FCC PART 15, SUBPART B and C
TEST REPORT

for

RF MODULE

MODEL: R71

Prepared for

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DATE: SEPTEMBER 8, 2015

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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:	RF Module Model: R71 S/N: N/A
Product Description:	The EUT is a transceiver module.
Modifications:	The EUT was not modified in order to meet the specifications.
Customer:	RF Digital Corporation 1601 Pacific Coast Highway, Suite 290 Hermosa Beach, California 90254
Test Dates:	September 2, 3, 4, and 23, 2015
Test Specifications:	Emissions requirements CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.249
Test Procedure:	ANSI C63.4, ANSI C63.10
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; and the limits of CFR Title 47, Part 15, Subpart C, section 15.207

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the RF Module, Model: R71. 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, 15.207, 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

RF Digital Corp.

Ray Ghazarian

Compatible Electronics Inc.

Kenneth Lee	Test Technician
Kyle Fujimoto	Test Engineer
James Ross	Test Engineer

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 has not been returned to RF Digital Corp. as of the date of this test report.

2.6 Abbreviations and Acronyms

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

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network
N/A	Not Applicable
DNF	Do Not Fit
PCB	Printed Circuit Board
cm	Centimeter
Mbps	Mega Bits Per Second

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 2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI C63.10: 2013	American National Standard for Testing Unlicensed Wireless Devices
EN 50147-2: 1997	Anechoic chambers. Alternative test site suitability with respect to site attenuation

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - Emissions

The RF Module, Model: R71 (EUT) was mounted on an extender PCB. The extender PCB was connected to a USB power PCB via a cable bundle. A laptop computer was used to set the channel of the EUT and was then removed from the test setup during testing. The EUT was tested in three orthogonal axis and continuously transmitting.

During the initial investigation, it was determined the 2 Mbps mode was the worst case for the low (2404 MHz), middle (2442 MHz), and high (2480 MHz) channels.

For 2402 MHz, the EUT was tested at 1 Mbps.

Note: The EUT will only operate at 1 Mbps when the fundamental frequency is 2402 MHz. From 2404 MHz to 2480 MHz, the EUT can operate in both the 1 Mbps and 2 Mbps modes.

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

4.1.1 Cable Constructions and Termination

Cable 1 This is a 2-meter unshielded cable connecting the extender PCB to the AC adaptor. The cable was hardwired to the AC adaptor and had a single pin power connector on the extender PCB end.

Cable 2 This is a 10-centimeter, 5 wire unshielded cable bundle connecting the extender PCB to the USB Power PCB. The cable bundle was hardwired at both ends.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
RF MODULE	RF DIGITAL CORP.	R71	N/A	UYI71
EXTENSION PCB	RF DIGITAL CORP.	RFD77201	N/A	N/A
USB POWER PCB	OPEN SOURCE RF	R401	N/A	N/A
LAPTOP COMPUTER	HP	G60-441US	2CE927RF3Q	DoC
SWITCHING POWER SUPPLY	PHIHONG	PSM03A-050Q-3	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					
TDK TestLab	TDK RF Solutions, Inc.	9.22	700145	N/A	N/A
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	April 3, 2015	1 Year
RF RADIATED EMISSIONS TEST EQUIPMENT					
CombiLog Antenna	Com-Power	AC-220	61060	September 3, 2015	1 Year
Preamplifier	Com-Power	PA-118	551024	March 6, 2015	1 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
Preamplifier	Com-Power	PA-840	711013	May 13, 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
RF CONDUCTED EMISSIONS TEST EQUIPMENT					
Shield Room Test	Compatible Electronics	11CD	N/A	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08784	May 27, 2015	1 Year
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	2648A14530	May 27, 2015	1 Year
Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01363	May 27, 2015	1 Year
LISN	Com-Power	LI-215	12076	June 9, 2015	1 Year
LISN	Com-Power	LI-215	12090	June 9, 2015	1 Year
Transient Limiter	Com-Power	252A910	1	October 10, 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

For emissions below 1 GHz, the EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

For emissions above 1 GHz, the EUT was mounted on a 1.0 by 0.5 meter non-conductive table 1.5 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.

For frequencies above 1 GHz the readings were averaged using the RMS detector in the EMI receiver.

The measurement bandwidth and transducer used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
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: 2014. 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 and EN 50147-2. 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 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 Shield Room Test 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 2.0.

Test Results:

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

7.1.4 RF Emissions Test Results

Table 1.0 RADIATED EMISSION RESULTS
RF Module, Model: R71

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
4808 (H) (Low Channel) (X-Axis) (2 Mbps)	53.49	54.00	-0.51
2404 (H) (Low Channel) (X-Axis) (2 Mbps)	93.33	94.00	-0.67
2480 (V) (High Channel) (Y-Axis) (2 Mbps)	93.23	94.00	-0.77
4808 (V) (Low Channel) (Y-Axis) (2 Mbps)	53.17	54.00	-0.83
2480 (H) (High Channel) (Z-Axis) (2 Mbps)	92.99	94.00	-1.01
2404 (V) (Low Channel) (Y-Axis) (2 Mbps)	92.46	94.00	-1.54

Table 2.0 CONDUCTED EMISSION RESULTS
RF Module, Model: R71

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
0.270 (WL) (1 Mbps)	46.12	51.11	-4.99
0.272 (WL) (2 Mbps)	46.01	51.07	-5.06
0.267 (WL) (1 Mbps)	45.93	51.20	-5.27
0.272 (BL) (1 Mbps)	45.72	51.07	-5.35
0.269 (BL) (1 Mbps)	45.43	51.15	-5.73
0.267 (BL) (2 Mbps)	45.43	51.20	-5.77
0.267 (WL) (2 Mbps)	45.43	51.20	-5.77

Notes:

(H) Horizontal
(V) Vertical
(QP) Quasi-Peak
(Avg) Average
(1 Mbps) 1 Mbps Data Rate Mode
(2 Mbps) 2 Mbps Data Rate Mode
* The complete emissions data is given in Appendix E of this report.

8. CONCLUSIONS

The RF Module, Model: R71, as tested, meets all of the specification limits defined in FCC Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.249.

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.

