FCC PART 15, SUBPART B and C
TEST REPORT

for

MIMO 4X4 OFDM RADIO

MODEL: SC3500 MIMO RADIO

Prepared for

SILVUS TECHNOLOGIES
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DATE: APRIL 12, 2012

	REPORT	APPENDICES					TOTAL
	BODY	***A***	***B***	***C***	***D***	***E***	
PAGES	24	2	2	2	18	62	**110**

TABLE OF CONTENTS

LIST OF APPENDICES

APPENDIX	TITLE
A	Laboratory Accreditations and Recognitions
B	Modifications to the EUT
C	Additional Models Covered Under This Report
D	Diagrams, Charts, and Photos • Test Setup Diagrams • Radiated and Conducted Emissions Photos • Antenna and Effective Gain Factors
E	Data Sheets

LIST OF FIGURES

FIGURE	TITLE
1	Conducted Emissions Test Setup
2	Plot Map And Layout of Test Site

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 endorsement by NVLAP or any other agency of the U.S. Government.

Device Tested:	MIMO 4X4 OFDM Radio Model: SC3500 MIMO Radio S/N: N/A
Product Description:	See Expository Statement.
Modifications:	The EUT was not modified during the testing.
Manufacturer:	Silvus Technologies 10990 Wilshire Blvd., Suite #440 Los Angeles, California 90024
Test Dates:	March 26, 27, 29, and 30, 2012
Test Specifications:	EMI requirements CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.247
Test Procedure:	ANSI C63.4
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz – 30 MHz	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	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, 10 kHz – 30 MHz and 1000 MHz – 40000 MHz	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, 10 kHz – 40 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 – 40 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	Peak Power Output	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(3)
7	RF Conducted Antenna Test	This test was not performed because all of the emissions were performed via radiated measurements.
8	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 (f)

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the MIMO 4X4 OFDM Radio, Model: SC3500 MIMO Radio. The EMI measurements were performed according to the measurement procedure described in 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, 15.209, and 15.247.

Note: For the unintentional radiator portion of the test, the EUT was within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI 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

Grant Denoon	Senior RF Engineer

Compatible Electronics Inc.

James Ross	Test Engineer
Kyle Fujimoto	Test Engineer
Michael Christensen	Lab Manager, Brea Division

2.4 Date Test Sample was Received

The test sample was received prior to the date of testing.

2.5 Disposition of the Test Sample

The test sample was returned to Silvus Technologies on March 30, 2012.

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 EMI Test Report.

SPEC	TITLE
FCC Title 47, Part 15 Subpart C	FCC Rules - Radio frequency devices (including digital devices) – Intentional Radiators
ANSI C63.4 2009	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz
FCC Title 47, Part 15 Subpart B	FCC Rules - Radio frequency devices (including digital devices) – Unintentional Radiators
KDB 558074	Guidance for Performing Compliance Measurements on Digital Transmissions Systems (DTS) Operating Under 15.247
ANSI C63.10 2009	American National Standard for Testing Unlicensed Wireless Devices

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - Emissions

The MIMO 4X4 OFDM Radio, Model: SC3500 MIMO RADIO(EUT) was connected to a power supply and laptop via its power and ethernet ports, respectively. The laptop was also connected to a mouse and power supply via its USB and power ports, respectively .

During the testing, the EUT was communicating with the laptop utilizing the UNIX client software. All commands and data were sent over the ethernet port.

Operation of the EUT during the testing:

For the intentional radiator portion of the test: The laptop had a program that locked one channel at a time so that the low, middle, and high channels could be tested. The EUT was tested in two orthogonal axis. The carrier was modulated in the same way it would be when the EUT was in its normal operating mode. The laptop was also pinging the EUT on a continuous basis via its Ethernet port.

For the unintentional radiator and conducted emission portion of the test: The laptop used a program that allowed the EUT to function as normal. The laptop was also pinging the EUT on a continuous basis via its Ethernet port.

The final radiated data for the EUT as well as the conducted data was taken in modes above. Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

Cable 1 This is a 1.7-meter braid shielded cable connecting the EUT to cable #2. The cable has a 10-pin Might Mouse connector at the EUT end and a 2-pin SwitchCraft male connector at the cable #2 end. The cable was bundled (along with cable #2) to a length of 50-centimeters. The shield of the cable was grounded to the chassis via the connector.

Cable 2 This is a 1.7-meter unshielded cable connecting the EUT power supply to cable #1. The cable has a 2-pin SwitchCraft female connector at the cable #1 end and is hard wired into the power supply. The cable was bundled (along with cable #1) to a length of 50-centimeters. The cable has clamp-on ferrite at the power supply end at both ends.

Cable 3 This is a 2-meter braid shielded cable connecting the EUT to the laptop. The cable has a 10-pin mighty mouse connector at the Ethernet end and an RJ-45 connector at the laptop 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 2.3-meter unshielded cable connecting the laptop to the laptop power supply. The cable has a metallic metal barrel at the laptop end and is hard wired into the laptop power supply. The cable was bundled to a length of 1-meter. The cable has a molded ferrite at the laptop end.

Cable 5 This is a 1.9-meter foil shielded cable connecting the laptop to the mouse. The cable has a USB type 'A' connector the laptop end and is hard wired into the mouse.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
MIMO 4X4 OFDM RADIO (EUT)	SILVUS TECHNOLOGIES	SC3500 MIMO RADIO	N/A	N2S-SC3500
SWITCH MODE POWER SUPPLY	V-INFINITY	3A-621DN12	N/A	N/A
LAPTOP	DELL	PP04X	CN-0HN341-48643-858-1887	N/A
AC ADAPTER (LAPTOP)	DELL	FA90PS0-00	CN-0GX808-73245-84Q-K342	N/A
MOUSE	COMPAQ	M-UAE96	N/A	DoC

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
GENERAL TEST EQUIPMENT USED FOR ALL RF EMISSIONS TESTS					
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	2637A03618	May 27, 2011	May 27, 2012
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	2648A13404	May 27, 2011	May 27, 2012
Quasi-Peak Adapter	Hewlett Packard	85650A	2430A00424	May 27, 2011	May 27, 2012
EMI Receiver	Rohde & Schwarz	ESIB40	100194	November 19, 2010	November 19, 2012
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
RF RADIATED EMISSIONS TEST EQUIPMENT					
Loop Antenna	Com-Power	AL-130	17089	January 21, 2011	January 21, 2013
Biconical Antenna	Com Power	AB-900	15250	June 8, 2011	June 8, 2012
Log Periodic Antenna	Com Power	AL-100	16252	June 8, 2011	June 8, 2012
Horn Antenna	Com-Power	AH-118	071175	February 29, 2012	March 1, 2014
Horn Antenna	Com-Power	AH826	71957	NCR	N/A
Preamplifier	Com-Power	PA-102	1017	December 28, 2011	December 28, 2012
Microwave Preamplifier	Com-Power	PA-118	181656	December 28, 2011	December 28, 2012
Microwave Preamplifier	Com-Power	PA-840	711013	March 11, 2010	March 11, 2013
Horn Antenna	Antenna Research	MWH-2640/B	01011	NCR	N/A

5.3 Emissions Test Equipment (Continued)

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
RF CONDUCTED EMISSIONS TEST EQUIPMENT					
Emissions Program	Compatible Electronics	2.3 (SR19)	N/A	N/A	N/A
LISN	Com Power	LI-215	12078	June 20, 2011	June 20, 2012
LISN	Com Power	LI-215	12082	June 20, 2011	June 20, 2012
Transient Limiter	Com Power	252A910	1	November 7, 2011	November 7, 2012
PEAK POWER OUTPUT TEST EQUIPMENT					
Power Measuring Analyzer	Boonton Electronics	4500A-01	1282	May 5, 2011	May 5, 2013
Peak Power Sensor	Boonton Electronics	57318	3723	May 5, 2011	May 5, 2013

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1 of this report for EMI test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.

7. CHARACTERISTICS OF THE TRANSMITTER

7.1 Transmitter Power

Transmit power is herein defined as the power delivered to a 50 ohm load at the RF output of the EUT.

Power	Frequency
26.91 dBm	2427 MHz
26.95 dBm	2447 MHz
26.93 dBm	5745 MHz
26.75 dBm	5785 MHz
26.83 dBm	5830 MHz

7.2 Channel Number and Frequencies

There are a total of 5 channels.

2427 MHz
2447 MHz
5745 MHz
5785 MHz
5830 MHz

7.3 Antenna Gain

The antennas have a gain of 3 dBi.

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 spectrum analyzer was used as a measuring meter. The data was collected with the spectrum analyzer in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A transient limiter was used for the protection of the spectrum analyzer input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the spectrum analyzer. 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: 2009. 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 the Compatible Electronics conducted emissions software in several overlapping sweeps by running the spectrum analyzer at a minimum scan rate of 10 seconds per octave. The final qualification data is located in Appendix E.

Test Results:

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.

8.1.2 Radiated Emissions (Spurious and Harmonics) Test

The spectrum analyzer and EMI Receiver were used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com Power Preamplifier Model: PA-102 was used for frequencies from 30 MHz to 1 GHz, the Com Power Microwave Preamplifier Model: PA-118 was used for frequencies above 1 GHz, and the Com Power Microwave Preamplifier Model: PA-840 was used for frequencies above 18 GHz. The spectrum analyzer was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer records the highest measured reading over all the sweeps.

The quasi-peak adapter was used only for those readings which are marked accordingly on the data sheets.

The frequencies above 1 GHz were averaged manually by narrowing the video filter down to 10 Hz and putting the sweep time on AUTO on the spectrum analyzer to keep the amplitude reading calibrated.

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

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 40 GHz	1 MHz	Horn Antenna

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4: 2009. 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 by the Radiated Emission Manual Test software. 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.

Radiated Emissions (Spurious and Harmonics) Test (con't)

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3 meter test distance from 10 kHz to 40 GHz to obtain the final test data.

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
MIMO 4X4 OFDM Radio, Model: SB505-W

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
0.189 (2.4 GHz Band)	50.22	54.06	-3.84
0.183 (5.8 GHz Band)	49.76	54.37	-4.61
0.182 (5.8 GHz Band)	49.72	54.41	-4.69
0.641 (2.4 GHz Band)	39.97	46.00	-6.03
1.745 (5.8 GHz Band)	39.29	46.00	-6.71
1.929 (5.8 GHz Band)	39.07	46.00	-6.93

Table 2.0 RADIATED EMISSION RESULTS
MIMO 4X4 OFDM Radio, Model: SB505-W

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
733.294 (X-Axis)	41.97	46.00	-4.03
600.014 (X-Axis)	40.72	46.00	-5.28
800.007 (X-Axis)	39.57	46.00	-6.43
666.638 (Y-Axis)	40.47 (QP)	46.00	-5.53
666.637 (X-Axis)	40.40	46.00	-5.60
600.000 (Y-Axis)	40.30 (QP)	46.00	-5.70

Notes:
* The complete emissions data is given in Appendix E of this report.
QP Quasi-Peak Reading

8.2 Emissions Bandwidth (EBW)

The 6 dB Bandwidth was measured using the EMI Receiver. The bandwidth was measured using a direct connection from the RF output of the EUT. The following steps were performed for measuring the 6 dB Bandwidth.

1. Set resolution bandwidth (RBW) = 1-5% of the emissions bandwidth (EBW)
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 emissions that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission. Compare the resultant bandwidth with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is 1-5%

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(2). The 6 dB bandwidth is greater than 500 kHz. Please see the data sheets located in Appendix E.

8.3 Peak Output Power

The Peak Output Power was taken using the power meter and power sensor. The EUT was directly connected to the power sensor, which was directly connected to the power meter. The Peak Output Power was then taken.

The peak output power was taken for all four antenna ports. The total power was then summed among the four antenna ports (in mW) and then converted to dBm.

The antenna gain in dBi was derived by using the gain of each antenna + 10 log (number of antennas). This gain in dBi was then used to determine the reduction necessary from the 1 watt limit per Subpart C, section15.247 (b)(4).

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(3). Please see the data sheets located in Appendix E.

8.4 RF Antenna Conducted Test

The RF antenna conducted test was performed using the EMI Receiver. The RF antenna conducted test measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The resolution bandwidth was 100 kHz, and the video bandwidth was 300 kHz. The spans were wide enough to include all the harmonics and emissions that were produced by the intentional radiator.

Test Results:

This test was not performed because all of the emissions were performed via radiated measurements.

8.5 RF Band Edges

For the 2400 MHz to 2483.5 MHz band: The RF band edges were taken at the edges of the ISM spectrum (2400 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 8.2 of this test report was used to maximize the emission.

For the 5725 MHz to 5850 MHz band: The RF band edges were taken at the edges of the ISM spectrum (5725 MHz when the EUT was on the low channel and 5850 MHz when the EUT was on the high channel) using the EMI Receiver. The RBW was set to 100 kHz and the VBW was set to 300 kHz. Plots of the fundamental were taken to ensure the amplitude at the band edges were at least 20 dB down from the peak of the fundamental emission.

Test Results:

For the 2400 MHz to 2483.5 MHz band: 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 meet the limits of section 15.209. Please see the data sheets located in Appendix E.

For the 5725 MHz to 5850 MHz band: The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The RF power at the band edges at 5725 MHz and 5850 MHz meet the requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). 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 the RBW = 100 kHz
2. Set the VBW >= 300 kHz.
3. Set the span to 5-30% greater than the EBW
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Allow trace to fully stabilize
8. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
9. Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correcting factor (BWCF) where BWCF = 10 log (3 kHz / 100 kHz) = -15.2 dB)
10. Add the adjustment for the number of inputs using 10 log (N) where N is the number of outputs
11. The resulting peak PSD level must be <= 8 dBm.

Test Results:

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

9. CONCLUSIONS

The MIMO 4X4 OFDM Radio, Model: SC3500 MIMO Radio meets all of the specification limits defined in FCC Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.247.

Note: For the unintentional radiator portion of the test, the EUT was within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B.

APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

NVLAP LAB CODES 200063-0, 200528-0, 200527-0

For US, Canada, Australia/New Zealand, Japan, Taiwan, Korea, and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025. Please follow the link to the NIST/NVLAP site for each of our facilities' NVLAP certificate and scope of accreditation

NVLAP listing links

Agoura Division / **Brea Division** / **Silverado/Lake Forest Division**

.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."

ANSI listing CETCB

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for EMC under the US/EU Mutual Recognition Agreement (MRA).
US/EU MRA list NIST MRA site

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for Taiwan/BSMI under the US/APEC (Asia-Pacific Economic Cooperation) Mutual Recognition Agreement (MRA).
APEC MRA list NIST MRA site

We are also listed for IT products by the following country/agency:

VCCI Support member: Please visit http://www.vcci.jp/vcci_e/

FCC Listing, from FCC OET site
FCC test lab search https://fjallfoss.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm

Compatible Electronics IC listing can be found at:
http://www.ic.gc.ca/eic/site/ic1.nsf/eng/home

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.

No modifications were made to the EUT during the testing.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST	MIMO 4X4 OFDM Radio Model: SC3500 MIMO Radio S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

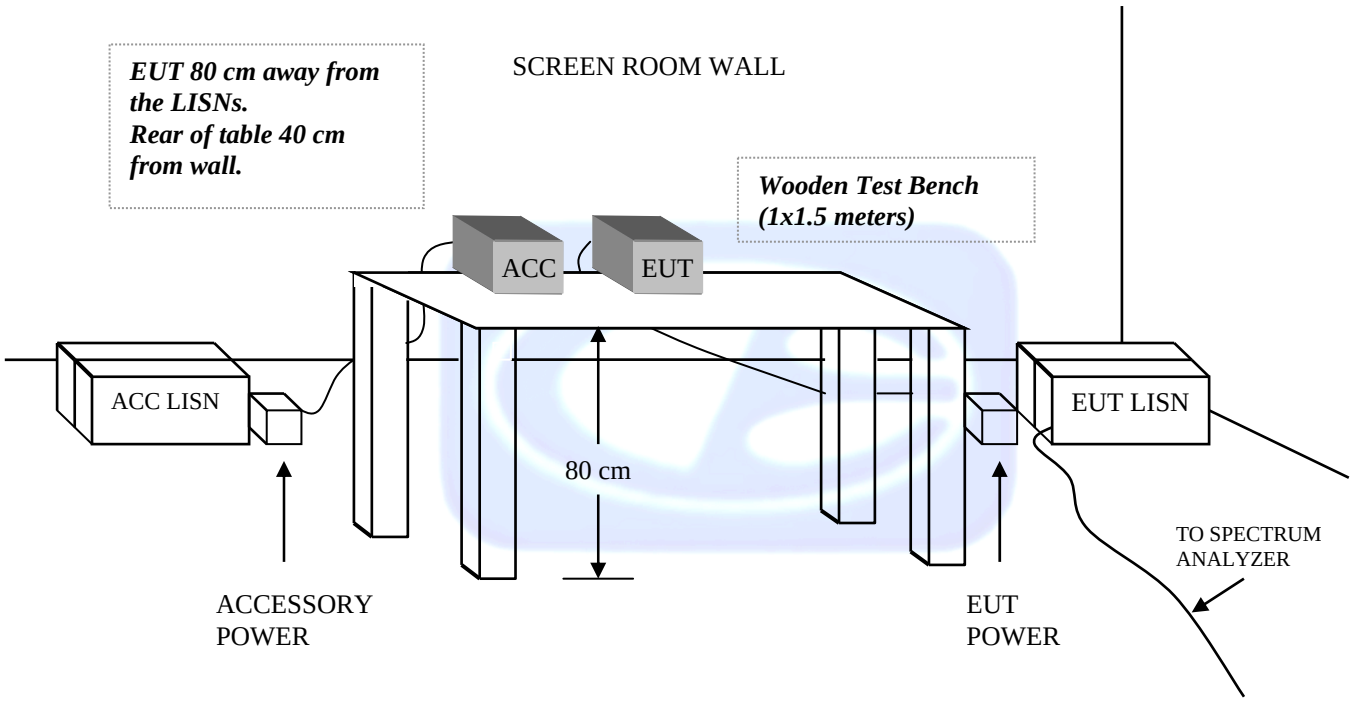
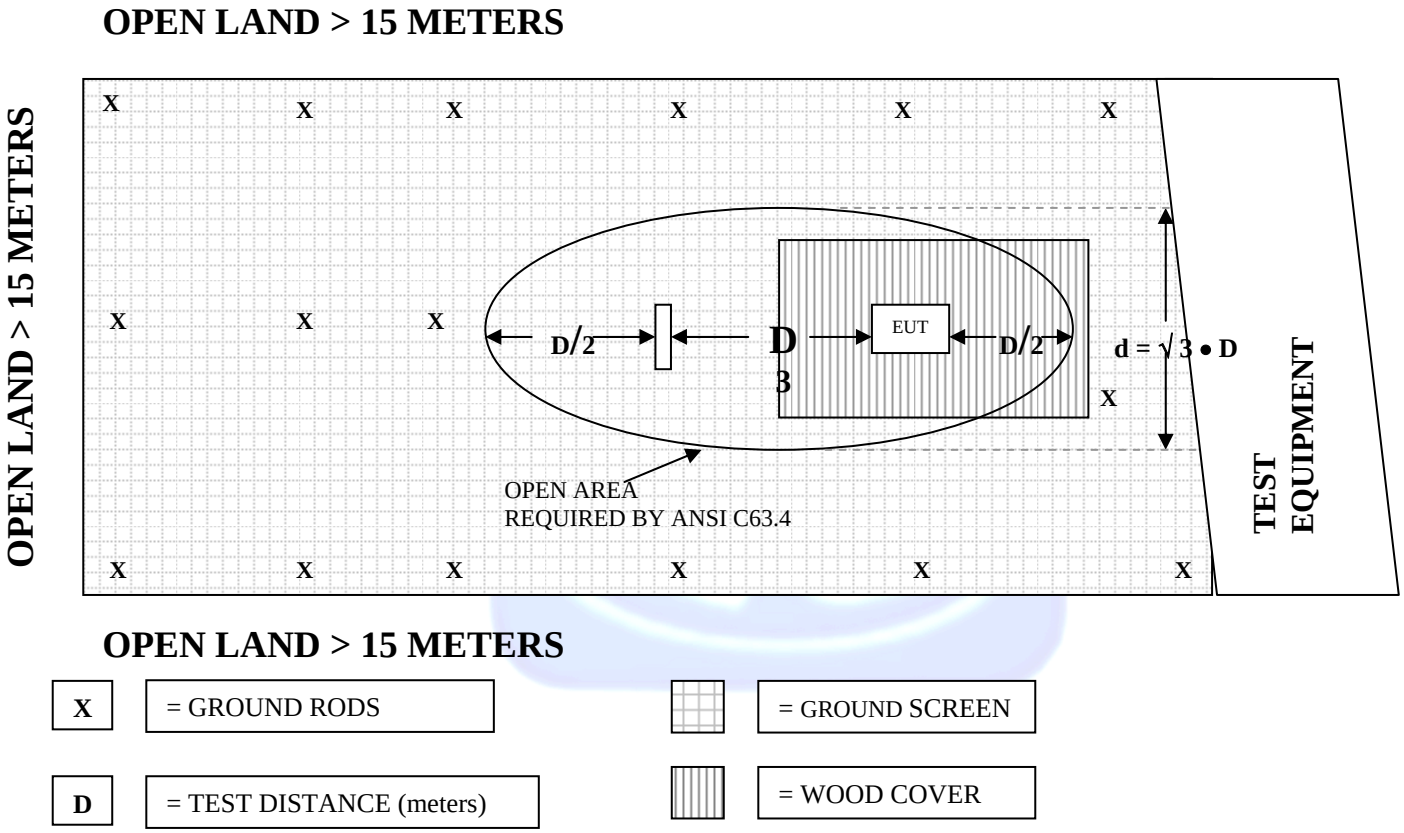


