

Medtronic Inc.

CARELINK ENCORE™ 29901

Report No. MDTR0119

Report Prepared By



www.nwemc.com

1-888-EMI-CERT

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EMC Test Report

Certificate of Test

Last Date of Test: December 28, 2011

Medtronic Inc.

Model: CARELINK ENCORE™ 29901

Emissions			
Test Description	Specification	Test Method	Pass/Fail
Field Strength of Fundamental	FCC 15.209:2011	ANSI C63.10:2009	Pass
Spurious Radiated Emissions	FCC 15.209:2011	ANSI C63.10:2009	Pass
AC Powerline Conducted Emissions	FCC 15.207:2011	ANSI C63.10:2009	Pass

Modifications made to the product

See the Modifications section of this report

Test Facility

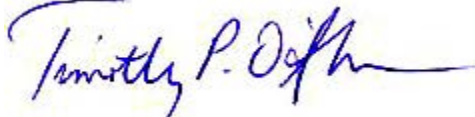
The measurement facility used to collect the data is located at:

Northwest EMC, Inc
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).

Approved By:



Tim O'Shea, Operations Manager



NVLAP Lab Code: 200881-0

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

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		

Barometric Pressure

The recorded barometric pressure has been normalized to sea level.



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 National Voluntary Laboratory Accreditation Program (NVLAP) for satisfactory compliance with the requirements of ISO/IEC 17025 for Testing Laboratories. NVLAP is administered by the National Institute of Standards and Technology (NIST), an agency of the U.S. Commerce Department. 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.

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-Gen, Issue 2 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. (*Site Filing Numbers - Hillsboro: 2834D-1, 2834D-2, Sultan: 2834C-1, Irvine: 2834B-1, 2834B-2, Brooklyn Park: 2834E-1*)

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.

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).



Accreditations and Authorizations

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, G-84, C-2687, T-1658, and R-2318, Irvine: R-1943, G-85, C-2766, and T-1659, Sultan: R-871, G-83, C-3265, and T-1511, Brooklyn Park: R-3125, G-86, G-141, C-3464, and T-1634.*)

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 (US0017).

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

KCC

Northwest EMC, Inc is a CAB designated by MRA partners and recognized by Korea. (*Assigned Lab Numbers: Hillsboro: US0017, Irvine: US0158, Sultan: US0157, Brooklyn Park: US0175*)

VIETNAM

Vietnam MIC has approved Northwest EMC as an accredited test lab. Per Decision No. 194/QD-QLCL (dated December 15, 2009), Northwest EMC test reports can be used for Vietnam approval submissions.

SCOPE

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

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



Northwest EMC Locations



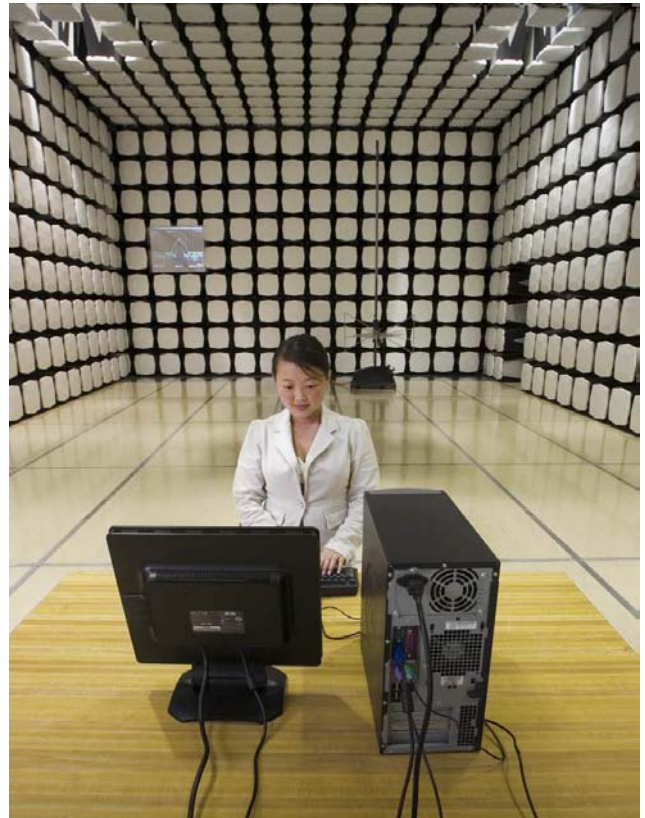
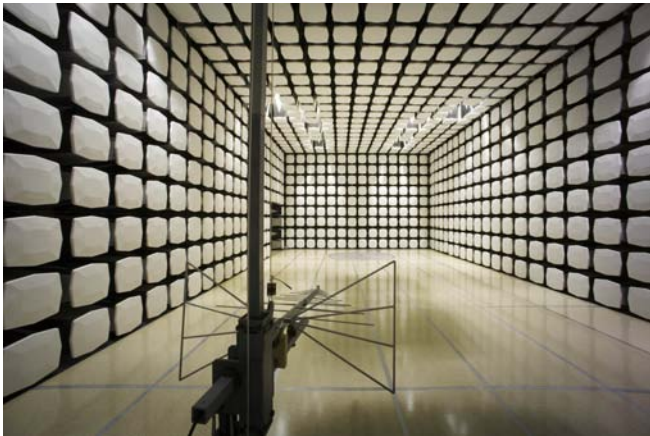
Oregon
Labs EV01-EV12
22975 NW Evergreen Pkwy
Suite 400
Hillsboro, OR 97124
(503) 844-4066

California
Labs OC01-OC13
41 Tesla
Irvine, CA 92618
(949) 861-8918

Minnesota
Labs MN01-MN08
9349 W Broadway Ave.
Brooklyn Park,
MN 55445
(763) 425-2281

Washington
Labs SU01-SU07
14128 339th Ave. SE
Sultan, WA 98294
(360) 793-8675

New York
Labs WA01-WA04
4939 Jordan Rd.
Elbridge, NY 13060
(315) 685-0796



Party Requesting the Test

Company Name:	Medtronic Inc.
Address:	8200 Coral Sea Street N.E.
City, State, Zip:	Mounds View, MN 55112
Test Requested By:	Janet Gavidia
Model:	CARELINK ENCORE™ 29901
First Date of Test:	December 27, 2011
Last Date of Test:	December 28, 2011
Receipt Date of Samples:	December 27, 2011
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test**Functional Description of the EUT (Equipment Under Test):**

The Programmer is used to interrogate and program selected Medtronic implantable devices.

Testing Objective:

To demonstrate compliance of the Inductive Telemetry transmitter to FCC requirements.

CONFIGURATION 1 MDTR0119

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Programmer	Medtronic Inc.	29901	JVD000223P

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
RF Head	Medtronic Inc.	26901	PXR000210P
DC Brick	Medtronic Inc.	APS100EM-190530	None
PG 175 kHz	Medtronic Inc.	SEDRL-1	PWJ9025010

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power	None	2.40m	None	AC Mains	DC Brick
DC Power	None	2.40m	Yes	DC Brick	Programmer
ECG (Model # 2090ECL)	None	4.26m	None	Programmer	Terminated Together
Ethernet	None	1.80m	None	Programmer	Unterminated
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

CONFIGURATION 2 MDTR0119

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Programmer	Medtronic Inc	29901	JVD000223P

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
RF Head	Medtronic Inc.	26901	PXR000210P
DC Brick	Medtronic Inc.	APS100EM-190530	None
PG 145-200 kHz	Medtronic Inc.	DDE-DDDR	PUL451908H

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power	None	2.40m	None	AC Mains	DC Brick
DC Power	None	2.40m	Yes	DC Brick	Programmer
ECG (Model # 2090ECL)	None	4.26m	None	Programmer	Terminated Together
Ethernet	None	1.80m	None	Programmer	Unterminated
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	12/27/2011	Field Strength of Fundamental	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	12/27/2011	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
3	12/28/2011	AC Powerline Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

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 175 kHz

Transmitting 145-200 kHz

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0119 - 1

MDTR0119 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency

9 kHz

Stop Frequency

490 kHz

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
Antenna, Loop	ETS Lindgren	6502	AOB	2/9/2011	24 mo
MN05 Cables	ESM Cable Corp.	Bilog Cables	MNH	2/2/2011	12 mo
Spectrum Analyzer	Agilent	E4446A	AAT	2/15/2011	12 mo

MEASUREMENT BANDWIDTHS

	Frequency Range	Peak Data	Quasi-Peak Data	Average Data
	(MHz)	(kHz)	(kHz)	(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 IF bandwidths and detectors specified. No video filter was used, except in the case of the FCC Average Measurements above 1GHz. In that case, a peak detector with a 10Hz video bandwidth was used.

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

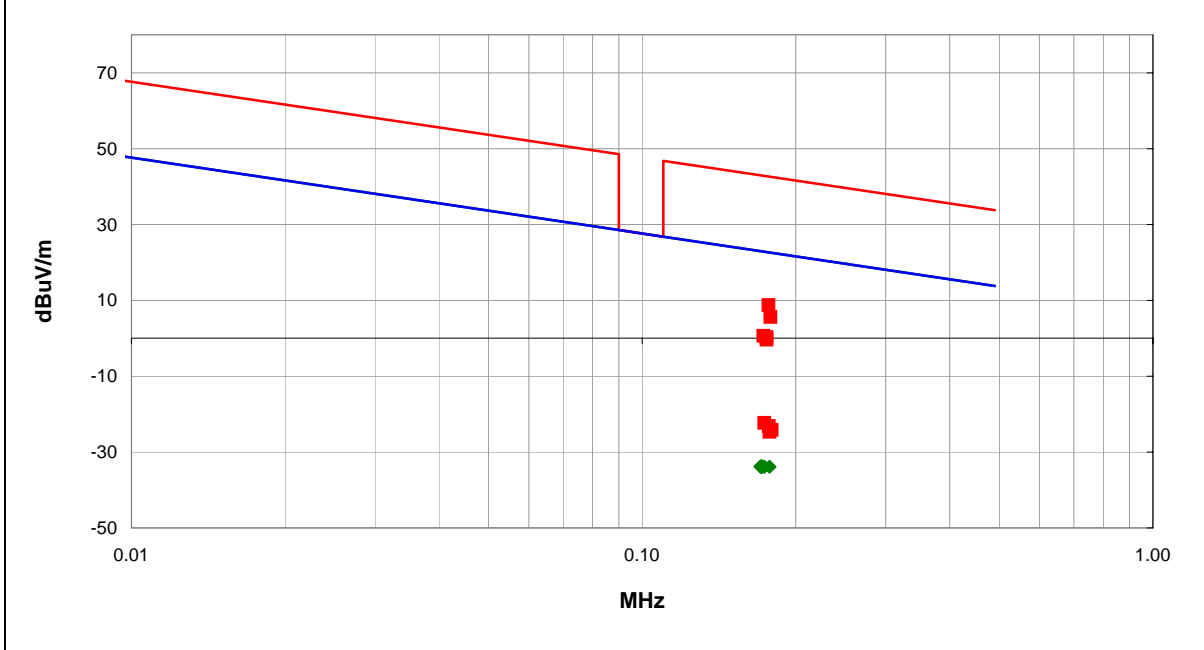
TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was transmitting and receiving while set at the channel available. While scanning, emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height and orientation in 3 orthogonal plane, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.10:2010). An active loop antenna was used for this test in order to provide sufficient measurement sensitivity.

