

TEST REPORT

Report Number: 3131957MPK-007

Project Number: 3131957

Report Date: August 31, 2007

**Testing performed on the
Patient Remote Control
Model #: SC-5212**

FCC ID: Q4D-PSC5210W

**to
FCC Part 15.209 and RSS-210 (sec 2.6)**

**for
Advanced Bionics Corporation**




A2LA Certificate Number: 1755-01


Test Performed by:

Intertek Testing Services NA, Inc
1365 Adams Court
Menlo Park, CA 94025

Test Authorized by:

Advanced Bionics Corporation
12740 San Fernando Road
Sylmar, CA 91342

Prepared by:  **Date:** August 31, 2007
Suresh Kondapalli

Reviewed by:  **Date:** August 31, 2007
David Chernomordik

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to copy or distribute this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program. This report must not be used to claim product endorsement by A2LA, NIST nor any other agency of the U.S. Government.

Report No. 3131957MPK-002

Equipment Under Test: Patient Remote Control with
Radio Module

Trade Name: Advanced Bionics Corporation

Model No.: SC-5212

FCC ID: Q4D-PSC5210W

Applicant: Advanced Bionics Corporation

Contact: Mr. Miguel A. Arrizon

Address: 12740 San Fernando Road
Sylmar, CA 91342

Country: USA

Tel. Number: 661-362-4731

Fax number: 661-362-1511

Email: Miguel.arrizon@advanedbionics.com

Applicable Regulation: FCC Part 15, Subpart C
RSS-210 sec. 2.6

Test Site Location: ITS – Site 1
1365 Adams Drive
Menlo Park, CA 94025

Date of Test: August 28- 31, 2007

We attest to the accuracy of this report:



Suresh Kondapalli
EMC Team Leader



David Chernomordik
EMC Technical Manager

TABLE OF CONTENTS

1.0 Introduction..... 4
1.1 Summary of Tests..... 4

2.0 General Description 5
2.1 Product Description..... 5
2.2 Related Submittal(s) Grants 5
2.3 Test Methodology 6
2.4 Test Facility..... 6

3.0 System Test Configuration..... 7
3.1 Support Equipment 7
3.2 Block Diagram of Test Setup 7
3.3 Software Exercise Program 8
3.4 Mode of Operation During Test 8
3.5 Modifications Required for Compliance 8

4.0 Measurement Results..... 9
4.1 Requirement 9
4.2 Procedure 9
4.3 Test Result 10

5.0 List of test equipment 14

6.0 Document History 15

1.0 Introduction

The Equipment Under Test (EUT) is a Patient Remote Control works in-conjunction with Implantable Pulse Generator (IPG) Model SC-1110. Remote control communicates with the implant through a RF telemetry link up to two feet.

1.1 Summary of Tests

TEST	REFERENCE FCC Subpart C	REFERENCE RSS-210	RESULTS
Field Strength	15.209	2.6	Complies
AC Conducted Emission	15.207	RSS-Gen	Not Applicable *
Occupied Bandwidth	-	RSS-Gen	Complies
Antenna Requirement	15.203	RSS-Gen	Complies

* The EUT is battery powered

2.0 General Description

2.1 Product Description

Overview of the Radio module

Frequency Range	125 KHz
Rated RF Output	N/A
Number of Channel(s)	1
Modulation Type	FSK
Antenna(s) type & Gain	Loop (coil) antenna

A production version of the sample was received on August 27, 2007 in good condition. As declared by the Applicant, it is identical to production units.

Test start date: August 27, 2007

Test end date: August 31, 2007

2.2 Related Submittal(s) Grants

2.3 Test Methodology

Radiated emissions measurements were performed according to the procedures in ANSI C63.4 (2003). Radiated tests were performed at an antenna to EUT distance of 10 meters, unless stated otherwise in the "**Data Sheet**" of this Application.

