FCC PART 15, SUBPART B and C
TEST REPORT

for

TEXTBLADE

MODEL: TEX20

Prepared for

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SANTA MONICA, CA 90401

Prepared by:_____

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DATE: MARCH 25, 2015

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
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GENERAL REPORT SUMMARY

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

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

This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the federal government.

Device Tested:	TextBlade Model: TEX20 S/N: N/A
Product Description:	See Expository Statement.
Modifications:	The EUT was not modified during the testing.
Customer:	WayTools, LLC. 401 Wilshire Boulevard, 9th Floor Santa Monica California, 90401
Test Dates:	March 11 and 25, 2015
Test Specifications:	Emissions requirements CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.249
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	Spurious Radiated RF Emissions, 10 kHz – 25,000 MHz (Transmitter and Digital portion)	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 15.205, 15.209 and 15.249
2	Conducted RF Emissions, 150 kHz to 30 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15 Subpart B

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the TextBlade, Model: TEX20. The emissions 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 15.249.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

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

2.2 Traceability Statement

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

2.3 Cognizant Personnel

WayTools, LLC.

Doug Logan	Software Engineer

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
Kenneth Lee	Test Technician

2.4 Date Test Sample was Received

The test sample was received prior to the initial test date.

2.5 Disposition of the Test Sample

The test sample was returned to WayTools, LLC.on March 25, 2015.

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
BLE	Bluetooth Low Energy
USB	Universal Serial Bus

3. APPLICABLE DOCUMENTS

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

SPEC	TITLE
FCC Title 47, Part 15 Subpart C	FCC Rules - Radio frequency devices (including digital devices) – Intentional Radiators
FCC Title 47, Part 15 Subpart B	FCC Rules - Radio frequency devices (including digital devices) – Unintentional Radiators
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
EN 50147-2: 1997	Anechoic chambers. Alternative test site suitability with respect to site attenuation
CISPR 22: 2008	Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - Emissions

The TextBlade, Model: TEX20 (EUT) is a BLE Keyboard that is powered by an internal battery.

In normal mode, the EUT was tested for emissions at the low, middle, and high channels, the EUT was continuously transmitting. The EUT was a stand-alone device.

In charging mode, the EUT was plugged into a laptop computer. The EUT was also tested while plugged into an AC to USB adaptor. The EUT does not transmit while in charging mode.

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

4.1.1 Cable Construction and Termination

Cable 1

This is a 2.2 meter unshielded cable connecting the laptop computer to its AC adaptor. The cable was hardwired to the AC adaptor and had a single pin power connector on the laptop computer end.

Cable 2

This is a 1.9 meter foil shielded cable connecting the USB mouse to the laptop computer. The cable was hardwired to the USB mouse and has a type A USB connector on the laptop computer end.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
TEXTBLADE (EUT)	WAYTOOLS, LLC.	TEX20	N/A	2AEAW-TEX20
LAPTOP COMPUTER	DELL	PP22L	N/A	DoC
AC ADAPTOR	DELL	FA65NS0-00	N/A	N/A
USB MOUSE	LOGITECH	M-U0026	N/A	DoC
USB POWER ADAPTOR	APPLE	A1401	N/A	N/A

5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CAL. CYCLE
GENERAL TEST EQUIPMENT USED IN LAB B					
Computer	Compaq	CQ5210F	CNX9360CF9	N/A	N/A
Monitor	Hewlett Packard	HPs2031a	3CQ046N3MD	N/A	N/A
EMI Receiver	Rohde & Schwarz	ESIB40	100194	December 4, 2014	1 Year
GENERAL TEST EQUIPMENT USED IN LAB D					
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A
LCD Monitor	Hewlett Packard	52031a	3CQ046N3MG	N/A	N/A
EMI Receiver, 20 Hz – 26.5 GHz	Agilent Technologies	N9038A	MY51100115	March 6, 2014	2 Year
RF RADIATED EMISSIONS TEST EQUIPMENT					
CombiLog Antenna	Com-Power	AC-220	61060	May 20, 2014	1 Year
Preamplifier	Com-Power	PA-118	551024	March 6, 2015	1 Year
Preamplifier	Com-Power	PA-840	711013	May 13, 2014	2 Year
Loop Antenna	Com-Power	AL-130	17089	February 6, 2015	2 Year
Horn Antenna	Com-Power	AH-118	071175	February 26, 2014	2 Year
Horn Antenna	Com-Power	AH-826	0071957	N/A	N/A
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
System Controller	Sunol Sciences Corporation	SC110V	112213-1	N/A	N/A
Turntable	Sunol Sciences Corporation	2011VS	N/A	N/A	N/A
Antenna-Mast	Sunol Sciences Corporation	TWR95-4	112213-3	N/A	N/A

Emissions test equipment (continued)

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CAL. CYCLE
GENERAL TEST EQUIPMENT USED IN LAB A					
Shield Room Test	Compatible Electronics	11CD	N/A	N/A	N/A
LISN	Com-Power	LI-215	12082	June 12, 2014	1 Year
LISN	Com-Power	LI-215	12090	June 12, 2014	1 Year
Transient Limiter	Com-Power	252A910	1	October 10, 2014	1 Year
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08784	May 20, 2014	1 Year
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	2648A14530	May 20, 2014	1 Year
Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01363	May 20, 2014	1 Year

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

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

6.2 EUT Mounting, Bonding and Grounding

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. TEST PROCEDURES

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

7.1 RF Emissions

7.1.1 Radiated Emissions (Spurious and Harmonics) Test – Lab B

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

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 bandwidth and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
1 GHz to 18 GHz	1 MHz	Horn Antenna
18 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 -- Lab B (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 1 GHz to 25 GHz to obtain the final test data.

The EUT was tested at a 3 meter test distance. The six highest emissions are listed in Table 1.0.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, Sections 15.209 and 15.249 for radiated emissions. Please see Appendix E for the data sheets.

7.1.2 Radiated Emissions (Spurious and Harmonics) Test – Lab D

The EMI Receiver was used as the measuring meter. A built-in, internal preamplifier was used to increase the sensitivity of the instrument. The EMI Receiver was initially used with the Analyzer mode feature activated. In this mode, the EMI receiver can then record the actual frequency to be measured. This final reading is then taken accurately in the EMI Receiver mode, which takes into account the cable loss, amplifier gain and antenna factors, so that a true reading is compared to the true limit. A quasi-peak reading was taken only for those readings, which are marked accordingly on the data sheets.

The EMI test chamber of Compatible Electronics, Inc. was used for radiated emissions testing. This test site is set up according to ANSI C63.4, EN 50147-2 and CISPR 22. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT.

The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength).

The 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 1 GHz	120 kHz	CombiLog Antenna

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 15.249 (d) for radiated emissions. Please see Appendix E for the data sheets.

7.1.3 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. 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 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.

The EUT was tested at 120 VAC. The six highest emissions are listed in Table 1.0.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B. Please see Appendix E for the data sheets.

7.1.4 RF Emissions Test Results

Table 1.0 RADIATED EMISSION RESULTS
TextBlade, Model: TEX20

Frequency MHz	QP Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
39.80 (H) (LC)	31.50	40.00	-8.50
40.20 (H) (LC)	31.47	40.00	-8.53
39.30 (V) (USB)	31.41	40.00	-8.59
38.10 (H) (USB)	31.30	40.00	-8.70
39.00 (H) (LC)	31.29	40.00	-8.71
38.70 (H) (USB)	31.27	40.00	-8.73

Table 2.0 CONDUCTED EMISSION RESULTS
TextBlade, Model: TEX20

Frequency MHz	Average Corrected Reading* dBuV	Average Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
0.530 (WL) (LC)	42.75	46.00	-3.25
0.939 (BL) (USB)	42.54	46.00	-3.46
0.304 (BL) (LC)	46.49	50.14	-3.66
0.352 (BL) (LC)	45.20	48.91	-3.71
0.440 (WL) (LC)	43.23	47.06	-3.83
0.974 (BL) (USB)	42.14	46.00	-3.86

Notes:

(H)	Horizontal
(V)	Vertical
(BL)	Black Lead
(WL)	White Lead
(QP)	Quasi Peak
(USB)	Charging via USB adaptor
(LC)	Charging via laptop computer
*	The complete emissions data is given in Appendix E of this report.

8. CONCLUSIONS

The TextBlade, Model: TEX20, as tested, meets all of the specification limits defined in FCC Title 47, Part 15, Subpart B and Subpart C, sections 15.205, 15.209, and 15.249.

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 15.249 specifications.

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

The EUT was not modified during the testing.

APPENDIX C

ADDITIONAL MODELS

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

TextBlade
Model: TEX20
S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: PLOT MAP AND LAYOUT OF RADIATED SITE