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE



COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: JANUARY 21, 2011

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-41.9	9.6
0.01	-41.79	9.71
0.02	-41.43	10.07
0.05	-41.53	9.97
0.07	-41.47	10.03
0.1	-41.44	10.06
0.2	-41.61	9.89
0.3	-41.62	9.88
0.5	-41.66	9.84
0.7	-41.48	10.02
1	-41.13	10.37
2	-40.89	10.61
3	-41.00	10.50
4	-41.14	10.36
5	-41.02	10.48
10	-40.69	10.82
15	-40.41	11.09
20	-41.07	10.43
25	-42.10	9.40
30	-41.15	10.35

COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15250

CALIBRATION DATE: JUNE 8, 2011

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	10.90	100	9.50
35	11.00	120	12.10
40	11.80	140	11.40
45	11.60	160	12.40
50	11.40	180	15.70
60	9.80	200	16.20
70	7.00	250	16.10
80	5.70	300	19.00
90	7.00		

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16252

CALIBRATION DATE: JUNE 8, 2011

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	13.50	700	20.40
400	15.50	800	20.60
500	15.80	900	20.10
600	20.20	1000	22.80

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: FEBRUARY 29, 2012

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	23.6	10.0	37.7
1.5	22.0	10.5	38.4
2.0	28.7	11.0	38.0
2.5	29.3	11.5	38.2
3.0	30.6	12.0	39.0
3.5	30.4	12.5	42.4
4.0	31.1	13.0	40.8
4.5	33.4	13.5	40.0
5.0	35.3	14.0	39.7
5.5	35.1	14.5	43.5
6.0	36.9	15.0	42.7
6.5	37.4	15.5	39.7
7.0	37.6	16.0	39.2
7.5	36.2	16.5	39.7
8.0	38.4	17.0	42.2
8.5	39.3	17.5	47.6
9.0	37.4	18.0	51.2
9.5	38.0		

COM-POWER AH826

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

ANTENNA RESEARCH MWH-2640/B

HORN ANTENNA

S/N: 01011

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
26.5	39.3	31.0	42.4
27.0	40.4	31.5	41.8
27.5	39.8	32.0	40.1
28.0	40.0	32.5	39.6
28.5	41.0	33.0	39.8
29.0	41.0	33.5	39.9
29.5	41.4	34.0	39.6
30.0	41.5	34.5	40.4
30.5	42.0	40.0	39.6

COM-POWER PA-102

PREAMPLIFIER

S/N: 1017

CALIBRATION DATE: DECEMBER 28, 2011

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	38.54	300	38.45
40	38.53	350	38.47
50	38.57	400	38.36
60	38.54	450	38.07
70	38.54	500	38.31
80	38.54	550	38.37
90	38.54	600	38.28
100	38.53	650	38.19
125	38.51	700	38.24
150	38.43	750	37.88
175	38.56	800	37.94
200	38.50	850	37.65
225	38.46	900	37.50
250	38.57	950	37.47
275	38.45	1000	36.86

COM-POWER PA-118

PREAMPLIFIER

S/N: 181656

CALIBRATION DATE: DECEMBER 28, 2011

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	23.22	10.0	24.66
1.5	26.31	10.5	25.22
2.0	27.40	11.0	25.17
2.5	26.52	11.5	24.47
3.0	27.53	12.0	25.29
3.5	29.02	12.5	26.03
4.0	28.51	13.0	24.11
4.5	26.62	13.5	24.28
5.0	27.13	14.0	25.81
5.5	27.29	14.5	25.45
6.0	26.72	15.0	25.36
6.5	25.62	15.5	26.76
7.0	25.25	16.0	28.09
7.5	24.23	16.5	23.23
8.0	23.72	17.0	26.58
8.5	24.91	17.5	27.45
9.0	25.73	18.0	27.53
9.5	24.79		

COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MARCH 11, 2010

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	24.36	29.5	23.52
18.5	24.54	30.0	21.73
19.0	24.06	30.5	22.34
19.5	23.71	31.0	20.06
20.0	23.42	31.5	20.02
20.5	22.87	32.0	18.11
21.0	22.60	32.5	19.35
21.5	21.08	33.0	17.50
22.0	22.13	33.5	17.49
22.5	22.42	34.0	17.48
23.0	22.85	34.5	18.57
23.5	22.85	35.0	18.64
24.0	23.82	35.5	18.82
24.5	22.33	36.0	19.14
25.0	24.09	36.5	18.58
25.5	23.20	37.0	15.07
26.0	23.18	37.5	17.29
26.5	23.50	38.0	20.82
27.0	24.25	38.5	19.96
27.5	23.58	39.0	20.66
28.0	23.81	39.5	21.41
28.5	23.76	40.0	18.89
29.0	24.83		

FRONT VIEW

SILVUS TECHNOLOGIES
MIMO 4X4 OFDM RADIO
MODEL: SC3500 MIMO RADIO
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

SILVUS TECHNOLOGIES
MIMO 4X4 OFDM RADIO
MODEL: SC3500 MIMO RADIO
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

SILVUS TECHNOLOGIES
MIMO 4X4 OFDM RADIO
MODEL: SC3500 MIMO RADIO
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

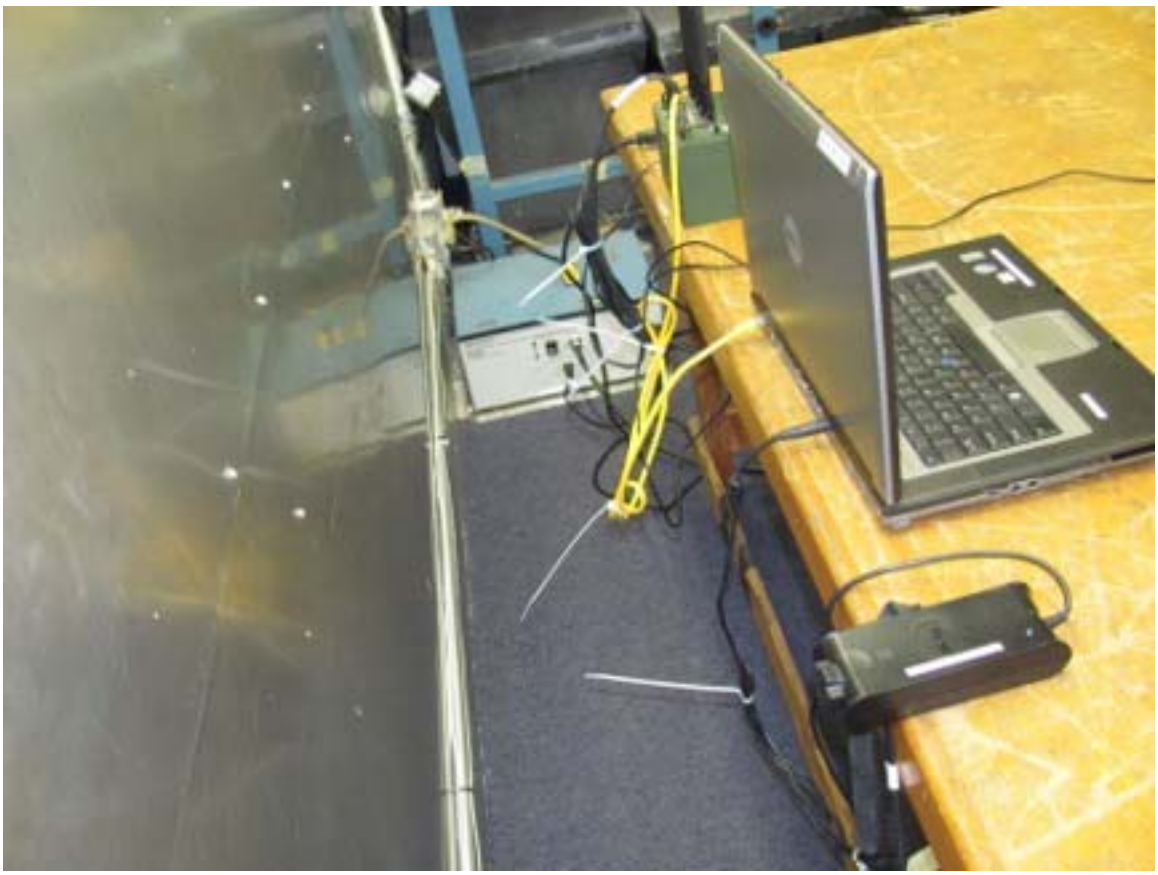
SILVUS TECHNOLOGIES
MIMO 4X4 OFDM RADIO
MODEL: SC3500 MIMO RADIO
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

SILVUS TECHNOLOGIES
MIMO 4X4 OFDM RADIO
MODEL: SC3500 MIMO RADIO
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

SILVUS TECHNOLOGIES
MIMO 4X4 OFDM RADIO
MODEL: SC3500 MIMO RADIO
FCC SUBPART B AND C – CONDUCTED EMISSIONS

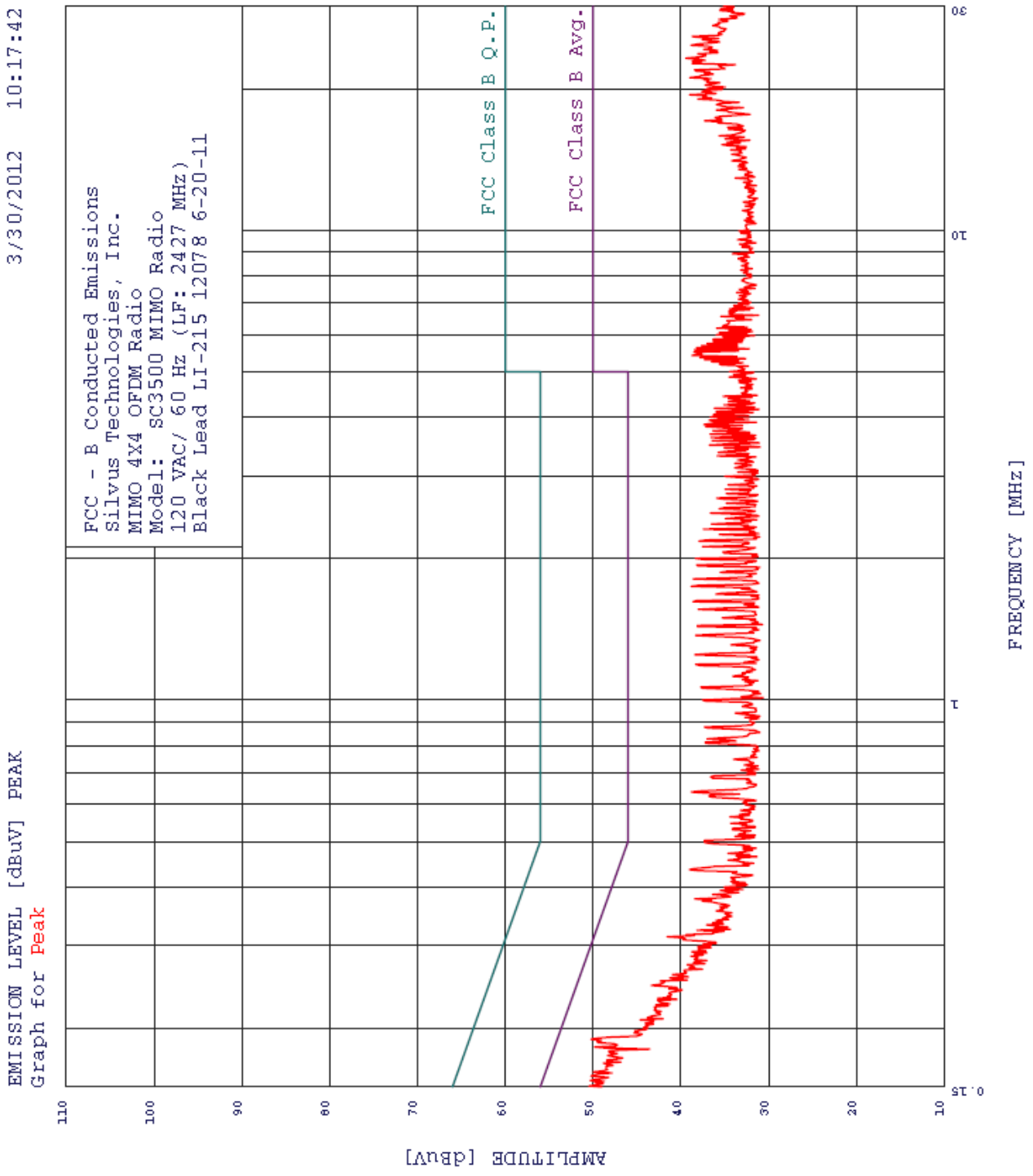
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

CONDUCTED EMISISONS

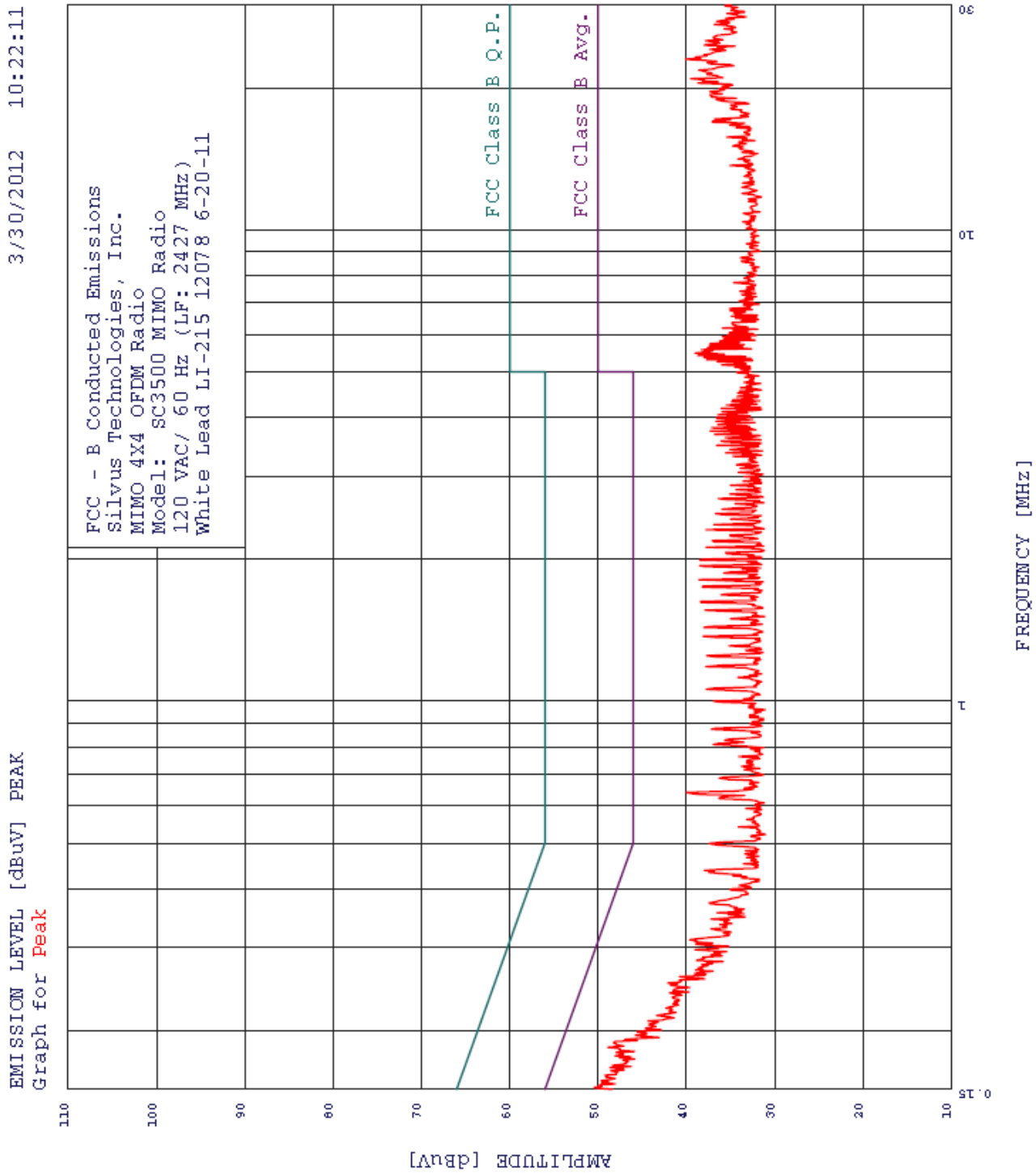
DATA SHEETS


3/30/2012 10:17:42
FCC - B Conducted Emissions
Silvus Technologies, Inc.
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
120 VAC/ 60 Hz (LF: 2427 MHz)
Black Lead LI-215 12078 6-20-11
FCC Class B Q.P.
FCC Class B Avg.
EMISSION LEVEL [dBuV] PEAK
Graph for Peak
AMPLITUDE [dBuV]
FREQUENCY [MHz]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30

