

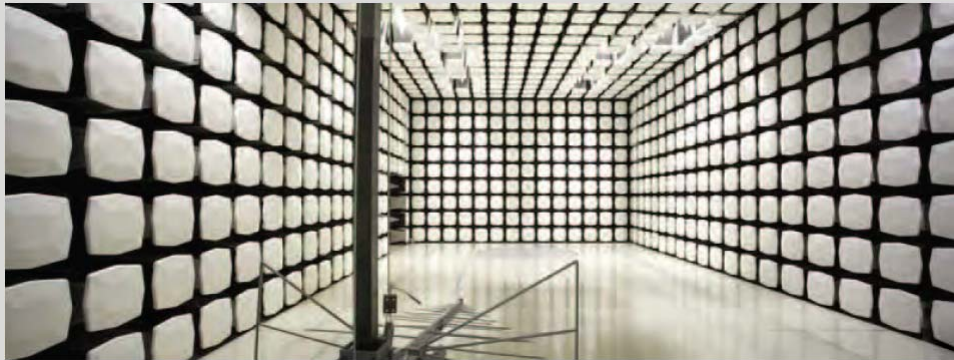


Nonin Medical, Inc.

X-100 System

FCC 15.247:2012

Report #: NONN0078



Report Prepared By Northwest EMC Inc.

NORTHWEST EMC – (888) 364-2378 – www.nwemc.com

California – Minnesota – Oregon – New York – Washington

CERTIFICATE OF TEST

Last Date of Test: November 06, 2012
Nonin Medical, Inc.
Model: X-100 System

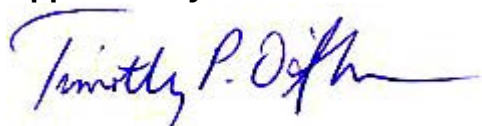
Emissions

Test Description	Specification	Test Method	Pass/Fail
Spurious Emissions	FCC 15.247:2012	ANSI C63.10:2009	Pass

Deviations From Test Standards

None

Approved By:



Tim O'Shea, Operations Manager



NVLAP Lab Code: 200881-0

Test Facility

The measurement facility used to collect the data is located at:

Northwest EMC, Inc.
9349 W Broadway Ave.
Brooklyn Park, MN 55445

Phone: (763) 425-2281 Fax: (763) 424-3469

This site has been fully described in a report filed with and accepted by the FCC (Federal Communications Commission) and Industry Canada (Site filing #2834E-1).

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America.

Product compliance is the responsibility of the client, therefore the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. This Report may only be duplicated in its entirety. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test.

REVISION HISTORY

Revision Number	Description	Date	Page Number
00	None		

Barometric Pressure

The recorded barometric pressure has been normalized to sea level.

United States

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

A2LA - Accredited by A2LA to ISO / IEC Guide 65 as a product certifier. This allows Northwest EMC to certify transmitters to FCC and IC specifications.

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

Canada

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

European Union

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

Australia/New Zealand

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

Korea

KCC / 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.

Hong Kong

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

Vietnam

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

Russia

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

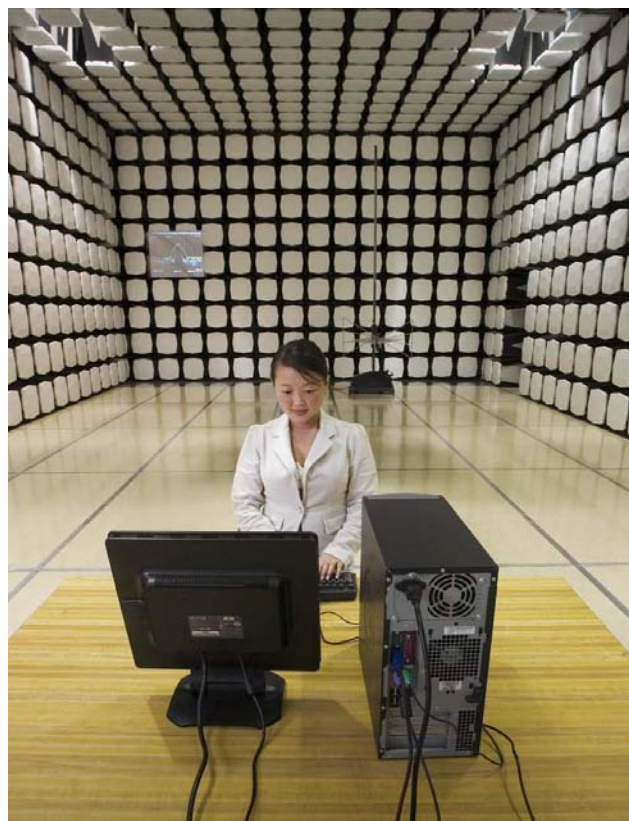
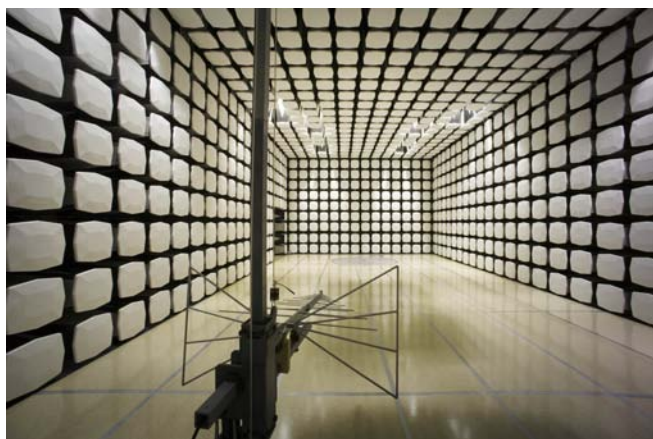
SCOPE