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

RF Module
Model: R71
S/N: N/A

ADDITIONALS MODELS COVERED UNDER THIS REPORT

No additional models were covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

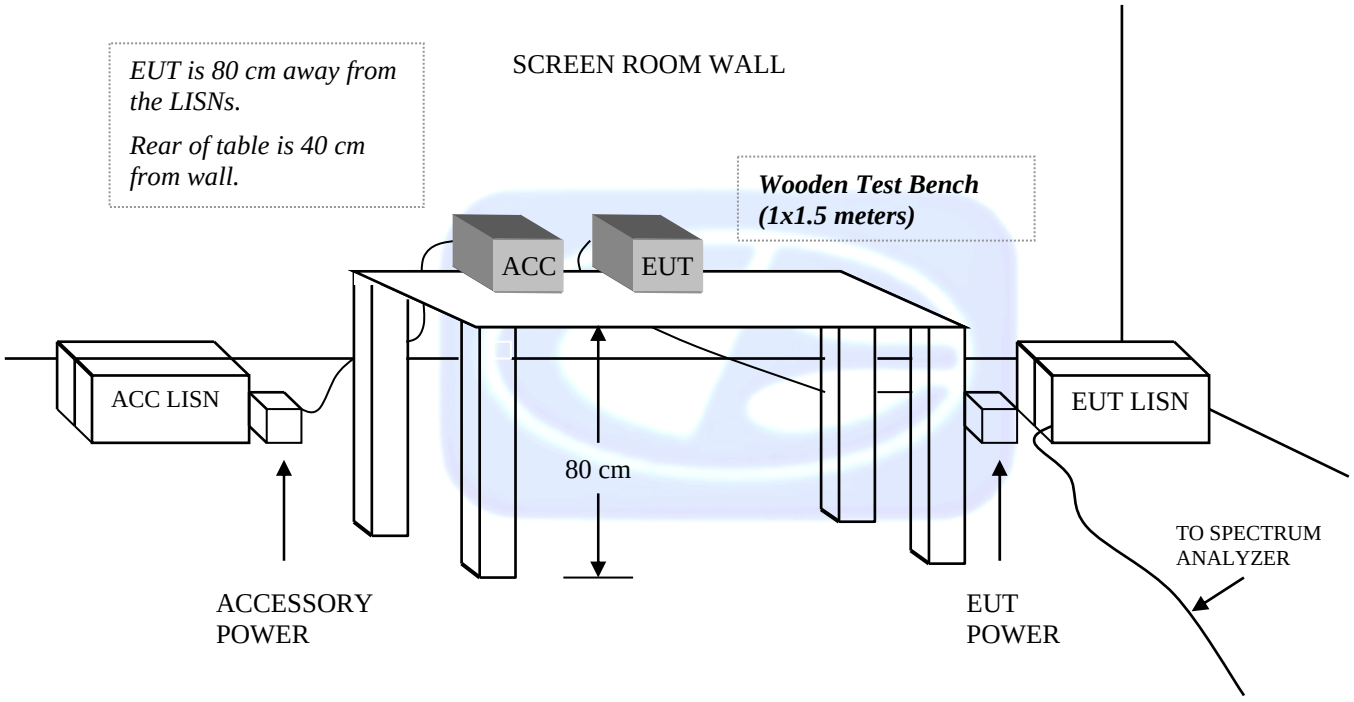


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE

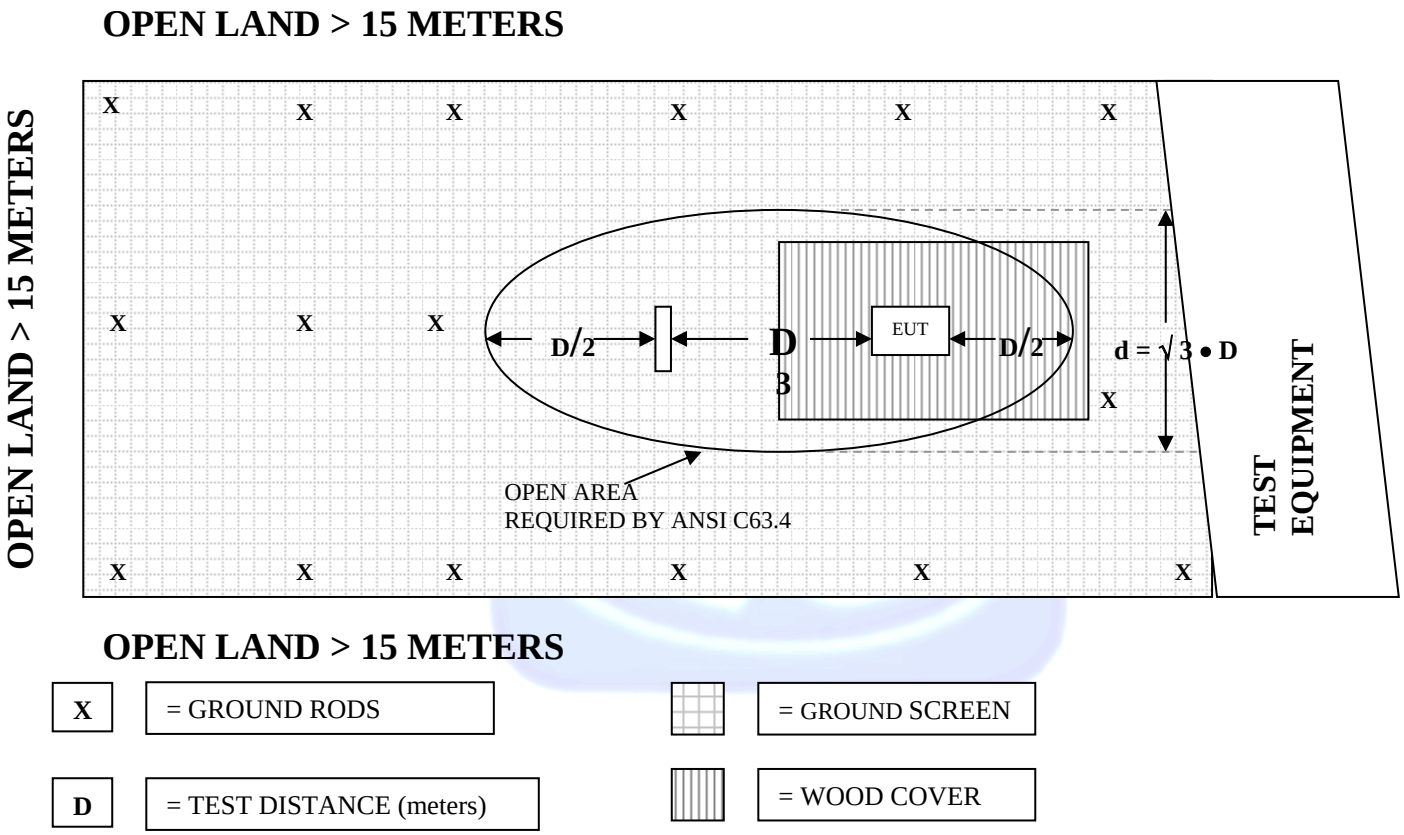
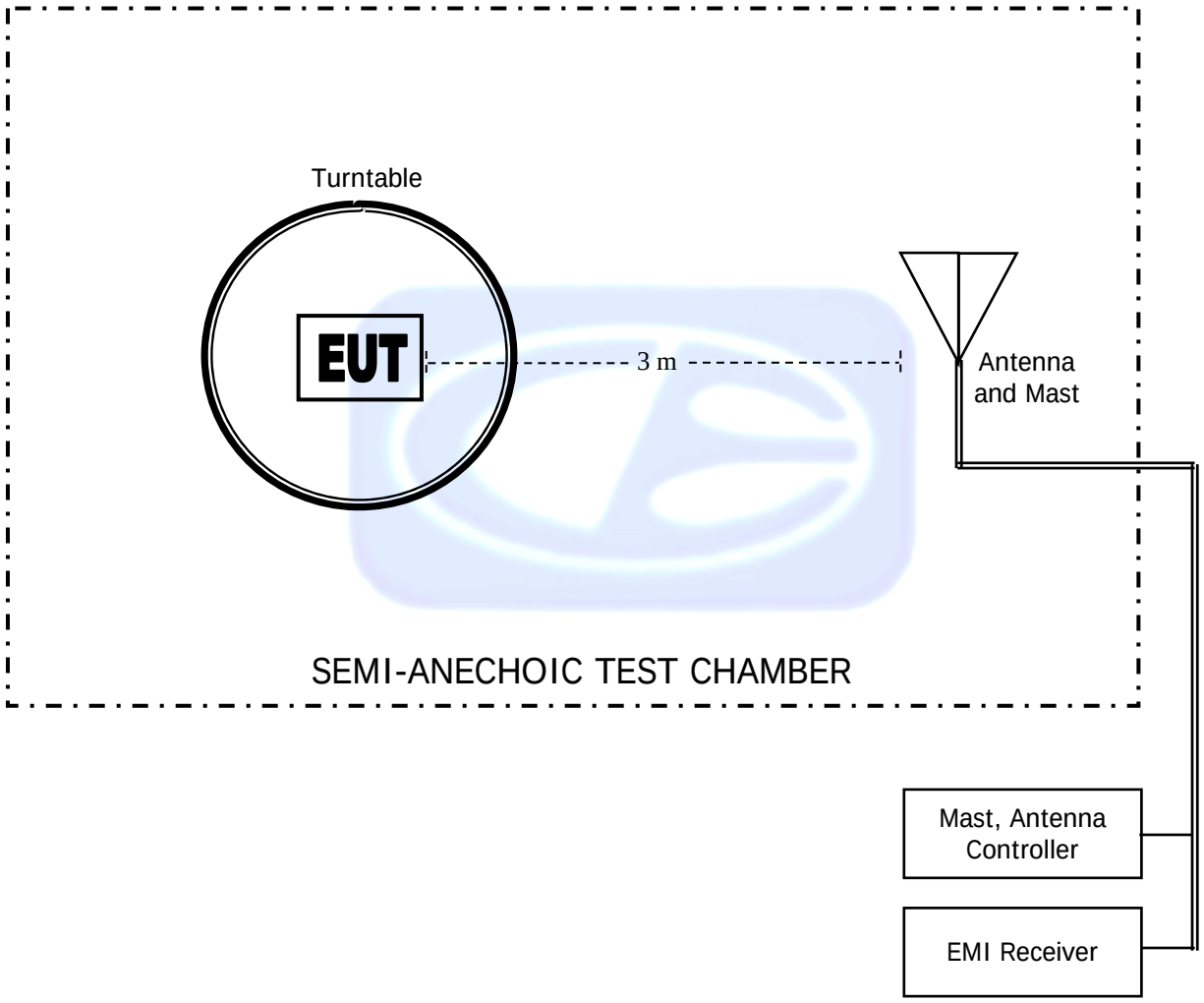


