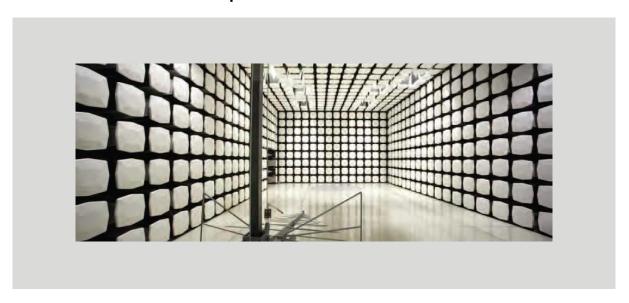


Masimo Corporation

FCC 15.407:2019 802.11an SISO Radio

Report # MASI0553.4 Rev. 2







NVLAP LAB CODE: 200676-0

CERTIFICATE OF TEST



Last Date of Test: July 19, 2019
Masimo Corporation
Model: MWMII

Radio Equipment Testing

Standards

Specification	Method
FCC 15.207:2019	ANSI C63.10:2013
FCC 15.407:2019	ANSI C63.10:2013, KDB 789033, KDB 905462

Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	Yes	Pass	
6.5, 6.6, 12.7	Spurious Radiated Emissions	Yes	Pass	
6.8	Frequency Stability	Yes	Pass	
12.2	Duty Cycle	Yes	N/A	
12.3.2.4	Maximum Conducted Output Power	Yes	Pass	
12.3.2.4	Equivalent Isotropic Radiated Power (EIRP)	Yes	Pass	
12.4.1	Emission Bandwidth	Yes	Pass	
12.4.2	Occupied Bandwidth	Yes	Pass	
12.4.2	Band Edge	Yes	Pass	
12.5	Maximum Power Spectral Density	Yes	Pass	
KDB 789033 -H	Measurement of Emission at Elevation Angle Higher Than 30 Degrees From Horizon	No	N/A	Not required unless the EUT is a Master device used outdoors.

Deviations From Test Standards

None

Approved By:

Victor Ratinoff, 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. 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
00	None		
	Updated power setting from 20 to 21.	2019-11-16	19, 21, 23, 25
01	Updated the header for each measurement that lists 'Value (%)' to Value (99%)	2019-11-16	302
	In Spurious Radiated Emissions the measurements with the -27 dBm limit updated to be peak measurements - not average.	2019-11-16	29, 34, 42, 48
	Fixed Power Spectral Density test description print area.	2019-11-16	313
02	Added comment to Spurious Radiated Emissions data, "No duty cycle correction factor was applied to any emissions as they were not temporally related to the duty cycle of the carrier."	2019-11-26	29-37, 40-51

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 - Accredited by A2LA to ISO / IEC 17065 as a product certifier. This 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 - Within Element, we have a EU Notified Body validated for the EMCD and RED Directives.

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: https://www.nwemc.com/emc-testing-accreditations

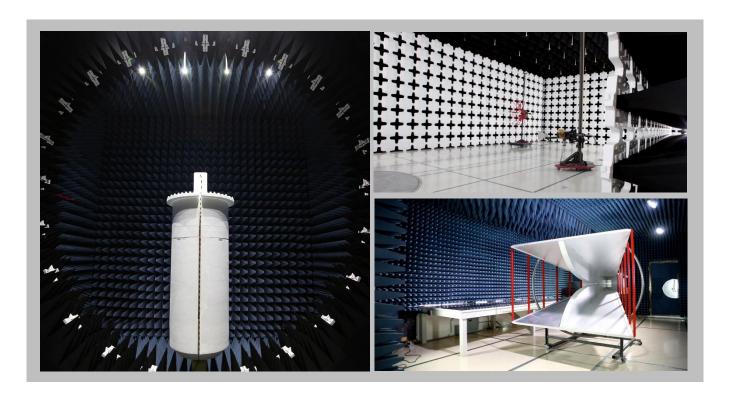
FACILITIES







California Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	Minnesota Labs MN01-10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Oregon Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	Texas Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Washington Labs NC01-05 19201 120 th Ave NE Bothell, WA 98011 (425)984-6600	
		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



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 included as part of the applicable test description page. 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.

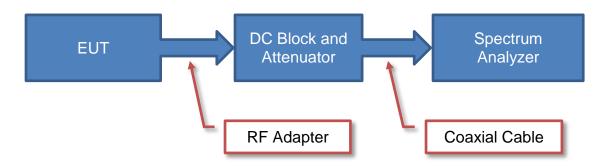
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

Test	+ MU	- MU
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	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)	5.1 dB	-5.1 dB
AC Powerline Conducted Emissions (dB)	2.4 dB	-2.4 dB

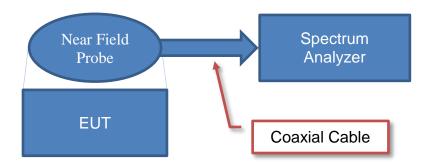
Test Setup Block Diagrams



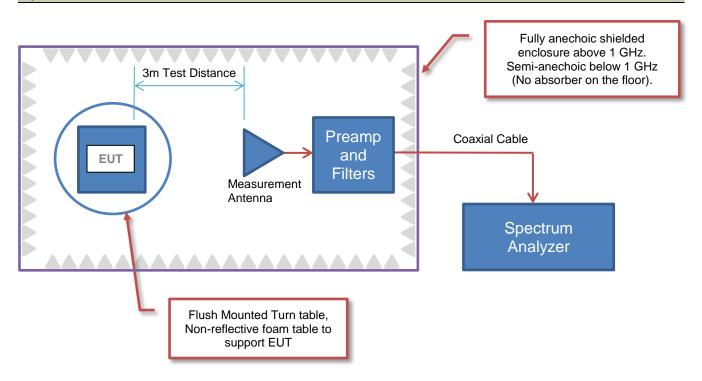
Antenna Port Conducted Measurements



Near Field Test Fixture Measurements



Spurious Radiated Emissions



PRODUCT DESCRIPTION



Client and Equipment Under Test (EUT) Information

Company Name:	Masimo Corporation
Address:	52 Discovery
City, State, Zip:	Irvine, CA 92618
Test Requested By:	Anami Joshi
Model:	MWMII
First Date of Test:	July 8, 2019
Last Date of Test:	July 19, 2019
Receipt Date of Samples:	July 8, 2019
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 MWMII is a stand-alone IEEE 802.11 and Bluetooth radio module (P/N 26269) that uses an AzureWave AW-CM256SM radio chipset, and which incorporates the Broadcom BCM43455 single chip. The 802.11 a/b/g/n operates in the 2.4 GHz, 5.2 GHz, 5.3 GHz, 5.6 GHz and 5.8 GHz band(s). The MWMII radio module can be paired with the same type of Ethertronics antenna of either Model 9000129 or 1000672. The antenna evaluated is of the highest gain per band.

Testing Objective:

To demonstrate compliance of the 802.11 radio under FCC 15.407 for operation in the 5.2 GHz, 5.3 GHz, 5.6 GHz and 5.8 GHz band(s).

CONFIGURATIONS



Configuration MASI0553-3

Software/Firmware Running during test	
Description	Version
Firmware	7.45.100.7-mfgtest

EUT				
Description	Manufacturer	Model/Part Number	Serial Number	
Masimo Wireless Module II	Masimo	MWMII (P/N: 26269)	ENG-1	
Antenna (2.4GHz-5.35GHz)	Ethertronics	1000672	N/A	

Peripherals in test setup boundary					
Description	Manufacturer	Model/Part Number	Serial Number		
Carrier Board	Masimo	26634 Rev. B	1847700024		
Hawk Radio Board Debug Tool	Masimo	82403	None		
Battery	Masimo	23794	21826002827		

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
RF Cable	Yes	0.1m	No	Masimo Wireless Module II	Antenna

Configuration MASI0553-4

Software/Firmware Running during test	
Description	Version
Firmware	7.45.100.7-mfgtest

EUT					
Description	Manufacturer	Model/Part Number	Serial Number		
Masimo Wireless Module II	Masimo	MWMII (P/N: 26269)	ENG-1		
Antenna (5.35GHz-5.8GHz)	Ethertronics	9000129	N/A		

Peripherals in test setup boundary						
Description	Manufacturer	Model/Part Number	Serial Number			
Carrier Board	Masimo	26634 Rev. B	1847700024			
Hawk Radio Board Debug Tool	Masimo	82403	None			
Battery	Masimo	23794	21826002827			

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
RF Cable	Yes	0.1m	No	Masimo Wireless Module II	Antenna

CONFIGURATIONS



Configuration MASI0553- 6

Software/Firmware Running during test	
Description	Version
Firmware	7.45.100.7-mfgtest

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Masimo Wireless Module II	Masimo	MWMII (P/N: 26269)	ENG-1
Antenna (2.4GHz-5.35GHz)	Ethertronics	1000672	N/A

Peripherals in test setup boundar	у		
Description	Manufacturer	Model/Part Number	Serial Number
Carrier Board	Masimo	26634 Rev. B	1847700024
Switching Supply	TEKPOWER	TP6005E	187890
Hawk Radio Board Debug Tool	Masimo	82403	None

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Cable	No	1.8m	No	AC Mains	Switching Power Supply
DC Cable	Yes	1.0m	No	DC Power Supply	Hawk Radio Board Debug Tool
RF Cable	Yes	0.1m	No	Masimo Wireless Module II	Antenna

Report No. MASI0553.4 Rev 2

CONFIGURATIONS



Configuration MASI0553-8

Software/Firmware Running during test			
Description	Version		
Firmware	7.45.100.7-mfgtest		

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Masimo Wireless Module II	Masimo	MWMII (P/N: 26269)	ENG-1

Peripherals in test setup boundary						
Description	Manufacturer	Model/Part Number	Serial Number			
Carrier Board	Masimo	26634 Rev. B	1847700024			
AC Adapter	XP Power	ACM18US05-3A	160803-00607			
i.MX 53 Quick Start Board	FreeScale	iMx-53	None			
Host Laptop	Hewlett-Packard	ProBook	CND638CWSR			
Laptop Power Supply	Hewlett-Packard	PPP009H	WBGSU0BL91FXO9			
USB Hub	plugable	USB3-HUB7C	Y-3184			
Hawk Radio Board Debug Tool	Masimo	82403	None			
Dual Output DC Power Supply	Agilent	E3648A	MY51120045			

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB Cable	Yes	3.0m	No	Host Laptop	USB Hub
USB-to-Serial Cable	Yes	Yes 0.3m No USB Hub		Hawk Radio Board Debug Tool	
AC Cable	No	1.2m	No	AC Mains	Laptop Power Supply
DC Cable	Yes	1.4m	Yes	Laptop Power Supply	Host Laptop
DC Cable	Yes	1.6m	No	i.MX 53 Quick Start Board	AC Adapter (AC Mains)
DC Cable	No	3.0m	No	DC Power Supply	Hawk Radio Board Debug Tool

MODIFICATIONS



Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
		Powerline	Tested as	No EMI suppression	EUT remained at
1	2019-07-08	Conducted	delivered to	devices were added or	Element following
		Emissions	Test Station.	modified during this test.	the test.
			Tested as	No EMI suppression	EUT remained at
2	2019-07-16	Duty Cycle	delivered to	devices were added or	Element following
			Test Station.	modified during this test.	the test.
		Maximum	Tested as	No EMI suppression	EUT remained at
3	2019-07-16	Conducted Output	delivered to	devices were added or	Element following
		Power	Test Station.	modified during this test.	the test.
		Equivalent	Tested as	No EMI suppression	EUT remained at
4	2019-07-16	Isotropic Radiated	delivered to	devices were added or	Element following
		Power (EIRP)	Test Station.	modified during this test.	the test.
		Emission	Tested as	No EMI suppression	EUT remained at
5	2019-07-16	Bandwidth	delivered to	devices were added or	Element following
		Danuwidin	Test Station.	modified during this test.	the test.
		Occupied	Tested as	No EMI suppression	EUT remained at
6	2019-07-16	Bandwidth	delivered to	devices were added or	Element following
		Dandwidth	Test Station.	modified during this test.	the test.
			Tested as	No EMI suppression	EUT remained at
7	2019-07-16	Band Edge	delivered to	devices were added or	Element following
-			Test Station.	modified during this test.	the test.
		Maximum Power	Tested as	No EMI suppression	EUT remained at
8	2019-07-16	Spectral Density	delivered to	devices were added or	Element following
		opectial Defisity	Test Station.	modified during this test.	the test.
		Spurious Radiated	Tested as	No EMI suppression	EUT remained at
9	2019-07-16	Emissions	delivered to	devices were added or	Element following
		LIIII33IUII3	Test Station.	modified during this test.	the test.
		Frequency	Tested as	No EMI suppression	Scheduled testing
10	2019-07-19	Stability	delivered to	devices were added or	was completed.
		Clability	Test Station.	modified during this test.	was completed.

POWER SETTINGS



The EUT was tested using the power settings provided by the manufacturer:

SETTINGS FOR ALL TESTS IN THIS REPORT

		I LOTO III TIIIO II LI	<u> </u>			
Modulation					Frequency	
Types	Protocol	Channel Bandwidths	Channel	Position	(MHz)	Power Setting
6 Mbps, 36		20	36	Low Channel	5180	20
Mbps, 54 Mbps	а	20	48	High Channel	5240	20
MCS0, MCS7		20	36	Low Channel	5180	20
WCSO, WCS7	n	20	48	High Channel	5240	20
MCS0, MCS7		40	36/40	Low Channel	5190	18
WCSO, WCS7	n	70	44/48	High Channel	5230	18
6 Mbps, 36		20	52	Low Channel	5260	21
Mbps, 54 Mbps	а	20	64	High Channel	5320	21
MCS0, MCS7		20	52	Low Channel	5260	21
IVICSU, IVICSI	n	20	64	High Channel	5320	21
MCS0, MCS7		40	52/56	Low Channel	5270	18
IVICSU, IVICST	n	40	60/64	High Channel	5310	18
6 Mbps, 36		20	100	Low Channel	5500	21
Mbps, 54 Mbps	а		116	Mid Channel	5580	21
ivibps, 54 ivibps			140	High Channel	5700	21
			100	Low Channel	5500	21
MCS0, MCS7	n	20	116	Mid Channel	5580	21
			140	High Channel	5700	21
			100/104	Low Channel	5510	18
MCS0, MCS7	n	40	116/120	Mid Channel	5590	18
			132/136	High Channel	5670	18
C Mhna OC			149	Low Channel	5745	21
6 Mbps, 36	а	20	157	Mid Channel	5785	21
Mbps, 54 Mbps			165	High Channel	5825	21
MCS0, MCS7 n			149	Low Channel	5745	21
	n	20	157	Mid Channel	5785	21
			165	High Channel	5825	21
MCS0, MCS7		40	149/153	Low Channel	5755	18
IVICSU, IVICS	n	40	157/161	High Channel	5795	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	9252-50-24-BNC	LIA	2019-01-08	2020-01-08
LISN	Solar Electronics	9252-50-24-BNC	LIB	2019-01-08	2020-01-08
Cable - Conducted Cable Assembly	Northwest EMC	OCP, HFP, AWC	OCPA	2018-10-05	2019-10-05
Power Supply	Pacific Power	AFX 12KVA	SMT	NCR	NCR
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFP	2019-07-02	2020-07-02

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	2.4 dB	-2.4 dB

CONFIGURATIONS INVESTIGATED

MASI0553-6

MODES INVESTIGATED

Transmitting 802.11a Low Ch 52 (5260 MHz), 6 Mbps, Power Setting 21 Transmitting 802.11a Mid Ch 116 (5580 MHz), 6 Mbps, Power Setting 21 Transmitting 802.11a Mid Ch 157 (5785 MHz), 6 Mbps, Power Setting 21



EUT:	MWMII	Work Order:	MASI0553
Serial Number:	ENG-1	Date:	2019-07-08
Customer:	Masimo Corporation	Temperature:	21.3°C
Attendees:	Anami Joshi, Nghi Nguyen	Relative Humidity:	50%
Customer Project:	None	Bar. Pressure:	1019 mb
Tested By:	Nolan De Ramos	Job Site:	OC06
Power:	3.6VDC via 120VAC/60Hz	Configuration:	MASI0553-6

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2019	ANSI C63.10:2013

TEST PARAMETERS

Run #: 11 Line: High Line Add. Ext.	on (dB): 0
-------------------------------------	------------

COMMENTS

EUT would not transmit 802.11 WiFi when DC is powered through LISN, therefore the AC line of the DC Power Supply was tested

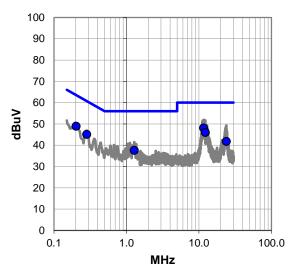
EUT OPERATING MODES

Transmitting 802.11a Low Ch 52 (5260 MHz), 6 Mbps, Power Setting 21

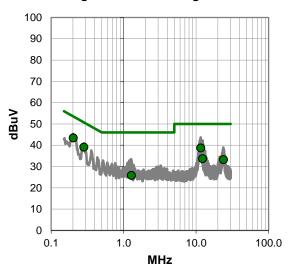
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit





RESULTS - Run #11

Quasi Peak Data - vs - Quasi Peak Limit

Quadri dan Bata 10 Quadri dan Elilik					
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
11.589	27.4	20.7	48.1	60.0	-11.9
12.309	25.3	20.7	46.0	60.0	-14.0
0.203	28.8	20.1	48.9	63.5	-14.6
0.283	25.0	20.1	45.1	60.7	-15.6
23.897	20.3	21.5	41.8	60.0	-18.2
1.283	17.6	20.0	37.6	56.0	-18.4

Average Data - vs - Average Limit					
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.203	23.3	20.1	43.4	53.5	-10.1
11.589	18.0	20.7	38.7	50.0	-11.3
0.283	19.0	20.1	39.1	50.7	-11.6
12.309	13.0	20.7	33.7	50.0	-16.3
23.897	11.7	21.5	33.2	50.0	-16.8
1.283	5.8	20.0	25.8	46.0	-20.2

CONCLUSION

Pass

Tested By



EUT:	MWMII	Work Order:	MASI0553
Serial Number:	ENG-1	Date:	2019-07-08
Customer:	Masimo Corporation	Temperature:	21.3°C
Attendees:	Anami Joshi, Nghi Nguyen	Relative Humidity:	50%
Customer Project:	None	Bar. Pressure:	1019 mb
Tested By:	Nolan De Ramos	Job Site:	OC06
Power:	3.6VDC via 120VAC/60Hz	Configuration:	MASI0553-6

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2019	ANSI C63.10:2013

TEST PARAMETERS

COMMENTS

EUT would not transmit 802.11 WiFi when DC is powered through LISN, therefore the AC line of the DC Power Supply was tested

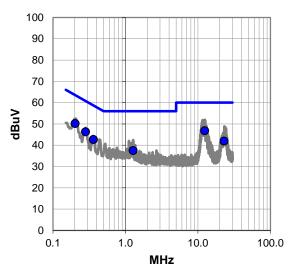
EUT OPERATING MODES

Transmitting 802.11a Low Ch 52 (5260 MHz), 6 Mbps, Power Setting 21

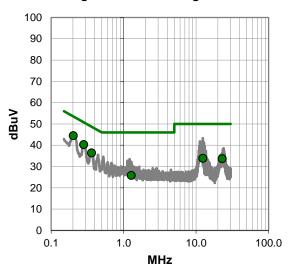
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit





RESULTS - Run #12

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
12.388	26.1	20.7	46.8	60.0	-13.2
0.202	30.1	20.1	50.2	63.5	-13.3
0.282	26.2	20.1	46.3	60.7	-14.4
0.362	22.6	20.1	42.7	58.7	-16.0
23.010	20.4	21.5	41.9	60.0	-18.1
1.279	17.5	20.0	37.5	56.0	-18.5

Average Data - vs - Average Limit					
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.202	24.4	20.1	44.5	53.5	-9.0
0.282	20.2	20.1	40.3	50.7	-10.4
0.362	16.3	20.1	36.4	48.7	-12.3
12.388	13.1	20.7	33.8	50.0	-16.2
23.010	12.2	21.5	33.7	50.0	-16.3
1.279	5.8	20.0	25.8	46.0	-20.2

CONCLUSION

Pass

Tested By



EUT:	MWMII	Work Order:	MASI0553
Serial Number:	ENG-1	Date:	2019-07-08
Customer:	Masimo Corporation	Temperature:	21.3°C
Attendees:	Anami Joshi, Nghi Nguyen	Relative Humidity:	50%
Customer Project:	None	Bar. Pressure:	1019 mb
Tested By:	Nolan De Ramos	Job Site:	OC06
Power:	3.6VDC via 120VAC/60Hz	Configuration:	MASI0553-6

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2019	ANSI C63.10:2013

TEST PARAMETERS

Run #: 13 Line: Neutral	Add. Ext. Attenuation (dB): 0
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COMMENTS

EUT would not transmit 802.11 WiFi when DC is powered through LISN, therefore the AC line of the DC Power Supply was tested

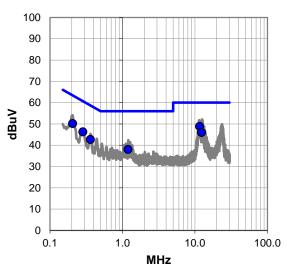
EUT OPERATING MODES

Transmitting 802.11a Mid Ch 116 (5580 MHz), 6 Mbps, Power Setting 21

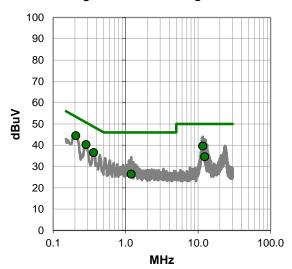
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit





RESULTS - Run #13

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
11.596	28.1	20.7	48.8	60.0	-11.2
0.205	30.1	20.1	50.2	63.4	-13.2
12.318	25.3	20.7	46.0	60.0	-14.0
0.284	26.2	20.1	46.3	60.7	-14.4
0.362	22.6	20.1	42.7	58.7	-16.0
1 198	18.0	20.0	38.0	56.0	-18.0

	Average Data - vs - Average Limit				
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.205	24.4	20.1	44.5	53.4	-8.9
11.596	18.9	20.7	39.6	50.0	-10.4
0.284	20.2	20.1	40.3	50.7	-10.4
0.362	16.4	20.1	36.5	48.7	-12.2
12.318	13.9	20.7	34.6	50.0	-15.4
1.198	6.4	20.0	26.4	46.0	-19.6

CONCLUSION

Pass

Tested By



EUT:	MWMII	Work Order:	MASI0553
Serial Number:	ENG-1	Date:	2019-07-08
Customer:	Masimo Corporation	Temperature:	21.3°C
Attendees:	Anami Joshi, Nghi Nguyen	Relative Humidity:	50%
Customer Project:	None	Bar. Pressure:	1019 mb
Tested By:	Nolan De Ramos	Job Site:	OC06
Power:	3.6VDC via 120VAC/60Hz	Configuration:	MASI0553-6

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2019	ANSI C63.10:2013

TEST PARAMETERS

Run #: 14 Line: High Line Add. Ext. Attenuation (dB): 0	Run #:	14	Line:	High Line	Add. Ext. Attenuation (dB):	0
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COMMENTS

EUT would not transmit 802.11 WiFi when DC is powered through LISN, therefore the AC line of the DC Power Supply was tested

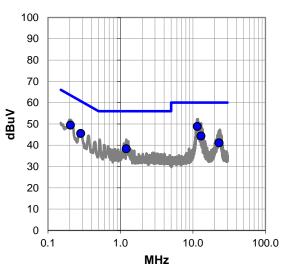
EUT OPERATING MODES

Transmitting 802.11a Mid Ch 116 (5580 MHz), 6 Mbps, Power Setting 21

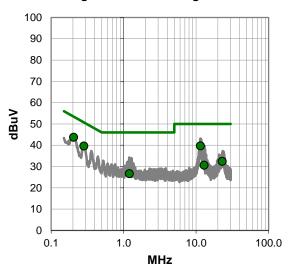
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit





RESULTS - Run #14

Quasi Peak Data - vs - Quasi Peak Limit

	Quadri dan Bata 10 Quadri dan Elilik				
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
11.514	28.1	20.7	48.8	60.0	-11.2
0.205	29.3	20.1	49.4	63.4	-14.0
0.283	25.4	20.1	45.5	60.7	-15.2
12.956	23.6	20.7	44.3	60.0	-15.7
1.203	18.3	20.0	38.3	56.0	-17.7
23.009	19.6	21.5	41.1	60.0	-18.9

Average Data - vs - Average Limit					
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.205	23.6	20.1	43.7	53.4	-9.7
11.514	19.0	20.7	39.7	50.0	-10.3
0.283	19.5	20.1	39.6	50.7	-11.1
23.009	10.9	21.5	32.4	50.0	-17.6
12.956	9.9	20.7	30.6	50.0	-19.4
1.203	6.6	20.0	26.6	46.0	-19.4

CONCLUSION

Pass

Tested By



EUT:	MWMII	Work Order:	MASI0553
Serial Number:	ENG-1	Date:	2019-07-08
Customer:	Masimo Corporation	Temperature:	21.3°C
Attendees:	Anami Joshi, Nghi Nguyen	Relative Humidity:	50%
Customer Project:	None	Bar. Pressure:	1019 mb
Tested By:	Nolan De Ramos	Job Site:	OC06
Power:	3.6VDC via 120VAC/60Hz	Configuration:	MASI0553-6

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2019	ANSI C63.10:2013

TEST PARAMETERS

Run #: 15 Line: High Line Add. Ext. Attenuation (dB): 0

COMMENTS

EUT would not transmit 802.11 WiFi when DC is powered through LISN, therefore the AC line of the DC Power Supply was tested

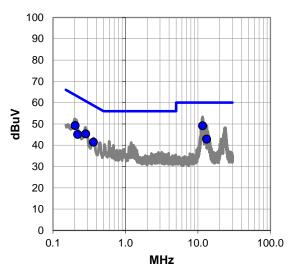
EUT OPERATING MODES

Transmitting 802.11a Mid Ch 157 (5785 MHz), 6 Mbps, Power Setting 21

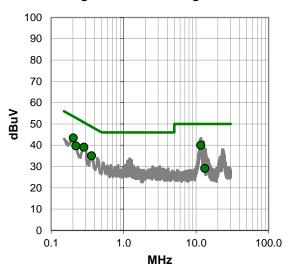
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit





RESULTS - Run #15

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. Factor (dBuV) (dB)		Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
11.598	28.4	20.7	49.1	60.0	-10.9
0.203	29.1	20.1	49.2	63.5	-14.3
0.283	25.2	20.1	45.3	60.7	-15.4
13.201	22.1	20.7	42.8	60.0	-17.2
0.362	21.3	20.1	41.4	58.7	-17.3
0.220	25.0	20.1	45.1	62.8	-17.7

Average Data - vs - Average Limit									
Freq (MHz)	Amp. Factor (dBuV) (dB)		Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)				
11.598	19.3	20.7	40.0	50.0	-10.0				
0.203	23.3	20.1	43.4	53.5	-10.1				
0.283	19.0	20.1	39.1	50.7	-11.6				
0.220	19.6	20.1	39.7	52.8	-13.1				
0.362	14.9	20.1	35.0	48.7	-13.7				
13.201	8.4	20.7	29.1	50.0	-20.9				

CONCLUSION

Pass

Tested By



EUT:	MWMII	Work Order:	MASI0553
Serial Number:	ENG-1	Date:	2019-07-08
Customer:	Masimo Corporation	Temperature:	21.3°C
Attendees:	Anami Joshi, Nghi Nguyen	Relative Humidity:	50%
Customer Project:	None	Bar. Pressure:	1019 mb
Tested By:	Nolan De Ramos	Job Site:	OC06
Power:	3.6VDC via 120VAC/60Hz	Configuration:	MASI0553-6

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2019	ANSI C63.10:2013

TEST PARAMETERS

COMMENTS

EUT would not transmit 802.11 WiFi when DC is powered through LISN, therefore the AC line of the DC Power Supply was tested

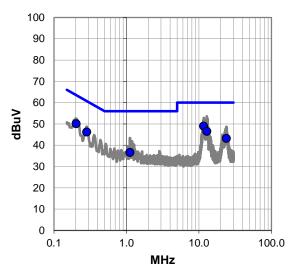
EUT OPERATING MODES

Transmitting 802.11a Mid Ch 157 (5785 MHz), 6 Mbps, Power Setting 21

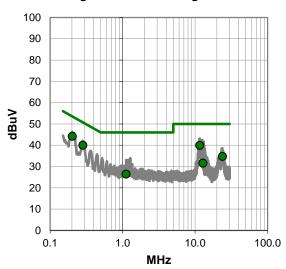
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit





RESULTS - Run #16

Quasi Peak Data - vs - Quasi Peak Limit

Quadri dan Bata 10 Quadri dan Emin									
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)				
11.598	28.3	20.7	49.0	60.0	-11.0				
0.202	30.0	20.1	50.1	63.5	-13.4				
12.842	25.8	20.7	46.5	60.0	-13.5				
0.283	26.1	20.1	46.2	60.7	-14.5				
23.890	21.7	21.5	43.2	60.0	-16.8				
1.118	16.6	20.0	36.6	56.0	-19.4				

Average Data - vs - Average Limit									
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)				
0.202	24.1	20.1	44.2	53.5	-9.3				
11.598	19.2	20.7	39.9	50.0	-10.1				
0.283	19.9	20.1	40.0	50.7	-10.7				
23.890	13.2	21.5	34.7	50.0	-15.3				
12.842	10.9	20.7	31.6	50.0	-18.4				
1.118	6.4	20.0	26.4	46.0	-19.6				

CONCLUSION

Pass

Tested By



PSA-ESCI 2019.05.10

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 802.11an: U-NII-1 Band and U-NII-2A Band - See data for channels and data rates.

POWER SETTINGS INVESTIGATED

3.6VDC

CONFIGURATIONS INVESTIGATED

MASI0553 - 3

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequer	ncy 40 GHz

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Cable	Fairview Microwave	SCA1814-0505-72	OC2	3-May-2019	12 mo
Meter - Power	Hewlett Packard	E4418A	SPA	9-Jan-2019	12 mo
Generator - Signal	Agilent	E8257D	TGU	15-Feb-2018	36 mo
Antenna - Double Ridge	EMCO	3115	AHB	28-Mar-2018	24 mo
Filter - Low Pass	Micro-Tronics	LPM50004	HGK	23-Jan-2019	12 mo
Filter - Band Pass/Notch	Micro-Tronics	BRC50703	HHB	23-Jan-2019	12 mo
Filter - Band Pass/Notch	Micro-Tronics	BRC50704	HHA	23-Jan-2019	12 mo
Antenna - Double Ridge	A.H. Systems, Inc.	SAS-574	AXV	15-May-2018	24 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	PAD	3-Jul-2019	12 mo
Cable	ESM Cable Corp.	8-18GHz cables	OCY	16-Jan-2019	12 mo
Cable	ESM Cable Corp.	1-8GHz cables	OCX	16-Jan-2019	12 mo
Cable	ESM Cable Corp.	30-1GHz cables	OCW	8-May-2019	12 mo
Antenna - Biconilog	EMCO	3142	AXB	5-Apr-2018	24 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVP	16-Jan-2019	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVL	16-Jan-2019	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVJ	16-Jan-2019	12 mo
Amplifier - Pre-Amplifier	Miteq	JSDWK42-18004000-60-5P	PAN	20-Dec-2018	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIR	28-Jun-2018	24 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AHX	NCR	0 mo
Antenna - Standard Gain	EMCO	3160-08	AHK	NCR	0 mo
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAY	30-Nov-2018	12 mo

TEST DESCRIPTION

The highest gain antenna of each type to be used with the EUT was tested. The EUT was configured for the required transmit frequencies in each operational band and the modes as showed in the data sheets.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These "pre-scans" are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis if required, and adjusting the measurement antenna height and polarization (per ANSI C63.10). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector

PK = Peak Detector

AV = RMS Detector

Measurements were made to satisfy the specific requirements of the test specification for out of band emissions as well as the restricted band requirements.

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

Measurements at the edges of the allowable band may be presented in an alternative method as provided for in the ANSI C63.10 Marker-Delta method. This method involves performing an in-band fundamental measurement followed by a screen capture of the fundamental and out-of-band emission using reduced measurement instrumentation bandwidths. The amplitude delta measured on this screen capture is applied to the fundamental emission value to show the out-of-band emission level as applied to the limit.



											EmiR5 2019.	05.20		PSA-ES	CI 2019.05.10
	Work Order:		3		Date			Jul-2019		11	,				
	Project:				nperature			5.8 °C		2	ϵ	7	1		-
C	Job Site:				Humidity etric Pres.			.5% RH		Tastad by	la Ela	uaa Nie	Jan D	- Do	
Ser	rial Number:	ENG-1 MWMII		Barome	etric Pres.	•	10	15 mbar		Tested by:	Luis Fic	res, ivo	nan D	e Ra	mos
Co	nfiguration:														
		Masimo Corpo	ration												
		Nghi Nguyen	iation												
	EUT Power:														
	ating Mode:	Transmitting 8	Transmitting 802.11an: U-NII-1 Band - Low Channel 36 (5180 MHz) and High Channel 48 (5240 MHz) and U-NII-2A Band - Low Channel 52 (5260 MHz). See comments below for data rates.												
	Deviations:	None													
	Comments:	Bandwidth 20 related to the o				rrect	tion fa	ctor was appl	lied to any e	emissions a	s they w	ere not	temp	orally	,
Test Spe	ecifications	l						Test Meth	nod						
	407:2019							ANSI C63							
Run	# 141	Test Distan	ce (m)	3	Antenr	a H	eiaht/	2)	1 to 4(m)		Resu	Ite	F	Pass	
Run	171	rest bistan	00 (111)	J	Antoni	iu i i	cigin	3)	1 10 4(111)		NOSU	113		400	
-															
-5															
-15															
-13															
-25															
20											1				
-35															
E -45															
5 -45	+					_		•						-	
-55	. 1							•							
-33															
-65	+													+	
-75															
-13															
-85															l
1	1000						1000							100	000
							МН	Z			■ P	κ •	ΑV	•	QP
	Freq (MHz)	_	zimuth egrees)	Polarity/ Transducer Type	Detector		EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)		Cor	mments	5	
	10525.710		329.0	Horz	PK		18.9E-9		-27.0	-20.2	Low Ch 5				
	10479.540		328.0	Horz	PK		17.7E-9		-27.0	-20.5	High Ch				
	10358.540 10483.000		339.0 303.0	Horz Vert	PK PK		12.8E-9 11.7E-9		-27.0 -27.0	-21.9 -22.3	Low Ch 3				
	10522.500		112.0	Vert	PK PK		7.9E-9	-49.3 -51.0	-27.0 -27.0	-22.3 -24.0	Low Ch 5				
	10361.120		315.0	Vert	PK		6.6E-9	-51.8	-27.0	-24.8	Low Ch 3				



■ PK ◆ AV • QP

				Em	niR5 2019.05.20	PSA-ESCI 2019.05.10					
Work Order:	MASI0553	Date:	11-Jul-2019	11							
Project:	None	Temperature:	25.8 °C	MA	621						
Job Site:	OC07	Humidity:	43.5% RH		1.						
Serial Number:	ENG-1	Barometric Pres.:	1015 mbar	Tested by: Lu	is Flores, Nolan	De Ramos					
EUT:	MWMII										
Configuration:	3										
Customer:	Masimo Corporation										
Attendees:	Nghi Nguyen										
EUT Power:	3.6VDC	3.6VDC									
Operating Mode:	Transmitting 802.11an: U-NII-1 Band - Low Channel 36 (5180 MHz) and High Channel 48 (5240 MHz) and U-NII-2A Band -										
Operating Mode.	Low Channel 52 (5260 MHz) and High Channel 64 (5320 MHz). See comments below for data rates.										
Deviations:	None										
Deviations.											
	Bandwidth 20 MHz W	ide, No duty cycle corre	ction factor was appli	ed to any emissions as the	ey were not temp	porally related					
Comments:	to the duty cycle of the	to the duty cycle of the carrier.									
Test Specifications			Test Meth	nod							
	<u> </u>										
FCC 15.407:2019			ANSI C63	.10:2013							

Run # 139	Test Distance (m) 3	Antenna Height(s)	1 to 4(m)	Results	ts Pass		
80							
70							
60							
50							
40			*	•			
30							
20				•			
10							
0							

Freq	Amplitude	Factor	Antenna Height	Azimuth	Test Distance	External Attenuation	Polarity/ Transducer Type	Detector	Distance Adjustment	Adjusted	Spec. Limit	Compared to Spec.	
(MHz)	(dBuV)	(dB)	(meters)	(degrees)	(meters)	(dB)			(dB)	(dBuV/m)	(dBuV/m)	(dB)	Comments
10640.120	47.4	-7.6	1.4	329.0	3.0	0.0	Horz	AV	0.0	39.8	54.0	-14.2	High Ch 64, EUT Vert, 6Mbps
10639.980	47.1	-7.6	1.4	329.0	3.0	0.0	Horz	AV	0.0	39.5	54.0	-14.5	High Ch 64, EUT Vert, MCS0
10640.090	47.0	-7.6	1.4	329.0	3.0	0.0	Horz	AV	0.0	39.4	54.0	-14.6	High Ch 64, EUT Vert, 36 Mbps
10640.160	46.9	-7.6	1.4	329.0	3.0	0.0	Horz	AV	0.0	39.3	54.0	-14.7	High Ch 64, EUT Vert, 54 Mbps
15963.330	29.8	9.3	2.9	66.0	3.0	0.0	Horz	AV	0.0	39.1	54.0	-14.9	High Ch 64, EUT Vert, 6Mbps
15783.880	29.6	9.1	1.5	324.0	3.0	0.0	Horz	AV	0.0	38.7	54.0	-15.3	Low Ch 52, EUT Vert, 6Mbps
15786.080	29.5	9.1	1.5	48.0	3.0	0.0	Vert	AV	0.0	38.6	54.0	-15.4	Low Ch 52, EUT Horz, 6Mbps
15721.000	29.8	8.8	1.5	37.0	3.0	0.0	Horz	AV	0.0	38.6	54.0	-15.4	High Ch 48, EUT Vert,6Mbps
15720.080	29.6	8.8	1.5	284.0	3.0	0.0	Vert	AV	0.0	38.4	54.0	-15.6	High Ch 48, EUT Horz,6Mbps
15960.420	29.0	9.3	1.5	357.0	3.0	0.0	Vert	AV	0.0	38.3	54.0	-15.7	High Ch 64, EUT Horz, 6Mbps
10640.180	45.9	-7.6	1.4	329.0	3.0	0.0	Horz	AV	0.0	38.3	54.0	-15.7	High Ch 64, EUT Vert, MCS7
15532.290	30.7	7.2	1.5	272.0	3.0	0.0	Vert	AV	0.0	37.9	54.0	-16.1	Low Ch 36, EUT Horz,6Mbps
15537.540	30.5	7.2	3.3	307.0	3.0	0.0	Horz	AV	0.0	37.7	54.0	-16.3	Low Ch 36, EUT Vert,6Mbps
10640.210	44.2	-7.6	3.7	122.0	3.0	0.0	Vert	AV	0.0	36.6	54.0	-17.4	High Ch 64, EUT Horz, 6Mbps
15968.750	40.6	9.3	1.5	357.0	3.0	0.0	Vert	PK	0.0	49.9	74.0	-24.1	High Ch 64, EUT Horz, 6Mbps
10639.730	57.2	-7.6	1.4	329.0	3.0	0.0	Horz	PK	0.0	49.6	74.0	-24.4	High Ch 64, EUT Vert, MCS0
10640.180	57.0	-7.6	1.4	329.0	3.0	0.0	Horz	PK	0.0	49.4	74.0	-24.6	High Ch 64, EUT Vert, 36 Mbps
10640.620	57.0	-7.6	1.4	329.0	3.0	0.0	Horz	PK	0.0	49.4	74.0	-24.6	High Ch 64, EUT Vert, 54 Mbps
15961.210	40.0	9.3	2.9	66.0	3.0	0.0	Horz	PK	0.0	49.3	74.0	-24.7	High Ch 64, EUT Vert, 6Mbps
15784.710	40.2	9.1	1.5	324.0	3.0	0.0	Horz	PK	0.0	49.3	74.0	-24.7	Low Ch 52, EUT Vert, 6Mbps
15722.880	40.3	8.8	1.5	37.0	3.0	0.0	Horz	PK	0.0	49.1	74.0	-24.9	High Ch 48, EUT Vert,6Mbps
10639.420	56.6	-7.6	1.4	329.0	3.0	0.0	Horz	PK	0.0	49.0	74.0	-25.0	High Ch 64, EUT Vert, 6Mbps

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
15778.290	39.9	9.1	1.5	48.0	3.0	0.0	Vert	PK	0.0	49.0	74.0	-25.0	Low Ch 52, EUT Horz, 6Mbps
15722.330	40.2	8.8	1.5	284.0	3.0	0.0	Vert	PK	0.0	49.0	74.0	-25.0	High Ch 48, EUT Horz,6Mbps
15542.750	41.4	7.2	1.5	272.0	3.0	0.0	Vert	PK	0.0	48.6	74.0	-25.4	Low Ch 36, EUT Horz,6Mbps
15540.290	41.3	7.2	3.3	307.0	3.0	0.0	Horz	PK	0.0	48.5	74.0	-25.5	Low Ch 36, EUT Vert,6Mbps
10637.780	55.8	-7.6	1.4	329.0	3.0	0.0	Horz	PK	0.0	48.2	74.0	-25.8	High Ch 64, EUT Vert, MCS7
10642.580	54.4	-7.6	3.7	122.0	3.0	0.0	Vert	PK	0.0	46.8	74.0	-27.2	High Ch 64, EUT Horz, 6Mbps
21282.080	28.5	-9.1	1.2	290.0	3.0	0.0	Vert	AV	0.0	19.4	54.0	-34.6	High Ch 64, 6 Mbps, EUT Horz
21278.160	28.4	-9.1	1.2	360.0	3.0	0.0	Horz	AV	0.0	19.3	54.0	-34.7	High Ch 64, 6 Mbps, EUT Vert
20719.730	28.5	-9.4	1.2	47.0	3.0	0.0	Vert	AV	0.0	19.1	54.0	-34.9	Low Ch 36, 6 Mbps, EUT Horz
20719.130	28.5	-9.4	1.2	96.0	3.0	0.0	Horz	AV	0.0	19.1	54.0	-34.9	Low Ch 36, 6 Mbps, EUT Vert
20958.180	27.2	-8.9	1.2	52.0	3.0	0.0	Horz	AV	0.0	18.3	54.0	-35.7	High Ch 48, 6 Mbps, EUT Vert
20959.630	27.2	-8.9	1.2	79.0	3.0	0.0	Vert	AV	0.0	18.3	54.0	-35.7	High Ch 48, 6 Mbps, EUT Horz
21038.080	27.0	-8.9	1.2	110.0	3.0	0.0	Vert	AV	0.0	18.1	54.0	-35.9	Low Ch 52, 6 Mbps, EUT Horz
21038.940	27.0	-8.9	1.2	307.0	3.0	0.0	Horz	AV	0.0	18.1	54.0	-35.9	Low Ch 52, 6 Mbps, EUT Vert
20721.820	39.6	-9.4	1.2	47.0	3.0	0.0	Vert	PK	0.0	30.2	74.0	-43.8	Low Ch 36, 6 Mbps, EUT Horz
21280.750	39.0	-9.1	1.2	290.0	3.0	0.0	Vert	PK	0.0	29.9	74.0	-44.1	High Ch 64, 6 Mbps, EUT Horz
21279.510	38.9	-9.1	1.2	360.0	3.0	0.0	Horz	PK	0.0	29.8	74.0	-44.2	High Ch 64, 6 Mbps, EUT Vert
20719.520	39.0	-9.4	1.2	96.0	3.0	0.0	Horz	PK	0.0	29.6	74.0	-44.4	Low Ch 36, 6 Mbps, EUT Vert
20959.230	38.2	-8.9	1.2	52.0	3.0	0.0	Horz	PK	0.0	29.3	74.0	-44.7	High Ch 48, 6 Mbps, EUT Vert
20960.830	37.9	-8.9	1.2	79.0	3.0	0.0	Vert	PK	0.0	29.0	74.0	-45.0	High Ch 48, 6 Mbps, EUT Horz
21042.410	37.5	-8.8	1.2	110.0	3.0	0.0	Vert	PK	0.0	28.7	74.0	-45.3	Low Ch 52, 6 Mbps, EUT Horz
21040.310	37.6	-8.9	1.2	307.0	3.0	0.0	Horz	PK	0.0	28.7	74.0	-45.3	Low Ch 52, 6 Mbps, EUT Vert