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

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



Oregon Labs EV01-EV12 22975 NW Evergreen Pkwy, #400 Hillsboro, OR 97124 (503) 844-4066	California Labs OC01-OC13 41 Tesla Irvine, CA 92618 (949) 861-8918	New York Labs WA01-WA04 4939 Jordan Rd. Elbridge, NY 13060 (315) 685-0796	Minnesota Labs MN01-MN08 9349 W Broadway Ave. Brooklyn Park, MN 55445 (763) 425-2281	Washington Labs SU01-SU07 14128 339 th Ave. SE Sultan, WA 98294 (360) 793-8675
VCCI				
A-0108	A-0029		A-0109	A-0110
Industry Canada				
2834D-1, 2834D-2	2834B-1, 2834B-2, 2834B-3		2834E-1	2834C-1





PRODUCT DESCRIPTION

Client and Equipment Under Test (EUT) Information

Company Name:	Nonin Medical, Inc.
Address:	13700 1st Avenue North
City, State, Zip:	Plymouth, MN 55441-5443
Test Requested By:	Brodie Pedersen
Model:	X-100 System
First Date of Test:	November 06, 2012
Last Date of Test:	November 06, 2012
Receipt Date of Samples:	November 06, 2012
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT (Equipment Under Test):
Pulse Oximetry
Testing Objective:
To demonstrate compliance of the spurious emissions to FCC Part 15.247 specifications. Other requirements apply that were not evaluated as part of this testing effort.

Configuration NONN0078- 1

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Monitor	Nonin Medical, Inc.	X-100M/8366-001	RD15672

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Hub	Nonin Medical, Inc.	X-100H/8516-001	RD15600
Signal Processor	Nonin Medical, Inc.	X-100SP-1/8422-001	RD15560
Signal Processor	Nonin Medical, Inc.	X-100SP-2/8422-002	RD15569
Signal Processor	Nonin Medical, Inc.	X-100SP-3/8422-003	RD15574
Signal Processor	Nonin Medical, Inc.	X-100SP-4/8422-004	RD15583
Signal Processor	Nonin Medical, Inc.	X-100SP-5/8422-005	RD15590
Signal Processor	Nonin Medical, Inc.	X-100SP-6/8422-006	RD15594
Pulse Sensor 1	Nonin Medical, Inc.	8100SM/8533-002	Proto 1602
Regional Sensor 2	Nonin Medical, Inc.	8004CB/7917-001	22649
Regional Sensor 3	Nonin Medical, Inc.	8004CB-NA/8766-001	27682
Regional Sensor 4	Nonin Medical, Inc.	8004CB-NA/8766-001	27682
Regional Sensor 5	Nonin Medical, Inc.	8004CA/7914-001	27692
Regional Sensor 6	Nonin Medical, Inc.	8004CB/7917-001	22649
Medical Power Supply	PEI-Genesis	MPP30M-005/8140-005	3512P
Regional Phantom	Nonin Medical, Inc.	None/8017-002	501333810
Regional Phantom	Nonin Medical, Inc.	None/8017-002	501211003
Regional Phantom	Nonin Medical, Inc.	None/8017-002	501333809
Regional Phantom	Nonin Medical, Inc.	None/8017-002	501333808
Regional Phantom	Nonin Medical, Inc.	None/8017-002	501333807
Burn-In Simulator	Nonin Medical, Inc.	None/2107-000	RD11799
Extension Cables (x6)	Nonin Medical, Inc.	X-100EC2/8445-002	636061