FIGURE 3: LAYOUT OF THE SEMI-ANECHOIC TEST CHAMBER



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: SEPTEMBER 3, 2015

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	24.00	200	13.00
35	24.30	250	15.30
40	25.40	300	18.20
45	21.50	350	17.90
50	22.50	400	18.60
60	15.40	450	19.80
70	12.70	500	21.60
80	11.10	550	22.40
90	13.40	600	23.70
100	13.80	650	24.30
120	15.40	700	24.00
125	15.40	750	24.50
140	13.10	800	24.30
150	17.20	850	26.30
160	13.20	900	26.90
175	14.20	950	26.00
180	14.30	1000	25.60

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

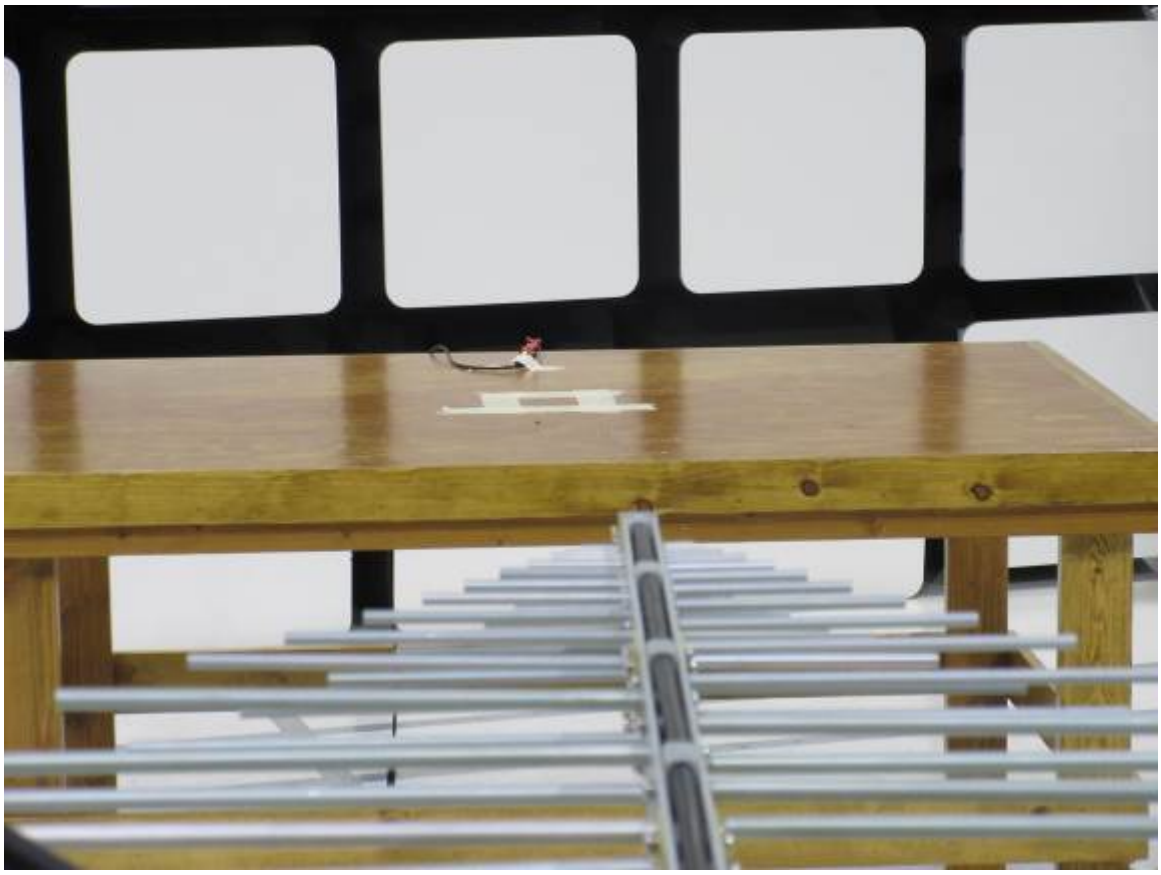
COM-POWER PA-840

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

RF DIGITAL CORP.
RF MODULE
MODEL: R71
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

