FCC PART 15, SUBPART B and C
TEST REPORT

for

BASE STATION

MODEL: SBS05

Prepared for

WirelessWERX, Inc.
100 SOUTH CHAPARRAL COURT, SUITE 100
ANAHEIM, CA 92808

Prepared by: Kyle Fujimoto

KYLE FUJIMOTO

Approved by: James Ross

JAMES ROSS

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

DATE: MARCH 28, 2012

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
PAGES	23	2	2	2	15	61	**105**

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:	Base Station Model: SBS05 S/N: N/A
Product Description:	See Expository Statement.
Modifications:	The EUT was not modified during the testing.
Manufacturer:	WirelessWERX, Inc. 100 South Chaparral Court, Suite 100 Anaheim, CA 92808
Test Dates:	March 19, 20, and 21, 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 – 25000 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 – 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	20 dB Bandwidth	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (a)(1)
7	Peak Power Output	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(1)
8	RF Conducted Antenna Test	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (d)
9	Carrier Frequency Separation	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (a)(1)
10	Average Time of Occupancy	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (a)(1)(iii)
11	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 Electromagnetic Interference (EMI) tests performed on the Base Station, Model: SBS05. 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

WirelessWERX, Inc.

Jim Ashley, Jr.	Chief Technical Officer
Dalton Modesti	Engineer

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
David Tran	Test Technician
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 WirelessWERX, Inc. on March 21, 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

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

The Base Station, Model: SBS05 (EUT) was connected to a power supply and access point via its power and ethernet ports, repsectively. The access point was also connected to the laptop and its power supply via its ethernet and power ports, respectively. The laptop was also connected to its power supply via its power port. The laptop and access point were placed fifty feet away from the test site.

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. This allowed the EUT to be in a no hopping mode. 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 frequency hopping mode.

A 1 -meter cable was connected between the laptop and an ethernet PCB when programming the EUT to be in no hopping mode at the low, middle, or high channel. The ethernet PCB then directly connected to the EUT. This setup was removed after programming the EUT and will not be available to the end user.

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 channels frequency hopping) on a continuous basis.

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 and any cables were maximized. 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 7.3-meter unshielded cable connecting the EUT to the router. The cable has an RJ-45 connectors at each end.

Cable 2 This is a 2.1-meter unshielded cable connecting the router to the laptop. The cable has an RJ-45 connector at each end.

Cable 3 This is a 2-meter unshielded cable connecting the laptop to the AC Adapter. The cable has a 1 pin power connector at the laptop end and is hard wired into the AC Adapter. The cable has a molded ferrite on the laptop end.

Cable 4 This is a 2-meter unshielded cable connecting the access point to the AC Adapter. The cable has a 1/8 inch power connector at the access point end and is hard wired into the AC Adapter.

Cable 5 This is a 2-meter unshielded cable connecting the EUT to the AC Adapter. The cable has a 2 pin power connector at the EUT end and is hard wired into the AC Adapter.

Cable 6 **(For only to program the EUT for the intentional radiator portion):** This is a 1-meter unshielded cable connecting the laptop to the USB-SPI adapter. The cable has a USB type 'A' connector at the laptop end and a USB type 'B' connector at the USB-SPI adapter end.

Cable 7 **(For only to program the EUT for the intentional radiator portion):** This is a 1-meter unshielded cable connecting the USB-SPI adapter to the ethernet PCB. The cable has an RJ-45 connector at each end. Note: The Ethernet PCB then directly connected to the EUT.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
BASE STATION (EUT)	WirelessWERX, Inc.	SBS05	N/A	S8PSBS05
AC ADAPTER FOR EUT	JAMECO	S15AA033250	N/A	N/A
LAPTOP	DELL	PPO4X	N/A	E2KWM3945ABG
AC ADAPTER FOR LAPTOP	DELL	PA-10	N/A	N/A
USB-SPI CONVERTER*	CSR	1324	N/A	N/A
AC ADAPTER FOR ACCESS POINT	LINKSYS	AD12V1A-SW	N/A	N/A
WIRELESS-G BROADBAND ROUTER	LINKSYS	WRT54GL v1.1	CL7C1HC07289	Q87-WT54GV40
BLUETOOTH PROGRAMMING CHIP*	CSR	N/A	N/A	N/A

*To program the EUT to be in no hopping mode only.

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, 2013
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
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
RF RADIATED 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

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	Channel
5.00 dBm	LOW
5.35 dBm	MIDDLE
5.00 dBm	HIGH

7.2 Channel Number and Frequencies

There are a total of 79 channels. The low channel is at 2402.0 MHz and the high channel is at 2480.0 MHz. There is a 1 MHz separation between channels.

Channel 1: 2402 MHz
Channel 2: 2403 MHz
(Etc.)

7.3 Antenna Gain

The antenna has a maximum gain of 2.9 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.

After the readings above 1 GHz were average manually, the reading was further adjusted by a “duty cycle correction factor”, derived from 20 log (dwell time / 100 ms). Since the duty cycle was below 10%, the maximum allowed 20 dB was subtracted from the peak reading.

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 25 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 25 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.

7.1.3 RF Emissions Test Results

Table 1.0 CONDUCTED EMISSION RESULTS
Base Station, Model: SB505-W

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
0.484 (White)	41.99	46.27	-4.29
0.243 (White)	47.19	52.00	-4.80
0.637 (White)	40.17	46.00	-5.83
0.243 (Black)	45.94	52.00	-6.06
0.365 (White)	42.12	48.61	-6.48
0.484 (Black)	39.71	46.27	-6.57

Table 2.0 RADIATED EMISSION RESULTS
Base Station, Model: SB505-W

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
64.779 (Vertical)	39.92 (QP)	40.00	-0.08
499.996 (Vertical)	45.14 (QP)	46.00	-0.86
499.986 (Horizontal)	44.94 (QP)	46.00	-1.06
64.783 (Vertical)	38.87 (QP)	40.00	-1.13
499.982 (Horizontal)	40.19	46.00	-5.81
56.020 (Vertical)	34.01	40.00	-5.99

Notes:
* The complete emissions data is given in Appendix E of this report.
A Average Reading

7.2 20 dB Bandwidth

The 20 dB Bandwidth was measured using the EMI Receiver. The bandwidth was measured using a direct connection from the RF output of the EUT. The resolution bandwidth was 30 kHz and the video bandwidth was 100 kHz.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(1). The 20 dB bandwidth is less than the separation between channels. Please see the data sheets located in Appendix E.

7.3 Peak Output Power

The Peak Output Power was measured using the EMI Receiver. The peak output power was measured using a direct connection from the RF output of the EUT. The resolution bandwidth was 3 MHz and the video bandwidth was 10 MHz. The cable loss was also added back into the reading using the reference level offset.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (b)(1). The maximum peak output power is less than 1 watt. Please see the data sheets located in Appendix E.

7.4 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:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The RF power that is produced by the intentional radiator is at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power. Please see the radiated emission data sheets located in Appendix E.

7.5 RF Band Edges

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.

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 band edges at 2400 MHz and 2483.5 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.

7.6 Carrier Frequency Separation

The Channel Hopping Separation Test was measured using the EMI Receiver. The EUT was operating in its normal operating mode. The resolution bandwidth was 1 MHz, and the video bandwidth 1 MHz. The frequency span was wide enough to include the peaks of two adjacent channels.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(1). The Channel Hopping Separation is greater than the 20 dB bandwidth. Please see the data sheets located in Appendix D.

7.7 Number of Hopping Frequencies

The Channel Hopping Separation Test was measured using the EMI Receiver. The EUT was operating in its normal operating mode. The resolution bandwidth was 1 MHz, and the video bandwidth was 1 MHz. The frequency span was wide enough to include all of the peaks in the frequency band of operation.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(1) and 15.247 (a)(1)(iii). The number of hopping frequencies is 79. Please see the data sheets located in Appendix E.

7.8 Average Time of Occupancy Test

The Average Time of Occupancy Test was measured using the EMI Receiver. The EUT was operating in normal operating mode. The frequency span was taken to 0 Hz with a sweep time of 5 msec to determine the time for each transmission.

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. This means the time of occupancy of any one channel cannot be greater than 0.4 seconds in a 31.6 second period (0.4 seconds * 79 channels).

The sweep time was then changed to 5 seconds and the number of pulses taken. The number of pulses was then multiplied by 6.32 to determine the number of pulses in a 31.6 second period. The number of pulses in a 31.6 second period was then multiplied by the time for each pulse to determine the average time of occupancy.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(1)(iii). The EUT does not transmit for more than 400 msec in a 31.6 second period on any frequency. Please see the data sheets located in Appendix E.

7.9 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 resolution bandwidth 3 kHz, and the video bandwidth was 10 kHz. The highest 1.5 MHz of the signal was used as the frequency span with the sweep rate being 1 second for every 3 kHz of span.

Test Results:

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

8. CONCLUSIONS

The Base Station, Model: SBS05 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

Base Station
Model: SBS05
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

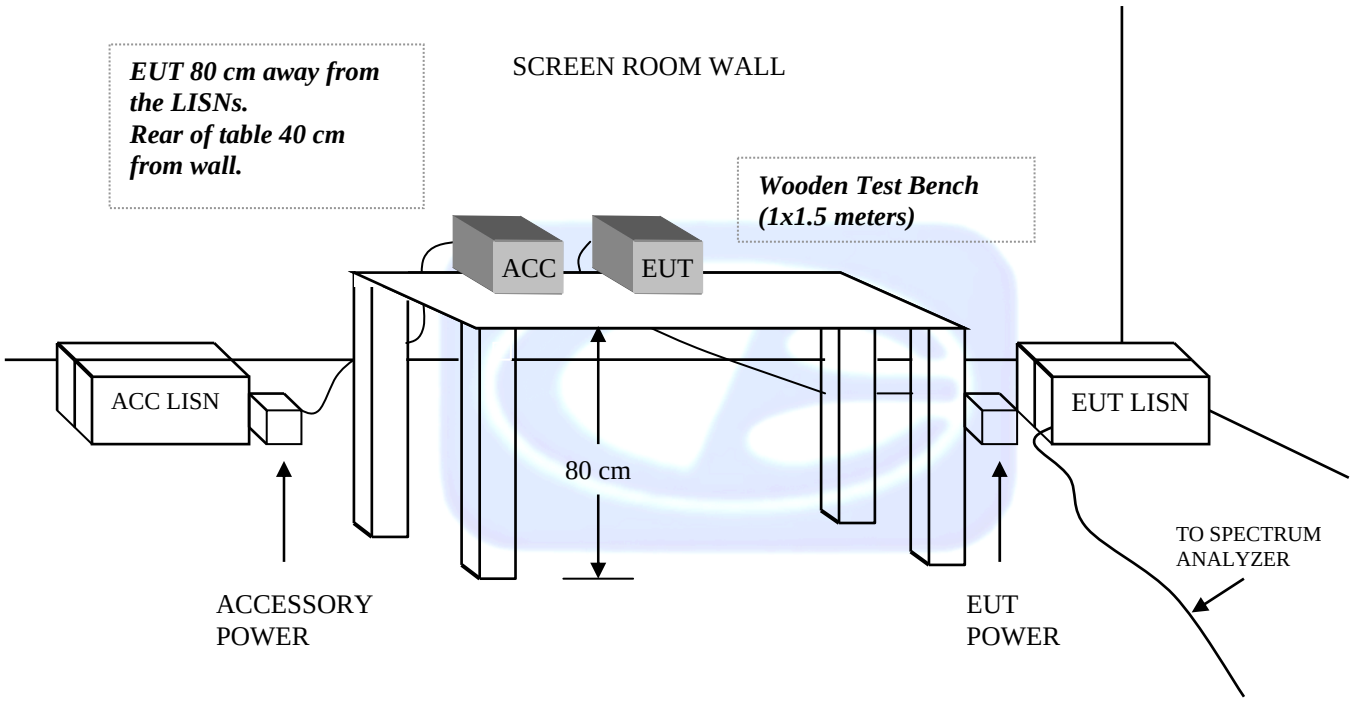
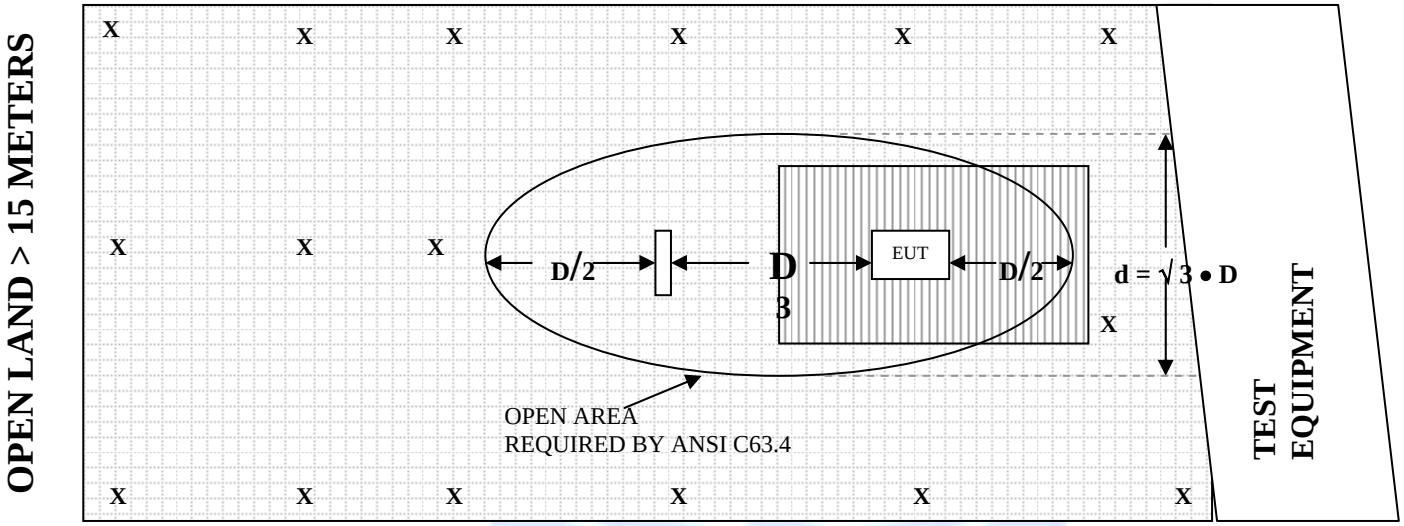


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE

OPEN LAND > 15 METERS



OPEN LAND > 15 METERS

X = GROUND RODS	= GROUND SCREEN
D = TEST DISTANCE (meters)	= WOOD COVER

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

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	27.35	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

WirelessWERX, INC.
BASE STATION
MODEL: SBS05
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

WirelessWERX, INC.
BASE STATION
MODEL: SBS05
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

WirelessWERX, INC.
BASE STATION
MODEL: SBS05
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

WirelessWERX, INC.
BASE STATION
MODEL: SBS05
FCC SUBPART B AND C – CONDUCTED EMISSIONS

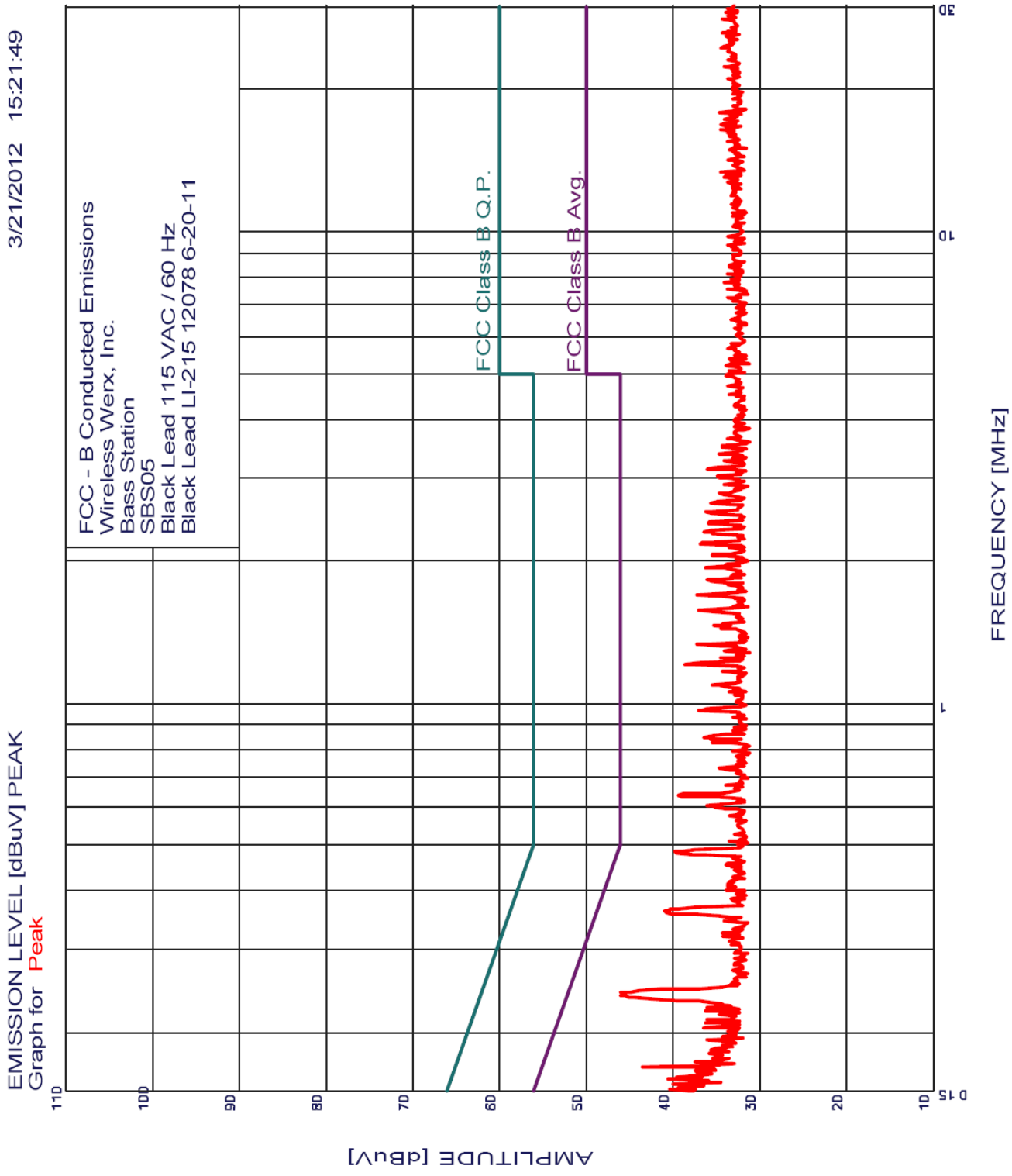
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

