FCC PART 15, SUBPART B and C
TEST REPORT

for

SC4480 MIMO RADIO

MODEL: SC480-235-SBST

Prepared for

SILVUS TECHNOLOGIES
10990 WILSHIRE BLVD., SUITE #1500
LOS ANGELES, CALIFORNIA 90024

Prepared by:_____

KYLE FUJIMOTO

Approved by:_____

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DATE: MAY 21, 2018

	REPORT BODY	APPENDICES					TOTAL
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NVLAP TESTING
NVLAP LAB CODE 200528-0

ilac-MRA

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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 to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the federal government.

Device Tested:	SC4480 MIMO Radio Model: SC480-235-SBST S/N: N/A
Product Description:	The EUT is a stand-alone IP based, 4 antenna MIMO (multiple input multiple output), Coded OFDM radio that provides improved LOS (line-of-sight) range, greater connectivity in NLOS (non-line-of-sight) environments and high data throughput rates.
Modifications:	The EUT was not modified during the testing.
Customer:	Silvus Technologies. 10990 Wilshire Boluevard, Suite 1500 Los Angeles, California 90024
Test Dates:	March 29, 2018; and April 5, 6, and 7, 2018

Test Specifications covered by accreditation:

Emissions requirements
CFR Title 47, Part 15, Subpart B; and
Subpart C, sections 15.205, 15.207, 15.209, and 15.247

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

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SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz – 30 MHz	The EUT complies with the **Class B** limits of CFR Title 47, Part 15 Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, section 15.207
2	Spurious Radiated RF Emissions, 30 MHz – 1000 MHz	The EUT complies with the **Class B** limits of CFR Title 47, Part 15 Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, section 15.209
3	Spurious Radiated RF Emissions, 9 kHz – 30 MHz and 1000 MHz – 25000 MHz	The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, section 15.247(d)
4	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 9 kHz – 25 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
5	Emissions produced by the intentional radiator in restricted bands, 10 kHz – 25 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209, and section 15.247 (d)
6	DTS Bandwidth	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (a)(2)
7	Peak Power Output	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(3)
8	RF Conducted Antenna Test	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (d)
9	Peak Power Spectral Density from the Intentional Radiator to the Antenna	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (e)

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the SC4480 MIMO Radio, Model: SC480-235-SBST. The emissions measurements were performed according to the measurement procedure described in ANSI C63.10 and ANSI C63.4. 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, 15.207, 15.209, and 15.247.

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

Silvus Technologies

Kathleen Smidt Cook	Vice President of Operations

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
James Ross	Test Engineer

2.4 Date Test Sample was Received

The test sample was received on March 29, 2018.

2.5 Disposition of the Test Sample

The test sample has not been returned to Silvus Technoloies as of the date of this test report.

2.6 Abbreviations and Acronyms

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

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network
N/A	Not Applicable

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
ANSI C63.4 2014	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
FCC Title 47, Part 15 Subpart B	FCC Rules - Radio frequency devices (including digital devices) – Unintentional Radiators
KDB 662911 D01 v02r01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band (e.g., MIMO, Smart Antenna, etc)
KDB 558074 D01 v04	Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under 15.247

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration – Emissions

The SC4480 MIMO Radio Model: SC480-235-SBST (EUT) was connected to a junction box, push to talk, and laptop via its PRI, PTT, and AUX ports, respectively. The junction box was also connected to an AC Adapter and laptop. The laptop was also connected to the AC Adapter.

The EUT was continuously transmitting at 2430 MHz and 2440 MHz during the testing.

The EUT voltage was also varied between 85% and 115% using a variable transformer and the fundamental was verified to not change.

The firmware used for the EUT is stored on the company's servers.

It was determined that the emissions were at their highest level when the EUT was operating in the above configuration. The final emissions data was taken in this mode of operation. All initial investigations were performed with the measurement receiver in manual mode scanning the frequency range continuously. Photographs of the test setup are in Appendix D of this report.

4.1.1 Cable Construction and Termination

Cable 1 This is a 2-meter unshielded cable connecting the AC Adapter to the laptop. The cable has a 1-pin connector at the laptop end and is hard wired into the AC Adapter.

Cable 2 This is a 2-meter unshielded cable connecting the AC Adapter to the junction box. The cable is hard wired at each end. The cable is bundled to a length of 1-meter. The cable has a ferrite on the AC adapter end.

Cable 3 This is a 2-meter braid shielded cable connecting the laptop to the EUT. The cable has a USB type 'A' connector at the laptop end and a 10-pin LEMO connector at the EUT end. The cable was bundled to a length of 1-meter. The shield of the cable was grounded to the chassis via the connectors.

Cable 4 This is a 1-meter unshielded cable connecting the Push to Talk to the EUT. The cable has a 7-pin LEMO connector at the EUT end and is hard wired into the Push to Talk.

Cable 5 This is a 1-meter foil shielded cable connecting the Laptop to the junction box. The cable has an RJ-45 connector at the laptop end and is hard wired into the junction box. The cable was bundled with cable #6 to a length of 1-meter.

Cable 6 This is a 1-meter foil shielded cable connecting the EUT to the junction box. The cable a 10-pin LEMO connector at the EUT end and is hard wired into the junction box. The cable was bundled with cable #5 to a length of 1-meter. The cable has a ferrite near the junction box.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
SC4480 MIMO RADIO	SILVUS TECHNOLOGIES	SC480-235-SBST	N/A	N2S-SC44-245
AC ADAPTER FOR EUT	V-INFINITY	3A-621DN12	N/A	N/A
AC ADAPTER FOR LAPTOP	DELL	LA90PS0-00	CN-0DF266-71615-02C-2346	N/A
LAPTOP	DELL	PP04X	CN-OHN341-48643-87H-2372	N/A
PUSH TO TALK	IMPACT	S2226	N/A	N/A
JUNCTION BOX	N/A	N/A	N/A	N/A
FIRMWARE FOR EUT*	SILVUS TECNOLOGIES	3.12.6.8	N/A	N/A

*****Used to program the EUT to transmit at 2430 MHz and 2440 MHz on a continuous basis.

5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CAL. CYCLE
TDK TestLab	TDK RF Solutions, Inc.	9.22	700145	N/A	N/A
CombiLog Antenna	Com-Power	AC-220	61060	July 27, 2017	1 Year
Horn Antenna	Com-Power	AH-118	071175	February 22, 2018	2 Year
EMI Receiver	Rohde & Schwarz	ESIB40	100194	September 26, 2017	1 Year
EMI Receiver	Keysight Technologies	N9038A	MY5120150	December 6, 2017	1 Year
Preamplifier	Com-Power	PA-840	711013	May 13, 2016	2 Year
Loop Antenna	Com-Power	AL-130R	121090	February 9, 2017	2 Year
Preamplifier	Com-Power	PAM-118A	551024	May 12, 2016	2 Year
Digital Multimeter	Fluke	115	Asset #: 4168	September 27, 2017	1 Year
Variable Transformer	Superior Electric	Type: 11560	Spec: BP142056	N/A	N/A
Horn Antenna	Com-Power	AH-826	71957	N/A	N/A
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A
LCD Monitor	Hewlett Packard	52031a	3CQ046N3MG	N/A	N/A
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
Power Sensor	ETS-Lindgren	7002-006	0015018	October 1, 2015	3 Year
LISN (EUT)	Com-Power	LI-215A	191951	May 17, 2017	1 Year
LISN (ACC)	Com-Power	LI-215A	191952	May 17, 2017	1 Year
Transient Limiter	Com-Power	252A910	N/A	November 1, 2017	1 Year

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1 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 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

For frequencies above 1 GHz: The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 1.5 meters above the ground plane.

The EUT was grounded to earth ground via the safety ground of the AC Adapter.

7. CHARACTERISTICS OF THE TRANSMITTER

7.1 Channel Description and Frequencies

The EUT operates on two channels. The low channel is 2430 MHz and the high channel is 2440 MHz.

7.2 Antenna Gain

The EUT utilizes four half wave dipole antennas with each antenna having a 2.1 dBi gain.

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 transient limiter was 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 C63.4. 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.

The six highest reading are listed in Table 1.0.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, Section 15.207 for conducted emissions. Please see Appendix E for the data sheets.

8.1.2 Radiated Emissions (Spurious and Harmonics) Test

The EMI Receiver was used as the measuring meter. Below 1 GHz, a built-in, internal preamplifier was used to increase the sensitivity of the instrument. At frequencies above 1 GHz, external preamplifiers were used. 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. A quasi-peak reading was taken only for those readings, which are marked accordingly on the data sheets.

The frequencies above 1 GHz were averaged by using the RMS detector function on the EMI Receiver.

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

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 six highest reading are listed in Table 2.0.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, Sections 15.209 and 15.247 (d) for radiated emissions. Please see Appendix E for the data sheets.

8.1.3 RF Emissions Test Results

Table 1.0 CONDUCTED EMISSION RESULTS
SC4480 MIMO Radio, Model: SC480-235-SBST

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
0.254 (BL)	40.04 (Avg)	51.21	-11.17
0.262 (WL)	39.82 (Avg)	51.23	-11.40
0.186 (BL)	41.88 (Avg)	53.49	-11.60
0.190 (BL)	41.89 (Avg)	53.50	-11.60
0.258 (WL)	39.58 (Avg)	51.20	-11.61
0.194 (BL)	41.87 (Avg)	53.50	-11.63

Table 2.0 RADIATED EMISSION RESULTS
SC4480 MIMO Radio, Model: SC480-235-SBST

Frequency MHz	Corrected Reading* dBuV/m	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
2390 (V)	52.77 (Avg)	53.97	-1.20
2483.5 (V)	52.60 (Avg)	53.97	-1.37
38.30 (V)	37.35 (QP)	40.00	-2.65
240.00 (H)	43.13 (QP)	46.00	-2.87
30.50 (V)	36.46 (QP)	40.00	-3.54
30.80 (V)	36.41 (QP)	40.00	-3.59

QP Quasi-Peak Reading
Avg Average Reading
H Horizontal Polarization
V Vertical Polarization

8.2 DTS Bandwidth

The DTS Bandwidth was measured using the EMI Receiver. The bandwidth was measured using a direct connection from the EUT. 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).

8.3 Maximum Conducted Output Power

The Conducted Average Output Power was measured using the Power Meter. The average output power was measured using the average power measurement procedure described in section 9.2.3.1 of KDB 558074 v03r05. The Maximum Conducted Output Power was then taken.

The power at each port was summed per section (E)(1) of KDB 662911 D01 v02r01.

Test Results:

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

8.4 Emissions in Non-Restricted 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 DTS channel center frequency. The span was set to ≥ 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 level and 30 dB below that was 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).

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). 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 at least 1.5 times the OBW.
3. Set the RBW to 3 kHz <= RBW <= 100 kHz
4. Set the VBW >= 3 X RBW
5. Detector = power averaging (RMS)
6. Ensure that the number of measurement points in the sweep >= 2 x span/RBW
7. Sweep time = auto couple
8. Employ trace averaging (RMS) mode over a minimum of 100 traces
9. Use the peak marker function to determine the maximum amplitude level
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

The spectral density at each port was summed per Section (E)(2)(c) of KDB 662911 D01 v02r01.

Test Results:

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

8.7 Variation of the Input Power

The variation of the input power test was performed using the EMI Receiver. The EUT input power was varied between 85% and 115% of the nominal rated supply voltage. The carrier frequency was monitored for any change in amplitude.

Test Results:

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

9. CONCLUSIONS

The SC4480 MIMO Radio, Model: SC480-235-SBST, as tested, meets all of the specification limits defined in FCC Title 47, Part 15, Subpart B, and Subpart C, sections 15.205, 15.207, 15.209 and 15.247.

APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

NVLAP®
TESTING
NVLAP LAB CODE 200528-0

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 17025:
"A laboratory's fulfilment of the requirements of ISO/IEC 17025:2005 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 17025:2005 (Section 4) are written in language relevant to laboratory operations and meet the principles of ISO 9001:2008 Quality Management Systems — Requirements."

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B and FCC 15.247 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.

The EUT was not modified during the testing.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST	SC4480 MIMO Radio Model: SC480-235-SBST S/N: N/A

There are no additional models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: LAYOUT OF THE SEMI-ANECHOIC TEST CHAMBER

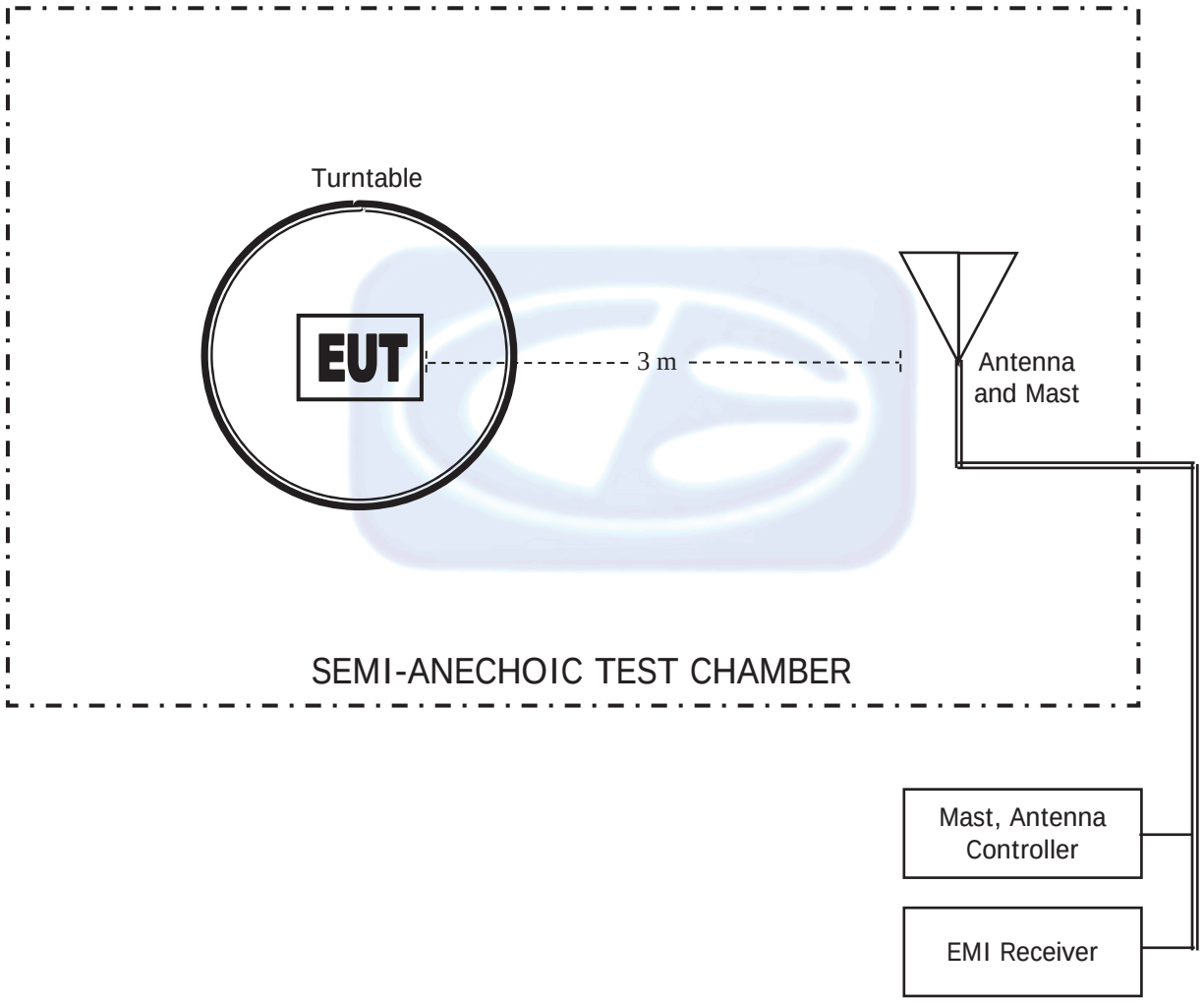
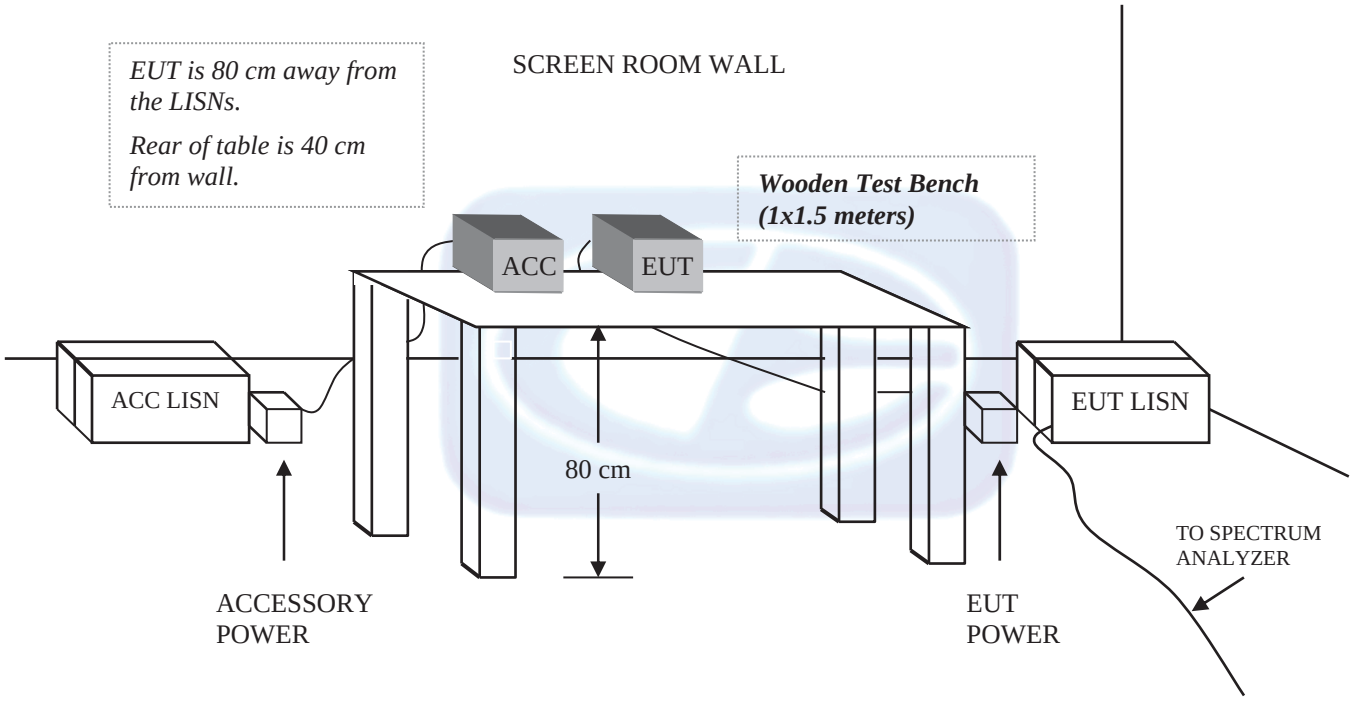


FIGURE 2: CONDUCTED EMISSIONS TEST SETUP



COM-POWER AL-130R

LOOP ANTENNA

S/N: 121090

CALIBRATION DATE: FEBRUARY 9, 2017

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-36.17	15.33
0.01	-35.86	15.64
0.02	-37.30	14.20
0.03	-36.58	14.92
0.04	-36.99	14.51
0.05	-37.66	13.84
0.06	-37.53	13.97
0.07	-37.64	13.86
0.08	-37.52	13.98
0.09	-37.62	13.88
0.1	-37.59	13.91
0.2	-37.79	13.71
0.3	-37.80	13.70
0.4	-37.70	13.80
0.5	-37.79	13.71
0.6	-37.79	13.71
0.7	-37.69	13.81
0.8	-37.49	14.01
0.9	-37.39	14.11
1	-37.39	14.11
2	-37.09	14.41
3	-37.09	14.41
4	-37.19	14.31
5	-36.98	14.52
6	-37.17	14.33
7	-37.05	14.45
8	-36.85	14.65
9	-36.84	14.66
10	-36.75	14.75
15	-37.16	14.34
20	-36.44	15.06
25	-37.88	13.62
30	-39.14	12.36

COM-POWER AC-220

COMBILOG ANTENNA

S/N: 61060

CALIBRATION DATE: JULY 27, 2017

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	23.80	200	14.10
35	24.00	250	15.30
40	24.70	300	17.70
45	22.90	350	17.70
50	22.10	400	19.00
60	17.60	450	21.30
70	12.70	500	21.00
80	11.20	550	22.30
90	13.10	600	23.40
100	14.40	650	22.90
120	15.30	700	24.60
125	15.00	750	24.50
140	12.80	800	25.40
150	16.50	850	26.40
160	12.90	900	27.20
175	14.30	950	27.80
180	14.50	1000	26.80

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: FEBRUARY 22, 2018

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	23.71	10.0	40.08
1.5	25.46	10.5	40.75
2.0	29.26	11.0	41.78
2.5	27.95	11.5	41.02
3.0	29.03	12.0	40.32
3.5	29.70	12.5	40.96
4.0	30.71	13.0	40.29
4.5	31.62	13.5	39.48
5.0	33.23	14.0	39.89
5.5	35.07	14.5	42.75
6.0	34.43	15.0	40.98
6.5	34.98	15.5	38.54
7.0	36.75	16.0	39.40
7.5	37.10	16.5	39.40
8.0	37.66	17.0	41.74
8.5	39.29	17.5	42.58
9.0	37.75	18.0	44.68
9.5	38.23		

