



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Bluetooth Lock

Model: Aura LT

*FCC PART 15, SUBPART B and C; FCC SECTION 15.247; RSS-247; and RSS-GEN  
TEST REPORT*

for

**BLUETOOTH LOCK**

**Model: AURA LT**

Prepared for

SPECTRUM BRANDS, INC.  
19701 DAVINCI  
LAKE FOREST, CALIFORNIA 92610

Prepared by: \_\_\_\_\_

JAMES ROSS

Approved by: \_\_\_\_\_

KYLE FUJIMOTO

COMPATIBLE ELECTRONICS INC.  
114 OLINDA DRIVE  
BREA, CALIFORNIA 92823  
(714) 579-0500

DATE: MARCH 15, 2023

	REPORT	APPENDICES					TOTAL
		A	B	C	D	E	
PAGES	22	2	2	13	56	97	

This report shall not be reproduced except in full, without the  
written approval of Compatible Electronics.



**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

**Newbury Park Division**  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



## TABLE OF CONTENTS

Section / Title	PAGE
<b>GENERAL REPORT SUMMARY</b>	<b>4</b>
<b>SUMMARY OF TEST RESULTS</b>	<b>5</b>
<b>1. PURPOSE</b>	<b>6</b>
1.1 Decision Rule & Risk	6
<b>2. ADMINISTRATIVE DATA</b>	<b>7</b>
2.1 Location of Testing	7
2.2 Traceability Statement	7
2.3 Cognizant Personnel	7
2.4 Date Test Sample was Received	7
2.5 Disposition of the Test Sample	7
2.6 Abbreviations and Acronyms	7
<b>3. APPLICABLE DOCUMENTS</b>	<b>8</b>
<b>4. DESCRIPTION OF TEST CONFIGURATION</b>	<b>9</b>
4.1.1 Cable Construction and Termination	9
<b>5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT</b>	<b>10</b>
5.1 EUT and Accessory List	10
5.2 Emissions Test Equipment	11
<b>6. TEST SITE DESCRIPTION</b>	<b>12</b>
6.1 Test Facility Description	12
6.2 EUT Mounting, Bonding and Grounding	12
6.3 Measurement Uncertainty	12
<b>7. CHARACTERISTICS OF THE TRANSMITTER</b>	<b>13</b>
7.1 Channel Number and Frequencies	13
7.2 Antenna	13
<b>8. TEST PROCEDURES</b>	<b>14</b>
8.1 RF Emissions	14
8.1.1 Conducted Emissions Test	14
8.1.2 Radiated Emissions Test	15
8.1.3 RF Emissions Test Results	16
8.1.4 Sample Calculations	17
8.2 DTS Bandwidth	18
8.3 Maximum Peak Conducted Output Power	18
8.4 RF Antenna Conducted Test	19
8.5 RF Band Edges	19
8.6 Spectral Density Test	20
8.7 Duty Cycle Calculation	21
8.8 99 % Bandwidth	22
<b>9. CONCLUSIONS</b>	<b>22</b>



## LIST OF APPENDICES

APPENDIX	TITLE
A	Laboratory Accreditations and Recognitions
B	Modifications to the EUT
C	Models Covered Under This Report
D	Diagrams and Charts <ul style="list-style-type: none"> <li>• Test Setup Diagrams</li> <li>• Antenna and Effective Gain Factors</li> </ul>
E	Data Sheets

## LIST OF FIGURES

FIGURE	TITLE
1	Conducted Emissions Test Setup
2	Layout of the Semi-Anechoic Test Chamber

## LIST OF TABLES

TABLE	TITLE
1	Radiated Emission Results



## GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the U.S. Government.

Device Tested: Bluetooth Lock  
Model: Aura LT  
S/N: N/A

Product Description: The EUT is a Bluetooth Smart Lock. Clock Frequencies: 32.768 kHz, 2 MHz, and 48 MHz.  
Dimensions: 5.5" x 3.3" x 1.5" (HxWxD).

Modifications: The EUT was not modified in order to meet the specifications.

Customer: Spectrum Brands, Inc.  
19701 DaVinci  
Lake Forest, California 92610

Test Dates: January 19 and 20, 2023; and March 9, 2023

Test Specification covered by accreditation:



Test Specifications: Emissions requirements  
CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.247;  
RSS-247 and RSS-GEN

Test Procedures: ANSI C63.4 and ANSI C63.10

Test Deviations: The test procedure was not deviated from during the testing.

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

**Newbury Park Division**  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



## SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz - 30 MHz	This test was not performed because the EUT operates on battery power only and cannot be plugged into the AC public mains.
2	Radiated RF Emissions, 9 kHz – 25000 MHz	Complies with the <b>Class B</b> limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15 Subpart C, 15.205, 15.209 and 15.247 (d); RSS-247 and RSS-GEN See section 6.3 for Measurement Uncertainty
3	DTS Bandwidth	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (a)(2); RSS-247
4	Maximum Peak Conducted Output Power	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(3); RSS-247
5	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 9 kHz – 25 GHz	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (d); RSS-247 and RSS-GEN
6	Spectral Density	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (e); RSS-247

**Brea Division**  
**114 Olinda Drive**  
**Brea, CA 92823**  
**(714) 579-0500**

**Lake Forest Division**  
**20621 Pascal Way**  
**Lake Forest, CA 92630**  
**(949) 587-0400**

**Newbury Park Division**  
**1050 Lawrence Drive**  
**Newbury Park, CA 91320**  
**(805) 480-4044**



## 1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the Bluetooth Lock, Model: Aura LT (EUT). The emissions measurements were performed according to the measurement procedure described in ANSI C 63.4 and ANSI C 63.10. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the Class B specification limits defined by CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.247; RSS-247 and RSS-Gen.

### 1.1 DECISION RULE & RISK

If a measured value exceeds a specification limit it implies non-compliance. If the value is below a specification limit it implies compliance. Measurement uncertainty of the laboratory is reported with all measurement results but generally not taken into consideration unless a standard, rule or law requires it to be considered.

Qualification test reports are only produced for products that are in compliance with the test requirements, therefore results are always in conformity. Otherwise, an engineering report or just the data is provided to the customer.

When performing a measurement and making a statement of conformity, in or out-of-specification to manufacturer's specifications or Pass/Fail against a requirement, there are two possible outcomes:

- The result is reported as conforming with the specification
- The result is reported as not conforming with the specification

The decision rule is defined below.

When the test result is found to be below the limit but within our measurement uncertainty of the limit, it is our policy that the final acceptance decision is left to the customer, after discussing the implications and potential risks of the decision.

When the test result is found to be exactly on the specification, it is our policy, in the case of unwanted emissions measurements to consider the result non-compliant; however, the final decision is left to the customer, after discussing the implications and potential risks of the decision.

When the test result is found to be over the specification limit under any condition, it is our policy to consider the result non-compliant.

In terms of uncertainty of measurement, the laboratory is a calibrated and tightly controlled environment and generally exceptionally stable, the measurement uncertainties are evaluated without the consideration of the test sample. When it comes to the test sample however, as most testing is performed on a single sample rather than a sample population, and that sample is often a pre-production representation of the final product that test sample represents a significantly higher source of measurement uncertainty. We advise our customers of this and that when in doubt (small test to limit margins), they may wish to perform statistical sampling on a population to gain a higher confidence in the results. All lab reported results are that of a single sample in any event.

---

**Brea Division**  
**114 Olinda Drive**  
**Brea, CA 92823**  
**(714) 579-0500**

**Lake Forest Division**  
**20621 Pascal Way**  
**Lake Forest, CA 92630**  
**(949) 587-0400**

**Newbury Park Division**  
**1050 Lawrence Drive**  
**Newbury Park, CA 91320**  
**(805) 480-4044**



## 2. ADMINISTRATIVE DATA

### 2.1 Location of Testing

The emissions tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

### 2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

### 2.3 Cognizant Personnel

Spectrum Brands, Inc.

Johanis Hashim	Technical Project Manager
Jackson Davis	Electronics Engineer 1

Compatible Electronics Inc.

James Ross	Sr. Test Engineer
Kyle Fujimoto	Sr. Test Engineer

### 2.4 Date Test Sample was Received

The test sample was received on January 20, 2022. Received as described in product description.

### 2.5 Disposition of the Test Sample

The test sample has not been returned to Spectrum Brands, Inc. as of the date of this test report.

### 2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
ITE	Information Technology Equipment
DoC	Declaration of Conformity
N/A	Not Applicable
Tx	Transmit
Rx	Receive
Inc.	Incorporated
RF	Radio Frequency
GND	Ground
BLE	Bluetooth Low Energy
DTS	Digital Transmissions Systems
FW	Firmware



### 3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this emissions Test Report.

SPEC	TITLE
FCC Title 47, Part 15 Subpart C	FCC Rules – Radio frequency devices (including digital devices) – Intentional Radiators
FCC Title 47, Part 15 Subpart B	FCC Rules – Radio frequency devices (including digital devices) – Unintentional Radiators
558074 D01 DTS Meas Guidance v05r02	Guidance for Performing Compliance Measurements on Digital Transmissions Systems (DTS) Operating Under Section 15.247
EN 50147-2: 1997	Anechoic chambers. Alternative test site suitability with respect to site attenuation
ANSI C63.4 2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI C63.10 2013	American National Standard for Testing Unlicensed Wireless Devices
RSS-Gen Issue 5 April 2019 Amendment 1 February 2021 Amendment 2	General Requirements for Compliance of Radio Apparatus
RSS-247 Issue 2 February 2017	Digital Transmissions Systems (DTSs), Frequency Hopping Systems (FHSs) and License-Exempt Local Area Network (LE-LAN) Devices



#### 4. DESCRIPTION OF TEST CONFIGURATION

The Bluetooth Lock, Model: Aura LT (EUT) was installed within a section of wood that simulates a wooden door cutout with the EUT being displayed as it would normally be on an actual door. The EUT is an internal battery powered device. The EUT was continuously transmitting BLE at 2402 MHz for spurious emissions (worst case), but was tested at 2402 MHz, 2440 MHz and 2480 MHz for transmit harmonics.

The EUT was test only in the "Y" axis, which is it normal usages axis.

**Statement of Rationale:** The settings provided for the test were specifically chosen as they are as close to the high-end strength of the production FW. Out in the field the unit is limited to this strength and will not exceed this under any possible design use case.

The final radiated emissions data for the EUT was taken in the configuration described above. Please see Appendix E for the data sheets.

##### 4.1.1 Cable Construction and Termination

The EUT contained no external cables.

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



## 5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

### 5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	IDENTIFICATION
BLUETOOTH LOCK (EUT)	SPECTRUM BRANDS, INC.	AURA LT	N/A	FCC: NUL-BLE-ZULLT IC: 3022A-BLEZULLT
WOOD CUTOUT MOUNT	SPECTRUM BRANDS, INC.	N/A	N/A	N/A
FIRMWARE VERSION	SPECTRUM BRANDS, INC.	01.04.07.20	N/A	N/A

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



## 5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
<b>RF RADIATED EMISSIONS TEST EQUIPMENT</b>					
TDK TestLab	TDK RF Solutions, Inc.	9.22	700145	N/A	N/A
EMI Receiver, 20 Hz – 26.5 GHz	Keysight Technologies, Inc.	N9038A	MY51210510	September 17, 2021	September 17, 2023
System Controller	Sunol Sciences Corporation	SC110V	112213-1	N/A	N/A
Turntable	Sunol Sciences Corporation	2011VS	N/A	N/A	N/A
Antenna-Mast	Sunol Sciences Corporation	TWR95-4	112213-3	N/A	N/A
Loop Antenna	Com-Power	AL-130R	121090	February 10, 2022	February 10, 2025
CombiLog Antenna	Com-Power	AC-220	61093	December 14, 2021	December 14, 2023
Horn Antenna	Com-Power	AH-826	71957	N/A	N/A
Horn Antenna	Com-Power	AH-118	10050113	December 16, 2021	December 16, 2023
Preamplifier	Com-Power	PA-118	181653	March 7, 2022	March 7, 2023
Preamplifier	Com-Power	PA-840	711013	April 8, 2022	April 8, 2024
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A
LCD Monitor	Hewlett Packard	52031a	3CQ046N3MG	N/A	N/A



## 6. TEST SITE DESCRIPTION

### 6.1 Test Facility Description

Please refer to section 2.1 of this report for emissions test location.

### 6.2 EUT Mounting, Bonding and Grounding

**For frequencies 1 GHz and below:** The EUT was mounted on a 0.6 by 1.2 meter non-conductive table 0.8 meters above the ground plane.

**For frequencies above 1 GHz:** The EUT was mounted on a 0.6 by 1.2 meter non-conductive table 1.5 meters above the ground plane.

The EUT was not grounded.

### 6.3 Measurement Uncertainty

“Compatible Electronics”  $U_{lab}$  value is less than  $U_{cisp}$ , thus based on this – compliance is deemed to occur if no measured disturbance exceeds the disturbance limit.

The uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level, using a coverage factor of  $k=2$

$$u_c(y) = \sqrt{\sum_i c_i^2 u^2(x_i)}$$

Measurement		$U_{cisp}$	$U_{lab} = 2u_c(y)$
Conducted disturbance (mains port)	(150 kHz – 30 MHz)	3.4 dB	2.72 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(30 MHz – 1,000 MHz)	6.3 dB	3.32 dB (Vertical) 3.30 dB (Horizontal)
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(1 GHz – 6 GHz)	5.2 dB	4.06 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(6 GHz – 18 GHz)	5.5 dB	4.06 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(18 GHz – 26 GHz)	N/A	4.43 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(26.5 GHz – 40 GHz)	N/A	4.57 dB



## 7. CHARACTERISTICS OF THE TRANSMITTER

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

### 7.1 Channel Number and Frequencies

The EUT uses a total of 40 channels that are spaced apart by 2 MHz.

The low channel is 2402 MHz

The middle channel is 2440 MHz

The high channel is 2480 MHz

### 7.2 Antenna

The EUT has a chip antenna with 2.0 dBi gain.

---

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

**Newbury Park Division**  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



## 8. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

### 8.1 RF Emissions

#### 8.1.1 Conducted Emissions Test

The EMI Receiver was used as a measuring meter. A quasi-peak and/or average reading was taken only where indicated in the data sheets. A 10 dB attenuator used for the protection of the EMI Receiver input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the EMI Receiver. The output of the second LISN was terminated by a 50-ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding, and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI 63:4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by computer software. The final qualification data is located in Appendix E.

#### Test Results:

This test was not performed because the EUT operates on battery power only and cannot be plugged into the AC public mains.

---

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

**Newbury Park Division**  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



### 8.1.2 Radiated Emissions Test

The EMI Receiver was used as the measuring meter. Preamplifiers were used to increase the sensitivity of the instrument. The EMI Receiver was initially used with the Analyzer mode feature activated. In this mode, the EMI receiver can then record the actual frequency to be measured. This final reading is then taken accurately in the EMI Receiver mode, which takes into account the cable loss, amplifier gain and antenna factors, so that a true reading is compared to the true limit. The effective measurement bandwidth used for the radiated emissions test was according to the frequency measured.

The frequencies below 1 GHz were quasi-peaked using the quasi-peak detector of the EMI Receiver.

The harmonics and band edge frequencies above 1 GHz were averaged using the duty cycle correction factor in section 8.7 of this test report.

The EMI test chamber of Compatible Electronics, Inc. was used for radiated emissions testing. This test site is in full compliance with ANSI C63.4. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results.

The EUT was tested at a 3-meter test distance. The six highest emissions are listed in Table 2.0.

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Loop Antenna
150 kHz to 30 MHz	9 kHz	Loop Antenna
30 MHz to 1 GHz	120 kHz	CombiLog Antenna
1 GHz to 25 GHz	1 MHz	Horn Antenna

#### Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; the limits of CFR Title 47, Part 15, Subpart C sections 15.205, 15.209 and 15.247; and the limits of RSS-247 and RSS-Gen for radiated emissions.



### 8.1.3 RF Emissions Test Results

Table 1 RADIATED EMISSION RESULTS  
BLUETOOTH LOCK  
Model: Aura LT

Frequency (MHz)	EMI Reading (dBuV/m)	Average Specification Limit (dBuV/m)	Delta (Cor. Reading – Spec. Limit) (dB)
7440.00 (H) (Y-Axis) (TH)	48.20 (Avg)	53.97	-5.77
7320.00 (H) (Y-Axis) (TH)	46.28 (Avg)	53.97	-7.69
7320.00 (V) (Y-Axis) (TH)	42.36 (Avg)	53.97	-11.61
4804.00 (V) (Y-Axis) (TH)	40.17 (Avg)	53.97	-13.80
7440.00 (V) (Y-Axis) (TH)	38.65 (Avg)	53.97	-15.32
37.90 (V) (Y-Axis) (SE)	23.84 (QP)	40.00	-16.16

Notes:

- \* The complete emissions data is given in Appendix E of this report.
- (H) Horizontal
- (V) Vertical
- (Avg) Average
- (QP) Quasi-Peak
- (LC) Low Channel
- (MC) Middle Channel
- (HC) High Channel
- (TH) Transmit Harmonic
- (SE) Spurious Emission



## 8.1.4

**Sample Calculations**

A correction factor for the antenna, cable and a distance factor (if any) must be applied to the meter reading before a true field strength reading can be obtained. This Corrected Meter Reading is then compared to the specification limit in order to determine compliance with the limits.

Conversion to logarithmic terms: Specification limit ( $\mu\text{V/m}$ )  $\log x 20$  = Specification Limit in dBuV/m

To correct for distance when measuring at a distance other than the specification

For measurements below 30 MHz: (Specification distance / test distance)  $\log x 40$  = distance factor

For measurements above 30 MHz: (Specification distance / test distance)  $\log x 20$  = distance factor

Note: When using an Active Antenna, the Antenna factor shall be subtracted due to the combination of the internal amplification and antenna loss.

Corrected Meter Reading = meter reading + F - A + C

where: F = antenna factor

A = amplifier gain

C = cable loss

The correction factors for the antenna and the amplifier gain are attached in Appendix D of this report. The data sheets are attached in Appendix E.

The distance factor D is 0 when the test is performed at the required specification distance.



## 8.2 DTS Bandwidth

The DTS Bandwidth was measured using the EMI Receiver. The following steps were performed for measuring the DTS Bandwidth.

1. Set RBW = 100 kHz
2. Set the video bandwidth (VBW) to equal or greater than 3 times the RBW
3. Detector = Peak
4. Trace Mode = Max Hold
5. Sweep = Auto Couple
6. Allow the trace to stabilize
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

### Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a) (2); and RSS-247.

## 8.3 Maximum Peak Conducted Output Power

The Maximum Peak Conducted Output Power was measured using the EMI Receiver. The Maximum Peak Conducted Output Power was measured using the procedure described in section 11.9.1.1 of ANSI C63.10. The Maximum Peak Conducted Output Power was then taken. The following steps were performed for measuring the Maximum Peak Conducted Output Power.

1. Set the RBW  $\geq$  DTS bandwidth
2. Set VBW  $\geq$  [3 x RBW]
3. Set span  $\geq$  [3 x RBW]
4. Sweep time = auto couple
5. Detector = peak
6. Trace mode = max hold
7. Allow trace to fully stabilize
8. Use peak marker function to determine the peak amplitude level

### Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (b)(3); and RSS-247.

