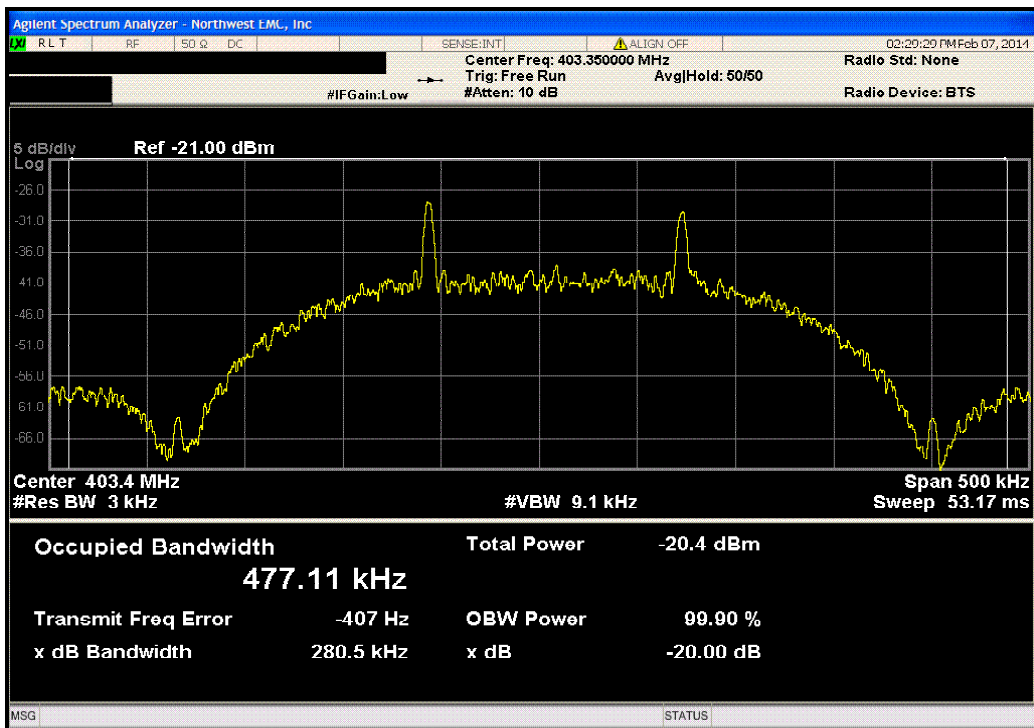
Configuration #	1, 2, 3	Signature <i>Trevor Buls</i>
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		Value	Limit	Result
SN: 417249	Low Channel, 402.15 MHz	268.716 kHz	≤ 300 kHz	Pass
	Mid Channel, 403.35 MHz	280.534 kHz	≤ 300 kHz	Pass
	High Channel, 404.85 MHz	280.945 kHz	≤ 300 kHz	Pass
SN: 417250	Low Channel, 402.15 MHz	287.679 kHz	≤ 300 kHz	Pass
	Mid Channel, 403.35 MHz	275.414 kHz	≤ 300 kHz	Pass
	High Channel, 404.85 MHz	277.047 kHz	≤ 300 kHz	Pass
SN: 417251	Low Channel, 402.15 MHz	265.243 kHz	≤ 300 kHz	Pass
	Mid Channel, 403.35 MHz	277.975 kHz	≤ 300 kHz	Pass
	High Channel, 404.85 MHz	284.928 kHz	≤ 300 kHz	Pass

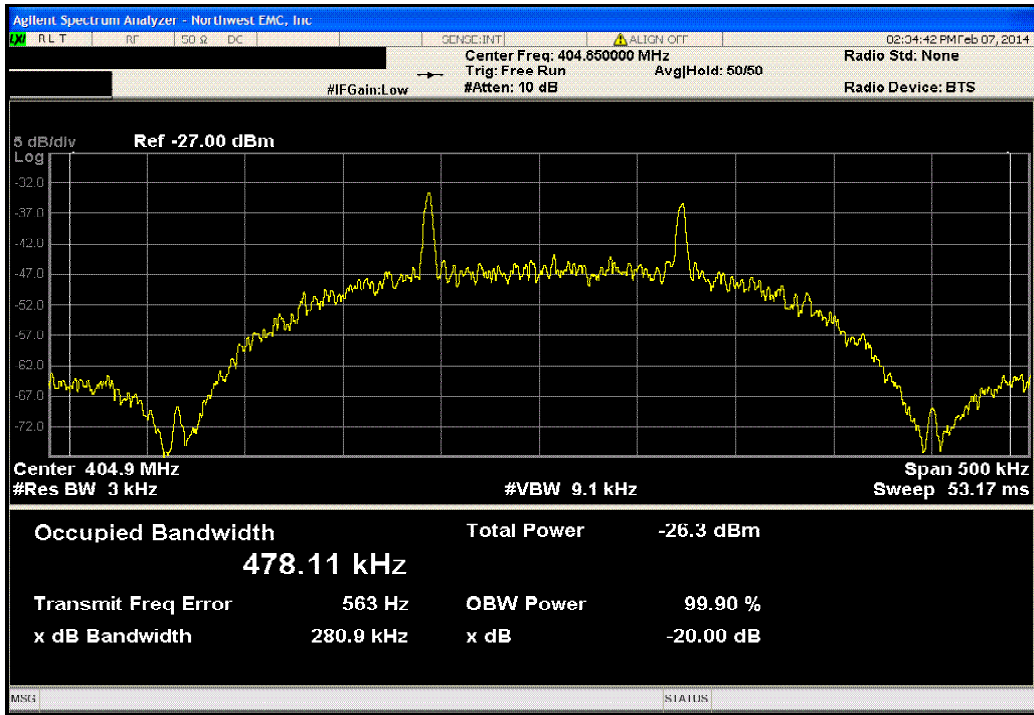
SN: 417249, Low Channel, 402.15 MHz			
	Value	Limit	Result
	268.716 kHz	≤ 300 kHz	Pass



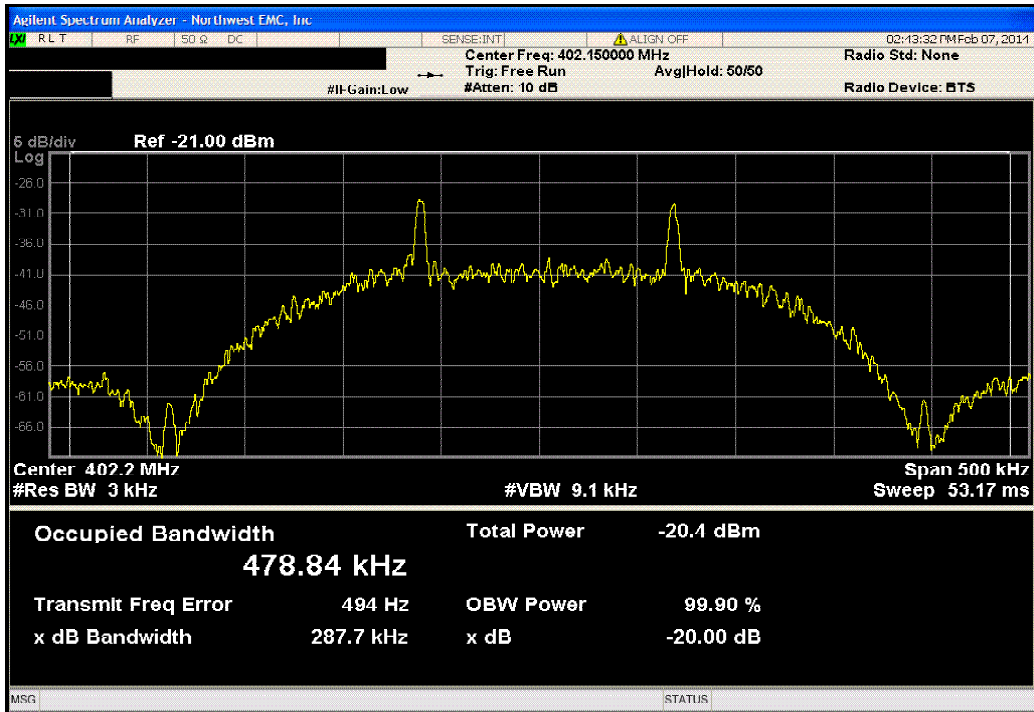
SN: 417249, Mid Channel, 403.35 MHz			
	Value	Limit	Result
	280.534 kHz	≤ 300 kHz	Pass



SN: 417249, High Channel, 404.85 MHz		
	<b>Value</b>	<b>Limit</b>
	280.945 kHz	≤ 300 kHz
		<b>Result</b>
		Pass

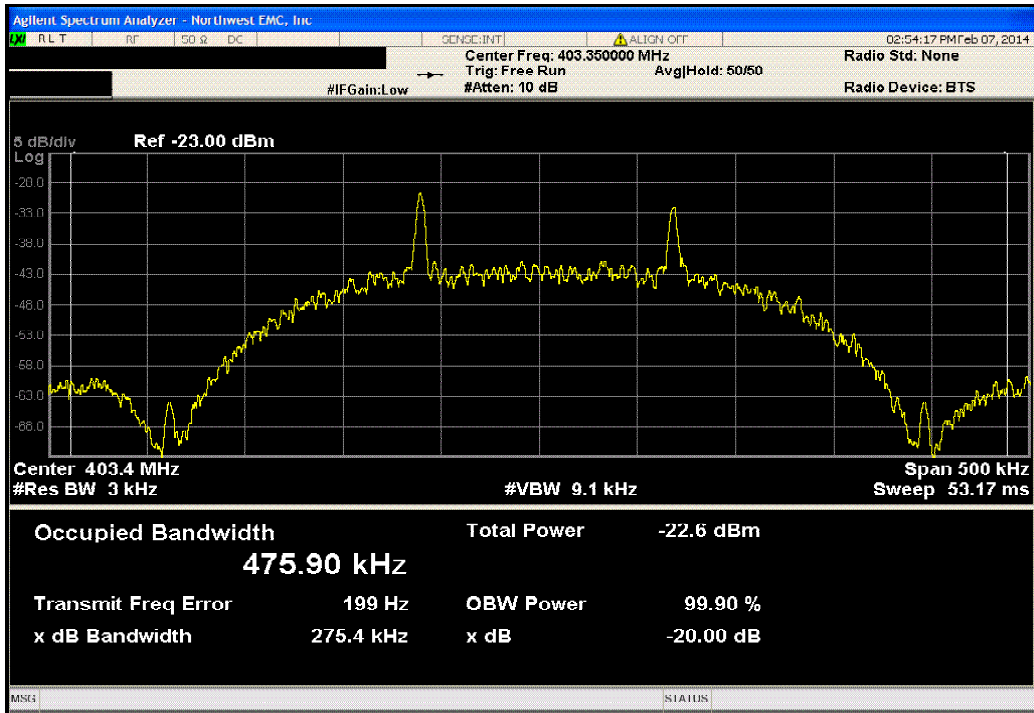


SN: 417250, Low Channel, 402.15 MHz		
	<b>Value</b>	<b>Limit</b>
	287.679 kHz	≤ 300 kHz
		<b>Result</b>
		Pass

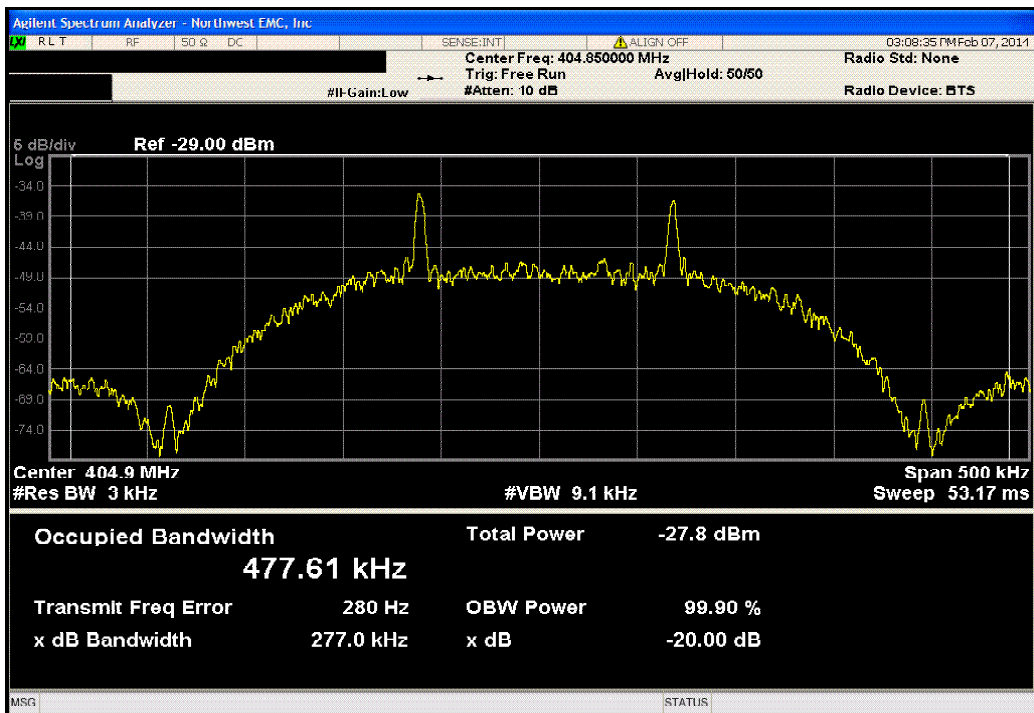




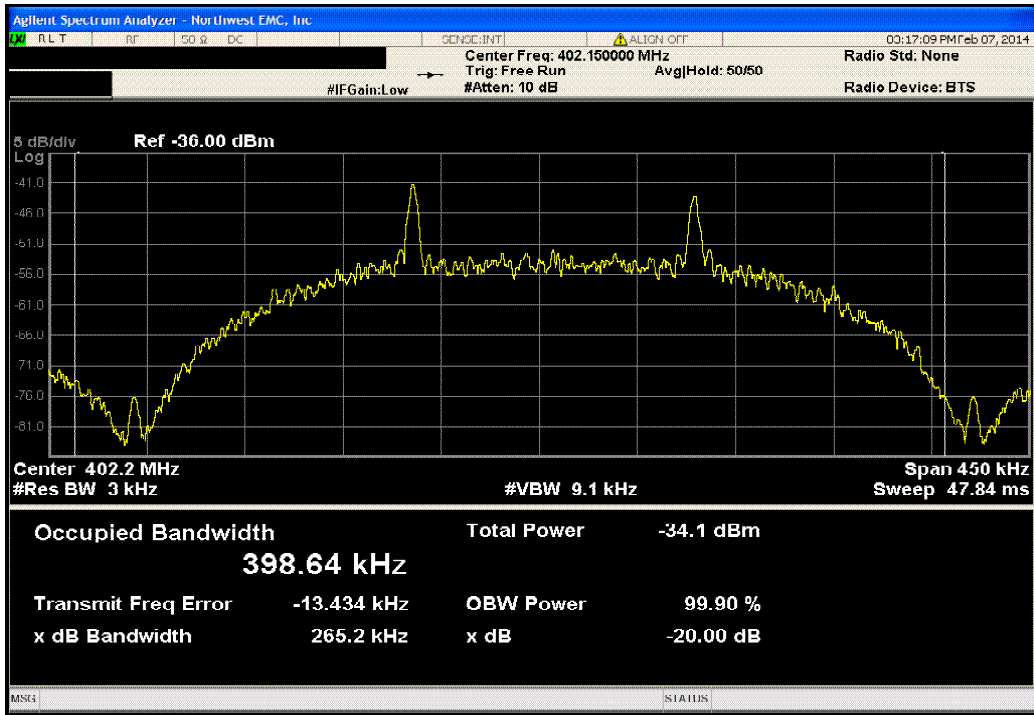
SN: 417250, Mid Channel, 403.35 MHz			
	<b>Value</b>	<b>Limit</b>	<b>Result</b>
	275.414 kHz	≤ 300 kHz	Pass



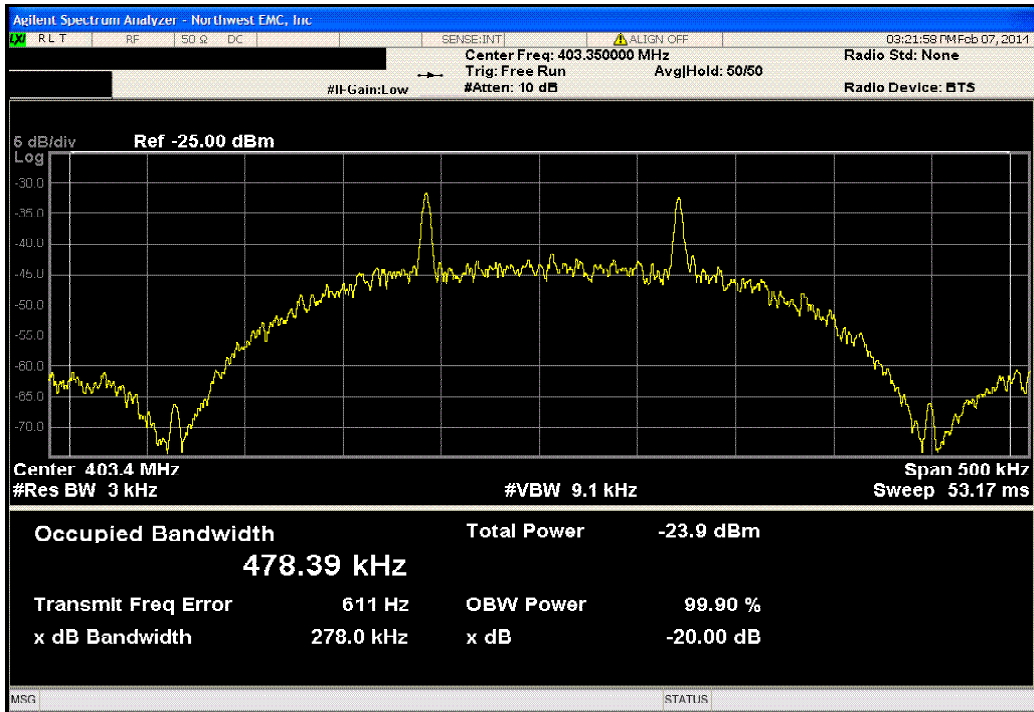
SN: 417250, High Channel, 404.85 MHz			
	<b>Value</b>	<b>Limit</b>	<b>Result</b>
	277.047 kHz	≤ 300 kHz	Pass



SN: 417251, Low Channel, 402.15 MHz			
	<b>Value</b>	<b>Limit</b>	<b>Result</b>
	265.243 kHz	≤ 300 kHz	Pass

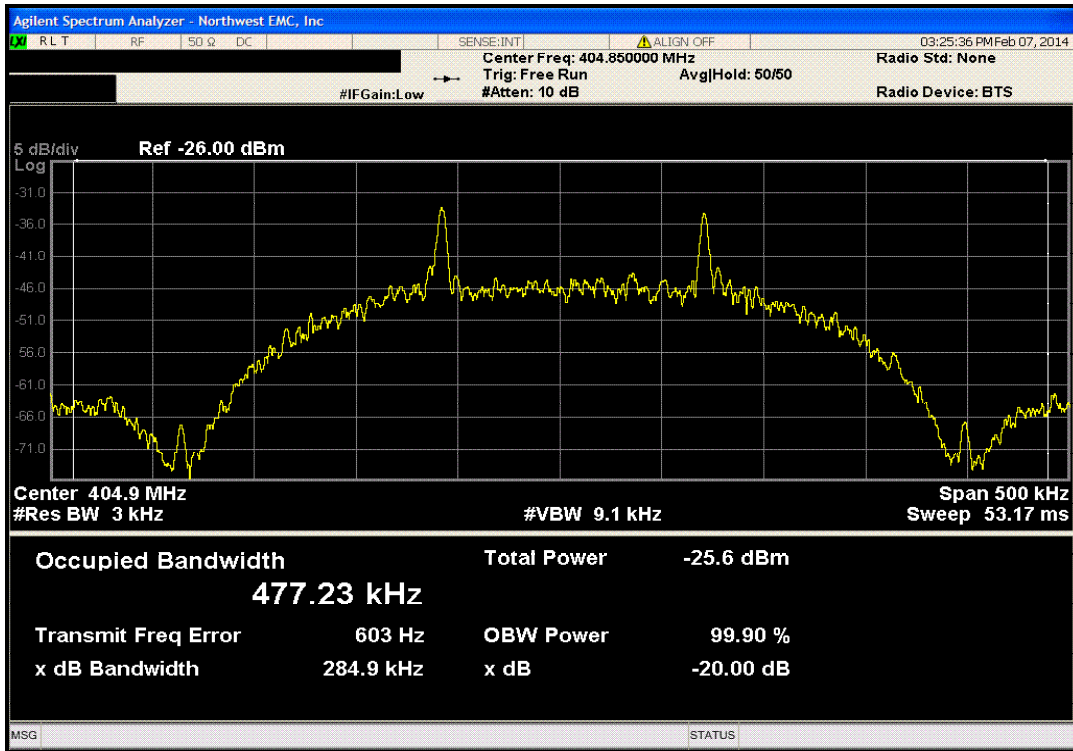


SN: 417251, Mid Channel, 403.35 MHz			
	<b>Value</b>	<b>Limit</b>	<b>Result</b>
	277.975 kHz	≤ 300 kHz	Pass



SN: 417251, High Channel, 404.85 MHz

Value	Limit	Result
284.928 kHz	≤ 300 kHz	Pass



**EMISSIONS MASK**

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
Near Field Probe Set	ETS	7405	IPO	NCR	0 mo
Spectrum Analyzer	Agilent	E4440A	AFG	5/16/2012	24 mo

**TEST DESCRIPTION**

Per 47 CFR 95.635(d)(4) the emission mask was measured. Emissions more than 150 kHz away from the center frequency must be attenuated below the transmitter output power by at least 20 dB. This was evaluated by the Occupied Bandwidth measurement according to 47 CFR 95.633(e)(1). In addition, emissions 250 kHz or less above and below the MICS band (402-405 MHz) must be attenuated below the maximum permitted output power by at least 20 dB.

