ADDENDUM TO MEDTRONIC MINIMED TEST REPORT FC07-084B

FOR THE

MEDTRONIC CARELINK™ USB, MMT-7305

FCC PART 15 SUBPART C SECTIONS 15.207, 15.209 & 15.249, SUBPART B SECTIONS 15.107 CLASS B & 15.109 CLASS B AND RSS-210 ISSUE 7

TESTING

DATE OF ISSUE: JANUARY 23, 2008

PREPARED FOR:

Medtronic MiniMed
18000 Devonshire Street
Northridge, CA 91325-1219

W.O. No.: 87068

PREPARED BY:

Mary Ellen Clayton
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Date of test: September 18 – October 4, 2007

Report No.: FC07-084B

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ADMINISTRATIVE INFORMATION

DATE OF TEST: September 18- October 4, 2007

DATE OF RECEIPT: September 18, 2007

REPRESENTATIVE: Bob Vitti

MANUFACTURER:
Medtronic MiniMed
18000 Devonshire Street
Northridge, CA 91325-1219

TEST LOCATION:
CKC Laboratories, Inc.
110 Olinda Place
Brea, CA 92823

TEST METHOD: ANSI C63.4 (2003), RSS-210 Issue 7 and RSS GEN Issue 2

PURPOSE OF TEST: Original Report: To perform the testing of the Medtronic CareLink™ USB, MMT-7305 with the requirements for FCC Part 15 Subpart C Sections 15.207, 15.209 & 15.249, Subpart B Sections 15.107 Class B & 15.109 Class B and RSS-210 devices.
Addendum A: To retest using a six foot shielded USB cable.
Addendum B: To revise the data sheet on page 30 and add the oscilloscope output.

APPROVALS

Steve Behm, Director of Engineering Services

QUALITY ASSURANCE:

Joyce Walker, Quality Assurance Administrative Manager

TEST PERSONNEL:

Eddie Wong, EMC Engineer

FCC TO CANADA STANDARD CORRELATION MATRIX

Canadian Standard	Canadian Section	FCC Standard	FCC Section	Test Description
RSS 210	2.1	47CFR	15.215(c)	Frequency Stability Recommendation
RSS 210	2.6	47CFR	15.209	General Radiated Emissions Requirement
RSS 210	2.7	47CFR	15.205	Restricted Bands of Operation
RSS 210	A2.9 (1)	47CFR	15.249(a)	Field Strength Limitations
RSS 210	A2.9 (1)	47CFR	15.249(c)	Test Distance Requirement
RSS 210	A2.9 (2)	47CFR	15.249(d)	Spurious Emissions Attenuation Requirement
RSS Gen	4.3	47CFR	15.35(c)	Pulsed Operation (N/A for 902-928MHz)
RSS Gen	7.2.2	47CFR	15.207	AC Mains Conducted Emissions Requirement
N/A	N/A	47CFR	15.249(b)	Point-to-Point Operations Limitations
N/A	N/A	47CFR	15.249(e)	Peak to Average Limit Requirement
	3172-A		90473	Site File No.

Notes: Rule Sections for RSS 210 are taken from RSS 210 Issue 7
This table applies to 902-928, 2400-2483.5, 5275-5875MHz bands only.

CONDITIONS DURING TESTING

No modifications to the EUT were necessary during testing.

FCC 15.31(m) Number Of Channels
This device was tested on a single channel.

FCC 15.33(a) Frequency Ranges Tested
15.107 Conducted Emissions: 150 kHz – 30 MHz
15.109 Radiated Emissions: 30 kHz – 1000 MHz
15.207 Conducted Emissions: 150 kHz – 30 MHz
15.209/15.249 Radiated Emissions: 9 kHz – 10 GHz

FCC SECTION 15.35: ANALYZER BANDWIDTH SETTINGS PER FREQUENCY RANGE			
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
CONDUCTED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	9 kHz	150 kHz	200 Hz
RADIATED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz
RADIATED EMISSIONS	1000 MHz	40 GHz	1 MHz

FCC 15.203 Antenna Requirements
The antenna is an integral part of the EUT and is non-removable; therefore the EUT complies with Section 15.203 of the FCC rules.

EUT Operating Frequency
The EUT was operating at 916.5 MHz.

Temperature And Humidity During Testing
The temperature during testing was within +15°C and + 35°C.
The relative humidity was between 20% and 75%.

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The customer declares the EUT tested by CKC Laboratories was representative of a production unit.

EQUIPMENT UNDER TEST

Medtronic CareLink™ USB

Manuf:	Medtronic MiniMed
Model:	MMT-7305
Serial:	A07370013
FCC ID:	pending

PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

Laptop

Manuf:	Dell
Model:	PP01L
Serial:	CN-06P823-48155_36K-4938

Insulin Pump

Manuf:	Medtronic Minimed
Model:	MMT-P7
Serial:	010217-F061
FCC ID:	OH2712

Printer

Manuf:	Epson
Model:	Stylus 880
Serial:	CMR1545596

REPORT OF EMISSIONS MEASUREMENTS

TESTING PARAMETERS

The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. Cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the setup photographs. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables.

The emissions data was taken with a spectrum analyzer or receiver. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in the table below. The corrected data was then compared to the applicable emission limits. Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in dBµV/m, the spectrum analyzer reading in dBµV was corrected by using the following formula. This reading was then compared to the applicable specification limit.

SAMPLE CALCULATIONS		
	Meter reading	(dBµV)
+	Antenna Factor	(dB)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dBµV/m)

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed were used to collect the emissions data. A spectrum analyzer or receiver was used for all measurements. The following table shows the measuring equipment bandwidth settings that were used in designated frequency bands. For testing emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used. When conducted emissions testing was performed, a 10 dB external attenuator was used with internal offset correction in the analyzer.

MEASURING EQUIPMENT BANDWIDTH SETTINGS PER FREQUENCY RANGE			
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
CONDUCTED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz
RADIATED EMISSIONS	1000 MHz	>1 GHz	1 MHz

SPECTRUM ANALYZER/RECEIVER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the emissions tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "Peak" mode. Whenever a "Quasi-Peak" or "Average" reading is listed as one of the highest readings, this is indicated as a "QP" or an "Ave" on the appropriate rows of the data sheets. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

Peak

In this mode, the spectrum analyzer/receiver readings were recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature of the measuring device called "peak hold," the measuring device had the ability to measure transients or low duty cycle transient emission peak levels. In this mode the measuring device made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

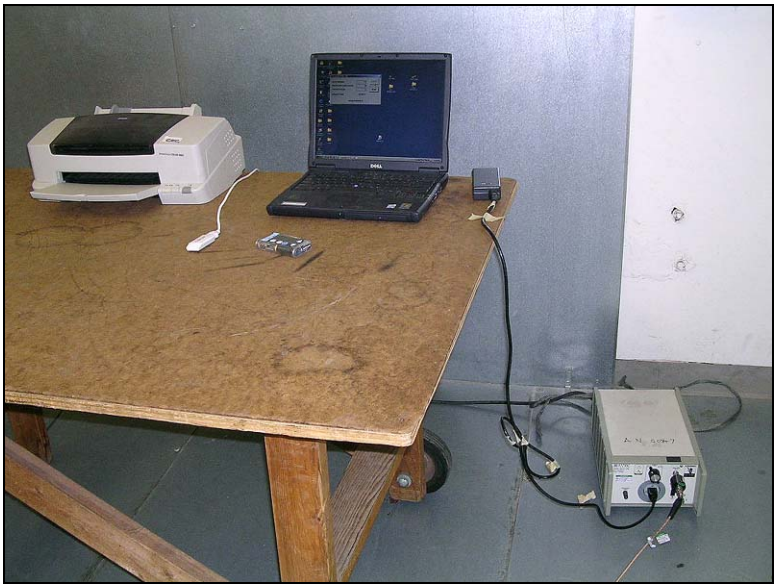
When the true peak values exceeded or were within 2 dB of the specification limit, quasi-peak measurements were taken using the quasi-peak detector.

Average

For certain frequencies, average measurements may be made using the spectrum analyzer/receiver. To make these measurements, the test engineer reduces the video bandwidth on the measuring device until the modulation of the signal is filtered out. At this point the measuring device is set into the linear mode and the scan time is reduced.

FCC 15.107 CONDUCTED EMISSIONS

Test Setup Photos



Test Data Sheets

Test Location: CKC Laboratories, Inc. •110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer:	**Medtronic MiniMed**		
Specification:	**FCC 15.107 Class B COND [AVE]**		
Work Order #:	**87068**	Date:	10/4/2007
Test Type:	**Conducted Emissions**	Time:	13:40:36
Equipment:	**Medtronic CareLink USB**	Sequence#:	9
Manufacturer:	Medtronic MiniMed	Tested By:	E. Wong
Model:	MMT-7305		110V 60Hz
S/N:	A07370013		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	US44300438	01/04/2007	01/04/2009	02672
LISN	1104	11/10/2006	11/10/2008	00847
6dB Attenuator	None	11/21/2006	11/21/2008	P05611
150kHz HPF	G7755	01/30/2006	01/30/2008	02610
Conducted Emission Cable	Cable #21	05/09/2006	05/09/2008	P04358

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Medtronic CareLink USB*	Medtronic MiniMed	MMT-7305	A07370013

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop	Dell	PP01L	CN-06P823-48155_36K-4938
Printer	Epson	Stylus 880	CMR1545596
Insulin Pump	Medtronic Minimed	MMT-P7	010217-F061

Test Conditions / Notes:

The EUT is placed on the wooden table with 10 cm of Styrofoam. The EUT is connected to the USB port of a support laptop via a 2 meter, shielded USB cable. Frequency = 916.5 MHz, TX/RX. The laptop is running test routines to exercise the EUT, transmits and receives data packets to a support receiver in the vicinity. Connected to the support laptop is a parallel printer. 24°C, 48% relative humidity. Rev 2, unit 1, CR5.