---

**Brea Division**  
**114 Olinda Drive**  
**Brea, CA 92823**  
**(714) 579-0500**

**Lake Forest Division**  
**20621 Pascal Way**  
**Lake Forest, CA 92630**  
**(949) 587-0400**

**Newbury Park Division**  
**1050 Lawrence Drive**  
**Newbury Park, CA 91320**  
**(805) 480-4044**



## 8.4

### Emissions in Non-restricted Frequency Bands

The emissions in the non-restricted frequency bands measurements were performed using the EMI receiver directly connected to the EUT. The reference level was established by setting the instrument center frequency to the DTS channel center frequency. The span was set to  $\geq 1.5$  times the DTS bandwidth. The RBW was set to 100 kHz and the VBW was set to 300 kHz. A peak detector was used with sweep set to auto. A max hold trace was used and allowed to fully stabilize. The peak marker function was used to determine the reference level. For emission level measurement, the center frequency and span were set to encompass the frequency range to be measured. The RBW was set to 100 kHz and the VBW was set to 300 kHz. A peak detector was used with a sweep time set to auto. The number of measurement points were greater than the span/RBW. A max hold trace was used and allowed to fully stabilize. The peak marker function was used to determine the maximum amplitude level. The final qualification data sheets are located in Appendix E.

#### Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d); and RSS-247.

## 8.5

### RF Band Edges

The RF band edges were taken at 2390 MHz when the EUT was on the low channel and 2483.5 MHz when the EUT was on the high channel using the EMI Receiver. A preamplifier was used to boost the signal level, with the plots being taken at a 3 meter test distance. The radiated emissions test procedure as describe in section 8.1.2 of this test report was used to maximize the emission.

#### Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d); and RSS-247. The RF power at the restricted bands closest to the band edges at 2390 MHz and 2483.5 MHz also meet the limits of section 15.209. Please see the data sheets located in Appendix E.



## 8.6 Spectral Density Test

The spectrum density output was measured using the EMI Receiver. The spectral density output was measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The following steps were performed for measuring the spectral density.

1. Set analyzer center frequency to DTS channel center frequency
2. Set the span to 1.5 times the OBW.
3. Set the RBW to  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$
4. Set the VBW  $\geq [3 \times \text{RBW}]$
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Allow the trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

### Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (e); and RSS-247.

---

**Brea Division**  
**114 Olinda Drive**  
**Brea, CA 92823**  
**(714) 579-0500**

**Lake Forest Division**  
**20621 Pascal Way**  
**Lake Forest, CA 92630**  
**(949) 587-0400**

**Newbury Park Division**  
**1050 Lawrence Drive**  
**Newbury Park, CA 91320**  
**(805) 480-4044**



## 8.7

### Duty Cycle Calculation

The EMI Receiver was used to obtain the final test data. The final qualification data sheets are located in Appendix E.

Where

$$\delta(\text{dB}) = 20 \log \left[ \sum (n t_1 + m t_2 + \dots + \xi t_x) / T \right]$$

$n$  is the number of pulses of duration  $t_1$

$m$  is the number of pulses of duration  $t_2$

$\xi$  is the number of pulses of duration  $t_x$

$T$  is the period of the pulse train or 100 ms if the pulse train length is greater than 100 ms

#### Data Mode:

The worst case is when the EUT is in advertising mode.

Duty Cycle Correction Factor = -20.00 dB

Total On Time = 580  $\mu$ s

Duty Cycle = 0.580 ms / 100 ms = 0.58 %

The maximum peak to average ratio of -20.00 dB can be utilized.

#### Advertising Mode:

The worst case is when the EUT is in advertising mode.

Duty Cycle Correction Factor = -20.00 dB

Total On Time = 700  $\mu$ s

Duty Cycle = 0.700 ms / 72 ms = 0.972 %

The maximum peak to average ratio of -20.00 dB can be utilized.

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



## 8.8

### 99 % Bandwidth

The 99 % bandwidth was measured using an EMI Receiver.

The following steps were performed for measuring the 99 % bandwidth per RSS-GEN, Issue 5, clause 6.7:

1. Set RBW to 1 % to 5 % of the actual occupied bandwidth.
2. Set VBW to greater than 3 times the RBW.
3. Set the EMI Receiver to the occupied bandwidth Function set at 99 %
4. Set the peak detector to max hold.
5. Set the sweep time to auto
6. Allow the trace to stabilize.

Please note that this was only used to determine the emission bandwidth and that there are no limits or pass/fail criteria for this test. Please see the data sheets located in Appendix E.

## 9.

### CONCLUSIONS

The Bluetooth Lock, Model: Aura LT (EUT), as tested, meets all of the specification limits defined in FCC Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.247; RSS-GEN and RSS-247.

---

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

**Newbury Park Division**  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

A light blue, rounded square graphic with a faint 'CE' logo watermark in the center.

## APPENDIX A

## ***LABORATORY ACCREDITATIONS AND RECOGNITIONS***

---

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

**Newbury Park Division**  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



## LABORATORY ACCREDITATIONS AND RECOGNITIONS



For US, Canada, Australia/New Zealand, Japan, Taiwan, Korea, and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025.

**For the most up-to-date version of our scopes and certificates please visit**

**<http://celectronics.com/quality/scope/>**

Quote from ISO-ILAC-IAF Communiqué on the Management Systems Requirements of ISO/IEC 17025, General Requirements for the competence of testing and calibration laboratories:

"A laboratory's fulfilment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001"

ISED Test Site Registration Number: 2154A

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

**Newbury Park Division**  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

**APPENDIX B*****MODIFICATIONS TO THE EUT***

---

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

**Newbury Park Division**  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



## MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B and FCC 15.247; RSS-247 and RSS- GEN specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT during the testing.



---

**Brea Division**  
**114 Olinda Drive**  
**Brea, CA 92823**  
**(714) 579-0500**

**Lake Forest Division**  
**20621 Pascal Way**  
**Lake Forest, CA 92630**  
**(949) 587-0400**

**Newbury Park Division**  
**1050 Lawrence Drive**  
**Newbury Park, CA 91320**  
**(805) 480-4044**



## APPENDIX C

### ***MODELS COVERED UNDER THIS REPORT***

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



## MODELS COVERED UNDER THIS REPORT

### USED FOR THE PRIMARY TEST

Bluetooth Lock  
Model: Aura LT  
S/N: N/A

There are no additional models covered under this report.



---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

**APPENDIX D*****DIAGRAMS AND CHARTS***

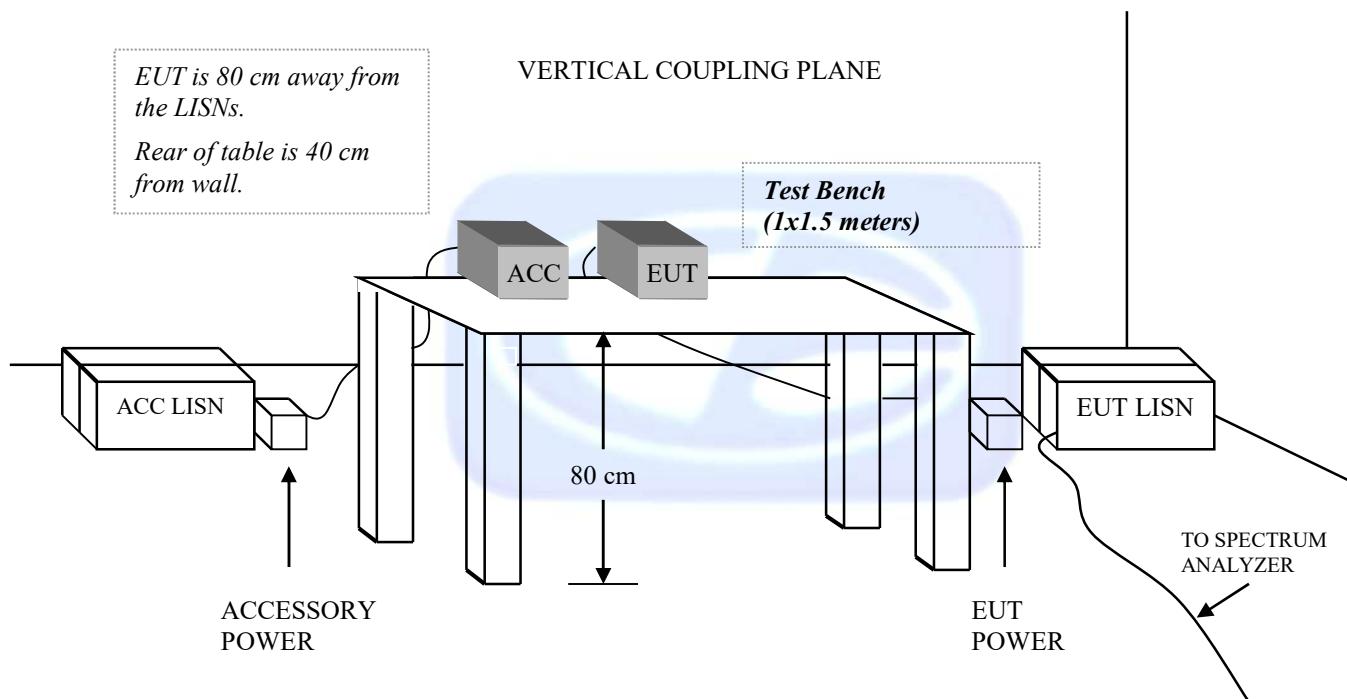
---

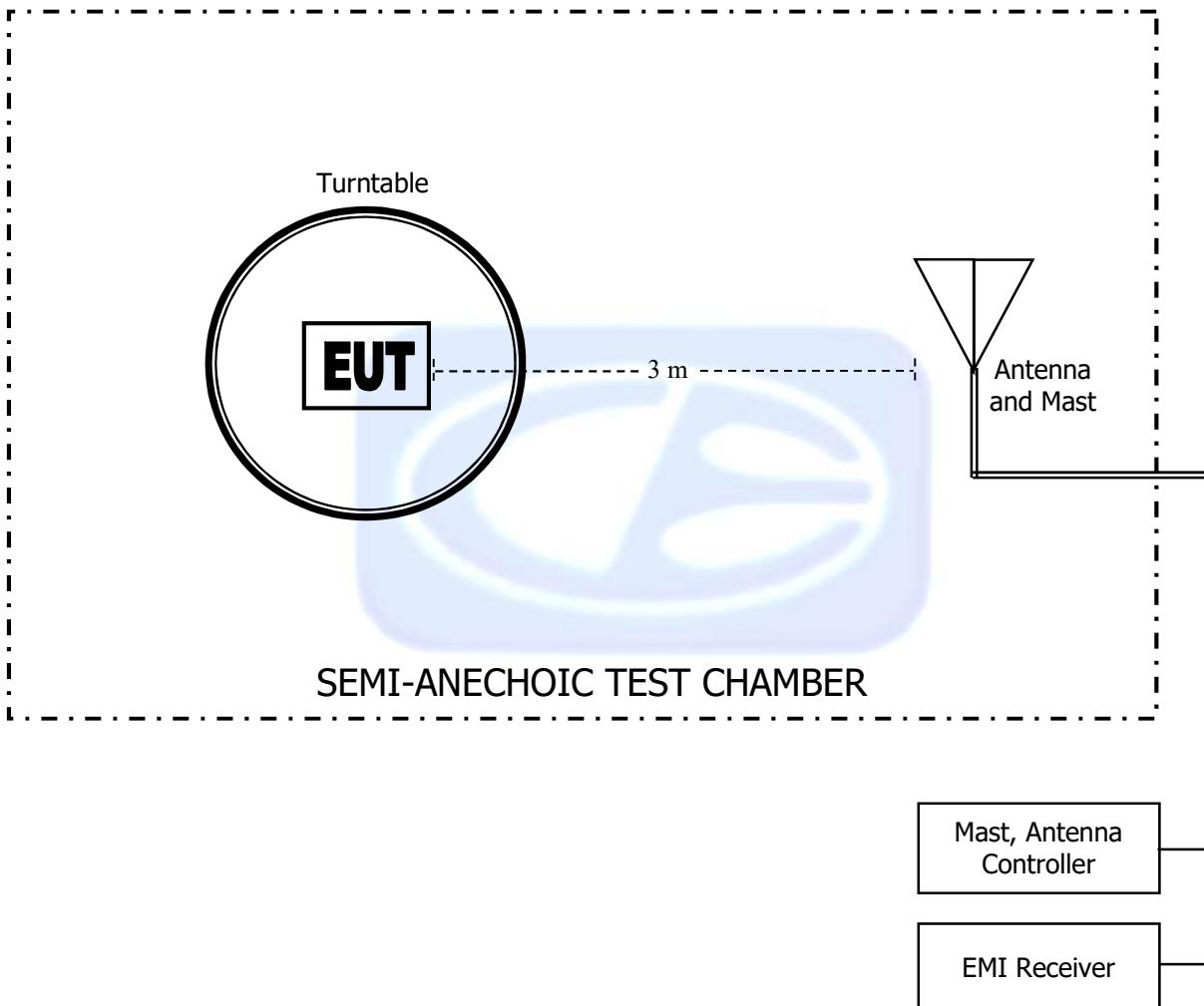
**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

**Newbury Park Division**  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

## FIGURE 1: CONDUCTED EMISSIONS TEST SETUP



**FIGURE 2: LAYOUT OF THE SEMI-ANECHOIC TEST CHAMBER**



## COM-POWER AL-130R

## LOOP ANTENNA

S/N: 121090

CALIBRATION DATE: FEBRUARY 10, 2022

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	15.6	-35.8
0.01	15.8	-35.6
0.02	14.8	-36.6
0.03	15.6	-35.9
0.04	15.0	-36.5
0.05	14.4	-37.1
0.06	14.6	-36.9
0.07	14.3	-37.2
0.08	14.3	-37.2
0.09	14.4	-37.0
0.10	14.1	-37.4
0.20	14.1	-37.4
0.30	14.0	-37.5
0.40	13.9	-37.6
0.50	14.1	-37.3
0.60	14.1	-37.3
0.70	14.2	-37.3
0.80	14.2	-37.3
0.90	14.2	-37.2
1.00	14.4	-37.0
2.00	14.6	-36.9
3.00	14.6	-36.8
4.00	14.9	-36.6
5.00	14.9	-36.7
6.00	14.8	-36.7
7.00	14.6	-36.8
8.00	14.5	-37.0
9.00	14.3	-37.2
10.00	14.5	-37.0
11.00	14.6	-36.9
12.00	14.7	-36.7
13.00	14.9	-36.6
14.00	15.0	-36.5
15.00	14.9	-36.6
16.00	14.9	-36.6
17.00	14.6	-36.8
18.00	14.4	-37.1
19.00	14.5	-37.0
20.00	14.5	-37.0
21.00	14.2	-37.3
22.00	13.9	-37.5
23.00	13.9	-37.5
24.00	13.8	-37.7
25.00	13.4	-38.0
26.00	13.2	-38.2
27.00	13.2	-38.3
28.00	12.7	-38.7
29.00	12.7	-38.8
30.00	12.4	-39.0

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



COM-POWER AC-220

COMBILOG ANTENNA

S/N: 61093

CALIBRATION DATE: DECEMBER 14, 2021

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	22.50	200	16.00
35	21.40	250	17.40
40	21.00	300	19.70
45	20.60	350	20.00
50	19.70	400	22.20
60	16.10	450	22.40
70	12.80	500	23.10
80	12.50	550	23.40
90	14.20	600	24.90
100	15.40	650	25.30
120	16.50	700	25.40
125	16.80	750	26.40
140	15.90	800	26.70
150	16.60	850	27.10
160	18.50	900	27.90
175	15.90	950	28.00
180	15.50	1000	28.00



COM POWER AH-118

HORN ANTENNA

S/N: 10050113

CALIBRATION DATE: DECEMBER 16, 2021

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	23.86	10.0	38.91
1.5	25.67	10.5	39.94
2.0	28.25	11.0	39.10
2.5	29.17	11.5	39.70
3.0	29.78	12.0	40.29
3.5	30.88	12.5	41.93
4.0	31.21	13.0	41.34
4.5	32.96	13.5	40.57
5.0	33.30	14.0	40.23
5.5	34.24	14.5	42.25
6.0	34.57	15.0	43.63
6.5	35.61	15.5	39.96
7.0	36.60	16.0	40.38
7.5	37.49	16.5	40.56
8.0	37.44	17.0	40.93
8.5	37.98	17.5	42.27
9.0	38.01	18.0	43.77
9.5	38.53		



## COM-POWER AH-826

## HORN ANTENNA

S/N: 71957

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	33.5	22.5	35.5
18.5	33.5	23.0	35.9
19.0	34.0	23.5	35.7
19.5	34.0	24.0	35.6
20.0	34.3	24.5	36.0
20.5	34.9	25.0	36.2
21.0	34.7	25.5	36.1
21.5	35.0	26.0	36.2
22.0	35.0	26.5	35.7



## COM-POWER PA-118

## PREAMPLIFIER

S/N: 181653

CALIBRATION DATE: MARCH 7, 2022

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	40.02	6.0	38.84
1.1	39.72	6.5	39.20
1.2	39.93	7.0	39.46
1.3	39.98	7.5	39.67
1.4	39.99	8.0	39.28
1.5	40.20	8.5	38.63
1.6	40.05	9.0	38.96
1.7	40.15	9.5	39.33
1.8	40.20	10.0	39.58
1.9	40.33	11.0	38.25
2.0	40.33	12.0	40.03
2.5	40.60	13.0	40.55
3.0	40.76	14.0	40.36
3.5	40.87	15.0	39.34
4.0	40.39	16.0	37.34
4.5	39.55	17.0	42.14
5.0	40.34	18.0	42.54
5.5	39.45		

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



## COM-POWER PA-840

## MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: APRIL 8, 2022

FREQUENCY (GHz)	FACTOR (dB)
18.0	24.85
19.0	24.25
20.0	22.69
21.0	22.17
22.0	22.78
23.0	23.23
24.0	23.72
25.0	24.13
26.0	24.28
26.5	25.06

**FRONT VIEW**

SPECTRUM BRANDS, INC.

BLUETOOTH LOCK

MODEL: AURA LT

FCC SUBPART B AND C; RSS-GEN and RSS-247 – RADIATED EMISSIONS – BELOW 1 GHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



**REAR VIEW**

SPECTRUM BRANDS, INC.