A spectrum analyzer was used to measure the emission mask. A spectrum analyzer using a peak detector with no video filtering was used with a resolution bandwidth equal to approximately 1.0 percent of the emission bandwidth of the EUT. However, various plots were made using different frequency spans and resolution bandwidths in an attempt to not only satisfy the measurement criteria, but to also show that all emissions outside of the occupied band are greatly attenuated.



**EMISSIONS MASK**

XMit 2013.08.15  
PsaTx 2013.10.23

EUT: L331	Work Order: BSTN0453
Serial Number: 417249, 417250, 417251	Date: 02/07/14
Customer: Boston Scientific Corporation	Temperature: 23.5°C
Attendees: Niharika Varanasi	Humidity: 8%
Project: None	Barometric Pres.: 1023.3
Tested by: Trevor Buls	Power: Battery
	Job Site: MN05

<b>TEST SPECIFICATIONS</b>	
FCC 95:2014	ANSI/TIA/EIA-603-C-2004

**COMMENTS**

None

**DEVIATIONS FROM TEST STANDARD**

None

Configuration #	1, 2, 3	Signature <i>Trevor Buls</i>
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		Value	Limit	Result
SN: 417249	Low Channel, 402.15 MHz	-24.65 dBc	≤ -20 dBc	Pass
	High Channel, 404.85 MHz	-20.81 dBc	≤ -20 dBc	Pass
SN: 417250	Low Channel, 402.15 MHz	-24.46 dBc	≤ -20 dBc	Pass
	High Channel, 404.85 MHz	-22.38 dBc	≤ -20 dBc	Pass
SN: 417251	Low Channel, 402.15 MHz	-24.33 dBc	≤ -20 dBc	Pass
	High Channel, 404.85 MHz	-20.76 dBc	≤ -20 dBc	Pass

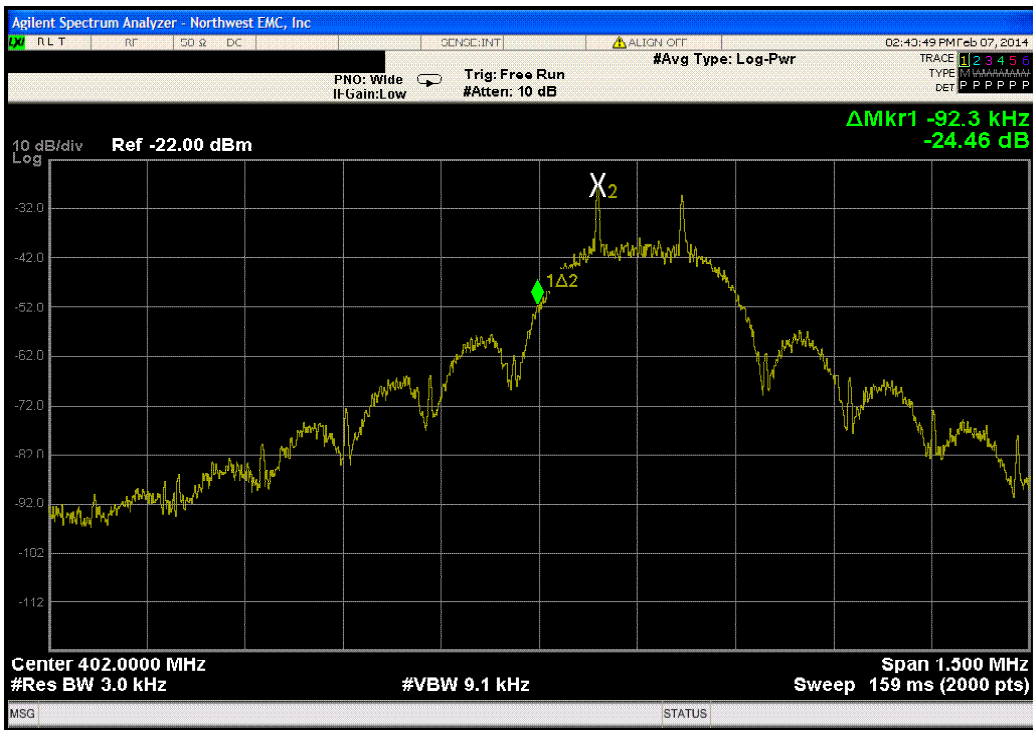
SN: 417249, Low Channel, 402.15 MHz			
	<b>Value</b>	<b>Limit</b>	<b>Result</b>
	-24.65 dBc	≤ -20 dBc	Pass



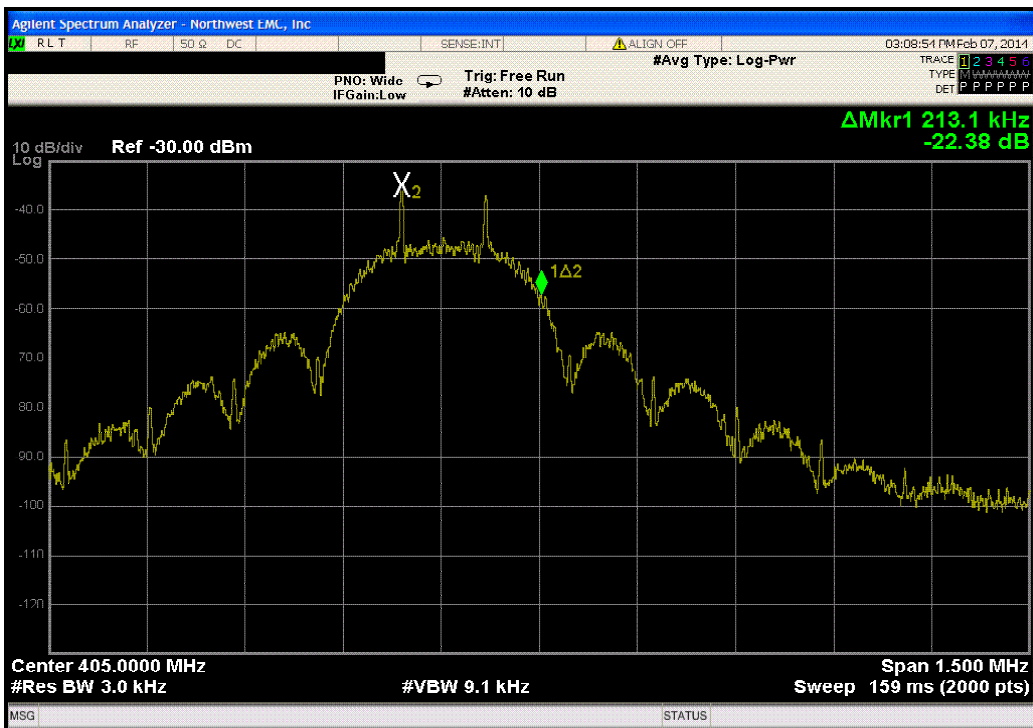
SN: 417249, High Channel, 404.85 MHz			
	<b>Value</b>	<b>Limit</b>	<b>Result</b>
	-20.81 dBc	≤ -20 dBc	Pass



SN: 417250, Low Channel, 402.15 MHz						
				<b>Value</b>	<b>Limit</b>	<b>Result</b>
				-24.46 dBc	≤ -20 dBc	Pass



SN: 417250, High Channel, 404.85 MHz						
				<b>Value</b>	<b>Limit</b>	<b>Result</b>
				-22.38 dBc	≤ -20 dBc	Pass



SN: 417251, Low Channel, 402.15 MHz			
	Value	Limit	Result
	-24.33 dBc	≤ -20 dBc	Pass



SN: 417251, High Channel, 404.85 MHz			
	Value	Limit	Result
	-20.76 dBc	≤ -20 dBc	Pass





## FREQUENCY STABILITY

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
Temp./Humidity Chamber	Cincinnati Sub Zero (CSZ)	ZPH-32-3.5-SCT/AC	TBF	NCR	0
Humidity Temperature Meter	Omega Engineering, Inc.	HH31	DUB	10/25/2011	36
DC Power Supply	EZ Digital Co	GP-4303D	TPY	NCR	0
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Attenuator, 20 dB 'SMA'	Fairview Microwave	SA18S5W-20	RFX	8/16/2013	12
Multimeter	Fluke	114	MMU	7/8/2011	36
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AFG	5/16/2012	24

### TEST DESCRIPTION

#### Variation of Supply Voltage

The primary supply voltage was varied from 3.2VDC to 1.65VDC, nominal voltage is 2.7VDC. A DC lab supply was used to vary the supply voltage.

#### Variation of Ambient Temperature

Using a temperature chamber, the transmit frequency was recorded at the extremes of the specified temperature range (+25°, 37°C and +45° C).

The Frequency Stability was measured using a direct connection between the unit and a spectrum analyzer. The spectrum analyzer is configured with a precision frequency reference that exceeds the stability requirement of the transmitter. The EUT was placed inside a temperature / humidity chamber. A low-loss coaxial cable connected the unit to the spectrum analyzer outside of the chamber.



FREQUENCY STABILITY

EUT: Hybrid	Work Order: BSTN0453
Serial Number: 44817004, 44817013, 44817017	Date: 02/20/14
Customer: Boston Scientific Corporation	Temperature: 26.2 °C
Attendees: None	Humidity: 18%
Project: None	Barometric Pres.: 1001
Tested by: Johnny Candelas	Power: Battery
	Job Site: MN08
TEST SPECIFICATIONS	
FCC 95:2014	ANSI/TIA/EIA-603-C-2004

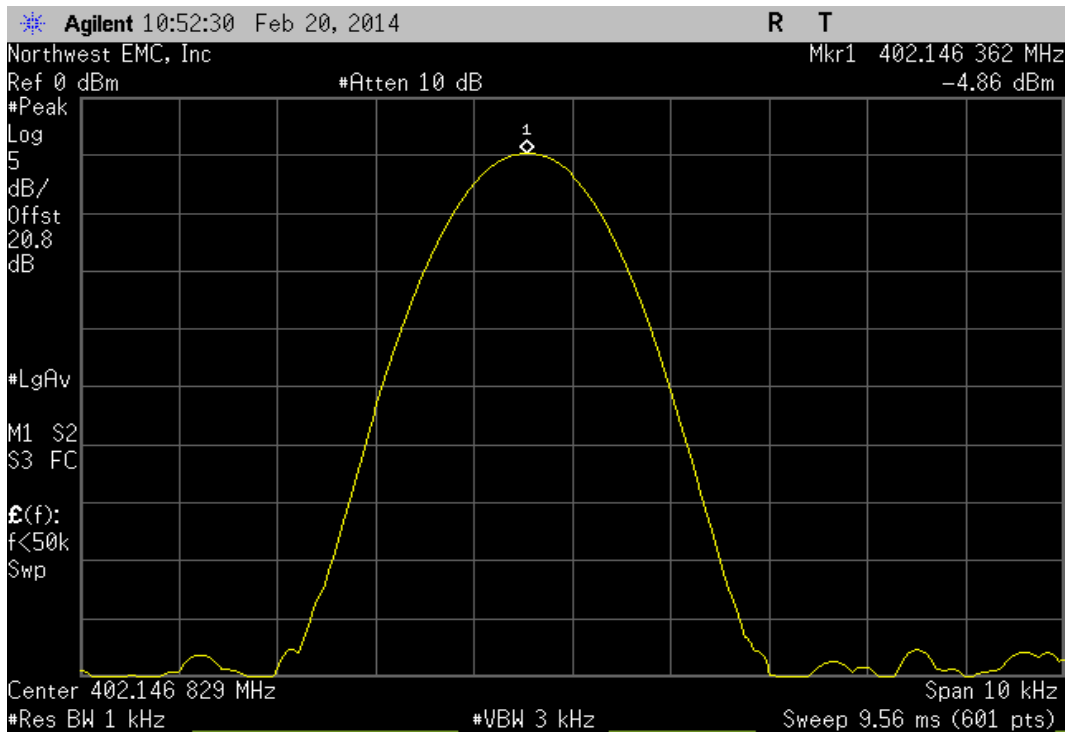
COMMENTS  
None

DEVIATIONS FROM TEST STANDARD  
None

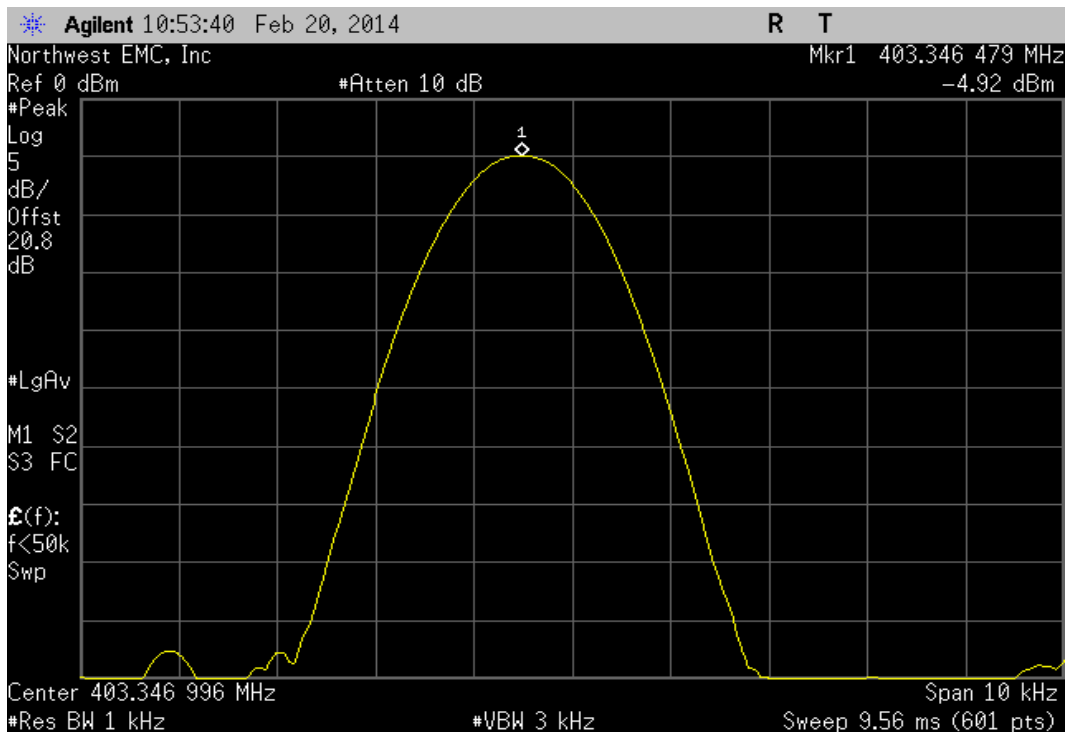
Configuration #	10, 11, 12	Signature
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	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result
SN: 44817004					
Nominal Voltage 2.7VDC					
Low Channel, 402.15 MHz	402.146362	402.15	9.1	100	Pass
Mid Channel, 403.35 MHz	403.346479	403.35	8.7	100	Pass
High Channel, 404.85 MHz	404.846212	404.85	9.4	100	Pass
Extreme Voltage 3.2VDC					
Low Channel, 402.15 MHz	402.146362	402.15	9.1	100	Pass
Mid Channel, 403.35 MHz	403.346446	403.35	8.8	100	Pass
High Channel, 404.85 MHz	404.846245	404.85	9.3	100	Pass
Extreme Voltage 1.65VDC					
Low Channel, 402.15 MHz	402.146362	402.15	9.1	100	Pass
Mid Channel, 403.35 MHz	403.346462	403.35	8.8	100	Pass
High Channel, 404.85 MHz	404.846247	404.85	9.3	100	Pass
Extreme Temperature +45°C					
Low Channel, 402.15 MHz	402.145428	402.15	11.4	100	Pass
Mid Channel, 403.35 MHz	403.34556	403.35	11	100	Pass
High Channel, 404.85 MHz	404.845293	404.85	11.6	100	Pass
Extreme Temperature +25°C					
Low Channel, 402.15 MHz	402.147147	402.15	7.1	100	Pass
Mid Channel, 403.35 MHz	403.347266	403.35	6.8	100	Pass
High Channel, 404.85 MHz	404.847014	404.85	7.4	100	Pass
SN: 44817013					
Nominal Voltage 2.7VDC					
Low Channel, 402.15 MHz	402.152456	402.15	6.1	100	Pass
Mid Channel, 403.35 MHz	403.35259	403.35	6.4	100	Pass
High Channel, 404.85 MHz	404.852376	404.85	5.9	100	Pass
Extreme Voltage 3.2VDC					
Low Channel, 402.15 MHz	402.152439	402.15	6.1	100	Pass
Mid Channel, 403.35 MHz	403.352591	403.35	6.4	100	Pass
High Channel, 404.85 MHz	404.85236	404.85	5.8	100	Pass
Extreme Voltage 1.65VDC					
Low Channel, 402.15 MHz	402.152422	402.15	6	100	Pass
Mid Channel, 403.35 MHz	403.352592	403.35	6.4	100	Pass
High Channel, 404.85 MHz	404.852359	404.85	5.8	100	Pass
Extreme Temperature +45°C					
Low Channel, 402.15 MHz	402.15122	402.15	3	100	Pass
Mid Channel, 403.35 MHz	403.351371	403.35	3.4	100	Pass
High Channel, 404.85 MHz	404.851139	404.85	2.8	100	Pass
Extreme Temperature +25°C					
Low Channel, 402.15 MHz	402.15349	402.15	8.7	100	Pass
Mid Channel, 403.35 MHz	403.353626	403.35	9	100	Pass
High Channel, 404.85 MHz	404.853444	404.85	8.5	100	Pass
SN: 44817017					
Nominal Voltage 2.7VDC					
Low Channel, 402.15 MHz	402.151704	402.15	4.2	100	Pass
Mid Channel, 403.35 MHz	403.351856	403.35	4.6	100	Pass
High Channel, 404.85 MHz	404.851624	404.85	4	100	Pass
Extreme Voltage 3.2VDC					
Low Channel, 402.15 MHz	402.151738	402.15	4.3	100	Pass
Mid Channel, 403.35 MHz	403.351889	403.35	4.7	100	Pass
High Channel, 404.85 MHz	404.85164	404.85	4.1	100	Pass
Extreme Voltage 1.65VDC					
Low Channel, 402.15 MHz	402.151721	402.15	4.3	100	Pass
Mid Channel, 403.35 MHz	403.351839	403.35	4.6	100	Pass
High Channel, 404.85 MHz	404.851639	404.85	4.1	100	Pass
Extreme Temperature +45°C					
Low Channel, 402.15 MHz	402.150553	402.15	1.4	100	Pass
Mid Channel, 403.35 MHz	403.350704	403.35	1.8	100	Pass
High Channel, 404.85 MHz	404.850454	404.85	1.1	100	Pass
Extreme Temperature +25°C					
Low Channel, 402.15 MHz	402.152722	402.15	6.8	100	Pass
Mid Channel, 403.35 MHz	403.352875	403.35	7.1	100	Pass
High Channel, 404.85 MHz	404.85266	404.85	6.6	100	Pass

