MEASUREMENT AND TECHNICAL REPORT

MEDTRONIC MINIMED
18000 Devonshire Street
Northridge, CA 91325

DATE: 27 October 2004

This Report Concerns:	Original Grant: X	Class II Change:
Equipment Type:	Telemetered Glucose Monitor System III (TGMS III), Model MMT-7701	
Deferred grant requested per 47 CFR 0.457(d)(1)(ii)?	Yes: **Defer until:**	No: X
Company Name **agrees to notify the Commission by:** **of the intended date of announcement of the product so that the grant can be issued on that date.**	N/A	
Transition Rules Request per 15.37?	Yes:	No: X*

(*) FCC Part 15, Paragraph(s) **15.249(a); RSS-210, 6.1.1(b) and (c)**

Report Prepared by:

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TÜV AMERICA

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TÜV AMERICA INC 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone 858 678 1400 FAX 858 546 0364

1.0 GENERAL INFORMATION

1.1 Product Description

Company:	Medtronic MiniMed		
Address:	18000 Devonshire Street		
	Northridge, California 91325		
Contact:	Bob Vitti	Position:	Manager, Design Assurance Engineering
Phone:	818.576.4069	Fax:	818.576.6284
E-mail Address:	Bob.Vitti@Medtronic.com		

General Equipment Description

EUT Description:	TGMS III Transmitter Keyfob: Transmits blood glucose level at 5 minute intervals
EUT Name:	Telemetered Glucose Monitor System III (TGMS III)
Model No.:	MMT-7701
Product Options:	Transmit BG data
Configurations to be tested:	Transmit special 2Hz signal

EUT Specifications and Requirements

Length: 2.5” Width: 1.6” Height: 0.4” Weight: 25grams

Power Requirements

Voltage: 3.0 VDC Lithium Battery

Typical Installation and/or Operating Environment

Taped onto the abdomen of the user

EUT Power Cable: Not applicable

EUT Operating Modes to be Tested: Transmitting

Oscillator Frequencies:

Frequency	*Derived Frequency*	*Component # / Location*	*Description of Use*
10MHz		X1	PIC Oscillator
32.768kHz		X2	Clock Oscillator
1-200Hz		PCB	Sensor Oscillator
100-500kHz		PCB	Switching Converter

1.2 Related Submittal Grant

None

1.3 Tested System Details

The FCC ID’s for all equipment, plus descriptions of all cables used in the tested system are:

None

1.4 Test Methodology

Purpose of Test: To demonstrate compliance with the following tests.

TEST	FCC CFR 47#	PASS/FAIL
Field Strength of Emissions	15.249(a); RSS-210, 6.1.1(b)	Pass
Occupied Bandwidth	RSS-210, 6.1.1(c)	Pass

Tests were performed according to the procedures in FCC/ANSI C63.4 and CSA 108.8-M1983.

1.5 Test Facility

The open area test site and conducted measurement data were tested by:

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The Test Site Data and performance comply with ANSI C63.4 and are registered with the FCC, 7435 Oakland Mills Road, Columbia Maryland 21046. All Measurement Data is acquired according to the content of FCC Measurement Procedure and ANSI C63.4, unless supplemented with additional requirements as noted in the test report.

2.0 SYSTEM TEST CONFIGURATION

2.1 Justification

The EUT was initially tested for FCC emissions in the following configuration:

See Test Setup Photos Exhibit

2.2 EUT Exercise Software

None

2.3 Special Accessories

None

2.4 Equipment Modifications

None

2.5 Configuration of Test System

See Test Setup Photos Exhibit

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3.0 FIELD STRENGTH OF EMISSIONS and OCCUPIED BANDWIDTH EQUIPMENT/DATA

Test Conditions: FIELD STRENGTH OF EMISSIONS and OCCUPIED BANDWIDTH: FCC Part 15.249(a); RSS-210, 6.1.1(b) and (c)

The FIELD STRENGTH OF EMISSIONS and OCCUPIED BANDWIDTH measurements were performed at the San Diego Testing Facility:

☐ **- Test not applicable**

■ - Roof (Small Open Area Test Site)