BLUETOOTH LOCK

MODEL: AURA LT

FCC SUBPART B AND C; RSS-GEN and RSS-247 – RADIATED EMISSIONS – BELOW 1 GHz

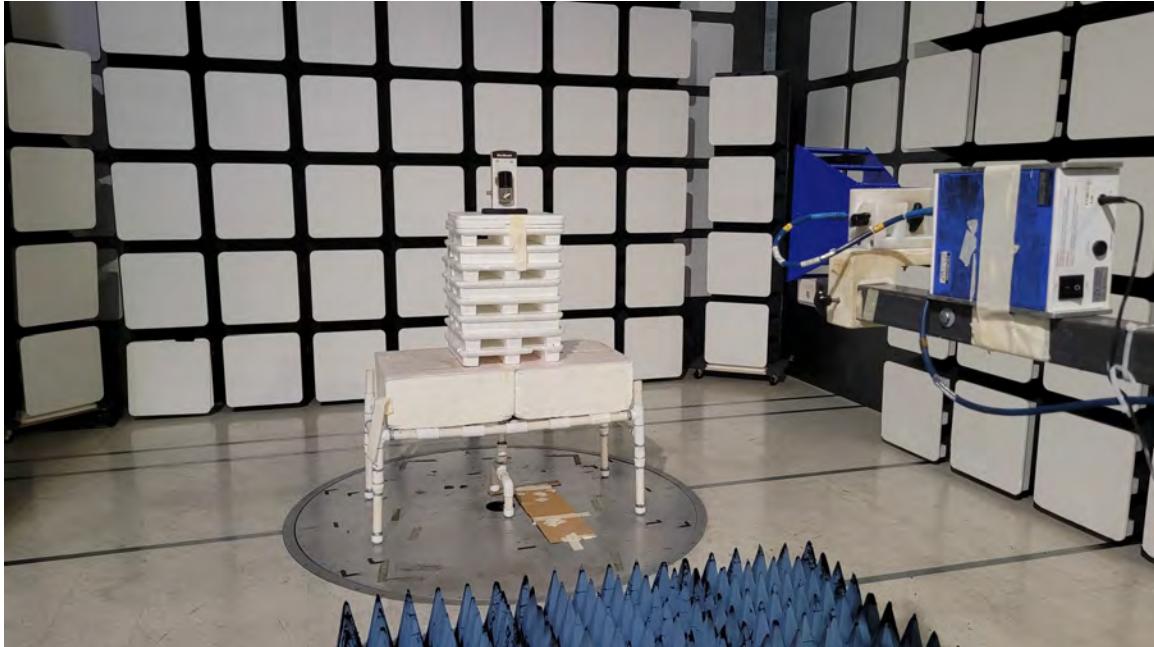
**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



**FRONT VIEW**

SPECTRUM BRANDS, INC.

BLUETOOTH LOCK

MODEL: AURA LT

FCC SUBPART B AND C; RSS-GEN and RSS-247 – RADIATED EMISSIONS – ABOVE 1 GHz

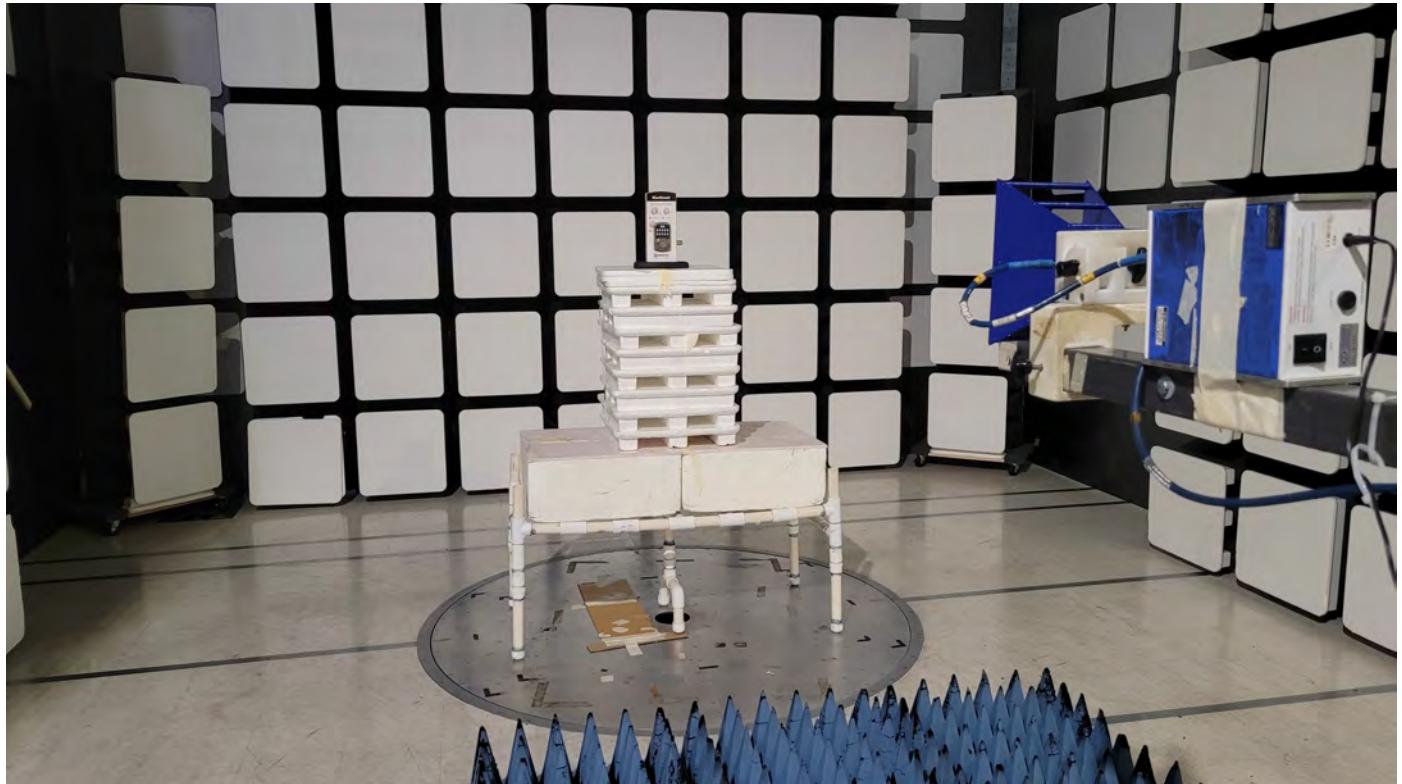
**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

**REAR VIEW**

SPECTRUM BRANDS, INC.

BLUETOOTH LOCK

MODEL: AURA LT

FCC SUBPART B AND C; RSS-GEN and RSS-247 – RADIATED EMISSIONS – ABOVE 1 GHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

**APPENDIX E*****DATA SHEETS***

---

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

**Newbury Park Division**  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



***RADIATED EMISSIONS  
DATA SHEETS***

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

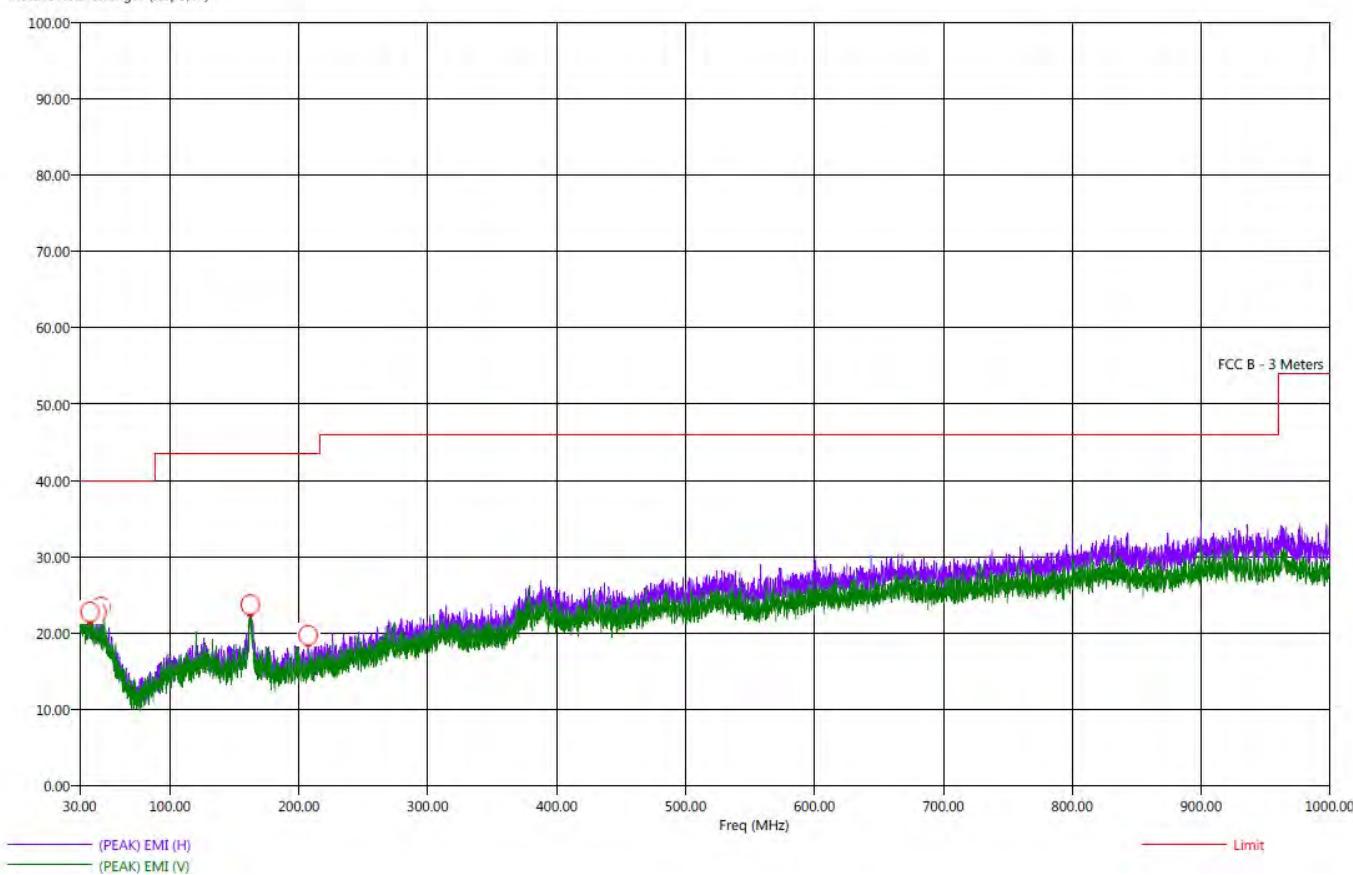
Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



Title: Pre-Scan - FCC Class B  
 File: 2 - Keysight - Pre-Scan - FCC Class B - BLE at 2402 MHz - 30 MHz to 1000 MHz.set  
 Operator: Kyle Fujimoto  
 EUT Type: Bluetooth Lock  
 EUT Condition: The EUT is continuously transmitting BLE at 2402 MHz  
 Company: Spectrum Brands, Inc.  
 Model: Aura LT  
 S/N: N/A  
 Y-Axis  
 Worse Case

1/20/2023 11:31:09 AM  
Sequence: Preliminary Scan

FCC Class B

Electric Field Strength (dB $\mu$ V/m)

**Brea Division**  
 114 Olinda Drive  
 Brea, CA 92823  
 (714) 579-0500

**Lake Forest Division**  
 20621 Pascal Way  
 Lake Forest, CA 92630  
 (949) 587-0400

**Newbury Park Division**  
 1050 Lawrence Drive  
 Newbury Park, CA 91320  
 (805) 480-4044



## FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Bluetooth Lock

Model: Aura LT

Title: Radiated Final - FCC Class B  
 File: 2 - Keysight - Final Scan - FCC Class B - BLE at 2402 MHz - 30 MHz to 1000  
 MHz.  
 set Operator: Kyle Fujimoto  
 EUT Type: Bluetooth Lock  
 EUT Condition: The EUT is continuously transmitting BLE at 2402 MHz  
 Company: Spectrum Brands, Inc.  
 Model: Aura LT  
 S/N: N/A  
 Y-Axis  
 Worse Case

1/20/2023 11:39:56 AM

Sequence: Final Measurements

## FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dB $\mu$ V/m)	(OP) EMI (dB $\mu$ V/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dB $\mu$ V/m)	Transducer (dB)	Cable (dB)	Ttbl Aql (deg)	Twr Ht (cm)
37.90	V	29.02	23.84	-10.98	-16.16	40.00	21.09	0.41	289.00	318.25
43.40	H	29.04	22.78	-10.96	-17.22	40.00	20.77	0.43	196.50	254.61
46.50	H	27.30	22.41	-12.70	-17.59	40.00	20.33	0.45	67.00	398.37
162.20	V	30.94	26.14	-12.56	-17.36	43.50	22.76	0.94	306.25	304.10
162.70	H	30.66	25.90	-12.84	-17.60	43.50	22.61	0.94	263.75	366.73
207.30	H	24.47	19.36	-19.03	-24.14	43.50	15.71	1.09	310.00	143.02



Brea Division  
 114 Olinda Drive  
 Brea, CA 92823  
 (714) 579-0500

Lake Forest Division  
 20621 Pascal Way  
 Lake Forest, CA 92630  
 (949) 587-0400

Newbury Park Division  
 1050 Lawrence Drive  
 Newbury Park, CA 91320  
 (805) 480-4044



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Bluetooth Lock

Model: Aura LT

***TRANSMIT HARMONICS  
DATA SHEETS***

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

**FCC 15.247 and RSS-247**

Spectrum Brands, Inc.

Bluetooth Lock

Model: Aura LT

Date: 01/19/2023

Lab: D

Tested By: Kyle Fujimoto

**Harmonics - Y-Axis****Power Level = 5 (Maximum)**

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	60.17	V	73.97	-13.80	Peak	153.25	171.44	
4804.00	40.17	V	53.97	-13.80	Avg	153.25	171.44	
7206.00								Not in Restricted Band
7206.00								Done via Conducted
9608.00								Not in Restricted Band
9608.00								Done via Conducted
12010.00	46.82	V	73.97	-27.15	Peak	332.25	249.07	
12010.00	26.82	V	53.97	-27.15	Avg	332.25	249.07	
14412.00								No Emission
14412.00								Detected
16814.00								No Emission
16814.00								Detected
19216.00								No Emission
19216.00								Detected
21618.00								No Emission
21618.00								Detected
24020.00								No Emission
24020.00								Detected

**FCC 15.247 and RSS-247**

Spectrum Brands, Inc.

Bluetooth Lock

Model: Aura LT

Date: 01/19/2023

Lab: D

Tested By: Kyle Fujimoto

**Harmonics - Y-Axis****Power Level = 5 (Maximum)**

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	57.43	H	73.97	-16.54	Peak	132.50	111.14	
4804.00	37.43	H	53.97	-16.54	Avg	132.50	111.14	
7206.00								Not in Restricted Band
7206.00								Done via Conducted
9608.00								Not in Restricted Band
9608.00								Done via Conducted
12010.00	46.87	H	73.97	-27.10	Peak	260.75	249.95	
12010.00	26.87	H	53.97	-27.10	Avg	260.75	249.95	
14412.00								No Emission
14412.00								Detected
16814.00								No Emission
16814.00								Detected
19216.00								No Emission
19216.00								Detected
21618.00								No Emission
21618.00								Detected
24020.00								No Emission
24020.00								Detected

Brea Division  
 114 Olinda Drive  
 Brea, CA 92823  
 (714) 579-0500

Lake Forest Division  
 20621 Pascal Way  
 Lake Forest, CA 92630  
 (949) 587-0400

Newbury Park Division  
 1050 Lawrence Drive  
 Newbury Park, CA 91320  
 (805) 480-4044

**FCC 15.247 and RSS-247**

Spectrum Brands, Inc.

Bluetooth Lock

Model: Aura LT

Date: 01/19/2023

Lab: D

Tested By: Kyle Fujimoto

**Harmonics - Y-Axis****Power Level = 5 (Maximum)**

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	56.95	V	73.97	-17.02	Peak	342.00	159.08	
4880.00	36.95	V	53.97	-17.02	Avg	342.00	159.08	
7320.00	62.36	V	73.97	-11.61	Peak	340.25	191.14	
7320.00	42.36	V	53.97	-11.61	Avg	340.25	191.14	
9760.00								Not in Restricted Band
9760.00								Done via Conducted
12200.00	46.88	V	73.97	-27.09	Peak	270.50	175.44	
12200.00	26.88	V	53.97	-27.09	Avg	270.50	175.44	
14640.00								No Emission
14640.00								Detected
17080.00								No Emission
17080.00								Detected
19520.00								No Emission
19520.00								Detected
21960.00								No Emission
21960.00								Detected
24400.00								No Emission
24400.00								Detected

Brea Division  
 114 Olinda Drive  
 Brea, CA 92823  
 (714) 579-0500

Lake Forest Division  
 20621 Pascal Way  
 Lake Forest, CA 92630  
 (949) 587-0400

Newbury Park Division  
 1050 Lawrence Drive  
 Newbury Park, CA 91320  
 (805) 480-4044

**FCC 15.247 and RSS-247**

Spectrum Brands, Inc.

Bluetooth Lock

Model: Aura LT

Date: 01/19/2023

Lab: D

Tested By: Kyle Fujimoto

**Harmonics - Y-Axis****Power Level = 5 (Maximum)**

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	56.61	H	73.97	-17.36	Peak	308.75	111.26	
4880.00	36.61	H	53.97	-17.36	Avg	308.75	111.26	
7320.00	66.28	H	73.97	-7.69	Peak	0.00	127.38	
7320.00	46.28	H	53.97	-7.69	Avg	0.00	127.38	
9760.00								<b>Not in Restricted Band</b>
9760.00								<b>Done via Conducted</b>
12200.00	47.05	H	73.97	-26.92	Peak	225.75	238.97	
12200.00	27.05	H	53.97	-26.92	Avg	225.75	238.97	
14640.00								<b>No Emission</b>
14640.00								<b>Detected</b>
17080.00								<b>No Emission</b>
17080.00								<b>Detected</b>
19520.00								<b>No Emission</b>
19520.00								<b>Detected</b>
21960.00								<b>No Emission</b>
21960.00								<b>Detected</b>
24400.00								<b>No Emission</b>
24400.00								<b>Detected</b>

**FCC 15.247 and RSS-247**

Spectrum Brands, Inc.

Bluetooth Lock

Model: Aura LT

Date: 01/19/2023

Lab: D

Tested By: Kyle Fujimoto

**Harmonics - Y-Axis****Power Level = 5 (Maximum)**

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	42.63	V	73.97	-31.34	Peak	355.00	111.32	
4960.00	22.63	V	53.97	-31.34	Avg	355.00	111.32	
7440.00	58.65	V	73.97	-15.32	Peak	344.25	159.14	
7440.00	38.65	V	53.97	-15.32	Avg	344.25	159.14	
9920.00								Not in Restricted Band
9920.00								Done via Conducted
12400.00	47.98	V	73.97	-25.99	Peak	302.25	207.32	
12400.00	27.98	V	53.97	-25.99	Avg	302.25	207.32	
14880.00								No Emission
14880.00								Detected
17360.00								No Emission
17360.00								Detected
19840.00								No Emission
19840.00								Detected
22320.00								No Emission
22320.00								Detected
24800.00								No Emission
24800.00								Detected

**FCC 15.247 and RSS-247**

Spectrum Brands, Inc.