Work Order: MASI0553



V\	vork Order:		510555		Date:		0.00		11	1	< .		
	Project:		one	Ter	nperature:		8 °C		1	46	7-		
	Job Site:		C07		Humidity:		% RH			1		_	
Seria	al Number:		NG-1	Barome	etric Pres.:	1015	mbar		rested by	: Luis Flores	s, Noian De	Ramos	_
		MWMII											_
	figuration:												_
	Customer:												_
	Attendees:		1										=
Е	EUT Power:	3.6VDC											_
Opera	ating Mode:					Channel 36	5 (5180 MH	z) and U-N	II-2A Band	- High Char	nnel 64 (53	20 MHz).	
Оро. ш	9	See comm	nents below	for data ra	tes.								_
	Deviations:	None											
_													=
							rrection fac	ctor was ap	plied to an	y emissions	as they we	re not	
	Comments:	temporally	y related to t	he duty cyc	cle of the ca	rrier.							
													_
Test Spec	cifications						Test Meth	od					-
FCC 15.4							ANSI C63						-
100 13.4	07.2019						ANSI COS	.10.2013					
D 1	400	T D'				11-1-1-1-1/-\		4 (. 4/)		D Hr.			-
Run #	182	lest Di	istance (m)	1	Antenna	Height(s)		1 to 4(m)		Results	P	ass	_
90													
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						MHz				■ PK	◆ AV	QP	
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							Polarity/						
Freq	Amplitude	Factor	Antenna Height	Azimuth	Test Distance	External Attenuation	Transducer Type	Detector	Distance Adjustment	Adjusted	Spec. Limit	Compared to Spec.	
(MHz)	(dBuV)	(dB)	(meters)	(degrees)	(meters)	(dB)	.,,,,	Detector	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
													Comments
5350.227	26.6	35.4	1.5	70.0	1.0	0.0	Vert	AV	-9.5	52.5	54.0	-1.5	20 MHz BW, Ch 64, 6 Mbps, EUT Vert
5350.113	26.1	35.4	1.5	187.0	1.0	0.0	Horz	AV	-9.5	52.0	54.0	-2.0	20 MHz BW, Ch 64, 6 Mbps, EUT On Side
5149.863		35.1	1.5	70.0	1.0	0.0	Vert	AV	-9.5	49.0	54.0	-5.0	20 MHz BW, Ch 36, 6 Mbps, EUT Vert
5149.770 5149.703	23.2 23.2	35.1 35.1	1.5 1.5	187.0 70.0	1.0 1.0	0.0 0.0	Horz Vert	AV AV	-9.5 -9.5	48.8 48.8	54.0 54.0	-5.2 -5.2	20 MHz BW, Ch 36, 6 Mbps, EUT On Side 20 MHz BW, Ch 36, MCS0, EUT Vert
5149.790	23.0	35.1	1.5	99.0	1.0	0.0	Horz	AV	-9.5	48.6	54.0	-5.4	20 MHz BW, Ch 36, 6 Mbps, EUT Horz
5149.430	22.9	35.1	1.5	70.0	1.0	0.0	Vert	AV	-9.5	48.5	54.0	-5.5	20 MHz BW, Ch 36, 36 Mbps, EUT Vert
5149.377	22.9	35.1	1.5	70.0	1.0	0.0	Vert	AV	-9.5	48.5	54.0	-5.5	20 MHz BW, Ch 36, MCS7, EUT Vert
5148.600	22.7	35.1	1.5	70.0	1.0	0.0	Vert	AV	-9.5	48.3	54.0	-5.7	20 MHz BW, Ch 36, 54 Mbps, EUT Vert
5148.080	22.6	35.1	1.5	187.0	1.0	0.0	Horz	AV	-9.5	48.2	54.0	-5.8	20 MHz BW, Ch 36, 36 Mbps, EUT On Side
5148.687	22.6	35.1	1.5	187.0	1.0	0.0	Horz	AV	-9.5	48.2	54.0	-5.8	20 MHz BW, Ch 36, 54 Mbps, EUT On Side
5149.753	22.5	35.1 35.1	1.5	187.0	1.0	0.0	Horz	AV	-9.5 -9.5	48.1 47.8	54.0 54.0	-5.9 -6.2	20 MHz BW, Ch 36, MCS7, EUT On Side
5148.257 5148.583	22.2 22.1	35.1 35.1	1.5 1.5	3.0 78.0	1.0 1.0	0.0 0.0	Horz Vert	AV AV	-9.5 -9.5	47.8 47.7	54.0 54.0	-6.2 -6.3	20 MHz BW, Ch 36, 6 Mbps, EUT Vert 20 MHz BW, Ch 36, 6 Mbps, EUT Horz
5148.467	22.1	35.1	1.5	173.0	1.0	0.0	Vert	AV	-9.5 -9.5	47.7	54.0	-6.3	20 MHz BW, Ch 36, 6 Mbps, EUT On Side
5148.810	22.0	35.1	1.5	187.0	1.0	0.0	Horz	AV	-9.5	47.6	54.0	-6.4	20 MHz BW, Ch 36, MCS0, EUT On Side
5350.437	40.7	35.4	1.5	187.0	1.0	0.0	Horz	PK	-9.5	66.6	74.0	-7.4	20 MHz BW, Ch 64, 6 Mbps, EUT On Side
5350.343	39.2	35.4	1.5	70.0	1.0	0.0	Vert	PK	-9.5	65.1	74.0	-8.9	20 MHz BW, Ch 64, 6 Mbps, EUT Vert
5148.173	36.5	35.1	1.5	70.0	1.0	0.0	Vert	PK	-9.5	62.1	74.0	-11.9	20 MHz BW, Ch 36, 6 Mbps, EUT Vert
5149.173	36.0	35.1	1.5	187.0	1.0	0.0	Horz	PK	-9.5	61.6	74.0	-12.4	20 MHz BW, Ch 36, 6 Mbps, EUT On Side
5149.410	34.9	35.1	1.5	70.0	1.0	0.0	Vert	PK	-9.5 0.5	60.5	74.0	-13.5	20 MHz BW, Ch 36, MCS7, EUT Vert
5149.070 5148.317	34.6 34.5	35.1 35.1	1.5 1.5	99.0 70.0	1.0 1.0	0.0 0.0	Horz Vert	PK PK	-9.5 -9.5	60.2 60.1	74.0 74.0	-13.8 -13.9	20 MHz BW, Ch 36, 6 Mbps, EUT Horz 20 MHz BW, Ch 36, 54 Mbps, EUT Vert
0.01/	J4.J	JJ. I	1.0	10.0	1.0	0.0	v ei i	i-t/	-9.0	UU. I	r + .0	-13.5	ZO IVII IZ DVV, OII JO, JT IVIDDS, EU I VEIL

11-Jul-2019

Date:

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35.1 35.1

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70.0 187.0

70.0 187.0

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-9.5 -9.5 -9.5 -9.5 -9.5

60.1 60.0

59.8 59.6

59.5

59.3

-13.9 -14.0

-14.2 -14.4

-14.5 -14.7

20 MHz BW, Ch 36, 54 Mbps, EUT Vert 20 MHz BW, Ch 36, MCS7, EUT On Side

20 MHz BW, Ch 36, MCS0, EUT Vert 20 MHz BW, Ch 36, MCS0, EUT On Side

20 MHz BW, Ch 36, 6 Mbps, EUT Vert

20 MHz BW, Ch 36, 36 Mbps, EUT Vert 20 MHz BW, Ch 36, 54 Mbps, EUT On Side

5148.317 5149.343

5148.183 5148.067

5148.087 5148.850

5149.827

34.9 34.6 34.5 34.4 34.2 34.0

33.9 33.7

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
5148.433	33.6	35.1	1.5	187.0	1.0	0.0	Horz	PK	-9.5	59.2	74.0	-14.8	20 MHz BW, Ch 36, 36 Mbps, EUT On Side
5148.707	33.4	35.1	1.5	78.0	1.0	0.0	Vert	PK	-9.5	59.0	74.0	-15.0	20 MHz BW, Ch 36, 6 Mbps, EUT Horz
5149.943	33.2	35.1	1.5	173.0	1.0	0.0	Vert	PK	-9.5	58.8	74.0	-15.2	20 MHz BW, Ch 36, 6 Mbps, EUT On Side

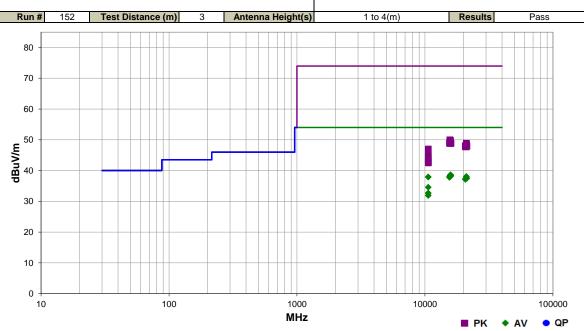


				1					1		EmiR5 2019	.05.20		PSA-E	SCI 2019.
Wo	ork Order:	MASI		_	Date:			l-2019		21	/		-		
	Project:	No		Ter	nperature:			9 °C		1			4	-	-
	Job Site:	OC			Humidity:			% RH							
Serial	Number:		G-1	Barome	etric Pres.:		1014	mbar	_	Tested by:	Luis Fl	ores, l	Nolan	De Ra	amos
		MWMII													
	iguration:														
C	Customer:	Masimo Co	orporation												
		Mike Tran	•												
	JT Power:														
	ing Mode:	Transmittin	ig 802.11ai	n: U-NII-1 E	Band - Low	Chan	nel 36	/40 (5190 N	MHz) and H for data rat	igh Channe	el 44/48	(5230	MHz)	and l	J-NII-
De	eviations:	None	LOW CHAIN	101 02/00 (0	<u> </u>	000	JOITHIT	01110 201011	Tor data rat	.					
Co	omments:	Bandwidth related to the				rection	n facto	or was appli	ied to any e	missions a	s they v	vere n	ot tem	porall	у
t Sneci	fications							Test Meth	od						
C 15.40								ANSI C63.							
Run #	154	Test Dis	stance (m)	3	Antenna	a Hein	ıht(s)		1 to 4(m)		Resi	ılts		Pass	
IXUII #	104	Test Dis	itarice (iii)		Antenne	ı i icig	Jiit(3)		1 10 4(111)		I\c3	ait3		1 033	
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-75 -	00						0000							100	0000
-75 -85	00						0000 MHz					PK .	Δ V		
-75 -85	00										■ F	PK ·	◆ AV		0000 QP
-75 -85	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EI		EIRP (dBm)	Spec. Limit	Compared to Spec. (dB)	■ F		◆ AV	•	
-75 -85	Freq (MHz)		(degrees)	Transducer Type	Detector	EII (W:	RP atts)		(dBm)	Spec. (dB)	■ F	C	ommer	nts	
-75 -85	Freq	(meters)		Transducer		EII (W: 8.9	RP atts)	(dBm)		Spec.		46,MC	ommer S0,EUT	nts Vert	
-75 -85	Freq (MHz) 10456.420	(meters)	325.0 313.0	Transducer Type Horz	PK	8.9 7.9	RP atts)	(dBm) -50.5	(dBm)	-23.5 -24.0	High Ch	46,MC 54, MC	ommer S0,EUT S0, EU	nts Vert T Vert	
-75 -85	Freq (MHz) 10456.420 10536.330	(meters) 1.5 1.5	(degrees)	Transducer Type Horz Horz	PK PK	8.9 7.9 5.8	RP atts)	-50.5 -51.0	-27.0 -27.0	Spec. (dB)	High Ch Low Ch	46,MC 54, MC 46,MC	SO,EUT SO, EU' SO, EU	T Vert T Vert Horz	QP
-75 -85	Freq (MHz) 10456.420 10536.330 10456.330	1.5 1.5 2.0	325.0 313.0 95.0	Transducer Type Horz Horz Vert	PK PK PK	8.9 7.9 5.8 5.5	RP atts) E-9 E-9 E-9 E-9	-50.5 -51.0 -52.3	-27.0 -27.0 -27.0	Spec. (dB) -23.5 -24.0 -25.3	High Ch Low Ch High Ch	46,MC 54, MC 46,MC 54, MC	50,EU1 S0, EU S0,EU1 S0,EU1 S0, EU	Vert T Vert Horz T Horz	QP



				EmiR5 2019.05.20 PSA-ESCI 2019.05.10
Work Order:	MASI0553	Date:	12-Jul-2019	11
Project:	None	Temperature:	23.9 °C	Mr. Byta
Job Site:	OC07	Humidity:	52.1% RH	
Serial Number:	ENG-1	Barometric Pres.:	1014 mbar	Tested by: Luis Flores, Nolan De Ramos
EUT:	MWMII			
Configuration:	3			
Customer:	Masimo Corporation			
Attendees:	Mike Tran			
EUT Power:	3.6VDC			
Operating Mode:	Transmitting 802.11a	n: U-NII-1 Band - Low C	hannel 36/40 (5190	0 MHz) and High Channel 44/48 (5230 MHz) and U-NII- 0/64 (5310 MHz). See comments below for data rates.
Operating mode.	2A Band - Low Chann	nel 52/56 (5270 MHz) ar	nd High Channel 60	0/64 (5310 MHz). See comments below for data rates.
Deviations:	None			
			ection factor was ap	oplied to any emissions as they were not temporally
Comments:	related to the duty cyc	cle of the carrier.		
Test Specifications			Test Me	thod

FCC 15.407:2019 ANSI C63.10:2013



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
15929.230	29.3	9.3	1.3	68.0	3.0	0.0	Horz	AV	0.0	38.6	54.0	-15.4	High Ch 62, MCS0, EUT Vert
15810.000	29.5	9.1	2.8	290.0	3.0	0.0	Vert	AV	0.0	38.6	54.0	-15.4	Low Ch 54, MCS0, EUT Horz
15807.790	29.4	9.1	1.5	170.0	3.0	0.0	Horz	AV	0.0	38.5	54.0	-15.5	Low Ch 54, MCS0, EUT Vert
15930.280	29.1	9.3	1.3	68.0	3.0	0.0	Horz	AV	0.0	38.4	54.0	-15.6	High Ch 62,MCS7, EUT Vert
15681.040	29.8	8.5	1.5	64.0	3.0	0.0	Horz	AV	0.0	38.3	54.0	-15.7	High Ch 46,MCS0,EUT Vert
15931.910	28.9	9.3	3.5	302.0	3.0	0.0	Vert	AV	0.0	38.2	54.0	-15.8	High Ch 62, MCS0, EUT Horz
15680.750	29.6	8.5	3.1	128.0	3.0	0.0	Vert	AV	0.0	38.1	54.0	-15.9	High Ch 46,MCS0,EUT Horz
21067.670	46.9	-8.8	1.5	106.0	3.0	0.0	Horz	AV	0.0	38.1	54.0	-15.9	Low Ch 54, MCS0, EUT Vert
15572.500	30.5	7.5	1.5	337.0	3.0	0.0	Vert	AV	0.0	38.0	54.0	-16.0	Low Ch 38,MCS0, EUT Horz
21076.790	46.8	-8.8	1.5	42.0	3.0	0.0	Vert	AV	0.0	38.0	54.0	-16.0	Low Ch 54, MCS0, EUT Horz
10620.170	45.7	-7.8	1.6	324.0	3.0	0.0	Horz	AV	0.0	37.9	54.0	-16.1	High Ch 62, MCS0, EUT Vert
10620.050	45.7	-7.8	2.1	318.0	3.0	0.0	Horz	AV	0.0	37.9	54.0	-16.1	High Ch 62, MCS0, EUT On Side
15560.290	30.5	7.3	1.5	173.0	3.0	0.0	Horz	AV	0.0	37.8	54.0	-16.2	Low Ch 38,MCS0, EUT Vert
20920.080	46.5	-9.0	1.5	0.0	3.0	0.0	Horz	AV	0.0	37.5	54.0	-16.5	High Ch 46, MCS0,EUT Vert
21237.330	46.4	-8.9	1.5	139.0	3.0	0.0	Horz	AV	0.0	37.5	54.0	-16.5	High Ch 62, MCS0, EUT Vert
21229.960	46.4	-8.9	1.5	265.0	3.0	0.0	Vert	AV	0.0	37.5	54.0	-16.5	High Ch 62, MCS0, EUT Horz
20918.210	46.4	-9.0	1.5	0.0	3.0	0.0	Vert	AV	0.0	37.4	54.0	-16.6	High Ch 46, MCS0,EUT Horz
20707.830	46.8	-9.5	1.5	36.0	3.0	0.0	Vert	AV	0.0	37.3	54.0	-16.7	Low Ch 38, MCS0, EUT Horz
20711.380	46.6	-9.5	1.5	137.0	3.0	0.0	Horz	AV	0.0	37.1	54.0	-16.9	Low Ch 38, MCS0, EUT Vert
10620.200	42.4	-7.8	2.7	293.0	3.0	0.0	Vert	AV	0.0	34.6	54.0	-19.4	High Ch 62, MCS0, EUT Horz
10619.970	40.5	-7.8	3.5	139.0	3.0	0.0	Horz	AV	0.0	32.7	54.0	-21.3	High Ch 62, MCS0, EUT Horz
10621.200	40.4	-7.8	3.6	5.0	3.0	0.0	Vert	AV	0.0	32.6	54.0	-21.4	High Ch 62, MCS0, EUT On Side
10620.230	39.7	-7.8	1.5	329.0	3.0	0.0	Vert	AV	0.0	31.9	54.0	-22.1	High Ch 62, MCS0, EUT Vert

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
15677.880	41.5	8.5	1.5	64.0	3.0	0.0	Horz	PK	0.0	50.0	74.0	-24.0	High Ch 46,MCS0,EUT Vert
15806.960	40.7	9.1	2.8	290.0	3.0	0.0	Vert	PK	0.0	49.8	74.0	-24.2	Low Ch 54, MCS0, EUT Horz
15811.210	40.1	9.1	1.5	170.0	3.0	0.0	Horz	PK	0.0	49.2	74.0	-24.8	Low Ch 54, MCS0, EUT Vert
15558.460	41.8	7.3	1.5	173.0	3.0	0.0	Horz	PK	0.0	49.1	74.0	-24.9	Low Ch 38,MCS0, EUT Vert
15681.080	40.5	8.5	3.1	128.0	3.0	0.0	Vert	PK	0.0	49.0	74.0	-25.0	High Ch 46,MCS0,EUT Horz
15931.780	39.6	9.3	1.3	68.0	3.0	0.0	Horz	PK	0.0	48.9	74.0	-25.1	High Ch 62, MCS0, EUT Vert
15930.640	39.6	9.3	3.5	302.0	3.0	0.0	Vert	PK	0.0	48.9	74.0	-25.1	High Ch 62, MCS0, EUT Horz
21079.080	57.7	-8.8	1.5	42.0	3.0	0.0	Vert	PK	0.0	48.9	74.0	-25.1	Low Ch 54, MCS0, EUT Horz
15577.880	41.3	7.5	1.5	337.0	3.0	0.0	Vert	PK	0.0	48.8	74.0	-25.2	Low Ch 38,MCS0, EUT Horz
15927.900	39.5	9.3	1.3	68.0	3.0	0.0	Horz	PK	0.0	48.8	74.0	-25.2	High Ch 62,MCS7, EUT Vert
21084.420	57.3	-8.8	1.5	106.0	3.0	0.0	Horz	PK	0.0	48.5	74.0	-25.5	Low Ch 54, MCS0, EUT Vert
20919.790	57.1	-9.0	1.5	0.0	3.0	0.0	Vert	PK	0.0	48.1	74.0	-25.9	High Ch 46, MCS0,EUT Horz
20726.290	57.4	-9.4	1.5	137.0	3.0	0.0	Horz	PK	0.0	48.0	74.0	-26.0	Low Ch 38, MCS0, EUT Vert
21246.120	56.9	-8.9	1.5	265.0	3.0	0.0	Vert	PK	0.0	48.0	74.0	-26.0	High Ch 62, MCS0, EUT Horz
21233.580	56.8	-8.9	1.5	139.0	3.0	0.0	Horz	PK	0.0	47.9	74.0	-26.1	High Ch 62, MCS0, EUT Vert
20722.040	57.2	-9.4	1.5	36.0	3.0	0.0	Vert	PK	0.0	47.8	74.0	-26.2	Low Ch 38, MCS0, EUT Horz
20928.750	56.6	-8.9	1.5	0.0	3.0	0.0	Horz	PK	0.0	47.7	74.0	-26.3	High Ch 46, MCS0,EUT Vert
10621.050	54.8	-7.8	1.6	324.0	3.0	0.0	Horz	PK	0.0	47.0	74.0	-27.0	High Ch 62, MCS0, EUT Vert
10620.130	52.8	-7.8	2.1	318.0	3.0	0.0	Horz	PK	0.0	45.0	74.0	-29.0	High Ch 62, MCS0, EUT On Side
10620.570	52.3	-7.8	2.7	293.0	3.0	0.0	Vert	PK	0.0	44.5	74.0	-29.5	High Ch 62, MCS0, EUT Horz
10618.580	50.9	-7.8	3.6	5.0	3.0	0.0	Vert	PK	0.0	43.1	74.0	-30.9	High Ch 62, MCS0, EUT On Side
10619.630	50.4	-7.8	3.5	139.0	3.0	0.0	Horz	PK	0.0	42.6	74.0	-31.4	High Ch 62, MCS0, EUT Horz
10620.590	50.3	-7.8	1.5	329.0	3.0	0.0	Vert	PK	0.0	42.5	74.0	-31.5	High Ch 62, MCS0, EUT Vert



Work Orden	MA CIOEEO		Date: 16-J	ul 2010			EmiR5 2019.05.20		PSA-ESCI 2019.0
Work Order: Project:	MASI0553 None	Temper		ul-2019 3.9 °C		21	4	< ,	
Job Site:	OC07			1% RH		7		7-	
Serial Number:		Barometric		4 mbar		ostad by	Luis Flores	Nolan D	e Pames
	MWMII	Baronieuro	101	4 IIIbai		esieu by.	Luis Fiores	, INUIAII D	e Namos
Configuration:									
	Masimo Corporation								
Attendees:									
EUT Power:									
	Transmitting 802.11a	ani II NIII 4 Dand	Law Channal C	00/40 /5400	MIII-V a a d I I	NIII OA Da	اع ما النماء ال	1 00	/C4 /F240
Operating Mode:	MHz). See commen			36/40 (5190	MHZ) and U	-MII-ZA Ba	na - High Cr	nannei 60	/64 (5310
Deviations:	None								
Comments:	Bandwidth 40 MHz V temporally related to			correction fa	ctor was app	lied to any	emissions a	as they we	ere not
st Specifications				Test Met	hod				
Run # 182	Test Distance (m) 1 A	ntenna Height(s	5)	1 to 4(m)		Results	F	Pass
80									
70									
						_			
60									
						8+			
_ 50 +						•			
!									
3									
40									
?									
30									
30									
20									
20									
10									
0									
0 1000			'						10000
1000			MU-	,					10000
			MHz	:			■ PK	◆ AV	10000 • QP
			MHz	Polarity/			■ PK	◆ AV	

		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
5149	9.833	26.6	35.1	1.5	70.0	1.0	0.0	Vert	AV	-9.5	52.2	54.0	-1.8	40 MHz BW, Ch 38, MCS0, EUT Vert
5350	0.010	26.1	35.4	1.5	70.0	1.0	0.0	Vert	AV	-9.5	52.0	54.0	-2.0	40 MHz BW, Ch 62, MCS0, EUT Vert
5149	9.870	26.2	35.1	1.5	187.0	1.0	0.0	Horz	AV	-9.5	51.8	54.0	-2.2	40 MHz BW, Ch 38, MCS0, EUT On Side
5350	0.013	25.7	35.4	1.5	187.0	1.0	0.0	Horz	AV	-9.5	51.6	54.0	-2.4	40 MHz BW, Ch 62, MCS0, EUT On Side
5149	9.923	25.4	35.1	1.5	70.0	1.0	0.0	Vert	AV	-9.5	51.0	54.0	-3.0	40 MHz BW, Ch 38, MCS7, EUT Vert
5149	9.913	25.0	35.1	1.5	187.0	1.0	0.0	Horz	AV	-9.5	50.6	54.0	-3.4	40 MHz BW, Ch 38, MCS7, EUT On Side
5350	0.407	42.3	35.4	1.5	70.0	1.0	0.0	Vert	PK	-9.5	68.2	74.0	-5.8	40 MHz BW, Ch 62, MCS0, EUT Vert
5148	8.540	42.2	35.1	1.5	70.0	1.0	0.0	Vert	PK	-9.5	67.8	74.0	-6.2	40 MHz BW, Ch 38, MCS0, EUT Vert
5350	0.040	41.5	35.4	1.5	187.0	1.0	0.0	Horz	PK	-9.5	67.4	74.0	-6.6	40 MHz BW, Ch 62, MCS0, EUT On Side
5149	9.557	41.6	35.1	1.5	70.0	1.0	0.0	Vert	PK	-9.5	67.2	74.0	-6.8	40 MHz BW, Ch 38, MCS7, EUT Vert
5149	9.650	41.0	35.1	1.5	187.0	1.0	0.0	Horz	PK	-9.5	66.6	74.0	-7.4	40 MHz BW, Ch 38, MCS0, EUT On Side
5149	9 403	40.2	35.1	1.5	187 0	1.0	0.0	Horz	PK	-9.5	65.8	74.0	-8.2	40 MHz BW, Ch 38, MCS7, EUT On Side



PSA-ESCI 2019.05.10

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 802.11an: U-NII-2C Band and U-NII-3 Band - See data for channels and data rates.