Work Order:	MDTR0119	Date:	12/27/11	<i>Bryan Weller</i>
Project:	None	Temperature:	24.43 °C	
Job Site:	MN05	Humidity:	17.25% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1010.1 mbar	
EUT: CARELINK ENCORE 29901		Tested by: Bryan Weller		
Configuration:	1			
Customer:	Medtronic Inc.			
Attendees:	Ben Timms			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 175 kHz			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.209:2011	Test Method ANSI C63.10:2009
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Run #	1	Test Distance (m)	3	Antenna Height(s)	1-2.5m	Results	Pass
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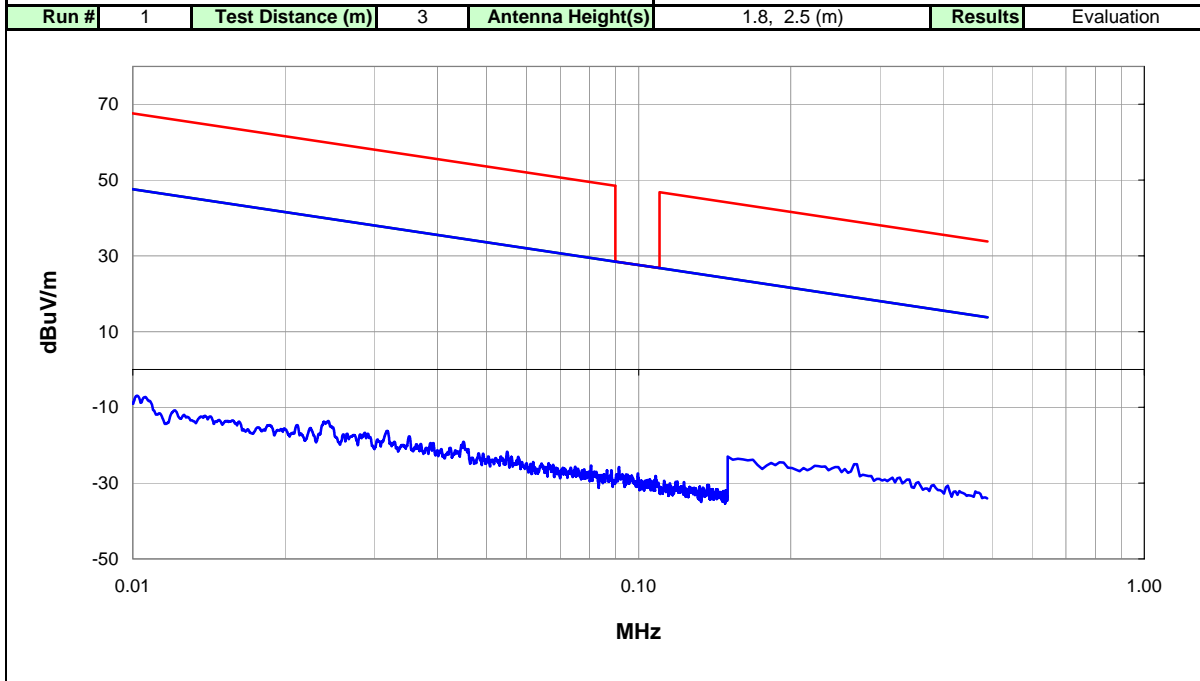
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
0.177	77.3	11.4	2.5	158.0	3.0	0.0	Perp to EUT	PK	-80.0	8.7	42.7	-34.0	EUT Vertical
0.178	74.2	11.4	2.5	71.0	3.0	0.0	Par to GND	PK	-80.0	5.6	42.6	-37.0	EUT Vertical
0.173	69.2	11.4	2.5	75.0	3.0	0.0	Par to EUT	PK	-80.0	0.6	42.9	-42.3	EUT on Side
0.175	68.9	11.4	2.5	270.0	3.0	0.0	Par to GND	PK	-80.0	0.3	42.7	-42.4	EUT Horizontal
0.175	68.2	11.4	2.5	348.0	3.0	0.0	PAR to EUT	PK	-80.0	-0.4	42.7	-43.1	EUT Horizontal
0.178	34.7	11.4	2.5	71.0	3.0	0.0	Par to GND	AV	-80.0	-33.9	22.6	-56.5	EUT Vertical
0.172	34.8	11.4	2.5	132.0	3.0	0.0	Perp to EUT	AV	-80.0	-33.8	22.9	-56.7	EUT on Side
0.172	34.8	11.4	2.5	158.0	3.0	0.0	Perp to EUT	AV	-80.0	-33.8	22.9	-56.7	EUT Vertical
0.173	34.7	11.4	2.5	54.0	3.0	0.0	Par to EUT	AV	-80.0	-33.9	22.8	-56.7	EUT Vertical
0.171	34.8	11.4	2.5	75.0	3.0	0.0	Par to EUT	AV	-80.0	-33.8	23.0	-56.8	EUT on Side
0.171	34.8	11.4	2.5	347.0	3.0	0.0	PAR to EUT	AV	-80.0	-33.8	23.0	-56.8	EUT Horizontal
0.172	34.7	11.4	2.5	297.0	3.0	0.0	Perp to EUT	AV	-80.0	-33.9	22.9	-56.8	EUT Horizontal
0.171	34.7	11.4	1.4	95.0	3.0	0.0	Par to GND	AV	-80.0	-33.9	23.0	-56.9	EUT on Side
0.171	34.7	11.4	2.5	270.0	3.0	0.0	Par to GND	AV	-80.0	-33.9	23.0	-56.9	EUT Horizontal
0.174	46.3	11.4	2.5	132.0	3.0	0.0	Perp to EUT	PK	-80.0	-22.3	42.8	-65.1	EUT on Side
0.177	45.4	11.4	1.4	95.0	3.0	0.0	Par to GND	PK	-80.0	-23.2	42.7	-65.9	EUT on Side

EMC

Field Strength of Fundamental

Work Order:	MDTR0119	Date:	12/27/11	Tested by: Bryan Weller
Project:	None	Temperature:	24.43 °C	
Job Site:	MN05	Humidity:	17.25% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1010.1 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	1			
Customer:	Medtronic Inc.			
Attendees:	Ben Timms			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 175 kHz			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.209:2011	Test Method ANSI C63.10:2009						
Run #	1	Test Distance (m)	3	Antenna Height(s)	1.8, 2.5 (m)	Results	Evaluation



Freq (MHz)	Amplitude (dBuV)	Preamp (dB)	Antenna Height (meters)	Transducer (dB)	Cable (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
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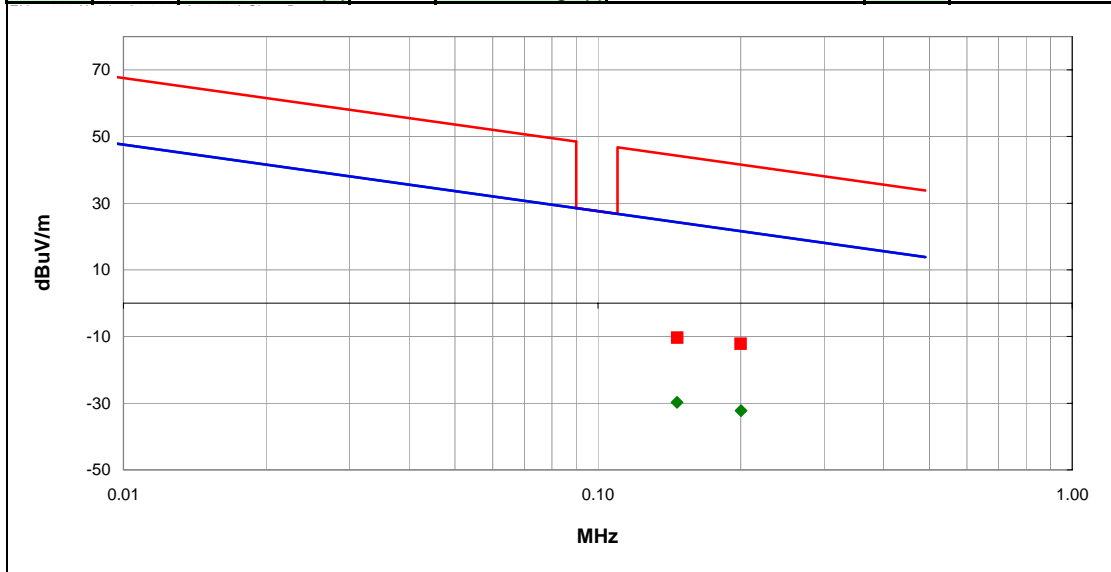
EMC

Field Strength of Fundamental

Work Order:	MDTR0119	Date:	12/27/11	<i>Bryan Weller</i>
Project:	None	Temperature:	24.43 °C	
Job Site:	MN05	Humidity:	17.25% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1010.1 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	2			
Customer:	Medtronic Inc.			
Attendees:	Ben Timms			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 145 - 200 kHz			
Deviations:	None			
Comments:	Worst case EUT position.			

