Noninvasive Medical Technologies, Inc.

NcIQ 2.4 GHz Radio

May 08, 2008

Report No. GMCO0280

Report Prepared By

www.nwemc.com
1-888-EMI-CERT

EMC Test Report

NORTHWEST EMC

22975 NW Evergreen Parkway
Suite 400
Hillsboro, Oregon 97124

Certificate of Test

Issue Date: May 08, 2008
Noninvasive Medical Technologies, Inc.
Model: NcIQ 2.4 GHz Radio

Emissions			
Test Description	**Specification**	**Test Method**	**Pass/Fail**
Spurious Radiated Emissions	FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074	**Pass**
Occupied Bandwidth	FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074	**Pass**
Output Power	FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074	**Pass**
Band Edge Compliance	FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074	**Pass**
Spurious Conducted Emissions	FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074	**Pass**
Power Spectral Density	FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074	**Pass**

Modifications made to the product
See the Modifications section of this report

Test Facility

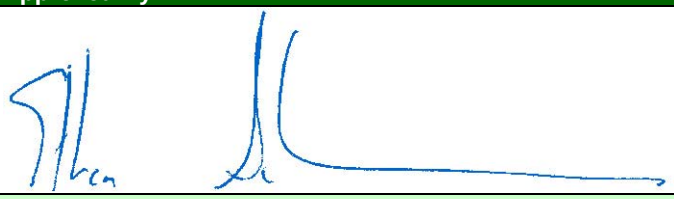
The measurement facility used to collect the data is located at:

Northwest EMC, Inc.
22975 NW Evergreen Parkway, Suite 400
Hillsboro, OR 97124

Phone: (503) 844-4066 Fax: 844-3826

This site has been fully described in a report filed with and accepted by the FCC (Federal Communications Commission) and Industry Canada (Site Filing #3496A).

Approved By:



Ethan Schoonover, Sultan Lab Manager

NVLAP Lab Code: 200630-0

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

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

Revision Number	Description	Date	Page Number
00	None		

Accreditations and Authorizations

FCC: Accredited by NVLAP for performance of FCC radio, digital, and ISM device testing. Our Open Area Test Sites, certification chambers, and conducted measurement facilities have been fully described in reports filed with the FCC and accepted by the FCC in letters maintained in our files. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by the FCC as a Telecommunications Certification Body (TCB). This allows Northwest EMC to certify transmitters to FCC specifications in accordance with 47 CFR 2.960 and 2.962.

NVLAP: Northwest EMC, Inc. is accredited under the United States Department of Commerce, National Institute of Standards and Technology, and National Voluntary Laboratory Accreditation Program for satisfactory compliance with the requirements of ISO/IEC 17025 for Testing Laboratories. The NVLAP accreditation encompasses Electromagnetic Compatibility Testing in accordance with the European Union EMC Directive 2004/108/EC, and ANSI C63.4. Additionally, Northwest EMC is accredited by NVLAP to perform radio testing in accordance with the European Union R&TTE Directive 1999/5/EEC, the requirements of FCC, and the RSS radio standards for Industry Canada.

NVLAP LAB CODE 200629-0
NVLAP LAB CODE 200630-0
NVLAP LAB CODE 200676-0
NVLAP LAB CODE 200761-0

Industry Canada: Accredited by NVLAP for performance of Industry Canada RSS and ICES testing. Our Open Area Test Sites and certification chambers comply with RSS 212, Issue 1 (Provisional) and have been filed with Industry Canada and accepted. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by NIST and recognized by Industry Canada as a Certification Body (CB) per the APEC Mutual Recognition Arrangement (MRA). This allows Northwest EMC to certify transmitters to Industry Canada technical requirements.

CAB: Designated by NIST and validated by the European Commission as a Conformity Assessment Body (CAB) to conduct tests and approve products to the EMC directive and transmitters to the R&TTE directive, as described in the U.S. - EU Mutual Recognition Agreement.

TÜV Product Service: Included in TUV Product Service Group's Listing of Recognized Laboratories. It qualifies in connection with the TUV Certification after Recognition of Agent's Testing Program for the product categories and/or standards shown in TUV's current Listing of CARAT Laboratories, available from TUV. A certificate was issued to represent that this laboratory continues to meet TUV's CARAT Program requirements. Certificate No. USA0604C.

TÜV Rheinland: Authorized to carryout EMC tests by order and under supervision of TÜV Rheinland. This authorization is based on "Conditions for EMC-Subcontractors" of November 1992.

NEMKO: Assessed and accredited by NEMKO (Norwegian testing and certification body) for European emissions and immunity testing. As a result of NEMKO's laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification (Authorization No. ELA 119).

Australia/New Zealand: The National Association of Testing Authorities (NATA), Australia has been appointed by the ACA as an accreditation body to accredit test laboratories and competent bodies for EMC standards. Accredited test reports or assessments by competent bodies must carry the NATA logo. Test reports made by an overseas laboratory that has been accredited for the relevant standards by an overseas accreditation body that has a Mutual Recognition Agreement (MRA) with NATA are also accepted as technical grounds for product conformity. The report should be endorsed with the respective logo of the accreditation body (NVLAP).

VCCI: Accepted as an Associate Member to the VCCI, Acceptance No. 564. Conducted and radiated measurement facilities have been registered in accordance with Regulations for Voluntary Control Measures, Article 8. *(Registration Numbers. - Hillsboro: C-1071, R-1025, C-2687, T-289, and R-2318, Irvine: R-1943, C-2766, and T-298, Sultan: R-871, C-1784, and T-294).*

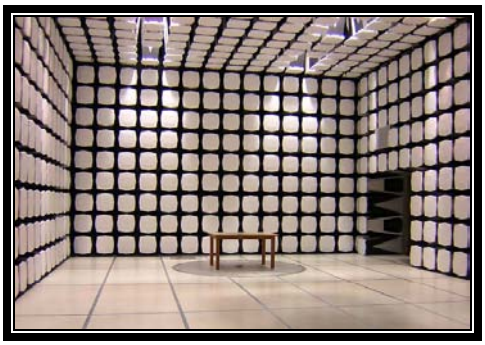
BSMI: Northwest EMC has been designated by NIST and validated by C-Taipei (BSMI) as a CAB to conduct tests as described in the APEC Mutual Recognition Agreement. License No.SL2-IN-E-1017.

GOST: Northwest EMC, Inc. has been assessed and accredited by the Russian Certification bodies Certinform VNIINMASH, CERTINFO, SAMTES, and Federal CHEC, to perform EMC and Hygienic testing for Information Technology Products. As a result of their laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification

MIC: Northwest EMC, Inc is a CAB designated by MRA partners and recognized by Korea. (*Assigned Lab Numbers: Hillsboro: US0017, Irvine: US0158, Sultan: US0157)*

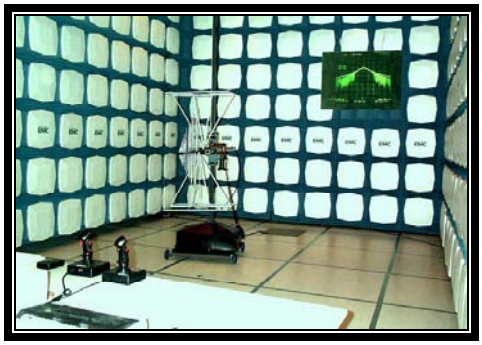
SCOPE

For details on the Scopes of our Accreditations, please visit:
http://www.nwemc.com/scope.asp



California – Orange County Facility
Labs OC01 – OC13

41 Tesla Ave. Irvine, CA 92618
(888) 364-2378 Fax: (503) 844-3826



Oregon – Evergreen Facility
Labs EV01 – EV11

22975 NW Evergreen Pkwy. Suite 400 Hillsboro, OR 97124
(503) 844-4066 Fax: (503) 844-3826

Washington – Sultan Facility
Labs SU01 – SU07

14128 339th Ave. SE Sultan, WA 98294
(888) 364-2378

Party Requesting the Test

Company Name:	Noninvasive Medical Technologies, Inc.
Address:	6412 S. Arville St.
City, State, Zip:	Las Vegas, NV 89118
Test Requested By:	Victor Ratinoff - G&M Compliance
Model:	NcIQ 2.4 GHz Radio
First Date of Test:	April 19, 2007
Last Date of Test:	April 21, 2007
Receipt Date of Samples:	April 19, 2007
Equipment Design Stage:	Preproduction
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT (Equipment Under Test):
A Transportable Non-Contact Hemodynamic monitor which provides measurement of Heart rate, Respiration, & Cardiac Output via the Zigbee 2.4 GHz Radio.

Testing Objective:
Demonstrate compliance of the Zigbee radio with FCC 15.247 specifications.

CONFIGURATION 1 GMCO0280

Software/Firmware Running during test	
Description	**Version**
Hyperterminal	1.0

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
2.4 GHz Radio	Noninvasive Medical Technologies, Inc.	MC1321x	Unknown

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Host product	Noninvasive Medical Technologies, Inc.	NcIQ	None

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Link Partner	Noninvasive Medical Technologies, Inc.	E-Tag Relay	022808004
Remote Comms PC	IBM	Unknown	None

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
Serial	Yes	1.8m	Yes	Link Partner	Remote Comms PC
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

CONFIGURATION 3 GMCO0280

Software/Firmware Running during test	
Description	**Version**
Hyperterminal	1.0

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
2.4 GHz Radio	Noninvasive Medical Technologies, Inc.	MC1321x	Unknown

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Host product	Noninvasive Medical Technologies, Inc.	NcIQ	None

Remote Equipment Outside of Test Setup Boundary			
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Remote Comms PC	IBM	Unknown	None

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
Serial	Yes	1.8m	Yes	Link Partner	Remote Comms PC
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	4/19/2008	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
2	4/21/2008	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
3	4/21/2008	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
4	4/21/2008	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
5	4/21/2008	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
6	4/21/2008	Power Spectral Density	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

RADIATED 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.

