

FCC PART 95
MEASUREMENT AND TEST REPORT

For

Sunbeam Products, Inc. d/b/a Jarden Consumer Solutions

2381 NW Executive Center Drive, Boca Raton, FL 33431, USA

FCC ID: Z4D-SBRTT2

Report Type: Original Report	Product Type: Sunbeam Pets Rechargeable Remote Trainer
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Report Number: <u>RSZ120723007-00</u>	
Report Date: <u>2012-08-02</u>	
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Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. This report **must not** be used by the customer to claim product certification, approval, or endorsement by NVLAP*, or any agency of the Federal Government.

* This report may contain data that are not covered by the NVLAP accreditation and shall be marked with an asterisk "★"

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The *Sunbeam Products, Inc. d/b/a Jarden Consumer Solutions*'s product, model number: *SBRTSS2 (FCC ID: Z4D-SBRTT2)* or the "EUT" in this report was a *Sunbeam Pets Rechargeable Remote Trainer*, which was measured approximately: 12.8 cm (L) x 5.5 cm (W) x 2.5 cm (H), rated input voltage: DC 7.8 V rechargeable Ni-MH battery .

** All measurement and test data in this report was gathered from production sample serial number: 1207117 (Assigned by BACL, Shenzhen). The EUT supplied by the applicant was received on 2012-07-23.*

Objective

This report is prepared on behalf of *Sunbeam Products, Inc. d/b/a Jarden Consumer Solutions* in accordance with Part 2 and Part 95, Subpart A & Subpart B & Subpart E of the Federal Communication Commissions rules.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All tests and measurements indicated in this document were performed in accordance with Part 95 Subpart A, B and Subpart E of the Federal Communication Commissions rules with TIA-603-C, Land Mobile FM or PM-Communications Equipment-Measurement and Performance Standards.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is an ISO/IEC 17025 accredited laboratory, and is accredited by National Voluntary Laboratory Accredited Program (Lab Code 200707-0).



The current scope of accreditations can be found at <http://ts.nist.gov/Standards/scopes/2007070.htm>

SYSTEM TEST CONFIGURATION

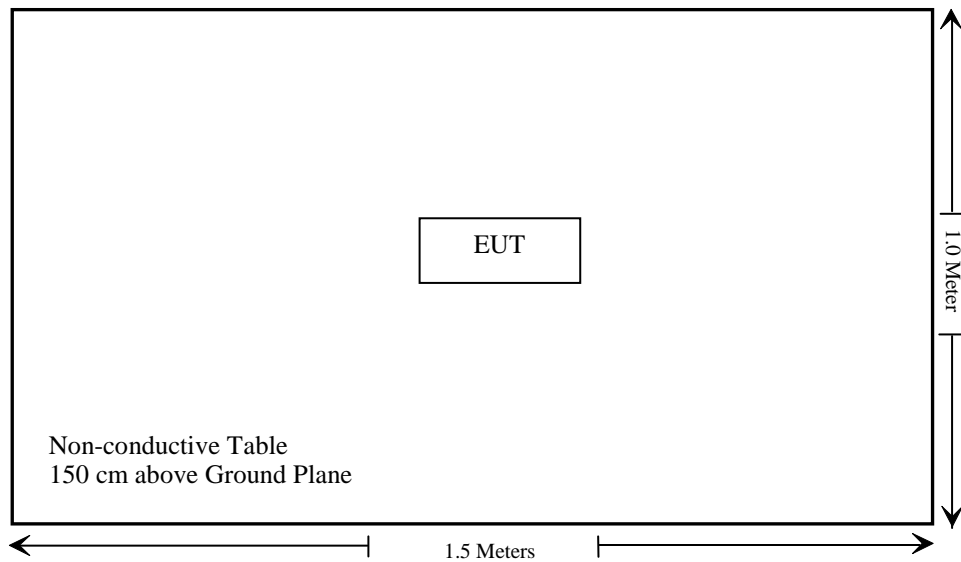
Description of Test Configuration

The system was configured for testing in a typical fashion (as normally used by a typical user).

Equipment Modifications

Bay Area Compliance Laboratories Corp. (Shenzhen) has not done any modification on the EUT.