CONDUCTED EMISISONS

DATA SHEETS

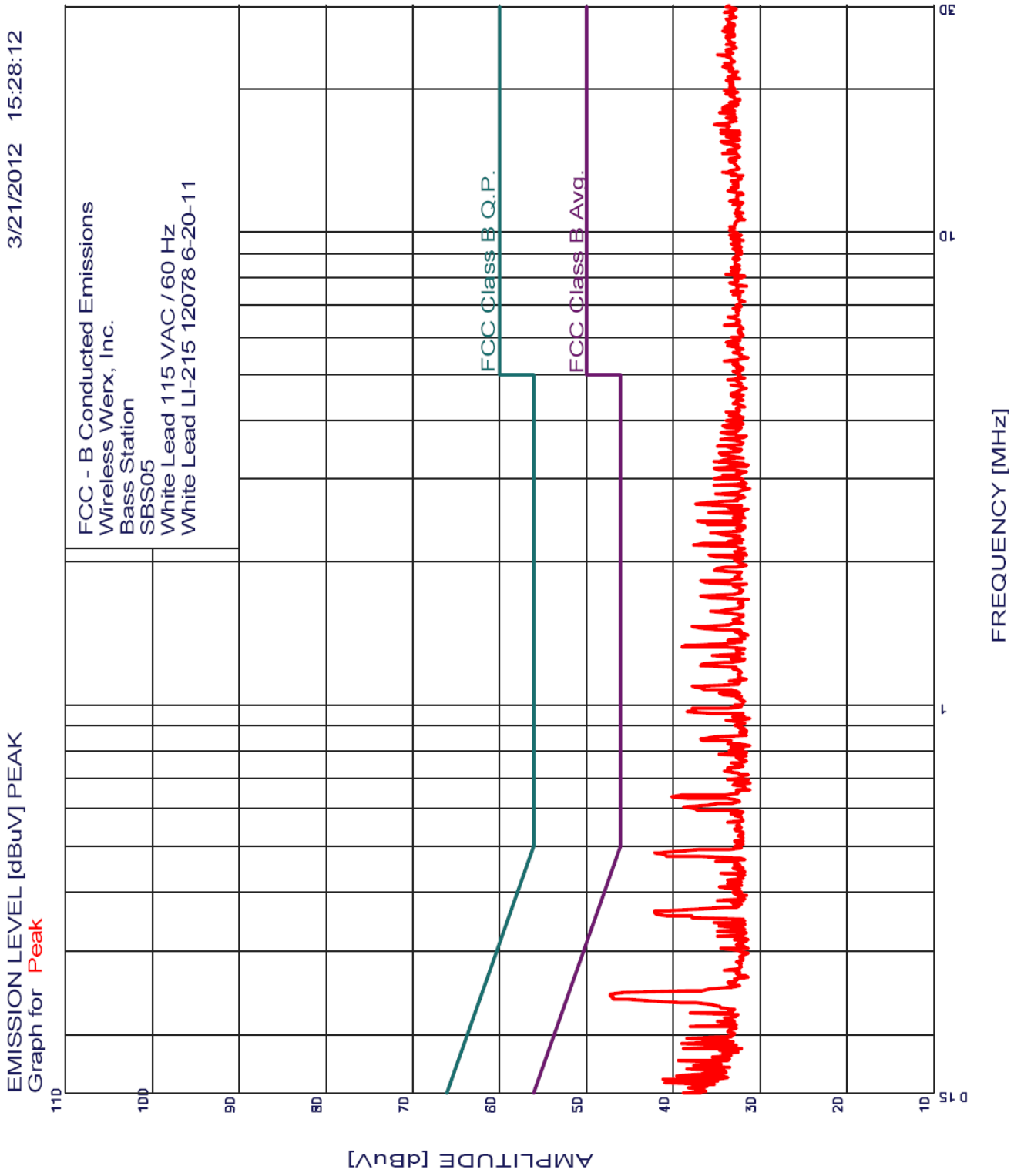

3/21/2012 15:21:49
FCC - B Conducted Emissions
Wireless Werx, Inc.
Bass Station
SBS05
Black Lead 115 VAC / 60 Hz
Black Lead LI-215 12078 6-20-11
FCC Class B Q.P.
FCC Class B Avg.
EMISSION LEVEL [dBuV] PEAK
Graph for Peak
AMPLITUDE [dBuV]
FREQUENCY [MHz]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30

FCC - B Conducted Emissions 3/21/2012 15:21:49
Wireless Werx, Inc.
Bass Station
SBS05
Black Lead 115 VAC / 60 Hz
Black Lead LI-215 12078 6-20-11
Test Engineer : David Tran

---

50 highest peaks above -50.00 dB of FCC Class B Avg. limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.243	45.94	52.00	-6.06
2	0.484	39.71	46.27	-6.57
3	0.637	39.41	46.00	-6.59
4	1.210	38.60	46.00	-7.40
5	0.362	40.87	48.69	-7.82
6	1.331	37.20	46.00	-8.80
7	1.690	37.20	46.00	-8.80
8	0.963	36.90	46.00	-9.10
9	1.569	36.90	46.00	-9.10
10	2.168	36.81	46.00	-9.19
11	2.310	36.41	46.00	-9.59
12	0.849	36.30	46.00	-9.70
13	2.540	36.12	46.00	-9.88
14	1.939	36.10	46.00	-9.90
15	3.141	36.04	46.00	-9.96
16	0.608	36.01	46.00	-9.99
17	1.820	36.00	46.00	-10.00
18	2.423	35.81	46.00	-10.19
19	2.651	35.52	46.00	-10.48
20	2.055	35.40	46.00	-10.60
21	0.826	35.40	46.00	-10.60
22	1.094	35.30	46.00	-10.70
23	1.456	35.20	46.00	-10.80
24	3.027	34.83	46.00	-11.17
25	0.728	34.70	46.00	-11.30
26	3.383	34.55	46.00	-11.45
27	2.781	34.53	46.00	-11.47
28	0.170	43.42	54.98	-11.57
29	1.243	34.40	46.00	-11.60
30	1.166	34.20	46.00	-11.80
31	3.511	34.15	46.00	-11.85
32	2.916	34.03	46.00	-11.97
33	1.290	34.00	46.00	-12.00
34	3.260	33.94	46.00	-12.06
35	4.954	33.90	46.00	-12.10
36	0.672	33.80	46.00	-12.20
37	1.971	33.80	46.00	-12.20
38	1.781	33.70	46.00	-12.30
39	4.696	33.59	46.00	-12.41
40	3.644	33.55	46.00	-12.45
41	0.577	33.51	46.00	-12.49
42	1.055	33.50	46.00	-12.50
43	4.528	33.48	46.00	-12.52
44	0.508	33.41	46.00	-12.59
45	2.134	33.40	46.00	-12.60
46	1.859	33.30	46.00	-12.70
47	0.872	33.10	46.00	-12.90
48	1.879	33.10	46.00	-12.90
49	0.454	33.80	46.80	-13.00
50	0.792	33.00	46.00	-13.00


3/21/2012 15:28:12
FCC - B Conducted Emissions
Wireless Werx, Inc.
Bass Station
SBS05
White Lead 115 VAC / 60 Hz
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 3/21/2012 15:28:12
Wireless Werx, Inc.
Bass Station
SBS05
White Lead 115 VAC / 60 Hz
White Lead LI-215 12078 6-20-11
Test Engineer : David Tran

---

50 highest peaks above -50.00 dB of FCC Class B Avg. limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.484	41.99	46.27	-4.29
2	0.243	47.19	52.00	-4.80
3	0.637	40.17	46.00	-5.83
4	0.365	42.12	48.61	-6.48
5	1.325	38.89	46.00	-7.11
6	0.605	38.77	46.00	-7.23
7	0.963	38.33	46.00	-7.67
8	1.456	37.81	46.00	-8.19
9	1.089	37.75	46.00	-8.25
10	2.168	37.47	46.00	-8.53
11	2.651	37.29	46.00	-8.71
12	2.436	37.08	46.00	-8.92
13	0.844	36.85	46.00	-9.15
14	1.820	36.78	46.00	-9.22
15	1.690	36.69	46.00	-9.31
16	1.210	36.68	46.00	-9.32
17	2.554	35.79	46.00	-10.21
18	2.066	35.76	46.00	-10.24
19	2.310	35.68	46.00	-10.32
20	1.569	35.60	46.00	-10.40
21	1.269	35.49	46.00	-10.51
22	3.260	35.24	46.00	-10.76
23	3.158	35.22	46.00	-10.78
24	3.011	35.20	46.00	-10.80
25	2.916	35.19	46.00	-10.81
26	1.918	35.17	46.00	-10.83
27	2.781	34.99	46.00	-11.01
28	3.529	34.88	46.00	-11.12
29	0.783	34.56	46.00	-11.44
30	3.401	34.56	46.00	-11.44
31	1.055	34.54	46.00	-11.46
32	3.644	34.40	46.00	-11.60
33	0.466	34.97	46.58	-11.60
34	3.761	34.32	46.00	-11.68
35	3.882	34.14	46.00	-11.86
36	0.720	34.07	46.00	-11.93
37	3.987	33.85	46.00	-12.15
38	4.137	33.76	46.00	-12.24
39	0.924	33.74	46.00	-12.26
40	2.610	33.69	46.00	-12.31
41	0.694	33.67	46.00	-12.33
42	1.367	33.60	46.00	-12.40
43	4.877	33.59	46.00	-12.41
44	2.214	33.57	46.00	-12.43
45	0.564	33.55	46.00	-12.45
46	3.226	33.53	46.00	-12.47
47	1.124	33.46	46.00	-12.54
48	4.071	33.46	46.00	-12.54
49	0.801	33.36	46.00	-12.64
50	0.438	34.45	47.11	-12.65

RADIATED EMISSIONS

DATA SHEETS

FCC 15.247

Wireless Werx
Base Station
Model: SBS05

Date: 03/19/2012
Lab: B
Tested By: Kyle Fujimoto

Low Channel

Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	54.14	V	74	-19.86	Peak	1	150	
4804	34.14	V	54	-19.86	Avg	1	150	
7206	55.05	V	74	-18.95	Peak	1.25	155	
7206	35.05	V	54	-18.95	Avg	1.25	155	
9608								**No Emission**
9608								**Detected**
12010								**No Emission**
12010								**Detected**
14412								**No Emission**
14412								**Detected**
16814								**No Emission**
16814								**Detected**
19216								**No Emission**
19216								**Detected**
21618								**No Emission**
21618								**Detected**
24020								**No Emission**
24020								**Detected**

FCC 15.247

Wireless Werx
Base Station
Model: SBS05

Date: 03/19/2012
Lab: B
Tested By: Kyle Fujimoto

Low Channel

Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	53.31	V	74	-20.69	Peak	1.25	155	
4804	33.31	V	54	-20.69	Avg	1.25	155	
7206	55.44	V	74	-18.56	Peak	1.55	165	
7206	35.44	V	54	-18.56	Avg	1.55	165	
9608								**No Emission**
9608								**Detected**
12010								**No Emission**
12010								**Detected**
14412								**No Emission**
14412								**Detected**
16814								**No Emission**
16814								**Detected**
19216								**No Emission**
19216								**Detected**
21618								**No Emission**
21618								**Detected**
24020								**No Emission**
24020								**Detected**

FCC 15.247

Wireless Werx
Base Station
Model: SBS05

Date: 03/19/2012
Lab: B
Tested By: Kyle Fujimoto

Low Channel

Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	47.85	H	74	-26.15	Peak	1.25	155	
4804	27.85	H	54	-26.15	Avg	1.25	155	
7206	57.78	H	74	-16.22	Peak	1.25	155	
7206	37.78	H	54	-16.22	Avg	1.25	155	
9608								**No Emission**
9608								**Detected**
12010								**No Emission**
12010								**Detected**
14412								**No Emission**
14412								**Detected**
16814								**No Emission**
16814								**Detected**
19216								**No Emission**
19216								**Detected**
21618								**No Emission**
21618								**Detected**
24020								**No Emission**
24020								**Detected**

FCC 15.247

Wireless Werx
Base Station
Model: SBS05

Date: 03/19/2012
Lab: B
Tested By: Kyle Fujimoto

Low Channel

Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	48.91	H	74	-25.09	Peak	1.25	155	
4804	28.91	H	54	-25.09	Avg	1.25	155	
7206	57.24	H	74	-16.76	Peak	1.35	165	
7206	37.24	H	54	-16.76	Avg	1.35	165	
9608								**No Emission**
9608								**Detected**
12010								**No Emission**
12010								**Detected**
14412								**No Emission**
14412								**Detected**
16814								**No Emission**
16814								**Detected**
19216								**No Emission**
19216								**Detected**
21618								**No Emission**
21618								**Detected**
24020								**No Emission**
24020								**Detected**

FCC 15.247

Wireless Werx
Base Station
Model: SBS05

Date: 03/19/2012
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4882	51.12	V	74	-22.88	Peak	1.25	155	
4882	31.12	V	54	-22.88	Avg	1.25	155	
7323	55.43	V	74	-18.57	Peak	1.25	165	
7323	35.43	V	54	-18.57	Avg	1.25	165	
9764								**No Emission**
9764								**Detected**
12205								**No Emission**
12205								**Detected**
14646								**No Emission**
14646								**Detected**
17087								**No Emission**
17087								**Detected**
19528								**No Emission**
19528								**Detected**
21969								**No Emission**
21969								**Detected**
24410								**No Emission**
24410								**Detected**

FCC 15.247

Wireless Werx
Base Station
Model: SBS05

Date: 03/19/2012
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4882	52.07	V	74	-21.93	Peak	1.25	155	
4882	32.07	V	54	-21.93	Avg	1.25	155	
7323	56.71	V	74	-17.29	Peak	1	225	
7323	36.71	V	54	-17.29	Avg	1	225	
9764								**No Emission**
9764								**Detected**
12205								**No Emission**
12205								**Detected**
14646								**No Emission**
14646								**Detected**
17087								**No Emission**
17087								**Detected**
19528								**No Emission**
19528								**Detected**
21969								**No Emission**
21969								**Detected**
24410								**No Emission**
24410								**Detected**

FCC 15.247

Wireless Werx
Base Station
Model: SBS05

Date: 03/19/2012
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4882	48.72	H	74	-25.28	Peak	1	90	
4882	28.72	H	54	-25.28	Avg	1	90	
7323	55.84	H	74	-18.16	Peak	1	90	
7323	35.84	H	54	-18.16	Avg	1	90	
9764								**No Emission**
9764								**Detected**
12205								**No Emission**
12205								**Detected**
14646								**No Emission**
14646								**Detected**
17087								**No Emission**
17087								**Detected**
19528								**No Emission**
19528								**Detected**
21969								**No Emission**
21969								**Detected**
24410								**No Emission**
24410								**Detected**

FCC 15.247

Wireless Werx
Base Station
Model: SBS05

Date: 03/19/2012
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4882	49.28	H	74	-24.72	Peak	1.35	155	
4882	29.28	H	54	-24.72	Avg	1.35	155	
7323	54.89	H	74	-19.11	Peak	1.25	155	
7323	34.89	H	54	-19.11	Avg	1.25	155	
9764								**No Emission**
9764								**Detected**
12205								**No Emission**
12205								**Detected**
14646								**No Emission**
14646								**Detected**
17087								**No Emission**
17087								**Detected**
19528								**No Emission**
19528								**Detected**
21969								**No Emission**
21969								**Detected**
24410								**No Emission**
24410								**Detected**

FCC 15.247

Wireless Werx
Base Station
Model: SBS05

Date: 03/19/2012
Lab: B
Tested By: Kyle Fujimoto

High Channel

Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	55.03	V	74	-18.97	Peak	1.25	135	
4960	35.03	V	54	-18.97	Avg	1.25	135	
7440	55.49	V	74	-18.51	Peak	1.15	155	
7440	35.49	V	54	-18.51	Avg	1.15	155	
9920								**No Emission**
9920								**Detected**
12400								**No Emission**
12400								**Detected**
14880								**No Emission**
14880								**Detected**
17360								**No Emission**
17360								**Detected**
19840								**No Emission**
19840								**Detected**
22320								**No Emission**
22320								**Detected**
24800								**No Emission**
24800								**Detected**

FCC 15.247

Wireless Werx
Base Station
Model: SBS05

Date: 03/19/2012
Lab: B
Tested By: Kyle Fujimoto

High Channel

Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	54.35	V	74	-19.65	Peak	1.25	155	
4960	34.35	V	54	-19.65	Avg	1.25	155	
7440	55.92	V	74	-18.08	Peak	1.55	145	
7440	35.92	V	54	-18.08	Avg	1.55	145	
9920								**No Emission**
9920								**Detected**
12400								**No Emission**
12400								**Detected**
14880								**No Emission**
14880								**Detected**
17360								**No Emission**
17360								**Detected**
19840								**No Emission**
19840								**Detected**
22320								**No Emission**
22320								**Detected**
24800								**No Emission**
24800								**Detected**

FCC 15.247

Wireless Werx
Base Station
Model: SBS05

Date: 03/19/2012
Lab: B
Tested By: Kyle Fujimoto

High Channel

Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	49.56	H	74	-24.44	Peak	1.25	135	
4960	29.56	H	54	-24.44	Avg	1.25	135	
7440	54.71	H	74	-19.29	Peak	1.25	155	
7440	34.71	H	54	-19.29	Avg	1.25	155	
9920								**No Emission**
9920								**Detected**
12400								**No Emission**
12400								**Detected**
14880								**No Emission**
14880								**Detected**
17360								**No Emission**
17360								**Detected**
19840								**No Emission**
19840								**Detected**
22320								**No Emission**
22320								**Detected**
24800								**No Emission**
24800								**Detected**

FCC 15.247

Wireless Werx
Base Station
Model: SBS05

Date: 03/19/2012
Lab: B
Tested By: Kyle Fujimoto

High Channel

Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	46.05	H	74	-27.95	Peak	1.25	155	
4960	26.05	H	54	-27.95	Avg	1.25	155	
7440	53.45	H	74	-20.55	Peak	1.25	155	
7440	33.45	H	54	-20.55	Avg	1.25	155	
9920								**No Emission**
9920								**Detected**
12400								**No Emission**
12400								**Detected**
14880								**No Emission**
14880								**Detected**
17360								**No Emission**
17360								**Detected**
19840								**No Emission**
19840								**Detected**
22320								**No Emission**
22320								**Detected**
24800								**No Emission**
24800								**Detected**

FCC 15.247

Wireless Werx
Base Station
Model: SBS05

Date: 03/19/2012
Lab: B
Tested By: Kyle Fujimoto

Non Harmonic Emissions from the Tx and Digital Portion -- 1 GHz to 25000 MHz

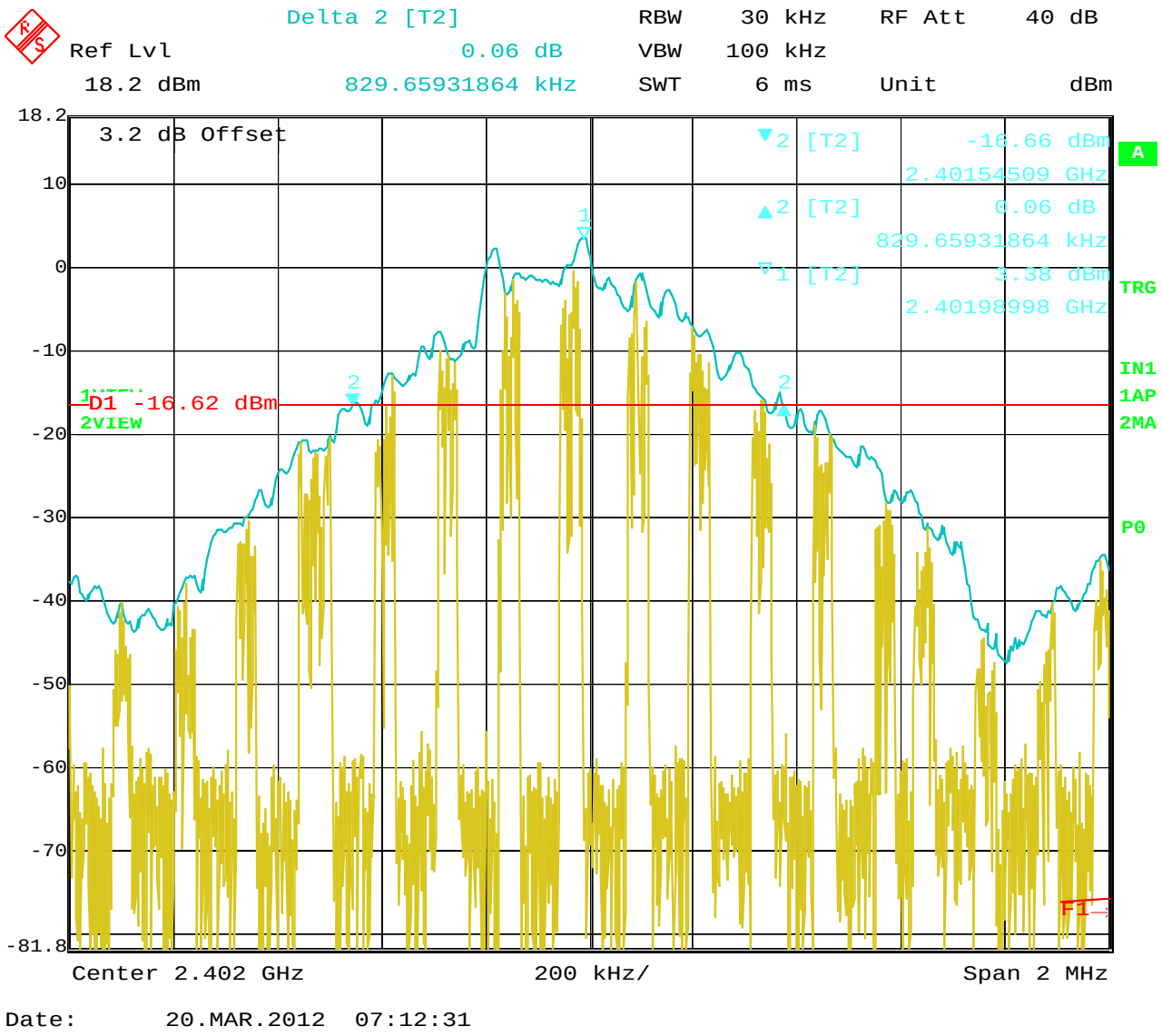
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
1601.84	47.78	V	54	-6.22	Peak	1.25	225	
1601.8	45.04	H	54	-8.96	Peak	1.25	225	No Other Emissions Found for the
								Digital Portion
1200	38.42	V	54	-15.58	Peak	1.25	225	from 1 GHz to 25000 MHz
1200	38.42	H	54	-15.58	Peak	1.25	225	for both Vertical and Horizontal
								Polarizations
								No Non Harmonic Emissions Found
								for the Tx Mode
								from 1 GHz to 25000 MHz
								for both Vertical and Horizontal
								Polarizations
								Investigated in the X-Axis
								and Y-Axis