MODES OF OPERATION

Transmitting on single channel, typical duty cycle

POWER SETTINGS INVESTIGATED

Battery

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	25 GHz

CLOCKS AND OSCILLATORS

None

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	12/7/2007	13
Pre-Amplifier	Miteq	AM-1616-1000	AOL	12/29/2006	16
Antenna, Biconilog	EMCO	3141	AXE	1/15/2008	24
EV01 Cables		Bilog Cables	EVA	10/23/2007	13
Low Pass Filter 0-1000 MHz	Micro-Tronics	LPM50004	LFD	1/1/2007	17
High Pass Filter	Micro-Tronics	HPM50111	HFO	1/16/2008	13
Pre-Amplifier	Miteq	AMF-4D-010100-24-10P	APW	1/3/2008	13
Antenna, Horn	EMCO	3115	AHC	8/24/2006	24
EV01 Cables		Double Ridge Horn Cables	EVB	1/3/2008	13
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	6/22/2007	13
Antenna, Horn	ETS	3160-07	AHU	NCR	0
EV01 Cables		Standard Gain Horns Cables	EVF	10/23/2007	13
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	6/22/2007	13
Antenna, Horn	ETS	3160-08	AHV	NCR	0
EV01 Cables		Standard Gain Horns Cables	EVF	10/23/2007	13
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	7/25/2007	13
Antenna, Horn	EMCO	3160-09	AHG	NCR	0
EV01 Cables		6GHz Standard Gain Horn C	EVD	7/25/2007	13

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

Measurements were made using the bandwidths and detectors specified. No video filter was used.

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

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, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.4:2003). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

NORTHWEST EMC

RADIATED SPURIOUS EMISSIONS

PSA 2007.05.07
EMI 2008.1.9

EUT:	NclQ 2.4 GHz Radio	**Work Order:**	GMCO0280
Serial Number:	None	**Date:**	04/19/08
Customer:	Noninvasive Medical Technologies, Inc.	**Temperature:**	18°C
Attendees:	None	**Humidity:**	31%
Project:	None	**Barometric Pres.:**	29.96
Tested by:	Rod Peloquin	**Power:** Battery	**Job Site:** EV01

TEST SPECIFICATIONS	Test Method
FCC 15.247 (DTS):2007	ANSI C63.4:2003, KDB No. 558074

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS

Link partner remote

EUT OPERATING MODES

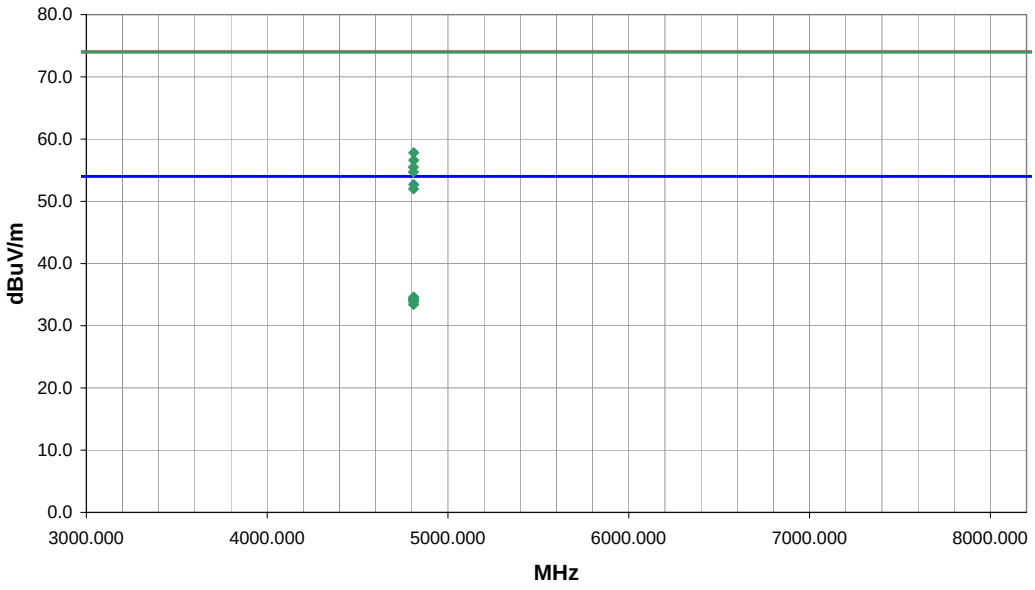
Transmitting on single channel, typical duty cycle

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	1
Configuration #	1
Results	Pass

Signature



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
4811.007	47.7	10.1	170.0	1.0	3.0	0.0	H-Horn	PK	0.0	57.8	74.0	-16.2	EUT on side
4810.933	46.5	10.1	57.0	1.0	3.0	0.0	H-Horn	PK	0.0	56.6	74.0	-17.4	EUT on end
4808.993	45.4	10.1	209.0	1.4	3.0	0.0	V-Horn	PK	0.0	55.5	74.0	-18.5	EUT on end
4809.093	44.6	10.1	213.0	1.4	3.0	0.0	V-Horn	PK	0.0	54.7	74.0	-19.3	EUT on side
4810.740	24.5	10.1	209.0	1.4	3.0	0.0	V-Horn	AV	0.0	34.6	54.0	-19.4	EUT on end
4808.660	24.3	10.1	170.0	1.0	3.0	0.0	H-Horn	AV	0.0	34.4	54.0	-19.6	EUT on side
4809.387	24.1	10.1	57.0	1.0	3.0	0.0	H-Horn	AV	0.0	34.2	54.0	-19.8	EUT on end
4809.727	24.0	10.1	213.0	1.4	3.0	0.0	V-Horn	AV	0.0	34.1	54.0	-19.9	EUT on side
4810.147	23.7	10.1	237.0	1.4	3.0	0.0	V-Horn	AV	0.0	33.8	54.0	-20.2	EUT horizontal
4809.900	23.3	10.1	165.0	1.0	3.0	0.0	H-Horn	AV	0.0	33.4	54.0	-20.6	EUT horizontal
4810.760	42.6	10.1	237.0	1.4	3.0	0.0	V-Horn	PK	0.0	52.7	74.0	-21.3	EUT horizontal
4809.360	41.9	10.1	165.0	1.0	3.0	0.0	H-Horn	PK	0.0	52.0	74.0	-22.0	EUT horizontal

NORTHWEST EMC

RADIATED SPURIOUS EMISSIONS

PSA 2007.05.07
EMI 2008.1.9

EUT:	NcIQ 2.4 GHz Radio	Work Order:	GMCO0280
Serial Number:	None	Date:	04/19/08
Customer:	Noninvasive Medical Technologies, Inc.	Temperature:	18°C
Attendees:	None	Humidity:	31%
Project:	None	Barometric Pres.:	29.96
Tested by:	Rod Peloquin	Power: Battery	Job Site: EV01

TEST SPECIFICATIONS	Test Method
FCC 15.247 (DTS):2007	ANSI C63.4:2003, KDB No. 558074

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS

Link partner remote

EUT OPERATING MODES

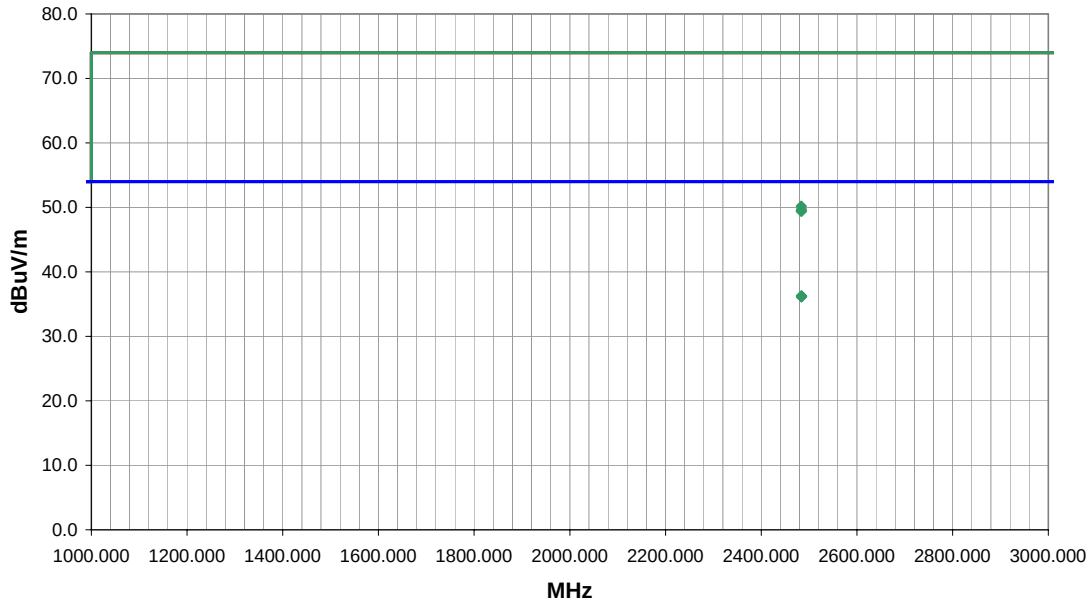
Transmitting on single channel, typical duty cycle

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	2
Configuration #	1
Results	Pass