RF DIGITAL CORP.
RF MODULE
MODEL: R71
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

RF DIGITAL CORP.
RF MODULE
MODEL: R71
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

RF DIGITAL CORP.
RF MODULE
MODEL: R71
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

RF DIGITAL CORP.
RF MODULE
MODEL: R71
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

RF DIGITAL CORP.
RF MODULE
MODEL: R71
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

2 Mbps DATA RATE

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Fundamental of Low Channel - Data Rate 2 Mbps

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2404	89.67	V	114	-24.33	Peak	1.35	135	X-Axis
2404	89.43	V	94	-4.57	Avg	1.35	135	Vertical Polarization
2404	93.47	H	114	-20.53	Peak	1.5	90	X-Axis
2404	93.33	H	94	-0.67	Avg	1.5	90	Horizontal Polarization
2404	92.6	V	114	-21.4	Peak	1.15	135	Y-Axis
2404	92.46	V	94	-1.54	Avg	1.15	135	Vertical Polarization
2404	90.46	H	114	-23.54	Peak	1	160	Y-Axis
2404	90.22	H	94	-3.78	Avg	1	160	Horizontal Polarization
2404	89.49	V	114	-24.51	Peak	1.1	135	Z-Axis
2404	89.16	V	94	-4.84	Avg	1.1	135	Vertical Polarization
2404	91.48	H	114	-22.52	Peak	2	135	Z-Axis
2404	91.19	H	94	-2.81	Avg	2	135	Horizontal Polarization

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Fundamental of Middle Channel - Data Rate 2 Mbps

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2442	90.48	V	114	-23.52	Peak	1.1	235	**X-Axis**
2442	90.2	V	94	-3.8	Avg	1.1	235	**Vertical Polarization**
2442	91.55	H	114	-22.45	Peak	1	45	**X-Axis**
2442	91.21	H	94	-2.79	Avg	1	45	**Horizontal Polarization**
2442	90.47	V	114	-23.53	Peak	1.75	45	**Y-Axis**
2442	90.15	V	94	-3.85	Avg	1.75	45	**Vertical Polarization**
2442	90.03	H	114	-23.97	Peak	2	350	**Y-Axis**
2442	89.87	H	94	-4.13	Avg	2	350	**Horizontal Polarization**
2442	88.73	V	114	-25.27	Peak	1.75	325	**Z-Axis**
2442	88.49	V	94	-5.51	Avg	1.75	325	**Vertical Polarization**
2442	90.89	H	114	-23.11	Peak	1	90	**Z-Axis**
2442	90.66	H	94	-3.34	Avg	1	90	**Horizontal Polarization**

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Fundamental of High Channel - Data Rate 2 Mbps

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2480	90.86	V	114	-23.14	Peak	1.25	90	**X-Axis**
2480	90.65	V	94	-3.35	Avg	1.25	90	**Vertical Polarization**
2480	92.18	H	114	-21.82	Peak	2	135	**X-Axis**
2480	91.94	H	94	-2.06	Avg	2	135	**Horizontal Polarization**
2480	93.45	V	114	-20.55	Peak	1.25	90	**Y-Axis**
2480	93.23	V	94	-0.77	Avg	1.25	90	**Vertical Polarization**
2480	90.13	H	114	-23.87	Peak	1	270	**Y-Axis**
2480	89.89	H	94	-4.11	Avg	1	270	**Horizontal Polarization**
2480	90.66	V	114	-23.34	Peak	1.75	45	**Z-Axis**
2480	90.48	V	94	-3.52	Avg	1.75	45	**Vertical Polarization**
2480	93.29	H	114	-20.71	Peak	1.5	135	**Z-Axis**
2480	92.99	H	94	-1.01	Avg	1.5	135	**Horizontal Polarization**

