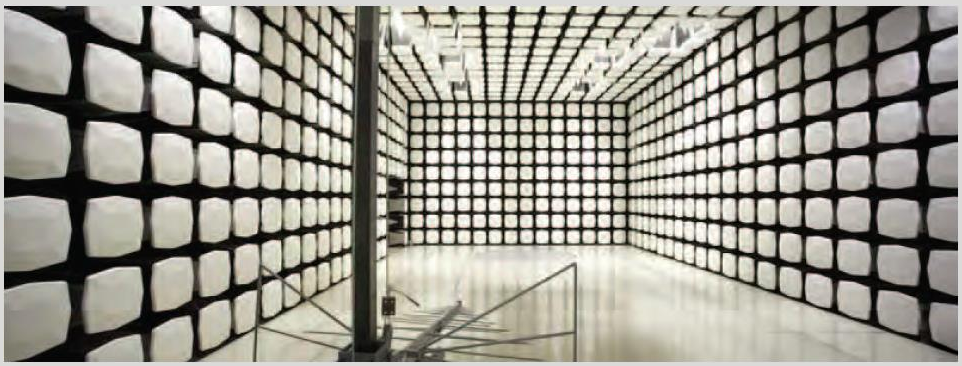
Axonics Modulation Technologies, Inc.

Implantable Pulse Generator (IPG), model 4101

FCC 95I:2021
MedRadio

Report: AXON0180.4 Rev. 1, Issue Date: March 8, 2022



NVLAP LAB CODE: 200676-0

CERT #3310.04

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CERTIFICATE OF TEST

Last Date of Test: October 25, 2021
Axonics Modulation Technologies, Inc.
EUT: Implantable Pulse Generator (IPG), model 4101

Radio Equipment Testing

Standards

Specification	Method
FCC 95I:2021	ANSI C63.26:2015

Results

Method Clause	Test Description	Applied	Results	Comments
ANSI C63.26 5.2.3.3	Duty Cycle Characterization	Yes	N/A	Characterization of radio operation.
ANSI C63.26 5.2.3.3	Conducted Output Power	Yes	N/A	Characterization of radio operation.
ANSI C63.26 5.2.3.3, 5.2.7	Radiated Power (EIRP)	Yes	Pass	
ANSI C63.26 5.4.3	Emission Bandwidth	Yes	Pass	
ANSI C63.26 5.5.4	Spurious Radiated Emissions	Yes	Pass	
ANSI C63.26 5.6	Frequency Stability	Yes	Pass	
ANSI C63.26 5.7	Spurious Conducted Emissions	Yes	Pass	
FCC 95.2579(a)(1)	Emission Mask	Yes	Pass	

Deviations From Test Standards

None

Approved By:

Johnny Candelas, Department 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. As indicated in the Statement of Work sent with the quotation, Element's standard process is to always use the latest published version of the test methods even when earlier versions are cited in the test specification. Issuance of a purchase order was de facto acceptance of this approach. Otherwise, the client would have advised Element in writing of the specific version of the test methods they wanted applied to the subject testing.

REVISION HISTORY

Revision Number	Description	Date (yyyy-mm-dd)	Page Number
01	Added missing calibrated test equipment to data module	2022-03-08	26
	Reworded the test description, we are not talking about a specific datasheet, this is intended to mean the channels/frequencies on following page.	2022-03-08	15
	Signal substitution EIRP has been performed and included as well as test equipment required to complete.	2022-03-08	19-20
	Page 8 (Test Setup Block Diagrams) has been revised to include sample calculation as well as page 26 & 27 to match with page 8.	2022-03-08	8, 26, 27

ACCREDITATIONS AND AUTHORIZATIONS

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 - Each laboratory is accredited by A2LA to ISO / IEC 17025, and as a product certifier to ISO / IEC 17065 which allows Element 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) and as a CAB for the acceptance of test data.

European Union

European Commission – Recognized as an EU Notified Body validated for the EMCD and RED Directives.

United Kingdom

BEIS – Recognized by the UK as an Approved Body under the UK Radio Equipment and UK EMC Regulations.

Australia/New Zealand

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

Korea

MSIT / 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.

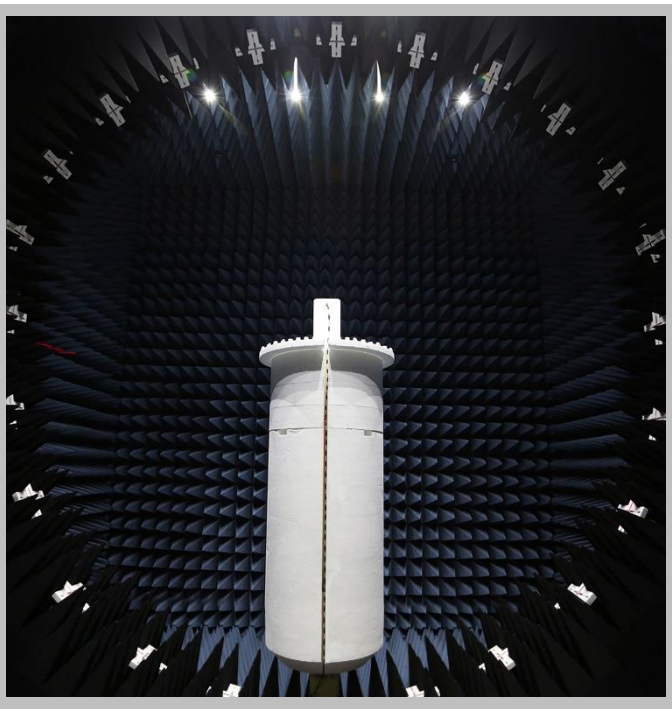
SCOPE

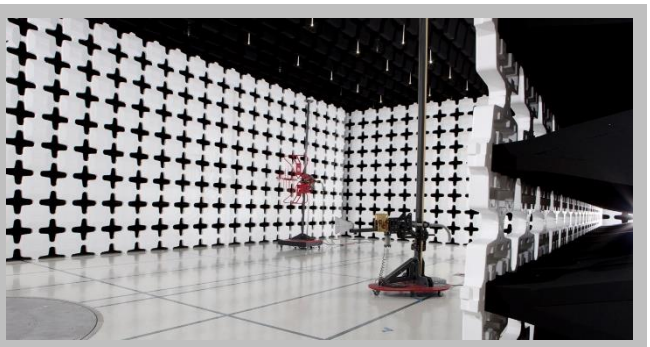
For details on the Scopes of our Accreditations, please visit:

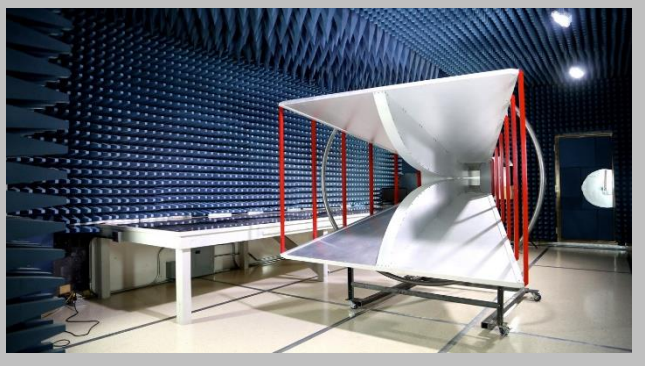
California Minnesota Oregon Texas Washington

FACILITIES

California	Minnesota	Oregon	Texas	Washington
Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	Labs MN01-11 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Labs EV01-12 6775 NE Evergreen Pkwy #400 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
A2LA				
Lab Code: 3310.04	Lab Code: 3310.05	Lab Code: 3310.02	Lab Code: 3310.03	Lab Code: 3310.06
NVLAP				
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	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, 2834E-3	2834D-1	2834G-1	2834F-1
BSMI				
SL2-IN-E-1154R	SL2-IN-E-1152R	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI				
A-0029	A-0109	A-0108	A-0201	A-0110
Recognized Phase I CAB for ISED, ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA				
US0158	US0175	US0017	US0191	US0157







MEASUREMENT UNCERTAINTY

element
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 QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found in the table below. A lab specific value may also be found in the applicable test description section. 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	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	1.2 dB	-1.2 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)	2.6 dB	-2.6 dB

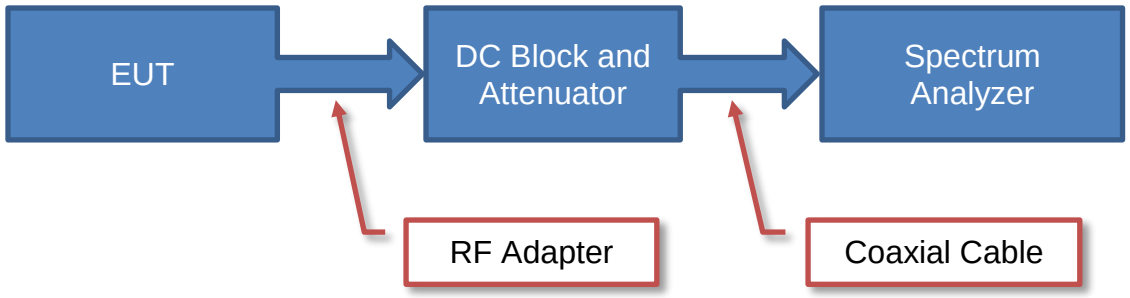
TEST SETUP BLOCK DIAGRAMS

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

Unless otherwise stated, measurements were made using the bandwidths and detectors specified. No video filter was used.

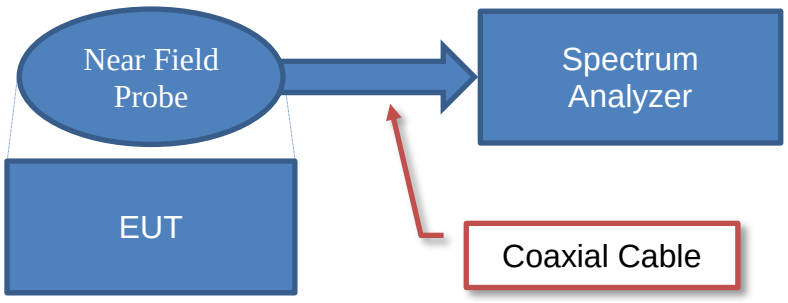
Antenna Port Conducted Measurements



Sample Calculation (logarithmic units)

Measured Value		Measured Level		Reference Level Offset
71.2	=	42.6	+	28.6

Near Field Test Fixture Measurements

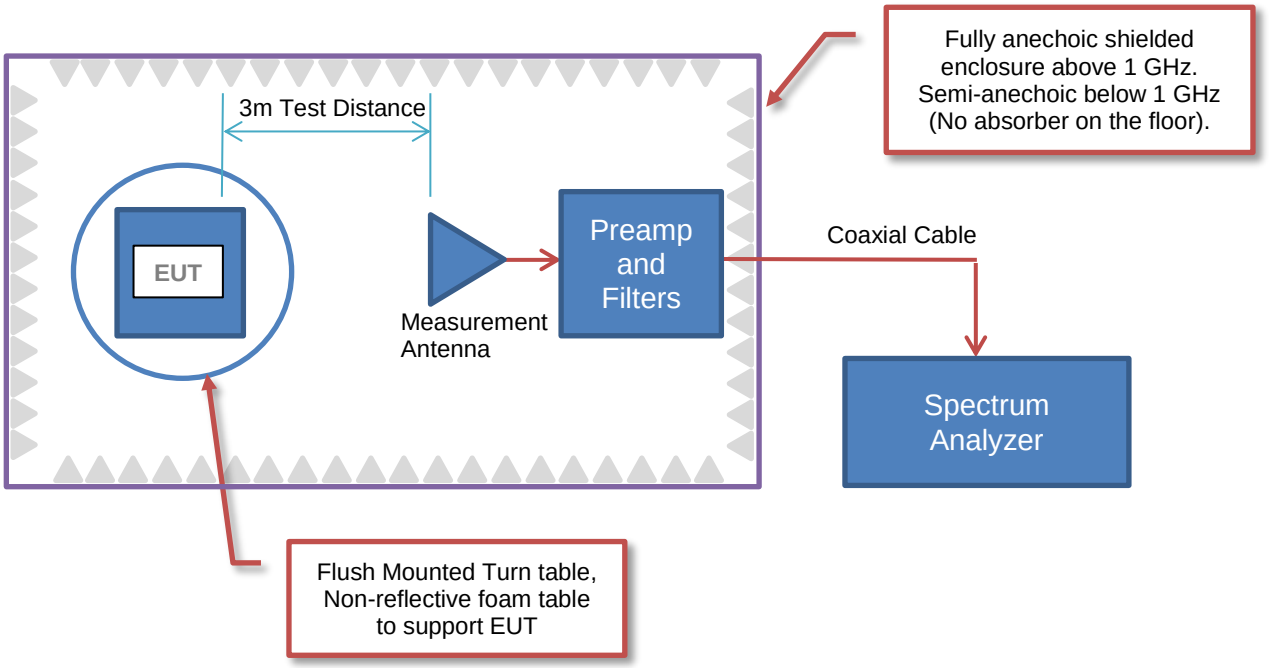


Sample Calculation (logarithmic units)

Measured Value		Measured Level		Reference Level Offset
71.2	=	42.6	+	28.6

TEST SETUP BLOCK DIAGRAMS

Emissions Measurements



Sample Calculation (logarithmic units)

Radiated Emissions:

		Factor										
Measured Level (Amplitude)		Antenna Factor		Cable Factor		Amplifier Gain		Distance Adjustment Factor		External Attenuation		Field Strength Adjusted
42.6	+	28.6	+	3.1	-	40.8	+	0.0	+	0.0	=	**33.5**

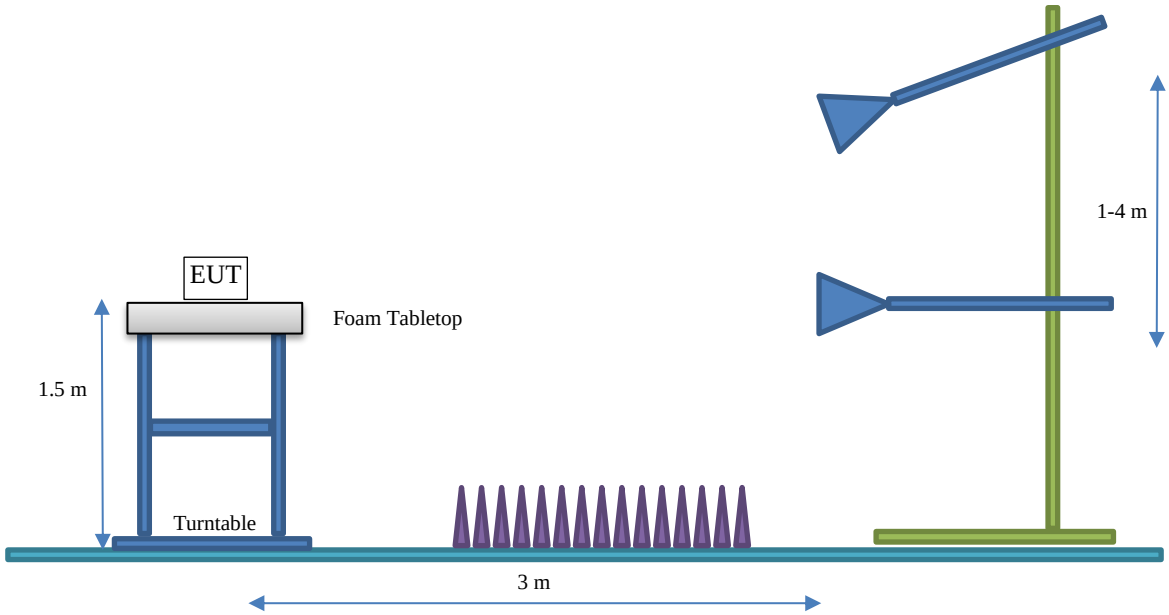
Conducted Emissions:

		Factor						
Measured Level (Amplitude)		Transducer Factor		Cable Factor		External Attenuation		Adjusted Level
26.7	+	0.3	+	0.1	+	20.0	=	**47.1**

TEST SETUP BLOCK DIAGRAMS

Bore Sighting (>1GHz)

The diameter of the illumination area is the dimension of the line tangent to the EUT formed by 3 dB beamwidth of the measurement antenna at the measurement distance. At a 3 meter test distance, the diameter of the illumination area was 3.8 meters at 1 GHz and greater than 2.1 meters up to 6 GHz. Above 1 GHz, when required by the measurement standard, the antenna is pointed for both azimuth and elevation to maintain the receive antenna within the cone of radiation from the EUT. The specified measurement detectors were used for comparison of the emissions to the peak and average specification limits.



PRODUCT DESCRIPTION

Client and Equipment Under Test (EUT) Information

Company Name:	Axonics Modulation Technologies, Inc.
Address:	26 Technology Drive
City, State, Zip:	Irvine, CA 92618
Test Requested By:	Wes Clement
EUT:	Implantable Pulse Generator (IPG), model 4101
First Date of Test:	March 5, 2021
Last Date of Test:	October 25, 2021
Receipt Date of Samples:	February 8, 2021
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
The Sacral Neuromodulation (SNM) system consists of an implanted system used to provide long term therapy for urinary and fecal dysfunction. The system includes a non-rechargeable IPG that is compatible with the existing approved Tined Lead, 1201.

Testing Objective:
Seeking FCC authorization for the MedRadio transmitter to FCC Part 95I.

CONFIGURATIONS

Configuration AXON0180- 9

Software/Firmware Running during test	
Description	**Version**
IPGLink	1.0.1.138
IPG Software	757
PR Software	72

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
IPG	Axonics	4101	4022370919

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Laptop PC	Dell	Latitude 7490	25825576862
DC Power Supply	GW Instek	GPD-3303S	GET875876
Test Socket	Axonics	TE-1330	N/A
PR	Axonics	2301	AP1F590001

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
USB Cable (Daisy Chained)	Yes	10m	Yes	Dongle	Laptop PC
Twisted Pair (DC Power)	No	3m	No	DC Power Supply	Test Socket

CONFIGURATIONS

Configuration AXON0190- 1

Software/Firmware Running during test	
Description	**Version**
IPGLink	1.0.1.138
IPG Software	757
PR Software	72

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
IPG	Axonics	4101	4022370919

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Laptop PC	Dell	Latitude 7490	25825576862
DC Power Supply	GW Instek	GPD-3303S	GET875876
Test Socket	Axonics	TE-1330	N/A
PR	Axonics	2301	AP1F590001

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
USB Cable (Daisy Chained)	Yes	10m	Yes	Dongle	Laptop PC
Twisted Pair (DC Power)	No	3m	No	DC Power Supply	Test Socket

CONFIGURATIONS

Configuration AXON0193- 1

Software/Firmware Running during test	
Description	**Version**
IPGLink	1.0.1.138
IPG Software	757
PR Software	72

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
IPG	Axonics	4101	AX71T000014
Lead	Axonics	1201	AL1T701967

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Laptop PC	Dell	Latitude 7490	25825576862
USB Dongle	Blue giga	BLED112	A111471
Patient Remote	Axonics	2301	AP1F590057

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2021-03-05	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
2	2021-03-05	Radiated Power (EIRP)	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.
3	2021-07-14	Frequency Stability	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
4	2021-07-15	Emission Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
5	2021-07-15	Emission Mask	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
6	2021-07-15	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.
7	2021-08-16	Conducted Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
8	2021-10-25	Radiated Power (EIRP)	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
9	2021-10-25	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

DUTY CYCLE CHARACTERIZATION

XMit 2020.12.30.0

TEST DESCRIPTION

The Duty Cycle (x) of the single channel operation of the radio as controlled by the provided test software was measured for each of the EUT operating modes.