FCC - B Conducted Emissions 3/30/2012 10:17:42
Silvus Technologies, Inc.
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
120 VAC/ 60 Hz (LF: 2427 MHz)
Black Lead LI-215 12078 6-20-11
Test Engineer: James Ross

49 highest peaks above -50.00 dB of FCC Class B Avg. limit line
Peak criteria : 3.00 dB, Curve : Peak

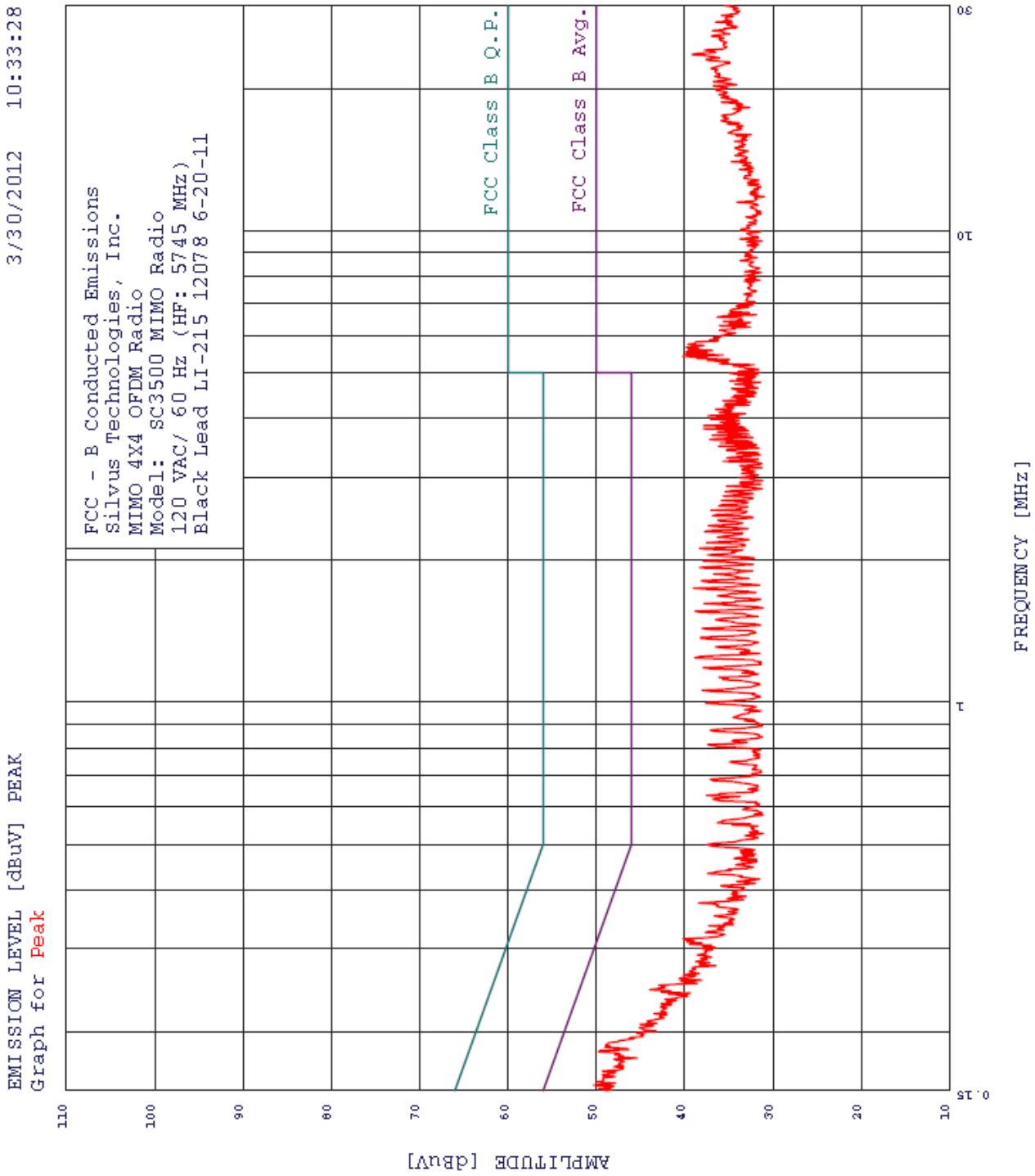
Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.189	50.22	54.06	-3.84
2	0.637	38.81	46.00	-7.19
3	1.745	38.80	46.00	-7.20
4	1.620	38.60	46.00	-7.40
5	1.810	38.60	46.00	-7.40
6	1.249	38.40	46.00	-7.60
7	2.002	38.30	46.00	-7.70
8	1.191	38.30	46.00	-7.70
9	1.374	38.30	46.00	-7.70
10	1.939	38.20	46.00	-7.80
11	1.434	38.10	46.00	-7.90
12	1.560	38.00	46.00	-8.00
13	2.179	37.91	46.00	-8.09
14	0.435	39.00	47.15	-8.15
15	1.066	37.70	46.00	-8.30
16	0.313	41.55	49.88	-8.33
17	2.123	37.50	46.00	-8.50
18	1.000	37.50	46.00	-8.50
19	0.247	43.34	51.86	-8.52
20	2.310	37.41	46.00	-8.59
21	3.862	37.36	46.00	-8.64
22	0.502	37.31	46.00	-8.69
23	0.876	37.30	46.00	-8.70
24	0.814	37.20	46.00	-8.80
25	3.820	37.16	46.00	-8.84
26	0.826	37.00	46.00	-9.00
27	0.624	36.81	46.00	-9.19
28	3.945	36.76	46.00	-9.24
29	3.492	36.75	46.00	-9.25
30	3.683	36.66	46.00	-9.34
31	2.501	36.62	46.00	-9.38
32	0.686	36.60	46.00	-9.40
33	4.008	36.57	46.00	-9.43
34	3.624	36.55	46.00	-9.45
35	2.371	36.51	46.00	-9.49
36	3.565	36.45	46.00	-9.55
37	3.741	36.36	46.00	-9.64
38	4.050	36.27	46.00	-9.73
39	4.182	36.17	46.00	-9.83
40	0.377	38.38	48.34	-9.96
41	1.680	36.00	46.00	-10.00
42	4.114	35.97	46.00	-10.03
43	2.693	35.92	46.00	-10.08
44	3.311	35.84	46.00	-10.16
45	3.365	35.75	46.00	-10.25
46	2.554	35.62	46.00	-10.38
47	2.250	35.61	46.00	-10.39
48	1.869	35.50	46.00	-10.50
49	23.273	39.42	50.00	-10.58


3/30/2012 10:22:11
FCC - B Conducted Emissions
Silvus Technologies, Inc.
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
120 VAC/ 60 Hz (LF: 2427 MHz)
White Lead LI-215 12078 6-20-11
FCC Class B Q.P.
FCC Class B Avg.
EMISSION LEVEL [dBuV] PEAK
Graph for Peak
AMPLITUDE [dBuV]
FREQUENCY [MHz]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30

FCC - B Conducted Emissions 3/30/2012 10:22:11
Silvus Technologies, Inc.
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
120 VAC/ 60 Hz (LF: 2427 MHz)
White Lead LI-215 12078 6-20-11
Test Engineer: James Ross

49 highest peaks above -50.00 dB of FCC Class B Avg. limit line
Peak criteria : 3.00 dB, Curve : Peak

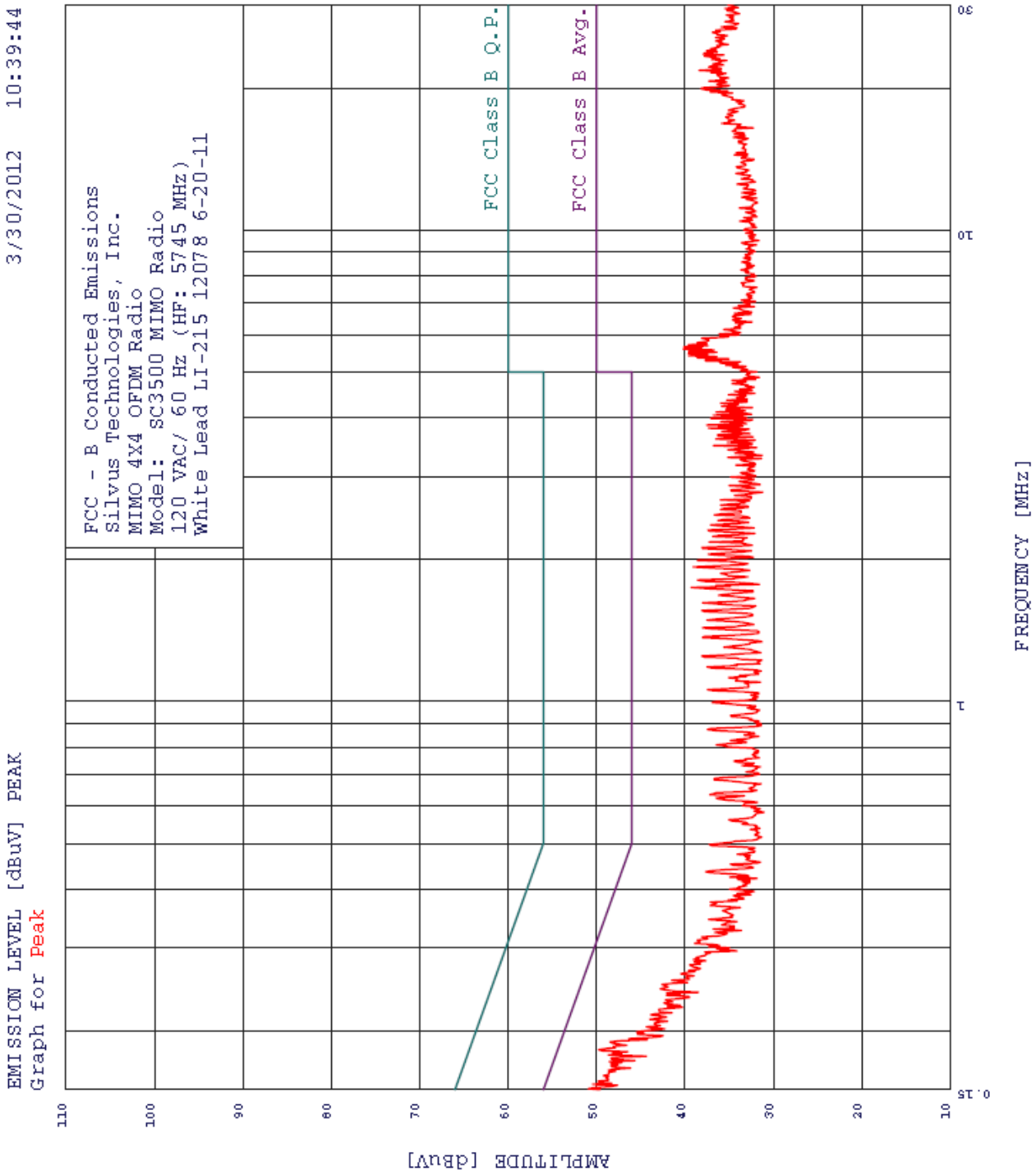
Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.641	39.97	46.00	-6.03
2	1.810	38.58	46.00	-7.42
3	1.939	38.47	46.00	-7.53
4	1.992	38.46	46.00	-7.54
5	1.629	38.40	46.00	-7.60
6	1.745	38.19	46.00	-7.81
7	1.374	38.10	46.00	-7.90
8	1.434	38.00	46.00	-8.00
9	1.560	37.90	46.00	-8.10
10	2.310	37.78	46.00	-8.22
11	1.184	37.78	46.00	-8.22
12	2.123	37.77	46.00	-8.23
13	1.060	37.75	46.00	-8.25
14	1.249	37.68	46.00	-8.32
15	0.500	37.40	46.01	-8.61
16	3.741	37.31	46.00	-8.69
17	0.872	37.15	46.00	-8.85
18	3.800	37.12	46.00	-8.88
19	2.190	37.07	46.00	-8.93
20	0.809	36.96	46.00	-9.04
21	1.000	36.93	46.00	-9.07
22	2.371	36.88	46.00	-9.12
23	0.438	37.95	47.11	-9.15
24	3.683	36.80	46.00	-9.20
25	2.501	36.69	46.00	-9.31
26	3.924	36.64	46.00	-9.36
27	3.492	36.57	46.00	-9.43
28	3.987	36.55	46.00	-9.45
29	4.050	36.46	46.00	-9.54
30	3.862	36.43	46.00	-9.57
31	2.693	36.39	46.00	-9.61
32	0.686	36.27	46.00	-9.73
33	1.680	36.09	46.00	-9.91
34	3.565	36.09	46.00	-9.91
35	23.022	40.07	50.00	-9.93
36	4.182	36.06	46.00	-9.94
37	2.554	35.99	46.00	-10.01
38	1.869	35.77	46.00	-10.23
39	0.312	39.61	49.92	-10.32
40	3.624	35.60	46.00	-10.40
41	2.066	35.56	46.00	-10.44
42	3.365	35.55	46.00	-10.45
43	20.935	39.51	50.00	-10.49
44	4.249	35.46	46.00	-10.54
45	1.311	35.19	46.00	-10.81
46	2.751	35.09	46.00	-10.91
47	2.250	35.07	46.00	-10.93
48	3.419	35.06	46.00	-10.94
49	1.496	35.01	46.00	-10.99


3/30/2012 10:33:28
FCC - B Conducted Emissions
Silvus Technologies, Inc.
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
120 VAC/ 60 Hz (HF: 5745 MHz)
Black Lead LI-215 12078 6-20-11
FCC Class B Q.P.
FCC Class B Avg.
EMISSION LEVEL [dBuV] PEAK
Graph for Peak
AMPLITUDE [dBuV]
FREQUENCY [MHz]
110
100
90
80
70
60
50
40
30
20
10
30
10
1
0.15

FCC - B Conducted Emissions 3/30/2012 10:33:28
Silvus Technologies, Inc.
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
120 VAC/ 60 Hz (HF: 5745 MHz)
Black Lead LI-215 12078 6-20-11
Test Engineer: James Ross

49 highest peaks above -50.00 dB of FCC Class B Avg. limit line
Peak criteria : 3.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.182	49.72	54.41	-4.69
2	1.745	39.00	46.00	-7.00
3	1.243	38.80	46.00	-7.20
4	1.560	38.80	46.00	-7.20
5	2.123	38.30	46.00	-7.70
6	1.929	38.30	46.00	-7.70
7	1.367	38.20	46.00	-7.80
8	1.810	38.10	46.00	-7.90
9	0.246	43.94	51.90	-7.97
10	1.060	38.00	46.00	-8.00
11	1.434	38.00	46.00	-8.00
12	1.184	37.90	46.00	-8.10
13	1.992	37.90	46.00	-8.10
14	3.862	37.86	46.00	-8.14
15	3.800	37.86	46.00	-8.14
16	1.620	37.80	46.00	-8.20
17	2.298	37.71	46.00	-8.29
18	0.995	37.60	46.00	-8.40
19	0.634	37.51	46.00	-8.49
20	2.179	37.51	46.00	-8.49
21	0.500	37.41	46.01	-8.60
22	2.055	37.40	46.00	-8.60
23	0.814	37.40	46.00	-8.60
24	4.050	37.37	46.00	-8.63
25	2.371	37.31	46.00	-8.69
26	3.605	37.15	46.00	-8.85
27	0.686	37.10	46.00	-8.90
28	0.872	37.10	46.00	-8.90
29	3.987	37.07	46.00	-8.93
30	2.554	37.02	46.00	-8.98
31	3.683	36.86	46.00	-9.14
32	2.488	36.82	46.00	-9.18
33	0.624	36.81	46.00	-9.19
34	1.869	36.70	46.00	-9.30
35	1.311	36.50	46.00	-9.50
36	1.496	36.50	46.00	-9.50
37	4.182	36.47	46.00	-9.53
38	0.315	40.15	49.84	-9.68
39	0.555	36.31	46.00	-9.69
40	1.680	36.30	46.00	-9.70
41	3.741	36.26	46.00	-9.74
42	5.420	40.21	50.00	-9.79
43	0.433	37.40	47.19	-9.79
44	3.492	36.15	46.00	-9.85
45	2.610	36.12	46.00	-9.88
46	1.130	36.10	46.00	-9.90
47	0.375	38.38	48.38	-10.00
48	3.547	35.95	46.00	-10.05
49	5.479	39.91	50.00	-10.09


3/30/2012 10:39:44
FCC - B Conducted Emissions
Silvus Technologies, Inc.
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
120 VAC/ 60 Hz (HF: 5745 MHz)
White Lead LI-215 12078 6-20-11
FCC Class B Q.P.
FCC Class B Avg.
EMISSION LEVEL [dBuV] PEAK
Graph for Peak
AMPLITUDE [dBuV]
FREQUENCY [MHz]
110
100
90
80
70
60
50
40
30
20
10
30
10
1
0.15

FCC - B Conducted Emissions 3/30/2012 10:39:44
Silvus Technologies, Inc.
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
120 VAC/ 60 Hz (HF: 5745 MHz)
White Lead LI-215 12078 6-20-11
Test Engineer: James Ross

49 highest peaks above -50.00 dB of FCC Class B Avg. limit line
Peak criteria : 3.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.183	49.76	54.37	-4.61
2	1.745	39.29	46.00	-6.71
3	1.929	39.07	46.00	-6.93
4	1.810	38.58	46.00	-7.42
5	1.992	38.56	46.00	-7.44
6	1.560	38.10	46.00	-7.90
7	1.249	38.08	46.00	-7.92
8	2.123	38.07	46.00	-7.93
9	1.434	38.00	46.00	-8.00
10	1.620	38.00	46.00	-8.00
11	1.367	38.00	46.00	-8.00
12	3.862	37.53	46.00	-8.47
13	1.488	37.51	46.00	-8.49
14	1.184	37.48	46.00	-8.52
15	0.872	37.45	46.00	-8.55
16	1.060	37.45	46.00	-8.55
17	2.310	37.38	46.00	-8.62
18	2.055	37.36	46.00	-8.64
19	3.800	37.32	46.00	-8.68
20	2.179	37.27	46.00	-8.73
21	0.634	37.17	46.00	-8.83
22	0.497	37.20	46.05	-8.85
23	2.371	37.08	46.00	-8.92
24	3.987	37.05	46.00	-8.95
25	0.995	36.93	46.00	-9.07
26	0.246	42.79	51.90	-9.11
27	2.238	36.87	46.00	-9.13
28	3.492	36.77	46.00	-9.23
29	4.050	36.76	46.00	-9.24
30	2.488	36.69	46.00	-9.31
31	0.683	36.67	46.00	-9.33
32	0.435	37.65	47.15	-9.50
33	3.605	36.49	46.00	-9.51
34	0.624	36.47	46.00	-9.53
35	4.114	36.46	46.00	-9.54
36	0.809	36.46	46.00	-9.54
37	3.683	36.30	46.00	-9.70
38	2.423	36.28	46.00	-9.72
39	5.597	40.20	50.00	-9.80
40	1.680	36.19	46.00	-9.81
41	2.679	35.99	46.00	-10.01
42	2.610	35.99	46.00	-10.01
43	1.869	35.97	46.00	-10.03
44	4.294	35.97	46.00	-10.03
45	3.741	35.81	46.00	-10.19
46	5.479	39.60	50.00	-10.40
47	1.304	35.59	46.00	-10.41
48	3.419	35.16	46.00	-10.84
49	3.294	35.14	46.00	-10.86