Bluetooth Lock

Model: Aura LT

Date: 01/19/2023

Lab: D

Tested By: Kyle Fujimoto

**Harmonics - Y-Axis****Power Level = 5 (Maximum)**

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	49.49	H	73.97	-24.48	Peak	11.75	113.77	
4960.00	29.49	H	53.97	-24.48	Avg	11.75	113.77	
7440.00	68.20	H	73.97	-5.77	Peak	347.25	175.32	
7440.00	48.20	H	53.97	-5.77	Avg	347.25	175.32	
9920.00								Not in Restricted Band
9920.00								Done via Conducted
12400.00	48.27	H	73.97	-25.70	Peak	94.00	222.97	
12400.00	28.27	H	53.97	-25.70	Avg	94.00	222.97	
14880.00								No Emission
14880.00								Detected
17360.00								No Emission
17360.00								Detected
19840.00								No Emission
19840.00								Detected
22320.00								No Emission
22320.00								Detected
24800.00								No Emission
24800.00								Detected

Brea Division  
 114 Olinda Drive  
 Brea, CA 92823  
 (714) 579-0500

Lake Forest Division  
 20621 Pascal Way  
 Lake Forest, CA 92630  
 (949) 587-0400

Newbury Park Division  
 1050 Lawrence Drive  
 Newbury Park, CA 91320  
 (805) 480-4044



FCC Part 15 Subpart B  
**COMPATIBLE  
ELECTRONICS**

FCC 15.247, RSS-247 and FCC Class B

## Spectrum Brands, Inc.

## Bluetooth Lock

Model: Aura LT

Date: 01/19/2023

## Lab: D

Tested By: Kyle Fujimoto

## Non Harmonic Emissions from the Tx and Digital Portion - 9 kHz to 30 MHz

## Non Harmonic Emissions from the Tx and Digital Portion - 1 GHz to 25 GHz



***BAND EDGES  
DATA SHEETS***

---

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

**Newbury Park Division**  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



# COMPATIBLE ELECTRONICS

## FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

## ***Bluetooth Lock***

### *Model: Aura LT*

## Methodology

FCC 15.247 and RSS-247

## Spectrum Brands, Inc.

Date: 01/19/2023

## Bluetooth Lock

## Lab: D

Model: Aura LT

Tested By: Kyle Fujimoto

## Band Edges - Low Channel - Aura



FCC Part 15 Subpart B  
**COMPATIBLE  
ELECTRONICS**

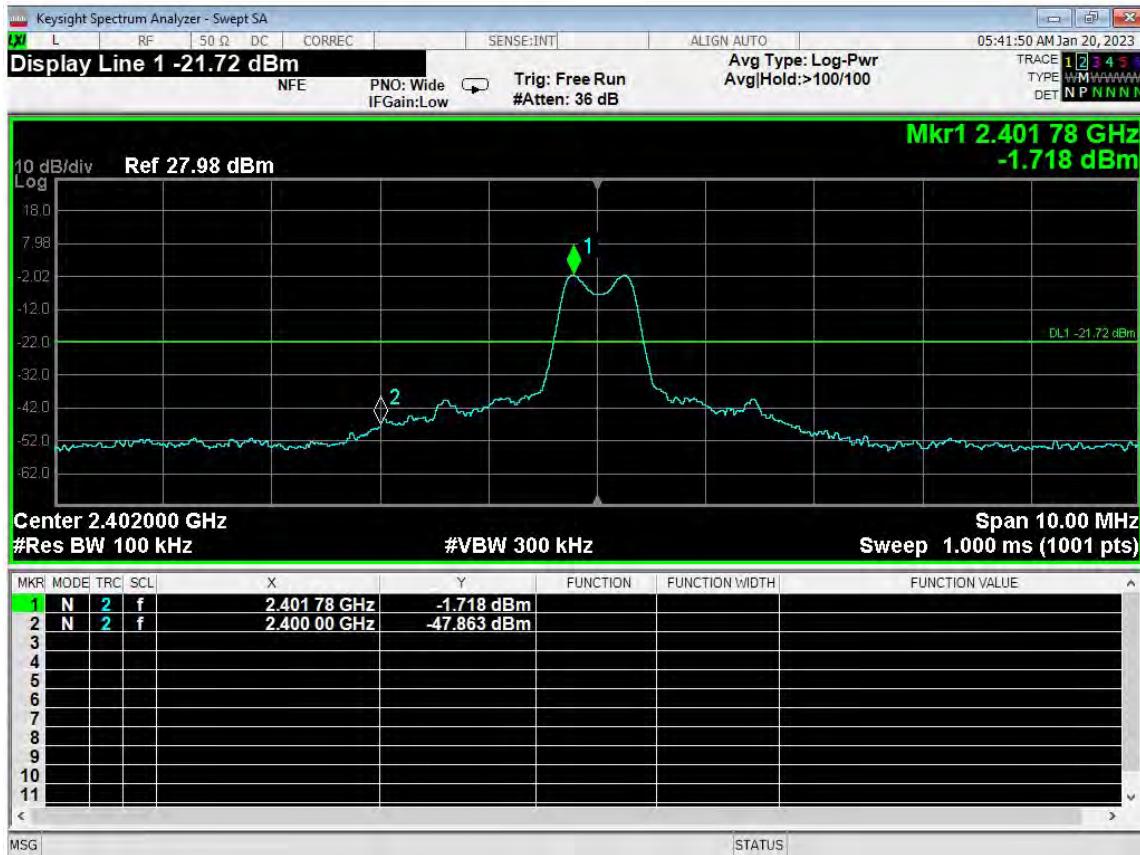
*Bluetooth Lock  
Model: Aura LT*

FCC 15.247 and RSS-247

Spectrum Brands, Inc.  
Bluetooth Lock  
Model: Aura LT

Date: 01/20/2023  
Lab: D  
Tested By: Kyle Fujimoto

## Band Edges - High Channel - Aura



BE – 2402 MHz – at 2400 MHz Conducted – BLE Mode

Brea Division  
 114 Olinda Drive  
 Brea, CA 92823  
 (714) 579-0500

Lake Forest Division  
 20621 Pascal Way  
 Lake Forest, CA 92630  
 (949) 587-0400

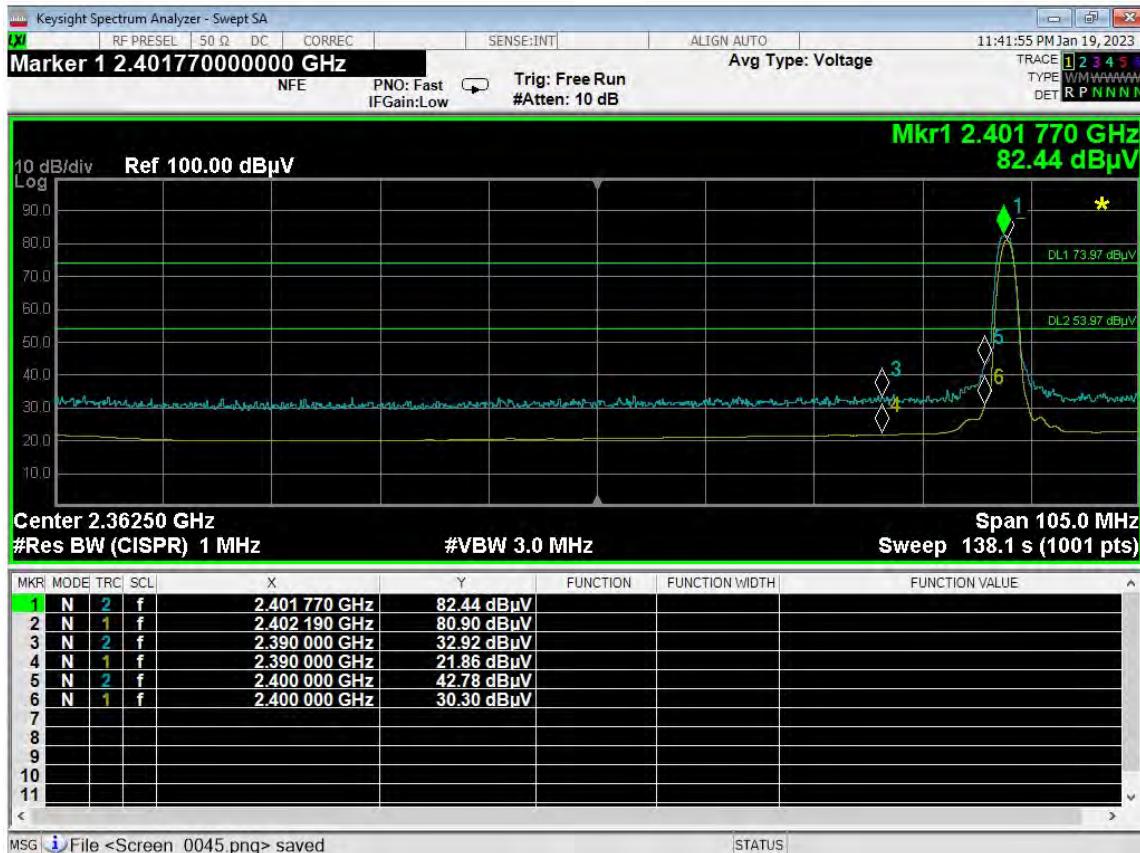
Newbury Park Division  
 1050 Lawrence Drive  
 Newbury Park, CA 91320  
 (805) 480-4044



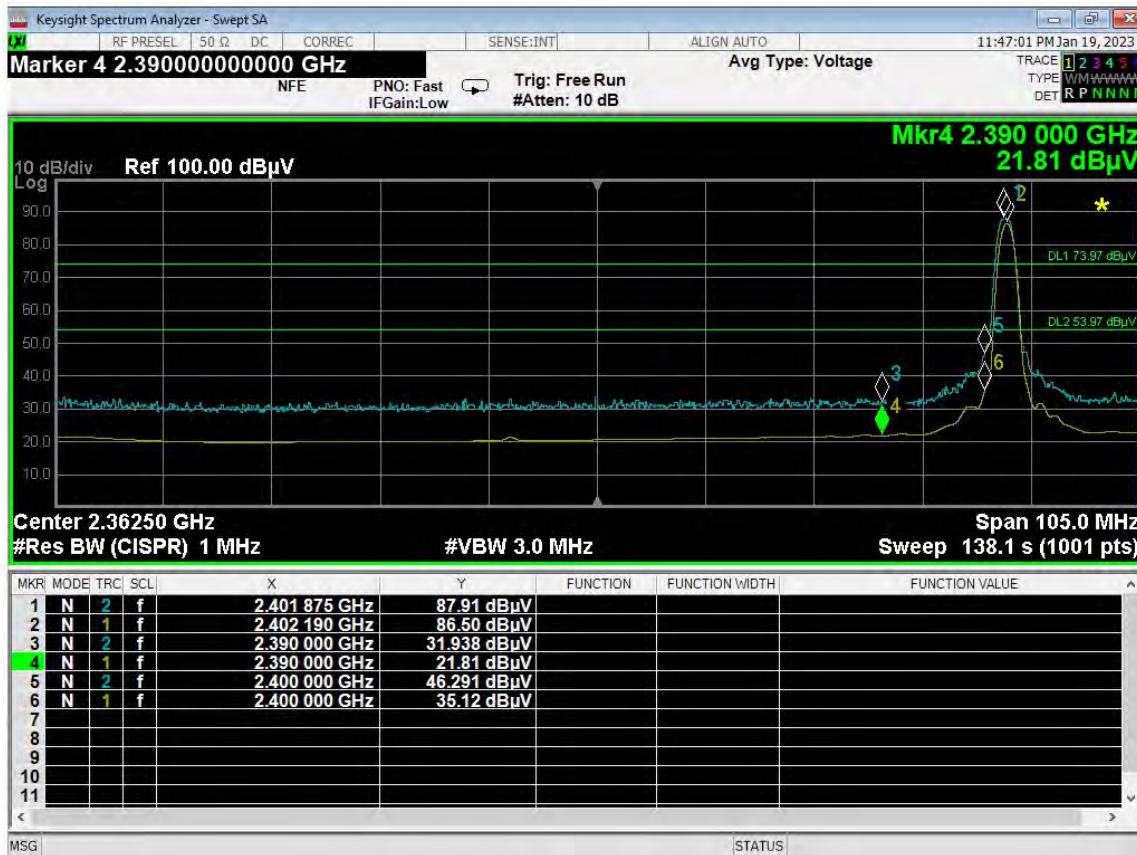
## FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