Test Specifications FCC 15.209:2011	Test Method ANSI C63.10:2009
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Run #	2	Test Distance (m)	3	Antenna Height(s)	1-2.5m	Results	Pass
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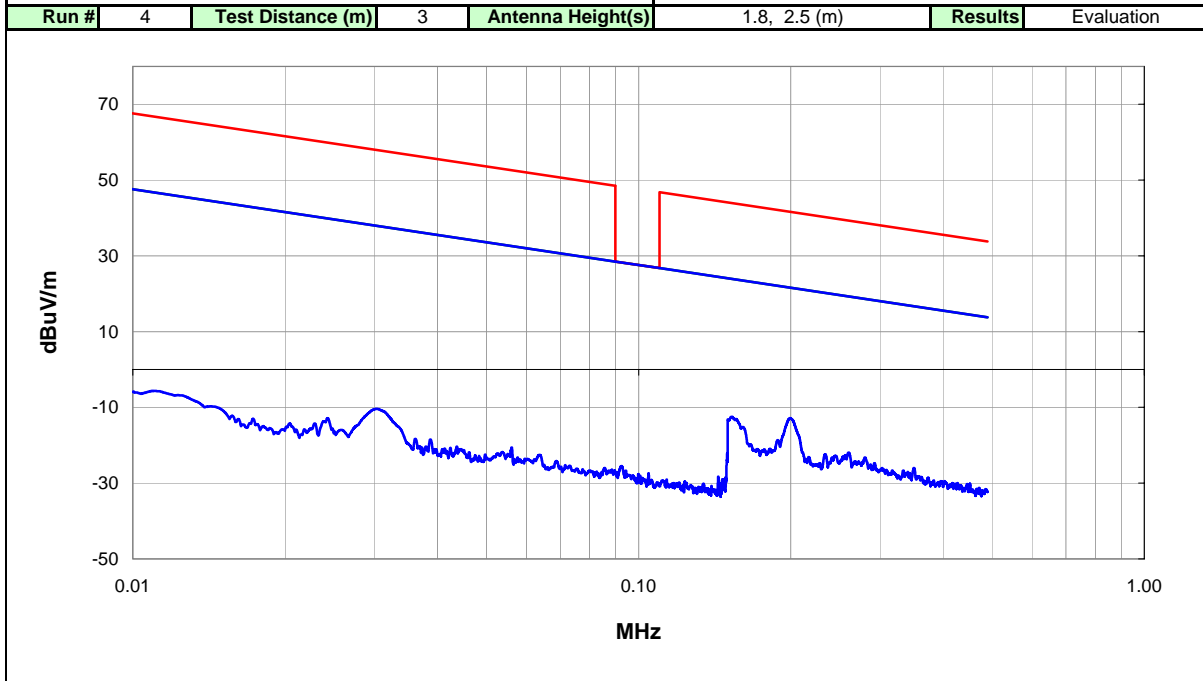
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
0.200	36.6	11.2	2.0	322.0	3.0	0.0	Perp to EUT	AV	-80.0	-32.2	21.6	-53.8	EUT Vertical
0.200	56.6	11.2	2.0	322.0	3.0	0.0	Perp to EUT	PK	-80.0	-12.2	41.7	-53.9	EUT Vertical
0.147	38.9	11.4	2.0	324.0	3.0	0.0	Perp to EUT	AV	-80.0	-29.7	24.3	-54.0	EUT Vertical
0.147	58.3	11.4	2.0	324.0	3.0	0.0	Perp to EUT	PK	-80.0	-10.3	44.0	-54.3	EUT Vertical

EMC

Field Strength of Fundamental

Work Order:	MDTR0119	Date:	12/27/11	Tested by: Bryan Weller
Project:	None	Temperature:	24.43 °C	
Job Site:	MN05	Humidity:	17.25% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1010.1 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	2			
Customer:	Medtronic Inc.			
Attendees:	Ben Timms			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 145 - 200 kHz			
Deviations:	None			
Comments:	Worst case EUT position.			

Test Specifications FCC 15.209:2011	Test Method ANSI C63.10:2009						
Run #	4	Test Distance (m)	3	Antenna Height(s)	1.8, 2.5 (m)	Results	Evaluation



Freq (MHz)	Amplitude (dBuV)	Preamp (dB)	Antenna Height (meters)	Transducer (dB)	Cable (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
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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 175 kHz.
Transmitting 145-200 kHz.

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0119 - 1
MDTR0119 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency	9 kHz	Stop Frequency	1000 MHz
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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
MN05 Cables	ESM Cable Corp.	Bilog Cables	MNH	2/2/2011	12 mo
Antenna X-Wing Bilog 30MHz-2GHz	Teseq	CBL 6141B	AYD	12/19/2011	12 mo
Antenna, Loop	ETS Lindgren	6502	AOB	2/9/2011	24 mo
Pre-Amplifier	Miteq	AM-1616-1000	AVY	7/1/2011	12 mo
Spectrum Analyzer	Agilent	E4446A	AAT	2/15/2011	12 mo

MEASUREMENT BANDWIDTHS

	Frequency Range	Peak Data	Quasi-Peak Data	Average Data
	(MHz)	(kHz)	(kHz)	(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 IF bandwidths and detectors specified. No video filter was used, except in the case of the FCC Average Measurements above 1GHz. In that case, a peak detector with a 10Hz video bandwidth was used.

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

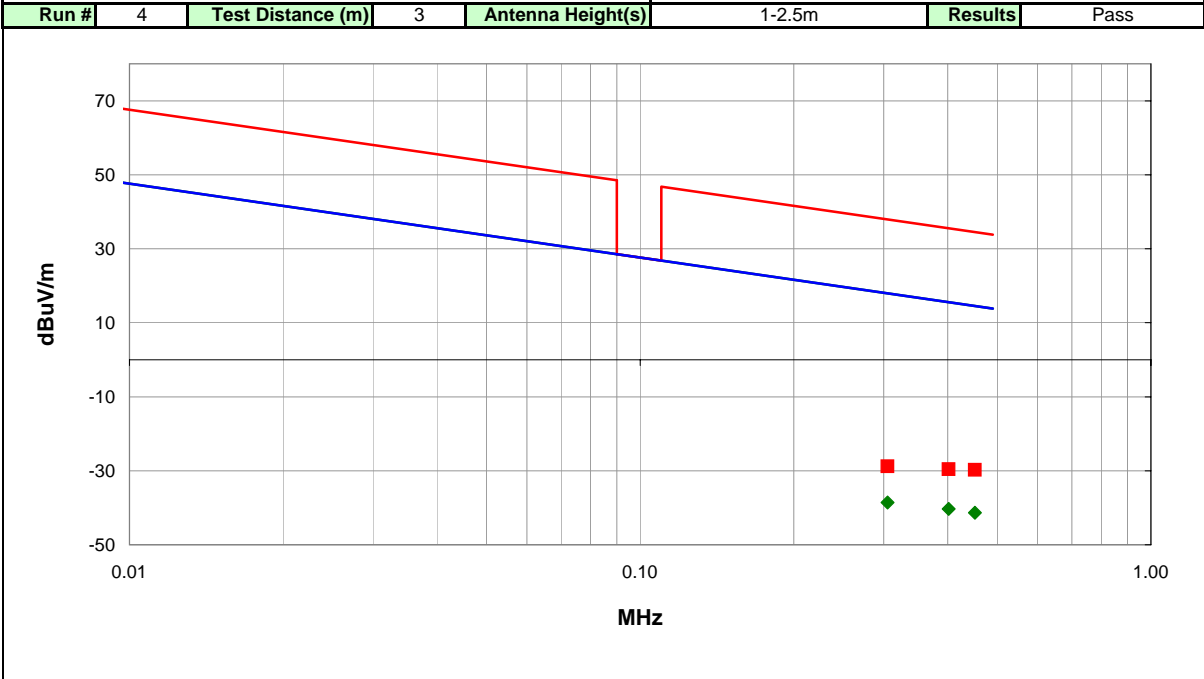
The antennas to be used with the EUT were tested. The EUT was transmitting and receiving while set at the channel available. While scanning, emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height and orientation in 3 orthogonal plane, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.10:2010). An active loop antenna was used for this test in order to provide sufficient measurement sensitivity.

EMC

Spurious Radiated Emissions

Work Order:	MDTR0119	Date:	12/27/11	<i>Bryan Weller</i> Tested by: Bryan Weller
Project:	None	Temperature:	24.43 °C	
Job Site:	MN05	Humidity:	17.25% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1010.1 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	2			
Customer:	Medtronic Inc.			
Attendees:	Ben Timms			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 145-200 kHz.			
Deviations:	None			
Comments:	No detectable emissions above the noise floor. Data below shows noise floor measurements for reference only. EUT Vertical.			

Test Specifications FCC 15.209:2011	Test Method ANSI C63.10:2009						
Run #	4	Test Distance (m)	3	Antenna Height(s)	1-2.5m	Results	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
0.402	28.2	11.5	2.0	264.0	3.0	0.0	Perp to EUT	AV	-80.0	-40.3	15.5	-55.8	
0.452	27.1	11.6	2.0	264.0	3.0	0.0	Perp to EUT	AV	-80.0	-41.3	14.5	-55.9	
0.305	30.0	11.4	2.0	29.0	3.0	0.0	Perp to EUT	AV	-80.0	-38.6	17.9	-56.5	
0.452	38.7	11.6	2.0	10.0	3.0	0.0	Perp to EUT	PK	-80.0	-29.7	34.5	-64.3	
0.402	38.9	11.5	2.0	264.0	3.0	0.0	Perp to EUT	PK	-80.0	-29.6	35.5	-65.1	
0.305	39.8	11.4	2.0	29.0	3.0	0.0	Perp to EUT	PK	-80.0	-28.8	37.9	-66.7	

EMC

Spurious Radiated Emissions

Work Order:	MDTR0119	Date:	12/27/11	Tested by: Bryan Weller
Project:	None	Temperature:	24.43 °C	
Job Site:	MN05	Humidity:	17.25% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1010.1 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	2			
Customer:	Medtronic Inc.			
Attendees:	Ben Timms			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 145-200 kHz.			
Deviations:	None			
Comments:	No detectable emissions above the noise floor. Data below shows noise floor measurements for reference only. EUT Vertical.			