POWER SETTINGS INVESTIGATED

3.6VDC

CONFIGURATIONS INVESTIGATED

MASI0553 - 4

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequer	ncy 40 GHz

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT

I EST EQUIFINENT					
Description	Manufacturer	Model	ID	Last Cal.	Interval
Cable	Fairview Microwave	SCA1814-0505-72	OC2	3-May-2019	12 mo
Meter - Power	Hewlett Packard	E4418A	SPA	9-Jan-2019	12 mo
Generator - Signal	Agilent	E8257D	TGU	15-Feb-2018	36 mo
Antenna - Double Ridge	EMCO	3115	AHB	28-Mar-2018	24 mo
Filter - Low Pass	Micro-Tronics	LPM50004	HGK	23-Jan-2019	12 mo
Filter - Band Pass/Notch	Micro-Tronics	BRC50703	HHB	23-Jan-2019	12 mo
Filter - Band Pass/Notch	Micro-Tronics	BRC50704	HHA	23-Jan-2019	12 mo
Antenna - Double Ridge	A.H. Systems, Inc.	SAS-574	AXV	15-May-2018	24 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	PAD	3-Jul-2019	12 mo
Cable	ESM Cable Corp.	8-18GHz cables	OCY	16-Jan-2019	12 mo
Cable	ESM Cable Corp.	1-8GHz cables	OCX	16-Jan-2019	12 mo
Cable	ESM Cable Corp.	30-1GHz cables	OCW	8-May-2019	12 mo
Antenna - Biconilog	EMCO	3142	AXB	5-Apr-2018	24 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVP	16-Jan-2019	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVL	16-Jan-2019	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVJ	16-Jan-2019	12 mo
Amplifier - Pre-Amplifier	Miteq	JSDWK42-18004000-60-5P	PAN	20-Dec-2018	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIR	28-Jun-2018	24 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AHX	NCR	0 mo
Antenna - Standard Gain	EMCO	3160-08	AHK	NCR	0 mo
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAY	30-Nov-2018	12 mo

TEST DESCRIPTION

The highest gain antenna of each type to be used with the EUT was tested. The EUT was configured for the required transmit frequencies in each operational band and the modes as showed in the data sheets.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These "pre-scans" are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis if required, and adjusting the measurement antenna height and polarization (per ANSI C63.10). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector

PK = Peak Detector

AV = RMS Detector

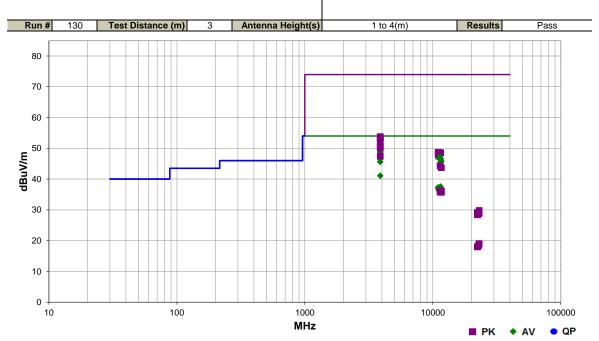
Measurements were made to satisfy the specific requirements of the test specification for out of band emissions as well as the restricted band requirements.

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

Measurements at the edges of the allowable band may be presented in an alternative method as provided for in the ANSI C63.10 Marker-Delta method. This method involves performing an in-band fundamental measurement followed by a screen capture of the fundamental and out-of-band emission using reduced measurement instrumentation bandwidths. The amplitude delta measured on this screen capture is applied to the fundamental emission value to show the out-of-band emission level as applied to the limit.



					EmiR5 2019.05.20	PSA-ESCI 2019.05.10
Work Order:	MASI0553	Date:	11-Jul-2019		11 3	
Project:	None	Temperature:	23.5 °C		443,	
Job Site:	OC07	Humidity:	50.4% RH		1	
Serial Number:	ENG-1	Barometric Pres.:	1017 mbar	٦	Tested by: Luis Flores, Nola	n De Ramos
EUT:	MWMII					
Configuration:	4					
Customer:	Masimo Corporation					
Attendees:	Mike Tran					
EUT Power:	3.6VDC					
Operating Mode:	140 (5700 MHz) and I		nnel 149 (5745 MHz		Channel 116 (5580 MHz) and nel 157 (5785 MHz) and Hig	
Deviations:	None					
	Bandwidth 20 MHz W related to the duty cyc		ection factor was appl	ied to any e	emissions as they were not to	mporally
Test Specifications			Test Meth	od		
FCC 15.407:2019			ANSI C63.	10:2013		



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
3883.367	48.1	3.4	2.1	62.0	3.0	0.0	Horz	AV	0.0	51.5	54.0	-2.5	High Ch 165, EUT Vert, 6Mbps
3883.383	47.8	3.4	2.06	62.0	3.0	0.0	Horz	AV	0.0	51.2	54.0	-2.8	High Ch 165, EUT Vert, MCS0
3883.308	47.6	3.4	2.06	62.0	3.0	0.0	Horz	AV	0.0	51.0	54.0	-3.0	High Ch 165, EUT Vert, 54 Mbps
3883.367	47.6	3.4	2.06	62.0	3.0	0.0	Horz	AV	0.0	51.0	54.0	-3.0	High Ch 165, EUT Vert, MCS7
3883.308	47.3	3.4	2.06	62.0	3.0	0.0	Horz	AV	0.0	50.7	54.0	-3.3	High Ch 165, EUT Vert, 36 Mbps
3883.392	45.3	3.4	3.6	302.0	3.0	0.0	Vert	AV	0.0	48.7	54.0	-5.3	High Ch 165, EUT Horz, 6Mbps
3883.358	43.4	3.4	2.9	343.0	3.0	0.0	Horz	AV	0.0	46.8	54.0	-7.2	High Ch 165, EUT on side, 6Mbps
3883.350	43.1	3.4	2.4	354.0	3.0	0.0	Vert	AV	0.0	46.5	54.0	-7.5	High Ch 165, EUT on side, 6Mbps
3883.383	42.2	3.4	2.8	39.0	3.0	0.0	Horz	AV	0.0	45.6	54.0	-8.4	High Ch 165, EUT Horz, 6Mbps
3883.333	37.7	3.4	1.5	296.0	3.0	0.0	Vert	AV	0.0	41.1	54.0	-12.9	High Ch 165, EUT Vert, 6Mbps
11490.500	43.5	-5.9	1.9	0.0	3.0	0.0	Horz	AV	0.0	37.6	54.0	-16.4	Low Ch 149, EUT Vert, 6Mbps
11000.790	45.8	-8.5	1.5	0.0	3.0	0.0	Horz	AV	0.0	37.3	54.0	-16.7	Low Ch 100, EUT Vert, 6Mbps
11000.420	45.6	-8.5	2.5	122.0	3.0	0.0	Vert	AV	0.0	37.1	54.0	-16.9	Low Ch 100, EUT Horz, 6Mbps
11490.120	42.6	-5.9	3.2	130.0	3.0	0.0	Vert	AV	0.0	36.7	54.0	-17.3	Low Ch 149, EUT Horz, 6Mbps
11570.170	41.6	-5.0	1.5	82.0	3.0	0.0	Horz	AV	0.0	36.6	54.0	-17.4	Mid Ch 157, EUT Vert, 6Mbps
11159.960	45.4	-8.9	2.9	126.0	3.0	0.0	Vert	AV	0.0	36.5	54.0	-17.5	Mid Ch 116, EUT Horz, 6Mbps
11162.790	45.2	-8.9	2.3	0.0	3.0	0.0	Horz	AV	0.0	36.3	54.0	-17.7	Mid Ch 116, EUT Vert, 6Mbps
11570.080	41.2	-5.0	2.4	130.0	3.0	0.0	Vert	AV	0.0	36.2	54.0	-17.8	Mid Ch 157, EUT Horz, 6Mbps
11650.170	40.7	-4.5	2.8	125.0	3.0	0.0	Vert	AV	0.0	36.2	54.0	-17.8	High Ch 165, EUT Horz, 6Mbps
11402.420	43.0	-6.9	1.5	0.0	3.0	0.0	Horz	AV	0.0	36.1	54.0	-17.9	High Ch 140, EUT Vert, 6Mbps
11400.000	42.7	-6.9	2.9	122.0	3.0	0.0	Vert	AV	0.0	35.8	54.0	-18.2	High Ch 140, EUT Horz, 6Mbps
11650.080	40.2	-4.5	1.8	4.0	3.0	0.0	Horz	AV	0.0	35.7	54.0	-18.3	High Ch 165, EUT Vert, 6Mbps

												1	
						External	Polarity/ Transducer		Distance			Compared to	
Freq	Amplitude	Factor	Antenna Height	Azimuth	Test Distance	Attenuation	Type	Detector	Adjustment	Adjusted	Spec. Limit	Spec.	
(MHz)	(dBuV)	(dB)	(meters)	(degrees)	(meters)	(dB)			(dB)	(dBuV/m)	(dBuV/m)	(dB)	
, ,													Comments
3883.267	50.4	3.4	2.1	62.0	3.0	0.0	Horz	PK	0.0	53.8	74.0	-20.2	High Ch 165, EUT Vert, 6Mbps
3883.467	50.1	3.4	2.06	62.0	3.0	0.0	Horz	PK	0.0	53.5	74.0	-20.5	High Ch 165, EUT Vert, 54 Mbps
3883.250	50.0	3.4	2.06	62.0	3.0	0.0	Horz	PK	0.0	53.4	74.0	-20.6	High Ch 165, EUT Vert, MCS0
3883.408	49.9	3.4	2.06	62.0	3.0	0.0	Horz	PK	0.0	53.3	74.0	-20.7	High Ch 165, EUT Vert, MCS7
3883.442	49.7	3.4	2.06	62.0	3.0	0.0	Horz	PK	0.0	53.1	74.0	-20.9	High Ch 165, EUT Vert, 36 Mbps
3883.300	48.5	3.4	3.6	302.0	3.0	0.0	Vert	PK	0.0	51.9	74.0	-22.1	High Ch 165, EUT Horz, 6Mbps
3883.283	47.2	3.4	2.4	354.0	3.0	0.0	Vert	PK	0.0	50.6	74.0	-23.4	High Ch 165, EUT on side, 6Mbps
3883.517	47.2	3.4	2.9	343.0	3.0	0.0	Horz	PK	0.0	50.6	74.0	-23.4	High Ch 165, EUT on side, 6Mbps
3883.400	46.6	3.4	2.8	39.0	3.0	0.0	Horz	PK	0.0	50.0	74.0	-24.0	High Ch 165, EUT Horz, 6Mbps
10998.460	57.2	-8.5	1.5	0.0	3.0	0.0	Horz	PK	0.0	48.7	74.0	-25.3	Low Ch 100, EUT Vert, 6Mbps
11492.500	54.5	-5.9	1.9	0.0	3.0	0.0	Horz	PK	0.0	48.6	74.0	-25.4	Low Ch 149, EUT Vert, 6Mbps
10998.960	56.5	-8.5	2.5	122.0	3.0	0.0	Vert	PK	0.0	48.0	74.0	-26.0	Low Ch 100, EUT Horz, 6Mbps
3883.275	44.1	3.4	1.5	296.0	3.0	0.0	Vert	PK	0.0	47.5	74.0	-26.5	High Ch 165, EUT Vert, 6Mbps
11158.460	56.4	-8.9	2.3	0.0	3.0	0.0	Horz	PK	0.0	47.5	74.0	-26.5	Mid Ch 116, EUT Vert, 6Mbps
11400.380	54.1	-6.9	1.5	0.0	3.0	0.0	Horz	PK	0.0	47.2	74.0	-26.8	High Ch 140, EUT Vert, 6Mbps
11158.620	55.7	-8.9	2.9	126.0	3.0	0.0	Vert	PK	0.0	46.8	74.0	-27.2	Mid Ch 116, EUT Horz, 6Mbps
11568.670	51.6	-5.0	1.5	82.0	3.0	0.0	Horz	PK	0.0	46.6	74.0	-27.4	Mid Ch 157, EUT Vert, 6Mbps
11486.710	52.3	-5.9	3.2	130.0	3.0	0.0	Vert	PK	0.0	46.4	74.0	-27.6	Low Ch 149, EUT Horz, 6Mbps
11648.830	50.3	-4.5	1.8	4.0	3.0	0.0	Horz	PK	0.0	45.8	74.0	-28.2	High Ch 165, EUT Vert, 6Mbps
11570.670	50.5	-5.0	2.4	130.0	3.0	0.0	Vert	PK	0.0	45.5	74.0	-28.5	Mid Ch 157, EUT Horz, 6Mbps
11399.790	51.3	-7.0	2.9	122.0	3.0	0.0	Vert	PK	0.0	44.3	74.0	-29.7	High Ch 140, EUT Horz, 6Mbps
11653.380	48.2	-4.5	2.8	125.0	3.0	0.0	Vert	PK	0.0	43.7	74.0	-30.3	High Ch 165, EUT Horz, 6Mbps
22980.910	27.7	-8.7	1.2	17.0	3.0	0.0	Vert	AV	0.0	19.0	54.0	-35.0	Low Ch 149, 6 Mbps, EUT Horz
22981.550	27.7	-8.7	1.2	214.0	3.0	0.0	Horz	AV	0.0	19.0	54.0	-35.0	Low Ch 149, 6 Mbps, EUT Vert
22799.130	26.8	-8.3	1.2	0.0	3.0	0.0	Horz	AV	0.0	18.5	54.0	-35.5	High Ch 140, 6 Mbps, EUT Vert
22802.080	26.8	-8.3	1.2	0.0	3.0	0.0	Vert	AV	0.0	18.5	54.0	-35.5	High Ch 140, 6 Mbps, EUT Horz
22318.280	26.5	-8.5	1.2	158.0	3.0	0.0	Vert	AV	0.0	18.0	54.0	-36.0	Mid Ch 116, 6 Mbps, EUT Horz
22321.530	26.5	-8.5	1.2	57.0	3.0	0.0	Horz	AV	0.0	18.0	54.0	-36.0	Mid Ch 116, 6 Mbps, EUT Vert
22978.110	38.5	-8.7	1.2	214.0	3.0	0.0	Horz	PK	0.0	29.8	74.0	-44.2	Low Ch 149, 6 Mbps, EUT Vert
22318.040	37.6	-8.5	1.2	158.0	3.0	0.0	Vert	PK	0.0	29.1	74.0	-44.9	Mid Ch 116, 6 Mbps, EUT Horz
22977.880	37.8	-8.7	1.2	17.0	3.0	0.0	Vert	PK	0.0	29.1	74.0	-44.9	Low Ch 149, 6 Mbps, EUT Horz
22799.650	37.3	-8.3	1.2	0.0	3.0	0.0	Horz	PK	0.0	29.0	74.0	-45.0	High Ch 140, 6 Mbps, EUT Vert
22798.560	37.1	-8.3	1.2	0.0	3.0	0.0	Vert	PK	0.0	28.8	74.0	-45.2	High Ch 140, 6 Mbps, EUT Horz
22319.670	36.9	-8.5	1.2	57.0	3.0	0.0	Horz	PK	0.0	28.4	74.0	-45.6	Mid Ch 116, 6 Mbps, EUT Vert



										EmiR5 2019.05.20		PSA-ESCI 2019.05
Wo	ork Order:		10553		Date:	11-Ju			4	,		
	Project:				nperature:	23.5			1	$\epsilon \in$	71	
Cania	Job Site:		-		Humidity:		% RH		Factor by	II:a Elanas	Nalas D	- D
Seria	Number:	EN:	۱-ی	barome	tric Pres.:	1017	IIIDal		restea by:	Luis Flores	, indian L	e Kamos
Conf	iguration:											
		Masimo Co	orporation									
		Mike Tran										
	JT Power:											
		Transmittin	ng 802.11ar	n: U-NII-2C	Band - Lov	v Channel 1	00 (5500 N	ЛHz), Mid C	hannel 116	6 (5580 MHz) and Hig	h Channe
Operati	ing Mode:	140 (5700	MHz) and l	J-NII-3 Ban	d - Low Ch	annel 149 (5745 MHz)	, Mid Chan	nel 157 (57	785 MHz) an	d High Cl	hannel 16
		(5825 MHz	.). See con	nments belo	ow for data	rates.						
D	eviations:	None										
	eviations.											
_						ection facto	r was appl	ied to any e	missions a	s they were	not temp	orally
C	omments:	related to t	he duty cyc	le of the ca	rrier.							
	ifications						Test Meth ANSI C63					
CC 15.40	7:2019											
Run#	132	Test Dis	stance (m)	3	Antenna	Height(s)		1 to 4(m)		Results	F	Pass
-5												
-3												
-15												
25												
-25										_		
-35												
E 9 -45												
5 -45								_				
-55												
55												
-65												
I												
-75												
-85 []]												
100	00					10000						100000
						MHz				■ PK	◆ AV	• QP
				Dole it i								
				Polarity/ Transducer					Compared to			
	Freq	Antenna Height	Azimuth	Туре	Detector	EIRP (Motto)	EIRP	Spec. Limit	Spec.		Comments	S
	(MHz)	(meters)	(degrees)			(Watts)	(dBm)	(dBm)	(dB)			
	17355.880	1.8	143.0	Vert	PK	719.6E-9	-31.4	-27.0	-4.4	Mid Ch 157, E		
	17468.580 17356.120	1.8 1.8	138.0 47.0	Vert Horz	PK PK	404.7E-9 286.5E-9	-33.9 -35.4	-27.0 -27.0	-6.9 -8.4	High Ch 165, Mid Ch 157, E		
	17336.120	1.8	59.0	Horz	PK	227.6E-9	-36.4	-27.0	-0.4 -9.4	Low Ch 149,		
	17229.620	3.7	139.0	Vert	PK	212.4E-9	-36.7	-27.0	-9.7	Low Ch 149,	EUT Horz,	6Mbps
	17476.210	1.5	19.0	Horz	PK	164.9E-9	-37.8	-27.0	-10.8	High Ch 165,		
	16734.040 16502.670	1.4 2.1	126.0 68.0	Vert Horz	PK PK	78.9E-9 61.3E-9	-41.0 -42.1	-27.0 -27.0	-14.0 -15.1	Mid Ch 116, E Low Ch 100, I		
	16502.670	2.1 1.5	68.0 275.0	Vert	PK PK	61.3E-9 55.9E-9	-42.1 -42.5	-27.0 -27.0	-15.1 -15.5	Low Ch 100, I		
	17102.420	1.9	129.0	Vert	PK	54.6E-9	-42.6	-27.0	-15.6	High Ch 140,	EUT Horz,	6Mbps
	17109.460	1.6	330.0	Horz	PK	35.2E-9	-44.5	-27.0	-17.5	High Ch 140,		
	16746.960	1.5	65.0	Horz	PK	31.4E-9	-45.0 -64.3	-27.0	-18.0	Mid Ch 116, E		
	23138.250 23302.030	1.2 1.2	208.0 139.0	Vert Horz	PK PK	369.1E-12 321.5E-12	-64.3 -64.9	-27.0 -27.0	-37.3 -37.9	Mid Ch 157, 6 High Ch 165,		
	23299.920	1.2	305.0	Vert	PK	321.5E-12	-64.9	-27.0	-37.9	High Ch 165,		
	23140.080	1.2	9.0	Horz	PK	314.1E-12	-65.0	-27.0	-38.0	Mid Ch 157, 6		
	21998.270	1.2	21.0	Horz	PK PK	227.6E-12	-66.4	-27.0 -27.0	-39.4 -40.4	Low Ch 100, (
	21998.140	1.2	74.0	Vert	rn.	180.8E-12	-67.4	-27.0	-40.4	LUW CII 100, I	ט ועוטטט, בל) I I I I I I I



										EmiR5 20	19.05.20		PSA-ESCI 2019.05.1	10
W	ork Order:	MAS	10553		Date:	16-Jul	l-2019		11		10.00.20	_	1 67 2 2 6 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7	<u></u>
	Project:	No	ne	Ter	mperature:		5 °C		11	K 6		2/		
	Job Site:	00	07		Humidity:	50.49	% RH				-	7'		
Seria	al Number:	EN	G-1	Barome	etric Pres.:	1017	mbar		Tested by	: Luis F	lores,	Nolan De	e Ramos	_
		MWMII												
	figuration:													_
	Customer:		orporation											_
	Attendees:													_
Е	UT Power:													_
Opera	ting Mode:	Transmittin	ng 802.11an	: U-NII-2C	Band - Low C	hannel 1	100 (5500	MHz)						
	Deviations:	None												_
c	comments:				Edge, No duty cle of the carrie		rrection fa	actor was ap	plied to an	y emiss	ions a	s they we	ere not	
Took Cree	ification -					1	Took Mark	Sha al						=
FCC 15.40	cifications						Test Met	3.10:2013						<u> </u>
Run #	182	Test Dis	stance (m)	1	Antenna Ho	eight(s)		1 to 4(m)		Res	ults	Р	ass	_ _
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20 -														
10 -														
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100	00					MHz								
						IVITZ					PK	◆ AV	• QP	
			Antenna			External	Polarity/ Transducer		Distance				Compared to	
Freq	Amplitude	Factor	Height	Azimuth		ttenuation	Туре	Detector	Adjustment			Spec. Limit	Spec.	
(MHz)	(dBuV)	(dB)	(meters)	(degrees)	(meters)	(dB)			(dB)	(dBu\	/m)	(dBuV/m)	(dB)	Comments
5458.627	22.0	35.6	1.5	70.0	1.0	0.0	Vert	AV	-9.5	48.	.1	54.0	-5.9	20 MHz BW, Ch 100, 6 Mbps, EUT Vert
5458.733	22.0	35.6	1.5	187.0	1.0	0.0	Horz	AV	-9.5	48.	.1	54.0	-5.9	20 MHz BW, Ch 100, 6 Mbps, EUT On Side
5459.167	33.6	35.6	1.5	187.0	1.0	0.0	Horz	PK	-9.5	59.		74.0	-14.3	20 MHz BW, Ch 100, 6 Mbps, EUT On Side
5459.823	32.9	35.6	1.5	70.0	1.0	0.0	Vert	PK	-9.5	59.	.U	74.0	-15.0	20 MHz BW, Ch 100, 6 Mbps, EUT Vert