Test Location : Compatible Electronics **Page** : 1/1
Customer : Wireless Werx, Inc. **Date** : 3/21/2012
Manufacturer : Wireless Werx, Inc. **Time** : 8:48:09
Eut name : Bass Station **Lab** : D
Model : SBS05 **Test Distance** : 3.0
Serial # : N/A
Specification : FCC Class B
Distance correction factor (20 * log(test/spec) : 0.00
Test Mode : Radiated Emissions Test 10 kHz - 1 GHz
Vertical and Horizontal Polarization
X and Y Axis
Tested By : David Tran

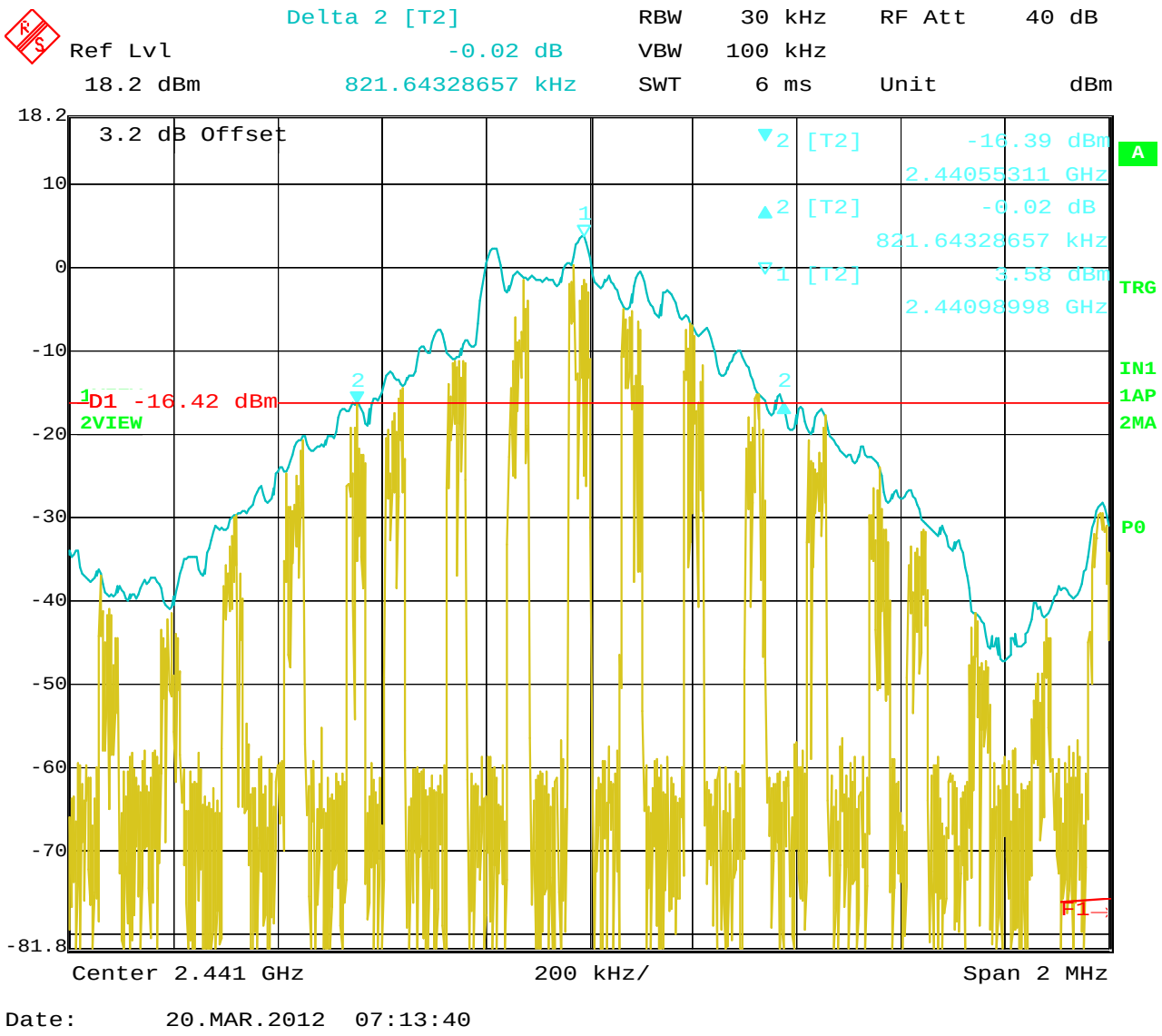
Pol	Freq MHz	Rdng dBuV	Cable loss dB	Ant factor dB	Amp gain dB	Cor'd rdg = R dBuV	Limit = L dBuV/m	Delta R-L dB
V	55.861	59.80	0.86	10.43	38.55	32.54	40.00	-7.46
V	154.825	46.90	1.62	12.15	38.46	22.22	43.50	-21.28
V	74.570	58.80	1.15	6.38	38.54	27.79	40.00	-12.21
V	75.176	58.50	1.15	6.31	38.54	27.42	40.00	-12.58
V	124.976	57.40	1.30	11.92	38.51	32.11	43.50	-11.39
V	30.614	53.10	0.71	10.91	38.54	26.19	40.00	-13.81
V	58.762	60.10	0.89	9.98	38.54	32.43	40.00	-7.57
V	64.764	69.70	1.00	8.41	38.54	40.57	40.00	0.57
V	64.779Qp	69.05	1.00	8.41	38.54	39.92	40.00	-0.08
V	90.374	64.10	1.30	7.10	38.54	33.95	43.50	-9.55
V	110.766	62.70	1.25	10.96	38.52	36.38	43.50	-7.12
V	111.623	59.00	1.25	11.07	38.52	32.80	43.50	-10.70
V	143.286	58.60	1.52	11.57	38.45	33.25	43.50	-10.25
V	374.984	56.00	2.50	15.05	38.41	35.14	46.00	-10.86
V	439.998	52.50	2.60	15.63	38.13	32.60	46.00	-13.40
V	499.996	65.70	2.80	15.80	38.31	45.99	46.00	-0.01
H	499.985	65.50	2.80	15.80	38.31	45.79	46.00	-0.21
V	499.996Qp	64.85	2.80	15.80	38.31	45.14	46.00	-0.86
H	499.986Qp	64.65	2.80	15.80	38.31	44.94	46.00	-1.06
The above readings are emissions taken in the X axis.								
H	374.994	59.40	2.50	15.05	38.41	38.54	46.00	-7.46
H	439.980	52.20	2.60	15.63	38.13	32.30	46.00	-13.70
H	374.985	52.90	2.50	15.05	38.41	32.04	46.00	-13.96
H	440.026	55.00	2.60	15.63	38.13	35.10	46.00	-10.90
H	499.982	59.90	2.80	15.80	38.31	40.19	46.00	-5.81
V	374.983	56.50	2.50	15.05	38.41	35.64	46.00	-10.36
V	439.984	52.10	2.60	15.63	38.13	32.20	46.00	-13.80
V	499.986	58.90	2.80	15.80	38.31	39.19	46.00	-6.81
V	56.020	61.30	0.86	10.40	38.55	34.01	40.00	-5.99
V	58.706	59.40	0.89	9.99	38.54	31.74	40.00	-8.26
V	64.779	68.50	1.00	8.41	38.54	39.37	40.00	-0.63
V	64.783Qp	68.00	1.00	8.41	38.54	38.87	40.00	-1.13
V	90.337	57.60	1.30	7.09	38.54	27.45	43.50	-16.05
V	110.765	62.10	1.25	10.96	38.52	35.78	43.50	-7.72
The above readings are emissions taken in the Y axis.								

-20 dB BANDWIDTH

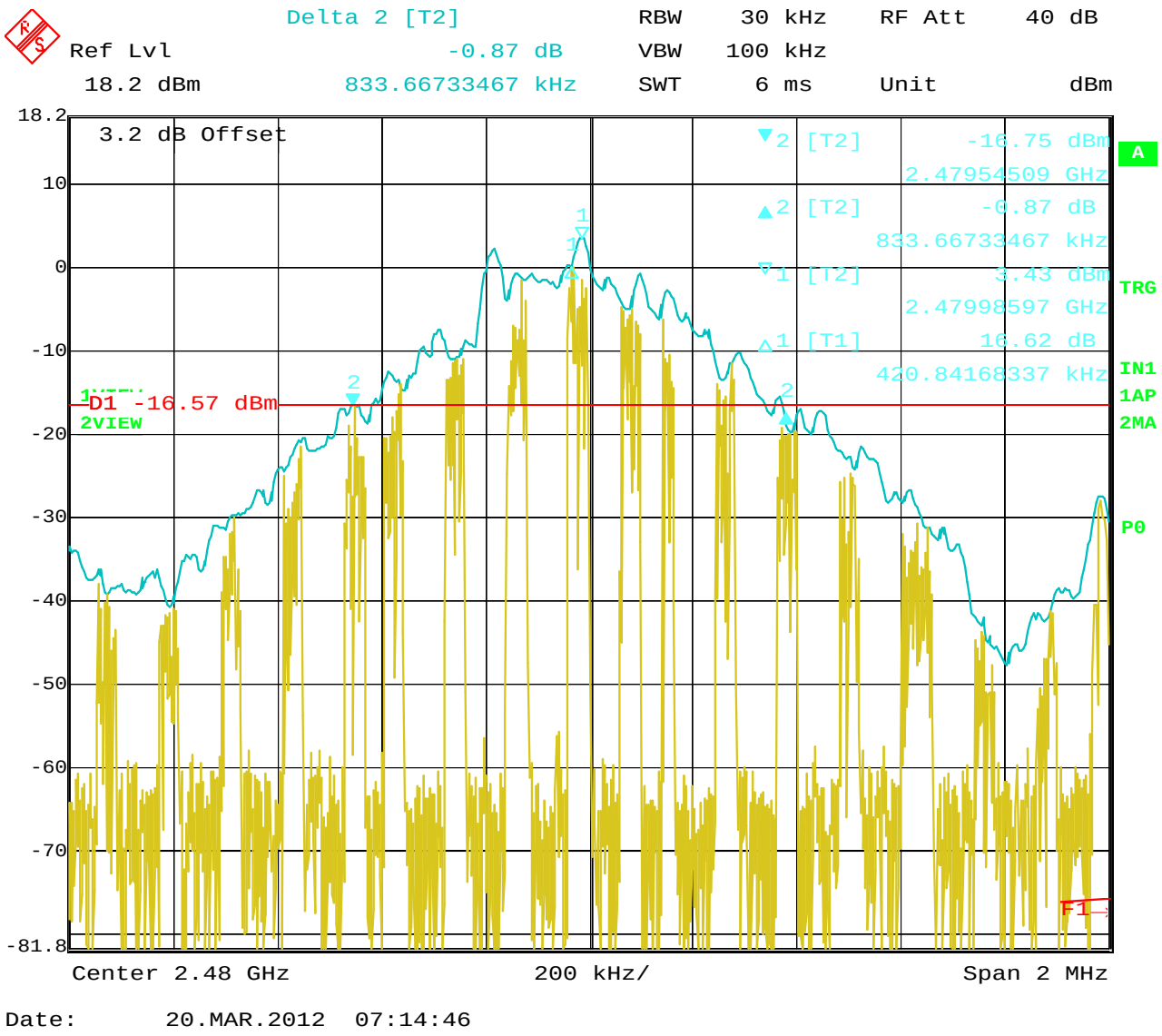
DATA SHEETS



20 dB Bandwidth of Fundamental – Low Channel



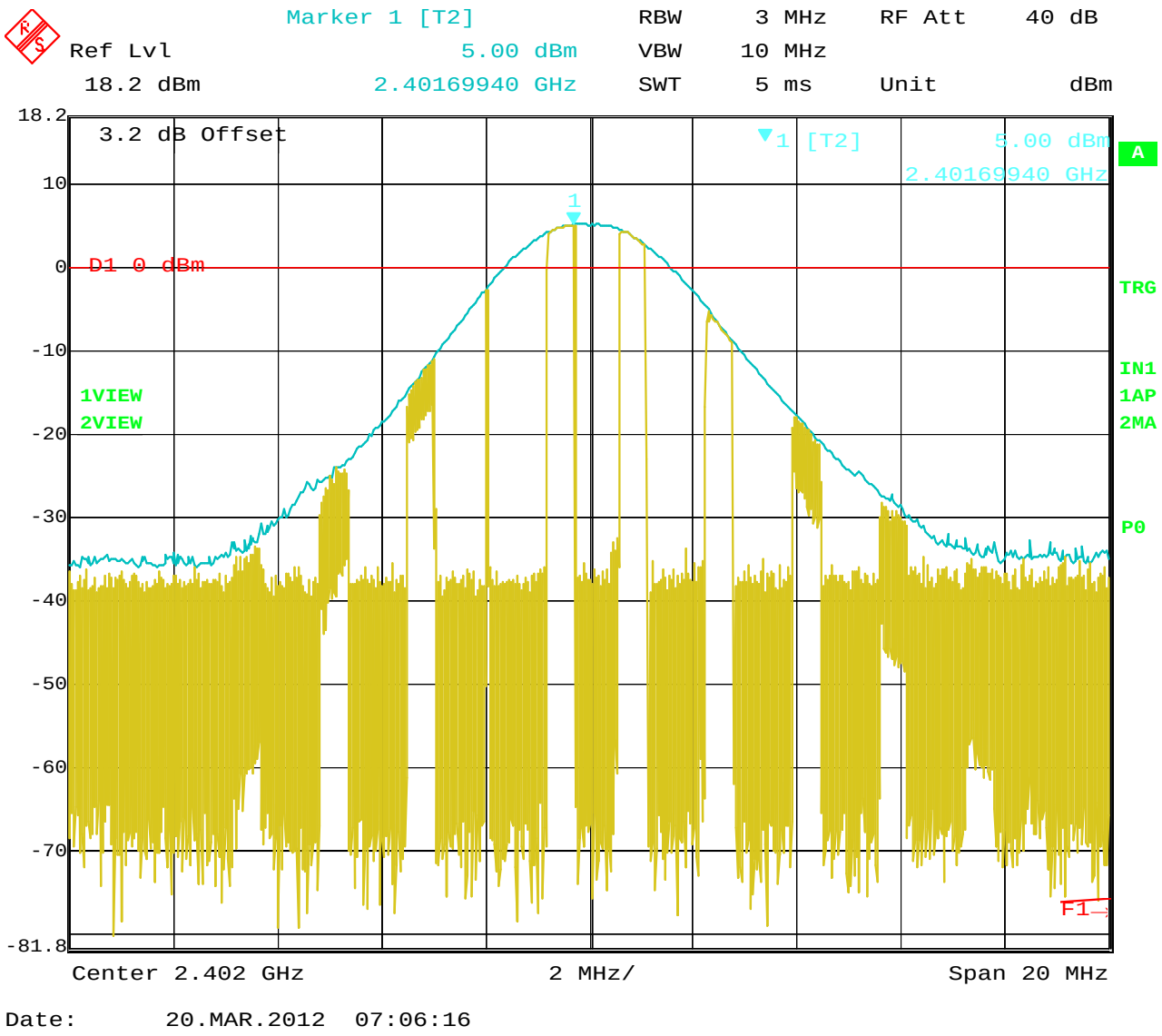
20 dB Bandwidth of Fundamental – Middle Channel



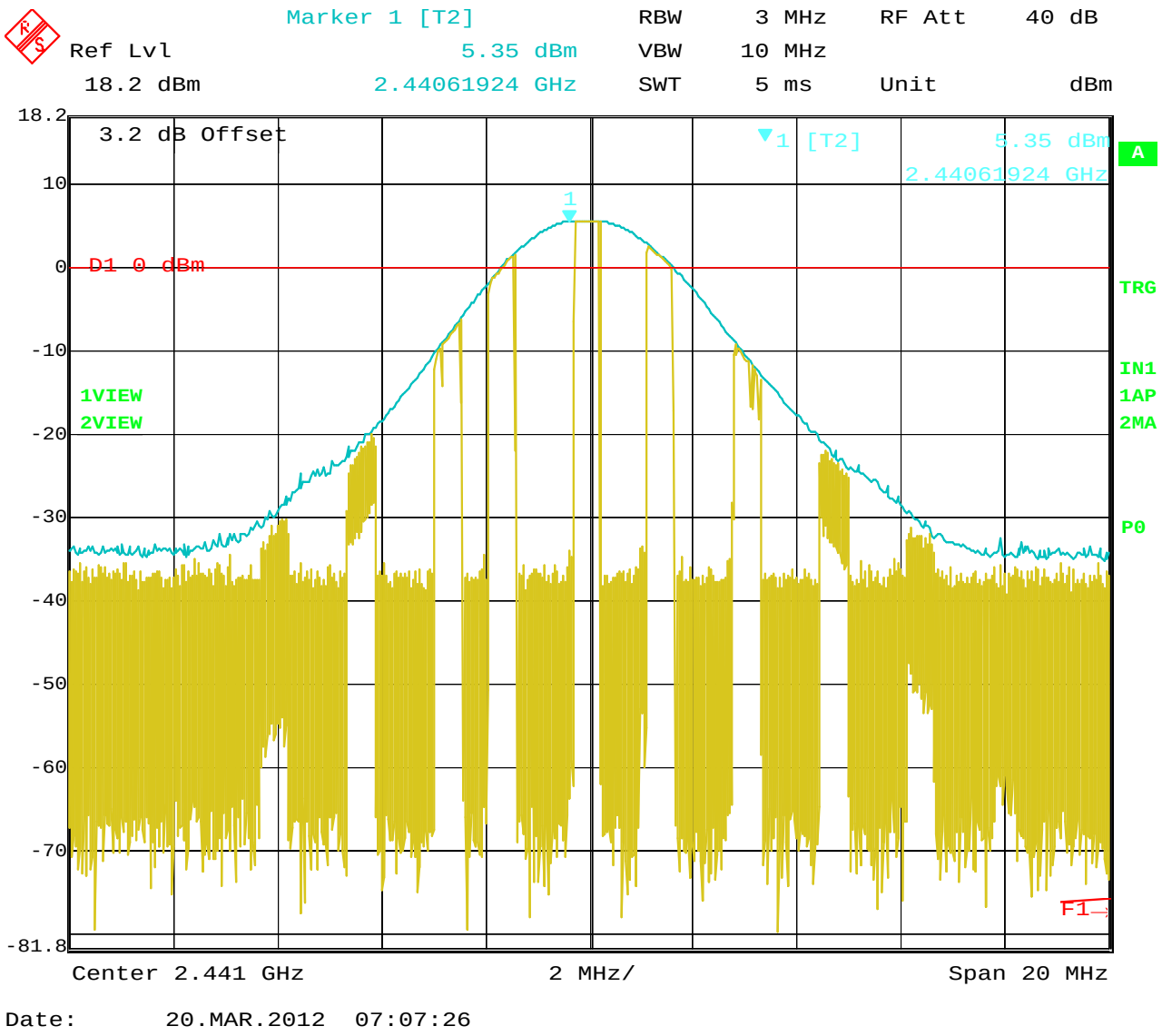
20 dB Bandwidth of Fundamental – High Channel