Test Specifications FCC 15.209:2011	Test Method ANSI C63.10:2009						
Run #	4	Test Distance (m)	3	Antenna Height(s)	1.8, 2.5 (m)	Results	Evaluation



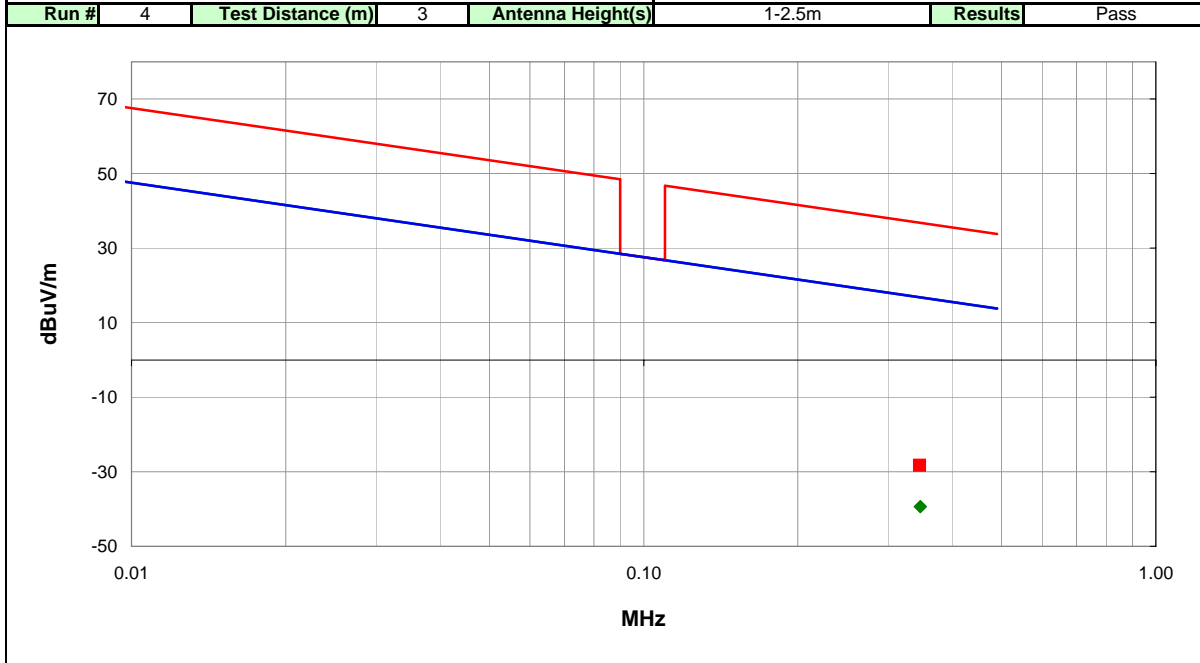
Freq (MHz)	Amplitude (dBuV)	Preamp (dB)	Antenna Height (meters)	Transducer (dB)	Cable (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
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EMC

Spurious Radiated Emissions

Work Order:	MDTR0119	Date:	12/27/11	<i>Bryan Weller</i> Tested by: Bryan Weller
Project:	None	Temperature:	24.43 °C	
Job Site:	MN05	Humidity:	17.25% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1010.1 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	1			
Customer:	Medtronic Inc.			
Attendees:	Ben Timms			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 175 kHz			
Deviations:	None			
Comments:	No detectable emissions above the noise floor. Data below shows noise floor measurements for reference only. EUT Vertical.			

Test Specifications FCC 15.209:2011	Test Method ANSI C63.10:2009						
Run #	4	Test Distance (m)	3	Antenna Height(s)	1-2.5m	Results	Pass



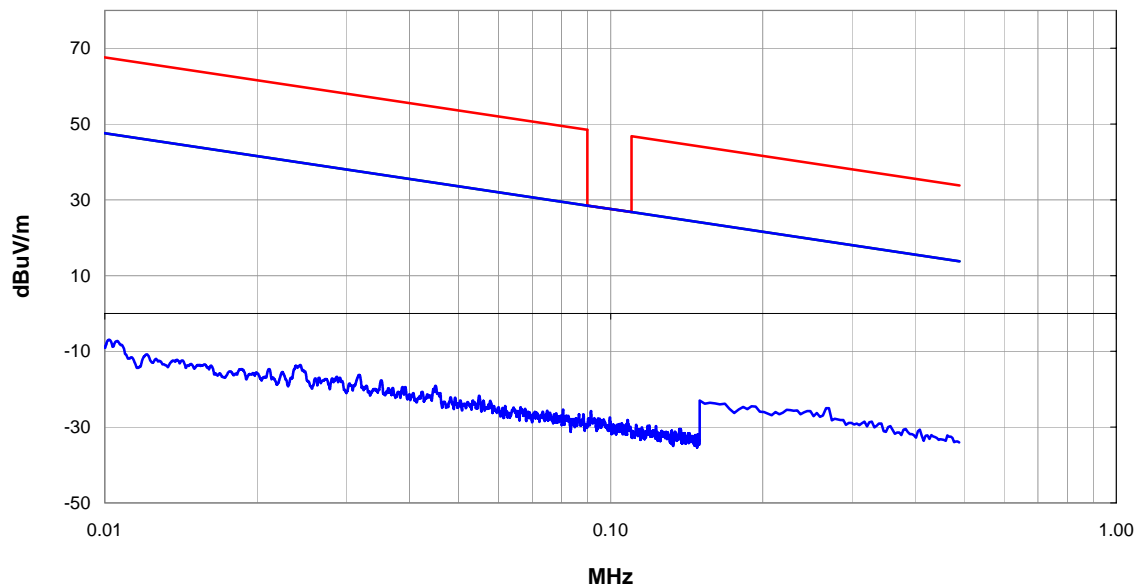
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
0.347	29.2	11.4	2.0	10.0	3.0	0.0	Perp to EUT	AV	-80.0	-39.4	16.8	-56.2
0.346	40.3	11.4	2.0	10.0	3.0	0.0	Perp to EUT	PK	-80.0	-28.3	36.8	-65.1

EMC

Spurious Radiated Emissions

Work Order:	MDTR0119	Date:	12/27/11	Tested by: Bryan Weller
Project:	None	Temperature:	24.43 °C	
Job Site:	MN05	Humidity:	17.25% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1010.1 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	1			
Customer:	Medtronic Inc.			
Attendees:	Ben Timms			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 175 kHz			
Deviations:	None			
Comments:	No detectable emissions above the noise floor. Data below shows noise floor measurements for reference only. EUT Vertical.			

Test Specifications FCC 15.209:2011	Test Method ANSI C63.10:2009						
Run #	1	Test Distance (m)	3	Antenna Height(s)	1.8, 2.5 (m)	Results	Evaluation



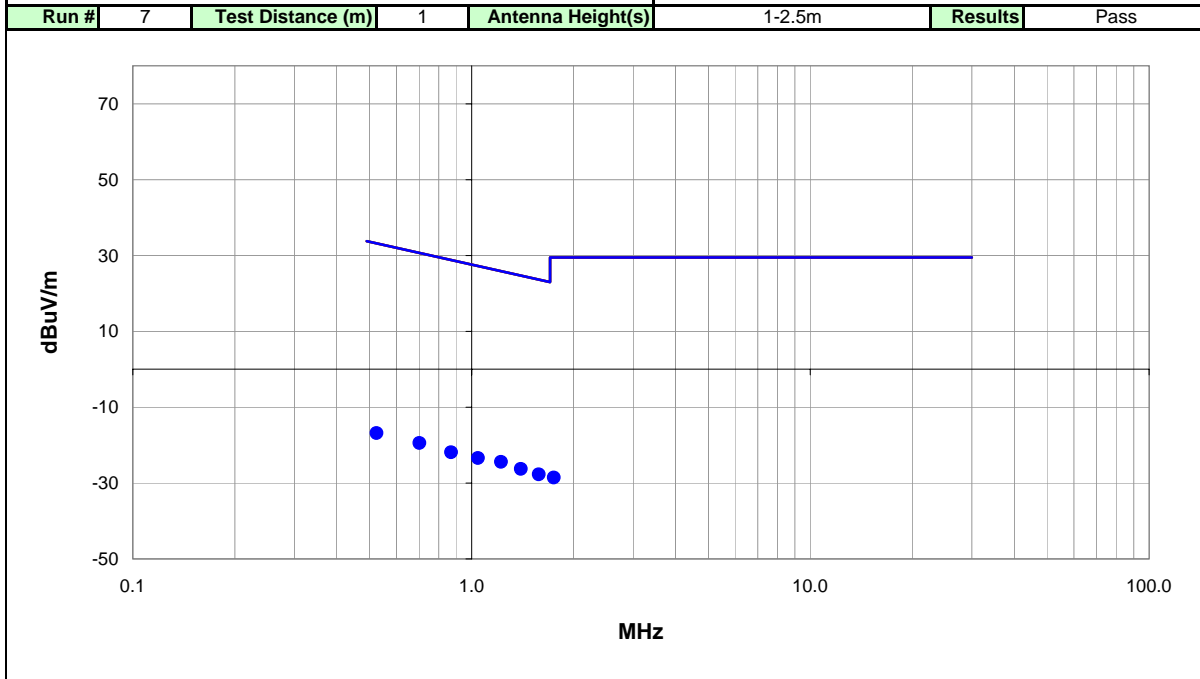
Freq (MHz)	Amplitude (dBuV)	Preamp (dB)	Antenna Height (meters)	Transducer (dB)	Cable (dB)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
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EMC

Spurious Radiated Emissions

Work Order:	MDTR0119	Date:	12/27/11	<i>Bryan Weller</i> Tested by: Bryan Weller
Project:	None	Temperature:	24.43 °C	
Job Site:	MN05	Humidity:	17.25% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1010.1 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	1			
Customer:	Medtronic Inc.			
Attendees:	Ben Timms			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 175 kHz			
Deviations:	None			
Comments:	No detectable emissions above the noise floor. Data below shows noise floor measurements for reference only. EUT Vertical.			