COM-POWER PA-118

PREAMPLIFIER

S/N: 551024

CALIBRATION DATE: MAY 12, 2016

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	39.84	6.0	39.05
1.1	39.40	6.5	38.94
1.2	39.58	7.0	39.25
1.3	39.68	7.5	39.09
1.4	39.91	8.0	39.01
1.5	39.78	8.5	38.60
1.6	39.50	9.0	38.64
1.7	39.81	9.5	39.67
1.8	39.89	10.0	39.30
1.9	39.94	11.0	39.15
2.0	39.57	12.0	39.24
2.5	40.39	13.0	39.49
3.0	40.63	14.0	39.44
3.5	40.80	15.0	39.94
4.0	40.86	16.0	40.09
4.5	39.94	17.0	40.06
5.0	34.47	18.0	39.76
5.5	39.32		

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

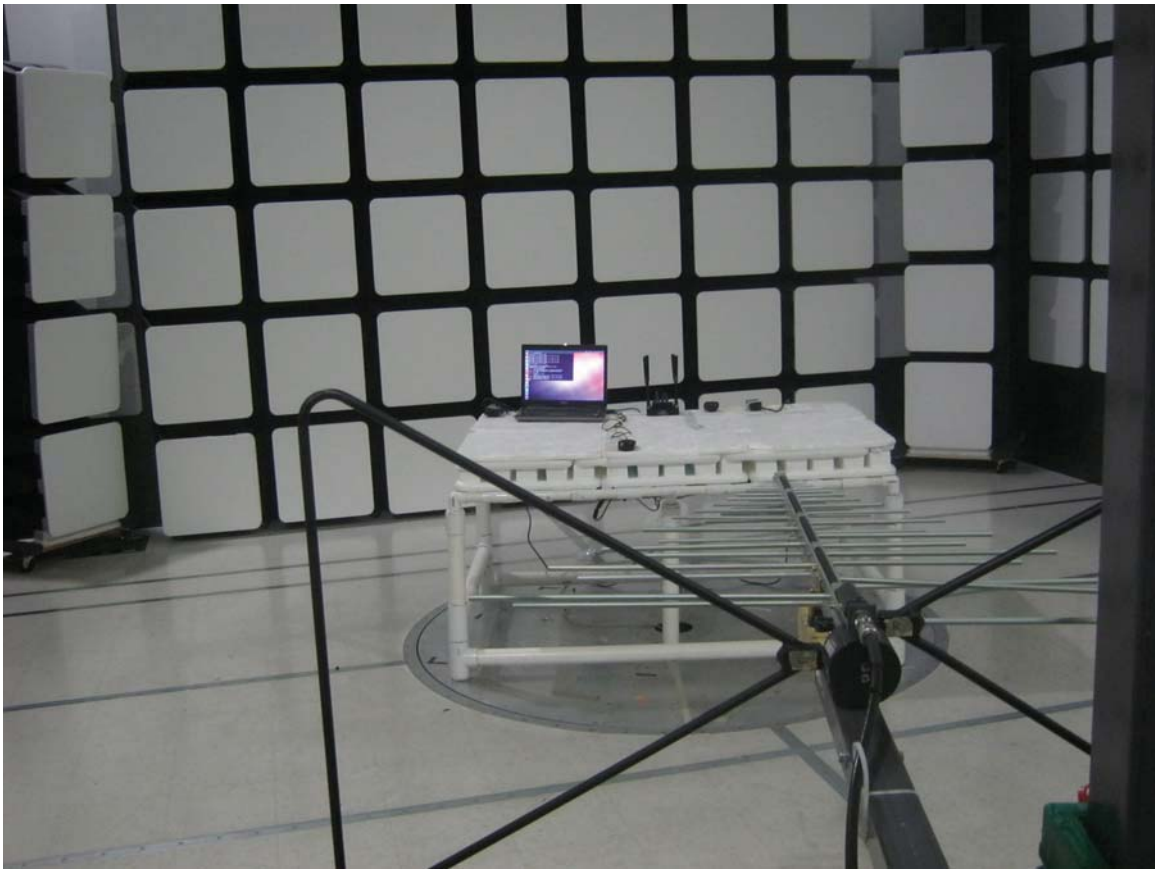
COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MAY 13, 2016

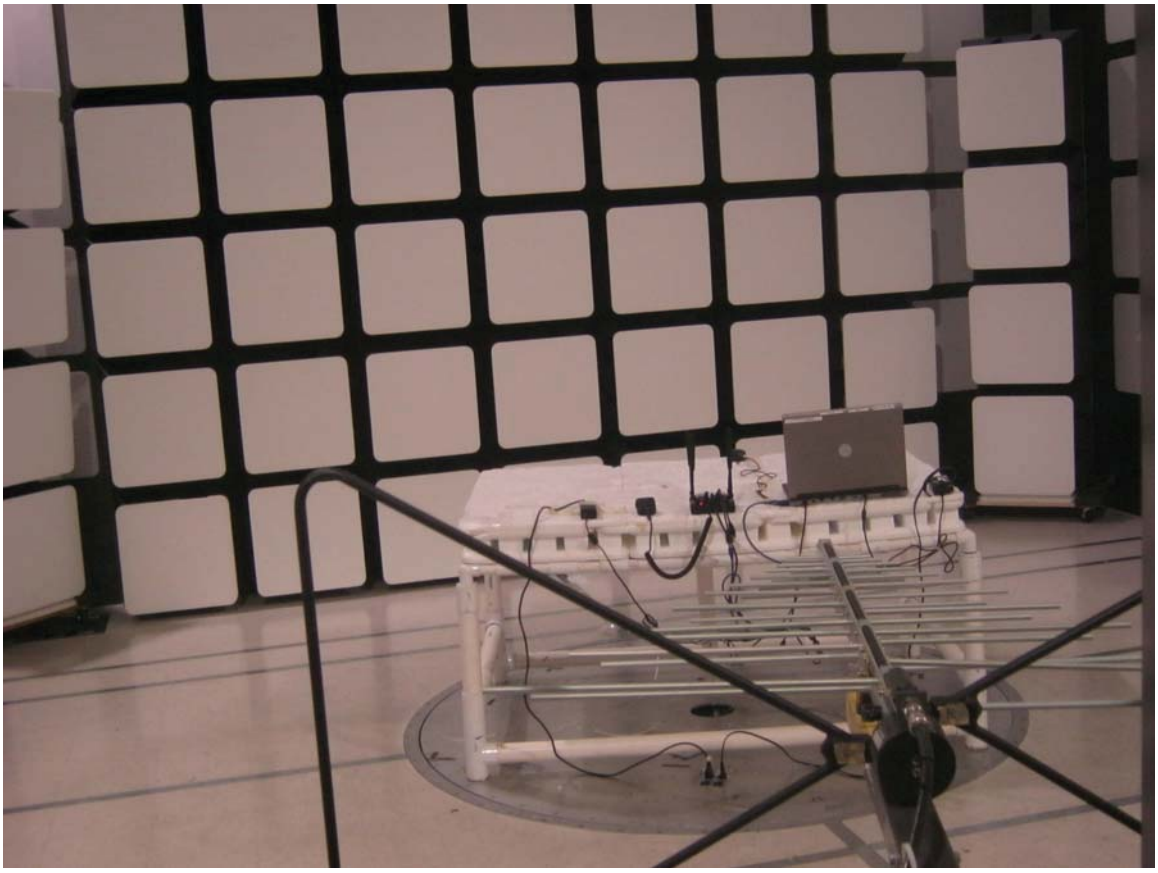
FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	25.19	31.0	25.69
19.0	24.48	31.5	25.74
20.0	24.39	32.0	26.35
21.0	24.73	32.5	26.64
22.0	23.49	33.0	25.98
23.0	24.23	33.5	24.68
24.0	24.59	34.0	24.61
25.0	25.32	34.5	23.78
26.0	25.66	35.0	24.74
26.5	25.99	35.5	24.39
27.0	26.26	36.0	23.46
27.5	25.33	36.5	23.71
28.0	24.49	37.0	26.35
28.5	24.74	37.5	23.49
29.0	25.93	38.0	25.42
29.5	26.28	38.5	24.87
30.0	26.17	39.0	22.60
30.5	26.11	39.5	20.57
		40.0	19.15



FRONT VIEW

SILVUS TECHNOLOGIES
SC4480 MIMO RADIO
MODEL: SC480-235-SBST
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

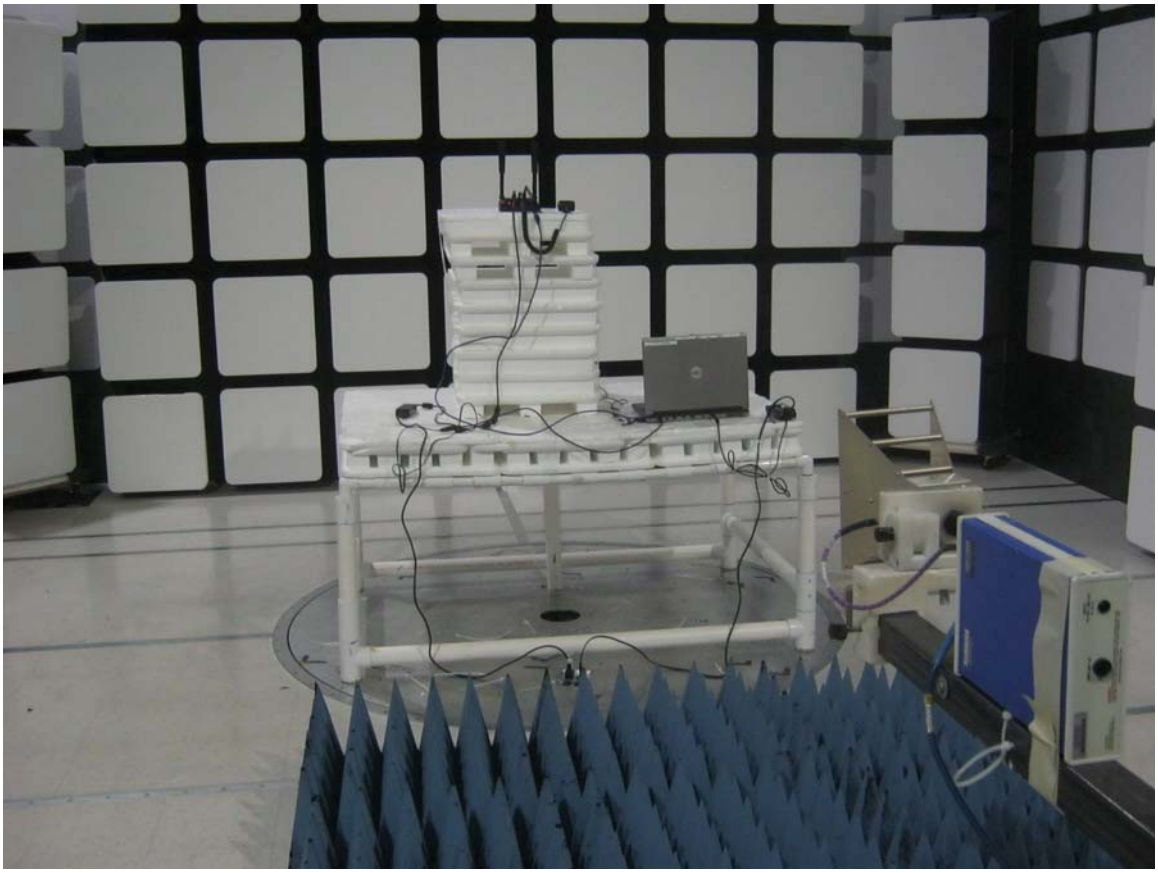
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

SILVUS TECHNOLOGIES
SC4480 MIMO RADIO
MODEL: SC480-235-SBST
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

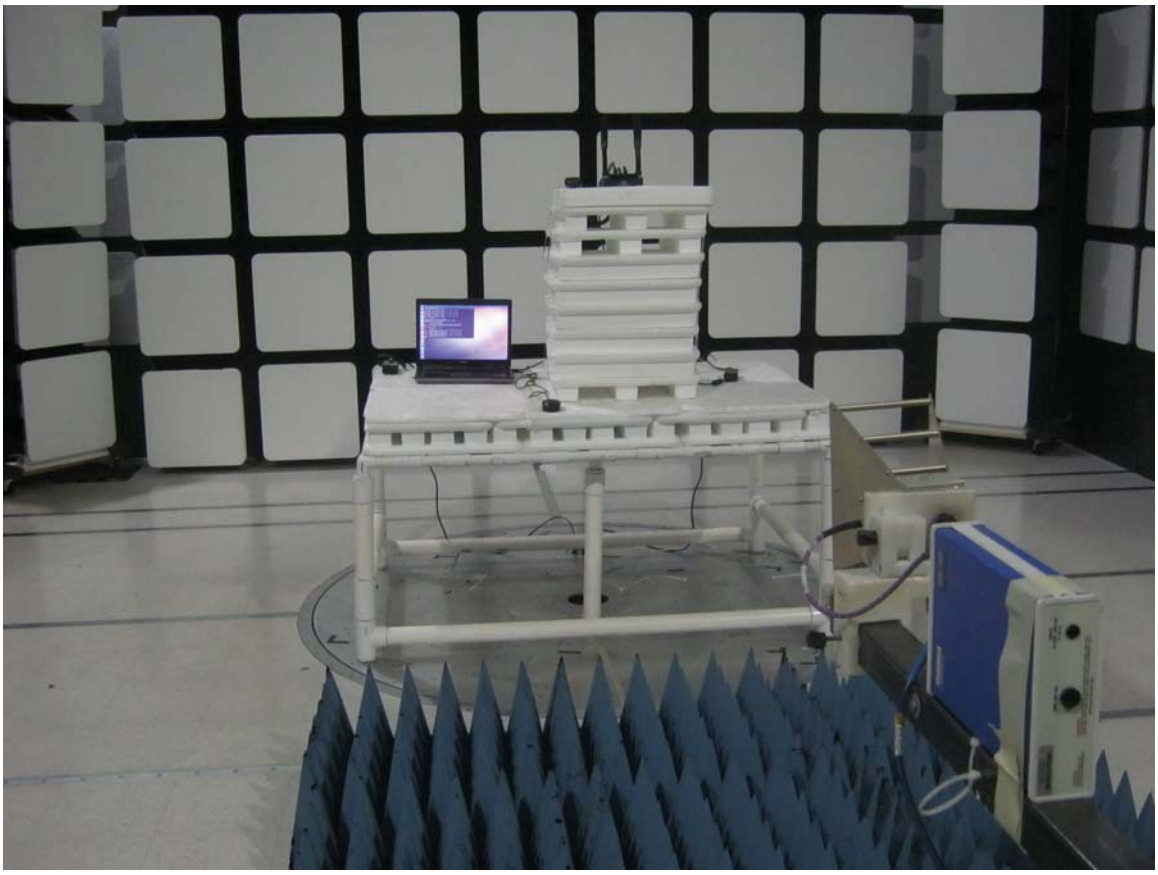
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

SILVUS TECHNOLOGIES
SC4480 MIMO RADIO
MODEL: SC480-235-SBST
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

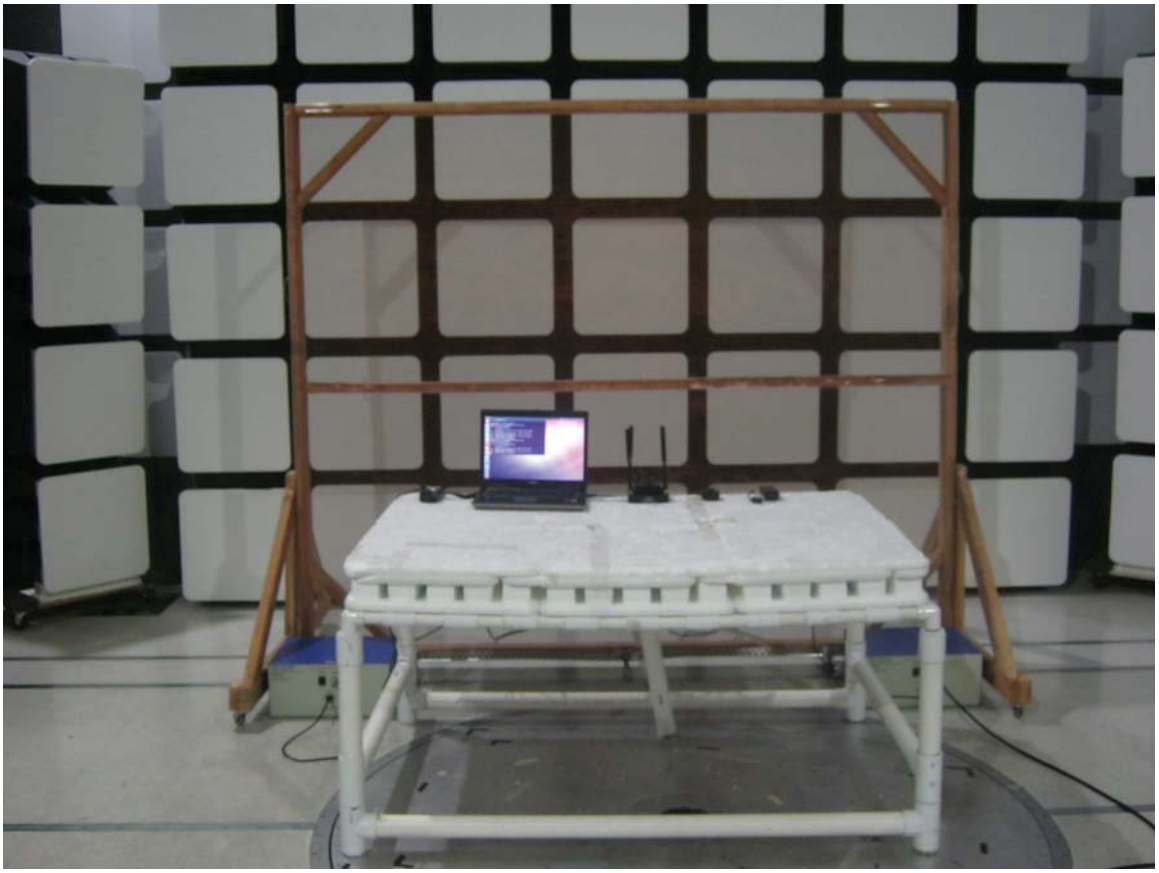
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

SILVUS TECHNOLOGIES
SC4480 MIMO RADIO
MODEL: SC480-235-SBST
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

SILVUS TECHNOLOGIES
SC4480 MIMO RADIO
MODEL: SC480-235-SBST
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

SILVUS TECHNOLOGIES
SC4480 MIMO RADIO
MODEL: SC480-235-SBST
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.247
Silvus Technologies, Inc.
SC4480 MIMO Radio
Model: SC480-235-SBST

Date: 04/05/2018
Lab: D
Tested By: Kyle Fujimoto

2430 MHz Fundamental
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4860	57.58	V	73.97	-16.39	Peak	259.50	151.62	
4860	45.60	V	53.97	-8.37	Avg	259.50	151.62	
7290	55.05	V	73.97	-18.92	Peak	357.50	146.91	
7290	40.82	V	53.97	-13.15	Avg	357.50	146.91	
9720	52.43	V	--	--	Peak	151.75	113.95	
9720	35.21	V	--	--	Avg	151.75	113.95	
12150	46.61	V	73.97	-27.36	Peak	230.00	115.74	
12150	34.49	V	53.97	-19.48	Avg	230.00	115.74	
14580								**No Emissions**
14580								**Detected**
17010								**No Emissions**
17010								**Detected**
19440								**No Emissions**
19440								**Detected**
21870								**No Emissions**
21870								**Detected**
24300								**No Emissions**
24300								**Detected**

FCC 15.247
Silvus Technologies, Inc.
SC4480 MIMO Radio
Model: SC480-235-SBST

Date: 04/05/2018
Lab: D
Tested By: Kyle Fujimoto

2430 MHz Fundamental
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4860	46.78	H	73.97	-27.19	Peak	313.25	113.53	
4860	33.06	H	53.97	-20.91	Avg	313.25	113.53	
7290	45.19	H	73.97	-28.78	Peak	90.50	132.22	
7290	32.81	H	53.97	-21.16	Avg	90.50	132.22	
9720	48.55	H	--	--	Peak	234.00	105.41	
9720	34.98	H	--	--	Avg	234.00	105.41	
12150	47.95	H	73.97	-26.02	Peak	115.00	113.53	
12150	34.39	H	53.97	-19.58	Avg	115.00	113.53	
14580								**No Emissions**
14580								**Detected**
17010								**No Emissions**
17010								**Detected**
19440								**No Emissions**
19440								**Detected**
21870								**No Emissions**
21870								**Detected**
24300								**No Emissions**
24300								**Detected**

FCC 15.247
Silvus Technologies, Inc.
SC4480 MIMO Radio
Model: SC480-235-SBST

Date: 04/05/2018
Lab: D
Tested By: Kyle Fujimoto

2440 MHz Fundamental
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	56.72	V	73.97	-17.25	Peak	126.25	103.38	
4880	45.53	V	53.97	-8.44	Avg	126.25	103.38	
7320	54.86	V	73.97	-19.11	Peak	335.00	132.76	
7320	39.83	V	53.97	-14.15	Avg	335.00	132.76	
9760	58.01	V	--	--	Peak	359.50	101.25	
9760	39.53	V	--	--	Avg	359.50	101.25	
12200	47.22	V	73.97	-26.75	Peak	126.75	107.74	
12200	35.03	V	53.97	-18.94	Avg	126.75	107.74	
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
Silvus Technologies, Inc.
SC4480 MIMO Radio
Model: SC480-235-SBST

Date: 04/05/2018
Lab: D
Tested By: Kyle Fujimoto

2440 MHz Fundamental
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	42.37	H	73.97	-31.61	Peak	112.25	124.52	
4880	29.16	H	53.97	-24.82	Avg	112.25	124.52	
7320	48.56	H	73.97	-25.41	Peak	49.25	100.46	
7320	34.66	H	53.97	-19.31	Avg	49.25	100.46	
9760	46.90	H	--	--	Peak	68.25	110.37	
9760	34.95	H	--	--	Avg	68.25	110.37	
12200	47.41	H	73.97	-26.56	Peak	273.75	136.46	
12200	35.23	H	53.97	-18.74	Avg	273.75	136.46	
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247