There is no compliance requirement to be met by this test, so therefore no Pass / Fail criteria.

The measurements were made using a zero span on the spectrum analyzer to see the pulses in the time domain. The transmit power was set to its default maximum.

The test software provided for operation in a fixed, single channel mode allows the EUT to operate continuously at 100% Duty Cycle.

CONDUCTED OUTPUT POWER

XMit 2020.12.30.0

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
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2021-04-27	2022-04-27
Attenuator	Fairview Microwave	SA18H-20	TKR	2020-12-18	2021-12-18
Block - DC	Fairview Microwave	SD3379	AMV	2020-12-18	2021-12-18
Generator - Signal	Agilent	E8257D	TGU	2020-11-03	2023-11-03
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFJ	2021-01-06	2022-01-06

TEST DESCRIPTION

Per FCC Part 2.1046, the output power shall be measured at the RF terminal. The RMS output power was measured with the EUT configured in the modes listed in the datasheet. The EUT was transmitting at its maximum data rate.

FCC Part 95 does not have a conducted output power limit. It is a requirement to characterize this information and that data is contained within this data module (channels/frequncies listed on following page).

CONDUCTED OUTPUT POWER

element

XMit 2020.12.30.0

EUT:	**Implantable Pulse Generator (IPG), Model 4101, Taurus**			**Work Order:**	**AXON0190**
Serial Number:	**4022370919**			**Date:**	**16-Aug-21**
Customer:	**Axonics Modulation Technologies, Inc.**			**Temperature:**	**23.6 °C**
Attendees:	**Franklin Portillo, Wes Clement**			**Humidity:**	**49.1% RH**
Project:	**None**			**Barometric Pres.:**	**1013 mbar**
Tested by:	**Nolan De Ramos**	**Power:**	**2.9VDC**	**Job Site:**	**OC13**

TEST SPECIFICATIONS	**Test Method**
FCC 95H:2021	ANSI C63.26:2015

COMMENTS

Cable + 20 dB Attenuator + DC Block + 90° SMA elbow adapter = Ref Level Offset

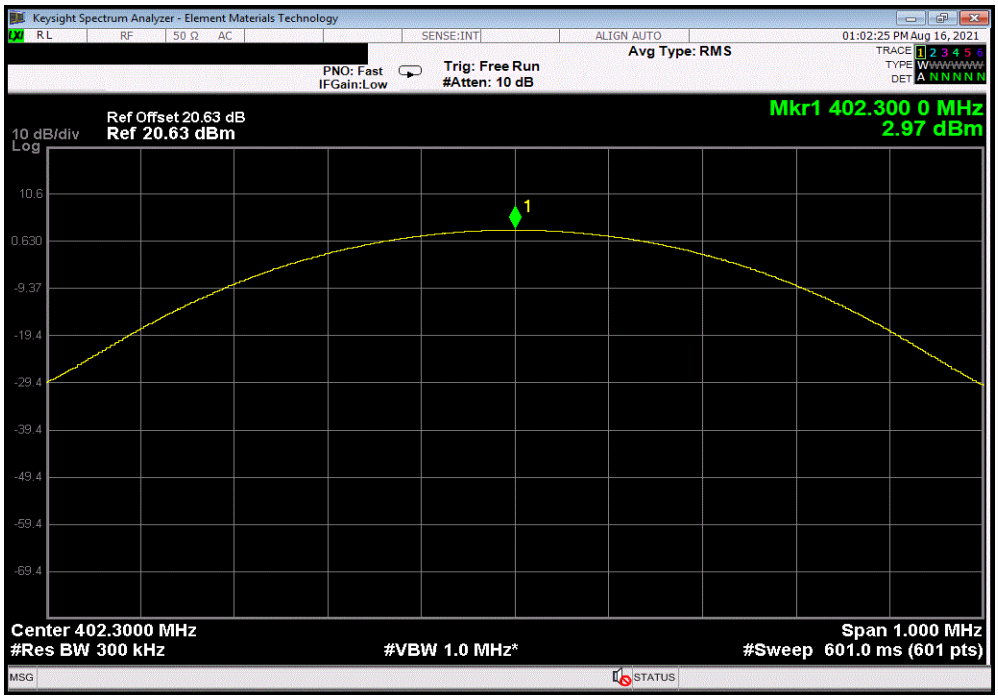
DEVIATIONS FROM TEST STANDARD

None

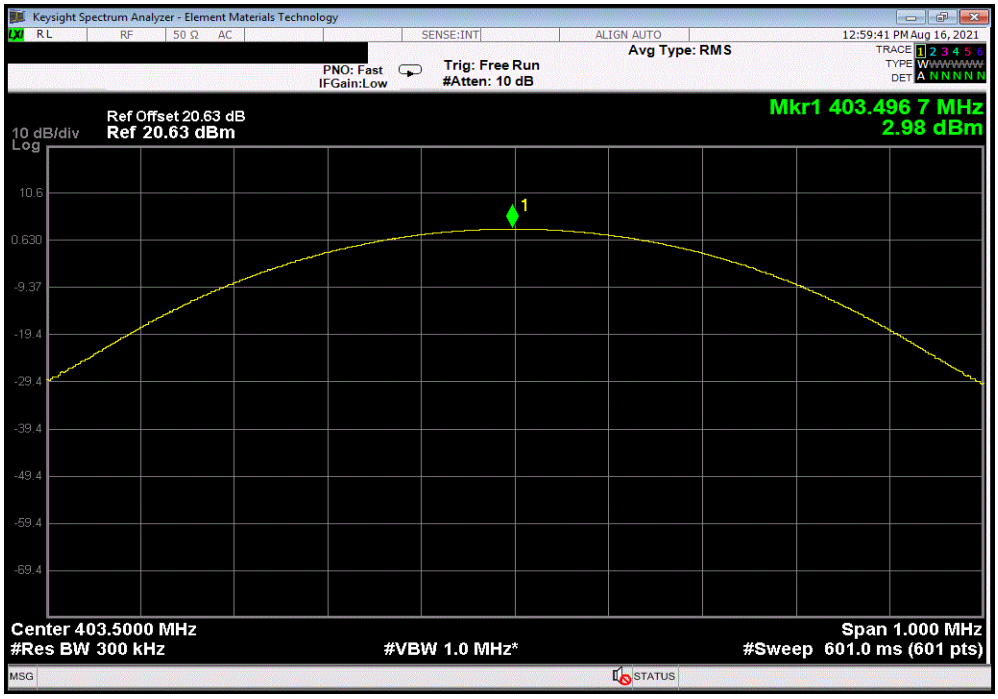
Configuration #	**AXON0190-1**	*Signature*

	Value	**Limit**	**Result**
Low Channel, 402.3 MHz	2.97 dBm	N/A	N/A
Mid Channel, 403.5 MHz	2.98 dBm	N/A	N/A
High Channel, 404.7 MHz	2.86 dBm	N/A	N/A

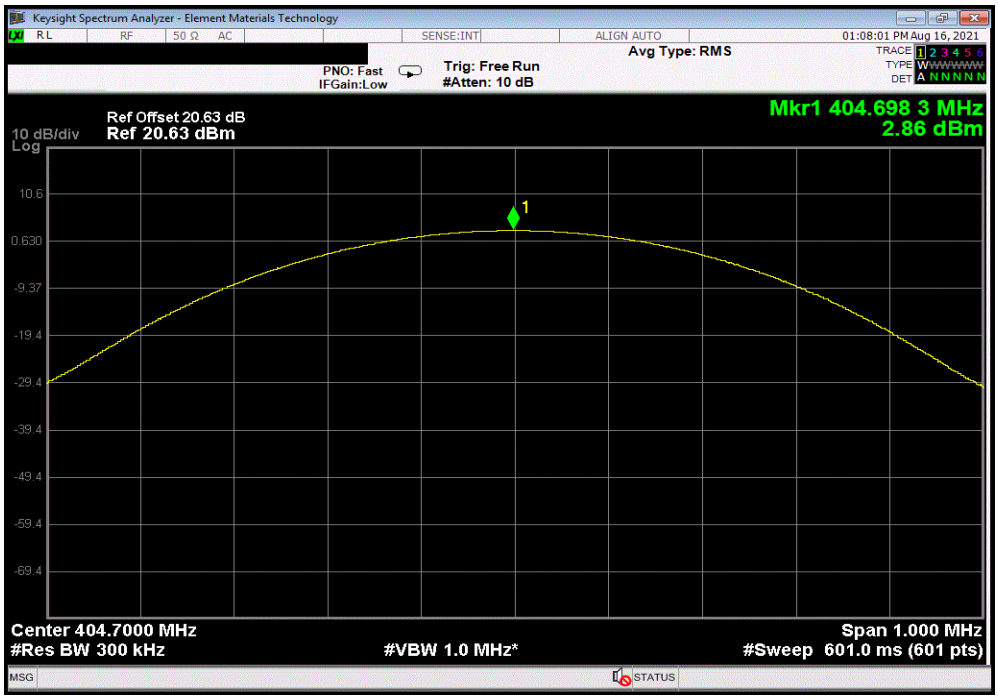
Low Channel, 402.3 MHz						
				Value	Limit	Result
				2.97 dBm	N/A	N/A



Mid Channel, 403.5 MHz						
				Value	Limit	Result
				2.98 dBm	N/A	N/A



High Channel, 404.7 MHz						
				Value	Limit	Result
				2.86 dBm	N/A	N/A



RADIATED POWER (EIRP)

PSA-ESCI 2021.03.17.0

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 Low Channel (402.3 MHz), Mid Channel (403.5 MHz), High Channel (404.7 MHz)

POWER SETTINGS INVESTIGATED

Battery

CONFIGURATIONS INVESTIGATED

AXON0193 - 1

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	1000 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.	Cal. Due
Power Sensor	Agilent	E4412A	SQE	2021-12-22	2022-12-22
Meter - Power	Hewlett Packard	E4418A	SPA	2021-12-22	2022-12-22
Cable	Fairview Microwave	SCA1814-0505-72	OC3	2021-06-02	2022-06-02
Antenna - Dipole	A.H. Systems, Inc.	FCC-4	ADCA	NCR	NCR
Generator - Signal	Keysight	N5182B	TFY	2020-12-22	2023-12-22
Saline Tank	N/A	N/A	ZZZ	NCR	NCR
Amplifier - Pre-Amplifier	Miteq	AM-1402	AOZ	2022-02-11	2023-02-11
Cable	Northwest EMC	10kHz-1GHz RE Cables	OCH	2022-02-11	2023-02-11
Antenna - Biconilog	Teseq	CBL 6141A	AYE	2020-05-06	2022-05-06
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFP	2021-11-12	2022-11-12

TEST DESCRIPTION

The Field Strength of the Fundamental was measured in the far-field at a 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 the 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 then replaced with a substitution antenna that varies depending on the frequency range of the emission. A ½ wave dipole that is successively tuned to each of the highest spurious emissions is utilized from 400-1000 MHz. Below 400 MHz, a small biconical antenna is utilized due to the increasing size of the dipole to match the ½ wavelength. Above 1 GHz, a horn antenna is utilized.

A signal generator is then connected to the substitution antenna and its output is adjusted to match the level previously noted for each frequency. The output of the signal generator is recorded, and by factoring in the cable loss to the substitution antenna and its gain (dBi); the radiated power (dBm) for each radiated spurious emission is determined.

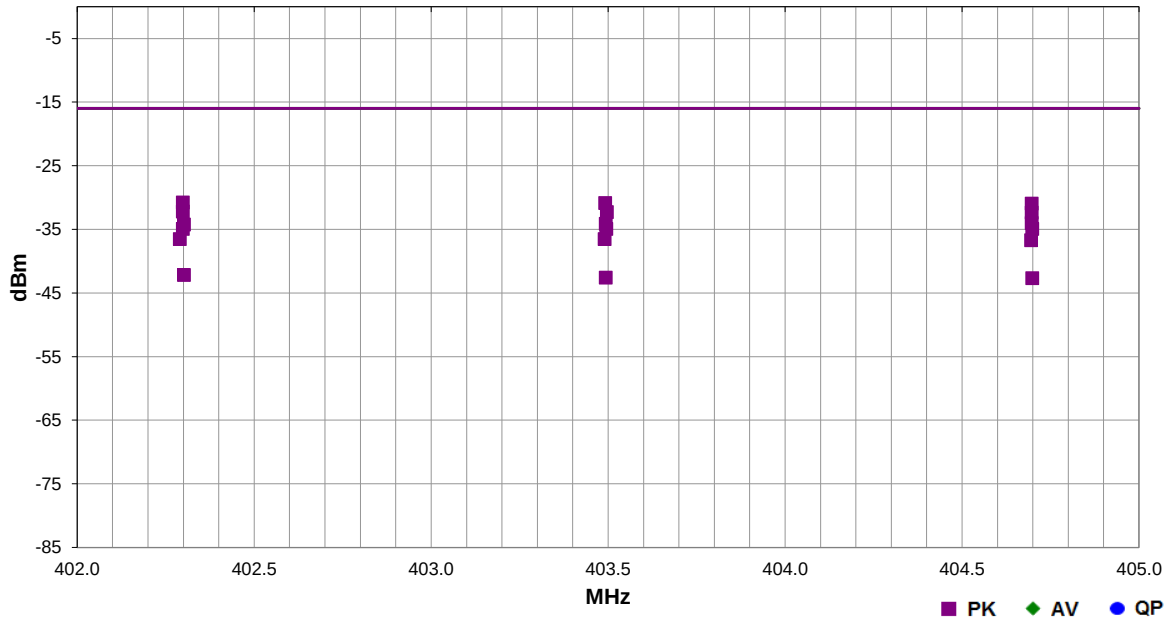
RADIATED POWER (EIRP)

EmiR5 2021.08.30.0 PSA-ESCI 2021.03.17.0

Work Order:	AXON0193	**Date:**	2021-10-25		
Project:	None	**Temperature:**	19.9 °C		
Job Site:	OC10	**Humidity:**	60.3% RH		
Serial Number:	AX1T000014	**Barometric Pres.:**	1016 mbar	**Tested by:**	Nolan De Ramos, Vincent Liwag
EUT:	Implantable Pulse Gnerator (IPG), Model 4101 IPG				
Configuration:	AXON0193 - 1				
Customer:	Axonics Modulation Technologies, Inc.				
Attendees:	Wes Clement				
EUT Power:	Battery				
Operating Mode:	Transmitting Low Channel (402.3 MHz), Mid Channel (403.5 MHz), High Channel (404.7 MHz)				
Deviations:	None				
Comments:	Power Setting: Index 2				

Test Specifications	**Test Method**
FCC 95I:2022	ANSI C63.26:2015

Run #	7	**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
	402.298	1.0	19.0	Vert	PK	835.6E-9	-30.8	-16.0	-14.8	Low Ch., EUT On Side
	403.492	1.0	20.0	Vert	PK	818.5E-9	-30.9	-16.0	-14.9	Mid Ch., EUT On Side
	404.697	1.0	19.0	Vert	PK	801.7E-9	-31.0	-16.0	-15.0	High Ch., EUT On Side
	402.298	1.0	37.0	Vert	PK	605.3E-9	-32.2	-16.0	-16.2	Low Ch., EUT Vertical
	403.497	1.0	33.0	Vert	PK	592.9E-9	-32.3	-16.0	-16.3	Mid Ch., EUT Vertical
	404.697	1.0	37.0	Vert	PK	580.8E-9	-32.4	-16.0	-16.4	High Ch., EUT Vertical
	404.697	1.77	163.0	Horz	PK	397.2E-9	-34.0	-16.0	-18.0	High Ch., EUT On Side
	403.493	1.74	157.0	Horz	PK	387.3E-9	-34.1	-16.0	-18.1	Mid Ch., EUT On Side
	402.302	1.73	156.0	Horz	PK	377.6E-9	-34.2	-16.0	-18.2	Low Ch., EUT On Side
	404.698	1.51	343.0	Horz	PK	322.8E-9	-34.9	-16.0	-18.9	High Ch., EUT Horizontal
	403.495	1.52	347.0	Horz	PK	322.1E-9	-34.9	-16.0	-18.9	Mid Ch., EUT Horizontal
	402.298	1.5	348.0	Horz	PK	321.4E-9	-34.9	-16.0	-18.9	Low Ch., EUT Horizontal
	403.490	2.28	185.0	Horz	PK	222.8E-9	-36.5	-16.0	-20.5	Mid Ch., EUT Vertical
	402.290	2.25	182.0	Horz	PK	222.3E-9	-36.5	-16.0	-20.5	Low Ch., EUT Vertical
	404.695	2.29	189.0	Horz	PK	213.3E-9	-36.7	-16.0	-20.7	High Ch., EUT Vertical
	402.302	1.0	260.0	Vert	PK	60.5E-9	-42.2	-16.0	-26.2	Low Ch., EUT Horizontal
	403.493	1.01	251.0	Vert	PK	55.3E-9	-42.6	-16.0	-26.6	Mid Ch., EUT Horizontal
	404.698	1.0	254.0	Vert	PK	54.2E-9	-42.7	-16.0	-26.7	High Ch., EUT Horizontal

EMISSIONS BANDWIDTH

XMit 2020.12.30.0

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	Fairview Microwave	SA18H-20	TKR	2020-12-18	2021-12-18
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2021-04-27	2022-04-27
Block - DC	Fairview Microwave	SD3379	AMV	2020-12-18	2021-12-18
Generator - Signal	Agilent	E8257D	TGU	2020-11-03	2023-11-03
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFJ	2021-01-06	2022-01-06

TEST DESCRIPTION

Per 47 CFR 95.2573(a), 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

TbtTx 2021.03.19.1 XMit 2020.12.30.0

EUT:	**Implantable Pulse Generator (IPG), model 4101**			**Work Order:**	**AXON0180**
Serial Number:	**4022370919**			**Date:**	**15-Jul-21**
Customer:	**Axonics Modulation Technologies, Inc.**			**Temperature:**	**23.8 °C**
Attendees:	**Wes Clement**			**Humidity:**	**43.8% RH**
Project:	**None**			**Barometric Pres.:**	**1018 mbar**
Tested by:	**Nolan De Ramos**	**Power:**	**2.9VDC**	**Job Site:**	**OC13**

