Boston Scientific Corporation

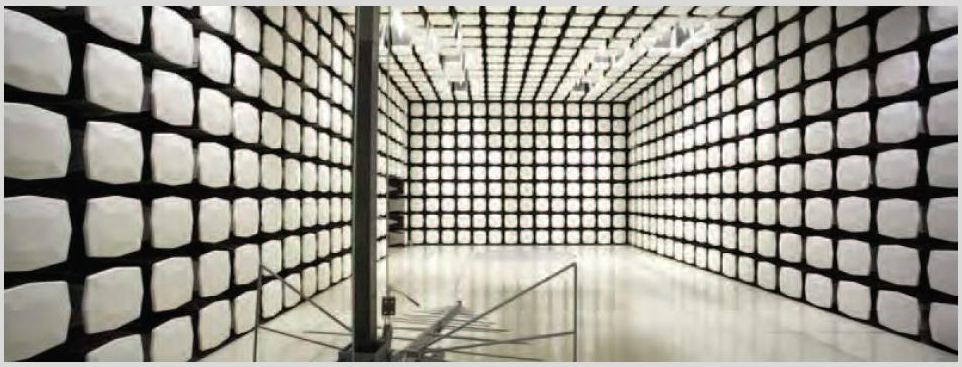
Model 3300

LP0002:2016

2 Channel MICS Radio – SICD

402-405 MHz

Report # BSTN0663.25



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. This Report may only be duplicated in its entirety

CERTIFICATE OF TEST

NORTHWEST EMC
2014-12-10

Last Date of Test: August 11, 2016
Boston Scientific Corporation
Model: 3300

Radio Equipment Testing

Standards

Specification	Method
LP0002:2016	LP0002:2016

Results

Method Clause	Test Description	Applied	Results	Comments
Appendix I, II.(II)	Powerline Conducted Emissions	Yes	Pass	
4.11.3.1	Frequency Monitoring	No	N/A	Refer to BSTN0663.24 Report
Appendix I, II.(VIII)	Emission Bandwidth	Yes	Pass	
Appendix III, VI.(I)	Emission Mask	Yes	Pass	
Appendix I, II.(X)	Conducted Output Power	Yes	Pass	
Appendix I, II.(V, VI, VII)	Frequency Stability	Yes	Pass	
Appendix I, II.(IV)	Spurious Radiated Emissions	Yes	Pass	
Appendix II, III.(1)	Spurious Conducted Emissions	Yes	Pass	
Appendix I, II.(X)	Radiated Power (EIRP)	Yes	Pass	

Deviations from Test Standards

None

Approved By:

Matt Nuernberg, 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

Revision Number	Description	Date	Page Number
00	None		

ACCREDITATIONS AND AUTHORIZATIONS

NORTHWEST EMC
REV 2016.7.25

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

ISED - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB). Certification chambers and Open Area Test Sites are filed with ISED.

European Union

European Commission – Validated by the European Commission 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.

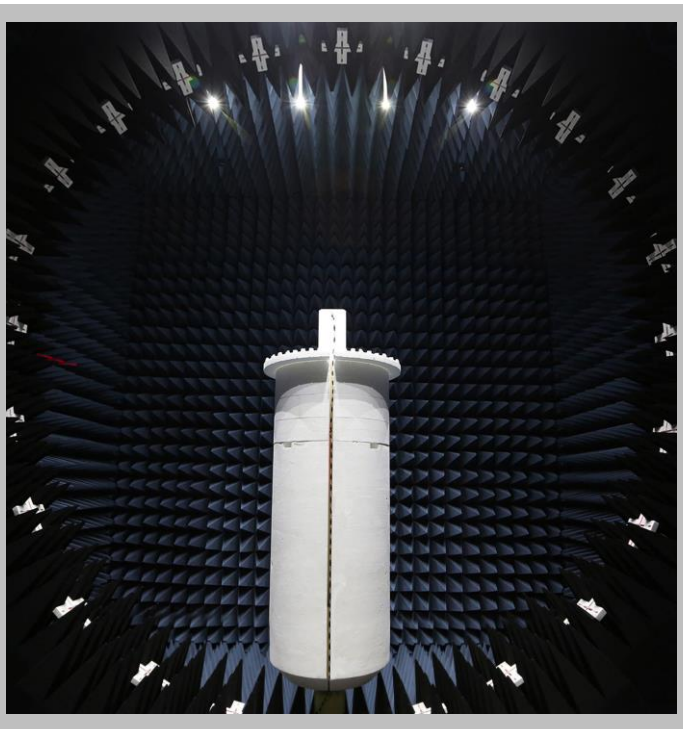
A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) for each test is on each data sheet. Our measurement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

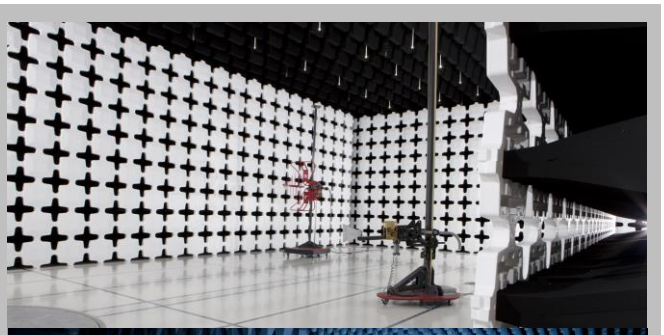
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

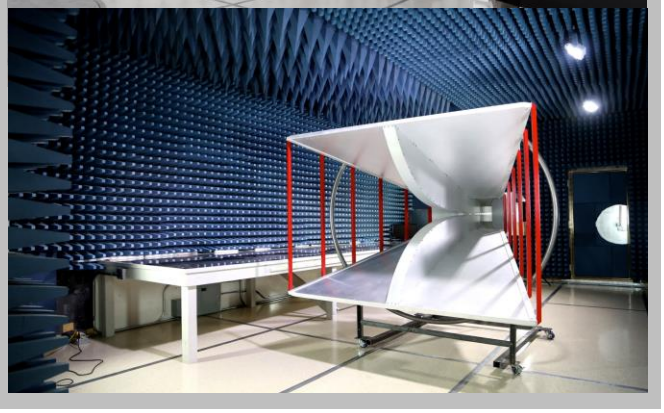
Test	+ MU	- MU
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%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

FACILITIES

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 98011 (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
Innovation, Science and Economic Development 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