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Low Channel - Data Rate 2 Mbps
Transmit Mode - X-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4808	49.73	V	74	-24.27	Peak	1.15	135	
4808	49.22	V	54	-4.78	Avg	1.15	135	
7212								No Emissions
7212								Detected
9616								No Emissions
9616								Detected
12020								No Emissions
12020								Detected
14424								No Emissions
14424								Detected
16828								No Emissions
16828								Detected
19232								No Emissions
19232								Detected
21636								No Emissions
21636								Detected
24040								No Emissions
24040								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Low Channel - Data Rate 2 Mbps
Transmit Mode - Y-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4808	53.48	V	74	-20.52	Peak	1.5	15	
4808	53.17	V	54	-0.83	Avg	1.5	15	
7212								No Emissions
7212								Detected
9616								No Emissions
9616								Detected
12020								No Emissions
12020								Detected
14424								No Emissions
14424								Detected
16828								No Emissions
16828								Detected
19232								No Emissions
19232								Detected
21636								No Emissions
21636								Detected
24040								No Emissions
24040								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Low Channel - Data Rate 2 Mbps
Transmit Mode - Z-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4808	48.77	V	74	-25.23	Peak	2	235	
4808	47.69	V	54	-6.31	Avg	2	235	
7212								No Emissions
7212								Detected
9616								No Emissions
9616								Detected
12020								No Emissions
12020								Detected
14424								No Emissions
14424								Detected
16828								No Emissions
16828								Detected
19232								No Emissions
19232								Detected
21636								No Emissions
21636								Detected
24040								No Emissions
24040								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Low Channel - Data Rate 2 Mbps
Transmit Mode - X-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4808	53.88	H	74	-20.12	Peak	1.15	60	
4808	53.49	H	54	-0.51	Avg	1.15	60	
7212								No Emissions
7212								Detected
9616								No Emissions
9616								Detected
12020								No Emissions
12020								Detected
14424								No Emissions
14424								Detected
16828								No Emissions
16828								Detected
19232								No Emissions
19232								Detected
21636								No Emissions
21636								Detected
24040								No Emissions
24040								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Low Channel - Data Rate 2 Mbps
Transmit Mode - Y-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4808	49.14	H	74	-24.86	Peak	1.5	350	
4808	47.58	H	54	-6.42	Avg	1.5	350	
7212								No Emissions
7212								Detected
9616								No Emissions
9616								Detected
12020								No Emissions
12020								Detected
14424								No Emissions
14424								Detected
16828								No Emissions
16828								Detected
19232								No Emissions
19232								Detected
21636								No Emissions
21636								Detected
24040								No Emissions
24040								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Low Channel - Data Rate 2 Mbps
Transmit Mode - Z-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4808	49.33	H	74	-24.67	Peak	1.15	135	
4808	47.26	H	54	-6.74	Avg	1.15	135	
7212								No Emissions
7212								Detected
9616								No Emissions
9616								Detected
12020								No Emissions
12020								Detected
14424								No Emissions
14424								Detected
16828								No Emissions
16828								Detected
19232								No Emissions
19232								Detected
21636								No Emissions
21636								Detected
24040								No Emissions
24040								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Middle Channel - Data Rate 2 Mbps
Transmit Mode - X-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4884	45.86	V	74	-28.14	Peak	1.35	45	
4884	44.27	V	54	-9.73	Avg	1.35	45	
7326								No Emissions
7326								Detected
9768								No Emissions
9768								Detected
12210								No Emissions
12210								Detected
14652								No Emissions
14652								Detected
17094								No Emissions
17094								Detected
19536								No Emissions
19536								Detected
21978								No Emissions
21978								Detected
24420								No Emissions
24420								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Middle Channel - Data Rate 2 Mbps
Transmit Mode - Y-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4884	52.18	V	74	-21.82	Peak	1.5	90	
4884	51.46	V	54	-2.54	Avg	1.5	90	
7326								No Emissions
7326								Detected
9768								No Emissions
9768								Detected
12210								No Emissions
12210								Detected
14652								No Emissions
14652								Detected
17094								No Emissions
17094								Detected
19536								No Emissions
19536								Detected
21978								No Emissions
21978								Detected
24420								No Emissions
24420								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Middle Channel - Data Rate 2 Mbps
Transmit Mode - Z-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4884	50.79	V	74	-23.21	Peak	1	135	
4884	48.96	V	54	-5.04	Avg	1	135	
7326								No Emissions
7326								Detected
9768								No Emissions
9768								Detected
12210								No Emissions
12210								Detected
14652								No Emissions
14652								Detected
17094								No Emissions
17094								Detected
19536								No Emissions
19536								Detected
21978								No Emissions
21978								Detected
24420								No Emissions
24420								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Middle Channel - Data Rate 2 Mbps
Transmit Mode - X-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4884	49.22	H	74	-24.78	Peak	1	325	
4884	46.37	H	54	-7.63	Avg	1	325	
7326								No Emissions
7326								Detected
9768								No Emissions
9768								Detected
12210								No Emissions
12210								Detected
14652								No Emissions
14652								Detected
17094								No Emissions
17094								Detected
19536								No Emissions
19536								Detected
21978								No Emissions
21978								Detected
24420								No Emissions
24420								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Middle Channel - Data Rate 2 Mbps
Transmit Mode - Y-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4884	43.28	H	74	-30.72	Peak	1.75	90	
4884	42.19	H	54	-11.81	Avg	1.75	90	
7326								No Emissions
7326								Detected
9768								No Emissions
9768								Detected
12210								No Emissions
12210								Detected
14652								No Emissions
14652								Detected
17094								No Emissions
17094								Detected
19536								No Emissions
19536								Detected
21978								No Emissions
21978								Detected
24420								No Emissions
24420								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Middle Channel - Data Rate 2 Mbps
Transmit Mode - Z-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4884	48.67	H	74	-25.33	Peak	1.15	235	
4884	46.38	H	54	-7.62	Avg	1.15	235	
7326								No Emissions
7326								Detected
9768								No Emissions
9768								Detected
12210								No Emissions
12210								Detected
14652								No Emissions
14652								Detected
17094								No Emissions
17094								Detected
19536								No Emissions
19536								Detected
21978								No Emissions
21978								Detected
24420								No Emissions
24420								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
High Channel - Data Rate 2 Mbps
Transmit Mode - X-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	46.86	V	74	-27.14	Peak	1.35	60	
4960	45.27	V	54	-8.73	Avg	1.35	60	
7440								No Emissions
7440								Detected
9920								No Emissions
9920								Detected
12400								No Emissions
12400								Detected
14880								No Emissions
14880								Detected
17360								No Emissions
17360								Detected
19840								No Emissions
19840								Detected
22320								No Emissions
22320								Detected
24800								No Emissions
24800								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
High Channel - Data Rate 2 Mbps
Transmit Mode - Y-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	52.89	V	74	-21.11	Peak	1	235	
4960	51.77	V	54	-2.23	Avg	1	235	
7440								No Emissions
7440								Detected
9920								No Emissions
9920								Detected
12400								No Emissions
12400								Detected
14880								No Emissions
14880								Detected
17360								No Emissions
17360								Detected
19840								No Emissions
19840								Detected
22320								No Emissions
22320								Detected
24800								No Emissions
24800								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
High Channel - Data Rate 2 Mbps
Transmit Mode - Z-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	48.67	V	74	-25.33	Peak	1.15	135	
4960	48.44	V	54	-5.56	Avg	1.15	135	
7440								No Emissions
7440								Detected
9920								No Emissions
9920								Detected
12400								No Emissions
12400								Detected
14880								No Emissions
14880								Detected
17360								No Emissions
17360								Detected
19840								No Emissions
19840								Detected
22320								No Emissions
22320								Detected
24800								No Emissions
24800								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
High Channel - Data Rate 2 Mbps
Transmit Mode - X-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	52.29	H	74	-21.71	Peak	1	235	
4960	51.79	H	54	-2.21	Avg	1	235	
7440								No Emissions
7440								Detected
9920								No Emissions
9920								Detected
12400								No Emissions
12400								Detected
14880								No Emissions
14880								Detected
17360								No Emissions
17360								Detected
19840								No Emissions
19840								Detected
22320								No Emissions
22320								Detected
24800								No Emissions
24800								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
High Channel - Data Rate 2 Mbps
Transmit Mode - Y-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	47.53	H	74	-26.47	Peak	1.5	225	
4960	45.67	H	54	-8.33	Avg	1.5	225	
7440								No Emissions
7440								Detected
9920								No Emissions
9920								Detected
12400								No Emissions
12400								Detected
14880								No Emissions
14880								Detected
17360								No Emissions
17360								Detected
19840								No Emissions
19840								Detected
22320								No Emissions
22320								Detected
24800								No Emissions
24800								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
High Channel - Data Rate 2 Mbps
Transmit Mode - Z-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	51.46	H	74	-22.54	Peak	1.15	135	
4960	51.22	H	54	-2.78	Avg	1.15	135	
7440								No Emissions
7440								Detected
9920								No Emissions
9920								Detected
12400								No Emissions
12400								Detected
14880								No Emissions
14880								Detected
17360								No Emissions
17360								Detected
19840								No Emissions
19840								Detected
22320								No Emissions
22320								Detected
24800								No Emissions
24800								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Data Rate 2 Mbps