Signature



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
2484.152	24.1	2.2	53.0	1.0	3.0	10.0	H-Horn	AV	0.0	36.3	54.0	-17.7	EUT on end
2484.057	24.0	2.2	314.0	1.2	3.0	10.0	V-Horn	AV	0.0	36.2	54.0	-17.8	EUT on side
2484.753	24.0	2.2	306.0	1.0	3.0	10.0	V-Horn	AV	0.0	36.2	54.0	-17.8	EUT on end
2483.988	23.9	2.2	65.0	1.0	3.0	10.0	H-Horn	AV	0.0	36.1	54.0	-17.9	EUT on side
2483.755	38.0	2.2	314.0	1.2	3.0	10.0	V-Horn	PK	0.0	50.2	74.0	-23.8	EUT on side
2484.058	37.5	2.2	306.0	1.0	3.0	10.0	V-Horn	PK	0.0	49.7	74.0	-24.3	EUT on end
2483.503	37.2	2.2	65.0	1.0	3.0	10.0	H-Horn	PK	0.0	49.4	74.0	-24.6	EUT on side
2484.395	37.2	2.2	53.0	1.0	3.0	10.0	H-Horn	PK	0.0	49.4	74.0	-24.6	EUT on end

NORTHWEST EMC

RADIATED SPURIOUS EMISSIONS

PSA 2007.05.07
EMI 2008.1.9

EUT:	NcIQ 2.4 GHz Radio	Work Order:	GMCO0280
Serial Number:	None	Date:	04/19/08
Customer:	Noninvasive Medical Technologies, Inc.	Temperature:	18°C
Attendees:	None	Humidity:	31%
Project:	None	Barometric Pres.:	29.96
Tested by:	Rod Peloquin	Power: Battery	Job Site: EV01

TEST SPECIFICATIONS	Test Method
FCC 15.247 (DTS):2007	ANSI C63.4:2003, KDB No. 558074

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS

Link partner remote

EUT OPERATING MODES

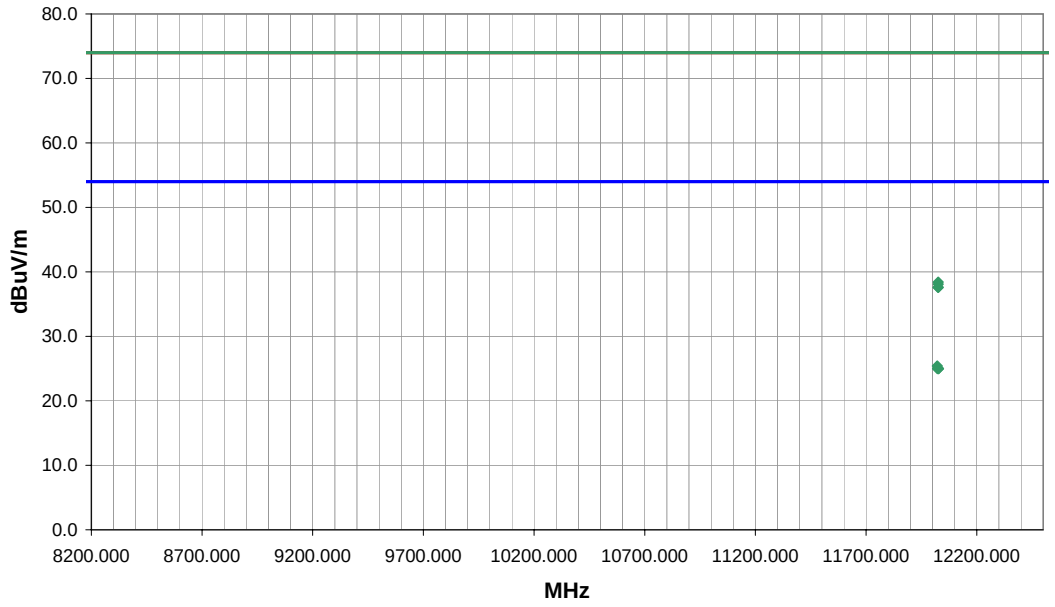
Transmitting on single channel, typical duty cycle

DEVIATIONS FROM TEST STANDARD

No deviations.