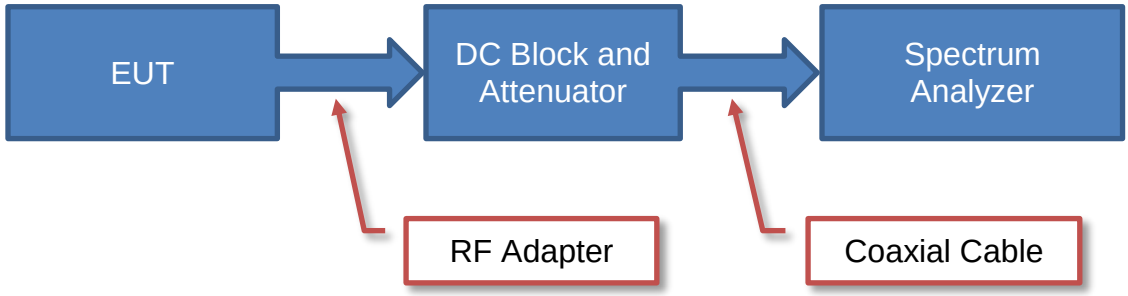




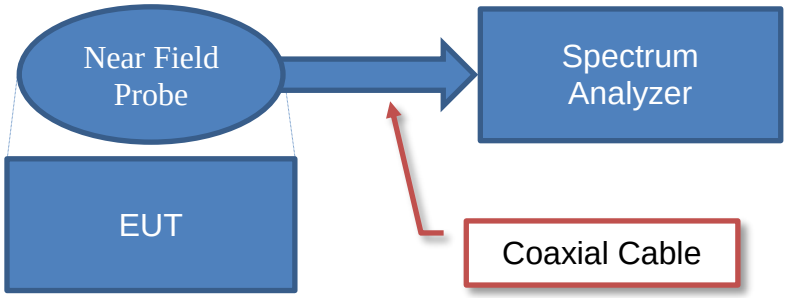


Test Setup Block Diagrams

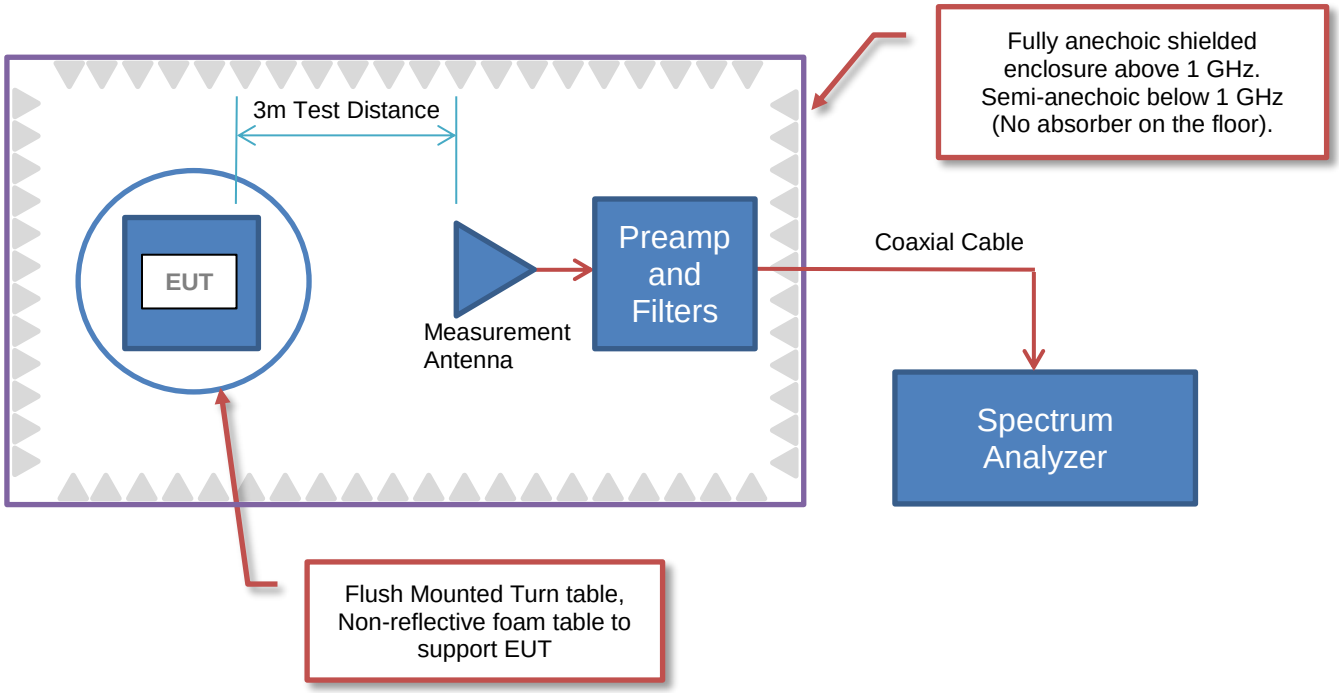
Antenna Port Conducted Measurements



Near Field Test Fixture Measurements



Spurious Radiated Emissions



PRODUCT DESCRIPTION

Client and Equipment Under Test (EUT) Information

Company Name:	Boston Scientific Corporation
Address:	4100 Hamline Avenue North
City, State, Zip:	St. Paul, MN 55112-5798
Test Requested By:	Pete Musto
Model:	Model 3300
First Date of Test:	July 14, 2016
Last Date of Test:	August 11, 2016
Receipt Date of Samples:	July 14, 2016
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
The Boston Scientific Model 3300 Latitude Programmer (PRM) is a device that is used to interrogate and program Boston Scientific PGs and defibrillators. PG specific software applications are loaded into the PRM and communicate with the implanted device. The telemetry communications allow the physician the ability to program the PG or query the PG for historical data or operating parameters. The PRM allows other external instruments or equipment to be connected, including printers, network connections, external display monitors, USB data storage devices, and cellular adapters. The PRM also provides a Pacing Systems Analyzer for implant lead evaluation and diagnostics.

Testing Objective:
Seeking Taiwan authorization for the 2 Channel MedRadio transmitter to LP0002:2016.

CONFIGURATIONS

Configuration BSTN0663- 2

Software/Firmware Running during test	
Description	**Version**
MTI	1.3-1

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Latitude Vision Programmer	Boston Scientific Corporation	3300	097

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AC/DC Adapter	GlobTek, Inc	GTM41133-9016-1.0-T3A	None
External Antenna	Boston Scientific Corporation	3203	None
USB Cellular Adapter	Boston Scientific Corporation	6295	085
USB Memory Feature Key	Boston Scientific Corporation	None	043
USB Memory MTI	Kingston	DTSE9 G2	None
Inductive Telemetry Wand	Boston Scientific Corporation	6395	117
Latitude Vision Stand	Boston Scientific Corporation	6755	None

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Cable	Yes	2.5m	No	AC/DC Adapter	AC Mains
DC Cable	No	2m	Yes	AC/DC Adapter	Programmer
2.3/1.0 External Ant Cable	Yes	3m	No	External Antenna	Programmer
USB Cable	Yes	15 cm	Yes	USB Cellular Adapter	Programmer
Inductive Telemetry Wand Cable	Yes	3m	No	Inductive Telemetry Wand	Programmer
Display Port	Yes	2m	Yes	Programmer	Not Terminated
USB Cable	Yes	2m	Yes	Programmer	Not Terminated
Ethernet Cable	No	3m	No	Programmer	Terminated
Non Disposable PSA x2	Yes	2.5m	Yes	Programmer	Not Terminated
ECG Cable	Yes	3.5m	No	Programmer	Not Terminated
Conducted Telemetry Cable	Yes	2.5m	Yes	Programmer	Not Terminated

CONFIGURATIONS

Configuration BSTN0663- 3

Software/Firmware Running during test	
Description	**Version**
MTI	2.0-7

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Latitude Vision Programmer	Boston Scientific Corporation	3300	097

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AC/DC Adapter	GlobTek, Inc	GTM41133-9016-1.0-T3A	None
External Antenna	Boston Scientific Corporation	3203	None
USB Cellular Adapter	Boston Scientific Corporation	6295	085
USB Memory Feature Key	Boston Scientific Corporation	None	043
USB Memory MTI	Kingston	DTSE9 G2	None
Inductive Telemetry Wand	Boston Scientific Corporation	6395	117
Latitude Vision Stand	Boston Scientific Corporation	6755	None

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Cable	Yes	2.5m	No	AC/DC Adapter	AC Mains
DC Cable	No	2m	Yes	AC/DC Adapter	Programmer
2.3/1.0 External Ant Cable	Yes	3m	No	External Antenna	Programmer
USB Cable	Yes	15 cm	Yes	USB Cellular Adapter	Programmer
Inductive Telemetry Wand Cable	Yes	3m	No	Inductive Telemetry Wand	Programmer
Display Port	Yes	2m	Yes	Programmer	Not Terminated
USB Cable	Yes	2m	Yes	Programmer	Not Terminated
Ethernet Cable	No	3m	No	Programmer	Terminated
Non Disposable PSA x2	Yes	2.5m	Yes	Programmer	Not Terminated
ECG Cable	Yes	3.5m	No	Programmer	Not Terminated
Conducted Telemetry Cable	Yes	2.5m	Yes	Programmer	Not Terminated

CONFIGURATIONS

Configuration BSTN0663- 5

Software/Firmware Running during test	
Description	**Version**
MTI	2.0-7

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Latitude Vision Programmer	Boston Scientific Corporation	3300	058

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AC/DC Adapter	GlobTek, Inc	GTM41133-9016-1.0-T3A	None
USB Memory Feature Key	Boston Scientific Corporation	None	043
USB Memory MTI	Kingston	DTSE9 G2	None
Keyboard	Lenovo	KU-0989	1S54Y94890909725E

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Cable	Yes	2.5m	No	AC/DC Adapter	AC Mains
DC Cable	No	2m	Yes	AC/DC Adapter	Programmer
USB Cable (Keyboard)	Yes	1.8m	No	Keyboard	Programmer

CONFIGURATIONS

Configuration BSTN0663- 6

Software/Firmware Running during test	
Description	**Version**
MTI	2.0-7

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Latitude Vision Programmer	Boston Scientific Corporation	3300	058

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AC/DC Adapter	GlobTek, Inc	GTM41133-9016-1.0-T3A	None
USB Memory Feature Key	Boston Scientific Corporation	None	043
USB Memory MTI	Kingston	DTSE9 G2	None
Keyboard	Lenovo	KU-0989	1S54Y94890909725E
Mouse	Dynex	DX-WMSE	9D15A010642
Monitor	Lenovo	2572-HD6	V8-M8573

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Cable	Yes	2.5m	No	AC/DC Adapter	AC Mains
DC Cable	No	2m	Yes	AC/DC Adapter	Programmer
USB Cable (Keyboard)	Yes	1.8m	No	Keyboard	Programmer
USB Cable (Mouse)	Yes	1.8m	Yes	Mouse	Programmer
DisplayPort Cable	Yes	2m	Yes	Monitor	Programmer
AC Cable (Monitor)	No	1.8m	No	Monitor	AC Mains

CONFIGURATIONS

Configuration BSTN0663- 14

Software/Firmware Running during test	
Description	**Version**
MTI	1.3-1

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Latitude Vision Programmer	Boston Scientific Corporation	3300	097

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AC/DC Adapter	GlobTek, Inc	GTM41133-9016-1.0-T3A	None
External Antenna	Boston Scientific Corporation	3203	None
USB Cellular Adapter	Boston Scientific Corporation	6295	085
USB Memory Feature Key	Boston Scientific Corporation	None	043
USB Memory MTI	Kingston	DTSE9 G2	None
Inductive Telemetry Wand	Boston Scientific Corporation	6395	117
Latitude Vision Stand	Boston Scientific Corporation	6755	None

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Cable	Yes	2.5m	No	AC/DC Adapter	AC Mains
DC Cable	No	2m	Yes	AC/DC Adapter	Programmer
2.3/1.0 External Ant Cable	Yes	3m	No	External Antenna	Programmer
USB Cable	Yes	15 cm	Yes	USB Cellular Adapter	Programmer
Inductive Telemetry Wand Cable	Yes	3m	No	Inductive Telemetry Wand	Programmer
Display Port	Yes	2m	Yes	Programmer	Not Terminated
USB Cable	Yes	2m	Yes	Programmer	Not Terminated
Non Disposable PSA x2	Yes	2.5m	Yes	Programmer	Not Terminated
ECG Cable	Yes	3.5m	No	Programmer	Not Terminated
Conducted Telemetry Cable	Yes	2.5m	Yes	Programmer	Not Terminated

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	7/14/2016	Radiated 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.
2	7/26/2016	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.
3	8/2/2016	Emissions 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.
4	8/2/2016	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.
5	8/2/2016	Emissions 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.
6	8/2/2016	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.
7	8/10/2016	Frequency Stability	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	8/11/2016	Powerline Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

EMISSIONS BANDWIDTH

XMit 2016.05.06

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.	Cal. Due
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	9/18/2016
Attenuator	S.M. Electronics	SA26B-20	RFW	2/26/2016	2/26/2017
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	9/18/2016
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. 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.

EMISSIONS BANDWIDTH

NORTHWEST EMC

XMit 2016.05.06

EUT:	**Model 3300**			**Work Order:**	**BSTN0663**
Serial Number:	**58**			**Date:**	**08/02/16**
Customer:	**Boston Scientific Corporation**			**Temperature:**	**23.4 °C**
Attendees:	**None**			**Humidity:**	**59.3% RH**
Project:	**Laramie Vision**			**Barometric Pres.:**	**1020 mbar**
Tested by:	**Dustin Sparks**	**Power:**	**110VAC/60Hz**	**Job Site:**	**MN08**