Work Order: MASI0553 Date: 16-Jul-2019 Project: None Temperature: 23.5 °C Job Site: OC07 Humidity: 50.4% RH Serial Number: ENG-1 Barometric Pres.: 1017 mbar Tested by: Luis Flores, Nolan De Ramos EUT: NVMIII Configuration: 4 Customer: National Corporation Attendaces: Nike Tran EUT Power: 3.6VDC Operating Mode: Transmiting 802.11an: U-Nil-3 Band - Low Channel 149 (5745 MHz). MCS0. None Bandwidth 20 MHz Wide, No duty cycle correction factor was applied to any emissions as they were not temporally related to the duty cycle of the carrier. Fest Specifications CCC 15.407.2019 Run # 183 Test Distance (m) 1 Antenna Height(s) 1.2 (m) Results Pass ANSI C63.10.2013 Run # 183 Test Distance (m) 1 Antenna Height(s) 1.2 (m) Results Pass WHz WHz Freq Areassa Height Transmitter Specifications Comments: Specifications Specificat											EmiR5 2019.05.20		PSA-ESCI 2019.05.
Serial Number: EVIS-1 Barometric Pres: 1017 mbar Tested by: Luis Flores, Nolan De Ramos EUI: MVMII Configuration: 4		Wo								11		7	
Serial Number: EVIS-1 Barometric Pres: 1017 mbar Tested by: Luis Flores, Nolan De Ramos EUI: MVMII Configuration: 4										4		>/-	
Configuration: 4 Customer: Masimo Corporation Attendes: Mike Tran EUT Power: 3,6VDC Operating Mode: Transmitting 802.11an: U-Nil-3 Band - Low Channel 149 (5745 MHz). MCS0. Deviations: None Bandwidth 20 MHz Wide, No duty cycle correction factor was applied to any emissions as they were not temporally related to the duty cycle of the carrier. Fest Specifications CC 15.407/2019 ANSI C63.10:2013 Run # 183 Test Distance (m) 1 Antenna Height(s) 1.2 (m) Results Pass 45 36 25 15 45 45 45 45 46 47 48 48 48 48 49 49 49 40 40 40 40 40 40 40 40 40 40 40 40 40												,	
Configuration: 4 Customer: Masimo Corporation Attendees: Mike Tran EUT Power: 3.6VDC Operating Mode: Transmitting 802.11an: U-Nil-3 Band - Low Channel 149 (5745 MHz). MCS0. Deviations: None Bandwidth 20 MHz Wide, No duty cycle correction factor was applied to any emissions as they were not temporally related to the duty cycle of the carrier. Test Specifications TCC 15.407:2019 ANSI C63.10.2013 Test Method ANSI C63.10.2013 ANSI C63.10.2013 Run # 183		Serial			Baro	ometric Pres.:	1017	mbar		Tested by:	Luis Flores	, Nolan D	e Ramos
Customers: Mike Transmitting 802.11an: U-Nil-3 Band - Low Channel 149 (5745 MHz). MCS0. Deviations: None Bandwidth 20 MHz Wide, No duty cycle correction factor was applied to any emissions as they were not temporally related to the duty cycle of the carrier. Fest Specifications FCC 15.407:2019 Run # 183													
Attendees: Mike Tran EUT Power: 3.6VDC Operating Mode: Deviations: None Bandwidth 20 MHz Wirde, No duty cycle correction factor was applied to any emissions as they were not temporally related to the duty cycle of the carrier. Fest Specifications FCC 15.407:2019 Run # 183													
Comments Test Distance (m) 1 Antenna Height(s) 1.2 (m) Results Pass					ation								
Transmitting 802.11an: U-NII-3 Band - Low Channel 149 (5745 MHz). MCS0. Deviations:													
Deviations: None Bandwidth 20 MHz Wide, No duty cycle correction factor was applied to any emissions as they were not temporally related to the duty cycle of the carrier. Test Method		EU	T Power:										
Bandwidth 20 MHz Wide, No duty cycle correction factor was applied to any emissions as they were not temporally related to the duty cycle of the carrier. Fest Specifications Test Method ANSI C63.10:2013	O	oeratii	ng Mode	Transmitting 80	2.11an: U-NII	-3 Band - Low	Channel 14	9 (5745 MH	Hz). MCS0.				
Test Specifications Test Method		De	viations	None									
Run # 183		Co	mments				ection facto	r was appli	ed to any e	missions as	they were	not tempo	rally
Run # 183	Test S	Specif	ications					Test Meth	od				
Run # 183 Test Distance (m) 1 Antenna Height(s) 1.2 (m) Results Pass										•			
45 36 25 15 -26 -36 -45 -45 -4800 5000 5200 5400 MHz ■ PK AV ● QP Freq Antenna Height Transducer T		4	402	Took Distance	· · · · · · · · · · · · · · · · · · ·	Automo			4.2 (22)		Daguita		
35 25 15 -5 4800 5000 5200 5400 MHz Preq Antenna Height Transducer Potenty/ Transducer Transducer Potenty/ Transducer Potenty	K	un #	183	rest Distanc	e (m)	Antenna	a Height(S)		1.2 (111)		Results		ass
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-25 -35 -45 -4800 5000 5200 5400 5600 5800 6000 6200 MHz Polarity/ Transducer Type Detector EIRP EIRP Spec. Limit Spec. Comments	<u>~</u>	F							/ 	 			
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-25 -35 -45 -4800 5000 5200 5400 5600 5800 6000 6200 MHz Polarity/ Transducer Type Detector EIRP EIRP Spec. Limit Spec. Comments	٥								/ 111		.		
-25 -35 -45 -4800 5000 5200 5400 5600 5800 6000 6200 MHz Polarity/ Transducer Type Detector EIRP EIRP Spec. Limit Spec. Comments	₽	15							/ 11		\		
-25 -35 -45 -4800 5000 5200 5400 5600 5800 6000 6200 MHz Polarity/ Transducer Type Detector EIRP EIRP Spec. Limit Spec. Comments	ä	-15									1		
-35 -45 -4800 5000 5200 5400 5600 5800 6000 6200 MHz Preq Antenna Height Transducer Tr	_								/		\		
-45 -55 -4800 5000 5200 5400 5600 5800 6000 6200 MHz Polarity/ Transducer Type Detector EIRP EIRP Spec. Limit Compared to Spec. Comments		-25 🖶											
-45 -55 -4800 5000 5200 5400 5600 5800 6000 6200 MHz Polarity/ Transducer Type Detector EIRP EIRP Spec. Limit Compared to Spec. Comments]
-45 -55 -4800 5000 5200 5400 5600 5800 6000 6200 MHz Polarity/ Transducer Type Detector EIRP EIRP Spec. Limit Compared to Spec. Comments		-35 ↓								La	سيل ساير	والمراجع المراجع	
-55 4800 5000 5200 5400 5600 5800 6000 6200 MHz ■ PK ◆ AV ■ QP Freq Antenna Height Transducer Type Detector EIRP EIRP Spec. Limit Spec. Comments													
-55 4800 5000 5200 5400 5600 5800 6000 6200 MHz ■ PK ◆ AV ■ QP Freq Antenna Height Transducer Type Detector EIRP EIRP Spec. Limit Spec. Comments													
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4800 5000 5200 5400 5600 5800 6000 6200 MHz ■ PK ◆ AV ■ QP Freq Antenna Height Transducer Type Detector EIRP EIRP Spec. Limit Spec. Comments													
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MHz ■ PK ◆ AV ● QP Freq Antenna Height Transducer Type Detector EIRP EIRP Spec. Limit Spec. Comments			0	5000	5200	540	00	5600	į	5800	6000		6200
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Freq Antenna Height Transducer Type Detector EIRP EIRP Spec. Limit Spec. Comments						,							
Freq Antenna Height Transducer Type Detector EIRP EIRP Spec. Limit Spec. Comments										Compared to			
			Freq	Antenna Height Trans			EIRP	EIRP	Spec. Limit			Comments	

All emissions were below the limit (see graph above).



											EmiR5 2019.05.20		PSA-ESCI 2019.05.1
	Wo	ork Order				Date:		l-2019		11			
		Project			Ter	nperature:		5 °C		4	46	>/-	
		Job Site				Humidity:		% RH				,	
	Serial	Number		G-1	Baromo	etric Pres.:	1017	mbar		Tested by:	Luis Flores	s, Nolan D	e Ramos
			: MWMII										
- (iguration											
			: Masimo Co	rporation									
			: Mike Tran										
	EU	JT Power	: 3.6VDC										
Op	perati	ing Mode	Transmitting	g 802.11ar	n: U-NII-3 E	Band - High	Channel 16	65 (5825 M	Hz). MCS0).			
	D	eviations	None										
	Co	omments	Bandwidth 2 related to th				rection facto	or was appl	ied to any e	missions as	s they were	not tempo	rally
Test S	Speci	fications						Test Meth	od				
		7:2019	-					ANSI C63		•			
D	41	400	Tool Die	tance (m)	I 4	A			4.0 (22)		Bassilla.		
R	un#	186	lest Dis	tance (m)	1	Antenna	a Height(s)		1.2 (m)		Results	٢	ass
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	480	00	5000		5200	540	00	5600		5800	6000		6200
							MHz				■ PK	◆ AV	• QP
		Freq (MHz)	Antenna Height (meters)	Transducer (dB)	Polarity/ Transducer Type	Detector	EIRP (Watts/MHz)	EIRP (dBm/MHz)	Spec. Limit (dBm/MHz)	Compared to Spec. (dB)		Comments	;



					EmiR5 2019.05.20 PSA-	-ESCI 2019.05.10
Work Order:	MASI0553	Date:	12-Jul-20	19	11 3	
Project:	None	Temperature:	23.9 °C		463,4	
Job Site:	OC07	Humidity:	52.1% R	H		
Serial Number:	ENG-1	Barometric Pres.:	1014 mb	ar .	Tested by: Luis Flores, Nolan De R	amos
EUT:	MWMII					
Configuration:	4					
Customer:	Masimo Corporation					
Attendees:	Mike Tran					
EUT Power:	3.6VDC					
Operating Mode:	Transmitting 802.11ar	n: U-NII-2C Band - Low C	Channel 100/1	04 (5510 MHz), M	id Channel 116/120 (5590 MHz) and	High
Operating wode.	Channel 132/136 (567	0 MHz) and U-NII-3 Ban	d - Low Char	nel 149/153 (5755	MHz) and High Channel 157/161 (5	795
Deviations:	None					
Deviations.						
	Bandwidth 40 MHz W	ide, No duty cycle correct	tion factor wa	s applied to any er	nissions as they were not temporally	y related
Comments:	to the duty cycle of the	e carrier.				
Test Specifications			Tes	t Method		
FCC 15.407:2019			AN	SI C63.10:2013		
			,			



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
22360.260	46.5	-8.5	1.2	327.0	3.0	0.0	Horz	AV	0.0	38.0	54.0	-16.0	Mid Ch 118, MCS0, EUT Vert
22359.810	46.2	-8.5	1.2	95.0	3.0	0.0	Vert	AV	0.0	37.7	54.0	-16.3	Mid Ch 118, MCS0, EUT Horz
22358.510	46.1	-8.5	1.2	208.0	3.0	0.0	Vert	AV	0.0	37.6	54.0	-16.4	Mid Ch 118, MCS7, EUT Horz
22358.950	46.1	-8.5	1.2	234.0	3.0	0.0	Horz	AV	0.0	37.6	54.0	-16.4	Mid Ch 118, MCS7, EUT Vert
22670.500	45.8	-8.3	1.5	203.0	3.0	0.0	Horz	AV	0.0	37.5	54.0	-16.5	High Ch 134, MCS0,EUT Vert
22676.790	45.7	-8.3	1.5	130.0	3.0	0.0	Vert	AV	0.0	37.4	54.0	-16.6	High Ch 134, MCS0,EUT Horz
23020.330	46.1	-8.7	1.5	53.0	3.0	0.0	Horz	AV	0.0	37.4	54.0	-16.6	Low Ch 151, MCS0,EUT Vert
23020.330	45.9	-8.7	1.5	0.0	3.0	0.0	Vert	AV	0.0	37.2	54.0	-16.8	Low Ch 151, MCS0,EUT Horz
22048.710	46.0	-9.2	1.5	126.0	3.0	0.0	Horz	AV	0.0	36.8	54.0	-17.2	Low Ch 102, MCS0, EUT Vert
22049.750	46.0	-9.2	1.5	31.0	3.0	0.0	Vert	AV	0.0	36.8	54.0	-17.2	Low Ch 102, MCS0, EUT Horz
11590.080	39.1	-4.8	2.9	66.0	3.0	0.0	Horz	AV	0.0	34.3	54.0	-19.7	High Ch 159,MCS0,EUT Vert
11019.830	42.8	-8.6	1.5	5.0	3.0	0.0	Horz	AV	0.0	34.2	54.0	-19.8	Low Ch 102,MCS0, EUT Vert
11019.880	42.6	-8.6	2.9	118.0	3.0	0.0	Vert	AV	0.0	34.0	54.0	-20.0	Low Ch 102,MCS0, EUT Horz
11180.000	42.7	-8.8	2.9	123.0	3.0	0.0	Vert	AV	0.0	33.9	54.0	-20.1	Mid Ch 118, MCS0, EUT Horz
11181.420	41.4	-8.8	1.5	7.0	3.0	0.0	Horz	AV	0.0	32.6	54.0	-21.4	Mid Ch 118, MCS0, EUT Vert
11509.920	37.7	-5.7	1.5	356.0	3.0	0.0	Horz	AV	0.0	32.0	54.0	-22.0	Low Ch 151, MCS0, EUT Vert
11341.420	39.6	-7.7	3.4	102.0	3.0	0.0	Vert	AV	0.0	31.9	54.0	-22.1	High Ch 134, MCS0, EUT Horz
11590.000	36.7	-4.8	2.1	45.0	3.0	0.0	Vert	AV	0.0	31.9	54.0	-22.1	High Ch 159,MCS0,EUT Horz
11510.040	37.4	-5.7	3.3	114.0	3.0	0.0	Vert	AV	0.0	31.7	54.0	-22.3	Low Ch 151, MCS0, EUT Horz
11338.830	39.2	-7.7	1.5	39.0	3.0	0.0	Horz	AV	0.0	31.5	54.0	-22.5	High Ch 134, MCS0, EUT Vert
22679.460	57.7	-8.3	1.5	203.0	3.0	0.0	Horz	PK	0.0	49.4	74.0	-24.6	High Ch 134, MCS0,EUT Vert
22359.940	57.2	-8.5	1.2	95.0	3.0	0.0	Vert	PK	0.0	48.7	74.0	-25.3	Mid Ch 118, MCS0, EUT Horz

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
22361.570	56.9	-8.5	1.2	327.0	3.0	0.0	Horz	PK	0.0	48.4	74.0	-25.6	Mid Ch 118, MCS0, EUT Vert
22361.770	56.8	-8.5	1.2	208.0	3.0	0.0	Vert	PK	0.0	48.3	74.0	-25.7	Mid Ch 118, MCS7, EUT Horz
22677.170	56.5	-8.3	1.5	130.0	3.0	0.0	Vert	PK	0.0	48.2	74.0	-25.8	High Ch 134, MCS0,EUT Horz
23017.290	56.6	-8.7	1.5	0.0	3.0	0.0	Vert	PK	0.0	47.9	74.0	-26.1	Low Ch 151, MCS0,EUT Horz
22035.420	56.9	-9.2	1.5	31.0	3.0	0.0	Vert	PK	0.0	47.7	74.0	-26.3	Low Ch 102, MCS0, EUT Horz
22361.650	56.2	-8.5	1.2	234.0	3.0	0.0	Horz	PK	0.0	47.7	74.0	-26.3	Mid Ch 118, MCS7, EUT Vert
23030.670	56.4	-8.8	1.5	53.0	3.0	0.0	Horz	PK	0.0	47.6	74.0	-26.4	Low Ch 151, MCS0,EUT Vert
22033.250	56.5	-9.2	1.5	126.0	3.0	0.0	Horz	PK	0.0	47.3	74.0	-26.7	Low Ch 102, MCS0, EUT Vert
11016.420	53.8	-8.6	1.5	5.0	3.0	0.0	Horz	PK	0.0	45.2	74.0	-28.8	Low Ch 102,MCS0, EUT Vert
11020.500	53.7	-8.6	2.9	118.0	3.0	0.0	Vert	PK	0.0	45.1	74.0	-28.9	Low Ch 102,MCS0, EUT Horz
11169.880	53.6	-8.9	1.5	7.0	3.0	0.0	Horz	PK	0.0	44.7	74.0	-29.3	Mid Ch 118, MCS0, EUT Vert
11506.420	50.1	-5.7	1.5	356.0	3.0	0.0	Horz	PK	0.0	44.4	74.0	-29.6	Low Ch 151, MCS0, EUT Vert
11589.040	48.4	-4.8	2.9	66.0	3.0	0.0	Horz	PK	0.0	43.6	74.0	-30.4	High Ch 159,MCS0,EUT Vert
11348.750	50.9	-7.5	3.4	102.0	3.0	0.0	Vert	PK	0.0	43.4	74.0	-30.6	High Ch 134, MCS0, EUT Horz
11176.080	51.8	-8.9	2.9	123.0	3.0	0.0	Vert	PK	0.0	42.9	74.0	-31.1	Mid Ch 118, MCS0, EUT Horz
11346.540	50.4	-7.7	1.5	39.0	3.0	0.0	Horz	PK	0.0	42.7	74.0	-31.3	High Ch 134, MCS0, EUT Vert
11595.000	47.4	-4.8	2.1	45.0	3.0	0.0	Vert	PK	0.0	42.6	74.0	-31.4	High Ch 159,MCS0,EUT Horz
11509.790	48.2	-5.7	3.3	114.0	3.0	0.0	Vert	PK	0.0	42.5	74.0	-31.5	Low Ch 151, MCS0, EUT Horz



														EmiR5 20	119.05.20		PSA	-ESCI 2019.05.1
	Wo	rk Order:		10553			Dat		1		l-2019		4	/				
		Project:		ne			nperatur			23.9	9 °C % RH		1	E 6		7+	_	-
		Job Site: Number:		C07 G-1	Ra		Humidit etric Pres				<u>м кп</u> mbar		Tested by:	Luic E	loros	Molar	Do F	amos
30	ciiai		MWMII	<u>G-1</u>	Da	ii Oille	tille Fies	3		1014	IIIDai		rested by.	Luis i	10163,	INUIAI	I De I	aiiios
С	onfi	guration:																
			Masimo Co	orporation	1													
			Mike Tran	'														
	EU	T Power:																
Оре	erati	ng Mode:	Transmittir										Mid Channe 5 MHz) and					
	De	viations:	None									•	·					
	Со	mments:	Bandwidth related to t					orre	ction	facto	or was appli	ied to any e	emissions a	s they	were	not te	mpora	illy
Took S	naai	liantiana									Test Meth	ad	l					
FCC 15		fications									ANSI C63.							
Rui	n #	158	Test Dis	stance (m	1) (3	Anten	ına F	leigh	nt(s)		1 to 4(m)		Res	ults		Pas	
				,								, ,						
	-5																	
-1	15																	
-1	15																	
-2	25													-				
-3	35																	
₩₩ -4	15																	
												•						
-5	55 +																	
-6	65																	
-7	75																	
-8	35 [⊥] 100	0								0000				1			1(00000
									М	lHz				•	PK	♦ A	v •	QP
		Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Trans	arity/ ducer pe	Detector		EIRI (Wat		EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)			Comm	ents	
		17397.040 17009.250	3.0 1.5	142.0 297.0	Ve	ert ert	PK PK		104.0 43.4E	E-9	-39.8 -43.6	-27.0 -27.0	-12.8 -16.6	High Cl	h 134, I	MCS0,	EUT Ho	orz
		16524.420 17376.250	1.2 1.1	66.0 66.0		ert orz	PK PK		42.4E		-43.7 -43.9	-27.0 -27.0	-16.7 -16.9	Low Ch High Cl				
		16533.960	1.1	189.0		orz	PK PK		37.8		-43.9 -44.2	-27.0 -27.0	-16.9	Low Ch				
		17009.920	1.5	31.0		orz	PK		37.8	E-9	-44.2	-27.0	-17.2	High Cl	h 134, I	MCS0,	EUT Ve	ert
		17262.540	1.5	257.0	Ve	ert	PK		33.7E	E-9	-44.7	-27.0	-17.7	Low Ch	151, N	ACSO, E	EUT Ho	rz
		17256.500	2.6	264.0		orz	PK		31.4		-45.0	-27.0	-18.0	Low Ch				
		16773.080 16772.380	1.4 1.5	146.0 157.0		ert orz	PK PK		26.1E		-45.8 -46.1	-27.0 -27.0	-18.8 -19.1	Mid Ch Mid Ch				
		23186.960	1.5	226.0		ert	PK		19.4		-40.1 -47.1	-27.0 -27.0	-19.1	High Cl				
		23180.040	1.5	82.0		orz	PK		18.9E		-47.2	-27.0	-20.2	High Cl				



										EmiR5 2019.05.2	,	PSA-ESCI 2019.05.1	10
W	ork Order:	MASI	10553		Date:	16-Ju	ıl-2019		11			F3A-E3GI 2019.00.	<u> </u>
	Project:	No	ne	Ter	nperature:		5 °C		4	4	54		
	Job Site:	OC	07		Humidity:	50.4	% RH		2		1		
Seria	al Number:	EN	G-1	Barome	etric Pres.:	1017	' mbar		Tested by	: Luis Flore	s, Nolan D	e Ramos	-
		MWMII											_
	figuration:												
	Customer:		orporation										
	Attendees:												
E	UT Power:												_
Opera	ting Mode:	Transmittin	ng 802.11an	: U-NII-2C	Band - Low	Channel '	100/104 (5	5510 MHz).	See comm	ents below	for data ra	tes.	
	Deviations:	None											_
C	comments:				Edge, No dut cle of the car		orrection fa	actor was ap	plied to an	y emissions	as they we	ere not	
	161 41												≣
FCC 15.40	cifications						Test Met	3.10:2013					_
Run #	182	Test Dis	stance (m)	1	Antenna	Height(s)		1 to 4(m)		Results	P	ass	-
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						_	Delevit			■ PK	◆ AV	• QP	
_			Antenna			External	Polarity/ Transducer		Distance			Compared to	
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Height (meters)	Azimuth (degrees)	Test Distance (meters)	Attenuation (dB)	Туре	Detector	Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Spec. (dB)	
	20.0	25.0	1.5	407.0						10.4	54.0		Comments
5459.523 5459.467	22.0 33.7	35.6 35.6	1.5 1.5	187.0 187.0	1.0 1.0	0.0	Horz Horz	AV PK	-9.5 -9.5	48.1 59.8	54.0 74.0	-5.9 -14.2	40 MHz BW, Ch 102, MCS0, EUT On Side 40 MHz BW, Ch 102, MCS0, EUT On Side
5459.467	22.0	35.6	1.5	70.0	1.0	0.0	Vert	AV	-9.5 -9.5	59.8 48.1	74.0 54.0	-14.2 -5.9	40 MHz BW, Ch 102, MCS0, EUT On Side 40 MHz BW, Ch 102, MCS0, EUT Vert
5458.277	33.6	35.6	1.5	70.0	1.0	0.0	Vert	PK	-9.5	59.7	74.0	-14.3	40 MHz BW, Ch 102, MCS0, EUT Vert



						_					EmiR5 2019.05.20		PSA-ESCI 2019.05.10
	Wo	rk Order		10553	_	Date:		I-2019		11	,		
		Project		ne	Те	mperature:		5 °C			46	7/	
		Job Site		07	_	Humidity:		% RH					
	Serial	Number		G-1	Barom	etric Pres.:	1017	mbar	'	Tested by:	Luis Flores	, Nolan D	e Ramos
			: MWMII										
	Confi	iguration	: 4										
			: Masimo Co	orporation									
	A	ttendees	: Mike Tran										
	EU	JT Power											
O	oerati	ng Mode	Transmittir	ng 802.11aı	n: U-NII-3	Band - Low	Channel 14	9/153 (575	5 MHz). MO	CSO.			
	De	eviations	None										
	Co	omments	Bandwidth related to t				rection facto	r was appli	ied to any e	emissions a	s they were	not tempo	orally
Test :	Speci	fications						Test Meth	od				
FCC	15.407	7:2019	-					ANSI C63.		•			
D	un #	184	Tost Die	stance (m)	1 1	Antonn	a Height(s)		1.2 (m)		Results	Б	Pass
N	uii #	104	I est Dis	stance (III)	ı	Antenna	a neigiii(s)		1.2 (111)		Results		ass
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EIRP dBm/MHz	5								$\bot \bot$				
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					Polarity/								
		Eroa	Antonna Haisht	Transduces	Transducer	Detector	EIDD	EIDD	Spac Limit	Compared to		Commont	
		Freq (MHz)	Antenna Height (meters)	Transducer (dB)	Туре	Detector	EIRP (Watts/MHz)	EIRP (dBm/MHz)	Spec. Limit (dBm/MHz)	Spec. (dB)		Comments	,

All emissions were below the limit (see graph above).



											EmiR5 2019.05.20		PSA-ESCI 2019.05
	Wo	rk Order:		53		Date:	16-Ju			11			
		Project			Те	mperature:				4	46	7/-	
		Job Site				Humidity:							
,	Serial	Number			Barom	etric Pres.:	1017	mbar		Tested by:	Luis Flores,	Nolan De	Ramos
			MWMII										
		guration											
			Masimo Corpo	oration									
			Mike Tran										
	EU.	T Power:	3.6VDC										
O	peratir	ng Mode	Transmitting 8	302.11an	: U-NII-3	Band - High	Channel 15	57/161 (579	5 MHz). N	ICS0.			
	De	viations	None										
	Со	mments	Bandwidth 40 related to the				rection facto	r was appli	ed to any e	missions a	s they were n	ot tempoi	ally
Test	Specif	ications						Test Meth	od				
	15.407							ANSI C63.					
				, , ,									
R	un#	185	Test Distar	nce (m)	1	Antenna	a Height(s)		1.2 (m)		Results	Pa	ass
	45 —												
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	-35	0	5000		5200	54(5600		5800	6000		6200
	-35 -45 -55	0	5000		5200	540	00 MHz	5600		5800			
	-35 -45 -55	0	5000		5200	540		5600		5800	6000 PK	◆ AV	6200 • QP
	-35 -45 -55	0	5000		Polarity/	540		5600				◆ AV	
	-35 -45 -55				Polarity/ Transducer		MHz			Compared to	■ PK		
	-35 -45 -55	O Freq (MHz)		ransducer (dB)	Polarity/	540 Detector		5600 EIRP (dBm/MHz)	Spec. Limit (dBm/MHz)		■ PK	◆ AV Comments	

All emissions were below the limit (see graph above).