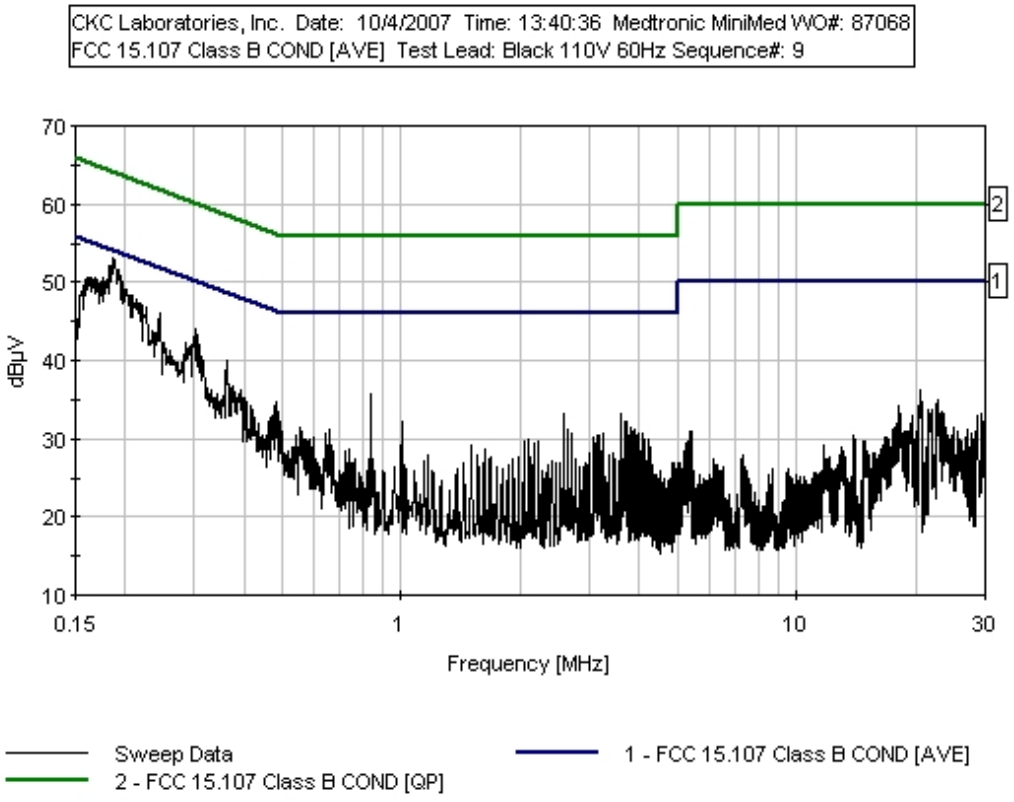
Transducer Legend:

T1=150kHz HPF Asset 02610	T2=6dB Attenuator P05611
T3=Cable #21 Conducted Site A 050908	T4=(L1) Insertion Loss 00847 EMCO 3816/2NM

Measurement Data: Reading listed by margin. Test Lead: Black

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	244.536k	39.5	+0.2	+6.1	+0.1	+0.1	+0.0	46.0	51.9	-5.9	Black
2	303.440k	37.4	+0.2	+6.2	+0.1	+0.1	+0.0	44.0	50.1	-6.1	Black
3	307.076k	35.8	+0.2	+6.2	+0.1	+0.1	+0.0	42.4	50.0	-7.6	Black

4	285.987k	35.7	+0.2	+6.2	+0.1	+0.1	+0.0	42.3	50.6	-8.3	Black
5	362.343k	33.4	+0.2	+6.2	+0.1	+0.0	+0.0	39.9	48.7	-8.8	Black
6	252.535k	35.7	+0.2	+6.1	+0.1	+0.1	+0.0	42.2	51.7	-9.5	Black
7	840.118k	29.4	+0.1	+6.1	+0.0	+0.1	+0.0	35.7	46.0	-10.3	Black
8	483.787k	28.0	+0.2	+6.2	+0.1	+0.1	+0.0	34.6	46.3	-11.7	Black
9	476.515k	27.5	+0.2	+6.2	+0.1	+0.1	+0.0	34.1	46.4	-12.3	Black
10	402.340k	28.8	+0.2	+6.2	+0.1	+0.0	+0.0	35.3	47.8	-12.5	Black
11	2.587M	26.7	+0.1	+6.2	+0.1	+0.2	+0.0	33.3	46.0	-12.7	Black
12	3.603M	26.4	+0.1	+6.2	+0.2	+0.2	+0.0	33.1	46.0	-12.9	Black
13	407.430k	28.1	+0.2	+6.2	+0.1	+0.0	+0.0	34.6	47.7	-13.1	Black
14	1.005M	26.0	+0.1	+6.1	+0.0	+0.1	+0.0	32.3	46.0	-13.7	Black
15	180.382k Ave	32.0	+0.3	+6.1	+0.1	+0.1	+0.0	38.6	54.5	-15.9	Black
16	187.087k Ave	18.8	+0.2	+6.1	+0.1	+0.1	+0.0	25.3	54.2	-28.9	Black
^	187.087k	46.6	+0.2	+6.1	+0.1	+0.1	+0.0	53.1	54.2	-1.1	Black


CKC Laboratories, Inc. Date: 10/4/2007 Time: 13:40:36 Medtronic MiniMed WO#: 87068
FCC 15.107 Class B COND [AVE] Test Lead: Black 110V 60Hz Sequence#: 9
70
60
50
40
30
20
10
dBµV
0.15
1
10
30
Frequency [MHz]
2
1
Sweep Data
2 - FCC 15.107 Class B COND [QP]
1 - FCC 15.107 Class B COND [AVE]

Test Location: CKC Laboratories, Inc. •110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer: **Medtronic MiniMed**
Specification: **FCC 15.107 Class B COND [AVE]**
Work Order #: **87068** Date: 10/4/2007
Test Type: **Conducted Emissions** Time: 13:37:08
Equipment: **Medtronic CareLink USB** Sequence#: 8
Manufacturer: Medtronic MiniMed Tested By: E. Wong
Model: MMT-7305 110V 60Hz
S/N: A07370013

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	US44300438	01/04/2007	01/04/2009	02672
LISN	1104	11/10/2006	11/10/2008	00847
6dB Attenuator	None	11/21/2006	11/21/2008	P05611
150kHz HPF	G7755	01/30/2006	01/30/2008	02610
Conducted Emission Cable	Cable #21	05/09/2006	05/09/2008	P04358

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Medtronic CareLink USB*	Medtronic MiniMed	MMT-7305	A07370013

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop	Dell	PP01L	CN-06P823-48155_36K-4938
Printer	Epson	Stylus 880	CMR1545596
Insulin Pump	Medtronic Minimed	MMT-P7	010217-F061

Test Conditions / Notes:

The EUT is placed on the wooden table with 10 cm of Styrofoam. The EUT is connected to the USB port of a support laptop via a 2 meter, shielded USB cable. Frequency = 916.5 MHz, TX/RX. The laptop is running test routines to exercise the EUT, transmits and receives data packets to a support receiver in the vicinity. Connected to the support laptop is a parallel printer. 24°C, 48% relative humidity. Rev 2, unit 1, CR5.

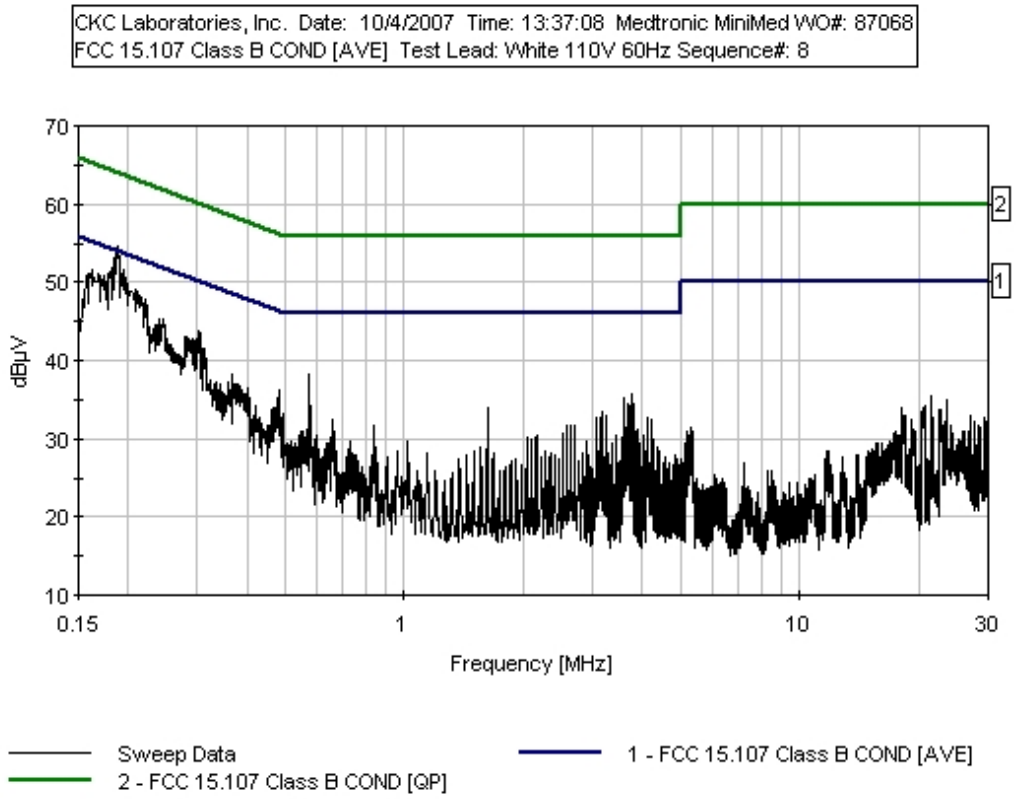
Transducer Legend:

T1=150kHz HPF Asset 02610	T2=6dB Attenuator P05611
T3=Cable #21 Conducted Site A 050908	T4=(L2) Insertion Loss 00847 EMCO 3816/2NM

Measurement Data: Reading listed by margin. Test Lead: White

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	161.634k	44.6	+0.6	+6.2	+0.1	+0.2	+0.0	51.7	55.4	-3.7	White
2	157.998k	43.5	+1.0	+6.2	+0.1	+0.2	+0.0	51.0	55.6	-4.6	White
3	301.985k	37.3	+0.2	+6.2	+0.1	+0.1	+0.0	43.9	50.2	-6.3	White
4	244.536k	38.8	+0.2	+6.1	+0.1	+0.2	+0.0	45.4	51.9	-6.5	White
5	307.076k	36.9	+0.2	+6.2	+0.1	+0.1	+0.0	43.5	50.0	-6.5	White

6	248.899k	38.0	+0.2	+6.1	+0.1	+0.1	+0.0	44.5	51.8	-7.3	White
7	293.259k	36.2	+0.2	+6.2	+0.1	+0.1	+0.0	42.8	50.4	-7.6	White
8	280.896k	36.6	+0.2	+6.1	+0.1	+0.1	+0.0	43.1	50.8	-7.7	White
9	576.869k	31.8	+0.2	+6.1	+0.1	+0.1	+0.0	38.3	46.0	-7.7	White
10	296.167k	35.9	+0.2	+6.2	+0.1	+0.1	+0.0	42.5	50.3	-7.8	White
11	311.439k	34.9	+0.2	+6.2	+0.1	+0.1	+0.0	41.5	49.9	-8.4	White
12	480.878k	29.6	+0.2	+6.2	+0.1	+0.1	+0.0	36.2	46.3	-10.1	White
13	181.314k Ave	30.8	+0.3	+6.1	+0.1	+0.2	+0.0	37.5	54.4	-16.9	White
^	181.269k	45.1	+0.3	+6.1	+0.1	+0.2	+0.0	51.8	54.4	-2.6	White
15	187.814k Ave	15.7	+0.2	+6.1	+0.1	+0.2	+0.0	22.3	54.1	-31.8	White
^	187.814k	47.9	+0.2	+6.1	+0.1	+0.2	+0.0	54.5	54.1	+0.4	White
17	194.359k Ave	9.8	+0.2	+6.1	+0.1	+0.2	+0.0	16.4	53.8	-37.4	White
^	194.359k	45.0	+0.2	+6.1	+0.1	+0.2	+0.0	51.6	53.8	-2.2	White