TEST SPECIFICATIONS	**Test Method**
LP0002:2016	**LP0002:2016**

COMMENTS

Transmitting MedRadio 2 Channel (Gen 1/2), antenna port C

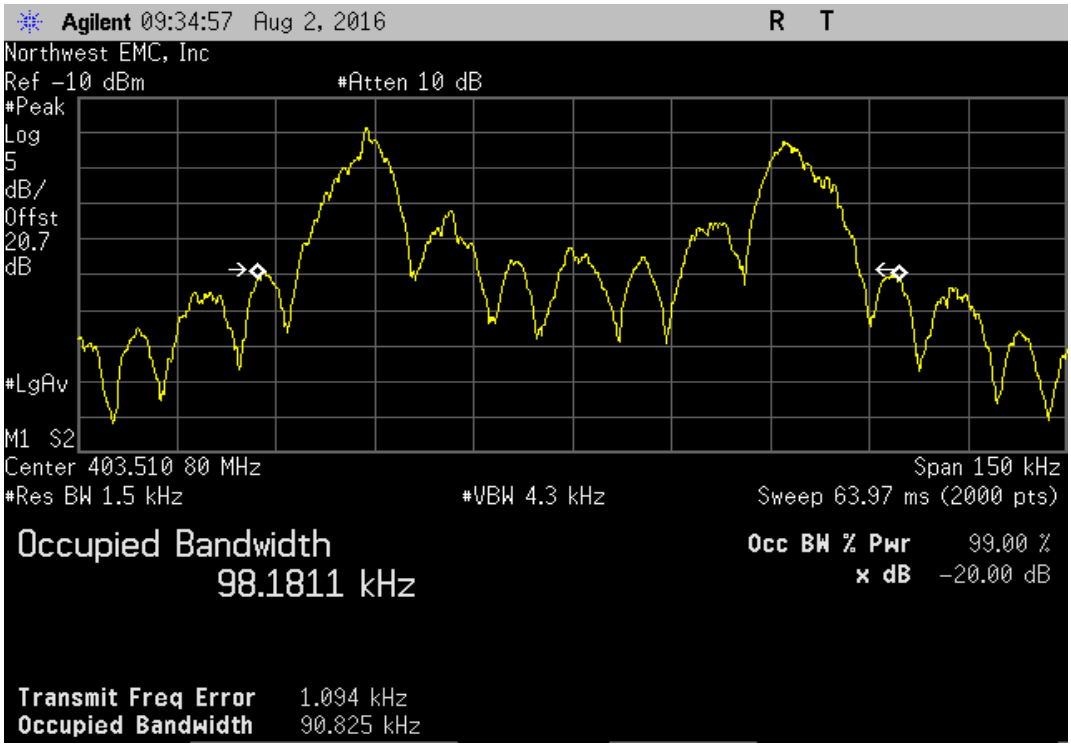
DEVIATIONS FROM TEST STANDARD

None

Configuration #	**5**	*Signature* Dustin Sparks

	Value	**Limit (≤)**	**Result**
Antenna Port C			
Mid Band, 403.5108 MHz (Gen 1/2)	90.825 kHz	300 kHz	Pass

Antenna Port C, Mid Band, 403.5108 MHz (Gen 1/2)						
				Value	Limit (≤)	Result
				90.825 kHz	300 kHz	Pass



OUTPUT POWER

XMit 2016.05.06

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.	Cal. Due
Attenuator	S.M. Electronics	SA26B-20	RFW	2/26/2016	2/26/2017
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	9/18/2016
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	9/18/2016
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. 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 configured in the modes listed in the datasheet. The EUT was transmitting at its maximum data rate.

LP0002 has no conducted output power limit. It is a requirement to characterize this information and that data is contained within this datasheet.

OUTPUT POWER

NORTHWEST EMC

XMit 2016.05.06

EUT:	Model 3300			Work Order:	BSTN0663
Serial Number:	097			Date:	08/02/16
Customer:	Boston Scientific Corporation			Temperature:	23.4 °C
Attendees:	None			Humidity:	59.4% RH
Project:	Laramie Vision			Barometric Pres.:	1020 mbar
Tested by:	Dustin Sparks	Power:	110VAC/60Hz	Job Site:	MN08

TEST SPECIFICATIONS	Test Method
LP0002:2016	LP0002:2016

COMMENTS

Total reference level offset (DC block + 20dB attenuator + RF cable) is 20.7dB.

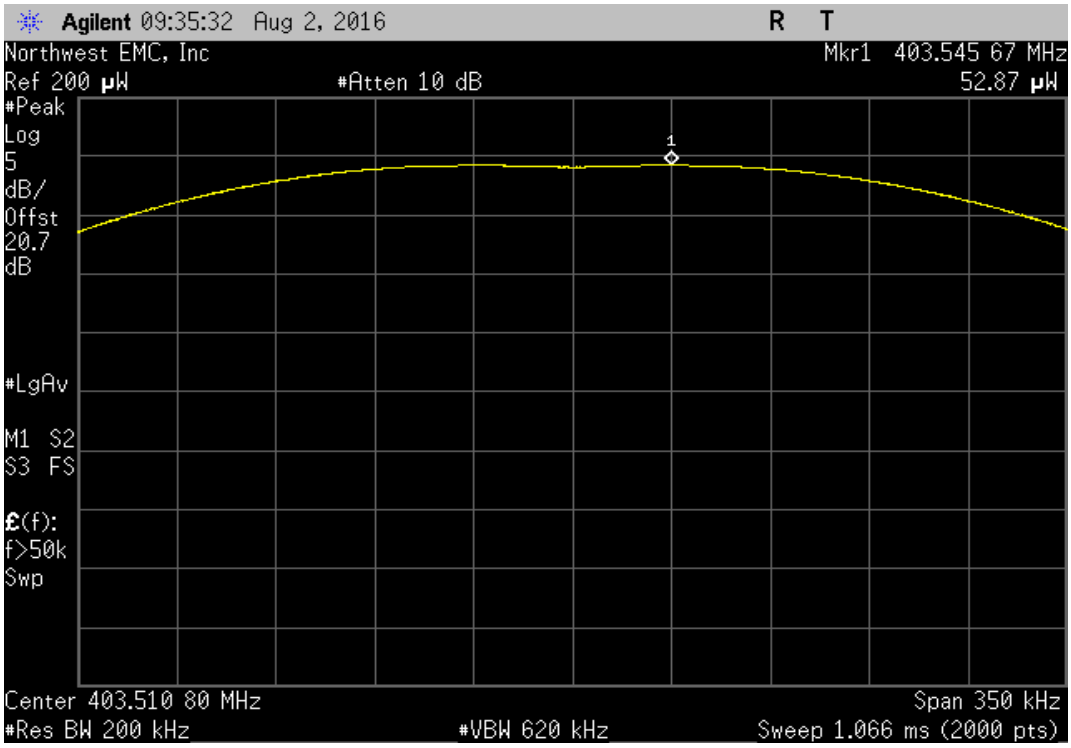
DEVIATIONS FROM TEST STANDARD

None

Configuration #	5	Signature

	Value	Limit	Result
Antenna Port C			
Mid Band, 403.5108 MHz (Gen 1/2)	52.869 uW	N/A	N/A

Antenna Port C, Mid Band, 403.5108 MHz (Gen 1/2)						
				Value	Limit	Result
				52.869 uW	N/A	N/A



EMISSIONS MASK

XMit 2016.05.06

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TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	9/18/2016
Attenuator	S.M. Electronics	SA26B-20	RFW	2/26/2016	2/26/2017
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	9/18/2016
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. 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 MedRadio 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

NORTHWEST EMC

XMit 2016.05.06

EUT:	**Model 3300**			**Work Order:**	**BSTN0663**
Serial Number:	**58**			**Date:**	**08/02/16**
Customer:	**Boston Scientific Corporation**			**Temperature:**	**23.7 °C**
Attendees:	**None**			**Humidity:**	**58.9% RH**
Project:	**Laramie Vision**			**Barometric Pres.:**	**1020 mbar**
Tested by:	**Dustin Sparks**	**Power:**	**110VAC/60Hz**	**Job Site:**	**MN08**

TEST SPECIFICATIONS	**Test Method**
LP0002:2016	**LP0002:2016**

COMMENTS

Transmitting MedRadio 2 Channel (Gen 1/2). Total reference level offset (DC block + 20dB attenuator + RF cable) is 20.7dB.

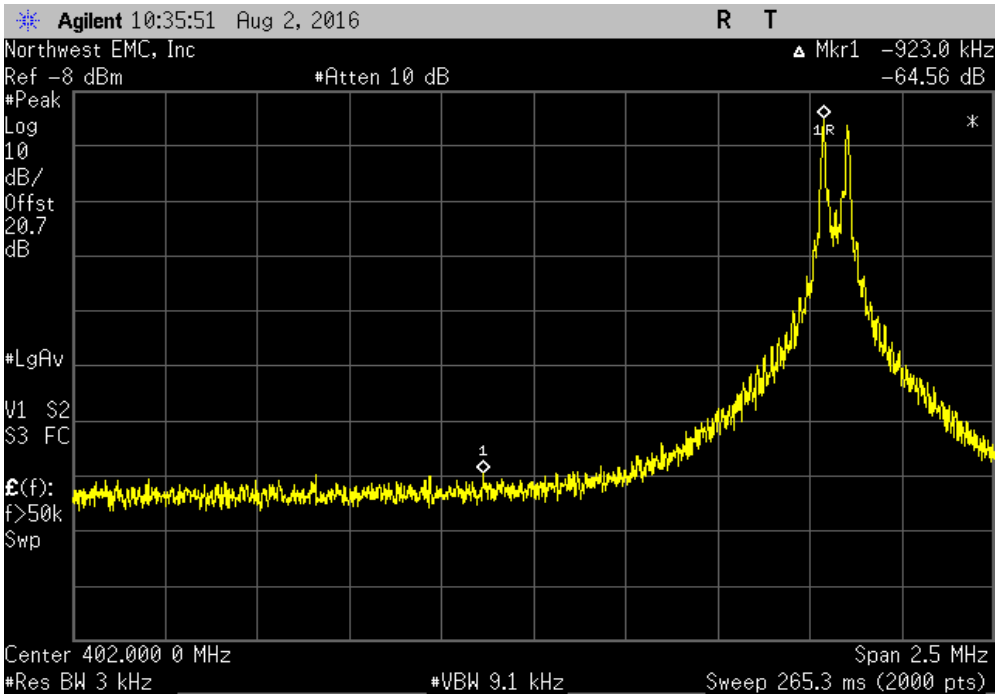
DEVIATIONS FROM TEST STANDARD

None

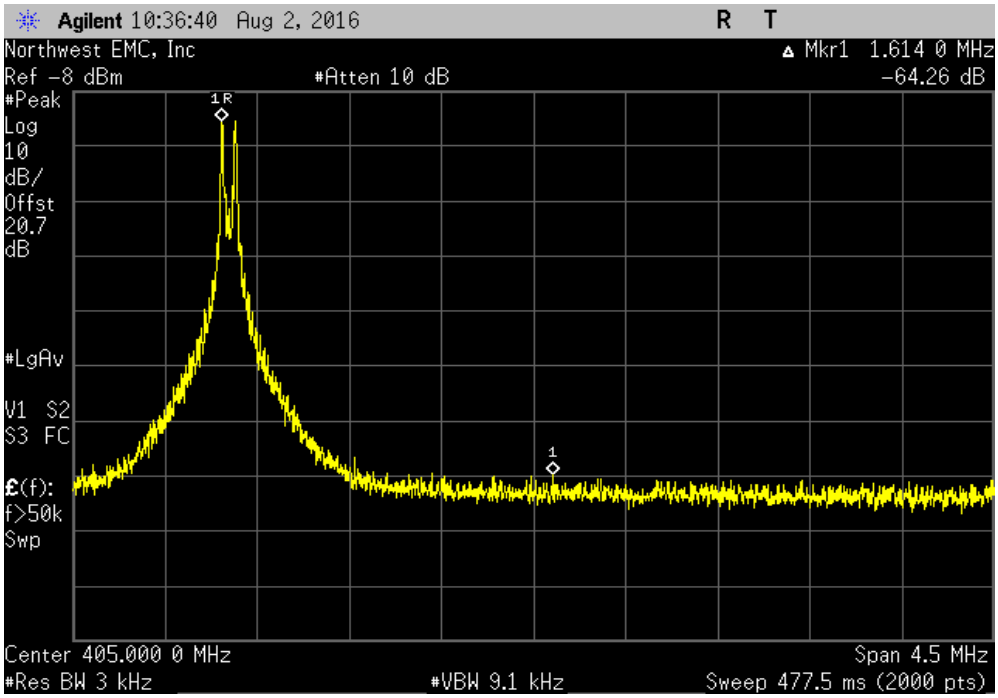
Configuration #	**5**	*Signature*

	Value (dBc)	**Limit ≤ (dBc)**	**Result**
Antenna Port C			
402.8183 MHz (Gen 1/2)	-64.56	-20	Pass
403.5108 MHz (Gen 1/2)	-64.26	-20	Pass