RADIATED EMISSIONS

DATA SHEETS

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

2427 MHz Fundamental
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2427	112.53	V	--	--	Peak	1.25	225	
2427	101.32	V	--	--	Avg	1.25	225	
4854	49.64	V	74	-24.36	Peak	1.25	180	
4854	35.19	V	54	-18.81	Avg	1.25	180	
7281	47.24	V	74	-26.76	Peak	1.25	45	
7281	35.26	V	54	-18.74	Avg	1.25	45	
9708	50.26	V	92.53	-42.27	Peak	1	315	**Not in Restricted Band**
9708	38.41	V	81.32	-42.91	Avg	1	315	**Not in Restricted Band**
12135	51.78	V	74	-22.22	Peak	1.25	225	
12135	40.61	V	54	-13.39	Avg	1.25	225	
14562								**No Emission**
14562								**Detected**
16989								**No Emission**
16989								**Detected**
19416								**No Emission**
19416								**Detected**
21843								**No Emission**
21843								**Detected**
24270								**No Emission**
24270								**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

2427 MHz Fundamental
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2427	105.29	H	--	--	Peak	2.5	315	
2427	94.99	H	--	--	Avg	2.5	315	
4854	42.71	H	74	-31.29	Peak	1.25	225	
4854	29.89	H	54	-24.11	Avg	1.25	225	
7281	46.79	H	74	-27.21	Peak	1.35	225	
7281	35.31	H	54	-18.69	Avg	1.35	225	
9708	51.61	H	85.29	-33.68	Peak	1.25	180	**Not in Restricted Band**
9708	38.46	H	74.99	-36.53	Avg	1.25	180	**Not in Restricted Band**
12135	51.98	H	74	-22.02	Peak	1.55	135	
12135	40.51	H	54	-13.49	Avg	1.55	135	
14562								**No Emission**
14562								**Detected**
16989								**No Emission**
16989								**Detected**
19416								**No Emission**
19416								**Detected**
21843								**No Emission**
21843								**Detected**
24270								**No Emission**
24270								**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

2427 MHz Fundamental
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2427	113.92	V	--	--	Peak	1.25	315	
2427	103.14	V	--	--	Avg	1.25	315	
4854	45.78	V	74	-28.22	Peak	1.25	180	
4854	32.16	V	54	-21.84	Avg	1.25	180	
7281	46.96	V	74	-27.04	Peak	1.15	90	
7281	35.33	V	54	-18.67	Avg	1.15	90	
9708	50.55	V	93.92	-43.37	Peak	1.25	135	**Not in Restricted Band**
9708	38.37	V	83.14	-44.77	Avg	1.25	135	**Not in Restricted Band**
12135	52.91	V	74	-21.09	Peak	1.25	135	
12135	40.63	V	54	-13.37	Avg	1.25	135	
14562								**No Emission**
14562								**Detected**
16989								**No Emission**
16989								**Detected**
19416								**No Emission**
19416								**Detected**
21843								**No Emission**
21843								**Detected**
24270								**No Emission**
24270								**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

2427 MHz Fundamental
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2427	97.33	H	--	--	Peak	1.25	180	
2427	86.94	H	--	--	Avg	1.25	180	
4854	42.32	H	74	-31.68	Peak	1.25	180	
4854	30.09	H	54	-23.91	Avg	1.25	180	
7281	46.29	H	74	-27.71	Peak	1.55	180	
7281	35.34	H	54	-18.66	Avg	1.55	180	
9708	51.31	H	77.33	-26.02	Peak	1.25	155	**Not in Restricted Band**
9708	38.38	H	66.94	-28.56	Avg	1.25	155	**Not in Restricted Band**
12135	52.56	H	74	-21.44	Peak	1.35	165	
12135	40.56	H	54	-13.44	Avg	1.35	165	
14562								**No Emission**
14562								**Detected**
16989								**No Emission**
16989								**Detected**
19416								**No Emission**
19416								**Detected**
21843								**No Emission**
21843								**Detected**
24270								**No Emission**
24270								**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

2447 MHz Fundamental
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2447	110.84	V	--	--	Peak	2.25	225	
2447	100.22	V	--	--	Avg	2.25	225	
4894	42.11	V	74	-31.89	Peak	1.25	225	
4894	29.96	V	54	-24.04	Avg	1.25	225	
7341	47.06	V	74	-26.94	Peak	1.35	165	
7341	35.23	V	54	-18.77	Avg	1.35	165	
9788	52.06	V	90.84	-38.78	Peak	1.25	175	**Not in Restricted Band**
9788	38.52	V	80.22	-41.7	Avg	1.25	175	**Not in Restricted Band**
12235	53.24	V	74	-20.76	Peak	1.25	225	
12235	42.01	V	54	-11.99	Avg	1.25	225	
14682								**No Emission**
14682								**Detected**
17129								**No Emission**
17129								**Detected**
19576								**No Emission**
19576								**Detected**
22023								**No Emission**
22023								**Detected**
24470								**No Emission**
24470								**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

2447 MHz Fundamental
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2447	105.79	H	--	--	Peak	3	315	
2447	94.95	H	--	--	Avg	3	315	
4894	42.18	H	74	-31.82	Peak	1.25	155	
4894	30.02	H	54	-23.98	Avg	1.25	155	
7341	46.94	H	74	-27.06	Peak	1.35	165	
7341	35.37	H	54	-18.63	Avg	1.35	165	
9788	50.27	H	85.79	-35.52	Peak	1.25	155	**Not in Restricted Band**
9788	38.45	H	74.95	-36.5	Avg	1.25	155	**Not in Restricted Band**
12235	53.39	H	74	-20.61	Peak	1.35	165	
12235	41.75	H	54	-12.25	Avg	1.35	165	
14682								**No Emission**
14682								**Detected**
17129								**No Emission**
17129								**Detected**
19576								**No Emission**
19576								**Detected**
22023								**No Emission**
22023								**Detected**
24470								**No Emission**
24470								**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

2447 MHz Fundamental
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2447	114.08	V	--	--	Peak	1.25	315	
2447	103.5	V	--	--	Avg	1.25	315	
4894	42.43	V	74	-31.57	Peak	1.25	315	
4894	30.23	V	54	-23.77	Avg	1.25	315	
7341	46.43	V	74	-27.57	Peak	1.15	135	
7341	35.23	V	54	-18.77	Avg	1.15	135	
9788	49.99	V	94.08	-44.09	Peak	1.25	180	**Not in Restricted Band**
9788	38.66	V	83.5	-44.84	Avg	1.25	180	**Not in Restricted Band**
12235	54.07	V	74	-19.93	Peak	1.35	165	
12235	42.05	V	54	-11.95	Avg	1.35	165	
14682								**No Emission**
14682								**Detected**
17129								**No Emission**
17129								**Detected**
19576								**No Emission**
19576								**Detected**
22023								**No Emission**
22023								**Detected**
24470								**No Emission**
24470								**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

2447 MHz Fundamental
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2447	99.31	H	--	--	Peak	1.25	225	
2447	88.87	H	--	--	Avg	1.25	225	
4894	42.88	H	74	-31.12	Peak	1.25	225	
4894	30.13	H	54	-23.87	Avg	1.25	225	
7341	46.61	H	74	-27.39	Peak	1.55	235	
7341	35.35	H	54	-18.65	Avg	1.55	235	
9788	50.06	H	79.31	-29.25	Peak	1.45	225	**Not in Restricted Band**
9788	38.44	H	68.87	-30.43	Avg	1.45	225	**Not in Restricted Band**
12235	53.67	H	74	-20.33	Peak	1.35	235	
12235	41.83	H	54	-12.17	Avg	1.35	235	
14682								**No Emission**
14682								**Detected**
17129								**No Emission**
17129								**Detected**
19576								**No Emission**
19576								**Detected**
22023								**No Emission**
22023								**Detected**
24470								**No Emission**
24470								**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

5745 MHz Fundamental
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
5745	109.93	V	--	--	Peak	1.25	155	
5745	99.51	V	--	--	Avg	1.25	155	
11490	51.31	V	74	-22.69	Peak	1.55	165	
11490	39.25	V	54	-14.75	Avg	1.55	165	
17235	57.03	V	89.93	-32.9	Peak	1.25	155	Not in Restricted Band
17235	45.04	V	79.51	-34.47	Avg	1.25	155	Not in Restricted Band
22980								**No Emission**
22980								**Detected**
28725								**No Emission**
28725								**Detected**
34470								**No Emission**
34470								**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

5745 MHz Fundamental
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
5745	106.44	H	--	--	Peak	1.25	135	
5745	96.58	H	--	--	Avg	1.25	135	
11490	51.01	H	74	-22.99	Peak	1.25	135	
11490	38.78	H	54	-15.22	Avg	1.25	135	
17235	57.32	H	86.44	-29.12	Peak	1.15	145	Not in Restricted Band
17235	45.09	H	76.58	-31.49	Avg	1.15	145	Not in Restricted Band
22980								**No Emission**
22980								**Detected**
28725								**No Emission**
28725								**Detected**
34470								**No Emission**
34470								**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

5745 MHz Fundamental
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
5745	112.22	V	--	--	Peak	1.25	155	
5745	100.31	V	--	--	Avg	1.25	155	
11490	51.23	V	74	-22.77	Peak	1.25	155	
11490	39.28	V	54	-14.72	Avg	1.25	155	
17235	57.86	V	92.22	-34.36	Peak	1.25	165	Not in Restricted Band
17235	45.11	V	80.31	-35.2	Avg	1.25	165	Not in Restricted Band
22980								**No Emission**
22980								**Detected**
28725								**No Emission**
28725								**Detected**
34470								**No Emission**
34470								**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

5745 MHz Fundamental
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
5745	99.42	H	--	--	Peak	1.25	135	
5745	89.29	H	--	--	Avg	1.25	135	
11490	50.64	H	74	-23.36	Peak	1.25	155	
11490	38.78	H	54	-15.22	Avg	1.25	155	
17235	56.96	H	79.42	-22.46	Peak	1.35	175	Not in Restricted Band
17235	45.09	H	69.29	-24.2	Avg	1.35	175	Not in Restricted Band
22980								**No Emission**
22980								**Detected**
28725								**No Emission**
28725								**Detected**
34470								**No Emission**
34470								**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

5785 MHz Fundamental
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
5785	108.89	V	--	--	Peak	1.25	155	
5785	98.58	V	--	--	Avg	1.25	155	
11570	52.31	V	74	-21.69	Peak	1.25	155	
11570	38.71	V	54	-15.29	Avg	1.25	155	
17355	57.34	V	88.89	-31.55	Peak	1.35	165	Not in Restricted Band
17355	46.16	V	78.58	-32.42	Avg	1.35	165	Not in Restricted Band
23140								**No Emission**
23140								**Detected**
28925								**No Emission**
28925								**Detected**
34710								**No Emission**
34710								**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

5785 MHz Fundamental
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
5785	107.77	H	--	--	Peak	1.25	155	
5785	94.66	H	--	--	Avg	1.25	155	
11570	49.88	H	74	-24.12	Peak	1.35	165	
11570	39.01	H	54	-14.99	Avg	1.35	165	
17355	58.15	H	87.77	-29.62	Peak	1.25	175	Not in Restricted Band
17355	45.25	H	74.66	-29.41	Avg	1.25	175	Not in Restricted Band
23140								**No Emission**
23140								**Detected**
28925								**No Emission**
28925								**Detected**
34710								**No Emission**
34710								**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

5785 MHz Fundamental
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
5785	110.31	V	--	--	Peak	1.25	225	
5785	98.63	V	--	--	Avg	1.25	225	
11570	47.96	V	74	-26.04	Peak	1.25	135	
11570	38.61	V	54	-15.39	Avg	1.25	135	
17355	57.95	V	90.31	-32.36	Peak	1.35	145	Not in Restricted Band
17355	46.18	V	78.63	-32.45	Avg	1.35	145	Not in Restricted Band
23140								**No Emission**
23140								**Detected**
28925								**No Emission**
28925								**Detected**
34710								**No Emission**
34710								**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

5785 MHz Fundamental
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
5785	99.96	H	--	--	Peak	1	180	
5785	87.94	H	--	--	Avg	1	180	
11570	49.97	H	74	-24.03	Peak	1.25	155	
11570	38.51	H	54	-15.49	Avg	1.25	155	
17355	58.11	H	79.96	-21.85	Peak	1.25	145	Not in Restricted Band
17355	46.27	H	67.94	-21.67	Avg	1.25	145	Radiated Not Required
23140								**No Emission**
23140								**Detected**
28925								**No Emission**
28925								**Detected**
34710								**No Emission**
34710								**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

5830 MHz Fundamental
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
5830	111.75	V	--	--	Peak	1.25	155	
5830	102.05	V	--	--	Avg	1.25	155	
11660	50.94	V	74	-23.06	Peak	1.25	155	
11660	38.91	V	54	-15.09	Avg	1.25	155	
17490	59.73	V	91.75	-32.02	Peak	1.25	165	Not in Restricted Band
17490	47.97	V	82.05	-34.08	Avg	1.25	165	Not in Restricted Band
23320		V	--	--	Peak			**No Emission**
23320		V	--	--	Avg			**Detected**
29150		V	--	--	Peak			**No Emission**
29150		V	--	--	Avg			**Detected**
34980		V	--	--	Peak			**No Emission**
34980		V	--	--	Avg			**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

5830 MHz Fundamental
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
5830	108.45	H	--	--	Peak	1.25	135	
5830	97.78	H	--	--	Avg	1.25	135	
11660	47.89	H	74	-26.11	Peak	1.25	115	
11660	34.61	H	54	-19.39	Avg	1.25	115	
17490	77.37	H	98.45	--	Peak	1.25	155	Not in Restricted Band
17490	64.16	H	77.78	--	Avg	1.25	155	Not in Restricted Band
23320		H	--	--	Peak			**No Emission**
23320		H	--	--	Avg			**Detected**
29150		H	--	--	Peak			**No Emission**
29150		H	--	--	Avg			**Detected**
34980		H	--	--	Peak			**No Emission**
34980		H	--	--	Avg			**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

5830 MHz Fundamental
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
5830	113.11	V	--	--	Peak	1.25	155	
5830	102.93	V	--	--	Avg	1.25	155	
11660	57.58	V	74	-16.42	Peak	1.25	165	
11660	45.71	V	54	-8.29	Avg	1.25	165	
17490	59.95	V	93.11	-33.16	Peak	1.25	155	Not in Restricted Band
17490	47.88	V	82.93	-35.05	Avg	1.25	155	Not in Restricted Band
23320		V	--	--	Peak			**No Emission**
23320		V	--	--	Avg			**Detected**
29150		V	--	--	Peak			**No Emission**
29150		V	--	--	Avg			**Detected**
34980		V	--	--	Peak			**No Emission**
34980		V	--	--	Avg			**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

5830 MHz Fundamental
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
5830	100.97	H	--	--	Peak	1.25	155	
5830	90.05	H	--	--	Avg	1.25	155	
11660	51.18	H	74	-22.82	Peak	1.35	145	
11660	38.51	H	54	-15.49	Avg	1.35	145	
17490	60.56	H	80.97	-20.41	Peak	1.25	45	Not in Restricted Band
17490	48.01	H	70.05	-22.04	Avg	1.25	45	Not in Restricted Band
23320		H	--	--	Peak			**No Emission**
23320		H	--	--	Avg			**Detected**
29150		H	--	--	Peak			**No Emission**
29150		H	--	--	Avg			**Detected**
34980		H	--	--	Peak			**No Emission**
34980		H	--	--	Avg			**Detected**

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

Non Harmonic Emissions from the Tx and Digital Portion – 10 kHz to 30 MHz

No Emission Found for the Non-Harmonic Emissions from the Tx from 10 kHz to 30 MHz for both the Vertical and Horizontal Polarizations.

No Emissions Found for the Digital Portion from 10 kHz to 30 MHz for both Vertical and Horizontal Polarizations

Tested in both the 2.4 GHz and 5.8 GHz bands.

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

Non Harmonic Emissions from the Tx and Digital Portion - 1 GHz to 40 GHz

No Emission Found for the Non-Harmonic Emissions from the Tx from 1 GHz to 40 GHz for both the Vertical and Horizontal Polarizations.

No Emissions Found for the Digital Portion from 1 GHz to 40 GHz for both Vertical and Horizontal Polarizations

Tested in both the 2.4 GHz and 5.8 GHz bands.