Silvus Technologies, Inc.
SC4480 MIMO Radio
Model: SC480-235-SBST

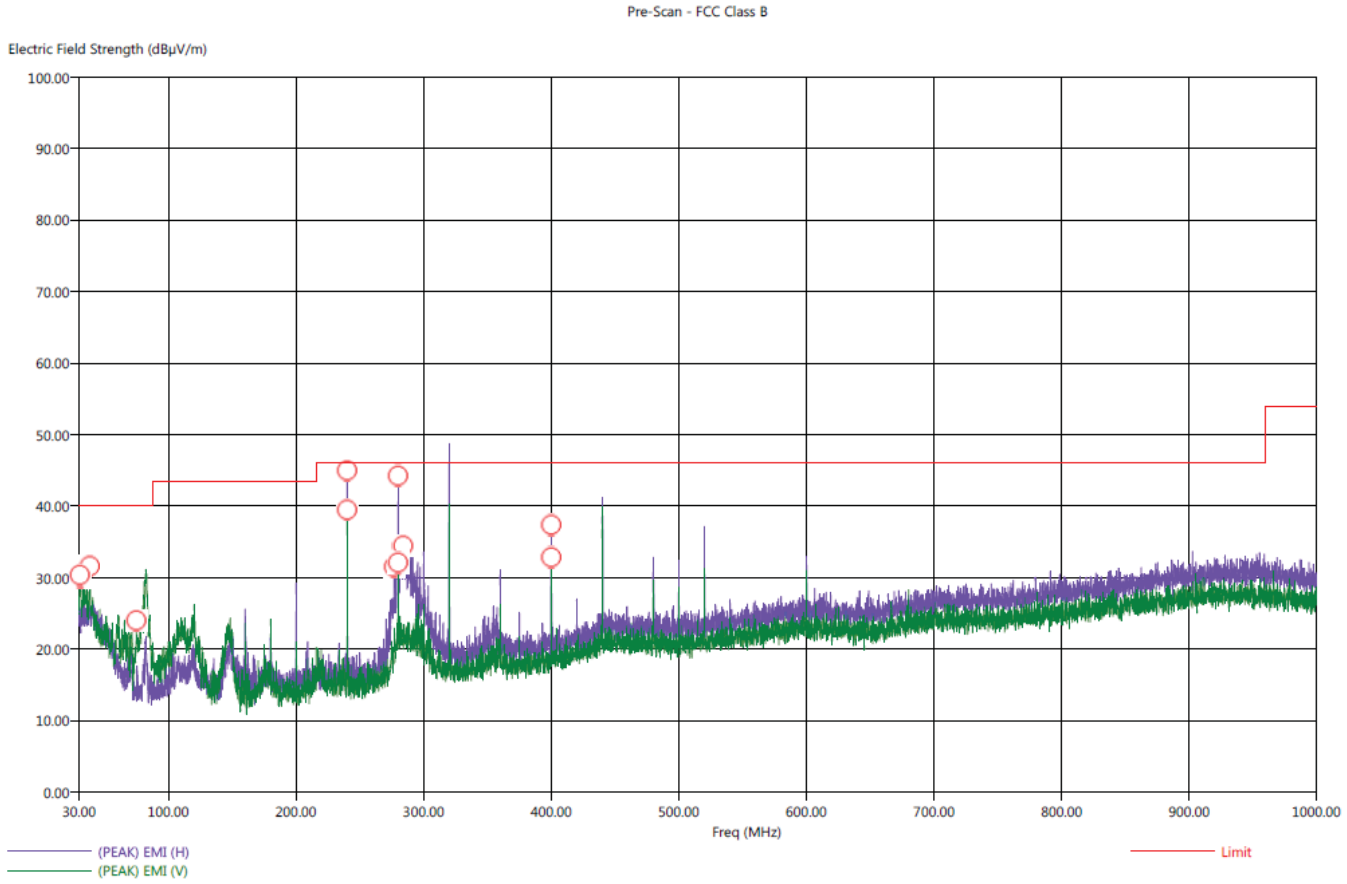
Date: 04/05/2018
Lab: D
Tested By: Kyle Fujimoto

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

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Found for the
								Digital Portion
								from 9 kHz to 30 MHz
								for both Vertical and Horizontal
								Polarizations
								No Non Harmonic Emissions Found
								for the Tx Mode
								from 9 kHz to 30 MHz
								for both Vertical and Horizontal
								Polarizations
								No Emissions Found for the
								Digital Portion
								from 1 GHz to 25 GHz
								for both Vertical and Horizontal
								Polarizations
								No Non Harmonic Emissions Found
								for the Tx Mode
								from 1 GHz to 25 GHz
								for both Vertical and Horizontal
								Polarizations

Title: Pre-Scan, 30-1000 MHz, FCC Class B
File: Agilent - Pre-Scan - FCC Class B - 30 MHz to 1000 MHz - 04-05-2018.set
Operator: Kyle Fujimoto
EUT Type: SC4480 MIMO Radio
EUT Condition: The EUT is continuously transmitting at maximum power on all four antenna ports
Customer: Silvus Technologies, Inc.
Model: SC4420-235-SBST
S/N: N/A
Note: The Frequencies at 200 MHz, 300 MHz, 320 MHz, 360 MHz, 420 MHz, 440 MHz,
480 MHz, 520 MHz, and 600 MHz are generated by the radio and not in the restricted band and thus are subject to the limits of FCC 15.247 (d) instead.

4/5/2018 9:18:12 AM
Sequence: Preliminary Scan



Note: The frequencies that were generated by the radio as mentioned in the notes above were verified by shutting the radio off. When the radio is turned off, the spikes do not appear.

Title: Radiated Final - FCC Class B
File: Agilent - Final Scan - FCC Class B - 30 MHz to 1000 MHz - 04-05-2018.set
Operator: Kyle Fujimoto
EUT Type: SC4480 MIMO Radio
EUT Condition: The EUT is continuously transmitting at maximum power on all four antenna ports
Comments: Customer: Silvus Technologies, Inc.
Model: SC4420-235-SBST
S/N: N/A

4/5/2018 9:42:10 AM
Sequence: Final Measurements

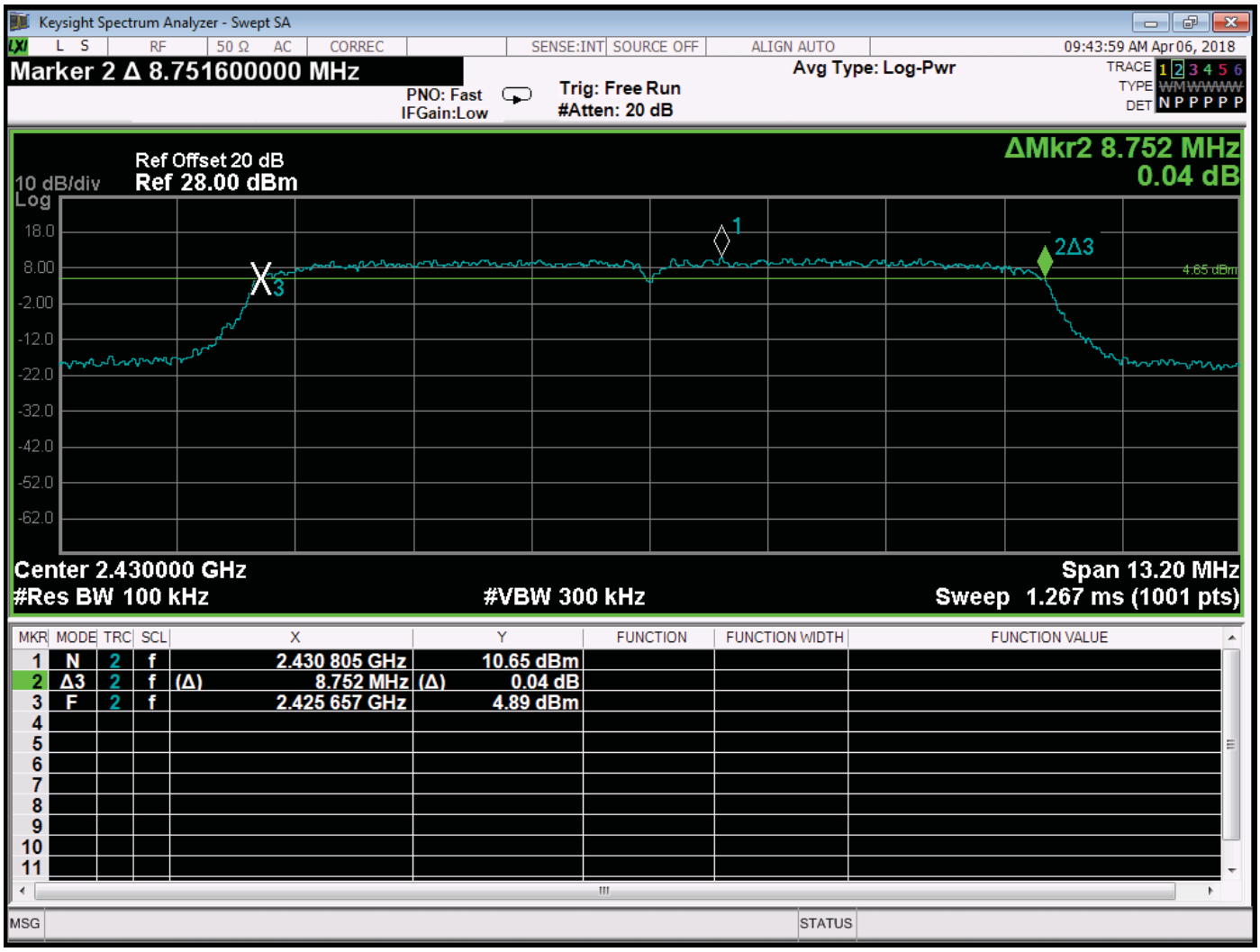
FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Agl (deg)	Twr Ht (cm)
30.50	V	41.08	36.46	1.08	-3.54	40.00	23.82	0.81	285.25	400.04
30.80	V	41.18	36.41	1.18	-3.59	40.00	23.84	0.81	296.75	319.14
38.30	V	42.19	37.35	2.19	-2.65	40.00	24.45	0.88	112.00	191.20
74.70	V	32.26	25.66	-7.74	-14.34	40.00	11.98	1.05	357.00	143.44
240.00	H	44.83	43.13	-1.17	-2.87	46.00	15.08	1.40	52.25	111.50
240.00	V	41.33	39.14	-4.67	-6.86	46.00	15.08	1.40	260.75	127.50
276.90	H	35.05	29.89	-10.95	-16.11	46.00	16.65	1.70	196.25	223.02
280.00	H	44.10	41.80	-1.90	-4.20	46.00	16.79	1.70	0.00	111.68
280.00	V	37.86	33.93	-8.14	-12.07	46.00	16.79	1.70	192.75	383.14
284.00	H	37.65	32.00	-8.35	-14.00	46.00	16.97	1.70	344.75	111.50
400.00	H	42.75	39.32	-3.25	-6.68	46.00	19.00	2.10	290.25	207.32
400.00	V	42.46	34.37	-3.54	-11.63	46.00	19.00	2.10	41.00	111.56

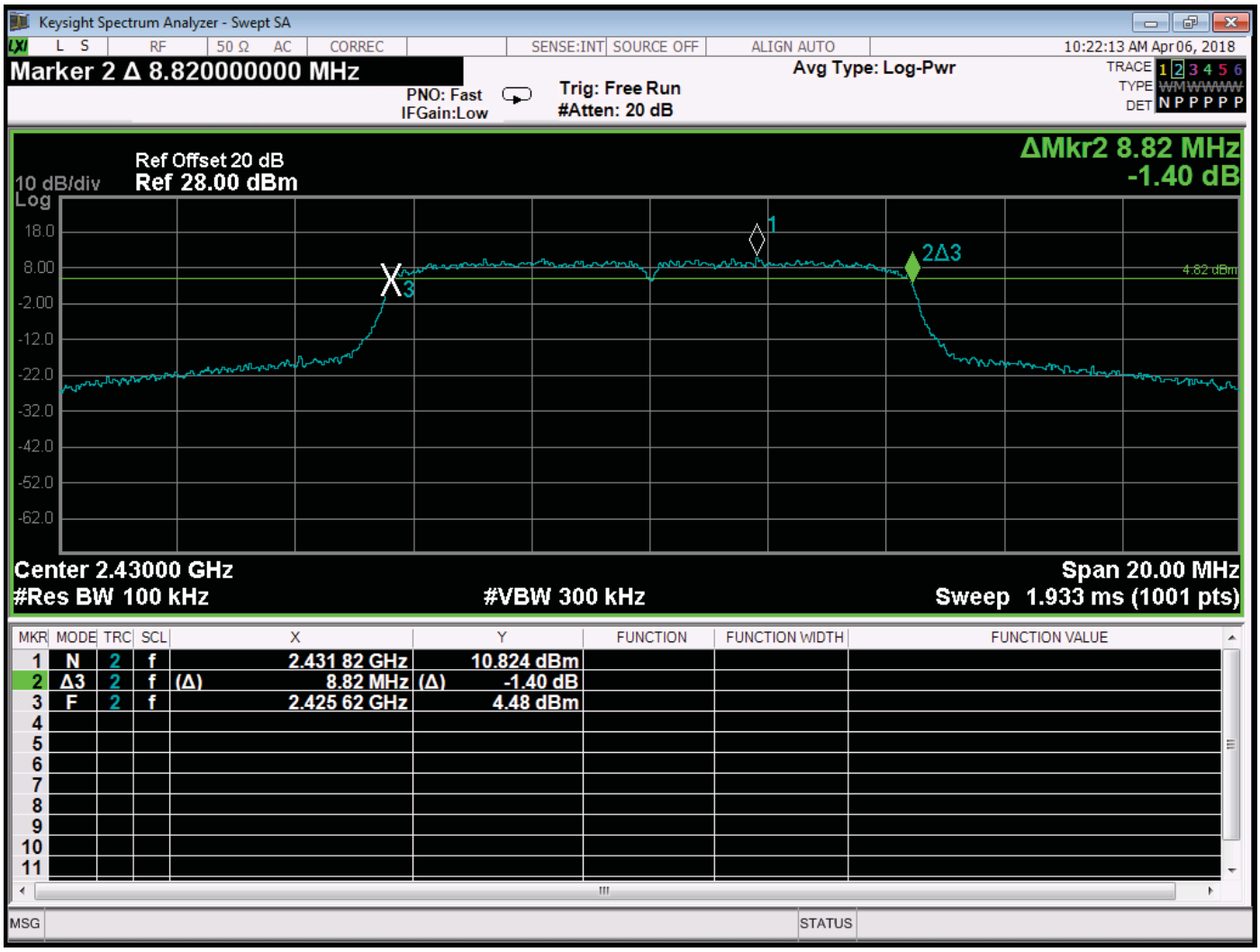
Note: The frequencies that were generated by the radio as mentioned in the notes above were verified by shutting the radio off. When the radio is turned off, the spikes do not appear.