TEST SPECIFICATIONS	**Test Method**
FCC 95I:2021	ANSI C63.26:2015

COMMENTS

IPG Transmit Power Index 2
Cable + 20 dB Attenuator + DC Block + 90° SMA adapter = 21.11 dB Ref Level Offset

DEVIATIONS FROM TEST STANDARD

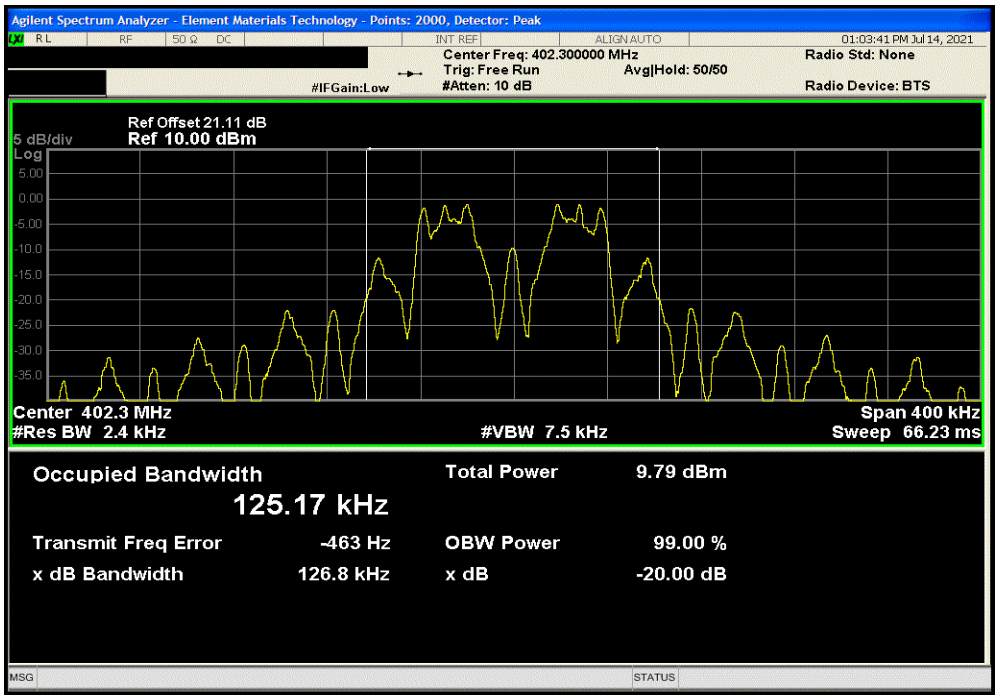
None

Configuration #	**AXON0180 - 9**	*Signature*

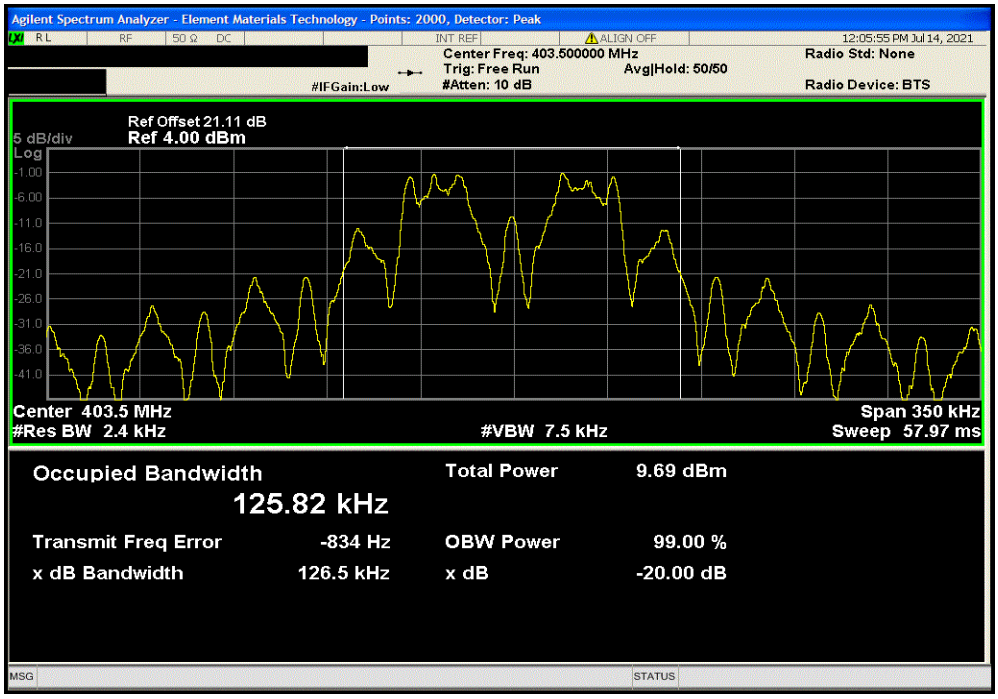
	Value	**Limit (≤)**	**Result**
Low Channel, 402.3 MHz	126.8 kHz	300 kHz	Pass
Mid Channel, 403.5 MHz	126.5 kHz	300 kHz	Pass
High Channel, 404.7 MHz	126.9 kHz	300 kHz	Pass

EMISSIONS BANDWIDTH

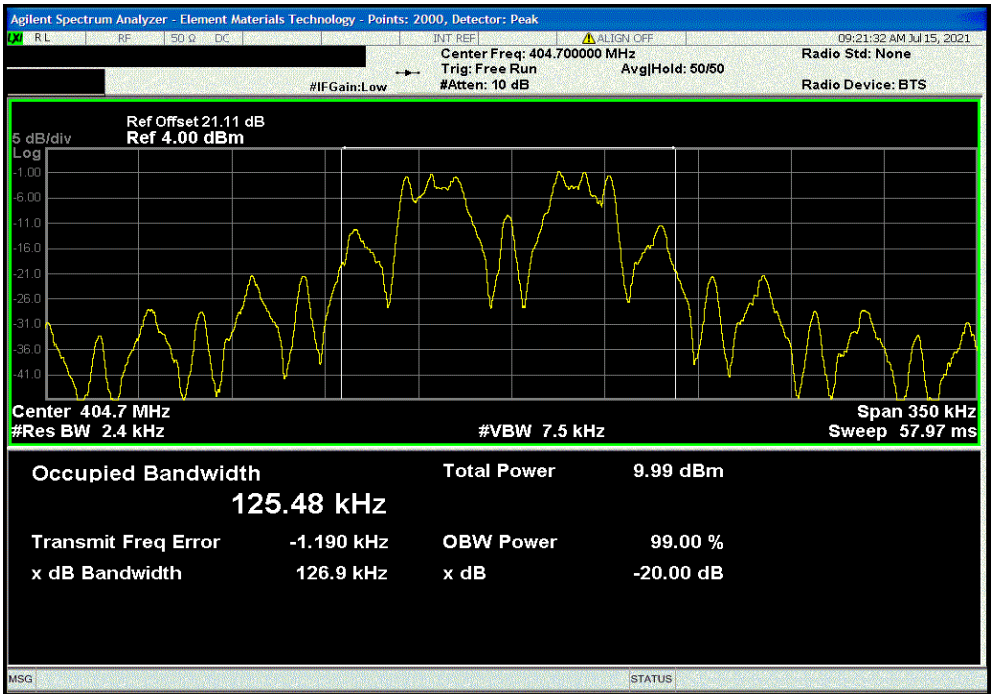
Low Channel, 402.3 MHz							
					Value	Limit (≤)	Result
					126.8 kHz	300 kHz	Pass



Mid Channel, 403.5 MHz							
					Value	Limit (≤)	Result
					126.5 kHz	300 kHz	Pass



High Channel, 404.7 MHz						
				Value	Limit (≤)	Result
				126.9 kHz	300 kHz	Pass



SPURIOUS RADIATED EMISSIONS

PSA-ESCI 2021.03.17.0

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 Low Channel (402.3 MHz), Mid Channel (403.5 MHz), High Channel (404.7 MHz)

POWER SETTINGS INVESTIGATED

Battery

CONFIGURATIONS INVESTIGATED

AXON0193 - 1

FREQUENCY RANGE INVESTIGATED

Start Frequency	25 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.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFP	2021-10-01	2022-10-01
Amplifier - Pre-Amplifier	Cernex	CBL01084020-xx	PAX	2021-10-12	2022-10-12
Amplifier - Pre-Amplifier	Miteq	AM-1402	AOZ	2021-10-12	2022-10-12
Antenna - Standard Gain	ETS Lindgren	3160-08	AHT	NCR	NCR
Antenna - Standard Gain	ETS Lindgren	3160-07	AHR	NCR	NCR
Antenna - Double Ridge	EMCO	3115	AHB	2020-04-08	2022-04-08
Antenna - Biconilog	Teseq	CBL 6141A	AYE	2020-05-06	2022-05-06
Cable	Northwest EMC	1-8GHz RE Cables	OCJ	2021-10-12	2022-10-12
Cable	Northwest EMC	10kHz-1GHz RE Cables	OCH	2021-10-12	2022-10-12
Filter - Low Pass	Micro-Tronics	LPM50004	LFT	2021-01-04	2022-01-04
Saline Tank	N/A	N/A	ZZZ	NCR	NCR

TEST DESCRIPTION

The highest gain of each type of antenna to be used with the EUT was tested. 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 C63.26). A preamp was used for this test in order to provide sufficient measurement sensitivity.

Per CFR 47 95.2579(a), field strength measurements were performed and compared to the specified limits.

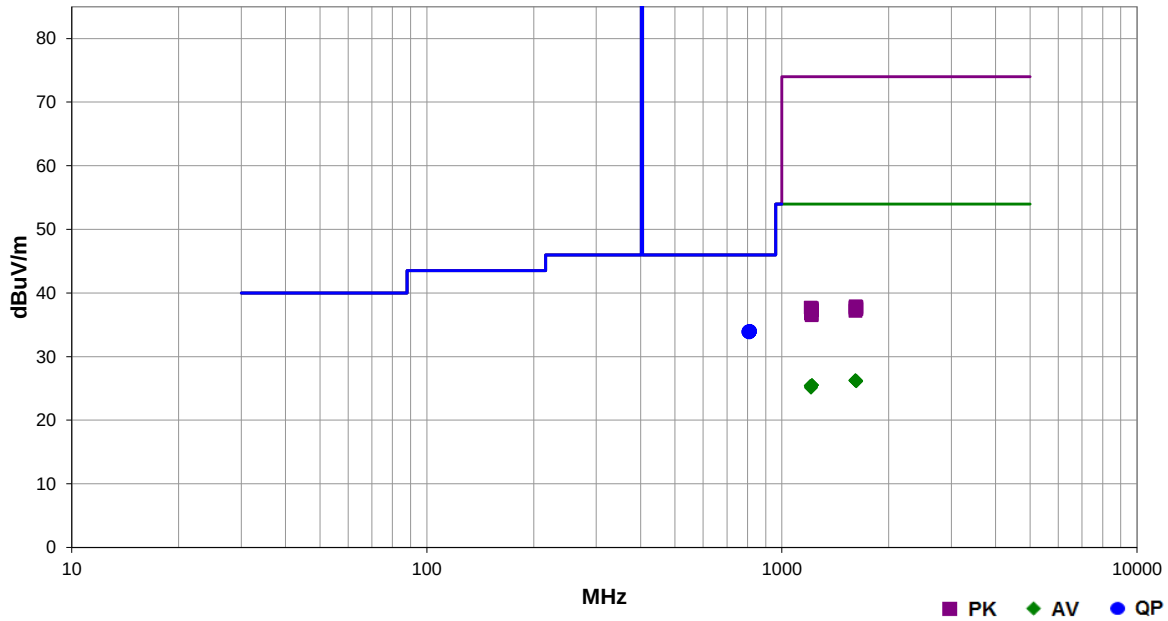
SPURIOUS RADIATED EMISSIONS

EmiR5 2021.08.30.0 PSA-ESCI 2021.03.17.0

Work Order:	AXON0193	**Date:**	2021-10-25		
Project:	None	**Temperature:**	20.3 °C		
Job Site:	OC10	**Humidity:**	62.9% RH		
Serial Number:	AX1T000014	**Barometric Pres.:**	1014 mbar	**Tested by:**	Nolan De Ramos & Vincent Liwag
EUT:	Implantable Pulse Generator (IPG), Model 4101				
Configuration:	AXON0193 - 1				
Customer:	Axonics Modulation Technologies, Inc.				
Attendees:	Wes Clement				
EUT Power:	Battery				
Operating Mode:	Transmitting Low Channel (402.3 MHz), Mid Channel (403.5 MHz), High Channel (404.7 MHz)				
Deviations:	None				
Comments:	Power Setting: Index 2.				

Test Specifications	**Test Method**
FCC 95I:2021	ANSI C63.26:2015

Run #	10	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



Freq (MHz)	Measured Level - Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Field Strength Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
811.978	18.4	15.6	1.0	41.0	3.0	0.0	Horz	QP	0.0	34.0	46.0	-12.0	High Ch., EUT On Side
811.881	18.4	15.6	1.0	149.0	3.0	0.0	Vert	QP	0.0	34.0	46.0	-12.0	High Ch., EUT On Side
811.703	18.4	15.6	1.0	237.0	3.0	0.0	Horz	QP	0.0	34.0	46.0	-12.0	High Ch., EUT Vertical
811.769	18.4	15.6	2.2	137.0	3.0	0.0	Vert	QP	0.0	34.0	46.0	-12.0	High Ch., EUT Vertical
812.244	18.4	15.6	1.0	257.0	3.0	0.0	Horz	QP	0.0	34.0	46.0	-12.0	High Ch., EUT Horz
812.176	18.4	15.6	1.0	198.0	3.0	0.0	Vert	QP	0.0	34.0	46.0	-12.0	High Ch., EUT Horz
807.087	18.4	15.6	1.0	337.0	3.0	0.0	Horz	QP	0.0	34.0	46.0	-12.0	Mid Ch., EUT On Side
807.298	18.4	15.6	1.0	104.0	3.0	0.0	Vert	QP	0.0	34.0	46.0	-12.0	Mid Ch., EUT On Side
809.507	18.4	15.5	1.0	121.0	3.0	0.0	Horz	QP	0.0	33.9	46.0	-12.1	High Ch., EUT Horz
809.457	18.4	15.5	1.0	281.0	3.0	0.0	Vert	QP	0.0	33.9	46.0	-12.1	High Ch., EUT Horz
809.215	18.4	15.5	1.6	294.0	3.0	0.0	Horz	QP	0.0	33.9	46.0	-12.1	High Ch., EUT On Side
809.092	18.4	15.5	3.8	281.0	3.0	0.0	Vert	QP	0.0	33.9	46.0	-12.1	High Ch., EUT On Side
809.682	18.4	15.5	1.0	247.0	3.0	0.0	Horz	QP	0.0	33.9	46.0	-12.1	High Ch., EUT Vertical
804.440	18.3	15.6	1.7	2.0	3.0	0.0	Horz	QP	0.0	33.9	46.0	-12.1	Low Ch., EUT On Side
804.527	18.3	15.6	1.0	33.0	3.0	0.0	Vert	QP	0.0	33.9	46.0	-12.1	Low Ch., EUT On Side
808.922	18.3	15.5	1.0	48.0	3.0	0.0	Vert	QP	0.0	33.8	46.0	-12.2	High Ch., EUT Vertical
1611.117	40.6	-14.3	1.5	73.0	3.0	0.0	Vert	AV	0.0	26.3	54.0	-27.7	Low Ch., EUT On Side
1621.008	40.6	-14.4	1.5	134.0	3.0	0.0	Vert	AV	0.0	26.2	54.0	-27.8	High Ch., EUT On Side
1611.967	40.5	-14.3	2.2	132.0	3.0	0.0	Horz	AV	0.0	26.2	54.0	-27.8	Mid Ch., EUT On Side
1612.175	40.5	-14.3	2.9	176.0	3.0	0.0	Vert	AV	0.0	26.2	54.0	-27.8	Mid Ch., EUT On Side

Freq (MHz)	Measured Level - Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Field Strength Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
1611.600	40.5	-14.3	1.5	50.0	3.0	0.0	Horz	AV	0.0	26.2	54.0	-27.8	Low Ch., EUT On Side
1621.192	40.5	-14.4	1.5	91.0	3.0	0.0	Horz	AV	0.0	26.1	54.0	-27.9	High Ch., EUT On Side
1215.442	41.1	-15.6	1.5	70.0	3.0	0.0	Horz	AV	0.0	25.5	54.0	-28.5	High Ch., EUT On Side
1215.758	41.1	-15.6	2.1	201.0	3.0	0.0	Vert	AV	0.0	25.5	54.0	-28.5	High Ch., EUT On Side
1215.917	41.1	-15.6	1.5	273.0	3.0	0.0	Vert	AV	0.0	25.5	54.0	-28.5	High Ch., EUT On Side
1204.833	41.1	-15.7	1.5	12.0	3.0	0.0	Horz	AV	0.0	25.4	54.0	-28.6	Low Ch., EUT On Side
1204.708	41.1	-15.7	1.5	69.0	3.0	0.0	Vert	AV	0.0	25.4	54.0	-28.6	Low Ch., EUT On Side
1208.375	40.9	-15.7	1.5	101.0	3.0	0.0	Horz	AV	0.0	25.2	54.0	-28.8	Mid Ch., EUT On Side
1208.083	40.8	-15.7	1.5	33.0	3.0	0.0	Vert	AV	0.0	25.1	54.0	-28.9	Mid Ch., EUT On Side
1612.533	52.2	-14.3	2.9	176.0	3.0	0.0	Vert	PK	0.0	37.9	74.0	-36.1	Mid Ch., EUT On Side
1620.100	52.2	-14.4	1.5	73.0	3.0	0.0	Horz	PK	0.0	37.8	74.0	-36.2	High Ch., EUT On Side
1616.458	52.0	-14.3	1.5	91.0	3.0	0.0	Horz	PK	0.0	37.7	74.0	-36.3	High Ch., EUT On Side
1205.183	53.4	-15.7	1.5	12.0	3.0	0.0	Horz	PK	0.0	37.7	74.0	-36.3	Low Ch., EUT On Side
1611.417	52.0	-14.3	1.5	50.0	3.0	0.0	Horz	PK	0.0	37.7	74.0	-36.3	Low Ch., EUT On Side
1214.475	53.2	-15.6	2.1	201.0	3.0	0.0	Vert	PK	0.0	37.6	74.0	-36.4	High Ch., EUT On Side
1620.617	51.9	-14.4	1.5	134.0	3.0	0.0	Vert	PK	0.0	37.5	74.0	-36.5	High Ch., EUT On Side
1612.083	51.8	-14.3	2.2	132.0	3.0	0.0	Horz	PK	0.0	37.5	74.0	-36.5	Mid Ch., EUT On Side
1215.342	52.9	-15.6	1.5	273.0	3.0	0.0	Vert	PK	0.0	37.3	74.0	-36.7	High Ch., EUT On Side
1610.317	51.5	-14.3	1.5	73.0	3.0	0.0	Vert	PK	0.0	37.2	74.0	-36.8	Low Ch., EUT On Side
1206.792	52.5	-15.7	1.5	69.0	3.0	0.0	Vert	PK	0.0	36.8	74.0	-37.2	Low Ch., EUT On Side
1213.000	52.3	-15.6	1.5	101.0	3.0	0.0	Horz	PK	0.0	36.7	74.0	-37.3	Mid Ch., EUT On Side
1212.208	52.1	-15.6	1.5	33.0	3.0	0.0	Vert	PK	0.0	36.5	74.0	-37.5	Mid Ch., EUT On Side

FREQUENCY STABILITY

XMit 2020.12.30.0

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
Chamber, Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPHS-32-3.5-SCT/AC	TBE	2021-01-28	2022-01-28
Thermometer	Omega Engineering, Inc.	HH311	DUC	2020-11-09	2023-11-09
Multimeter	Fluke	179	MBB	2021-03-05	2024-03-05
Generator - Signal	Agilent	E8257D	TGU	2020-11-03	2023-11-03
Block - DC	Fairview Microwave	SD3379	AMV	2020-12-18	2021-12-18
Attenuator	Fairview Microwave	SA18H-20	TKR	2020-12-18	2021-12-18
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2021-04-27	2022-04-27
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFJ	2021-01-06	2022-01-06

TEST DESCRIPTION

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 over the range specified by the client. 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 (+20C, +25C, +35C and +45C).