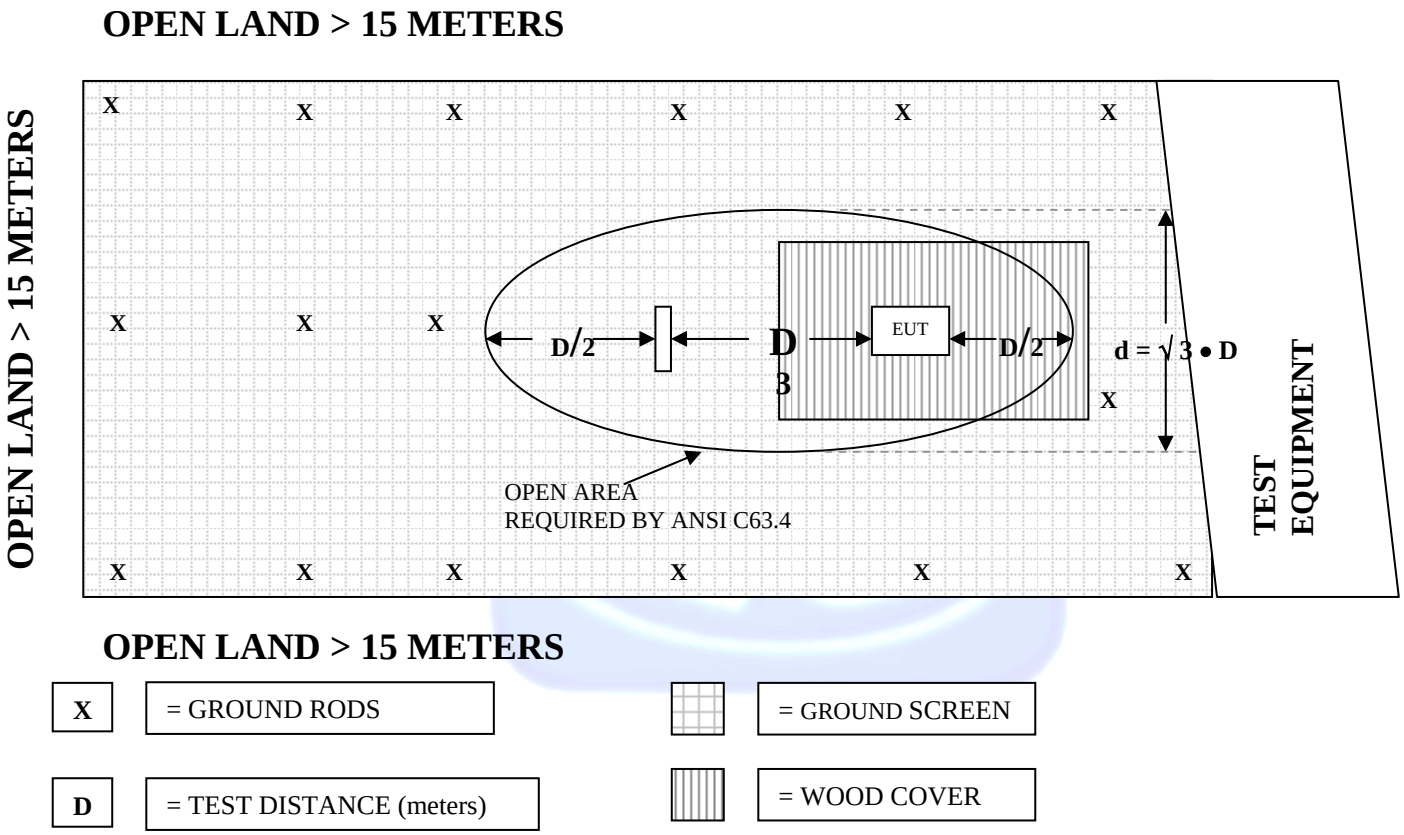


FIGURE 2: LAYOUT OF THE SEMI-ANECHOIC TEST CHAMBER

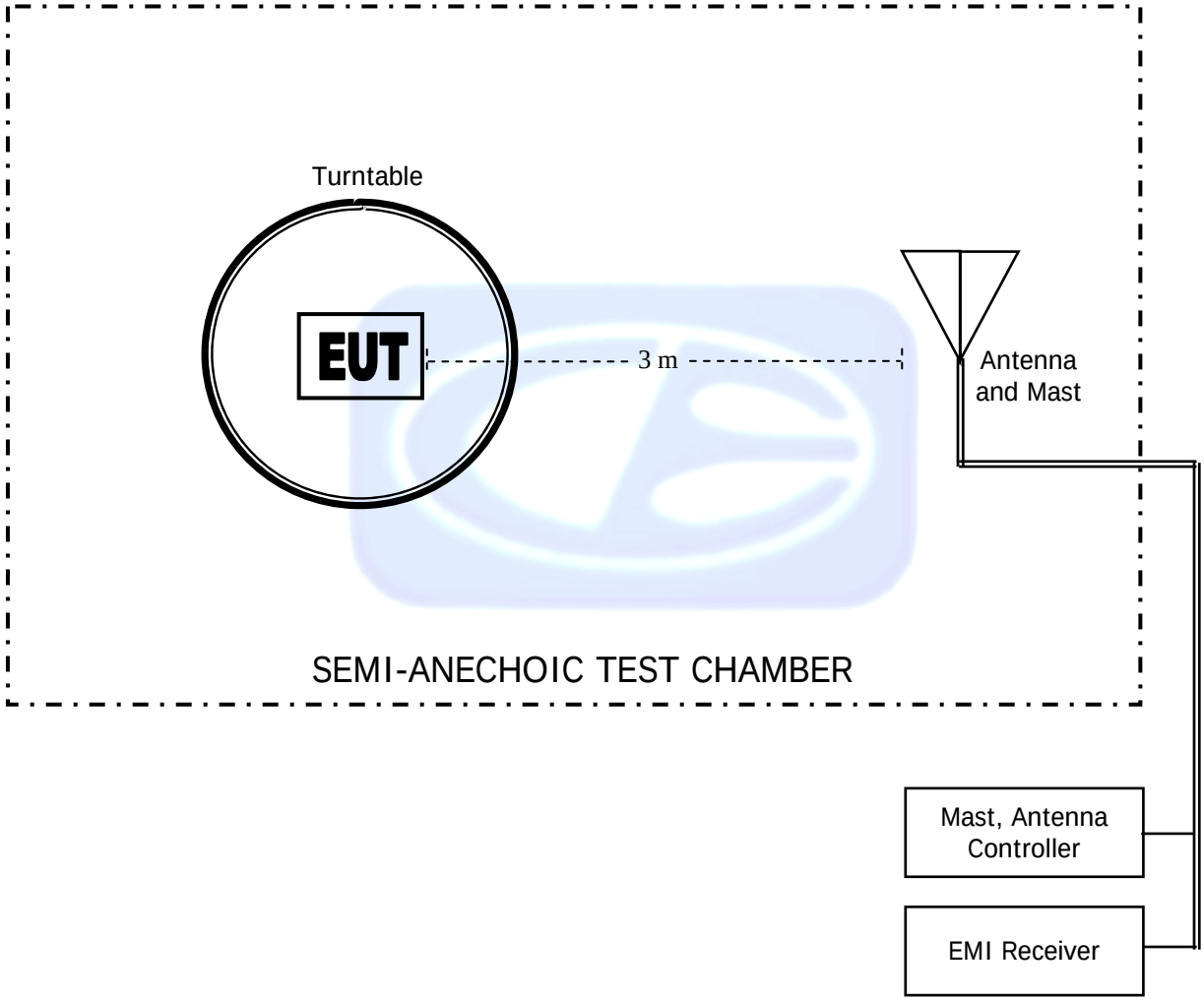
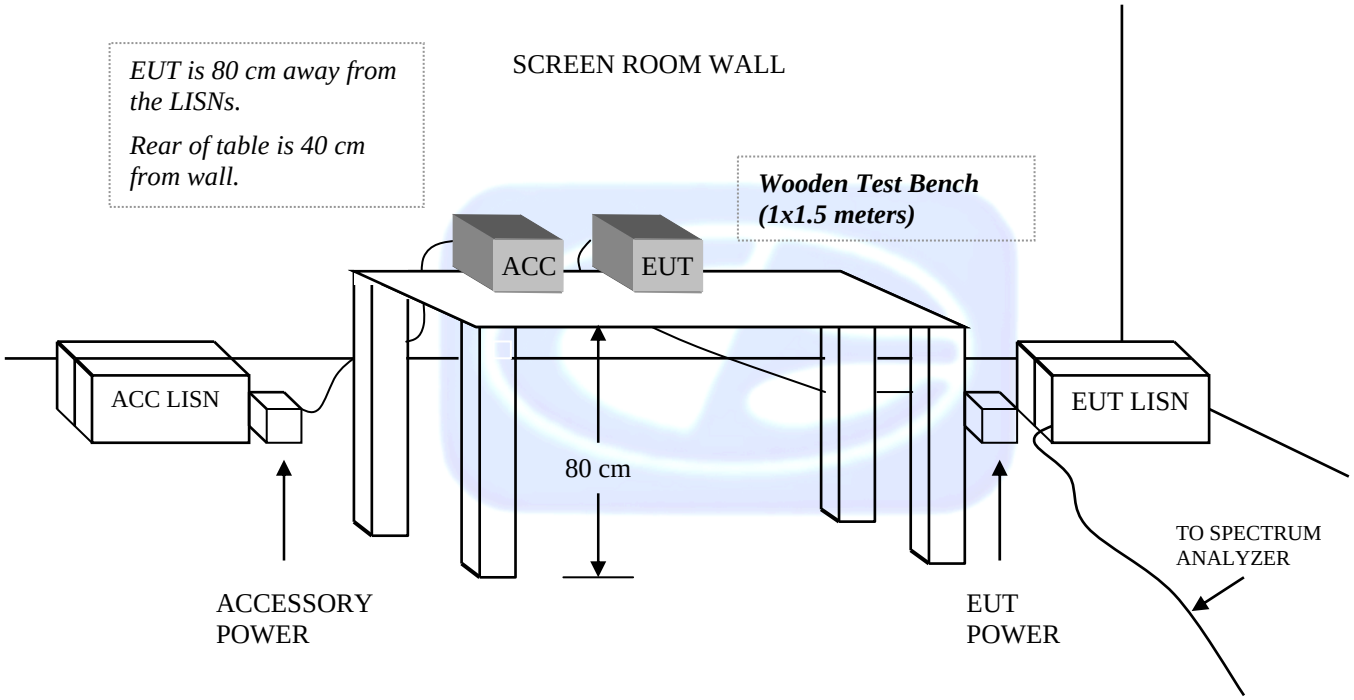


FIGURE 3: CONDUCTED EMISSIONS TEST SETUP



COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: FEBRUARY 6, 2015

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-33.18	18.32
0.01	-34.10	17.40
0.02	-38.65	12.85
0.03	-39.28	12.22
0.04	-40.09	11.41
0.05	-40.85	10.65
0.06	-40.88	10.62
0.07	-41.07	10.43
0.08	-41.04	10.46
0.09	-41.19	10.31
0.1	-41.20	10.30
0.2	-41.52	9.98
0.3	-41.53	9.97
0.4	-41.42	10.08
0.5	-41.53	9.97
0.6	-41.53	9.97
0.7	-41.43	10.07
0.8	-41.23	10.27
0.9	-41.13	10.37
1	-41.14	10.36
2	-40.80	10.70
3	-40.66	10.84
4	-40.61	10.89
5	-40.33	11.17
6	-40.53	10.97
7	-40.47	11.03
8	-40.48	11.02
9	-39.93	11.57
10	-39.81	11.69
15	-43.35	8.15
20	-39.16	12.34
25	-40.24	11.26
30	-43.18	8.32

COM-POWER AC-220

COMBILOG ANTENNA

S/N: 61060

CALIBRATION DATE: MAY 20, 2014

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	23.40	200	14.40
35	23.70	250	16.40
40	24.20	300	17.90
45	22.60	350	15.60
50	22.10	400	19.90
60	17.90	450	20.40
70	12.70	500	21.60
80	11.60	550	21.50
90	12.20	600	22.30
100	13.20	650	23.50
120	15.70	700	23.70
125	15.80	750	25.90
140	13.60	800	25.90
150	16.90	850	26.40
160	14.20	900	27.00
175	14.90	950	27.70
180	15.00	1000	27.50

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: FEBRUARY 26, 2014

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.23	10.0	38.43
1.5	25.84	10.5	40.19
2.0	28.14	11.0	40.49
2.5	29.51	11.5	41.39
3.0	31.20	12.0	42.02
3.5	32.17	12.5	43.30
4.0	31.40	13.0	42.77
4.5	31.86	13.5	40.18
5.0	34.82	14.0	42.59
5.5	34.38	14.5	41.74
6.0	36.31	15.0	41.84
6.5	34.81	15.5	38.48
7.0	37.48	16.0	39.52
7.5	36.98	16.5	37.85
8.0	36.66	17.0	41.33
8.5	38.47	17.5	44.96
9.0	37.22	18.0	48.50
9.5	37.86		

COM-POWER PA-118

PREAMPLIFIER

S/N: 551024

CALIBRATION DATE: MARCH 6, 2015

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	39.76	6.0	38.77
1.1	40.46	6.5	38.46
1.2	40.05	7.0	38.27
1.3	40.58	7.5	38.77
1.4	39.50	8.0	39.25
1.5	39.92	8.5	38.63
1.6	40.40	9.0	39.58
1.7	40.10	9.5	42.12
1.8	40.49	10.0	38.53
1.9	38.86	11.0	40.21
2.0	41.53	12.0	41.15
2.5	41.05	13.0	40.51
3.0	40.29	14.0	40.32
3.5	40.82	15.0	39.47
4.0	40.88	16.0	39.88
4.5	41.37	17.0	39.79
5.0	40.73	18.0	40.61
5.5	39.05		

COM-POWER AH-826

HORN ANTENNA

S/N: 71957

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

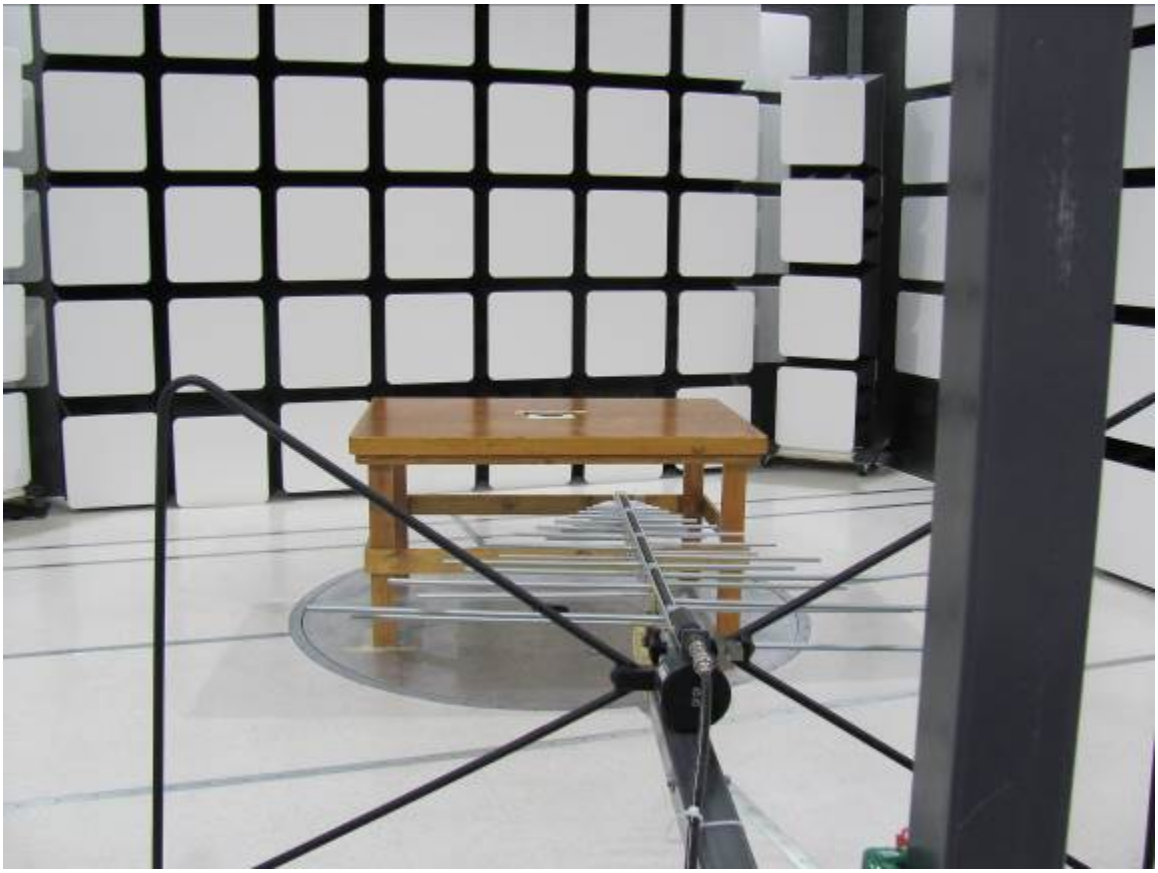
COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MAY 13, 2014