-6 dB BANDWIDTH

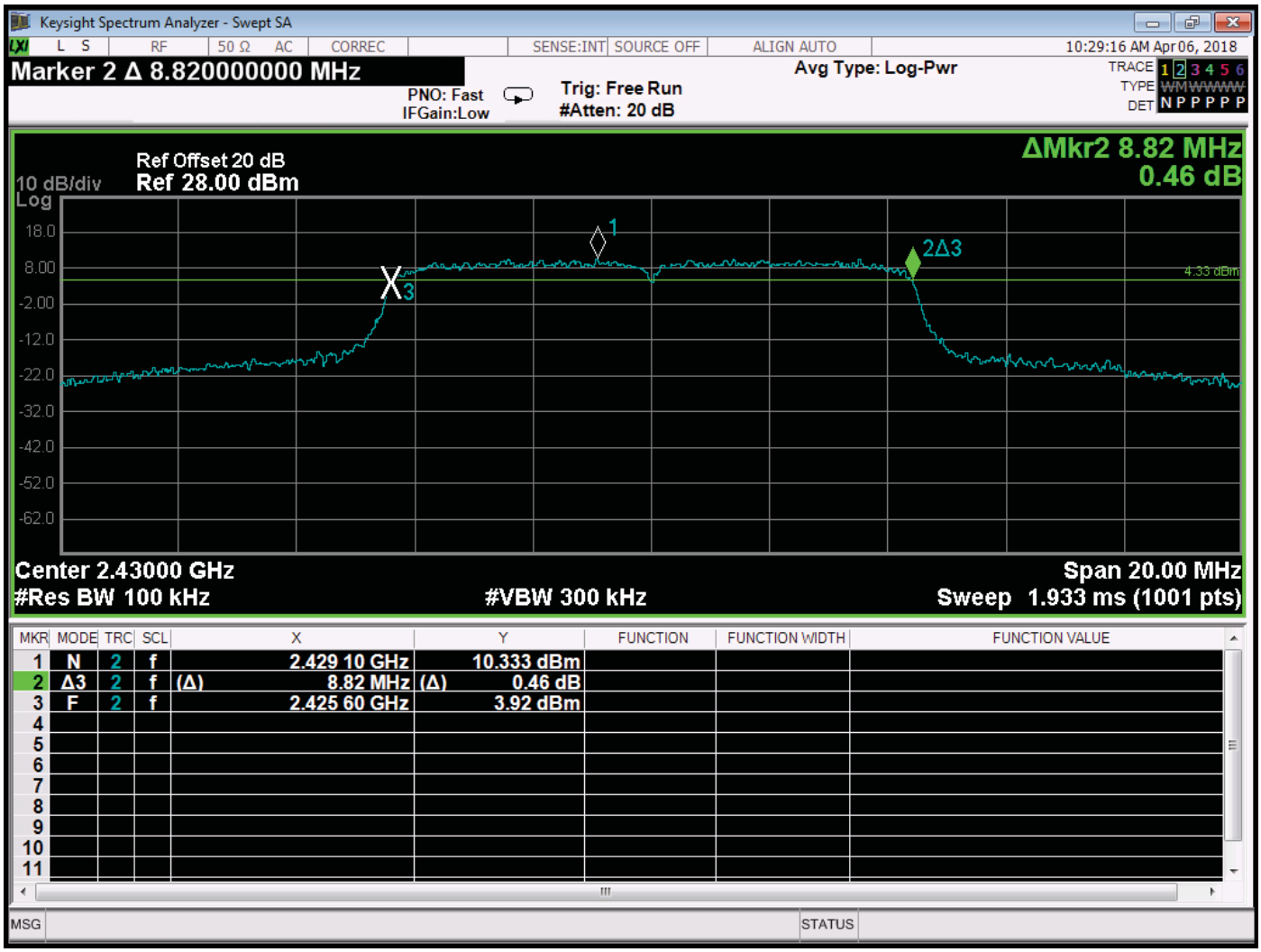
DATA SHEETS



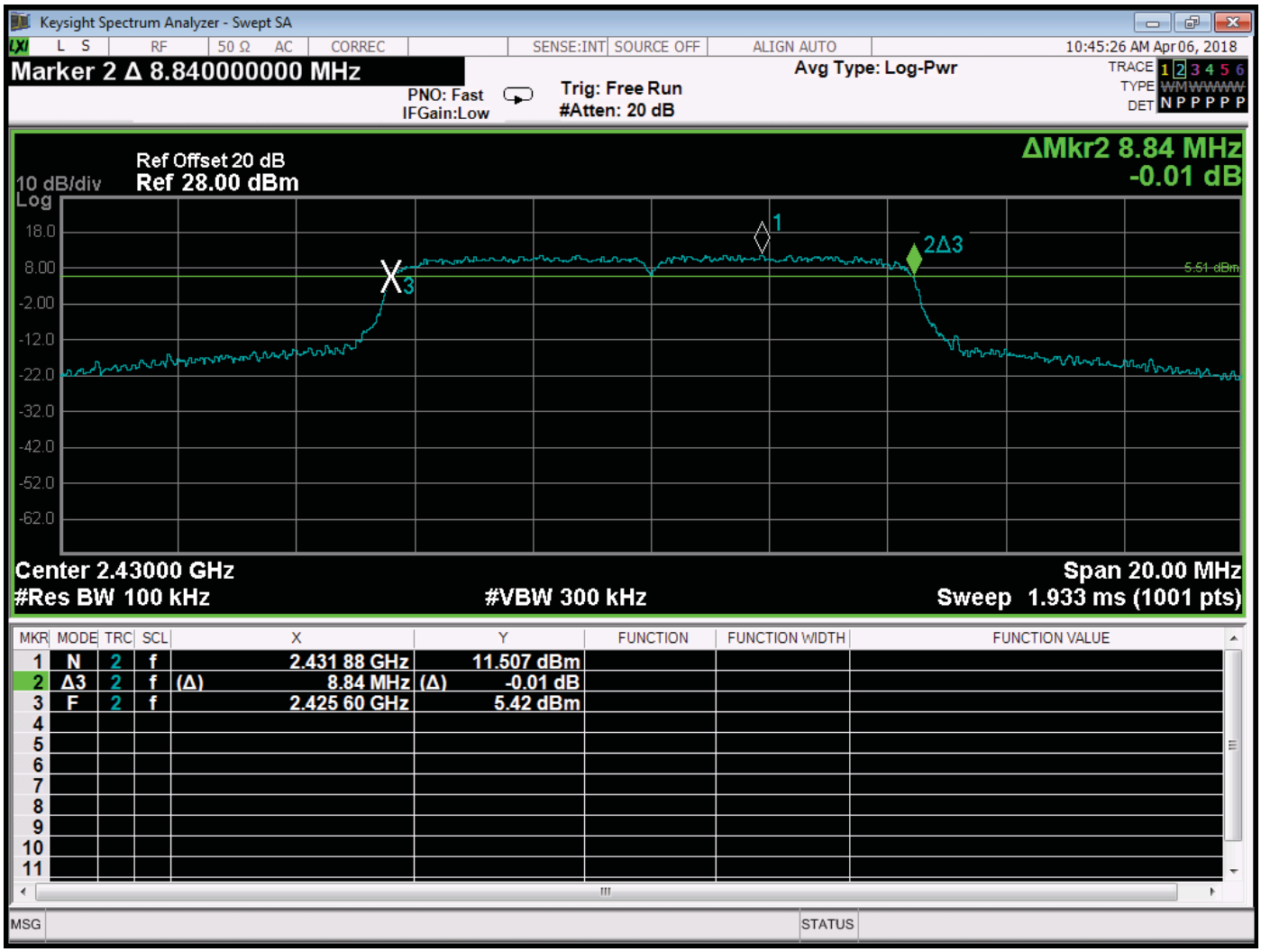
-6 dB Bandwidth – Low Channel – Port #1



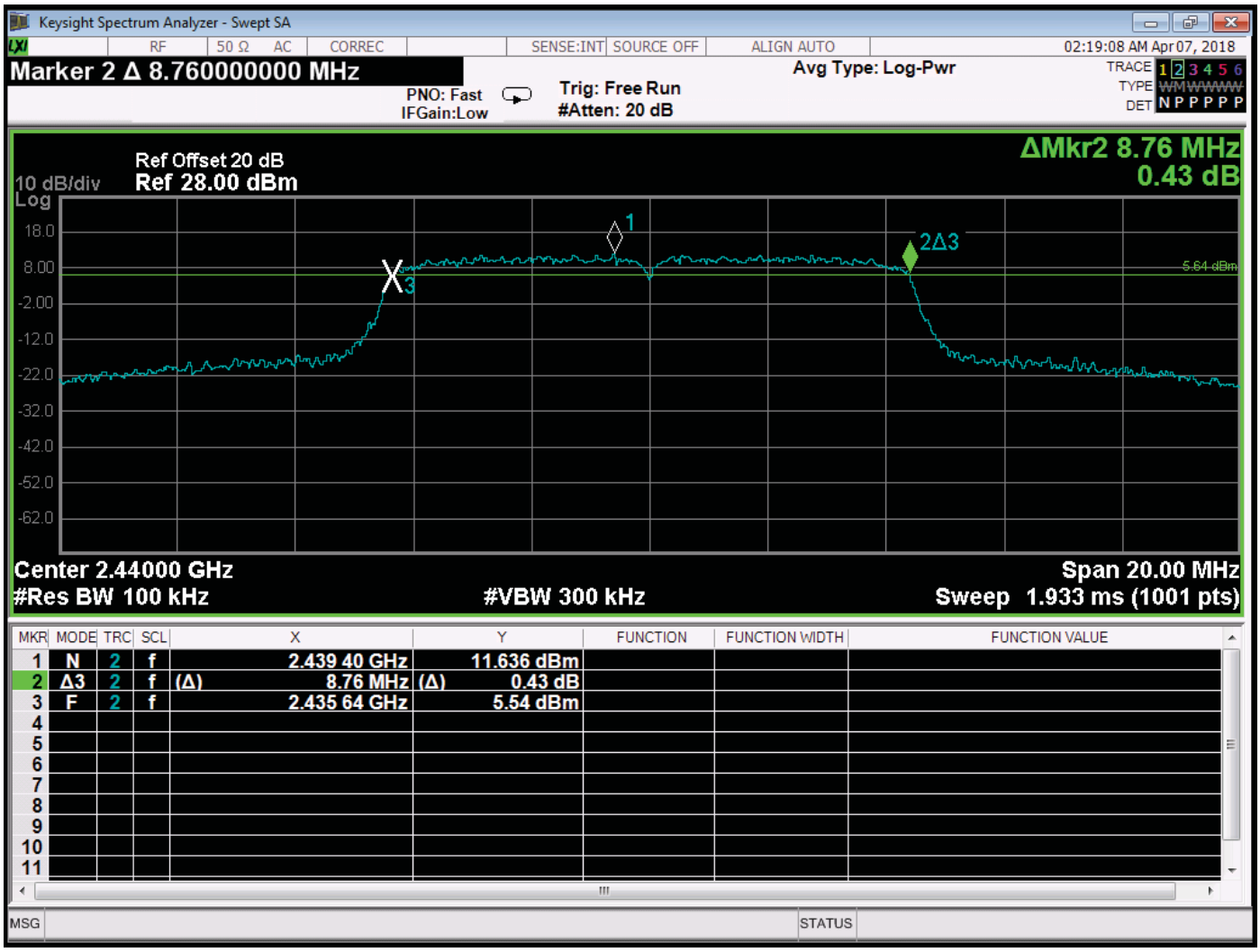
-6 dB Bandwidth – Low Channel – Port #2



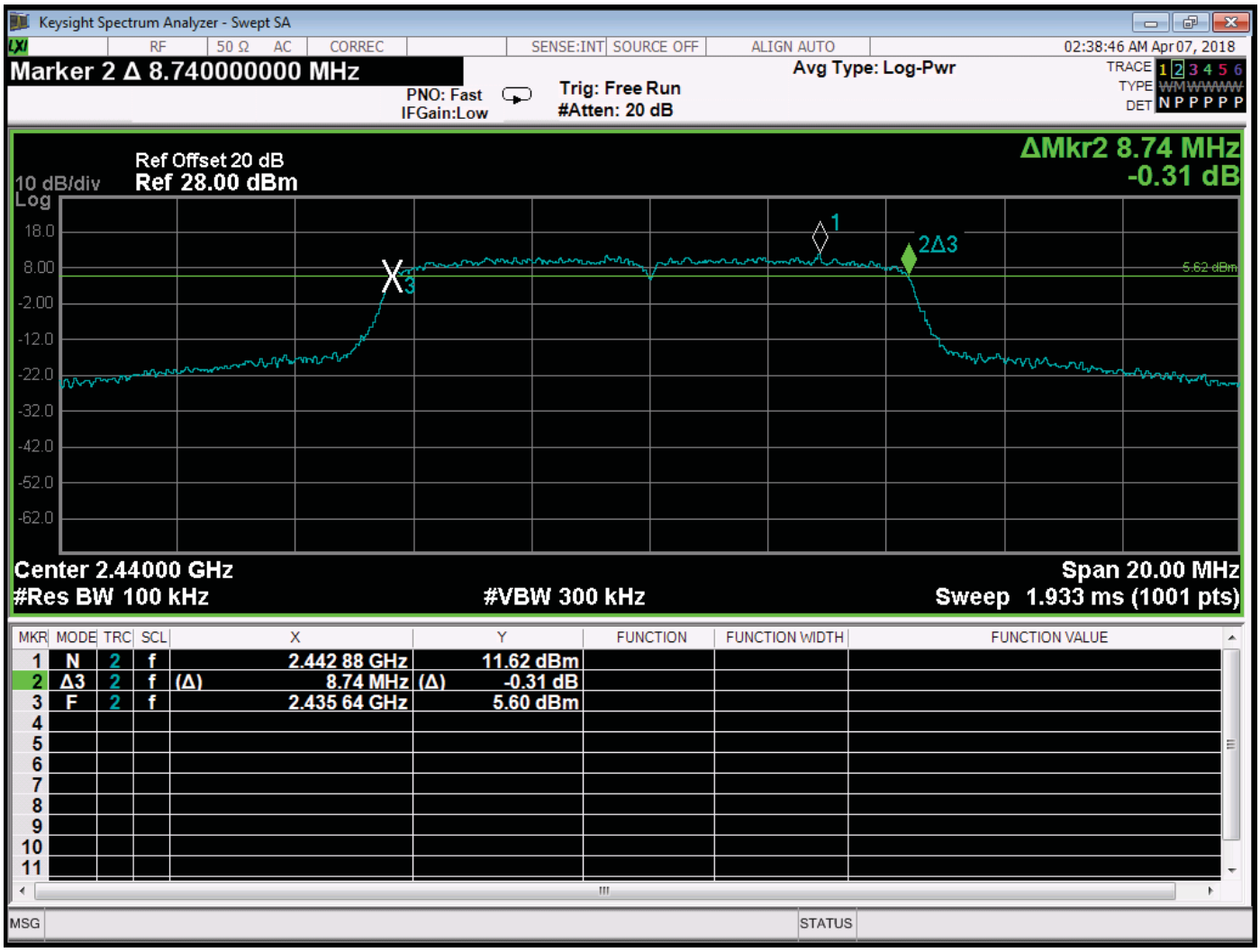
-6 dB Bandwidth – Low Channel – Port #3



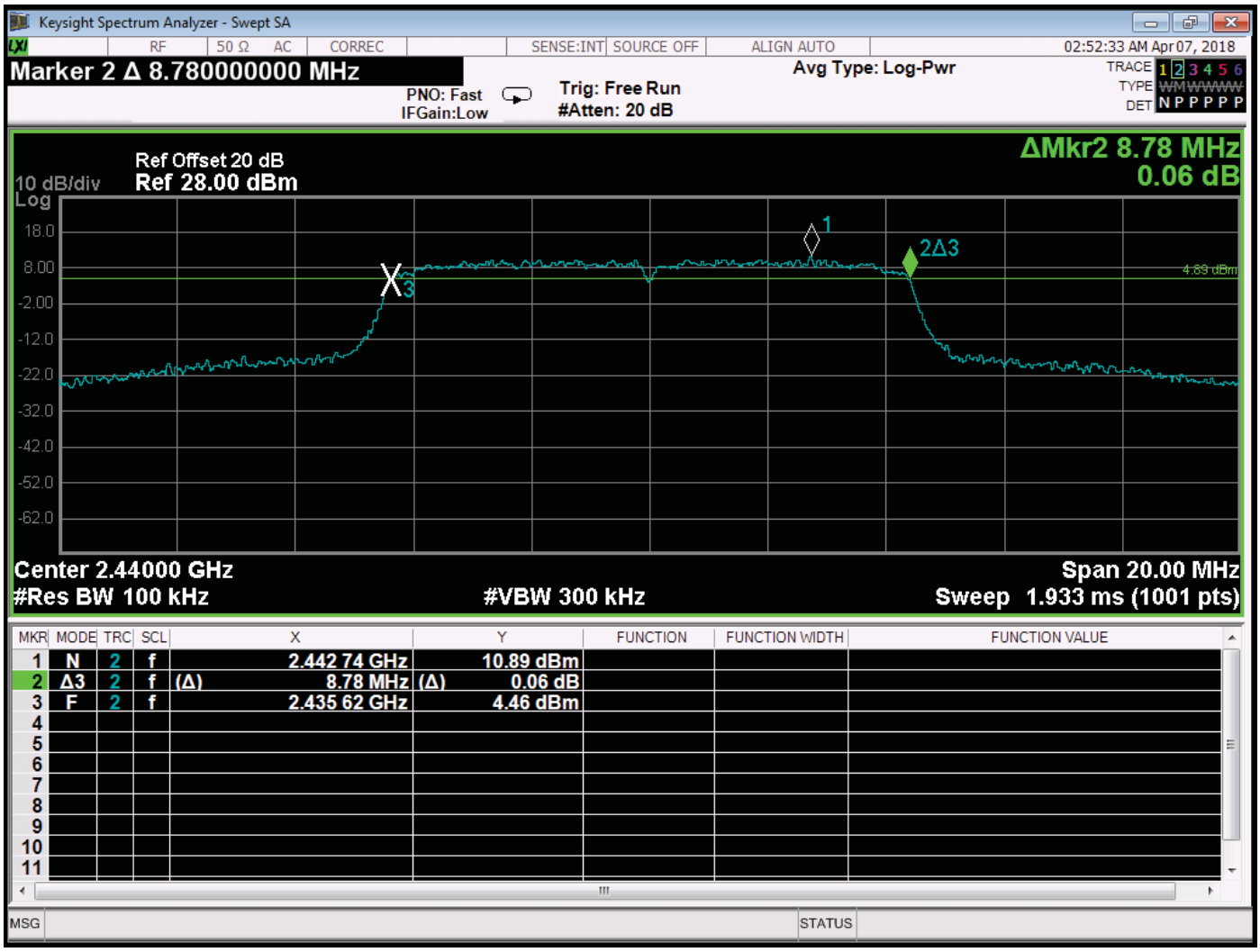
-6 dB Bandwidth – Low Channel – Port #4



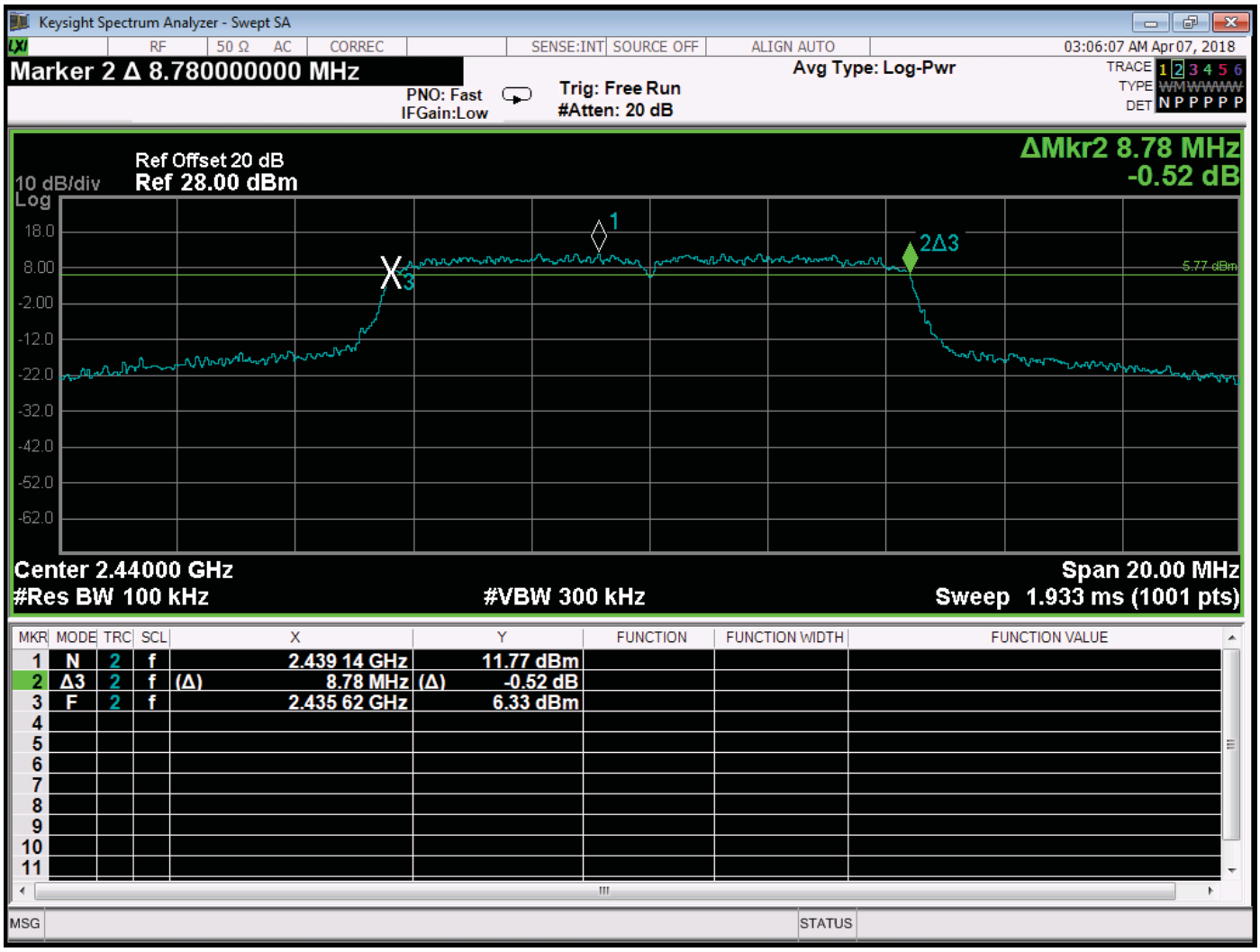
-6 dB Bandwidth – High Channel – Port #1



-6 dB Bandwidth – High Channel – Port #2



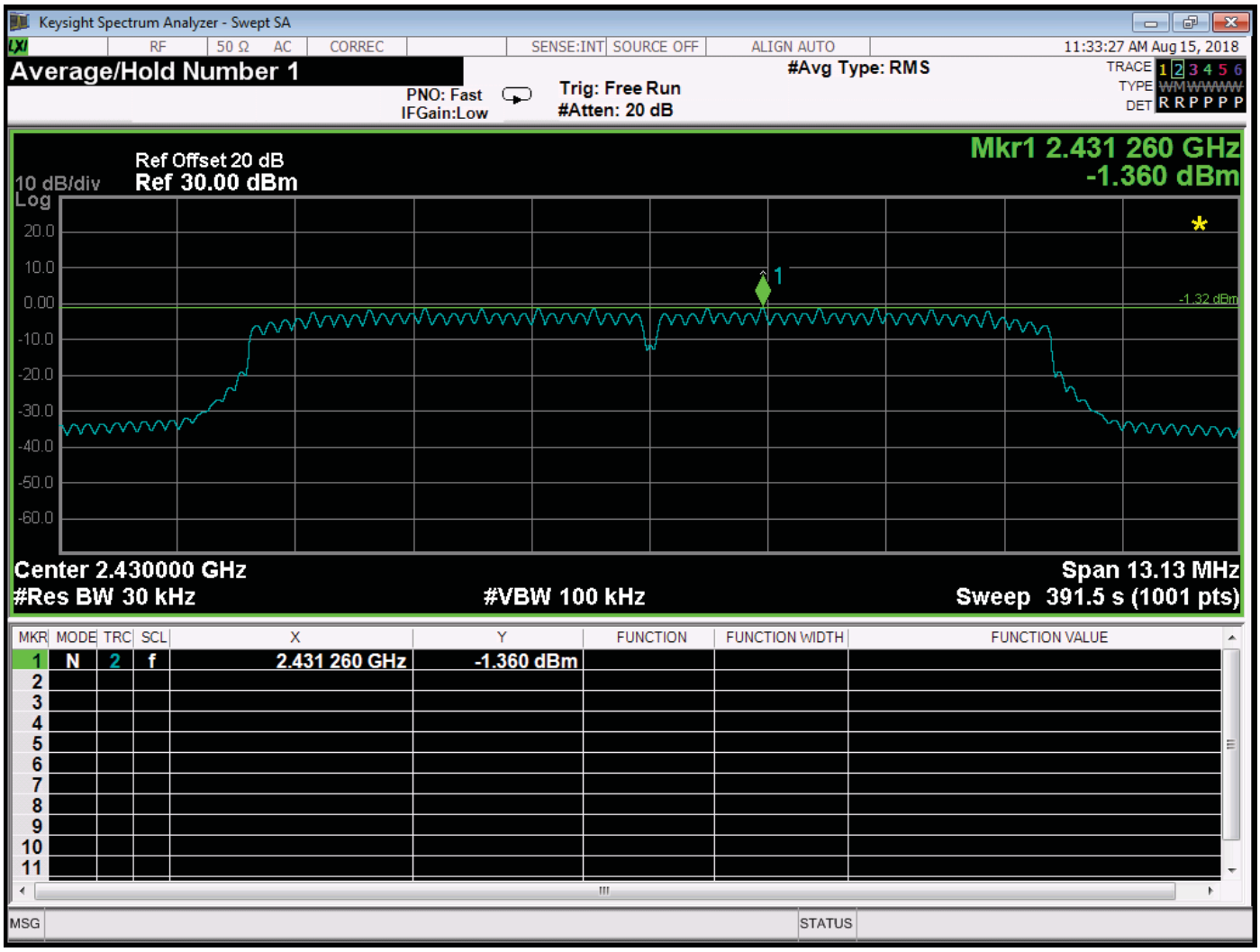
-6 dB Bandwidth – High Channel – Port #3



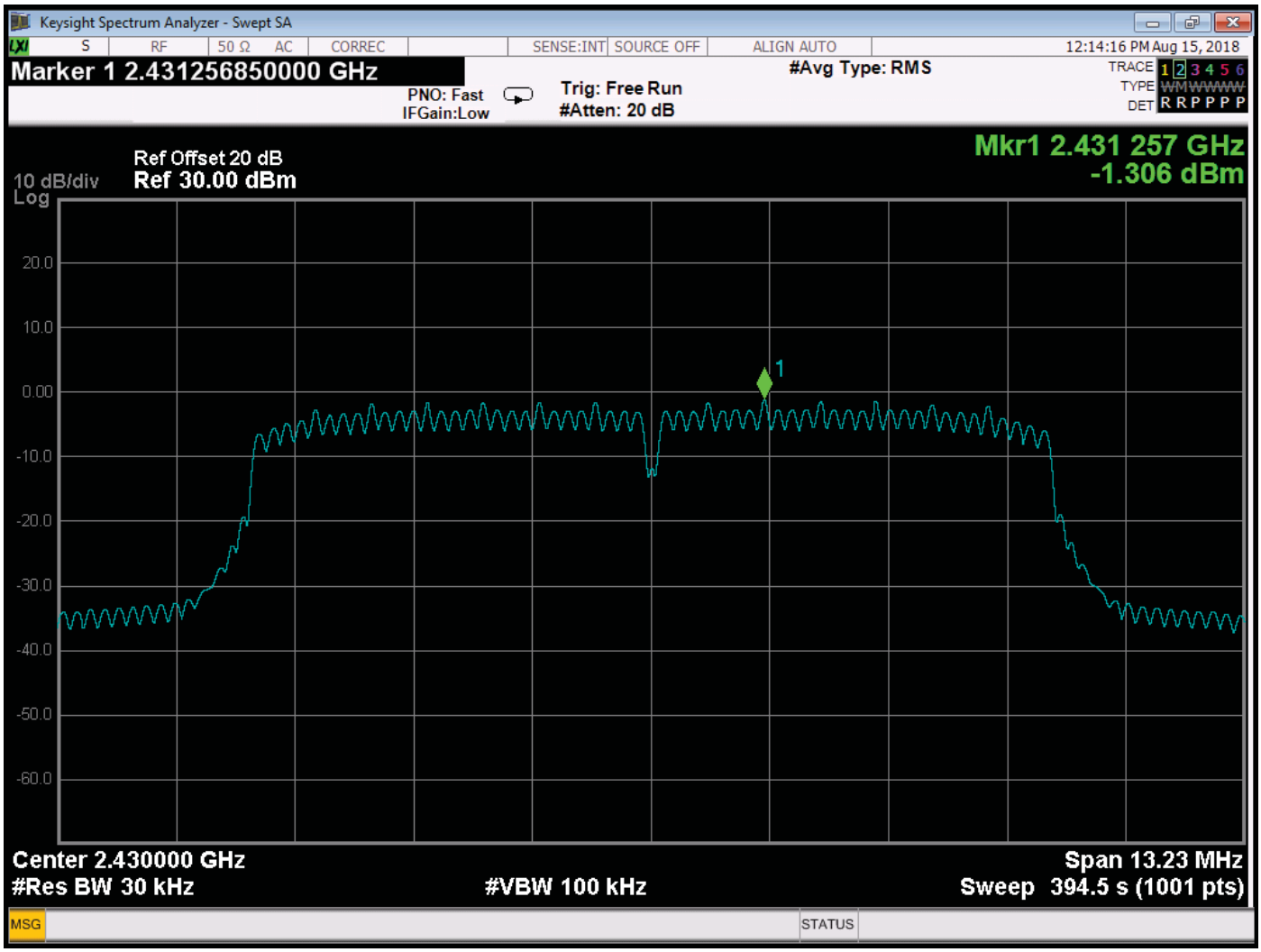
-6 dB Bandwidth – High Channel – Port #4