Test Equipment Used:

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Date Cal'ed
HP-8566B	744	Spectrum Analyzer	Hewlett Packard	2618A02913	01/04
HP-85650A	746	Quasi-Peak Adapter	Hewlett Packard	2521A00597	VBU*
8445B	809	Automatic Preselector	Hewlett Packard	1442A01127	VBU*
AMF-5D-010180-35-10P	719	RF Amplifier	Miteq	549460	VBU*
3115	251	Double Ridge Guide Antenna	EMCO	2495	01/04
3146	244	Log Periodic Antenna	EMCO	1063	07/04

Remarks: One year calibration cycle for all test equipment and sites. (*) Verified Before Use.

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REPORT No: SC404496 TESTER: Chuck R. SPEC: FCC Part 15 para 15.209(a)

CUSTOMER: Medtronic MiniMed TEST DIST: 3 Meters

E U T: TGMS III #323, MODEL MMT-7701 (tested with MMT-522) TEST SITE: Roof

EUT MODE: EMI SW in Idle Mode BICONICAL: N/A

DATE: October 8, 2004 LOG: 244

NOTES: OTHER: 251

above 1GHz: RBW & VBW 1 MHz for Pk; RBW 1MHz and VBW 10Hz for AVG

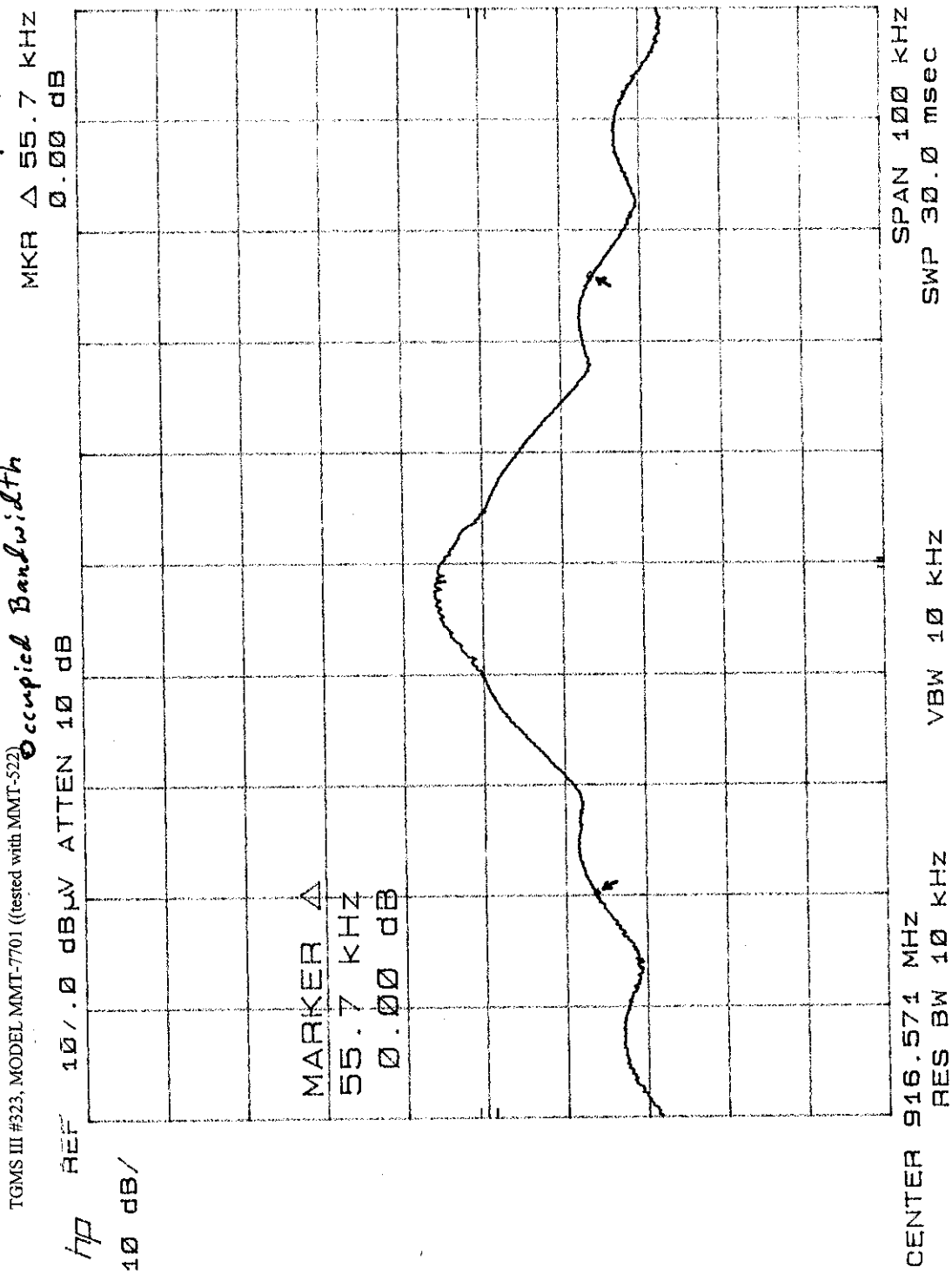
below 1GHz: RBW & VBW 100 kHz for Pk; RBW 100kHz and VBW 10Hz for AVG