Antenna Port C, 402.8183 MHz (Gen 1/2)						
				Value (dBc)	Limit ≤ (dBc)	Result
				-64.56	-20	Pass



Antenna Port C, 403.5108 MHz (Gen 1/2)						
				Value (dBc)	Limit ≤ (dBc)	Result
				-64.26	-20	Pass



SPURIOUS CONDUCTED EMISSIONS

XMit 2016.05.06

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.	Cal. Due
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	9/18/2016
Attenuator	S.M. Electronics	SA26B-20	RFW	2/26/2016	2/26/2017
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	9/18/2016
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. Per FCC Part 2.1052 the spurious emissions shall be measured at the RF terminal. The peak spurious emissions were measured with the EUT configured to the modes listed in the datasheet. The EUT was transmitting at its maximum data rate.

SPURIOUS CONDUCTED EMISSIONS

NORTHWEST EMC

XMit 2016.05.06

EUT:	Model 3300			Work Order:	BSTN0663
Serial Number:	58			Date:	08/02/16
Customer:	Boston Scientific Corporation			Temperature:	23.5 °C
Attendees:	None			Humidity:	59.3% RH
Project:	Laramie Vision			Barometric Pres.:	1020 mbar
Tested by:	Dustin Sparks	Power:	110VAC/60Hz	Job Site:	MN08

TEST SPECIFICATIONS	Test Method
LP0002:2016	LP0002:2016

COMMENTS

Transmitting MedRadio 2 Channel (Gen 1/2). Total reference level offset (DC block + 20dB attenuator + RF cable) is 20.7dB.

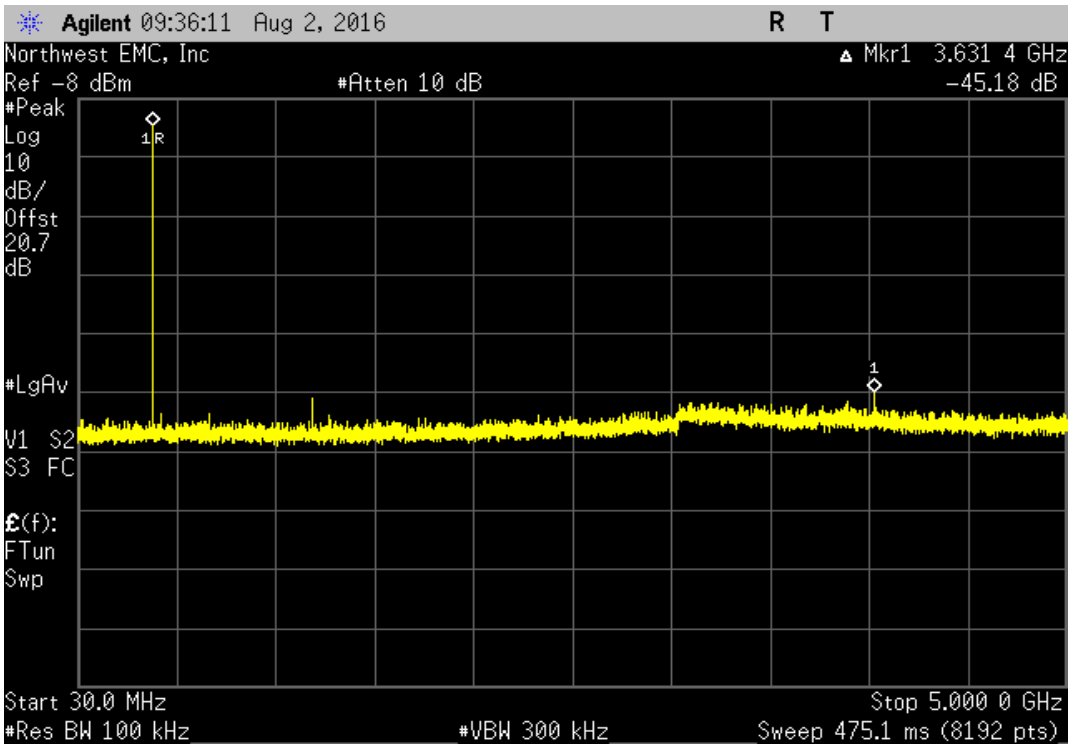
DEVIATIONS FROM TEST STANDARD

None

Configuration #	5	Signature

	Frequency Range	Max Value (dBc)	Limit A (dBc)	Result
Antenna Port C				
Mid Band, 403.5108 MHz (Gen 1/2)	30 MHz - 5 GHz	-45.18	≤ -20	Pass

Antenna Port C, Mid Band, 403.5108 MHz (Gen 1/2)						
	Frequency Range			Max Value (dBc)	Limit A (dBc)	Result
	30 MHz - 5 GHz			-45.18	≤ -20	Pass



FREQUENCY STABILITY

XMit 2016.05.06

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.	Cal. Due
Thermometer	Omega Engineering, Inc.	HH311	DUB	11/3/2014	11/3/2017
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPH-32-3.5-SCT/AC	TBF	10/21/2015	10/21/2016
Meter - Multimeter	Fluke	114	MMU	6/30/2014	6/30/2017
Generator - Signal	Agilent	N5182A	TIF	8/12/2014	8/12/2017
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	9/18/2016
Attenuator	S.M. Electronics	SA26B-20	RFW	2/26/2016	2/26/2017
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	9/18/2016
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT 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.

Variation of Supply Voltage

The primary supply voltage was varied from 85% to 115% of the nominal voltage. 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 (+0°C, +10°C, +20°C, +30°C, +40°C, +50°C, and +55° C).

FREQUENCY STABILITY

NORTHWEST EMC

XMit 2016.05.06

EUT:	Model 3300	Work Order:	BSTN0663
Serial Number:	58	Date:	08/10/16
Customer:	Boston Scientific Corporation	Temperature:	23.3 °C
Attendees:	None	Humidity:	65.1% RH
Project:	Laramie Vision	Barometric Pres.:	1016 mbar
Tested by:	Dustin Sparks	Power: 110VAC/60Hz	Job Site: MN08