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power Cable	Yes	2.0m	No	AC Mains	Medical Power Supply
DC Power Cable	Yes	2.0m	Yes	Medical Power Supply	X-100M
Null Modem Cable	Yes	3.0m	No	X-100M	Terminated
Nursecall Cable	Yes	2.0m	No	X-100M	Unterminated
Pulse Sensor 1 Cable	Yes	0.40m	No	X-100SP-1	Pulse Sensor 1
Regional Sensor 2 Cable	Yes	0.40m	No	X-100SP-2 Cable	Regional Sensor 2
Regional Sensor 3 Cable	Yes	0.40m	No	X-100SP-3 Cable	Regional Sensor 3
Regional Sensor 4 Cable	Yes	0.40m	No	X-100SP-4 Cable	Regional Sensor 4
Regional Sensor 5 Cable	Yes	0.40m	No	X-100SP-5 Cable	Regional Sensor 5
Regional Sensor 6 Cable	Yes	0.40m	No	X-100SP-6 Cable	Regional Sensor 6
X-100SP-1 Cable	Yes	0.74m	No	X-100EC	X-100SP-1
X-100SP-2 Cable	Yes	0.74m	No	X-100EC	X-100SP-2
X-100SP-3 Cable	Yes	0.74m	No	X-100EC	X-100SP-3
X-100SP-4 Cable	Yes	0.74m	No	X-100EC	X-100SP-4
X-100SP-5 Cable	Yes	0.74m	No	X-100EC	X-100SP-5
X-100SP-6 Cable	Yes	0.74m	No	X-100EC	X-100SP-6
X-100EC Cable (x6)	Yes	2.0m	No	X-100H	X-100SP Cable
X-100H Cable	Yes	4.0m	No	X-100M	X-100H
*PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	11/6/2012	Spurious Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

Spurious Emissions

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

MODES OF OPERATION

Transmitting Low (2402 MHz), Mid(2440 MHz), High(2480 MHz). DH5, 2DH5, 3DH5.

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

NONN0078 - 1

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	26 GHz
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SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4446A	AAT	6/28/2012	12 mo
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	10/5/2012	12 mo
MN05 Cables	N/A	18-26GHz Standard Gain Horn Cable	MNP	10/5/2012	12 mo
Antenna, Horn	ETS	3160-09	AHG	NCR	0 mo
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVW	5/30/2012	12 mo
Antenna, Horn	ETS Lindgren	3160-08	AIQ	NCR	0 mo
MN05 Cables	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	5/30/2012	12 mo
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	5/30/2012	12 mo
Antenna, Horn	ETS	3160-07	AXP	NCR	0 mo
Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVX	5/30/2012	12 mo
MN05 Cables	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	5/30/2012	12 mo
Antenna, Bilog	Teseq	CBL 6141B	AYD	12/19/2011	12 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

TEST DESCRIPTION

The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization. A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.



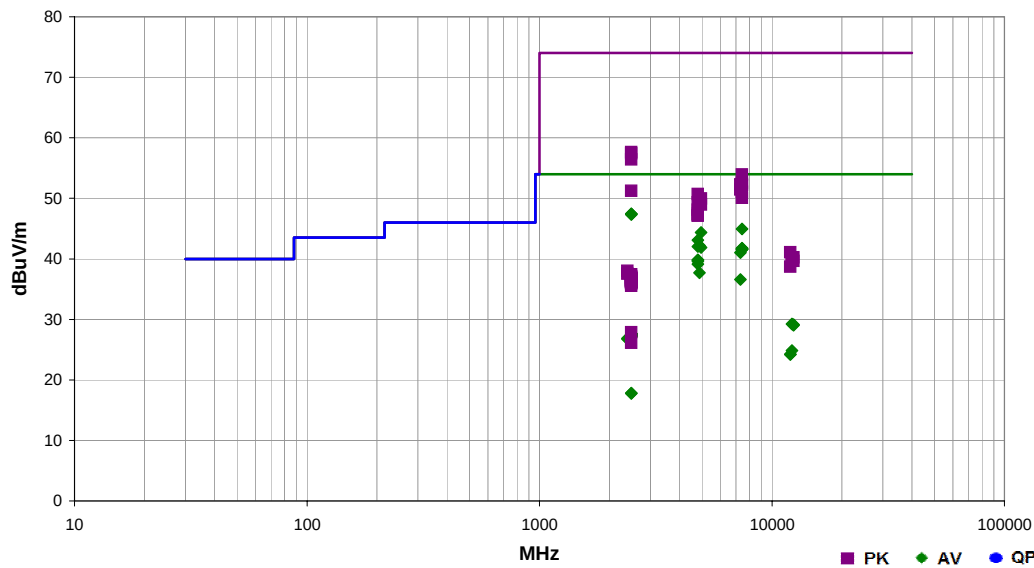
Spurious Emissions

PSA-ESCI 2012.09.25
PSA-ESCI Version 2011.12.21

Work Order:	NONN0078	Date:	11/06/12	<i>Bryan Weller</i>
Project:	None	Temperature:	22.9 °C	
Job Site:	MN05	Humidity:	27.35% RH	
Serial Number:	RD15672	Barometric Pres.:	1008.3 mbar	
EUT:	X-100 System			Tested by: Bryan Weller
Configuration:	1			
Customer:	Nonin Medical, Inc			
Attendees:	Brodie Pedersen			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting Low (2402 MHz), Mid(2440 MHz), High(2480 MHz). DH5, 2DH5, 3DH5.			
Deviations:	None			
Comments:	None			