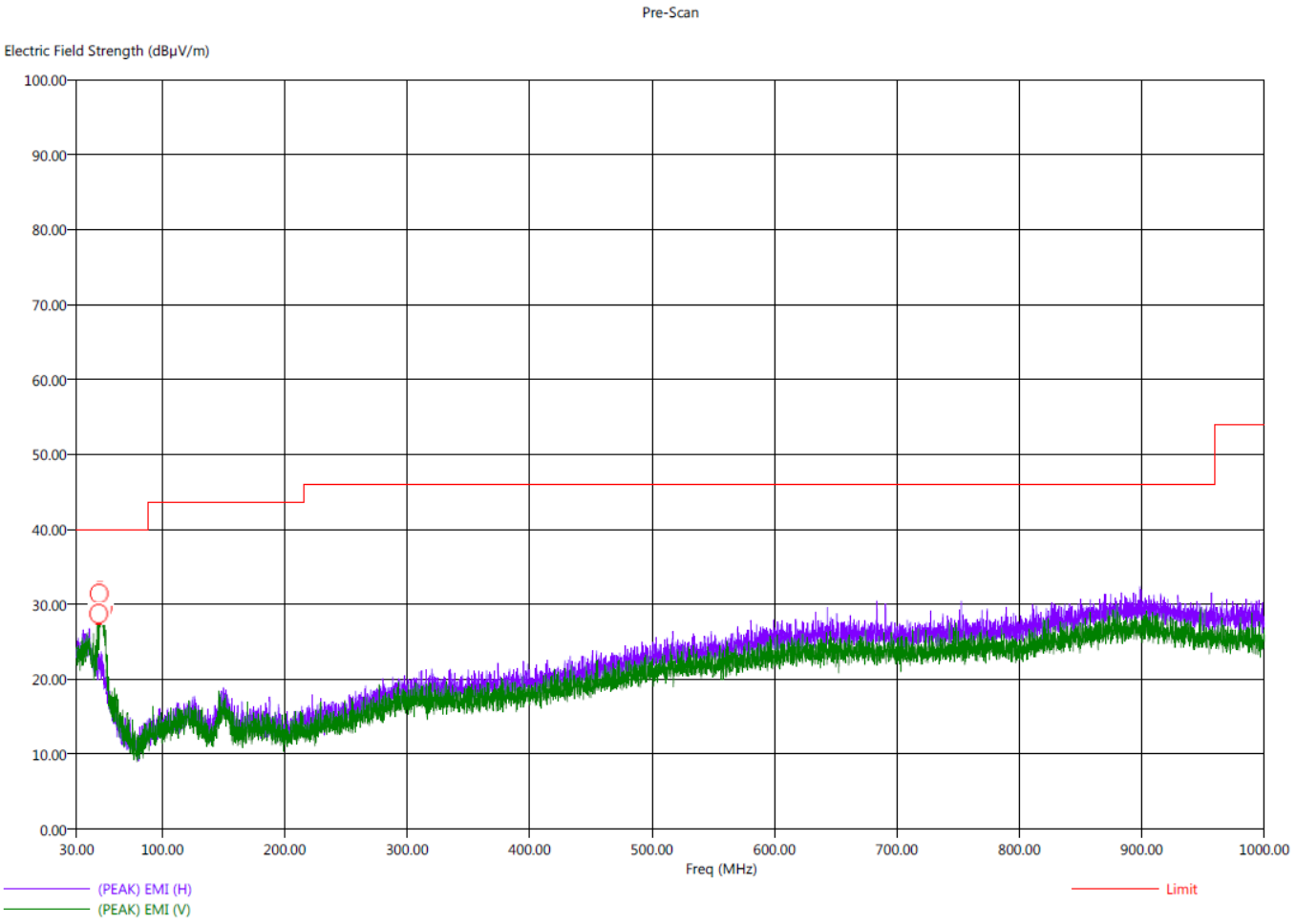
Date: 09/02/2015
Labs: B and D
Tested By: Kenneth Lee

Non Harmonic Emissions from the Tx and Digital Portion -- 10 kHz to 25000 MHz
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 25000 MHz
								for both Vertical and Horizontal
								Polarizations
								No Non Harmonic Emissions Found
								for the Tx Mode
								from 10 kHz to 25000 MHz
								for both Vertical and Horizontal
								Polarizations
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

Title: Pre-Scan - FCC Class B
File: Radiated Pre-Scan 30-1000Mhz - FCC Class B - X-Axis - 2 Mbps.set
Operator: Kenneth Lee
EUT Type: RF Module
EUT Condition: Continously Transmitting - X-Axis - Worst Case - 2 Mbps
Customer: RF Digital Corp.
Model: R71

9/4/2015 8:56:37 AM
Sequence: Preliminary Scan



Title: Radiated Final - 30-1000 MHz - FCC Class B
File: Agilent - Radiated Final Scan 30-1000Mhz - FCC Class B - 2 Mbps.set
Operator: Kenneth Lee
EUT Type: RF Module
EUT Condition: Continously Transmitting - X-Axis - Worst Case - 2 Mbps
Customer: RF Digital Corp.
Model: R71

9/4/2015 9:09:18 AM
Sequence: Final Measurements

Final Scan - FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Twr Ht (cm)	Ttbl Agl (deg)
48.00	V	32.56	28.52	-7.44	-11.48	40.00	22.27	0.49	127.07	92.75
48.50	V	32.91	28.74	-7.09	-11.26	40.00	22.26	0.49	127.37	58.75
49.10	V	34.85	30.75	-5.15	-9.25	40.00	22.41	0.50	111.19	53.75
49.80	V	34.96	31.03	-5.04	-8.97	40.00	22.44	0.50	111.25	101.75
50.40	V	33.69	30.06	-6.31	-9.94	40.00	22.49	0.50	142.65	56.25
51.60	V	32.64	29.70	-7.36	-10.30	40.00	21.46	0.51	111.25	59.00

RADIATED EMISSIONS

DATA SHEETS

1 Mbps DATA RATE

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Fundamental Low Channel - Data Rate 1 Mbps

Dates: 09/02/2015 and 09/23/2015
Lab: B
Tested By: Kenneth Lee and
Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	88.33	V	114	-25.67	Peak	2	235	X-Axis
2402	86.38	V	94	-7.62	Avg	2	235	Vertical Polarization
2402	93.67	H	114	-20.33	Peak	1.13	160	X-Axis
2402	90.33	H	94	-3.67	Avg	1.13	160	Horizontal Polarization
2402	95.02	V	114	-18.98	Peak	1.75	239	Y-Axis
2402	91.73	V	94	-2.27	Avg	1.75	239	Vertical Polarization
2402	88.5	H	114	-25.5	Peak	1	45	Y-Axis
2402	87.57	H	94	-6.43	Avg	1	45	Horizontal Polarization
2402	90.4	V	114	-23.6	Peak	2	270	Z-Axis
2402	89.16	V	94	-4.84	Avg	2	270	Vertical Polarization
2402	91.56	H	114	-22.44	Peak	1.5	160	Z-Axis
2402	90.51	H	94	-3.49	Avg	1.5	160	Horizontal Polarization