PEAK POWER OUTPUT

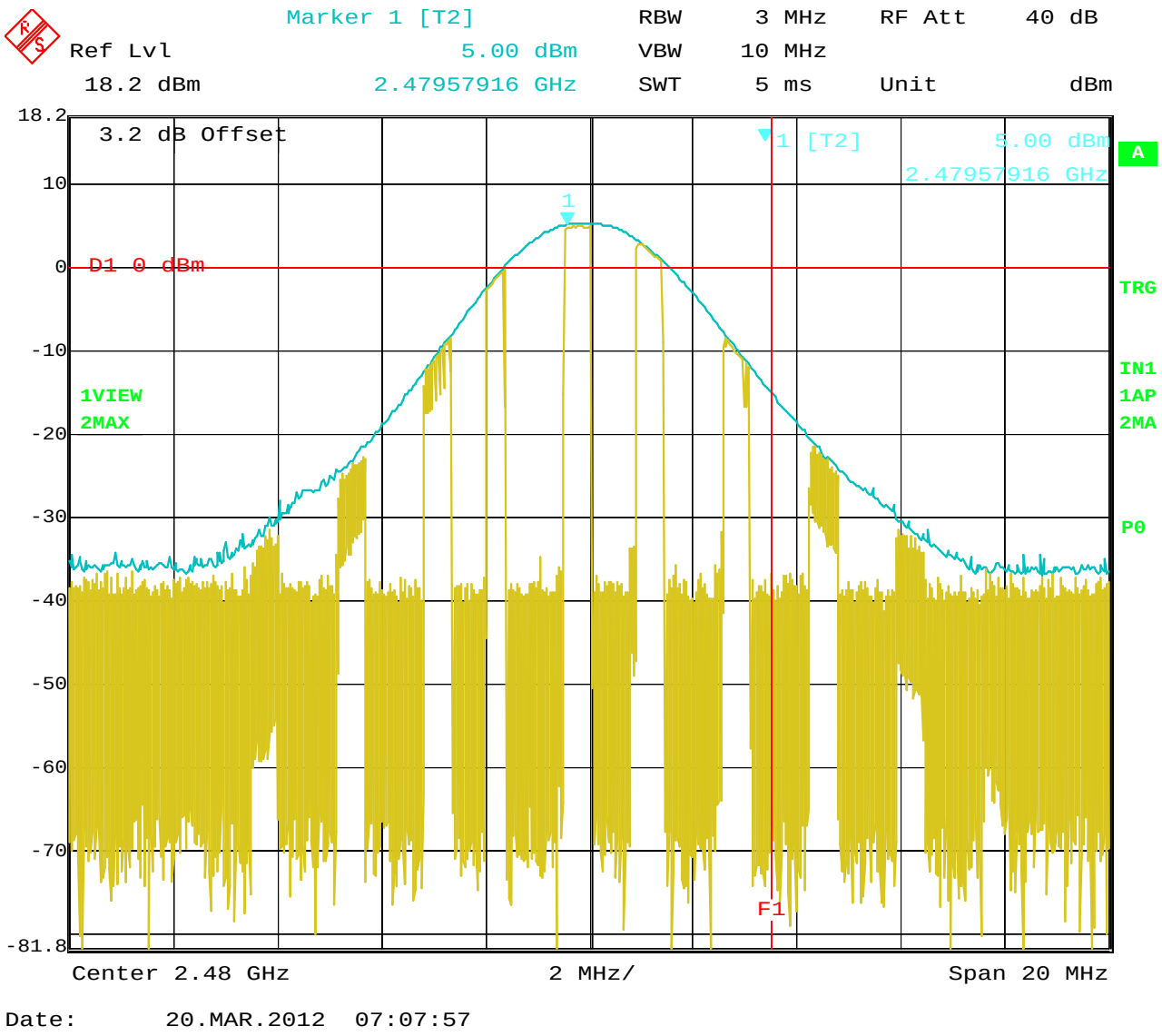
DATA SHEETS



Peak Power Output – Low Channel



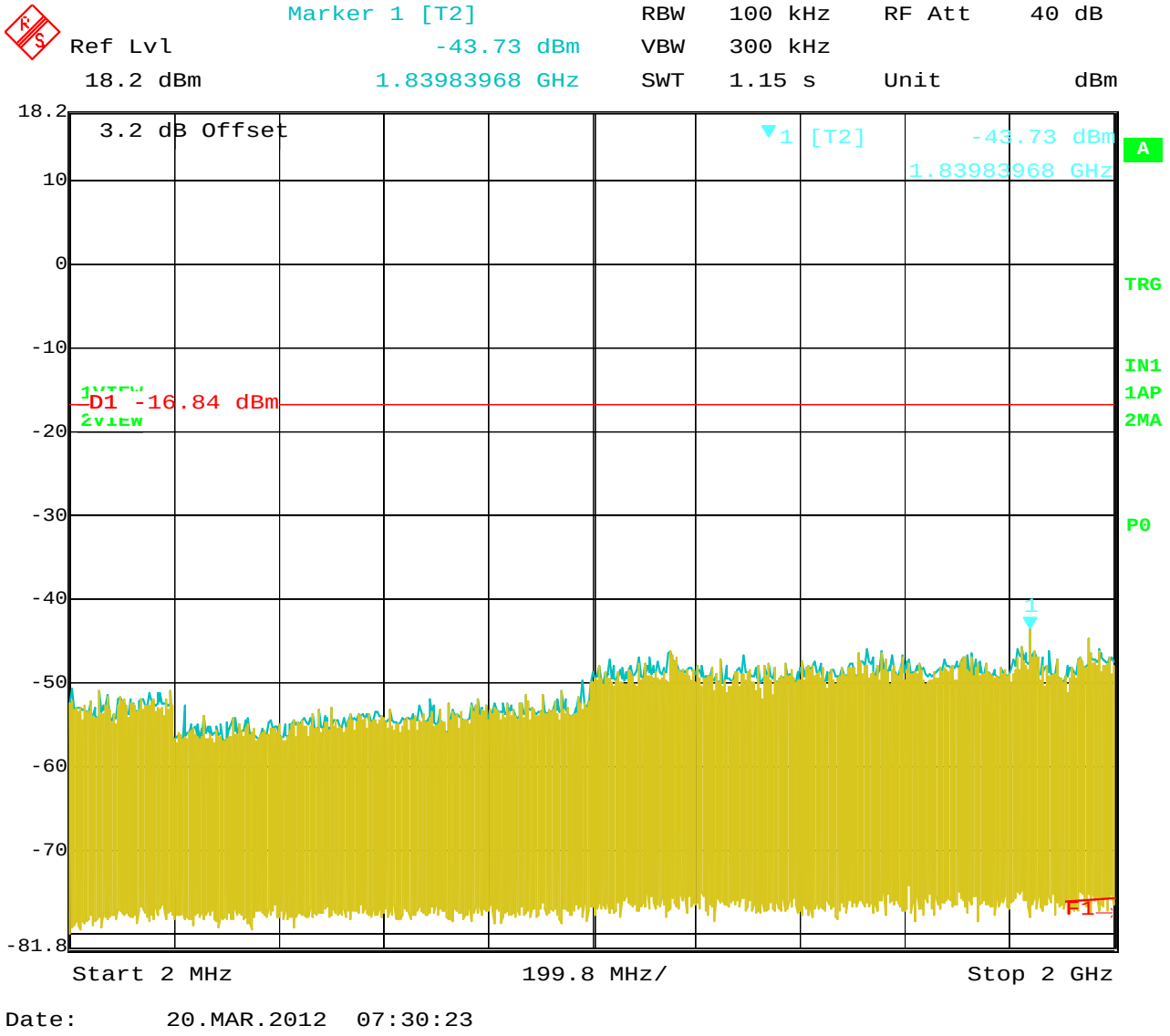
Peak Power Output –Middle Channel



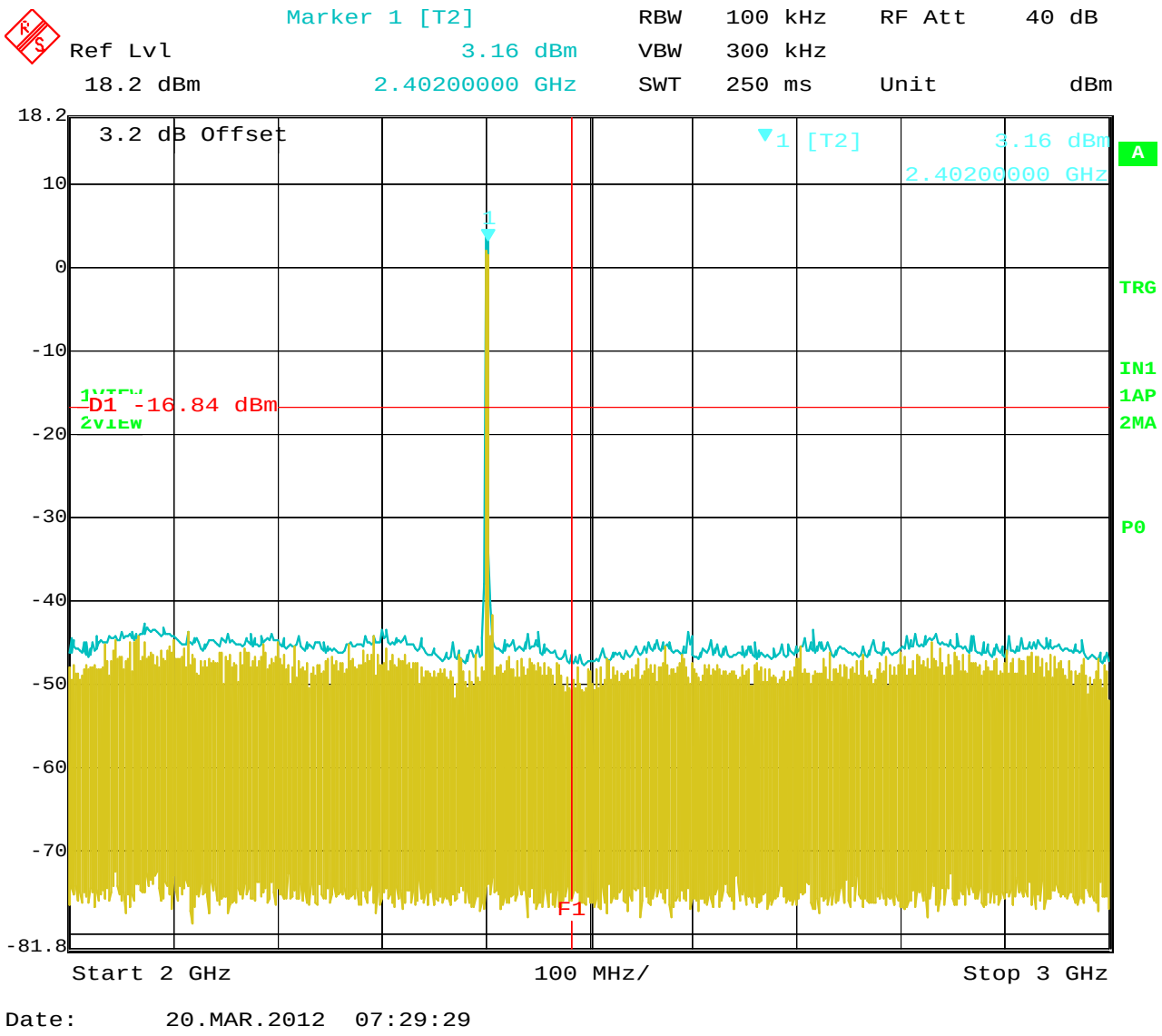
Peak Power Output – High Channel

RF CONDUCTED ANTENNA TEST

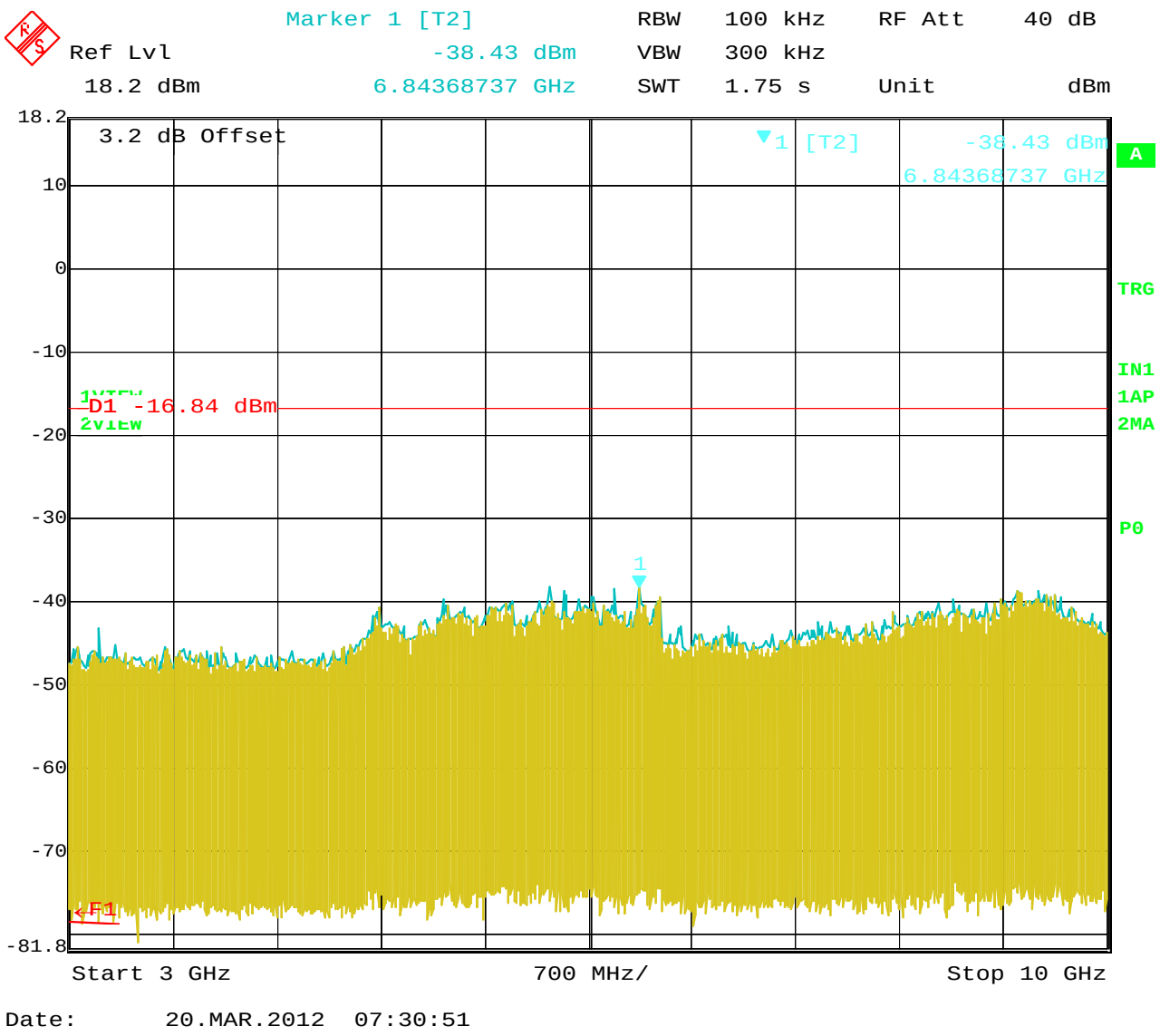
DATA SHEETS



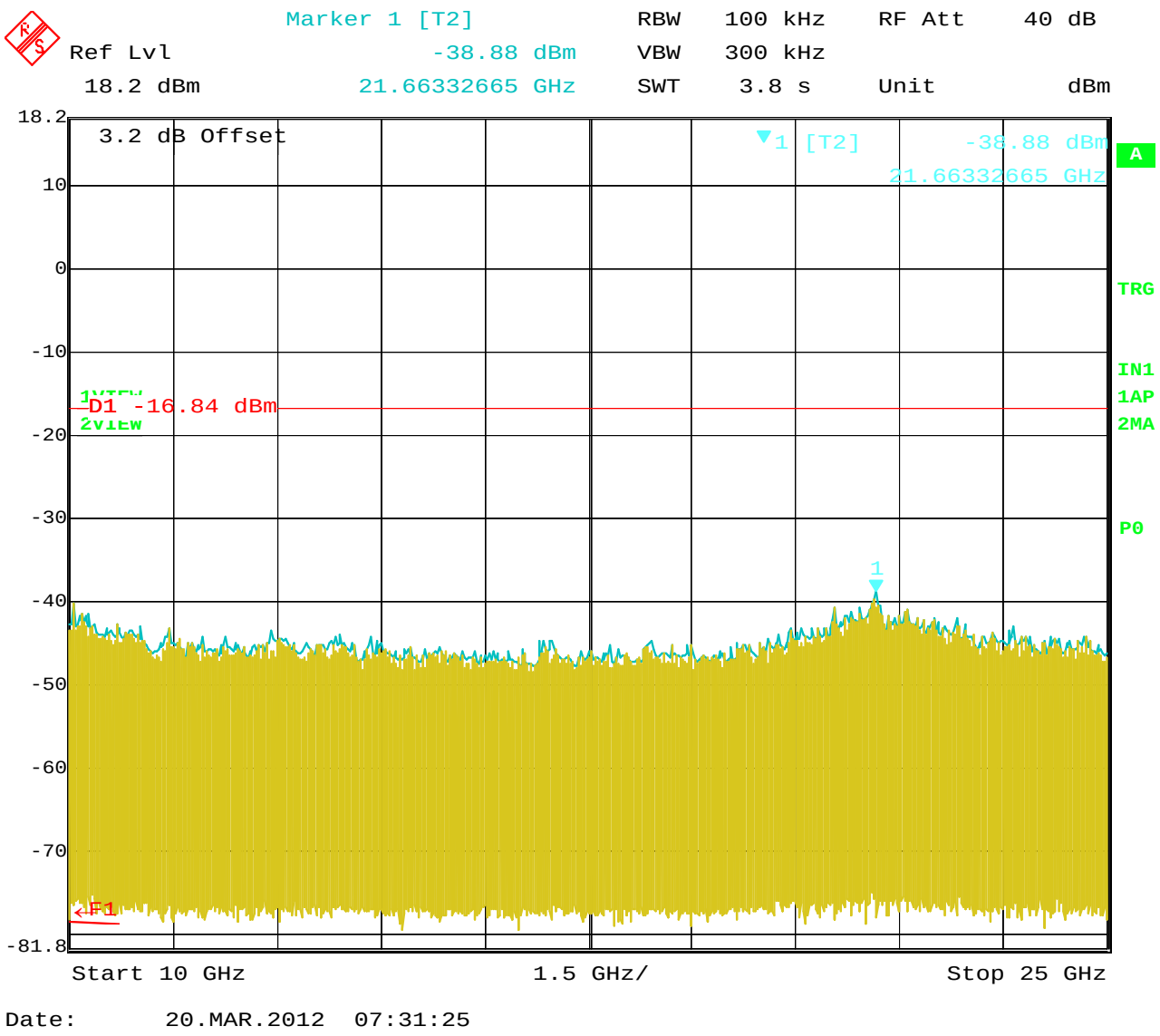
RF Antenna Conducted Test – Low Channel – 2 MHz to 2 GHz