FREQUENCY STABILITY

element

TbtTx 2021.03.19.1 XMit 2020.12.30.0

EUT:	Implantable Pulse Generator (IPG), model 4101			**Work Order:**	AXON0180
Serial Number:	4022370919			**Date:**	14-Jul-21
Customer:	Axonics Modulation Technologies, Inc.			**Temperature:**	26 °C
Attendees:	Wes Clement			**Humidity:**	42.4% RH
Project:	None			**Barometric Pres.:**	1018 mbar
Tested by:	Nolan De Ramos	**Power:**	2.9VDC	**Job Site:**	OC13

TEST SPECIFICATIONS	Test Method
FCC 95I:2021	ANSI C63.26:2015

COMMENTS

IPG Transmit Power Index 2
Cable + 20 dB Attenuator + DC Block + 90° SMA adapter = 21.11 dB Ref Level Offset

DEVIATIONS FROM TEST STANDARD

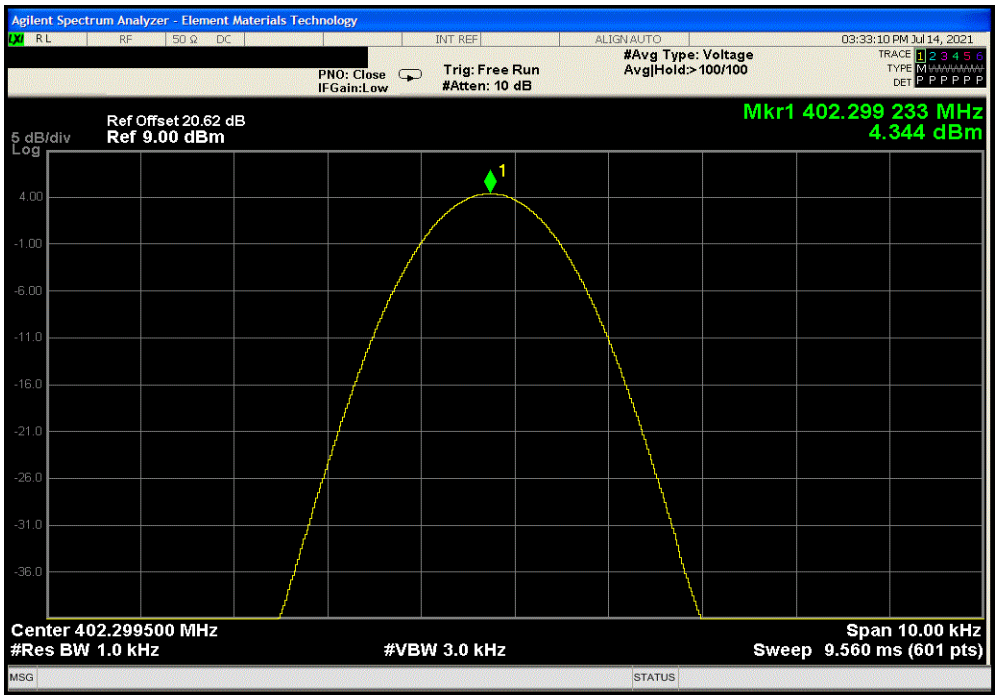
None

Configuration #	AXON0180 - 9	Signature

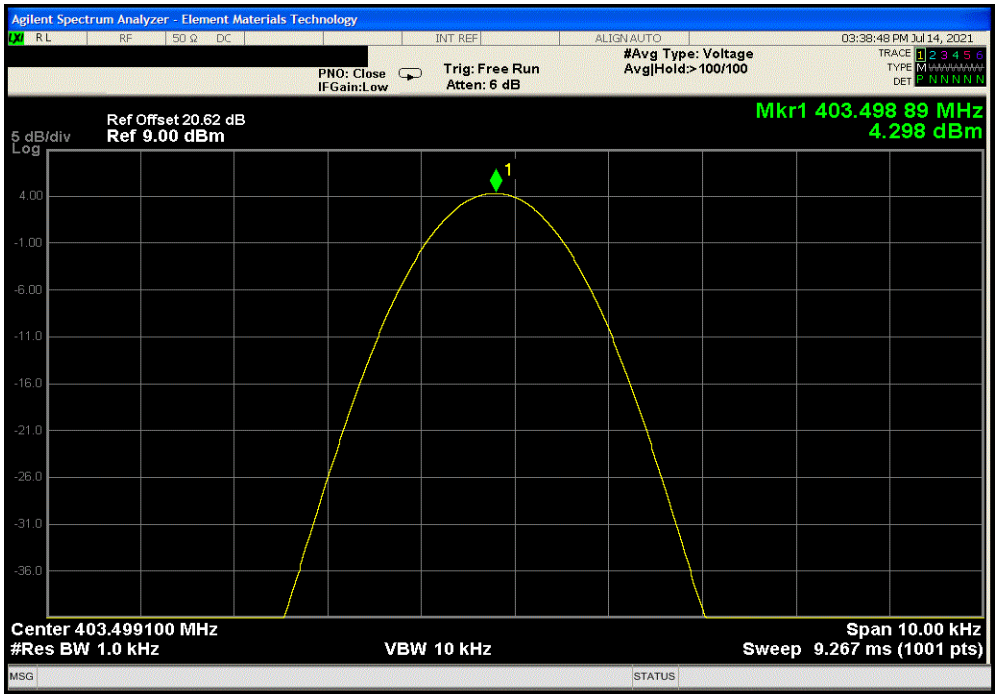
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
Nominal Temperature +26°C						
	Nominal Voltage 2.9V					
	Low Channel, 402.3 MHz	402.299233	402.3	1.9	100	Pass
	Mid Channel, 403.5 MHz	403.498890	403.5	2.8	100	Pass
	High Channel, 404.7 MHz	404.698601	404.7	3.5	100	Pass
	Extreme Max Voltage 3.2V					
	Low Channel, 402.3 MHz	402.299183	402.3	2.0	100	Pass
	Mid Channel, 403.5 MHz	403.498850	403.5	2.9	100	Pass
	High Channel, 404.7 MHz	404.698566	404.7	3.5	100	Pass
	Extreme Min Voltage 2.0V					
	Low Channel, 402.3 MHz	402.299167	402.3	2.1	100	Pass
	Mid Channel, 403.5 MHz	403.498834	403.5	2.9	100	Pass
	High Channel, 404.7 MHz	404.698534	404.7	3.6	100	Pass
Extreme Temperature +20°C						
	Nominal Voltage 2.9V					
	Low Channel, 402.3 MHz	402.299783	402.3	0.5	100	Pass
	Mid Channel, 403.5 MHz	403.499450	403.5	1.4	100	Pass
	High Channel, 404.7 MHz	404.699150	404.7	2.1	100	Pass
Extreme Temperature +25°C						
	Nominal Voltage 2.9V					
	Low Channel, 402.3 MHz	402.299200	402.3	2.0	100	Pass
	Mid Channel, 403.5 MHz	403.498884	403.5	2.8	100	Pass
	High Channel, 404.7 MHz	404.698600	404.7	3.5	100	Pass
Extreme Temperature +35°C						
	Nominal Voltage 2.9V					
	Low Channel, 402.3 MHz	402.298001	402.3	5.0	100	Pass
	Mid Channel, 403.5 MHz	403.497750	403.5	5.6	100	Pass
	High Channel, 404.7 MHz	404.697434	404.7	6.3	100	Pass
Extreme Temperature +45°C						
	Nominal Voltage 2.9V					
	Low Channel, 402.3 MHz	402.296934	402.3	7.6	100	Pass
	Mid Channel, 403.5 MHz	403.496590	403.5	8.5	100	Pass
	High Channel, 404.7 MHz	404.696300	404.7	9.1	100	Pass

FREQUENCY STABILITY

Nominal Temperature +26°C, Nominal Voltage 2.9V, Low Channel, 402.3 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		402.2992333	402.3	1.9	100	Pass

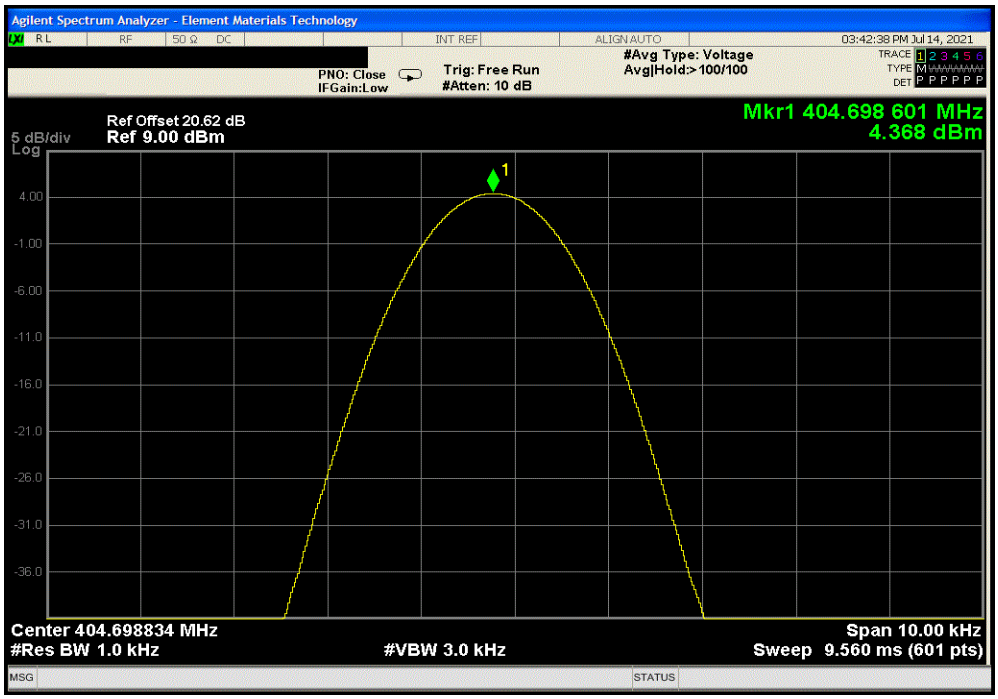


Nominal Temperature +26°C, Nominal Voltage 2.9V, Mid Channel, 403.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.49889	403.5	2.8	100	Pass

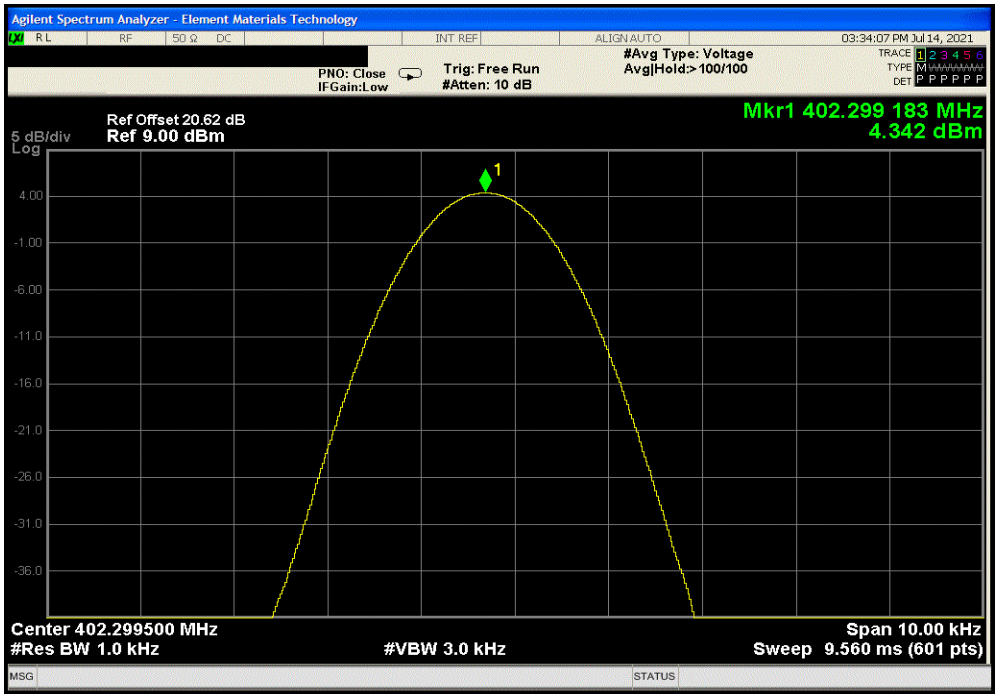


FREQUENCY STABILITY

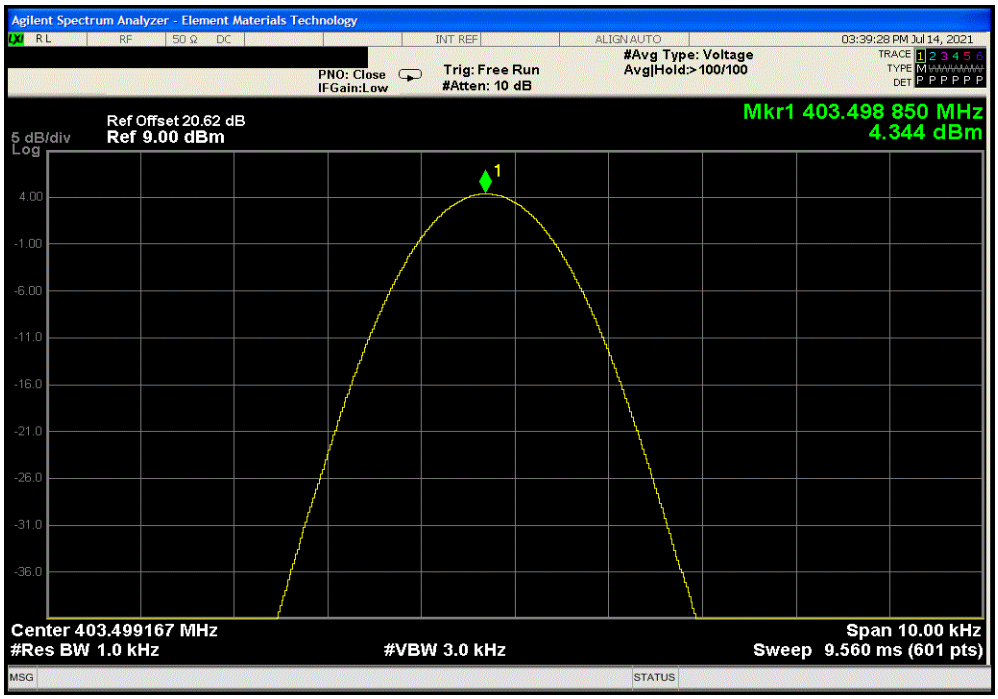
Nominal Temperature +26°C, Nominal Voltage 2.9V, High Channel, 404.7 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		404.6986007	404.7	3.5	100	Pass



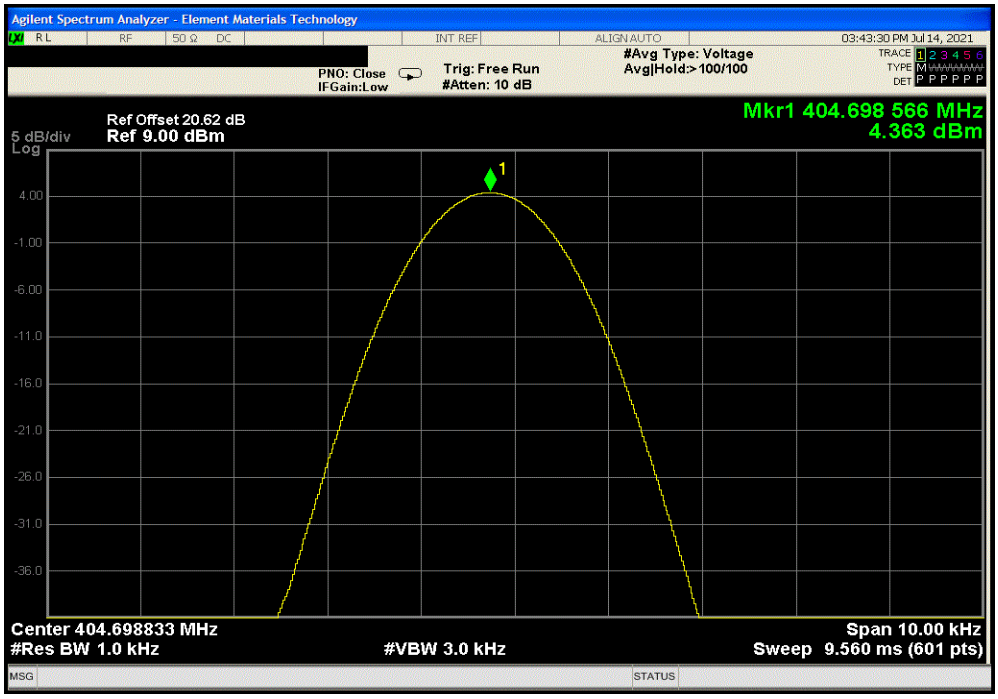
Nominal Temperature +26°C, Extreme Max Voltage 3.2V, Low Channel, 402.3 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		402.2991833	402.3	2	100	Pass



Nominal Temperature +26°C, Extreme Max Voltage 3.2V, Mid Channel, 403.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.4988503	403.5	2.9	100	Pass