Test Specifications FCC 15.209:2011	Test Method ANSI C63.10:2009						
Run #	7	Test Distance (m)	1	Antenna Height(s)	1-2.5m	Results	Pass



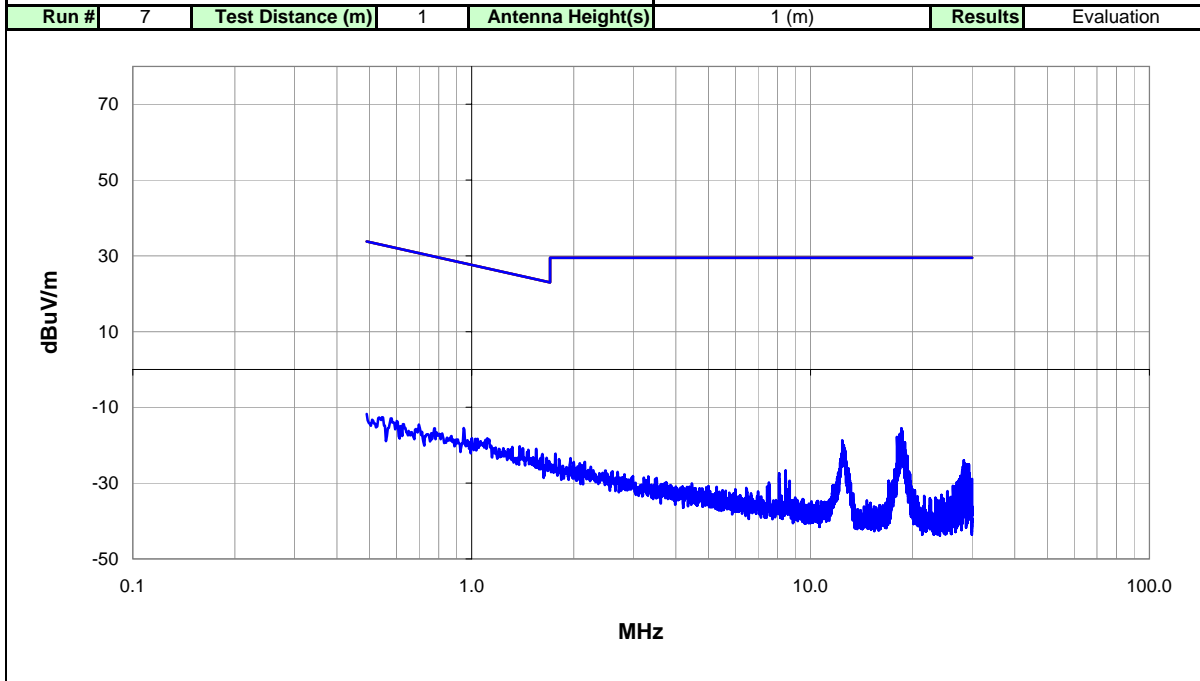
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
0.524	30.6	11.6	1.9	15.0	1.0	0.0	Perp to EUT	QP	-59.1	-16.9	33.2	-50.1
0.702	27.8	11.8	1.9	15.0	1.0	0.0	Perp to EUT	QP	-59.1	-19.5	30.7	-50.2
1.222	22.5	12.1	1.9	15.0	1.0	0.0	Perp to EUT	QP	-59.1	-24.4	25.9	-50.3
1.046	23.5	12.2	1.9	15.0	1.0	0.0	Perp to EUT	QP	-59.1	-23.4	27.2	-50.6
0.871	25.2	12.0	1.9	15.0	1.0	0.0	Perp to EUT	QP	-59.1	-21.9	28.8	-50.7
1.400	20.7	12.1	1.9	15.0	1.0	0.0	Perp to EUT	QP	-59.1	-26.3	24.7	-51.0
1.578	19.3	12.0	1.9	15.0	1.0	0.0	Perp to EUT	QP	-59.1	-27.7	23.7	-51.4
1.749	18.5	12.0	1.9	15.0	1.0	0.0	Perp to EUT	QP	-59.1	-28.6	29.5	-58.1

EMC

Spurious Radiated Emissions

Work Order:	MDTR0119	Date:	12/27/11	Tested by: Bryan Weller
Project:	None	Temperature:	24.43 °C	
Job Site:	MN05	Humidity:	17.25% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1010.1 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	1			
Customer:	Medtronic Inc.			
Attendees:	Ben Timms			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 175 kHz			
Deviations:	None			
Comments:	No detectable emissions above the noise floor. Data below shows noise floor measurements for reference only. EUT Vertical.			

Test Specifications FCC 15.209:2011	Test Method ANSI C63.10:2009						
Run #	7	Test Distance (m)	1	Antenna Height(s)	1 (m)	Results	Evaluation



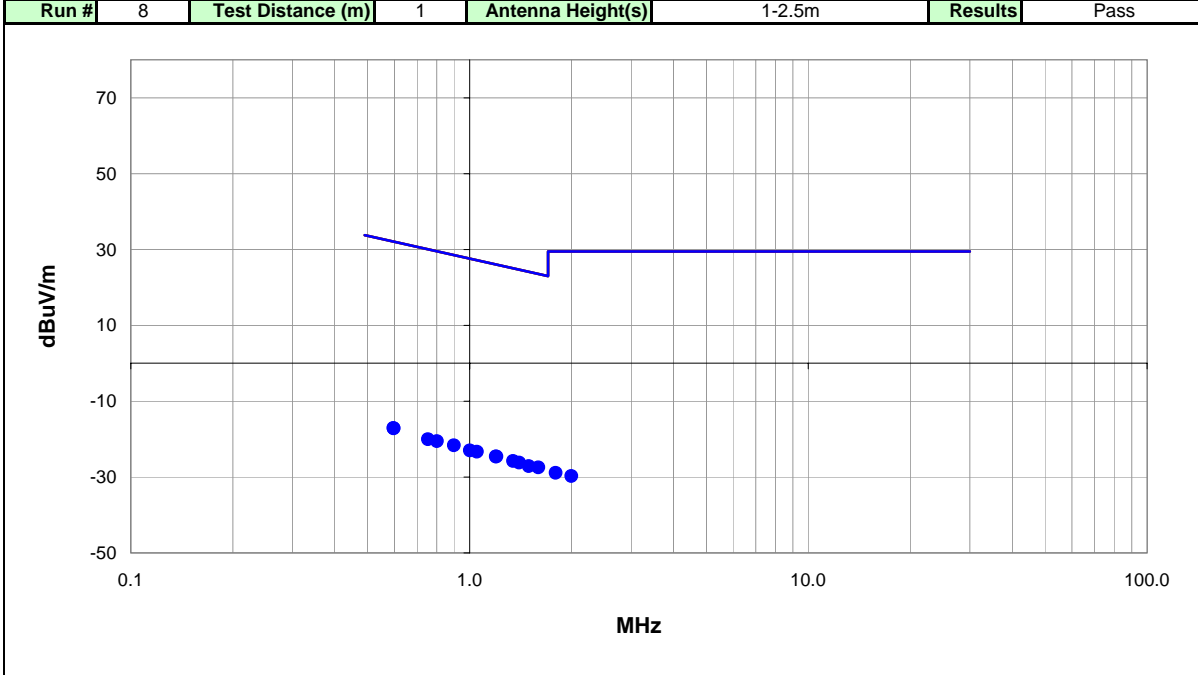
Freq (MHz)	Amplitude (dBuV)	Preamp (dB)	Antenna Height (meters)	Transducer (dB)	Cable (dB)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
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EMC

Spurious Radiated Emissions

Work Order:	MDTR0119	Date:	12/27/11	<i>Bryan Weller</i> Tested by: Bryan Weller
Project:	None	Temperature:	24.43 °C	
Job Site:	MN05	Humidity:	17.25% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1010.1 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	2			
Customer:	Medtronic Inc.			
Attendees:	Ben Timms			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 145-200 kHz			
Deviations:	None			
Comments:	No detectable emissions above the noise floor. Data below shows noise floor measurements for reference only. EUT Vertical.			

Test Specifications FCC 15.209:2011	Test Method ANSI C63.10:2009						
Run #	8	Test Distance (m)	1	Antenna Height(s)	1-2.5m	Results	Pass