XMit 2019.05.15

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
Power Supply - DC	Agilent	E3648A	TPE	NCR	NCR
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPHS-32-3.5-SCT/AC	TBE	19-Nov-18	19-Nov-19
Thermometer	Omega Engineering, Inc.	HH311	DUC	8-Nov-17	8-Nov-20
Generator - Signal	Agilent	E8257D	TGU	15-Feb-18	15-Feb-21
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Attenuator	Fairview Microwave	SA18H-20	TKR	20-Dec-18	20-Dec-19
Block - DC	Fairview Microwave	SD3379	AMV	3-Jan-19	3-Jan-20
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAY	30-Nov-18	30-Nov-19

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 equipped with a precision frequency reference that exceeds the stability requirement of the EUT.

Measurements were made at the edges of the main transmit bands as called out on the data sheets. Testing was done with an absence of modulation in a CW mode of operation.

The primary supply voltage was varied from 85 % to 115% of the nominal voltage Using a temperature chamber, the transmit frequency was recorded at the extremes of the specified temperature range (-30 ° to +50 ° C) and at 10 °C intervals.

Where a ppm limit applies: ppm = (Measured Frequency / Measured Nominal Frequency - 1) * 1,000,000

Per the requirements of FCC 15.407:

"Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual."

No specific limits are provided in either FCC 15.407, the product specific rule part, or FCC 2.1055, the equipment authorization procedure for testing frequency stability. While there are no limits called out, any results less than 100ppm will still allow the radio to be operating within the band.



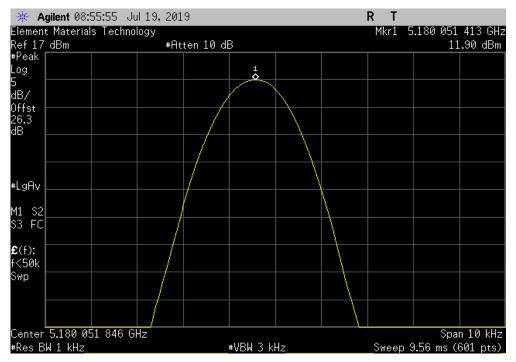
EUT: MWMII Serial Number: ENG-1 Work Order: MASI0553 Customer: Masimo Corporation Temperature: 23.6 °C Humidity: 48.1% RH Barometric Pres.: 1014 mba Project: None Tested by: Nolan De Ramos, Luis Flores, and Mark Baytan TEST SPECIFICATIONS Power: 3.6VDC Test Method Job Site: OC13 FCC 15.407:2019 COMMENTS Reference level offset: DC block + 20dB attenuator + coax cable + client provided patch cable = 26.3dB Total Offset (5.2 GHz - 5.35 GHz) Reference level offset: DC block + 20dB attenuator + coax cable + client provided patch cable = 26dB Total Offset (5.35 GHz - 5.8 GHz) **DEVIATIONS FROM TEST STANDARD** M+ G+ Configuration # 8 Measured Value (MHz) Assigned Value (MHz) Results (ppm) (ppm) 5150 MHz - 5250 MHz - Low Channel, 5180 MHz Voltage: 115% Voltage: 100% 5180.051413 5180 9.9 100 Pass 5180.051338 5180 9.9 100 Pass Voltage: 85% 5180 051496 5180 99 100 Pass 5180.176653 5180 100 Temperature: +85° 34.1 Pass Temperature: +80° 5180.153582 5180 29.7 100 Pass 5180 Temperature: +70° 5180.106181 20.5 100 Pass Temperature: +60° 5180.074135 5180 14.3 100 Pass 5180.05435 5180 10.5 Temperature: +50° Pass Temperature: +40° 5180 05203 5180 10 100 Pass 5180 11.5 100 Temperature: +30° 5180.059574 Pass Temperature: +20° 5180.070559 5180 13.6 100 Pass 5180.082877 5180 100 Pass Temperature: +10° 16 Temperature: 0° 5180 09269 5180 17 9 100 Pass Temperature: -10° 5180.097298 5180 18.8 100 Pass Temperature: -20 5180.093876 5180 18.1 100 Pass 5180 5180.080494 15.5 Temperature: -30° Pass 5250 MHz - 5350 MHz - High Channel, 5320 MHz Voltage: 115% 5320.053028 5320 10 100 Pass Voltage: 100% 5320 053028 5320 10 100 Pass 5320.052862 9.9 Voltage: 85% 5320 Pass Temperature: +85° 5320.187206 5320 35.2 100 Pass Temperature: +80° 5320.157457 5320 29.6 100 Pass Temperature: +70° 5320 108223 5320 20.3 100 Pass 5320.076358 5320 14.4 100 Pass Temperature: +60° Temperature: +50° 5320.055672 5320 10.5 100 Pass Temperature: +40° 5320.053279 5320 10 100 Pass 11.5 13.6 Temperature: +30° 5320.061037 5320 100 Pass 5320.072586 5320 100 Pass Temperature: +20° 15.9 17.9 Temperature: +10° 5320 084622 5320 100 Pass Temperature: 0° 5320.095205 5320 100 Pass Temperature: -10° 5320.09987 5320 18.8 100 Pass 5320.096761 5320 Temperature: -20° 18.2 100 Pass Temperature: -30 5320 074799 5320 14 1 Pass 5470 MHz - 5725 MHz - Low Channel, 5500 MHz Voltage: 115% Voltage: 100% 5500.054916 5500 10 100 Pass 5500.054682 9.9 5500 100 Pass Voltage: 85% Temperature: +85° 5500 5500 9.9 35 100 100 Pass Pass 5500.054632 5500.192256 Temperature: +80° 5500.16433 5500 29 9 100 Pass Temperature: +70° 5500.111262 5500 20.2 Pass Temperature: +60° 5500.078798 5500 14.3 100 Pass 5500.057554 5500 Pass Temperature: +50° 10.5 100 Temperature: +40° 5500 055217 5500 10 100 Pass 5500.063195 5500 100 Pass Temperature: +30° 11.5 Temperature: +20° 5500.07516 5500 13.7 100 Pass 5500.087699 16 Temperature: +10° 5500 100 Pass Temperature: 0° Temperature: -10° 5500.098733 5500 18 100 100 Pass 5500 18.8 5500.103354 Pass Temperature: -20° 5500 100151 5500 18.2 100 Pass 14.7 5500.080597 5500 Pass Temperature: -30° 100 5470 MHz - 5725 MHz - High Channel, 5700 MHz 5700.056929 10 100 Pass Voltage: 115% 5700 Voltage: 100% 5700 056596 5700 99 100 Pass 5700 Voltage: 85% 5700.056578 9.9 100 Pass Temperature: +85° 5700 202336 5700 35.5 100 Pass 5700 30 Temperature: +80° 5700.170906 100 Pass Temperature: +70° Temperature: +60° 20.3 14.4 100 100 Pass Pass 5700.115543 5700 5700 5700.081944 10.4 10 Temperature: +50° 5700.059468 5700 100 Pass 5700.057197 5700 Temperature: +40° 100 Pass Temperature: +30° 5700.065166 5700 11.4 100 Pass 5700.077773 5700 Pass 13.6 Temperature: +20° 100 Temperature: +10° 5700 09088 5700 15.9 100 Pass Temperature: 0° 5700.102228 5700 17.9 100 Pass 18.9 18.3 100 100 Temperature: -10° 5700 107594 5700 Pass 5700 Pass Temperature: -20° 5700.10403 Temperature: -30° 5725 MHz - 5850 MHz - High Channel, 5825 MHz 5700.085986 5700 15.1 100 Pass Voltage: 115% Voltage: 100% 5825 058369 5825 10 100 Pass 5825.058088 5825 10 Pass 100 Voltage: 85% 5825.057919 5825 9.9 100 Pass Temperature: +85° 5825.206183 5825 35.4 Pass 100 Temperature: +80° 5825 17286 5825 29 7 100 Pass Temperature: +70° 5825.11773 5825 20.2 100 Pass Temperature: +60° 5825 083504 5825 14.3 100 Pass 5825.06096 Pass Temperature: +50°

Temperature: +40°	5825.058462	5825	10	100	Pass
Temperature: +30°	5825.06689	5825	11.5	100	Pass
Temperature: +20°	5825.079594	5825	13.7	100	Pass
Temperature: +10°	5825.092597	5825	15.9	100	Pass
Temperature: 0°	5825.104579	5825	18	100	Pass
Temperature: -10°	5825.109372	5825	18.8	100	Pass
Temperature: -20°	5825.106225	5825	18.2	100	Pass
Temperature: -30°	5825.08848	5825	15.2	100	Pass

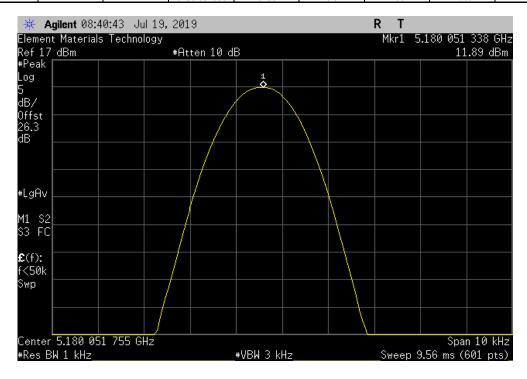


5150 MHz - 5250 MHz - Low Channel, 5180 MHz, Voltage: 115%

| Measured Assigned Error Limit
| Value (MHz) Value (MHz) (ppm) (ppm) Results
| 5180.051413 5180 9.9 100 Pass



	5150 MHz - 5250 MHz	z - Low Channel, 5	180 MHz, Voltage	e: 100%	
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	5180.051338	5180	9.9	100	Pass



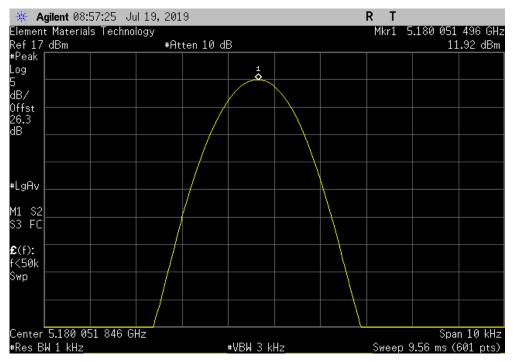


5150 MHz - 5250 MHz - Low Channel, 5180 MHz, Voltage: 85%

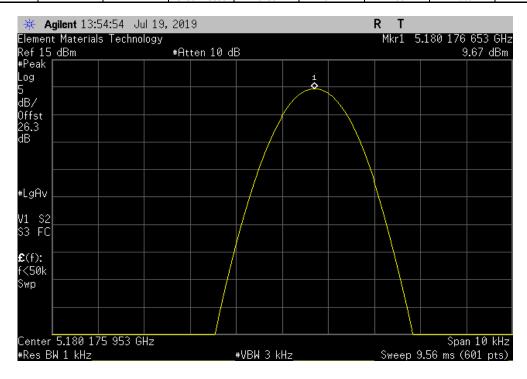
Measured Assigned Error Limit

Value (MHz) Value (MHz) (ppm) (ppm) Results

5180.051496 5180 9.9 100 Pass



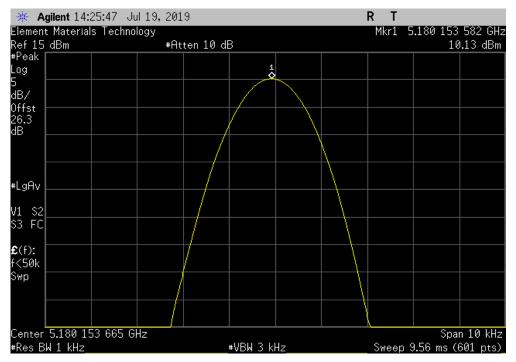
	5150 MHz	z - 5250 MHz - L	ow Channel, 5180	0 MHz, Temperat	ure: +85°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5180.176653	5180	34.1	100	Pass



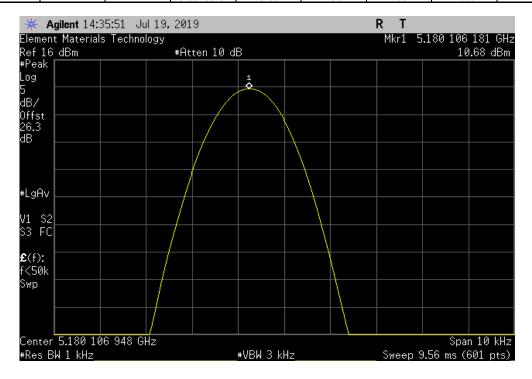


5150 MHz - 5250 MHz - Low Channel, 5180 MHz, Temperature: +80°

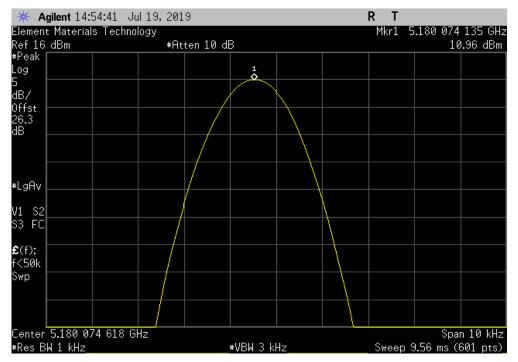
| Measured Assigned Error Limit
| Value (MHz) Value (MHz) (ppm) (ppm) Results
| 5180.153582 5180 29.7 100 Pass



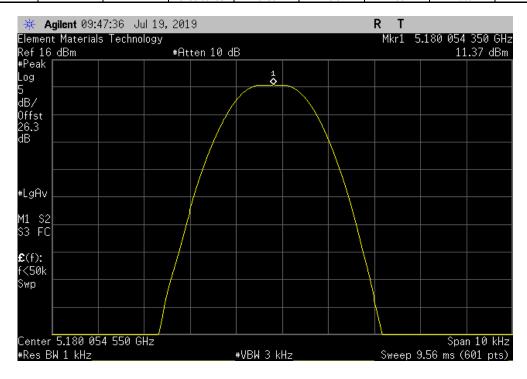
	5150 MHz	- 5250 MHz - L	ow Channel, 5180	0 MHz, Temperat	ure: +70°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
İ		5180.106181	5180	20.5	100	Pass



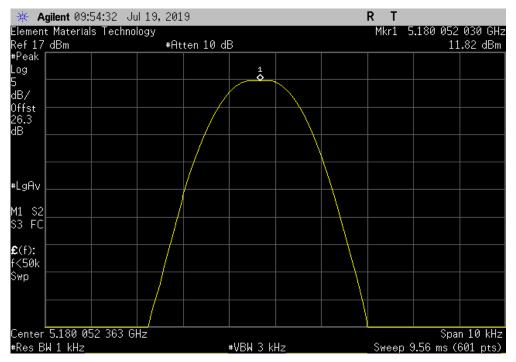




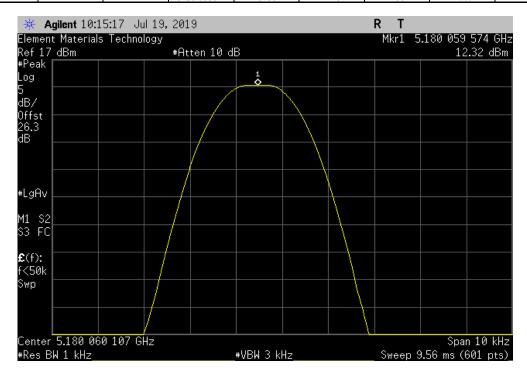
	5150 MHz	- 5250 MHz - Lo	ow Channel, 5180	0 MHz, Temperat	ure: +50°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5180.05435	5180	10.5	100	Pass







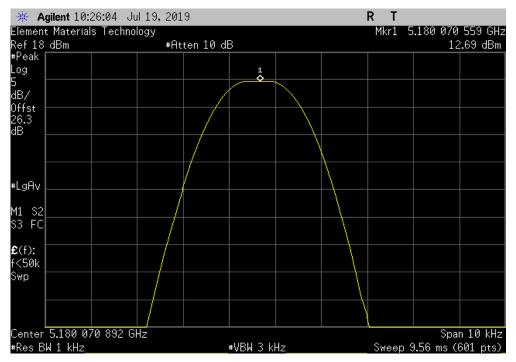
	5150 MH	z - 5250 MHz - Lo	ow Channel, 518	0 MHz, Temperat	ure: +30°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5180.059574	5180	11.5	100	Pass



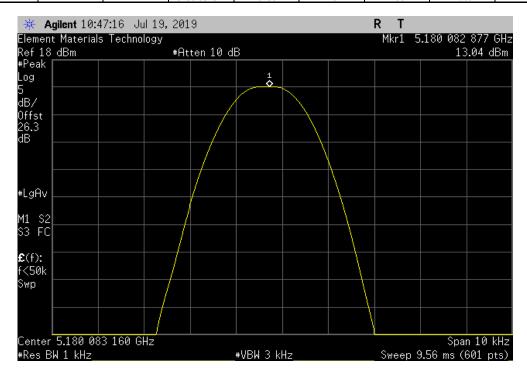


5150 MHz - 5250 MHz - Low Channel, 5180 MHz, Temperature: +20°

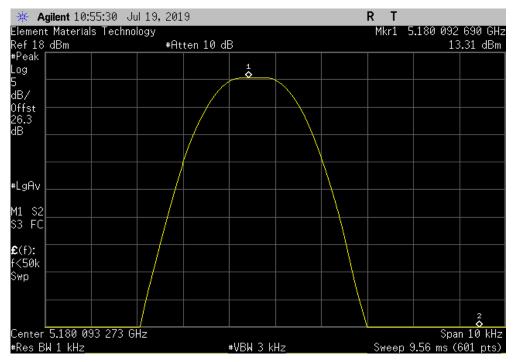
| Measured Assigned Error Limit
| Value (MHz) Value (MHz) (ppm) (ppm) Results
| 5180.070559 5180 13.6 100 Pass



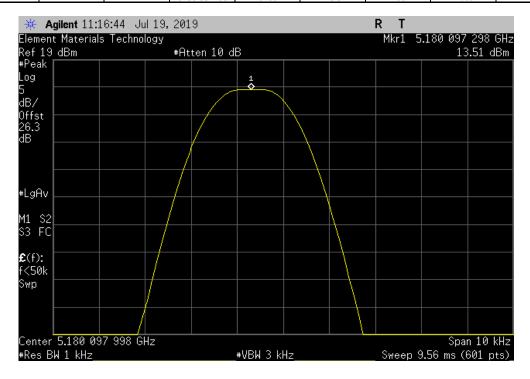
	5150 MH	z - 5250 MHz - L	ow Channel, 518	0 MHz, Temperat	ure: +10°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5180.082877	5180	16	100	Pass



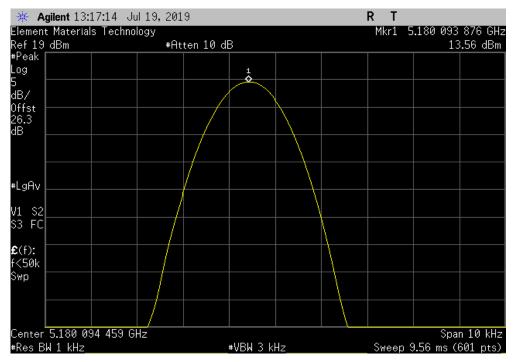




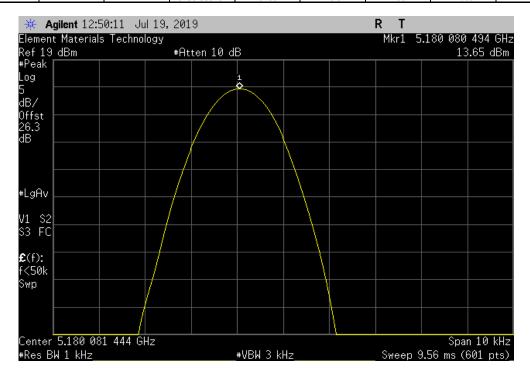
	5150 MH:	z - 5250 MHz - L	ow Channel, 518	0 MHz, Tempera	ture: -10°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
1		5180.097298	5180	18.8	100	Pass







	5150 MH	z - 5250 MHz - L	ow Channel, 518	0 MHz, Temperat	ture: -30°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5180.080494	5180	15.5	100	Pass



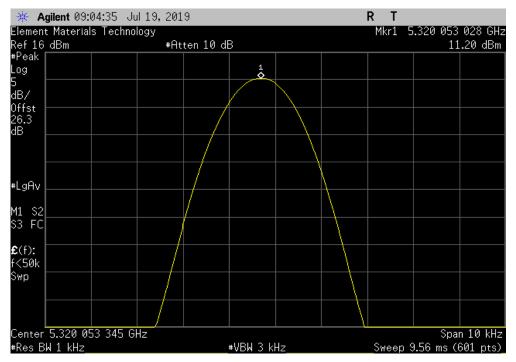


 5250 MHz - 5350 MHz - High Channel, 5320 MHz, Voltage: 115%

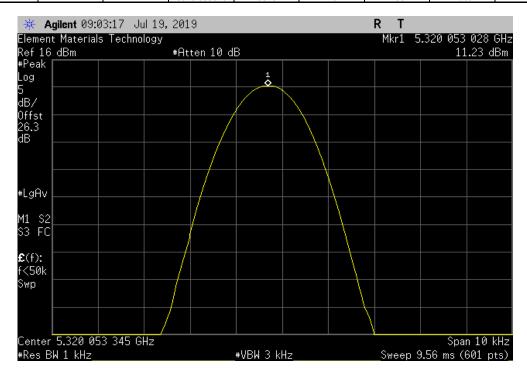
 Measured Assigned Error Limit

 Value (MHz)
 Value (MHz)
 (ppm)
 (ppm)
 Results

 5320.053028
 5320
 10
 100
 Pass



	5250 MHz - 5350 MHz	- High Channel, 5	320 MHz, Voltage	e: 100%	
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	5320.053028	5320	10	100	Pass



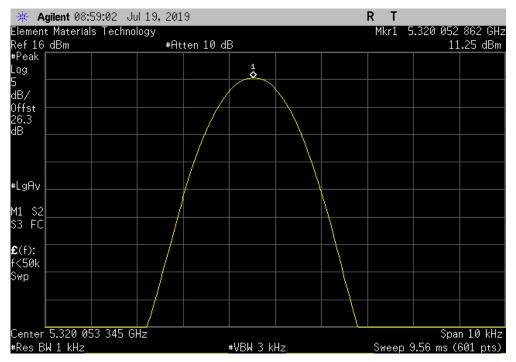


 5250 MHz - 5350 MHz - High Channel, 5320 MHz, Voltage: 85%

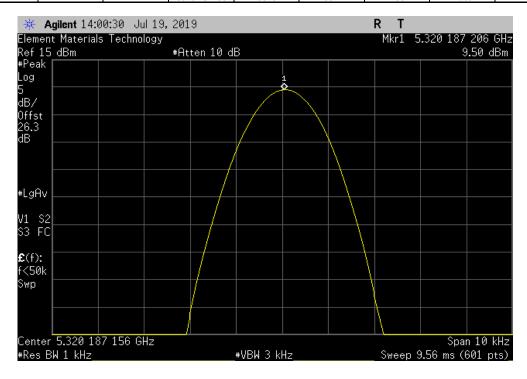
 Measured
 Assigned
 Error
 Limit

 Value (MHz)
 Value (MHz)
 (ppm)
 (ppm)
 Results

 5320.052862
 5320
 9.9
 100
 Pass



	5250 MH	z - 5350 MHz - H	igh Channel, 532	0 MHz, Temperat	ture: +85°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5320.187206	5320	35.2	100	Pass



