

## MEASUREMENT AND TECHNICAL REPORT

ADVANCED BIONICS CORPORATION  
12740 San Fernando Road  
Sylmar, CA 91342

**DATE: 05 November 2002**

<b>This Report Concerns:</b>	Original Grant: <input checked="" type="checkbox"/> X	Class II Change: <input type="checkbox"/>
<b>Equipment Type:</b>		
SCS Implant System External Trial Simulator (Model SC-5100)		
<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"/> X
Company Name <b>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"/> X*
(*) FCC Part 15, Paragraph(s) <b>15.209(a)</b>		
<b>Report Prepared by:</b>  TÜV AMERICA, INC 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>	<b>3</b>
1.1 Product Description	3
1.2 Related Submittal Grant	4
1.3 Tested System Details	4
1.4 Test Methodology	4
1.5 Test Facility	4
<b>2.0 SYSTEM TEST CONFIGURATION</b>	<b>5</b>
2.1 Justification	5
2.2 EUT Exercise Software	6
2.3 Special Accessories	6
2.4 Equipment Modifications	6
2.5 Configuration of Test System	6
<b>3.0 RADIATED EMISSIONS EQUIPMENT/DATA</b>	<b>7</b>
<b>4.0 ATTESTATION STATEMENT</b>	<b>10</b>

## 1.0 GENERAL INFORMATION

### 1.1 Product Description

Model Number	SC-5100
Model Description	SCS External Trial Stimulator
length	2.7"
width	2.2"
height	0.7"
weight	45g (w/o battery)
Power source (if battery, voltage and size)	Battery 6V
Power type (if battery, chemistry)	Lithium
Power capacity	170mAh
Cable - signal type	2x Omnetics cable and 1x patch cable
Cable - connector type	2x Omnetics; 1x Amp (mini shrouded banana)
Cable - shielded/unshielded	Omnetics = Shielded; patch = not shielded
Cable - length	Omnetics = 5' ; patch cable = 5'
Cable - removable (y/n)	yes

Support Equipment (additionally, see section 2.1)

Model Number	SC-5200
Model Description	SCS Handheld Programmer
length	3.5"
width	2.7"
height	0.8"
weight	76g (w/o battery)
Power source (if battery, voltage and size)	Battery 3.6V
Power type (if battery, chemistry)	Lithium
Power capacity	2.6Ahr
Cable - signal type	na
Cable - connector type	na
Cable - shielded/unshielded	na
Cable - length	na
Cable - removable (y/n)	na

**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	15.209(a)	Pass

Unless otherwise stated, testing was 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.

## 2.0 SYSTEM TEST CONFIGURATION

### 2.1 Justification

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

- 2) CP / HHP / ETS [HHP – 125kHz RF; 1Mhz Crystal] [ETS - 125kHz RF; 1Mhz Crystal]

#### *Clinicians Programmer (CP):*

The CP shall have the necessary program to transmit and receive packets from the HHP via IR during the EMI test. This device shall be powered from a wall socket with the appropriate power cord. All of the pertinent accessories required for this unit to be tested shall be present during testing.

#### *Handheld Programmer (HHP)*

This unit shall be battery operated and in pass through mode during the test. The HHP and ETS shall be positioned such that the antennas are at optimum communication position.

#### *External Trial Stimulator (ETS)*

This device shall be battery operated. It shall have electrode cables, extensions attached to the device. Two output electrodes (E1 [cathode] and E9 [anode]) shall be connected to a 1K load and shall be monitored with an oscilloscope during testing.

#### *Acceptance Criteria:*

##### EMI/ESD:

The system shall be within the limits defined by the EN60601-1-2 (class B).

##### Susceptibility:

The system shall be within the limits defined by the EN60601-1-2 (class B). The system shall maintain functionality. The output pulse shall maintain the programmed output +/- 10%.

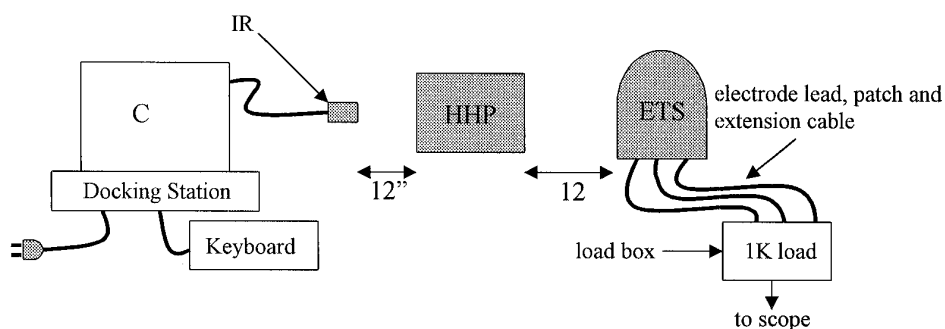


Figure 2

Report No. SC205502(HHPETS)-03

**2.2 EUT Exercise Software**

None

**2.3 Special Accessories**

None

**2.4 Equipment Modifications**

None

**2.5 Configuration of Test System**

See 2.1.

Report No. SC205502(HHPETS)-03

### **3.0 RADIATED EMISSIONS EQUIPMENT/DATA**

See following page(s).

Report No. SC205502(HHPETS)-03

**Test Conditions: RADIATED EMISSIONS: FCC Part 15.209(a)**

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

☐ - Test not applicable

- - Canyon #1 (10- and 30-Meter Open Area Test Site), Carroll Canyon, San Diego  
(Date of listing Aug. 30, 2000. Site Verification Valid for 3 years from listing.)

**Testing was performed at a test distance of:**

- - 10 meters

**Test Equipment Used:**

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Cal Due Date
HFH 2-Z2	208	Antenna, Loop	Rohde & Schwarz	880	06/03
8594E	6504	Spectrum Analyzer	Hewlett Packard	3303A00365	07/03
ESVS	427	EMI Test Receiver	Rohde & Schwarz	830350/006	12/02
LPB25201A	738	Antenna Bilog	Antenna Research	1169	06/03

**Remarks:** \_\_\_\_\_

\_\_\_\_\_



## EMISSIONS

Test Report #: SC205502

Test Method: FCC 15.209

Date: 10-28-02

EUT POWER:  
☐ 230 Vac/50 Hz    ☐ 120 Vac/60 Hz  
☒ Other: battery

EUT Model #: K75

EUT Description: ETS

NOTES: RBW = 100; VBW = 100; Receive antenna = RFS ASSC #208; Amplifier Gain: N/A


No measurable emissions above 1MHz. Peak measurements.


$$\text{Emission level (dB}\mu\text{V)} = \text{Measured Level} + \text{Antenna Correction Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$
[illegible]

Tested by: Stephen Rackett  
Printed

Reviewed by: Jim Owen  
Printed

ems.DOC Rev 09.97

  
\_\_\_\_\_  
Signature

  
\_\_\_\_\_  
Signature

No emissions were detected at a level greater than 20 dB below the limit. The square of an inverse linear distance extrapolation factor was used ( $15.31(f_2)$ ).

#### 4.0 ATTESTATION STATEMENT

##### GENERAL REMARKS:

##### SUMMARY:

All tests were performed per CFR 47, Part(s) 15.209(a)

■ - Performed

The Equipment Under Test

■ - **Fulfills** the requirements of CFR 47, Part(s) 15.209(a)

##### - TÜV AMERICA, INC. -

Responsible Engineer:



Jim Owen  
(EMC Chief Engineer)

Responsible Engineer:



Stephen Rackleff  
(EMC Engineer)