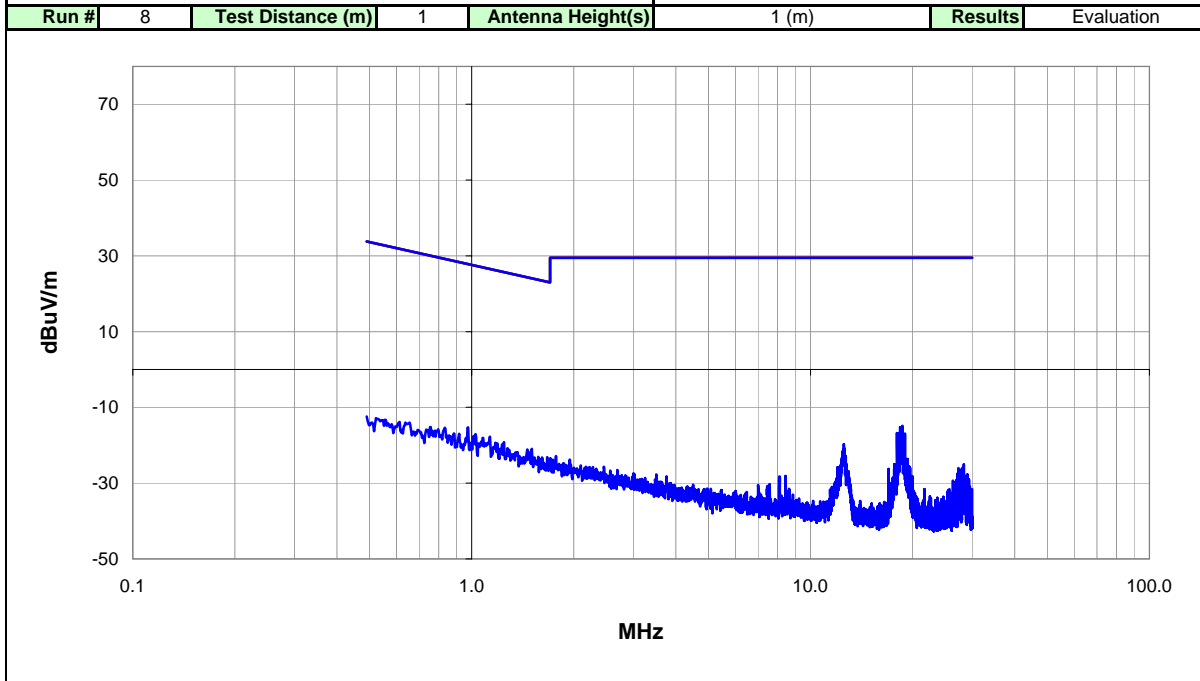
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
0.597	30.3	11.7	1.6	27.0	1.0	0.0	Perp to EUT	QP	-59.1	-17.1	32.1	-49.2
0.598	30.2	11.7	1.6	27.0	1.0	0.0	Perp to EUT	QP	-59.1	-17.2	32.1	-49.3
0.754	27.2	11.9	1.6	27.0	1.0	0.0	Perp to EUT	QP	-59.1	-20.0	30.1	-50.1
0.802	26.6	11.9	1.6	27.0	1.0	0.0	Perp to EUT	QP	-59.1	-20.6	29.5	-50.1
0.899	25.4	12.0	1.6	27.0	1.0	0.0	Perp to EUT	QP	-59.1	-21.6	28.5	-50.2
1.053	23.6	12.2	1.6	27.0	1.0	0.0	Perp to EUT	QP	-59.1	-23.3	27.2	-50.5
1.003	23.9	12.2	1.7	27.0	1.0	0.0	Perp to EUT	QP	-59.1	-23.0	27.6	-50.6
1.201	22.3	12.1	1.6	27.0	1.0	0.0	Perp to EUT	QP	-59.1	-24.6	26.0	-50.7
1.196	22.3	12.1	1.6	27.0	1.0	0.0	Perp to EUT	QP	-59.1	-24.6	26.1	-50.7
1.346	21.2	12.1	1.6	27.0	1.0	0.0	Perp to EUT	QP	-59.1	-25.8	25.0	-50.8
1.402	20.8	12.1	1.6	27.0	1.0	0.0	Perp to EUT	QP	-59.1	-26.2	24.7	-50.9
1.596	19.6	12.0	1.6	27.0	1.0	0.0	Perp to EUT	QP	-59.1	-27.5	23.6	-51.0
1.496	19.9	12.1	1.6	27.0	1.0	0.0	Perp to EUT	QP	-59.1	-27.1	24.1	-51.3
1.797	18.2	12.0	1.6	27.0	1.0	0.0	Perp to EUT	QP	-59.1	-28.9	29.5	-58.4
2.000	17.4	11.9	1.6	27.0	1.0	0.0	Perp to EUT	QP	-59.1	-29.8	29.5	-59.3

EMC

Spurious Radiated Emissions

Work Order:	MDTR0119	Date:	12/27/11	Tested by: Bryan Weller
Project:	None	Temperature:	24.43 °C	
Job Site:	MN05	Humidity:	17.25% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1010.1 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	2			
Customer:	Medtronic Inc.			
Attendees:	Ben Timms			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 145-200 kHz			
Deviations:	None			
Comments:	No detectable emissions above the noise floor. Data below shows noise floor measurements for reference only. EUT Vertical.			

Test Specifications FCC 15.209:2011	Test Method ANSI C63.10:2009						
Run #	8	Test Distance (m)	1	Antenna Height(s)	1 (m)	Results	Evaluation



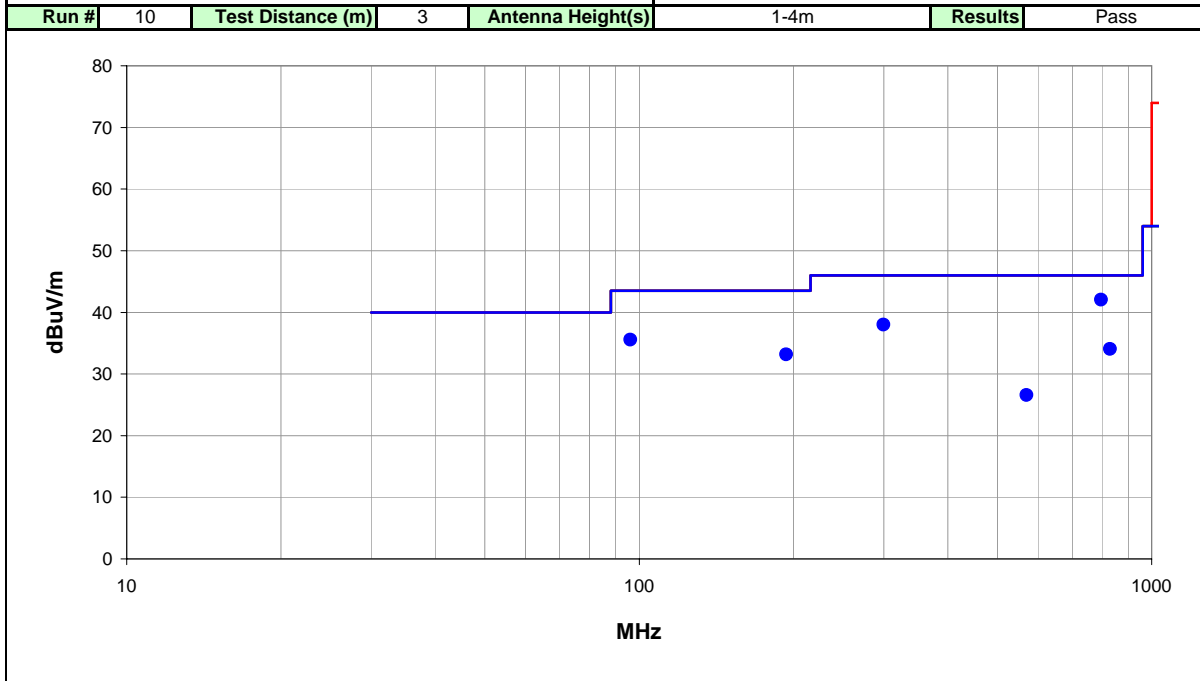
Freq (MHz)	Amplitude (dBuV)	Preamp (dB)	Antenna Height (meters)	Transducer (dB)	Cable (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
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EMC

Spurious Radiated Emissions

Work Order:	MDTR0119	Date:	12/27/11	<i>Bryan Weller</i> Tested by: Bryan Weller
Project:	None	Temperature:	24.43 °C	
Job Site:	MN05	Humidity:	17.25% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1010.1 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	2			
Customer:	Medtronic Inc.			
Attendees:	Ben Timms			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 145-200 kHz			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.209:2011	Test Method ANSI C63.10:2009						
Run #	10	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass



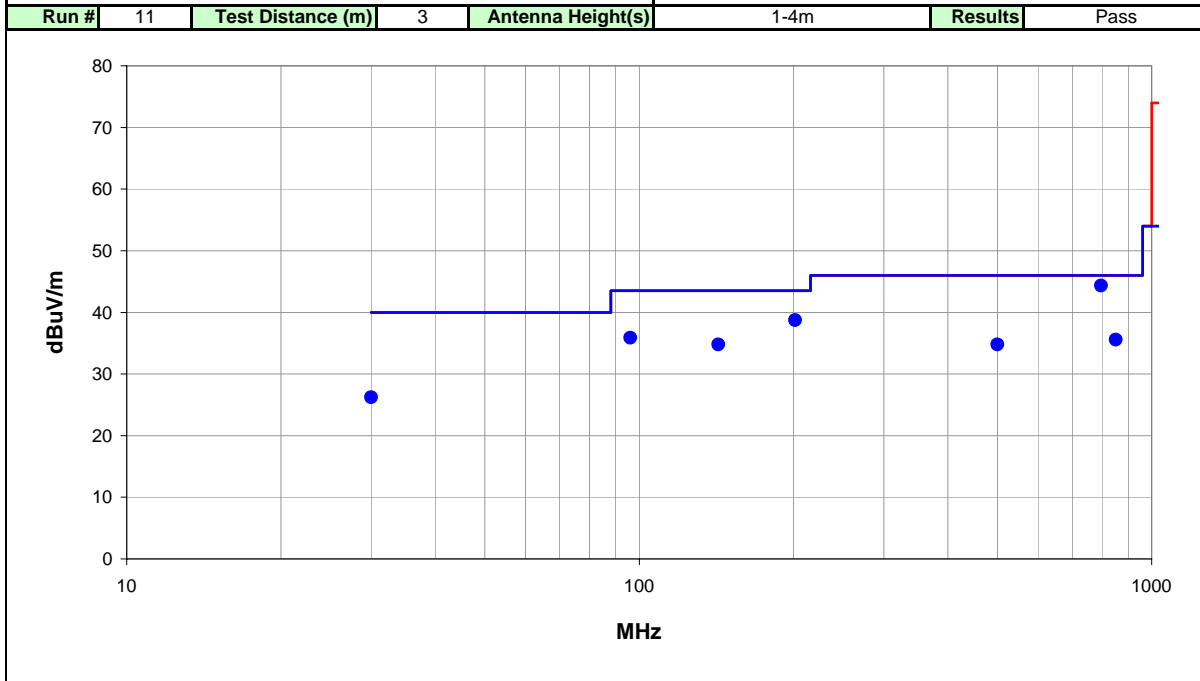
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
796.351	34.5	7.5	2.5	16.0	3.0	0.0	Horz	QP	0.0	42.0	46.0	-4.0
96.109	43.9	-8.3	2.5	177.0	3.0	0.0	Horz	QP	0.0	35.6	43.5	-7.9
299.837	41.4	-3.4	1.5	191.0	3.0	0.0	Vert	QP	0.0	38.0	46.0	-8.0
193.652	39.4	-6.2	1.3	33.0	3.0	0.0	Horz	QP	0.0	33.2	43.5	-10.3
829.731	26.9	7.2	1.0	3.0	3.0	0.0	Horz	QP	0.0	34.1	46.0	-11.9
570.004	22.6	4.0	1.0	221.0	3.0	0.0	Vert	QP	0.0	26.6	46.0	-19.4