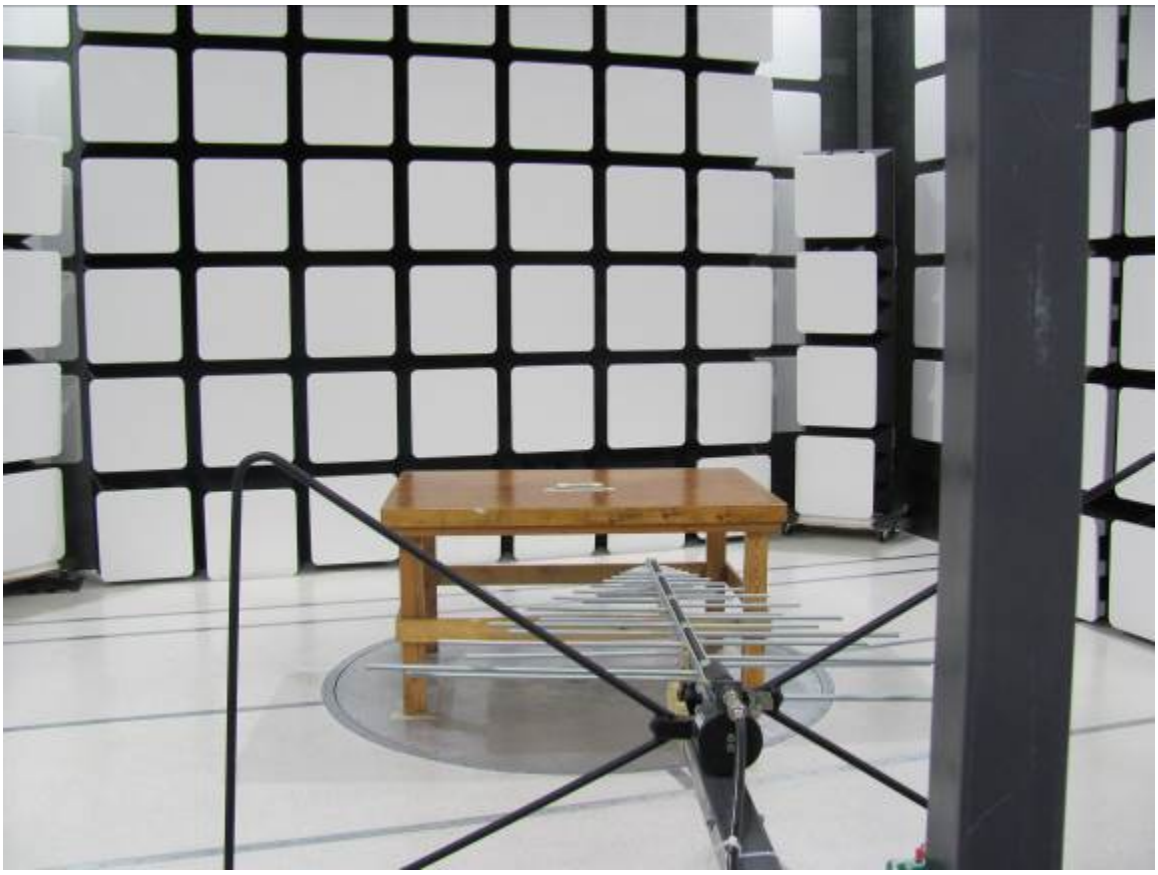
FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	25.19	31.0	25.69
19.0	24.48	31.5	25.74
20.0	24.39	32.0	26.35
21.0	24.73	32.5	26.64
22.0	23.49	33.0	25.98
23.0	24.23	33.5	24.68
24.0	24.59	34.0	24.61
25.0	25.32	34.5	23.78
26.0	25.66	35.0	24.74
26.5	25.99	35.5	24.39
27.0	26.26	36.0	23.46
27.5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



FRONT VIEW

WAYTOOLS, LLC.
TEXTBLADE
MODEL: TEX20
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

WAYTOOLS, LLC.
TEXTBLADE
MODEL: TEX20
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

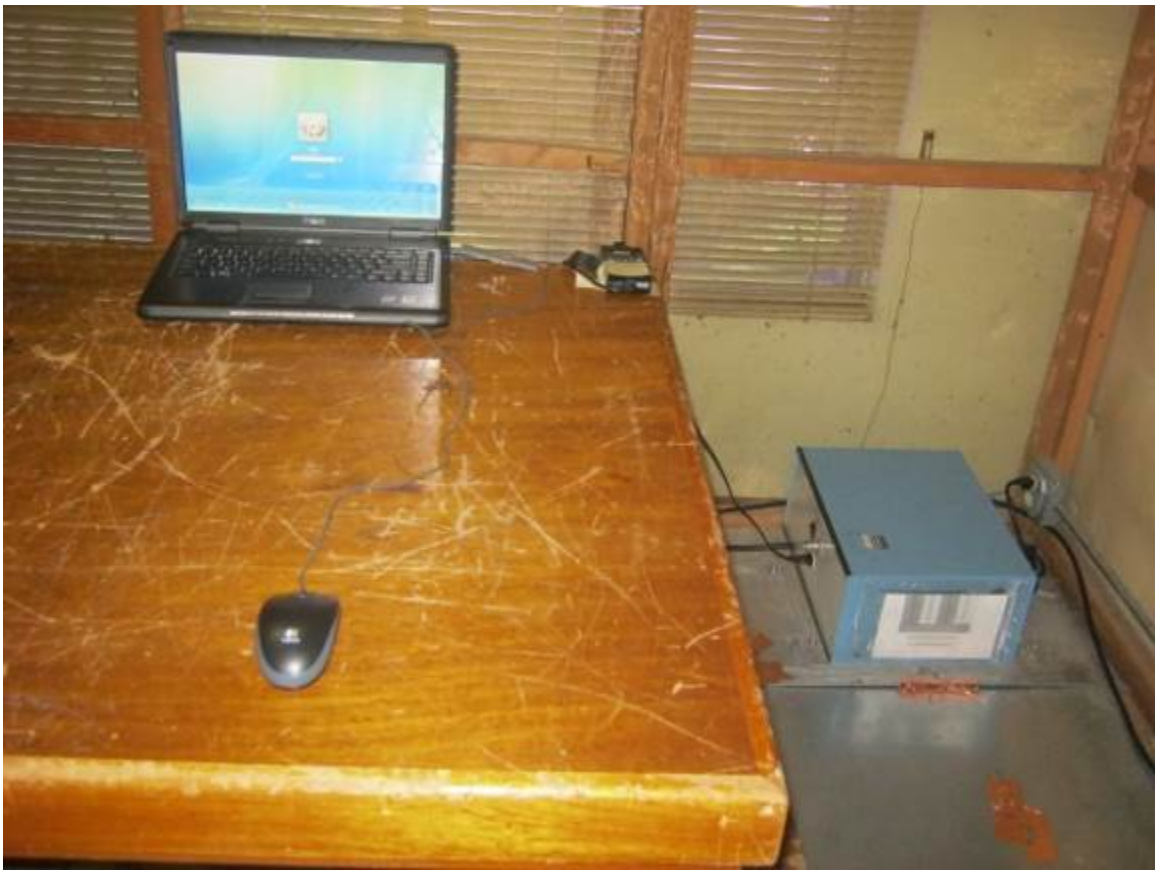
WAYTOOLS, LLC.
TEXTBLADE
MODEL: TEX20
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

WAYTOOLS, LLC.
TEXTBLADE
MODEL: TEX20
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

WAYTOOLS, LLC.
TEXTBLADE
MODEL: TEX20
FCC SUBPART B – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

WAYTOOLS, LLC.
TEXTBLADE
MODEL: TEX20
FCC SUBPART B – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

WAYTOOLS, LLC.
TEXTBLADE
MODEL: TEX20
FCC SUBPART B – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

WAYTOOLS, LLC.
TEXTBLADE
MODEL: TEX20
FCC SUBPART B – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

WAYTOOLS, LLC.
TEXTBLADE
MODEL: TEX20
FCC SUBPART B – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

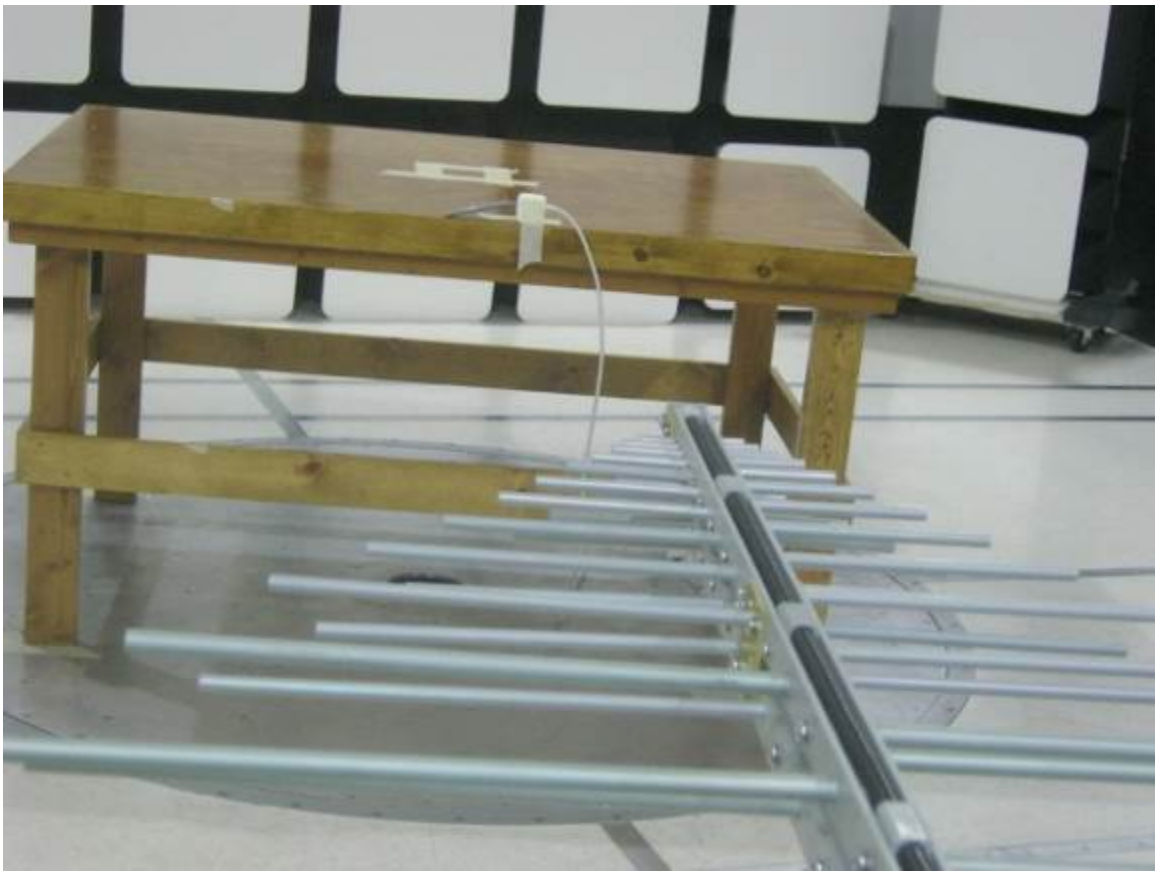
WAYTOOLS, LLC.
TEXTBLADE
MODEL: TEX20
FCC SUBPART B – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

WAYTOOLS, LLC.
TEXTBLADE
MODEL: TEX20
FCC SUBPART B – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

WAYTOOLS, LLC.
TEXTBLADE
MODEL: TEX20
FCC SUBPART B – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

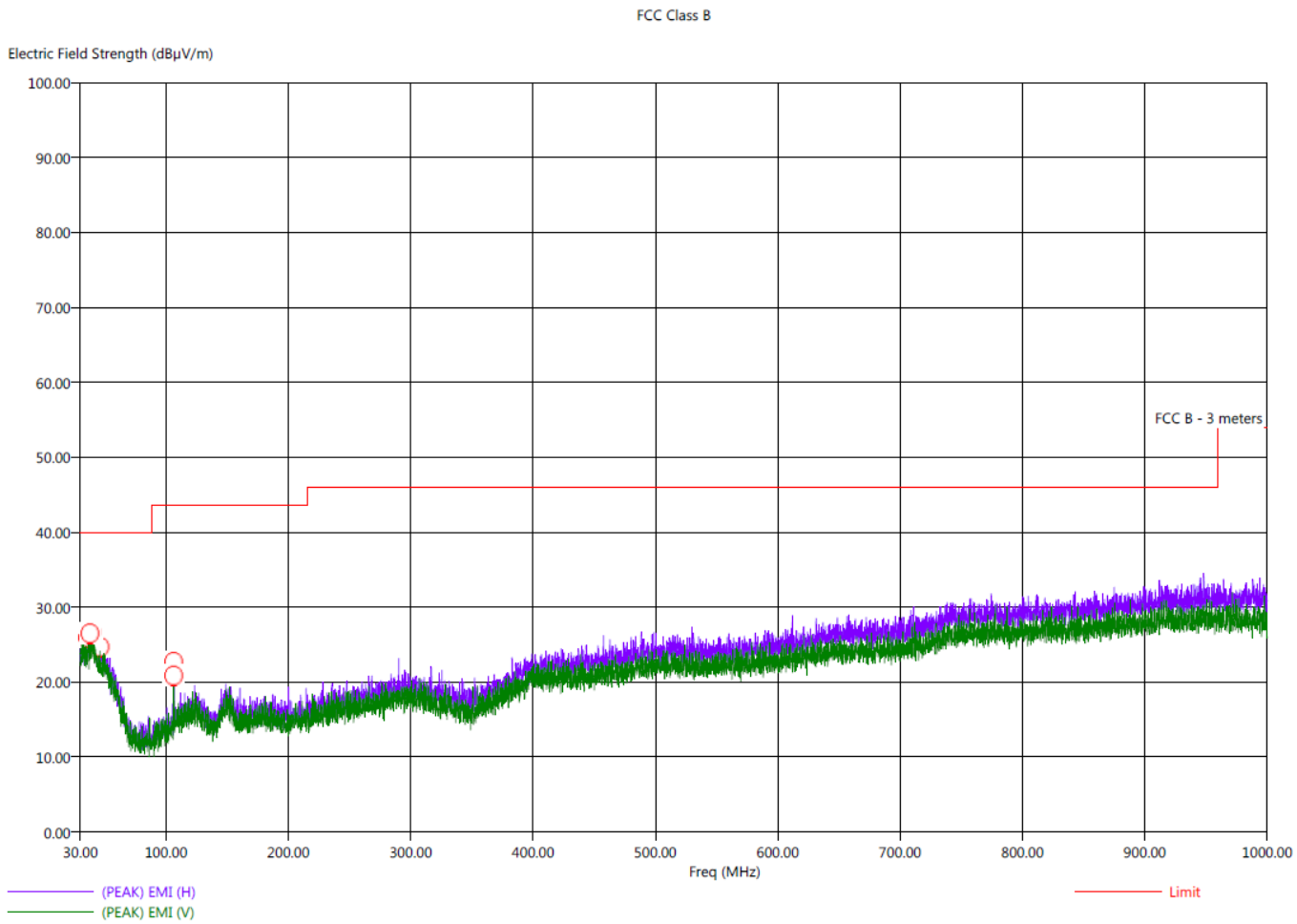
NORMAL MODE

RADIATED EMISSIONS

DATA SHEETS

Title: Pre-Scan - 30-1000 MHz - FCC Class B
File: Agilent - Radiated Pre-Scan 30-1000 MHz - Middle Channel - FCC Class B.set
Operator: Kyle Fujimoto
EUT Type: TextBlade
EUT Condition: The EUT is continuously Transmitting at the Middle Channel - Worst Case
Customer: Waytools LLC
Model: TEX20