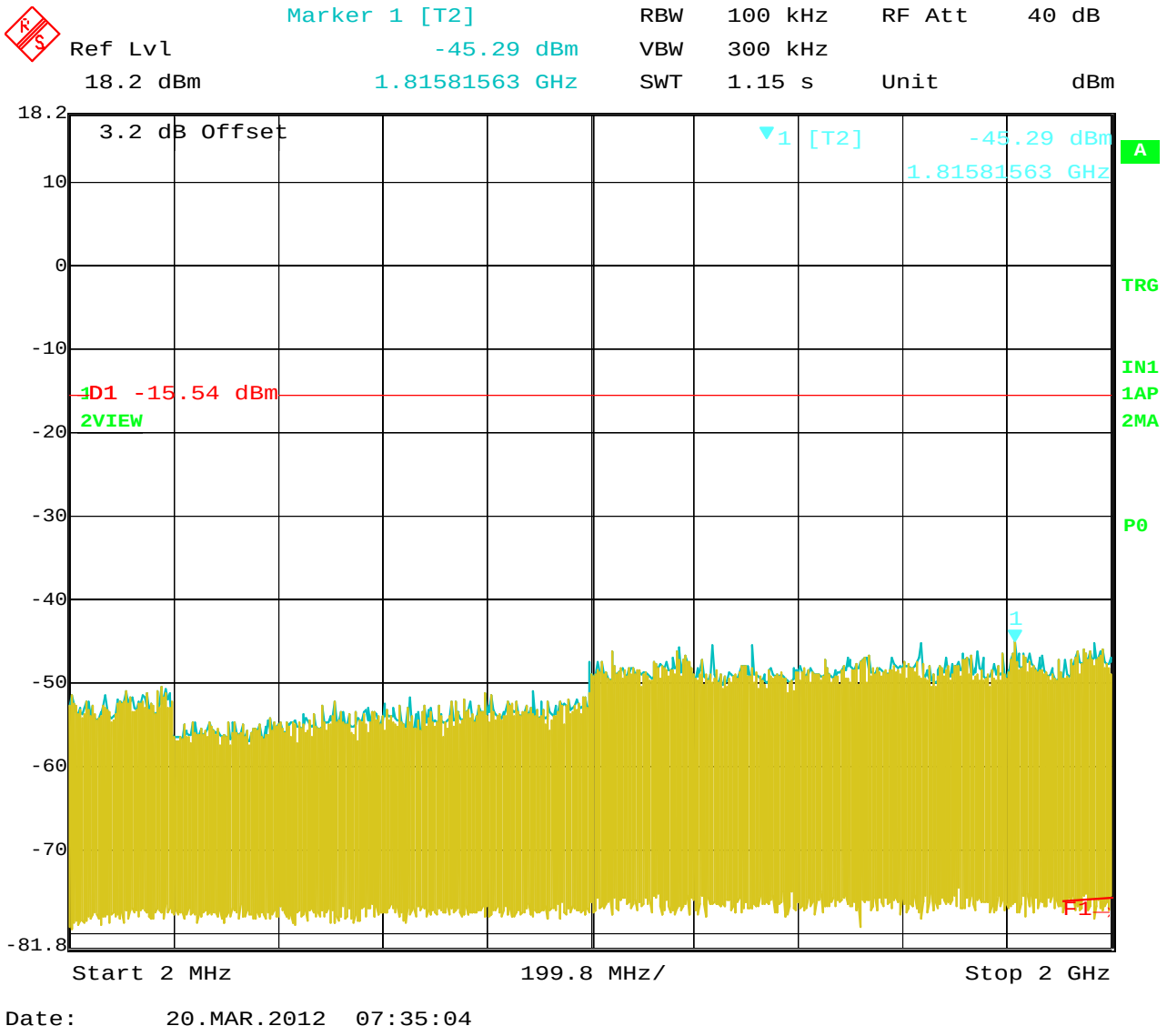
RF Antenna Conducted Test – Low Channel – 2 GHz to 3 GHz



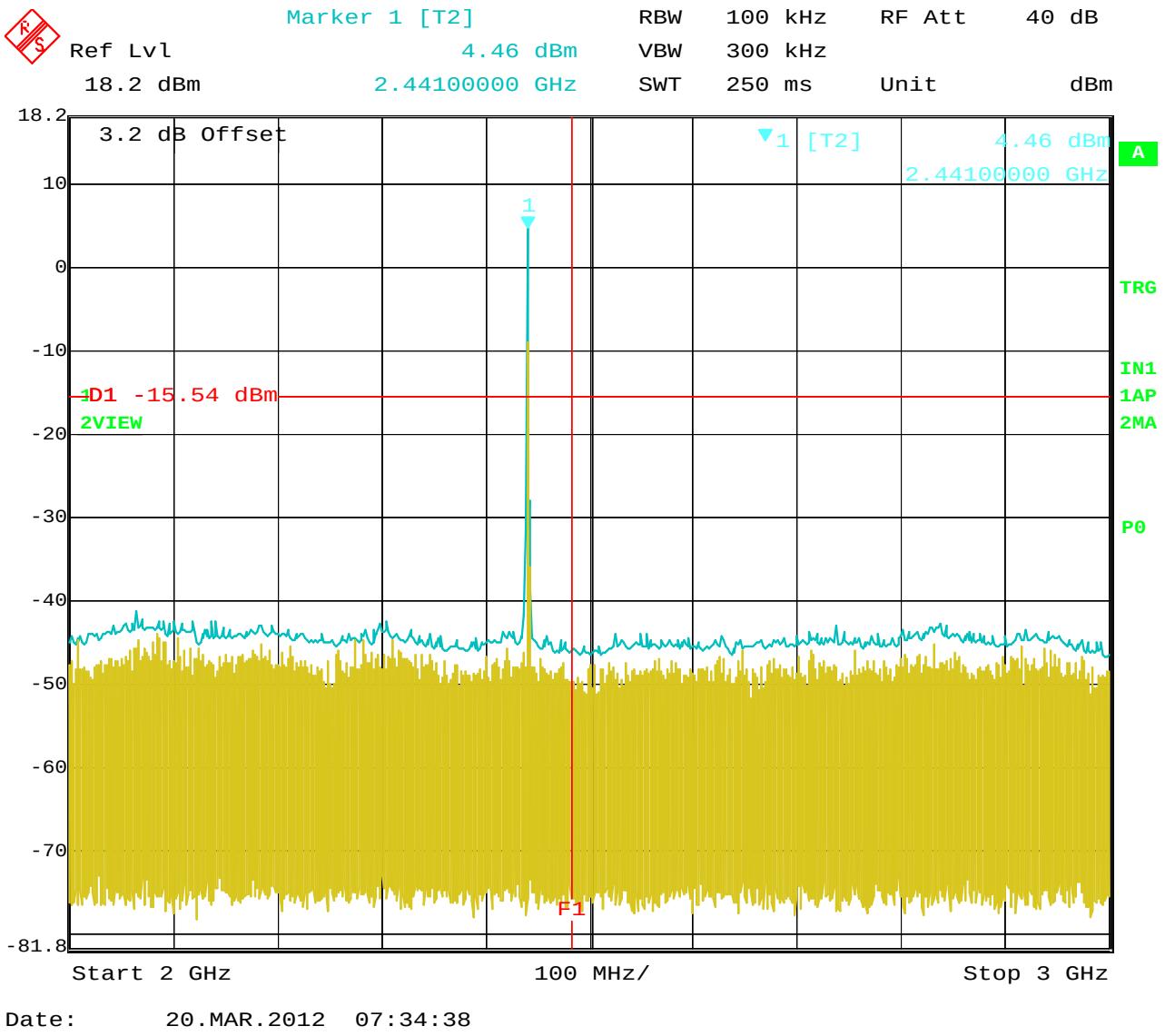
RF Antenna Conducted Test – Low Channel – 3 GHz to 10 GHz



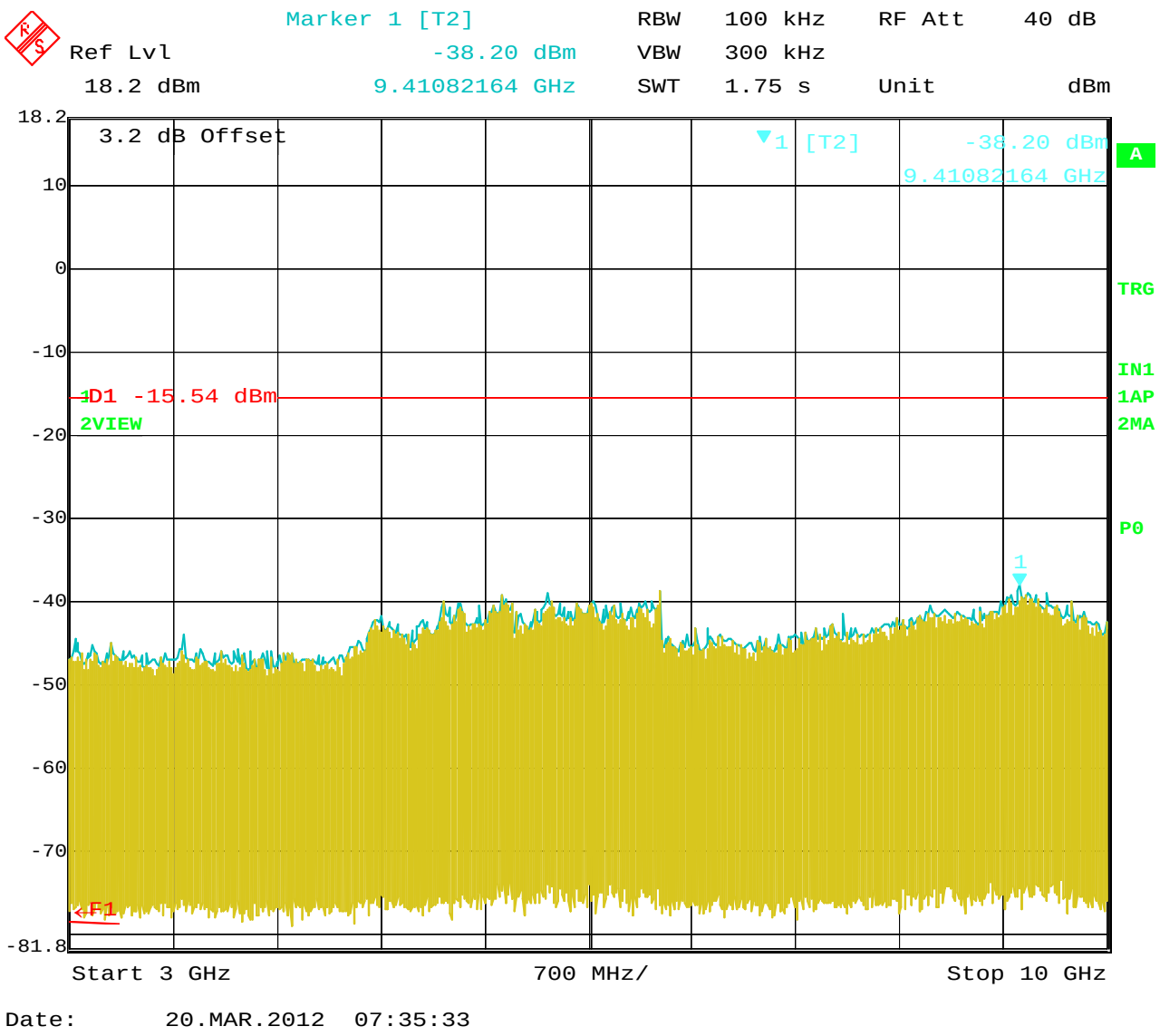
RF Antenna Conducted Test – Low Channel – 10 GHz to 25 GHz



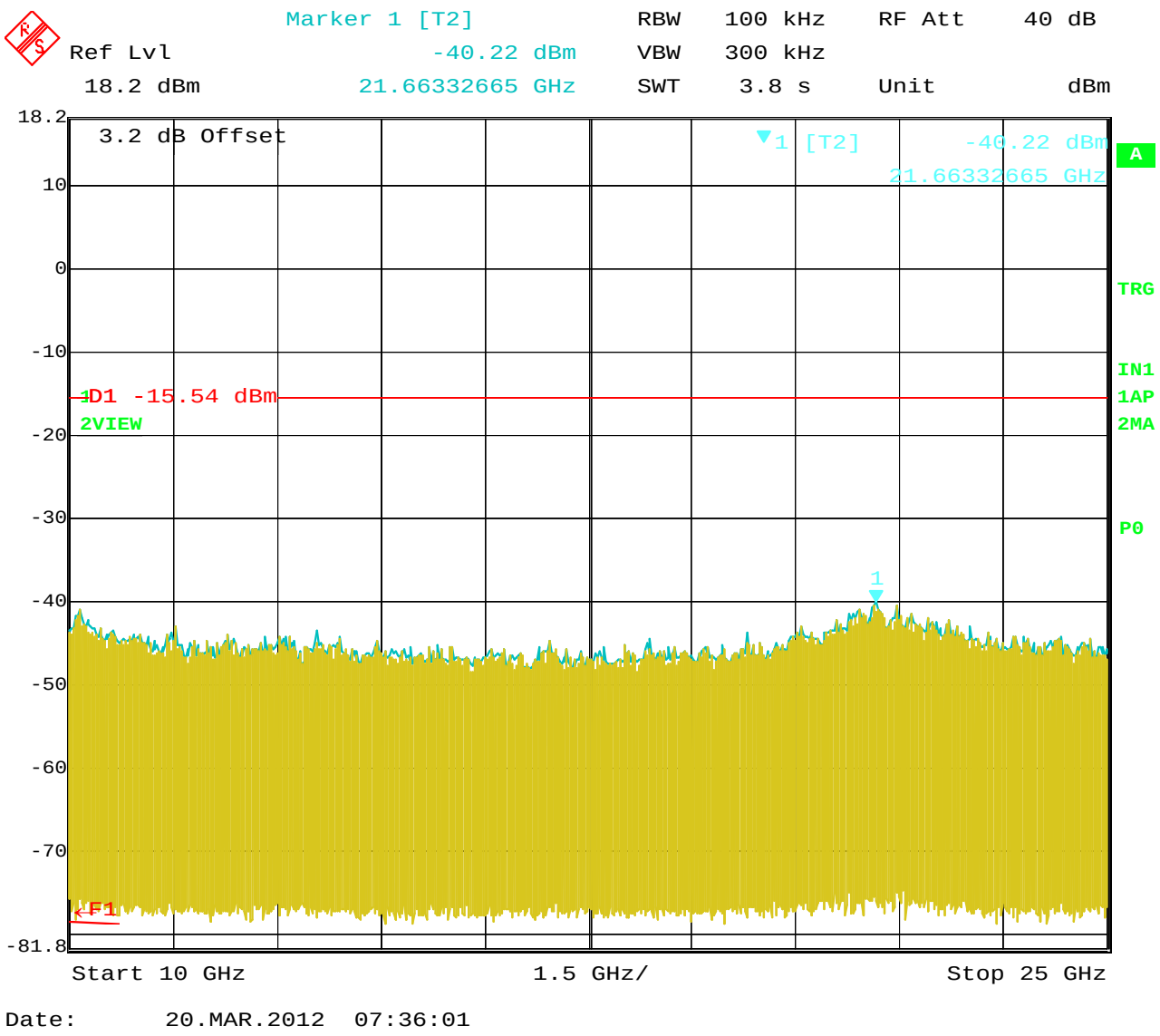
RF Antenna Conducted Test – Middle Channel – 2 MHz to 2 GHz



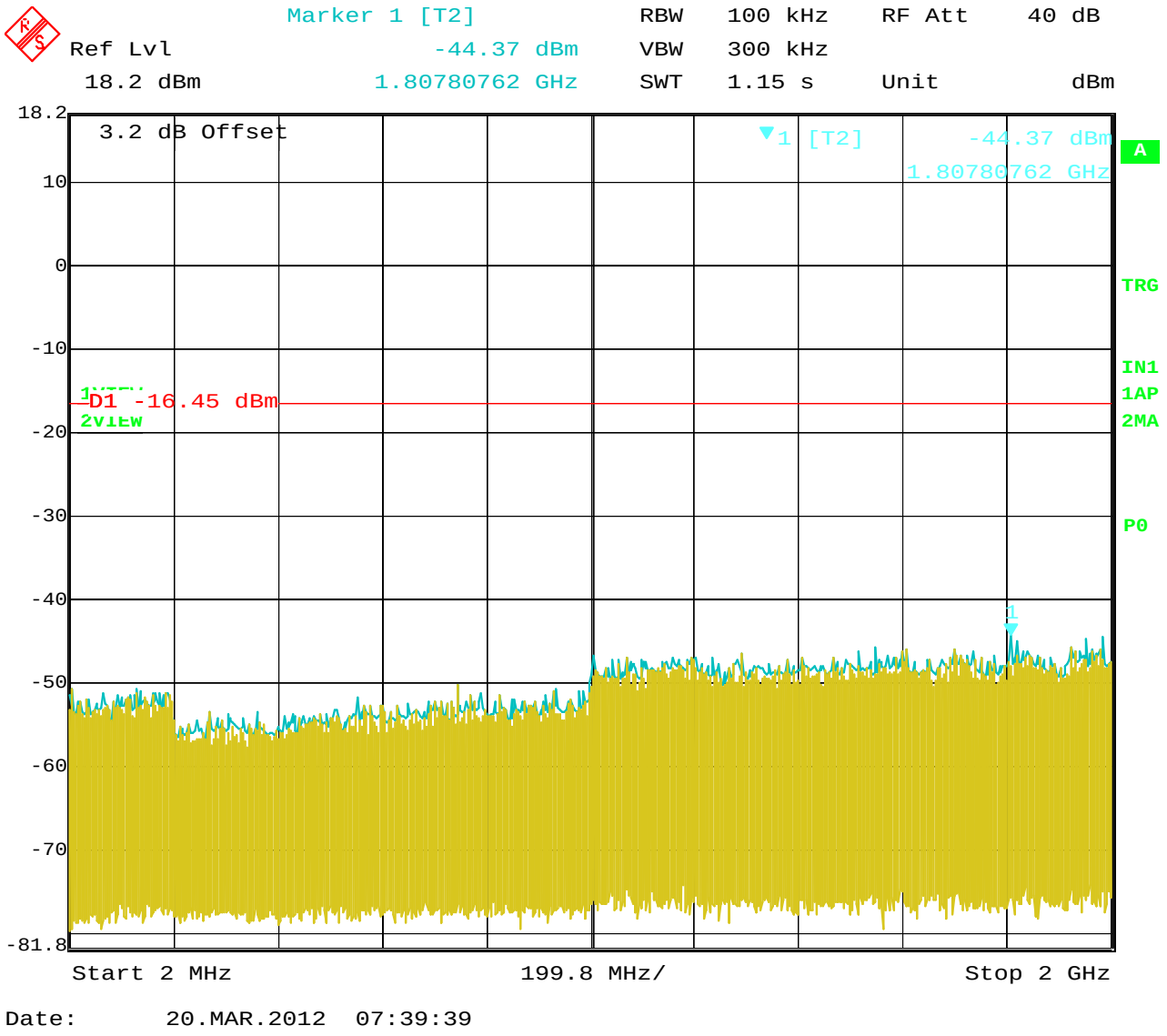
RF Antenna Conducted Test – Middle Channel – 2 GHz to 3 GHz