Test Location : Compatible Electronics **Page** : 1/2
Customer : Silvus Technologies **Date** : 3/29/2012
Manufacturer : Silvus Technologies **Time** : 13:24:04
Eut name : MIMO 4X4 OFDM Radio **Lab** : D
Model : SC3500 MIMO Radio **Test Distance** : 3
Serial # : N/A
Specification : FCC Class B
Distance correction factor (20 * log(test/spec) : 0.00
Test Mode : Radiated Emissions (30 MHz to 1 GHz)
Polarity: Horizontal and Vertical
Clocks: 40, 66.66, 25 MHz - Y-Axis
Tested By: Kyle Fujimoto

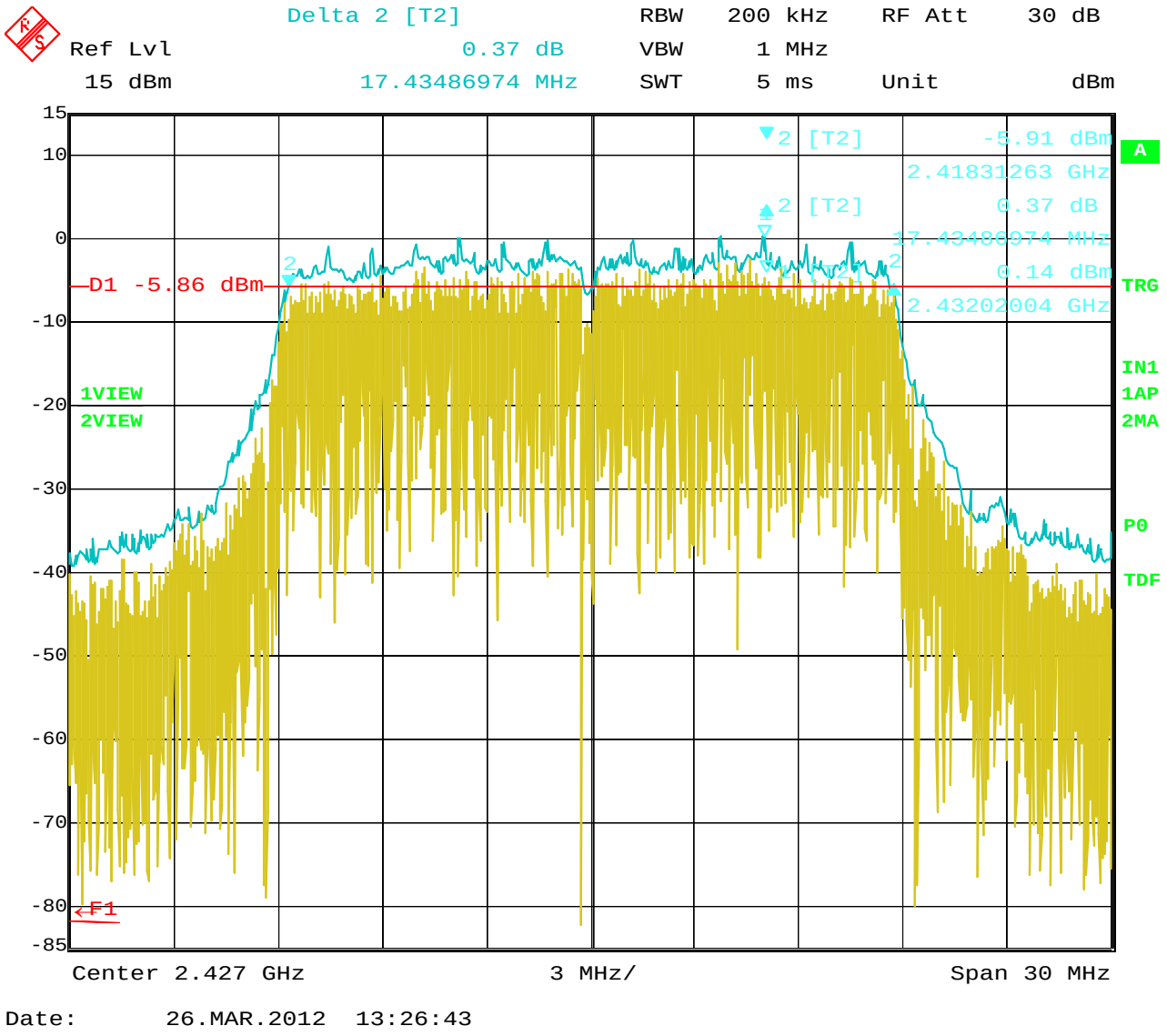
Pol	Freq	Rdng	Cable loss	Ant factor	Amp gain	Cor'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV	dBuV/m	dB
1V	35.200	54.30	0.81	11.03	38.53	27.61	40.00	-12.39
2V	43.170	55.50	0.87	11.67	38.54	29.49	40.00	-10.51
3H	49.204	43.40	0.81	11.43	38.57	17.07	40.00	-22.93
4V	52.744	51.90	0.83	10.93	38.56	25.10	40.00	-14.90
5V	60.000	59.50	0.90	9.80	38.54	31.66	40.00	-8.34
6V	61.316	54.50	0.93	9.41	38.54	26.29	40.00	-13.71
7V	71.076	55.00	1.11	6.85	38.54	24.42	40.00	-15.58
8H	71.575	51.10	1.12	6.78	38.54	20.46	40.00	-19.54
9V	74.689	54.60	1.15	6.37	38.54	23.58	40.00	-16.42
10H	83.586	47.80	1.24	6.18	38.54	16.68	40.00	-23.32
11V	84.456	53.90	1.25	6.30	38.54	22.90	40.00	-17.10
12H	109.910	39.60	1.24	10.85	38.52	13.17	43.50	-30.33
13H	119.986	59.30	1.28	12.10	38.51	34.17	43.50	-9.33
14V	126.986	52.50	1.33	11.84	38.50	27.17	43.50	-16.33
15H	131.500	51.00	1.38	11.68	38.49	25.58	43.50	-17.92
16V	136.586	49.30	1.45	11.51	38.47	23.79	43.50	-19.71
17V	151.786	51.90	1.61	12.01	38.44	27.07	43.50	-16.43
18H	154.840	48.10	1.62	12.15	38.46	23.42	43.50	-20.08
19V	164.548	53.40	1.66	13.19	38.51	29.74	43.50	-13.76
20V	170.948	40.60	1.68	14.25	38.54	18.00	43.50	-25.50
21V	200.000	50.50	1.70	16.20	38.50	29.90	43.50	-13.60
22V	208.373	42.50	1.77	16.18	38.49	21.97	43.50	-21.53
23V	215.986	53.10	1.83	16.17	38.47	32.62	43.50	-10.88
24V	239.986	49.60	2.02	16.12	38.53	29.21	46.00	-16.79
25V	249.994	45.20	2.10	16.10	38.57	24.83	46.00	-21.17
26V	252.599	54.30	2.11	16.26	38.56	34.12	46.00	-11.88
27V	320.025	44.50	2.28	13.95	38.46	22.27	46.00	-23.73
28H	335.980	50.20	2.35	14.29	38.46	28.37	46.00	-17.63
29V	336.017	46.90	2.35	14.29	38.46	25.07	46.00	-20.93
30V	399.862	41.10	2.60	15.50	38.36	20.84	46.00	-25.16
31V	432.019	43.30	2.60	15.60	38.17	23.33	46.00	-22.67
32V	432.054	43.00	2.60	15.60	38.17	23.03	46.00	-22.97
33V	451.254	43.80	2.61	15.66	38.08	23.99	46.00	-22.01
34H	466.629	56.00	2.67	15.71	38.15	36.22	46.00	-9.78
35V	466.646	57.30	2.67	15.71	38.15	37.52	46.00	-8.48

Test Location : Compatible Electronics **Page** : 2/2
Customer : Silvus Technologies **Date** : 3/29/2012
Manufacturer : Silvus Technologies **Time** : 13:24:04
Eut name : MIMO 4X4 OFDM Radio **Lab** : D
Model : SC3500 MIMO Radio **Test Distance** : 3
Serial # : N/A
Specification : FCC Class B
Distance correction factor (20 * log(test/spec) : 0.00
Test Mode : Radiated Emissions (30 MHz to 1 GHz)
Polarity: Horizontal and Vertical
Clocks: 40, 66.66, 25 MHz - Y-Axis
Tested By: Kyle Fujimoto

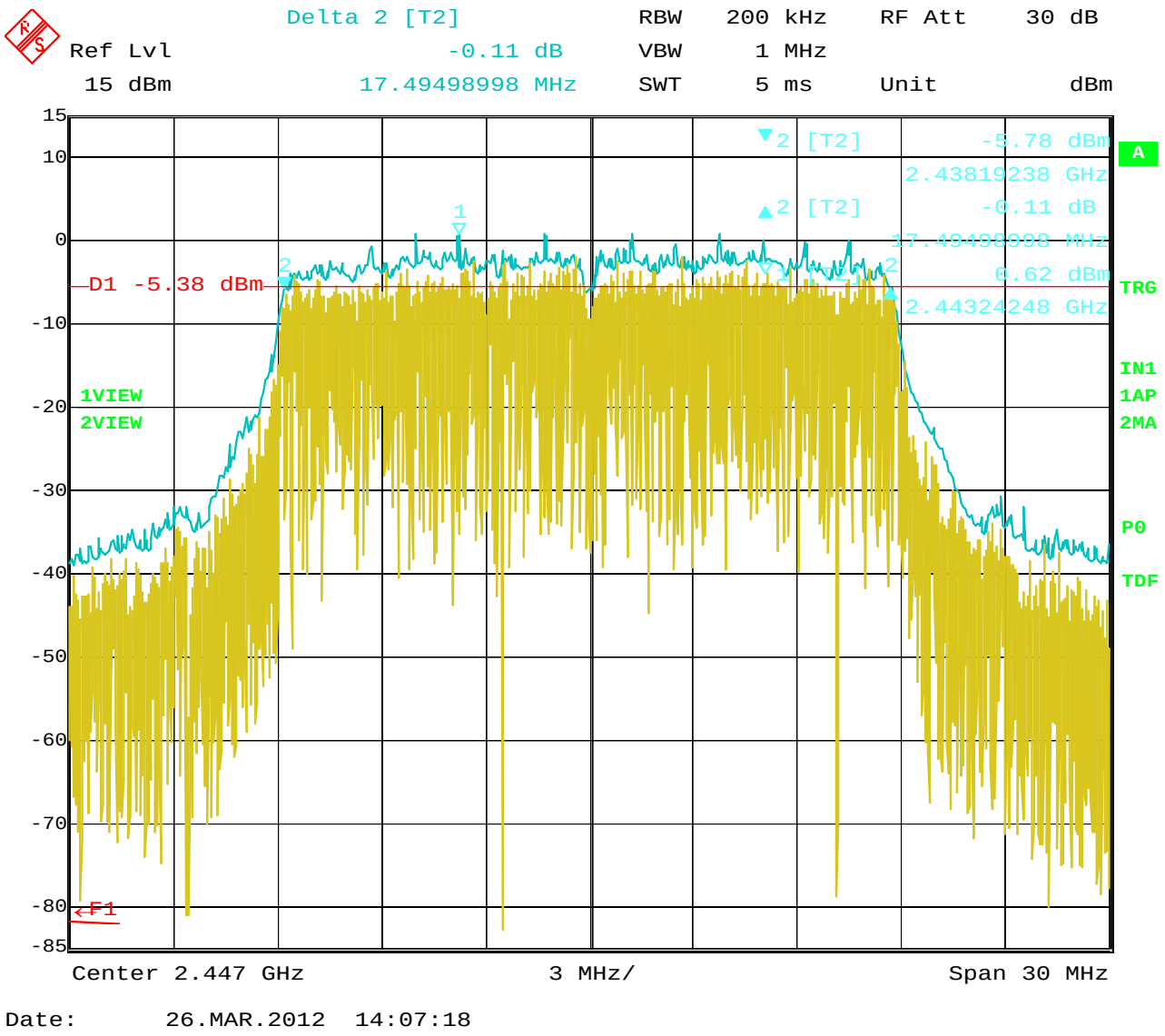
Pol	Freq	Rdng	Cable loss	Ant factor	Amp gain	Cor'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV	dBuV/m	dB
36V	500.054	41.20	2.80	15.80	38.31	21.49	46.00	-24.51
37V	507.483	40.20	2.82	16.16	38.32	20.85	46.00	-25.15
38V	528.019	46.10	2.86	17.12	38.34	27.73	46.00	-18.27
39V	600.000	57.00	3.10	20.20	38.28	42.02	46.00	-3.98
40V	600.000Qp	55.28	3.10	20.20	38.28	40.30	46.00	-5.70
41H	600.004	53.80	3.10	20.20	38.28	38.82	46.00	-7.18
42V	626.683	43.00	3.15	20.26	38.23	28.18	46.00	-17.82
43V	666.638	56.70	3.27	20.34	38.21	42.10	46.00	-3.90
44V	666.638Qp	55.07	3.27	20.34	38.21	40.47	46.00	-5.53
45H	666.670	53.30	3.27	20.34	38.21	38.70	46.00	-7.30
46H	799.970	53.50	3.70	20.60	37.94	39.86	46.00	-6.14
47V	800.019	49.00	3.70	20.60	37.94	35.36	46.00	-10.64

-6 dB BANDWIDTH

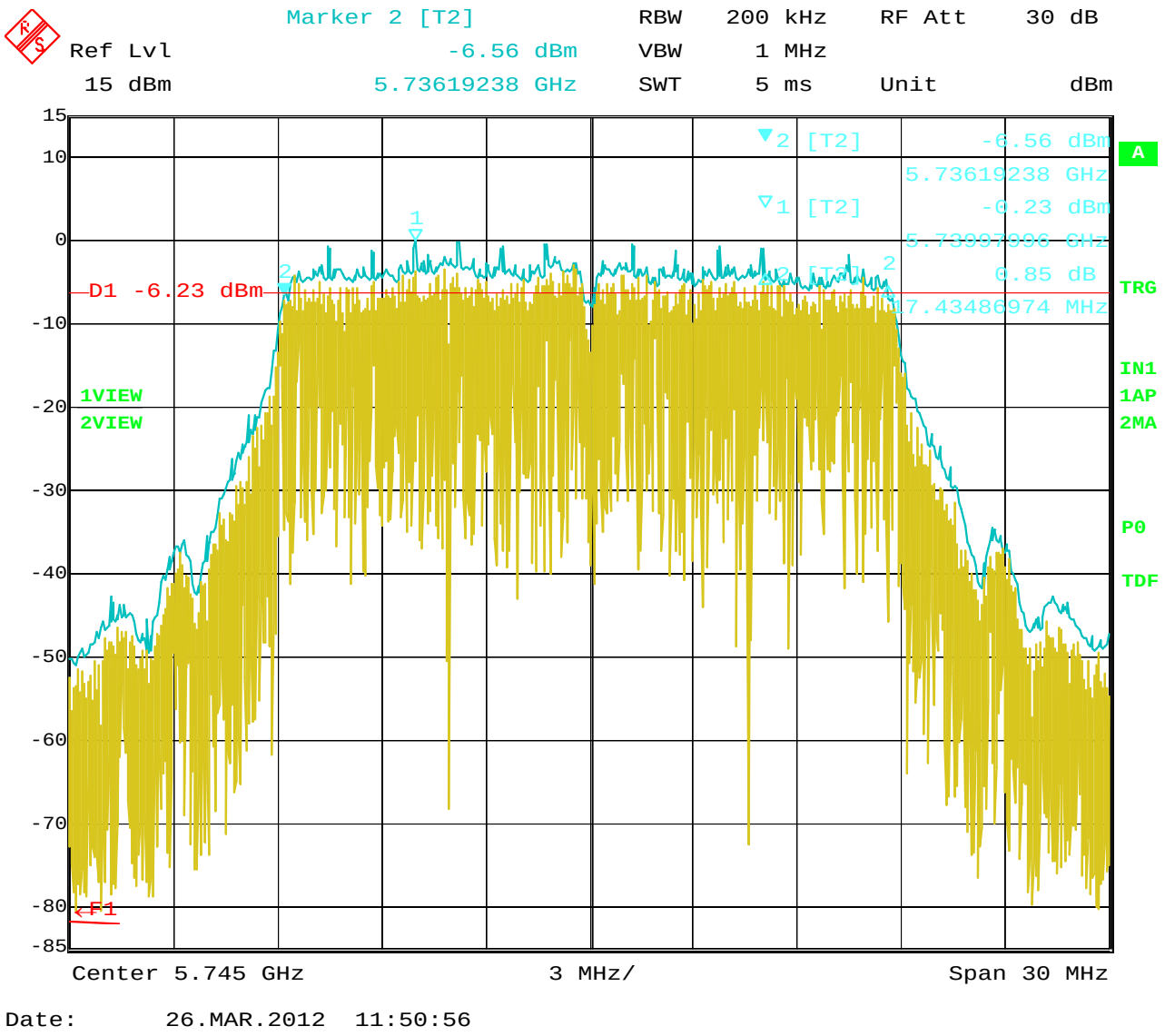
DATA SHEETS



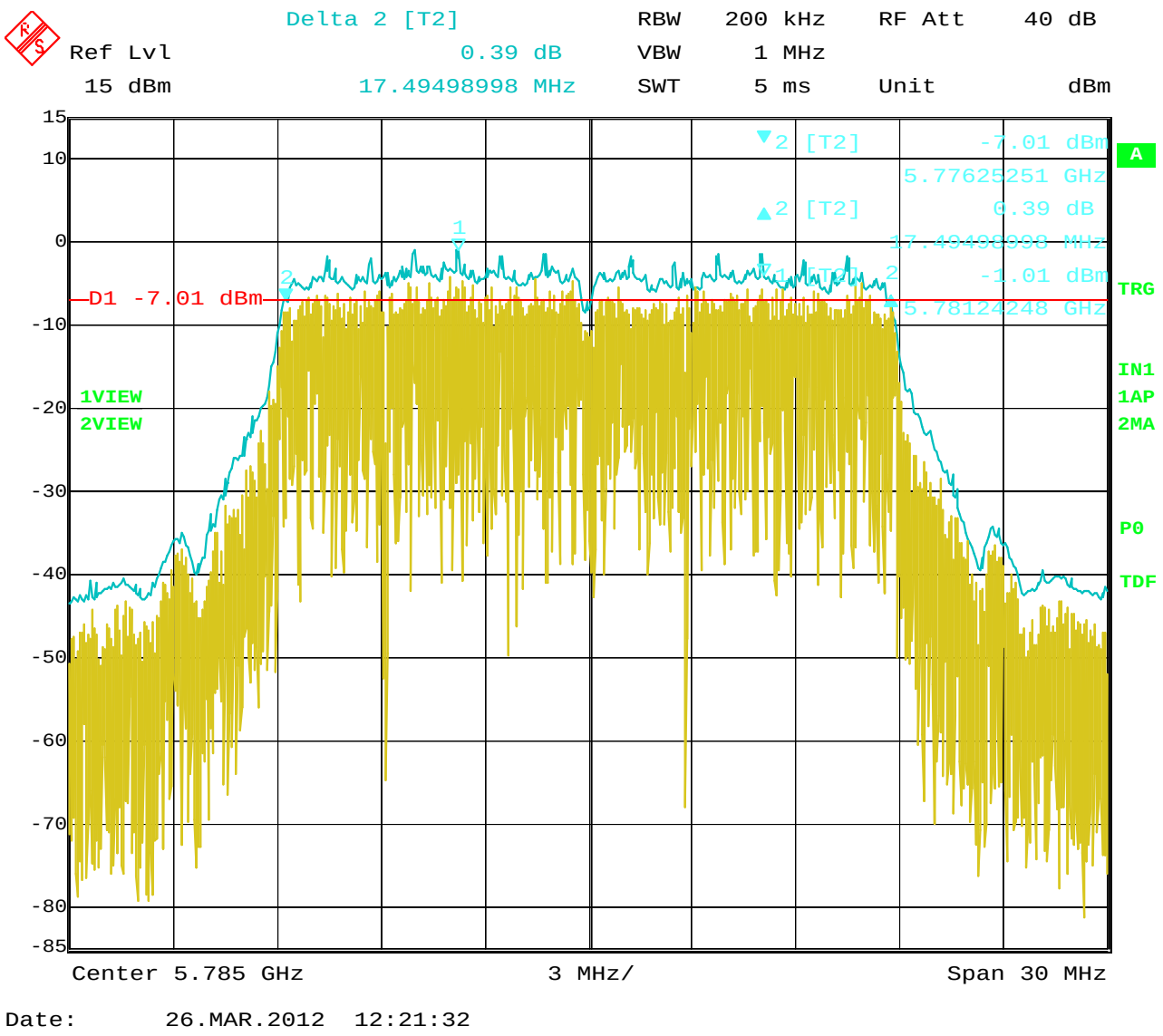
-6 dB Bandwidth for 2427 MHz Fundamental – Antenna Port 1 (Worst Case)