CKC Laboratories, Inc. Date: 10/4/2007 Time: 13:37:08 Medtronic MiniMed WO#: 87068
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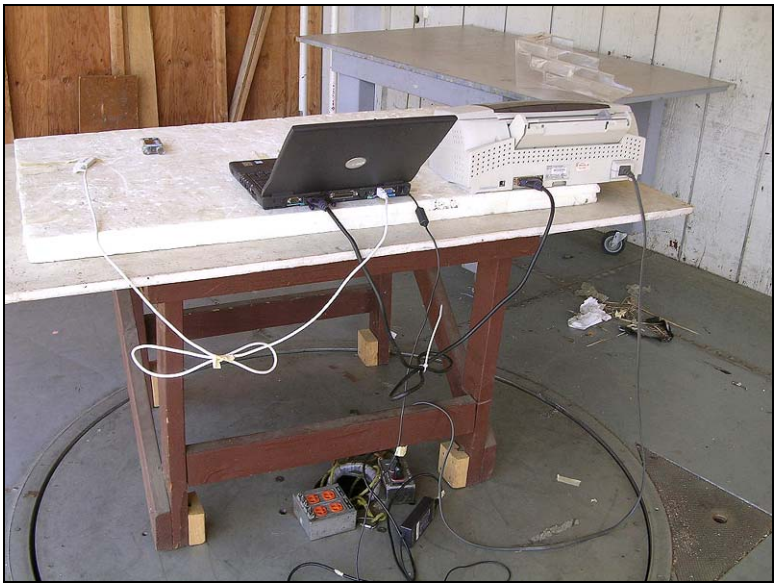
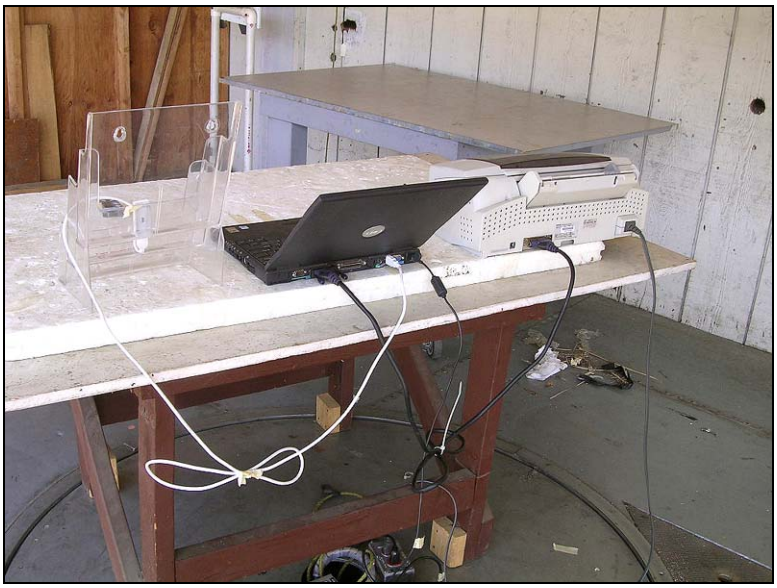
70
60
50
40
30
20
10
dBµV
0.15
1
10
30
Frequency [MHz]
2
1
Sweep Data
2 - FCC 15.107 Class B COND [QP]
1 - FCC 15.107 Class B COND [AVE]

FCC 15.109 RADIATED EMISSIONS

Test Setup Photos





Test Data Sheets

Test Location: CKC Laboratories, Inc. •110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer: **Medtronic MiniMed**
Specification: **FCC 15.109 Class B**
Work Order #: **87068** Date: 10/4/2007
Test Type: **Radiated Scan** Time: 11:47:35
Equipment: **Medtronic CareLink USB** Sequence#: 7
Manufacturer: Medtronic MiniMed Tested By: E. Wong
Model: MMT-7305
S/N: A07370013

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Bilog Antenna	2451	02/02/2006	02/02/2008	01995
Pre amp to SA Cable	Cable #10	05/16/2007	05/16/2009	P05050
Cable	Cable15	01/05/2007	01/05/2009	P05198
Pre Amp	1937A02548	06/01/2006	06/01/2008	00309
Horn Antenna	6246	06/29/2006	06/29/2008	00849
24" SMA Cable	1-26GHz_white	01/11/2007	01/11/2009	P05183
Microwave Pre-amp	3123A00281	07/19/2006	07/19/2008	00786
Heliax Antenna Cable	P5565	09/18/2006	09/18/2008	P05565
1.0 GHz HPF	1	03/07/2006	03/07/2008	02749
Spectrum Analyzer	US44300438	01/04/2007	01/04/2009	02672

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Medtronic CareLink USB*	Medtronic MiniMed	MMT-7305	A07370013

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop	Dell	PP01L	CN-06P823-48155_36K-4938
Printer	Epson	Stylus 880	CMR1545596
Insulin Pump	Medtronic Minimed	MMT-P7	010217-F061

Test Conditions / Notes:

The EUT is placed on the wooden table with 10 cm of Styrofoam. The EUT is connected to the USB port of a support laptop via a 2 meter, shielded USB cable. Frequency = 916.5 MHz TX/RX. The laptop is running test routines to exercise the EUT, transmits and receives data packets to a support receiver in the vicinity. Connected to the support laptop is a parallel printer. 24°C, 48% relative humidity. Frequency range of measurement = 30MHz-10 GHz. Frequency: 30 MHz - 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz - 10000 MHz RBW=1 MHz, VBW=1 MHz. Emission profile of three orthogonal orientations was investigated, worst case data is presented. Rev 2, unit 1, CR5.

Transducer Legend:

T1=Preamp 8447D 060108	T2=Bilog AN01995 020208 Chase
T3=Cable #10 051609	T4=Cable #15, Site A, 010509
T5=Pre amp 1- 26GHz 071908	T6=54' Heliax Cable 091808 P05565
T7=Horn 00849_062908	T8=SMA-cable_W_05183-011109-26GHz
T9=Filter 1GHz HP AN02749	

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6	T3 T7	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	158.100M	54.3	-27.7 +0.0 +0.0	+10.3 +0.0	+0.2 +0.0	+2.3 +0.0	+0.0	39.4	43.5	-4.1	Vert
2	56.900M	53.9	-27.7 +0.0 +0.0	+7.0 +0.0	+0.1 +0.0	+1.3 +0.0	+0.0	34.6	40.0	-5.4	Vert
3	36.077M	44.8	-27.8 +0.0 +0.0	+16.1 +0.0	+0.1 +0.0	+1.0 +0.0	+0.0	34.2	40.0	-5.8	Vert
4	56.328M	53.0	-27.7 +0.0 +0.0	+7.2 +0.0	+0.1 +0.0	+1.3 +0.0	+0.0	33.9	40.0	-6.1	Vert
5	398.620M	47.2	-27.8 +0.0 +0.0	+15.8 +0.0	+0.4 +0.0	+3.7 +0.0	+0.0	39.3	46.0	-6.7	Horiz
6	157.500M QP	51.3	-27.7 +0.0 +0.0	+10.4 +0.0	+0.2 +0.0	+2.3 +0.0	+0.0	36.5	43.5	-7.0	Horiz
^	157.500M	56.9	-27.7 +0.0 +0.0	+10.4 +0.0	+0.2 +0.0	+2.3 +0.0	+0.0	42.1	43.5	-1.4	Horiz

8	157.900M	50.8	-27.7	+10.4	+0.2	+2.3	+0.0	36.0	43.5	-7.5	Horiz
	QP		+0.0	+0.0	+0.0	+0.0					
			+0.0								
^	157.900M	56.5	-27.7	+10.4	+0.2	+2.3	+0.0	41.7	43.5	-1.8	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
10	60.600M	51.5	-27.7	+6.2	+0.1	+1.3	+0.0	31.4	40.0	-8.6	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
11	160.299M	49.8	-27.7	+10.2	+0.2	+2.3	+0.0	34.8	43.5	-8.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
12	599.971M	39.4	-27.4	+19.8	+0.5	+4.7	+0.0	37.0	46.0	-9.0	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
13	173.500M	49.6	-27.7	+9.5	+0.3	+2.4	+0.0	34.1	43.5	-9.4	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
14	33.061M	39.4	-27.8	+17.6	+0.1	+1.0	+0.0	30.3	40.0	-9.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
15	32.311M	38.5	-27.8	+17.9	+0.1	+1.0	+0.0	29.7	40.0	-10.3	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
16	912.050M	32.7	-27.2	+23.6	+0.5	+5.9	+0.0	35.5	46.0	-10.5	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
17	664.680M	35.9	-27.1	+20.5	+0.5	+5.0	+0.0	34.8	46.0	-11.2	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
18	165.600M	47.5	-27.7	+9.9	+0.3	+2.3	+0.0	32.3	43.5	-11.2	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
19	169.299M	47.5	-27.7	+9.7	+0.3	+2.4	+0.0	32.2	43.5	-11.3	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
20	480.042M	39.6	-27.6	+17.7	+0.3	+4.1	+0.0	34.1	46.0	-11.9	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
21	173.100M	46.5	-27.7	+9.5	+0.3	+2.4	+0.0	31.0	43.5	-12.5	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
22	398.900M	41.4	-27.8	+15.8	+0.4	+3.7	+0.0	33.5	46.0	-12.5	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
23	177.110M	46.8	-27.7	+9.2	+0.3	+2.4	+0.0	31.0	43.5	-12.5	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
24	288.005M	44.7	-27.6	+13.0	+0.2	+3.1	+0.0	33.4	46.0	-12.6	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