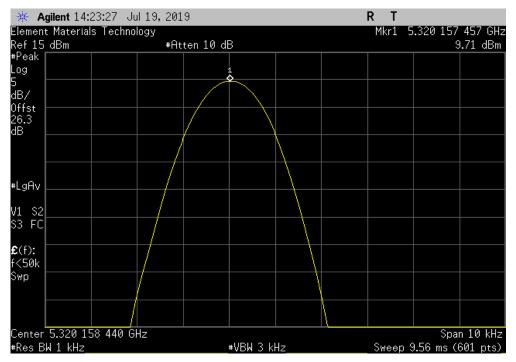


 5250 MHz - 5350 MHz - High Channel, 5320 MHz, Temperature: +80°

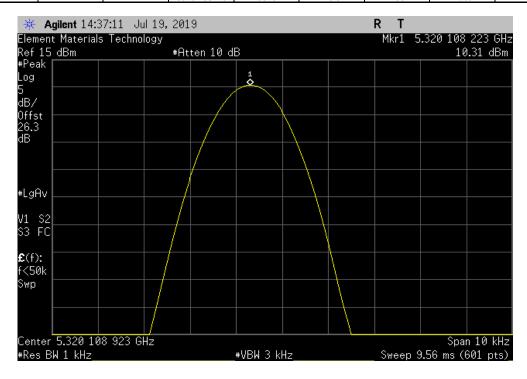
 Measured Assigned Error Limit

 Value (MHz)
 Value (MHz)
 (ppm)
 (ppm)
 Results

 5320.157457
 5320
 29.6
 100
 Pass



	5250 MHz	z - 5350 MHz - H	igh Channel, 532	0 MHz, Temperat	ture: +70°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5320.108223	5320	20.3	100	Pass



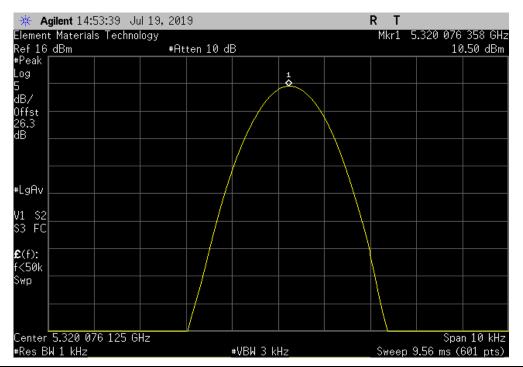


 5250 MHz - 5350 MHz - 5350 MHz - 5350 MHz - Fror

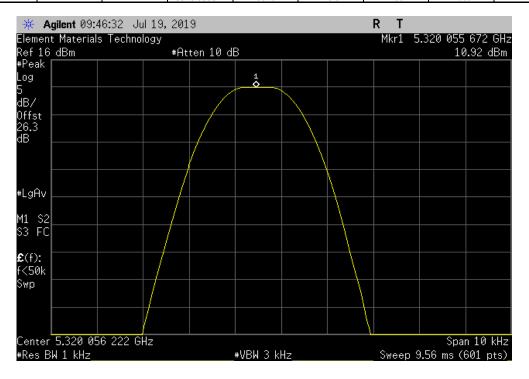
 Measured
 Assigned
 Error
 Limit

 Value (MHz)
 Value (MHz)
 (ppm)
 (ppm)
 Results

 5320.076358
 5320
 14.4
 100
 Pass



	5250 MHz - 5350 MHz - F	ligh Channel, 532	0 MHz, Tempera	ture: +50°	
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	5320.055672	5320	10.5	100	Pass



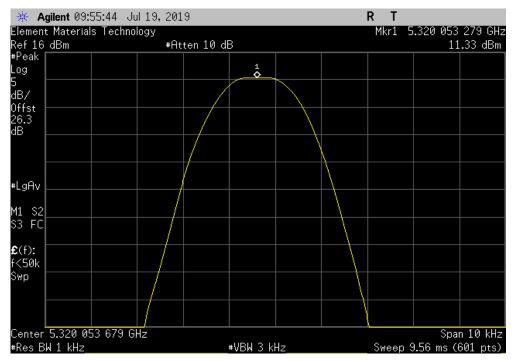


 5250 MHz - 5350 MHz - Fligh Channel, 5320 MHz, Temperature: +40°

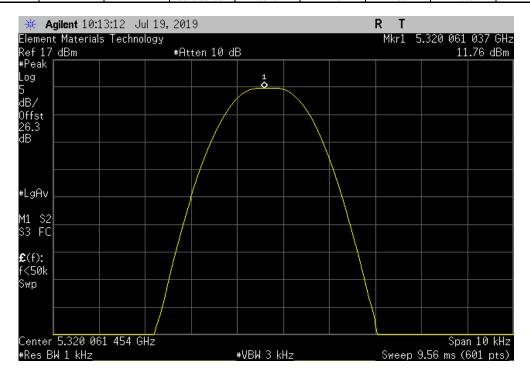
 Measured
 Assigned
 Error
 Limit

 Value (MHz)
 Value (MHz)
 (ppm)
 (ppm)
 Results

 5320.053279
 5320
 10
 100
 Pass



	5250 MH	z - 5350 MHz - H	igh Channel, 532	0 MHz, Temperat	ture: +30°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5320.061037	5320	11.5	100	Pass



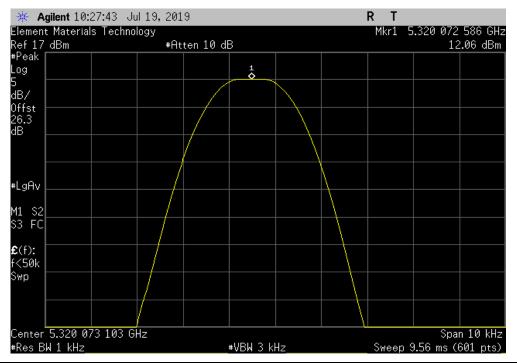


 5250 MHz - 5350 MHz - 16gh Channel, 5320 MHz, Temperature: +20°

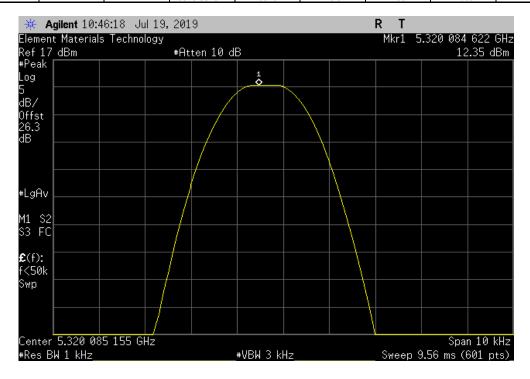
 Measured
 Assigned
 Error
 Limit

 Value (MHz)
 Value (MHz)
 (ppm)
 (ppm)
 Results

 5320.072586
 5320
 13.6
 100
 Pass



	5250 MHz - 5350 MHz - F	ligh Channel, 532	0 MHz, Tempera	ture: +10°	
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	5320.084622	5320	15.9	100	Pass



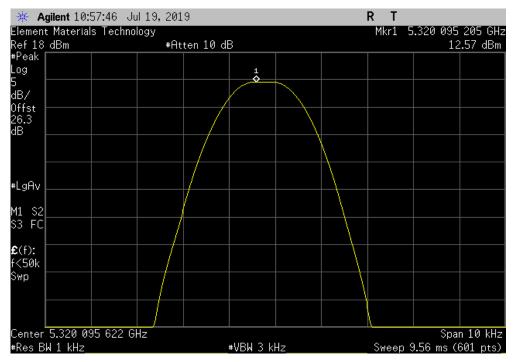


 5250 MHz - 5350 MHz - High Channel, 5320 MHz, Temperature: 0°

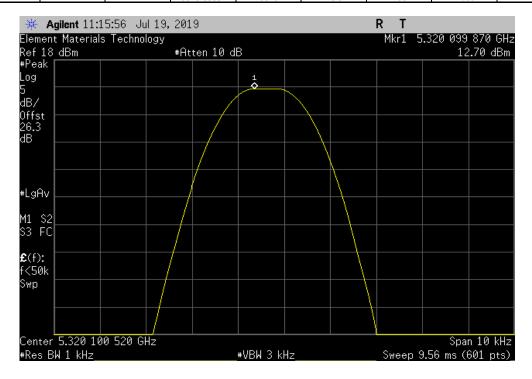
 Measured
 Assigned
 Error
 Limit

 Value (MHz)
 Value (MHz)
 (ppm)
 (ppm)
 Results

 5320.095205
 5320
 17.9
 100
 Pass



	5250 MH	z - 5350 MHz - H	ligh Channel, 532	0 MHz, Tempera	ture: -10°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5320.09987	5320	18.8	100	Pass



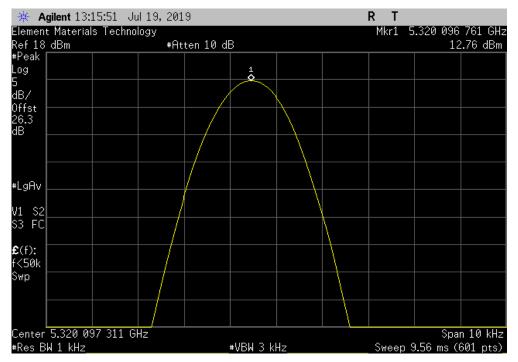


 5250 MHz - 5350 MHz - 16gh Channel, 5320 MHz, Temperature: -20°

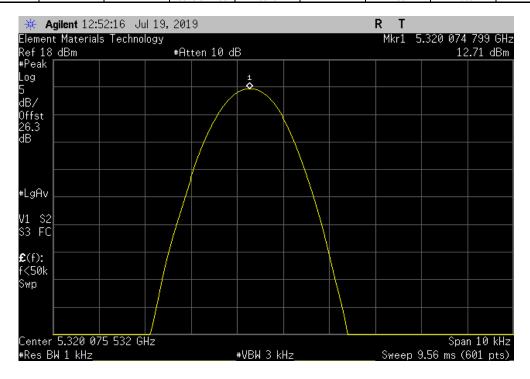
 Measured
 Assigned
 Error
 Limit

 Value (MHz)
 Value (MHz)
 (ppm)
 (ppm)
 Results

 5320.096761
 5320
 18.2
 100
 Pass



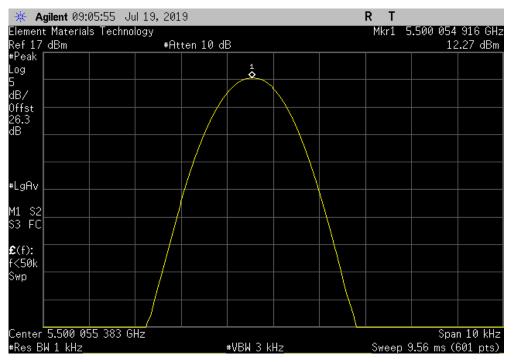
	5250 MH	z - 5350 MHz - H	igh Channel, 532	0 MHz, Tempera	ture: -30°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
1		5320.074799	5320	14.1	100	Pass



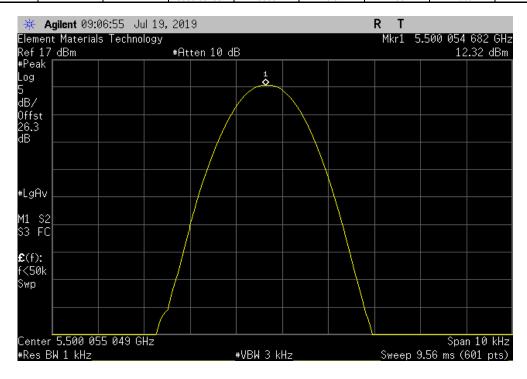


5470 MHz - 5725 MHz - Low Channel, 5500 MHz, Voltage: 115%

| Measured Assigned Error Limit
| Value (MHz) Value (MHz) (ppm) (ppm) Results
| 5500.054916 5500 10 100 Pass



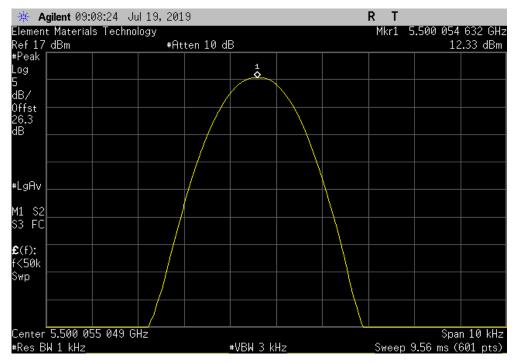
5470 MHz - 5725 MHz - Low Channel, 5500 MHz, Voltage: 100%									
		Measured	Assigned	Error	Limit				
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results			
		5500.054682	5500	9.9	100	Pass			



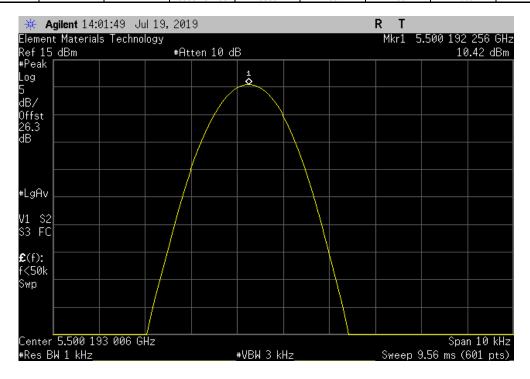


5470 MHz - 5725 MHz - Low Channel, 5500 MHz, Voltage: 85%

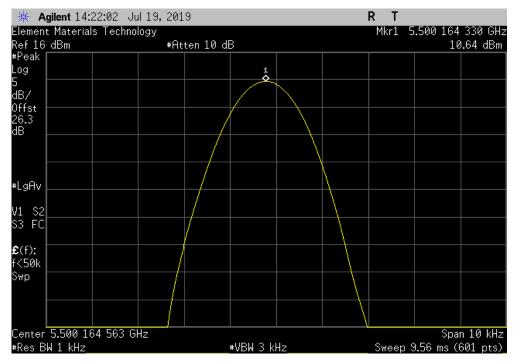
| Measured Assigned Error Limit
| Value (MHz) Value (MHz) (ppm) (ppm) Results
| 5500.054632 | 5500 | 9.9 | 100 | Pass



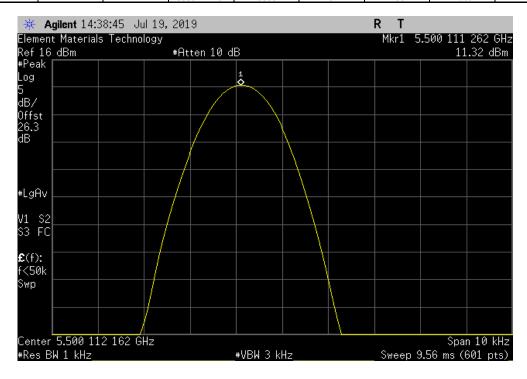
5470 MHz - 5725 MHz - Low Channel, 5500 MHz, Temperature: +85°									
			Measured	Assigned	Error	Limit			
			Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results		
			5500.192256	5500	35	100	Pass		



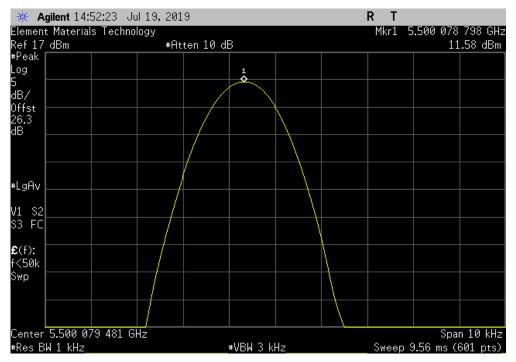




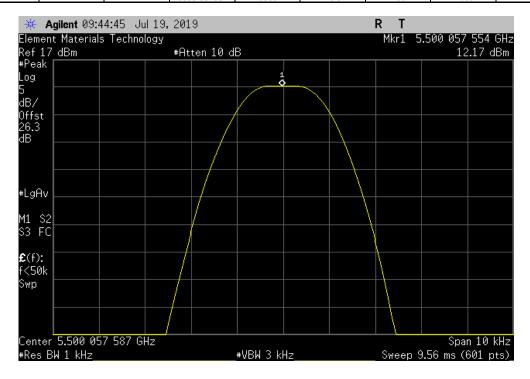
	5470 MHz	z - 5725 MHz - Lo	ow Channel, 5500	0 MHz, Temperat	ure: +70°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5500.111262	5500	20.2	100	Pass



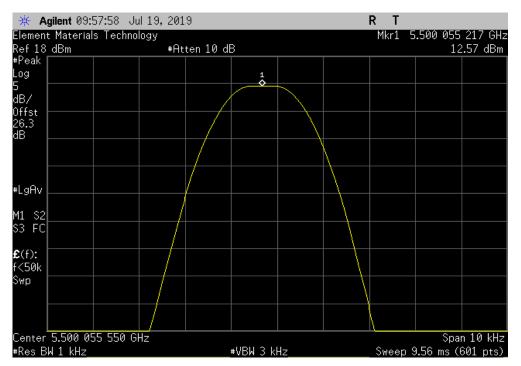




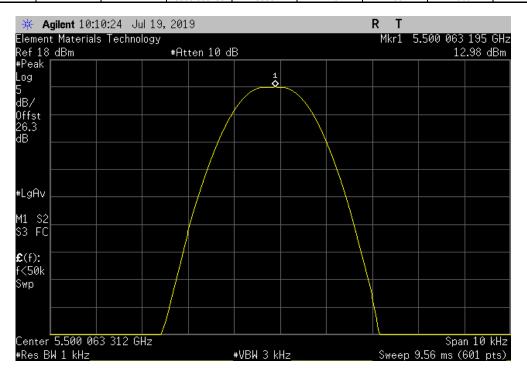
	5470 MHz	z - 5725 MHz - Lo	ow Channel, 5500) MHz, Temperat	ure: +50°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5500.057554	5500	10.5	100	Pass







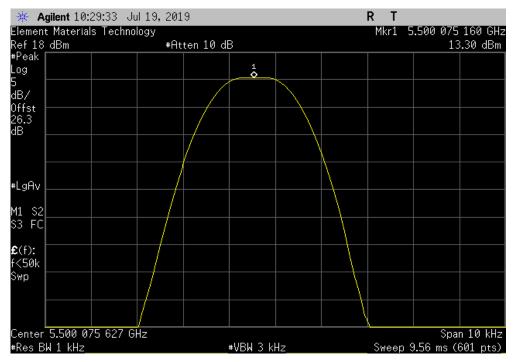
	5470 MH	z - 5725 MHz - Lo	ow Channel, 550	0 MHz, Temperat	ure: +30°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5500.063195	5500	11.5	100	Pass



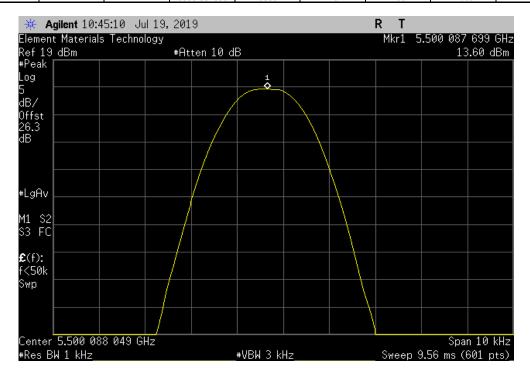


5470 MHz - 5725 MHz - Low Channel, 5500 MHz, Temperature: +20°

| Measured Assigned Error Limit
| Value (MHz) Value (MHz) (ppm) (ppm) Results
| 5500.07516 5500 13.7 100 Pass



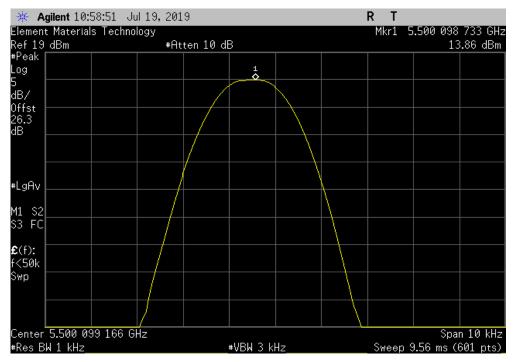
	5470 MH	z - 5725 MHz - Lo	ow Channel, 5500	0 MHz, Temperat	ure: +10°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5500.087699	5500	16	100	Pass



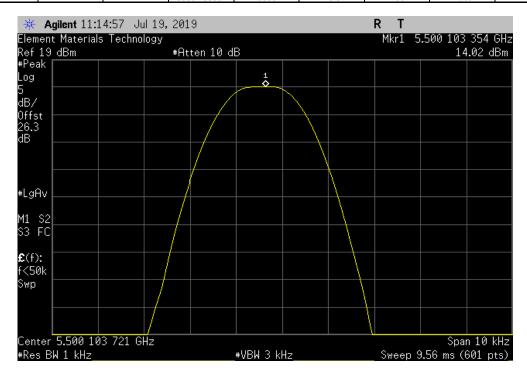


5470 MHz - 5725 MHz - Low Channel, 5500 MHz, Temperature: 0°

| Measured Assigned Error Limit
| Value (MHz) Value (MHz) (ppm) (ppm) Results
| 5500.098733 | 5500 | 18 | 100 | Pass



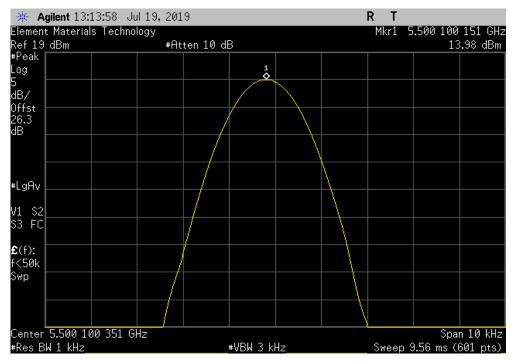
	5470 MHz	z - 5725 MHz - L	ow Channel, 550	0 MHz, Tempera	ture: -10°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5500.103354	5500	18.8	100	Pass



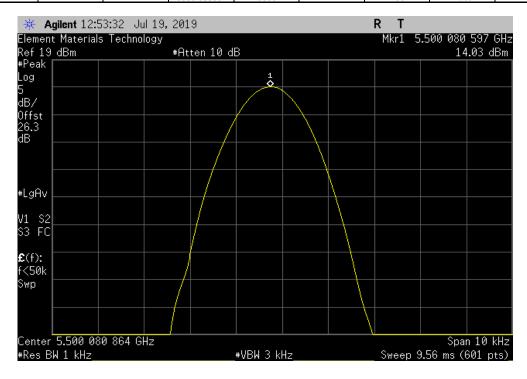


5470 MHz - 5725 MHz - Low Channel, 5500 MHz, Temperature: -20°

| Measured Assigned Error Limit
| Value (MHz) Value (MHz) (ppm) (ppm) Results
| 5500.100151 5500 18.2 100 Pass



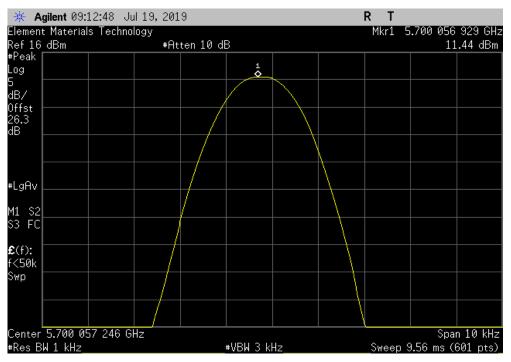
	5470 MHz - 57	'25 MHz - L	ow Channel, 550	0 MHz, Tempera	ture: -30°	
	Me	easured	Assigned	Error	Limit	
	Val	ue (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	550	0.080597	5500	14.7	100	Pass



