

# EMC - TEST REPORT

## UNITED STATES STANDARD FCC PART 95

Test Report File No. : SC405780-03 Date of Issue: 02 December 2005

Model / Serial No. : 9300 / --

Product Type : STS Transmitter

Applicant : DEXCOM INCORPORATED

Manufacturer : DEXCOM INCORPORATED

License holder : DEXCOM INCORPORATED

Address : 5555 Oberlin Drive  
: San Diego, CA 92121

Test Result : See General Remarks (page 9).

Test Project Number  
Reference(s) : SC405780-03

Total pages - Test Report : 21

NOTE: All test equipment used during testing is calibrated and traceable to NIST.

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**TEST REGULATIONS:**

The tests were performed according to the following regulations:

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> - EN 50081-1: 1991                   |   |  |
| <input type="checkbox"/> - EN 55011: 1998, Amendment A2: 2002 | <input type="checkbox"/> - Group 1                          | <input type="checkbox"/> - Group 2     |
| <input type="checkbox"/> - EN 55013: 1990                     | <input type="checkbox"/> - Class A                          | <input type="checkbox"/> - Class B     |
| <input type="checkbox"/> - EN 55014: 1993                     | <input type="checkbox"/> - Household appliances and similar |  |
|   | <input type="checkbox"/> - Portable tools                   |  |
|   | <input type="checkbox"/> - Semiconductor devices            |  |
| <input type="checkbox"/> - EN 55022: 1987                     | <input type="checkbox"/> - Class A                          | <input type="checkbox"/> - Class B     |
| <input type="checkbox"/> - EN 55022: 1998, Amendment A2: 2003 | <input type="checkbox"/> - Class A                          | <input type="checkbox"/> - Class B     |
| <input type="checkbox"/> - VCCI                               | <input type="checkbox"/> - Class A ITE                      | <input type="checkbox"/> - Class B ITE |
| <input type="checkbox"/> - CNS 13438: 1994                    | <input type="checkbox"/> - Class A                          | <input type="checkbox"/> - Class B     |
| <input checked="" type="checkbox"/> - FCC Part 95             |   |  |
| <input type="checkbox"/> - AS/NZS 3548: 1995                  | <input type="checkbox"/> - Class A                          | <input type="checkbox"/> - Class B     |
| <input type="checkbox"/> - CISPR 11: 1997                     | <input type="checkbox"/> - Group 1                          | <input type="checkbox"/> - Group 2     |
|   | <input type="checkbox"/> - Class A                          | <input type="checkbox"/> - Class B     |
| <input type="checkbox"/> - CISPR 22: 1997                     | <input type="checkbox"/> - Class A                          | <input type="checkbox"/> - Class B     |

**Environmental Conditions In The Laboratory:**

	<u>Actual</u>
Temperature	: 23 °C
Relative Humidity	: 50 %
Atmospheric Pressure	: 100.0 kPa

**Power Supply Utilized:**

Power supply system : Battery Operated

**Symbol Definitions:**

- - Applicable
- - Not Applicable

**Test Conditions: FREQUENCY STABILITY**

The FREQUENCY STABILITY measurements were performed in the following location at the San Diego Testing Facility:

- Test not applicable

■ - TR-2, Test Room, 16' x 10' x 9'

**Test Equipment Used:**

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Date Cal'ed
E4446A	6823	Spectrum Analyzer	Agilent	US44300486	04/04
T30RC	6225	Environmental Chamber	Tenney Environmental	27244-02	05/04
E3612A	6456	DC Power Supply	Hewlett Packard	KR83006892	N/A
34401A	6709	Digital Volt Meter	Hewlett Packard	3146A03945	07/04

**Remarks:** One year calibration cycle for all test equipment and sites.

**Test Conditions: EMISSION BANDWIDTH**

The EMISSION BANDWIDTH measurements were performed in the following location at the San Diego Testing Facility:

- Test not applicable

■ - SR-3, Shielded Room, 12' x 20' x 8', Metal Chamber

**Test Equipment Used:**

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Date Cal'ed
E4446A	6823	Spectrum Analyzer	Agilent	US44300486	04/04
E3612A	6456	DC Power Supply	Hewlett Packard	KR83006892	N/A
34401A	6709	Digital Volt Meter	Hewlett Packard	3146A03945	07/04