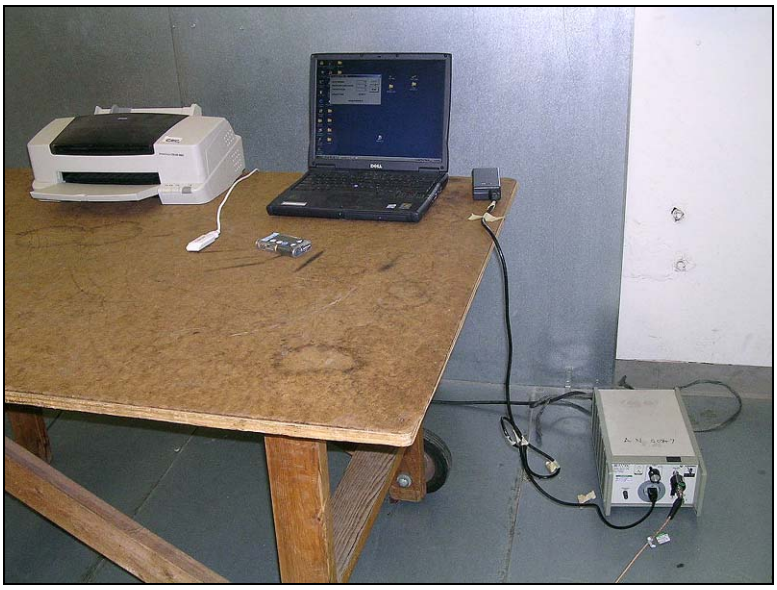
25	240.010M	46.2	-27.7 +0.0 +0.0	+11.8 +0.0	+0.3 +0.0	+2.8 +0.0	+0.0	33.4	46.0	-12.6	Horiz
26	1462.270M	51.5	+0.0 -39.3 +0.6	+0.0 +2.4	+0.0 +24.9	+0.0 +1.1	+0.0	41.2	54.0	-12.8	Vert
27	960.042M	36.7	-27.1 +0.0 +0.0	+24.7 +0.0	+0.7 +0.0	+6.1 +0.0	+0.0	41.1	54.0	-12.9	Horiz
28	144.000M	44.6	-27.7 +0.0 +0.0	+11.2 +0.0	+0.2 +0.0	+2.2 +0.0	+0.0	30.5	43.5	-13.0	Horiz
29	143.850M	44.4	-27.7 +0.0 +0.0	+11.2 +0.0	+0.2 +0.0	+2.2 +0.0	+0.0	30.3	43.5	-13.2	Horiz
30	398.740M	40.6	-27.8 +0.0 +0.0	+15.8 +0.0	+0.4 +0.0	+3.7 +0.0	+0.0	32.7	46.0	-13.3	Vert
31	720.000M	32.2	-27.1 +0.0 +0.0	+21.3 +0.0	+0.5 +0.0	+5.2 +0.0	+0.0	32.1	46.0	-13.9	Horiz
32	349.992M	40.4	-27.6 +0.0 +0.0	+14.5 +0.0	+0.3 +0.0	+3.5 +0.0	+0.0	31.1	46.0	-14.9	Horiz
33	208.005M	43.7	-27.6 +0.0 +0.0	+9.5 +0.0	+0.2 +0.0	+2.6 +0.0	+0.0	28.4	43.5	-15.1	Horiz
34	533.100M	34.0	-27.5 +0.0 +0.0	+19.2 +0.0	+0.4 +0.0	+4.4 +0.0	+0.0	30.5	46.0	-15.5	Vert
35	649.971M	31.2	-27.1 +0.0 +0.0	+20.4 +0.0	+0.5 +0.0	+4.9 +0.0	+0.0	29.9	46.0	-16.1	Horiz
36	384.005M	38.1	-27.7 +0.0 +0.0	+15.4 +0.0	+0.4 +0.0	+3.6 +0.0	+0.0	29.8	46.0	-16.2	Horiz
37	378.830M	38.1	-27.7 +0.0 +0.0	+15.3 +0.0	+0.4 +0.0	+3.6 +0.0	+0.0	29.7	46.0	-16.3	Horiz
38	332.950M	39.4	-27.6 +0.0 +0.0	+14.1 +0.0	+0.3 +0.0	+3.4 +0.0	+0.0	29.6	46.0	-16.4	Horiz
39	141.900M	40.8	-27.7 +0.0 +0.0	+11.2 +0.0	+0.2 +0.0	+2.1 +0.0	+0.0	26.6	43.5	-16.9	Horiz
40	960.030M	32.4	-27.1 +0.0 +0.0	+24.7 +0.0	+0.7 +0.0	+6.1 +0.0	+0.0	36.8	54.0	-17.2	Vert
41	120.600M	39.6	-27.6 +0.0 +0.0	+11.3 +0.0	+0.3 +0.0	+2.0 +0.0	+0.0	25.6	43.5	-17.9	Vert

42	47.971M	38.3	-27.7 +0.0 +0.0	+10.0 +0.0	+0.1 +0.0	+1.2 +0.0	+0.0	21.9	40.0	-18.1	Horiz
43	300.010M	38.4	-27.6 +0.0 +0.0	+13.2 +0.0	+0.2 +0.0	+3.2 +0.0	+0.0	27.4	46.0	-18.6	Horiz
44	365.280M	36.1	-27.7 +0.0 +0.0	+14.9 +0.0	+0.3 +0.0	+3.6 +0.0	+0.0	27.2	46.0	-18.8	Horiz
45	143.100M	38.8	-27.7 +0.0 +0.0	+11.2 +0.0	+0.2 +0.0	+2.1 +0.0	+0.0	24.6	43.5	-18.9	Vert
46	976.060M	30.4	-27.2 +0.0 +0.0	+24.6 +0.0	+0.7 +0.0	+6.2 +0.0	+0.0	34.7	54.0	-19.3	Horiz
47	992.030M	30.2	-27.2 +0.0 +0.0	+24.6 +0.0	+0.7 +0.0	+6.3 +0.0	+0.0	34.6	54.0	-19.4	Horiz
48	329.190M	36.5	-27.6 +0.0 +0.0	+14.0 +0.0	+0.3 +0.0	+3.4 +0.0	+0.0	26.6	46.0	-19.4	Vert
49	365.580M	35.4	-27.7 +0.0 +0.0	+14.9 +0.0	+0.3 +0.0	+3.6 +0.0	+0.0	26.5	46.0	-19.5	Horiz
50	992.070M	30.0	-27.2 +0.0 +0.0	+24.6 +0.0	+0.7 +0.0	+6.3 +0.0	+0.0	34.4	54.0	-19.6	Horiz
51	473.900M	31.6	-27.6 +0.0 +0.0	+17.6 +0.0	+0.4 +0.0	+4.1 +0.0	+0.0	26.1	46.0	-19.9	Horiz
52	336.690M	35.7	-27.6 +0.0 +0.0	+14.2 +0.0	+0.3 +0.0	+3.4 +0.0	+0.0	26.0	46.0	-20.0	Vert
53	232.530M	38.7	-27.6 +0.0 +0.0	+11.3 +0.0	+0.2 +0.0	+2.8 +0.0	+0.0	25.4	46.0	-20.6	Horiz
54	976.020M	28.8	-27.2 +0.0 +0.0	+24.6 +0.0	+0.7 +0.0	+6.2 +0.0	+0.0	33.1	54.0	-20.9	Vert
55	984.130M	28.6	-27.2 +0.0 +0.0	+24.6 +0.0	+0.7 +0.0	+6.2 +0.0	+0.0	32.9	54.0	-21.1	Vert
56	976.120M	28.5	-27.2 +0.0 +0.0	+24.6 +0.0	+0.7 +0.0	+6.2 +0.0	+0.0	32.8	54.0	-21.2	Horiz
57	330.600M	34.6	-27.6 +0.0 +0.0	+14.0 +0.0	+0.3 +0.0	+3.4 +0.0	+0.0	24.7	46.0	-21.3	Vert
58	322.530M	34.7	-27.6 +0.0 +0.0	+13.8 +0.0	+0.2 +0.0	+3.3 +0.0	+0.0	24.4	46.0	-21.6	Horiz

59	390.600M	32.4	-27.8 +0.0 +0.0	+15.6 +0.0	+0.4 +0.0	+3.7 +0.0	+0.0	24.3	46.0	-21.7	Vert
60	198.570M	37.5	-27.6 +0.0 +0.0	+8.8 +0.0	+0.2 +0.0	+2.6 +0.0	+0.0	21.5	43.5	-22.0	Vert
61	351.690M	33.2	-27.6 +0.0 +0.0	+14.5 +0.0	+0.3 +0.0	+3.5 +0.0	+0.0	23.9	46.0	-22.1	Vert
62	321.690M	34.1	-27.6 +0.0 +0.0	+13.8 +0.0	+0.2 +0.0	+3.3 +0.0	+0.0	23.8	46.0	-22.2	Vert
63	195.770M	36.7	-27.6 +0.0 +0.0	+8.8 +0.0	+0.2 +0.0	+2.6 +0.0	+0.0	20.7	43.5	-22.8	Horiz
64	1730.000M	39.3	+0.0 -39.0 +0.4	+0.0 +2.8	+0.0 +25.6	+0.0 +1.2	+0.0	30.3	54.0	-23.7	Vert
65	274.140M	32.7	-27.7 +0.0 +0.0	+12.9 +0.0	+0.3 +0.0	+3.0 +0.0	+0.0	21.2	46.0	-24.8	Vert
66	458.900M	26.6	-27.6 +0.0 +0.0	+17.3 +0.0	+0.4 +0.0	+4.0 +0.0	+0.0	20.7	46.0	-25.3	Horiz
67	1460.800M Ave	37.4	+0.0 -39.3 +0.6	+0.0 +2.4	+0.0 +24.9	+0.0 +1.1	+0.0	27.1	54.0	-26.9	Vert

FCC 15.207 CONDUCTED EMISSIONS

Test Setup Photos



Test Data Sheets

Test Location: CKC Laboratories, Inc. •110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer:	**Medtronic MiniMed**		
Specification:	**FCC 15.207 COND [AVE]**		
Work Order #:	**87068**	Date:	10/4/2007
Test Type:	**Conducted Emissions**	Time:	13:24:21
Equipment:	**Medtronic CareLink USB**	Sequence#:	41
Manufacturer:	Medtronic MiniMed	Tested By:	E. Wong
Model:	MMT-7305		110V 60Hz
S/N:	A07370013		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	US44300438	01/03/2007	01/03/2009	02672
LISN	1104	11/10/2006	11/10/2008	00847
6dB Attenuator	None	11/21/2006	11/21/2008	P05611
150kHz HPF	G7755	01/30/2006	01/30/2008	02610
Conducted Emission Cable	Cable #21	05/09/2006	05/09/2008	P04358

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Medtronic CareLink USB*	Medtronic MiniMed	MMT-7305	A07370013

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop	Dell	PP01L	CN-06P823-48155_36K-4938
Insulin Pump	Medtronic Minimed	MMT-P7	010217-F061

Test Conditions / Notes:

The EUT is placed on the wooden table with 10 cm of Styrofoam. The EUT is connected to the USB port of a support laptop via a 2 meter, shielded USB cable. Frequency = 916.5 MHz. The laptop is running test routines to exercise the EUT. Rev 2_CR5, unit 2 (Hardware and software identical to Rev2, Rev2_CR5 incorporates a tracking ID for documentation purposes).

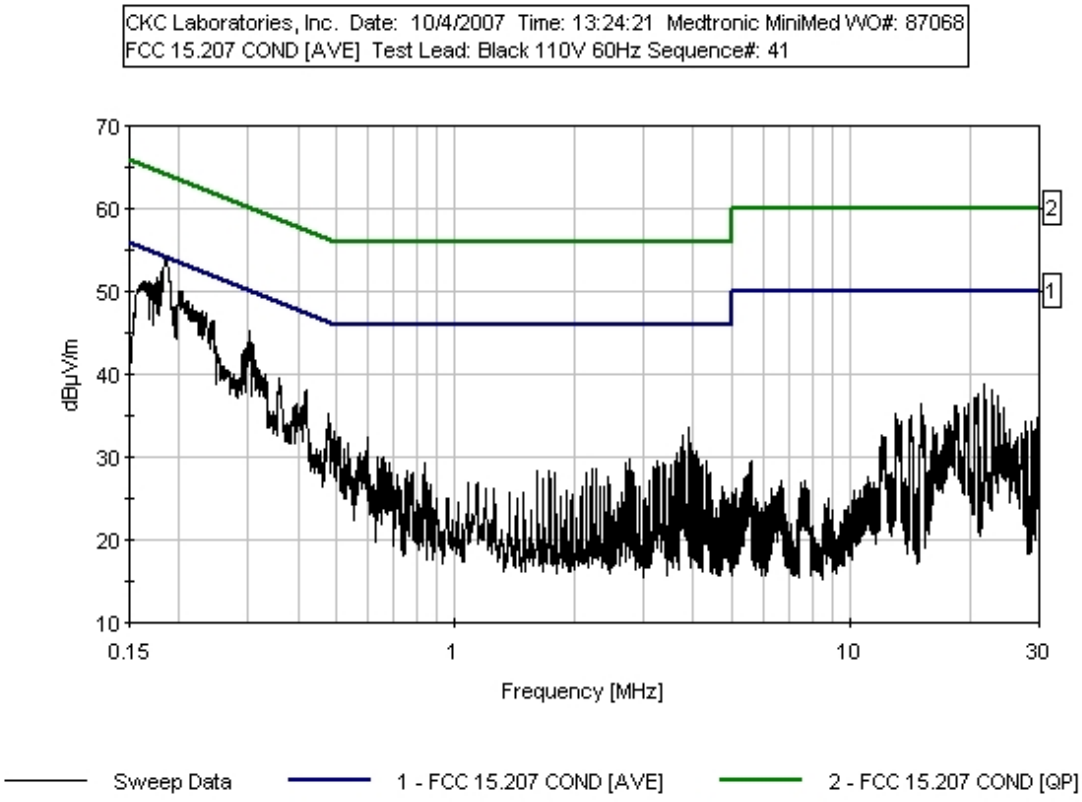
Transducer Legend:

T1=150kHz HPF Asset 02610	T2=6dB Attenuator P05611
T3=Cable #21 Conducted Site A 050908	T4=(L1) Insertion Loss 00847 EMCO 3816/2NM

Measurement Data: Reading listed by margin. Test Lead: Black

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	200.177k	43.6	+0.2	+6.1	+0.1	+0.1	+0.0	50.1	53.6	-3.5	Black
2	168.180k	44.5	+0.4	+6.2	+0.1	+0.1	+0.0	51.3	55.0	-3.7	Black
3	169.635k	44.1	+0.4	+6.2	+0.1	+0.1	+0.0	50.9	55.0	-4.1	Black
4	235.810k	40.9	+0.2	+6.1	+0.1	+0.1	+0.0	47.4	52.2	-4.8	Black

5	302.713k	38.6	+0.2	+6.2	+0.1	+0.1	+0.0	45.2	50.2	-5.0	Black
6	307.804k	36.9	+0.2	+6.2	+0.1	+0.1	+0.0	43.5	50.0	-6.5	Black
7	293.987k	36.5	+0.2	+6.2	+0.1	+0.1	+0.0	43.1	50.4	-7.3	Black
8	288.169k	35.9	+0.2	+6.2	+0.1	+0.1	+0.0	42.5	50.6	-8.1	Black
9	311.440k	35.0	+0.2	+6.2	+0.1	+0.1	+0.0	41.6	49.9	-8.3	Black
10	248.900k	36.8	+0.2	+6.1	+0.1	+0.1	+0.0	43.3	51.8	-8.5	Black
11	358.708k	33.0	+0.2	+6.2	+0.1	+0.0	+0.0	39.5	48.8	-9.3	Black
12	421.975k	31.6	+0.2	+6.2	+0.1	+0.0	+0.0	38.1	47.4	-9.3	Black
13 Ave	179.473k	33.6	+0.3	+6.1	+0.1	+0.1	+0.0	40.2	54.5	-14.3	Black
^	179.473k	49.4	+0.3	+6.1	+0.1	+0.1	+0.0	56.0	54.5	+1.5	Black
^	176.907k	45.0	+0.3	+6.1	+0.1	+0.1	+0.0	51.6	54.6	-3.0	Black
^	175.452k	44.4	+0.3	+6.1	+0.1	+0.1	+0.0	51.0	54.7	-3.7	Black
17 Ave	185.633k	21.5	+0.2	+6.1	+0.1	+0.1	+0.0	28.0	54.2	-26.2	Black
^	185.633k	47.6	+0.2	+6.1	+0.1	+0.1	+0.0	54.1	54.2	-0.1	Black


CKC Laboratories, Inc. Date: 10/4/2007 Time: 13:24:21 Medtronic MiniMed WO#: 87068
FCC 15.207 COND [AVE] Test Lead: Black 110V 60Hz Sequence#: 41
70
60
50
40
30
20
10
dBµV/m
0.15
1
10
30
Frequency [MHz]
2
1
Sweep Data
1 - FCC 15.207 COND [AVE]
2 - FCC 15.207 COND [QP]

Test Location: CKC Laboratories, Inc. •110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer:	**Medtronic MiniMed**		
Specification:	**FCC 15.207 COND [AVE]**		
Work Order #:	**87068**	Date:	10/4/2007
Test Type:	**Conducted Emissions**	Time:	13:28:12
Equipment:	**Medtronic CareLink USB**	Sequence#:	42
Manufacturer:	Medtronic MiniMed	Tested By:	E. Wong
Model:	MMT-7305		110V 60Hz
S/N:	A07370013		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	US44300438	01/03/2007	01/03/2009	02672
LISN	1104	11/10/2006	11/10/2008	00847
6dB Attenuator	None	11/21/2006	11/21/2008	P05611
150kHz HPF	G7755	01/30/2006	01/30/2008	02610
Conducted Emission Cable	Cable #21	05/09/2006	05/09/2008	P04358

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Medtronic CareLink USB*	Medtronic MiniMed	MMT-7305	A07370013

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop	Dell	PP01L	CN-06P823-48155_36K-4938
Insulin Pump	Medtronic Minimed	MMT-P7	010217-F061

Test Conditions / Notes:

The EUT is placed on the wooden table with 10 cm of Styrofoam. The EUT is connected to the USB port of a support laptop via a 2 meter, shielded USB cable. Frequency = 916.5 MHz. The laptop is running test routines to exercise the EUT. Rev 2_CR5, unit 2 (Hardware and software identical to Rev2, Rev2_CR5 incorporates a tracking ID for documentation purposes).

Transducer Legend:

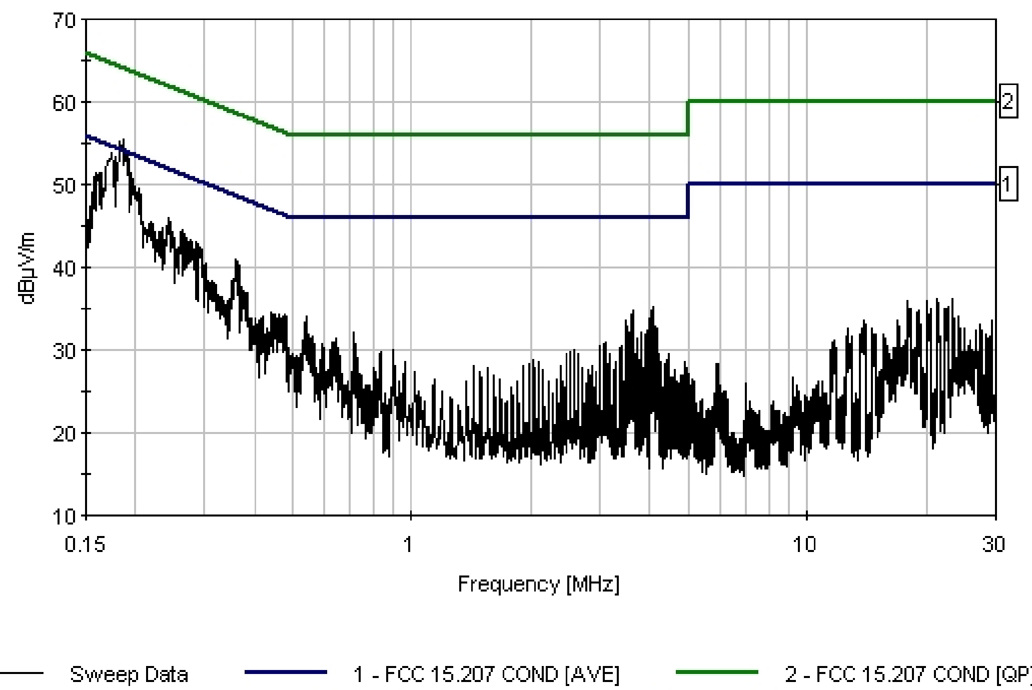
T1=150kHz HPF Asset 02610	T2=6dB Attenuator P05611
T3=Cable #21 Conducted Site A 050908	T4=(L2) Insertion Loss 00847 EMCO 3816/2NM

Measurement Data: Reading listed by margin. Test Lead: White

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	205.267k	43.0	+0.2	+6.1	+0.1	+0.2	+0.0	49.6	53.4	-3.8	White
2	241.627k	39.4	+0.2	+6.1	+0.1	+0.2	+0.0	46.0	52.0	-6.0	White
3	262.716k	38.0	+0.2	+6.1	+0.1	+0.1	+0.0	44.5	51.3	-6.8	White
4	219.084k	38.8	+0.2	+6.1	+0.1	+0.2	+0.0	45.4	52.9	-7.5	White
5	235.809k	38.1	+0.2	+6.1	+0.1	+0.2	+0.0	44.7	52.2	-7.5	White

6	285.259k	36.4	+0.2	+6.2	+0.1	+0.1	+0.0	43.0	50.7	-7.7	White
7	359.434k	34.3	+0.2	+6.2	+0.1	+0.1	+0.0	40.9	48.7	-7.8	White
8	290.350k	35.9	+0.2	+6.2	+0.1	+0.1	+0.0	42.5	50.5	-8.0	White
9	230.719k	37.7	+0.2	+6.1	+0.1	+0.2	+0.0	44.3	52.4	-8.1	White
10	300.531k	33.8	+0.2	+6.2	+0.1	+0.1	+0.0	40.4	50.2	-9.8	White
11	366.706k	32.2	+0.2	+6.2	+0.1	+0.1	+0.0	38.8	48.6	-9.8	White
12	297.622k	33.1	+0.2	+6.2	+0.1	+0.1	+0.0	39.7	50.3	-10.6	White
13 Ave	178.402k	31.8	+0.3	+6.1	+0.1	+0.2	+0.0	38.5	54.6	-16.1	White
^	178.402k	48.6	+0.3	+6.1	+0.1	+0.2	+0.0	55.3	54.6	+0.7	White
^	174.724k	47.1	+0.4	+6.1	+0.1	+0.2	+0.0	53.9	54.7	-0.8	White
16 Ave	186.359k	18.8	+0.2	+6.1	+0.1	+0.2	+0.0	25.4	54.2	-28.8	White
^	186.359k	48.9	+0.2	+6.1	+0.1	+0.2	+0.0	55.5	54.2	+1.3	White
18 Ave	195.813k	9.5	+0.2	+6.1	+0.1	+0.2	+0.0	16.1	53.8	-37.7	White
^	195.813k	44.8	+0.2	+6.1	+0.1	+0.2	+0.0	51.4	53.8	-2.4	White

CKC Laboratories, Inc. Date: 10/4/2007 Time: 13:28:12 Medtronic MiniMed WO#: 87068
FCC 15.207 COND [AVE] Test Lead: White 110V 60Hz Sequence#: 42



FCC 15.249(a) FIELD STRENGTH OF FUNDAMENTAL

Test Setup Photos

Test Data Sheets

Test Location: CKC Laboratories, Inc. •110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer: **Medtronic MiniMed**
Specification: **FCC 15.249(a) / (b) Field strength of Fundamental/ Field strength of Harmonics**
Work Order #: **87068** Date: 9/25/2007
Test Type: **Radiated Scan** Time: 15:41:18
Equipment: **Medtronic CareLink USB** Sequence#: 6
Manufacturer: Medtronic MiniMed Tested By: E. Wong
Model: MMT-7305
S/N: A07370013