## ***Bluetooth Lock***

### *Model: Aura LT*



BE - 2402 MHz - Horizontal - Y-Axis Worst Case – BLE Mode

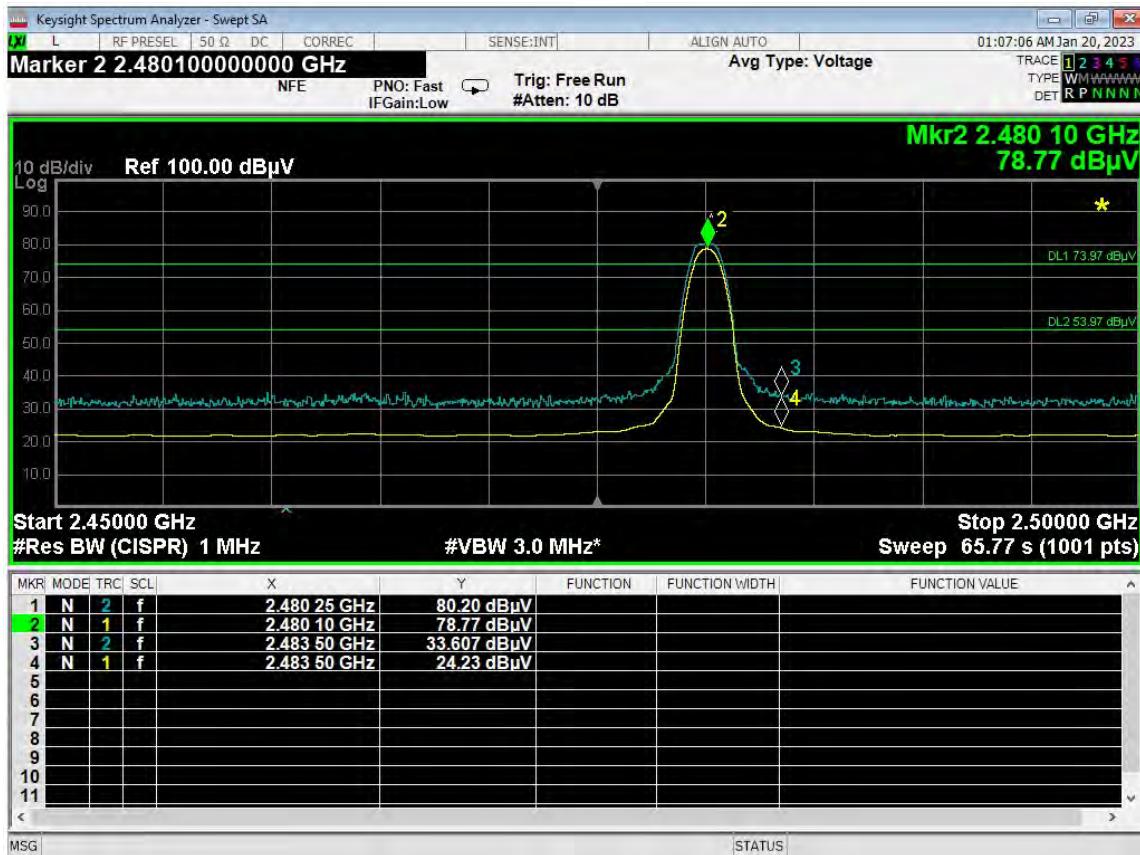


BE - 2402 MHz - Vertical - Y-Axis Worst Case – BLE Mode

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

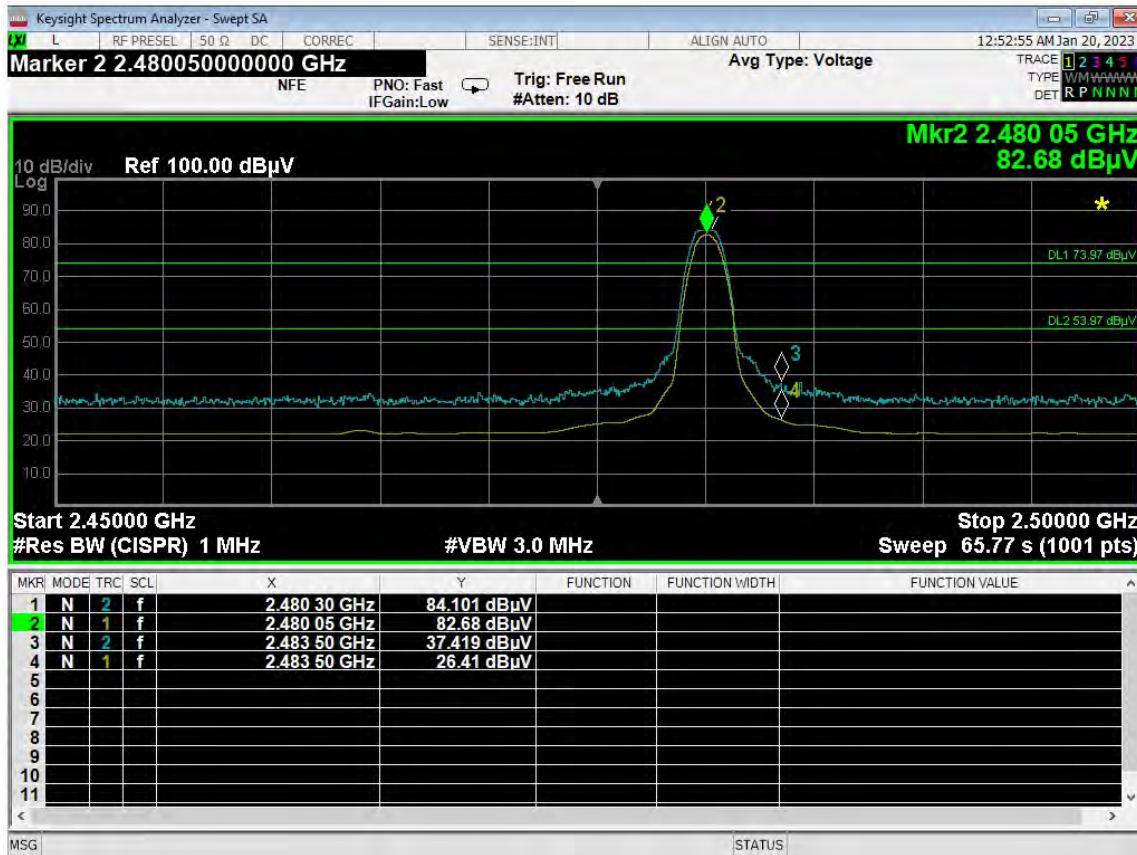


BE - 2480 MHz - Horizontal - Y-Axis Worst Case – BLE Mode

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



BE - 2480 MHz - Vertical - Y-Axis Worst Case – BLE Mode

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



***DTS BANDWIDTH  
DATA SHEETS***

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Bluetooth Lock

Model: Aura LT



Bandwidth 6 dB - 2402 MHz

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Bluetooth Lock

Model: Aura LT



Bandwidth 6 dB - 2440 MHz

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



Bandwidth 6 dB - 2480 MHz

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



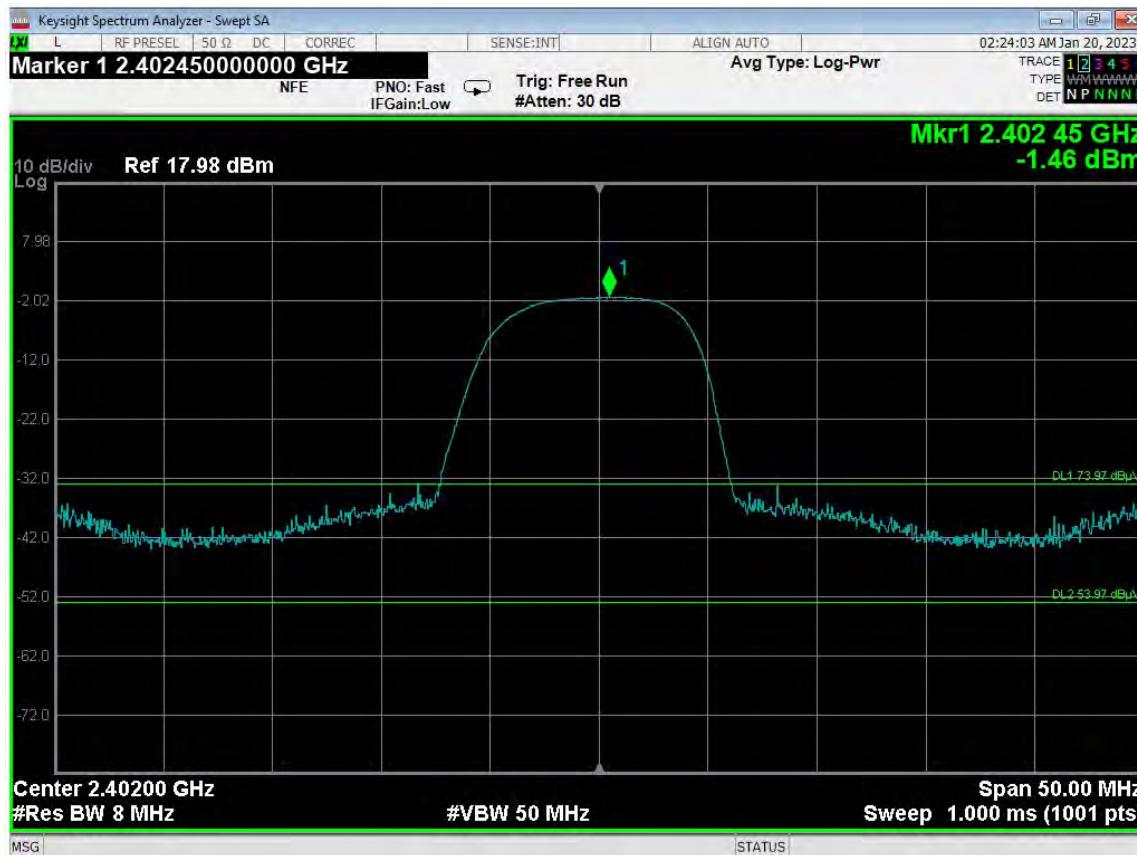
**PEAK OUTPUT POWER  
DATA SHEETS**

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



Peak Power Output - 2402 MHz - 1.46 dBm – Power Level 5

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

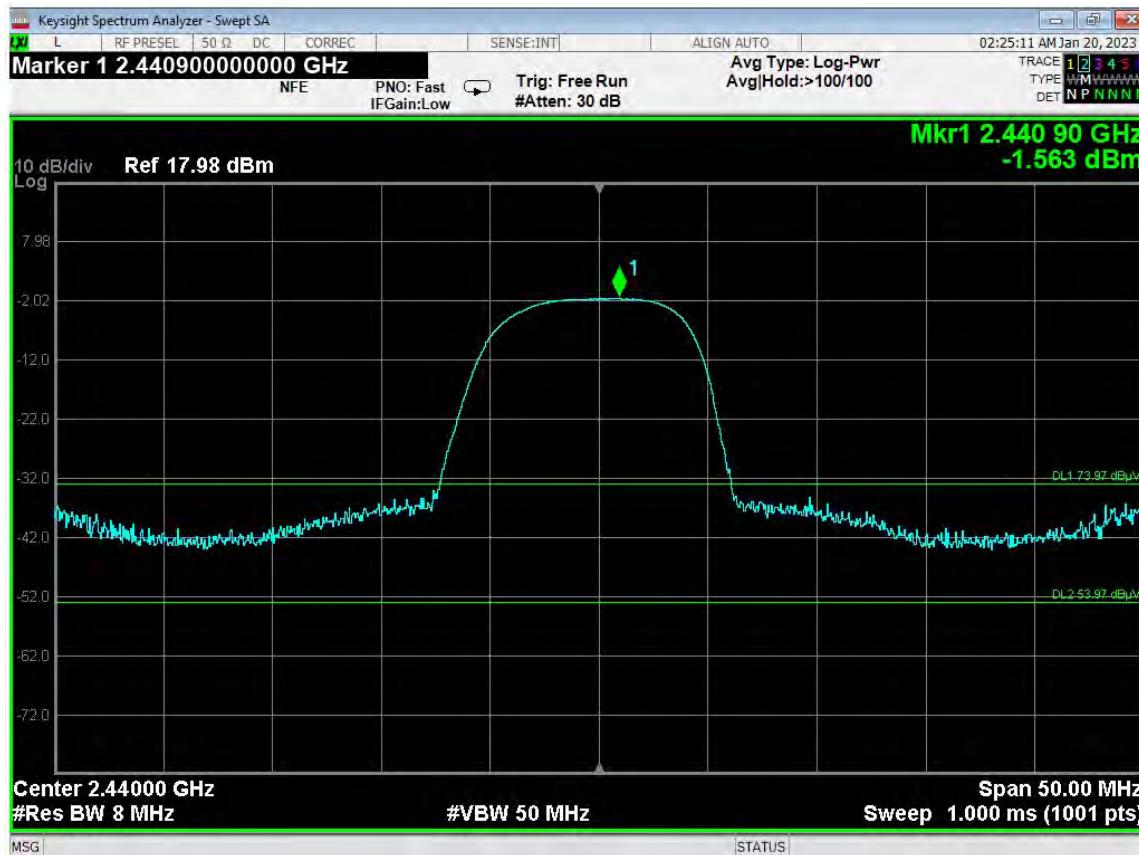
Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Bluetooth Lock

Model: Aura LT



Peak Power Output - 2440 MHz -1.563 dBm - Power Level 5

Brea Division  
 114 Olinda Drive  
 Brea, CA 92823  
 (714) 579-0500

Lake Forest Division  
 20621 Pascal Way  
 Lake Forest, CA 92630  
 (949) 587-0400

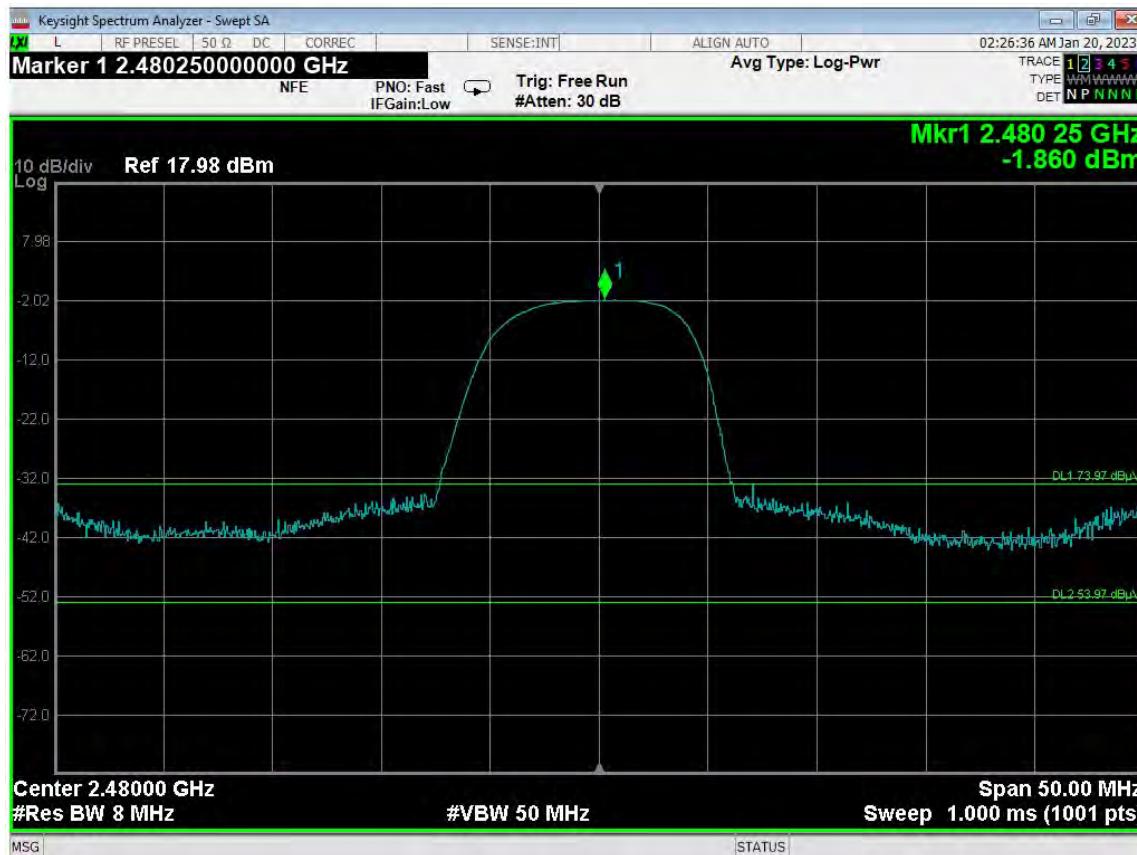
Newbury Park Division  
 1050 Lawrence Drive  
 Newbury Park, CA 91320  
 (805) 480-4044



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Bluetooth Lock

Model: Aura LT



Peak Power Output - 2480 MHz -1.86 dBm - Power Level 5

Brea Division  
 114 Olinda Drive  
 Brea, CA 92823  
 (714) 579-0500

Lake Forest Division  
 20621 Pascal Way  
 Lake Forest, CA 92630  
 (949) 587-0400

Newbury Park Division  
 1050 Lawrence Drive  
 Newbury Park, CA 91320  
 (805) 480-4044



***SPECTRAL DENSITY OUTPUT  
DATA SHEETS***

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



Spectral Density Output - 2402 MHz - -4.810 dBm

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



Spectral Density Output - 2440 MHz - -5.137 dBm

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



Spectral Density Output - 2480 MHz - -5.221 dBm

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



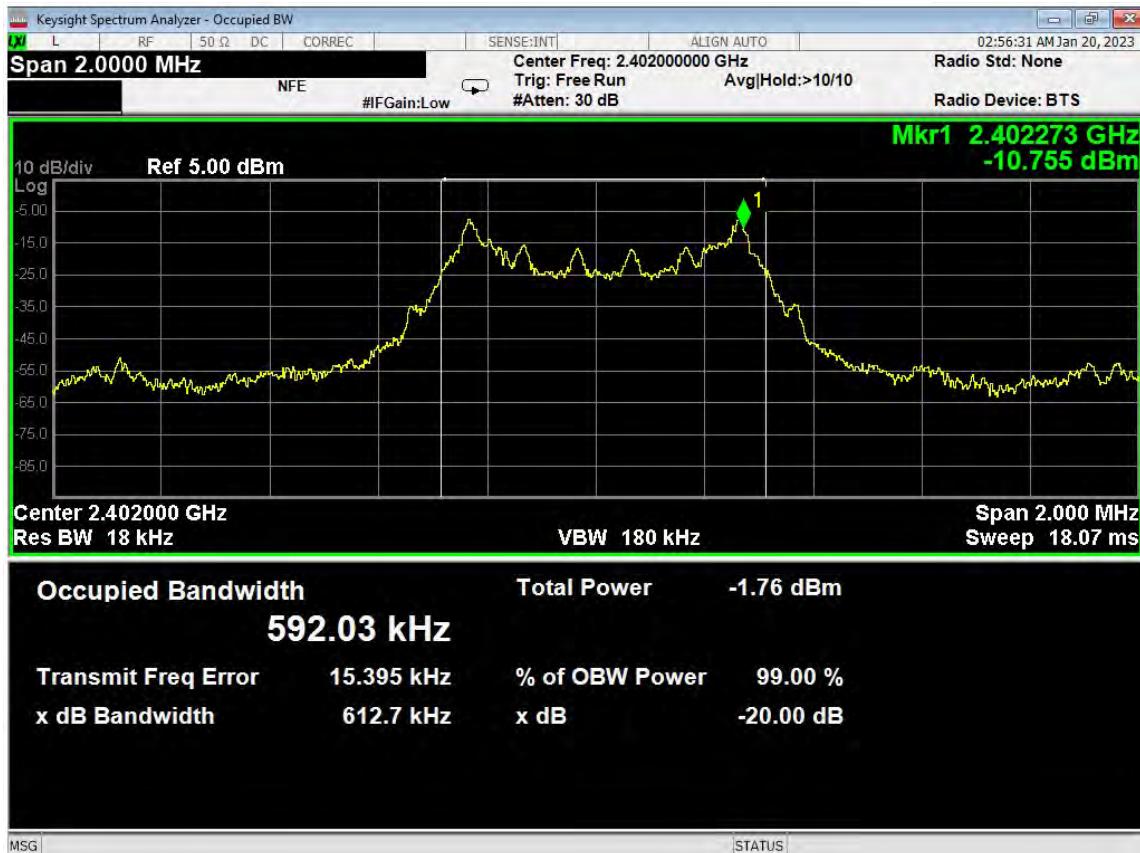
***99% BANDWIDTH  
DATA SHEET***

---

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

**Newbury Park Division**  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

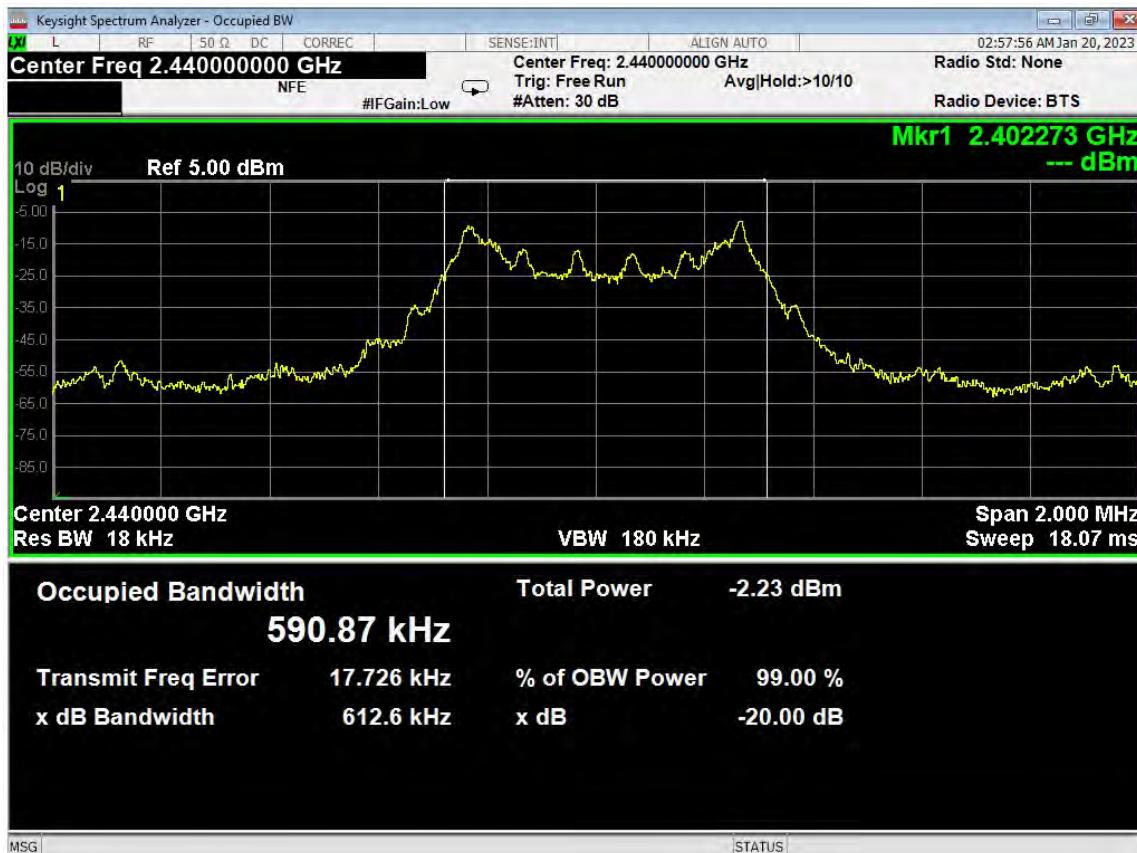


Low Channel

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



Mid Channel

Brea Division  
 114 Olinda Drive  
 Brea, CA 92823  
 (714) 579-0500

Lake Forest Division  
 20621 Pascal Way  
 Lake Forest, CA 92630  
 (949) 587-0400

Newbury Park Division  
 1050 Lawrence Drive  
 Newbury Park, CA 91320  
 (805) 480-4044