Test Specifications	Test Method
FCC 15.247:2012	ANSI C63.10:2009

Run #	6	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7440.013	32.3	12.6	1.1	323.0	3.0	0.0	Horz	AV	0.0	44.9	54.0	-9.1	High Channel 2480 MHz EUT Horizontal, DH5
4959.967	39.8	4.6	1.0	189.0	3.0	0.0	Horz	AV	0.0	44.4	54.0	-9.6	High Channel 2480 MHz EUT Horizontal, DH5
4804.020	39.1	4.0	1.0	151.0	3.0	0.0	Vert	AV	0.0	43.1	54.0	-10.9	Low Channel 2402 MHz EUT Vertical, DH5
4881.980	37.9	4.3	1.0	171.0	3.0	0.0	Vert	AV	0.0	42.2	54.0	-11.8	Mid Channel 2440 MHz EUT Vertical, DH5
4803.933	38.0	4.0	1.0	203.0	3.0	0.0	Horz	AV	0.0	42.0	54.0	-12.0	Low Channel 2402 MHz EUT Horizontal, DH5
4959.947	37.3	4.6	1.0	215.0	3.0	0.0	Vert	AV	0.0	41.9	54.0	-12.1	High Channel 2480 MHz EUT Vertical, DH5
7438.013	28.9	12.6	2.5	165.0	3.0	0.0	Vert	AV	0.0	41.5	54.0	-12.5	High Channel 2480 MHz EUT Vertical, DH5
7318.353	29.0	12.0	2.1	149.0	3.0	0.0	Vert	AV	0.0	41.0	54.0	-13.0	Mid Channel 2440 MHz EUT Vertical, DH5
4804.033	35.8	4.0	1.0	174.0	3.0	0.0	Horz	AV	0.0	39.8	54.0	-14.2	Low Channel 2402 MHz EUT Vertical, DH5
4803.980	35.8	4.0	1.0	200.0	3.0	0.0	Vert	AV	0.0	39.8	54.0	-14.2	Low Channel 2402 MHz EUT Horizontal, DH5
4803.960	35.6	4.0	1.0	40.0	3.0	0.0	Horz	AV	0.0	39.6	54.0	-14.4	Low Channel 2402 MHz EUT on Back, DH5
4803.960	35.1	4.0	1.0	288.0	3.0	0.0	Vert	AV	0.0	39.1	54.0	-14.9	Low Channel 2402 MHz EUT on Back, DH5
4881.967	33.4	4.3	1.0	208.0	3.0	0.0	Horz	AV	0.0	37.7	54.0	-16.3	Mid Channel 2440.0 MHz EUT Horizontal, DH5
7318.107	24.6	12.0	1.6	138.0	3.0	0.0	Horz	AV	0.0	36.6	54.0	-17.4	Mid Channel 2440.0 MHz EUT Horizontal, DH5
7439.440	41.3	12.6	1.1	323.0	3.0	0.0	Horz	PK	0.0	53.9	74.0	-20.1	High Channel 2480 MHz EUT Horizontal, DH5
7318.787	40.3	12.0	1.6	138.0	3.0	0.0	Horz	PK	0.0	52.3	74.0	-21.7	Mid Channel 2440.0 MHz EUT Horizontal, DH5
7438.880	39.6	12.6	2.5	165.0	3.0	0.0	Vert	PK	0.0	52.2	74.0	-21.8	High Channel 2480 MHz EUT Vertical, DH5
7321.160	39.4	12.0	2.1	149.0	3.0	0.0	Vert	PK	0.0	51.4	74.0	-22.6	Mid Channel 2440 MHz EUT Vertical, DH5
4803.893	46.7	4.0	1.0	151.0	3.0	0.0	Vert	PK	0.0	50.7	74.0	-23.3	Low Channel 2402 MHz EUT on Back, DH5
4960.107	45.4	4.6	1.0	189.0	3.0	0.0	Horz	PK	0.0	50.0	74.0	-24.0	High Channel 2480 MHz EUT Horizontal, DH5
4881.733	45.5	4.3	1.0	208.0	3.0	0.0	Horz	PK	0.0	49.8	74.0	-24.2	Mid Channel 2440.0 MHz EUT Horizontal, DH5
4881.907	45.3	4.3	1.0	171.0	3.0	0.0	Vert	PK	0.0	49.6	74.0	-24.4	Mid Channel 2440 MHz EUT Vertical, DH5
4803.780	45.3	4.0	1.0	203.0	3.0	0.0	Horz	PK	0.0	49.3	74.0	-24.7	Low Channel 2402 MHz EUT Horizontal, DH5
12198.130	35.4	-6.1	1.0	40.0	3.0	0.0	Horz	AV	0.0	29.3	54.0	-24.7	Mid Channel 2440 MHz EUT Horizontal, DH5
12398.000	34.8	-5.7	1.0	53.0	3.0	0.0	Horz	AV	0.0	29.1	54.0	-24.9	High Channel 2480 MHz EUT Horizontal, DH5
12398.010	34.7	-5.7	1.0	202.0	3.0	0.0	Vert	AV	0.0	29.0	54.0	-25.0	High Channel 2480 MHz EUT Vertical, DH5
4960.140	44.4	4.6	1.0	215.0	3.0	0.0	Vert	PK	0.0	49.0	74.0	-25.0	High Channel 2480 MHz EUT Vertical, DH5
4804.007	44.1	4.0	1.0	174.0	3.0	0.0	Horz	PK	0.0	48.1	74.0	-25.9	Low Channel 2402 MHz EUT Vertical, DH5
4803.913	43.4	4.0	1.0	40.0	3.0	0.0	Horz	PK	0.0	47.4	74.0	-26.6	Low Channel 2402 MHz EUT on Back, DH5
4803.867	43.2	4.0	1.0	288.0	3.0	0.0	Vert	PK	0.0	47.2	74.0	-26.8	Low Channel 2402 MHz EUT on Back, DH5
4803.953	43.1	4.0	1.0	200.0	3.0	0.0	Vert	PK	0.0	47.1	74.0	-26.9	Low Channel 2402 MHz EUT Horizontal, DH5
12198.010	31.0	-6.1	3.5	34.0	3.0	0.0	Vert	AV	0.0	24.9	54.0	-29.1	Mid Channel 2440 MHz EUT Vertical, DH5
12011.970	30.8	-6.6	1.0	116.0	3.0	0.0	Vert	AV	0.0	24.2	54.0	-29.8	Low Channel 2402 MHz EUT Vertical, DH5
12011.980	30.8	-6.6	1.0	210.0	3.0	0.0	Horz	AV	0.0	24.2	54.0	-29.8	Low Channel 2402 MHz EUT Horizontal, DH5