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Bilog Antenna	2451	02/02/2006	02/02/2008	01995
Pre amp to SA Cable	Cable #10	05/16/2007	05/16/2009	P05050
Cable	Cable15	01/05/2007	01/05/2009	P05198
Pre Amp	1937A02548	06/01/2006	06/01/2008	00309
Horn Antenna	6246	06/29/2006	06/29/2008	00849
24" SMA Cable	1-26GHz_white	01/11/2007	01/11/2009	P05183
Microwave Pre-amp	3123A00281	07/19/2006	07/19/2008	00786
Heliax Antenna Cable	P5565	09/18/2006	09/18/2008	P05565
1.0 GHz HPF	1	03/07/2006	03/07/2008	02749
Loop Antenna	2014	06/14/2006	06/14/2008	00314
Spectrum Analyzer	US44300438	01/04/2007	01/04/2009	02672

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Medtronic CareLink USB*	Medtronic MiniMed	MMT-7305	A07370013

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop	Dell	PP01L	CN-06P823-48155_36K-4938

Test Conditions / Notes:

The EUT is placed on the wooden table with 10 cm of Styrofoam. To represent typical usage, the EUT is inserted into the USB port of a support laptop. Frequency= 916.5 MHz. The laptop is running test routines to exercise the EUT. 24°C, 48% relative humidity. Frequency range of measurement = 9 kHz - 10 GHz. Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz - 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz - 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz - 10000 MHz RBW=1 MHz, VBW=1 MHz. 15.31(e) Voltage variation: The supply voltage was varied between 85% and 115% of the nominal rated supply voltage in accordance with 15.31(e) requirement. No variation of the Fundamental field strength level was observed. Rev 2_CR5, unit 2 (Hardware and software identical to Rev2, Rev2_CR5 incorporates a tracking ID for documentation purposes). Duty cycle correction of -7.1 dB applied to Harmonics emission in accordance with 15.35(c).

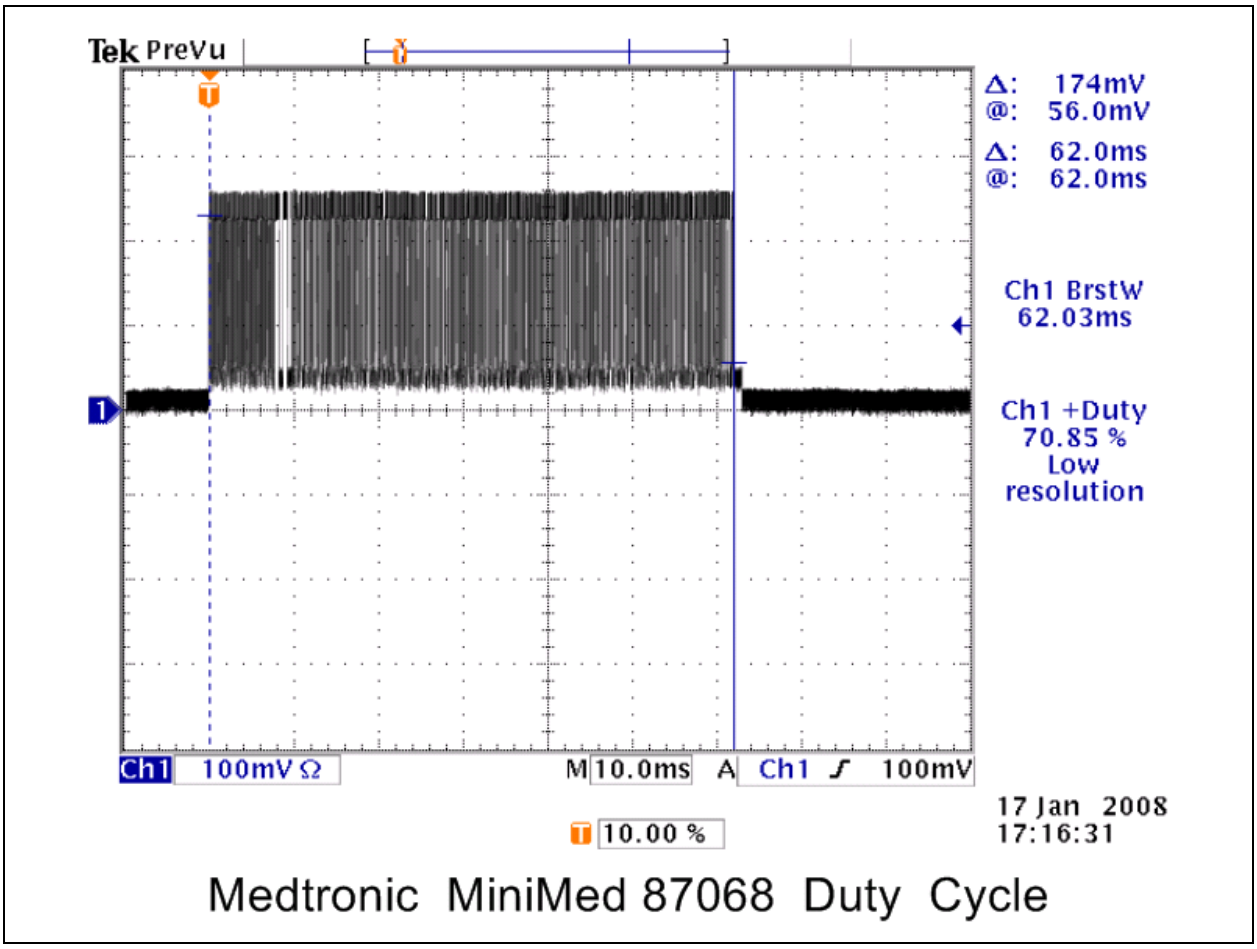
Transducer Legend:

T1=Preamp 8447D 060108	T2=Bilog AN01995 020208 Chase
T3=Cable #10 051609	T4=Cable #15, Site A, 010509
T5=Pre amp 1- 26GHz 071908	T6=54' Heliax Cable 091808 P05565
T7=Horn 00849_062908	T8=SMA-cable_W_05183-011109-26GHz
T9=Filter 1GHz HP AN02749	T10=Time of Occupancy Corr -5.4dB
T11=Time of Occupancy Corr -7.1dB	

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7 T11	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	1832.985M Ave	64.0	+0.0 -38.9 +0.3	+0.0 +2.8 +0.0	+0.0 +25.9 -7.1	+0.0 +1.2	+0.0	48.2	54.0	-5.8	Vert
^	1832.985M	70.3	+0.0 -38.9 +0.3	+0.0 +2.8 +0.0	+0.0 +25.9 -7.1	+0.0 +1.2	+0.0	54.5	54.0	+0.5	Vert
3	916.500M QP	82.3	-27.2 +0.0 +0.0	+23.7 +0.0	+0.5 +0.0	+6.0 +0.0	+0.0	85.3	93.9 Fundamental	-8.6	Horiz
^	916.500M	82.6	-27.2 +0.0 +0.0	+23.7 +0.0	+0.5 +0.0	+6.0 +0.0	+0.0	85.6	93.9 Fundamental	-8.3	Horiz
5	1832.968M Ave	57.8	+0.0 -38.9 +0.3	+0.0 +2.8 +0.0	+0.0 +25.9 -7.1	+0.0 +1.2	+0.0	42.0	54.0	-12.0	Horiz
6	1832.968M Ave	57.8	+0.0 -38.9 +0.3	+0.0 +2.8 +0.0	+0.0 +25.9 -7.1	+0.0 +1.2	+0.0	42.0	54.0	-12.0	Horiz
^	1832.968M	64.7	+0.0 -38.9 +0.3	+0.0 +2.8 +0.0	+0.0 +25.9 -7.1	+0.0 +1.2	+0.0	48.9	54.0	-5.1	Horiz
^	1832.968M	64.4	+0.0 -38.9 +0.3	+0.0 +2.8 +0.0	+0.0 +25.9 -7.1	+0.0 +1.2	+0.0	48.6	54.0	-5.4	Horiz
9	916.500M QP	78.7	-27.2 +0.0 +0.0	+23.7 +0.0	+0.5 +0.0	+6.0 +0.0	+0.0	81.7	93.9 Fundamental	-12.2	Vert
^	916.500M	79.4	-27.2 +0.0 +0.0	+23.7 +0.0	+0.5 +0.0	+6.0 +0.0	+0.0	82.4	93.9 Fundamental	-11.5	Vert
11	7331.880M	37.8	+0.0 -37.2 +0.2	+0.0 +6.8 +0.0	+0.0 +36.0 -7.1	+0.0 +2.9	+0.0	39.4	54.0	-14.6	Horiz
12	5499.080M	39.7	+0.0 -37.3 +0.2	+0.0 +6.0 +0.0	+0.0 +34.2 -7.1	+0.0 +2.2	+0.0	37.9	54.0	-16.1	Horiz

13	3665.950M	42.0	+0.0 -38.1 +0.5	+0.0 +4.6 +0.0	+0.0 +31.9 -7.1	+0.0 +1.8	+0.0	35.6	54.0	-18.4	Vert
14	4582.430M	40.6	+0.0 -37.7 +0.2	+0.0 +5.1 +0.0	+0.0 +32.6 -7.1	+0.0 +1.8	+0.0	35.5	54.0	-18.5	Vert
15	3666.120M	41.5	+0.0 -38.1 +0.5	+0.0 +4.6 +0.0	+0.0 +31.9 -7.1	+0.0 +1.8	+0.0	35.1	54.0	-18.9	Horiz
16	4582.600M	38.6	+0.0 -37.7 +0.2	+0.0 +5.1 +0.0	+0.0 +32.6 -7.1	+0.0 +1.8	+0.0	33.5	54.0	-20.5	Horiz
17	2749.470M	43.0	+0.0 -38.5 +0.4	+0.0 +3.8 +0.0	+0.0 +29.6 -7.1	+0.0 +1.5	+0.0	32.7	54.0	-21.3	Vert
18	2749.630M	42.2	+0.0 -38.5 +0.4	+0.0 +3.9 +0.0	+0.0 +29.6 -7.1	+0.0 +1.5	+0.0	32.0	54.0	-22.0	Horiz
19	5498.918M Ave	33.0	+0.0 -37.3 +0.2	+0.0 +6.0 +0.0	+0.0 +34.2 -7.1	+0.0 +2.2	+0.0	31.2	54.0	-22.8	Vert
^	5498.918M	43.1	+0.0 -37.3 +0.2	+0.0 +6.0 +0.0	+0.0 +34.2 -7.1	+0.0 +2.2	+0.0	41.3	54.0	-12.7	Vert



Note: The video output of a spectrum analyzer was monitored with the O'scope to capture and measure the duty cycle of the transmission burst. Several captures were made to determine the range of duty cycle values, and the worst case measured was saved. Captured O'scope display, showing a 70.85% duty cycle within a 62ms burst. This equates to a total on-time of 43.9ms during a 100ms window, which calculates out to a duty cycle correction factor of -7.1 dB.