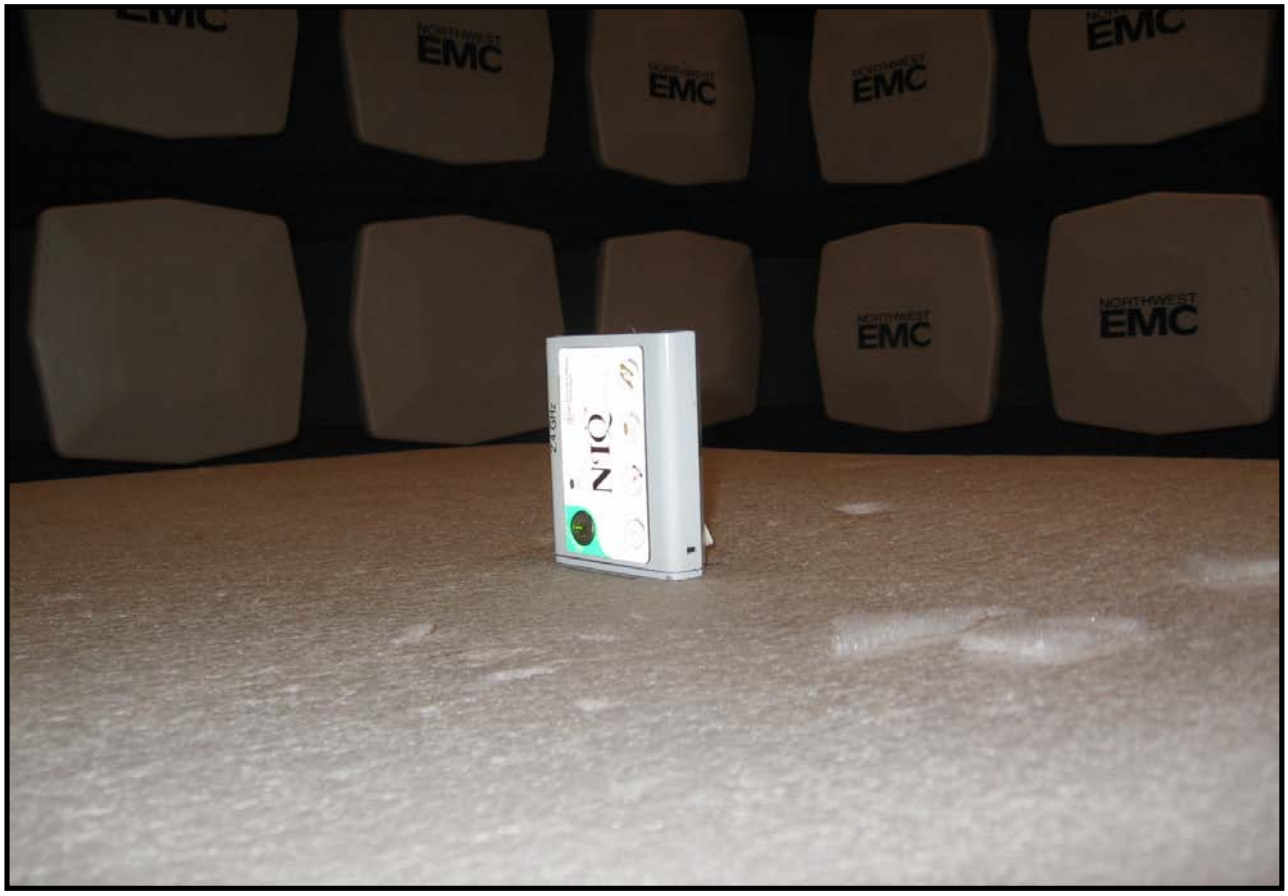
Run #	3
Configuration #	1
Results	Pass

Signature

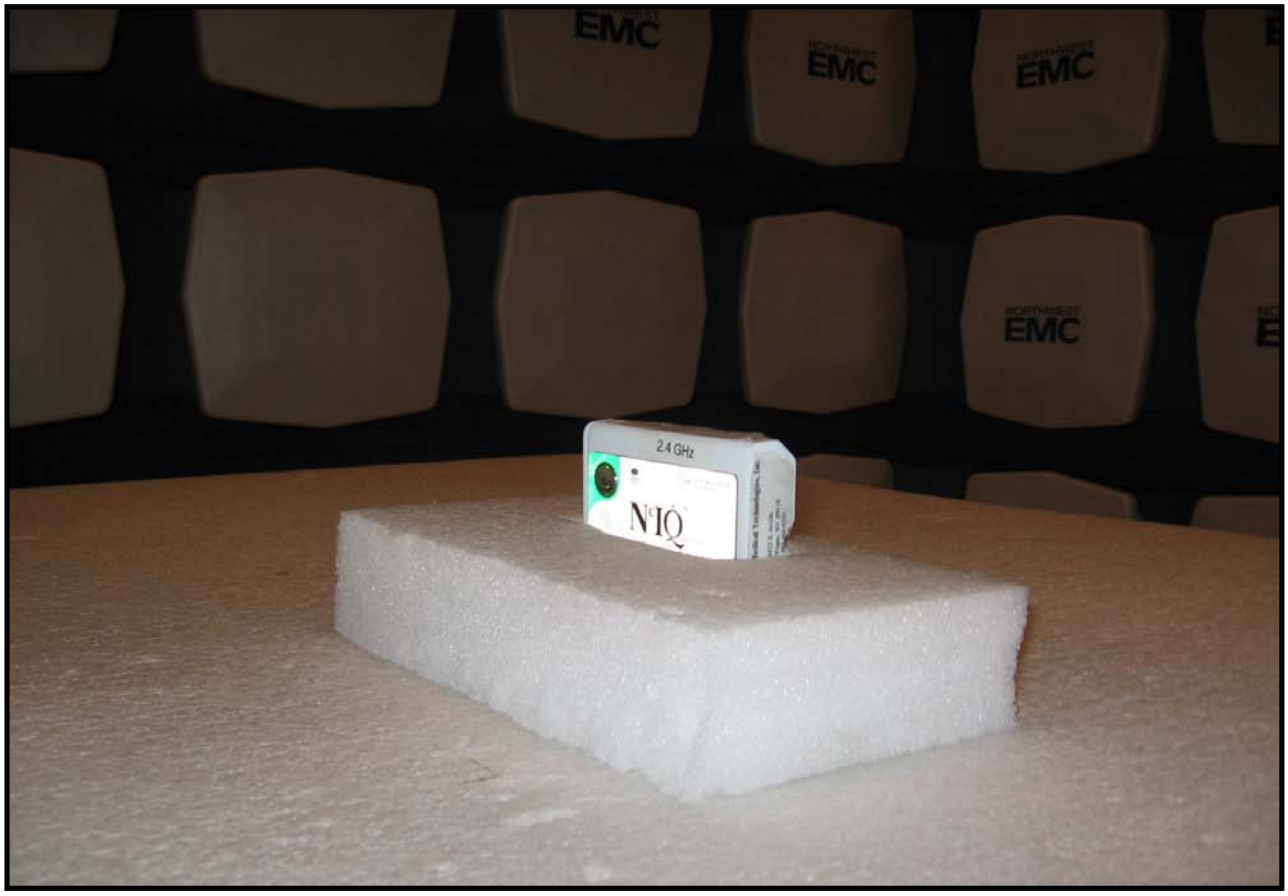


Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
12021.440	31.4	-6.0	277.0	1.1	3.0	0.0	V-Horn	AV	0.0	25.4	54.0	-28.6	EUT on side
12022.140	31.0	-6.0	233.0	1.0	3.0	0.0	V-Horn	AV	0.0	25.0	54.0	-29.0	EUT on end
12026.400	31.0	-6.0	261.0	1.0	3.0	0.0	H-Horn	AV	0.0	25.0	54.0	-29.0	EUT on end
12027.150	31.0	-6.0	332.0	1.0	3.0	0.0	H-Horn	AV	0.0	25.0	54.0	-29.0	EUT on side
12025.630	44.4	-6.0	233.0	1.0	3.0	0.0	V-Horn	PK	0.0	38.4	74.0	-35.6	EUT on end
12025.690	44.1	-6.0	277.0	1.1	3.0	0.0	V-Horn	PK	0.0	38.1	74.0	-35.9	EUT on side
12025.240	43.6	-6.0	332.0	1.0	3.0	0.0	H-Horn	PK	0.0	37.6	74.0	-36.4	EUT on side
12026.100	43.6	-6.0	261.0	1.0	3.0	0.0	H-Horn	PK	0.0	37.6	74.0	-36.4	EUT on end


NORTHWEST
EMC


NORTHWEST
EMC


EMC


EMC
2.4 GHz
NIQ

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4446A	AAY	12/18/2007	12
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/8/2007	13

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

The occupied bandwidth was measured with the EUT set to low, medium, and high transmit frequencies. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its maximum data rate in a no hop mode.

NORTHWEST EMC

OCCUPIED BANDWIDTH

XMit 2007.06.13

EUT:	NclQ 2.4 GHz Radio			Work Order:	GMCO0280
Serial Number:	None			Date:	04/21/08
Customer:	Noninvasive Medical Technologies, Inc.			Temperature:	23°C
Attendees:	None			Humidity:	24%
Project:	None			Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	Battery	Job Site:	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074

COMMENTS

Link partner remote

DEVIATIONS FROM TEST STANDARD

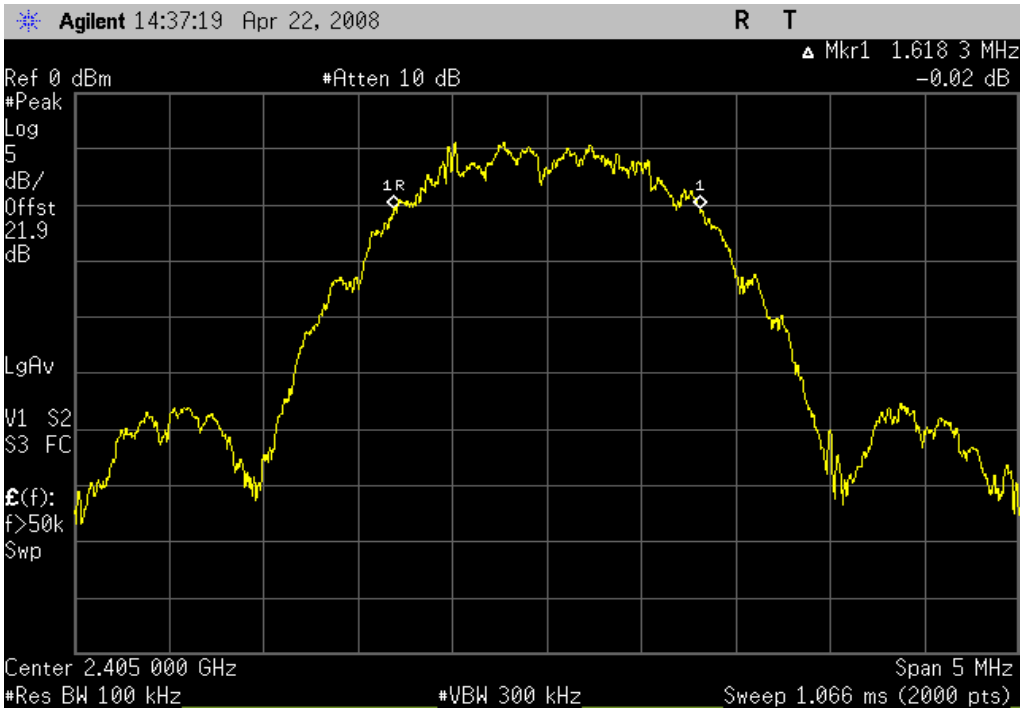
No Deviations

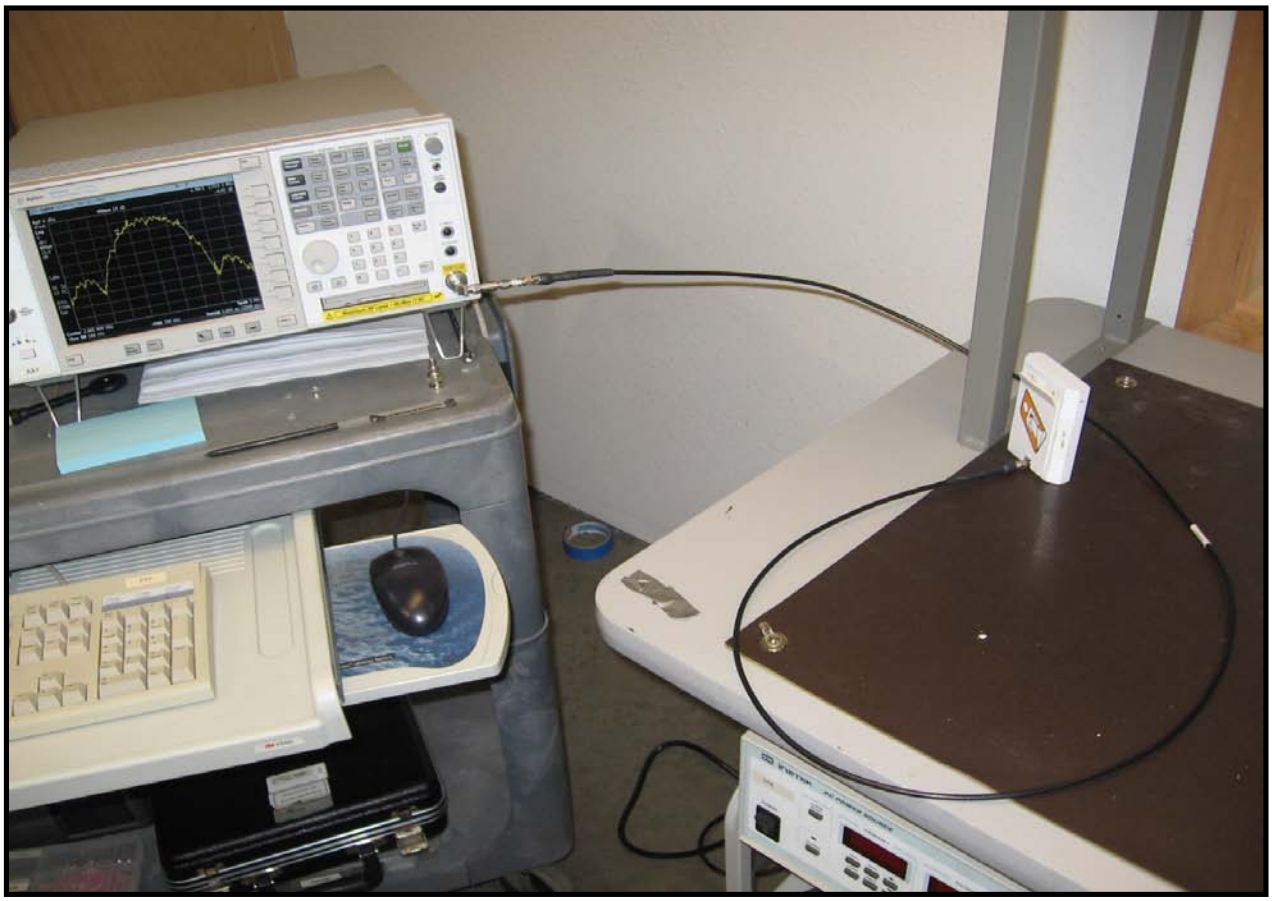
Configuration #	3	Signature

	Value	Limit	Results
Single channel, 2405 MHz	1,618 kHz	≥ 500 kHz	Pass

OCCUPIED BANDWIDTH

Single channel, 2405 MHz					
Result:	Pass	**Value:**	1,618 kHz	**Limit:**	≥ 500 kHz





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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4446A	AAY	12/18/2007	12
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/8/2007	13
Signal Generator	Hewlett-Packard	8648D	TGC	12/7/2007	13
Power Meter	Gigatronics	8651A	SPM	12/7/2007	13
Power Sensor	Gigatronics	80701A	SPL	12/7/2007	13

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

The peak output power was measured with the EUT set to low, medium, and high transmit frequencies. The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The EUT was transmitting at its maximum data rate in a no hop mode.