3/11/2015 1:04:47 PM
Sequence: Preliminary Scan



Title: Radiated Final - 30-1000 MHz - FCC Class B
File: Agilent - Radiated Final Scan 30-1000 MHz - Middle Channel - FCC Class B.set
Operator: Kyle Fujimoto
EUT Type: TextBlade
EUT Condition: The EUT is continuously Transmitting at the Middle Channel - Worst Case
Customer: Waytools LLC
Model: TEX20

3/11/2015 1:57:06 PM
Sequence: Final Measurements

FCC Class B - 30 MHz - 1 GHz

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Agl (deg)	Twr Ht (cm)
36.00	H	27.13	22.69	-12.87	-17.31	40.00	23.83	0.40	186.50	173.76
37.90	V	27.01	22.96	-12.99	-17.04	40.00	24.02	0.42	287.50	159.31
39.20	H	27.26	23.09	-12.74	-16.91	40.00	24.13	0.42	158.50	236.56
46.10	H	25.15	21.51	-14.85	-18.49	40.00	22.50	0.47	94.50	303.31
106.30	H	19.97	16.42	-23.53	-27.08	43.50	14.04	0.75	170.25	158.71
106.40	V	21.23	18.39	-22.27	-25.11	43.50	14.05	0.75	46.25	271.55

FCC 15.249
WayTools, LLC.
TextBlade
Model: TEX20

Date: 03/11/2015
Lab: B
Tested By: Kyle Fujmoto

Fundamental of the EUT
Transmit Mode - 0 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	74.44	V	114	-39.56	Peak	1.25	45	Fundamental
2402	72.84	V	94	-21.16	Avg	1.25	45	of Low Channel
2402	78.48	H	114	-35.52	Peak	1.5	225	Fundamental
2402	77.39	H	94	-16.61	Avg	1.5	225	of Low Channel
2440	72.27	V	114	-41.73	Peak	1.5	90	Fundamental
2440	70.41	V	94	-23.59	Avg	1.5	90	of Middle Channel
2440	77.71	H	114	-36.29	Peak	1.25	155	Fundamental
2440	75.64	H	94	-18.36	Avg	1.25	155	of Middle Channel
2480	71.36	V	114	-42.64	Peak	1.25	225	Fundamental
2480	69.59	V	94	-24.41	Avg	1.25	225	of High Channel
2480	77.49	H	114	-36.51	Peak	1	135	Fundamental
2480	75.91	H	94	-18.09	Avg	1	135	of High Channel

FCC 15.249
WayTools, LLC.
TextBlade
Model: TEX20

Date: 03/11/2015
Lab: B
Tested By: Kyle Fujmoto

Low Channel
Transmit Mode - 0 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	46.01	V	74	-27.99	Peak	1.25	225	
4804	32.96	V	54	-21.04	Avg	1.25	225	
7206	50.31	V	74	-23.69	Peak	1.25	145	
7206	37.56	V	54	-16.44	Peak	1.25	145	
9608	49.81	V	74	-24.19	Peak	1.35	165	
9608	35.89	V	54	-18.11	Peak	1.35	165	
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 15.249
WayTools, LLC.
TextBlade
Model: TEX20

Date: 03/11/2015
Lab: B
Tested By: Kyle Fujmoto

Low Channel
Transmit Mode - 0 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	46.13	H	74	-27.87	Peak	1.5	135	
4804	31.55	H	54	-22.45	Avg	1.5	135	
7206	49.83	H	74	-24.17	Peak	1.25	135	
7206	37.62	H	54	-16.38	Avg	1.25	135	
9608	49.48	H	74	-24.52	Peak	1.35	125	
9608	35.93	H	54	-18.07	Avg	1.35	125	
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 15.249
WayTools, LLC.
TextBlade
Model: TEX20

Date: 03/11/2015
Lab: B
Tested By: Kyle Fujmoto

Middle Channel
Transmit Mode - 0 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4880	49.61	V	74	-24.39	Peak	1.25	155	
4880	42.77	V	54	-11.23	Avg	1.25	155	
7320	49.15	V	74	-24.85	Peak	1.35	175	
7320	37.85	V	54	-16.15	Avg	1.35	175	
9760	51.86	V	74	-22.14	Peak	1.25	185	
9760	37.76	V	54	-16.24	Avg	1.25	185	
12200								No Emission
12200								Detected
14640								No Emission
14640								Detected
17080								No Emission
17080								Detected
19520								No Emission
19520								Detected
21960								No Emission
21960								Detected
24400								No Emission
24400								Detected

FCC 15.249
WayTools, LLC.
TextBlade
Model: TEX20

Date: 03/11/2015
Lab: B
Tested By: Kyle Fujmoto

Middle Channel
Transmit Mode - 0 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4880	49.22	H	74	-24.78	Peak	1.25	225	
4880	41.26	H	54	-12.74	Avg	1.25	225	
7320	49.84	H	74	-24.16	Peak	1.25	225	
7320	37.31	H	54	-16.69	Avg	1.25	225	
9760	50.03	H	74	-23.97	Peak	1.45	235	
9760	37.81	H	54	-16.19	Avg	1.45	235	
12200								No Emission
12200								Detected
14640								No Emission
14640								Detected
17080								No Emission
17080								Detected
19520								No Emission
19520								Detected
21960								No Emission
21960								Detected
24400								No Emission
24400								Detected

FCC 15.249
WayTools, LLC.
TextBlade
Model: TEX20

Date: 03/11/2015
Lab: B
Tested By: Kyle Fujmoto

High Channel
Transmit Mode - 0 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	50.87	V	74	-23.13	Peak	1.25	155	
4960	43.79	V	54	-10.21	Avg	1.25	155	
7440	50.15	V	74	-23.85	Peak	1.35	165	
7440	37.88	V	54	-16.12	Avg	1.35	165	
9920	52.82	V	74	-21.18	Peak	1.25	175	
9920	40.21	V	54	-13.79	Avg	1.25	175	
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 15.249
WayTools, LLC.
TextBlade
Model: TEX20

Date: 03/11/2015
Lab: B
Tested By: Kyle Fujmoto

High Channel
Transmit Mode - 0 dBm

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	48.95	H	74	-25.05	Peak	1.25	155	
4960	40.75	H	54	-13.25	Avg	1.25	155	
7440	47.63	H	74	-26.37	Peak	1.25	165	
7440	37.21	H	54	-16.79	Avg	1.25	165	
9920	53.23	H	74	-20.77	Peak	1.35	175	
9920	40.22	H	54	-13.78	Avg	1.35	175	
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 15.249
WayTools, LLC.
TextBlade
Model: TEX20

Date: 03/11/2015
Lab: B
Tested By: Kyle Fujmoto

Band Edges - Vertical Polarization
Low Channel - 2402 MHz
Middle Channel - 2440 MHz
High Channel - 2480 MHz

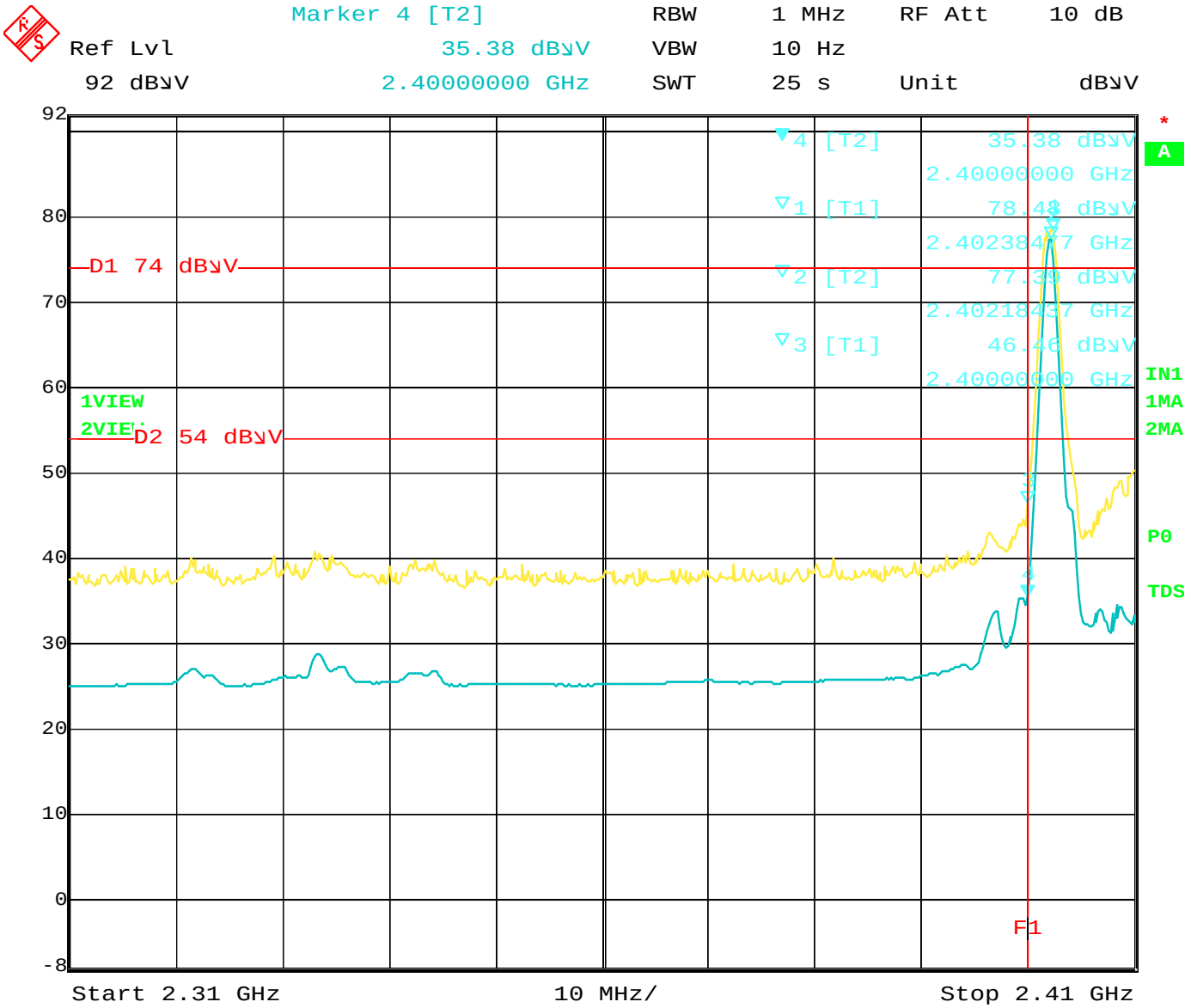
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	74.44	V	114	-39.56	Peak	1.25	45	Fundamental of Low Channel
2402	72.84	V	94	-21.16	Avg	1.25	45	@ 3 meters
2400	42.49	V	74	-31.51	Peak	1.25	45	**No** Marker Delta Method
2400	31.50	V	54	-22.5	Peak	1.25	45	Method Used
2440	72.27	V	114	-41.73	Peak	1.5	90	Fundamental of Middle Channel
2440	70.41	V	94	-23.59	Avg	1.5	90	@ 3 meters
2480	71.36	V	114	-42.64	Peak	1.25	225	Fundamental of High Channel
2480	69.59	V	94	-24.41	Avg	1.25	225	@ 3 meters
2483.5	39.02	V	74	-34.98	Peak	1.25	225	**No** Marker Delta Method
2483.5	26.66	V	54	-27.34	Avg	1.25	225	Method Used