2.4 Test Facility

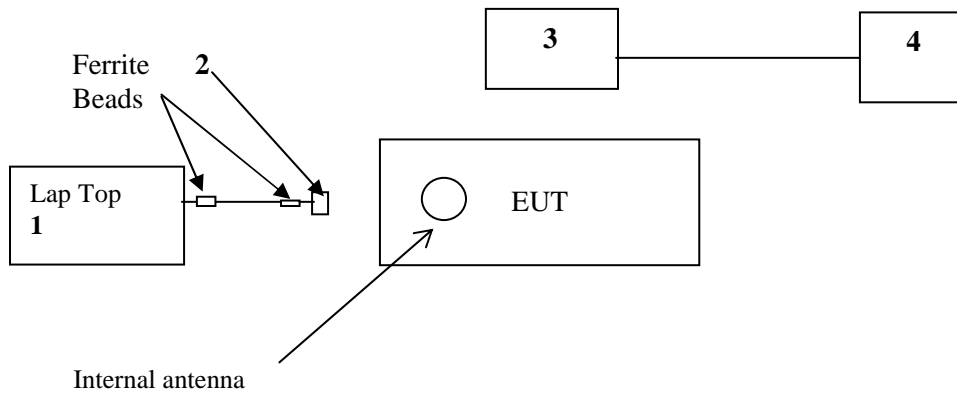
Then radiated emission test site and conducted measurement facility used to collect the data is site 1 located in Menlo Park, California. This test facility and site measurement data have been fully placed on file with the FCC.

3.0 System Test Configuration

3.1 Support Equipment

Item #	Description	Model No.	S/N
1	Toshiba Lap top	Portege M200	15028139H
2	IR Link Device	ACT-IR 220 Plus	15404
3	Advanced Bionics Implant simulator	Precision Simulator II	2820
4	Resistor Network	None	Not Labeled

3.2 Block Diagram of Test Setup



3.3 Software Exercise Program

During radiated testing, the test software provided by the applicant was used to exercise the various system components in a manner similar to a typical use.

3.4 Mode of Operation During Test

The EUT was transmitting at 125.0 kHz.

3.5 Modifications Required for Compliance

No modifications were installed by Intertek Testing Services during compliance testing in order to bring the product into compliance (Please note that this list does not include changes made specifically by Advanced Bionics prior to compliance testing).

4.0 Measurement Results

4.1 Requirement

The emissions shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009–0.490	$2400/F(\text{kHz})$	300
0.490–1.705	$24000/F(\text{kHz})$	30
1.705–30.0	30	30
30–88	100	3
88–216	150	3
216–960	200	3
Above 960	500	3

The level of any unwanted emissions shall not exceed the level of the fundamental emission.

4.2 Procedure

For radiated emission measurements the EUT is placed on a non-conductive table. The signal is maximized through rotation and placement in the three orthogonal axes.

The EUT is attached to peripherals and they are connected and operational (as typical as possible). The EUT is wired to transmit full power. During testing, all cables are manipulated to produce worst-case emissions.

For measurements below 30 MHz, a loop antenna is placed at 1 m height above the ground plane. For measurements above 30 MHz, the antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters.

At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations. When performing measurements at a closer distance than specified, the results are extrapolated to the specified distance using the square of an inverse linear distance extrapolation factor (40 dB/decade).

At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified. When performing measurements at a distance other than that specified, the results are extrapolated to the specified distance using the inverse linear distance extrapolation factor (20 dB/decade).