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
12010.430	47.7	-6.6	1.0	116.0	3.0	0.0	Vert	PK	0.0	41.1	74.0	-32.9	Low Channel 2402 MHz EUT Vertical, DH5
12198.810	46.4	-6.1	3.5	34.0	3.0	0.0	Vert	PK	0.0	40.3	74.0	-33.7	Mid Channel 2440 MHz EUT Vertical, DH5
12398.920	45.9	-5.7	1.0	53.0	3.0	0.0	Horz	PK	0.0	40.2	74.0	-33.8	High Channel 2480 MHz EUT Horizontal, DH5
12198.550	46.3	-6.1	1.0	40.0	3.0	0.0	Horz	PK	0.0	40.2	74.0	-33.8	Mid Channel 2440 MHz EUT Horizontal, DH5
12399.250	45.3	-5.7	1.0	202.0	3.0	0.0	Vert	PK	0.0	39.6	74.0	-34.4	High Channel 2480 MHz EUT Vertical, DH5
12011.740	45.3	-6.6	1.0	210.0	3.0	0.0	Horz	PK	0.0	38.7	74.0	-35.3	Low Channel 2402 MHz EUT Horizontal, DH5
2486.780	31.2	-3.8	1.4	42.0	3.0	20.0	Vert	AV	0.0	47.4	54.0	-6.6	High Channel 2480 MHz EUT Horizontal, 3DH5
2486.053	31.2	-3.8	1.0	160.0	3.0	20.0	Horz	AV	0.0	47.4	54.0	-6.6	High Channel 2480 MHz EUT On Back, 3DH5
2487.080	31.1	-3.8	1.4	42.0	3.0	20.0	Vert	AV	0.0	47.3	54.0	-6.7	High Channel 2480 MHz EUT Horizontal, 3DH5
2484.207	41.4	-3.8	1.0	160.0	3.0	20.0	Horz	PK	0.0	57.6	74.0	-16.4	High Channel 2480 MHz EUT Horizontal, 3DH5
2485.967	41.2	-3.8	1.4	42.0	3.0	20.0	Vert	PK	0.0	57.4	74.0	-16.6	High Channel 2480 MHz EUT On Back, 3DH5
2483.573	40.2	-3.8	1.0	160.0	3.0	20.0	Horz	PK	0.0	56.4	74.0	-17.6	High Channel 2480 MHz EUT On Back, 3DH5
2485.553	35.0	-3.8	1.4	42.0	3.0	20.0	Vert	PK	0.0	51.2	74.0	-22.8	High Channel 2480 MHz EUT Horizontal, 3DH5
2483.733	31.4	-3.8	1.4	42.0	3.0	0.0	Vert	AV	0.0	27.6	54.0	-26.4	High Channel 2480 MHz EUT Vertical, 3DH5
2485.587	31.3	-3.8	1.3	251.0	3.0	0.0	Vert	AV	0.0	27.5	54.0	-26.5	Low Channel 2402 MHz EUT Vertical, DH5
2484.793	31.3	-3.8	2.3	306.0	3.0	0.0	Vert	AV	0.0	27.5	54.0	-26.5	Low Channel 2402 MHz EUT Vertical, 3DH5
2484.700	31.3	-3.8	2.3	306.0	3.0	0.0	Vert	AV	0.0	27.5	54.0	-26.5	Low Channel 2402 MHz EUT on Back, 3DH5
2484.180	31.3	-3.8	2.3	306.0	3.0	0.0	Horz	AV	0.0	27.5	54.0	-26.5	Low Channel 2402 MHz EUT on Back, 3DH5
2483.967	31.3	-3.8	1.3	251.0	3.0	0.0	Vert	AV	0.0	27.5	54.0	-26.5	Low Channel 2402 MHz EUT on Back, DH5
2483.980	31.3	-3.8	2.3	306.0	3.0	0.0	Horz	AV	0.0	27.5	54.0	-26.5	Low Channel 2402 MHz EUT on Back, DH5
2483.793	31.3	-3.8	1.0	160.0	3.0	0.0	Horz	AV	0.0	27.5	54.0	-26.5	High Channel 2480 MHz EUT Vertical, DH5