FCC 15.249
WayTools, LLC.
TextBlade
Model: TEX20

Date: 03/11/2015
Lab: B
Tested By: Kyle Fujmoto

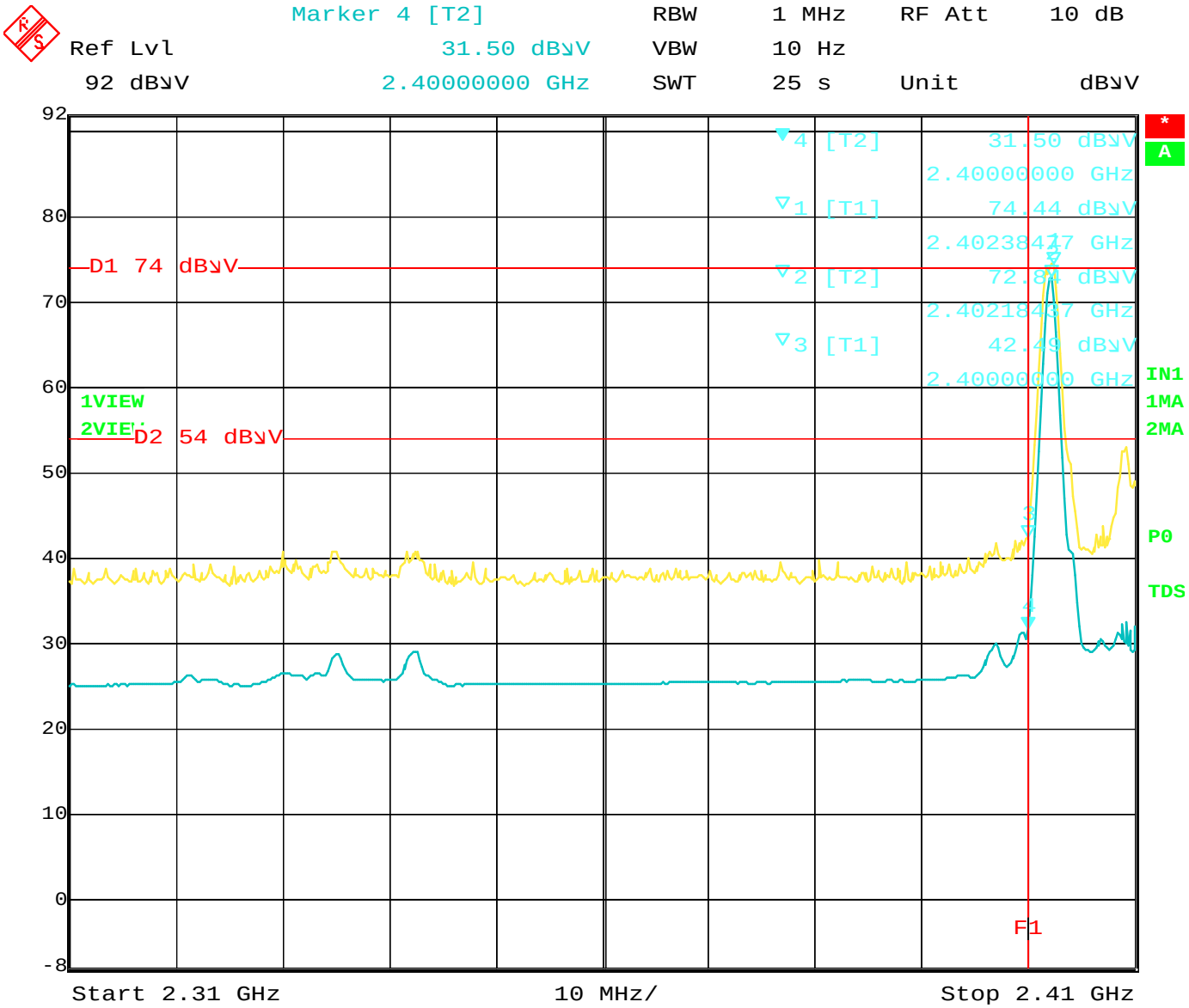
Band Edges - Horizontal Polarization
Low Channel - 2402 MHz
Middle Channel - 2440 MHz
High Channel - 2480 MHz

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	78.48	H	114	-35.52	Peak	1.5	225	Fundamental of Low Channel
2402	77.39	H	94	-16.61	Avg	1.5	225	@ 3 meters
2400	46.46	H	74	-27.54	Peak	1.5	225	**No** Marker Delta Method
2400	35.38	H	54	-18.62	Peak	1.5	225	Method Used
2440	77.71	H	114	-36.29	Peak	1.25	155	Fundamental of Middle Channel
2440	75.64	H	94	-18.36	Avg	1.25	155	@ 3 meters
2480	77.49	H	114	-36.51	Peak	1	135	Fundamental of High Channel
2480	75.91	H	94	-18.09	Avg	1	135	@ 3 meters
2483.5	39.83	H	74	-34.17	Peak	1	135	**No** Marker Delta Method
2483.5	28.88	H	54	-25.12	Avg	1	135	Method Used