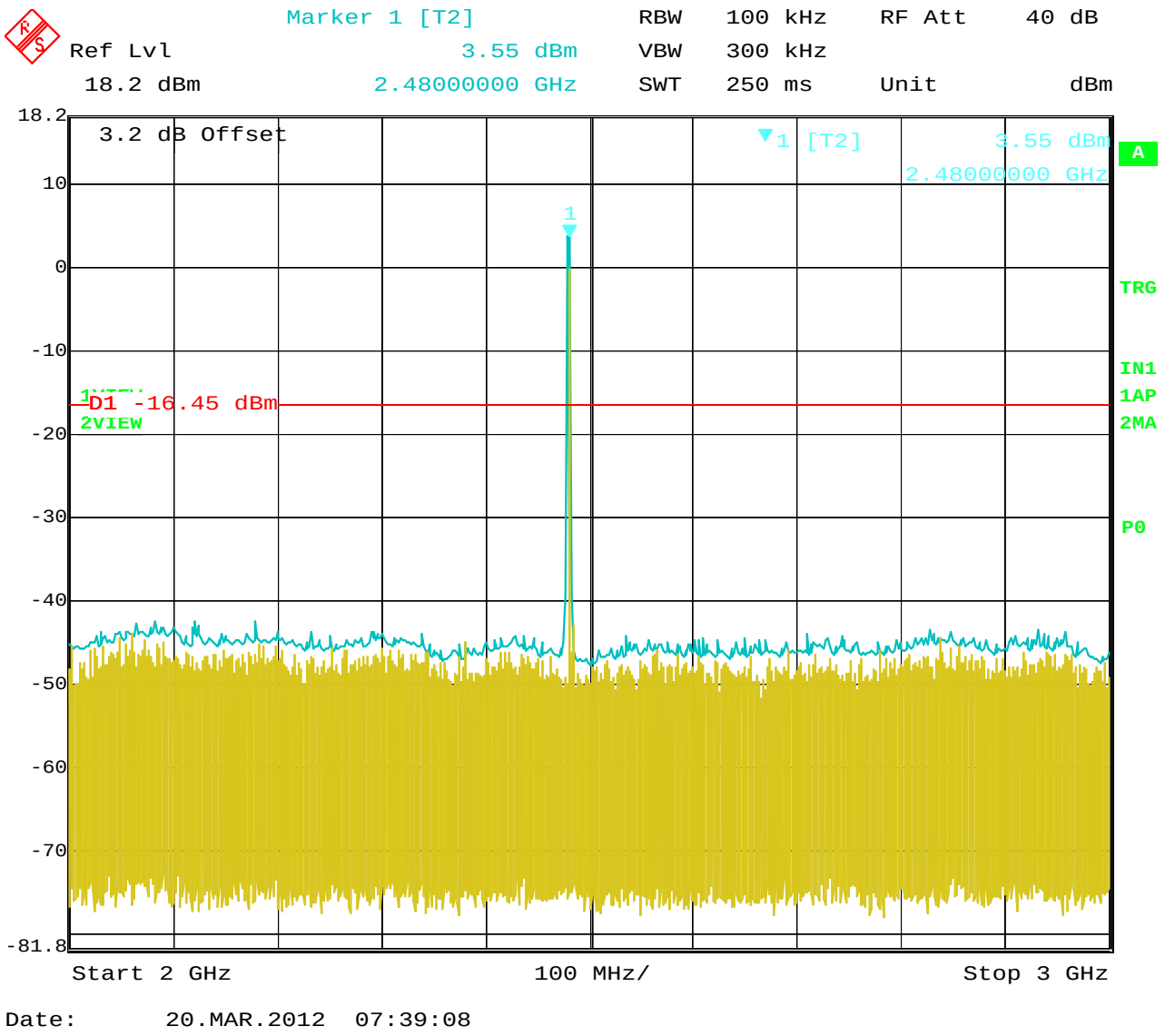
RF Antenna Conducted Test – Middle Channel – 3 GHz to 10 GHz



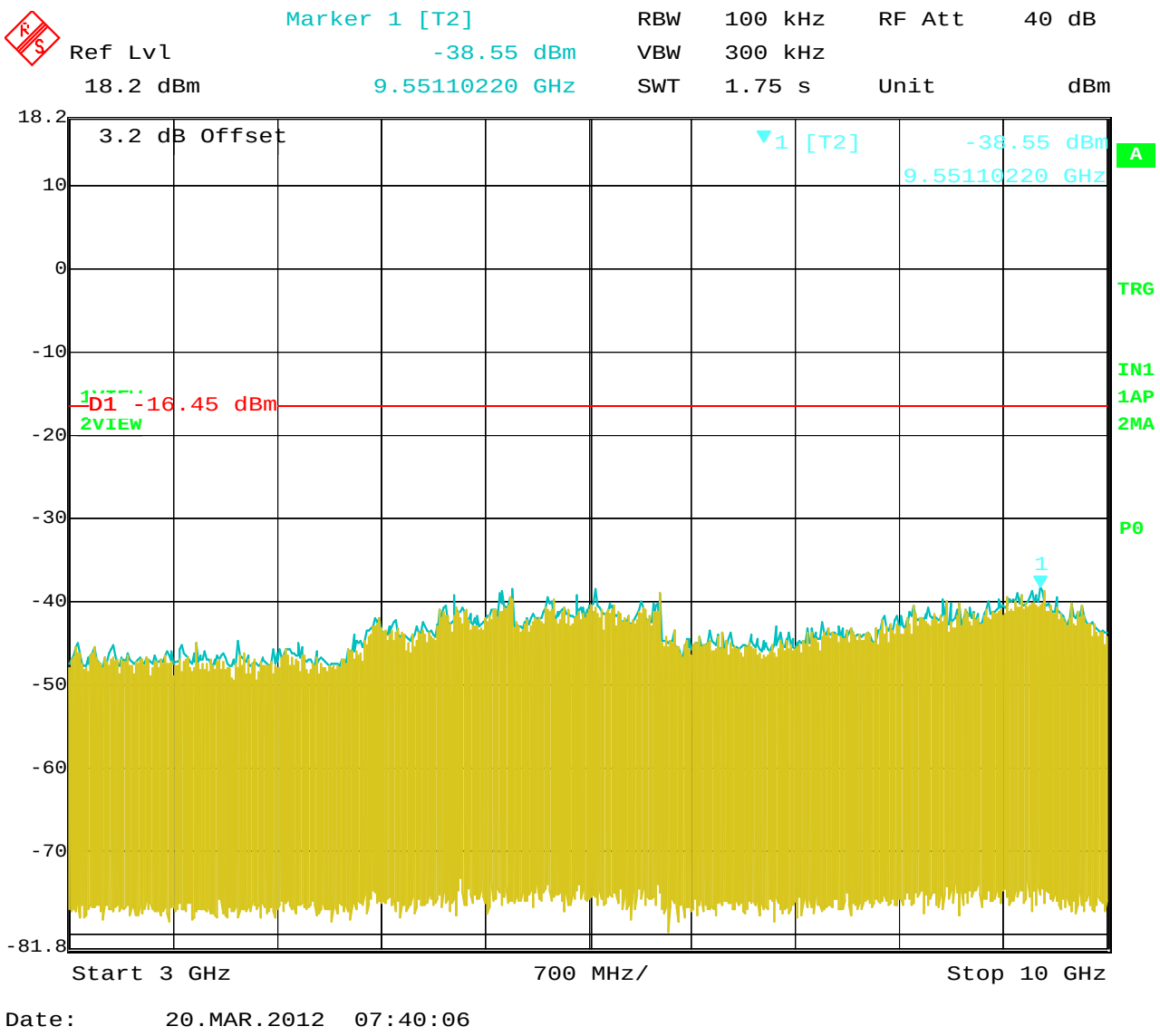
RF Antenna Conducted Test – Middle Channel – 10 GHz to 25 GHz



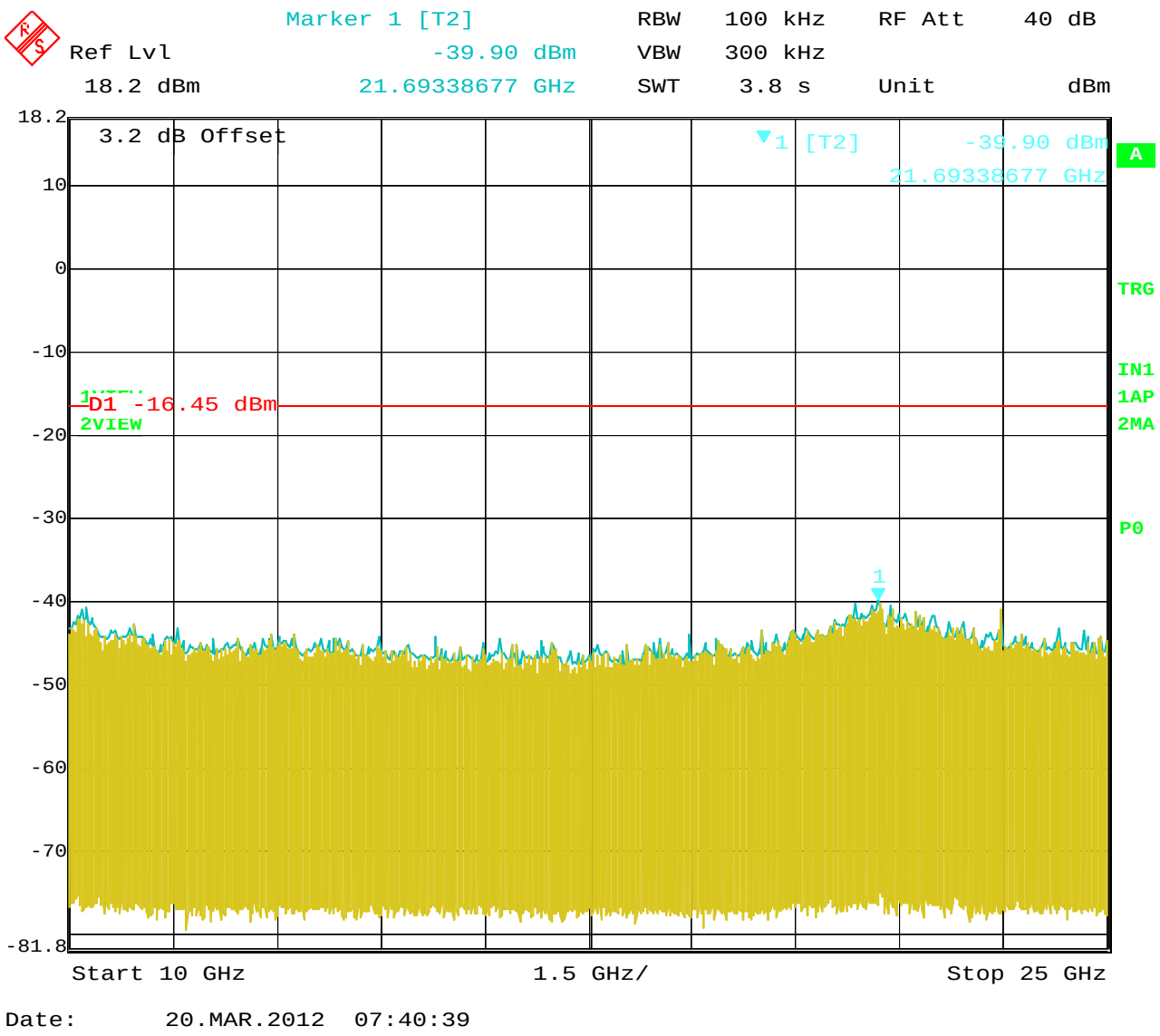
RF Antenna Conducted Test – High Channel – 2 MHz to 2 GHz



RF Antenna Conducted Test – High Channel – 2 GHz to 3 GHz



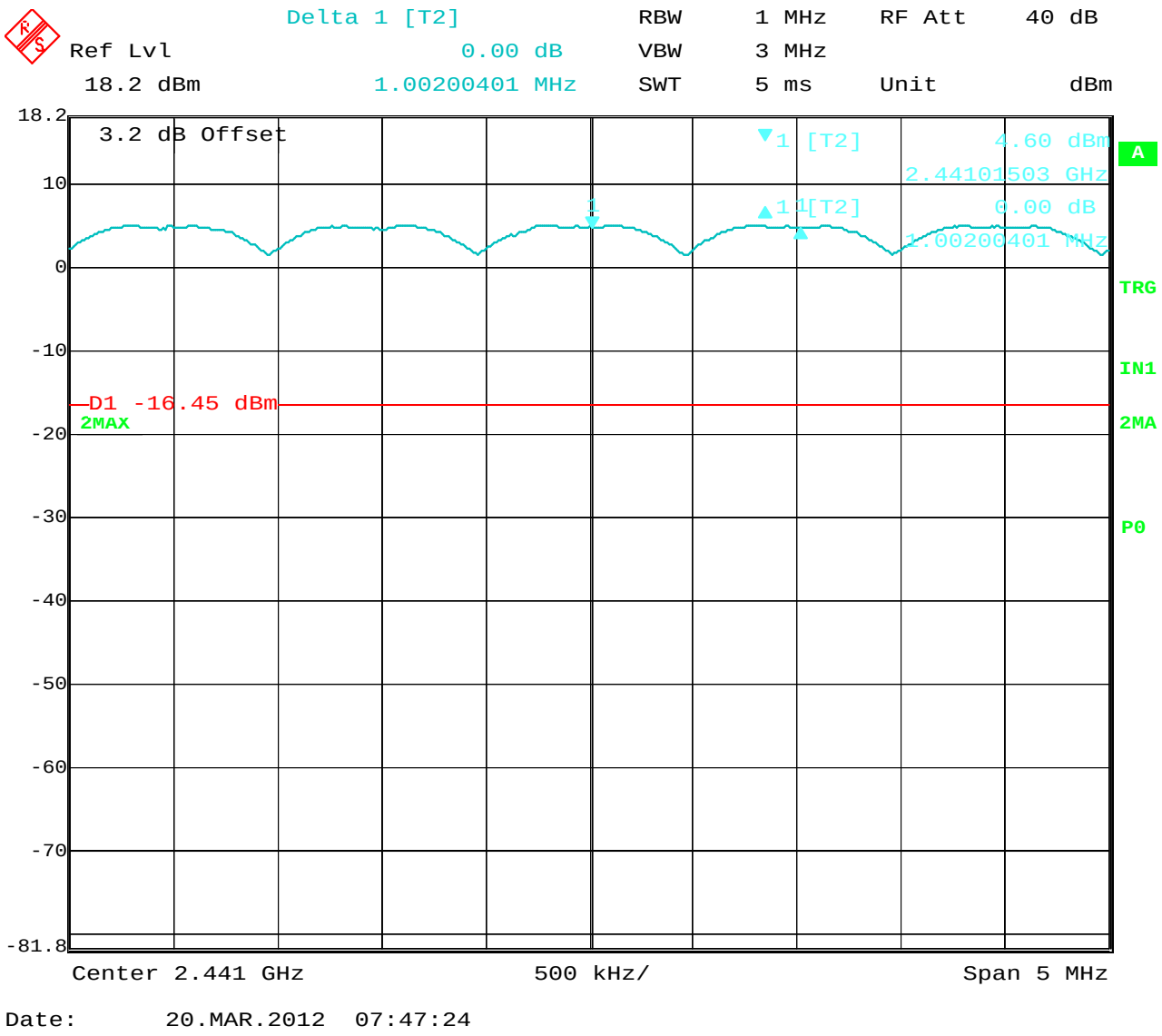
RF Antenna Conducted Test – High Channel – 3 GHz to 10 GHz



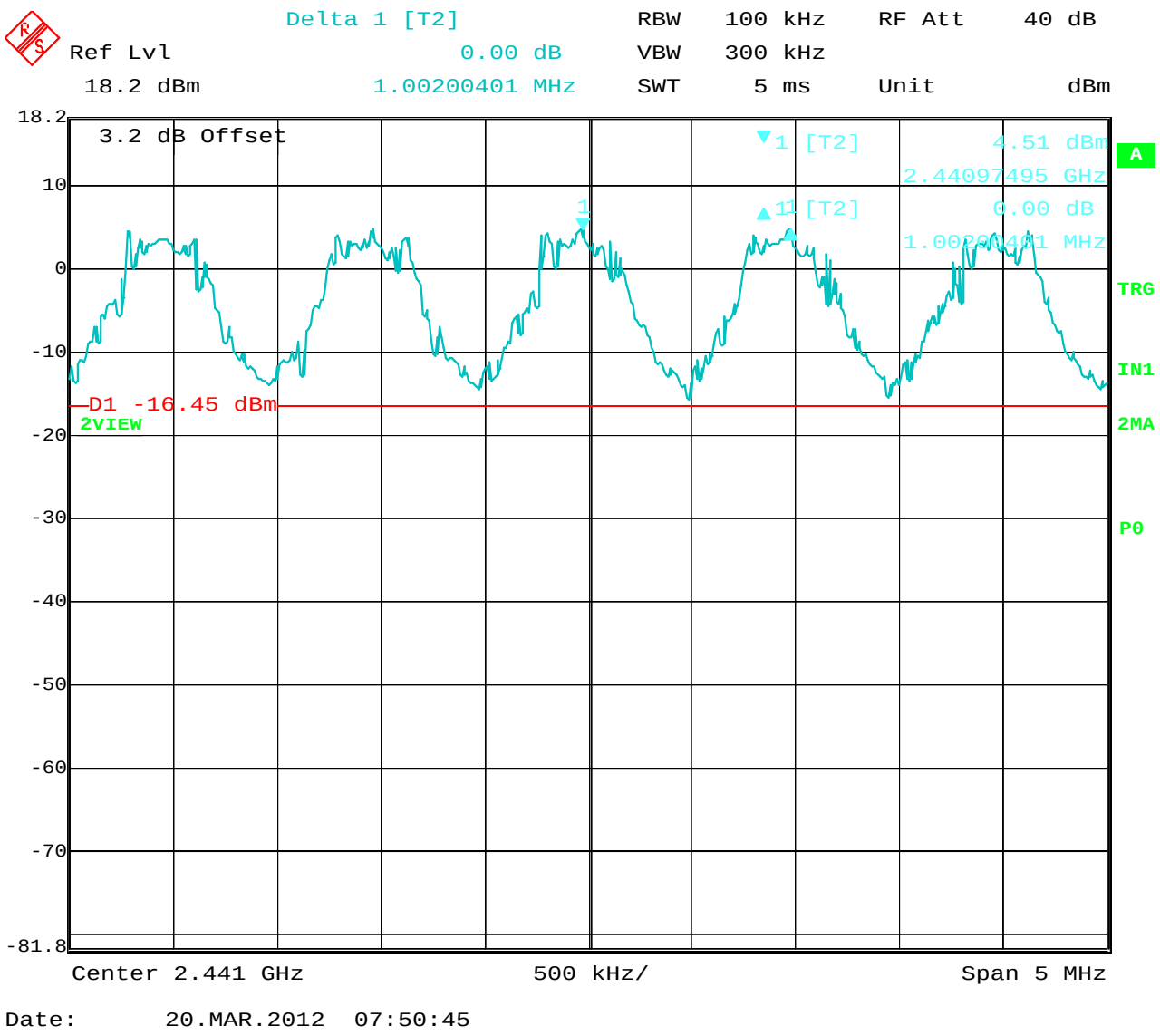
RF Antenna Conducted Test – High Channel – 10 GHz to 25 GHz