SPECTRAL DENSITY OUTPUT

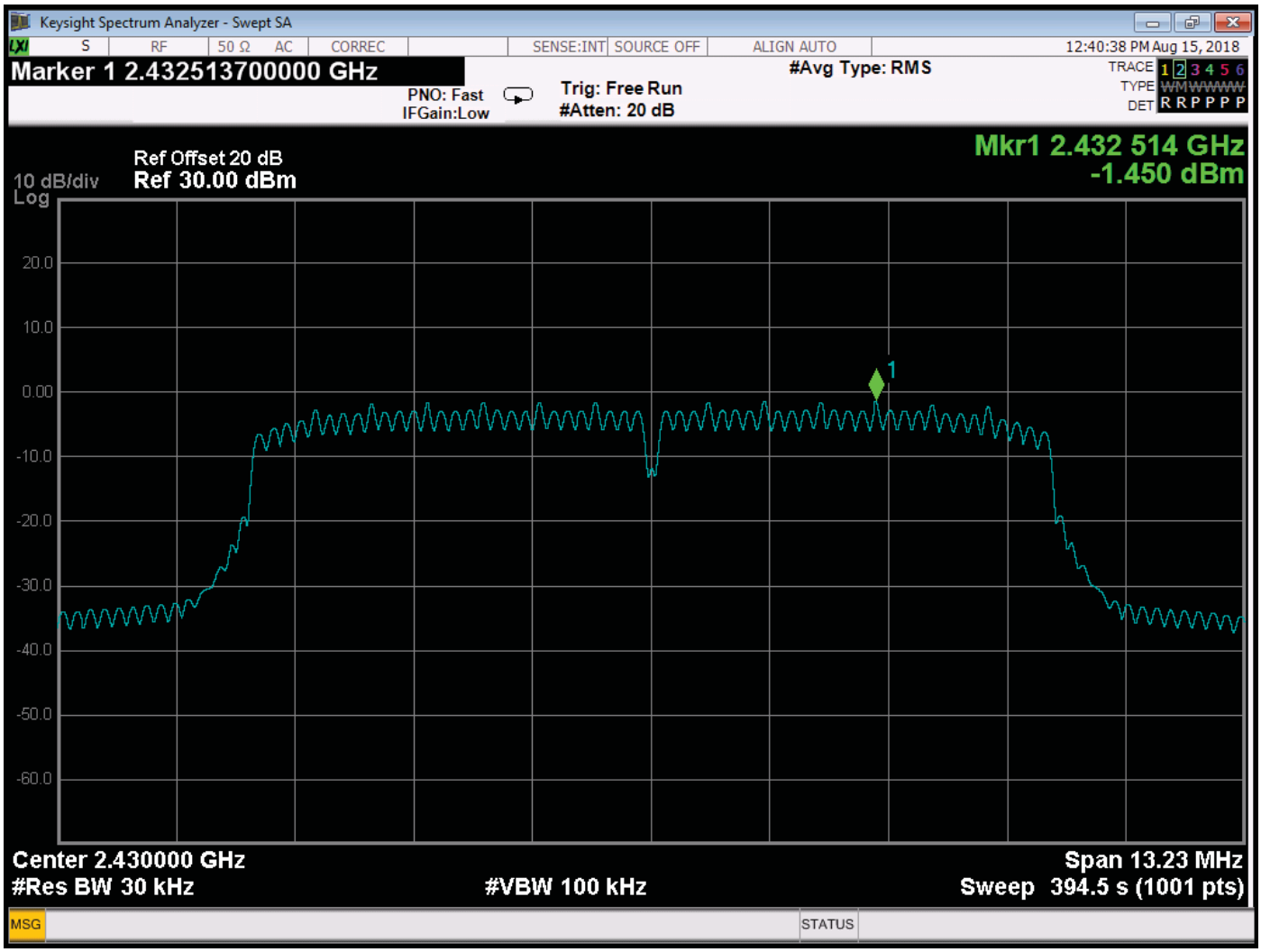
DATA SHEETS



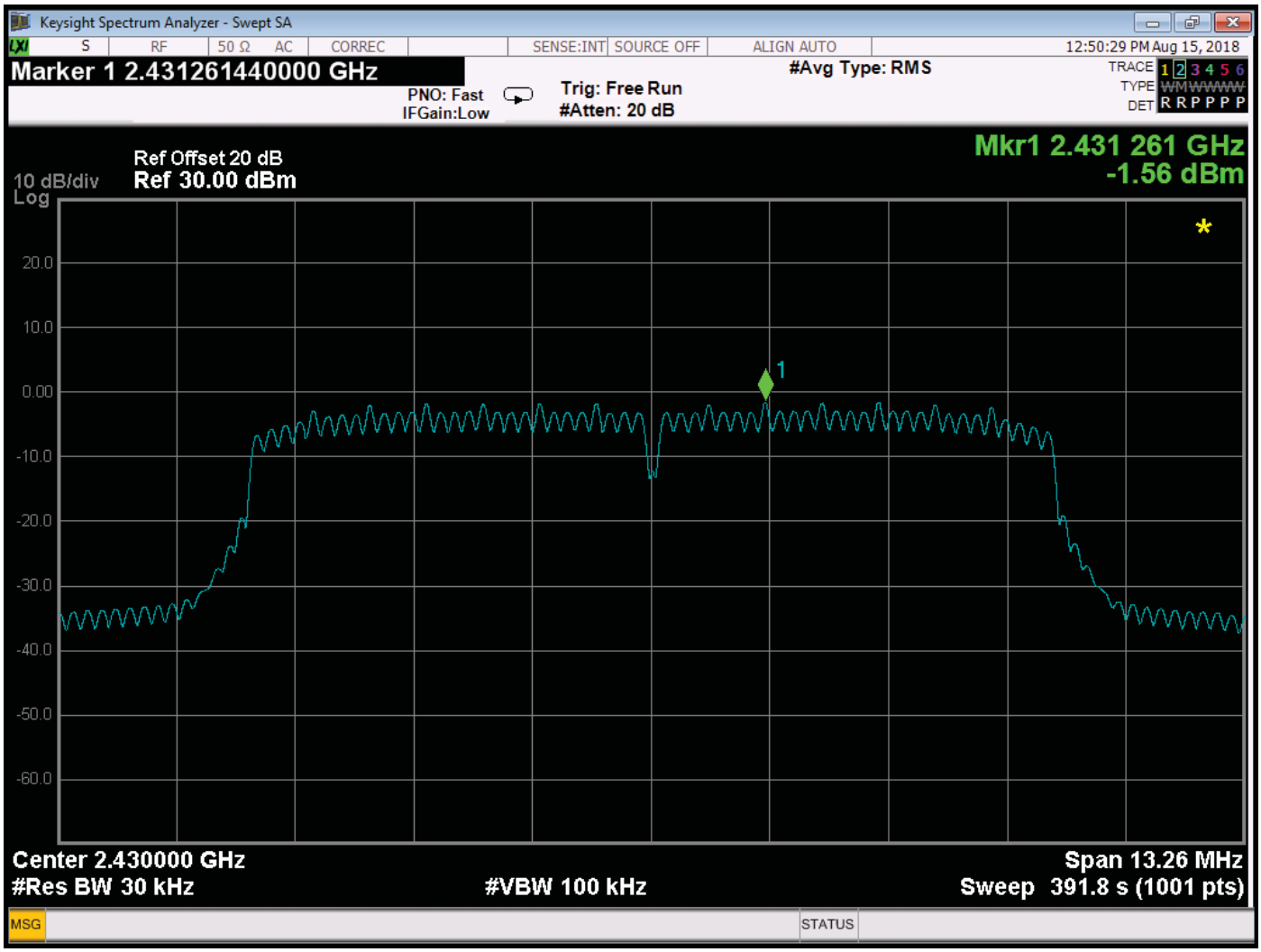
Spectral Density – Low Channel – Port #1



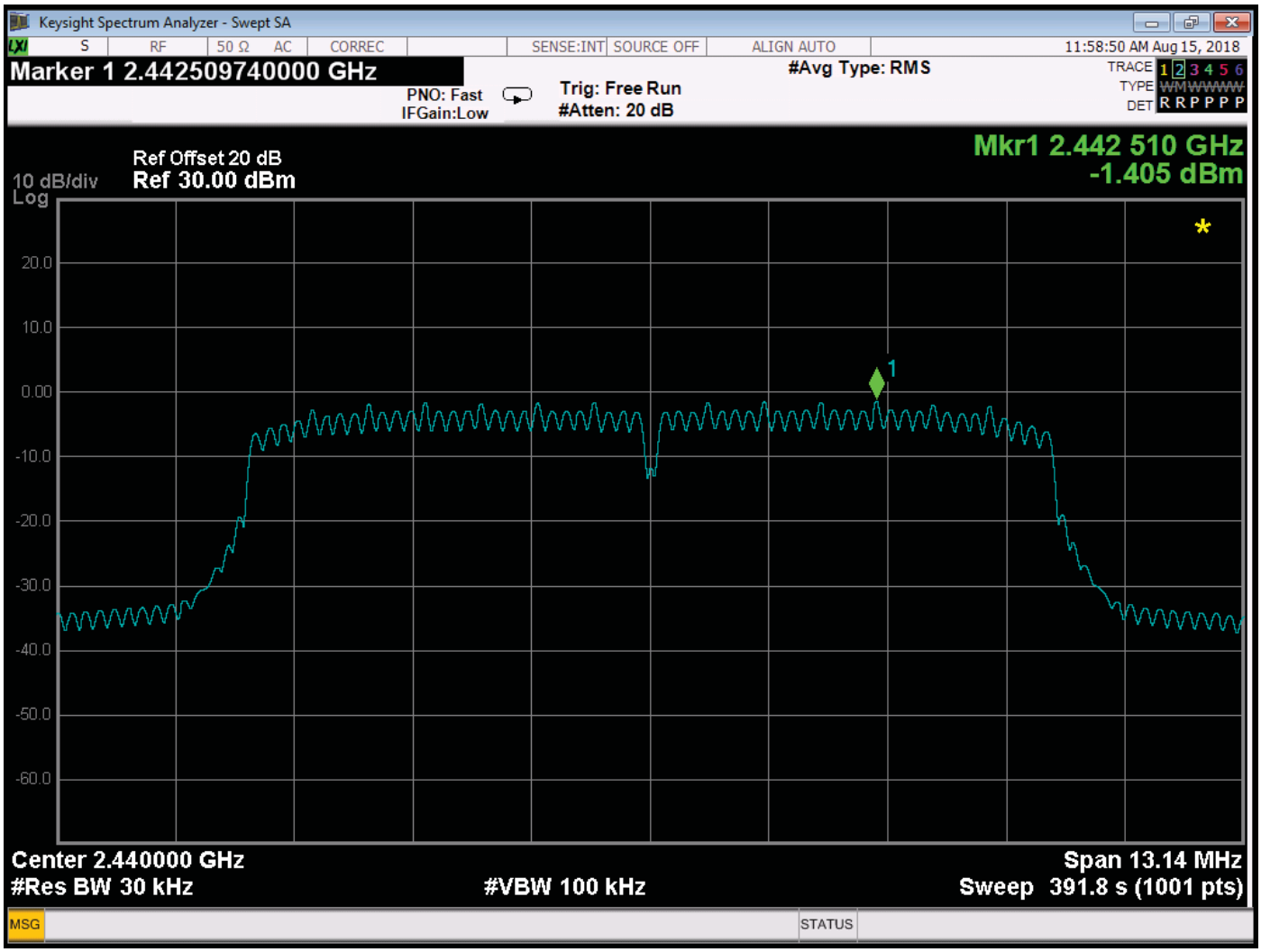
Spectral Density – Low Channel – Port #2



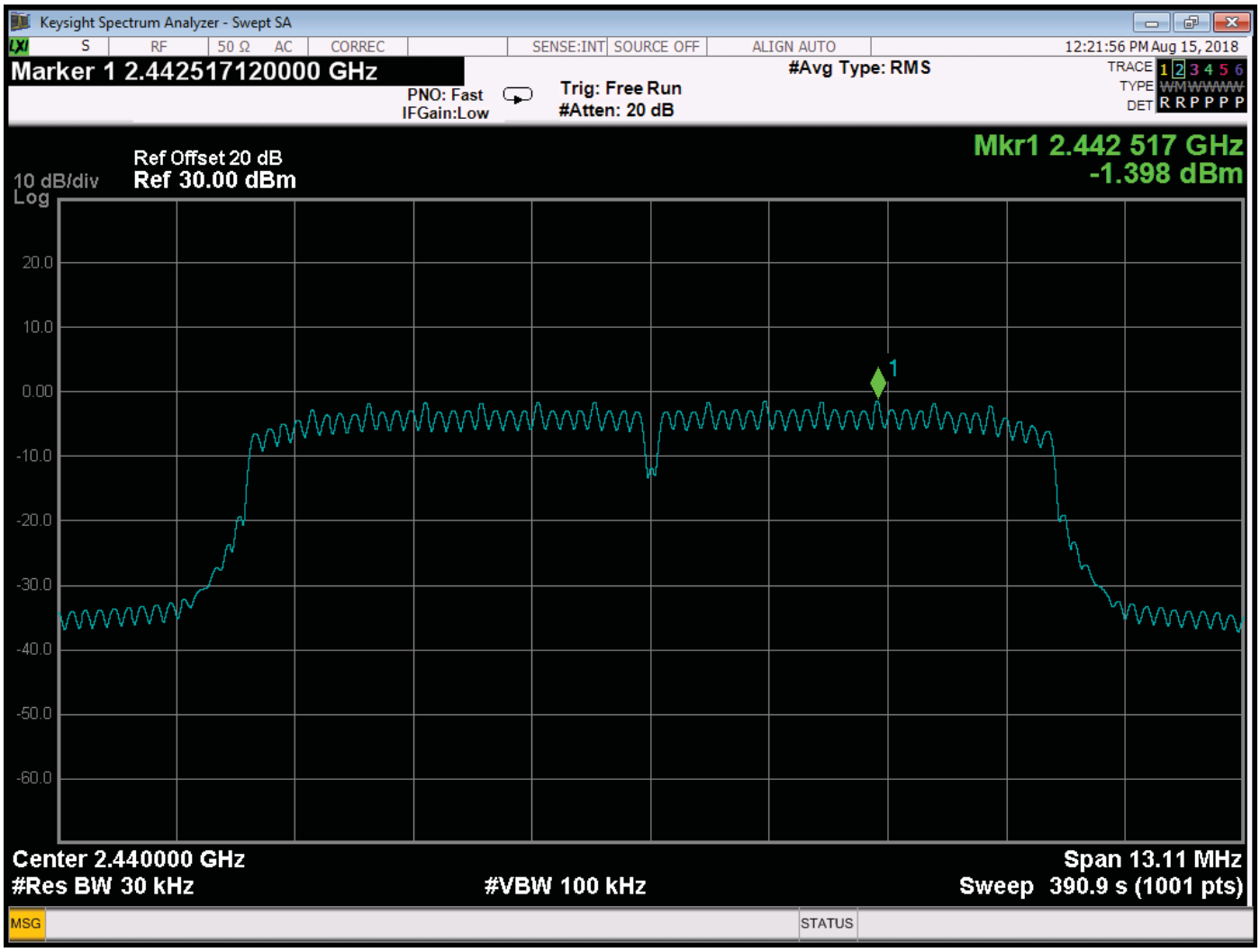
Spectral Density – Low Channel – Port #3



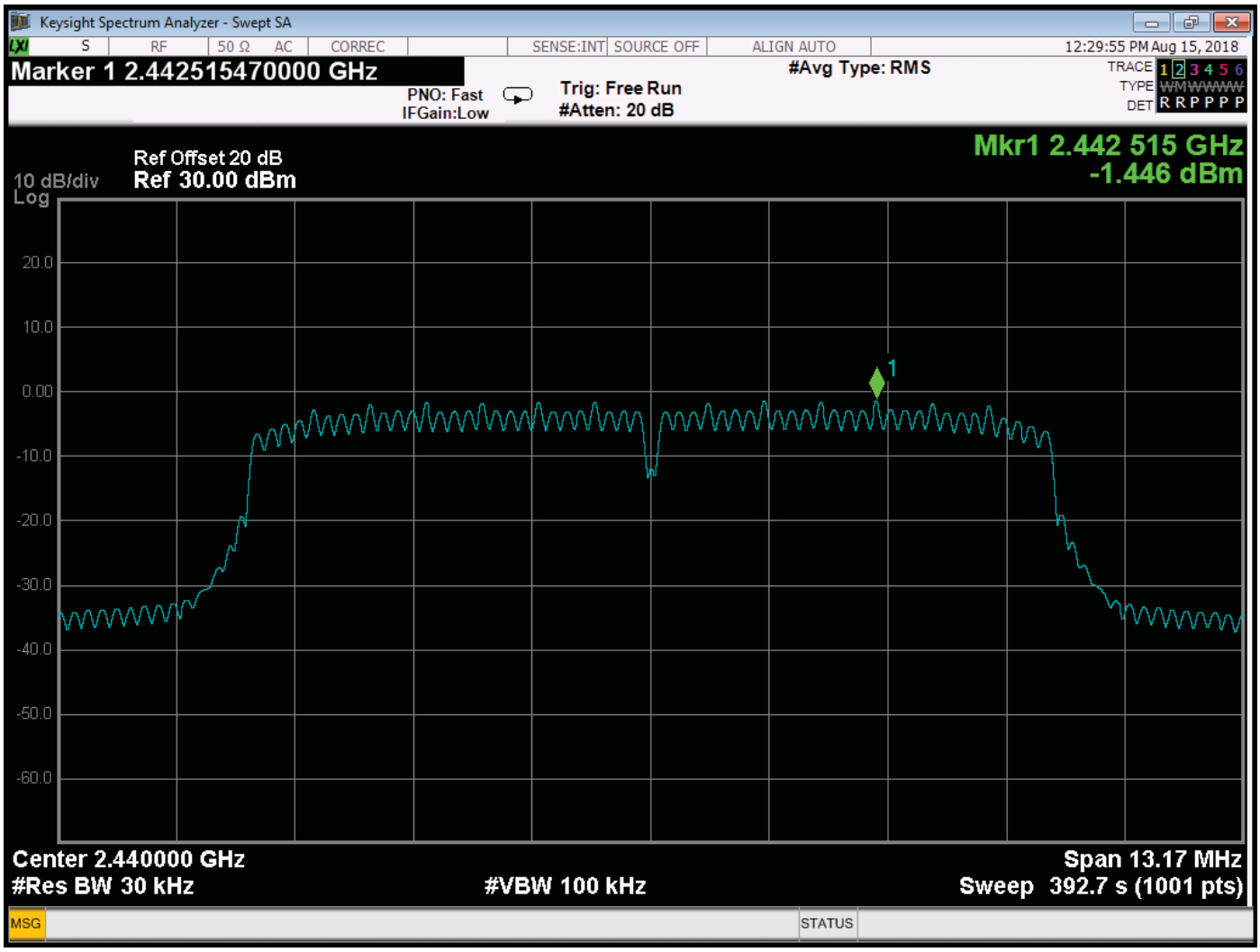
Spectral Density – Low Channel – Port #4