De Facto EIRP Limit: Per 47 CFR 15.247 (b)(1-3), the EUT meets the de facto EIRP limit of +36dBm.

NORTHWEST EMC

OUTPUT POWER

XMit 2007.06.13

EUT:	NclQ 2.4 GHz Radio			Work Order:	GMCO0280
Serial Number:	None			Date:	04/21/08
Customer:	Noninvasive Medical Technologies, Inc.			Temperature:	23°C
Attendees:	None			Humidity:	24%
Project:	None			Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	Battery	Job Site:	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074

COMMENTS

Link partner remote

DEVIATIONS FROM TEST STANDARD

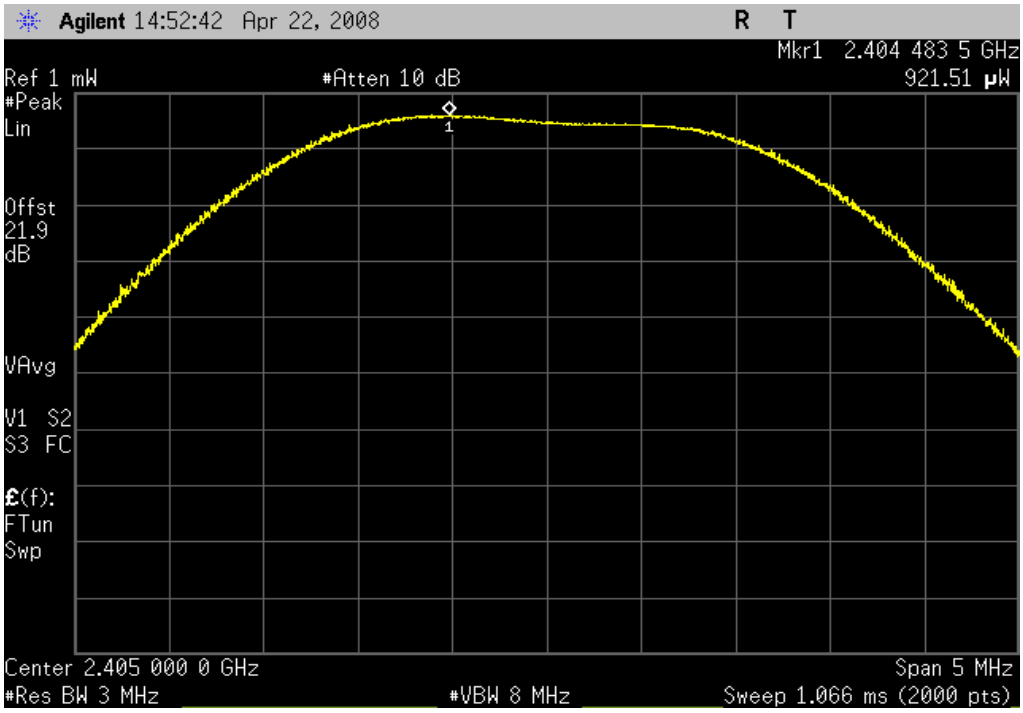
No deviations

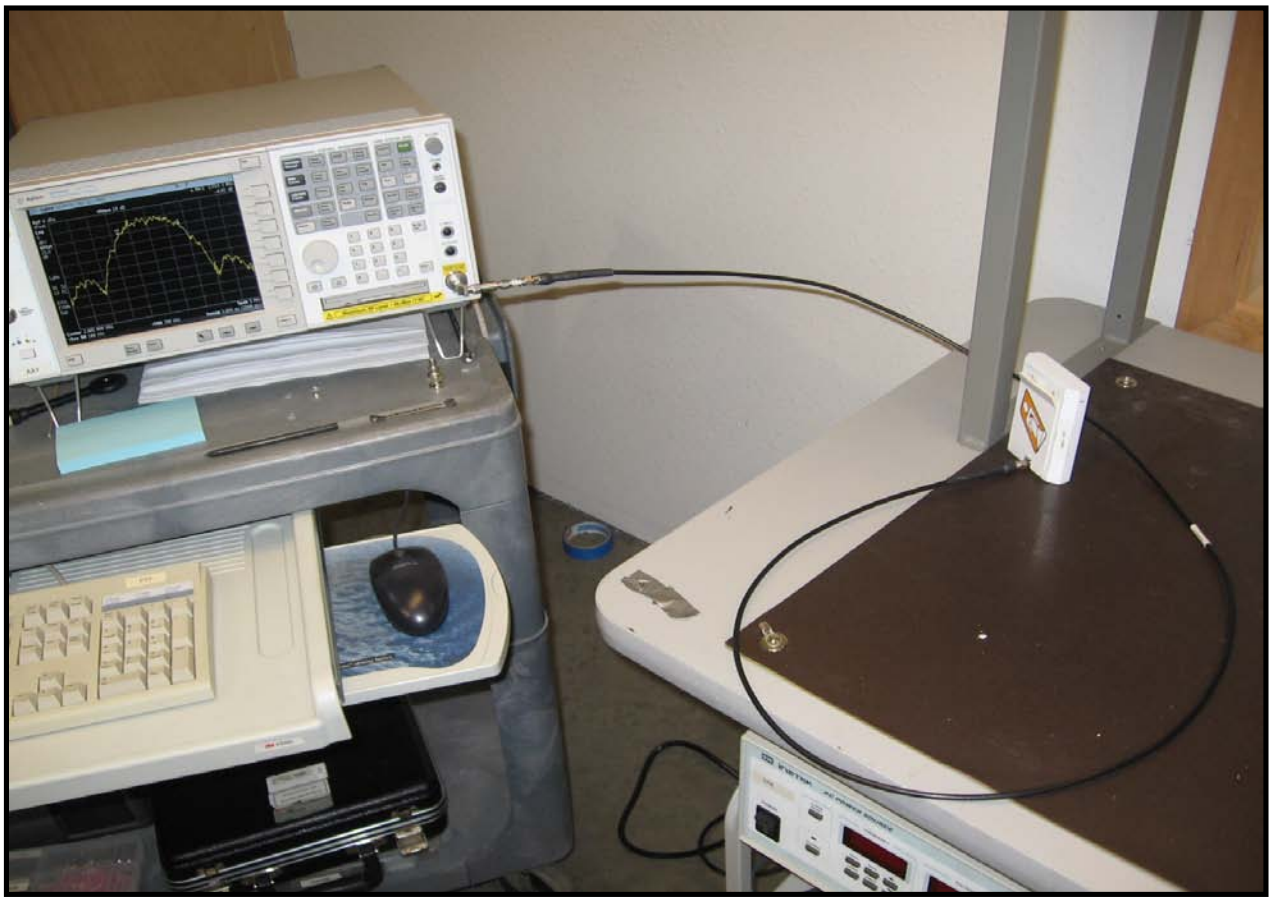
Configuration #	3	Signature

	Value	Limit	Results
Single channel, 2405 MHz	0.922 mW	1 W	Pass

OUTPUT POWER

Single channel, 2405 MHz					
Result:	Pass	**Value:**	0.922 mW	**Limit:**	1 W





BAND EDGE COMPLIANCE

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/8/2007	13
Spectrum Analyzer	Agilent	E4446A	AAY	12/18/2007	12

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

The requirements of FCC 15.247(d) for emissions at least 20dB below the carrier in any 100kHz bandwidth outside the allowable band was measured with the EUT set to low and high transmit frequencies. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its maximum data rate using direct sequence modulation. The channels closest to the band edges were selected. The spectrum was scanned across each band edge from 10 MHz below the band edge to 10 MHz above the band edge.