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§2.1093	RF Exposure	Compliance
§2.1046, §95.210	RF Output Power	Compliance
§2.1049 & §95.631(b) & §95.633(b)	Authorized Bandwidth and Emission Mask	Compliance
§2.1053, §95.635	Spurious Emissions	Compliance
§2.1055 (d), §95.623(b)	Frequency Stability	Compliance

FCC §2.1093 - RF EXPOSURE INFORMATION

Applicable Standard

According to FCC §2.1093 and §1.1307(b) (1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to KDB 447498 D01 Mobile Portable RF Exposure v04 1) c): Unless excluded by specific FCC test procedures, portable devices with output power > 60/f (GHz) mW shall include SAR data for equipment approval.

RF Exposure Evaluation

Max Peak output power: 27.145 MHz: 24.65 dBm = 291.74 mW
SAR exclusion threshold = $60/f \text{ (GHz)} = 60/0.027145 = 2210.35 \text{ mW}$
The Max peak output power of EUT is less than 2210.35 mW.

So the SAR measurement is not necessary.

FCC §2.1046, §95.210 - RF OUTPUT POWER

Applicable Standard

Per §2.1046 & §95.210

a) Your R/C station transmitter power output must not exceed the following value under any conditions:

Channel	Transmitter power (carrier power) (watts)
27.255 MHz	25
26.995–27.195 MHz	4
72–76 MHz	0.75

(b) Use of a transmitter which has power output in excess of that authorized voids your authority to operate the station.

Test Procedure

Radiated method:

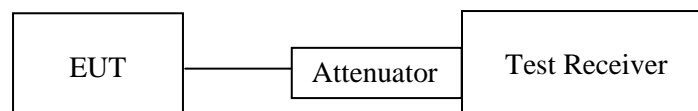
The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load, which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the emissions were measured by the substitution.

Conducted method:

The RF output of the transmitter was connected to the wireless test set and the spectrum analyzer through sufficient attenuation.



Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Due Date
HP	Signal Generator	8657A	3217A04699	2011-12-19	2012-12-18
Rohde & Schwarz	EMI Test Receiver	ESCI	101122	2011-11-17	2012-11-16
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2011-11-28	2012-11-27
COM POWER	Dipole Antenna	AD-100	041000	2012-06-06	2013-06-05
ETS	Loop Antenna	6512	00029604	2011-11-30	2012-11-29

* **Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.0kPa

The testing was performed by Brown Lu on 2012-07-25.

Test Mode: Transmitting

Test Result: Compliance. Please refer to following tables and plots

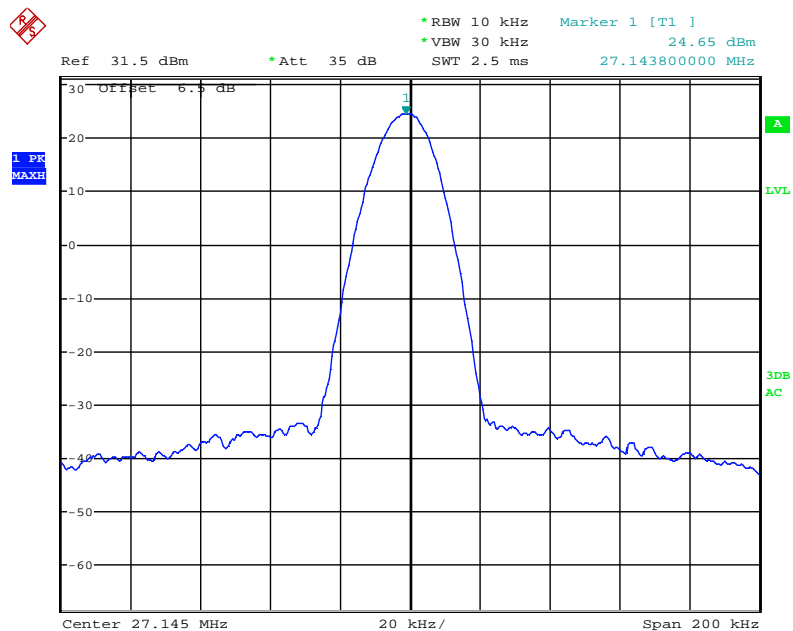
Radiated output power:

Frequency (MHz)	Receiver Reading (dBμV)	Turn Table Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 95	
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)		Limit (dBm)	Margin (dB)
27.145	100.33	180	1.5	V	25.3	0.22	0.00	25.08	36	10.92
27.145	96.65	0	1.5	H	21.8	0.22	0.00	21.58	36	14.42

Note: the antenna gain is 2.0 dBi.