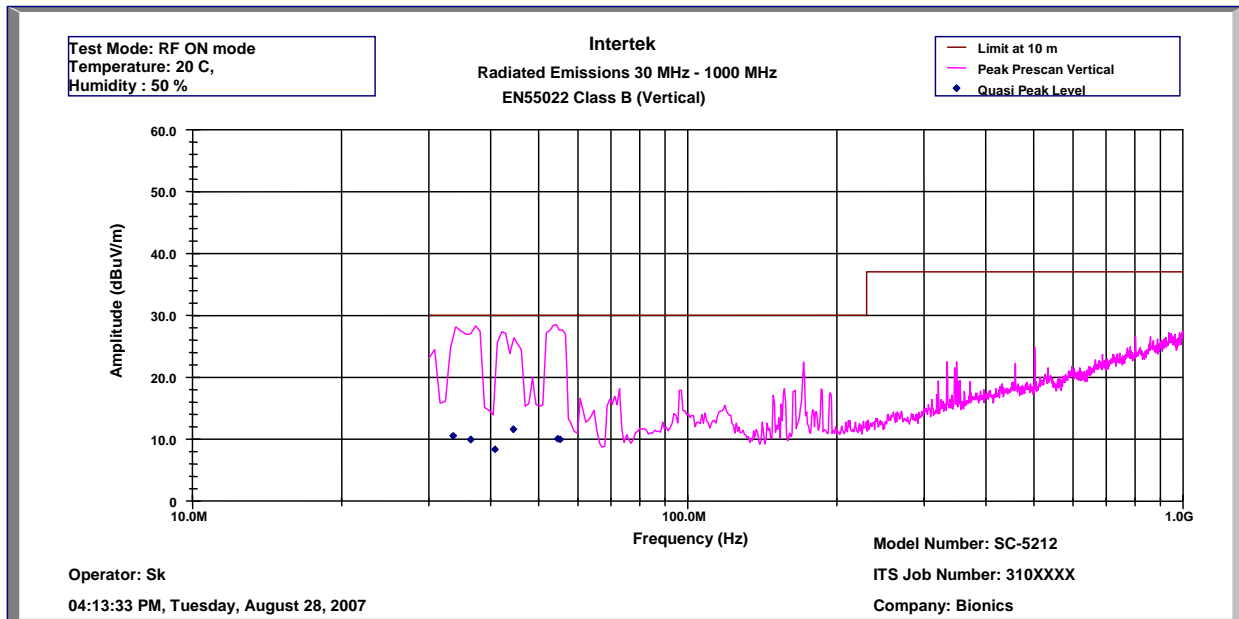
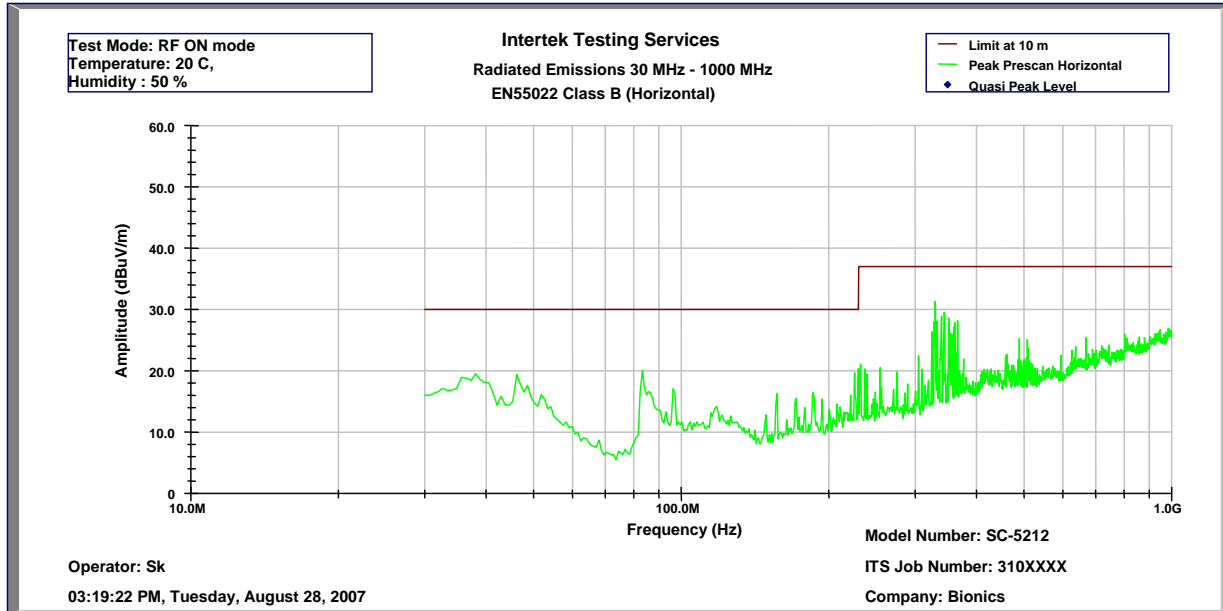
4.3 Test Result