**Remarks:** One year calibration cycle for all test equipment and sites.

**Test Conditions: MAXIMUM TRANSMITTER POWER**

The MAXIMUM TRANSMITTER POWER measurements were performed in the following location 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
3146	6641	Log Periodic Antenna	EMCO	106X	06/04
E4440A	6814	Spectrum Analyzer	Hewlett Packard	MY42510441	12/03
8648C	6586	Signal Generator	Hewlett Packard	3642U01074	12/03
UHA 9105	6651	Dipole Antenna	Schwarzbeck	EMACO1	Verified

**Remarks:** One year calibration cycle for all test equipment and sites.

**Equipment Under Test (EUT) Test Operation Mode:**

**The equipment under test was operated under the following conditions during testing:**

- Standby
- Test Program (H - Pattern)
- Test Program (Color Bar)
- Test Program (Customer Specified)
- Practice Operation
- Normal Operating Mode

- \_\_\_\_\_

**Configuration of the equipment under test:**

- See Constructional Data Form in Appendix B
- See Product Information Form(s) in Appendix B

**The following peripheral devices and interface cables were connected during the testing:**

- |                                  |             |
|----------------------------------|-------------|
| <input type="checkbox"/> - _____ | Type: _____ |
| <input type="checkbox"/> - _____ | Type: _____ |
| <input type="checkbox"/> - _____ | Type: _____ |
| <input type="checkbox"/> - _____ | Type: _____ |
| <input type="checkbox"/> - _____ | Type: _____ |
| <input type="checkbox"/> - _____ | Type: _____ |

- Unshielded power cable
- Unshielded cables
- Shielded cables

MPS. No.: \_\_\_\_\_

- Customer specific cables
- \_\_\_\_\_
- \_\_\_\_\_



**GENERAL REMARKS:**

NOTE: All photographs are representative of setup for maximum emissions.

(\*) Frequency Stability failed to function at 55° C. See Data Record TD2 of TD7.

**SUMMARY:**

All tests according to the regulations cited on page 3 were

- Performed\*

- Performed with the following **exceptions**

The Equipment Under Test

**Statement of Measurement Uncertainty**

The data and results referenced in this document are true and accurate. The measurement uncertainty is calculated to be  $\pm 2$  dB for conducted emissions and  $\pm 4$  dB for radiated emissions.

Equipment Received Date: 15 December 2004  
Testing Start Date: 15 December 2004  
Testing End Date: 17 December 2004

- TÜV AMERICA, INC. -

Reviewing Engineer:



David Gray  
(EMC Engineer In Charge)

Test Engineer:



Jim Owen  
(EMC Manager)

**Technical Documentation**

**Test Data Sheets  
and  
Test Setup Drawing(s)**

Dexcom  
SC405780  
9300 Transmitter

FCC Part 95.628(e) - Frequency Stability

Temperature °C	Frequency (Hz)
0	402 134 270
10	402 132 960
20	402 136 680
30	402 111 400
40	402 134 650
50	402 138 270
55	Equipment failed to function