Equipment	Asset#	Serial#	Cal Date	Cal Due Date
HP 8596E Spec An	AN00784	3346A00209	11/08/2006	11/08/2008
Tektronix Oscilloscope	AN02863	B014335	3/2/2007	3/2/2009

FCC 15.209/15.249(d) SPURIOUS RADIATED EMISSIONS

Test Setup Photos

Test Data Sheets

Test Location: CKC Laboratories, Inc. •110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer:	**Medtronic MiniMed**		
Specification:	**FCC 15.249(d) / 15.209**		
Work Order #:	**87068**	Date:	10/4/2007
Test Type:	**Radiated Scan**	Time:	11:47:35
Equipment:	**Medtronic CareLink USB**	Sequence#:	7
Manufacturer:	Medtronic MiniMed	Tested By:	E. Wong
Model:	MMT-7305		
S/N:	A07370013		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Bilog Antenna	2451	02/02/2006	02/02/2008	01995
Pre amp to SA Cable	Cable #10	05/16/2007	05/16/2009	P05050
Cable	Cable15	01/05/2007	01/05/2009	P05198
Pre Amp	1937A02548	06/01/2006	06/01/2008	00309
Horn Antenna	6246	06/29/2006	06/29/2008	00849
24" SMA Cable	1-26GHz_white	01/11/2007	01/11/2009	P05183
Microwave Pre-amp	3123A00281	07/19/2006	07/19/2008	00786
Heliax Antenna Cable	P5565	09/18/2006	09/18/2008	P05565
1.0 GHz HPF	1	03/07/2006	03/07/2008	02749
Spectrum Analyzer	US44300438	01/04/2007	01/04/2009	02672

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Medtronic CareLink USB*	Medtronic MiniMed	MMT-7305	A07370013

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop	Dell	PP01L	CN-06P823-48155_36K-4938
Printer	Epson	Stylus 880	CMR1545596
Insulin Pump	Medtronic Minimed	MMT-P7	010217-F061

Test Conditions / Notes:

The EUT is placed on the wooden table with 10 cm of Styrofoam. The EUT is connected to the USB port of a support laptop via a 2 meter, shielded USB cable. Frequency = 916.5 MHz, TX/RX. The laptop is running test routines to exercise the EUT, transmits and receives data packets to a support receiver in the vicinity. Connected to the support laptop is a parallel printer. 24°C, 48% relative humidity. Frequency range of measurement = 30 MHz - 10 GHz. Frequency: 30 MHz - 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz - 10000 MHz RBW=1 MHz, VBW=1 MHz. Emission profile of three orthogonal orientations was investigated, worst case data is presented. Rev 2, unit 1, CR5.

Transducer Legend:

T1=Preamp 8447D 060108	T2=Bilog AN01995 020208 Chase
T3=Cable #10 051609	T4=Cable #15, Site A, 010509
T5=Pre amp 1- 26GHz 071908	T6=54' Heliax Cable 091808 P05565
T7=Horn 00849_062908	T8=SMA-cable_W_05183-011109-26GHz
T9=Filter 1GHz HP AN02749	

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6	T3 T7	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	158.100M	54.3	-27.7 +0.0 +0.0	+10.3 +0.0	+0.2 +0.0	+2.3 +0.0	+0.0	39.4	43.5	-4.1	Vert
2	56.900M	53.9	-27.7 +0.0 +0.0	+7.0 +0.0	+0.1 +0.0	+1.3 +0.0	+0.0	34.6	40.0	-5.4	Vert
3	36.077M	44.8	-27.8 +0.0 +0.0	+16.1 +0.0	+0.1 +0.0	+1.0 +0.0	+0.0	34.2	40.0	-5.8	Vert
4	56.328M	53.0	-27.7 +0.0 +0.0	+7.2 +0.0	+0.1 +0.0	+1.3 +0.0	+0.0	33.9	40.0	-6.1	Vert
5	398.620M	47.2	-27.8 +0.0 +0.0	+15.8 +0.0	+0.4 +0.0	+3.7 +0.0	+0.0	39.3	46.0	-6.7	Horiz
6	157.500M QP	51.3	-27.7 +0.0 +0.0	+10.4 +0.0	+0.2 +0.0	+2.3 +0.0	+0.0	36.5	43.5	-7.0	Horiz
^	157.500M	56.9	-27.7 +0.0 +0.0	+10.4 +0.0	+0.2 +0.0	+2.3 +0.0	+0.0	42.1	43.5	-1.4	Horiz

8	157.900M QP	50.8	-27.7 +0.0 +0.0	+10.4 +0.0	+0.2 +0.0	+2.3 +0.0	+0.0	36.0	43.5	-7.5	Horiz
^	157.900M	56.5	-27.7 +0.0 +0.0	+10.4 +0.0	+0.2 +0.0	+2.3 +0.0	+0.0	41.7	43.5	-1.8	Horiz
10	60.600M	51.5	-27.7 +0.0 +0.0	+6.2 +0.0	+0.1 +0.0	+1.3 +0.0	+0.0	31.4	40.0	-8.6	Vert
11	160.299M	49.8	-27.7 +0.0 +0.0	+10.2 +0.0	+0.2 +0.0	+2.3 +0.0	+0.0	34.8	43.5	-8.7	Vert
12	599.971M	39.4	-27.4 +0.0 +0.0	+19.8 +0.0	+0.5 +0.0	+4.7 +0.0	+0.0	37.0	46.0	-9.0	Horiz
13	173.500M	49.6	-27.7 +0.0 +0.0	+9.5 +0.0	+0.3 +0.0	+2.4 +0.0	+0.0	34.1	43.5	-9.4	Horiz
14	33.061M	39.4	-27.8 +0.0 +0.0	+17.6 +0.0	+0.1 +0.0	+1.0 +0.0	+0.0	30.3	40.0	-9.7	Vert
15	32.311M	38.5	-27.8 +0.0 +0.0	+17.9 +0.0	+0.1 +0.0	+1.0 +0.0	+0.0	29.7	40.0	-10.3	Vert
16	912.050M	32.7	-27.2 +0.0 +0.0	+23.6 +0.0	+0.5 +0.0	+5.9 +0.0	+0.0	35.5	46.0	-10.5	Vert
17	664.680M	35.9	-27.1 +0.0 +0.0	+20.5 +0.0	+0.5 +0.0	+5.0 +0.0	+0.0	34.8	46.0	-11.2	Vert
18	165.600M	47.5	-27.7 +0.0 +0.0	+9.9 +0.0	+0.3 +0.0	+2.3 +0.0	+0.0	32.3	43.5	-11.2	Vert
19	169.299M	47.5	-27.7 +0.0 +0.0	+9.7 +0.0	+0.3 +0.0	+2.4 +0.0	+0.0	32.2	43.5	-11.3	Vert
20	480.042M	39.6	-27.6 +0.0 +0.0	+17.7 +0.0	+0.3 +0.0	+4.1 +0.0	+0.0	34.1	46.0	-11.9	Horiz
21	173.100M	46.5	-27.7 +0.0 +0.0	+9.5 +0.0	+0.3 +0.0	+2.4 +0.0	+0.0	31.0	43.5	-12.5	Vert
22	398.900M	41.4	-27.8 +0.0 +0.0	+15.8 +0.0	+0.4 +0.0	+3.7 +0.0	+0.0	33.5	46.0	-12.5	Horiz
23	177.110M	46.8	-27.7 +0.0 +0.0	+9.2 +0.0	+0.3 +0.0	+2.4 +0.0	+0.0	31.0	43.5	-12.5	Vert
24	288.005M	44.7	-27.6 +0.0 +0.0	+13.0 +0.0	+0.2 +0.0	+3.1 +0.0	+0.0	33.4	46.0	-12.6	Horiz

25	240.010M	46.2	-27.7 +0.0 +0.0	+11.8 +0.0	+0.3 +0.0	+2.8 +0.0	+0.0	33.4	46.0	-12.6	Horiz
26	1462.270M	51.5	+0.0 -39.3 +0.6	+0.0 +2.4	+0.0 +24.9	+0.0 +1.1	+0.0	41.2	54.0	-12.8	Vert
27	960.042M	36.7	-27.1 +0.0 +0.0	+24.7 +0.0	+0.7 +0.0	+6.1 +0.0	+0.0	41.1	54.0	-12.9	Horiz
28	144.000M	44.6	-27.7 +0.0 +0.0	+11.2 +0.0	+0.2 +0.0	+2.2 +0.0	+0.0	30.5	43.5	-13.0	Horiz
29	143.850M	44.4	-27.7 +0.0 +0.0	+11.2 +0.0	+0.2 +0.0	+2.2 +0.0	+0.0	30.3	43.5	-13.2	Horiz
30	398.740M	40.6	-27.8 +0.0 +0.0	+15.8 +0.0	+0.4 +0.0	+3.7 +0.0	+0.0	32.7	46.0	-13.3	Vert
31	720.000M	32.2	-27.1 +0.0 +0.0	+21.3 +0.0	+0.5 +0.0	+5.2 +0.0	+0.0	32.1	46.0	-13.9	Horiz
32	349.992M	40.4	-27.6 +0.0 +0.0	+14.5 +0.0	+0.3 +0.0	+3.5 +0.0	+0.0	31.1	46.0	-14.9	Horiz
33	208.005M	43.7	-27.6 +0.0 +0.0	+9.5 +0.0	+0.2 +0.0	+2.6 +0.0	+0.0	28.4	43.5	-15.1	Horiz
34	533.100M	34.0	-27.5 +0.0 +0.0	+19.2 +0.0	+0.4 +0.0	+4.4 +0.0	+0.0	30.5	46.0	-15.5	Vert
35	649.971M	31.2	-27.1 +0.0 +0.0	+20.4 +0.0	+0.5 +0.0	+4.9 +0.0	+0.0	29.9	46.0	-16.1	Horiz
36	384.005M	38.1	-27.7 +0.0 +0.0	+15.4 +0.0	+0.4 +0.0	+3.6 +0.0	+0.0	29.8	46.0	-16.2	Horiz
37	378.830M	38.1	-27.7 +0.0 +0.0	+15.3 +0.0	+0.4 +0.0	+3.6 +0.0	+0.0	29.7	46.0	-16.3	Horiz
38	332.950M	39.4	-27.6 +0.0 +0.0	+14.1 +0.0	+0.3 +0.0	+3.4 +0.0	+0.0	29.6	46.0	-16.4	Horiz
39	141.900M	40.8	-27.7 +0.0 +0.0	+11.2 +0.0	+0.2 +0.0	+2.1 +0.0	+0.0	26.6	43.5	-16.9	Horiz
40	960.030M	32.4	-27.1 +0.0 +0.0	+24.7 +0.0	+0.7 +0.0	+6.1 +0.0	+0.0	36.8	54.0	-17.2	Vert
41	120.600M	39.6	-27.6 +0.0 +0.0	+11.3 +0.0	+0.3 +0.0	+2.0 +0.0	+0.0	25.6	43.5	-17.9	Vert