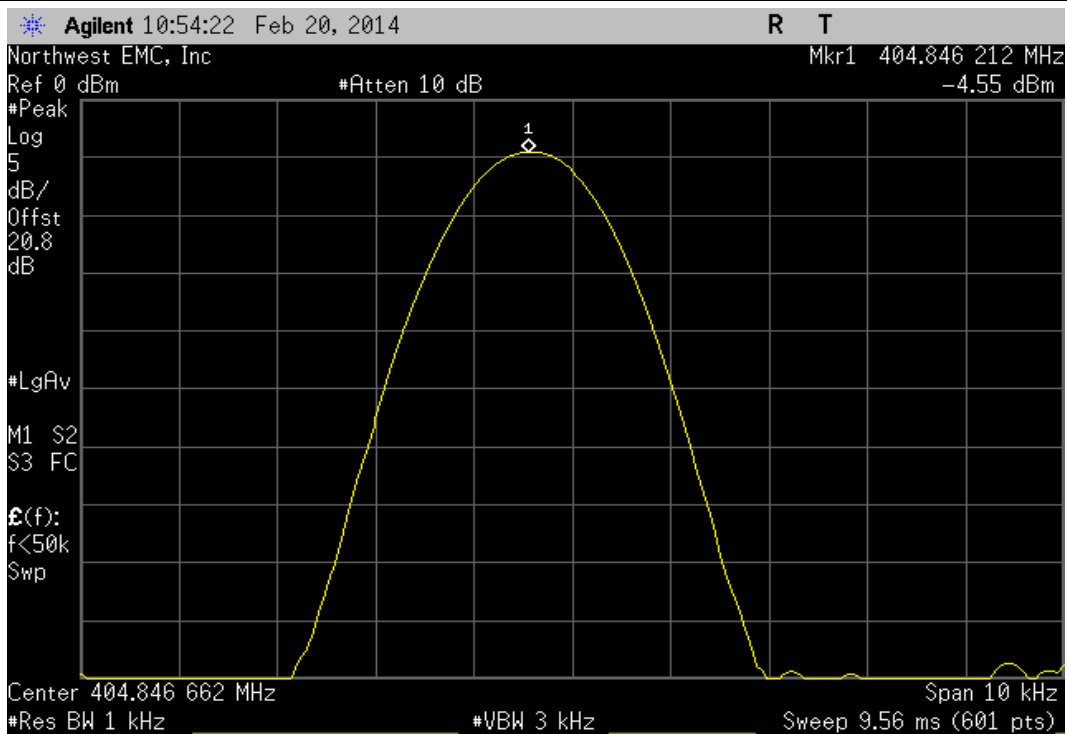
SN: 44817004, Nominal Voltage 2.7VDC, Low Channel, 402.15 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	402.146362	402.15	9.1	100	Pass	



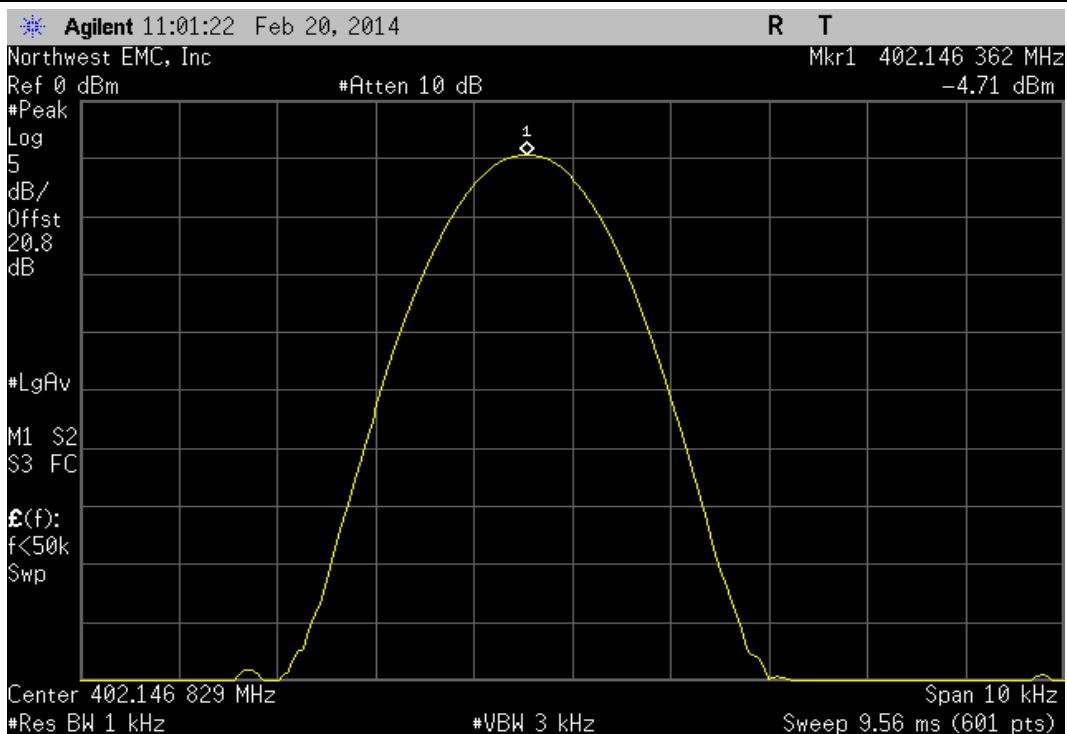
SN: 44817004, Nominal Voltage 2.7VDC, Mid Channel, 403.35 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	403.346479	403.35	8.7	100	Pass	



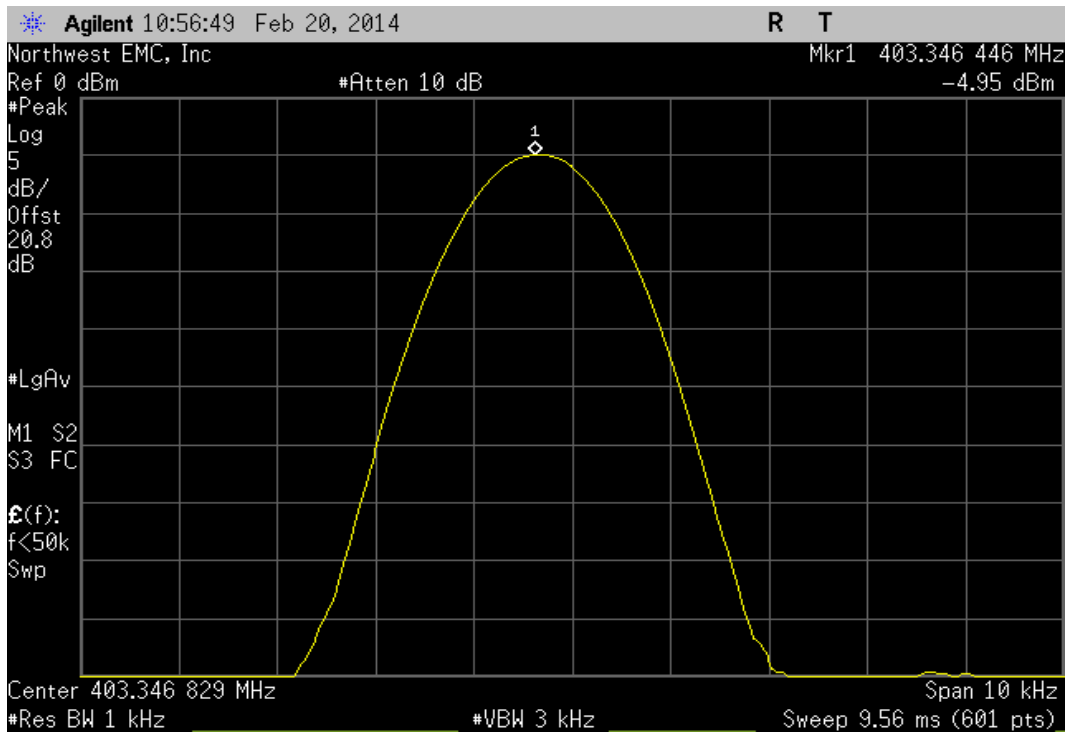
SN: 44817004, Nominal Voltage 2.7VDC, High Channel, 404.85 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	404.846212	404.85	9.4	100	Pass	



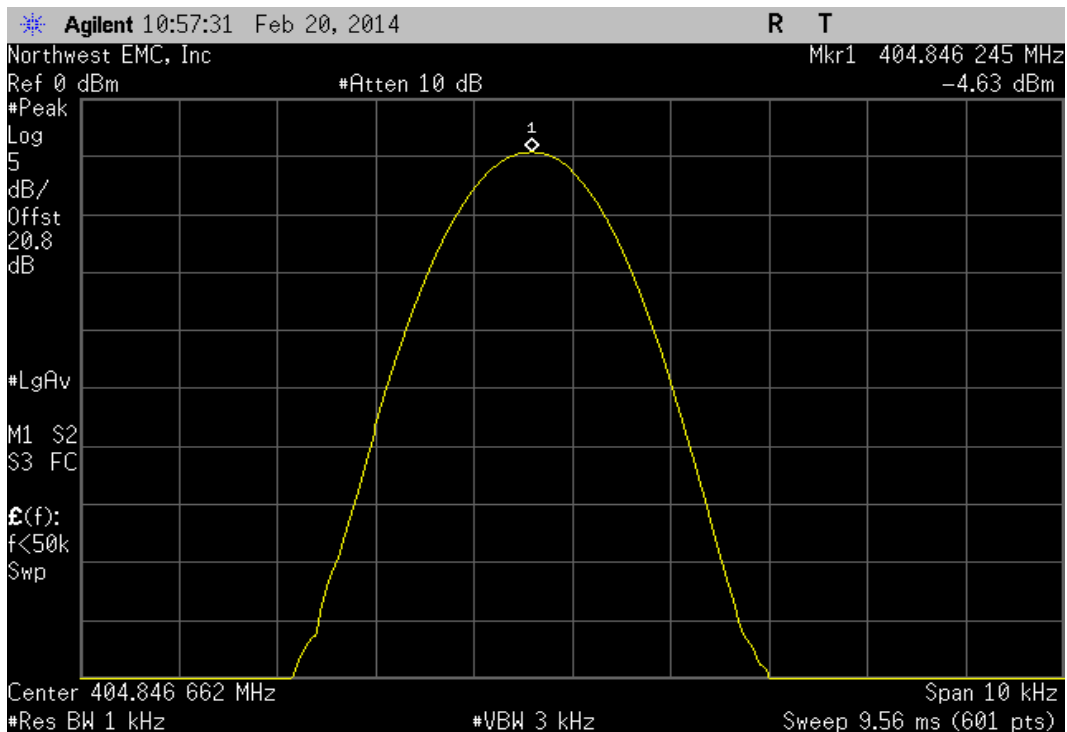
SN: 44817004, Extreme Voltage 3.2VDC, Low Channel, 402.15 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	402.146362	402.15	9.1	100	Pass	



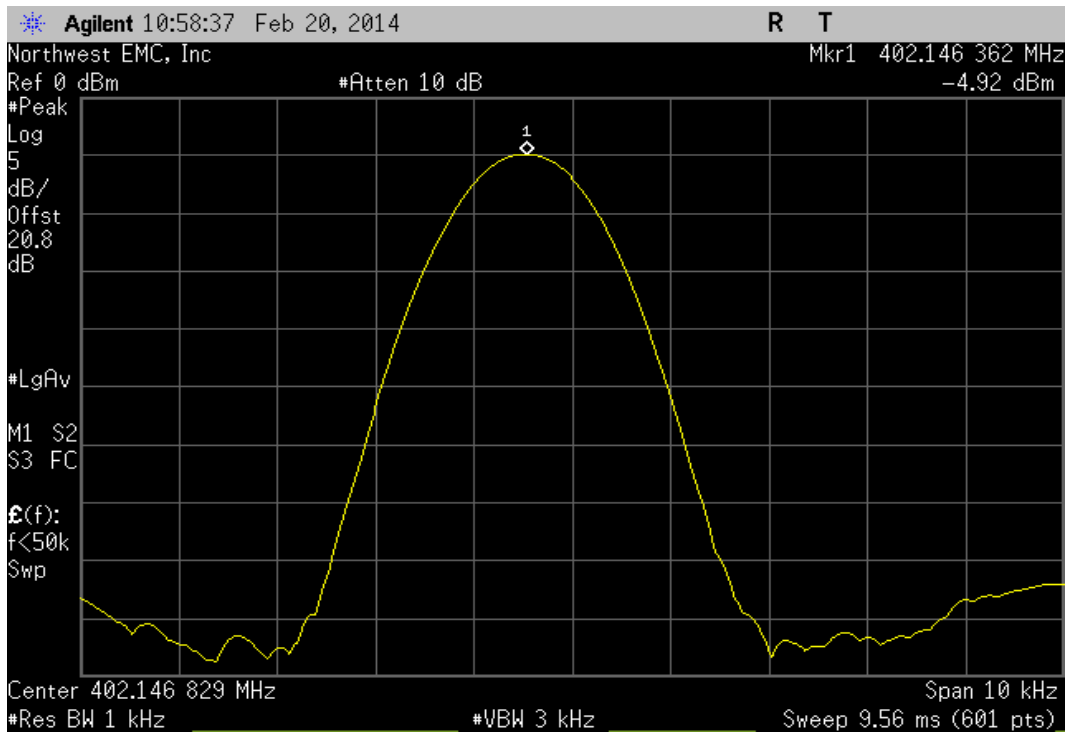
SN: 44817004, Extreme Voltage 3.2VDC, Mid Channel, 403.35 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	403.346446	403.35	8.8	100	Pass	



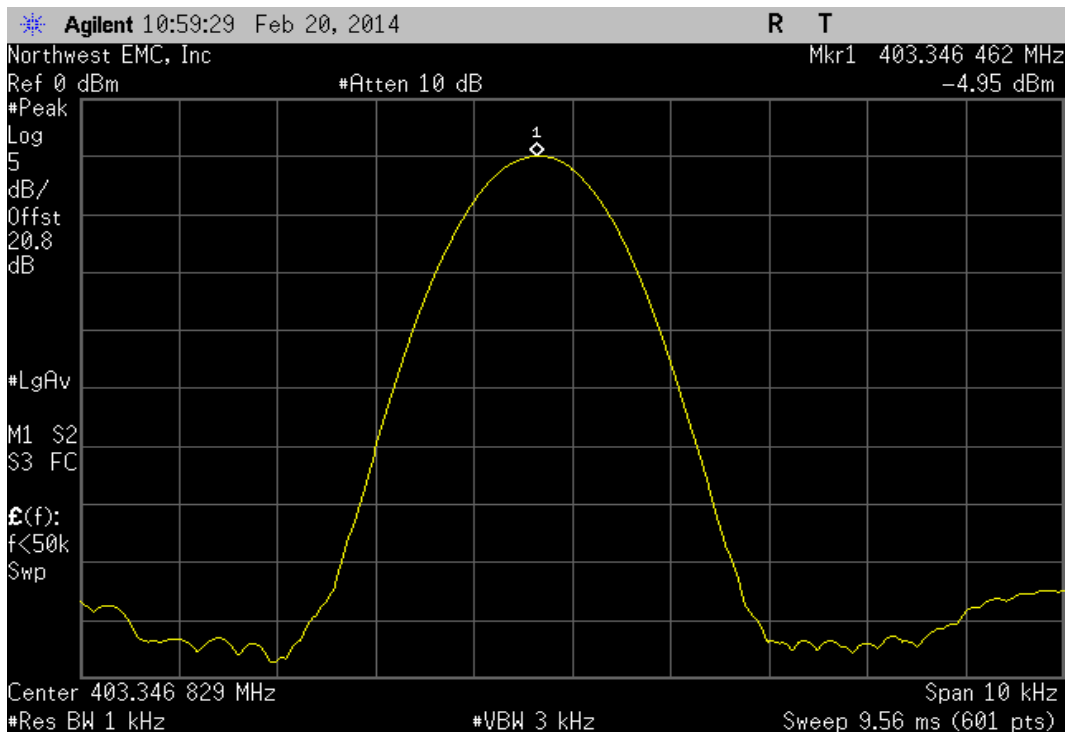
SN: 44817004, Extreme Voltage 3.2VDC, High Channel, 404.85 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	404.846245	404.85	9.3	100	Pass	