TEST SPECIFICATIONS	Test Method
LP0002:2016	LP0002:2016

COMMENTS

Transmitting MedRadio 2 Channel (Gen 1/2), antenna port C

DEVIATIONS FROM TEST STANDARD

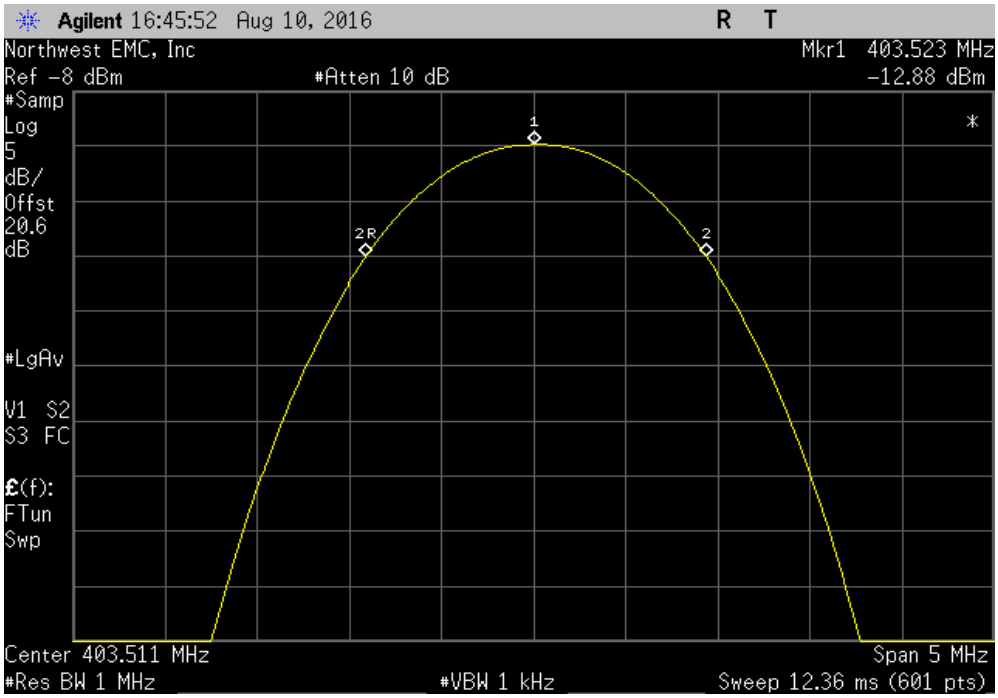
None

Configuration #	6	Signature

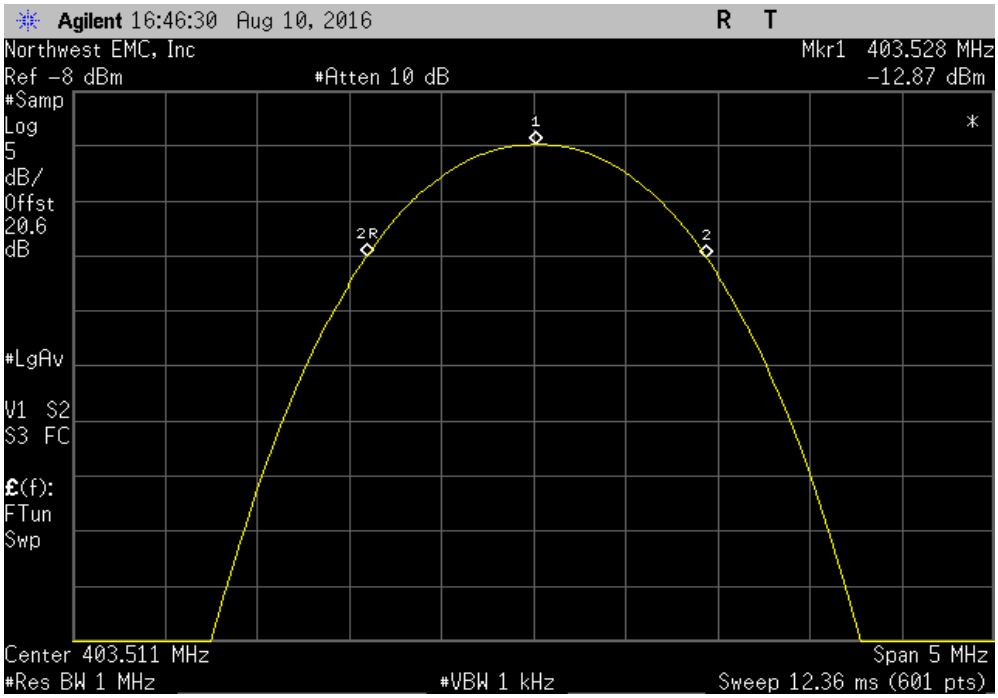
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
Normal Voltage					
403.5108 MHz	403.523	403.5108	30.2	100	Pass
Extreme Voltage +15%					
403.5108 MHz	403.528	403.5108	42.6	100	Pass
Extreme Voltage -15%					
403.5108 MHz	403.527	403.5108	40.2	100	Pass
Extreme Temperature +55°C					
403.5108 MHz	403.528	403.5108	42.6	100	Pass
Extreme Temperature +50°C					
403.5108 MHz	403.523	403.5108	30.2	100	Pass
Extreme Temperature +40°C					
403.5108 MHz	403.523	403.5108	30.2	100	Pass
Extreme Temperature +30°C					
403.5108 MHz	403.528	403.5108	42.6	100	Pass
Extreme Temperature +20°C					
403.5108 MHz	403.528	403.5108	42.6	100	Pass
Extreme Temperature +10°C					
403.5108 MHz	403.532	403.5108	52.5	100	Pass
Extreme Temperature 0°C					
403.5108 MHz	403.532	403.5108	52.5	100	Pass

FREQUENCY STABILITY

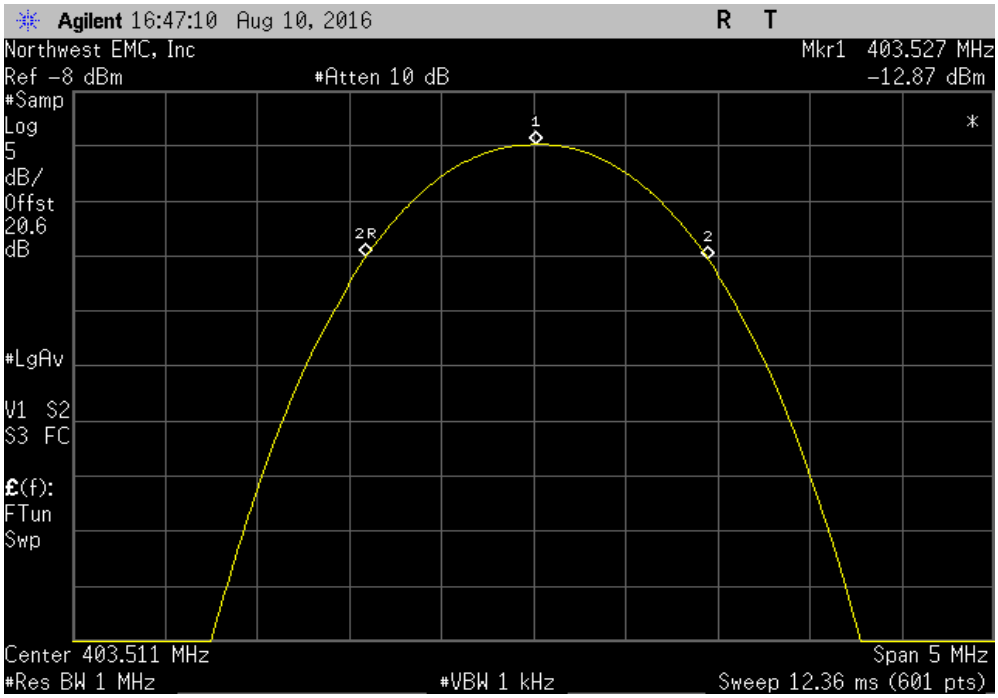
Normal Voltage, 403.5108 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.523	403.5108	30.2	100	Pass



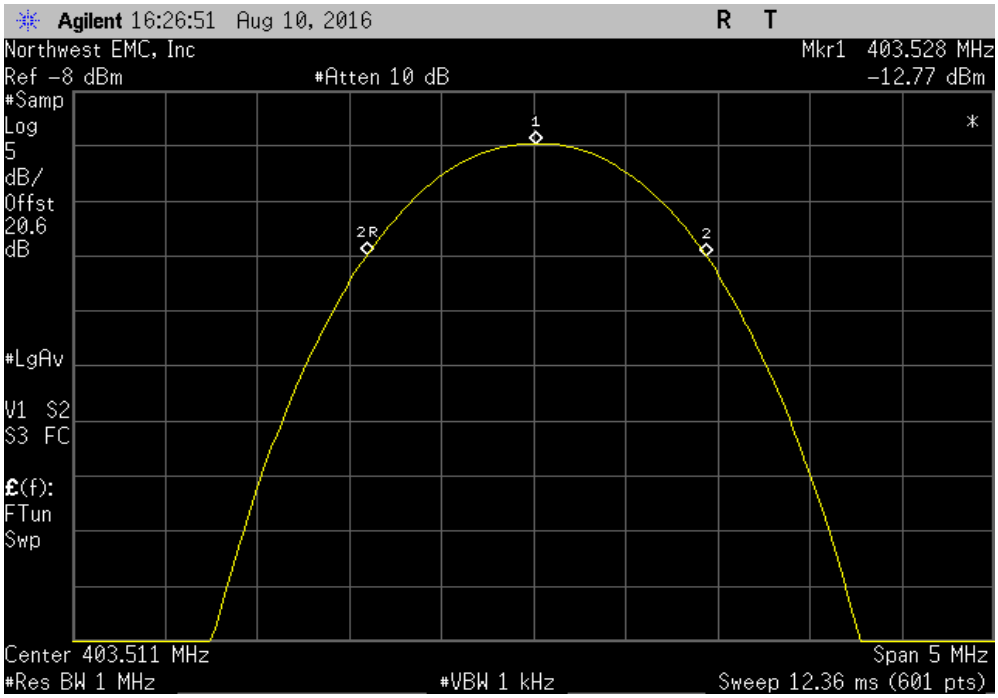
Extreme Voltage +15%, 403.5108 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.528	403.5108	42.6	100	Pass



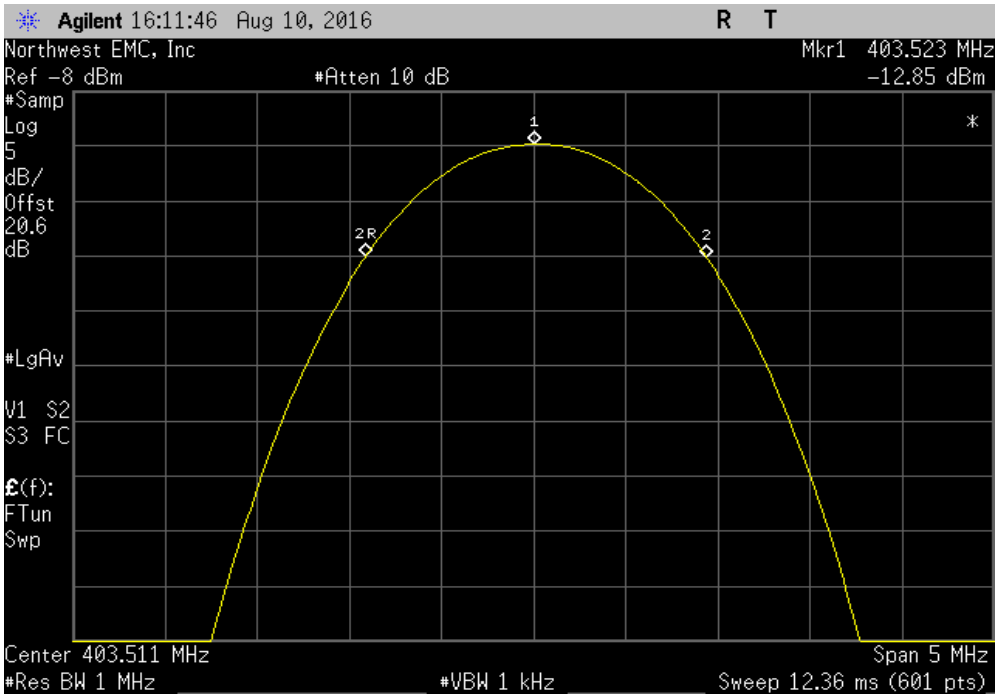
Extreme Voltage -15%, 403.5108 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.527	403.5108	40.2	100	Pass



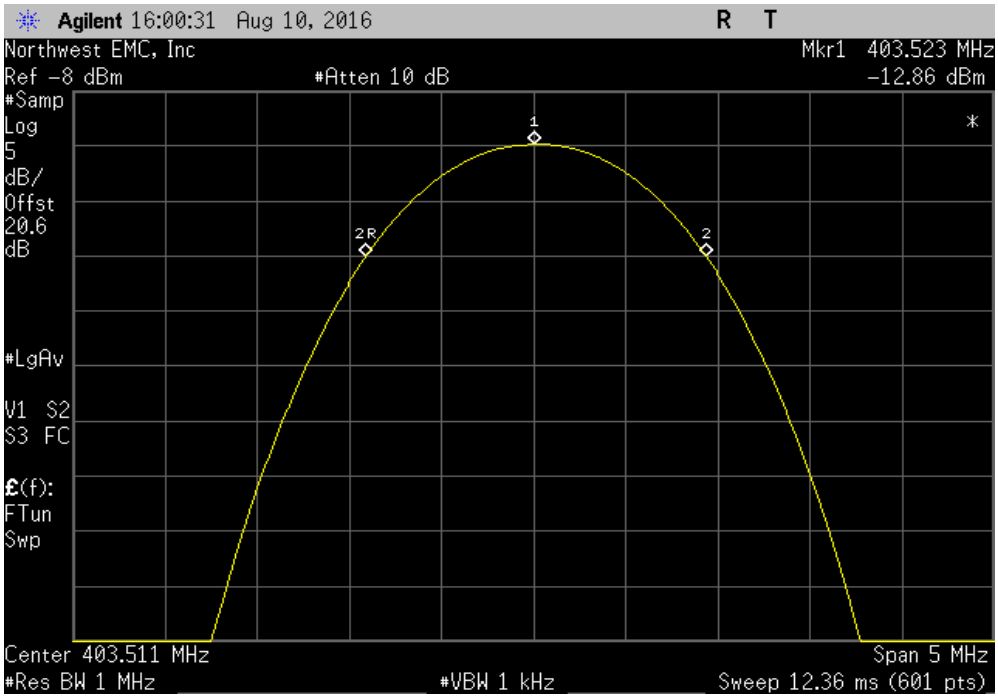
Extreme Temperature +55°C, 403.5108 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.528	403.5108	42.6	100	Pass