CHANNEL HOPPING SEPARATION

DATA SHEET



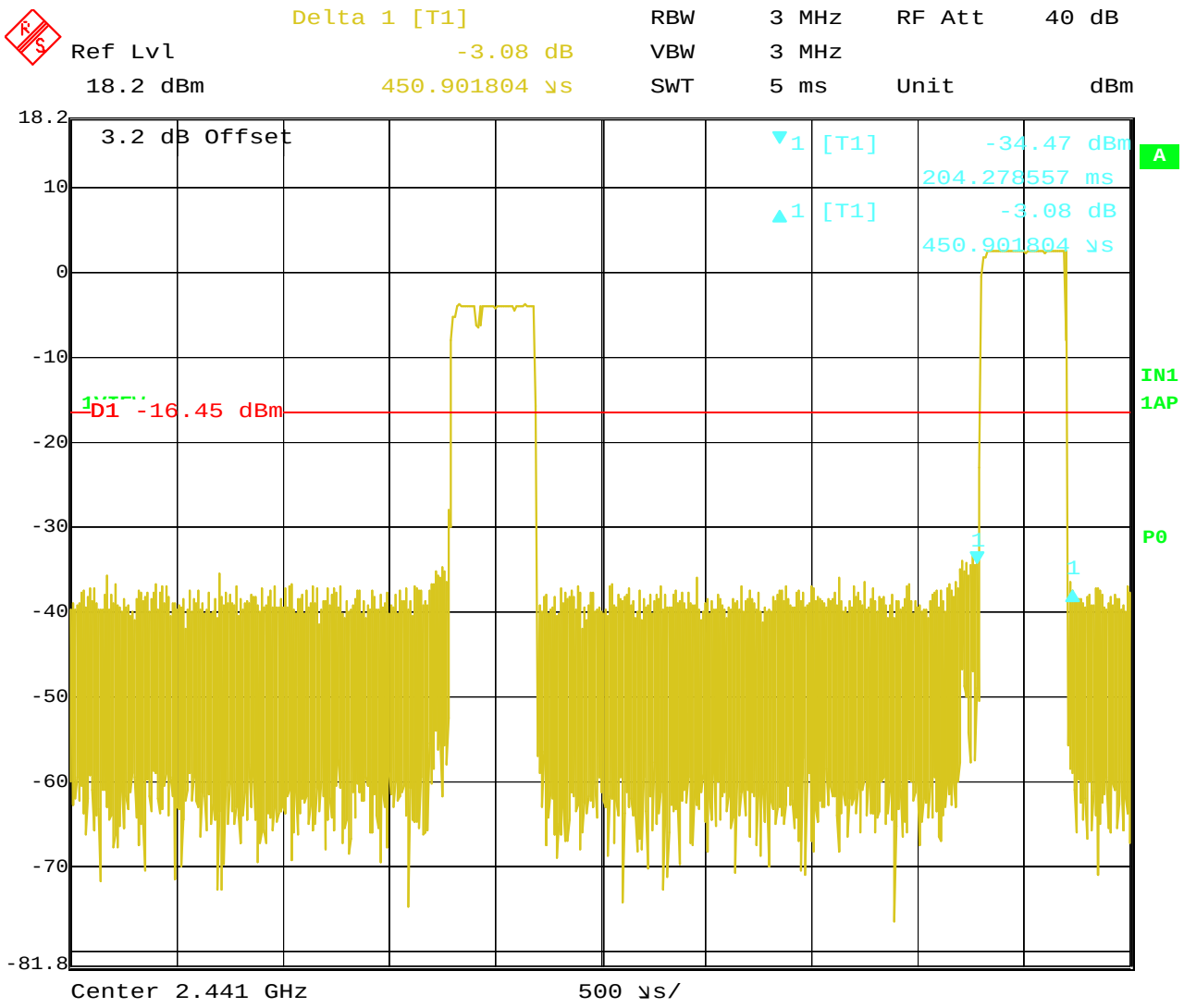
Channel Frequency Separation Test at 1 MHz RBW



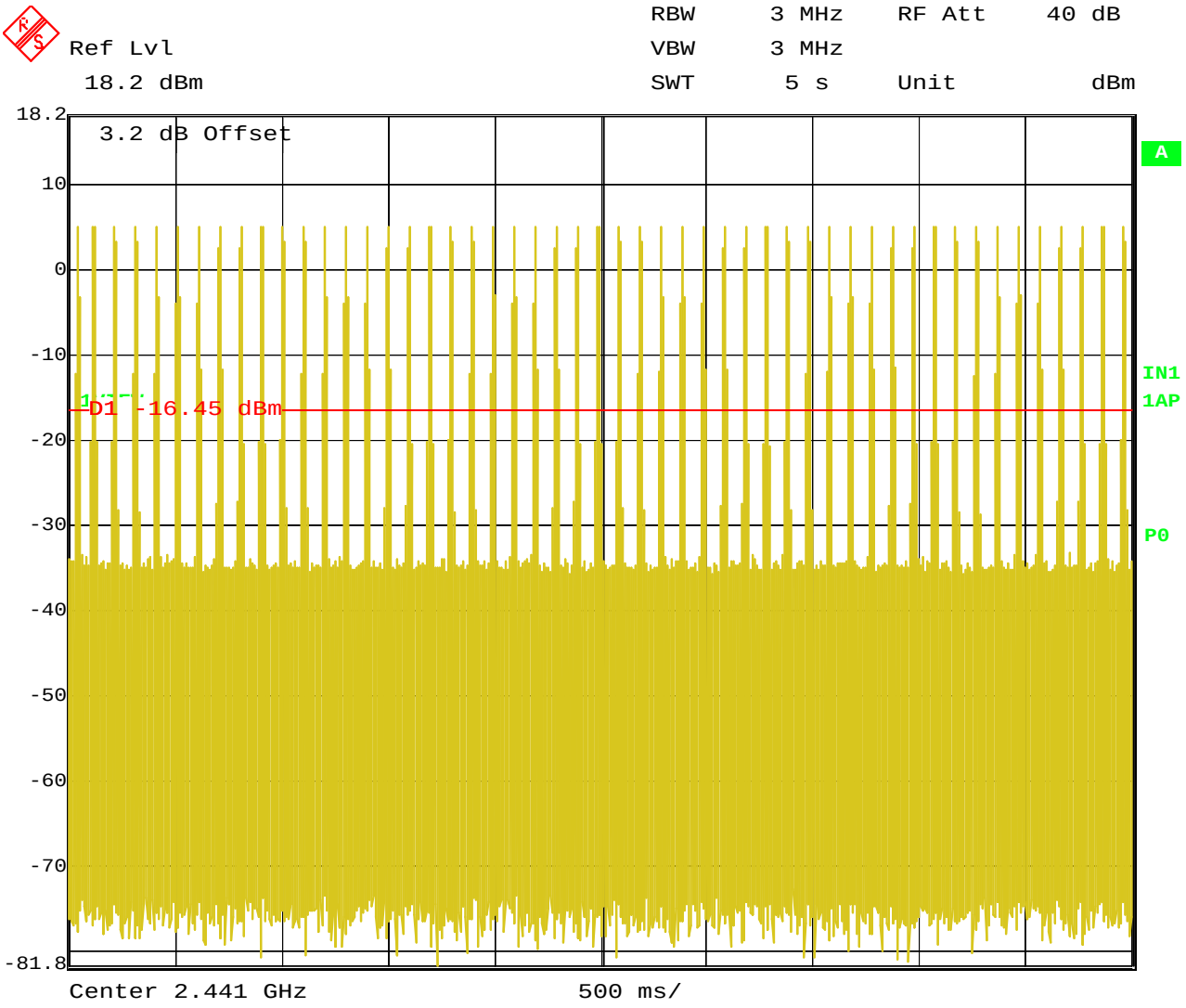
Channel Frequency Separation Test at 100 kHz RBW

AVERAGE TIME OF OCCUPANCY

DATA SHEETS



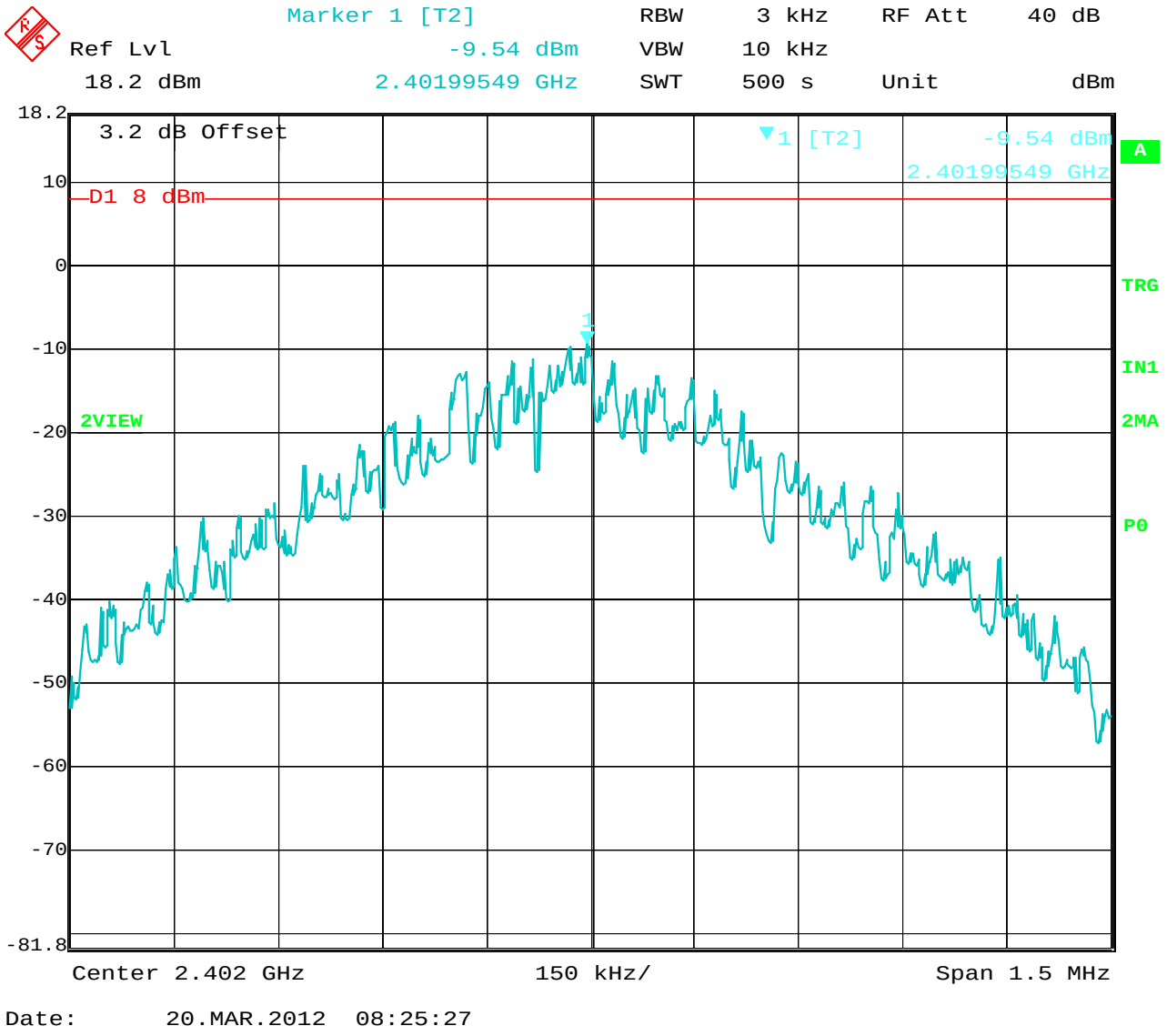
Time of 1 Pulse = 450.901804 uS



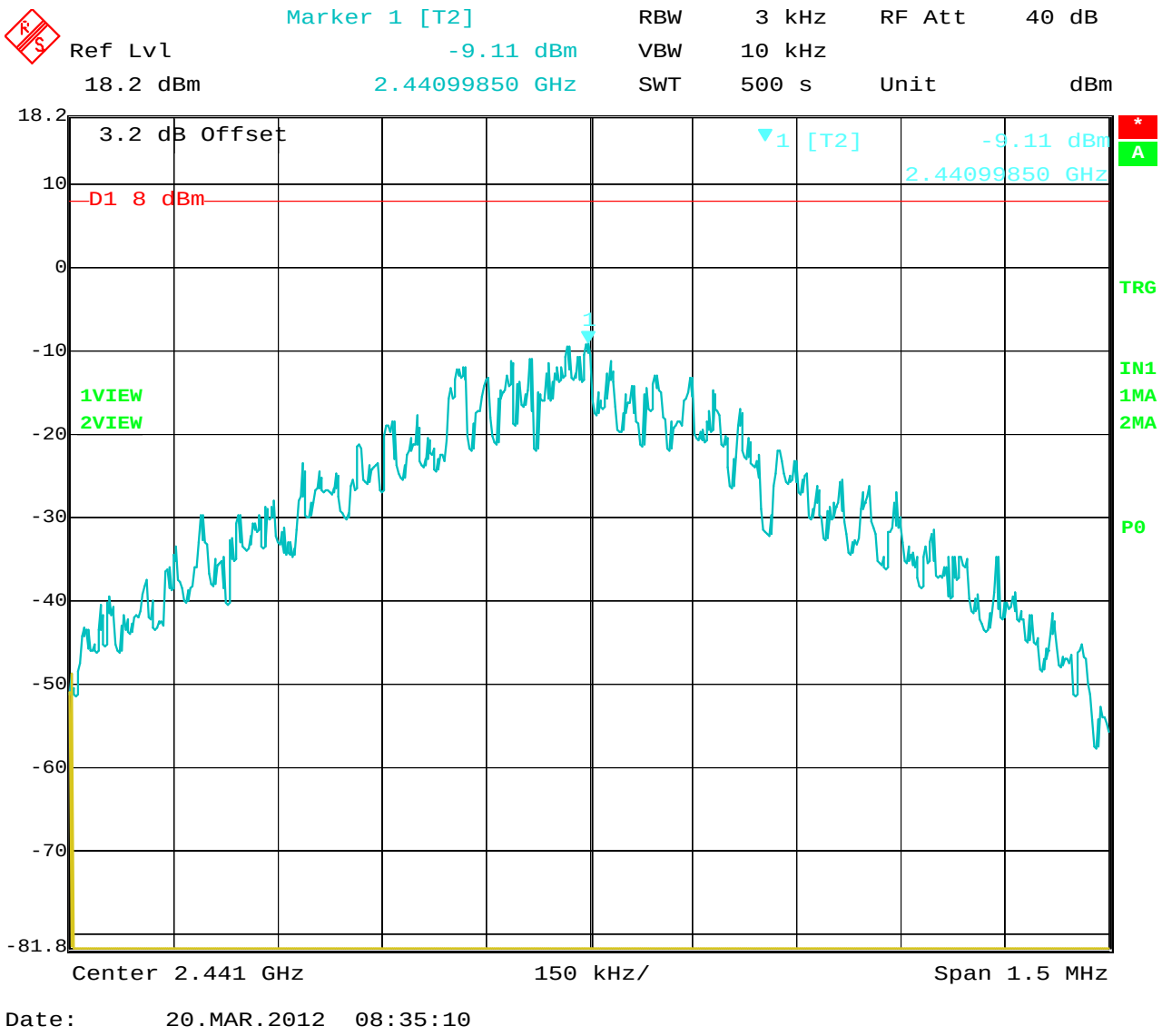
Number of Pulses in 5 Seconds = 51
Number of Pulses in 31.6 Seconds = 51*6.32 = 322.32 Pulses in a 31.6 Second Period
Time of Occupancy = 322.62*450.901804 uS = 145.33 mS per 31.6 Second Period
Limit = 400 mS per 31.6 Second Period (79 Channel * 400 mS)

SPECTRAL DENSITY OUTPUT

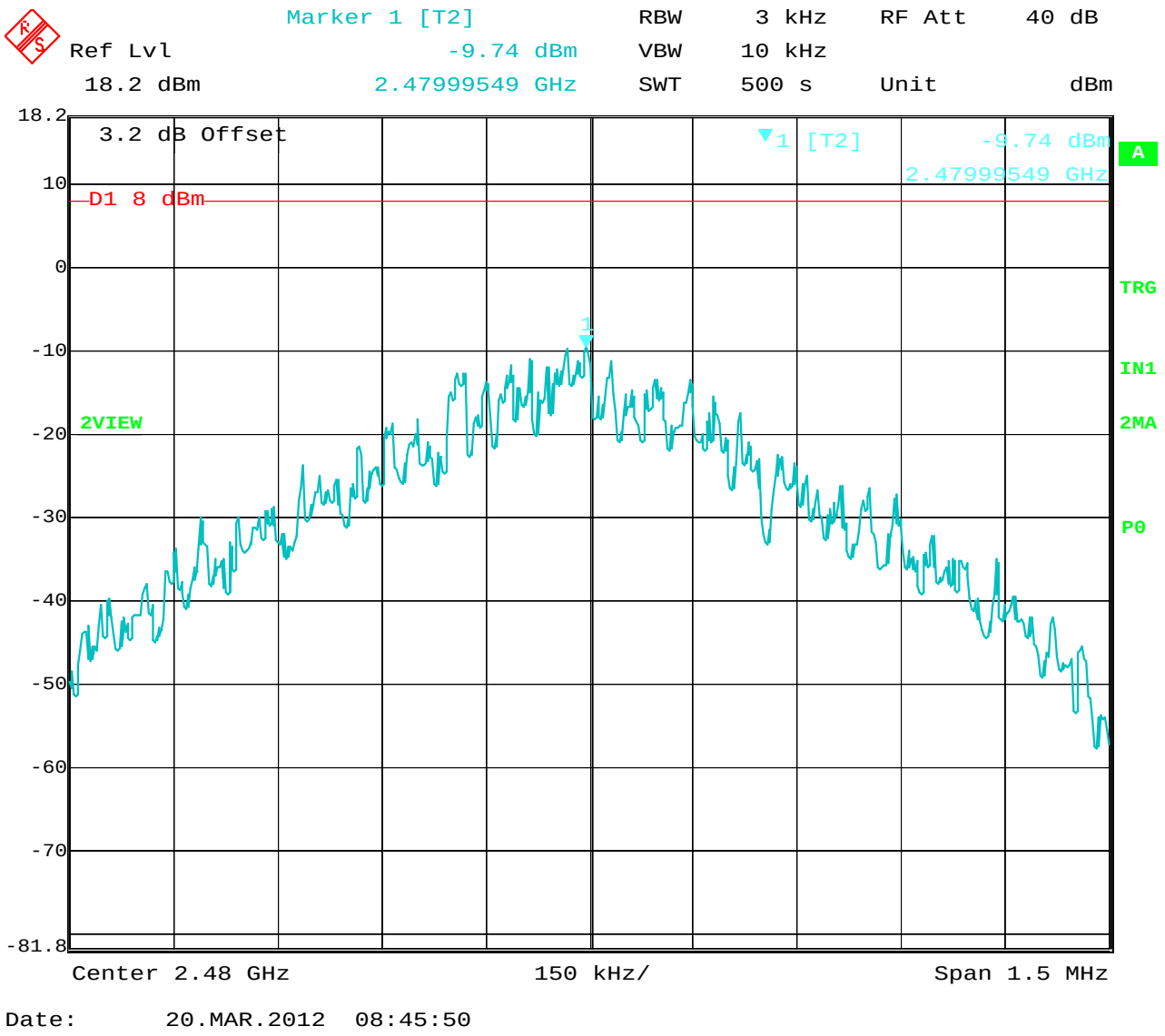
DATA SHEETS



Spectral Density Output – Low Channel



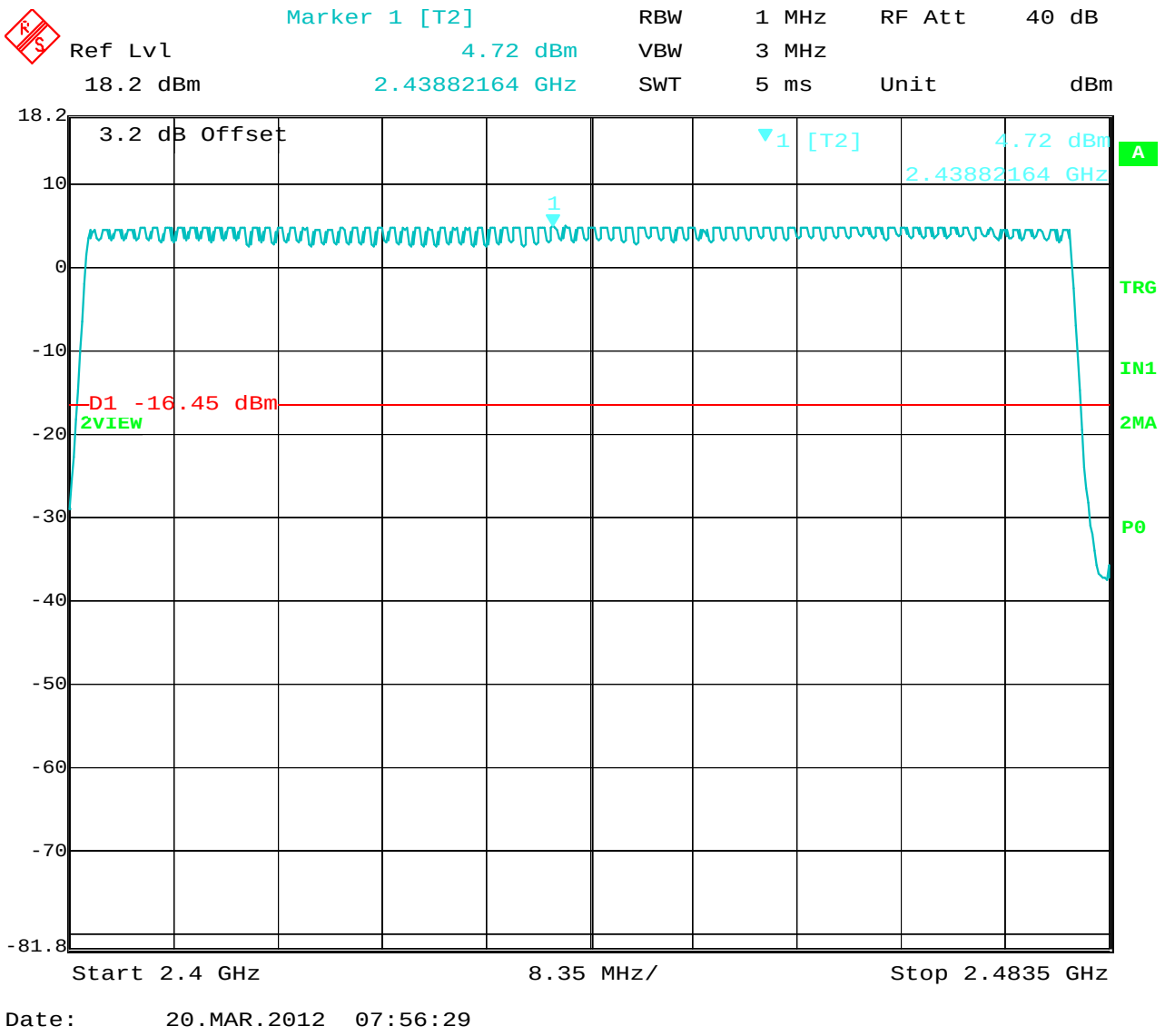
Spectral Density Output – Middle Channel