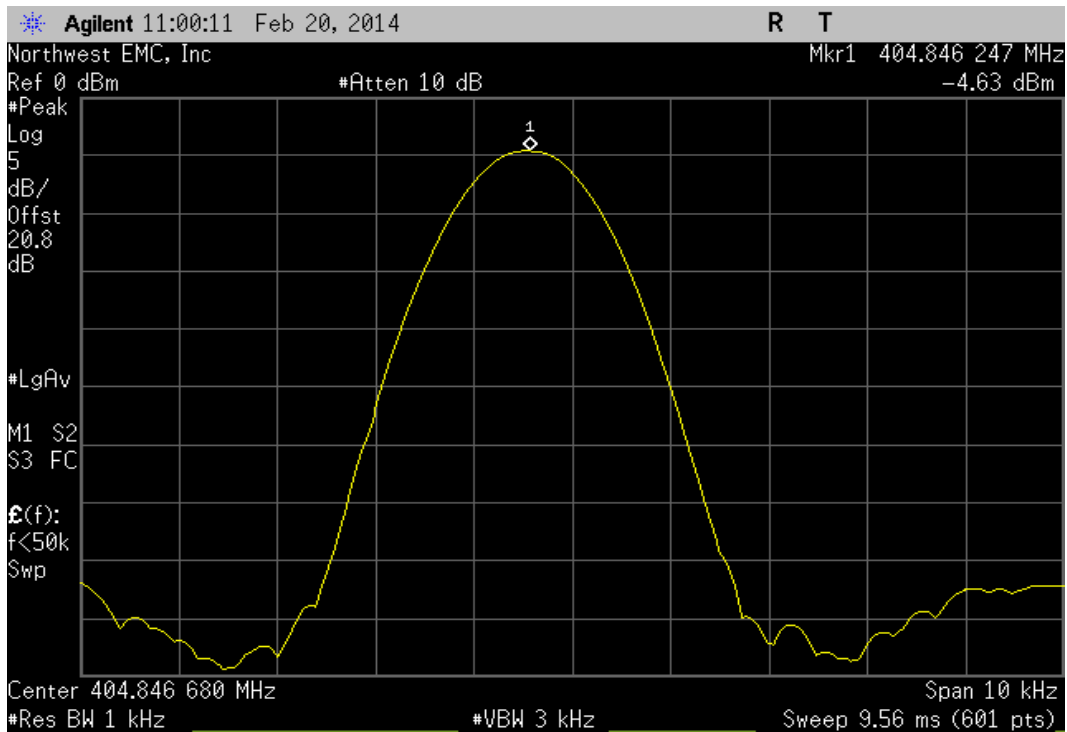
SN: 44817004, Extreme Voltage 1.65VDC, Low Channel, 402.15 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	402.146362	402.15	9.1	100	Pass	



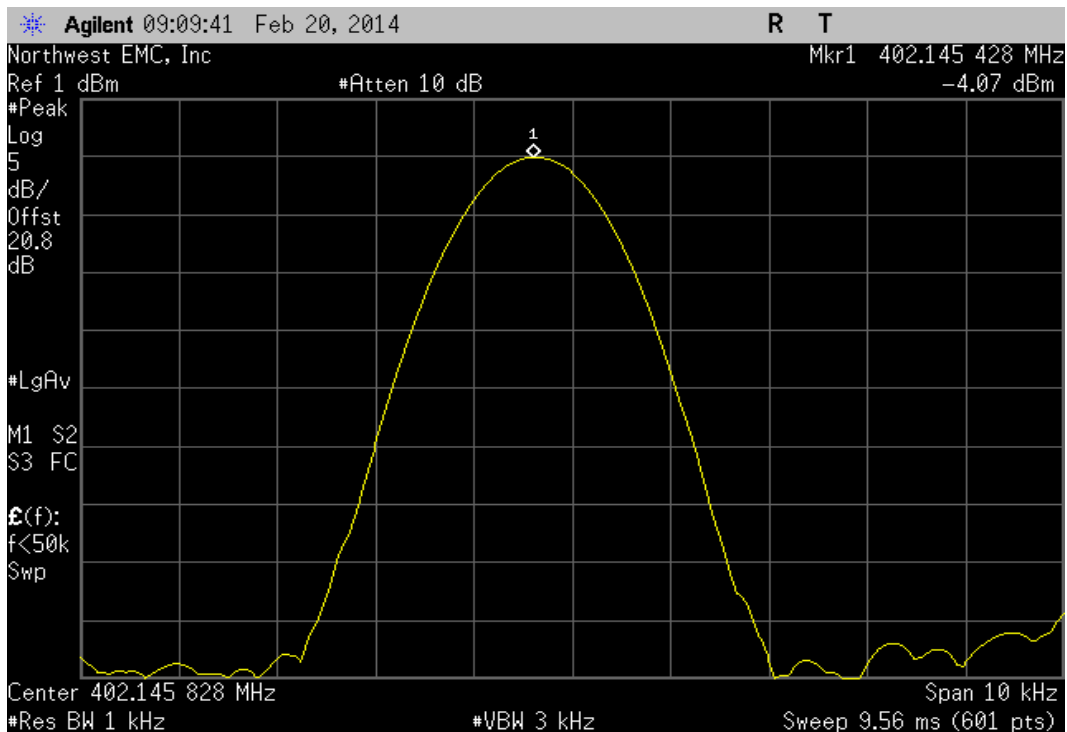
SN: 44817004, Extreme Voltage 1.65VDC, Mid Channel, 403.35 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	403.346462	403.35	8.8	100	Pass	



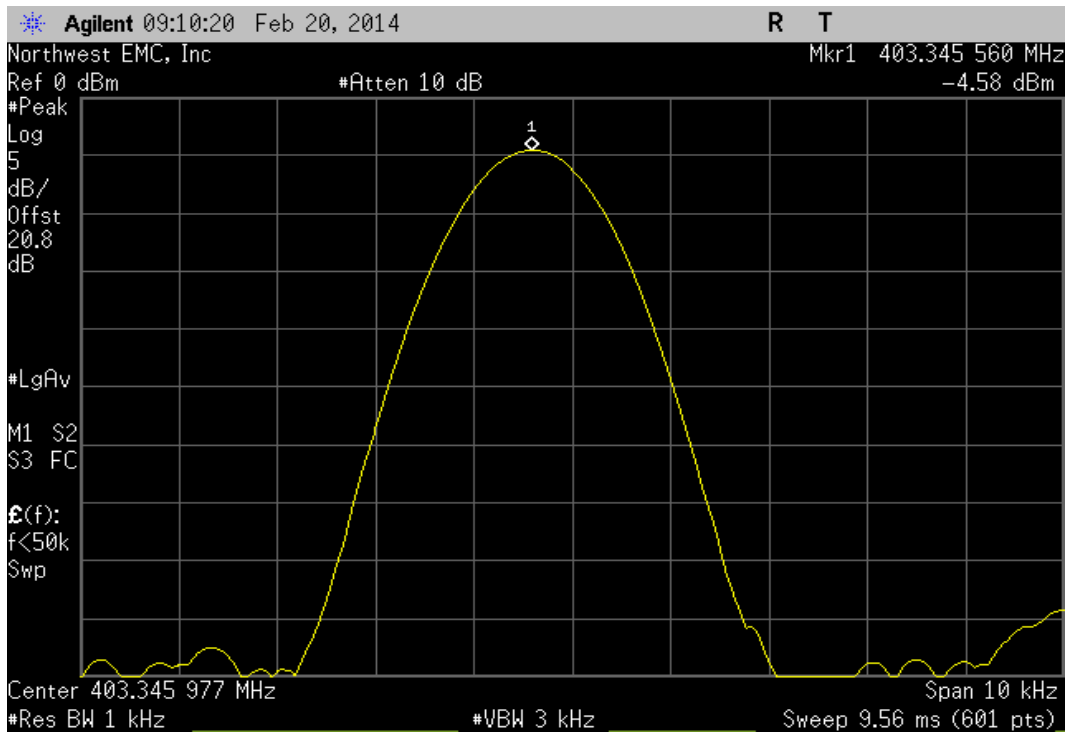
SN: 44817004, Extreme Voltage 1.65VDC, High Channel, 404.85 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	404.846247	404.85	9.3	100	Pass	



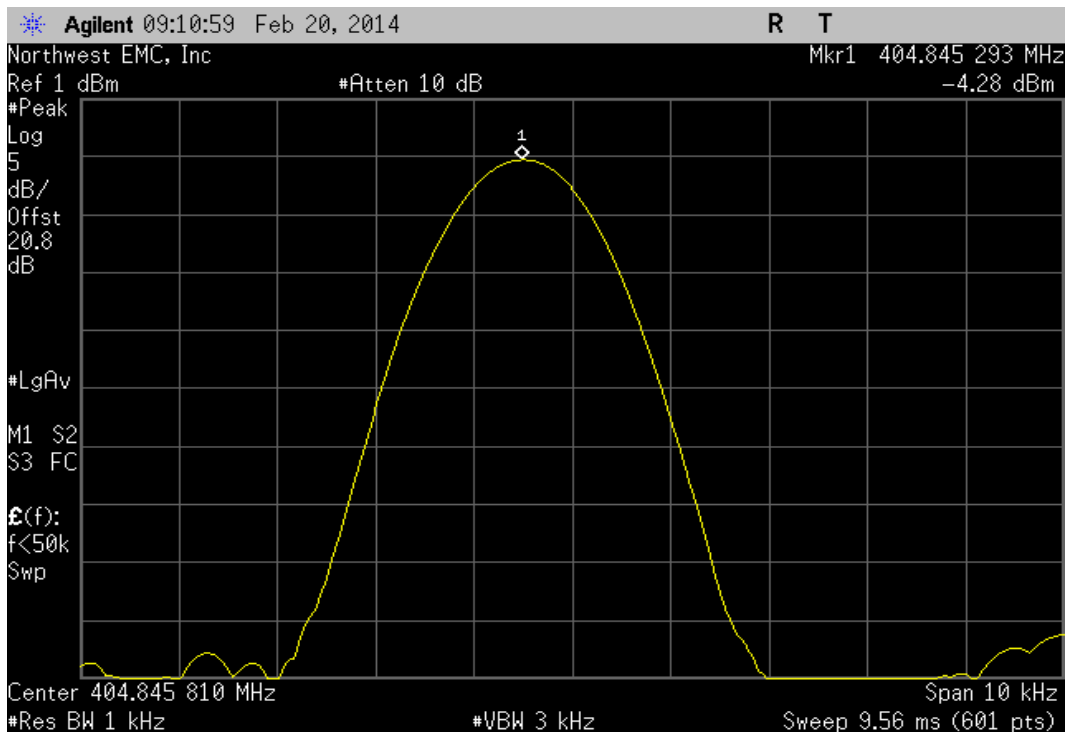
SN: 44817004, Extreme Temperature +45°C, Low Channel, 402.15 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	402.145428	402.15	11.4	100	Pass	



SN: 44817004, Extreme Temperature +45°C, Mid Channel, 403.35 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	403.34556	403.35	11	100	Pass	

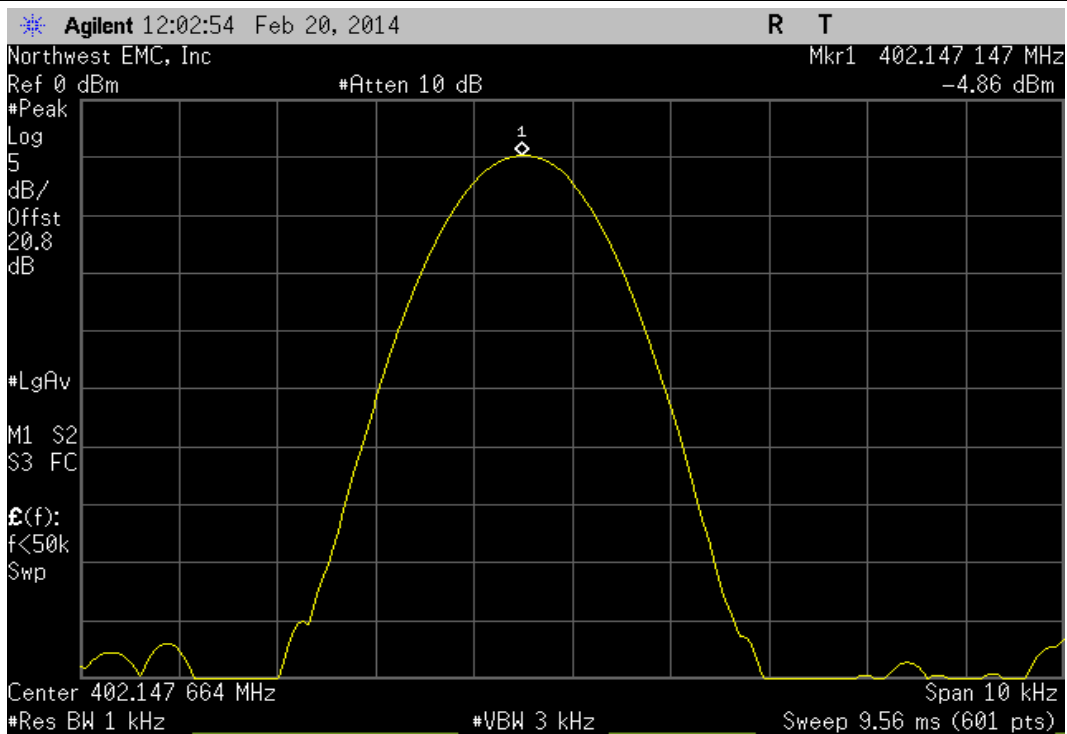


SN: 44817004, Extreme Temperature +45°C, High Channel, 404.85 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	404.845293	404.85	11.6	100	Pass	

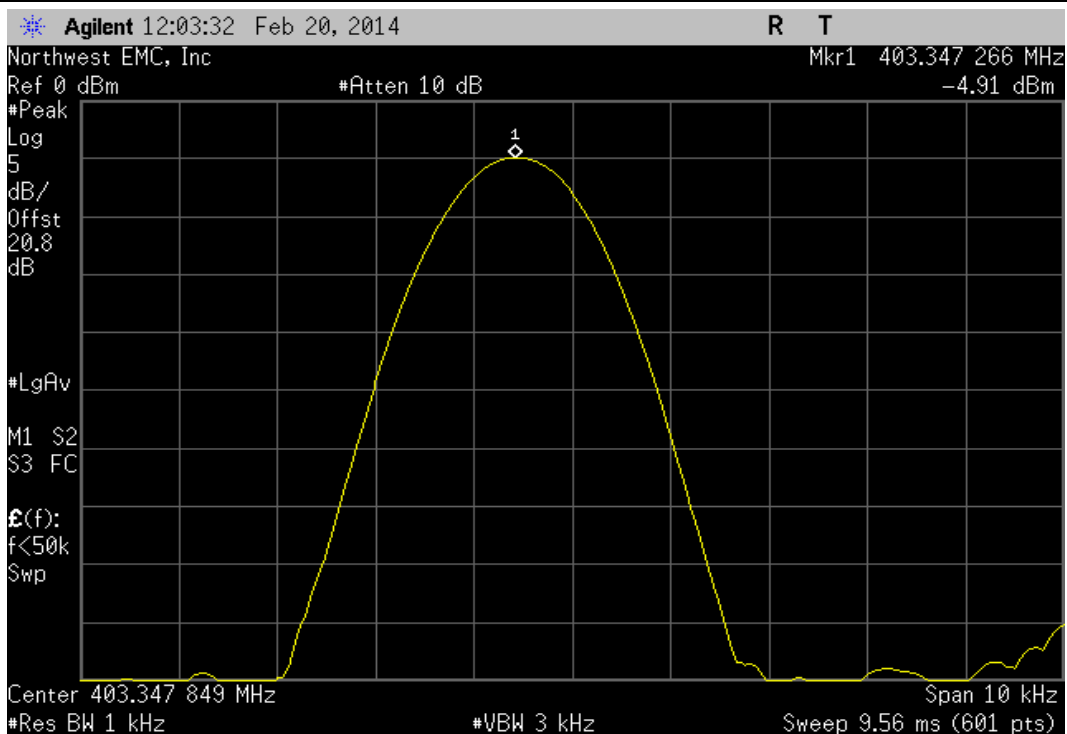




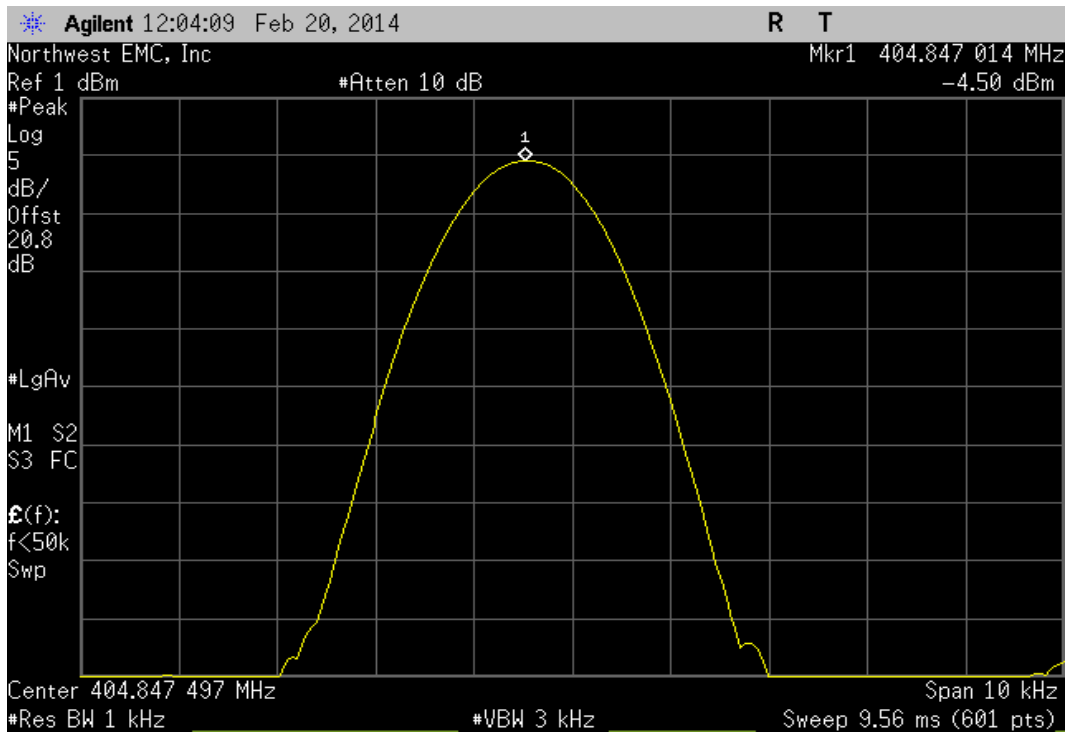
SN: 44817004, Extreme Temperature +25°C, Low Channel, 402.15 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	402.147147	402.15	7.1	100	Pass	



