

MEASUREMENT AND TECHNICAL REPORT

MEDTRONIC MINIMED
18000 Devonshire Street
Northridge, CA 91325

DATE: 15 October 2003

This Report Concerns:	Original Grant: <input checked="" type="checkbox"/>	Class II Change: <input type="checkbox"/>
Equipment Type:	Paradigm 712	
Deferred grant requested per 47 CFR 0.457(d)(1)(ii)?	Yes: <input type="checkbox"/> Defer until:	No: <input checked="" type="checkbox"/>
Company Name agrees to notify the Commission by:	N/A	
of the intended date of announcement of the product so that the grant can be issued on that date.		
Transition Rules Request per 15.37?	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>
(*) FCC Part 15, Paragraph(s) 15.207(a); 15.209(a); 15.249(c); RSS 210, 6.1.1(c)		
Report Prepared by:	TÜV AMERICA, INC 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone: 858 546 3999 Fax: 858 546 0364	

TABLE OF CONTENTS

		Pages
1.0	GENERAL INFORMATION	<u>3</u>
1.1	Product Description	<u>3</u>
1.2	Related Submittal Grant	<u>5</u>
1.3	Tested System Details	<u>5</u>
1.4	Test Methodology	<u>5</u>
1.5	Test Facility	<u>5</u>
2.0	SYSTEM TEST CONFIGURATION	<u>6</u>
2.1	Justification	<u>6</u>
2.2	EUT Exercise Software	<u>6</u>
2.3	Special Accessories	<u>6</u>
2.4	Equipment Modifications	<u>6</u>
2.5	Configuration of Test System	<u>6</u>
3.0	CONDUCTED EMISSIONS (15.207(a))	<u>7</u>
3.1	Equipment / Data	<u>7</u>
4.0	RADIATED EMISSIONS (15.209(a); 15.249(c))	<u>8</u>
4.1	Equipment	<u>8</u>
4.2	Data	<u>9</u>
5.0	BANDWIDTH (RSS 210, 6.1.1(c))	<u>10</u>
5.1	Equipment	<u>10</u>
5.2	Data	<u>11</u>
6.0	ATTESTATION STATEMENT	<u>12</u>

1.0 GENERAL INFORMATION

EUT Description: Battery operated, pager sized, insulin infusion pump

EUT Name: Paradigm

Model No.: 712 Serial No.: _____

Product Options: Color options

Configurations to be tested: Transmitting RF

EUT Specifications and Requirements

Length: 3.5" Width: 0.75" Height: 2" Weight: 100grams

Power Requirements

Voltage: 1.6vdc (If battery powered, make sure battery life is sufficient to complete testing.)

of Phases: N/A

Current (Amps/phase(max)): 11mA Current (Amps/phase(nominal)): 500ua

Typical Installation and/or Operating Environment

Home

EUT Power Cable: N/A

EUT Interface Ports and Cables: N/A

EUT Software.

Revision Level: 1.2A

Description: Application software

EUT Operating Modes to be Tested

- 1. Delivery mode
- 2. Alarm State
- 3. Transmit/ Receive RF

EUT System Components: N/A

Support Equipment: N/A

Oscillator Frequencies

<i>Frequency</i>	<i>Derived Frequency</i>	<i>Component # / Location</i>	<i>Description of Use</i>
32.768kHz		ASIC (Interface PCB)	
4MHz		Motor uController	
10MHz		RF uController	
4.91MHz		H8 uController	
916.5MHz		RF Transceiver	

Power Supply: N/A

Power Line Filters: N/A

Critical EMI Components: N/A

EMC Critical Detail: N/A

Report No. SC304401-03

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
Conducted Emissions	15.207(a); RSS 210, Paragraph 6.6	N/A -EUT battery operated
Radiated Emissions	15.209(a); 15.249(c); RSS 210 6.2.2(m2)	Pass
Bandwidth	RSS 210, Paragraph 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:

TÜV AMERICA, INC
 10040 Mesa Rim Road
 San Diego, CA 92121-2912
 Phone: 858 546 3999
 Fax: 858 546 0364

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.

Report No. SC304401-03

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.

Report No. SC304401-03

3.0 CONDUCTED EMISSIONS (15.207(a); RSS 210, Paragraph 6.6)

3.1 EQUIPMENT

3.2 DATA

NOT APPLICABLE^{3/4} EUT IS BATTERY OPERATED.