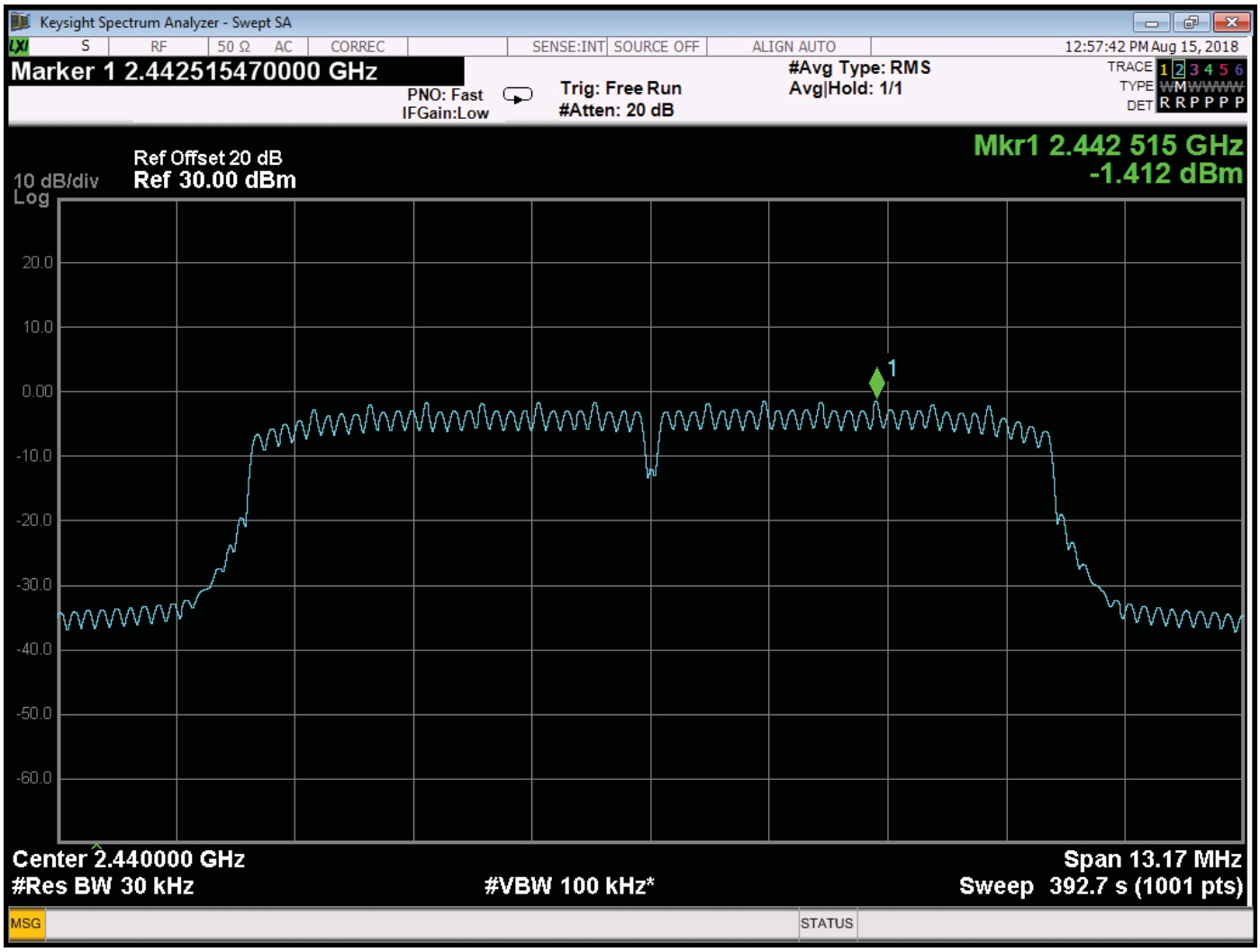
Spectral Density – High Channel – Port #1



Spectral Density – High Channel – Port #2



Spectral Density – High Channel – Port #3



Spectral Density – High Channel – Port #4

PEAK POWER SPECTRAL DENSITY

SC4480 MIMO Radio
Model: SC480-235-SBST

Limit = 5.88 dBm

2430 MHz
Port 1 Gain Setting = 44
Port 2 Gain Setting =41
Port 3 Gain Setting = 44
Port 4 Gain Setting = 45

ANTENNA PORT	RMS PPSD (dBm)	10 LOG (N)	EFFECTIVE PPSD (dBm)	Limit (dBm)
1	-1.360	6.02	4.660	5.88
2	-1.306	6.02	4.714	5.88
3	-1.450	6.02	4.570	5.88
4	-1.560	6.02	4.460	5.88

PEAK POWER SPECTRAL DENSITY

SC4480 MIMO Radio
Model: SC480-235-SBST

Limit = 5.88 dBm

2440 MHz
Port 1 Gain Setting = 44
Port 2 Gain Setting =41
Port 3 Gain Setting = 44
Port 4 Gain Setting = 45

ANTENNA PORT	RMS PPSD (dBm)	10 LOG (N)	EFFECTIVE PPSD (dBm)	Limit (dBm)
1	-1.405	6.02	4.615	5.88
2	-1.398	6.02	4.622	5.88
3	-1.446	6.02	4.574	5.88
4	-1.412	6.02	4.608	5.88

AVERAGE POWER

DATA SHEETS

AVERAGE OUTPUT POWER

SC4480 MIMO Radio
Model: SC480-235-SBST

Limit = 27.88 dBm

2430 MHz
Port 1 Gain Setting = 44
Port 2 Gain Setting =41
Port 3 Gain Setting = 44
Port 4 Gain Setting = 45

ANTENNA PORT	PEAK POWER (dBm)	AVERAGE POWER (dBm)	PEAK POWER (mW)	AVERAGE POWER (mW)
1	22.12	21.80	162.93	151.36
2	21.19	20.92	131.52	123.59
3	21.36	21.03	136.77	126.77
4	22.89	22.55	194.54	179.89
Total Power:	27.96	27.65	625.76	581.61

AVERAGE OUTPUT POWER

SC4480 MIMO Radio
Model: SC480-235-SBST

Limit = 27.88 dBm

2440 MHz
Port 1 Gain Setting = 44
Port 2 Gain Setting =41
Port 3 Gain Setting = 44
Port 4 Gain Setting = 45

ANTENNA PORT	PEAK POWER (dBm)	AVERAGE POWER (dBm)	PEAK POWER (mW)	AVERAGE POWER (mW)
1	21.40	21.11	138.04	129.12
2	21.00	20.74	125.89	118.58
3	21.05	20.73	127.35	118.30
4	22.30	21.96	169.82	157.04
Total Power:	27.49	27.19	561.10	523.04

BAND EDGES

DATA SHEETS

FCC 15.247
Silvus Technologies, Inc.
SC4480 MIMO Radio
Model: SC480-235-SBST

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Band Edges - 2430 MHz

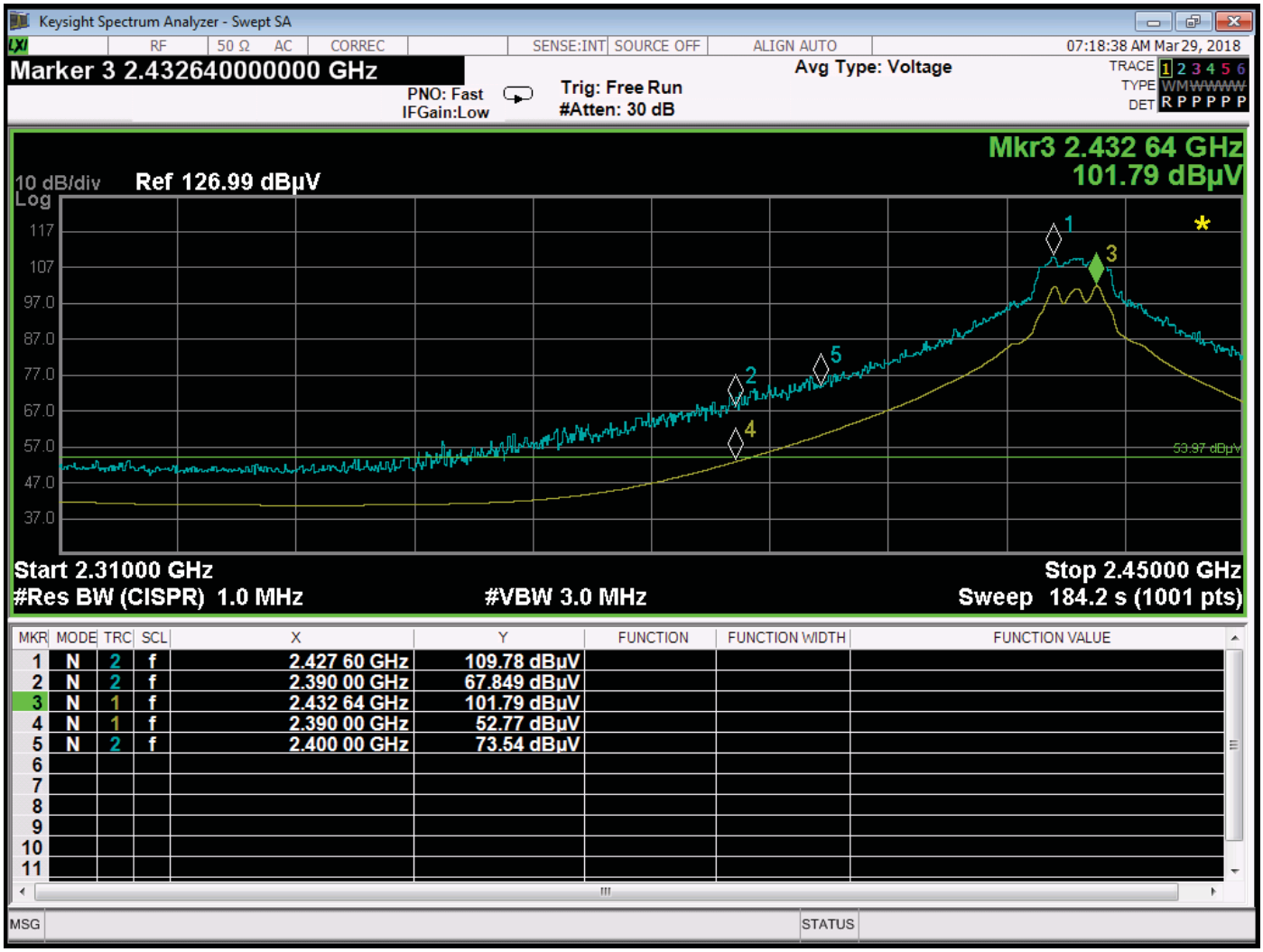
Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2430.00	109.99	H	--	--	Peak	120.00	101.68	**Fundamental**
2430.00	98.79	H	--	--	Avg	120.00	101.68	**2430 MHz**
2390.00	53.39	H	73.97	-20.58	Peak	120.00	101.68	**Lower Band Edge**
2390.00	41.23	H	53.97	-12.74	Avg	120.00	101.68	**2430 MHz**
2430.00	109.78	V	--	--	Peak	106.50	130.97	**Fundamental**
2430.00	101.79	V	--	--	Avg	106.50	130.97	**2430 MHz**
2390.00	67.85	V	73.97	-6.12	Peak	106.50	130.97	**Lower Band Edge**
2390.00	52.77	V	53.97	-1.20	Avg	106.50	130.97	**2430 MHz**

FCC 15.247
Silvus Technologies, Inc.
SC4480 MIMO Radio
Model: SC480-235-SBST

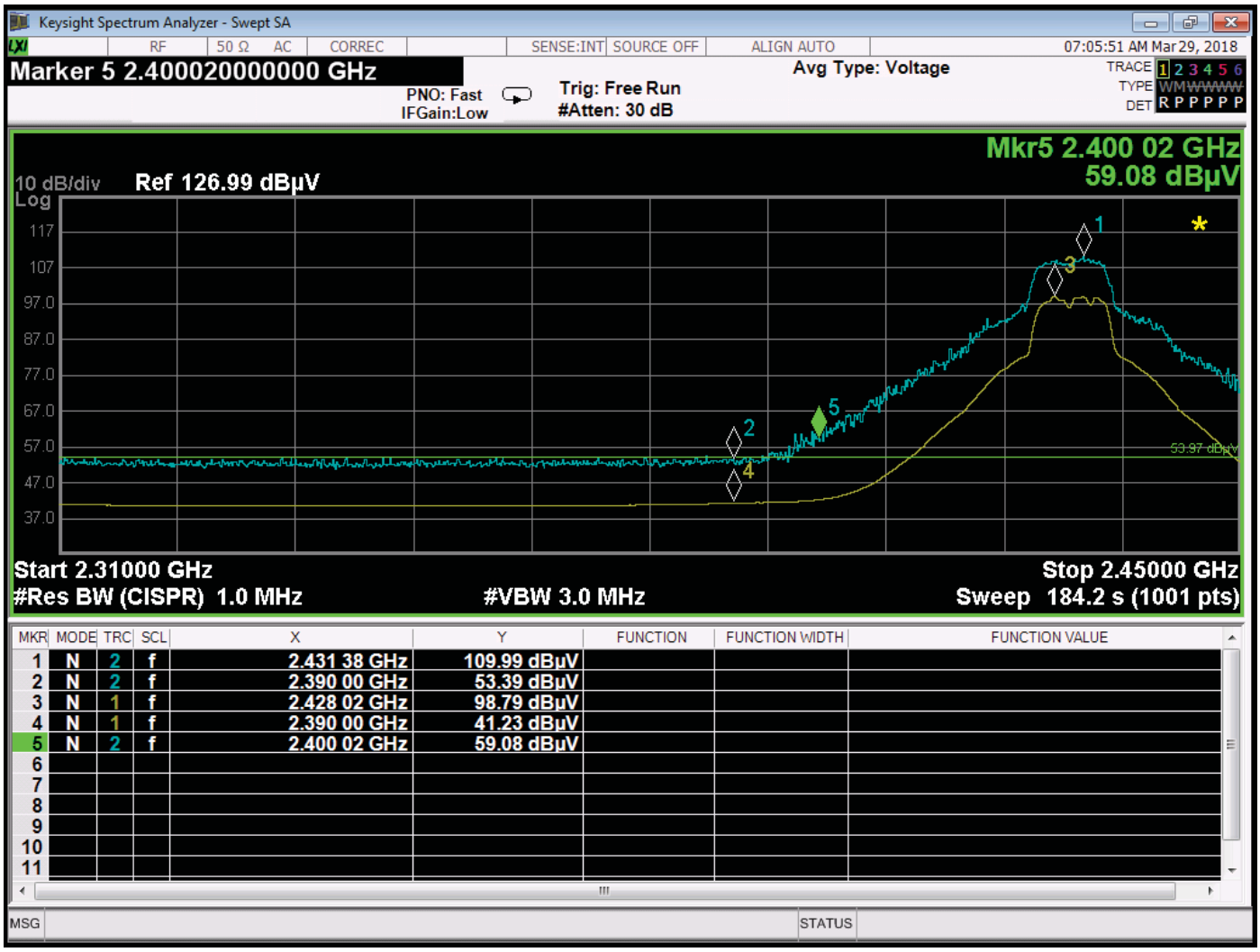
Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Band Edges - 2440 MHz

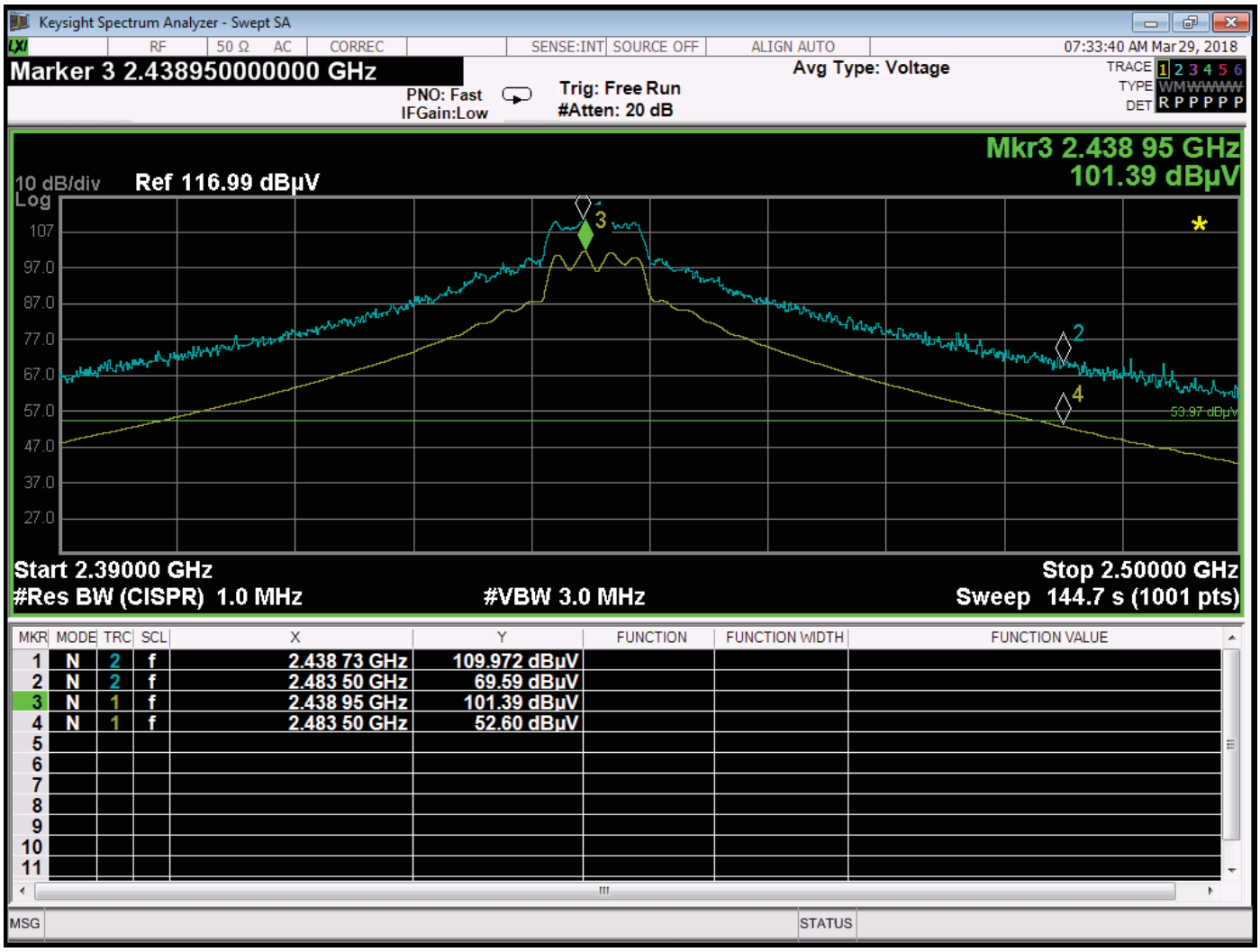
Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2440.00	107.59	H	--	--	Peak	111.75	137.83	**Fundamental**
2440.00	98.14	H	--	--	Avg	111.75	137.83	**2440 MHz**
2483.50	43.81	H	73.97	-30.16	Peak	111.75	137.83	**Lower Band Edge**
2483.50	33.46	H	53.97	-20.51	Avg	111.75	137.83	**2440 MHz**
2440.00	109.97	V	--	--	Peak	70.25	127.80	**Fundamental**
2440.00	101.39	V	--	--	Avg	70.25	127.80	**2440 MHz**
2483.50	69.59	V	73.97	-4.38	Peak	70.25	127.80	**Lower Band Edge**
2483.50	52.60	V	53.97	-1.37	Avg	70.25	127.80	**2440 MHz**



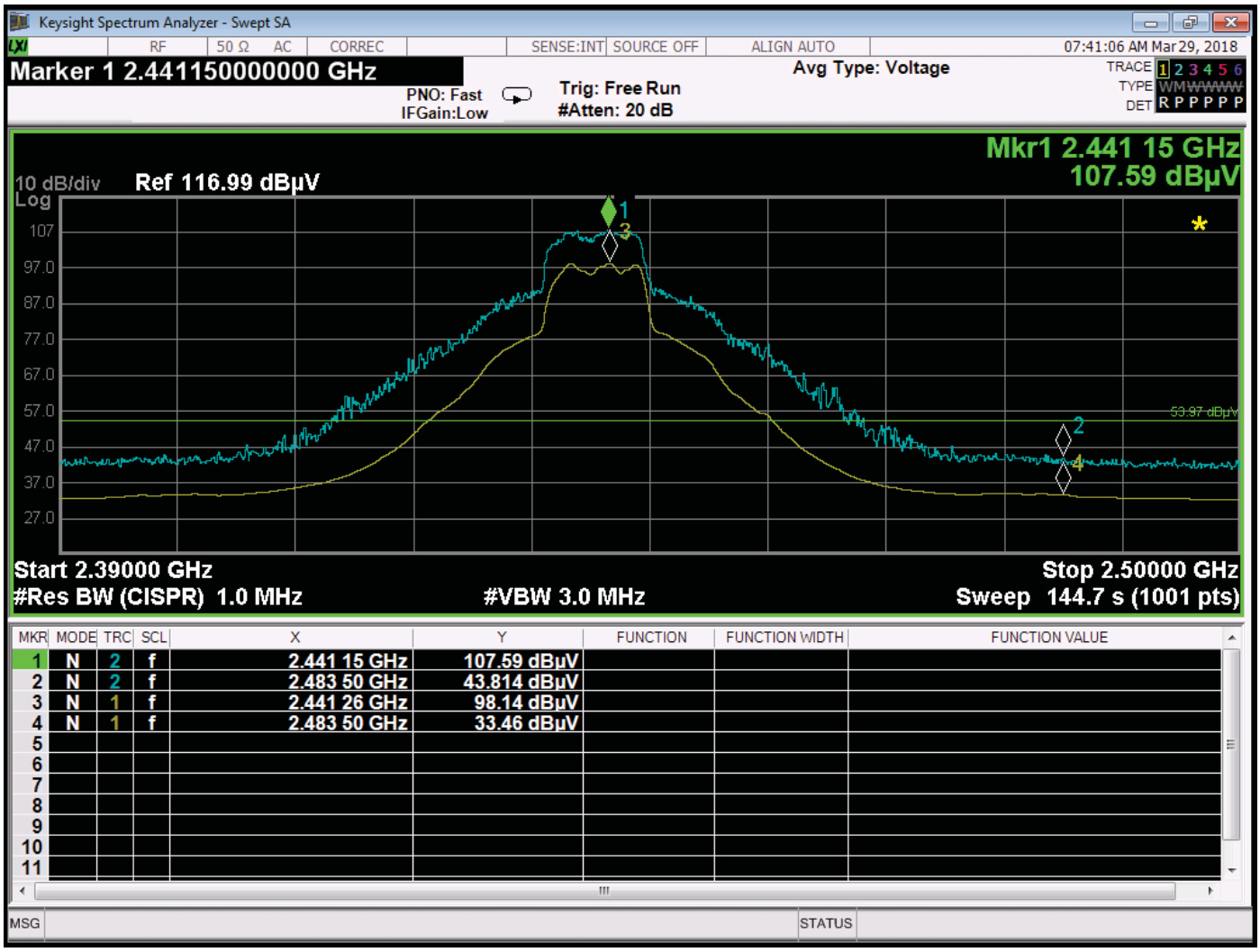
Band Edge – Low Channel – Vertical Polarization



