

## MEASUREMENT AND TECHNICAL REPORT

MEDTRONIC MINIMED  
18000 Devonshire Street  
Northridge, CA 91325

**DATE: 10 June 2003**

<b>This Report Concerns:</b>	Original Grant: <input checked="" type="checkbox"/>	Class II Change: <input type="checkbox"/>
<b>Equipment Type:</b>	Paradigm 512, Model MMT-512	
<b>Deferred grant requested per 47 CFR 0.457(d)(1)(ii)?</b>	Yes: <input type="checkbox"/> <b>Defer until:</b>	No: <input checked="" type="checkbox"/>
<b>Company Name agrees to notify the Commission by:</b> of the intended date of announcement of the product so that the grant can be issued on that date.	N/A	
<b>Transition Rules Request per 15.37?</b>	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>
(*) FCC Part 15, Paragraph(s) <b>15.249(c)</b>		
<b>Report Prepared by:</b>	<b>TÜV AMERICA, INC</b> 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone: 858 546 3999 Fax: 858 546 0364	

**TABLE OF CONTENTS**

	<b>Pages</b>
<b>1.0 GENERAL INFORMATION</b>	<u>3 - 6</u>
1.1 Product Description	<u>3 - 5</u>
1.2 Related Submittal Grant	<u>6</u>
1.3 Tested System Details	<u>6</u>
1.4 Test Methodology	<u>6</u>
1.5 Test Facility	<u>6</u>
1.6 Part 2 Requirements	<u>6</u>
<b>2.0 SYSTEM TEST CONFIGURATION</b>	<u>7</u>
2.1 Justification	<u>7</u>
2.2 EUT Exercise Software	<u>7</u>
2.3 Special Accessories	<u>7</u>
2.4 Equipment Modifications	<u>7</u>
2.5 Configuration of Test System	<u>7</u>
<b>3.0 RADIATED EMISSIONS EQUIPMENT/DATA</b>	<u>8 - 10</u>
<b>4.0 ATTESTATION STATEMENT</b>	<u>11</u>

**1.0 GENERAL INFORMATION**

**1.1 Product Description**

**General Equipment Description** -- NOTE: This information will be input into your test report as shown below.

EUT Description Insulin Infusion Pump

EUT Name Paradigm 512

Model No.: MMT-512 Serial No.: --

Product Options: --

Configurations to be tested: --

**Power Requirements**

Regulations require testing to be performed at typical power ratings in the countries of intended use. (i.e., European power is typically 230 VAC 50 Hz or 400 VAC 50 Hz, single and three phase, respectively)

Voltage: 1.5 VDC (If battery powered, make sure battery life is sufficient to complete testing.)

# of Phases: DC

Current (Amps/phase(max)): 1 A Current (Amps/phase(nominal)): 120 uA

Other --

**Other Special Requirements**

--

**Typical Installation and/or Operating Environment**

(ie. Hospital, Small Business, Industrial/Factory, etc.)

--

**EUT Power Cable**

Permanent OR  Removable Length (in meters): \_\_\_\_\_

Shielded OR  Unshielded

Not Applicable

EUT Interface Ports and Cables													
Interface				Shielding									
Type	Analog		Digital	Qty	Yes	No	Type	Termination	Connector Type	Port Termination	Length (in meters)	Removable	Permanent
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>							
EXAMPLE: RS232	<input type="checkbox"/>	<input checked="" type="checkbox"/>		2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Foil over braid	Coaxial	Metallized 9-pin D-Sub	Characteristic Impedance	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>

**EUT Software**

Revision Level: --

Description: --

**EUT Operating Modes to be Tested** -- list the operating modes to be used during test. It is recommended the equipment be tested while operating in a typical operation mode. FCC testing of personal computers and/or peripherals requires that a simple program generate a complete line of upper case H's. Provide a general description of all software, firmware, and PLD algorithms used in the equipment. List all code modules as described above, with the revision level used during testing. Consult with your TÜV Product Service Representative if additional assistance is required.

1. --

**EUT System Components** -- List and describe all components which are part of the EUT. For FCC testing a minimum configuration is required. (ie. Mouse, Printer, Monitor, External Disk Drive, Motherboard, etc.)

Description	Model #	Serial #	FCC ID #
--			

**Support Equipment** -- List and describe all support equipment which is not part of the EUT. (i.e. peripherals, simulators, etc)

Description	Model #	Serial #	FCC ID #
--			

**Oscillator Frequencies**

Frequency	Derived Frequency	Component # / Location	Description of Use
10.00 MHz	Crystal	D7053178-006	RF uC Oscillator
916.50 MHz	RF Hybrid	D7053178-006	Carrier Radio Frequency
32.768 KHz	Crystal	7053210-002	ASIC Oscillator
4.00 MHz	Resonator	7053210-002	Motor uC Oscillator
4.91 MHz	Resonator	7053213-002	H8 uC Oscillator

**Power Supply**

Manufacturer	Model #	Serial #	Type
--			<input type="checkbox"/> Switched-mode: (Frequency) <input type="checkbox"/> Linear   <input type="checkbox"/> Other:

**Power Line Filters**

Manufacturer	Model #	Location in EUT
--		

**Critical EMI Components (Capacitors, ferrites, etc.)**

Description	Manufacturer	Part # or Value	Qty	Component # / Location
--				

**EMC Critical Detail** -- Describe other EMC Design details used to reduce high frequency noise.

--

**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
Radiated Emissions	15.249(c)	Pass

Both Conducted and Radiated testing were performed according to the procedures in FCC/ANSI C63.4 and CSA 108.8-M1983. Radiated testing was performed at an antenna-to-EUT distance of 3 meters (1 - 25 GHz).

**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.

## **2.0 SYSTEM TEST CONFIGURATION**

### **2.1 Justification**

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

See Block Diagram

### **2.2 EUT Exercise Software**

None

### **2.3 Special Accessories**

None

### **2.4 Equipment Modifications**

None

### **2.5 Configuration of Test System**

See Block Diagram

Report No. SC302357-03

**3.0 RADIATED EMISSIONS EQUIPMENT/DATA**

See following page(s).



Report No. SC302357-03

**Test Conditions: RADIATED EMISSIONS: FCC Part 15.249(c)**

**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.	Date Cal'ed
3146	244	Antenna, Log Periodic Dipole	EMCO	1063	07/02
HP8566B	743	Spectrum Analyzer	Hewlett Packard	2618A02913	11/02
3115	251	Horn Antenna	Electro Mechanics Co	2595	12/02
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. SC302357-03

**4.0 ATTESTATION STATEMENT**

**GENERAL REMARKS:**

**SUMMARY:**

All tests were performed per CFR 47, Part(s) 15.249(c)

■ - Performed

The Equipment Under Test

■ - **Fulfills** the requirements of CFR 47, Part(s) 15.249(c)

Testing Start Date: 14 May 2003

Testing End Date: 14 May 2003

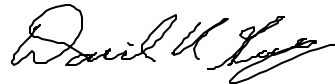
**- TÜV AMERICA, INC. -**

Responsible Engineer:



Jim Owen  
(EMC Chief Engineer)

Responsible Engineer:



David Gray  
(EMC Engineer)