High Channel

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



***RF ANTENNA CONDUCTED  
DATA SHEETS***

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

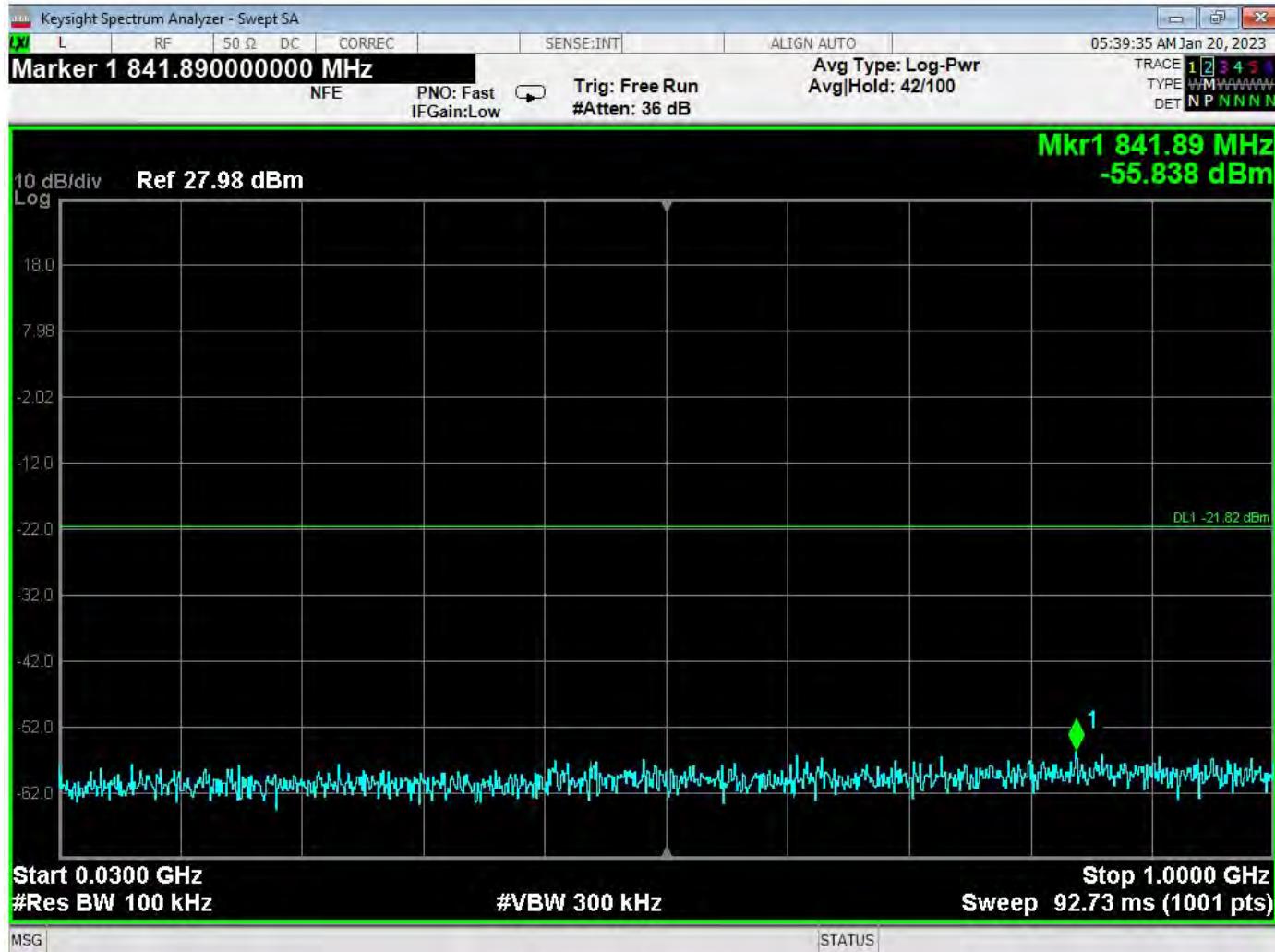


RF Antenna Conducted Test – Low Channel – Reference Level

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



RF Antenna Conducted Test – Low Channel – 30 MHz to 1000 MHz

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

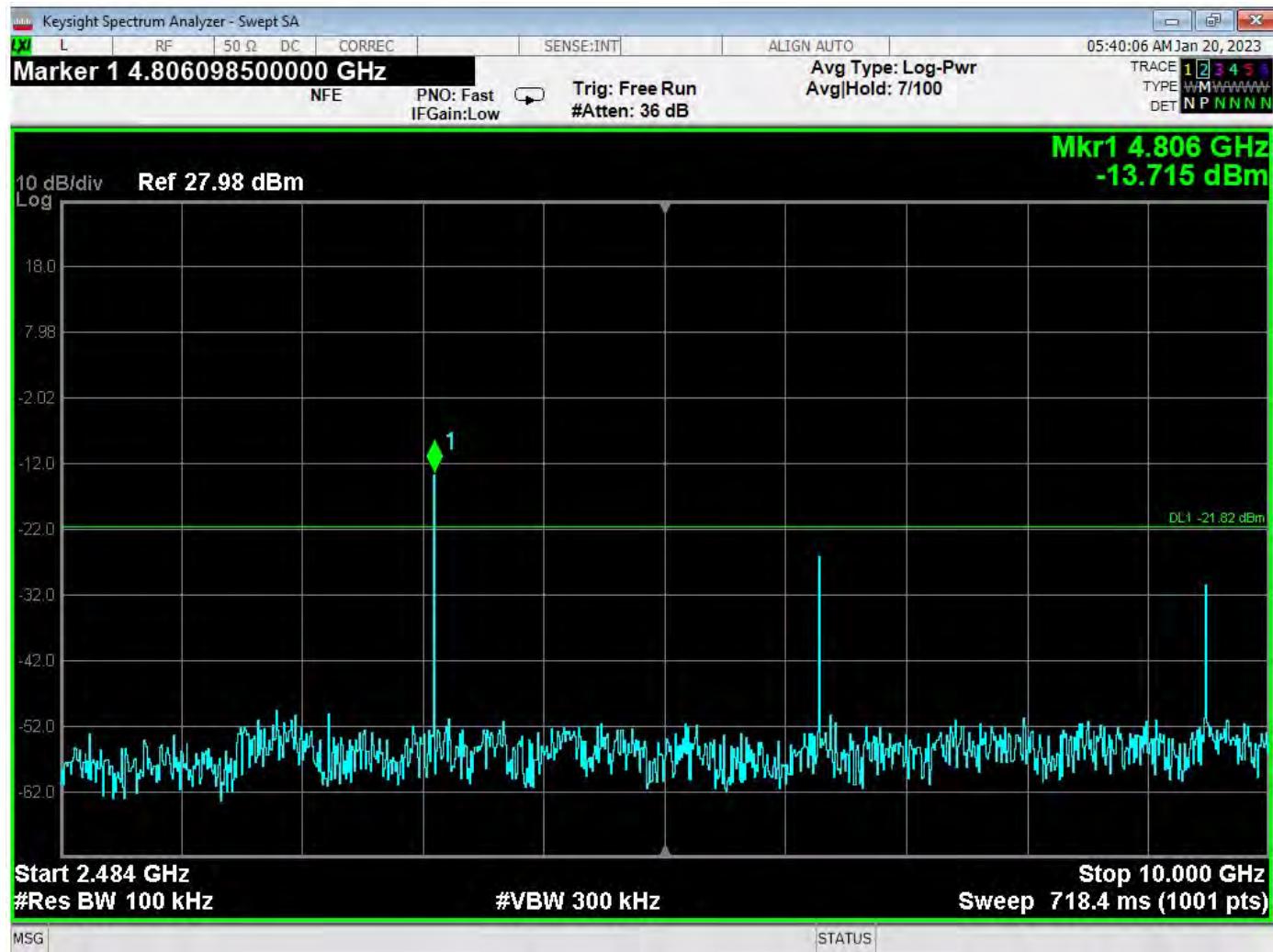


RF Antenna Conducted Test – Low Channel – 1 GHz to 2.4 GHz

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



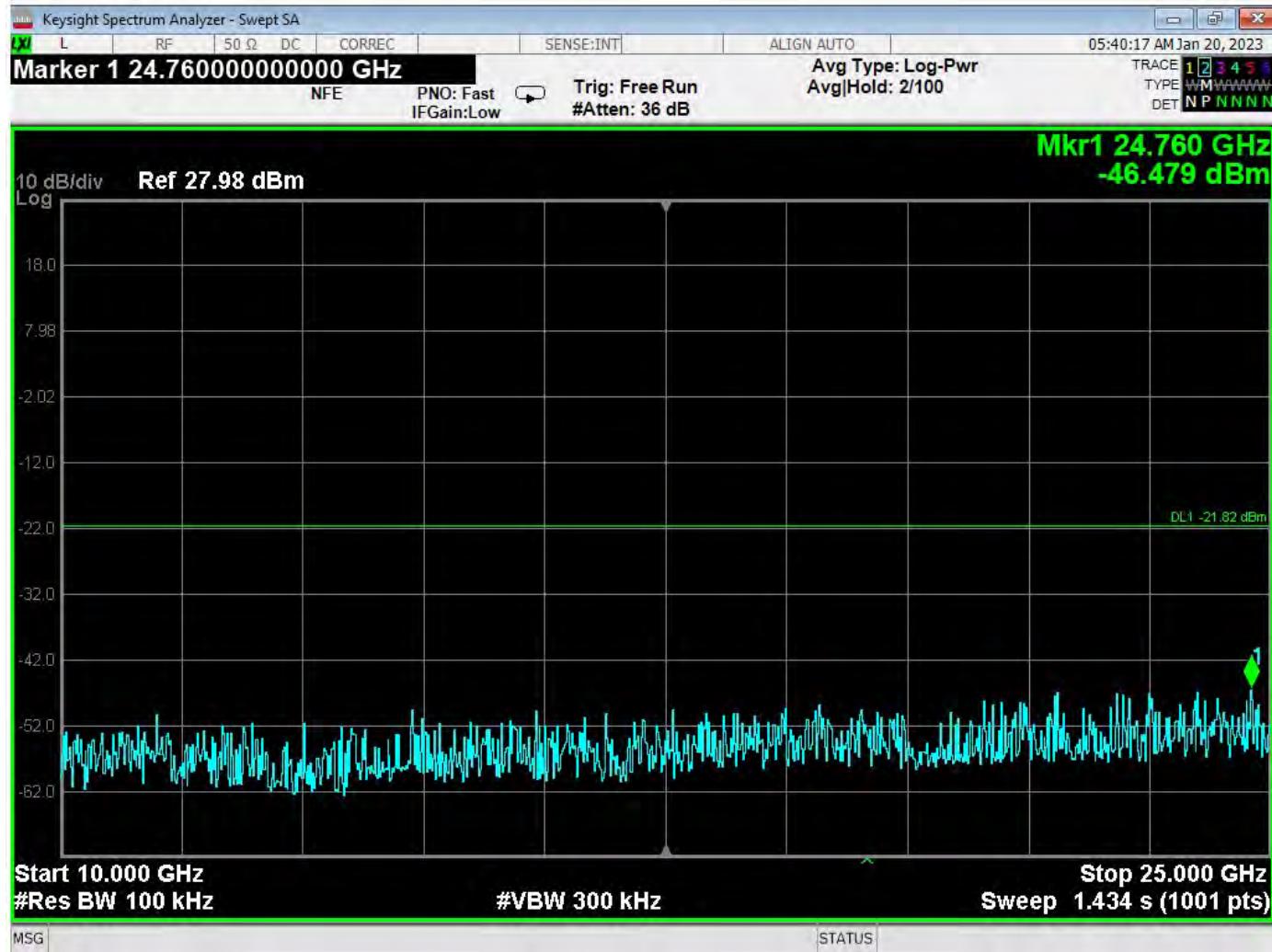
RF Antenna Conducted Test – Low Channel – 2483.5 MHz to 10 GHz

