

MEASUREMENT AND TECHNICAL REPORT

NOVA BIOMEDICAL
200 Prospect Street
Waltham, MA 02454

DATE: 24 February 2003

This Report Concerns:	Original Grant: <input checked="" type="checkbox"/>	Class II Change: <input type="checkbox"/>
Equipment Type:	BD LOGIC (Crusader), Model N/A	
Deferred grant requested per 47 CFR 0.457(d)(1)(ii)?	Yes: <input type="checkbox"/>	Defer until: <input type="checkbox"/>
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: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>
(*) FCC Part 15, Paragraph(s) 15.249(a)		
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	<hr/> 3 - 7
1.1 Product Description	<hr/> 3 - 6
1.2 Related Submittal Grant	<hr/> 7
1.3 Tested System Details	<hr/> 7
1.4 Test Methodology	<hr/> 7
1.5 Test Facility	<hr/> 7
1.6 Part 2 Requirements	<hr/> 7
2.0 SYSTEM TEST CONFIGURATION	<hr/> 8
2.1 Justification	<hr/> 8
2.2 EUT Exercise Software	<hr/> 8
2.3 Special Accessories	<hr/> 8
2.4 Equipment Modifications	<hr/> 8
2.5 Configuration of Test System	<hr/> 8
3.0 RADIATED EMISSIONS EQUIPMENT/DATA	<hr/> 9 - 12
4.0 ATTESTATION STATEMENT	<hr/> 13

Report No. SC300405-03

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

Blood Glucose Monitor

EUT Name BD LOGIC (Crusader)

Model No.: -- Serial No.: --

Product Options: --

Configurations to be tested: 868MHz for Europe and 916MHz for USA

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: **Battery** (If battery powered, make sure battery life is sufficient to complete testing.)

of Phases: --

Current (Amps/phase(max)): -- Current (Amps/phase(nominal)): --

Other 25 extra batteries included

Other Special Requirements

Typical Installation and/or Operating Environment

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

Diabetics, Self Testing Consumer

EUT Power Cable

Permanent OR Removable Length (in meters): _____
 Shielded OR Unshielded
 Not Applicable

EUT Interface Ports and Cables											
Interface			Shielding								
Type	Analog	Digital	City	Yes	No	Type	Termination	Connector Type	Port Termination	Length (in meters)	Removable Permanent
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: A 1.5

Description: Continually transmits @ 916MHz for USA model
Continually transmits @ 868MHz for European model

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. Continuous functioning of meter and continuous Transmission of RF
2. IF REQUIRED Normal single transmission after running control solution on a new strip

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 #
BD LOGIC (Crusader)	916MHz normal	000128	--
--	916MHz cont	--	--
--	868 MHz normal	000129	--
--	868 MHz cont	--	--

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
4.1954MHz	same	X3	Runs CPU
32.768KHz	same	X1	Date/Time Clock
10.0MHz	same	X2	Runs RF CPU

Power Supply

Manufacturer	Model #	Serial #	Type
C1D ASIC	--	--	<input checked="" type="checkbox"/> Switched-mode: (Frequency) 100KHz <input type="checkbox"/> Linear <input type="checkbox"/> Other: --
Duracell	CR2450	--	<input type="checkbox"/> Switched-mode: (Frequency) -- <input type="checkbox"/> Linear <input checked="" type="checkbox"/> Other: Battery

Power Line Filters

Manufacturer	Model #	Location in EUT
--		

Critical EMI Components (Capacitors, ferrites, etc.)

Description	Manufacturer	Part # or Value	Qty	Component # / Location
Tranceiver IC	RFM	TR1000	1	U7

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

--

Report No. SC300405-03

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
Radiated Emissions	15.249(a)	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 to the 10th harmonic.

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. SC300405-03

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. SC300405-03

3.0 RADIATED EMISSIONS EQUIPMENT/DATA

See following page(s).

Test Conditions: RADIATED EMISSIONS: FCC Part 15.249(a)

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

- **Test not applicable**

■ - Roof (Small Open Area Test Site)

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Date Cal'ed
HP8566B	743	Spectrum Analyzer	Hewlett Packard	2618A02913	09/02
HP85662A	744	Spectrum Analyzer Display	Hewlett Packard	2403A08402	09/02
HP8566B	720	Spectrum Analyzer	Hewlett Packard	2115A00842	07/02
HP8566B	721	Spectrum Analyzer Display	Hewlett Packard	2542A12099	07/02
3115	251	Horn Antenna	Electro Mechanics Co	2595	01/03
AMF-5D-010180-35-10P	719	PreAmplifier	Miteq	549460	NCR*
Cable 1	731	30' Cable	United Microwave Pro	--	NCR*
Cable 2	755	40' Cable	United Microwave Pro	--	NCR*
Cable 3	756	10' Cable	United Microwave Pro	--	NCR*
Cable 4	657	3' Cable	United Microwave Pro	--	NCR*
LPB 2520 / A	739	LPB (Bi-Log Periodic)	Antenna Research	1170	05/2