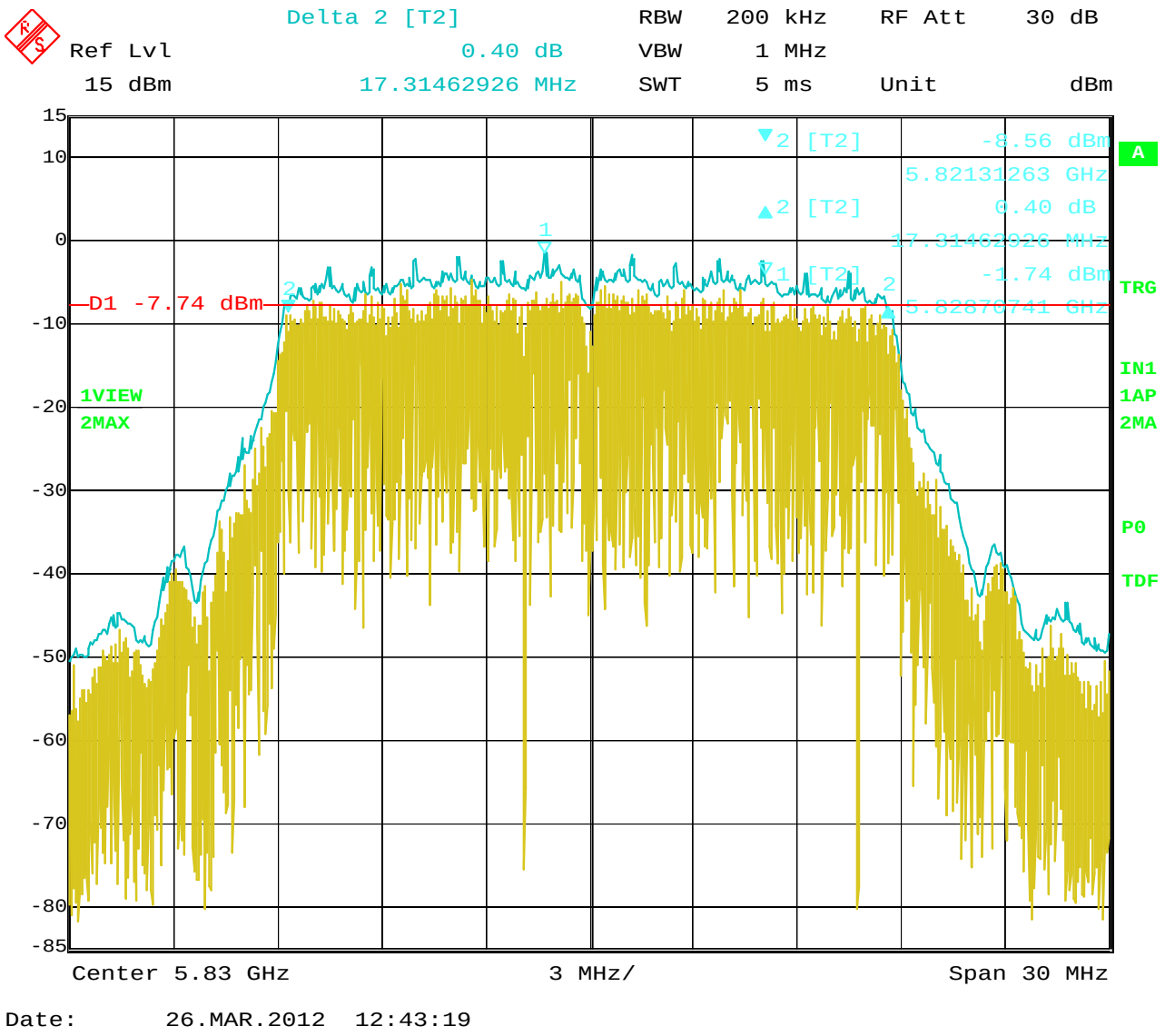
-6 dB Bandwidth for 2447 MHz Fundamental – Antenna Port 1 (Worst Case)



-6 dB Bandwidth for 5745 MHz Fundamental – Antenna Port 1 (Worst Case)



-6 dB Bandwidth for 5785 MHz Fundamental – Antenna Port 1 (Worst Case)



-6 dB Bandwidth for 5830 MHz Fundamental – Antenna Port 4 (Worst Case)

PEAK POWER OUTPUT

DATA SHEETS

PEAK OUTPUT POWER

MIMO OFDM Radio
Model: SC3500 MIMO Radio

Limit = 26.98 dBm

2427 MHz

ANTENNA PORT	MEASURED VALUE (dBm)
1	22.01
2	19.99
3	20.65
4	20.63
Total Power:	26.91

2447 MHz

ANTENNA PORT	MEASURED VALUE (dBm)
1	22.33
2	19.73
3	21.29
4	19.81
Total Power:	26.95

PEAK OUTPUT POWER

MIMO OFDM Radio
Model: SC3500 MIMO Radio

Limit = 26.98 dBm

5745 MHz

ANTENNA PORT	MEASURED VALUE (dBm)
1	22.93
2	19.94
3	20.05
4	19.89
Total Power:	26.93

5785 MHz

ANTENNA PORT	MEASURED VALUE (dBm)
1	22.13
2	20.61
3	19.77
4	19.98
Total Power:	26.75

PEAK OUTPUT POWER

MIMO OFDM Radio
Model: SC3500

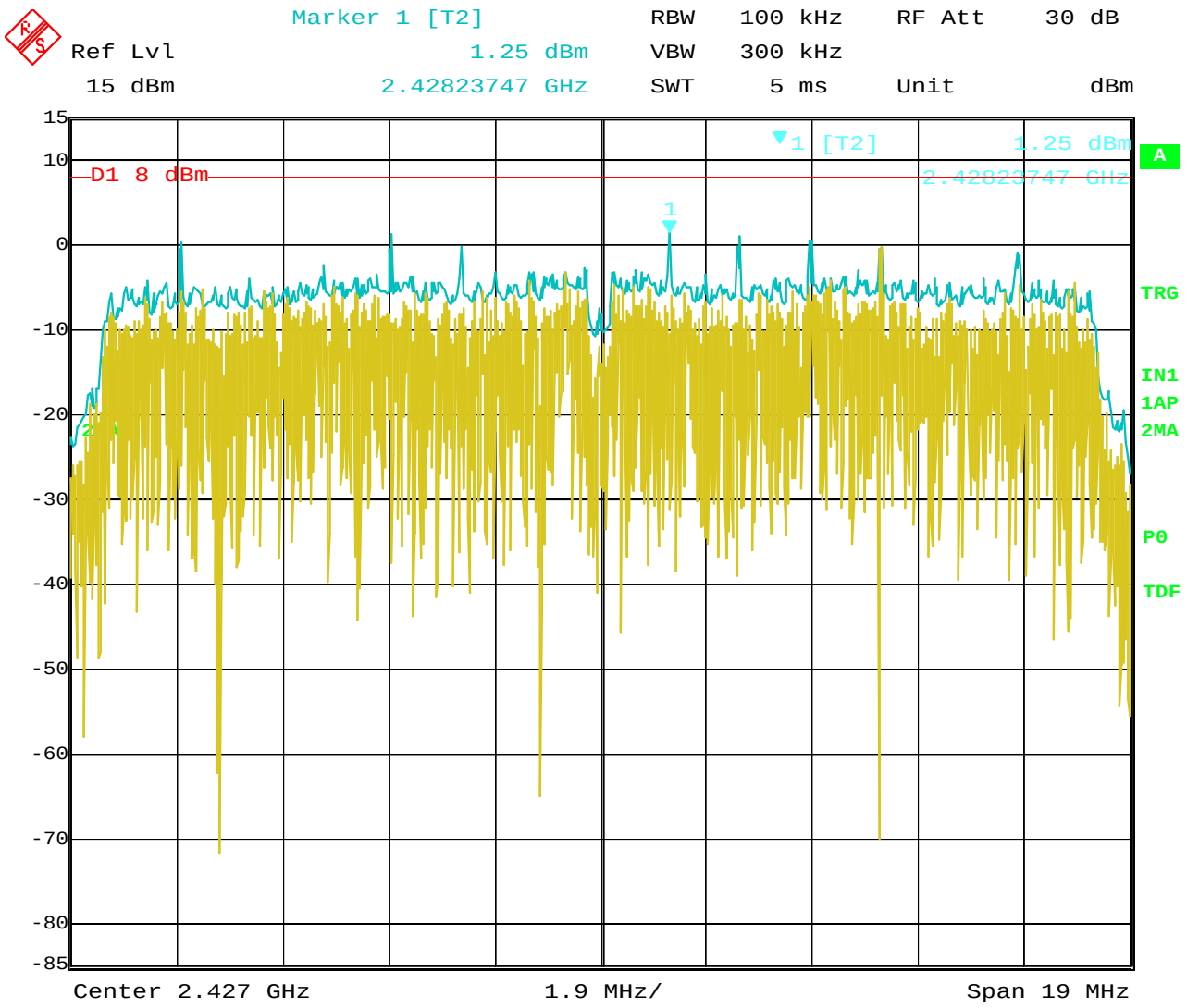
Limit = 26.98 dBm

5830 MHz

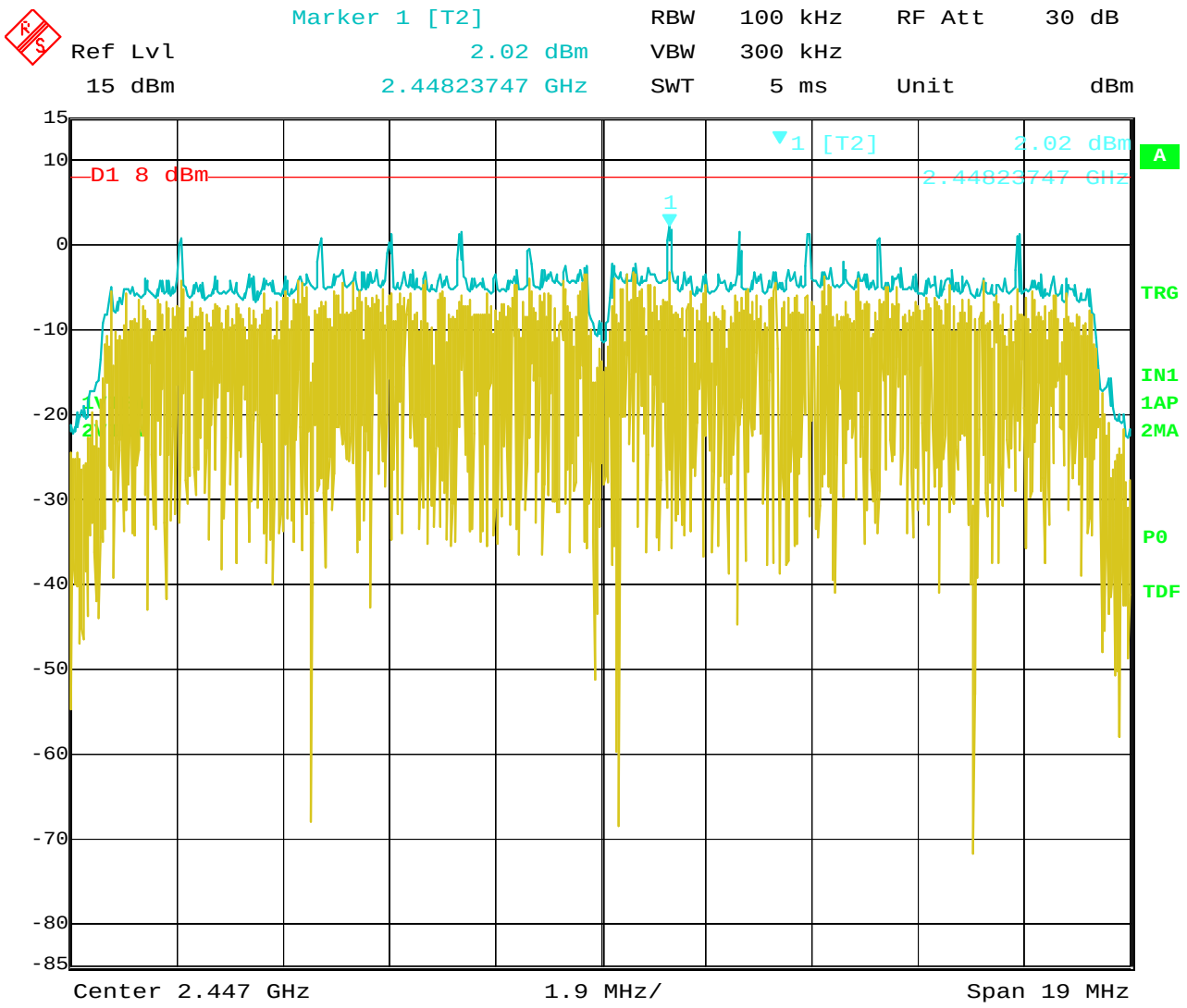
ANTENNA PORT	MEASURED VALUE (dBm)
1	21.37
2	20.02
3	18.97
4	22.18
Total Power:	26.83

SPECTRAL DENSITY OUTPUT

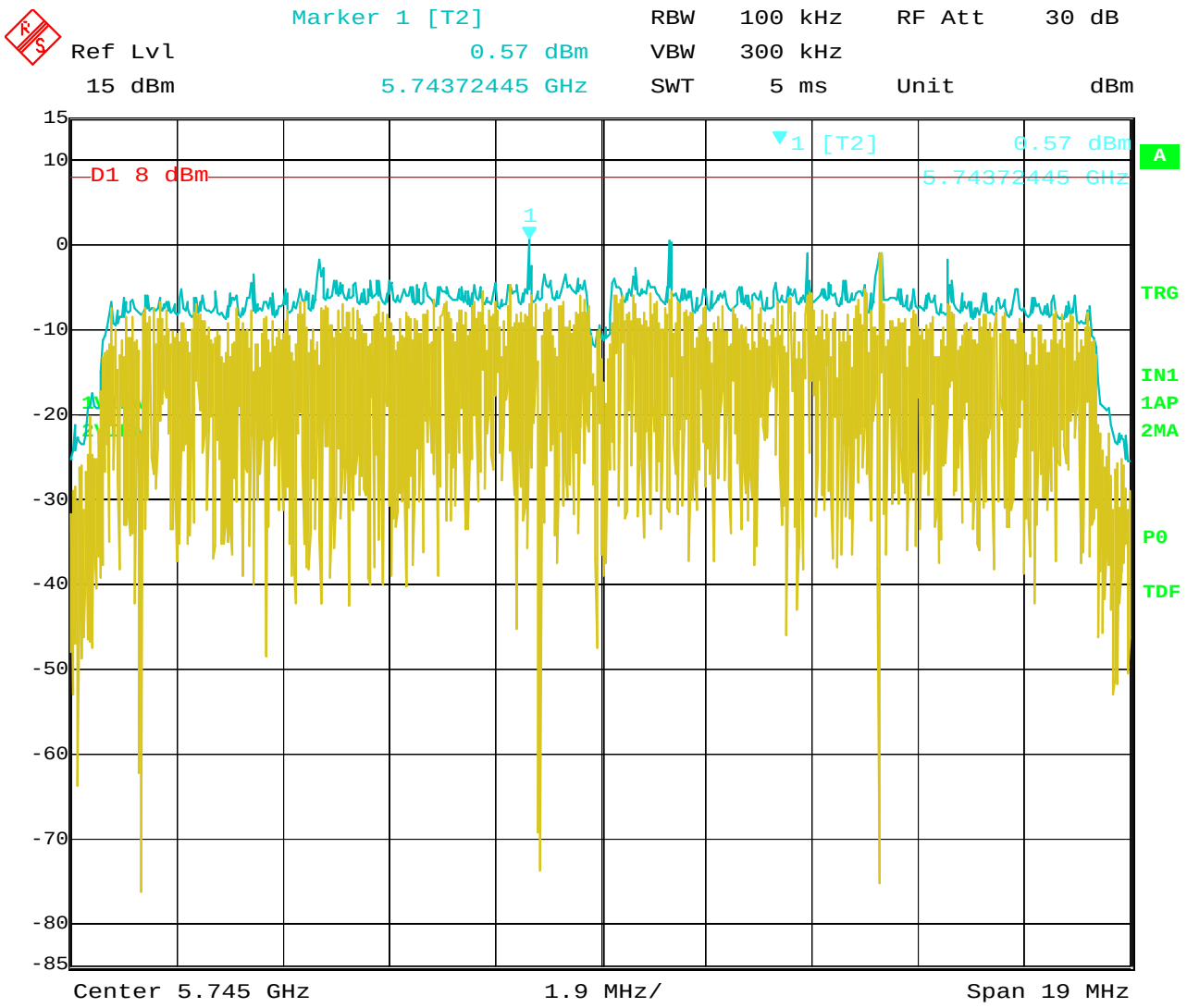
DATA SHEETS



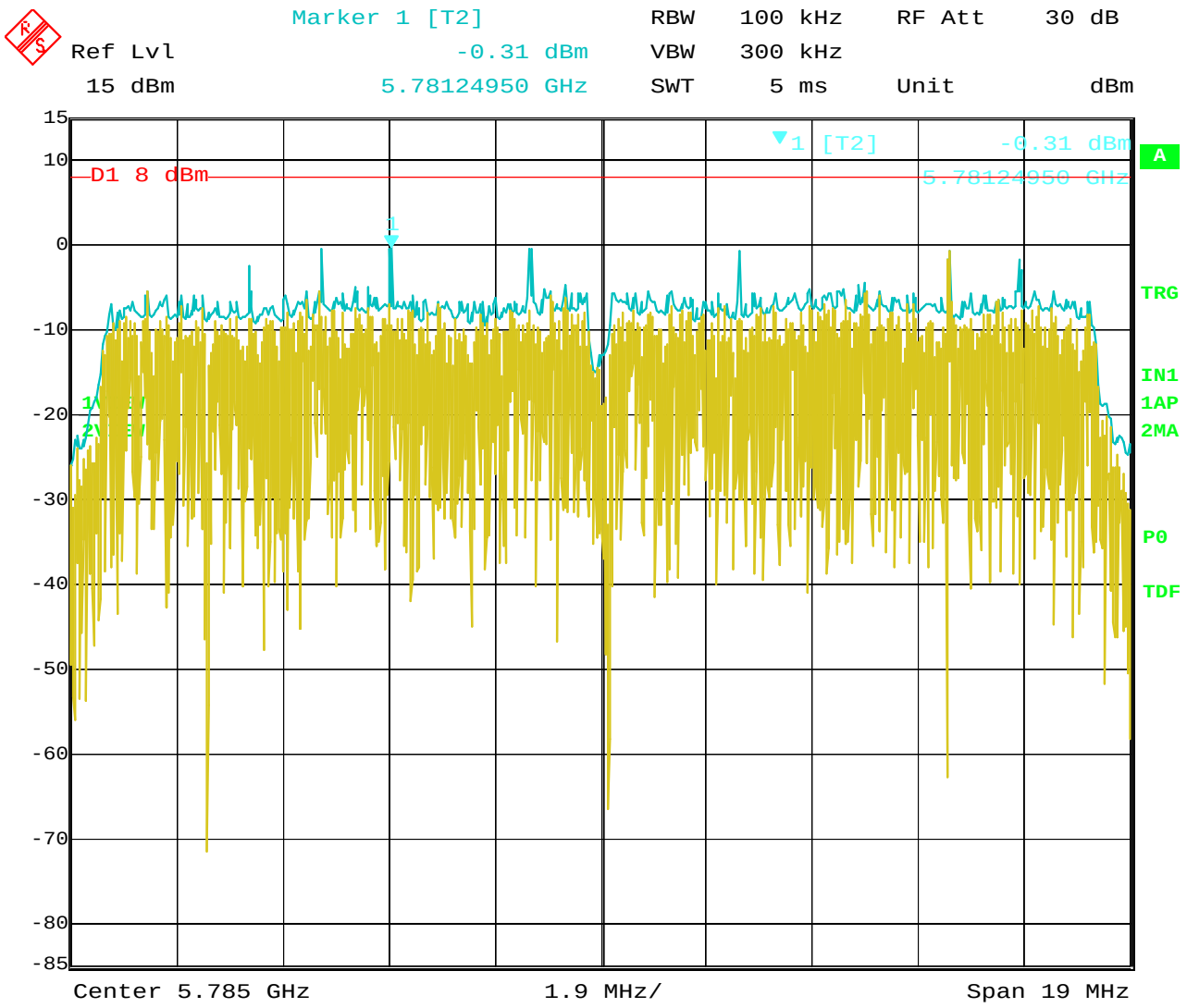
Power Spectral Density Output – 2427 MHz – Antenna Port 1 (Worst Case)
Bandwidth Correction Factor = 10 log (3 kHz / 100 kHz) = -15.2 dB
Number of Outputs Correction Factor = 10 log (4) = 6.02 dB
Actual Power Spectral Output = -7.93 dBm