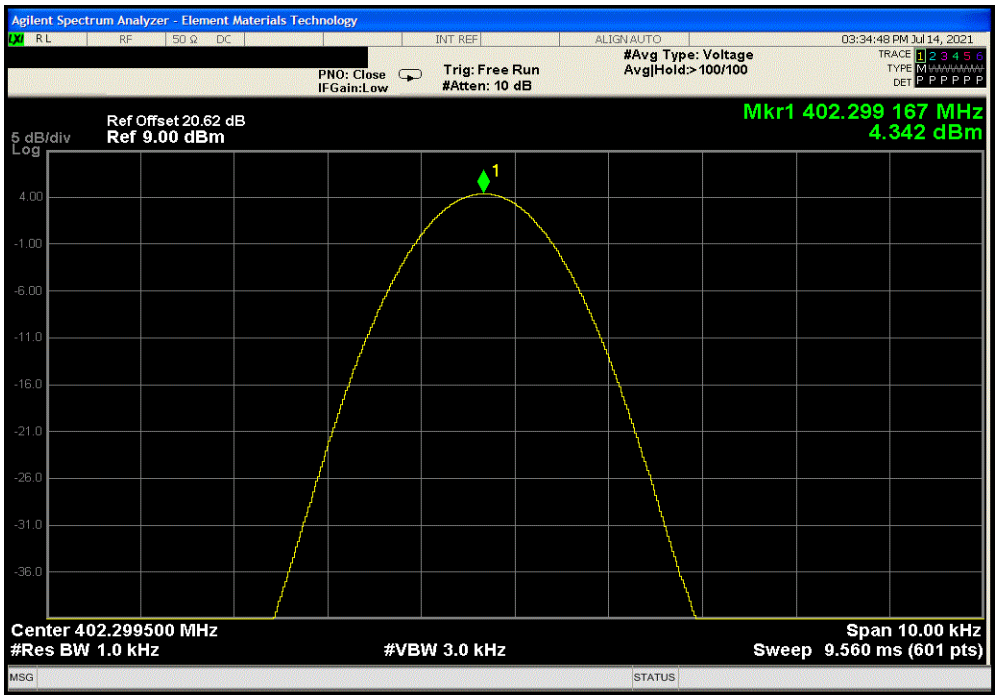


Nominal Temperature +26°C, Extreme Max Voltage 3.2V, High Channel, 404.7 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		404.6985663	404.7	3.5	100	Pass

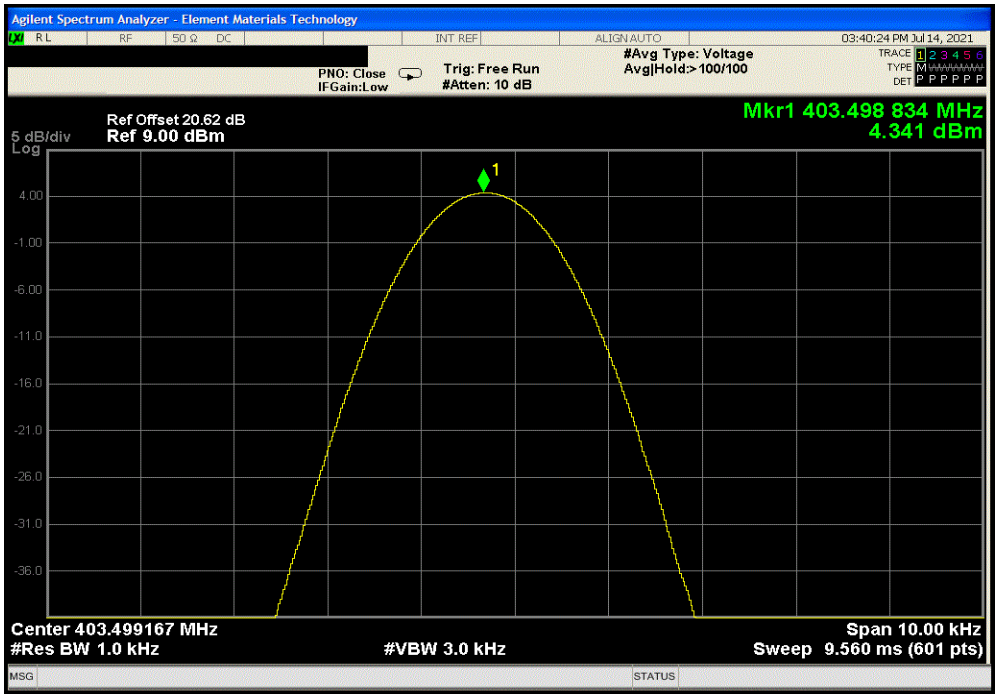


FREQUENCY STABILITY

Nominal Temperature +26°C, Extreme Min Voltage 2.0V, Low Channel, 402.3 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		402.2991667	402.3	2.1	100	Pass

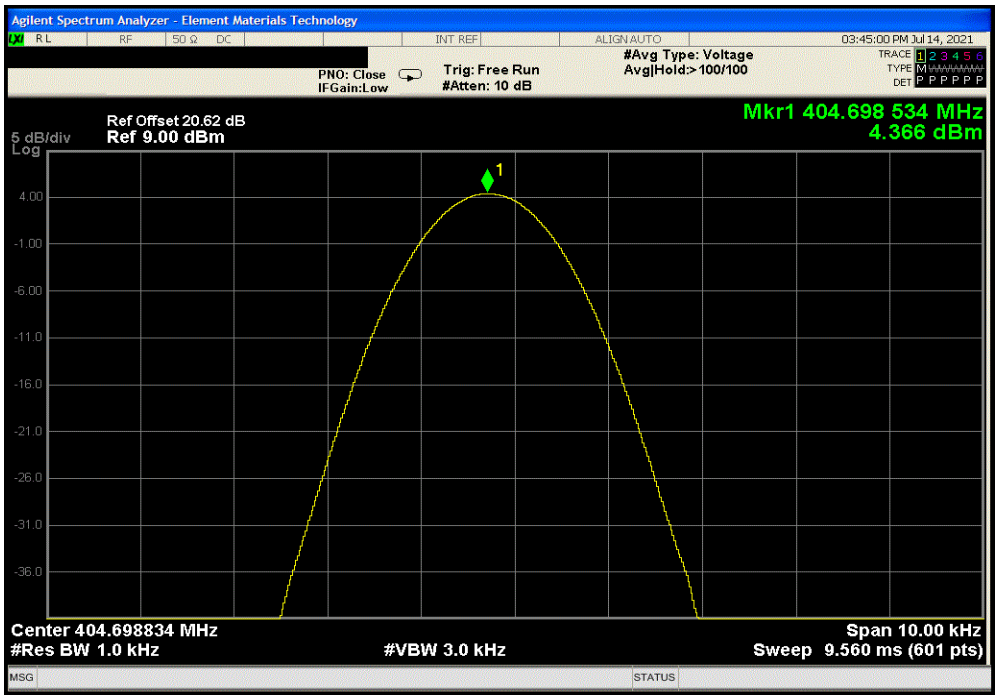


Nominal Temperature +26°C, Extreme Min Voltage 2.0V, Mid Channel, 403.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.4988337	403.5	2.9	100	Pass

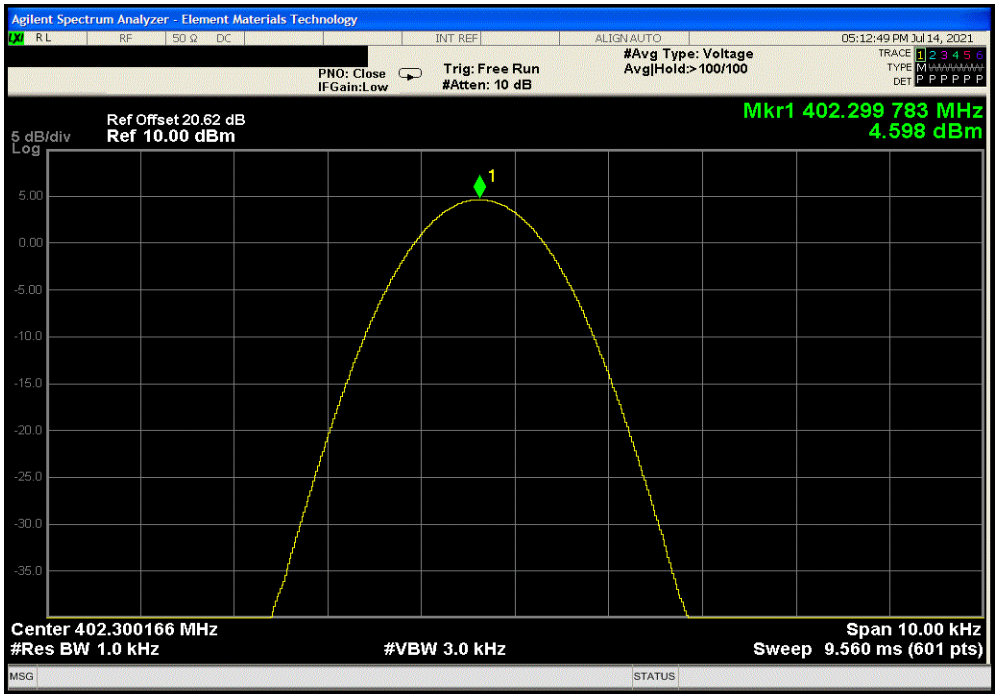


FREQUENCY STABILITY

Nominal Temperature +26°C, Extreme Min Voltage 2.0V, High Channel, 404.7 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		404.698534	404.7	3.6	100	Pass

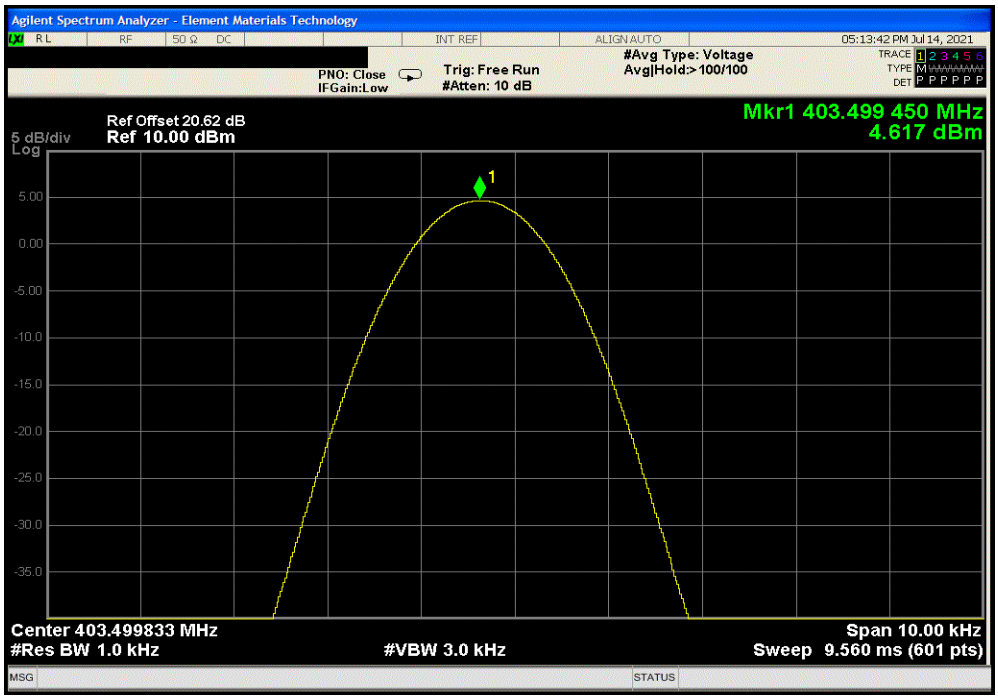


Extreme Temperature +20°C, Nominal Voltage 2.9V, Low Channel, 402.3 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		402.2997827	402.3	0.5	100	Pass

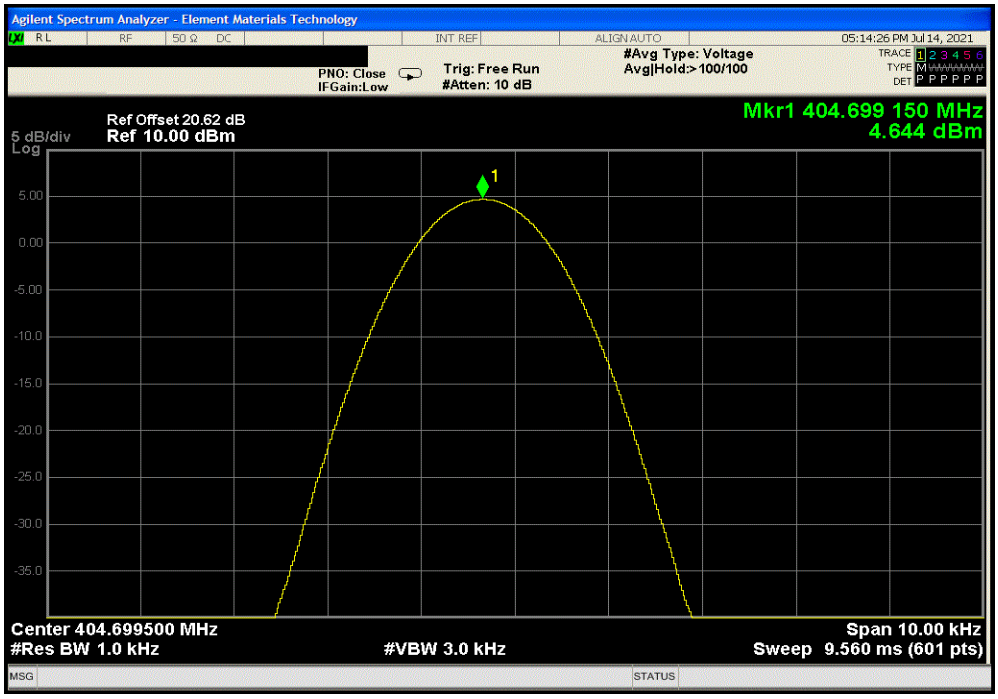


FREQUENCY STABILITY

Extreme Temperature +20°C, Nominal Voltage 2.9V, Mid Channel, 403.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.4994497	403.5	1.4	100	Pass

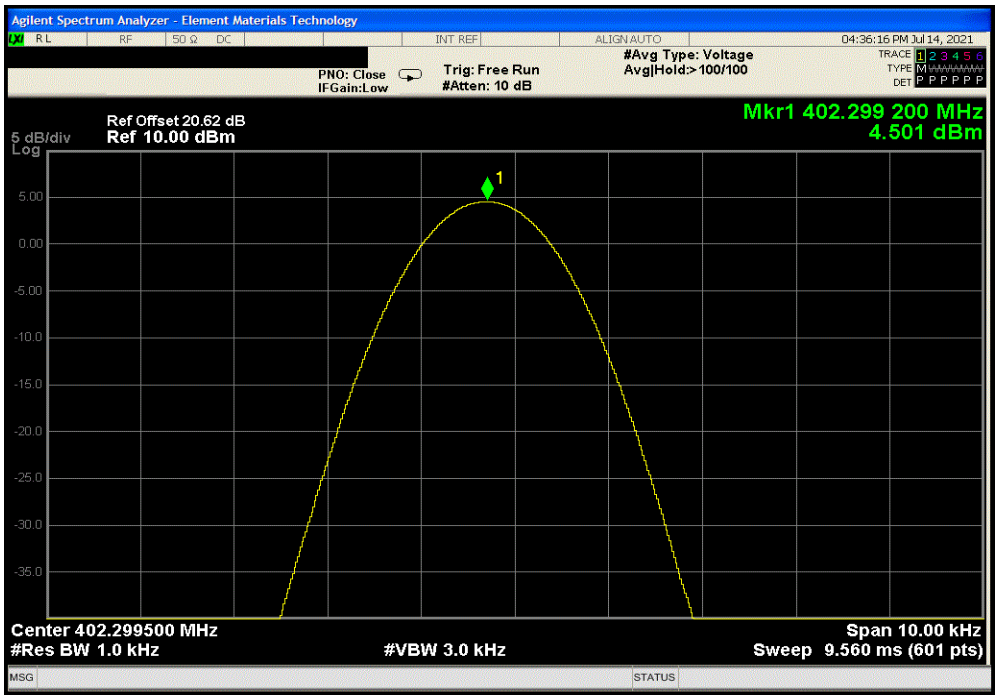


Extreme Temperature +20°C, Nominal Voltage 2.9V, High Channel, 404.7 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		404.69915	404.7	2.1	100	Pass

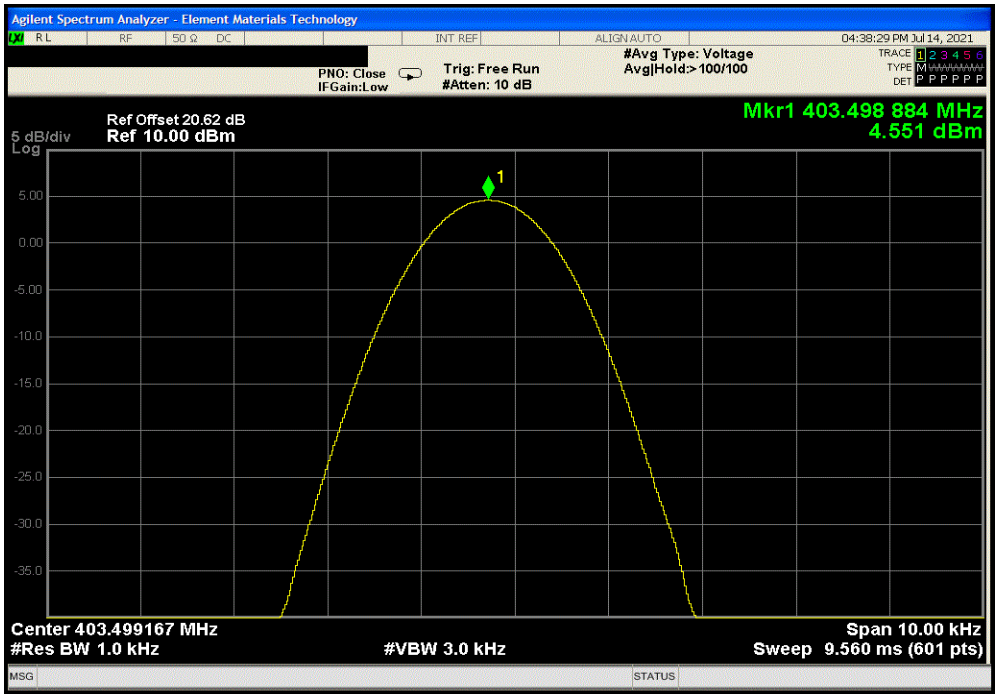


FREQUENCY STABILITY

Extreme Temperature +25°C, Nominal Voltage 2.9V, Low Channel, 402.3 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		402.2992	402.3	2	100	Pass