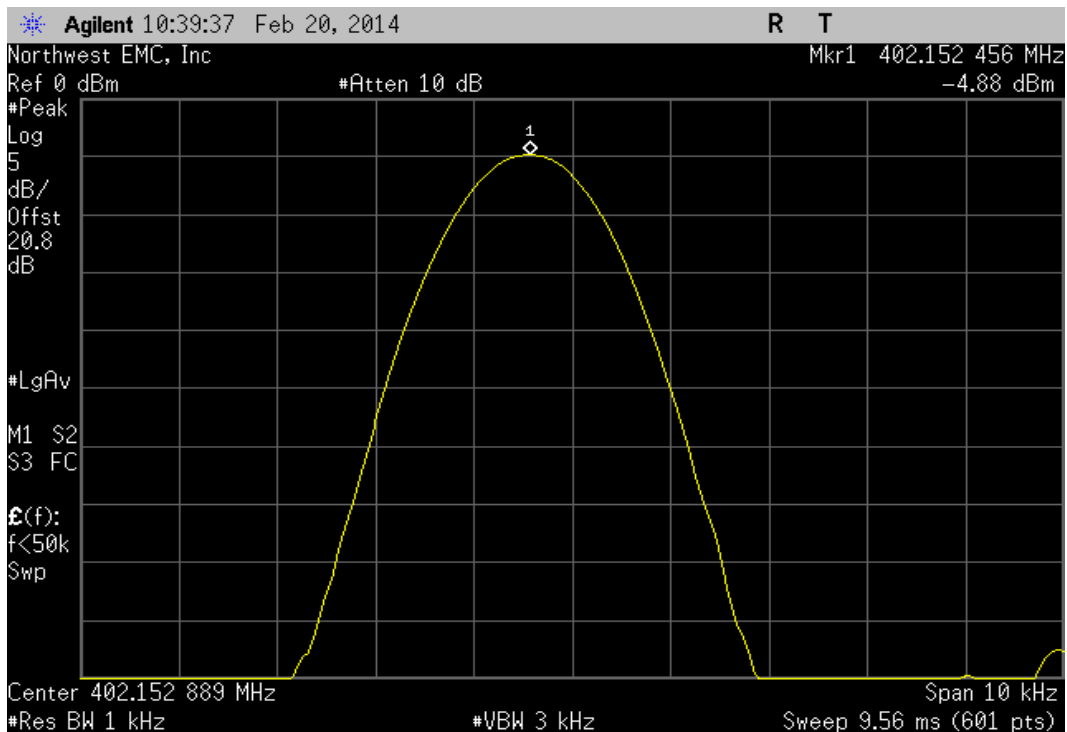
SN: 44817004, Extreme Temperature +25°C, Mid Channel, 403.35 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	403.347266	403.35	6.8	100	Pass	



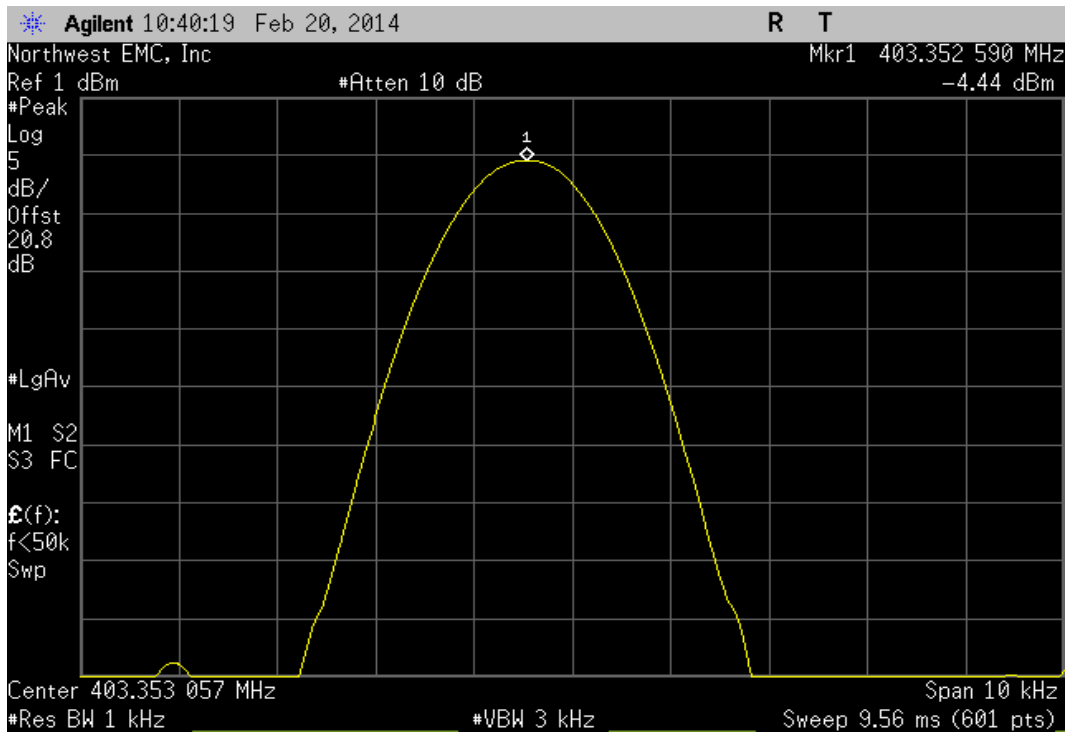
SN: 44817004, Extreme Temperature +25°C, High Channel, 404.85 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	404.847014	404.85	7.4	100	Pass	



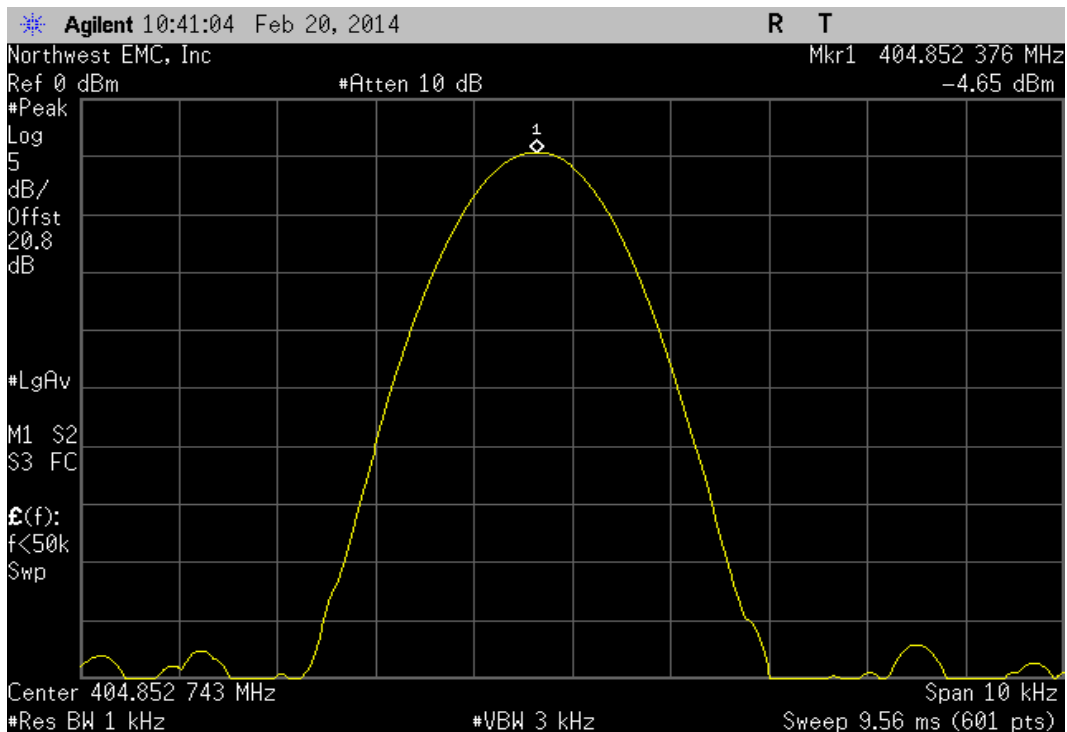
SN: 44817013, Nominal Voltage 2.7VDC, Low Channel, 402.15 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	402.152456	402.15	6.1	100	Pass	



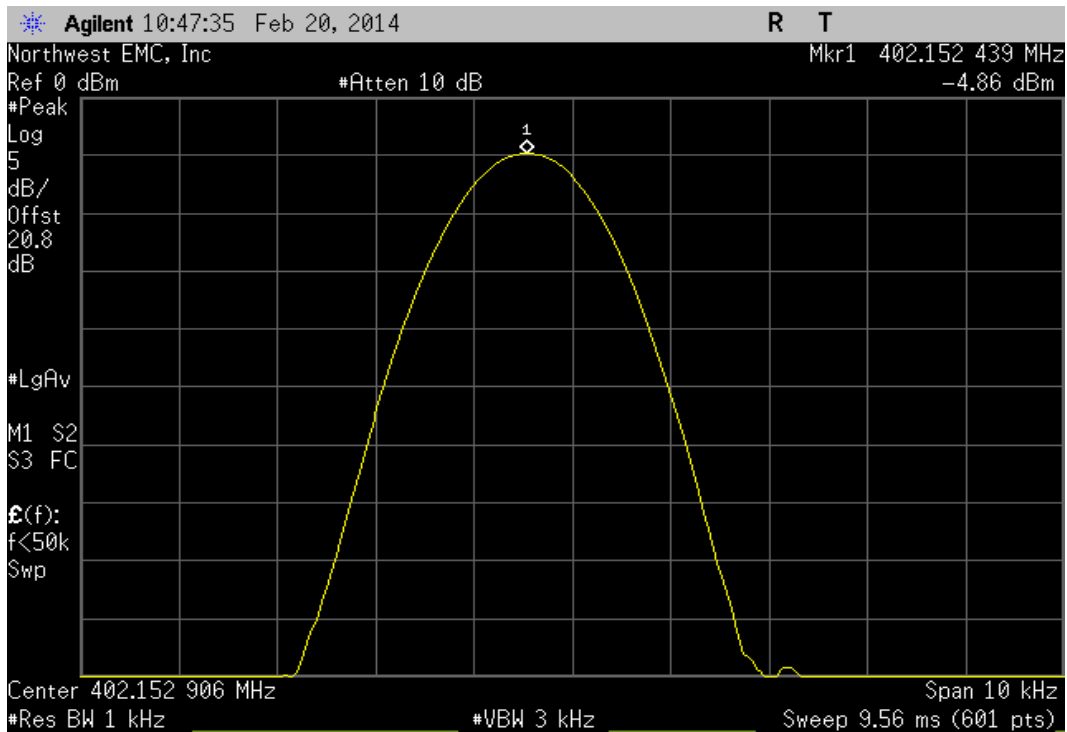
SN: 44817013, Nominal Voltage 2.7VDC, Mid Channel, 403.35 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	403.35259	403.35	6.4	100	Pass	



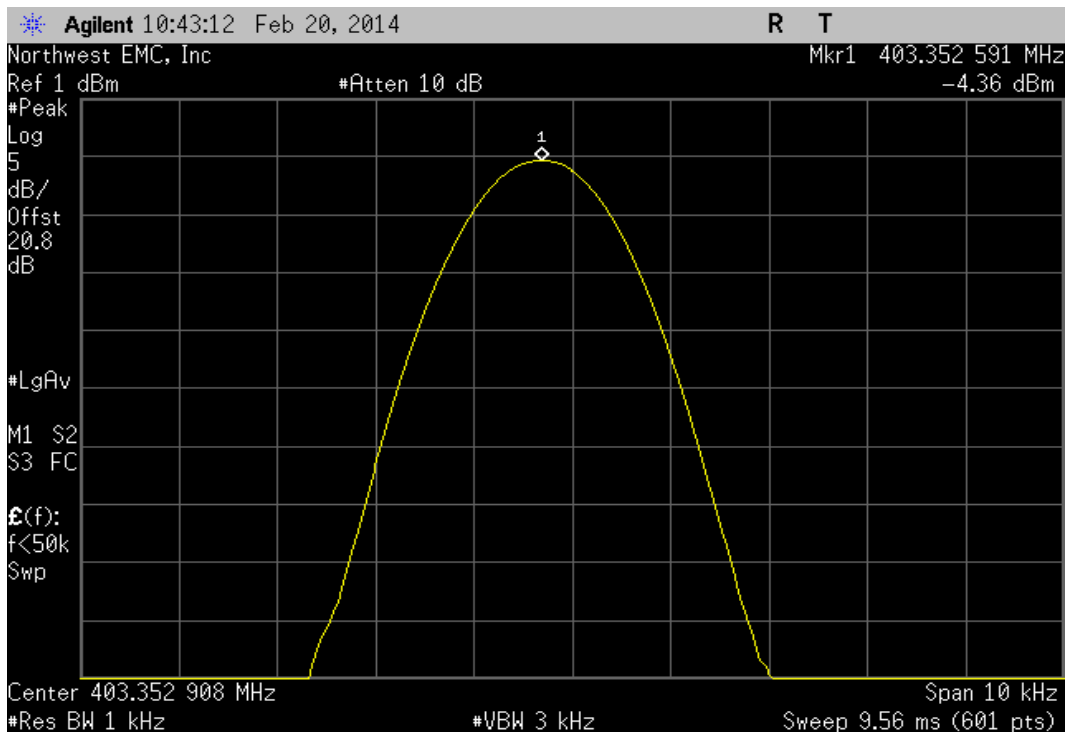
SN: 44817013, Nominal Voltage 2.7VDC, High Channel, 404.85 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	404.852376	404.85	5.9	100	Pass	



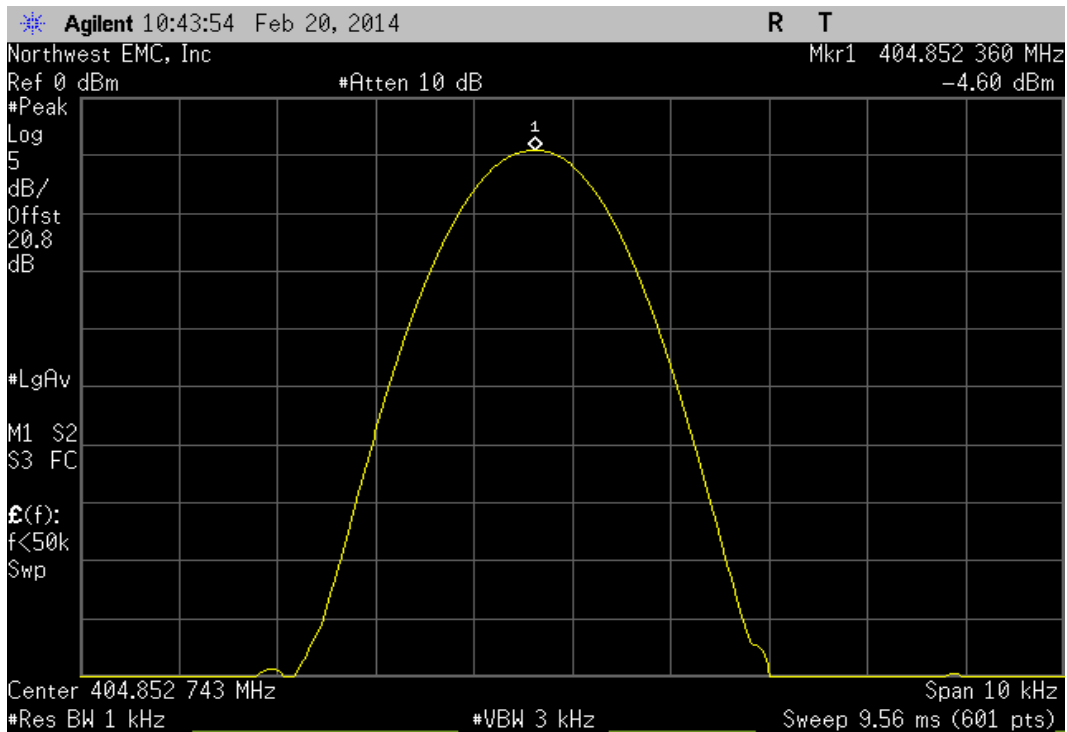
SN: 44817013, Extreme Voltage 3.2VDC, Low Channel, 402.15 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	402.152439	402.15	6.1	100	Pass	



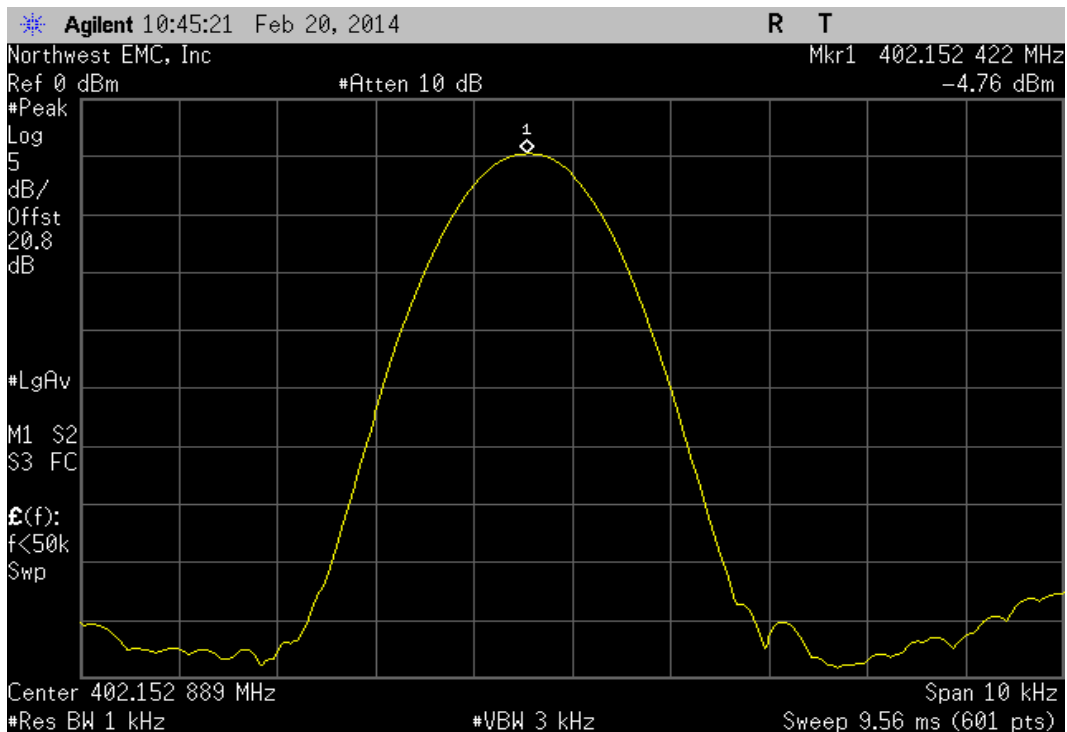
SN: 44817013, Extreme Voltage 3.2VDC, Mid Channel, 403.35 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	403.352591	403.35	6.4	100	Pass	



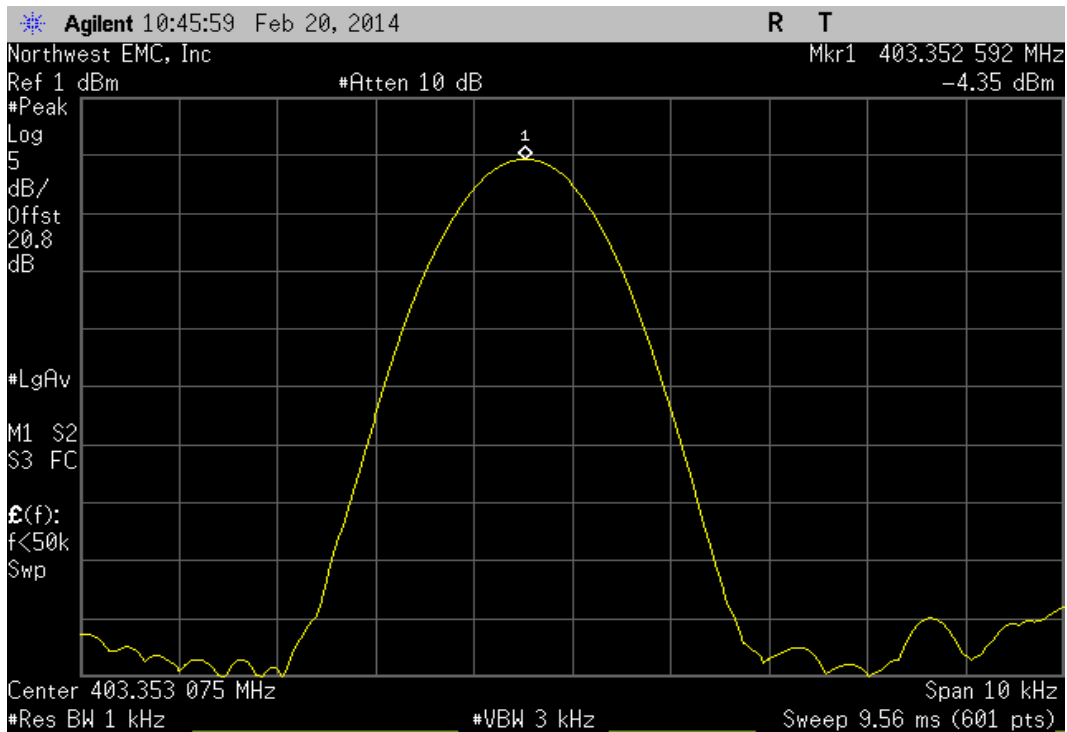
SN: 44817013, Extreme Voltage 3.2VDC, High Channel, 404.85 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	404.85236	404.85	5.8	100	Pass	