2483.740	31.3	-3.8	2.3	306.0	3.0	0.0	Horz	AV	0.0	27.5	54.0	-26.5	Low Channel 2402 MHz EUT Vertical, DH5
2483.587	31.3	-3.8	2.3	306.0	3.0	0.0	Horz	AV	0.0	27.5	54.0	-26.5	Low Channel 2402 MHz EUT Vertical, 3DH5
2486.580	31.2	-3.8	1.0	160.0	3.0	0.0	Horz	AV	0.0	27.4	54.0	-26.6	High Channel 2480 MHz EUT Vertical, 3DH5
2486.287	31.2	-3.8	1.0	160.0	3.0	0.0	Horz	AV	0.0	27.4	54.0	-26.6	High Channel 2480 MHz EUT on Back, DH5
2485.227	31.2	-3.8	2.3	306.0	3.0	0.0	Vert	AV	0.0	27.4	54.0	-26.6	Low Channel 2402 MHz EUT on Back, 2DH5
2485.167	31.2	-3.8	1.0	160.0	3.0	0.0	Horz	AV	0.0	27.4	54.0	-26.6	High Channel 2480 MHz EUT On Back, 3DH5
2485.167	31.2	-3.8	1.4	42.0	3.0	0.0	Vert	AV	0.0	27.4	54.0	-26.6	High Channel 2480 MHz EUT Vertical, DH5
2484.773	31.2	-3.8	1.4	42.0	3.0	0.0	Vert	AV	0.0	27.4	54.0	-26.6	High Channel 2480 MHz EUT on Back, DH5
2484.787	31.2	-3.8	1.4	42.0	3.0	0.0	Vert	AV	0.0	27.4	54.0	-26.6	High Channel 2480 MHz EUT On Back, 2DH5
2484.673	31.2	-3.8	2.3	306.0	3.0	0.0	Vert	AV	0.0	27.4	54.0	-26.6	Low Channel 2402 MHz EUT On Back, 2DH5
2483.967	31.2	-3.8	1.4	160.0	3.0	0.0	Horz	AV	0.0	27.4	54.0	-26.6	High Channel 2480 MHz EUT On Back, 2DH5
2483.887	31.2	-3.8	2.3	306.0	3.0	0.0	Horz	AV	0.0	27.4	54.0	-26.6	Low Channel 2402 MHz EUT on Back, 2DH5
2483.660	31.2	-3.8	2.3	306.0	3.0	0.0	Horz	AV	0.0	27.4	54.0	-26.6	Low Channel 2402 MHz EUT On Back, 2DH5
2487.007	31.1	-3.8	2.3	306.0	3.0	0.0	Horz	AV	0.0	27.3	54.0	-26.7	Low Channel 2402 MHz EUT Horizontal, 3DH5
2484.953	31.1	-3.8	2.3	306.0	3.0	0.0	Horz	AV	0.0	27.3	54.0	-26.7	Low Channel 2402 MHz EUT Horizontal, 2DH5
2484.487	31.1	-3.8	1.0	160.0	3.0	0.0	Horz	AV	0.0	27.3	54.0	-26.7	High Channel 2480 MHz EUT Horizontal, DH5
2484.047	31.1	-3.8	1.0	160.0	3.0	0.0	Horz	AV	0.0	27.3	54.0	-26.7	High Channel 2480 MHz EUT Vertical, 2DH5
2483.680	31.1	-3.8	1.4	42.0	3.0	0.0	Vert	AV	0.0	27.3	54.0	-26.7	High Channel 2480 MHz EUT Vertical, 2DH5
2485.427	31.0	-3.8	2.3	306.0	3.0	0.0	Vert	AV	0.0	27.2	54.0	-26.8	Low Channel 2402 MHz EUT Horizontal, 3DH5
2484.967	30.9	-3.8	1.4	42.0	3.0	0.0	Vert	AV	0.0	27.1	54.0	-26.9	High Channel 2480 MHz EUT Horizontal, DH5
2484.487	30.9	-3.8	1.3	251.0	3.0	0.0	Vert	AV	0.0	27.1	54.0	-26.9	Low Channel 2402 MHz EUT Horizontal, 2DH5
2392.420	30.9	-4.1	2.3	303.0	3.0	0.0	Horz	AV	0.0	26.8	54.0	-27.2	Low Channel 2402 MHz EUT Horizontal, DH5