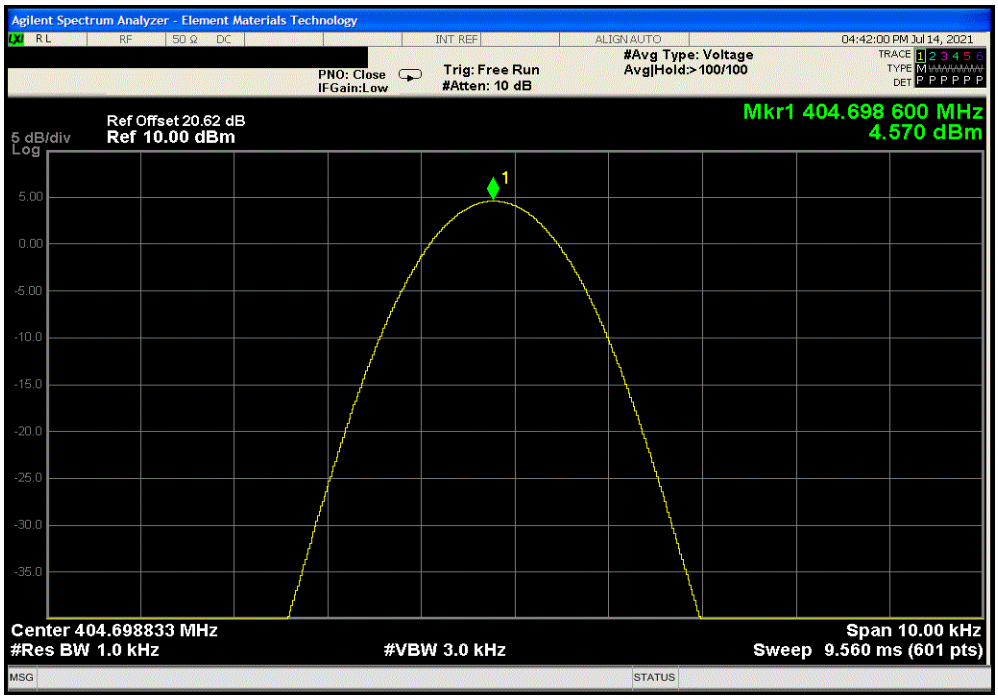


Extreme Temperature +25°C, Nominal Voltage 2.9V, Mid Channel, 403.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.4988837	403.5	2.8	100	Pass

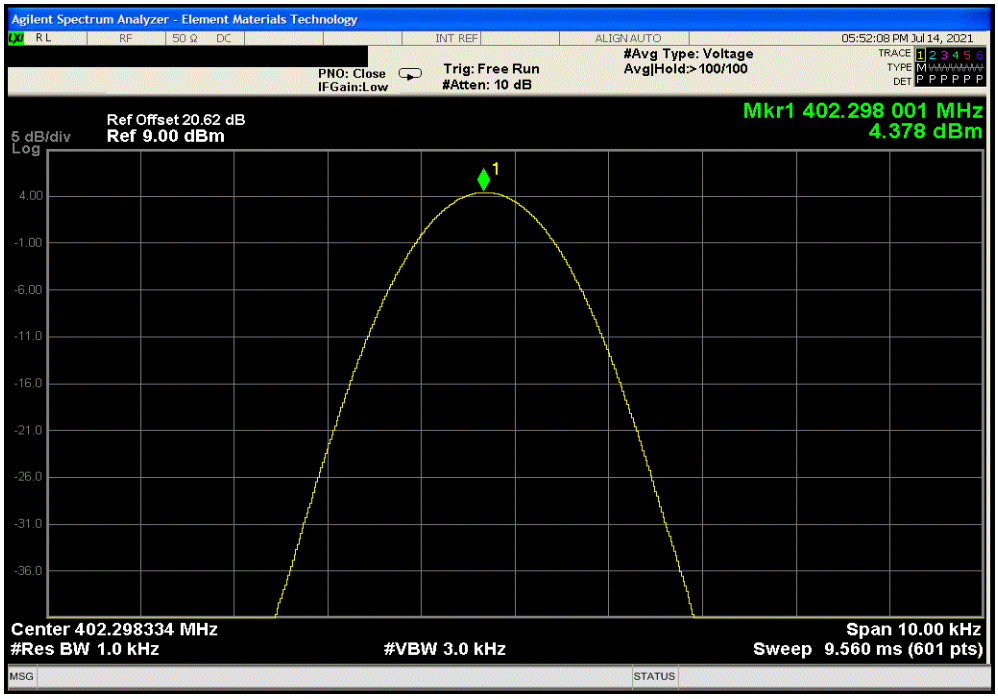


FREQUENCY STABILITY

Extreme Temperature +25°C, Nominal Voltage 2.9V, High Channel, 404.7 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		404.6985997	404.7	3.5	100	Pass

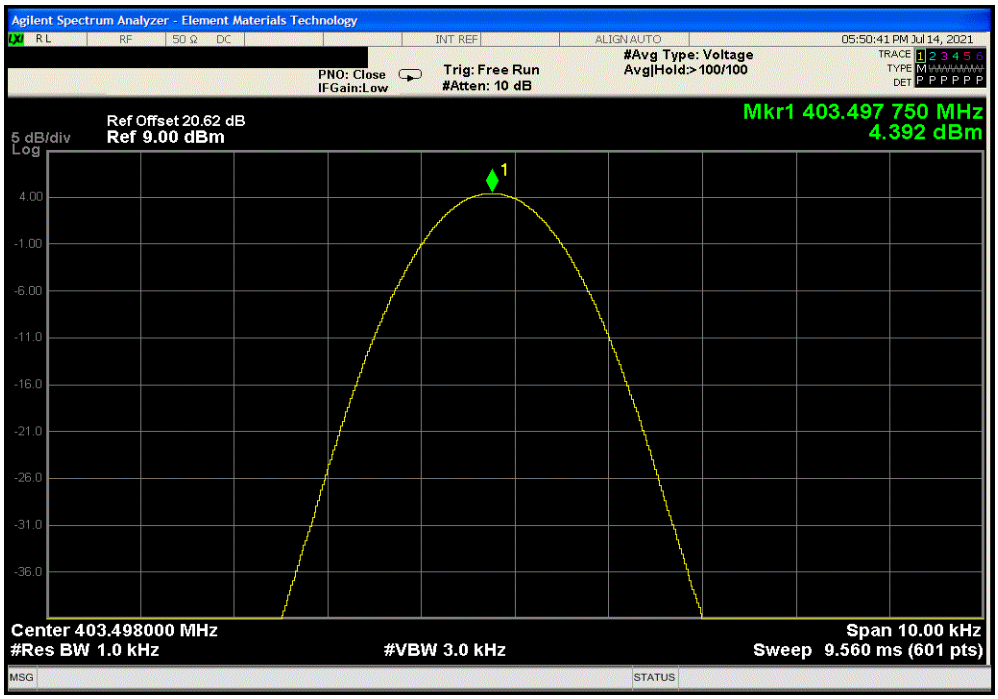


Extreme Temperature +35°C, Nominal Voltage 2.9V, Low Channel, 402.3 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		402.2980007	402.3	5	100	Pass

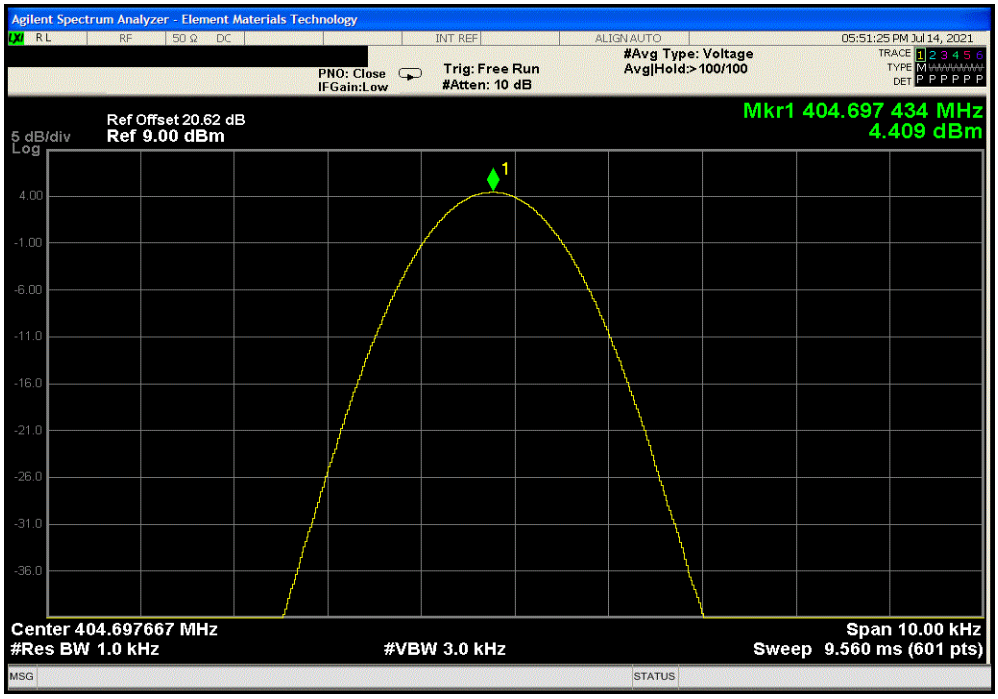


FREQUENCY STABILITY

Extreme Temperature +35°C, Nominal Voltage 2.9V, Mid Channel, 403.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.49775	403.5	5.6	100	Pass

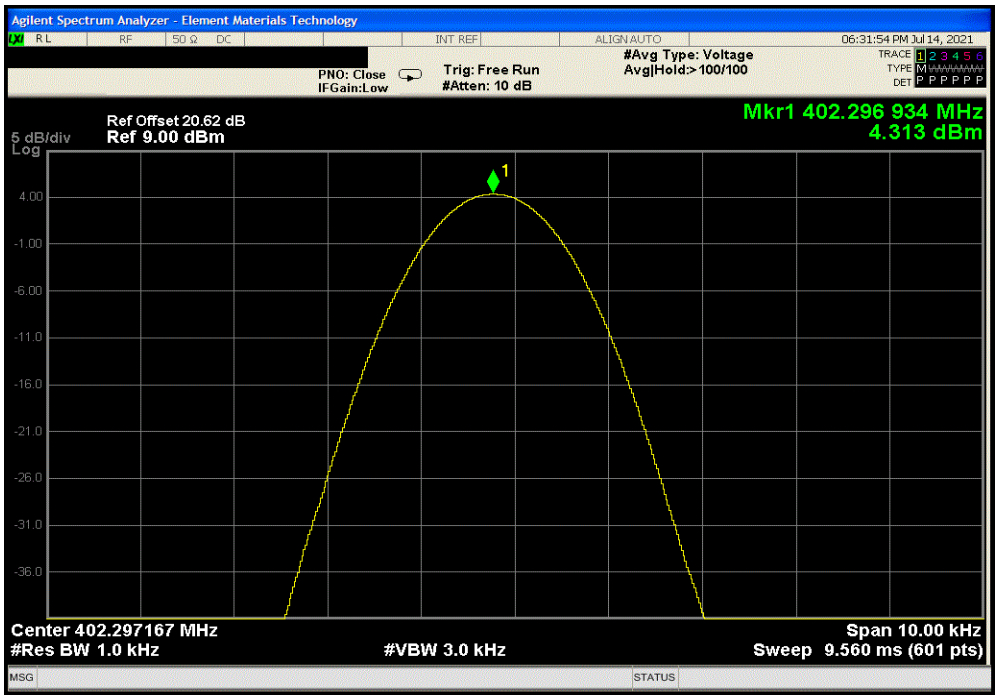


Extreme Temperature +35°C, Nominal Voltage 2.9V, High Channel, 404.7 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		404.6974337	404.7	6.3	100	Pass

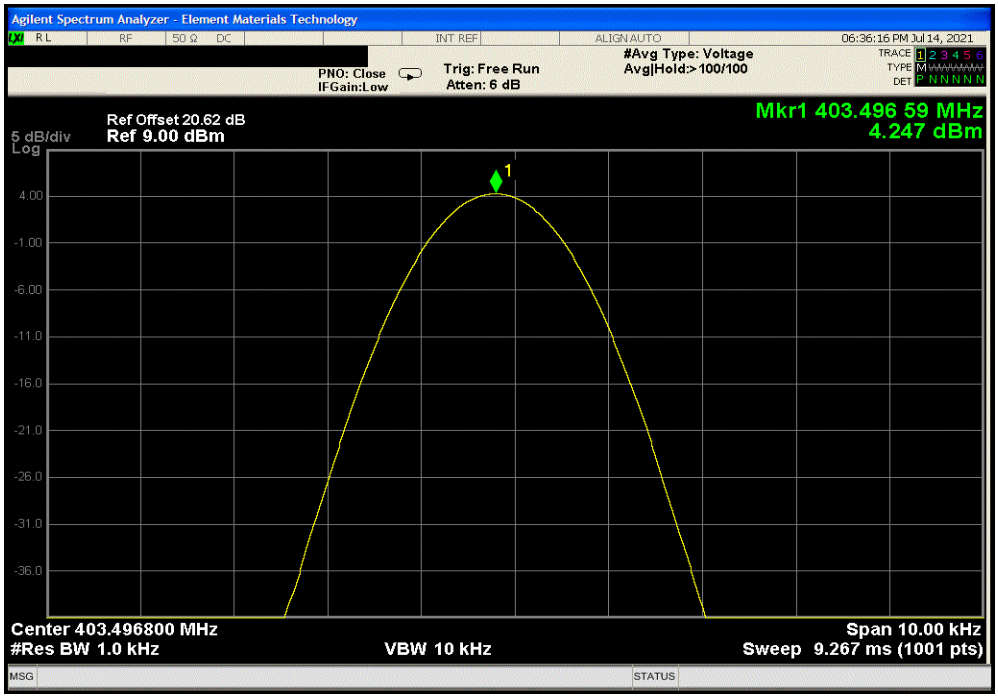


FREQUENCY STABILITY

Extreme Temperature +45°C, Nominal Voltage 2.9V, Low Channel, 402.3 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		402.2969337	402.3	7.6	100	Pass

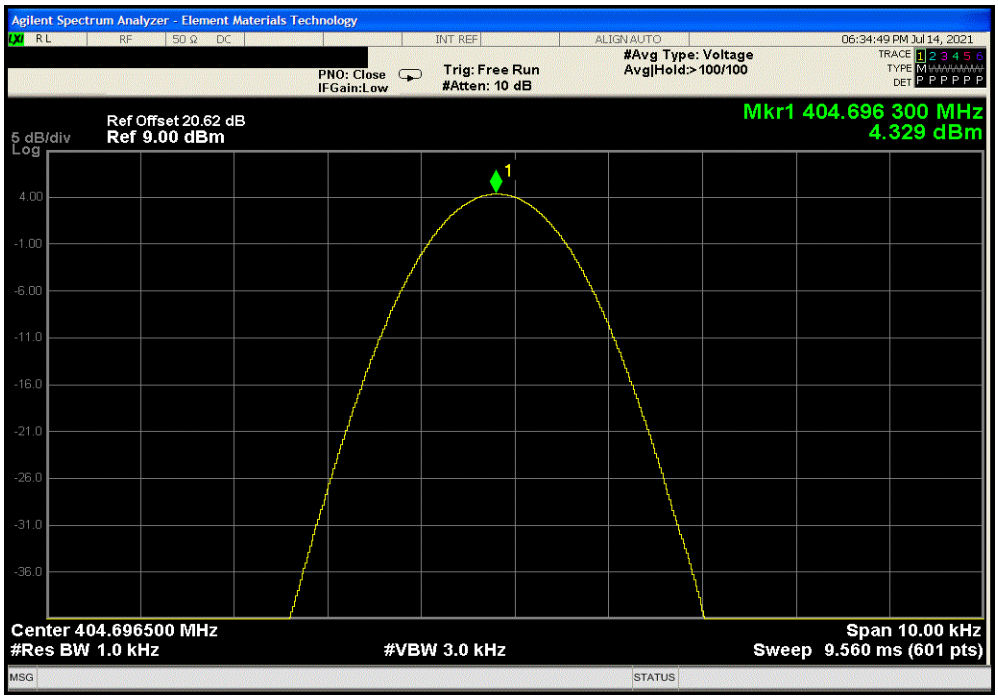


Extreme Temperature +45°C, Nominal Voltage 2.9V, Mid Channel, 403.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		403.49659	403.5	8.5	100	Pass



FREQUENCY STABILITY

Extreme Temperature +45°C, Nominal Voltage 2.9V, High Channel, 404.7 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		404.6963	404.7	9.1	100	Pass



SPURIOUS CONDUCTED EMISSIONS

XMit 2020.12.30.0

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
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2021-04-27	2022-04-27
Attenuator	Fairview Microwave	SA18H-20	TKR	2020-12-18	2021-12-18
Block - DC	Fairview Microwave	SD3379	AMV	2020-12-18	2021-12-18
Generator - Signal	Agilent	E8257D	TGU	2020-11-03	2023-11-03
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFJ	2021-01-06	2022-01-06

TEST DESCRIPTION

Per FCC Part 2.1051, 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.

FCC Part 95 have no conducted spurious emissions limit. It is a requirement to characterize this information and that data is contained within this datasheet.