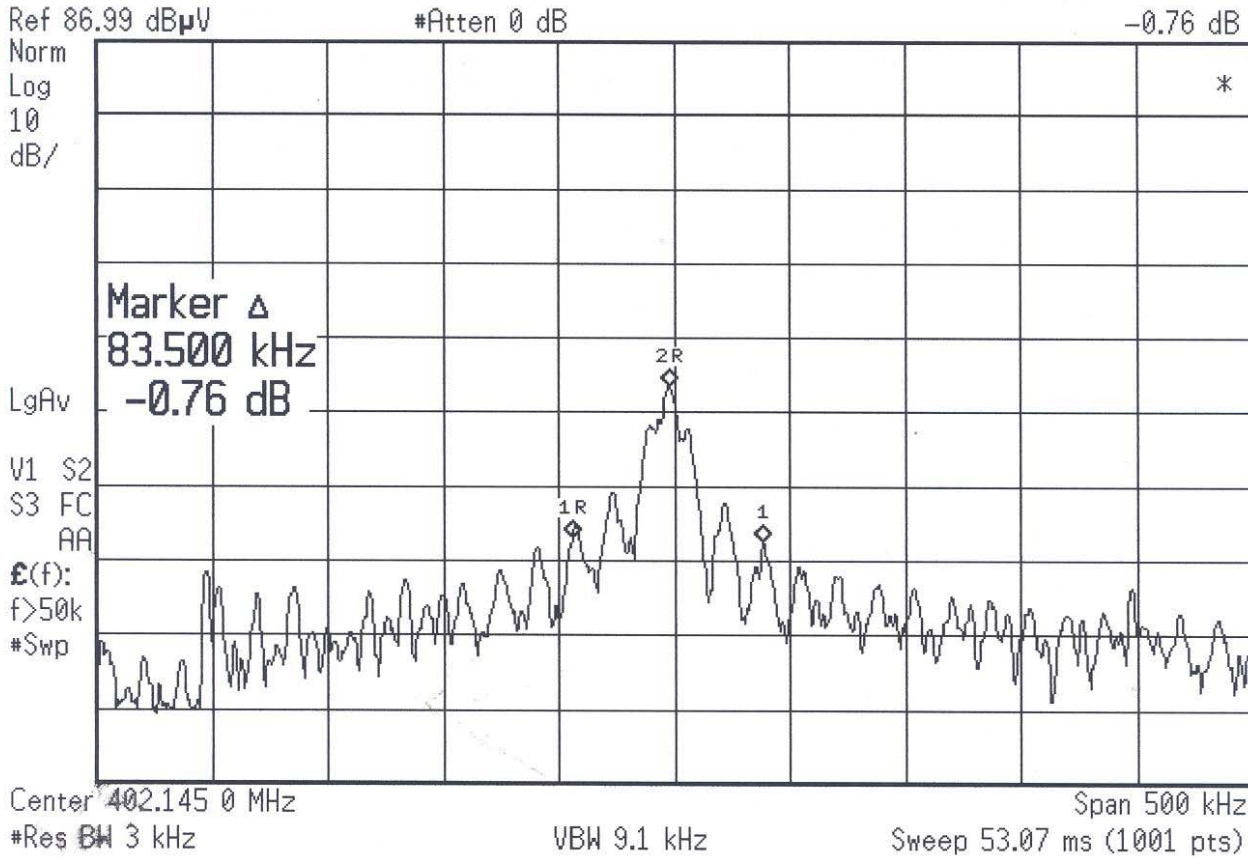
$V_N = 3.0$  vdc

Dexcom  
SC405780  
9300 Transmitter

FCC Part 95.633(e)(1) - Emission Bandwidth

\* Agilent 08:40:02 Dec 17, 2004

▲ Mkr1 83.5 kHz  
-0.76 dB



Limit:  $\leq 300$  kHz

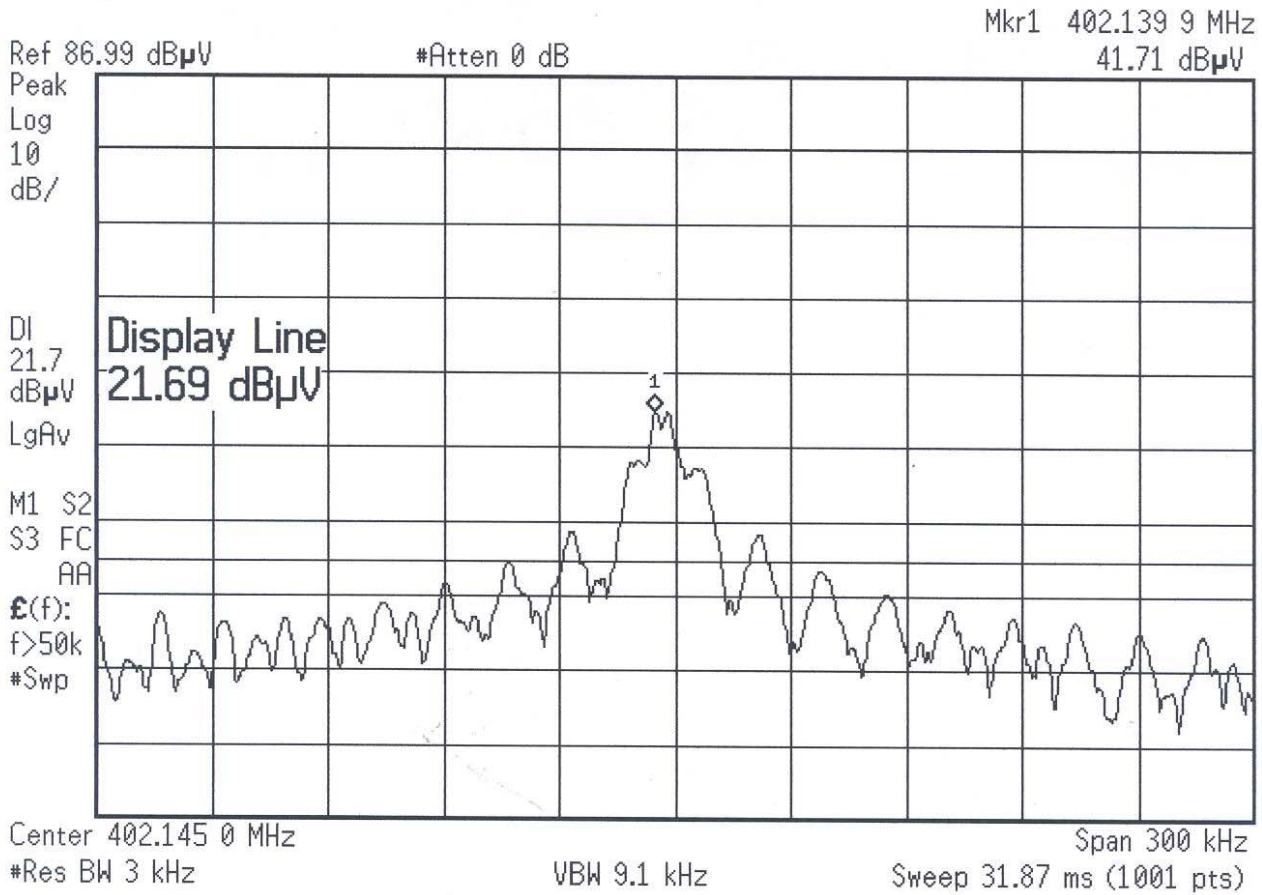
EUT: Complies

Dexcom  
 SC405780  
 9300 Transmitter

FCC Part 95.639(f)(1) - Maximum Transmitter Power

Freq (MHz)	Level (dBm)	Corr (AE + Cable)	Level ( $\mu$ W)	Limit ( $\mu$ W)
402.14	-19.8	0	10.5	25

\* Agilent 08:56:21 Dec 17, 2004



**Test Setup for Frequency Stability**

**Test Setup for Emission Bandwidth**

**Test Setup for Maximum Transmitter Power**



## **Appendix A**

### **Test Setups** (Photographs)

NOTE: All photographs are representative of setup for maximum emissions.

**See Test Setup Drawings**

**Appendix B**

**Product Information Form(s)**

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

EUT Description: STS Transmitter/Receiver System  
 EUT Name: STS Transmitter/Receiver System  
 Model No.: Tx 9300 & Rx 8204 Serial No.: --  
 Product Options: --  
 Configurations to be tested: Connected to PC, Blood Glucose Monitor, Wall Charger

**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: Tx Battery (If battery powered, make sure battery life is sufficient to complete testing.)  
Rx 120V  
 # of Phases: Rx 1  
 Current (Amps/phase(max)): -- Current (Amps/phase(nominal)): --  
 Other: --

**Other Special Requirements**

--

**Typical Installation and/or Operating Environment**

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

Consumer

**EUT Power Cable - Rx only**

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

**Appendix C**

**Change History**

**Not Applicable**

**Appendix D**

**Supplemental Information**

**Not Applicable**