EMC

Spurious Radiated Emissions

Work Order:	MDTR0119	Date:	12/27/11	<i>Bryan Weller</i> Tested by: Bryan Weller
Project:	None	Temperature:	24.43 °C	
Job Site:	MN05	Humidity:	17.25% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1010.1 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	1			
Customer:	Medtronic Inc.			
Attendees:	Ben Timms			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 175 kHz			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.209:2011	Test Method ANSI C63.10:2009						
Run #	11	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
796.383	36.8	7.5	1.5	21.0	3.0	0.0	Horz	QP	0.0	44.3	46.0	-1.7
201.607	44.5	-5.8	1.5	33.0	3.0	0.0	Horz	QP	0.0	38.7	43.5	-4.8
96.110	44.2	-8.3	2.3	163.0	3.0	0.0	Horz	QP	0.0	35.9	43.5	-7.6
142.786	39.6	-4.8	1.5	186.0	3.0	0.0	Horz	QP	0.0	34.8	43.5	-8.7
851.337	27.2	8.4	1.0	31.0	3.0	0.0	Horz	QP	0.0	35.6	46.0	-10.4
499.771	32.6	2.2	1.0	321.0	3.0	0.0	Vert	QP	0.0	34.8	46.0	-11.2
30.003	21.6	4.6	1.5	266.0	3.0	0.0	Vert	QP	0.0	26.2	40.0	-13.8

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 175 kHz
Transmitting 145-200 kHz

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0119 - 1
MDTR0119 - 2

SAMPLE CALCULATIONS

Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
LISN	Solar Electronics	9252-50-R-24-BNC	LIY	7/5/2011	12 mo
High Pass Filter	TTE	H97-100K-50-720B	HGN	6/28/2010	24 mo
MN03 Cables	ESM Cable Corp.	Conducted Cables	MNC	5/18/2011	12 mo
Attenuator, 20 dB	SM Electronics	SA01B-20	REF	1/3/2011	12 mo
Receiver	Rohde & Schwarz	ESCI	ARG	3/22/2011	12 mo

MEASUREMENT BANDWIDTHS

	Frequency Range	Peak Data	Quasi-Peak Data	Average Data
	(MHz)	(kHz)	(kHz)	(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

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

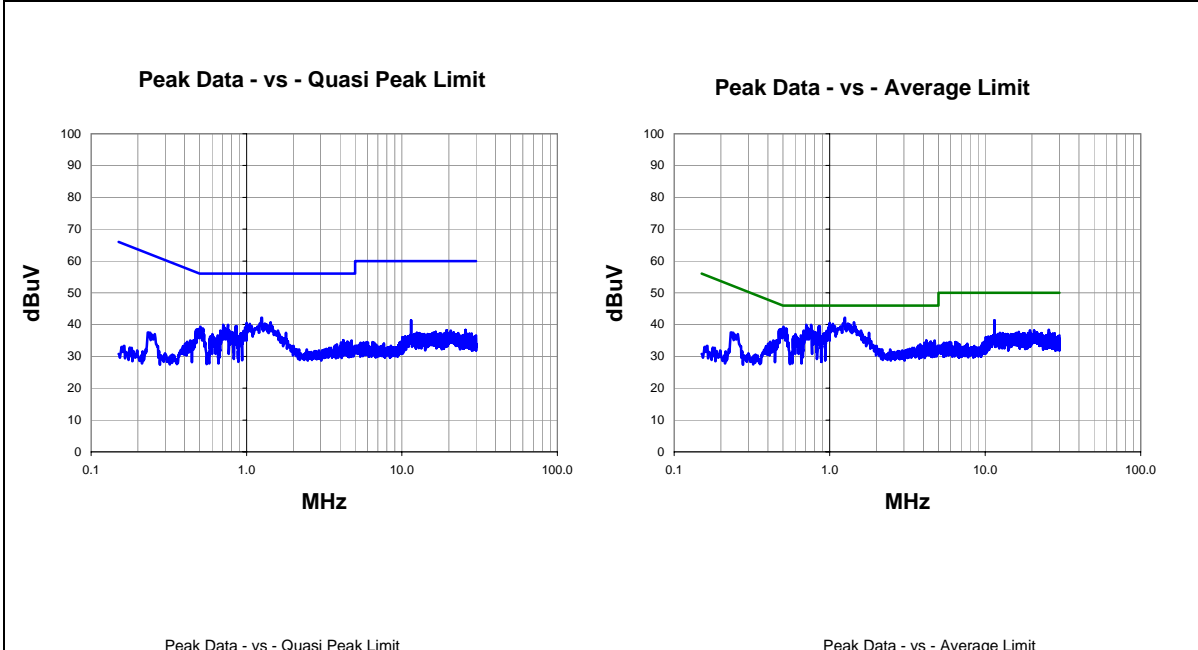
TEST DESCRIPTION

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. 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.

Work Order:	MDTR0119	Date:	12/28/11	<i>Bryan Weller</i> Tested by: Bryan Weller
Project:	None	Temperature:	24.41 °C	
Job Site:	MN03	Humidity:	13.26% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1014.6 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	1			
Customer:	Medtronic Inc.			
Attendees:	None			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 175 kHz			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.207:2011	Test Method ANSI C63.10:2009
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Run #	1	Line:	High Line	Ext. Attenuation:	20	Results	Pass
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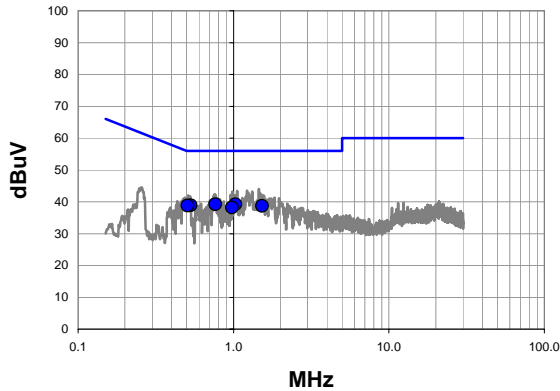
Peak Data - vs - Quasi Peak Limit						Peak Data - vs - Average Limit					
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)	Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
1.256	21.9	20.2	42.1	56.0	-13.9	1.256	21.9	20.2	42.1	46.0	-3.9
1.432	20.5	20.2	40.7	56.0	-15.3	1.432	20.5	20.2	40.7	46.0	-5.3
1.000	20.3	20.2	40.5	56.0	-15.5	1.000	20.3	20.2	40.5	46.0	-5.5
0.708	19.7	20.2	39.9	56.0	-16.1	0.708	19.7	20.2	39.9	46.0	-6.1
0.760	19.7	20.2	39.9	56.0	-16.1	0.760	19.7	20.2	39.9	46.0	-6.1
0.864	19.3	20.2	39.5	56.0	-16.5	0.864	19.3	20.2	39.5	46.0	-6.5
0.850	19.2	20.2	39.4	56.0	-16.6	0.850	19.2	20.2	39.4	46.0	-6.6
0.505	19.1	20.2	39.3	56.0	-16.7	0.505	19.1	20.2	39.3	46.0	-6.7
0.980	18.9	20.2	39.1	56.0	-16.9	0.980	18.9	20.2	39.1	46.0	-6.9
0.723	18.8	20.2	39.0	56.0	-17.0	0.723	18.8	20.2	39.0	46.0	-7.0
0.524	18.6	20.2	38.8	56.0	-17.2	0.524	18.6	20.2	38.8	46.0	-7.2
0.680	17.9	20.2	38.1	56.0	-17.9	0.680	17.9	20.2	38.1	46.0	-7.9
0.774	17.9	20.2	38.1	56.0	-17.9	0.774	17.9	20.2	38.1	46.0	-7.9
0.956	17.8	20.2	38.0	56.0	-18.0	0.956	17.8	20.2	38.0	46.0	-8.0
0.471	17.9	20.2	38.1	56.5	-18.4	0.471	17.9	20.2	38.1	46.5	-8.4
0.810	17.4	20.2	37.6	56.0	-18.4	0.810	17.4	20.2	37.6	46.0	-8.4
1.792	17.1	20.3	37.4	56.0	-18.6	1.792	17.1	20.3	37.4	46.0	-8.6
11.460	20.5	20.8	41.3	60.0	-18.7	11.460	20.5	20.8	41.3	50.0	-8.7
0.940	17.1	20.2	37.3	56.0	-18.7	0.940	17.1	20.2	37.3	46.0	-8.7
0.930	17.0	20.2	37.2	56.0	-18.8	0.930	17.0	20.2	37.2	46.0	-8.8

Work Order:	MDTR0119	Date:	12/28/11	<i>Bryan Weller</i> Tested by: Bryan Weller
Project:	None	Temperature:	24.41 °C	
Job Site:	MN03	Humidity:	13.26% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1014.6 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	1			
Customer:	Medtronic Inc.			
Attendees:	None			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 175 kHz			
Deviations:	None			
Comments:	None			

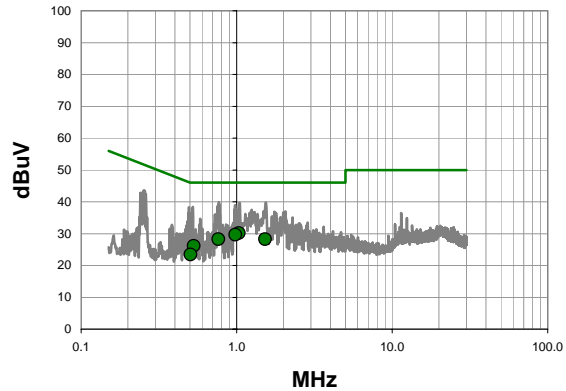
Test Specifications FCC 15.207:2011	Test Method ANSI C63.10:2009
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Run #	2	Line:	Neutral	Ext. Attenuation:	20	Results	Pass
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Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