4.0 RADIATED EMISSIONS (FCC Part 15.209(a); 15.249(c)); RSS 210 6.2.2(m2)

4.1 EQUIPMENT

The RADIATED EMISSIONS measurements were performed at the San Diego Testing Facility:

- Test not applicable

- - Roof (Small Open Area Test Site)
(Date of listing July 27, 2001. Site Verification Valid for 3 years from listing.)

Testing was performed at a test distance of:

- - 3 meters

Test Equipment Used:

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Cal Due Date
3146	244	Antenna, Log Periodic Dipole	EMCO	1063	07/04
E4440A	6414	Spectrum Analyzer	Hewlett Packard	MY42510441	08/04
3115	251	Horn Antenna	Electro Mechanics Co	2595	12/03
AMF-5D-010180-35-10P	719	PreAmp	TUV PS	--	NCR*

Remarks: One year calibration cycle for all test equipment and sites. (*) No Calibration Required.

Report No. SC304401-03

5.0 BANDWIDTH (RSS 210, Paragraph 6.1.1(c))

5.1 EQUIPMENT

The BANDWIDTH measurements were performed at the San Diego Testing Facility:

- Test not applicable

- - SR3 - Shielded Room, 12' x 20' x 8', Metal Chamber

Testing was performed at a test distance of:

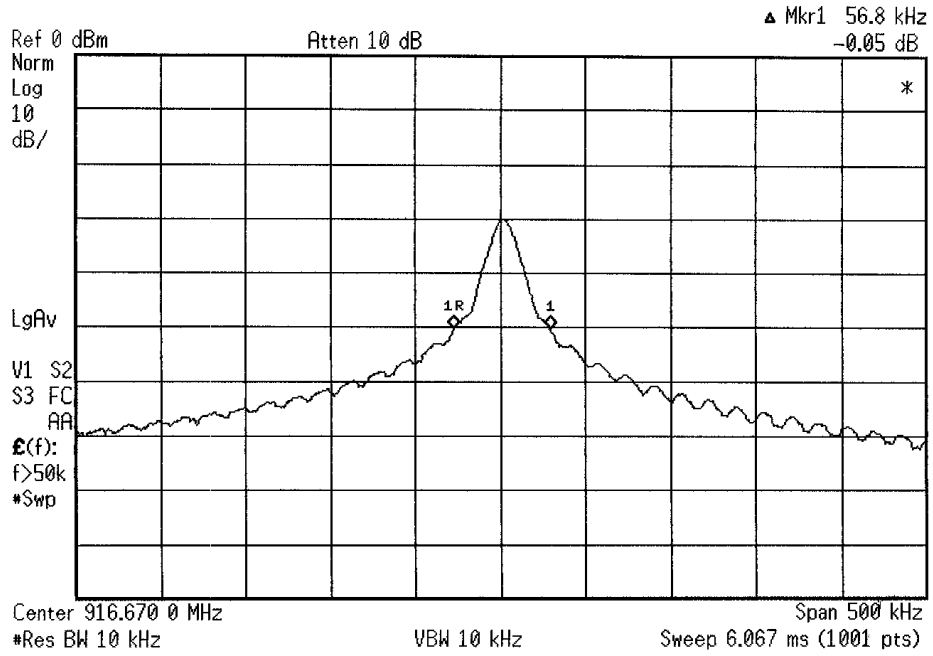
- - 3 meters

Test Equipment Used:

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Cal Due Date
CBL6111	461	Antenna, Bilog	EMCO	1291	NCR*
8566B	744	Spectrum Analyzer	Hewlett Packard	2542A12099	12/03

Remarks: One year calibration cycle for all test equipment and sites. (*) No Calibration Required.

* Agilent 14:46:44 Oct 13, 2003



SC30401
MEDTRONICS MINIMED
MMT-712US sn: 001713-D03

OCT. 13, 2003
TECH/ENGR: ML
LOCATION: SR3

RSS 210 -20 dB Bandwidth Modulated Emission – Peak Hold

6.0 ATTESTATION STATEMENT

GENERAL REMARKS:

SUMMARY:

All tests were performed per CFR 47, **Part 15, Paragraph(s) 15.207(a); 15.209(a); 15.249(a) and (c); RSS 210, 6.1.1(c).**

■ - Performed

The Equipment Under Test

■ - **Fulfills** the requirements of CFR 47, **Part 15, Paragraph(s) 15.207(a); 15.209(a); 15.249(a) and (c); RSS 210, 6.1.1(c).**

Testing Start Date: 03 September 2003

Testing End Date: 09 September 2003

- TÜV AMERICA, INC. -

Responsible Engineer:



Jim Owen
(Product Manager)



Alan Laudani
(EMC Engineer)