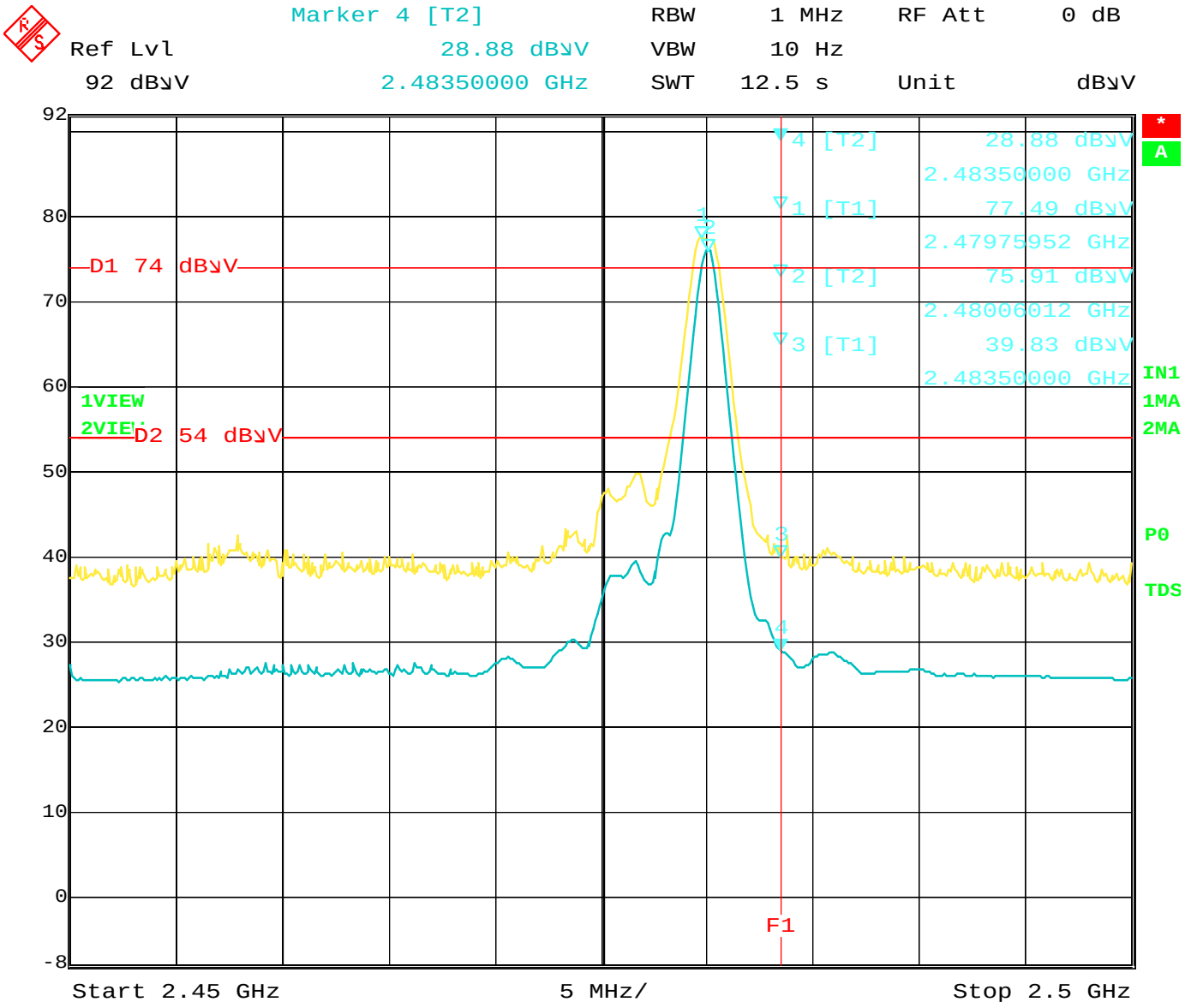
Date: 11.MAR.2015 07:00:58

Band Edge – Low Channel – Horizontal Polarization



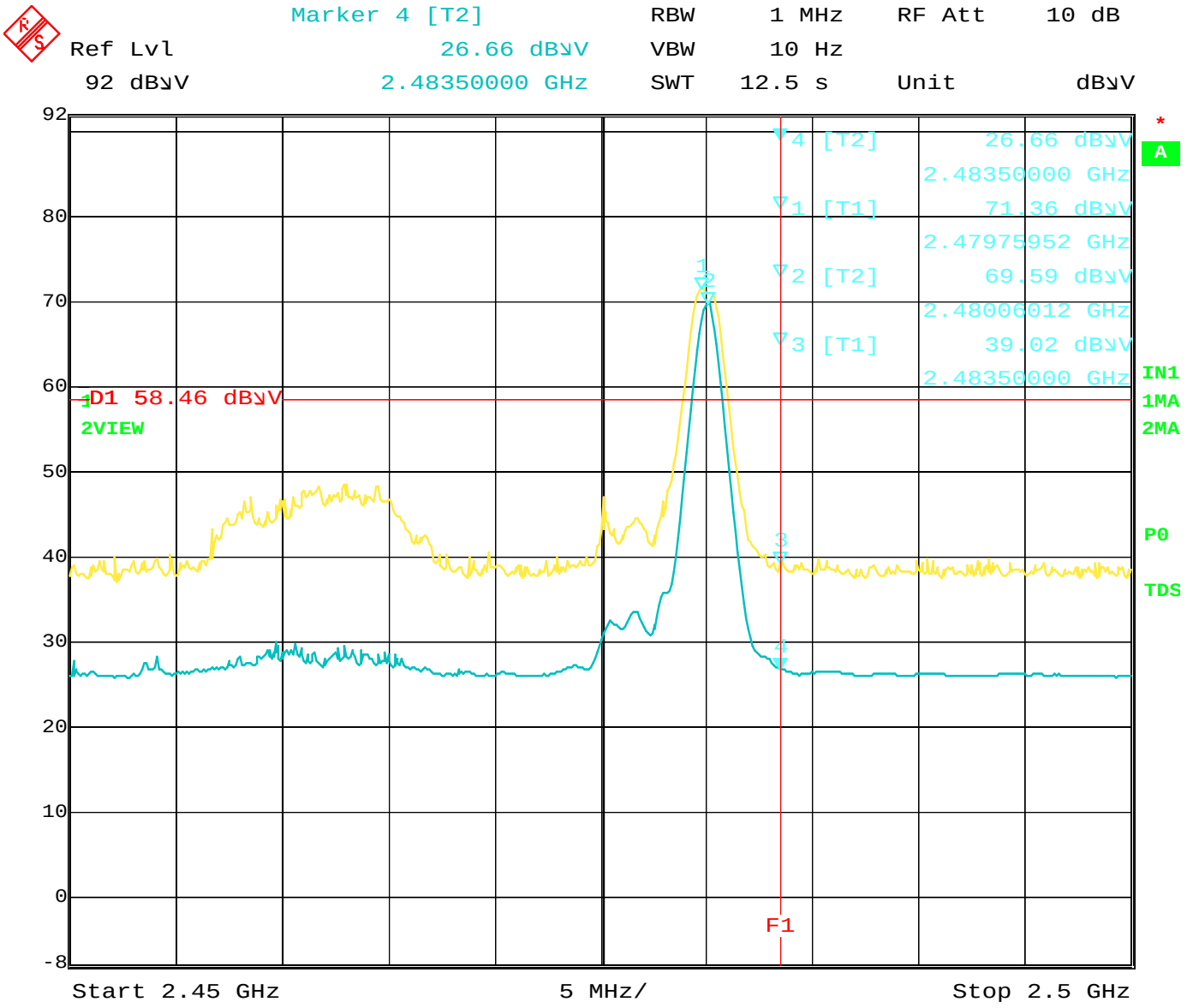
Date: 11.MAR.2015 06:49:52

Band Edge – Low Channel – Vertical Polarization



Date: 11.MAR.2015 08:27:54

Band Edge – High Channel – Horizontal Polarization



Date: 11.MAR.2015 09:02:13

Band Edge – High Channel – Vertical Polarization

FCC Class B and FCC 15.249

WayTools, LLC.
TextBlade
Model: TEX20

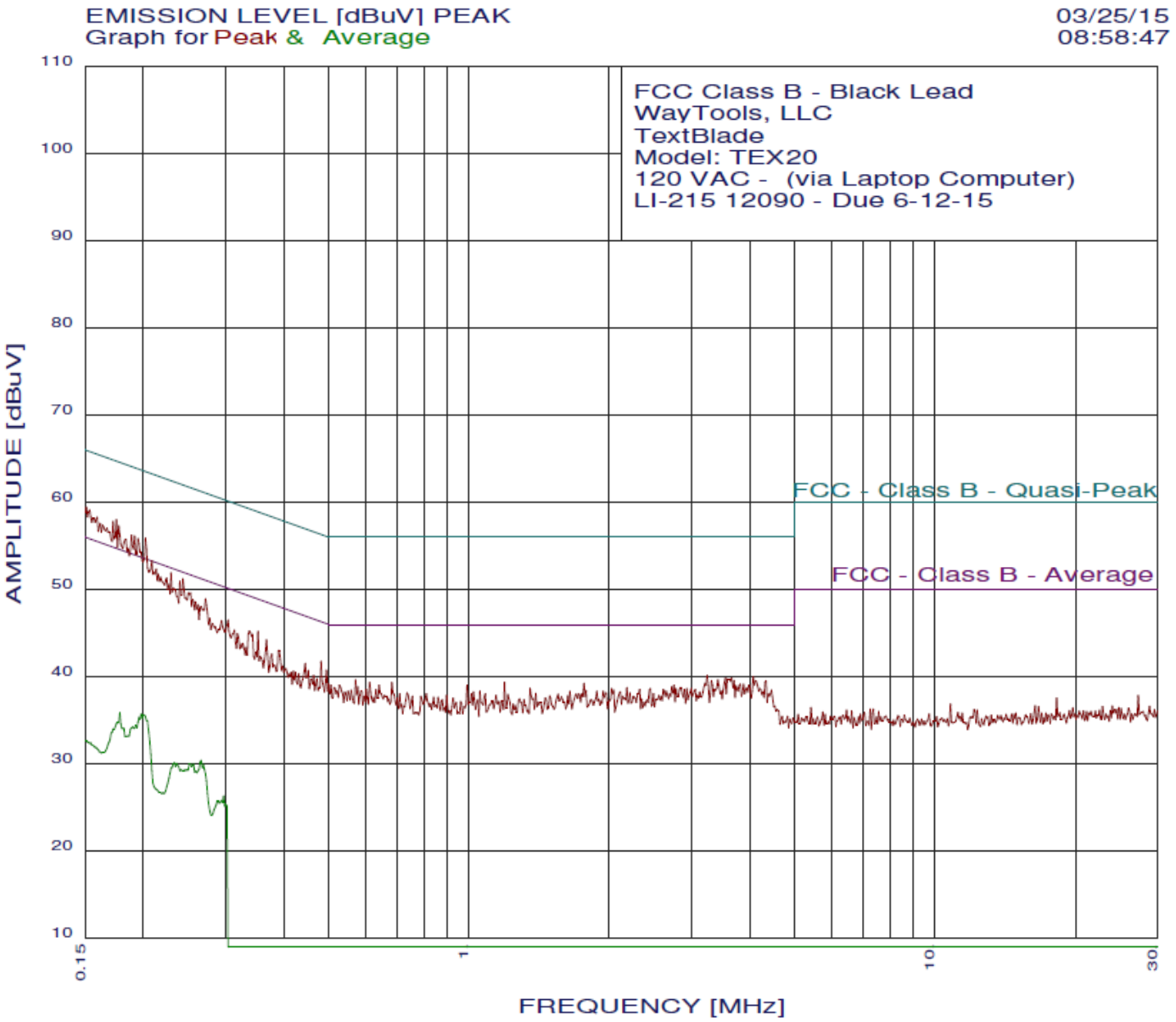
Date: 03/11/2015
Labs: B and D
Tested By: Kyle Fujmoto

Non Harmonic Emissions from the Tx and Digital Portion - 10 kHz 30 MHz
Non Harmonic Emissions from the Tx and Digital Portion - 1 GHz to 25 GHz
Vertical and Horizontal Polarizations

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions Found for the
								Digital Portion
								from 10 kHz to 30 MHz
								for both Vertical and Horizontal
								Polarizations
								No Non Harmonic Emissions Found
								for the Tx Mode
								from 10 kHz to 30 MHz
								for both Vertical and Horizontal
								Polarizations
								No Emissions Found for the
								Digital Portion
								from 1 GHz to 25 GHz
								for both Vertical and Horizontal
								Polarizations
								No Non Harmonic Emissions Found
								for the Tx Mode
								from 1 GHz to 25 GHz
								for both Vertical and Horizontal
								Polarizations
								Tested at the Low, Middle,
								and High Channels

DATA SHEETS

CHARGING MODE


EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average
03/25/15
08:58:47
FCC Class B - Black Lead
WayTools, LLC
TextBlade
Model: TEX20
120 VAC - (via Laptop Computer)
LI-215 12090 - Due 6-12-15
FCC - Class B - Quasi-Peak
FCC - Class B - Average
AMPLITUDE [dBuV]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30
FREQUENCY [MHz]

page 1/1

03/25/15 08:58:47

FCC Class B - Black Lead
WayTools, LLC
TextBlade
Model: TEX20
120 VAC - (via Laptop Computer)
LI-215 12090 - Due 6-12-15
Test Engineer: James Ross

---

49 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.175	58.01	54.72	3.29**
2	0.172	57.82	54.86	2.96**
3	0.177	57.30	54.63	2.67**
4	0.202	55.89	53.53	2.36**
5	0.192	56.14	53.97	2.17**
6	0.188	56.25	54.10	2.15**
7	0.195	55.82	53.84	1.98**
8	0.183	55.77	54.33	1.44**
9	0.208	53.27	53.27	-0.00**
10	0.229	51.88	52.48	-0.59**
11	0.243	51.23	52.00	-0.77**
12	0.239	50.94	52.12	-1.18**
13	0.272	48.91	51.07	-2.15**
14	0.304	46.49	50.14	-3.66
15	0.352	45.20	48.91	-3.71
16	0.294	46.43	50.41	-3.98**
17	0.338	45.25	49.26	-4.01
18	0.367	44.21	48.56	-4.36
19	0.481	41.74	46.32	-4.58
20	0.318	44.93	49.75	-4.82
21	0.391	43.01	48.03	-5.02
22	0.494	40.74	46.09	-5.35
23	0.445	41.53	46.98	-5.45
24	0.377	42.61	48.34	-5.73
25	3.243	40.14	46.00	-5.86
26	4.071	39.95	46.00	-6.05
27	3.663	39.84	46.00	-6.16
28	3.547	39.84	46.00	-6.16
29	3.419	39.64	46.00	-6.36
30	0.570	39.64	46.00	-6.36
31	4.339	39.55	46.00	-6.45
32	3.311	39.54	46.00	-6.46
33	0.464	40.13	46.62	-6.49
34	1.191	39.36	46.00	-6.64
35	0.611	39.34	46.00	-6.66
36	0.683	39.34	46.00	-6.66
37	0.471	39.74	46.49	-6.75
38	1.763	39.22	46.00	-6.78
39	0.419	40.62	47.46	-6.84
40	3.882	39.15	46.00	-6.85
41	3.820	39.14	46.00	-6.86
42	0.431	40.32	47.24	-6.91
43	3.987	39.05	46.00	-6.95
44	0.527	39.04	46.00	-6.96
45	2.751	39.04	46.00	-6.96
46	0.641	39.04	46.00	-6.96
47	0.990	39.04	46.00	-6.96
48	0.513	38.74	46.00	-7.26
49	2.855	38.74	46.00	-7.26

** Please See Average Reading on Previous Graph and Following Data Sheet

page 1/1

03/25/15 08:58:47

FCC Class B - Black Lead
WayTools, LLC
TextBlade
Model: TEX20
120 VAC - (via Laptop Computer)
LI-215 12090 - Due 6-12-15
Test Engineer: James Ross

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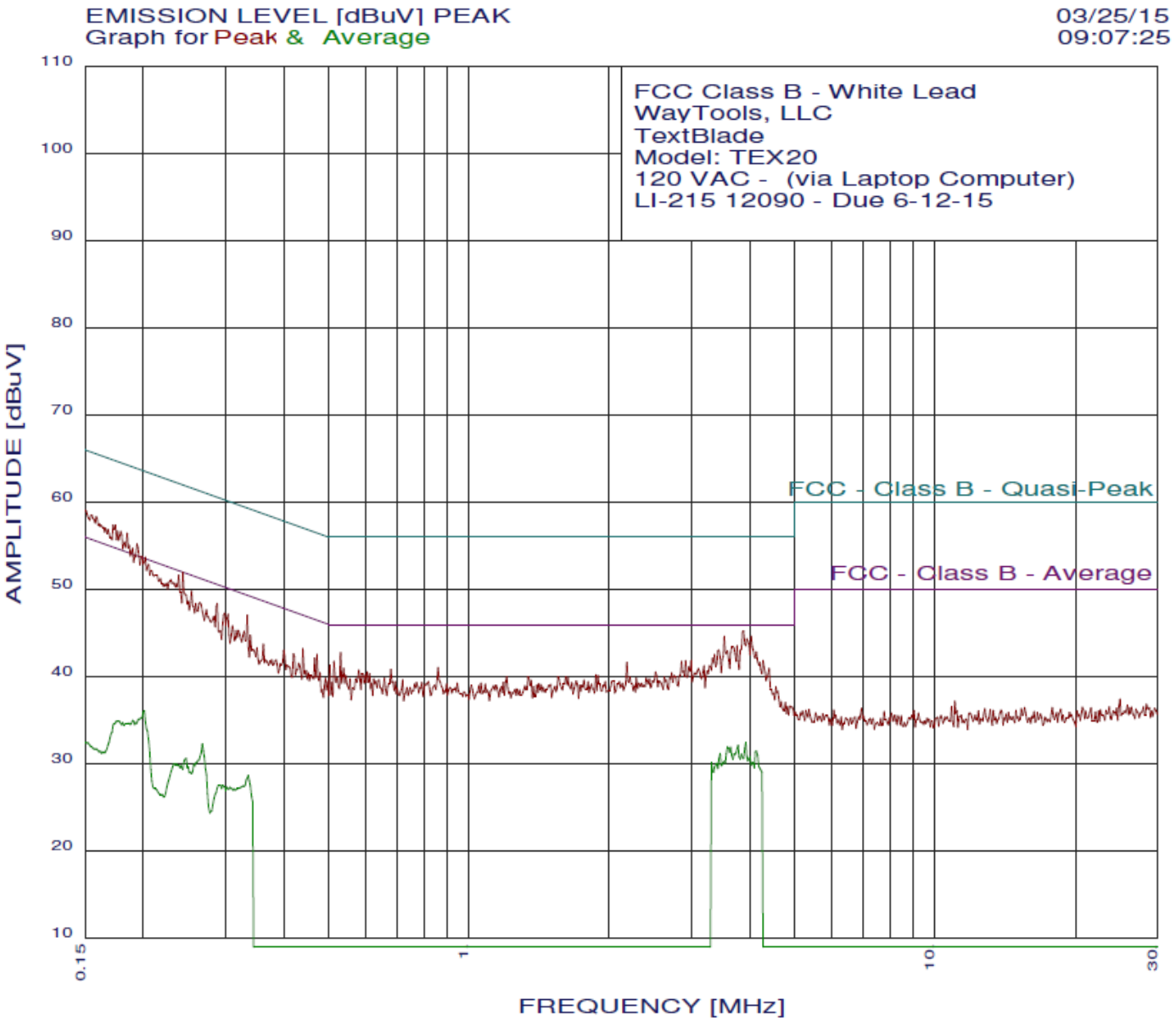
18 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 0.10 dB, Curve : Average

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.200	35.62	53.62	-18.00
2	0.198	35.68	53.71	-18.03
3	0.196	35.33	53.80	-18.47
4	0.178	35.86	54.59	-18.73
5	0.193	34.46	53.93	-19.46
6	0.189	34.24	54.06	-19.82
7	0.266	30.40	51.24	-20.85
8	0.269	29.91	51.15	-21.25
9	0.256	29.92	51.55	-21.64
10	0.251	30.01	51.73	-21.72
11	0.235	30.04	52.25	-22.22
12	0.233	30.12	52.34	-22.22
13	0.259	29.16	51.47	-22.31
14	0.240	29.34	52.08	-22.74
15	0.297	26.30	50.32	-24.02
16	0.294	25.82	50.41	-24.59
17	0.288	25.73	50.58	-24.85
18	0.300	25.33	50.23	-24.90


EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average
03/25/15
09:07:25
FCC Class B - White Lead
WayTools, LLC
TextBlade
Model: TEX20
120 VAC - (via Laptop Computer)
LI-215 12090 - Due 6-12-15
FCC - Class B - Quasi-Peak
FCC - Class B - Average
AMPLITUDE [dBuV]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30
FREQUENCY [MHz]

page 1/1

03/25/15 09:07:25

FCC Class B - White Lead
WayTools, LLC
TextBlade
Model: TEX20
120 VAC - (via Laptop Computer)
LI-215 12090 - Due 6-12-15
Test Engineer: James Ross

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49 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.172	57.39	54.86	2.53**
2	0.184	56.45	54.28	2.16**
3	0.194	55.22	53.88	1.33**
4	0.243	51.96	52.00	-0.04**
5	0.238	51.67	52.17	-0.50**
6	3.882	45.24	46.00	-0.76**
7	4.029	44.64	46.00	-1.36**
8	3.529	44.64	46.00	-1.36**
9	0.254	49.82	51.64	-1.82**
10	0.288	48.41	50.58	-2.17**
11	0.334	47.06	49.35	-2.29**
12	3.761	43.54	46.00	-2.46**
13	3.683	43.44	46.00	-2.56**
14	0.265	48.49	51.29	-2.80**
15	3.438	43.04	46.00	-2.96**
16	0.304	47.16	50.14	-2.98**
17	0.299	47.28	50.28	-3.00**
18	0.530	42.75	46.00	-3.25
19	0.273	47.66	51.02	-3.36**
20	3.365	42.54	46.00	-3.46**
21	0.440	43.23	47.06	-3.83
22	0.471	42.54	46.49	-3.95
23	0.310	45.84	49.97	-4.13**
24	4.272	41.84	46.00	-4.16
25	2.995	41.84	46.00	-4.16
26	2.916	41.84	46.00	-4.16
27	0.513	41.75	46.00	-4.25
28	2.855	41.74	46.00	-4.26
29	0.329	45.18	49.48	-4.30**
30	2.179	41.64	46.00	-4.36
31	0.466	42.14	46.58	-4.44
32	0.317	45.32	49.79	-4.47**
33	0.339	44.75	49.22	-4.47**
34	0.502	41.35	46.00	-4.65
35	3.192	41.24	46.00	-4.76
36	0.400	43.02	47.86	-4.83
37	0.419	42.63	47.46	-4.83
38	0.858	41.04	46.00	-4.96
39	0.362	43.71	48.69	-4.98
40	0.538	40.95	46.00	-5.05
41	4.408	40.94	46.00	-5.06
42	3.107	40.94	46.00	-5.06
43	0.679	40.84	46.00	-5.16
44	0.580	40.74	46.00	-5.26
45	0.605	40.54	46.00	-5.46
46	2.514	40.54	46.00	-5.46
47	2.722	40.44	46.00	-5.56
48	0.589	40.34	46.00	-5.66
49	0.431	41.53	47.24	-5.71