Band Edge – Low Channel – Horizontal Polarization



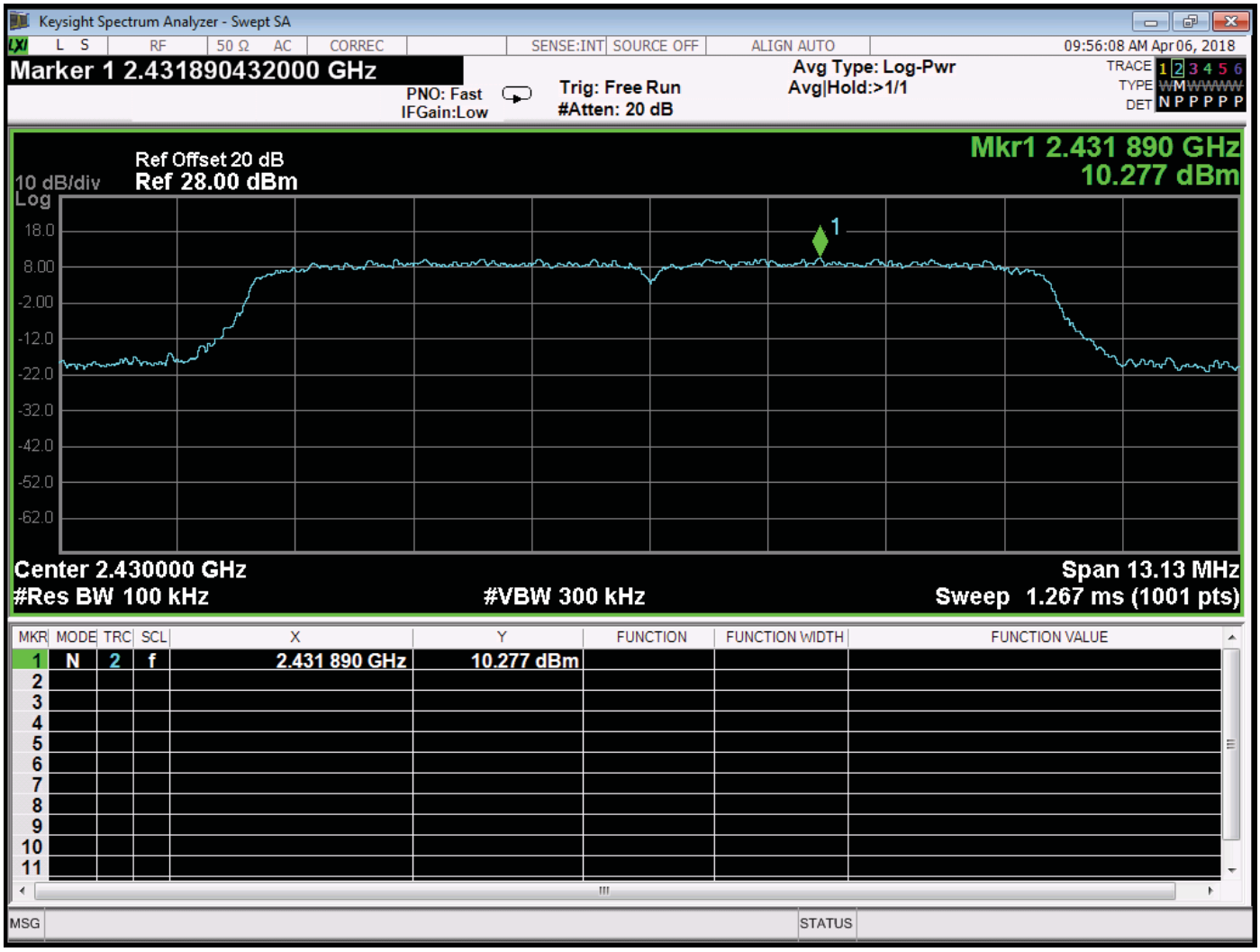
Band Edge – High Channel – Vertical Polarization



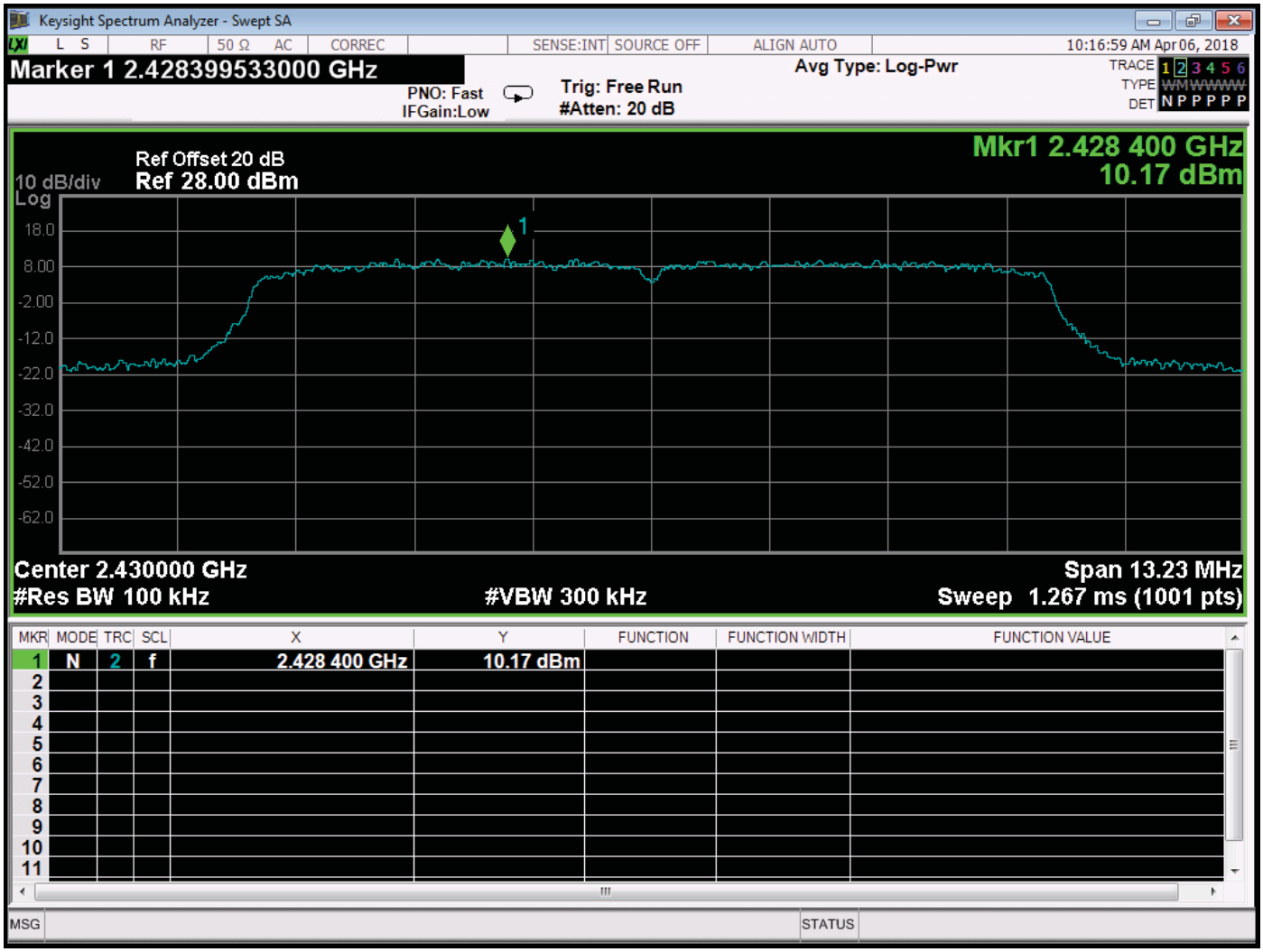
Band Edge – High Channel – Horizontal Polarization

EMISSIONS IN NON-RESRTICTED BANDS

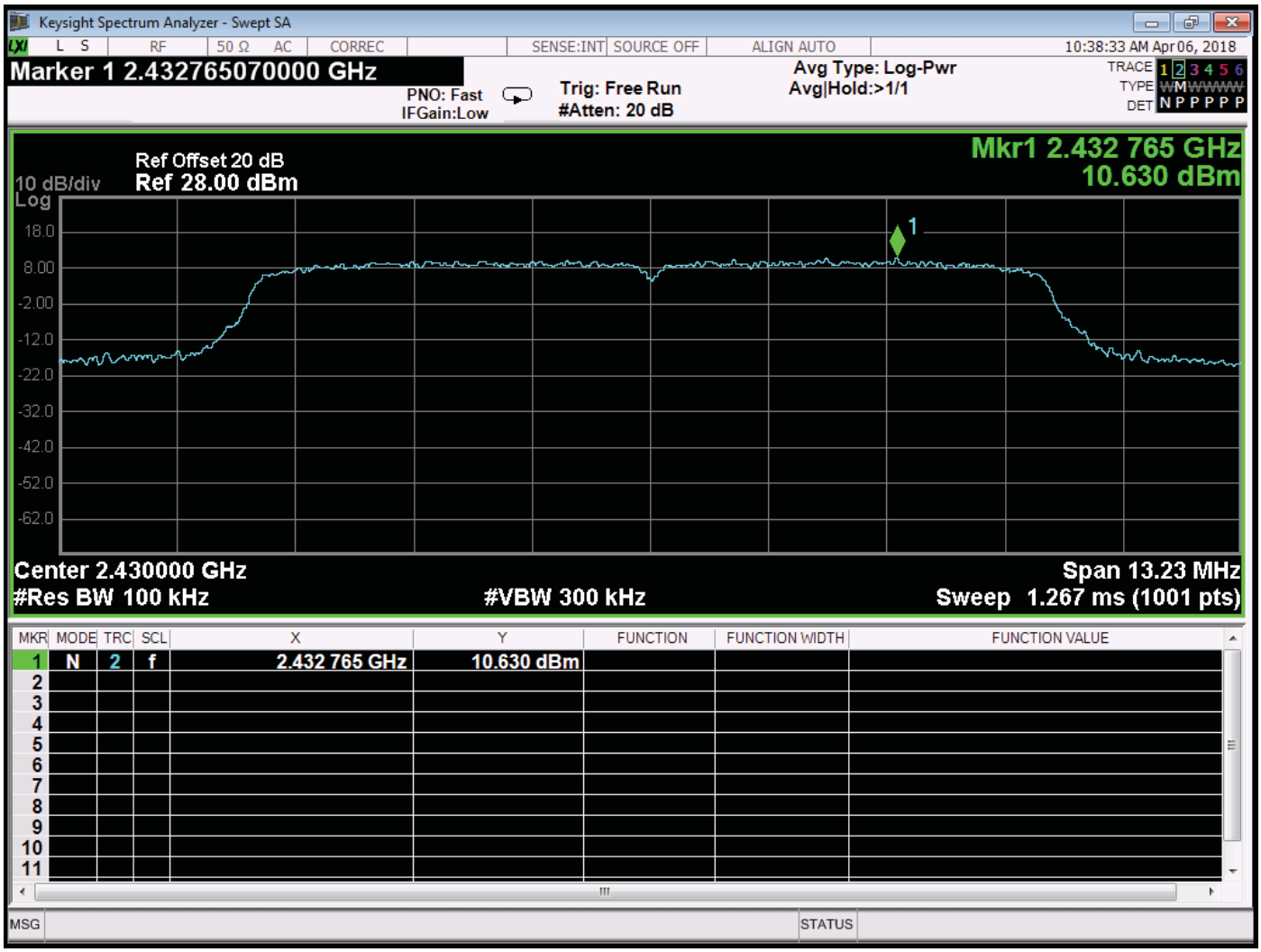
DATA SHEETS



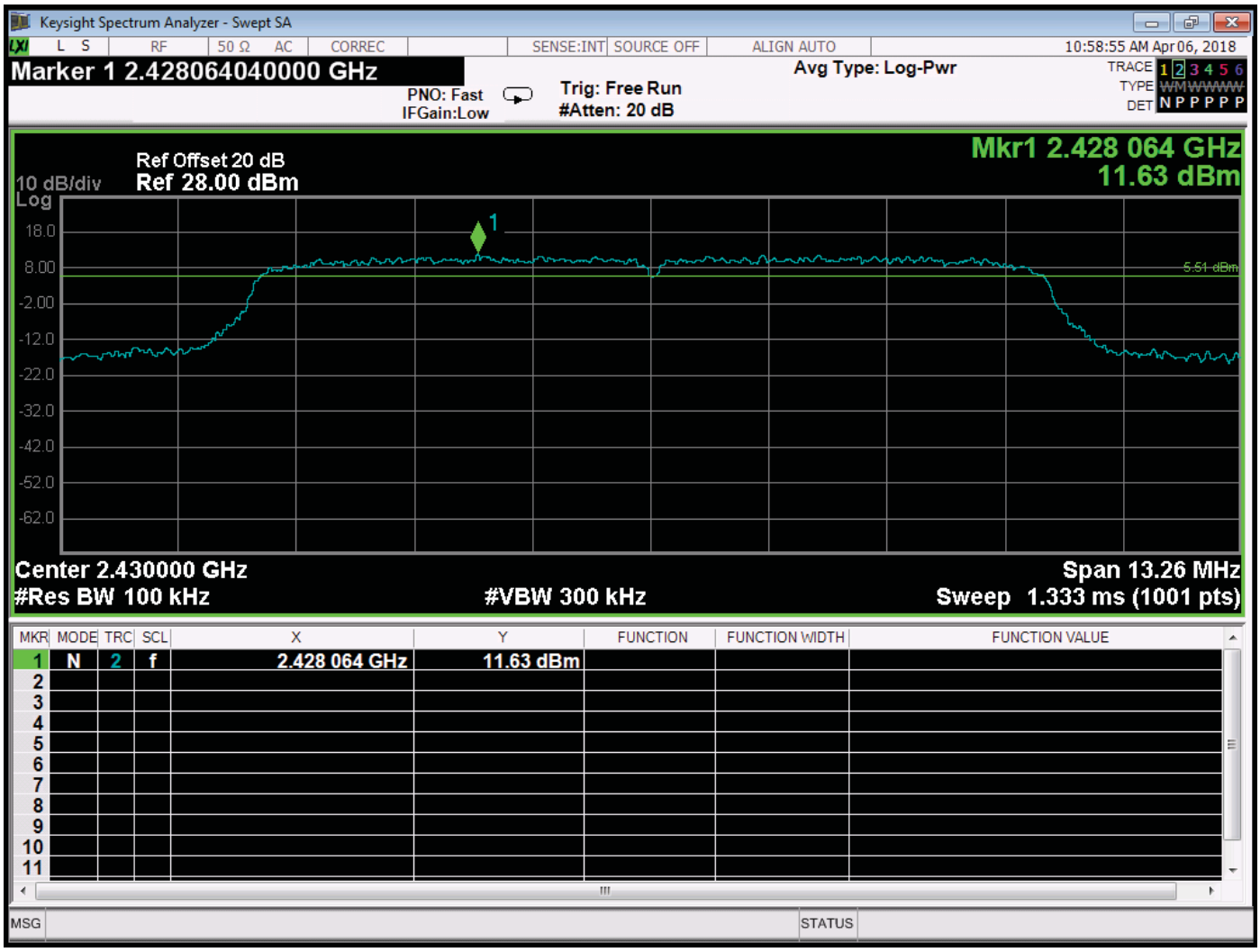
RF Antenna Conducted – Reference Level – Low Channel – Port #1



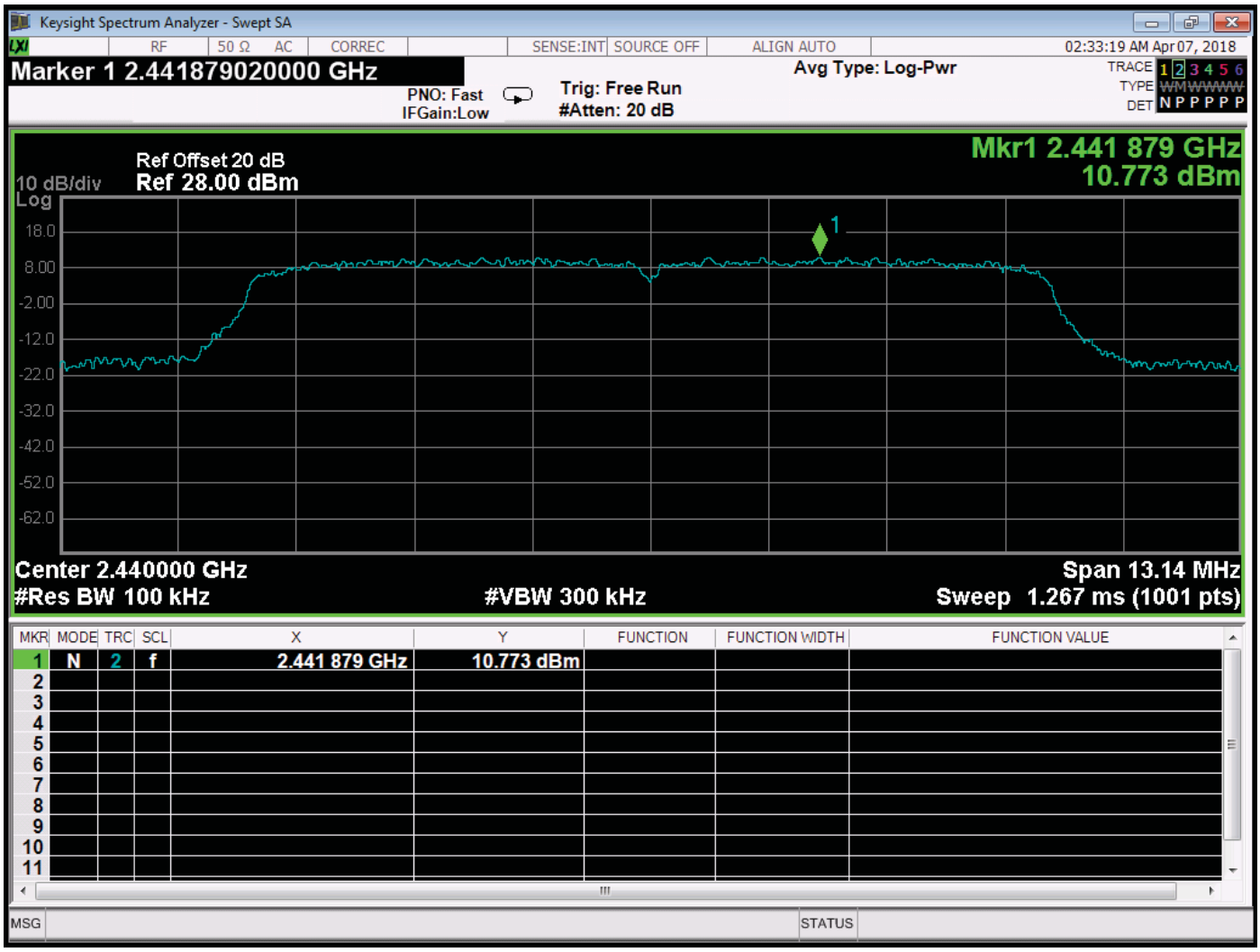
RF Antenna Conducted – Reference Level – Low Channel – Port #2



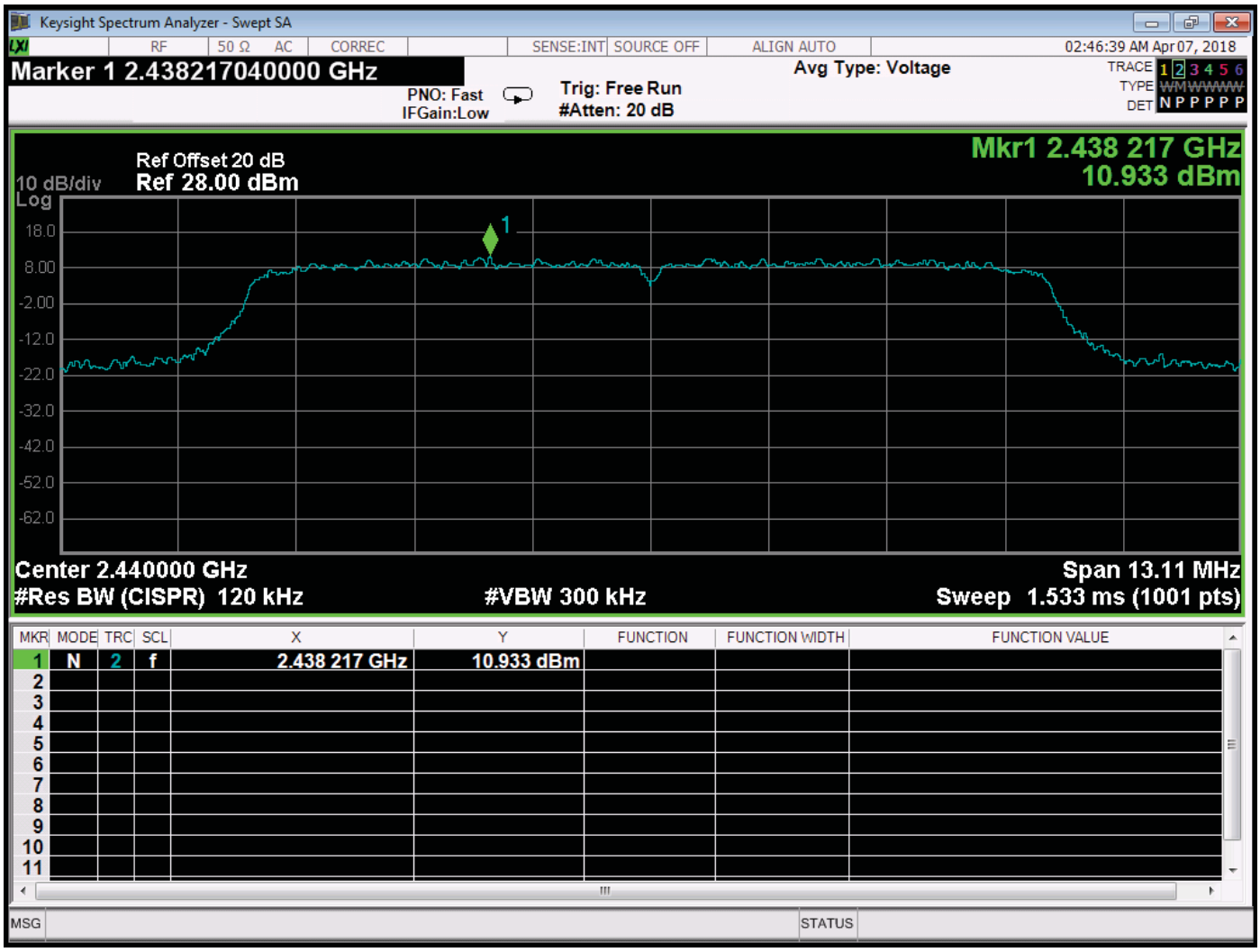
RF Antenna Conducted – Reference Level – Low Channel – Port #3