SPURIOUS CONDUCTED EMISSIONS

element

XMit 2020.12.30.0

EUT:	Implantable Pulse Generator (IPG), model 4101			**Work Order:**	AXON0180
Serial Number:	4022370919			**Date:**	15-Jul-21
Customer:	Axonics Modulation Technologies, Inc.			**Temperature:**	23.8 °C
Attendees:	Wes Clement			**Humidity:**	43.8% RH
Project:	None			**Barometric Pres.:**	1018 mbar
Tested by:	Nolan De Ramos	**Power:**	2.9VDC	**Job Site:**	OC13

TEST SPECIFICATIONS	Test Method
FCC 95I:2021	ANSI C63.26:2015

COMMENTS

IPG Transmit Power Index 2
Cable + 20 dB Attenuator + DC Block + 90° SMA adapter = 20.97 dB Ref Level Offset

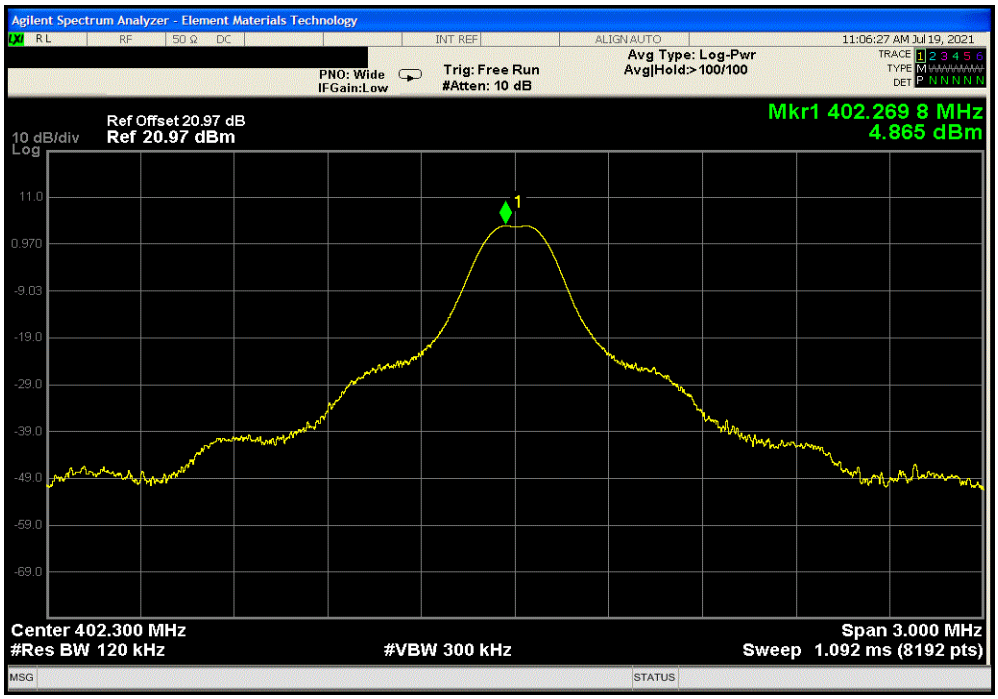
DEVIATIONS FROM TEST STANDARD

None

Configuration #	AXON0180 - 9	*Signature*

		Value	Limit	Result
Low Channel, 402.3 MHz				
	Fundamental	4.865 dBm	N/A	N/A
	9 kHz - 150 kHz	-48.662 dBm	N/A	N/A
	150 kHz - 30 MHz	-52.454 dBm	N/A	N/A
	30 MHz - 1 GHz	-47.844 dBm	N/A	N/A
	1 GHz - 5 GHz	-40.173 dBm	N/A	N/A
Mid Channel, 403.5 MHz				
	Fundamental	4.8 dBm	N/A	N/A
	9 kHz - 150 kHz	-48.354 dBm	N/A	N/A
	150 kHz - 30 MHz	-54.482 dBm	N/A	N/A
	30 MHz - 1 GHz	-54.063 dBm	N/A	N/A
	1 GHz - 5 GHz	-35.231 dBm	N/A	N/A
High Channel, 404.7 MHz				
	Fundamental	4.822 dBm	N/A	N/A
	9 kHz - 150 kHz	-48.576 dBm	N/A	N/A
	150 kHz - 30 MHz	-55.839 dBm	N/A	N/A
	30 MHz - 1 GHz	-54.109 dBm	N/A	N/A
	1 GHz - 5 GHz	-40.630 dBm	N/A	N/A

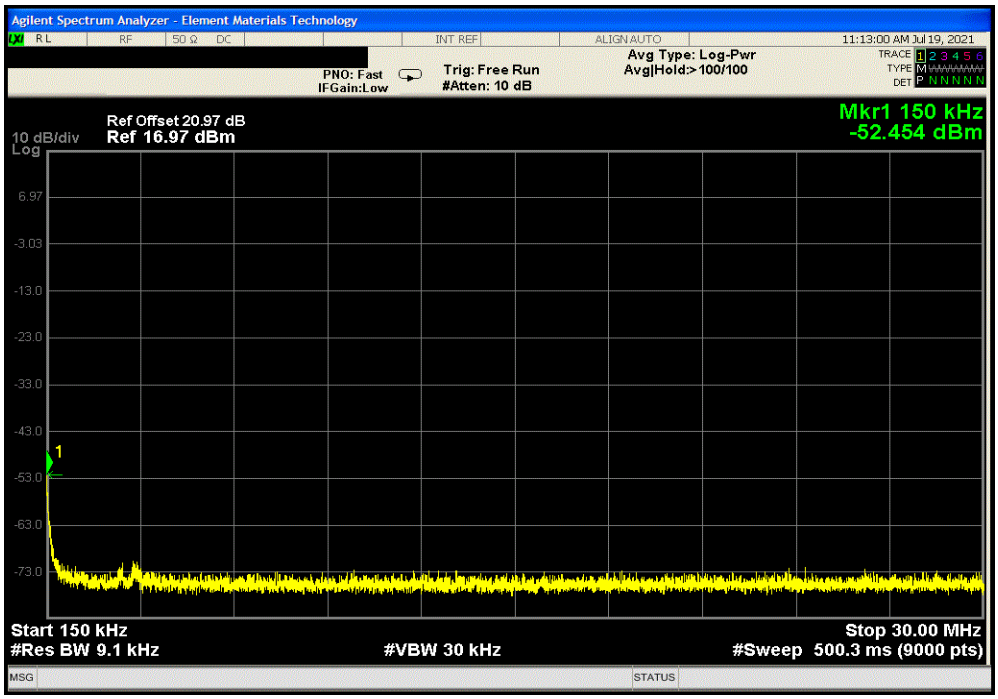
Low Channel, 402.3 MHz, Fundamental						
				Value	Limit	Result
				4.865 dBm	N/A	N/A



Low Channel, 402.3 MHz, 9 kHz - 150 kHz						
				Value	Limit	Result
				-48.662 dBm	N/A	N/A

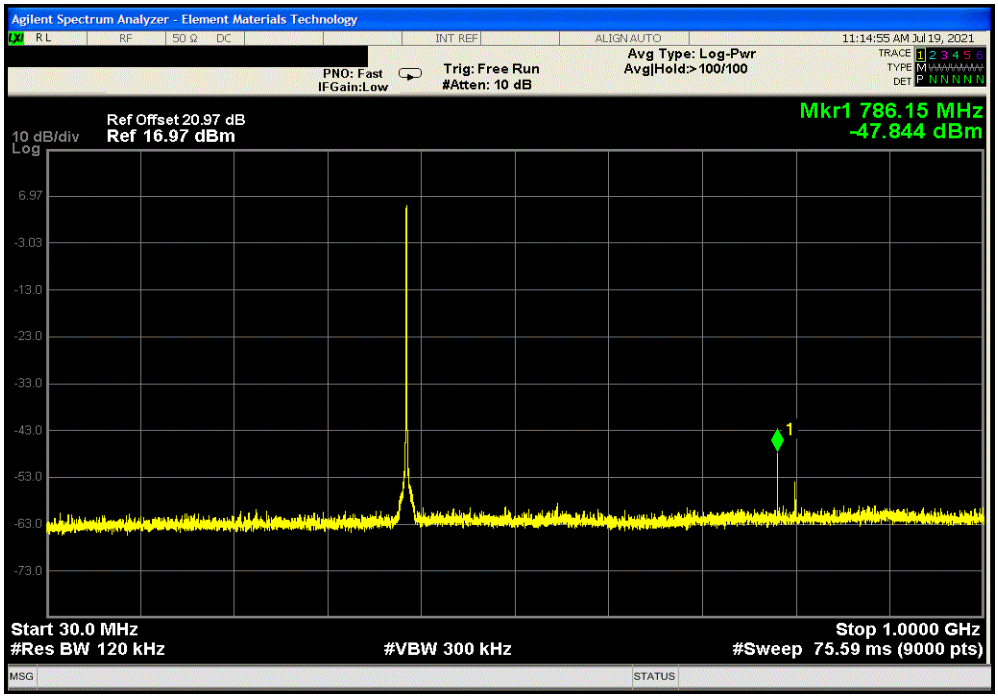
Low Channel, 402.3 MHz, 150 kHz - 30 MHz

				Value	Limit	Result
				-52.454 dBm	N/A	N/A



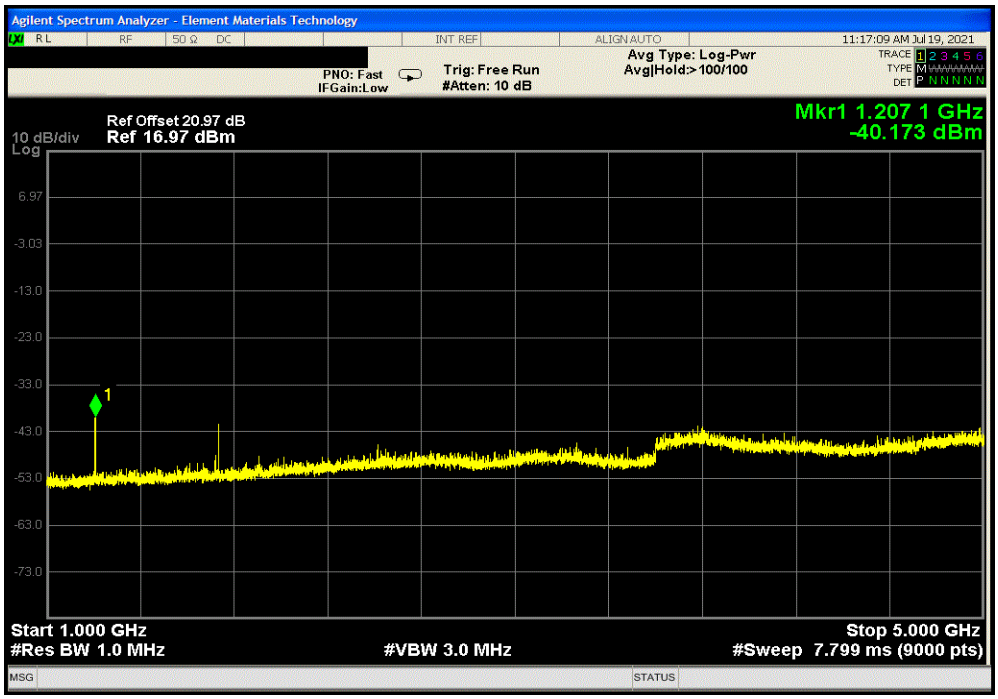
Low Channel, 402.3 MHz, 30 MHz - 1 GHz

				Value	Limit	Result
				-47.844 dBm	N/A	N/A



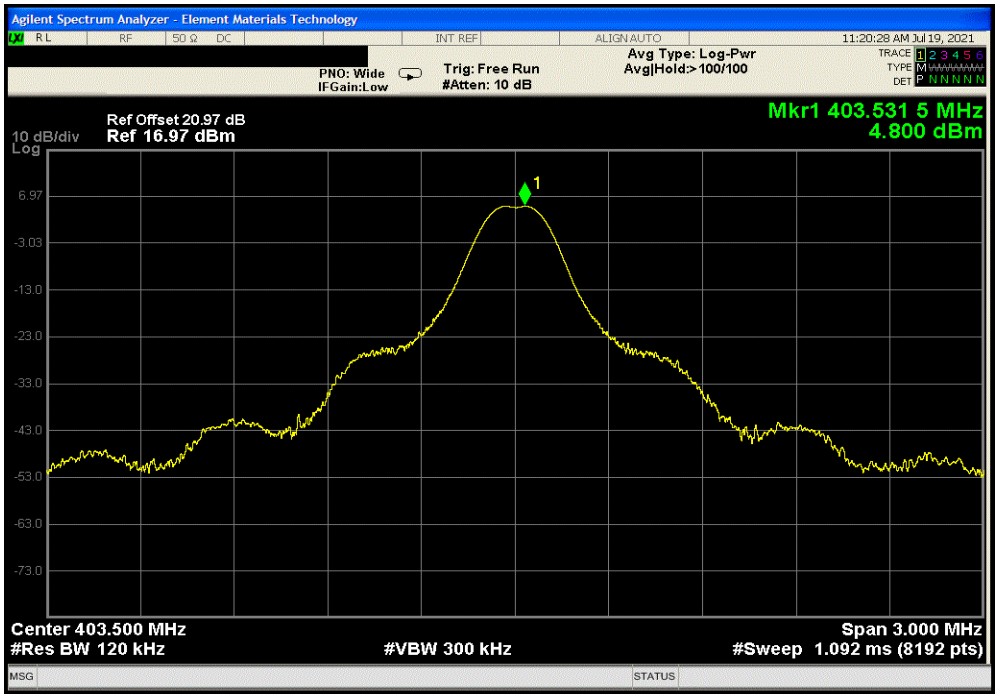
Low Channel, 402.3 MHz, 1 GHz - 5 GHz

				Value	Limit	Result
				-40.173 dBm	N/A	N/A



Mid Channel, 403.5 MHz, Fundamental

				Value	Limit	Result
				4.8 dBm	N/A	N/A

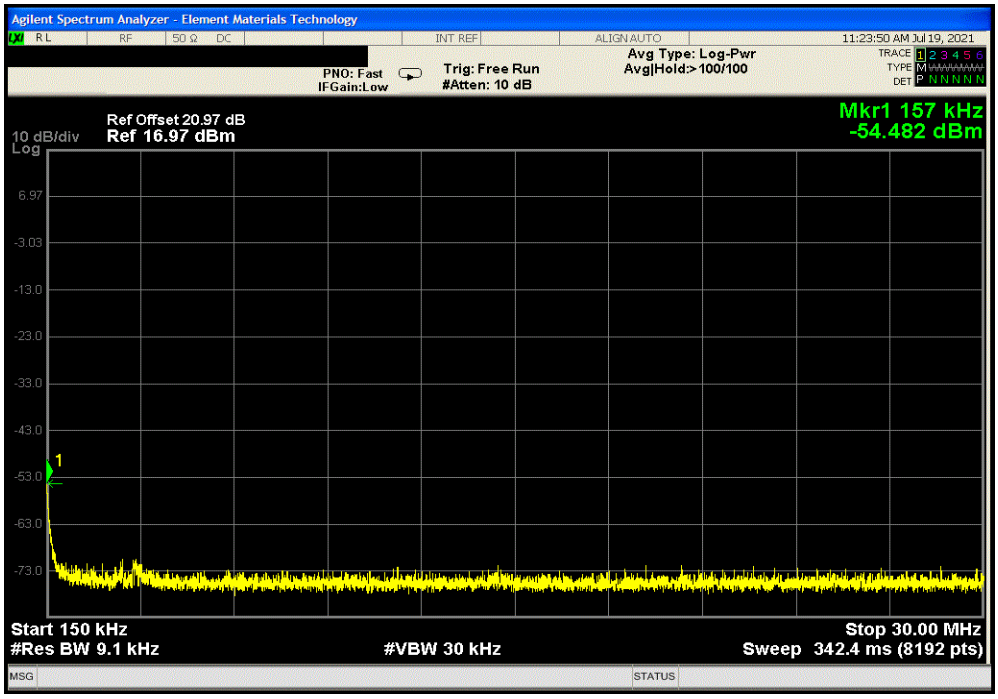


Mid Channel, 403.5 MHz, 9 kHz - 150 kHz

				Value	Limit	Result
				-48.354 dBm	N/A	N/A

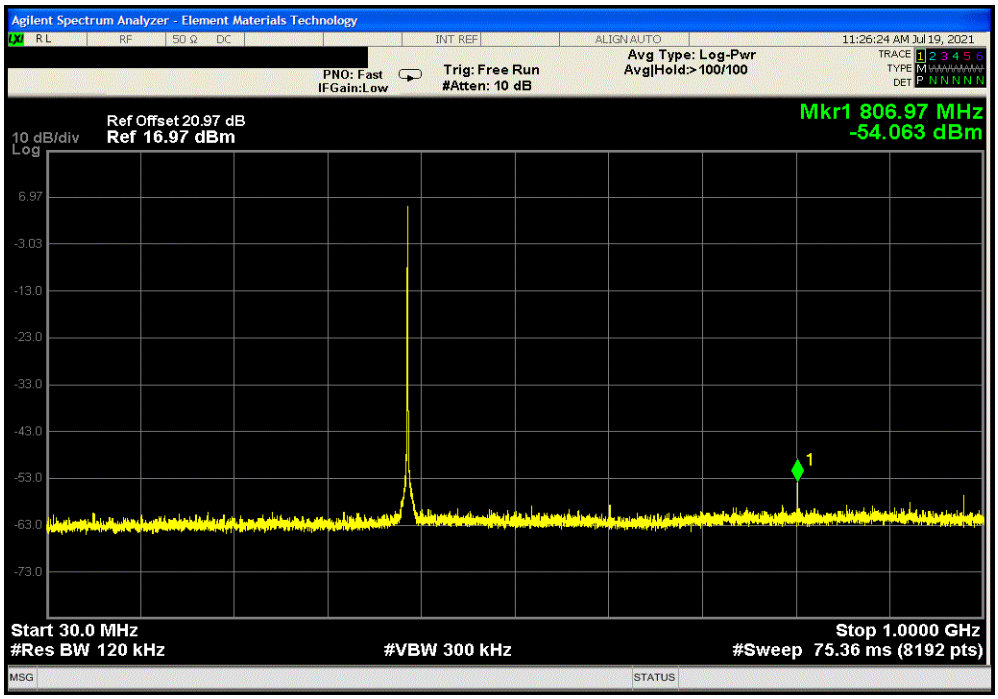
Mid Channel, 403.5 MHz, 150 kHz - 30 MHz