** Please See Average Reading on Previous Graph and Following Data Sheet

page 1/1

03/25/15 09:07:25

FCC Class B - White Lead
WayTools, LLC
TextBlade
Model: TEX20
120 VAC - (via Laptop Computer)
LI-215 12090 - Due 6-12-15
Test Engineer: James Ross

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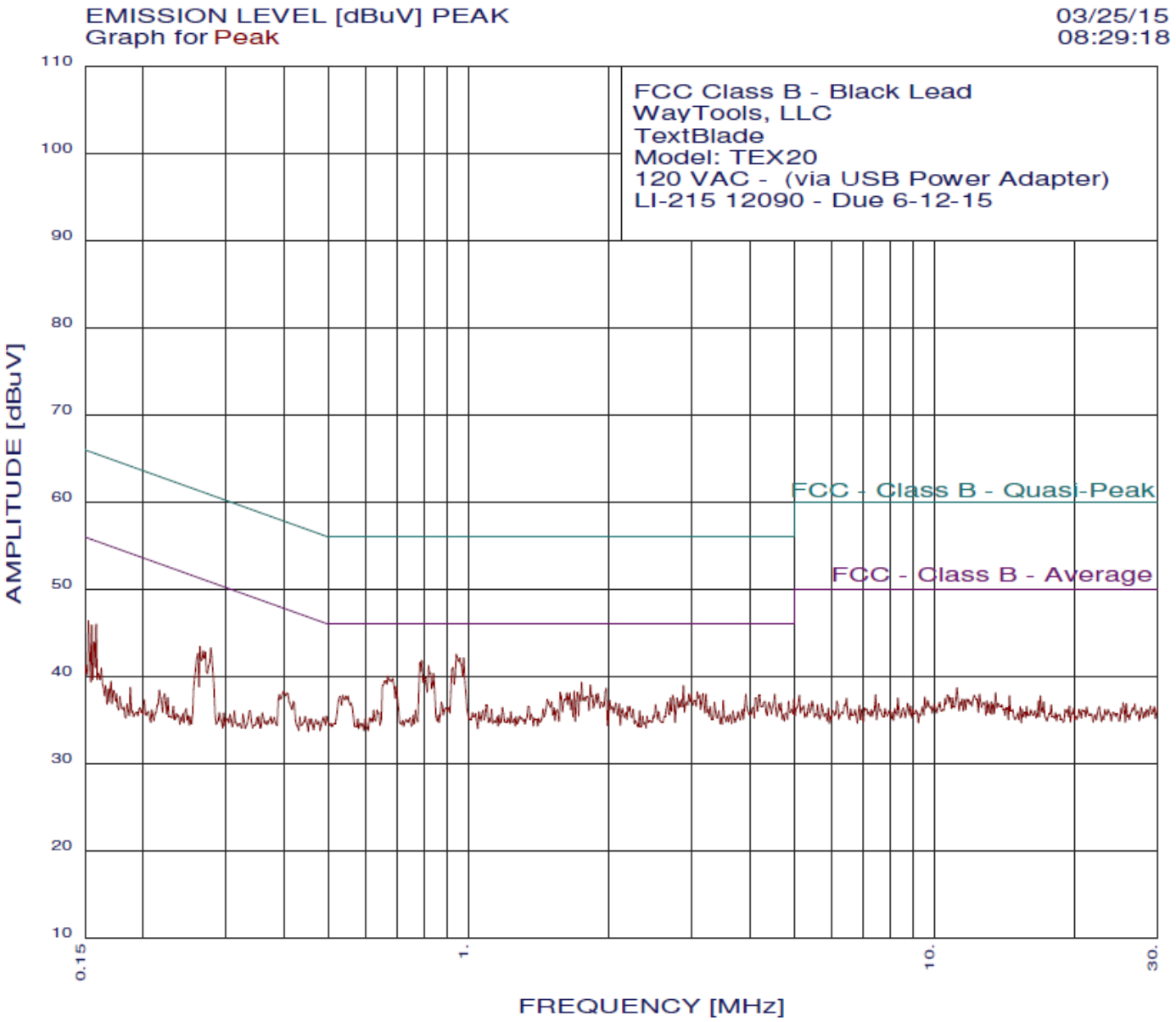
32 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 0.10 dB, Curve : Average

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	3.924	32.49	46.00	-13.51
2	3.781	32.12	46.00	-13.88
3	3.585	31.95	46.00	-14.05
4	3.644	31.90	46.00	-14.10
5	4.137	31.44	46.00	-14.56
6	3.456	31.20	46.00	-14.80
7	3.702	31.17	46.00	-14.83
8	3.841	31.11	46.00	-14.89
9	4.008	30.79	46.00	-15.21
10	3.529	30.31	46.00	-15.69
11	4.050	30.20	46.00	-15.80
12	3.311	30.20	46.00	-15.80
13	3.401	30.07	46.00	-15.93
14	0.201	36.11	53.58	-17.47
15	0.267	32.31	51.20	-18.89
16	0.189	34.98	54.06	-19.08
17	0.186	34.65	54.19	-19.54
18	0.181	34.72	54.46	-19.74
19	0.175	34.94	54.72	-19.78
20	0.336	28.69	49.31	-20.62
21	0.247	30.64	51.86	-21.22
22	0.256	29.92	51.55	-21.63
23	0.250	29.65	51.77	-22.12
24	0.240	29.83	52.08	-22.25
25	0.235	29.99	52.25	-22.27
26	0.233	30.00	52.34	-22.35
27	0.313	27.13	49.88	-22.75
28	0.307	27.30	50.05	-22.75
29	0.296	27.57	50.36	-22.80
30	0.302	27.32	50.19	-22.87
31	0.293	27.58	50.45	-22.87
32	0.164	31.40	55.25	-23.85


EMISSION LEVEL [dBuV] PEAK
Graph for Peak
03/25/15
08:29:18
FCC Class B - Black Lead
WayTools, LLC
TextBlade
Model: TEX20
120 VAC - (via USB Power Adapter)
LI-215 12090 - Due 6-12-15
FCC - Class B - Quasi-Peak
FCC - Class B - Average
AMPLITUDE [dBuV]
110
100
90
80
70
60
50
40
30
20
10
0.15
1.
10.
30.
FREQUENCY [MHz]

page 1/1

03/25/15 08:29:18

FCC Class B - Black Lead
WayTools, LLC
TextBlade
Model: TEX20
120 VAC - (via USB Power Adapter)
LI-215 12090 - Due 6-12-15
Test Engineer: James Ross

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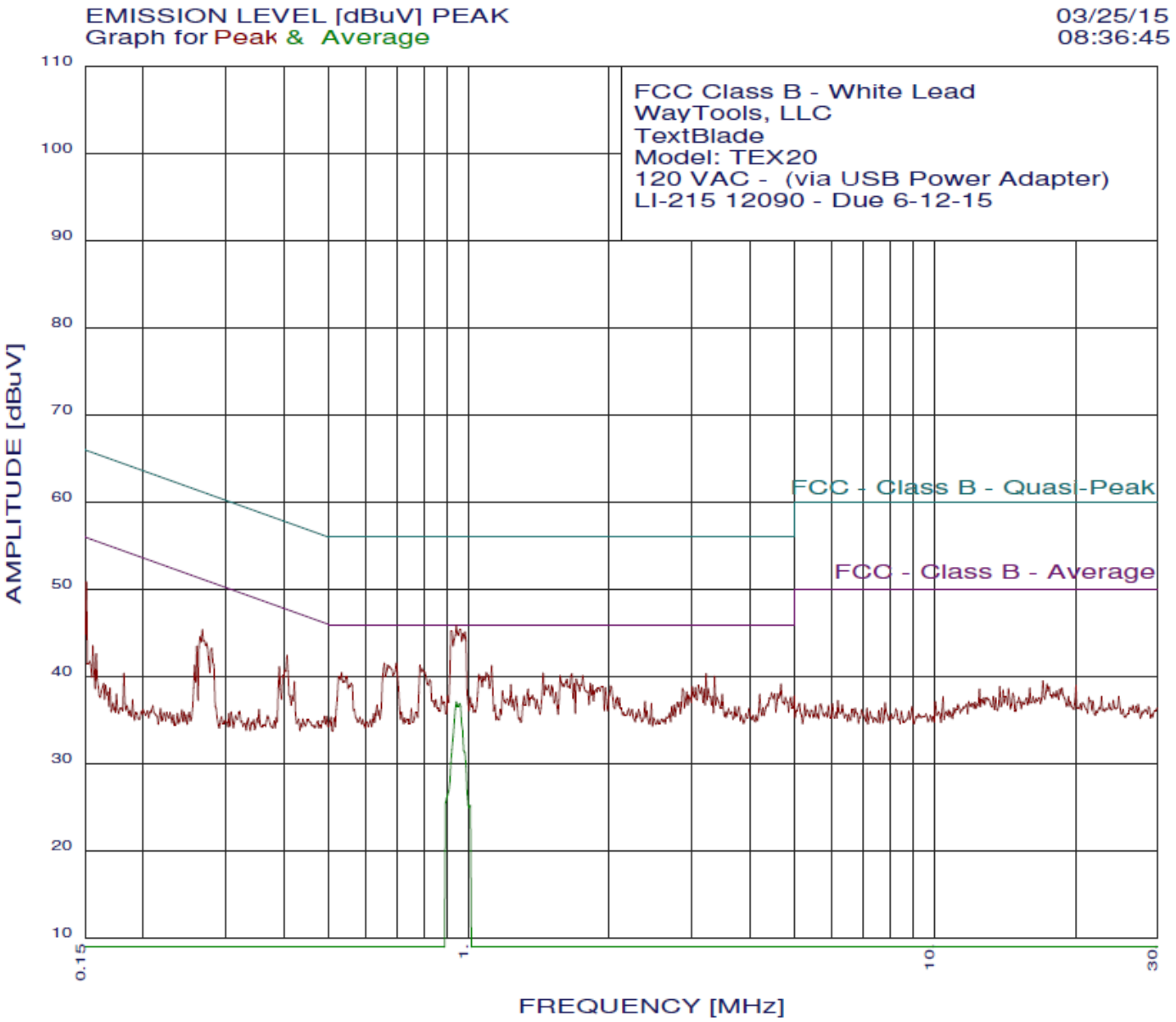
50 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.939	42.54	46.00	-3.46
2	0.974	42.14	46.00	-3.86
3	0.792	41.84	46.00	-4.16
4	0.783	41.64	46.00	-4.36
5	0.818	41.24	46.00	-4.76
6	0.924	41.04	46.00	-4.96
7	0.839	40.34	46.00	-5.66
8	0.669	40.04	46.00	-5.96
9	1.745	39.32	46.00	-6.68
10	1.820	39.02	46.00	-6.98
11	2.885	38.94	46.00	-7.06
12	0.698	38.84	46.00	-7.16
13	1.971	38.64	46.00	-7.36
14	0.279	43.29	50.85	-7.56
15	1.680	38.31	46.00	-7.69
16	3.091	38.24	46.00	-7.76
17	1.708	38.21	46.00	-7.79
18	1.569	38.20	46.00	-7.80
19	0.265	43.44	51.29	-7.84
20	1.646	38.11	46.00	-7.89
21	1.620	38.10	46.00	-7.90
22	3.175	38.04	46.00	-7.96
23	1.889	38.03	46.00	-7.97
24	4.528	37.95	46.00	-8.05
25	3.924	37.95	46.00	-8.05
26	3.226	37.94	46.00	-8.06
27	2.995	37.94	46.00	-8.06
28	4.204	37.85	46.00	-8.15
29	0.535	37.84	46.00	-8.16
30	2.736	37.84	46.00	-8.16
31	0.269	42.93	51.15	-8.23
32	4.137	37.55	46.00	-8.45
33	2.796	37.54	46.00	-8.46
34	2.707	37.54	46.00	-8.46
35	4.980	37.45	46.00	-8.55
36	1.472	37.39	46.00	-8.61
37	1.663	37.31	46.00	-8.69
38	0.262	42.65	51.38	-8.72
39	3.511	37.24	46.00	-8.76
40	2.002	37.24	46.00	-8.76
41	4.851	37.15	46.00	-8.85
42	4.408	37.05	46.00	-8.95
43	3.365	37.04	46.00	-8.96
44	2.665	37.04	46.00	-8.96
45	0.872	37.04	46.00	-8.96
46	4.672	36.95	46.00	-9.05
47	2.066	36.94	46.00	-9.06
48	2.100	36.84	46.00	-9.16
49	2.514	36.74	46.00	-9.26
50	1.094	36.65	46.00	-9.35


EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average
03/25/15
08:36:45
FCC Class B - White Lead
WayTools, LLC
TextBlade
Model: TEX20
120 VAC - (via USB Power Adapter)
LI-215 12090 - Due 6-12-15
FCC - Class B - Quasi-Peak
FCC - Class B - Average
AMPLITUDE [dBuV]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30
FREQUENCY [MHz]

page 1/1

03/25/15 08:36:45

FCC Class B - White Lead
WayTools, LLC
TextBlade
Model: TEX20
120 VAC - (via USB Power Adapter)
LI-215 12090 - Due 6-12-15
Test Engineer: James Ross