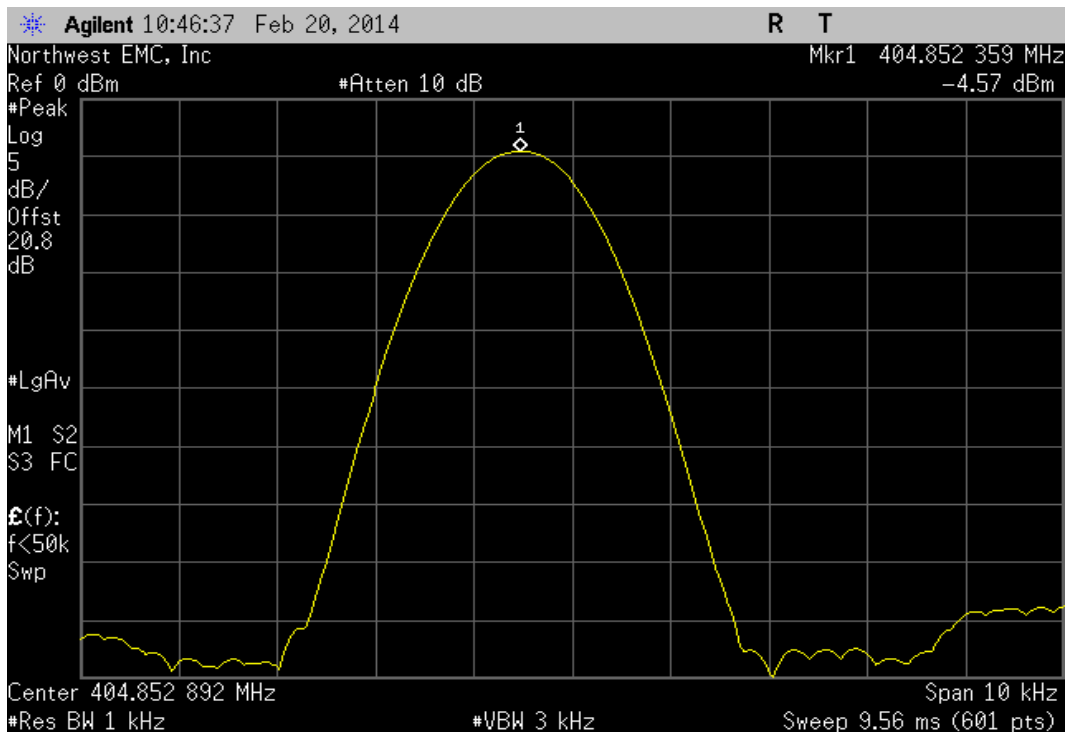
SN: 44817013, Extreme Voltage 1.65VDC, Low Channel, 402.15 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	402.152422	402.15	6	100	Pass	



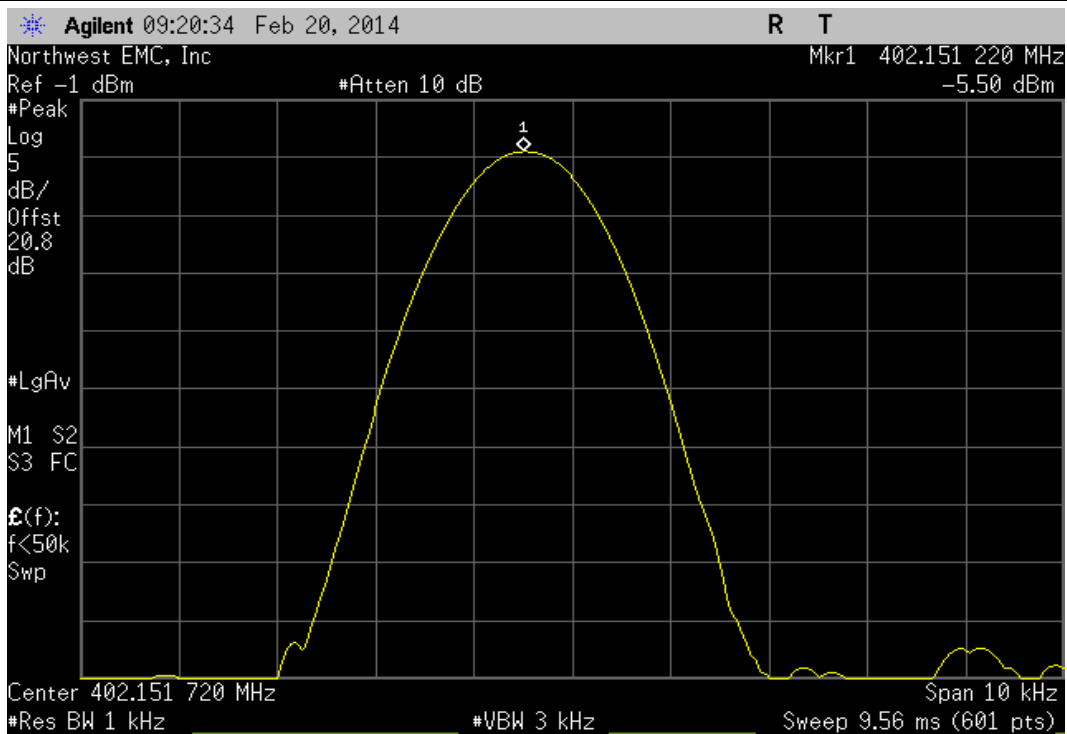
SN: 44817013, Extreme Voltage 1.65VDC, Mid Channel, 403.35 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	403.352592	403.35	6.4	100	Pass	



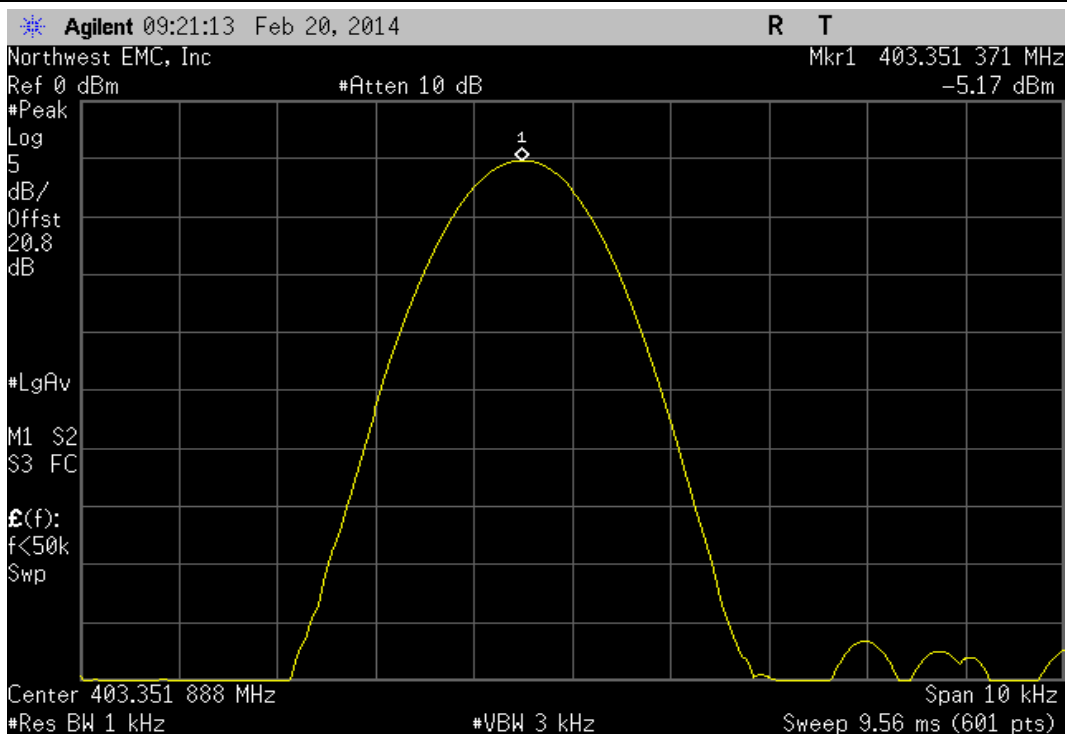
SN: 44817013, Extreme Voltage 1.65VDC, High Channel, 404.85 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	404.852359	404.85	5.8	100	Pass	



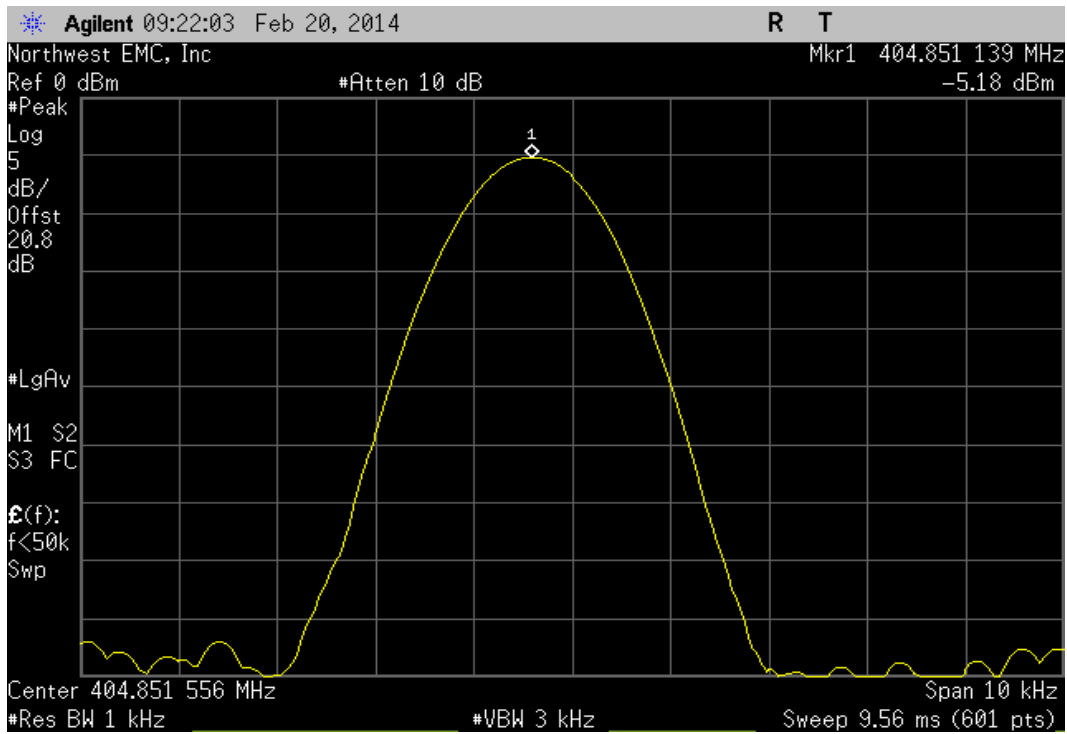
SN: 44817013, Extreme Temperature +45°C, Low Channel, 402.15 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	402.15122	402.15	3	100	Pass	



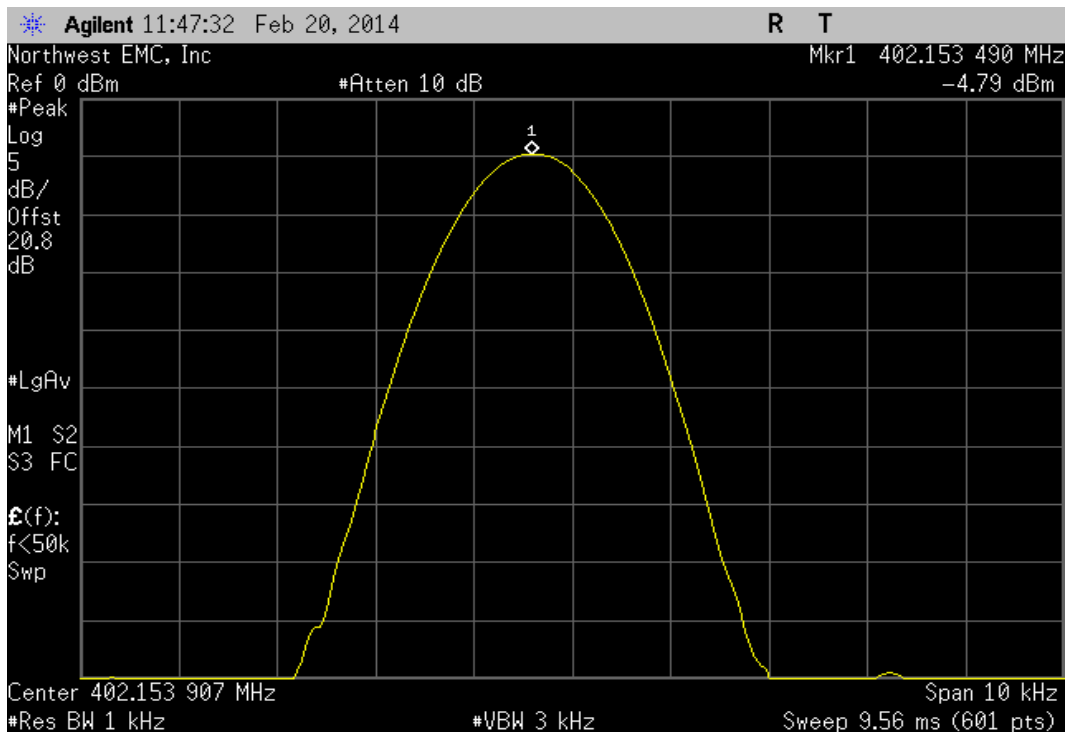
SN: 44817013, Extreme Temperature +45°C, Mid Channel, 403.35 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	403.351371	403.35	3.4	100	Pass	



SN: 44817013, Extreme Temperature +45°C, High Channel, 404.85 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	404.851139	404.85	2.8	100	Pass	

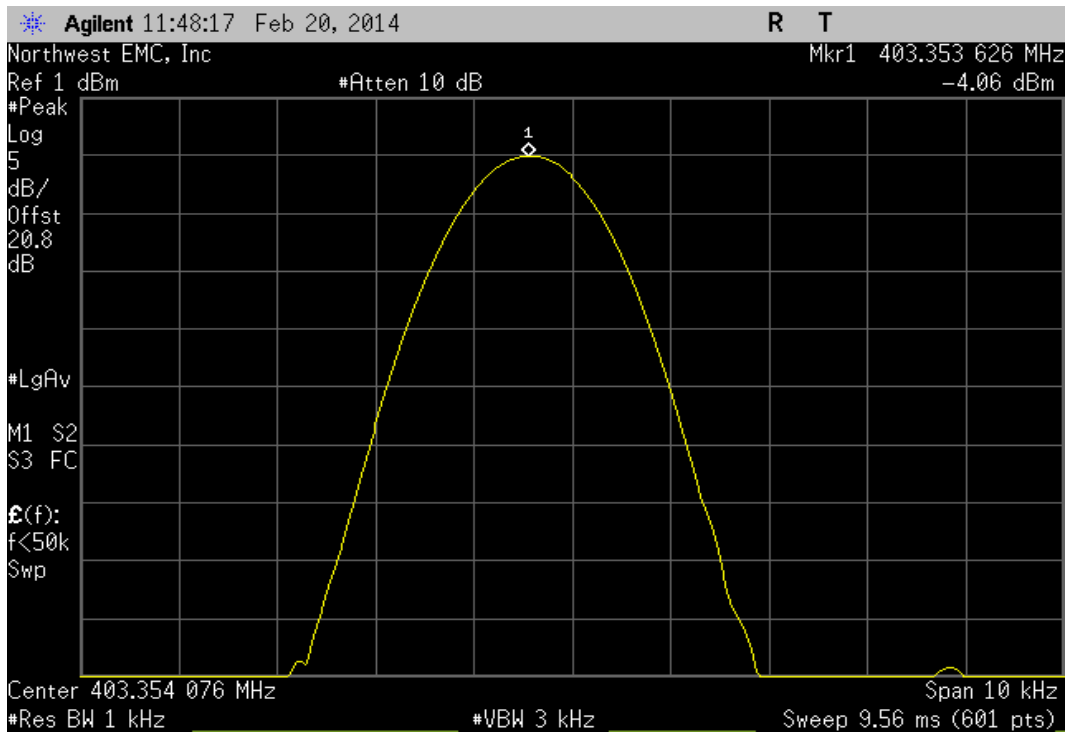


SN: 44817013, Extreme Temperature +25°C, Low Channel, 402.15 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	402.15349	402.15	8.7	100	Pass	