				Value	Limit	Result
				-54.482 dBm	N/A	N/A



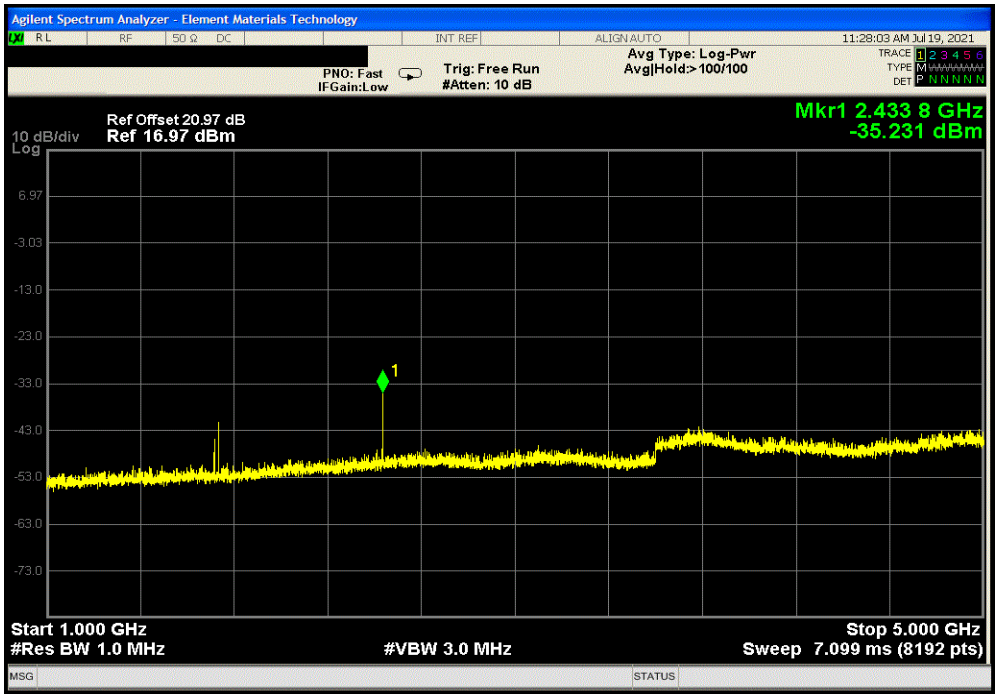
Mid Channel, 403.5 MHz, 30 MHz - 1 GHz

				Value	Limit	Result
				-54.063 dBm	N/A	N/A

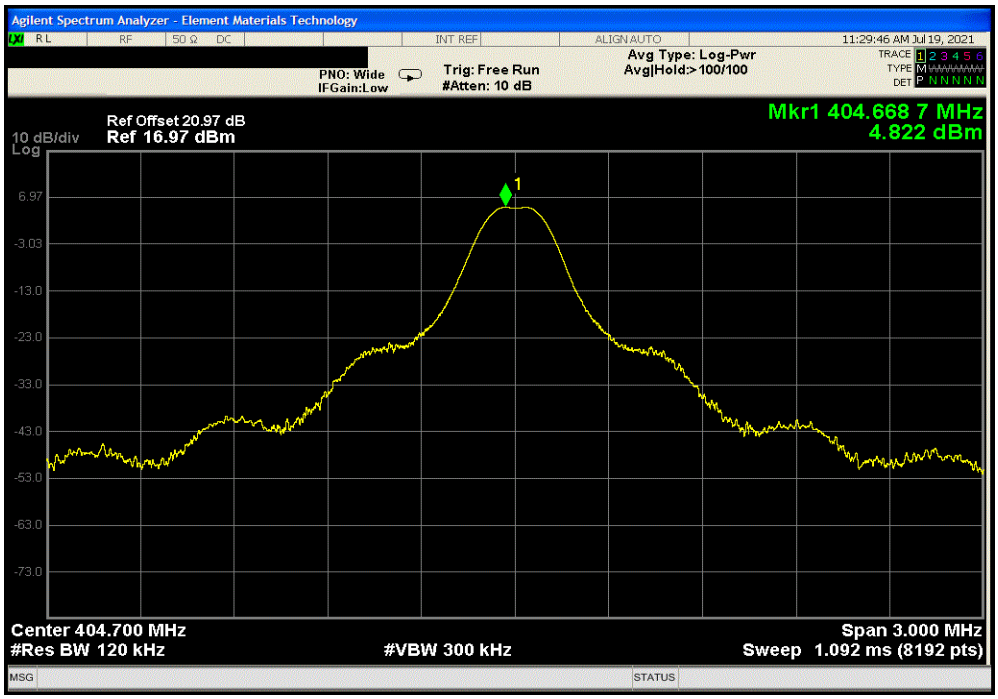


Mid Channel, 403.5 MHz, 1 GHz - 5 GHz

				Value	Limit	Result
				-35.231 dBm	N/A	N/A

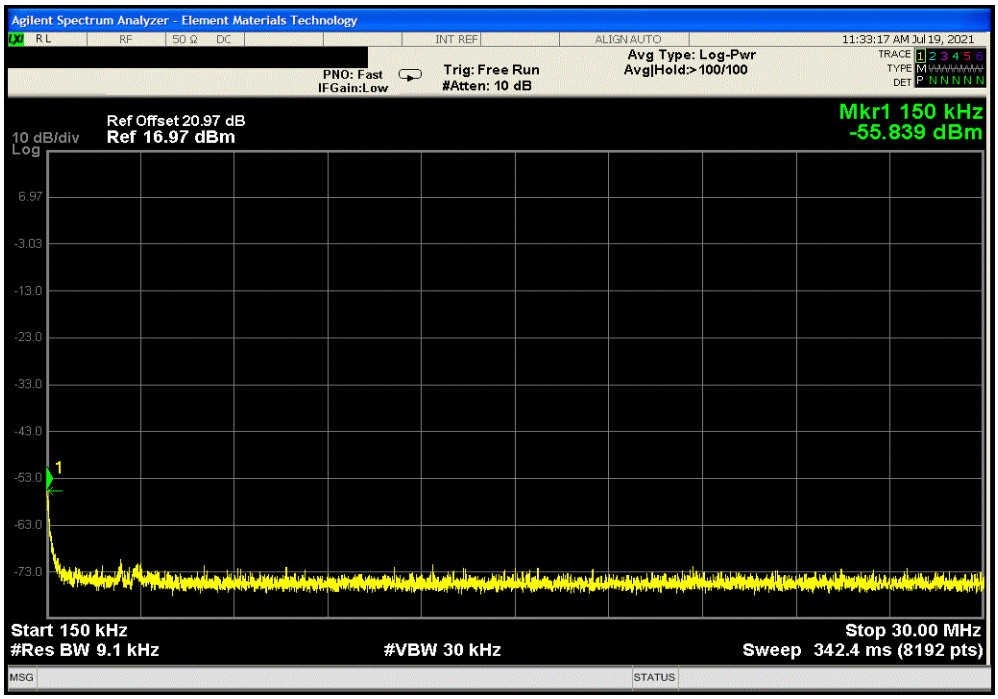


High Channel, 404.7 MHz, Fundamental						
				Value	Limit	Result
				4.822 dBm	N/A	N/A

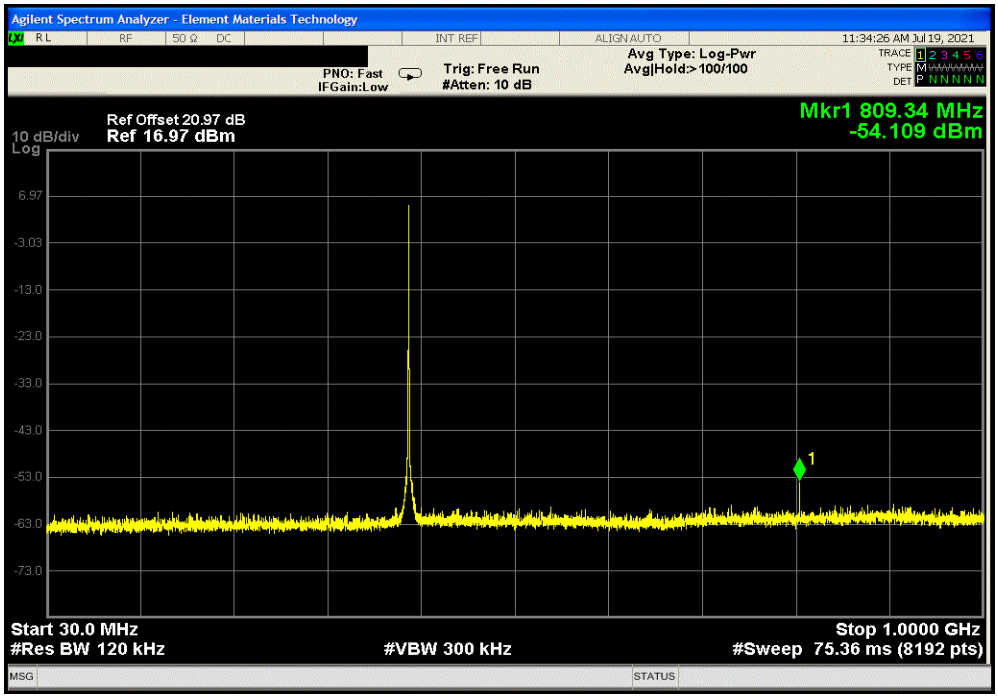


High Channel, 404.7 MHz, 9 kHz - 150 kHz						
				Value	Limit	Result
				-48.576 dBm	N/A	N/A

High Channel, 404.7 MHz, 150 kHz - 30 MHz						
				Value	Limit	Result
				-55.839 dBm	N/A	N/A

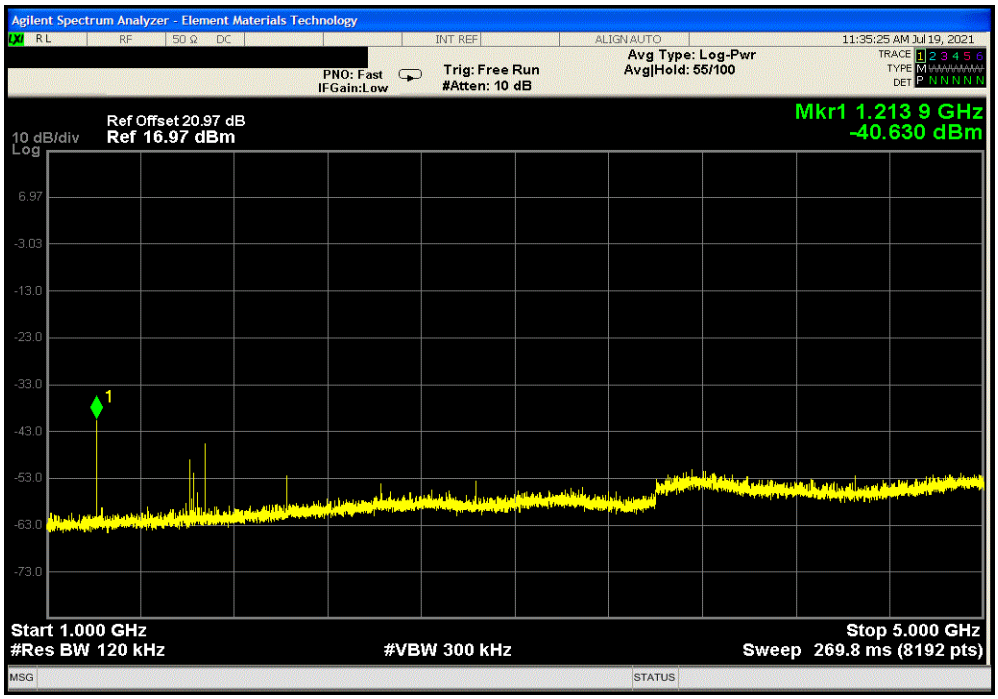


High Channel, 404.7 MHz, 30 MHz - 1 GHz						
				Value	Limit	Result
				-54.109 dBm	N/A	N/A



High Channel, 404.7 MHz, 1 GHz - 5 GHz

				Value	Limit	Result
				-40.630 dBm	N/A	N/A



EMISSIONS MASK

XMit 2020.12.30.0

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TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Agilent	E8257D	TGU	2020-11-03	2023-11-03
Attenuator	Fairview Microwave	SA18H-20	TKR	2020-12-18	2021-12-18
Block - DC	Aeroflex	INMET 8535	AMO	2021-02-22	2022-02-22
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2021-04-27	2022-04-27
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFP	2021-07-19	2022-07-19

TEST DESCRIPTION

Per 47 CFR 95.2579(a)(1) 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 95.2573(a). 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

element

XMit 2020.12.30.0

EUT:	Implantable Pulse Generator (IPG), model 4101			**Work Order:**	AXON0180
Serial Number:	4022370919			**Date:**	16-Aug-21
Customer:	Axonics Modulation Technologies, Inc.			**Temperature:**	24 °C
Attendees:	Wes Clement			**Humidity:**	49.4% RH
Project:	None			**Barometric Pres.:**	1013 mbar
Tested by:	Nolan De Ramos	**Power:**	2.9VDC	**Job Site:**	OC13

TEST SPECIFICATIONS	Test Method
FCC 95I:2021	ANSI C63.26:2015

COMMENTS

IPG Transmit Power Index 2. Cable + 20 dB Attenuator + DC Block + 90° SMA adapter = Ref Level Offset

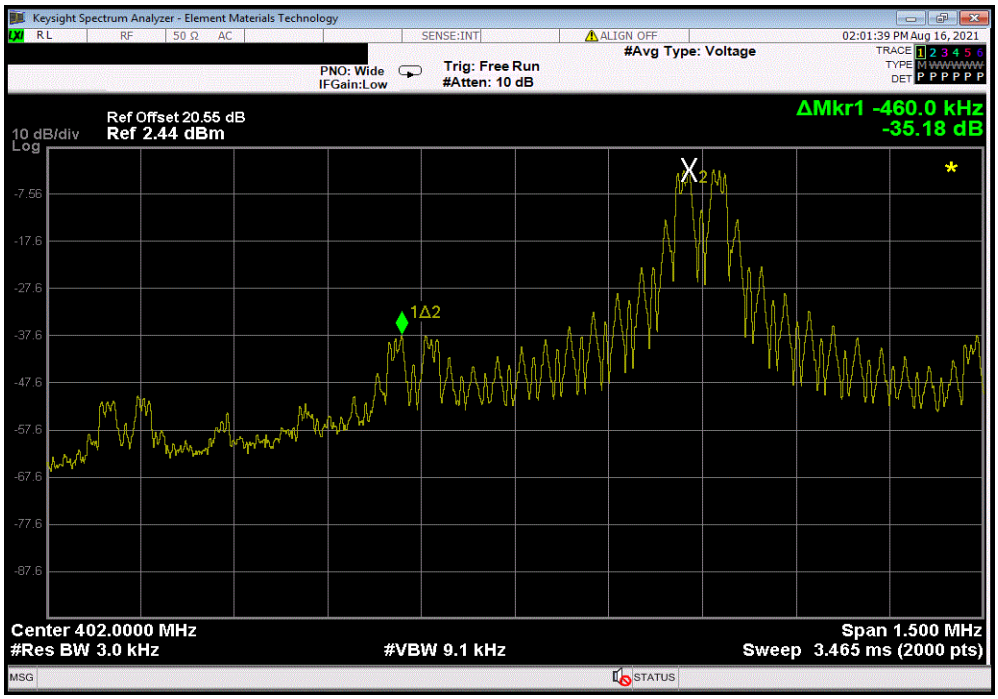
DEVIATIONS FROM TEST STANDARD

None

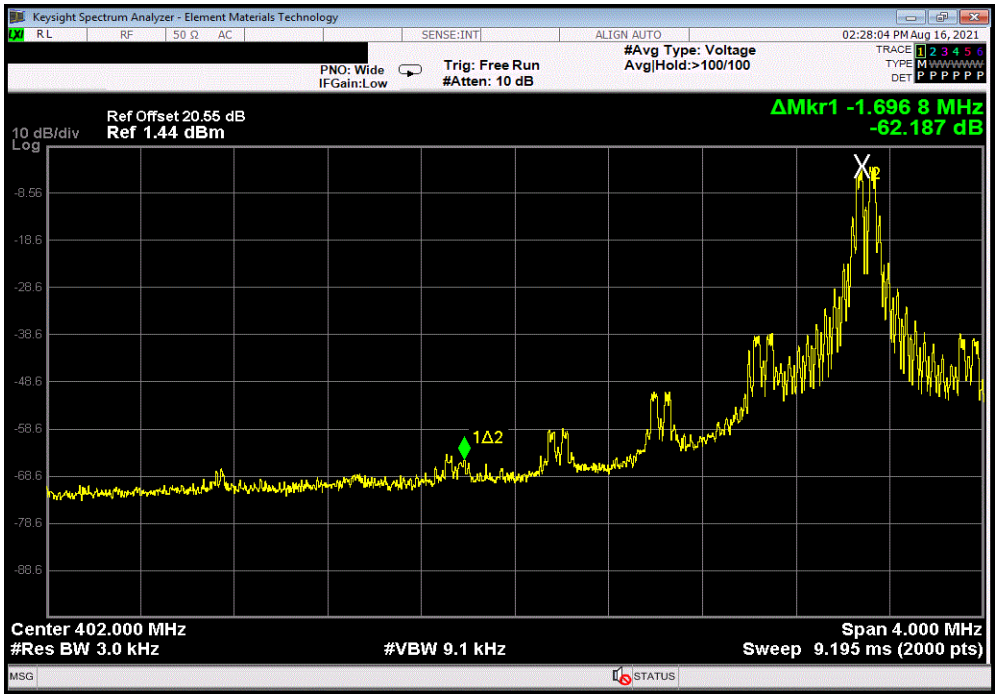
Configuration #	AXON0180 - 9	*Signature*

	Value (dBc)	Limit ≤ (dBc)	Result
Low Channel, 402.3 MHz	-35.18	-20	Pass
Mid Channel, 403.5 MHz (Between 401.75 MHz and 402 MHz)	-62.187	-20	Pass
Mid Channel, 403.5 MHz (Between 405 MHz and 405.25 MHz)	-63.992	-20	Pass
High Channel, 405.7 MHz	-35.52	-20	Pass

Low Channel, 402.3 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-35.18	-20	Pass

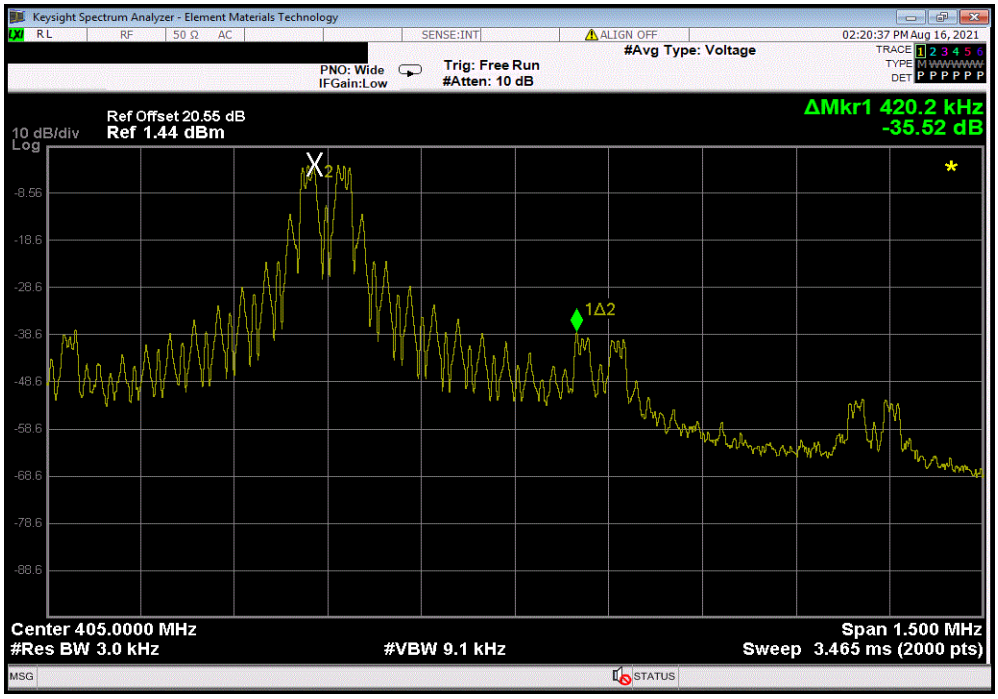


Mid Channel, 403.5 MHz (Between 401.75 MHz and 402 MHz)						
				Value (dBc)	Limit ≤ (dBc)	Result
				-62.187	-20	Pass



Mid Channel, 403.5 MHz (Between 405 MHz and 405.25 MHz)						
				Value (dBc)	Limit ≤ (dBc)	Result
				-63.992	-20	Pass

High Channel, 405.7 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-35.52	-20	Pass



End of Test Report