NORTHWEST EMC

BAND EDGE COMPLIANCE

XMit 2007.06.13

EUT:	NclQ 2.4 GHz Radio			Work Order:	GMCO0280
Serial Number:	None			Date:	04/21/08
Customer:	Noninvasive Medical Technologies, Inc.			Temperature:	23°C
Attendees:	None			Humidity:	24%
Project:	None			Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	Battery	Job Site:	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074

COMMENTS

Link partner remote

DEVIATIONS FROM TEST STANDARD

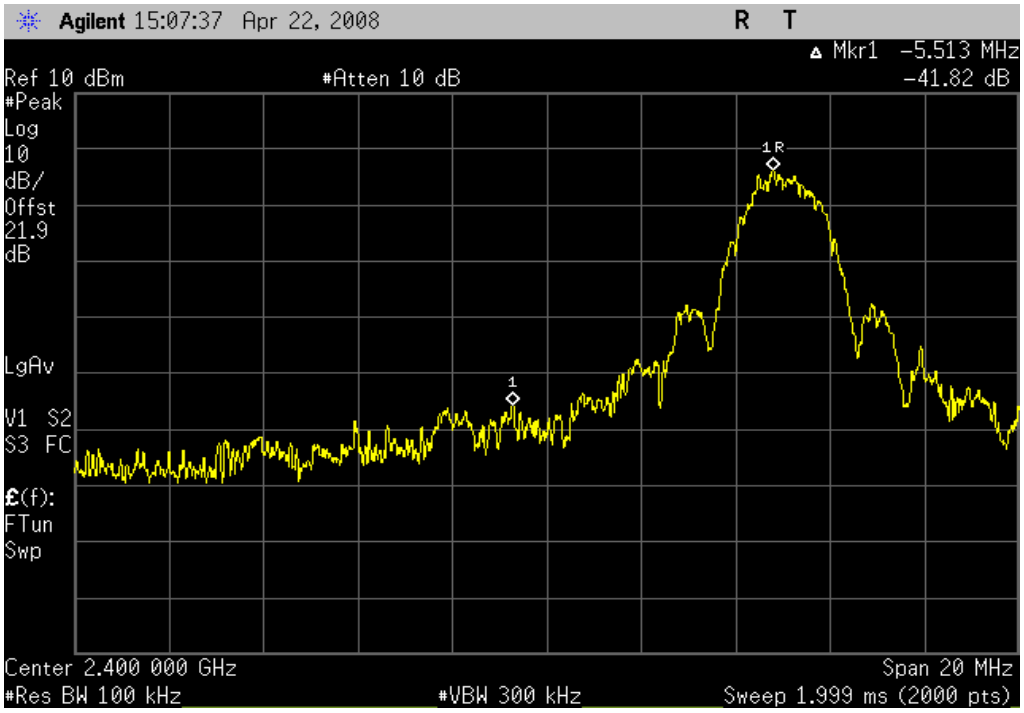
No Deviations

Configuration #	3	Signature

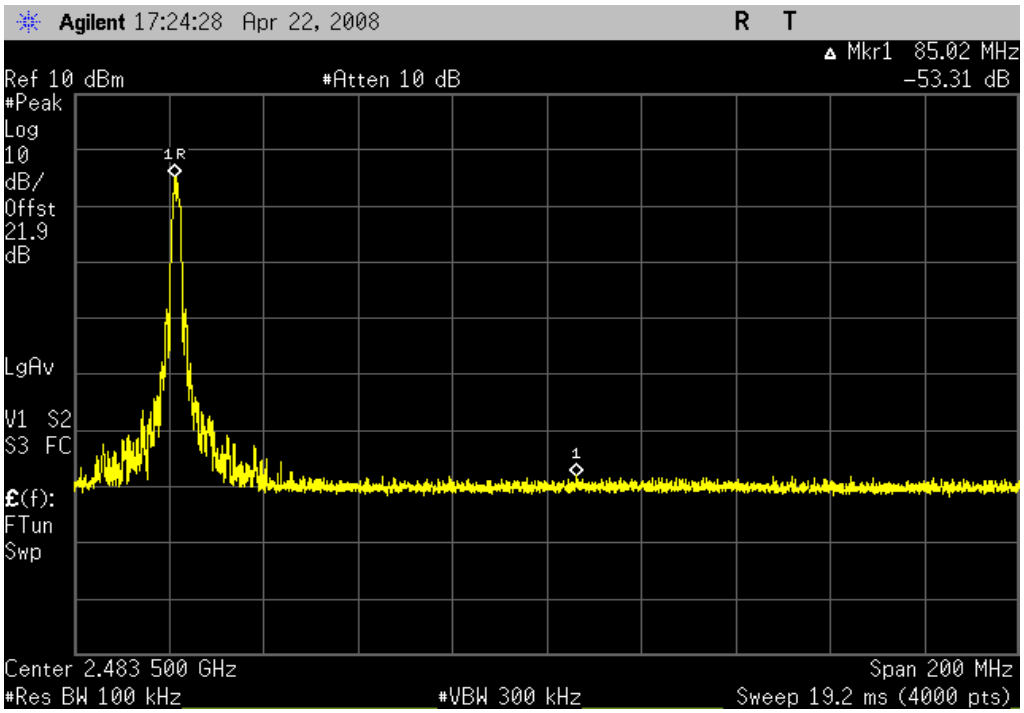
	Value	Limit	Results
Single channel, 2405 MHz	-41.82 dBc	≤ -20 dBc	Pass

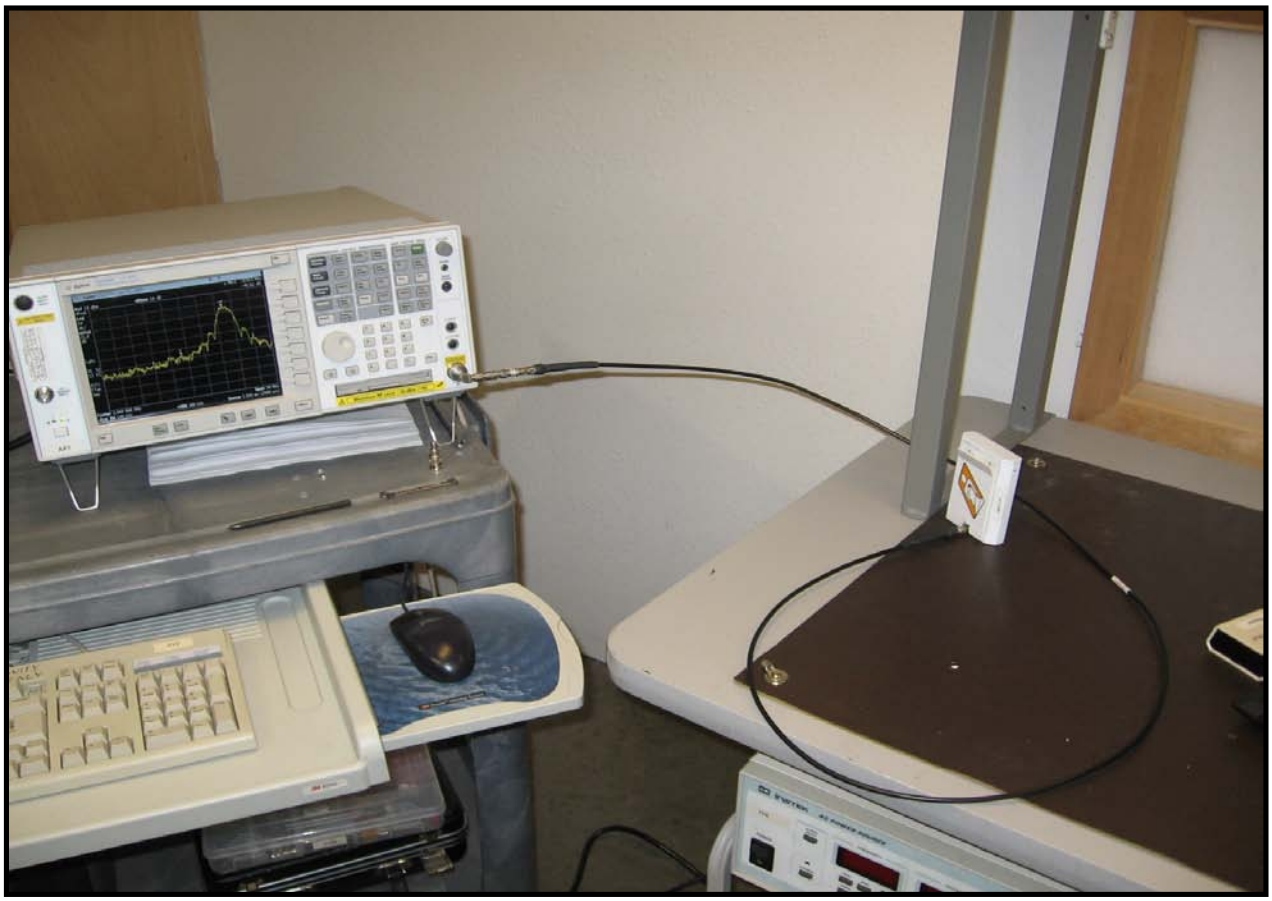
BAND EDGE COMPLIANCE

Single channel, 2405 MHz					
Result:	Pass	**Value:**	-41.82 dBc	**Limit:**	≤ -20 dBc



Single channel, 2405 MHz					
Result:	Pass	**Value:**	-53.31 dBc	**Limit:**	≤ -20 dBc





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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4446A	AAY	12/18/2007	12
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/8/2007	13

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

The spurious RF conducted emissions were measured with the EUT set its single transmit frequency. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer es. The EUT was transmitting at its maximum data rate using direct sequence modulation. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.

NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

XMit 2007.06.13

EUT:	NclQ 2.4 GHz Radio			**Work Order:**	GMCO0280
Serial Number:	None			**Date:**	04/21/08
Customer:	Noninvasive Medical Technologies, Inc.			**Temperature:**	23°C
Attendees:	None			**Humidity:**	24%
Project:	None			**Barometric Pres.:**	30.05
Tested by:	Rod Peloquin	**Power:**	Battery	**Job Site:**	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074

COMMENTS

Link partner remote

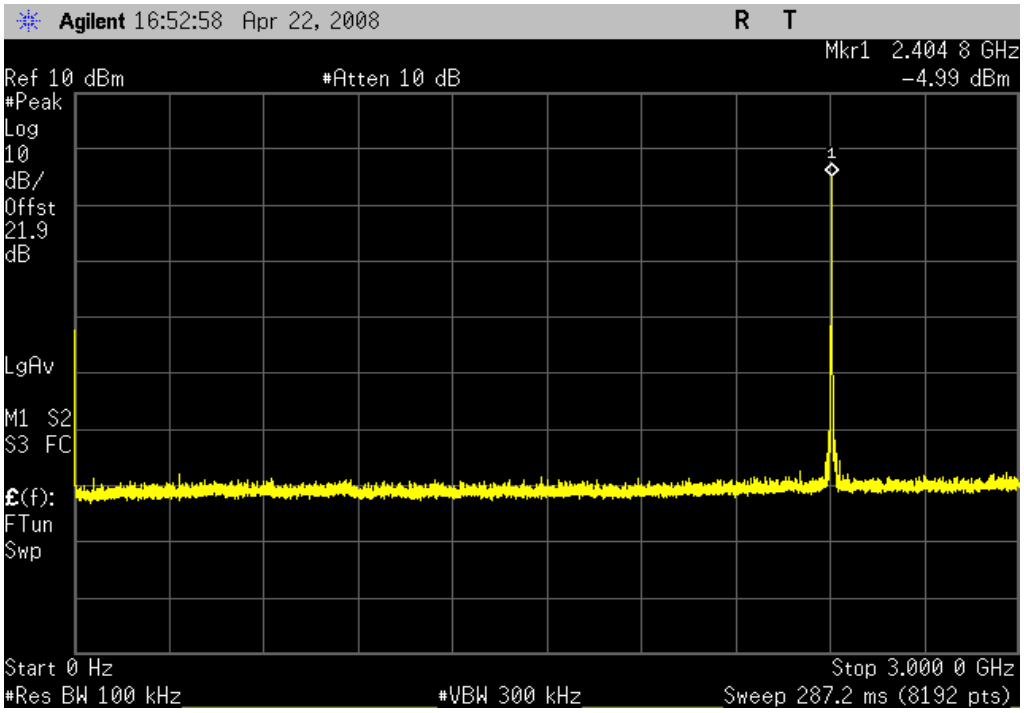
DEVIATIONS FROM TEST STANDARD

No Deviations

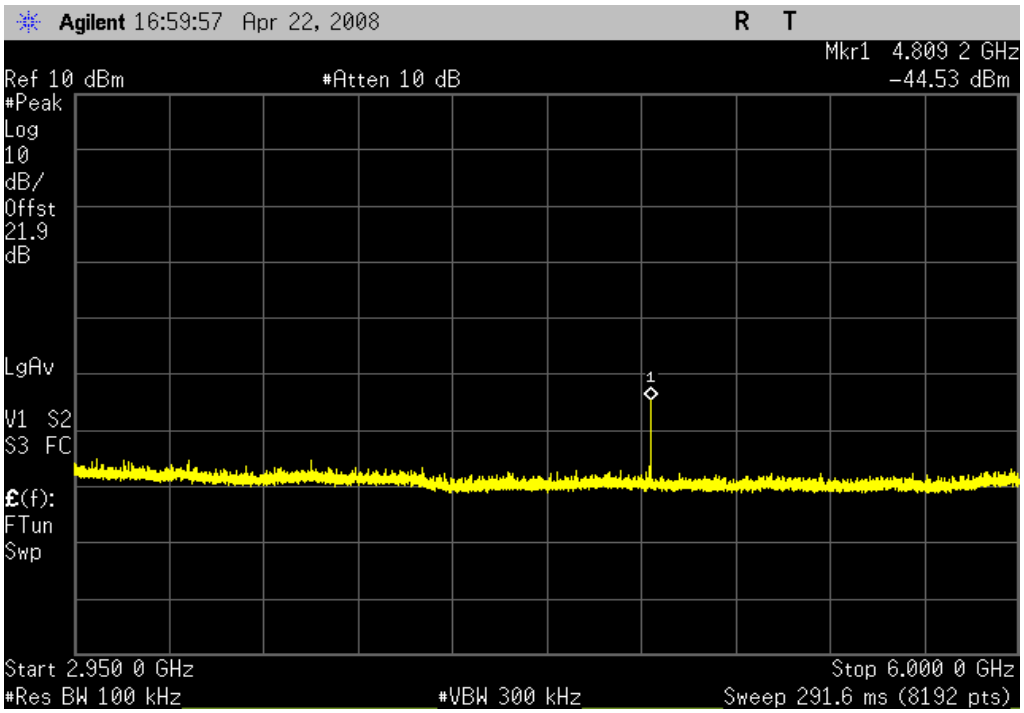
Configuration #	3	Signature

	Value	Limit	Results
Single Channel, 2405 MHz			
0MHz - 3GHz	-50 dBc	≤ -20 dBc	Pass
2.95GHz-6GHz	-39.5 dBc	≤ -20 dBc	Pass
5.95GHz-12.5GHz	-42.5 dBc	≤ -20 dBc	Pass
12.5GHz-25GHz	< -40 dBc	≤ -20 dBc	Pass

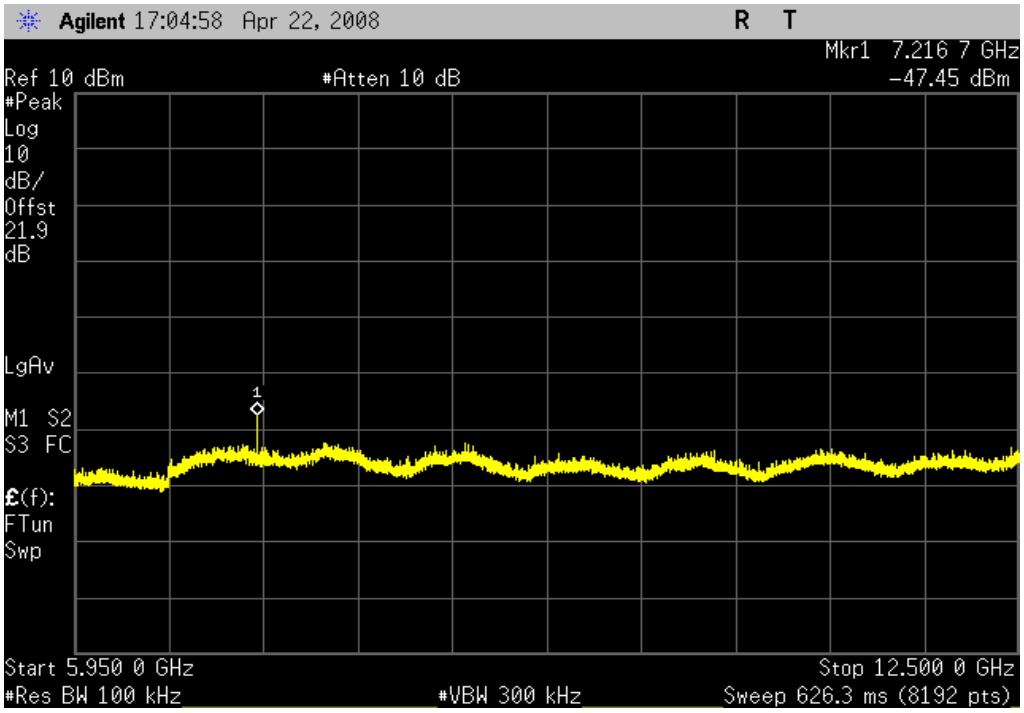
Single Channel, 2405 MHz, 0MHz - 3GHz					
Result:	Pass	**Value:**	-50 dBc	**Limit:**	≤ -20 dBc



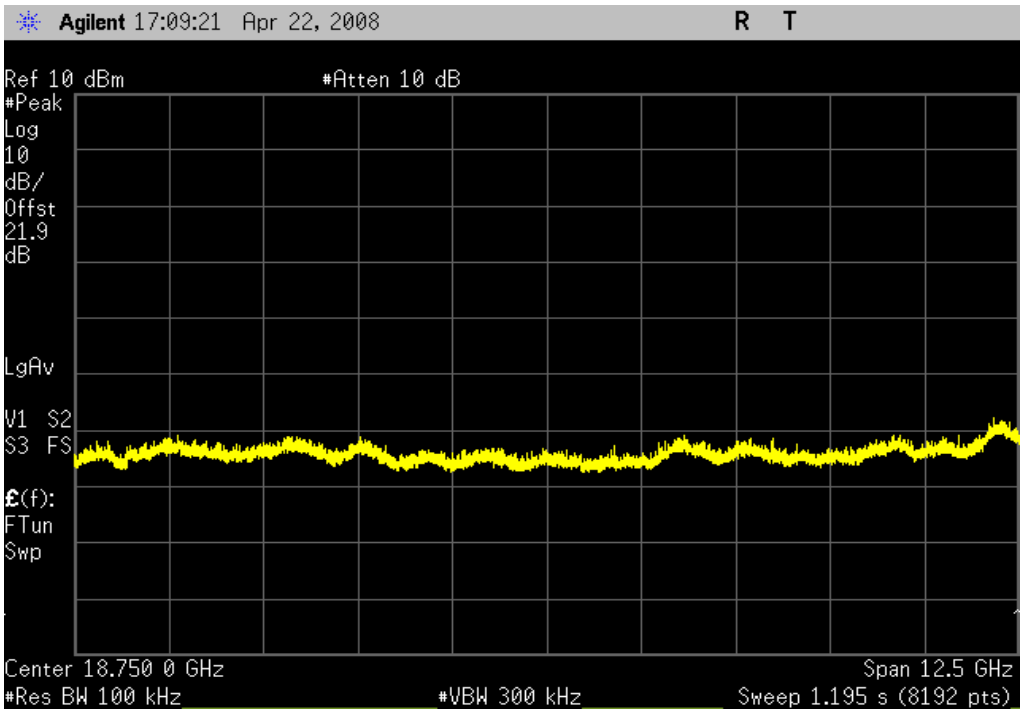
Single Channel, 2405 MHz, 2.95GHz-6GHz					
Result:	Pass	**Value:**	-39.5 dBc	**Limit:**	≤ -20 dBc