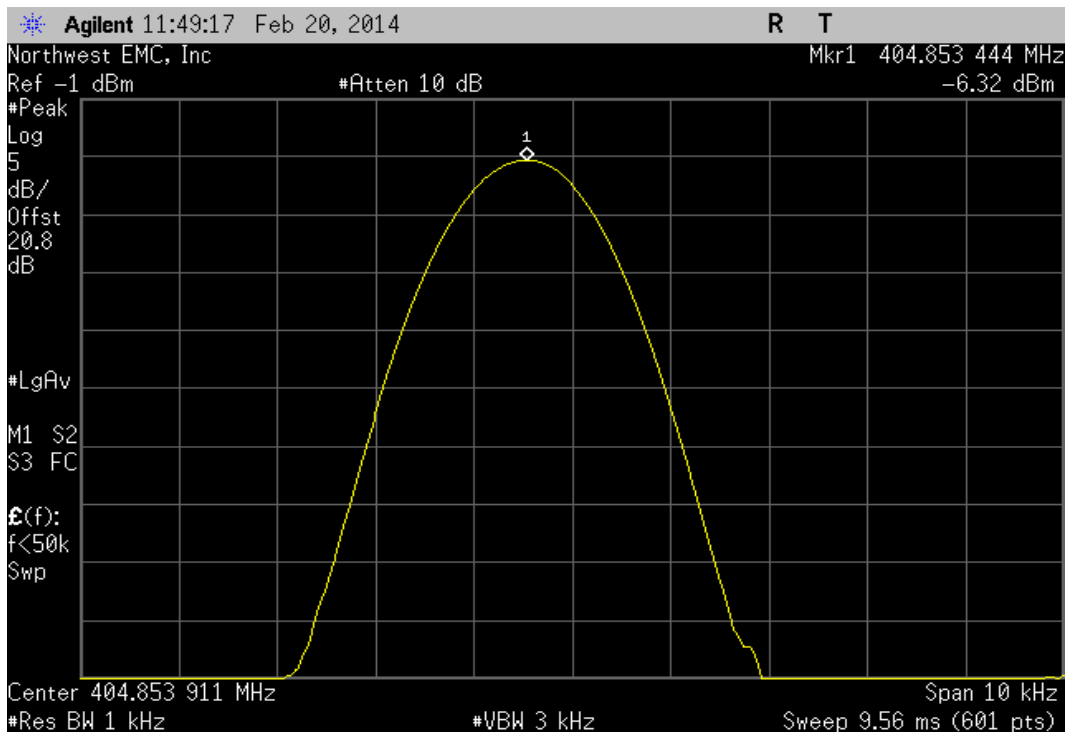




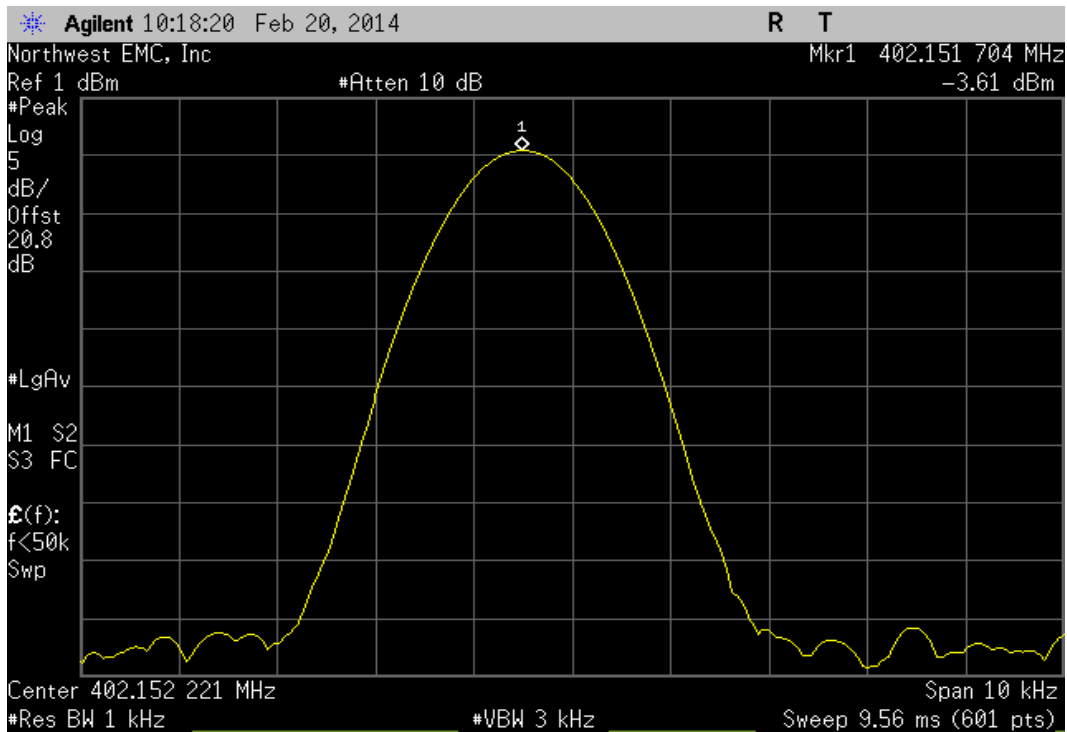
SN: 44817013, Extreme Temperature +25°C, Mid Channel, 403.35 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	403.353626	403.35	9	100	Pass	



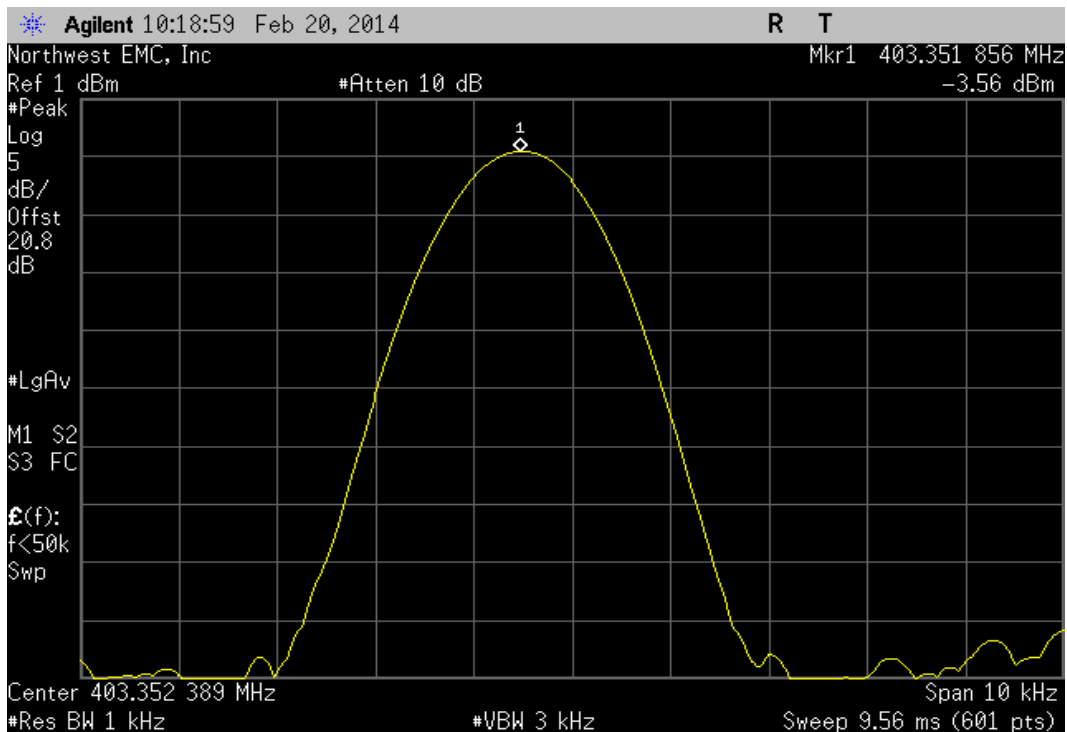
SN: 44817013, Extreme Temperature +25°C, High Channel, 404.85 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	404.853444	404.85	8.5	100	Pass	



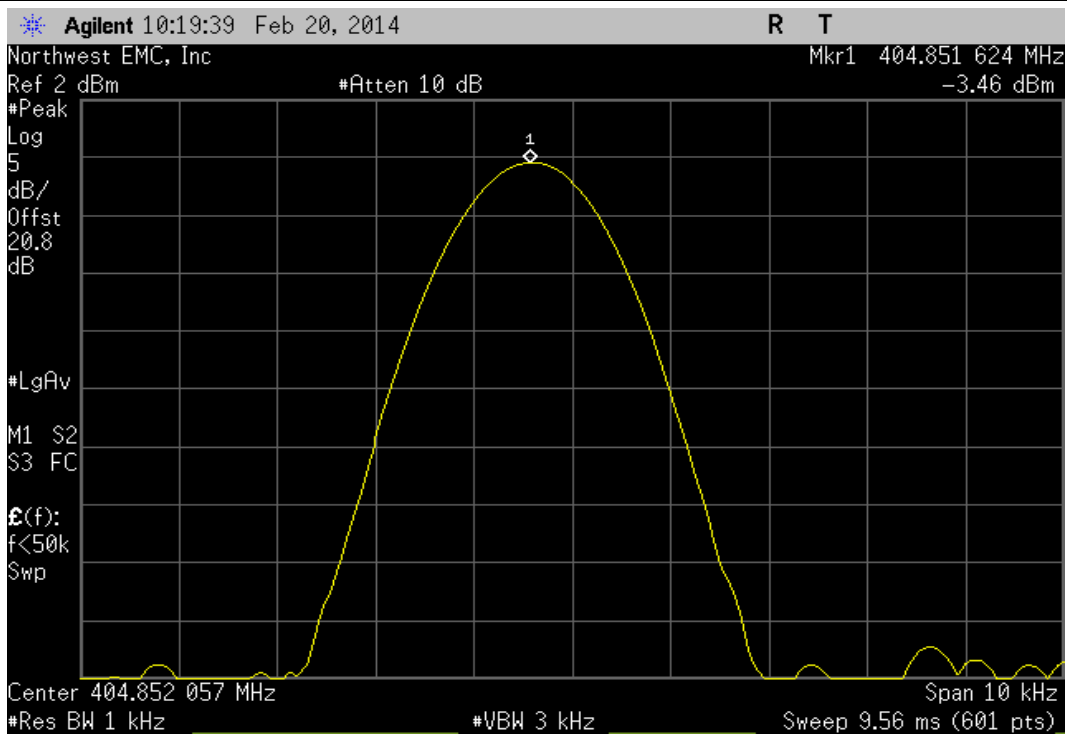
SN: 44817017, Nominal Voltage 2.7VDC, Low Channel, 402.15 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	402.151704	402.15	4.2	100	Pass	



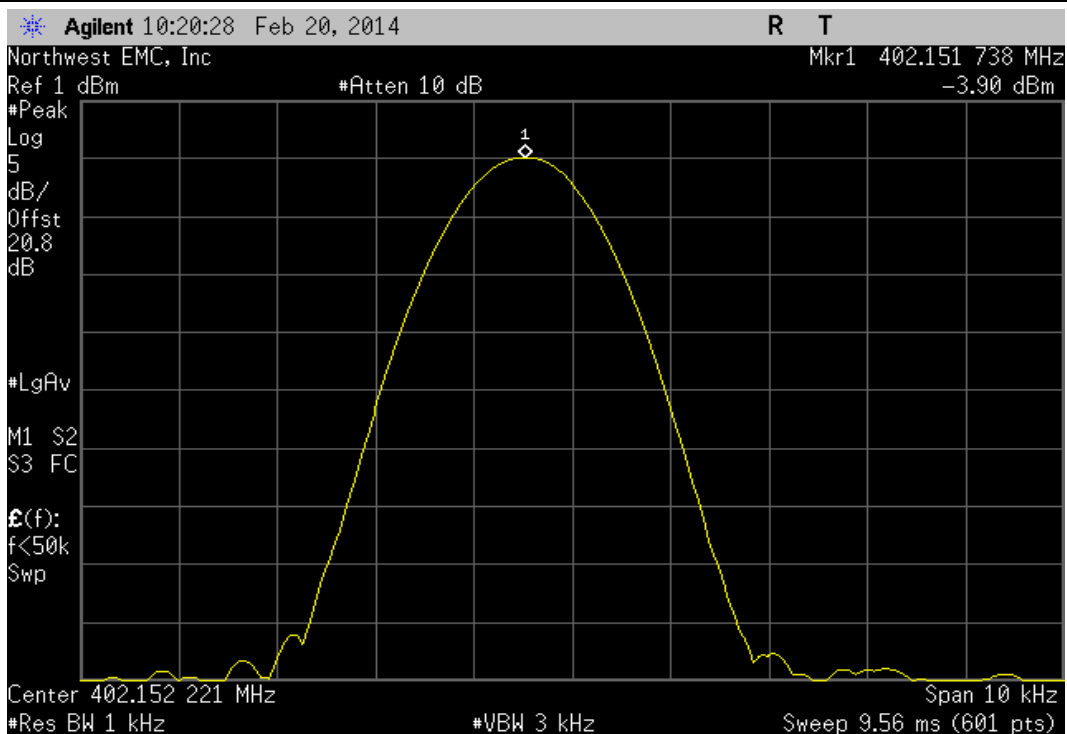
SN: 44817017, Nominal Voltage 2.7VDC, Mid Channel, 403.35 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	403.351856	403.35	4.6	100	Pass	



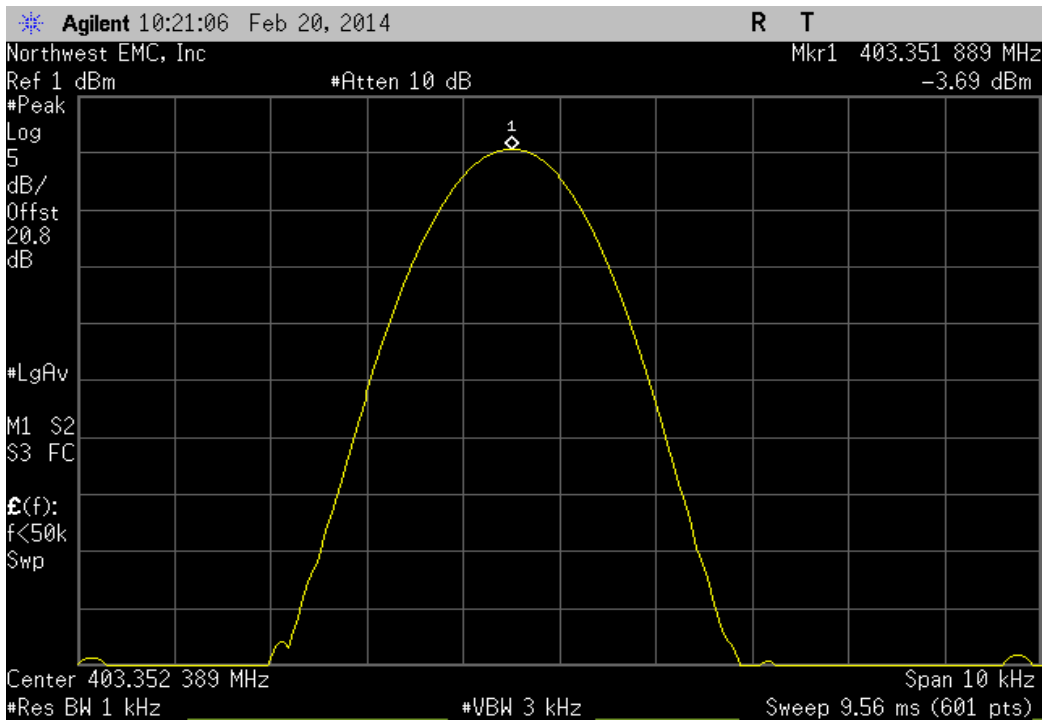
SN: 44817017, Nominal Voltage 2.7VDC, High Channel, 404.85 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	404.851624	404.85	4	100	Pass	



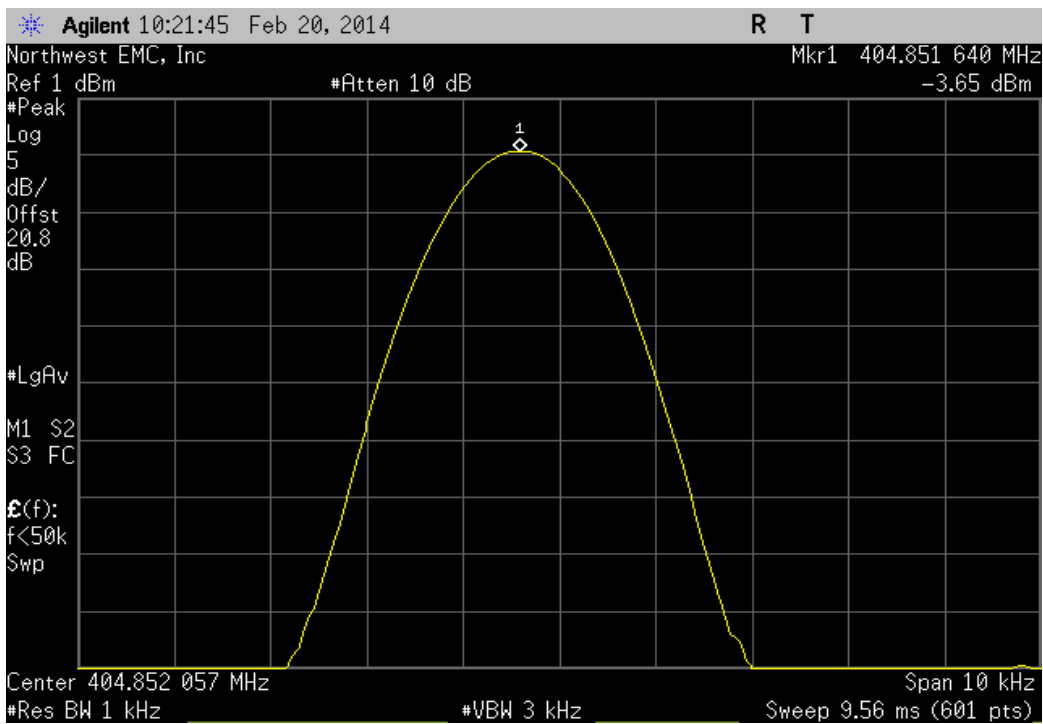
SN: 44817017, Extreme Voltage 3.2VDC, Low Channel, 402.15 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	402.151738	402.15	4.3	100	Pass	



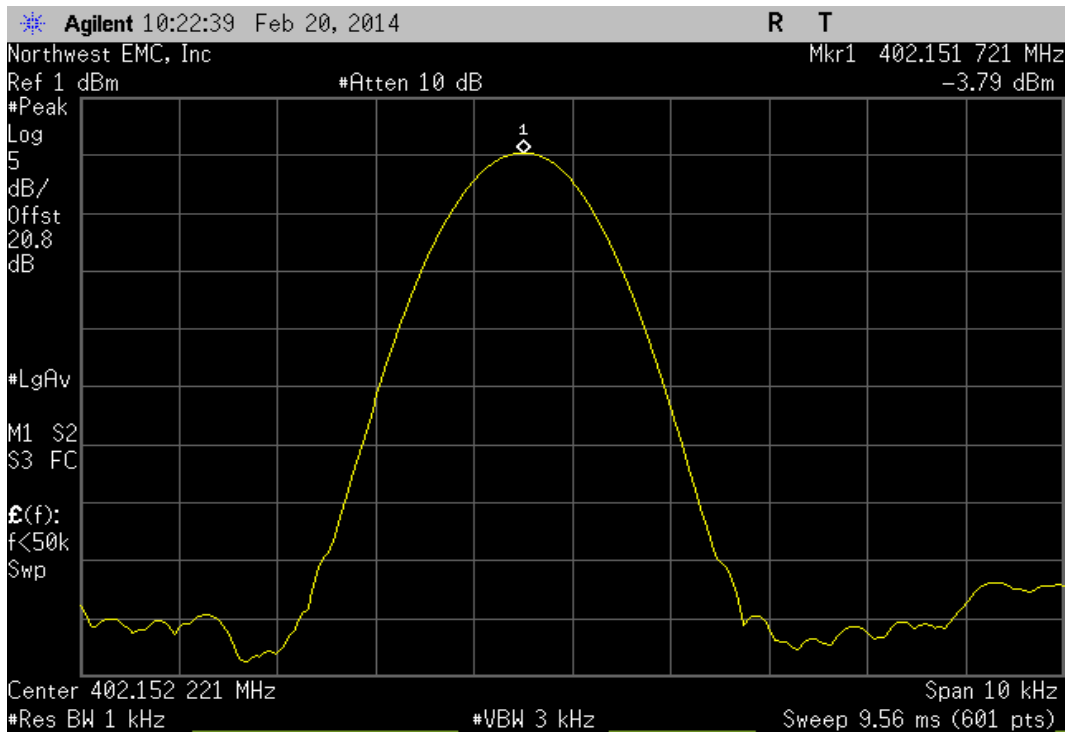
SN: 44817017, Extreme Voltage 3.2VDC, Mid Channel, 403.35 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result
	403.351889	403.35	4.7	100	Pass