2390.600	30.8	-4.0	1.3	251.0	3.0	0.0	Vert	AV	0.0	26.8	54.0	-27.2	Low Channel 2402 MHz EUT Horizontal, DH5
2392.133	42.1	-4.1	1.3	251.0	3.0	0.0	Vert	PK	0.0	38.0	74.0	-36.0	Low Channel 2402 MHz EUT Horizontal, DH5
2485.273	21.6	-3.8	1.4	42.0	3.0	0.0	Vert	AV	0.0	17.8	54.0	-36.2	High Channel 2480 MHz EUT Horizontal, 2DH5
2484.873	21.5	-3.8	1.0	160.0	3.0	0.0	Horz	AV	0.0	17.7	54.0	-36.3	High Channel 2480 MHz EUT Horizontal, 2DH5
2392.860	41.6	-4.1	2.3	303.0	3.0	0.0	Horz	PK	0.0	37.5	74.0	-36.5	Low Channel 2402 MHz EUT Horizontal, DH5
2483.587	41.2	-3.8	2.3	306.0	3.0	0.0	Horz	PK	0.0	37.4	74.0	-36.6	Low Channel 2402 MHz EUT Vertical, DH5
2485.920	40.9	-3.8	1.0	160.0	3.0	0.0	Horz	PK	0.0	37.1	74.0	-36.9	High Channel 2480 MHz EUT On Back, 2DH5
2486.680	40.7	-3.8	2.3	306.0	3.0	0.0	Horz	PK	0.0	36.9	74.0	-37.1	Low Channel 2402 MHz EUT On Back, 2DH5
2486.627	40.6	-3.8	2.3	306.0	3.0	0.0	Horz	PK	0.0	36.8	74.0	-37.2	Low Channel 2402 MHz EUT on Back, 2DH5
2486.920	40.5	-3.8	1.4	42.0	3.0	0.0	Vert	PK	0.0	36.7	74.0	-37.3	High Channel 2480 MHz EUT on Back, DH5
2486.093	40.5	-3.8	1.4	42.0	3.0	0.0	Vert	PK	0.0	36.7	74.0	-37.3	High Channel 2480 MHz EUT Vertical, 3DH5
2485.127	40.5	-3.8	1.0	160.0	3.0	0.0	Horz	PK	0.0	36.7	74.0	-37.3	High Channel 2480 MHz EUT Vertical, DH5
2484.133	40.5	-3.8	1.4	42.0	3.0	0.0	Vert	PK	0.0	36.7	74.0	-37.3	High Channel 2480 MHz EUT Vertical, 2DH5
2486.587	40.3	-3.8	1.3	251.0	3.0	0.0	Vert	PK	0.0	36.5	74.0	-37.5	Low Channel 2402 MHz EUT on Back, DH5
2485.207	40.3	-3.8	1.0	160.0	3.0	0.0	Horz	PK	0.0	36.5	74.0	-37.5	High Channel 2480 MHz EUT Vertical, 3DH5
2483.893	40.3	-3.8	2.3	306.0	3.0	0.0	Vert	PK	0.0	36.5	74.0	-37.5	Low Channel 2402 MHz EUT on Back, 3DH5
2487.473	40.2	-3.8	2.3	306.0	3.0	0.0	Horz	PK	0.0	36.5	74.0	-37.6	Low Channel 2402 MHz EUT on Back, DH5
2486.733	40.2	-3.8	1.4	42.0	3.0	0.0	Vert	PK	0.0	36.4	74.0	-37.6	High Channel 2480 MHz EUT Vertical, DH5
2485.667	40.2	-3.8	1.3	251.0	3.0	0.0	Vert	PK	0.0	36.4	74.0	-37.6	Low Channel 2402 MHz EUT Vertical, DH5
2484.020	40.2	-3.8	2.3	306.0	3.0	0.0	Horz	PK	0.0	36.4	74.0	-37.6	Low Channel 2402 MHz EUT on Back, 3DH5
2486.547	40.1	-3.8	2.3	306.0	3.0	0.0	Horz	PK	0.0	36.3	74.0	-37.7	Low Channel 2402 MHz EUT Horizontal, 2DH5
2485.660	40.1	-3.8	1.4	160.0	3.0	0.0	Horz	PK	0.0	36.3	74.0	-37.7	High Channel 2480 MHz EUT on Back, DH5