Measurement results for frequencies below 30 MHz

Freq.	SA Reading	Distance	E AF	Amplifier Gain	E Field	Distance correction Factor	E Field at specified distance	Limit at specified distance	Margin
kHz	dB(uV)	m	dB(1/m)	dB	dB(uV/m)	dB	dB(uV/m)	dB(uV/m)	dB
125	52.0	3	64.0	25	91.0	-80	11.0	25.7	-14.7
250	15.6	3	58.0	25	48.6	-80	-31.4	19.6	-51.0
375	16.6	3	55.0	25	46.6	-80	-33.4	16.1	-49.5
500	15.5	3	52.3	25	42.8	-40	2.8	33.6	-30.8
625	11.9	3	51.0	25	37.9	-40	-2.1	31.7	-33.8
750	11.9	3	48.0	25	34.9	-40	-5.1	30.1	-35.2
875	12.4	3	47.2	25	34.6	-40	-5.4	28.8	-34.2
1000	15.9	3	46.6	25	37.5	-40	-2.5	27.6	-30.1
1125	14.9	3	46.0	25	35.9	-40	-4.1	26.6	-30.7
1250	14.1	3	45.5	25	34.6	-40	-5.4	25.7	-31.1

E AF is E-field Antenna Factor

Measurement result for frequencies above 30 MHz



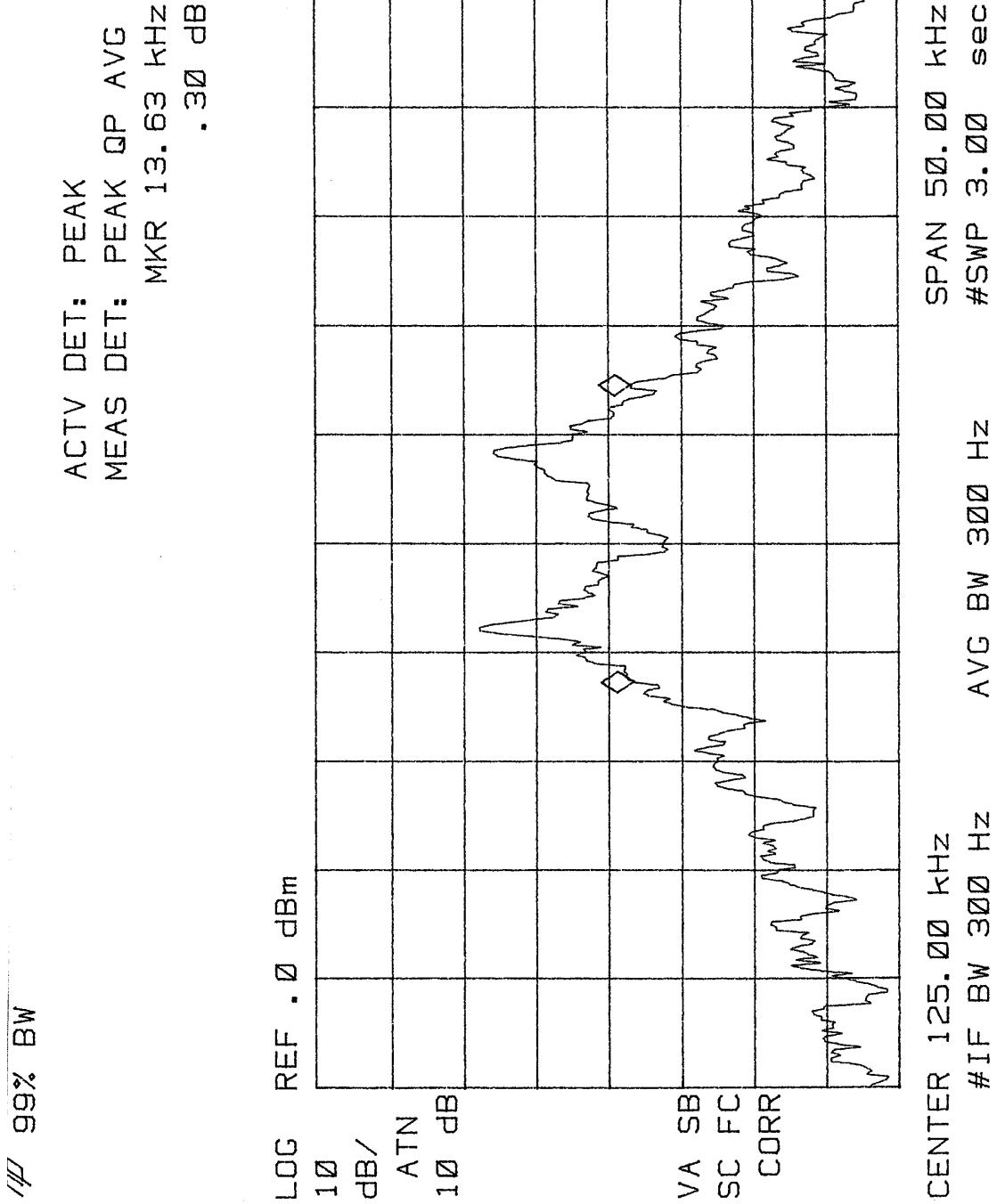
* According to FCC 15.109(g), the CISPR 22 (EN55022) Limit is used.