Conducted output power:

Channel frequency (MHz)	Power output (dBm)	Power output (mw)	Limit (mw)
27.145	24.65	291.74	4000



Date: 25.JUL.2012 02:18:05

FCC §2.1049 & §95.631(b) & §95.633(b) - AUTHOURIZED BANDWIDTH AND EMISSION MASK

Applicable Standard

Per FCC §2.1049 and FCC §95.631(b), An R/C transmitter may transmit any appropriate non-voice emission which meets the emission limitations of §95.633.

Per FCC §95.633(b), the authorized bandwidth for any emission type transmitted by an R/C transmitter is 8 kHz.

§ 95.635 (b) The power of each unwanted emission shall be less than TP as specified in the applicable paragraphs listed in the following table:

Transmitter	Emission type	Applicable paragraphs (b)
	R/C	
27 MHz	As specified in § 95.631(b)	(1), (3), (7).

(1) At least 25 dB (decibels) on any frequency removed from the center of the authorized bandwidth by more than 50% up to and including 100% of the authorized bandwidth.

(3) At least 35 dB on any frequency removed from the center of the authorized bandwidth by more than 100% up to and including 250% of the authorized bandwidth.

(7) At least $43 + 10 \log_{10}(T)$ dB on any frequency removed from the center of the authorized bandwidth by more than 250%.

Test Procedure

TIA-603-C, section 2.2.11

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde&Schwarz	EMI Test Receiver	ESCI	101122	2011-11-17	2012-12-16

* **Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

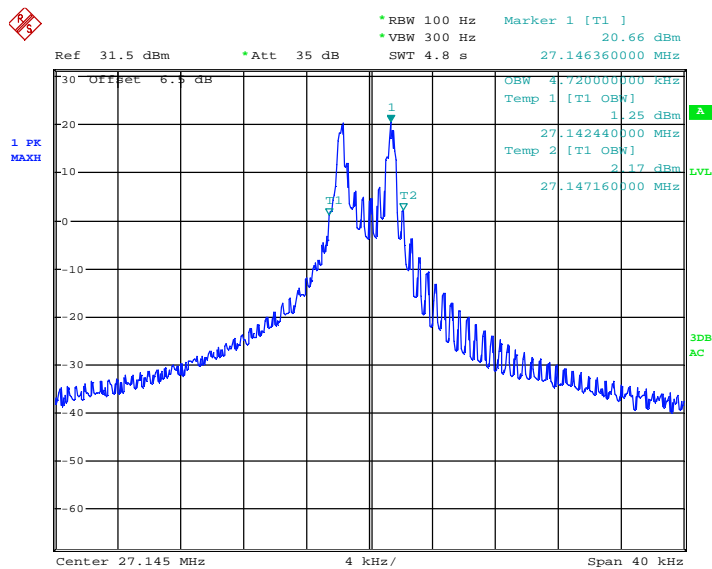
Environmental Conditions

Temperature:	25 °C
Relative Humidity:	56%
ATM Pressure:	100.0 kPa

The testing was performed by Brown Lu on 2012-07-25.

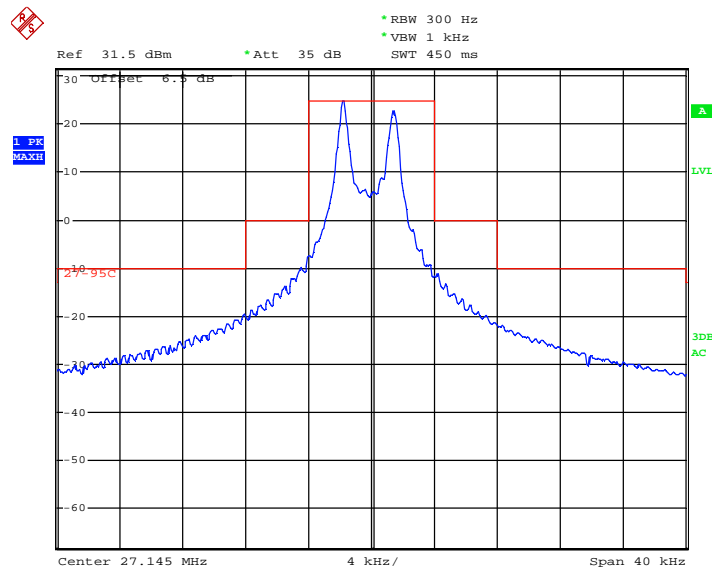
*Test Mode: Transmitting***Occupied Bandwidth:**