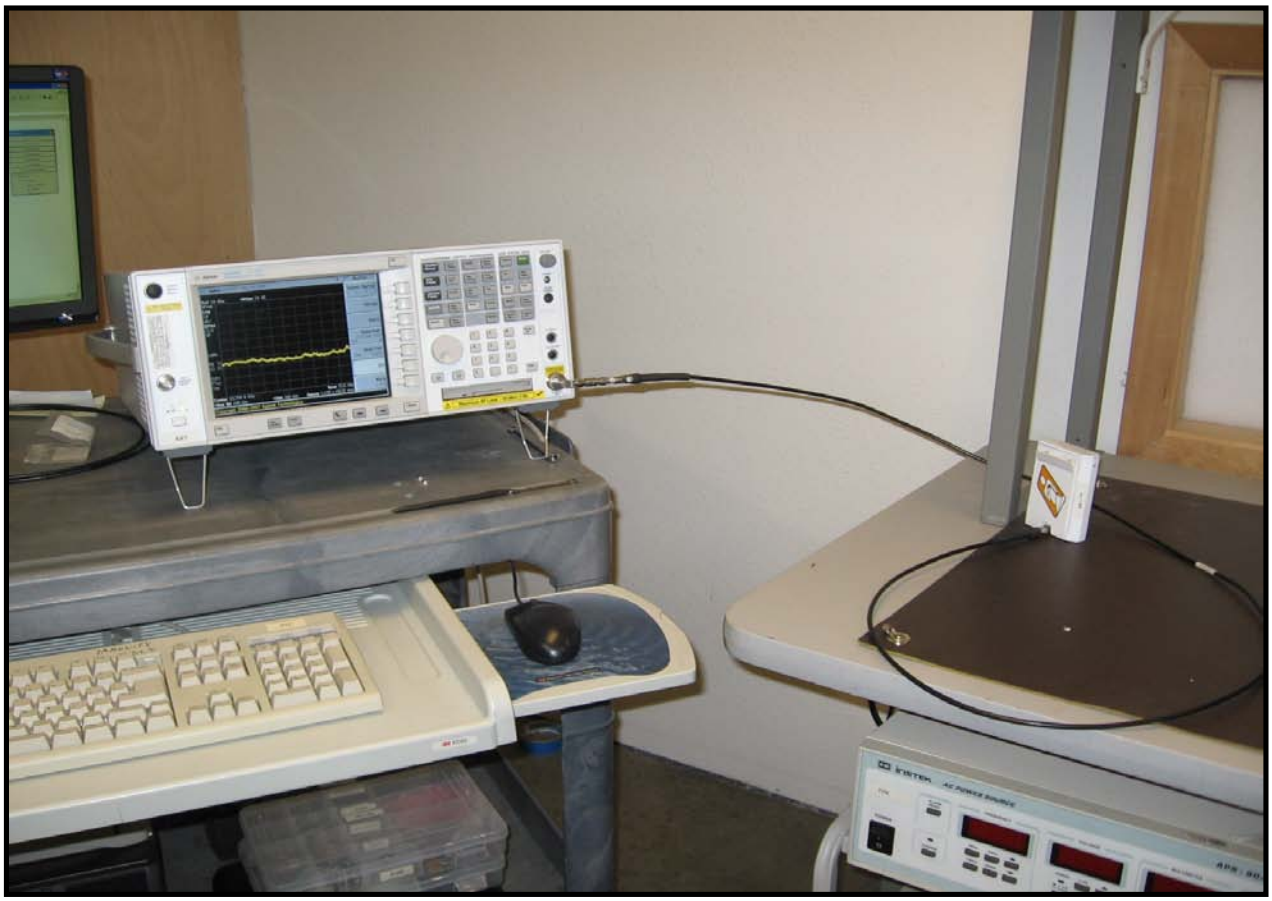


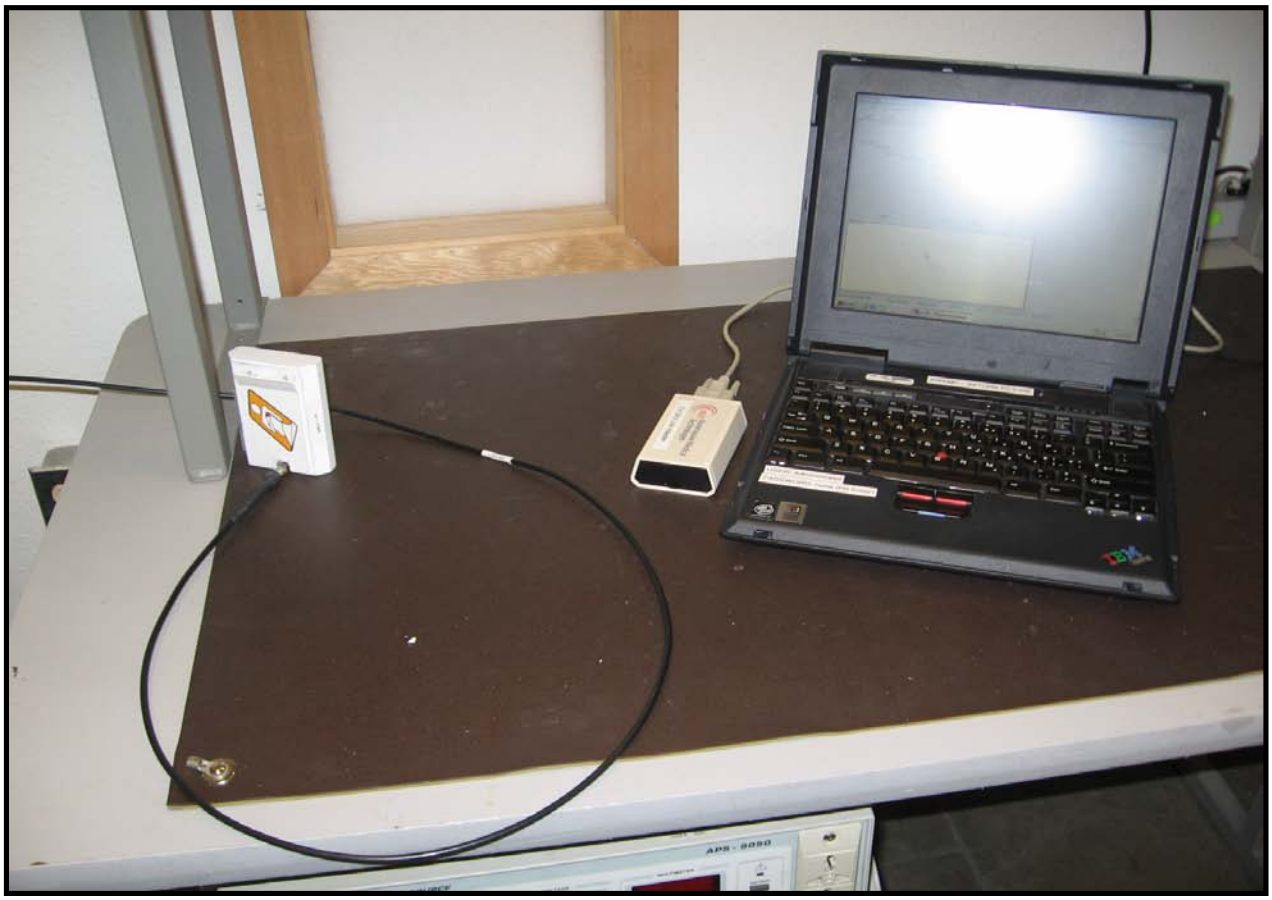
Single Channel, 2405 MHz, 5.95GHz-12.5GHz					
Result:	Pass	**Value:**	-42.5 dBc	**Limit:**	≤ -20 dBc



Single Channel, 2405 MHz, 12.5GHz-25GHz					
Result:	Pass	**Value:**	< -40 dBc	**Limit:**	≤ -20 dBc







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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4446A	AAY	12/18/2007	12
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/8/2007	13
Signal Generator	Hewlett-Packard	8648D	TGC	12/7/2007	13
Power Sensor	Gigatronics	80701A	SPL	12/7/2007	13
Power Meter	Gigatronics	8651A	SPM	12/7/2007	13

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

The peak power spectral density measurements were measured with the EUT set to its single transmit frequency. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its maximum data rate using direct sequence modulation. Per the procedure outlined in FCC 97-114, the spectrum analyzer was used as follows:

> The emission peak(s) were located and zoom in on within the passband. The resolution bandwidth was set to 3 kHz, the video bandwidth was set to greater than or equal to the resolution bandwidth. The sweep speed was set equal to the span divided by 3 kHz (sweep = (SPAN/3 kHz)). For example, given a span of 1.5 MHz, the sweep should be 1.5 x 10^6 ÷ 3 x 10^3 = 500 seconds. External attenuation was used and added to the reading. The following FCC procedure was used for modifying the power spectral density measurements:

"If the spectrum line spacing cannot be resolved on the available spectrum analyzer, the noise density function on most modern conventional spectrum analyzers will directly measure the noise power density normalized to a 1 Hz noise power bandwidth. Add 34.8 dB for correction to 3 kHz."

NORTHWEST EMC

POWER SPECTRAL DENSITY

XMit 2007.06.13

EUT:	NclQ 2.4 GHz Radio			Work Order:	GMCO0280
Serial Number:	None			Date:	04/21/08
Customer:	Noninvasive Medical Technologies, Inc.			Temperature:	23°C
Attendees:	None			Humidity:	24%
Project:	None			Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	Battery	Job Site:	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074

COMMENTS

Link partner remote

DEVIATIONS FROM TEST STANDARD

No Deviations

Configuration #	3	Signature

	Value	Limit	Results
Single channel, 2405 MHz	-24.97 dBm / 3 kHz	8 dBm / 3kHz	Pass

POWER SPECTRAL DENSITY

Single channel, 2405 MHz					
Result:	Pass	**Value:**	-24.97 dBm / 3 kHz	**Limit:**	8 dBm / 3kHz