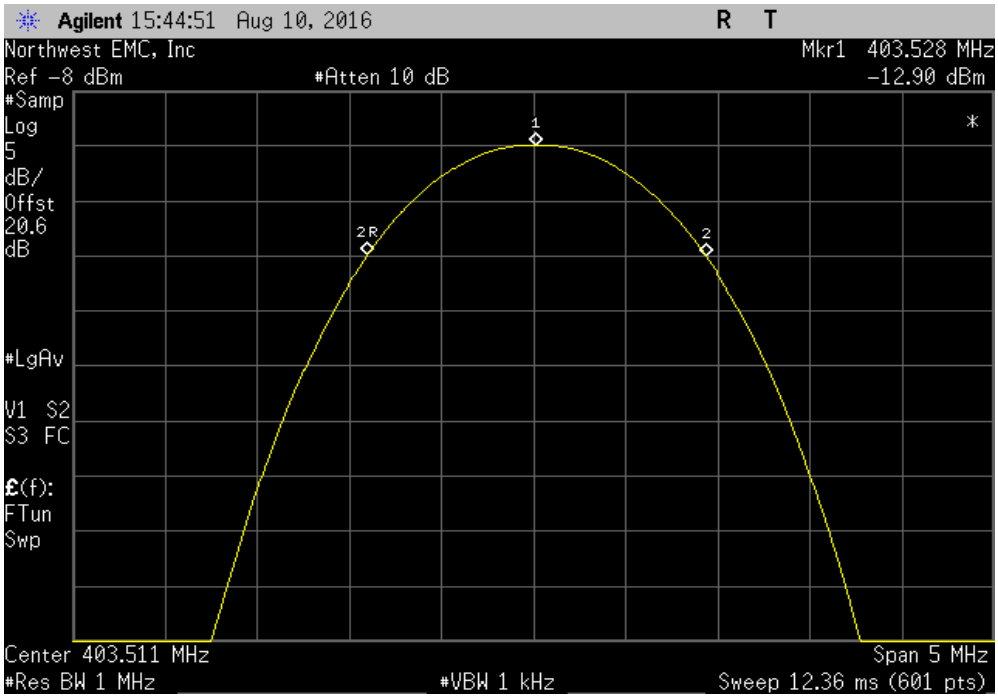
Extreme Temperature +50°C, 403.5108 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.523	403.5108	30.2	100	Pass



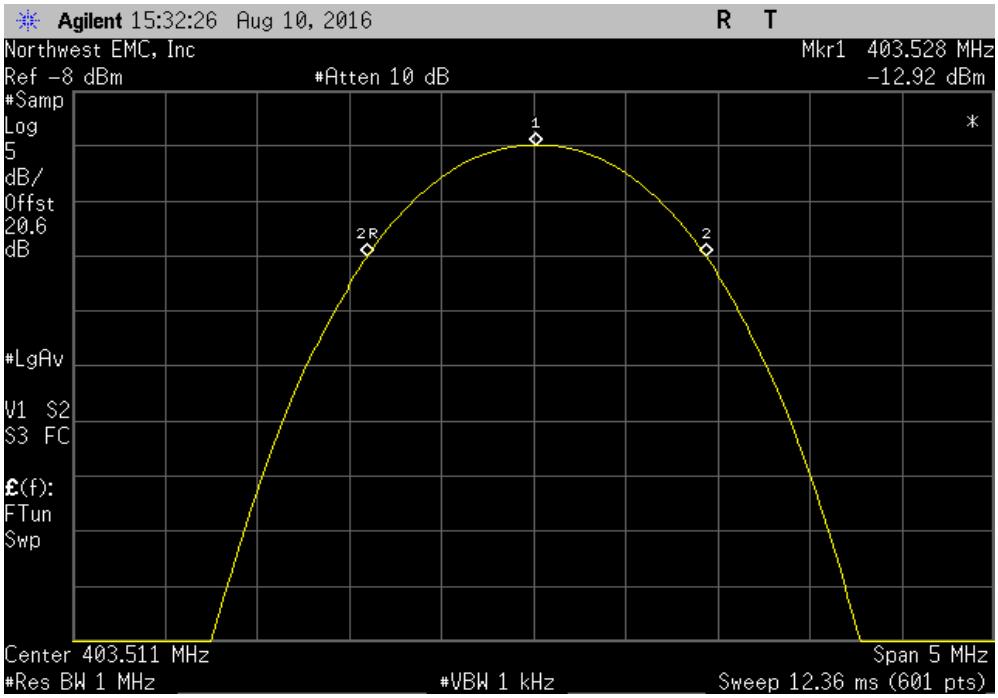
Extreme Temperature +40°C, 403.5108 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.523	403.5108	30.2	100	Pass



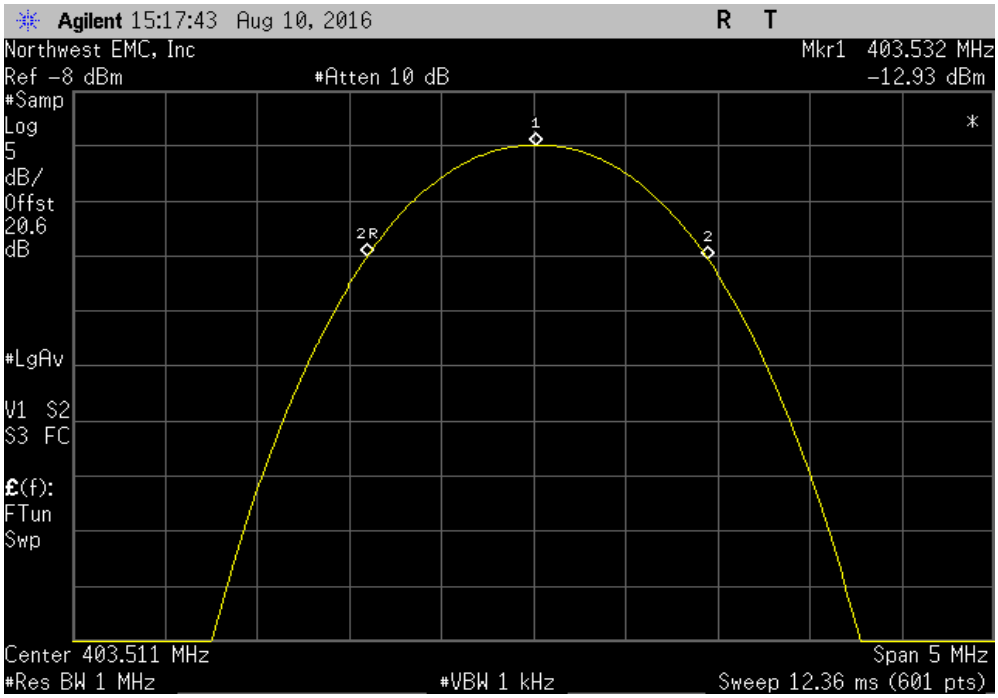
Extreme Temperature +30°C, 403.5108 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.528	403.5108	42.6	100	Pass



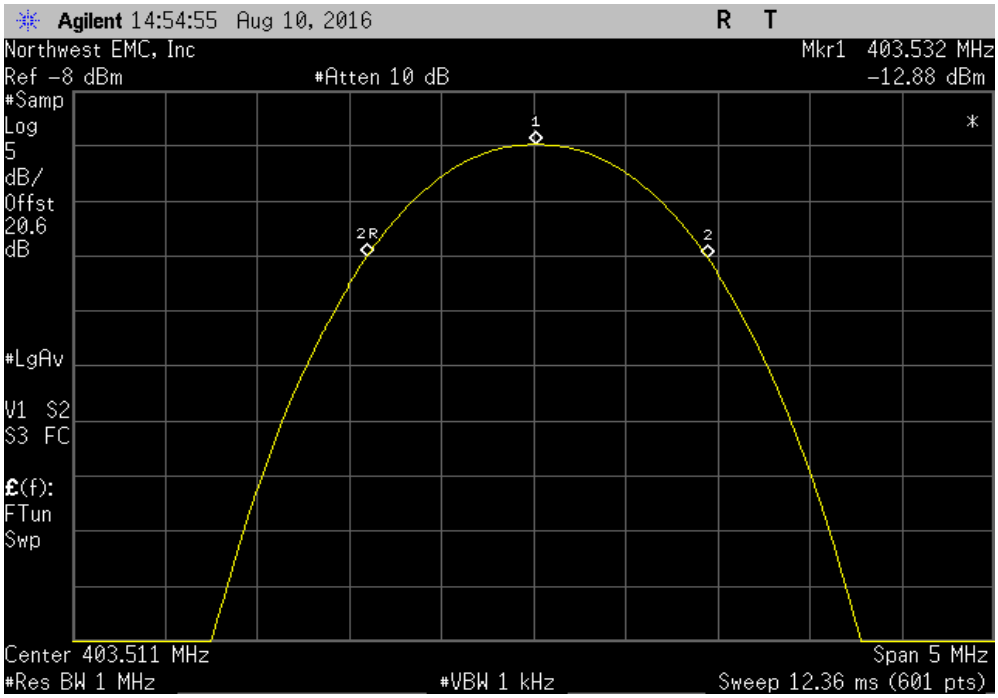
Extreme Temperature +20°C, 403.5108 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.528	403.5108	42.6	100	Pass



Extreme Temperature +10°C, 403.5108 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.532	403.5108	52.5	100	Pass



Extreme Temperature 0°C, 403.5108 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.532	403.5108	52.5	100	Pass



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

Transmit, 403.5108 MHz, CW

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

BSTN0663 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency	902 MHz	Stop Frequency	905 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
Power Sensor	Agilent	N8481A	SQN	8/17/2015	12 mo
Meter - Power	Agilent	N1913A	SQL	8/17/2015	12 mo
Antenna - Dipole	EMCO	3121C-DB4	ADI	2/10/2016	36 mo
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	36 mo
Cable	ESM Cable Corp.	Bilog Cables	MNH	12/7/2015	12 mo
Antenna - Biconilog	Teseq	CBL 6141B	AYD	1/6/2016	24 mo
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFI	1/27/2016	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

Per LP0002 the maximum radiated field strength for a MedRadio transmitter in the 402-405 MHz band 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.