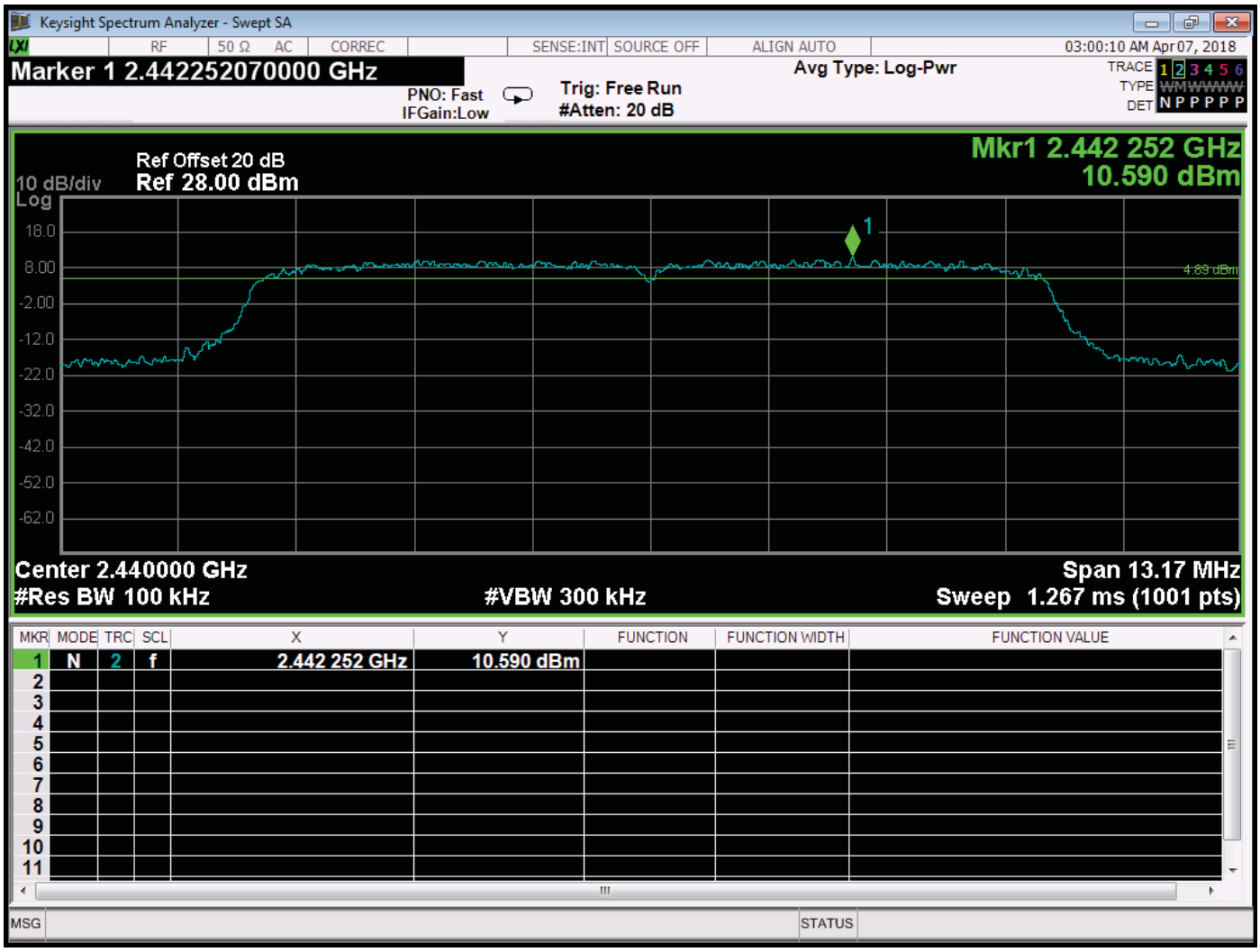
RF Antenna Conducted – Reference Level – Low Channel – Port #4



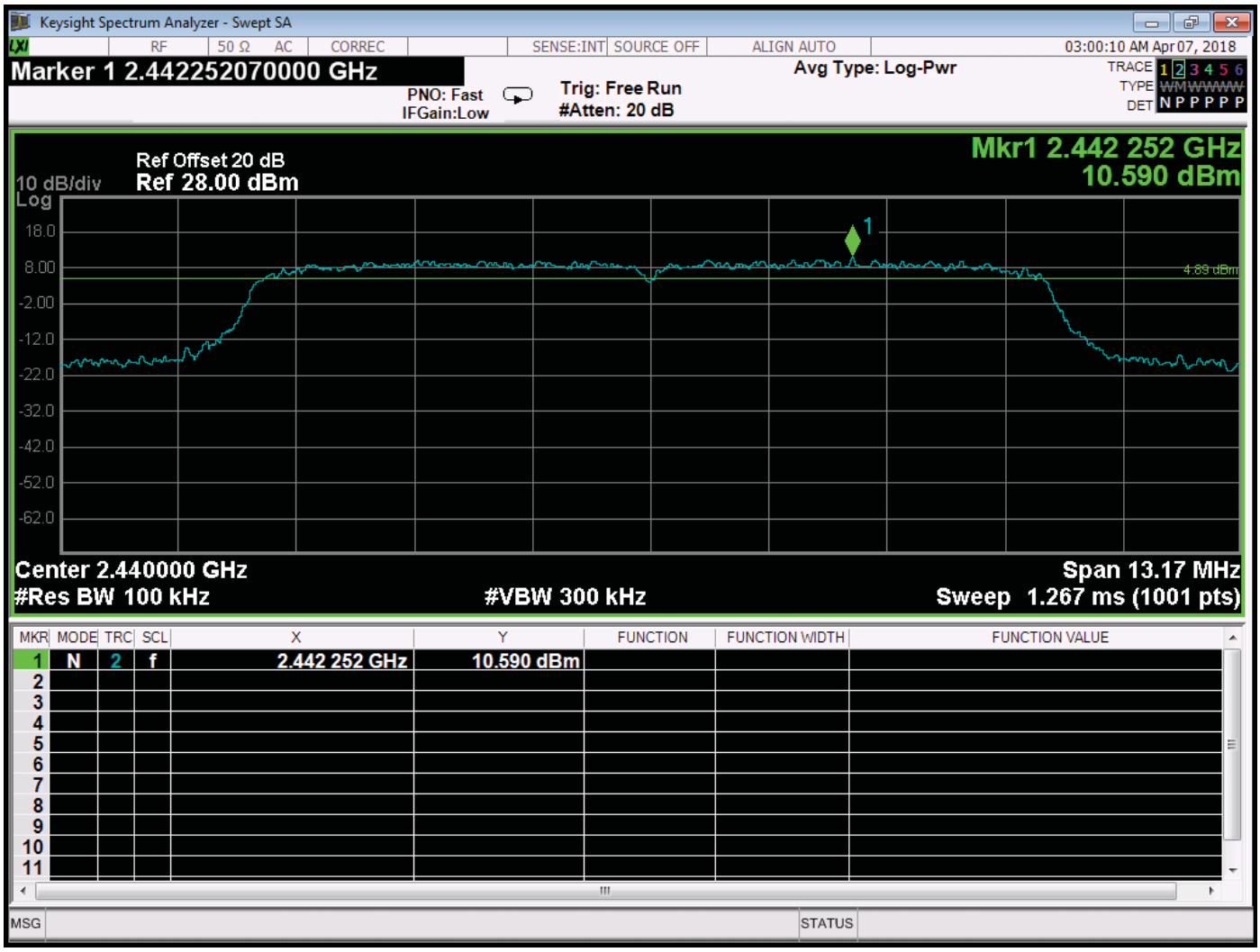
RF Antenna Conducted – Reference Level – High Channel – Port #1



RF Antenna Conducted – Reference Level – High Channel – Port #2



RF Antenna Conducted – Reference Level – High Channel – Port #3



RF Antenna Conducted – Reference Level – High Channel – Port #4

SILVUS TECHNOLOGIES

SC4480 MIMO RADIO

MODEL: SC4480-235-SBST

EMISSIONS IN NON-RESTRICTED BANDS

FREQUENCY (MHz)	LEVEL (dBm)	Limit* (dBm)	Margin (dB)
2560	-46.296	-18.37	-27.926
6280	-47.472	-18.37	-29.102
9722.5	-47.03	-18.37	-28.66

Note: All four ports were investigated during the testing. The three highest non-restricted emissions are reported.

*The Limit is based on 30 dB below the reference levels obtained on the previous pages.

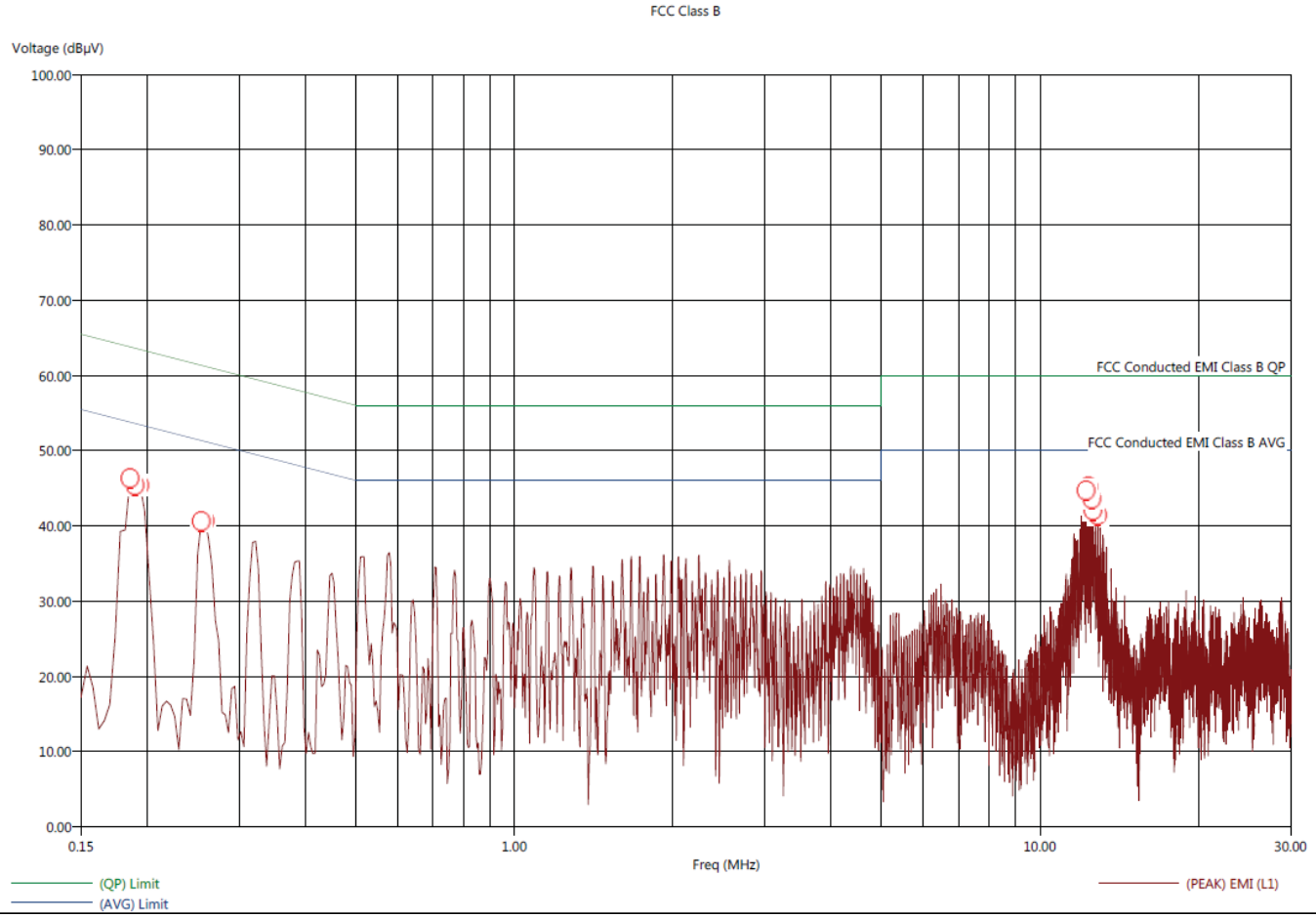
Per ANSI C63.10, section 11.11.2, the channel found to contain the maximum PSD level can be used to establish the reference level.

CONDUCTED EMISSIONS

DATA SHEETS

Title: FCC Class B - Black Lead
File: Agilent - Conducted Pre-Scan Line - 0.15-30 MHz - FCC-B - 04-06-2018.set
Operator: Kyle Fujimoto
EUT Type: SC4480 MIMO Radio
EUT Condition: The EUT is continuously transmitting at 2430 MHz on all 4 antenna ports - worst case
Comments: Customer: Silvus Technologies, Inc.
Model: SC4480-235-SBST
S/N: N/A

4/6/2018 11:01:15 AM
Sequence: Preliminary Scan



Title: FCC Class B - Black Lead
File: Agilent - Conducted Final Scan Line - 0.15-30 MHz - FCC-B - 04-06-2018.set
Operator: Kyle Fujimoto
EUT Type: SC4480 MIMO Radio
EUT Condition: The EUT is continuously transmitting at 2430 MHz on all 4 antenna ports - worst case
Comments: Company Name: Silvus Technologies, Inc.
Model: SC4480-235-SBST
S/N: N/A

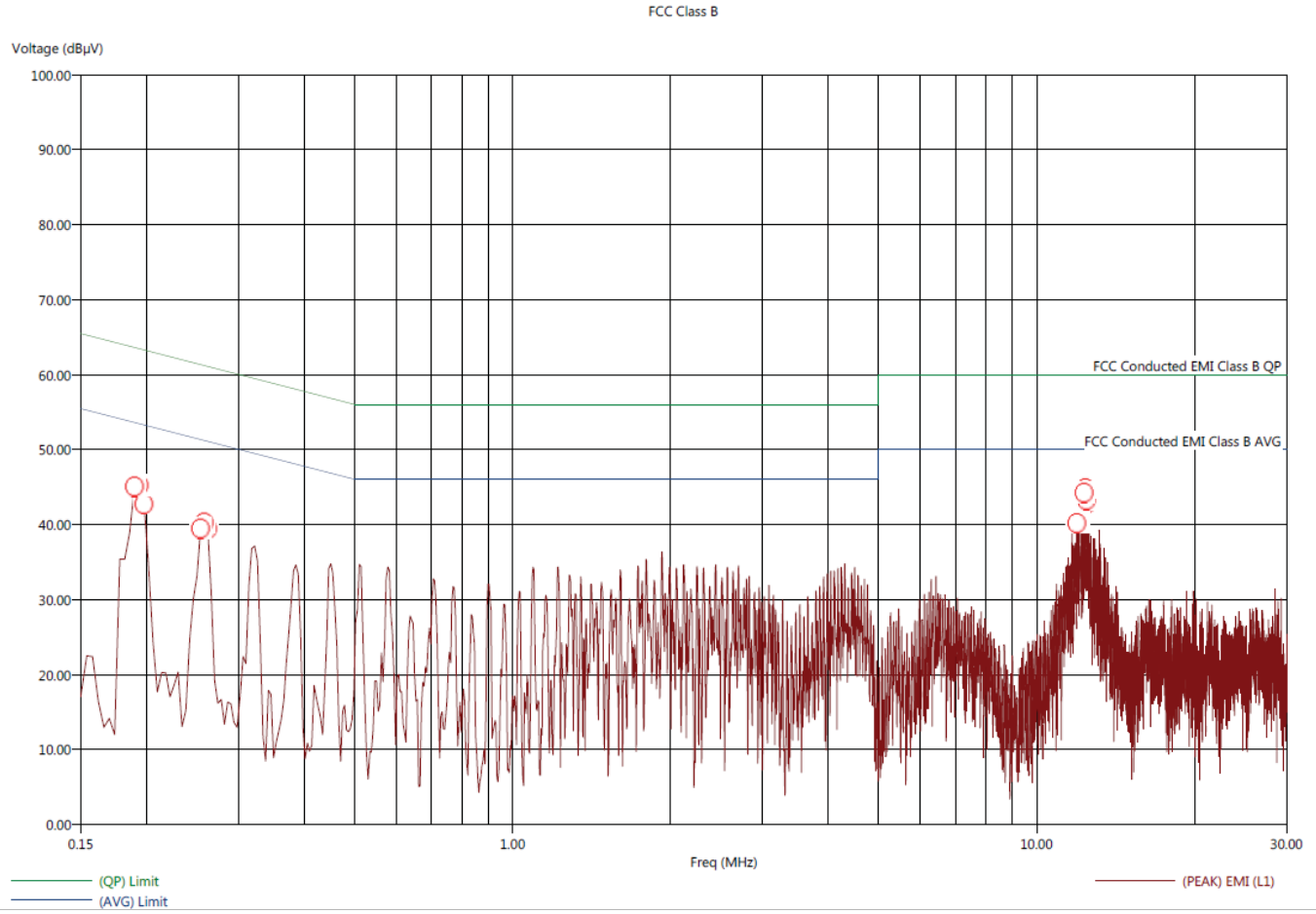
4/6/2018 11:03:21 AM
Sequence: Final Measurements

Black Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin (dB)	(AVG) Margin (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.186	49.85	41.88	-3.63	-11.60	53.49	0.00	0.31	9.80
0.190	49.97	41.89	-3.52	-11.60	53.50	0.00	0.31	9.80
0.194	49.91	41.87	-3.59	-11.63	53.50	0.00	0.31	9.80
0.254	46.71	40.04	-4.50	-11.17	51.21	0.03	0.18	9.80
0.258	45.30	37.93	-5.84	-13.21	51.15	0.03	0.18	9.80
12.242	45.57	30.41	-4.43	-19.59	50.00	0.33	0.03	10.10
12.370	45.76	28.96	-4.24	-21.04	50.00	0.33	0.03	10.11
12.566	45.76	31.71	-4.24	-18.29	50.00	0.33	0.03	10.11
12.622	42.39	29.51	-7.61	-20.49	50.00	0.33	0.03	10.11
12.882	42.13	25.05	-7.87	-24.95	50.00	0.34	0.03	10.13

Title: FCC Class B - White Lead
File: Agilent - Conducted Pre-Scan Neutral - 0.15-30 MHz - FCC-B - 04-06-2018.set
Operator: Kyle Fujimoto
EUT Type: StreamCaster 4480 MIMO Radio
EUT Condition: The EUT is continuously transmitting at 2430 MHz on all 4 antenna ports - worst case
Comments: Customer: Silvus Technologies, Inc.
Model: SC4480-235-SBST
S/N: N/A

4/6/2018 11:08:24 AM
Sequence: Preliminary Scan



Title: FCC Class B - White Lead
File: Agilent - Final Scan - White Lead - FCC Class B - 04-06-2018.set
Operator: Kyle Fujimoto
EUT Type: SC4480 MIMO Radio
EUT Condition: The EUT is continuously transmitting at 2430 MHz on all 4 antenna ports - worst case
Comments: Company Name: Silvus Technologies, Inc.
Model: SC4480-235-SBST
S/N: N/A

4/6/2018 11:10:24 AM
Sequence: Final Measurements

White Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin (dB)	(AVG) Margin (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.190	49.72	41.57	-3.73	-11.88	53.46	0.00	0.29	9.80
0.194	49.77	41.68	-3.70	-11.79	53.48	0.00	0.29	9.80
0.198	49.81	41.67	-3.67	-11.81	53.48	0.00	0.29	9.80
0.254	46.83	39.13	-4.34	-12.04	51.18	0.03	0.16	9.80
0.258	46.85	39.58	-4.34	-11.61	51.20	0.03	0.17	9.80
0.262	47.14	39.82	-4.08	-11.40	51.23	0.03	0.17	9.80
11.942	43.86	30.67	-6.14	-19.33	50.00	0.33	0.06	10.09
12.014	42.12	34.56	-7.88	-15.44	50.00	0.33	0.06	10.09
12.326	46.33	30.85	-3.67	-19.15	50.00	0.33	0.06	10.10
12.390	46.24	32.43	-3.76	-17.57	50.00	0.33	0.06	10.11
12.454	46.50	32.79	-3.50	-17.21	50.00	0.33	0.06	10.11
12.522	44.83	31.06	-5.17	-18.94	50.00	0.33	0.06	10.11