Spectral Density Output – High Channel

NUMBER OF HOPPING FREQUENCIES

DATA SHEET



Number of Frequencies (79 Total)

BAND EDGES

DATA SHEETS

FCC 15.247

Wireless Werx
Base Station
Model: SBS05

Date: 03/19/2012
Lab: B
Tested By: Kyle Fujimoto

Band Edges - Vertical Polarization
X-Axis - Worst Case

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	100.52	V	--	--	Peak	1	180	Fundamental of Low Channel
2402	80.52	V	--	--	Avg	1	180	@ 3 meters
2390	48.41	V	74	-25.59	Peak	1	180	**Band Edge**
2390	28.41	V	54	-25.59	Avg	1	180	**Low Channel**
2441	101.48	V	--	--	Peak	1.25	135	Fundamental of Middle Channel
								@ 3 meters
2480	101.2	H	--	--	Peak	1	180	Fundamental of High Channel
2480	81.2	H	--	--	Peak	1	180	@ 3 Meters
2483.5	60.12	H	74	-13.88	Peak	1	180	**Band Edge**
2483.5	40.12	H	54	-13.88	Peak	1	180	**High Channel**

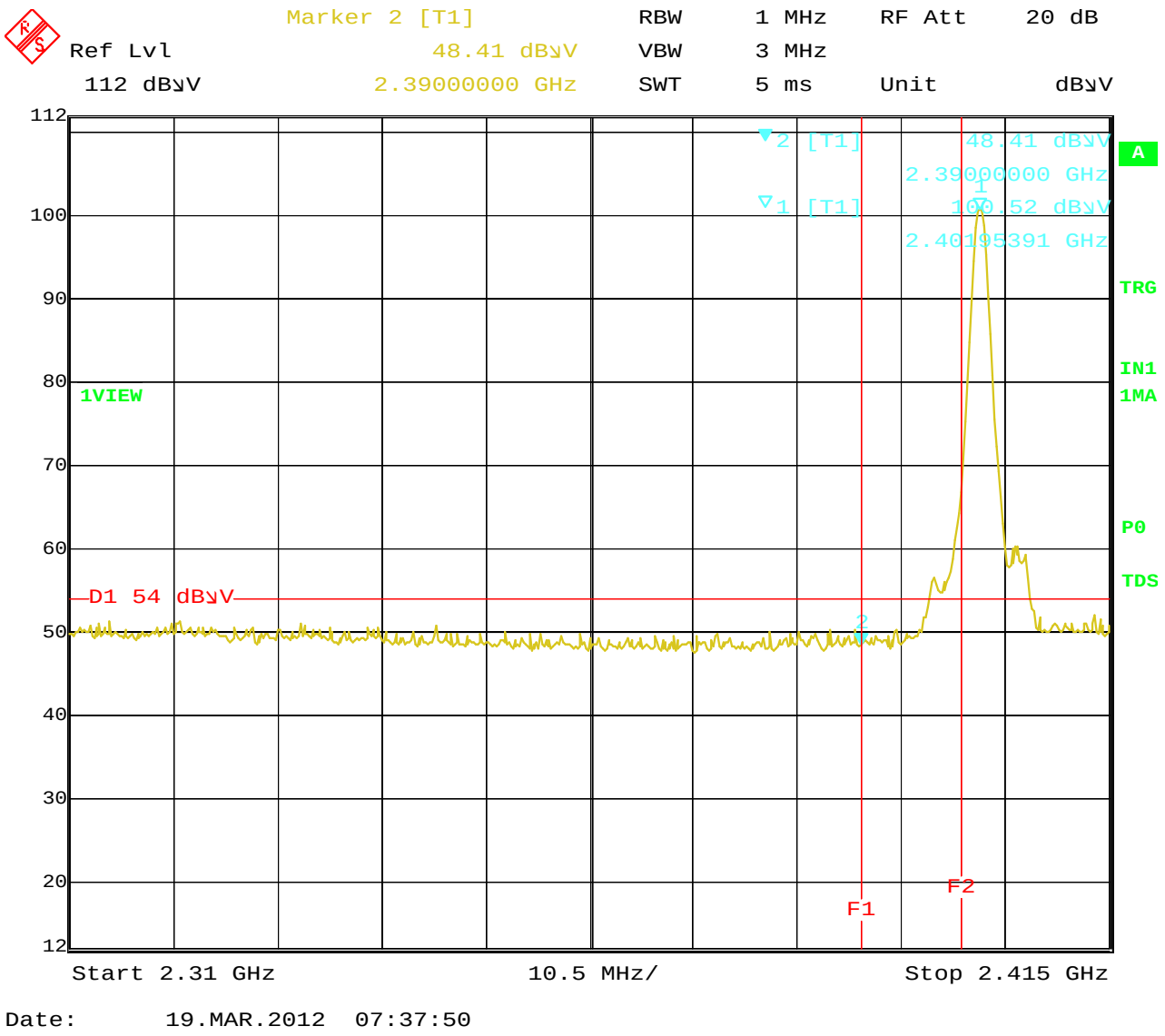
FCC 15.247

Wireless Werx
Base Station
Model: SBS05

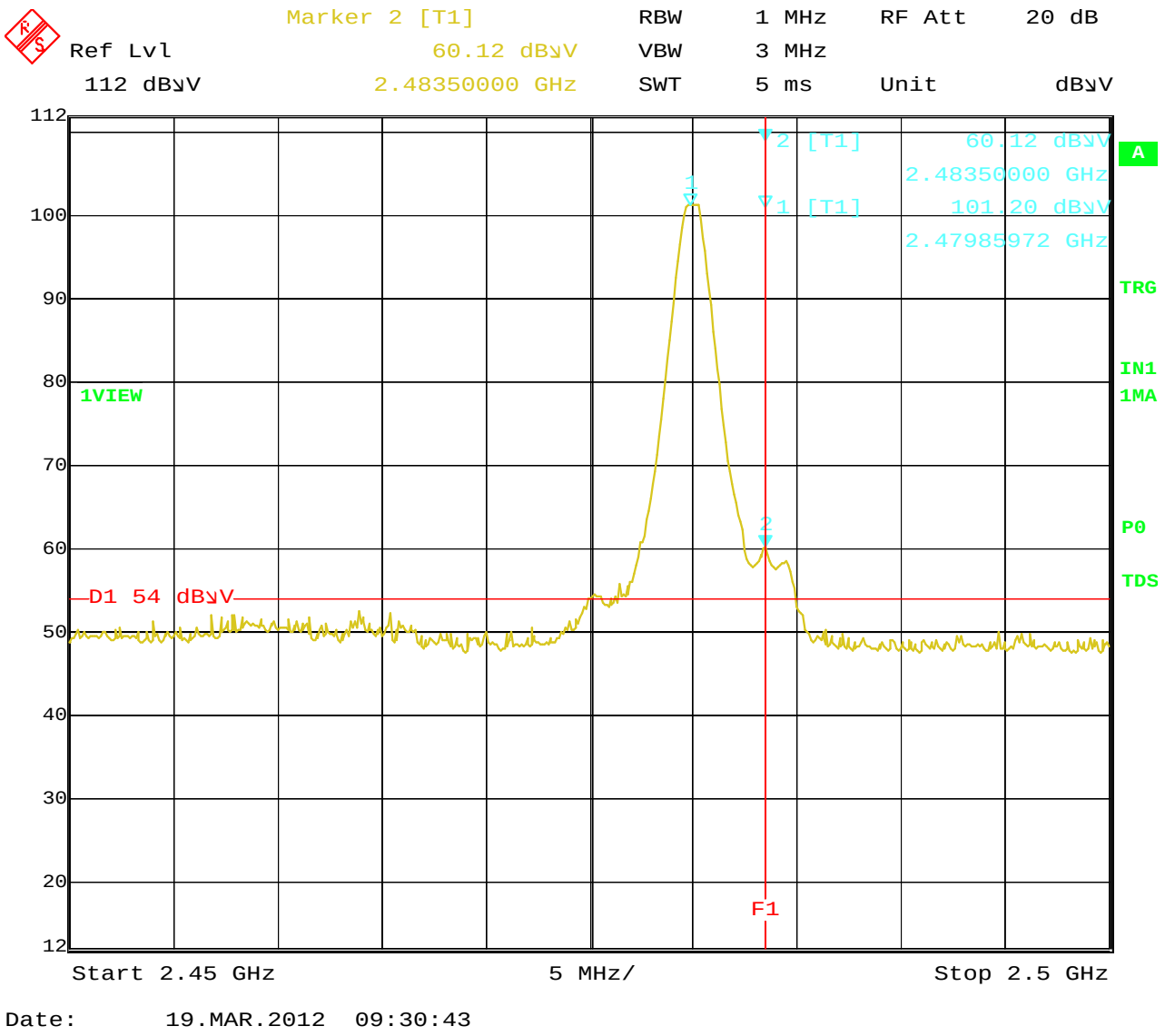
Date: 03/19/2012
Lab: B
Tested By: Kyle Fujimoto

Band Edges - Horizontal Polarization
X-Axis - Worst Case

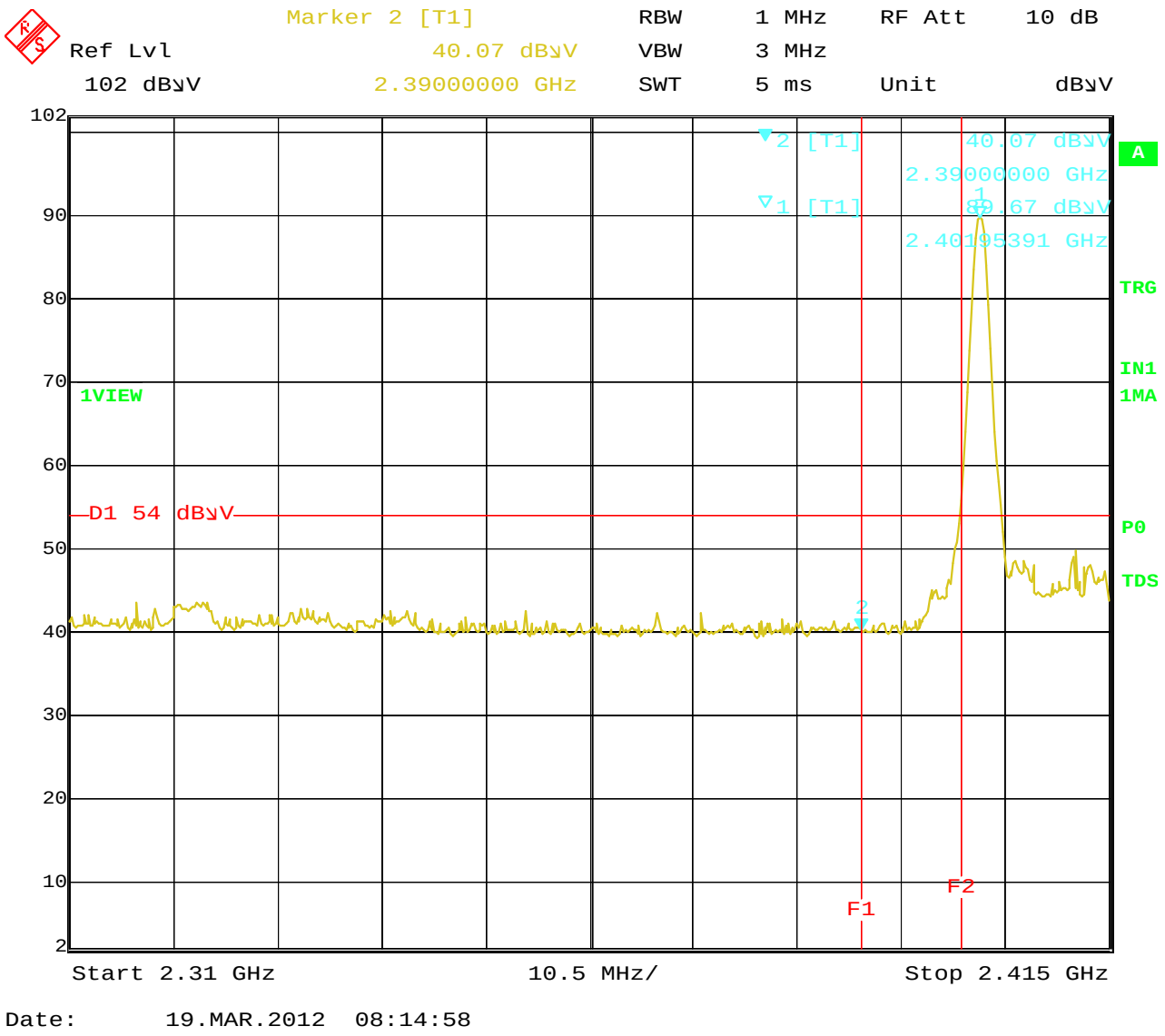
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	89.67	H	--	--	Peak	2	135	Fundamental of Low Channel
2402	69.67	H	--	--	Peak	2	135	@ 3 meters
2384.43	40.07	H	74	-33.93	Peak	2	135	**No** Marker Delta Method
2384.43	20.07	H	54	-33.93	Peak	2	135	Method Used
2441	90.74	H	--	--	Peak	2	225	Fundamental of Middle Channel
								@ 3 meters
2480	89.47	H	--	--	Peak	2.5	225	Fundamental of High Channel
2480	69.47	H	--	--	Peak	2.5	225	@ 3 Meters
2483.5	48.02	H	74	-25.98	Peak	2.5	225	**No** Marker Delta Method
2483.5	28.02	H	54	-25.98	Peak	2.25	225	Method Used



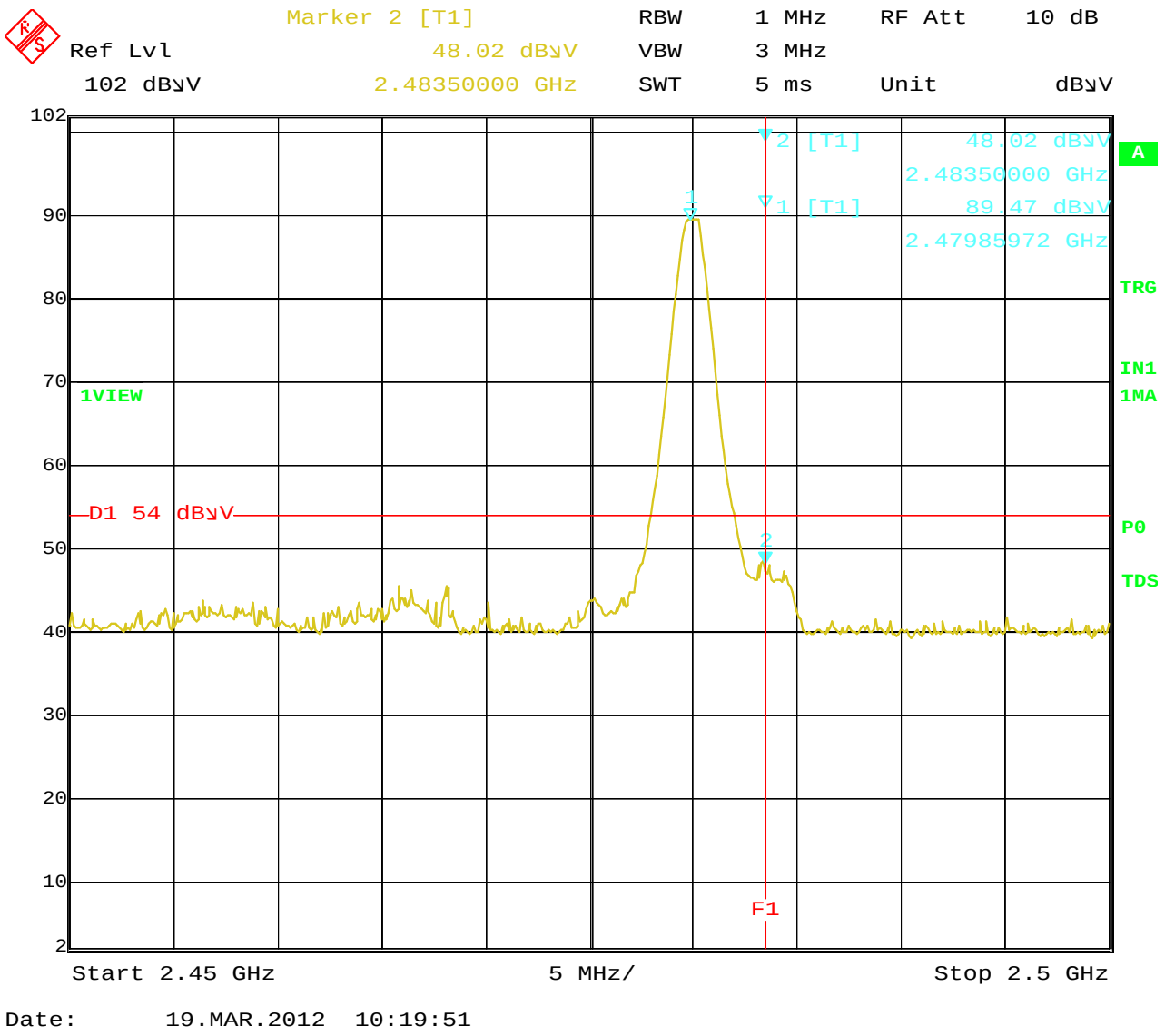
Band Edge – Low Channel – Vertical Polarization – X-Axis (Worst Case)



Band Edge – High Channel – Vertical Polarization – X-Axis (Worst Case)



Band Edge – Low Channel – Horizontal Polarization – X-Axis (Worst Case)



Band Edge – High Channel – Horizontal Polarization – X-Axis (Worst Case)