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Low Channel Harmonics - Data Rate 1 Mbps
Transmit Mode - X-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	44.57	V	74	-29.43	Peak	1	235	
4804	42.68	V	54	-11.32	Avg	1	235	
7206								No Emissions
7206								Detected
9608								No Emissions
9608								Detected
12010								No Emissions
12010								Detected
14412								No Emissions
14412								Detected
16814								No Emissions
16814								Detected
19216								No Emissions
19216								Detected
21618								No Emissions
21618								Detected
24020								No Emissions
24020								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Low Channel Harmonics - Data Rate 1 Mbps
Transmit Mode - Y-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	43.97	V	74	-30.03	Peak	1.25	350	
4804	42.56	V	54	-11.44	Avg	1.25	350	
7206								No Emissions
7206								Detected
9608								No Emissions
9608								Detected
12010								No Emissions
12010								Detected
14412								No Emissions
14412								Detected
16814								No Emissions
16814								Detected
19216								No Emissions
19216								Detected
21618								No Emissions
21618								Detected
24020								No Emissions
24020								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Low Channel Harmonics - Data Rate 1 Mbps
Transmit Mode - Z-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	46.77	V	74	-27.23	Peak	1.65	65	
4804	44.22	V	54	-9.78	Avg	1.65	65	
7206								No Emissions
7206								Detected
9608								No Emissions
9608								Detected
12010								No Emissions
12010								Detected
14412								No Emissions
14412								Detected
16814								No Emissions
16814								Detected
19216								No Emissions
19216								Detected
21618								No Emissions
21618								Detected
24020								No Emissions
24020								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Low Channel Harmonics - Data Rate 1 Mbps
Transmit Mode - X-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	48.34	H	74	-25.66	Peak	1.15	235	
4804	48.15	H	54	-5.85	Avg	1.15	235	
7206								No Emissions
7206								Detected
9608								No Emissions
9608								Detected
12010								No Emissions
12010								Detected
14412								No Emissions
14412								Detected
16814								No Emissions
16814								Detected
19216								No Emissions
19216								Detected
21618								No Emissions
21618								Detected
24020								No Emissions
24020								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Low Channel Harmonics - Data Rate 1 Mbps
Transmit Mode - Y-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	44.85	H	74	-29.15	Peak	1	90	
4804	44.67	H	54	-9.33	Avg	1	90	
7206								No Emissions
7206								Detected
9608								No Emissions
9608								Detected
12010								No Emissions
12010								Detected
14412								No Emissions
14412								Detected
16814								No Emissions
16814								Detected
19216								No Emissions
19216								Detected
21618								No Emissions
21618								Detected
24020								No Emissions
24020								Detected

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Low Channel Harmonics - Data Rate 1 Mbps
Transmit Mode - Z-Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	46.24	H	74	-27.76	Peak	1.25	250	
4804	46.03	H	54	-7.97	Avg	1.25	250	
7206								No Emissions
7206								Detected
9608								No Emissions
9608								Detected
12010								No Emissions
12010								Detected
14412								No Emissions
14412								Detected
16814								No Emissions
16814								Detected
19216								No Emissions
19216								Detected
21618								No Emissions
21618								Detected
24020								No Emissions
24020								Detected

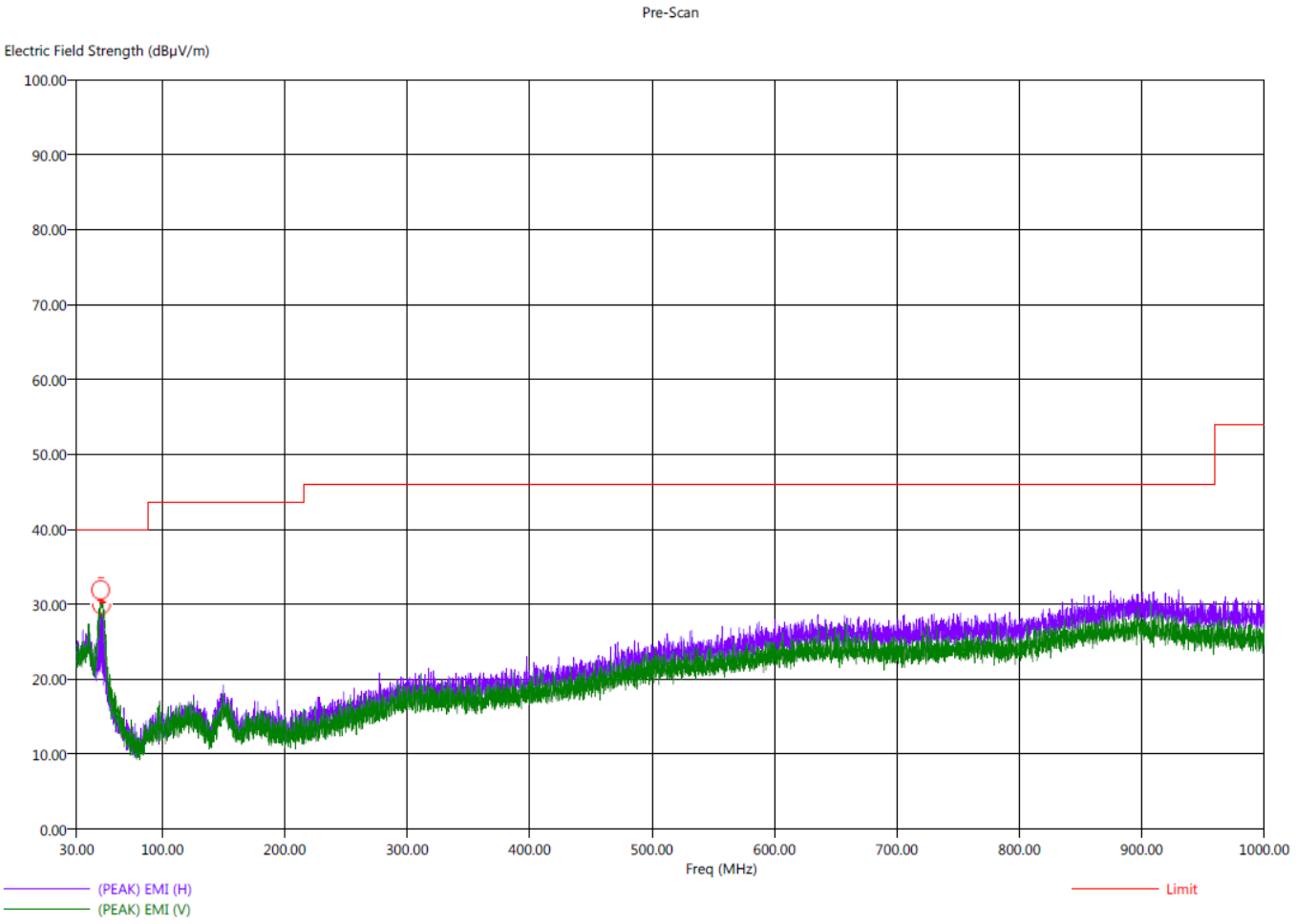
FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Band Edges - Data Rate 1 Mbps
Non Harmonic Emissions from the Tx and Digital Portion -- 10 kHz to 25000 MHz
Vertical and Horizontal Polarizations