Intertek							
Radiated Emissions 30 MHz - 1000 MHz							
EN55022 Class B (QP-Vertical)							
Operator: Sk				Model Number: SC-5212			
ITS Job Number: 310XXXX							
04:13:33 PM, Tuesday, August 28, 2007				Company: Advanced Bionics			
Frequency	Quasi Pk FS	Limit@10m	Margin	RA	CF	AG	AF
MHz	dB(uV/m)	dB(uV/m) *	dB	dB(uV)	dB	dB	dB(1/m)
33.6	10.5	30	-19.5	17.5	3.7	27.3	16.6
36.5	9.9	30	-20.1	17.5	3.7	27.3	16.0
40.8	8.4	30	-21.6	16.5	3.8	27.3	15.3
44.5	11.6	30	-18.4	20.2	3.8	27.3	14.9
54.7	10.1	30	-19.9	21.8	3.9	27.3	11.6
55.3	10.0	30	-20.0	21.9	3.9	27.3	11.5
Test Mode: RF ON mode							
Temperature: 20 C,							
Humidity : 50 %							

* According to FCC 15.109(g), the CISPR 22 (EN55022) Limit is used.

Results: Complies by 18.4 dB

Occupied Bandwidth



Emission Designator: 13K6FXD

5.0 List of test equipment

Measurement equipment used for emission compliance testing utilized the equipment on the following list:

Equipment	Manufacturer	Model/Type	Serial #	Cal Int	Cal Due
RF Filter Section	Hewlett Packard	85460A	3448A00267	12	9/11/07
EMI Receiver	Hewlett Packard	8546A	3710A00373	12	9/11/07
BI-Log Antenna	ARA Inc.	LPB-2513/A	1154	12	8/29/07
Pre-Amplifier	HP	8447D	2944A09519	12	6/20/08
Loop Antenna	EMCO	6512	1023	12	3/9/08

6.0 Document History

Revision/ Job Number	Writer Initials	Date	Change
1.0 / 3131957	SK	August 31, 2007	Original document