◆ Frequency meets radiated restricted band limits

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

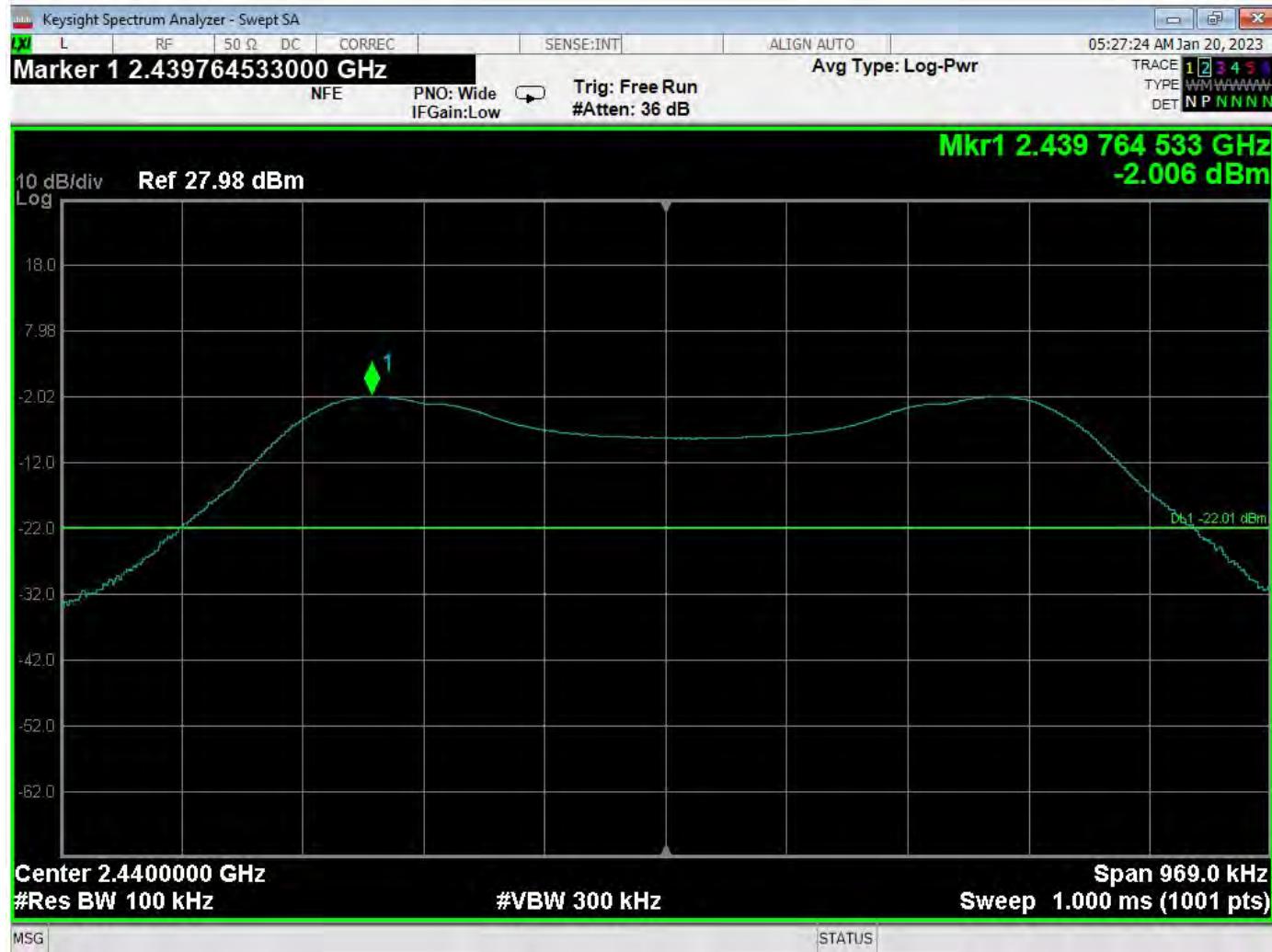


RF Antenna Conducted Test – Low Channel – 10 GHz to 25 GHz

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

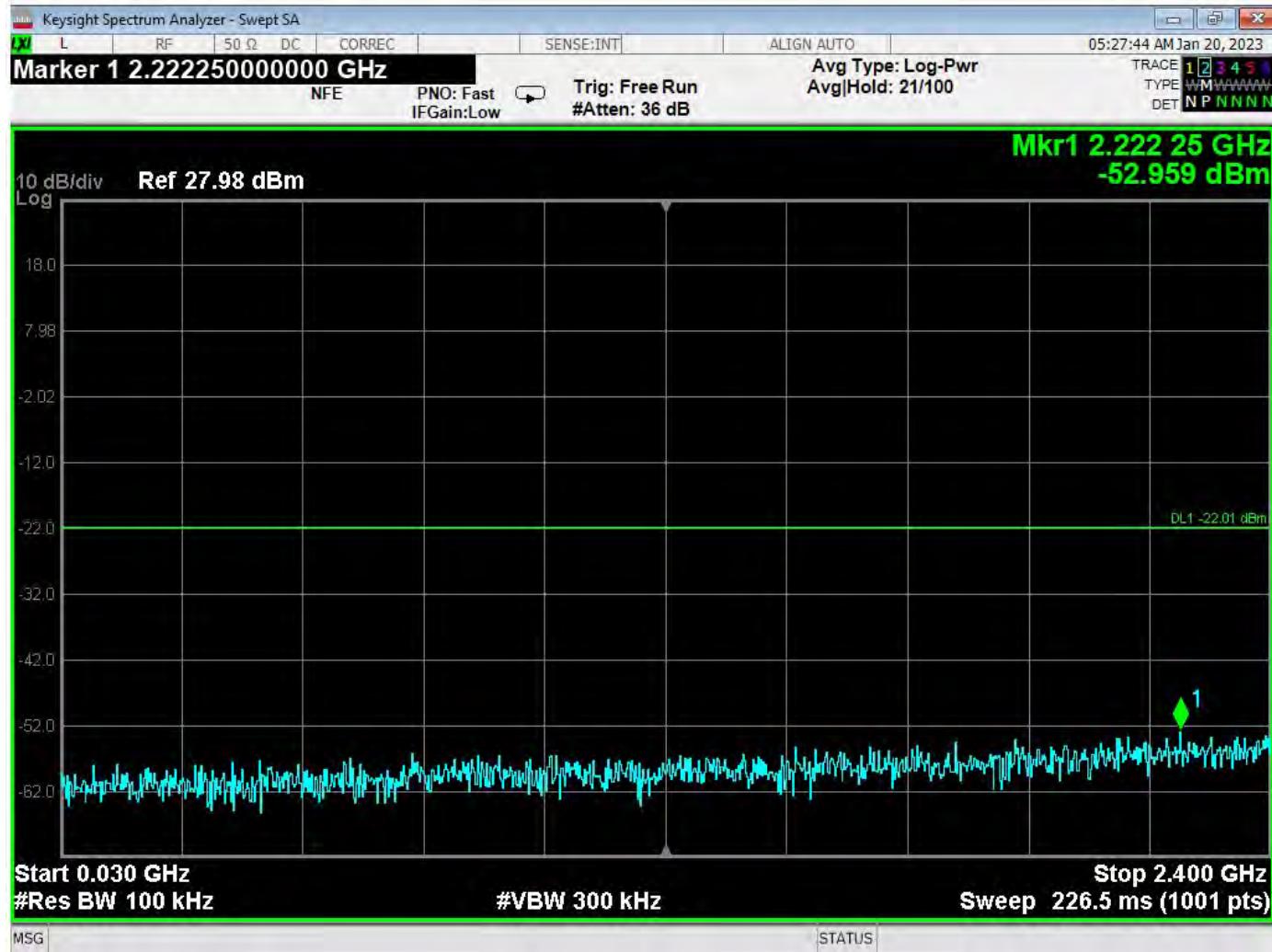


RF Antenna Conducted Test – Mid Channel – Reference Level

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

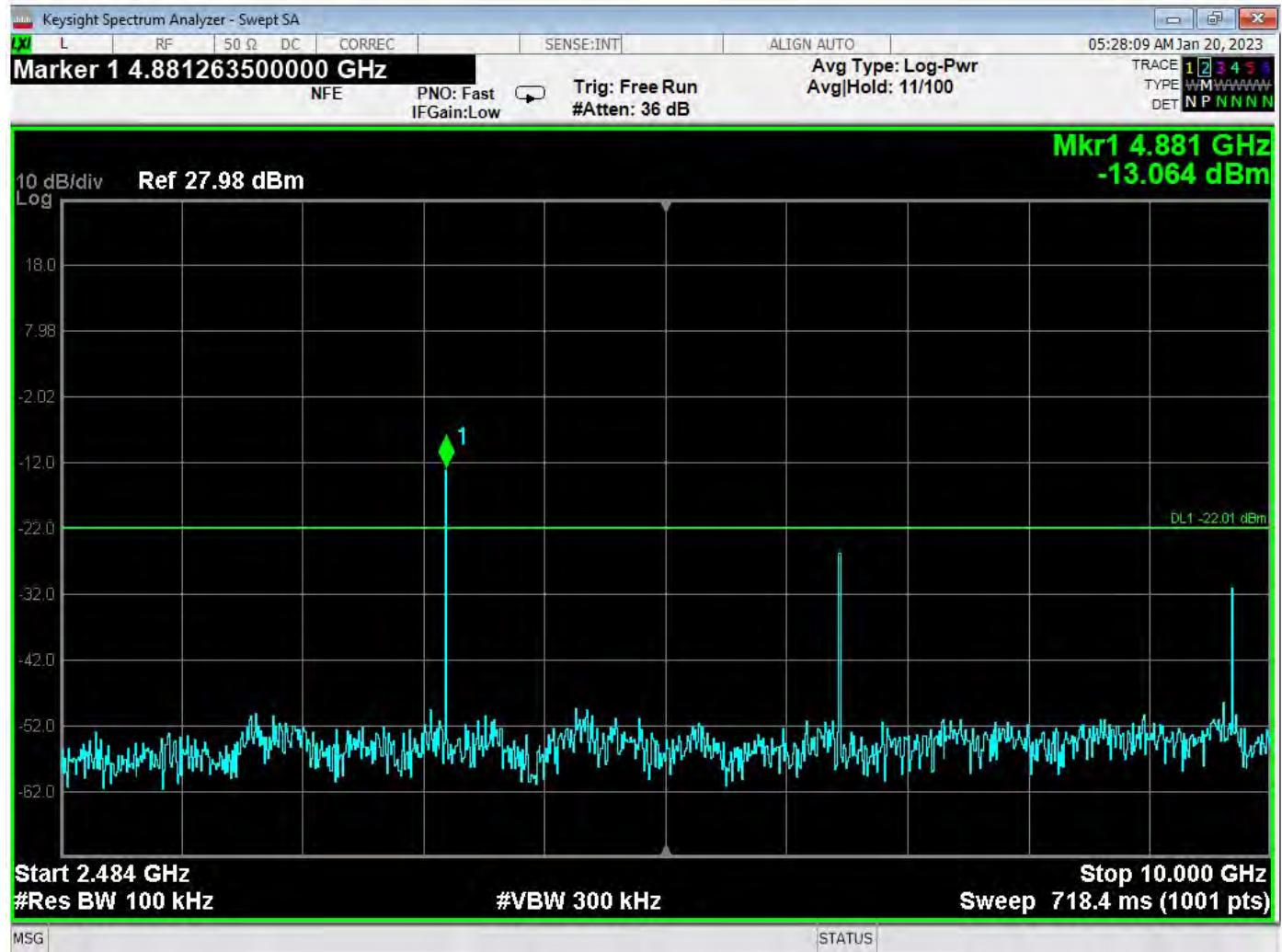


RF Antenna Conducted Test – Mid Channel – 30 MHz to 2.4 GHz

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



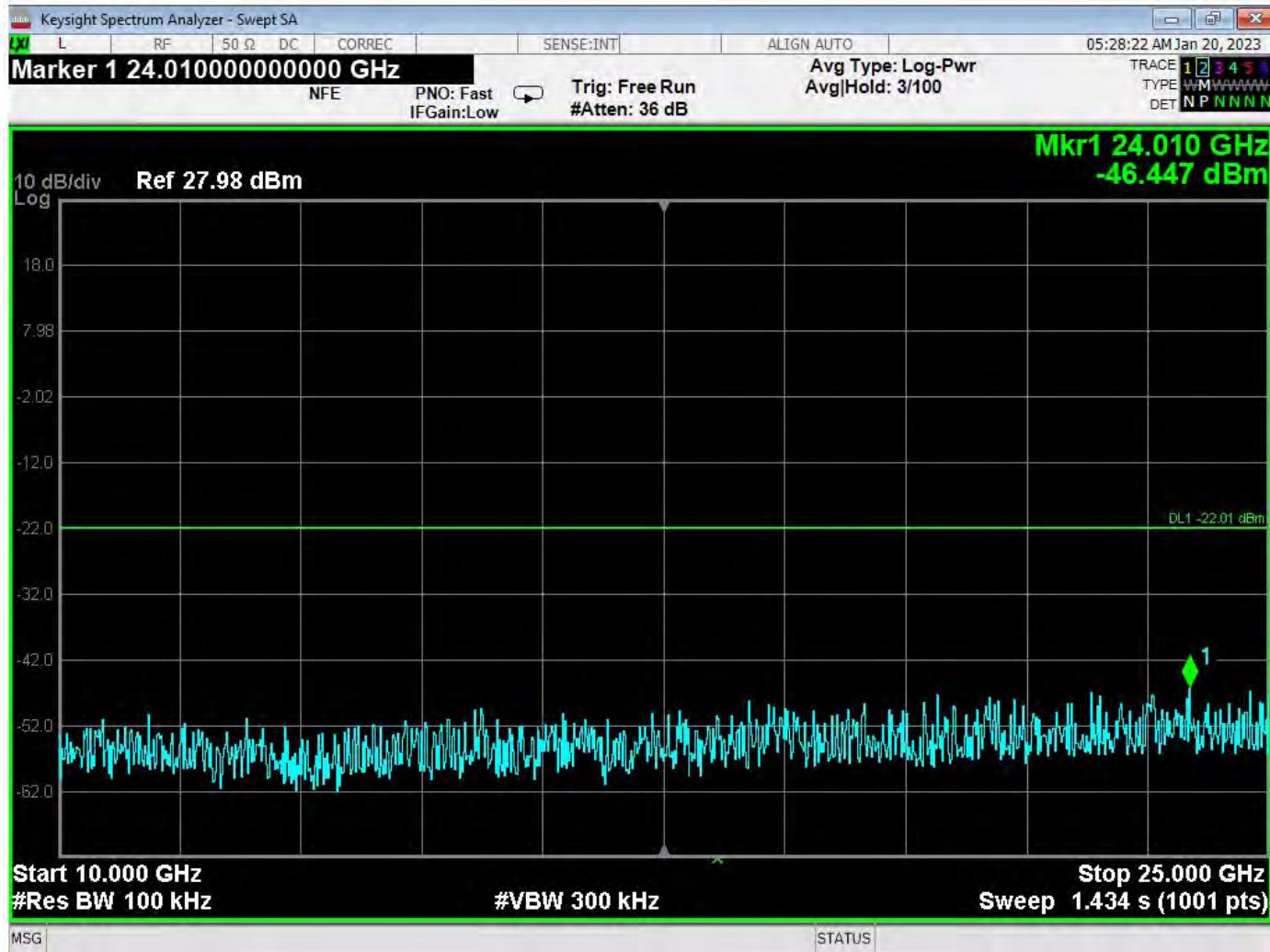
RF Antenna Conducted Test – Mid Channel – 2483.5 MHz to 10 GHz

◆ Frequency meets radiated restricted band limits

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

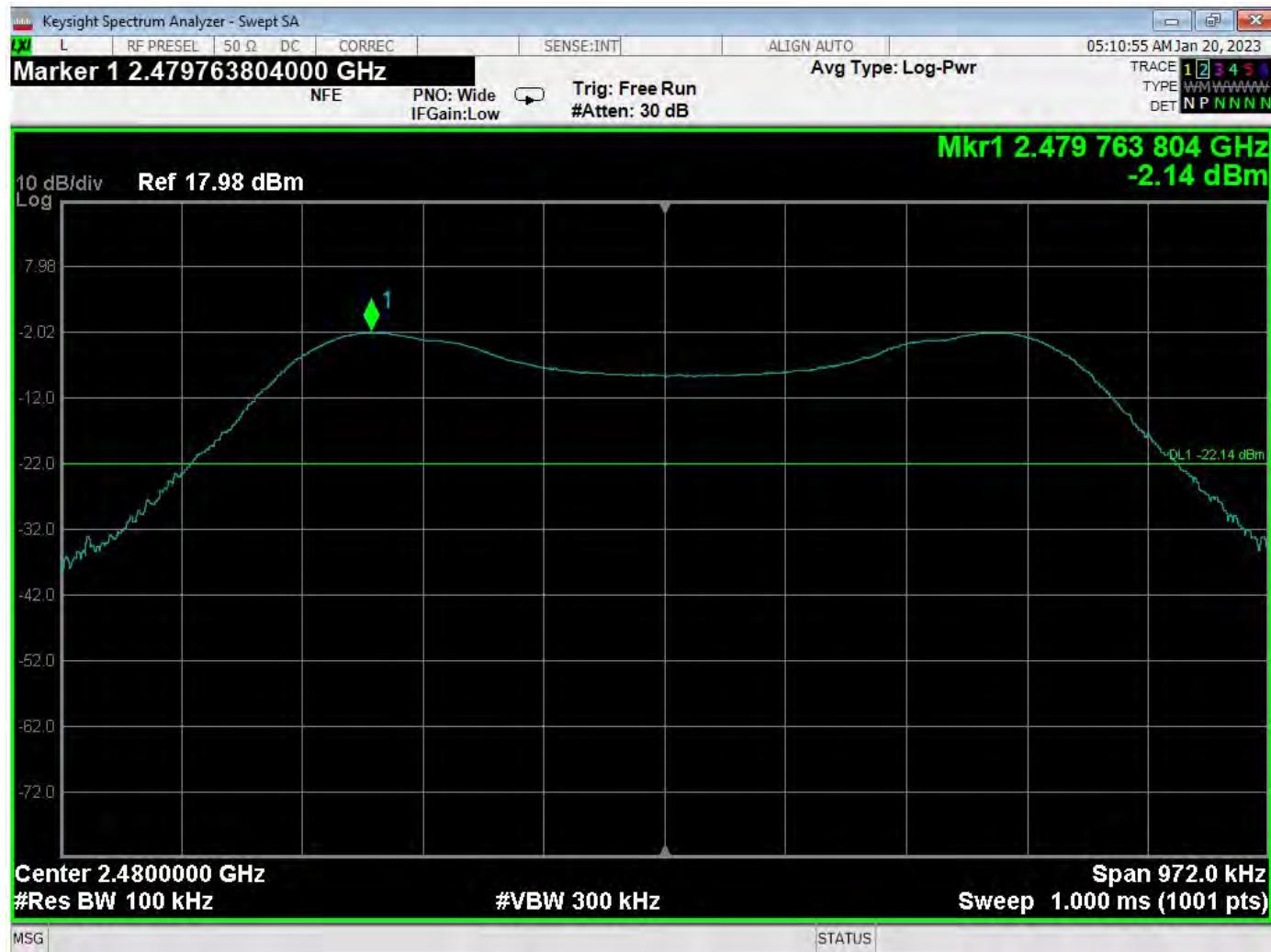


RF Antenna Conducted Test – Mid Channel – 10 GHz to 25 GHz

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



RF Antenna Conducted Test – High Channel – Reference Level

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

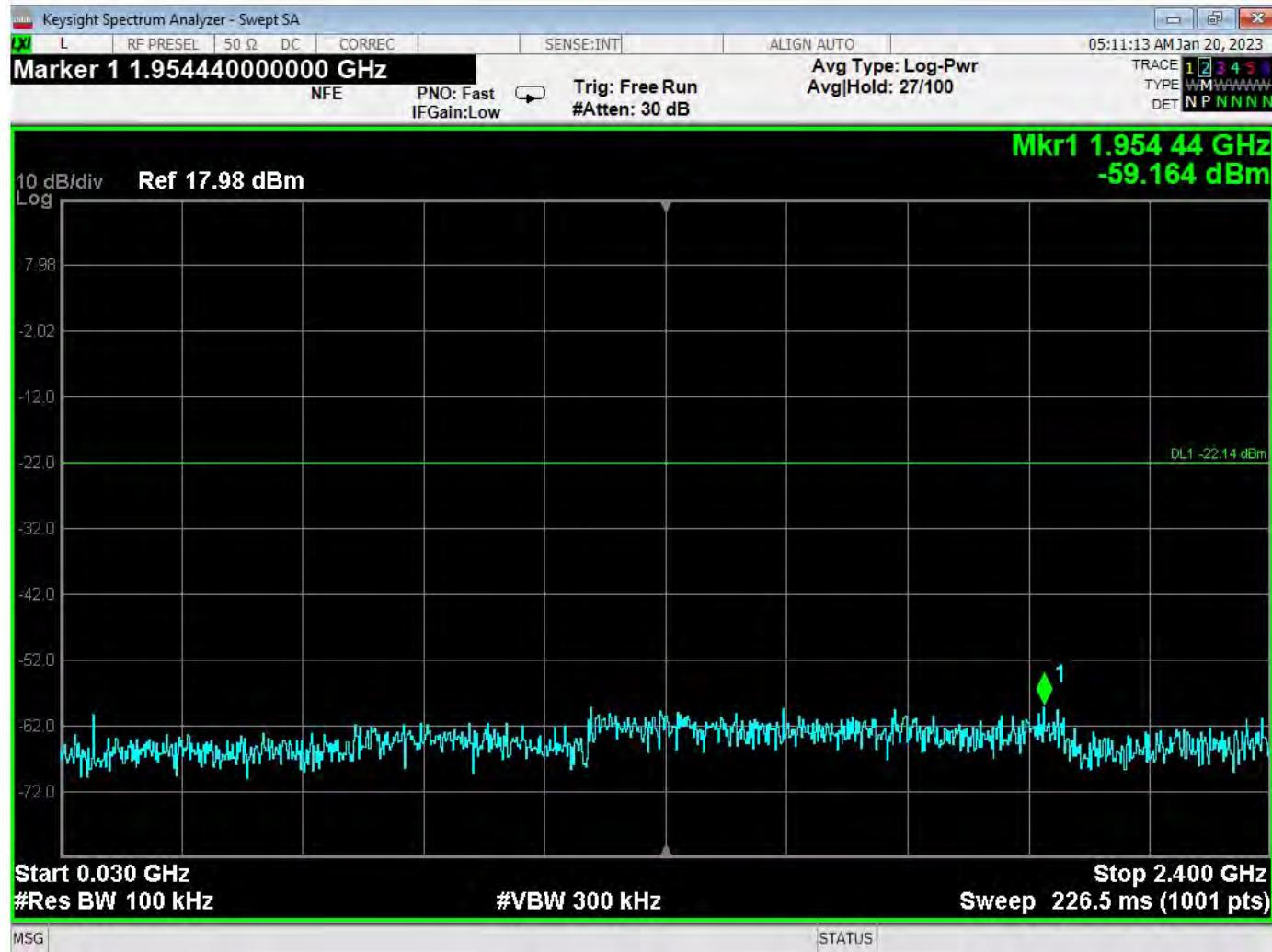
Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Bluetooth Lock

Model: Aura LT

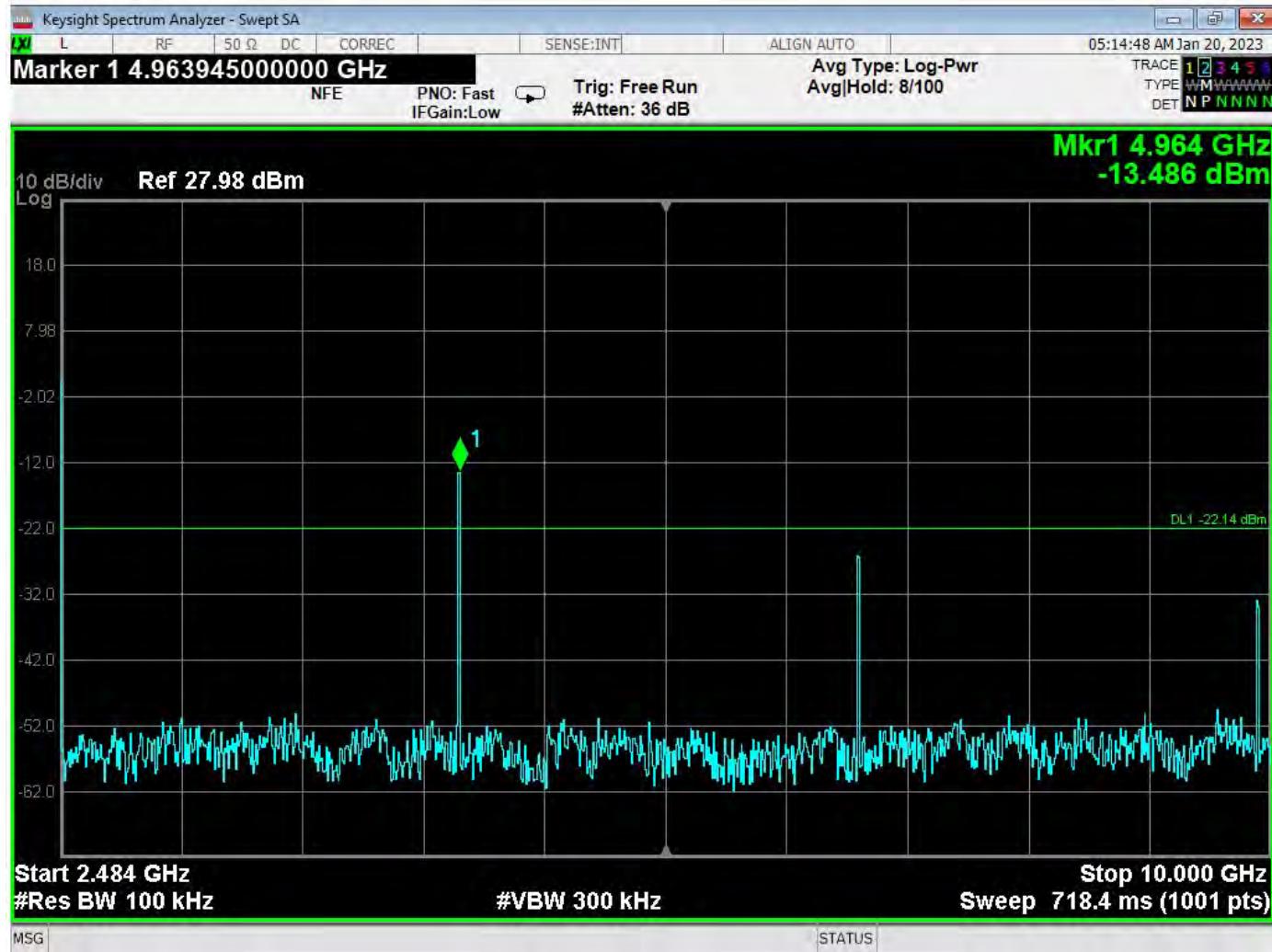


RF Antenna Conducted Test – High Channel – 30 MHz to 2.4 GHz

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



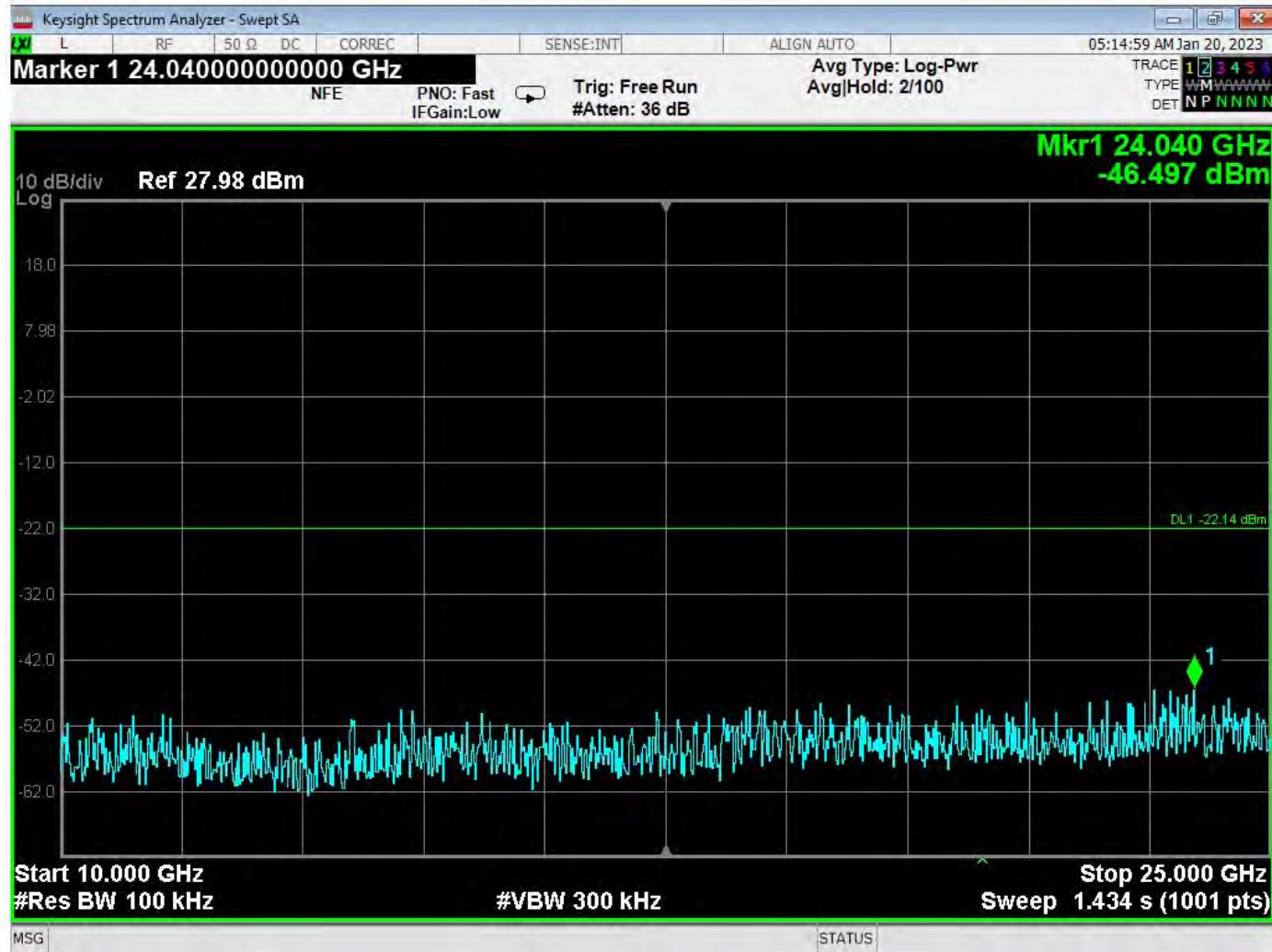
RF Antenna Conducted Test – High Channel – 2483.5 MHz to 10 GHz