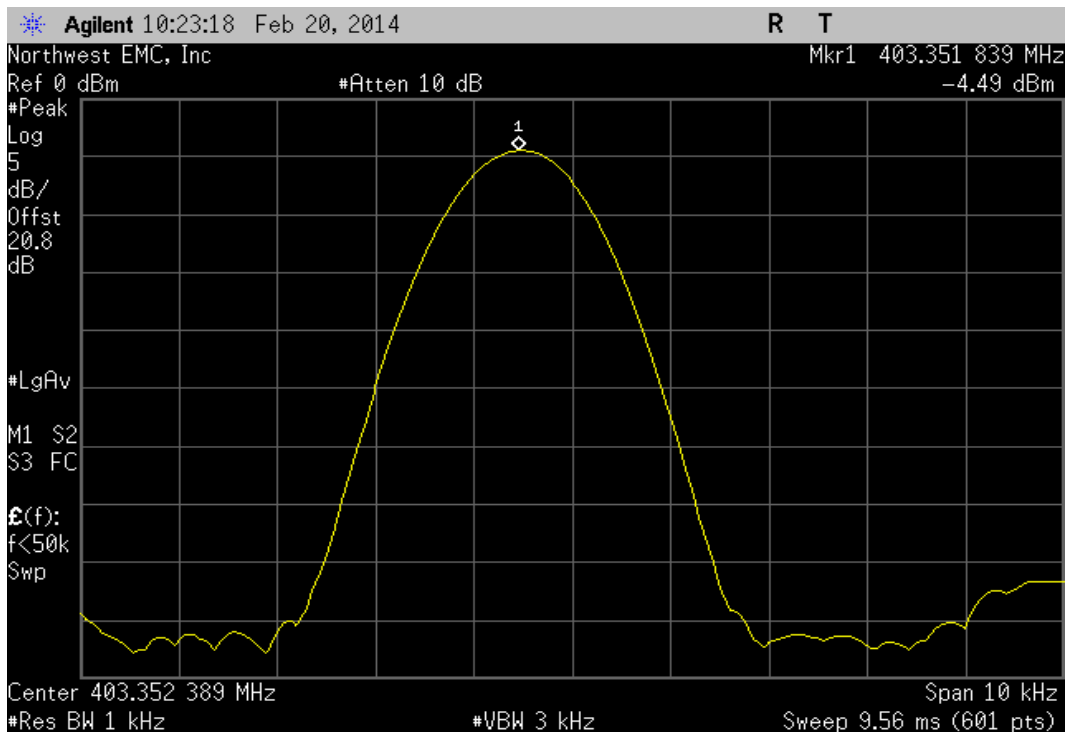
SN: 44817017, Extreme Voltage 3.2VDC, High Channel, 404.85 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result
	404.85164	404.85	4.1	100	Pass



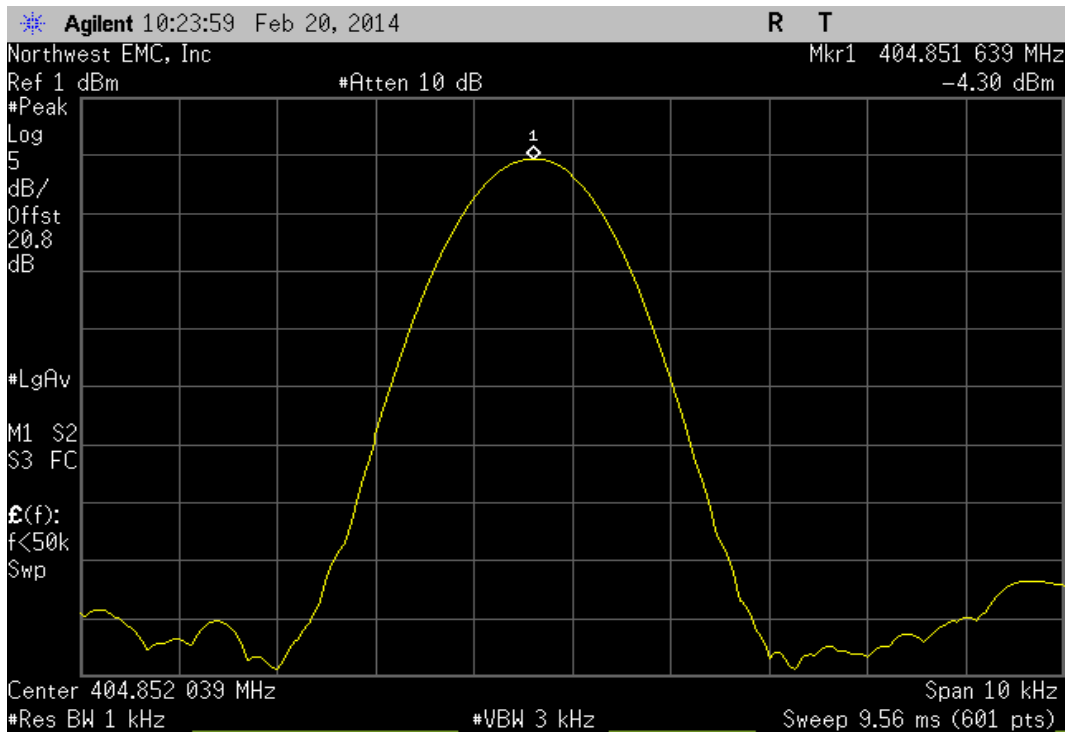
SN: 44817017, Extreme Voltage 1.65VDC, Low Channel, 402.15 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	402.151721	402.15	4.3	100	Pass	



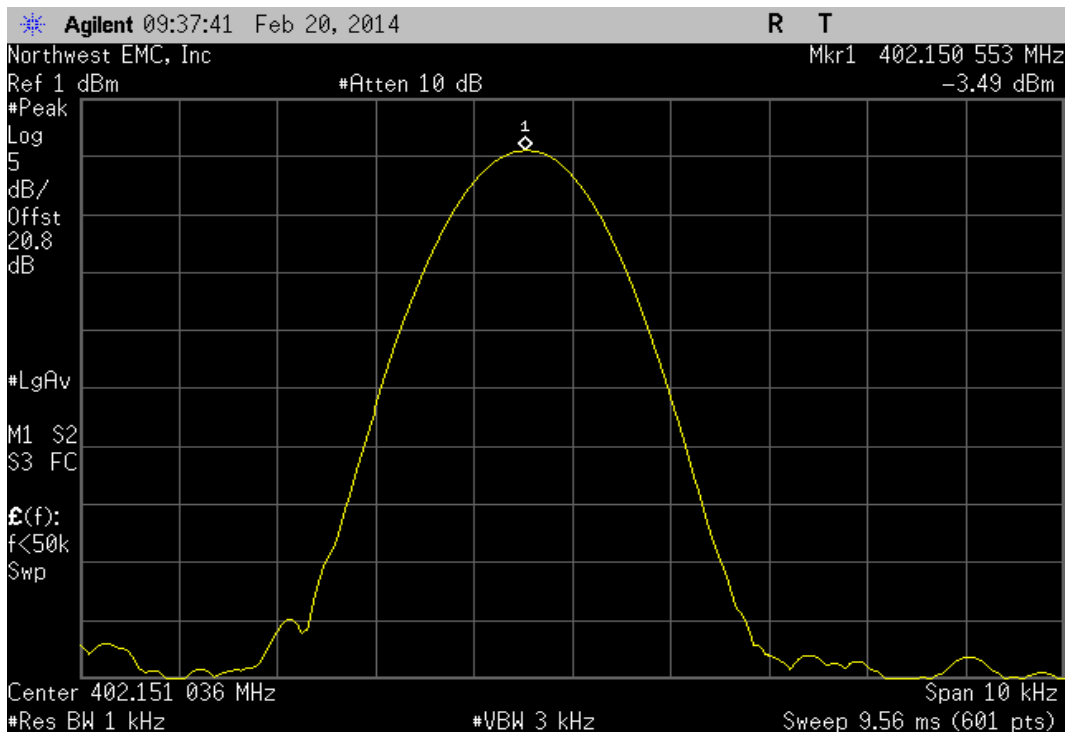
SN: 44817017, Extreme Voltage 1.65VDC, Mid Channel, 403.35 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	403.351839	403.35	4.6	100	Pass	



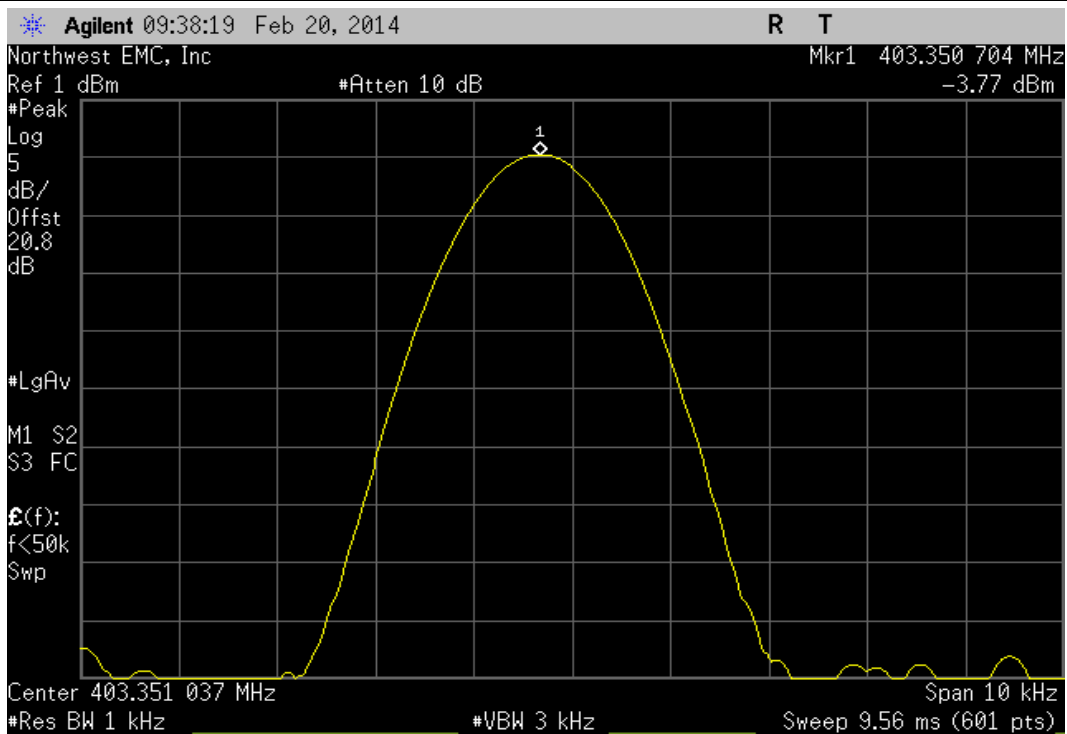
SN: 44817017, Extreme Voltage 1.65VDC, High Channel, 404.85 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	404.851639	404.85	4.1	100	Pass	



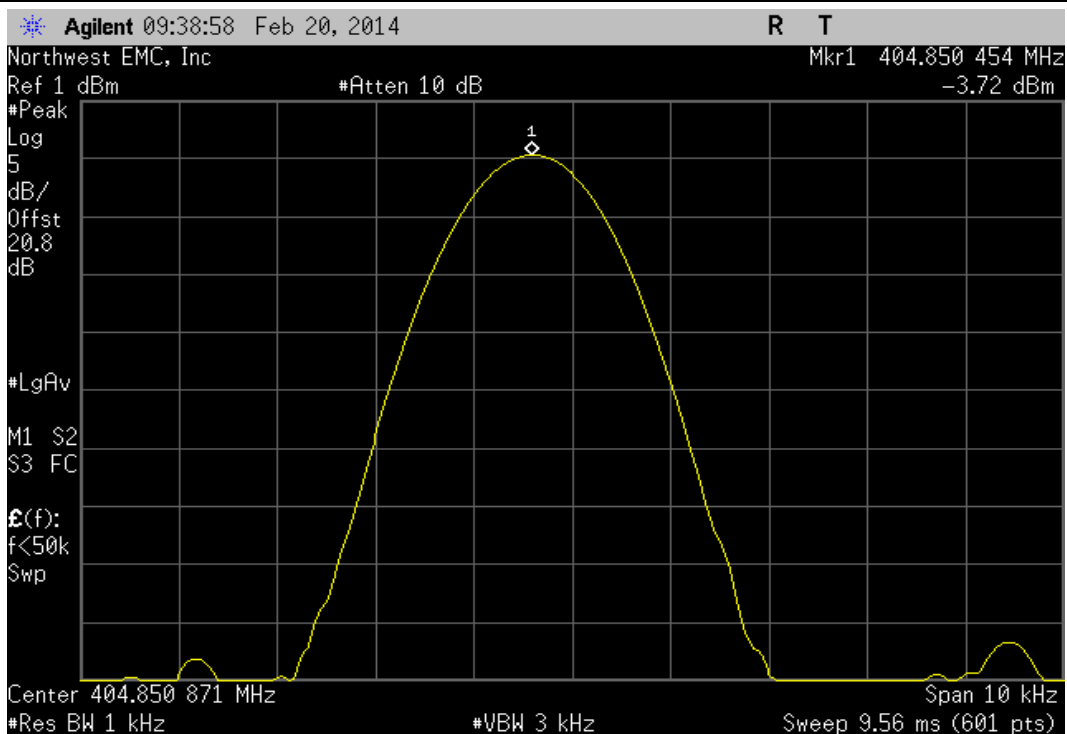
SN: 44817017, Extreme Temperature +45°C, Low Channel, 402.15 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	402.150553	402.15	1.4	100	Pass	



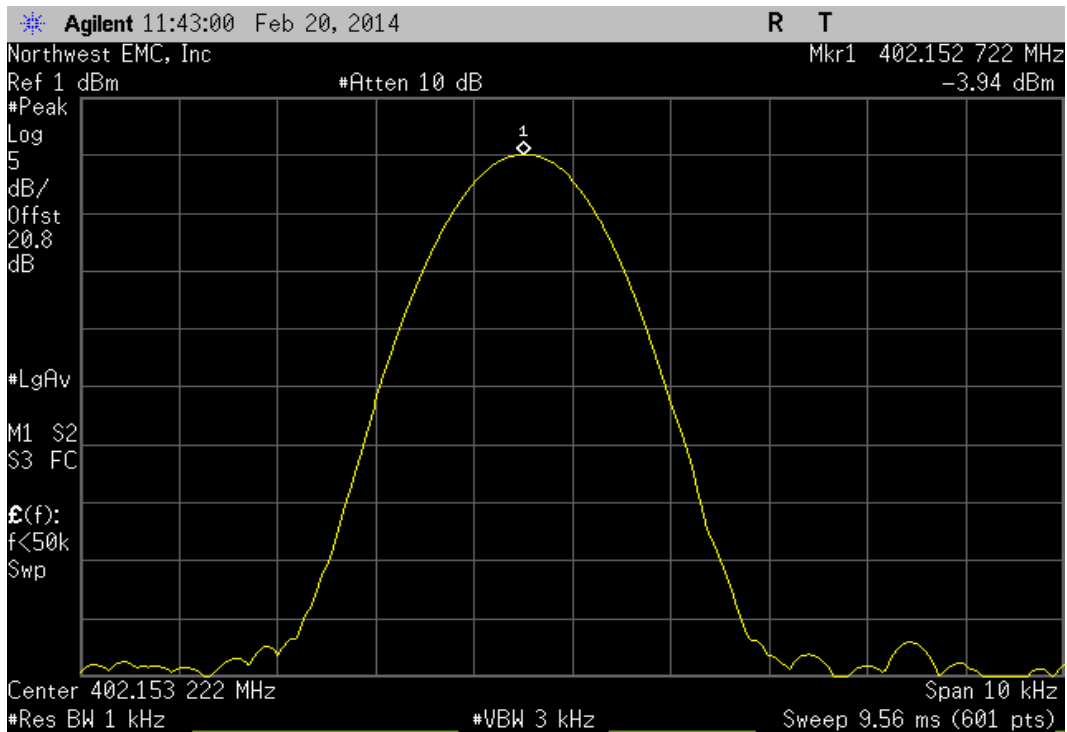
SN: 44817017, Extreme Temperature +45°C, Mid Channel, 403.35 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	403.350704	403.35	1.8	100	Pass	



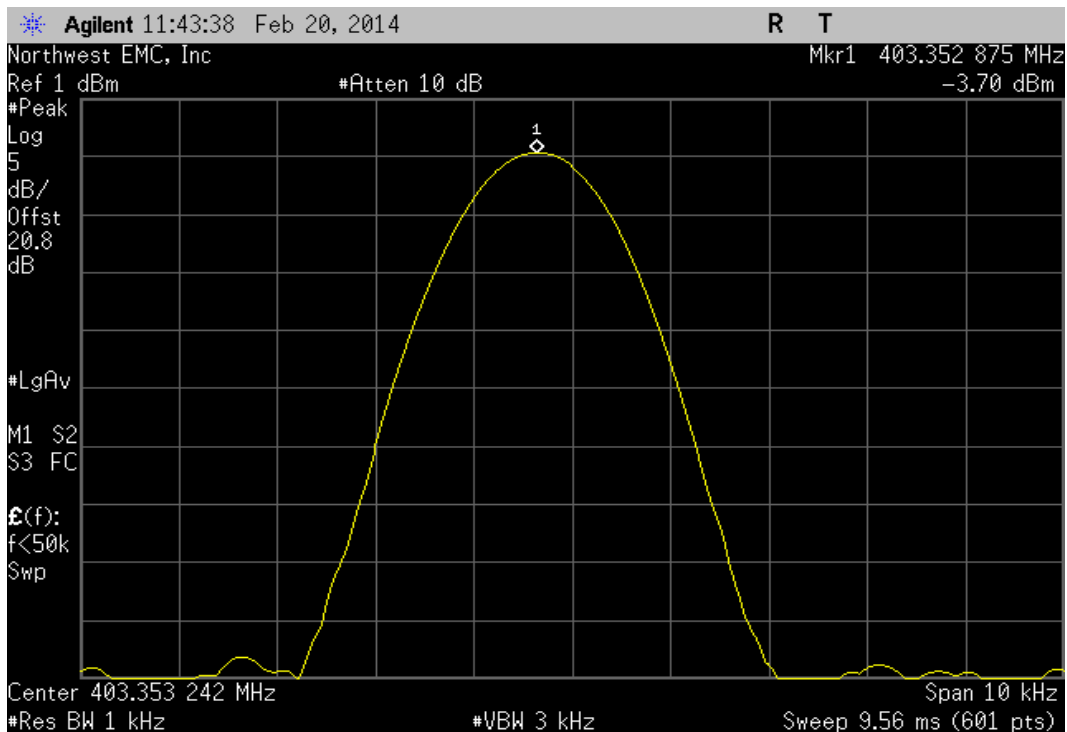
SN: 44817017, Extreme Temperature +45°C, High Channel, 404.85 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	404.850454	404.85	1.1	100	Pass	



SN: 44817017, Extreme Temperature +25°C, Low Channel, 402.15 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	402.152722	402.15	6.8	100	Pass	



SN: 44817017, Extreme Temperature +25°C, Mid Channel, 403.35 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	403.352875	403.35	7.1	100	Pass	





SN: 44817017, Extreme Temperature +25°C, High Channel, 404.85 MHz

Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result
404.85266	404.85	6.6	100	Pass