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

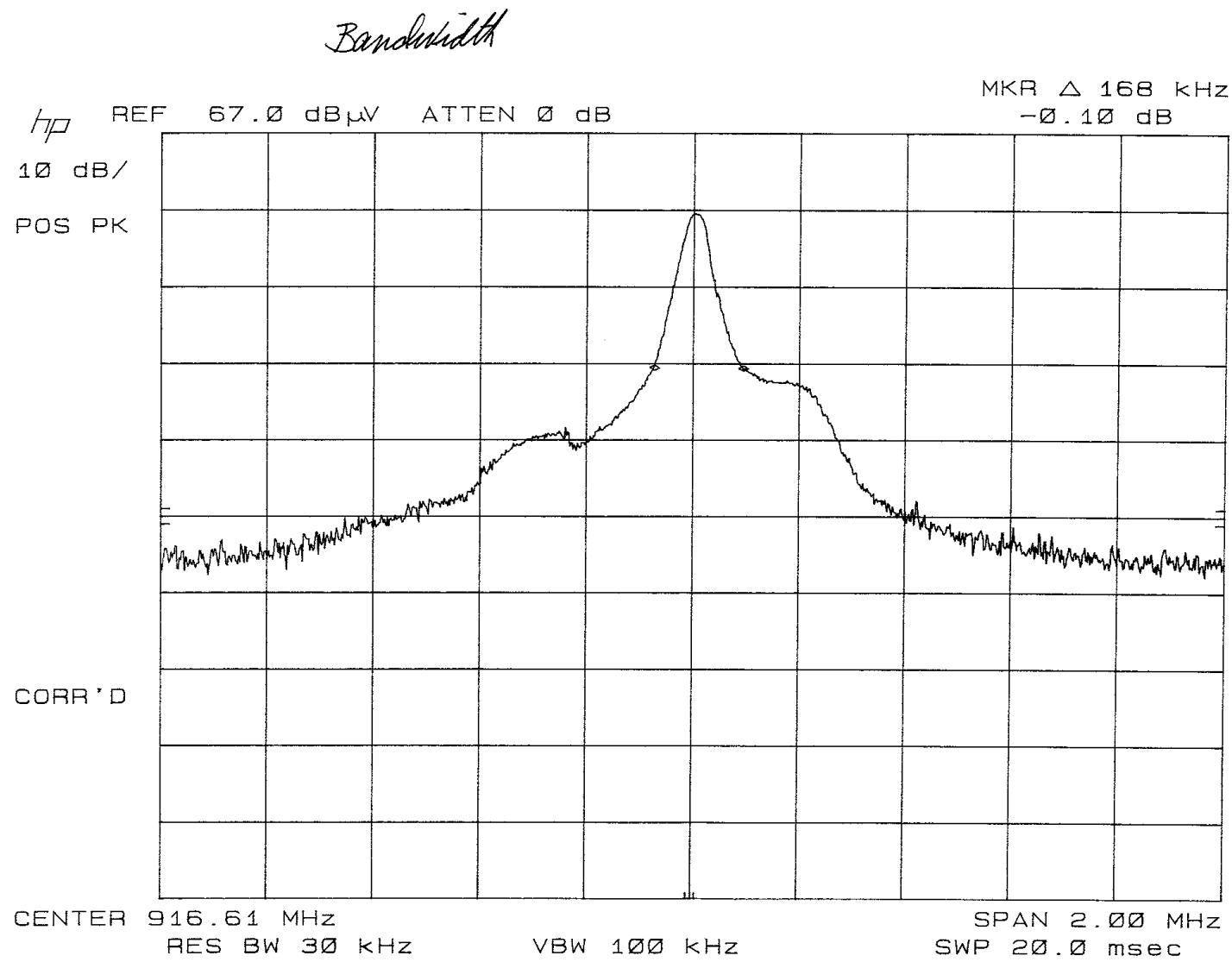
REPORT No: SC300405 TESTER: Alan Laudani  SPEC: FCC Part 15 para 15.249(a)

TEST SITE: Roof

DATE: Jan. 27, 2003 LOG: 243

NOTES: Duty Cycle= 46% OTHER: 251
 above 1GHz: RBW & VBW 1 MHz for Pk; AVG = PK - 20LOG(Duty Cycle)
 below 1GHz: RBW & VBW 100 kHz for Pk; AVG = PK - 20LOG(Duty Cycle)
 CF = Antenna Factor + Cable Loss - Preamplifier Gain

v.beta231



Report No. SC300405-03

4.0 ATTESTATION STATEMENT

GENERAL REMARKS:

SUMMARY:

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

■ - Performed

The Equipment Under Test

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

- TÜV AMERICA, INC. -

Responsible Engineer:



Jim Owen
(EMC Chief Engineer)

Responsible Engineer:



Alan Laudani
(EMC Engineer)