2484.073	40.1	-3.8	2.3	306.0	3.0	0.0	Horz	PK	0.0	36.3	74.0	-37.7	Low Channel 2402 MHz EUT Horizontal, 3DH5
2483.967	40.1	-3.8	2.3	306.0	3.0	0.0	Horz	PK	0.0	36.3	74.0	-37.7	Low Channel 2402 MHz EUT Vertical, 3DH5
2485.233	40.0	-3.8	2.3	306.0	3.0	0.0	Vert	PK	0.0	36.2	74.0	-37.8	Low Channel 2402 MHz EUT Vertical, 3DH5
2484.860	40.0	-3.8	2.3	306.0	3.0	0.0	Vert	PK	0.0	36.2	74.0	-37.8	Low Channel 2402 MHz EUT on Back, 2DH5
2484.507	40.0	-3.8	1.0	160.0	3.0	0.0	Horz	PK	0.0	36.2	74.0	-37.8	High Channel 2480 MHz EUT Horizontal, DH5
2484.433	39.9	-3.8	1.4	160.0	3.0	0.0	Horz	PK	0.0	36.1	74.0	-37.9	High Channel 2480 MHz EUT Vertical, 2DH5
2483.613	39.9	-3.8	1.4	42.0	3.0	0.0	Vert	PK	0.0	36.1	74.0	-37.9	High Channel 2480 MHz EUT Horizontal, DH5
2487.300	39.8	-3.8	2.3	306.0	3.0	0.0	Vert	PK	0.0	36.0	74.0	-38.0	Low Channel 2402 MHz EUT On Back, 2DH5
2486.407	39.8	-3.8	1.4	42.0	3.0	0.0	Vert	PK	0.0	36.0	74.0	-38.0	High Channel 2480 MHz EUT On Back, 2DH5
2485.120	39.6	-3.8	2.3	306.0	3.0	0.0	Vert	PK	0.0	35.8	74.0	-38.2	Low Channel 2402 MHz EUT Horizontal, 3DH5
2484.380	39.3	-3.8	1.3	251.0	3.0	0.0	Vert	PK	0.0	35.5	74.0	-38.5	Low Channel 2402 MHz EUT Horizontal, 2DH5
2484.760	31.6	-3.8	1.0	160.0	3.0	0.0	Horz	PK	0.0	27.8	74.0	-46.2	High Channel 2480 MHz EUT Horizontal, 2DH5
2483.640	29.9	-3.8	1.4	42.0	3.0	0.0	Vert	PK	0.0	26.1	74.0	-47.9	High Channel 2480 MHz EUT Horizontal, 2DH5
7439.540	29.1	12.6	1.0	107.0	3.0	0.0	Horz	AV	0.0	41.7	54.0	-12.3	High Channel 2480 MHz EUT Horizontal, 2DH5
7439.033	29.0	12.6	1.0	107.0	3.0	0.0	Vert	AV	0.0	41.6	54.0	-12.4	High Channel 2480 MHz EUT Horizontal, 2DH5
7438.213	29.0	12.6	1.0	107.0	3.0	0.0	Horz	AV	0.0	41.6	54.0	-12.4	High Channel 2480 MHz EUT Horizontal, 3DH5
7438.106	28.9	12.6	1.0	217.0	3.0	0.0	Vert	AV	0.0	41.5	54.0	-12.5	High Channel 2480 MHz EUT Horizontal, 3DH5
7440.800	39.9	12.7	1.0	107.0	3.0	0.0	Horz	PK	0.0	52.6	74.0	-21.4	High Channel 2480 MHz EUT Horizontal, 3DH5
7440.913	39.6	12.7	1.0	217.0	3.0	0.0	Vert	PK	0.0	52.3	74.0	-21.7	High Channel 2480 MHz EUT Horizontal, 3DH5
7441.553	38.4	12.7	1.0	107.0	3.0	0.0	Horz	PK	0.0	51.1	74.0	-22.9	High Channel 2480 MHz EUT Horizontal, 2DH5
7440.986	37.4	12.7	1.0	107.0	3.0	0.0	Vert	PK	0.0	50.1	74.0	-23.9	High Channel 2480 MHz EUT Horizontal, 2DH5