Frequency (MHz)	99% Occupied Bandwidth (kHz)	Limit (kHz)
27.145	4.72	<8 kHz



Date: 25.JUL.2012 02:15:36

Emission Mask



Date: 25.JUL.2012 00:49:09

FCC §2.1053 & §95.635 - SPURIOUS EMISSION

Applicable Standard

FCC §2.1053 and §95.635

Test Procedure

Radiated method:

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load, which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

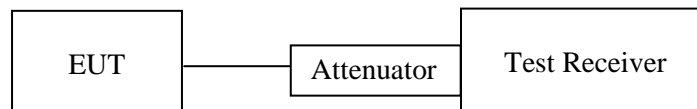
The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = $10 \lg(\text{TXpwr in Watts}/0.001)$ - the absolute level
 Spurious attenuation limit in dB = $43 + 10 \lg(\text{power out in Watts})$

Conducted method:

The RF output of the transceiver was connected to a test receiver appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 100 kHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	101122	2011-11-17	2012-11-16
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2011-11-28	2012-11-27
HP	Amplifier	8447E	1937A01046	2011-11-24	2012-11-23
HP	Signal Generator	8657A	3217A04699	2011-12-19	2012-12-18
COM POWER	Dipole Antenna	AD-100	041000	2012-06-06	2013-06-05
ETS	Loop Antenna	6512	00029604	2011-11-30	2012-11-29

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data**Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	56%
ATM Pressure:	100.0 kPa

The testing was performed by Brown Lu on 2012-07-25.

Test Mode: Transmitting

Radiated Emissions:**9 kHz to the tenth harmonic of the highest fundamental frequency**

Frequency (MHz)	Receiver Reading (dBμV)	Turn Table Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 95	
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)		Limit (dBm)	Margin (dB)
54.25	72.06	0	1.7	V	-28.9	0.21	0	-29.11	-13	16.11
54.25	60.85	360	1.5	H	-44.1	0.21	0	-44.31	-13	31.31
135.60	50.65	263	1.6	V	-44.3	0.28	0	-44.58	-13	31.58
108.57	50.43	180	1.5	V	-44.6	0.28	0	-44.88	-13	31.88
81.41	50.09	168	1.8	V	-44.9	0.22	0	-45.12	-13	32.12
81.41	41.71	236	1.6	H	-53.3	0.22	0	-53.52	-13	40.52
108.57	38.01	123	1.3	H	-57.0	0.28	0	-57.28	-13	44.28

FCC§2.1055 (d), §95.623(b) - FREQUENCY STABILITY**Applicable Standard**

According to FCC§2.1055 (d) & §95.623(b)

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to a Frequency Counter via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the Frequency Counter.

Frequency Stability vs. Voltage:

- (1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.
- (2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.

The output frequency was recorded for each voltage.

Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Due Date
Hewlett-Packard	Frequency Counter	5342A	2317A08289	2012-04-15	2013-04-14
ESPEC	Temperature & Humidity Chamber	EL-10KA	09107726	2011-11-24	2012-11-23

* **Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data**Environmental Conditions**

Temperature:	20 °C
Relative Humidity:	56%
ATM Pressure:	100.0 kPa

The testing was performed by Brown Lu on 2012-07-25.

Test Mode: Transmitting

Reference Frequency: 27.145 MHz				
Environment Temperature(°C)	Power Supplied (V _{DC})	Measurement Frequency (MHz)	Frequency Error	Result
Frequency Stability Versus Temperature				
-30	7.8	27.14325	-0.006447%	Pass
-20	7.8	27.14325	-0.006447%	Pass
-10	7.8	27.14322	-0.006557%	Pass
0	7.8	27.14324	-0.006484%	Pass
10	7.8	27.14321	-0.006594%	Pass
20	7.8	27.14324	-0.006484%	Pass
30	7.8	27.14322	-0.006557%	Pass
40	7.8	27.14320	-0.006631%	Pass
50	7.8	27.14327	-0.006373%	Pass
Frequency Stability Versus Voltage				
20	6.5	27.14338	-0.005968%	Pass

Note: The battery operating end point is 6.5 V which specified by the manufacturer.

******* END OF REPORT *******