EIRP

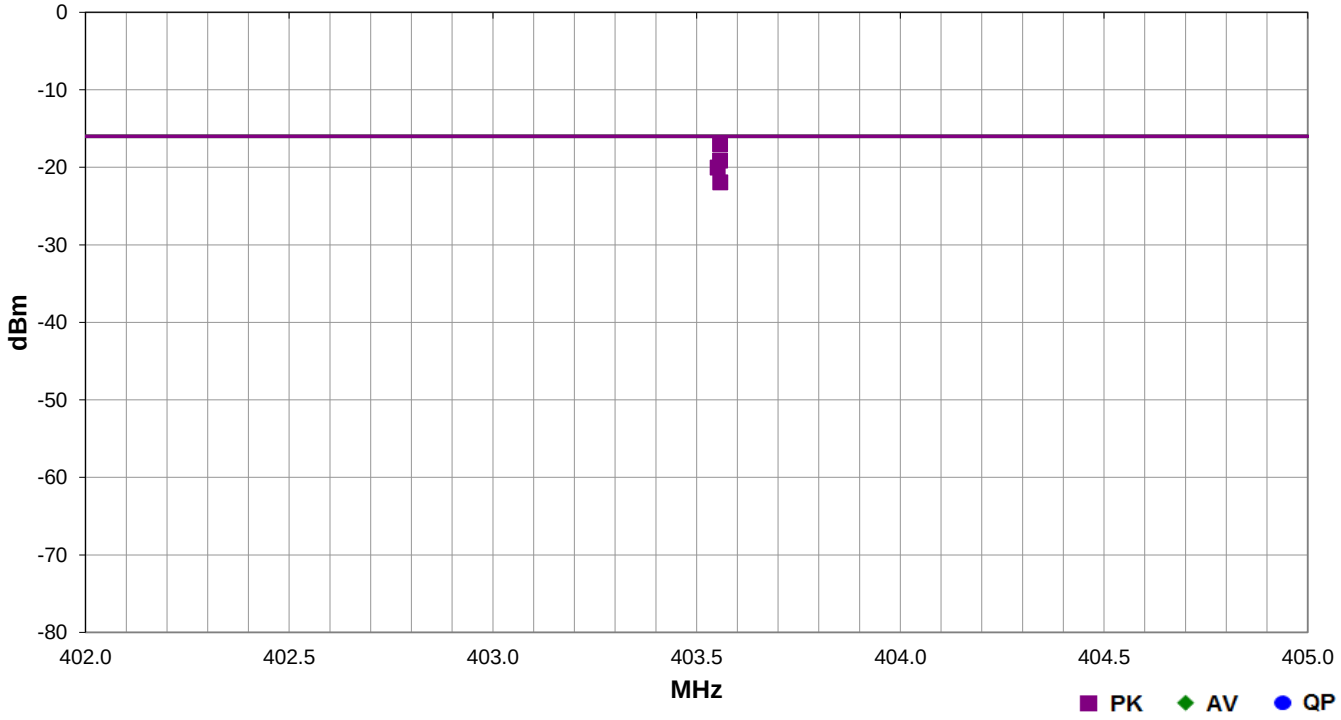
NORTHWEST EMC

PSA-ESCI 2016.04.26.1
EmiR5 2016.04.26.1

Work Order:	BSTN0663	**Date:**	07/20/16		
Project:	Laramie Vision	**Temperature:**	24.2 °C		
Job Site:	MN05	**Humidity:**	57.6% RH		
Serial Number:	097	**Barometric Pres.:**	1019 mbar	**Tested by:**	Jared Ison
EUT:	Model 3300				
Configuration:	2				
Customer:	Boston Scientific Corporation				
Attendees:	Pete Musto				
EUT Power:	110VAC/60Hz				
Operating Mode:	Transmit, 403.5108 MHz, CW				
Deviations:	None				
Comments:	2 Channel.				

Test Specifications	**Test Method**
LP0002:2016	LP0002:2016

Run #	44	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
	403.558	1.0	12.1	Horz	PK	1.98E-05	-17.03	-16.0	-1.0	Ch. 10: 403.5108 MHz, Ant C, EUT Horz
	403.558	2.3	9.0	Horz	PK	1.22E-05	-19.13	-16.0	-3.1	Ch. 10: 403.5108 MHz, Ant C, EUT Vert
	403.552	2.6	93.0	Vert	PK	9.93E-06	-20.03	-16.0	-4.0	Ch. 10: 403.5108 MHz, Ant C, EUT Horz
	403.558	1.0	108.1	Vert	PK	6.41E-06	-21.93	-16.0	-5.9	Ch. 10: 403.5108 MHz, Ant C, EUT Vert

SPURIOUS RADIATED EMISSIONS

NORTHWEST EMC

PSA-ESCI 2016.04.26.1

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

Transmit. Mid Channel 10, 403.5108 MHz, FSK Modulation

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

BSTN0663 - 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
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AVO	12/10/2015	12 mo
Cable	ESM Cable Corp.	Bilog Cables	MNH	12/7/2015	12 mo
Antenna - Biconilog	Teseq	CBL 6141B	AYD	1/6/2016	24 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVT	3/1/2016	12 mo
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	12/7/2015	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIB	8/12/2014	24 mo
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFI	1/27/2016	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 highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured in the modes listed in the datasheet. 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 C63.10). A preamp was used for this test in order to provide sufficient measurement sensitivity.

SPURIOUS RADIATED EMISSIONS

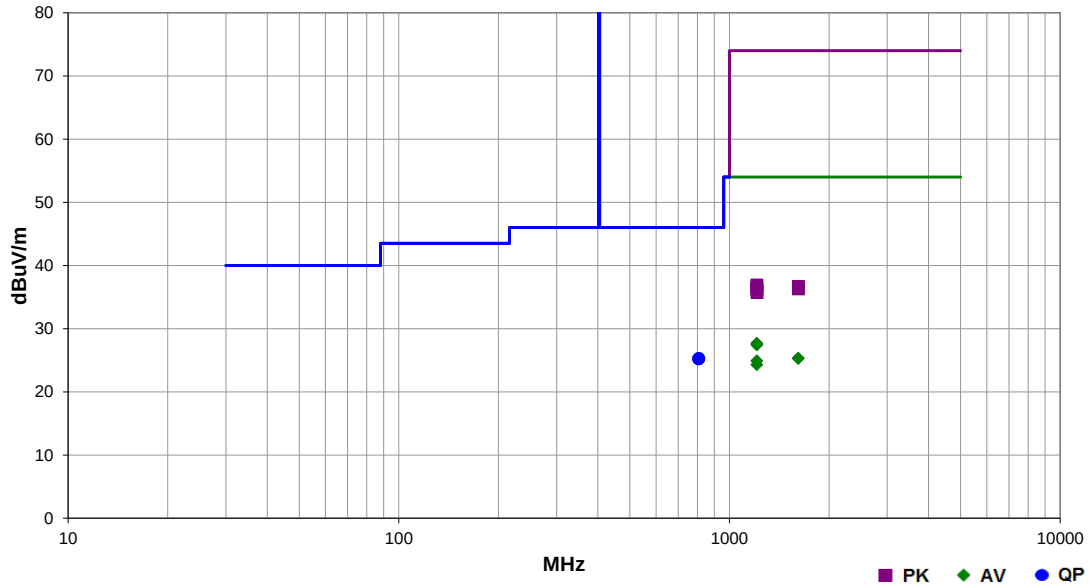
NORTHWEST EMC

PSA-ESCI 2016.04.26.1
EmiR5 2016.04.26.1

Work Order:	BSTN0663	**Date:**	07/26/16		
Project:	Laramie Vision	**Temperature:**	23.7 °C		
Job Site:	MN05	**Humidity:**	56.4% RH		
Serial Number:	097	**Barometric Pres.:**	1020 mbar	**Tested by:**	Jared Ison
EUT:	Model 3300				
Configuration:	3				
Customer:	Boston Scientific Corporation				
Attendees:	None				
EUT Power:	110VAC/60Hz				
Operating Mode:	Transmit. Mid Channel 10, 403.5108 MHz, FSK Modulation				
Deviations:	None.				
Comments:	2 Channel				

Test Specifications	**Test Method**
LP0002:2016	LP0002:2016

Run #	113	**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
807.073	15.3	10.0	1.0	264.0	3.0	0.0	Horz	QP	0.0	25.3	46.0	-20.7	Mid Ch 10, 403.51 MHz, Ant C, EUT Vert
806.592	15.1	10.1	1.0	190.0	3.0	0.0	Vert	QP	0.0	25.2	46.0	-20.8	Mid Ch 10, 403.51 MHz, Ant C, EUT Vert
1210.420	35.3	-7.6	1.2	14.0	3.0	0.0	Vert	AV	0.0	27.7	54.0	-26.3	Mid Ch 10, 403.51 MHz, Ant C, EUT Vert
1210.605	35.0	-7.6	1.0	360.0	3.0	0.0	Horz	AV	0.0	27.4	54.0	-26.6	Mid Ch 10, 403.51 MHz, Ant C, EUT Vert
1614.580	31.5	-6.2	1.0	46.0	3.0	0.0	Horz	AV	0.0	25.3	54.0	-28.7	Mid Ch 10, 403.51 MHz, Ant C, EUT Vert
1615.105	31.5	-6.2	1.0	166.1	3.0	0.0	Vert	AV	0.0	25.3	54.0	-28.7	Mid Ch 10, 403.51 MHz, Ant C, EUT Vert
1210.530	32.5	-7.6	1.0	39.0	3.0	0.0	Horz	AV	0.0	24.9	54.0	-29.1	Mid Ch 10, 403.51 MHz, Ant C, EUT Horz
1210.460	31.9	-7.6	1.0	312.9	3.0	0.0	Vert	AV	0.0	24.3	54.0	-29.7	Mid Ch 10, 403.51 MHz, Ant C, EUT Horz
1210.345	44.5	-7.6	1.2	14.0	3.0	0.0	Vert	PK	0.0	36.9	74.0	-37.1	Mid Ch 10, 403.51 MHz, Ant C, EUT Vert
1615.405	42.9	-6.2	1.0	46.0	3.0	0.0	Horz	PK	0.0	36.7	74.0	-37.3	Mid Ch 10, 403.51 MHz, Ant C, EUT Vert
1210.125	44.1	-7.6	1.0	39.0	3.0	0.0	Horz	PK	0.0	36.5	74.0	-37.5	Mid Ch 10, 403.51 MHz, Ant C, EUT Horz
1615.015	42.5	-6.2	1.0	166.1	3.0	0.0	Vert	PK	0.0	36.3	74.0	-37.7	Mid Ch 10, 403.51 MHz, Ant C, EUT Vert
1210.525	43.8	-7.6	1.0	360.0	3.0	0.0	Horz	PK	0.0	36.2	74.0	-37.8	Mid Ch 10, 403.51 MHz, Ant C, EUT Vert
1210.770	43.3	-7.6	1.0	312.9	3.0	0.0	Vert	PK	0.0	35.7	74.0	-38.3	Mid Ch 10, 403.51 MHz, Ant C, EUT Horz