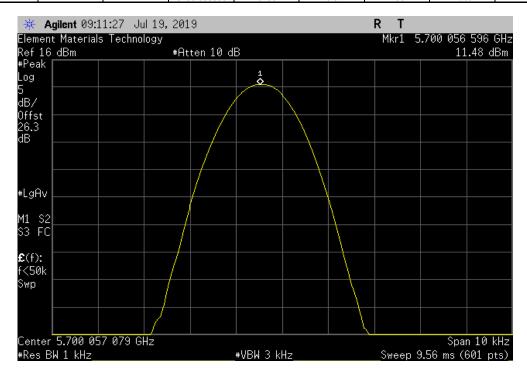


5470 MHz - 5725 MHz - High Channel, 5700 MHz, Voltage: 115%

| Measured Assigned Error Limit
| Value (MHz) Value (MHz) (ppm) (ppm) Results
| 5700.056929 5700 10 100 Pass



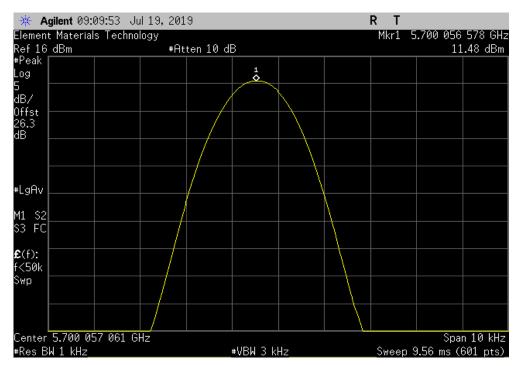
	5470 MHz - 5725 MF	lz - High Channel, 5	700 MHz, Voltag	je: 100%	
	Measured	Assigned	Error	Limit	
	Value (MH:	z) Value (MHz)	(ppm)	(ppm)	Results
	5700.05659	6 5700	9.9	100	Pass



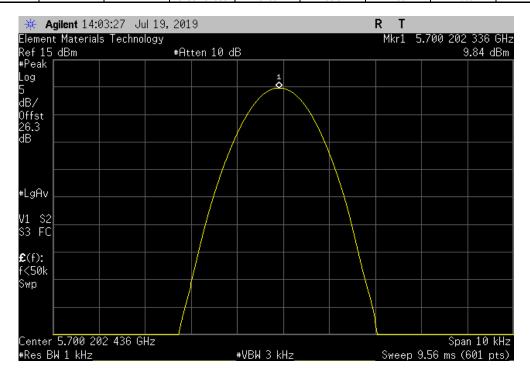


5470 MHz - 5725 MHz - High Channel, 5700 MHz, Voltage: 85%

| Measured Assigned Error Limit
| Value (MHz) Value (MHz) (ppm) (ppm) Results
| 5700.056578 5700 9.9 100 Pass



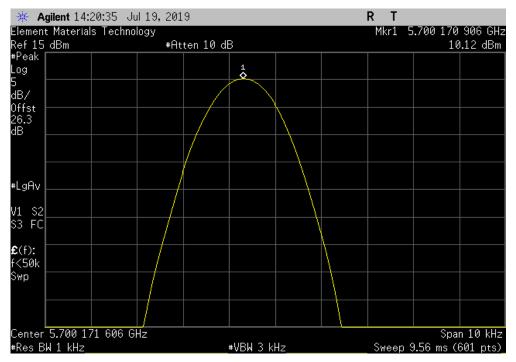
	5470 MH	z - 5725 MHz - H	igh Channel, 570	0 MHz, Temperat	ture: +85°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5700.202336	5700	35.5	100	Pass



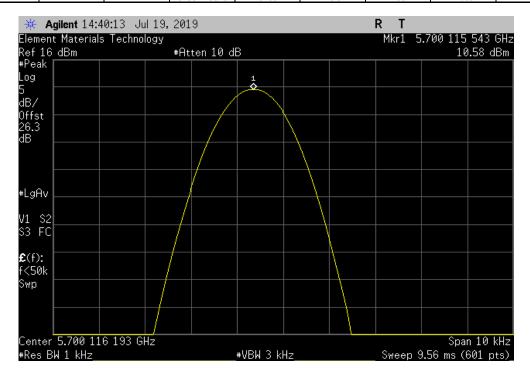


5470 MHz - 5725 MHz - High Channel, 5700 MHz, Temperature: +80°

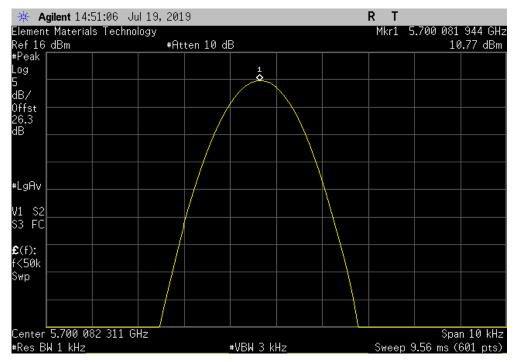
| Measured Assigned Error Limit
| Value (MHz) Value (MHz) (ppm) (ppm) Results
| 5700.170906 5700 30 100 Pass



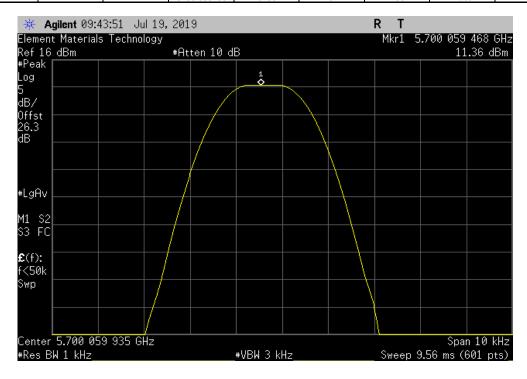
	5470 MH	z - 5725 MHz - H	igh Channel, 570	0 MHz, Tempera	ture: +70°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5700.115543	5700	20.3	100	Pass



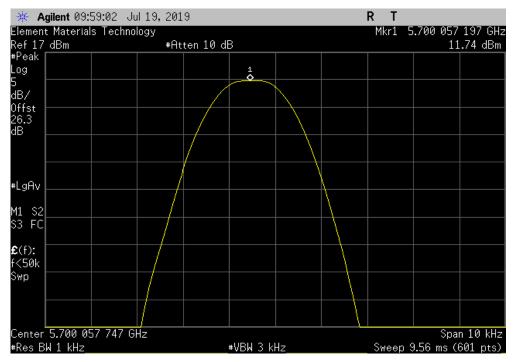




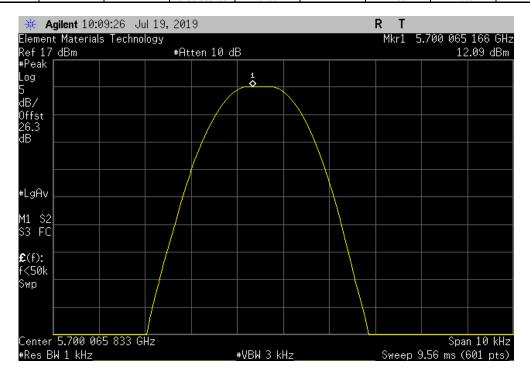
	5470 MHz	z - 5725 MHz - H	igh Channel, 570	0 MHz, Temperat	ture: +50°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		5700.059468	5700	10.4	100	Pass



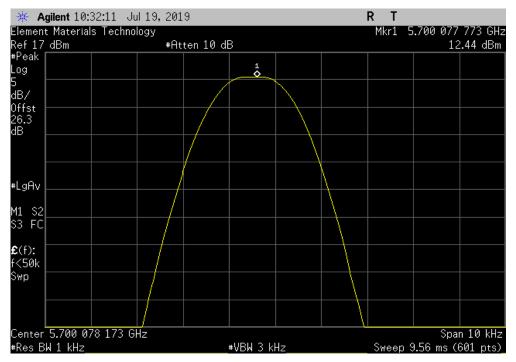




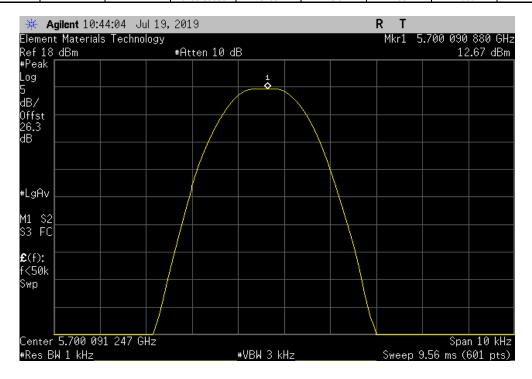
	5470 MH	z - 5725 MHz - H	igh Channel, 570	0 MHz, Temperat	ture: +30°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5700.065166	5700	11.4	100	Pass



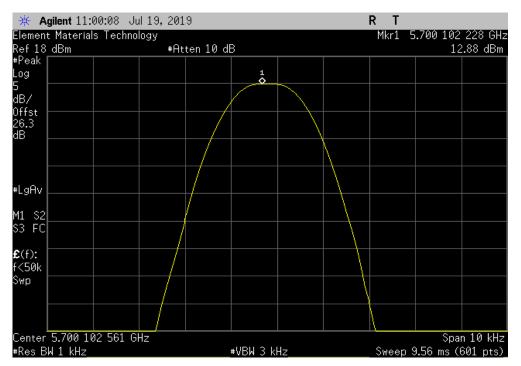




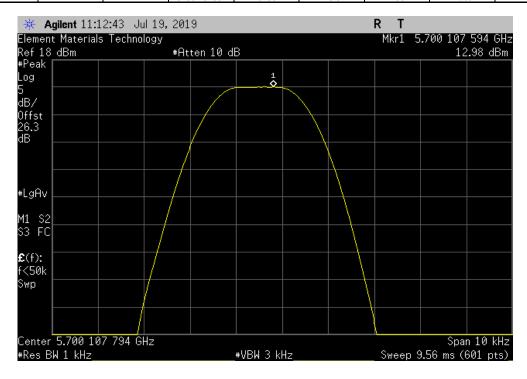
	5470 MHz	z - 5725 MHz - H	igh Channel, 570	0 MHz, Temperat	ture: +10°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		5700.09088	5700	15.9	100	Pass



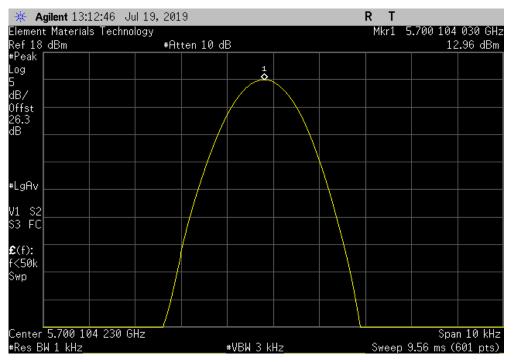




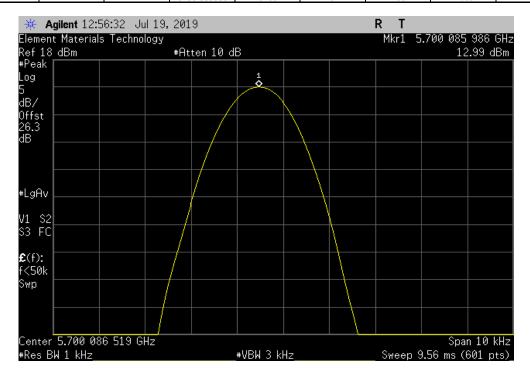
	5470 MH:	z - 5725 MHz - H	ligh Channel, 570	0 MHz, Tempera	ture: -10°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5700.107594	5700	18.9	100	Pass



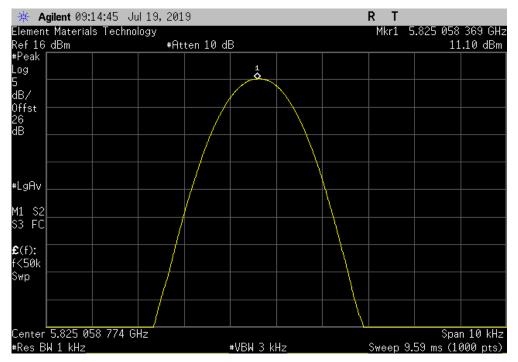




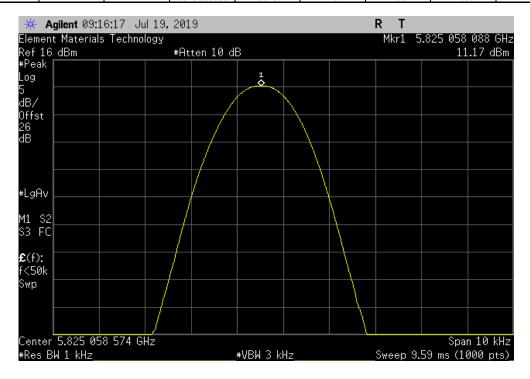
5470 MHz - 5725 MHz - High Channel, 5700 MHz, Temperature: -30°								
		Measured	Assigned	Error	Limit			
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results		
		5700.085986	5700	15.1	100	Pass		







5725 MHz - 5850 MHz - High Channel, 5825 MHz, Voltage: 100%								
	Measured	Assigned	Error	Limit				
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results			
	5825.058088	5825	10	100	Pass			



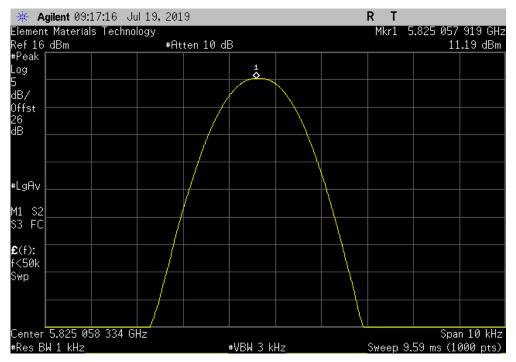


5725 MHz - 5850 MHz - High Channel, 5825 MHz, Voltage: 85%

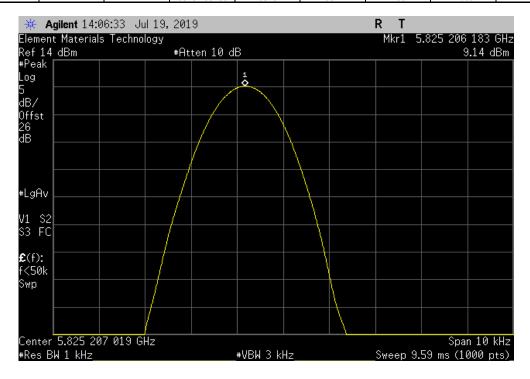
Measured Assigned Error Limit

Value (MHz) Value (MHz) (ppm) (ppm) Results

5825.057919 5825 9.9 100 Pass



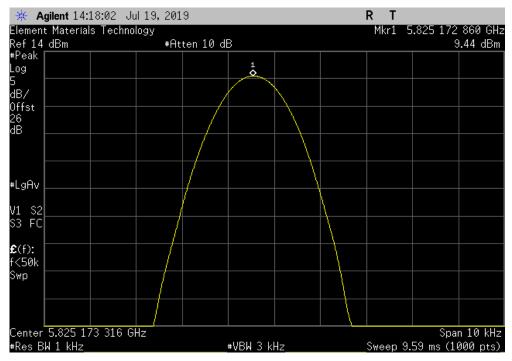
	5725 MHz - 5850 MHz - High Channel, 5825 MHz, Temperature: +85°								
			Measured	Assigned	Error	Limit			
			Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results		
i			5825.206183	5825	35.4	100	Pass		



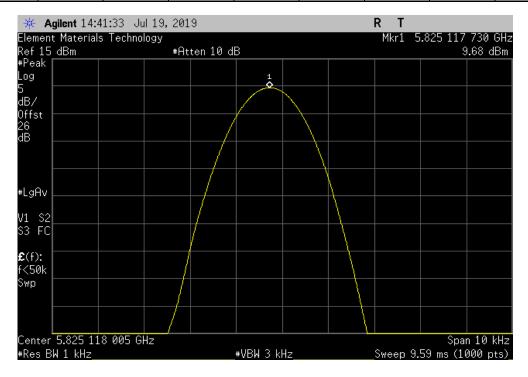


5725 MHz - 5850 MHz - High Channel, 5825 MHz, Temperature: +80°

| Measured Assigned Error Limit
| Value (MHz) Value (MHz) (ppm) (ppm) Results
| 5825.17286 5825 29.7 100 Pass



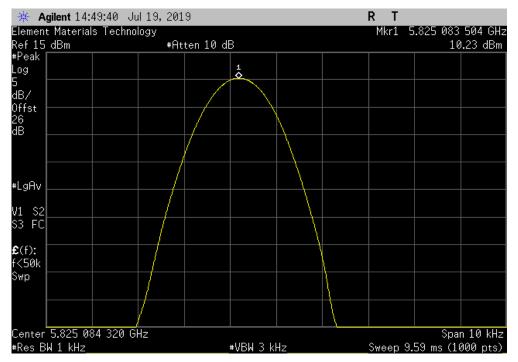
	5725 MH	z - 5850 MHz - H	igh Channel, 582	5 MHz, Temperat	ure: +70°	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		5825.11773	5825	20.2	100	Pass



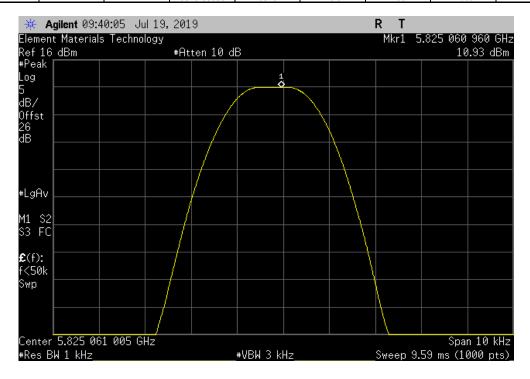


5725 MHz - 5850 MHz - High Channel, 5825 MHz, Temperature: +60°

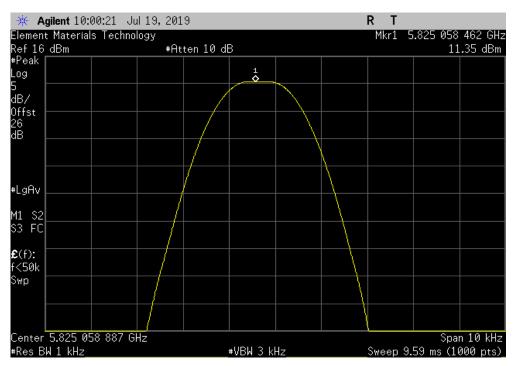
| Measured Assigned Error Limit
| Value (MHz) Value (MHz) (ppm) (ppm) Results
| 5825.083504 5825 14.3 100 Pass



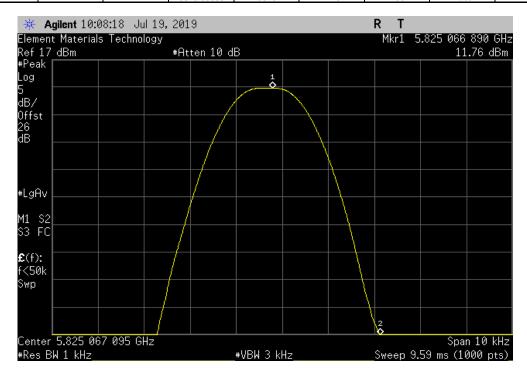
5725 MHz - 5850 MHz - High Channel, 5825 MHz, Temperature: +50°								
		Measured	Assigned	Error	Limit			
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results		
		5825.06096	5825	10.5	100	Pass		



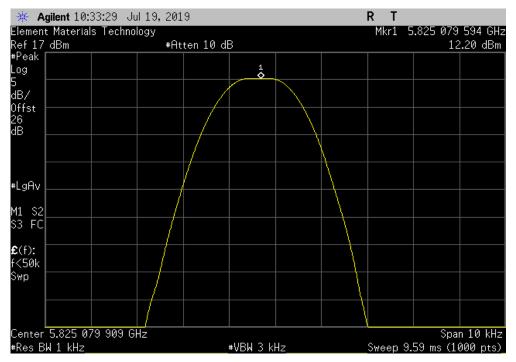




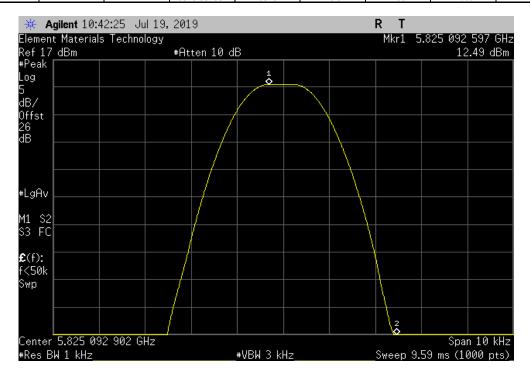
5725 MHz - 5850 MHz - High Channel, 5825 MHz, Temperature: +30°								
		Measured	Assigned	Error	Limit			
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results		
		5825.06689	5825	11.5	100	Pass		







5725 MHz - 5850 MHz - High Channel, 5825 MHz, Temperature: +10°								
		Measured	Assigned	Error	Limit			
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results		
		5825.092597	5825	15.9	100	Pass		



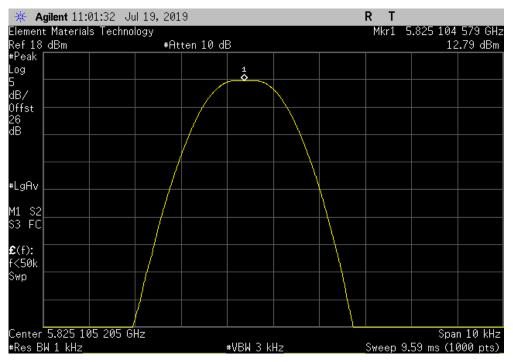


5725 MHz - 5850 MHz - High Channel, 5825 MHz, Temperature: 0°

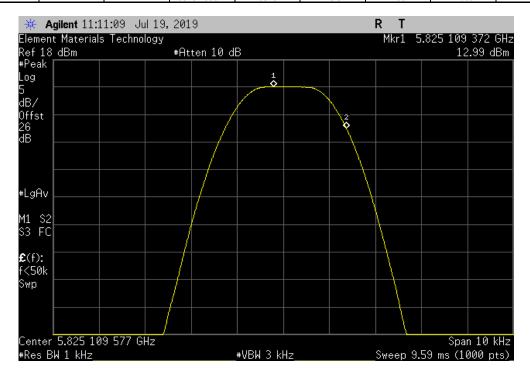
Measured Assigned Error Limit

Value (MHz) Value (MHz) (ppm) (ppm) Results

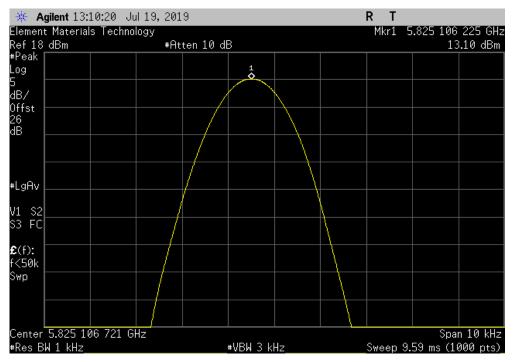
5825.104579 5825 18 100 Pass



5725 MHz - 5850 MHz - High Channel, 5825 MHz, Temperature: -10°								
		Measured	Assigned	Error	Limit			
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results		
		5825.109372	5825	18.8	100	Pass		







5725 MHz - 5850 MHz - High Channel, 5825 MHz, Temperature: -30°								
		Measured	Assigned	Error	Limit			
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results		
		5825.08848	5825	15.2	100	Pass		