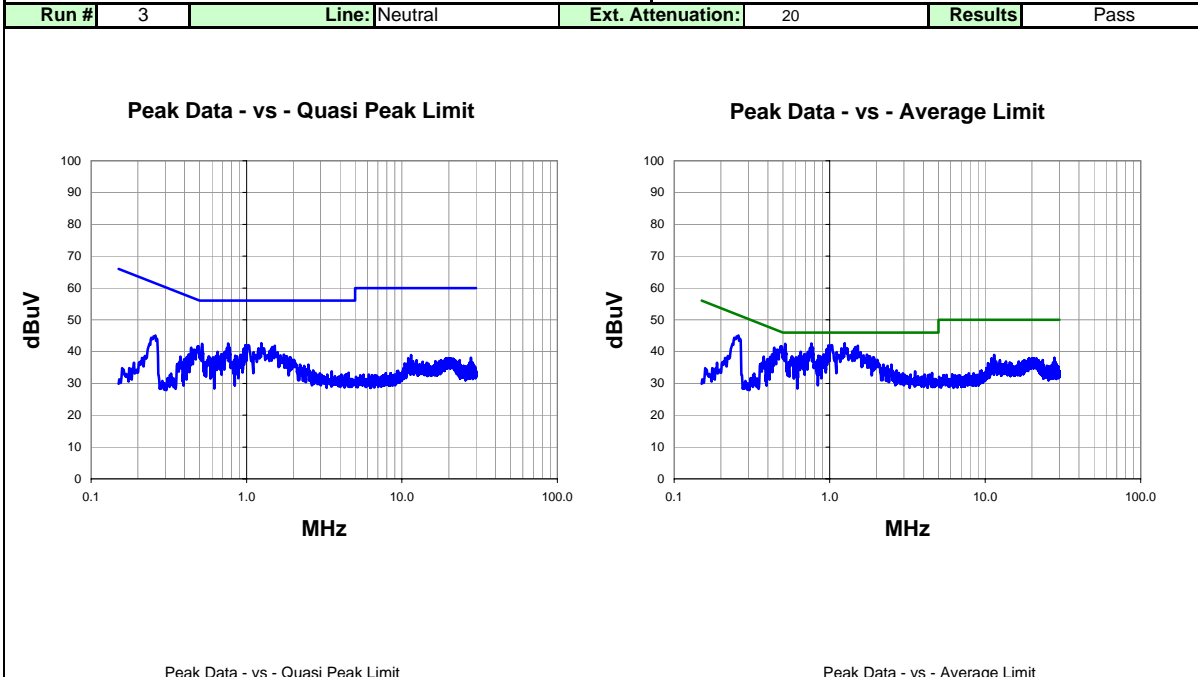
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
1.032	19.0	20.2	39.2	56.0	-16.8
0.763	19.0	20.2	39.2	56.0	-16.8
0.530	18.7	20.2	38.9	56.0	-17.1
0.505	18.6	20.2	38.8	56.0	-17.2
1.524	18.4	20.3	38.7	56.0	-17.3
0.980	18.0	20.2	38.2	56.0	-17.8

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
1.032	9.9	20.2	30.1	46.0	-15.9
0.980	9.4	20.2	29.6	46.0	-16.4
1.524	8.0	20.3	28.3	46.0	-17.7
0.763	8.0	20.2	28.2	46.0	-17.8
0.530	5.9	20.2	26.1	46.0	-19.9
0.505	3.2	20.2	23.4	46.0	-22.6

Work Order:	MDTR0119	Date:	12/28/11	<i>Bryan Weller</i> Tested by: Bryan Weller
Project:	None	Temperature:	24.41 °C	
Job Site:	MN03	Humidity:	13.26% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1014.6 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	2			
Customer:	Medtronic Inc.			
Attendees:	None			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 145-200 kHz.			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.207:2011	Test Method ANSI C63.10:2009						
Run #	3	Line:	Neutral	Ext. Attenuation:	20	Results	Pass



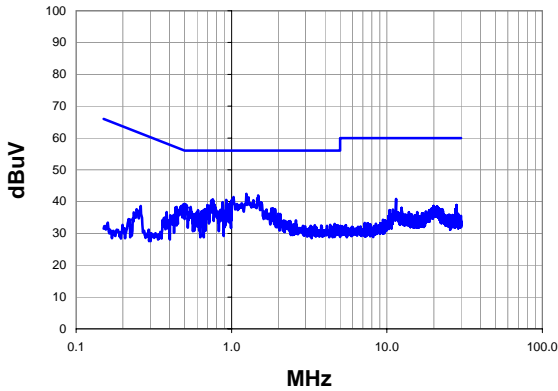
Peak Data - vs - Quasi Peak Limit						Peak Data - vs - Average Limit					
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)	Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
1.248	22.4	20.2	42.6	56.0	-13.4	1.248	22.4	20.2	42.6	46.0	-3.4
0.762	22.4	20.2	42.6	56.0	-13.4	0.762	22.4	20.2	42.6	46.0	-3.4
0.517	22.3	20.2	42.5	56.0	-13.5	0.517	22.3	20.2	42.5	46.0	-3.5
1.032	21.8	20.2	42.0	56.0	-14.0	1.032	21.8	20.2	42.0	46.0	-4.0
0.983	21.8	20.2	42.0	56.0	-14.0	0.983	21.8	20.2	42.0	46.0	-4.0
1.520	21.6	20.3	41.9	56.0	-14.1	1.520	21.6	20.3	41.9	46.0	-4.1
1.464	21.2	20.2	41.4	56.0	-14.6	1.464	21.2	20.2	41.4	46.0	-4.6
0.485	21.4	20.2	41.6	56.3	-14.7	0.485	21.4	20.2	41.6	46.3	-4.7
0.774	21.0	20.2	41.2	56.0	-14.8	0.774	21.0	20.2	41.2	46.0	-4.8
1.192	20.8	20.2	41.0	56.0	-15.0	1.192	20.8	20.2	41.0	46.0	-5.0
1.440	20.7	20.2	40.9	56.0	-15.1	1.440	20.7	20.2	40.9	46.0	-5.1
0.959	20.6	20.2	40.8	56.0	-15.2	0.959	20.6	20.2	40.8	46.0	-5.2
0.995	20.5	20.2	40.7	56.0	-15.3	0.995	20.5	20.2	40.7	46.0	-5.3
0.441	21.0	20.2	41.2	57.0	-15.8	0.441	21.0	20.2	41.2	47.0	-5.8
0.650	19.7	20.2	39.9	56.0	-16.1	0.650	19.7	20.2	39.9	46.0	-6.1
0.459	20.4	20.2	40.6	56.7	-16.1	0.459	20.4	20.2	40.6	46.7	-6.1
1.112	19.6	20.2	39.8	56.0	-16.2	1.112	19.6	20.2	39.8	46.0	-6.2
0.259	24.9	20.2	45.1	61.5	-16.4	0.259	24.9	20.2	45.1	51.5	-6.4
0.689	19.0	20.2	39.2	56.0	-16.8	0.689	19.0	20.2	39.2	46.0	-6.8
1.744	18.8	20.3	39.1	56.0	-16.9	1.744	18.8	20.3	39.1	46.0	-6.9

Work Order:	MDTR0119	Date:	12/28/11	<i>Bryan Weller</i> Tested by: Bryan Weller
Project:	None	Temperature:	24.41 °C	
Job Site:	MN03	Humidity:	13.26% RH	
Serial Number:	JVD000223P	Barometric Pres.:	1014.6 mbar	
EUT:	CARELINK ENCORE 29901			
Configuration:	2			
Customer:	Medtronic Inc.			
Attendees:	None			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 145-200 kHz			
Deviations:	None			
Comments:	None			

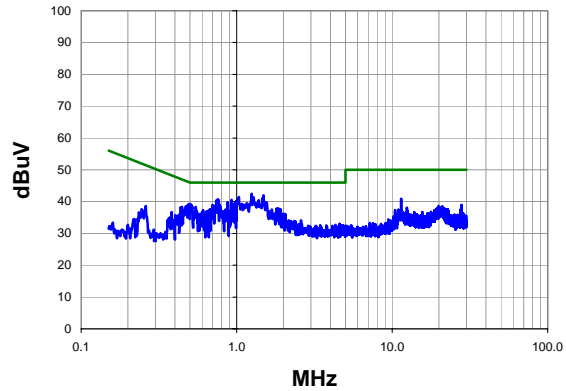
Test Specifications FCC 15.207:2011	Test Method ANSI C63.10:2009
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Run #	4	Line:	High Line	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
1.248	22.2	20.2	42.4	56.0	-13.6
1.488	21.7	20.2	41.9	56.0	-14.1
1.032	21.2	20.2	41.4	56.0	-14.6
0.757	20.5	20.2	40.7	56.0	-15.3
0.925	20.3	20.2	40.5	56.0	-15.5
0.740	20.1	20.2	40.3	56.0	-15.7
0.995	19.9	20.2	40.1	56.0	-15.9
0.878	19.6	20.2	39.8	56.0	-16.2
0.976	19.2	20.2	39.4	56.0	-16.6
0.504	19.0	20.2	39.2	56.0	-16.8
0.492	19.0	20.2	39.2	56.1	-16.9
0.774	18.8	20.2	39.0	56.0	-17.0
0.697	18.7	20.2	38.9	56.0	-17.1
0.704	18.5	20.2	38.7	56.0	-17.3
0.954	18.4	20.2	38.6	56.0	-17.4
0.482	18.5	20.2	38.7	56.3	-17.6
0.546	18.1	20.2	38.3	56.0	-17.7
1.848	17.6	20.3	37.9	56.0	-18.1
1.800	17.5	20.3	37.8	56.0	-18.2
0.674	17.4	20.2	37.6	56.0	-18.4

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
1.248	22.2	20.2	42.4	46.0	-3.6
1.488	21.7	20.2	41.9	46.0	-4.1
1.032	21.2	20.2	41.4	46.0	-4.6
0.757	20.5	20.2	40.7	46.0	-5.3
0.925	20.3	20.2	40.5	46.0	-5.5
0.740	20.1	20.2	40.3	46.0	-5.7
0.995	19.9	20.2	40.1	46.0	-5.9
0.878	19.6	20.2	39.8	46.0	-6.2
0.976	19.2	20.2	39.4	46.0	-6.6
0.504	19.0	20.2	39.2	46.0	-6.8
0.492	19.0	20.2	39.2	46.1	-6.9
0.774	18.8	20.2	39.0	46.0	-7.0
0.697	18.7	20.2	38.9	46.0	-7.1
0.704	18.5	20.2	38.7	46.0	-7.3
0.954	18.4	20.2	38.6	46.0	-7.4
0.482	18.5	20.2	38.7	46.3	-7.6
0.546	18.1	20.2	38.3	46.0	-7.7
1.848	17.6	20.3	37.9	46.0	-8.1
1.800	17.5	20.3	37.8	46.0	-8.2
0.674	17.4	20.2	37.6	46.0	-8.4