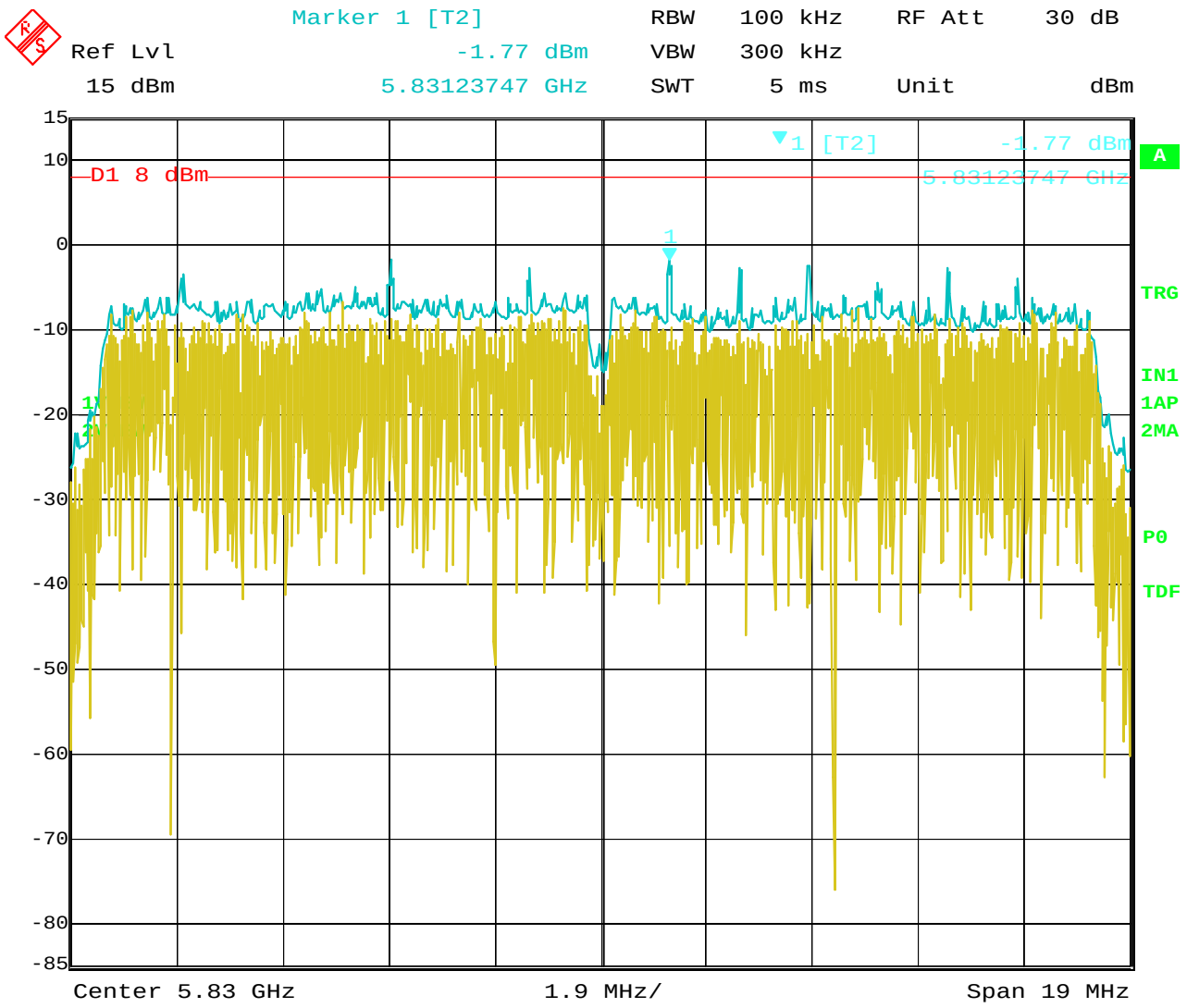
Power Spectral Density Output – 2447 MHz – Antenna Port 1 (Worst Case)
Bandwidth Correction Factor = 10 log (3 kHz / 100 kHz) = -15.2 dB
Number of Outputs Correction Factor = 10 log (4) = 6.02 dB
Actual Power Spectral Output = -7.16 dBm



Power Spectral Density Output – 5745 MHz – Antenna Port 1 (Worst Case)
Bandwidth Correction Factor = 10 log (3 kHz / 100 kHz) = -15.2 dB
Number of Outputs Correction Factor = 10 log (4) = 6.02 dB
Actual Power Spectral Output = -8.61 dBm



Power Spectral Density Output – 5785 MHz – Antenna Port 1 (Worst Case)
Bandwidth Correction Factor = 10 log (3 kHz / 100 kHz) = -15.2 dB
Number of Outputs Correction Factor = 10 log (4) = 6.02 dB
Actual Power Spectral Output = -9.49 dBm



Power Spectral Density Output – 5830 MHz – Antenna Port 4 (Worst Case)
Bandwidth Correction Factor = 10 log (3 kHz / 100 kHz) = -15.2 dB
Number of Outputs Correction Factor = 10 log (4) = 6.02 dB
Actual Power Spectral Output = -10.95 dBm

BAND EDGES

DATA SHEETS

FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

Band Edges - Vertical Polarization

Worst Case - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2427	113.92	V	--	--	Peak	1.25	315	**Fundamental of**
2427	103.14	V	--	--	Avg	1.25	315	**Low Channel**
2319.54	61.66	V	74	-12.34	Peak	1.25	315	**Band Edge of Low**
2319.82	50.24	V	54	-3.76	Avg	1.25	315	**Channel**
2447	114.08	V	--	--	Peak	1.25	315	**Fundamental of**
2447	103.5	V	--	--	Avg	1.25	315	**High Channel**
2483.5	60.39	V	74	-13.61	Peak	1.25	315	**Band Edge of High**
2483.5	47.54	V	54	-6.46	Avg	1.25	315	**Channel**

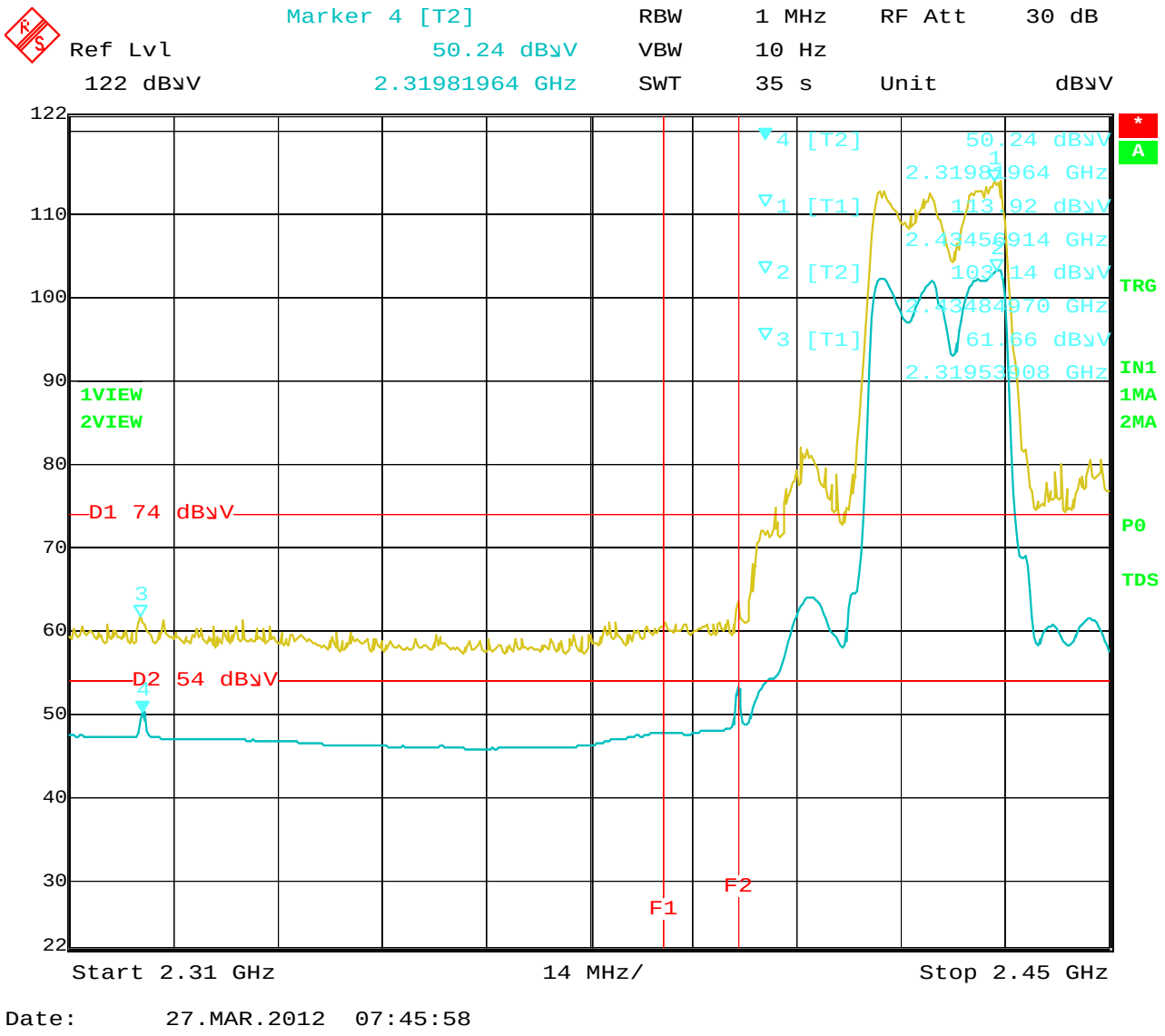
FCC 15.247

Silvus Technologies
MIMO 4X4 OFDM Radio
Model: SC3500 MIMO Radio
Antennas: HG2458RD-TM

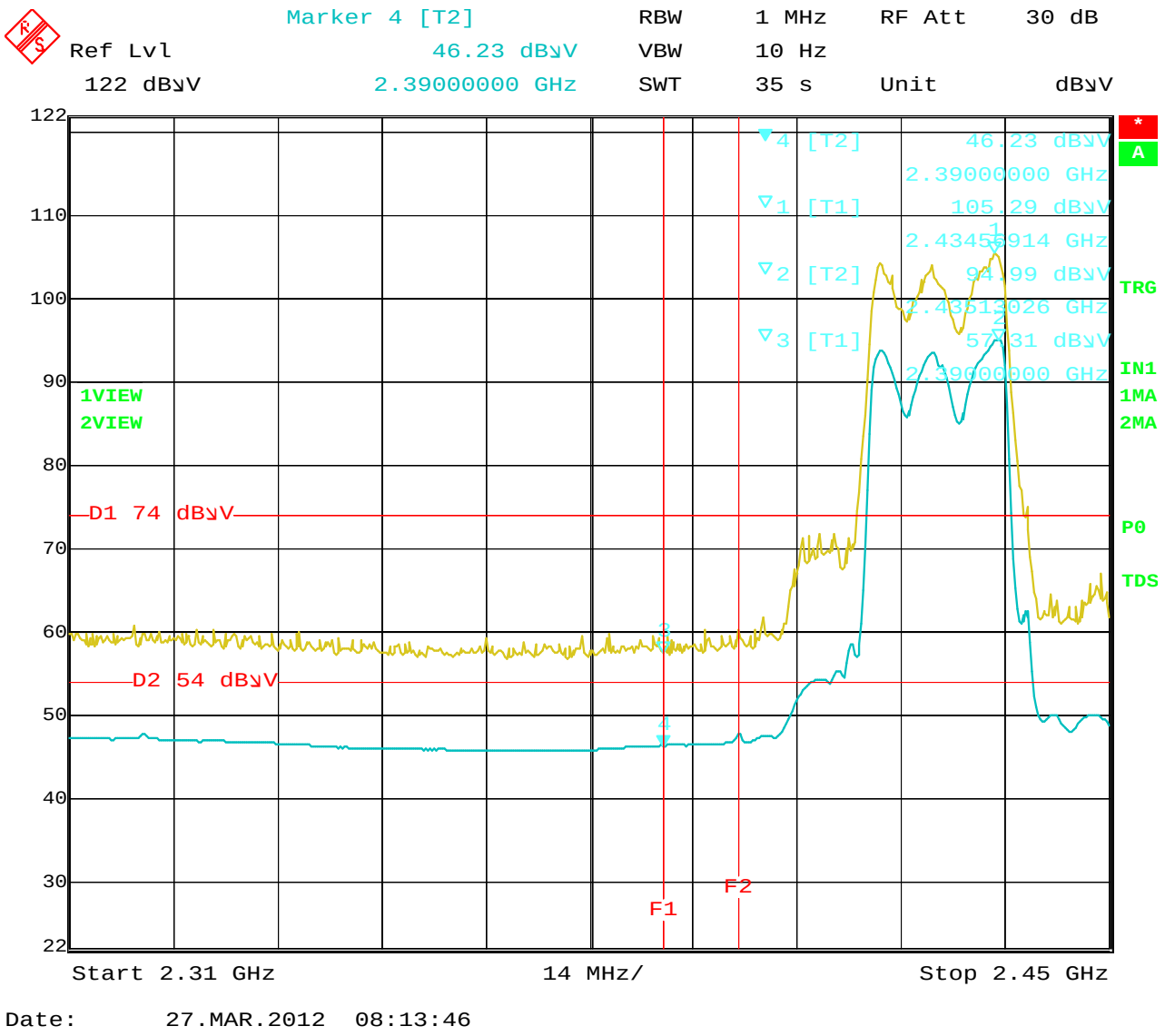
Date: 03/27/2012
Lab: B
Tested By: Kyle Fujimoto

Band Edges - Horizontal Polarization
Worst Case - X-Axis

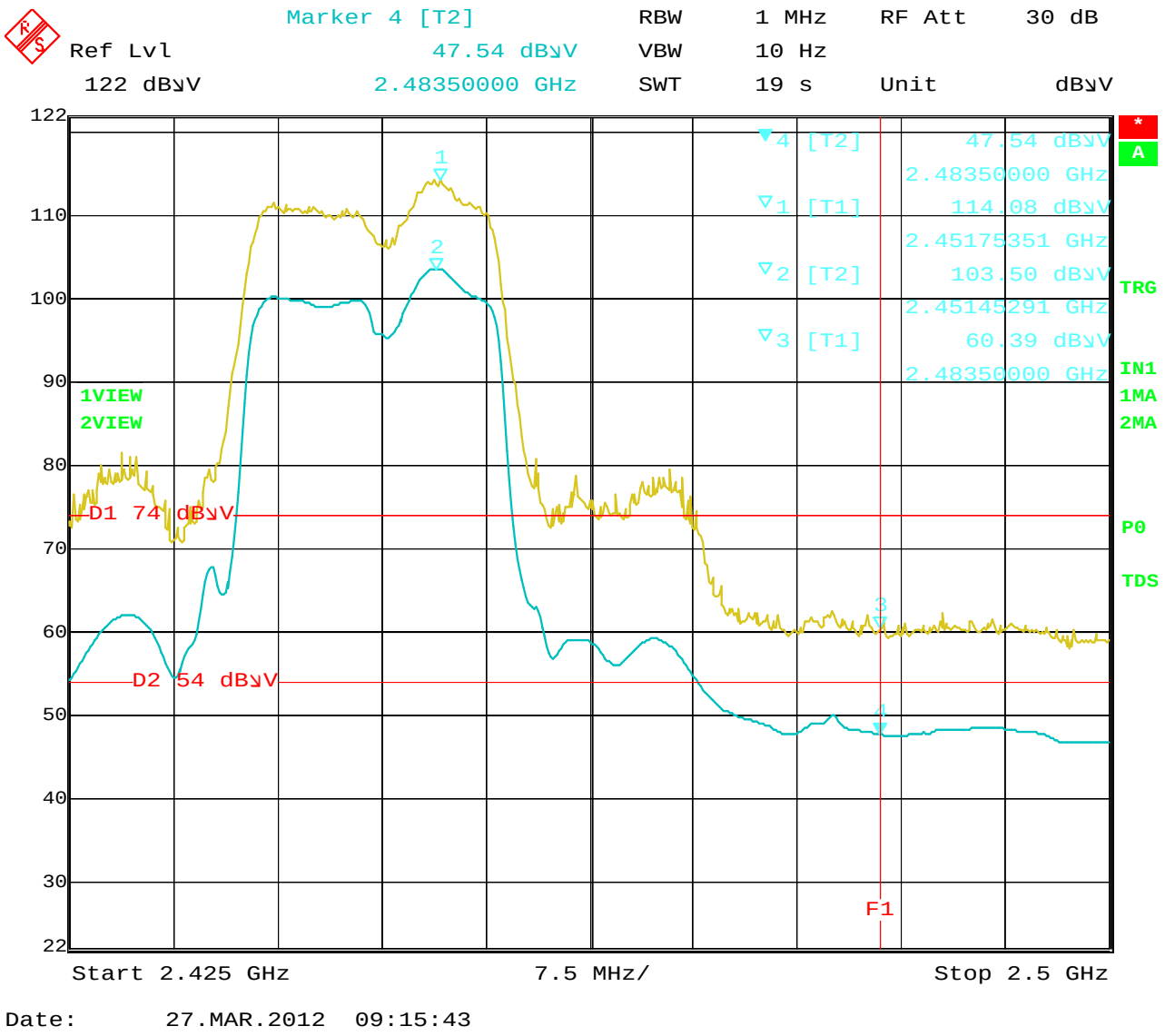
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2427	105.29	H	--	--	Peak	2.5	315	**Fundamental of**
2427	94.99	H	--	--	Avg	2.5	315	**Low Channel**
2390	57.31	H	74	-16.69	Peak	2.5	315	**Band Edge of Low**
2390	46.23	H	54	-7.77	Avg	2.5	315	**Channel**
2447	105.79	H	--	--	Peak	3	315	**Fundamental of**
2447	94.95	H	--	--	Avg	3	315	**High Channel**
2483.5	58.73	H	74	-15.27	Peak	2.25	315	**Band Edge of High**
2483.5	45.93	H	54	-8.07	Avg	2.25	315	**Channel**