CF = Antenna Factor + Cable Loss - Preamplifier Gain + Preselector Loss

NO EMISSIONS DETECTED FROM 30-1000 MHz.

v.beta1a

FREQ (MHz)	VERTICAL (dBuv) pk	VERTICAL (dBuv) av	HORIZONTAL (dBuv) pk	HORIZONTAL (dBuv) av	CF (dB/m)	MAX LEVEL (dBuV/m) pk	MAX LEVEL (dBuV/m) av	SPEC LIMIT (dBuV/m) pk	SPEC LIMIT (dBuV/m) av	MARGIN (dB) pk	MARGIN (dB) av	EUT Rotation	Antenna Height	Notes
916.5		53.71		61.7	22.7825		**84.5**		94		-9.52			Based on a Quasipeak Measurement
1833	50.5	38.6	49.2	38.9	-7.2024	**43.3**	**31.7**	74	54	-30.7	-22.3			
2749.5	0		0		-2.8515	**-2.85**	**-2.9**	74	54	-76.9	-56.9			
3666	0		0		-0.1352	**-0.14**	**-0.1**	74	54	-74.1	-54.1			
4582.5	0		0		0.2475	**0.247**	**0.25**	74	54	-73.8	-53.8			
5499	0		0		5.3922	**5.392**	**5.39**	74	54	-68.6	-48.6			
6415.5	0		0		6.7338	**6.734**	**6.73**	74	54	-67.3	-47.3			
7332	0		0		9.6296	**9.63**	**9.63**	74	54	-64.4	-44.4			
8248.5	0		0		11.0461	**11.05**	**11**	74	54	-63	-43			
9165	0		0		12.305	**12.31**	**12.3**	74	54	-61.7	-41.7			


10-8-04
Occupied Bandwidth
TGMS III #323, MODEL MMT-7701 ((tested with MMT-522)
MKR Δ 55.7 kHz
0.00 dB
hp
REF 10/.0 dBμV ATTEN 10 dB
10 dB/
MARKER Δ
55.7 kHz
0.00 dB
SPAN 100 kHz
SWP 30.0 msec
VBW 10 kHz
CENTER 916.571 MHz
RES BW 10 kHz

4.0 ATTESTATION STATEMENT

GENERAL REMARKS:

SUMMARY:

All tests were performed per CFR 47, Part(s) **15.249(a); RSS-210, 6.1.1(b) and (c).**

■ - Performed

The Equipment Under Test

■ - **Fulfills** the requirements of CFR 47, Part(s) **15.249(a) ; RSS-210, 6.1.1(b) and (c).**

Testing Start Date: 08 October 2004

Testing End Date: 08 October 2004

- TÜV AMERICA, INC. -

Responsible Engineer:

Jim Owen
(EMC Manager)

Responsible Engineer:

Chuck Rickard
(EMC Engineer)

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