42	47.971M	38.3	-27.7 +0.0 +0.0	+10.0 +0.0	+0.1 +0.0	+1.2 +0.0	+0.0	21.9	40.0	-18.1	Horiz
43	300.010M	38.4	-27.6 +0.0 +0.0	+13.2 +0.0	+0.2 +0.0	+3.2 +0.0	+0.0	27.4	46.0	-18.6	Horiz
44	365.280M	36.1	-27.7 +0.0 +0.0	+14.9 +0.0	+0.3 +0.0	+3.6 +0.0	+0.0	27.2	46.0	-18.8	Horiz
45	143.100M	38.8	-27.7 +0.0 +0.0	+11.2 +0.0	+0.2 +0.0	+2.1 +0.0	+0.0	24.6	43.5	-18.9	Vert
46	976.060M	30.4	-27.2 +0.0 +0.0	+24.6 +0.0	+0.7 +0.0	+6.2 +0.0	+0.0	34.7	54.0	-19.3	Horiz
47	992.030M	30.2	-27.2 +0.0 +0.0	+24.6 +0.0	+0.7 +0.0	+6.3 +0.0	+0.0	34.6	54.0	-19.4	Horiz
48	329.190M	36.5	-27.6 +0.0 +0.0	+14.0 +0.0	+0.3 +0.0	+3.4 +0.0	+0.0	26.6	46.0	-19.4	Vert
49	365.580M	35.4	-27.7 +0.0 +0.0	+14.9 +0.0	+0.3 +0.0	+3.6 +0.0	+0.0	26.5	46.0	-19.5	Horiz
50	992.070M	30.0	-27.2 +0.0 +0.0	+24.6 +0.0	+0.7 +0.0	+6.3 +0.0	+0.0	34.4	54.0	-19.6	Horiz
51	473.900M	31.6	-27.6 +0.0 +0.0	+17.6 +0.0	+0.4 +0.0	+4.1 +0.0	+0.0	26.1	46.0	-19.9	Horiz
52	336.690M	35.7	-27.6 +0.0 +0.0	+14.2 +0.0	+0.3 +0.0	+3.4 +0.0	+0.0	26.0	46.0	-20.0	Vert
53	232.530M	38.7	-27.6 +0.0 +0.0	+11.3 +0.0	+0.2 +0.0	+2.8 +0.0	+0.0	25.4	46.0	-20.6	Horiz
54	976.020M	28.8	-27.2 +0.0 +0.0	+24.6 +0.0	+0.7 +0.0	+6.2 +0.0	+0.0	33.1	54.0	-20.9	Vert
55	984.130M	28.6	-27.2 +0.0 +0.0	+24.6 +0.0	+0.7 +0.0	+6.2 +0.0	+0.0	32.9	54.0	-21.1	Vert
56	976.120M	28.5	-27.2 +0.0 +0.0	+24.6 +0.0	+0.7 +0.0	+6.2 +0.0	+0.0	32.8	54.0	-21.2	Horiz
57	330.600M	34.6	-27.6 +0.0 +0.0	+14.0 +0.0	+0.3 +0.0	+3.4 +0.0	+0.0	24.7	46.0	-21.3	Vert
58	322.530M	34.7	-27.6 +0.0 +0.0	+13.8 +0.0	+0.2 +0.0	+3.3 +0.0	+0.0	24.4	46.0	-21.6	Horiz

59	390.600M	32.4	-27.8 +0.0 +0.0	+15.6 +0.0	+0.4 +0.0	+3.7 +0.0	+0.0	24.3	46.0	-21.7	Vert
60	198.570M	37.5	-27.6 +0.0 +0.0	+8.8 +0.0	+0.2 +0.0	+2.6 +0.0	+0.0	21.5	43.5	-22.0	Vert
61	351.690M	33.2	-27.6 +0.0 +0.0	+14.5 +0.0	+0.3 +0.0	+3.5 +0.0	+0.0	23.9	46.0	-22.1	Vert
62	321.690M	34.1	-27.6 +0.0 +0.0	+13.8 +0.0	+0.2 +0.0	+3.3 +0.0	+0.0	23.8	46.0	-22.2	Vert
63	195.770M	36.7	-27.6 +0.0 +0.0	+8.8 +0.0	+0.2 +0.0	+2.6 +0.0	+0.0	20.7	43.5	-22.8	Horiz
64	1730.000M	39.3	+0.0 -39.0 +0.4	+0.0 +2.8	+0.0 +25.6	+0.0 +1.2	+0.0	30.3	54.0	-23.7	Vert
65	274.140M	32.7	-27.7 +0.0 +0.0	+12.9 +0.0	+0.3 +0.0	+3.0 +0.0	+0.0	21.2	46.0	-24.8	Vert
66	458.900M	26.6	-27.6 +0.0 +0.0	+17.3 +0.0	+0.4 +0.0	+4.0 +0.0	+0.0	20.7	46.0	-25.3	Horiz
67	1460.800M Ave	37.4	+0.0 -39.3 +0.6	+0.0 +2.4	+0.0 +24.9	+0.0 +1.1	+0.0	27.1	54.0	-26.9	Vert

OCCUPIED BANDWIDTH

Test Equipment

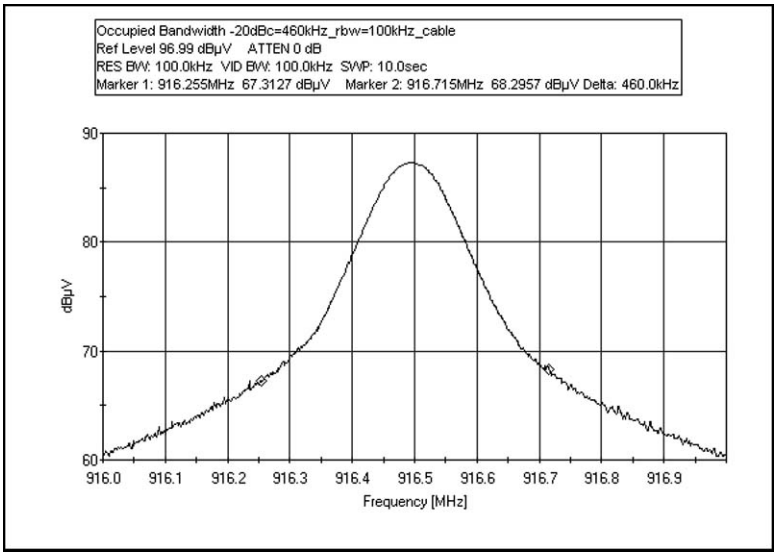
Equipment	Asset #	Manufacturer	Model	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02672	Agilent	E4446A	US44300438	010307	010309
Bilog Antenna	01995	Chase	CBL6111C	2451	020206	020208
Pre-amp	00309	HP	8447D	1937A02548	060106	060108
Antenna cable	P05198	Belden	8268 (RG-214)	Cable#15	010507	010509
Pre-amp to SA cable	P05050	Pasternack	RG223/U	Cable#10	051607	051609

Test Setup Photo

Test Conditions: The EUT is placed on the wooden table with 10 cm of Styrofoam. The EUT is connected to the USB port of a support laptop via a 2 meter, shielded USB cable. Frequency = 916.5 MHz. The laptop is running test routines to exercise the EUT. The EUT transmits and receives data packets to a support receiver in the vicinity. The emissions profile of three orthogonal orientations was investigated. Data set represents worst case emission: flat.

Plot

OCCUPIED BANDWIDTH -20dBc



BANDEDGE

Test Equipment

Equipment	Asset #	Manufacturer	Model	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02672	Agilent	E4446A	US44300438	010307	010309
Bilog Antenna	01995	Chase	CBL6111C	2451	020206	020208
Pre-amp	00309	HP	8447D	1937A02548	060106	060108
Antenna cable	P05198	Belden	8268 (RG-214)	Cable#15	010507	010509
Pre-amp to SA cable	P05050	Pasternack	RG223/U	Cable#10	051607	051609

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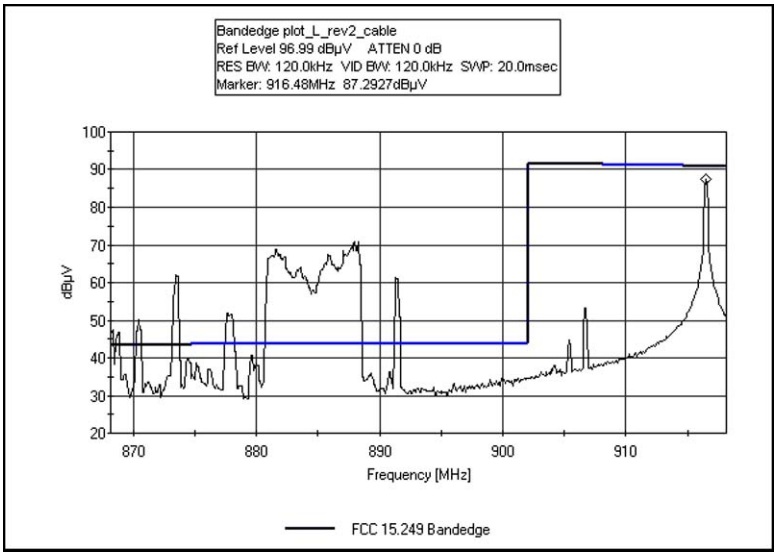
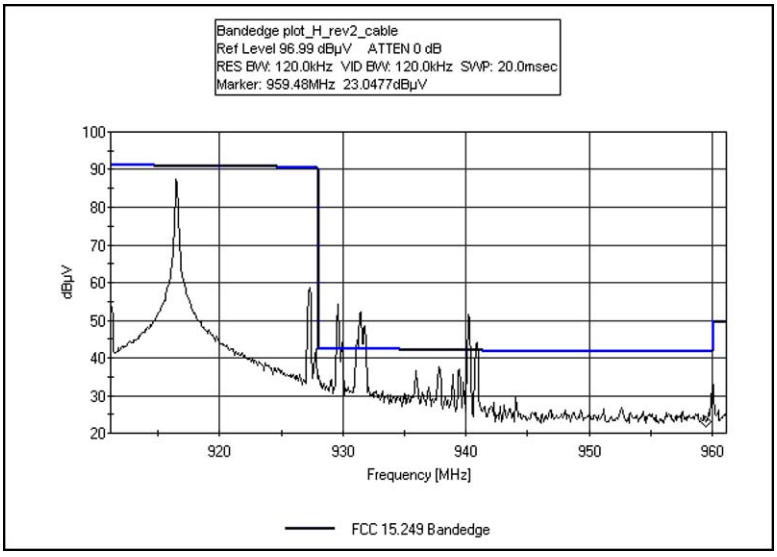
Plots

BANDEDGE - LOW



BANDEDGE - HIGH



RSS-210 99% BANDWIDTH

Test Equipment

Equipment	Asset #	Manufacturer	Model	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02672	Agilent	E4446A	US44300438	010307	010309
Bilog Antenna	01995	Chase	CBL6111C	2451	020206	020208
Pre-amp	00309	HP	8447D	1937A02548	060106	060108
Antenna cable	P05198	Belden	8268 (RG-214)	Cable#15	010507	010509
Pre-amp to SA cable	P05050	Pasternack	RG223/U	Cable#10	051607	051609

Test Setup Photo

Test Conditions: The EUT is placed on the wooden table with 10 cm of Styrofoam. The EUT is connected to the USB port of a support laptop via a 2 meter, shielded USB cable. Frequency = 916.5 MHz. The laptop is running test routines to exercise the EUT. The EUT transmits and receives data packets to a support receiver in the vicinity. The emissions profile of three orthogonal orientations was investigated. Data set represents worst case emission: flat.

Plot

RSS-210 99% BANDWIDTH