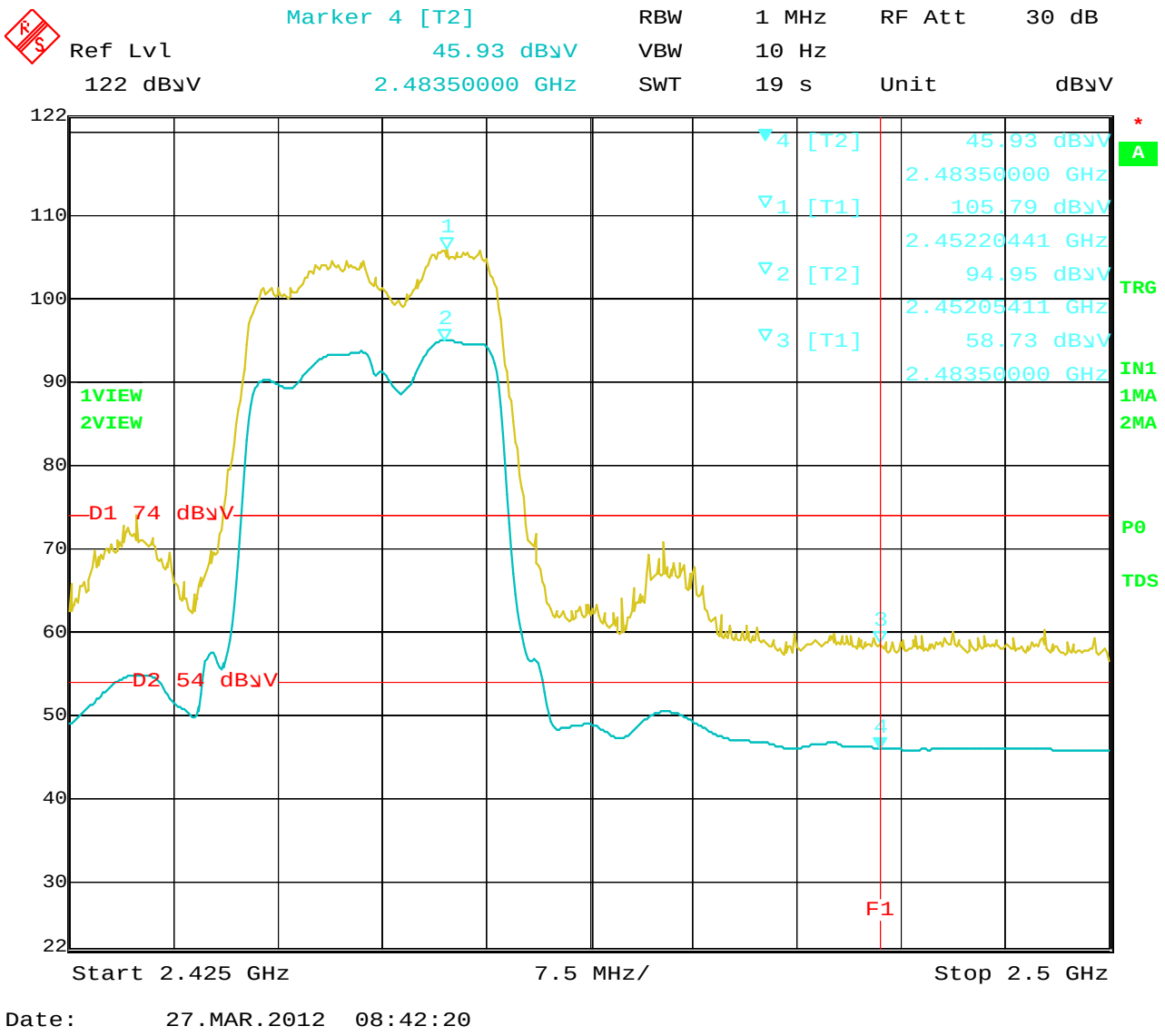
Band Edge for 2427 MHz Fundamental –Vertical Polarization – Y-Axis (Worst Case)



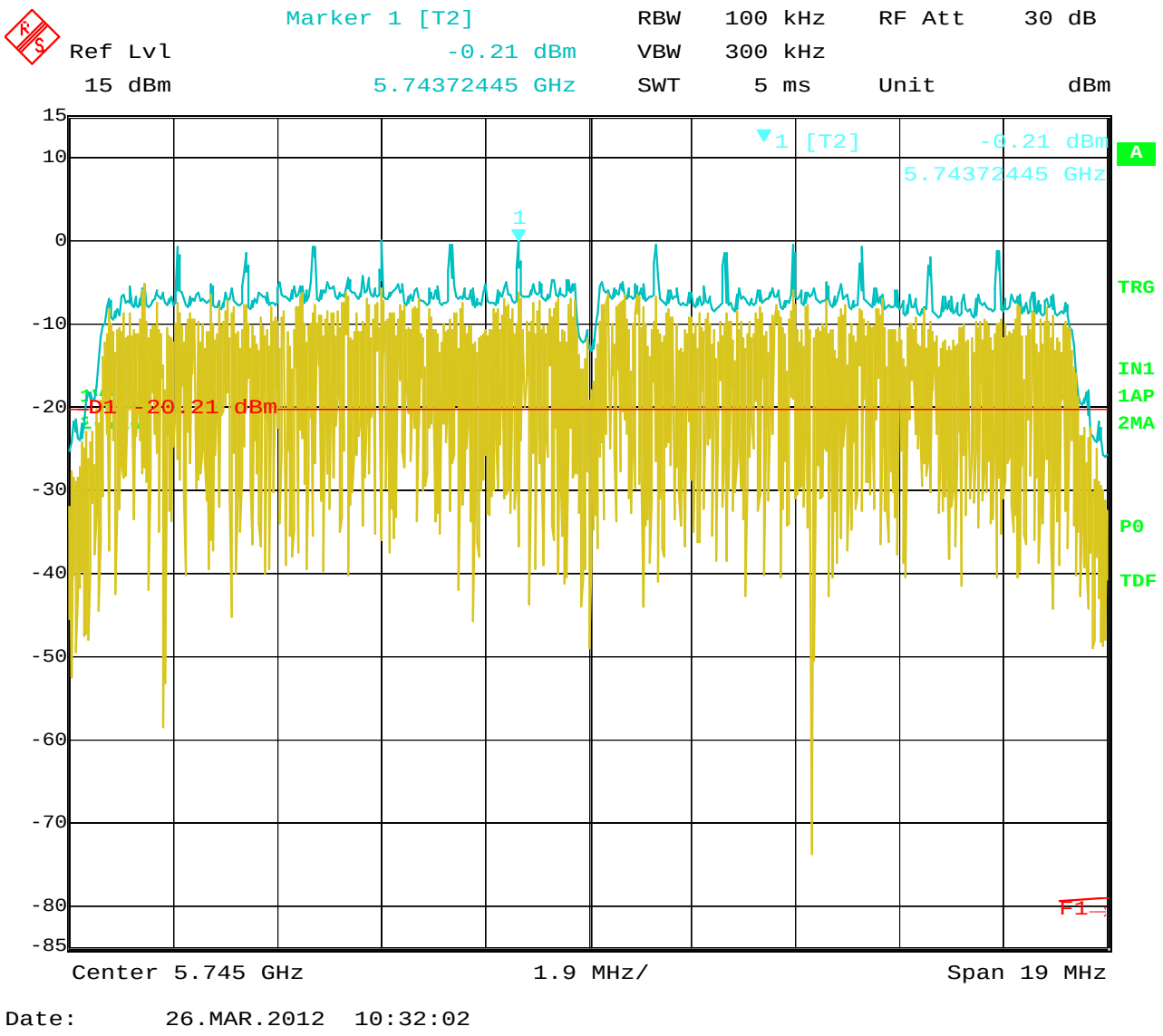
Band Edge for 2427 MHz Fundamental –Horizontal Polarization – X-Axis (Worst Case)



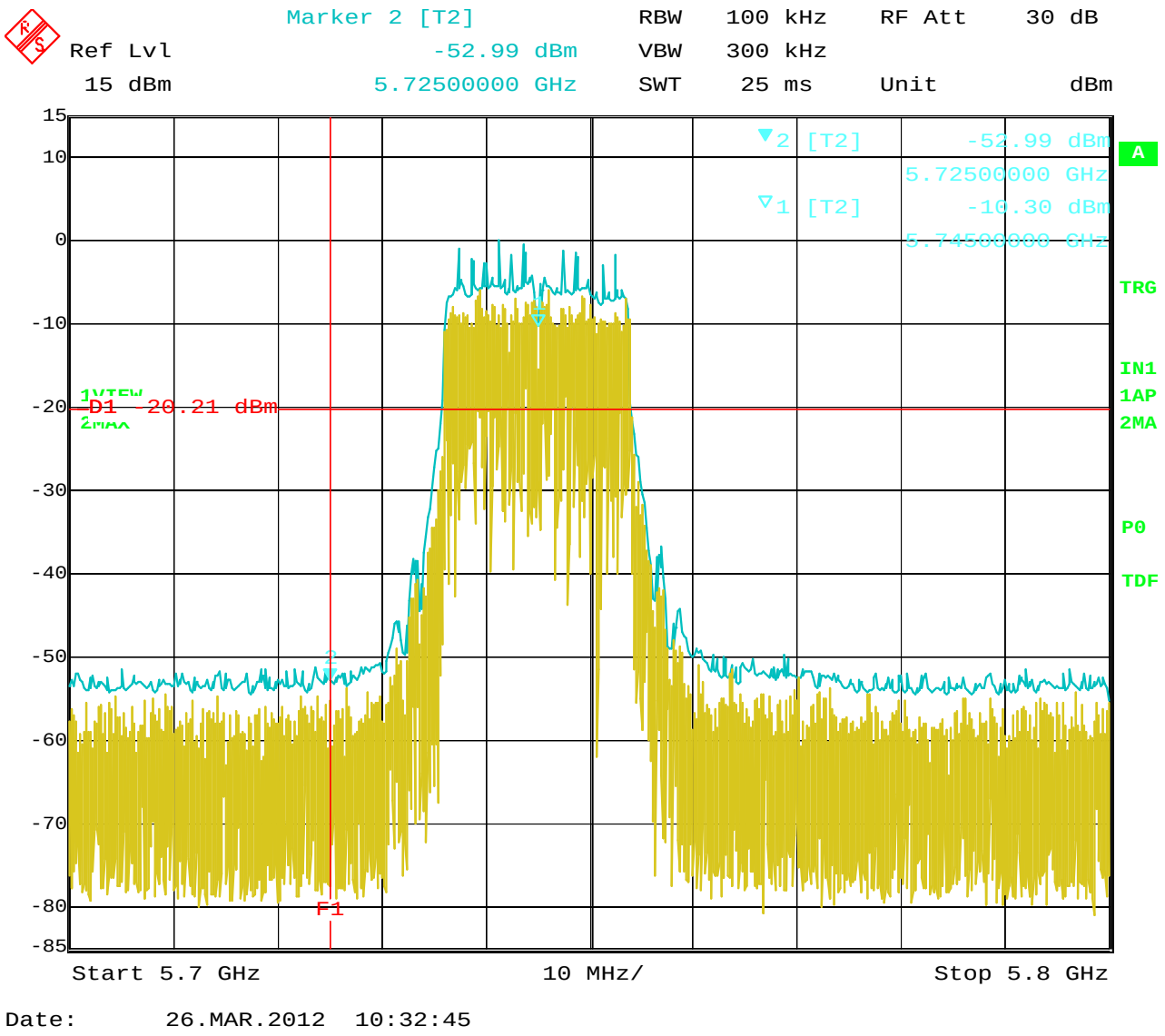
Band Edge for 2447 MHz Fundamental –Vertical Polarization – Y-Axis (Worst Case)



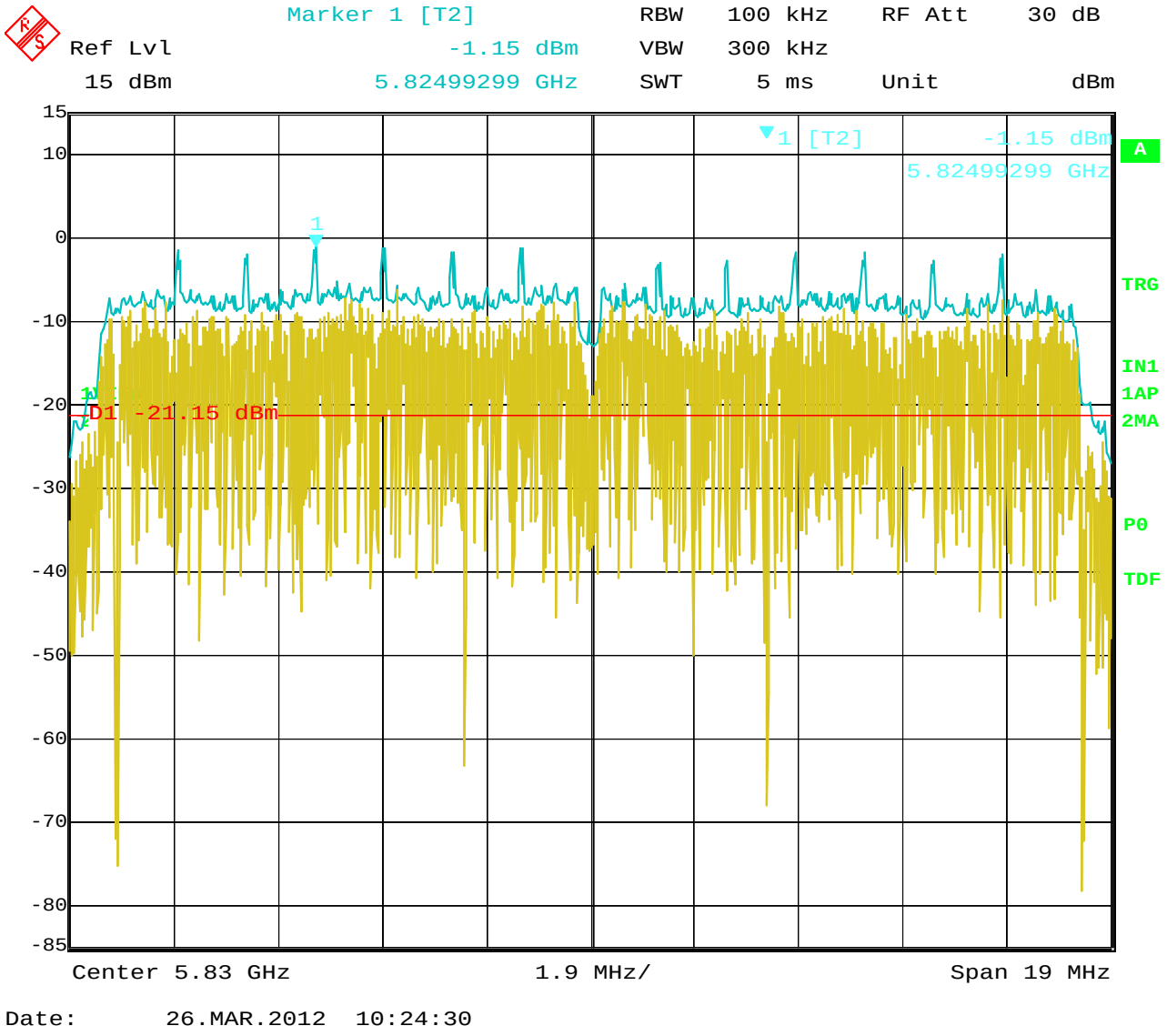
Band Edge for 2447 MHz Fundamental –Horizontal Polarization – X-Axis (Worst Case)



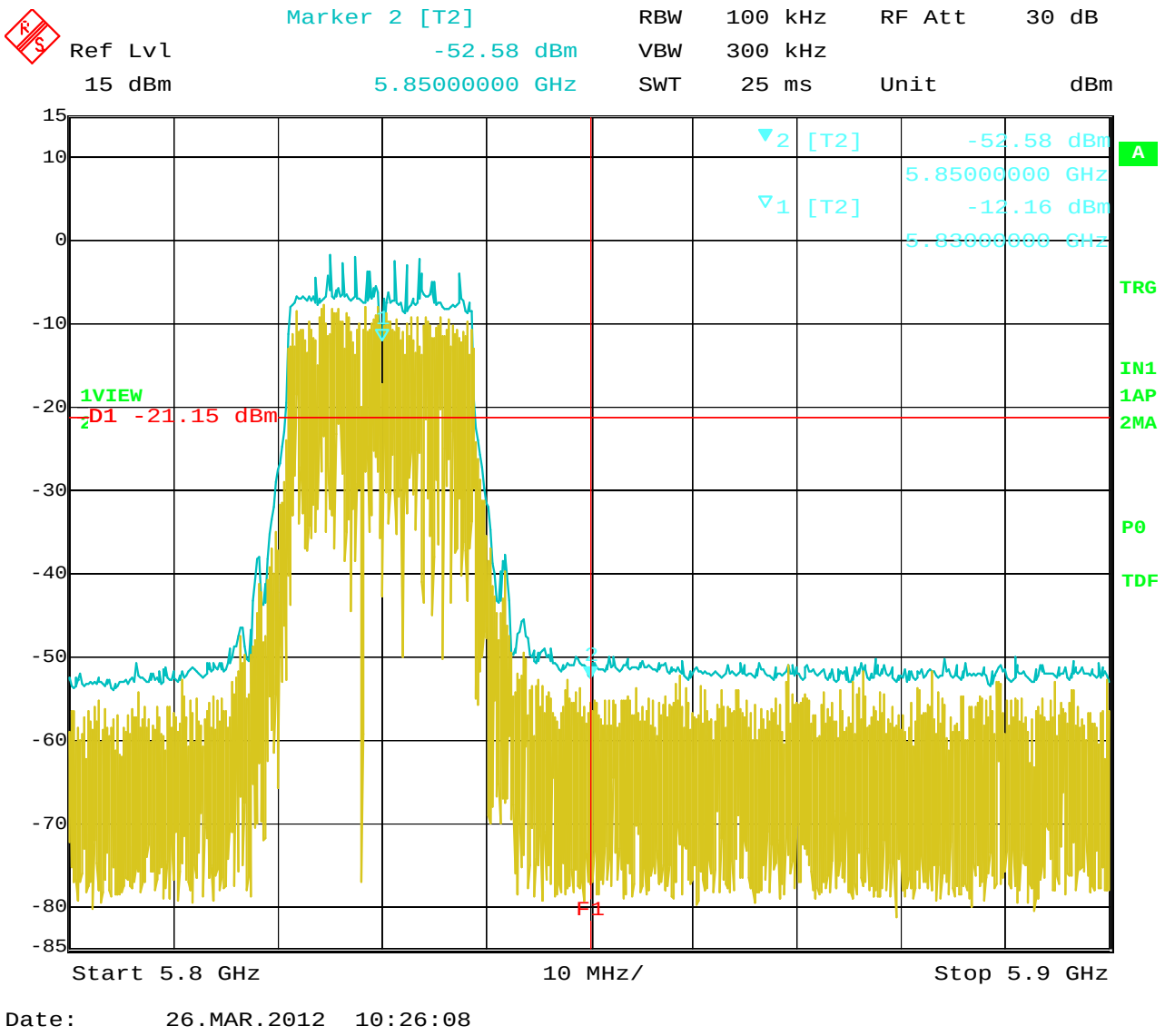
Band Edge for 5745 MHz Fundamental – Antenna Port 1 (Worst Case)
Reference Level to determine -20 dB point



Band Edge for 5745 MHz Fundamental – Antenna Port 1 (Worst Case) – Actual Band Edge Reading



Band Edge for 5830 MHz Fundamental – Antenna Port 4 (Worst Case)
Reference Level to determine -20 dB point



Band Edge for 5830 MHz Fundamental – Antenna Port 4 (Worst Case) – Actual Band Edge Reading