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49 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.939	45.84	46.00	-0.16**
2	0.919	45.24	46.00	-0.76**
3	0.979	45.14	46.00	-0.86**
4	0.658	41.54	46.00	-4.46
5	0.698	41.54	46.00	-4.46
6	0.669	41.34	46.00	-4.66
7	0.783	41.34	46.00	-4.66
8	1.118	41.25	46.00	-4.75
9	0.151	50.87	55.95	-5.09
10	0.406	42.42	47.72	-5.30
11	1.089	40.45	46.00	-5.55
12	0.532	40.45	46.00	-5.55
13	1.441	40.38	46.00	-5.62
14	3.226	40.34	46.00	-5.66
15	1.663	40.31	46.00	-5.69
16	1.049	40.24	46.00	-5.76
17	0.267	45.38	51.20	-5.82
18	1.754	40.11	46.00	-5.89
19	1.569	40.10	46.00	-5.90
20	3.365	40.04	46.00	-5.96
21	1.699	39.71	46.00	-6.29
22	1.820	39.22	46.00	-6.78
23	1.680	39.21	46.00	-6.79
24	4.672	39.14	46.00	-6.86
25	0.391	41.12	48.03	-6.91
26	1.230	39.06	46.00	-6.94
27	3.107	39.04	46.00	-6.96
28	1.840	39.02	46.00	-6.98
29	1.504	38.99	46.00	-7.01
30	1.480	38.99	46.00	-7.01
31	2.013	38.94	46.00	-7.06
32	3.011	38.84	46.00	-7.16
33	1.939	38.83	46.00	-7.17
34	3.059	38.74	46.00	-7.26
35	1.960	38.73	46.00	-7.27
36	3.260	38.64	46.00	-7.36
37	2.870	38.64	46.00	-7.36
38	1.338	38.57	46.00	-7.43
39	3.192	38.54	46.00	-7.46
40	0.280	43.24	50.81	-7.57
41	1.178	38.36	46.00	-7.64
42	2.932	38.24	46.00	-7.76
43	1.536	38.19	46.00	-7.81
44	4.456	38.14	46.00	-7.86
45	0.260	43.50	51.42	-7.92
46	0.421	39.43	47.42	-7.99
47	4.204	37.94	46.00	-8.06
48	3.492	37.94	46.00	-8.06
49	1.367	37.88	46.00	-8.12

** Please See Average Reading on Previous Graph and Following Data Sheet

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03/25/15 08:36:45

FCC Class B - White Lead
WayTools, LLC
TextBlade
Model: TEX20
120 VAC - (via USB Power Adapter)
LI-215 12090 - Due 6-12-15
Test Engineer: James Ross

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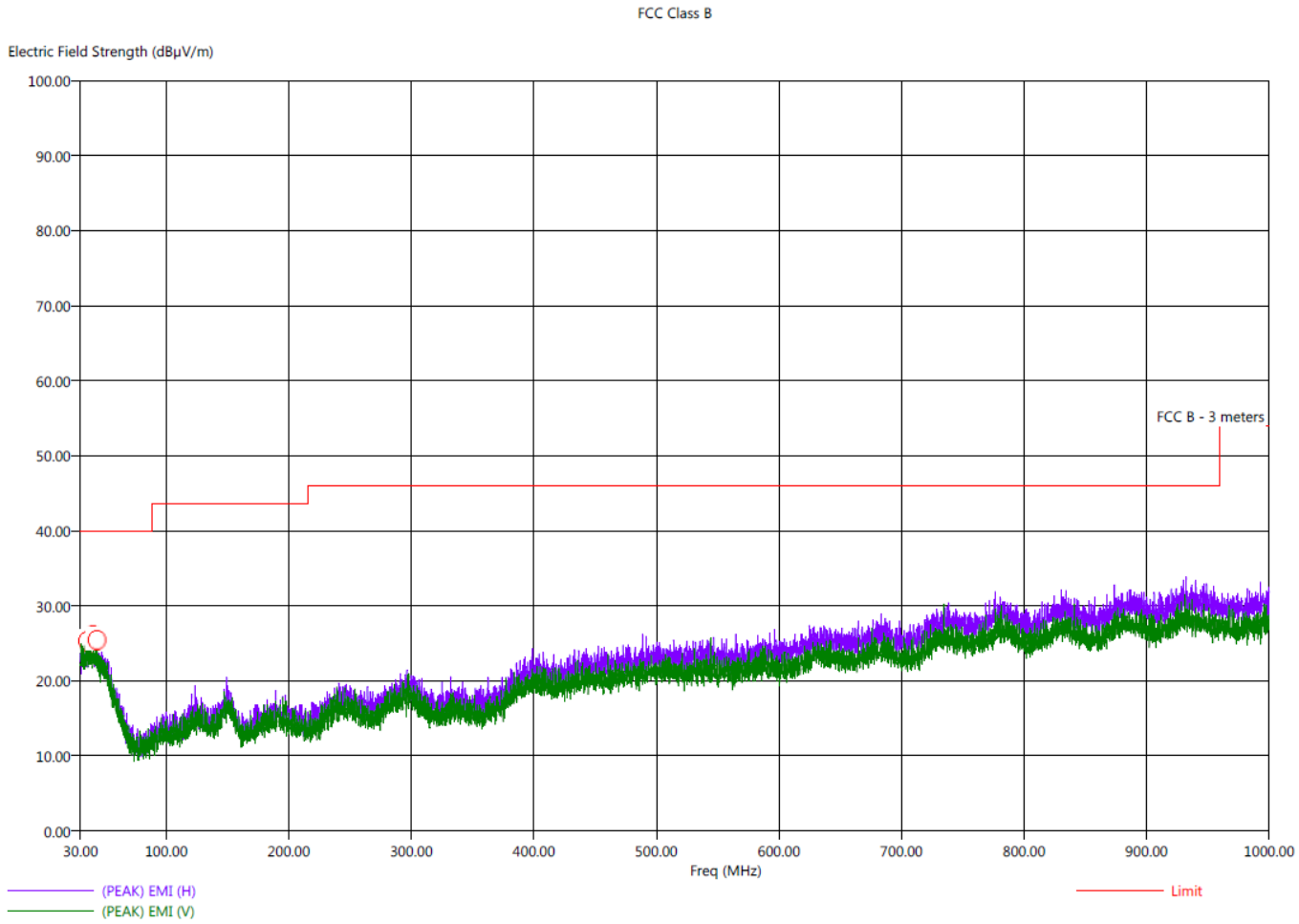
3 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 0.10 dB, Curve : Average

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.939	37.09	46.00	-8.91
2	0.953	36.93	46.00	-9.07
3	1.006	25.23	46.00	-20.77

Title: Pre-Scan - 30-1000 MHz - FCC Class B
File: Agilent - Radiated Pre-Scan #2 30-1000 MHz - FCC Class B 3-25-15.set
Operator: James Ross
EUT Type: TextBlade
EUT Condition: The EUT is continuously charging during the test via the laptop computer
Comments: Customer: Waytools, LLC
Model: TEX20

3/25/2015 10:55:14 AM
Sequence: Preliminary Scan



Title: Radiated Final - 30-1000 MHz - FCC Class B
File: Agilent - Radiated Final Scan #2 30-1000 MHz - FCC Class B 3-25-15.set
Operator: James Ross
EUT Type: TextBlade
EUT Condition: The EUT is continuously charging during the test via the laptop computer
Comments: Customer: Waytools, LLC
Model: TEX20

3/25/2015 11:04:59 AM
Sequence: Final Measurements

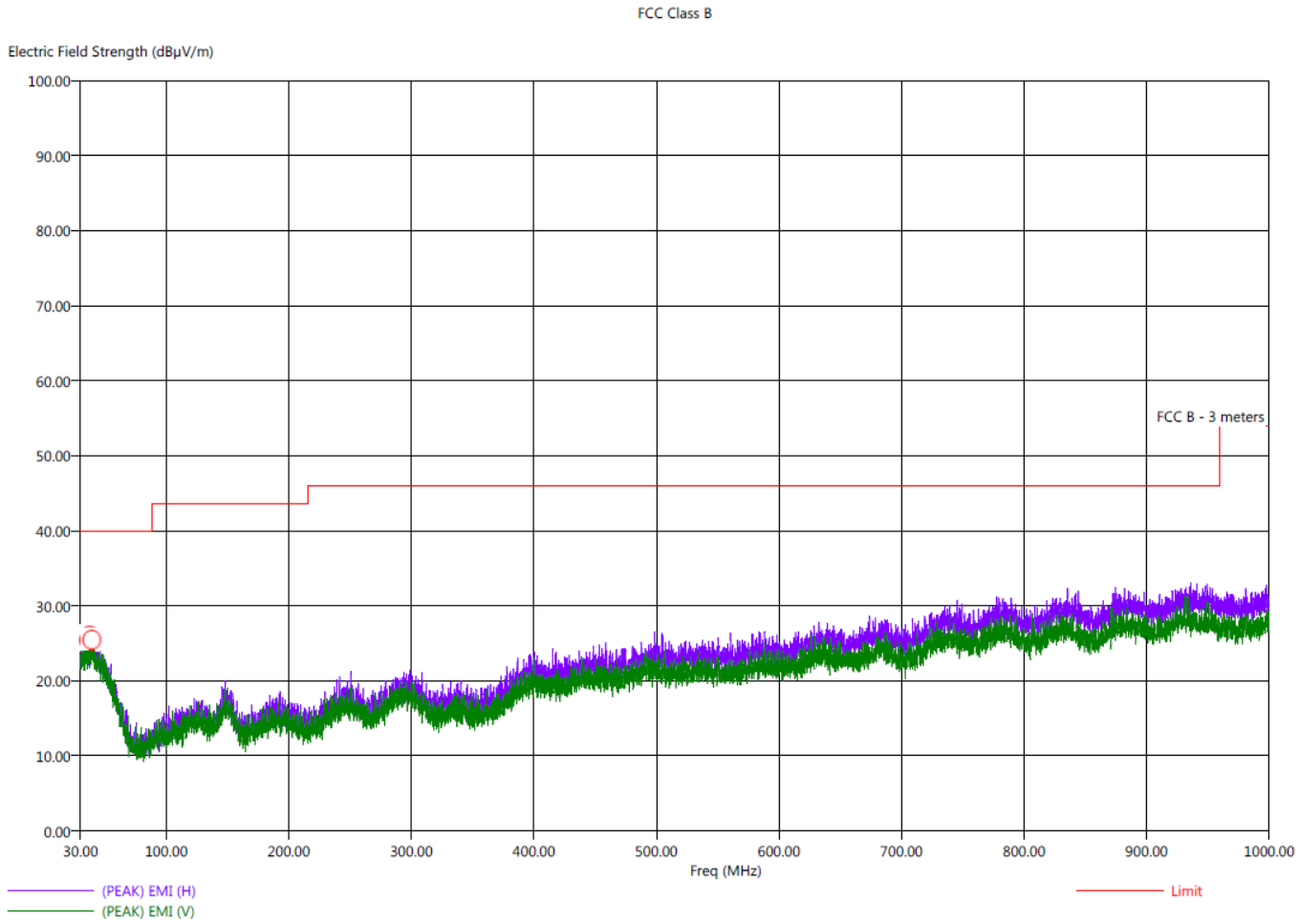
FCC Class B 30 MHz - 1 GHz

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Agl (deg)	Twr Ht (cm)
35.80	H	35.43	31.06	-4.57	-8.94	40.00	23.81	0.40	356.75	191.43
36.80	H	36.26	31.10	-3.74	-8.90	40.00	23.91	0.41	296.00	255.97
39.00	H	35.72	31.29	-4.28	-8.71	40.00	24.09	0.42	199.50	399.91
39.80	H	36.73	31.50	-3.27	-8.50	40.00	24.17	0.43	89.75	159.49
40.20	H	35.80	31.47	-4.20	-8.53	40.00	24.12	0.43	168.50	352.38
43.50	V	34.26	30.48	-5.74	-9.52	40.00	23.03	0.46	186.00	255.97

1

Title: Pre-Scan - 30-1000 MHz - FCC Class B
File: Agilent - Radiated Pre-Scan 30-1000 MHz - FCC Class B 3-25-15.set
Operator: James Ross
EUT Type: TextBlade
EUT Condition: The EUT is continuously charging during the test via the 12 Watt USB Power Adapter
Comments: Customer: Waytools, LLC
Model: TEX20

3/25/2015 9:57:36 AM
Sequence: Preliminary Scan



Title: Radiated Final - 30-1000 MHz - FCC Class B
File: Agilent - Radiated Final Scan 30-1000 MHz - FCC Class B 3-25-15.set
Operator: James Ross
EUT Type: TextBlade
EUT Condition: The EUT is continuously charging during the test via the 12 Watt USB Power Adapter
Comments: Customer: Waytools, LLC
Model: TEX20

3/25/2015 10:17:54 AM
Sequence: Final Measurements

FCC Class B 30 MHz - 1 GHz

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Agl (deg)	Twr Ht (cm)
36.50	H	35.88	31.11	-4.12	-8.89	40.00	23.86	0.40	343.25	287.67
37.60	H	35.31	31.21	-4.69	-8.79	40.00	23.95	0.41	212.00	239.91
38.10	H	35.70	31.30	-4.30	-8.70	40.00	24.03	0.42	243.00	223.61
38.70	H	35.36	31.27	-4.64	-8.73	40.00	24.07	0.42	194.25	191.67
39.30	V	35.57	31.41	-4.43	-8.59	40.00	24.13	0.42	239.25	143.61
40.40	H	36.07	31.22	-3.93	-8.78	40.00	24.05	0.43	128.25	271.91

1