◆ Frequency meets radiated restricted band limits

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



RF Antenna Conducted Test – High Channel – 10 GHz to 25 GHz

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



## SPECTRUM BRANDS, INC.

## BLUETOOTH LOCK

MODEL: AURA LT

## EMISSIONS IN NON-RESTRICTED BANDS

FREQUENCY (MHz)	LEVEL (dBm)	Limit* (dBm)	Margin (dB)
24040	-46.497	-22.14	-24.357
24010	-46.447	-22.01	-24.437
24760	-46.479	-21.82	-24.659

Note: The three highest non-restricted emissions are reported.

\*The Limit is based on 20 dB below the highest reference level obtained on the previous pages.

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

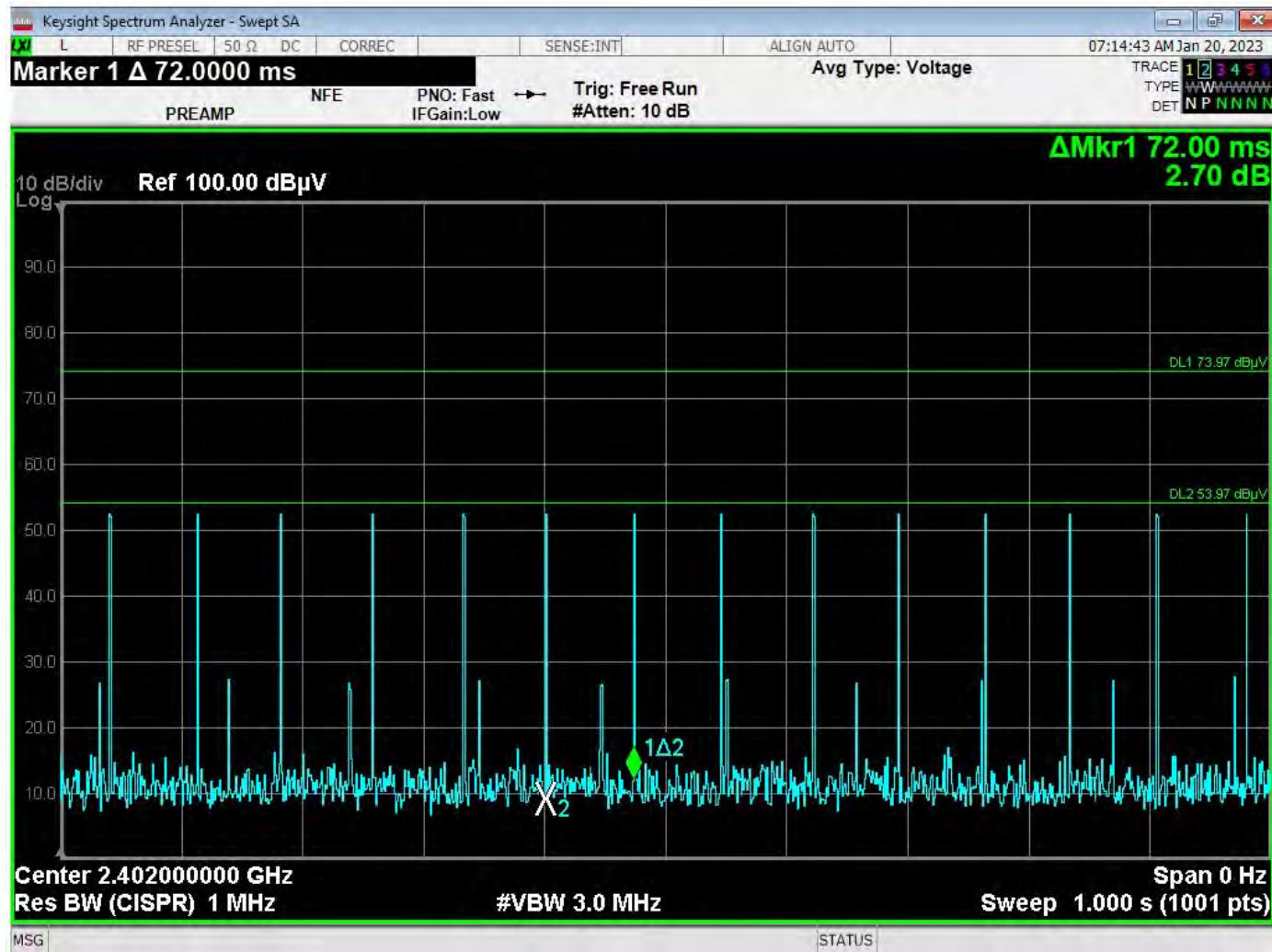
***DUTY CYCLE******DATA SHEETS***

---

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

**Newbury Park Division**  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

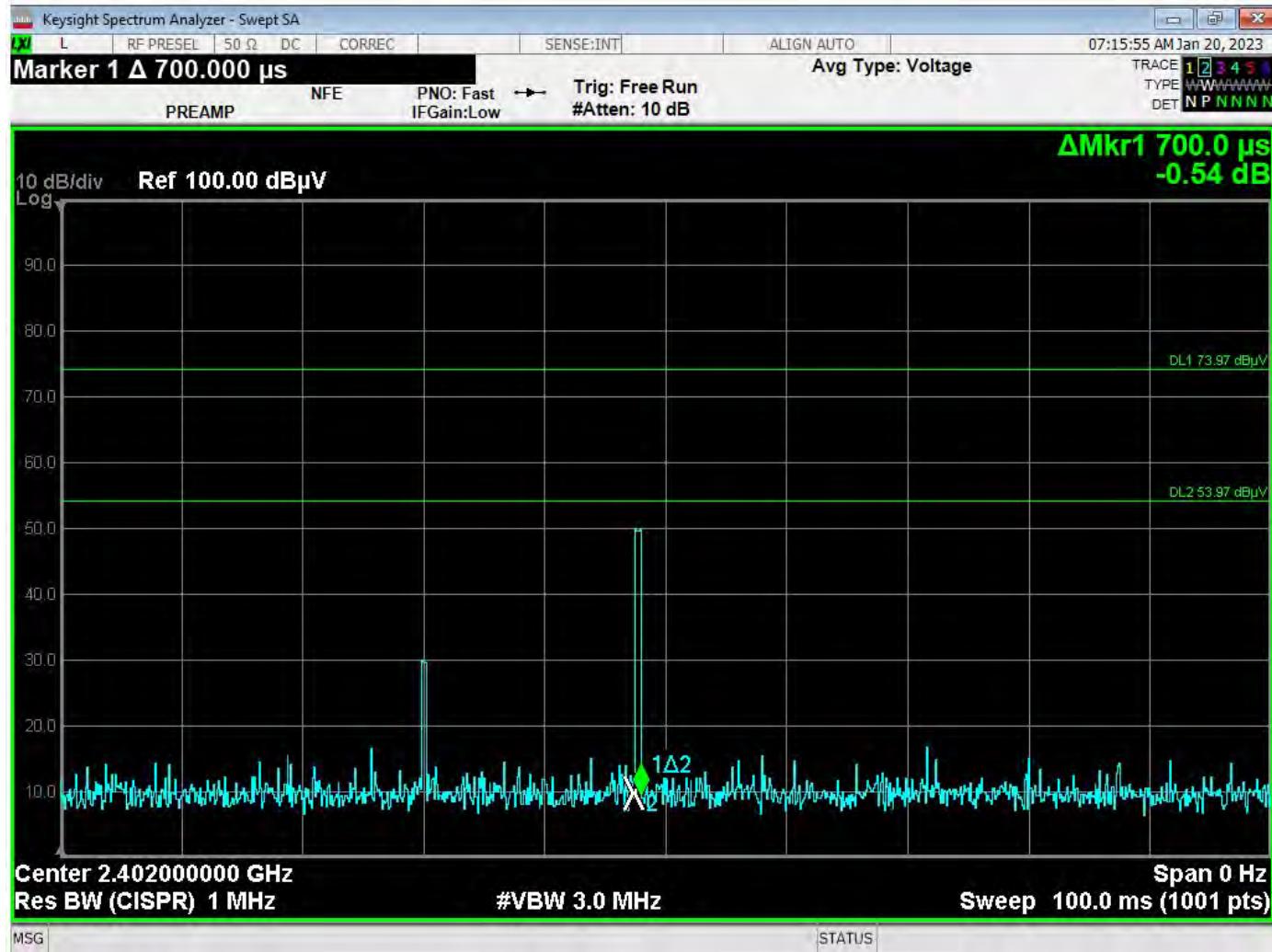


The pulse train repeats every 72 ms – Advertising Mode

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

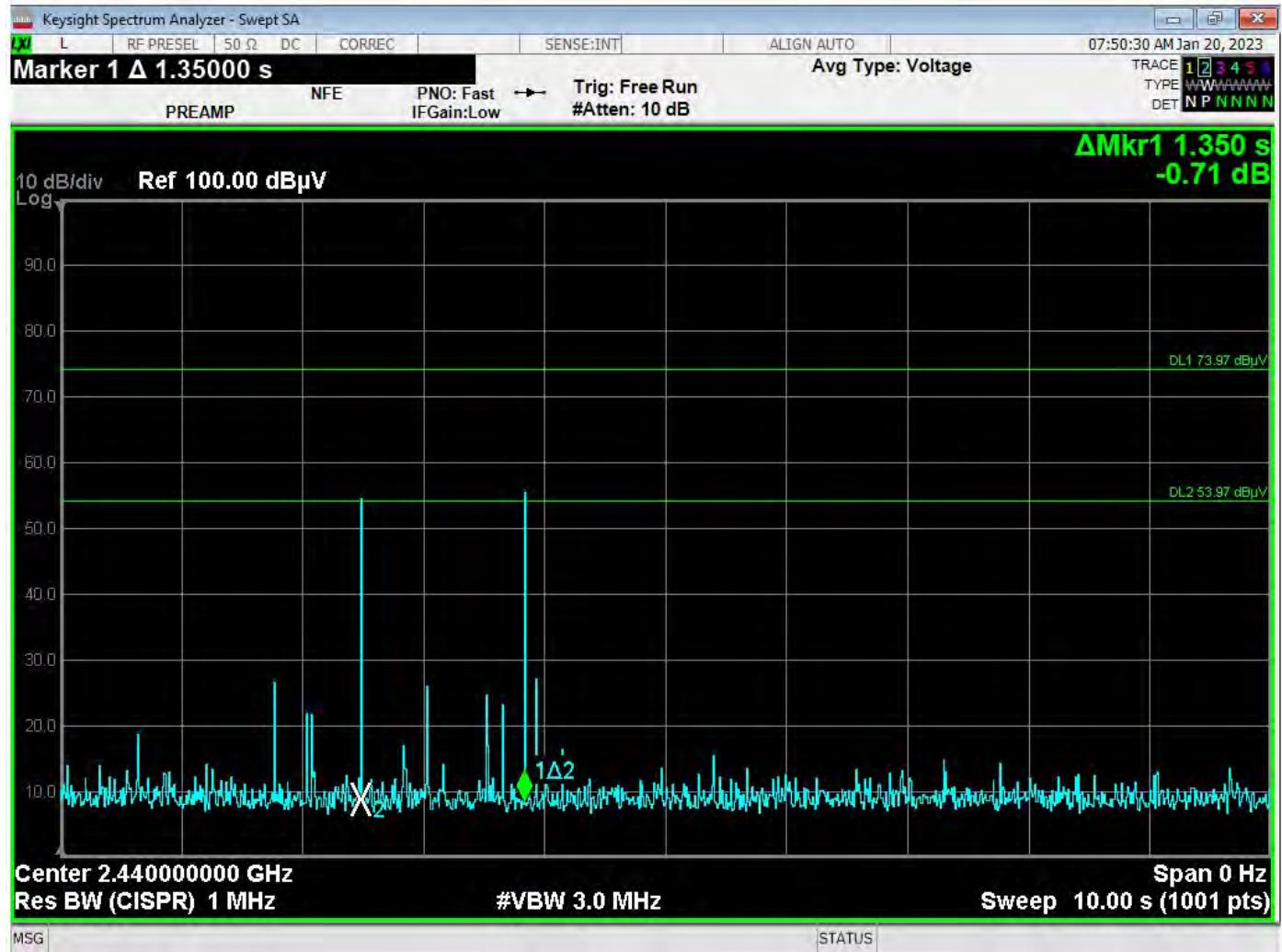
Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044



Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044

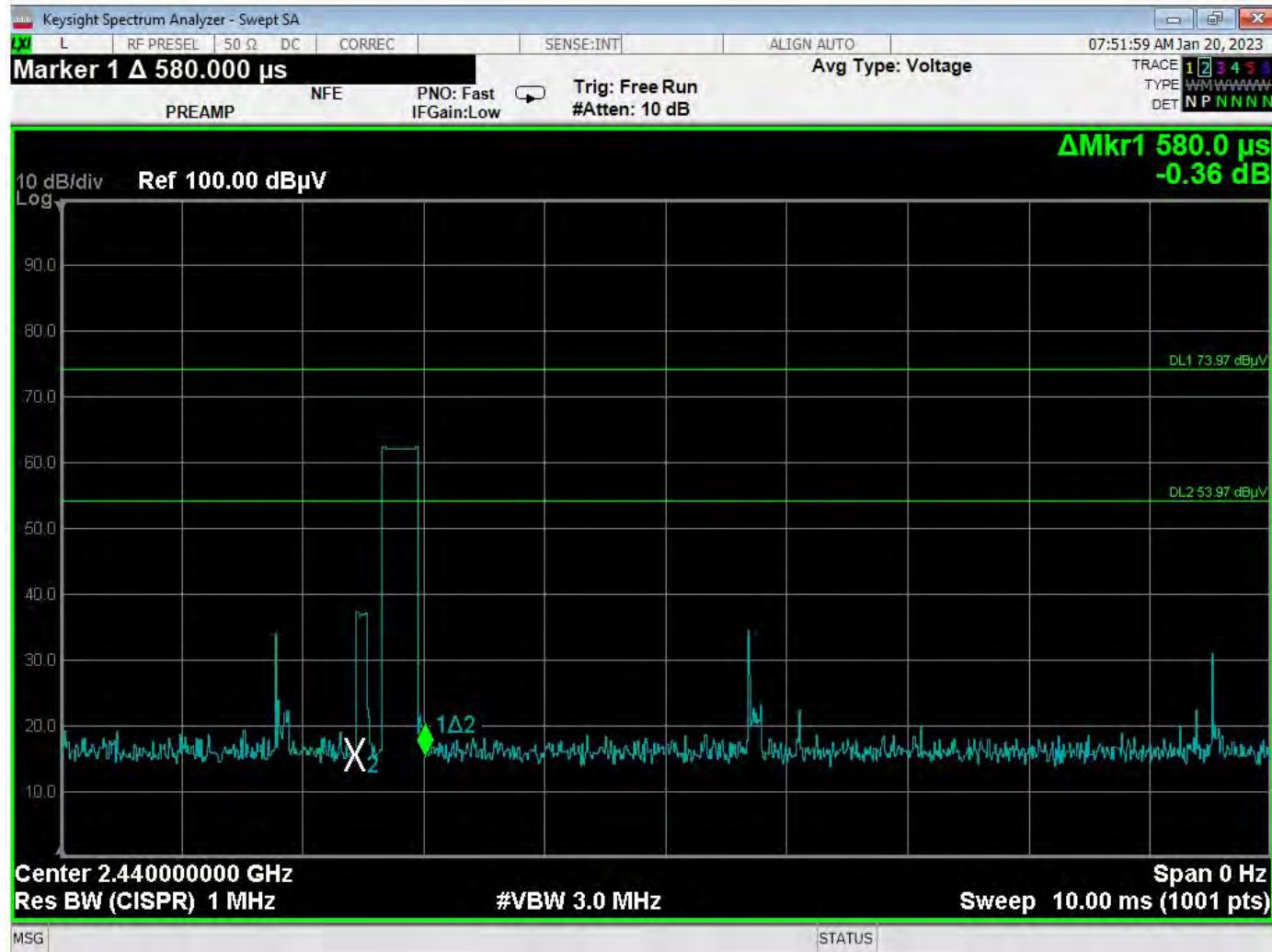


Time Between Pulse Trains – 1.350 ms – Data Mode

Brea Division  
 114 Olinda Drive  
 Brea, CA 92823  
 (714) 579-0500

Lake Forest Division  
 20621 Pascal Way  
 Lake Forest, CA 92630  
 (949) 587-0400

Newbury Park Division  
 1050 Lawrence Drive  
 Newbury Park, CA 91320  
 (805) 480-4044



Time of One Pulse = 580 us – Data Mode

Duty Cycle = 0.580 ms / 100 ms = 0.58 %

The Full Peak to Average Ratio of -20 dB can be used.

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

Newbury Park Division  
1050 Lawrence Drive  
Newbury Park, CA 91320  
(805) 480-4044