CONDUCTED EMISSIONS

WTD.2016.05.18

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. Per the standard, an insulating material was also added to ground plane between the EUT's power and remote I/O cables. 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 50ohm measuring port is terminated by a 50ohm EMI meter or a 50ohm resistive load. All 50ohm measuring ports of the LISN are terminated by 50ohm. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
LISN	Solar Electronics	9252-50-R-24-BNC	LIY	3/21/2016	3/21/2017
Cable - Conducted Cable Assembly	Northwest EMC	MNC, HGN, TYK	MNCA	1/29/2016	1/29/2017
Receiver	Rohde & Schwarz	ESR7	ARI	6/14/2016	6/14/2017

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	2.4 dB	-2.4 dB

CONFIGURATIONS INVESTIGATED

BSTN0663-3

MODES INVESTIGATED

Transmitting MedRadio, 403.5108 MHz

CONDUCTED EMISSIONS

EUT:	Model 3300	Work Order:	BSTN0663
Serial Number:	097	Date:	08/11/2016
Customer:	Boston Scientific Corporation	Temperature:	23.6°C
Attendees:	None	Relative Humidity:	57%
Customer Project:	Laramie Vision	Bar. Pressure:	1012 mb
Tested By:	Dustin Sparks	Job Site:	MN03
Power:	110VAC/60Hz	Configuration:	BSTN0663-3

TEST SPECIFICATIONS

Specification:	Method:
LP0002:2016	LP0002:2016

TEST PARAMETERS

Run #:	7	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

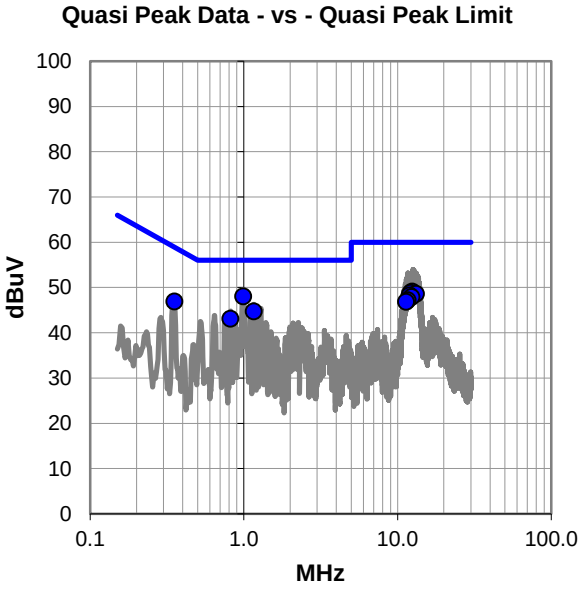
Antenna port C

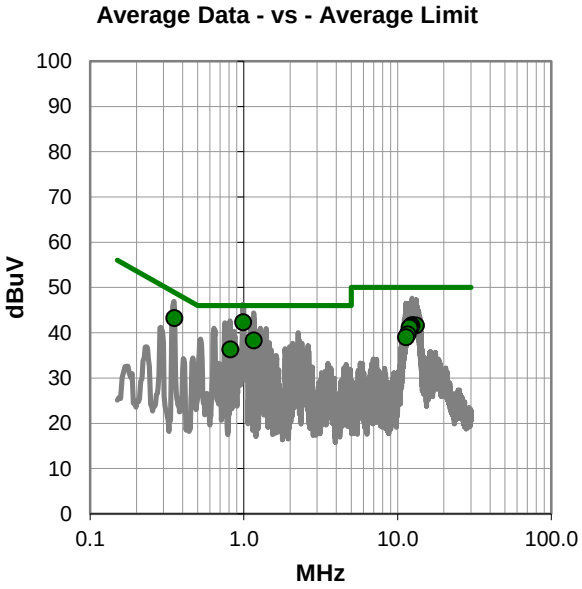
EUT OPERATING MODES

Transmitting MedRadio, 403.5108 MHz

DEVIATIONS FROM TEST STANDARD

None





CONDUCTED EMISSIONS

NORTHWEST EMC
WTD.2016.05.18

RESULTS - Run #7

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.990	27.9	20.1	48.0	56.0	-8.0
12.462	28.3	20.8	49.1	60.0	-10.9
12.170	28.0	20.8	48.8	60.0	-11.2
1.161	24.6	20.1	44.7	56.0	-11.3
13.213	27.7	20.9	48.6	60.0	-11.4
12.003	27.4	20.8	48.2	60.0	-11.8
0.354	26.7	20.2	46.9	58.9	-12.0
12.317	27.1	20.8	47.9	60.0	-12.1
11.679	26.5	20.7	47.2	60.0	-12.8
0.820	23.0	20.1	43.1	56.0	-12.9
11.372	26.1	20.7	46.8	60.0	-13.2

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.990	22.2	20.1	42.3	46.0	-3.7
0.354	23.0	20.2	43.2	48.9	-5.7
1.161	18.2	20.1	38.3	46.0	-7.7
12.462	20.9	20.8	41.7	50.0	-8.3
13.213	20.7	20.9	41.6	50.0	-8.4
12.317	20.7	20.8	41.5	50.0	-8.5
12.170	20.4	20.8	41.2	50.0	-8.8
12.003	20.3	20.8	41.1	50.0	-8.9
0.820	16.2	20.1	36.3	46.0	-9.7
11.679	18.9	20.7	39.6	50.0	-10.4
11.372	18.3	20.7	39.0	50.0	-11.0

CONCLUSION

Pass

Dustin Sparks

Tested By

CONDUCTED EMISSIONS

EUT:	Model 3300	Work Order:	BSTN0663
Serial Number:	097	Date:	08/11/2016
Customer:	Boston Scientific Corporation	Temperature:	23.6°C
Attendees:	None	Relative Humidity:	57%
Customer Project:	Laramie Vision	Bar. Pressure:	1012 mb
Tested By:	Dustin Sparks	Job Site:	MN03
Power:	110VAC/60Hz	Configuration:	BSTN0663-3

TEST SPECIFICATIONS

Specification:	Method:
LP0002:2016	LP0002:2016

TEST PARAMETERS

Run #:	8	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

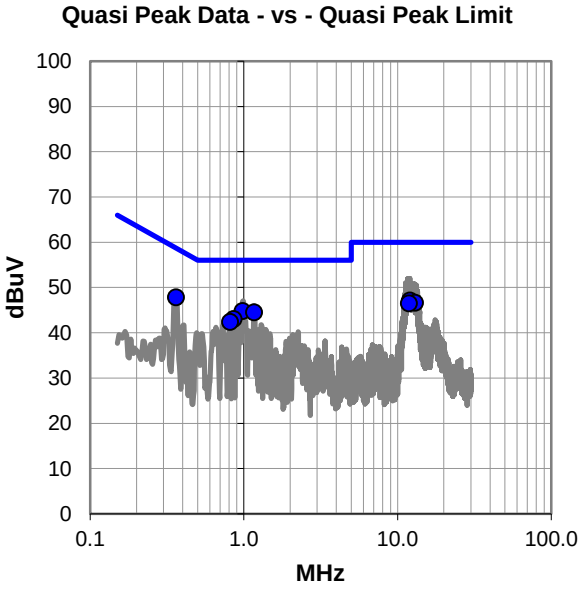
Antenna port C

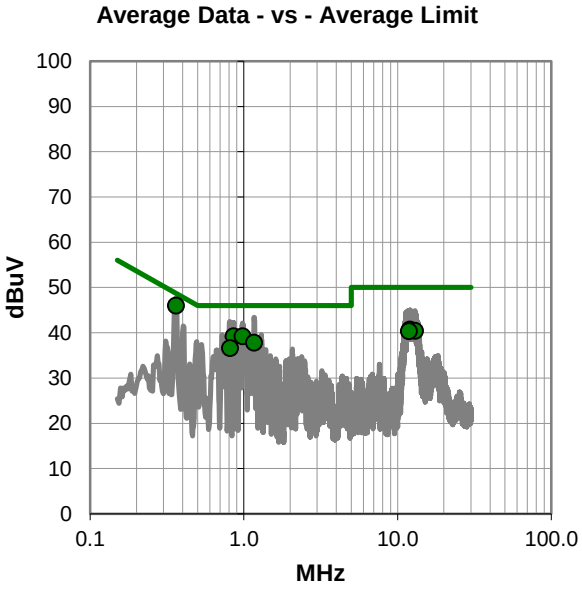
EUT OPERATING MODES

Transmitting MedRadio, 403.5108 MHz

DEVIATIONS FROM TEST STANDARD

None





CONDUCTED EMISSIONS

NORTHWEST EMC
WTD.2016.05.18

RESULTS - Run #8

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.362	27.6	20.2	47.8	58.7	-10.9
0.984	24.7	20.1	44.8	56.0	-11.2
1.165	24.4	20.1	44.5	56.0	-11.5
12.063	26.3	20.8	47.1	60.0	-12.9
0.857	22.9	20.1	43.0	56.0	-13.0
13.010	25.7	20.9	46.6	60.0	-13.4
11.887	25.7	20.8	46.5	60.0	-13.5
0.815	22.3	20.1	42.4	56.0	-13.6

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.362	25.8	20.2	46.0	48.7	-2.7
0.857	19.1	20.1	39.2	46.0	-6.8
0.984	19.1	20.1	39.2	46.0	-6.8
1.165	17.7	20.1	37.8	46.0	-8.2
12.063	19.9	20.8	40.7	50.0	-9.3
0.815	16.5	20.1	36.6	46.0	-9.4
13.010	19.5	20.9	40.4	50.0	-9.6
11.887	19.5	20.8	40.3	50.0	-9.7

CONCLUSION

Pass

Dustin Sparks

Tested By