Date: 09/02/2015
Labs: B and D
Tested By: Kenneth Lee

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 25000 MHz
								for both Vertical and Horizontal
								Polarizations
								No Non Harmonic Emissions Found
								for the Tx Mode
								from 10 kHz to 25000 MHz
								for both Vertical and Horizontal
								Polarizations
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

Title: Pre-Scan - FCC Class B
File: Radiated Pre-Scan 30-1000Mhz - FCC Class B - X-Axis - 1 Mbps.set
Operator: Kenneth Lee
EUT Type: RF Module
EUT Condition: Continously Transmitting - X-Axis - Worst Case - 1 Mbps
Customer: RF Digital Corp.
Model: R71

9/4/2015 10:21:39 AM
Sequence: Preliminary Scan



Title: Radiated Final - 30-1000 MHz - FCC Class B
File: Agilent - Radiated Final Scan 30-1000Mhz - FCC Class B - 1 Mbps.set
Operator: Kenneth Lee
EUT Type: RF Module
EUT Condition: Continously Transmitting - X-Axis - Worst Case - 1 Mbps
Customer: RF Digital Corp.
Model: R71

9/4/2015 10:33:18 AM
Sequence: Final Measurements

Final Scan - FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Twr Ht (cm)	Ttbl Agl (deg)
49.70	V	34.15	30.19	-5.85	-9.81	40.00	22.47	0.50	143.31	61.25
50.00	V	33.40	29.17	-6.60	-10.83	40.00	22.16	0.50	175.55	54.00
50.40	H	25.31	20.71	-14.69	-19.29	40.00	21.99	0.50	384.32	108.50
50.70	H	24.77	20.11	-15.23	-19.89	40.00	21.99	0.50	348.68	116.75
50.70	V	34.93	31.06	-5.07	-8.94	40.00	22.39	0.50	111.31	91.00
51.20	V	30.86	27.45	-9.14	-12.55	40.00	21.29	0.51	191.49	89.50

BAND EDGES

DATA SHEETS

2 Mbps DATA RATE

FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Band Edges - Data Rate 2 Mbps
Low Channel - See Comments for Worst Case Axis

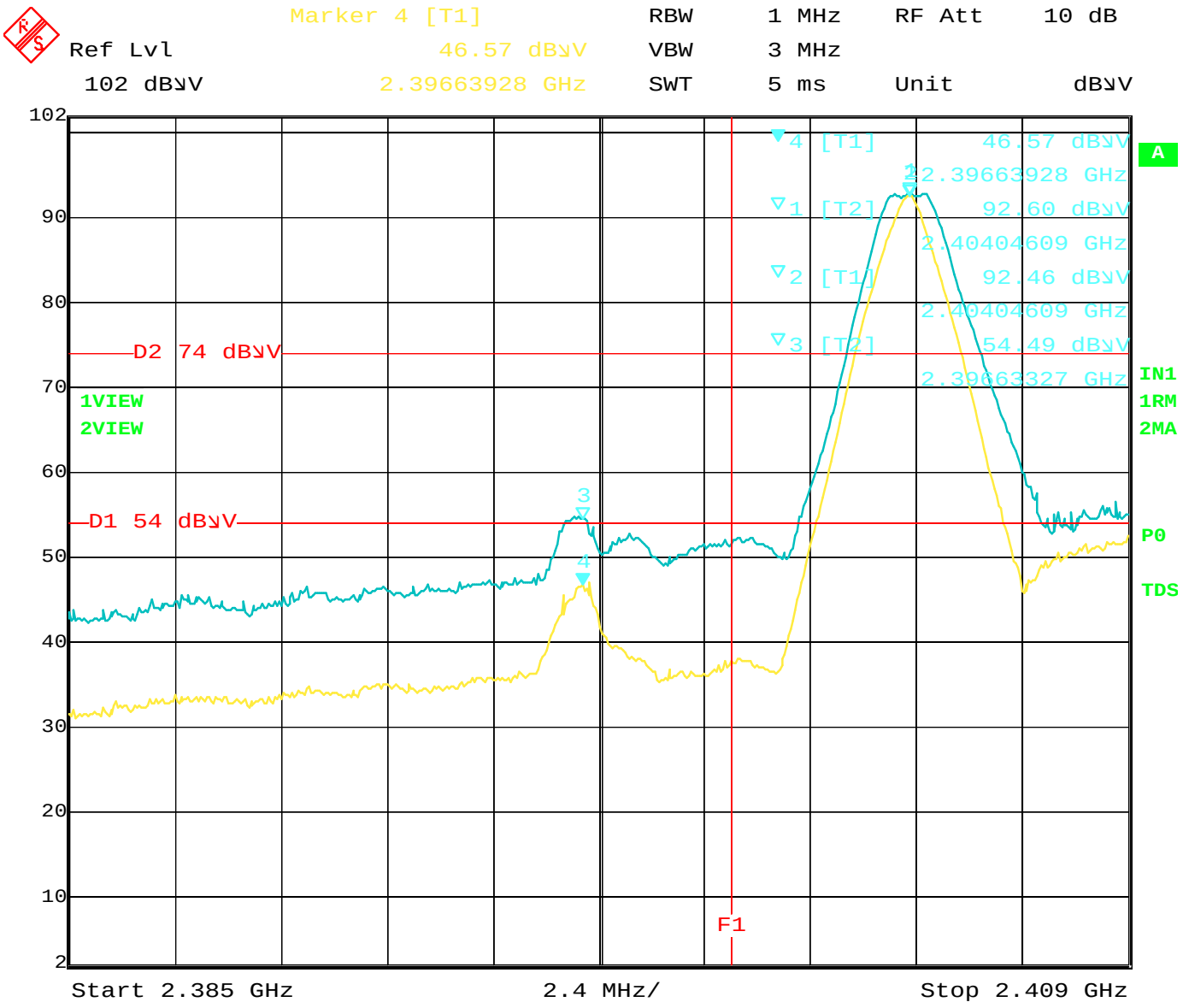
Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2404	93.47	H	114	-20.53	Peak	1.5	90	Fundamental
2404	93.33	H	94	-0.67	Avg	1.5	90	of Low Channel
2395.4	55.2	H	74	-18.8	Peak	1.5	90	Band Edge of Low Channel
2395.4	47.52	H	54	-6.48	Avg	1.5	90	X-Axis Worst Case
2404	92.6	V	114	-21.4	Peak	1.15	135	Fundamental of
2404	92.46	V	94	-1.54	Avg	1.15	135	Low Channel
2396.6	54.49	V	74	-19.51	Peak	1.15	135	Band Edge of Low Channel
2396.6	46.57	V	54	-7.43	Avg	1.15	135	Y-Axis Worst Case

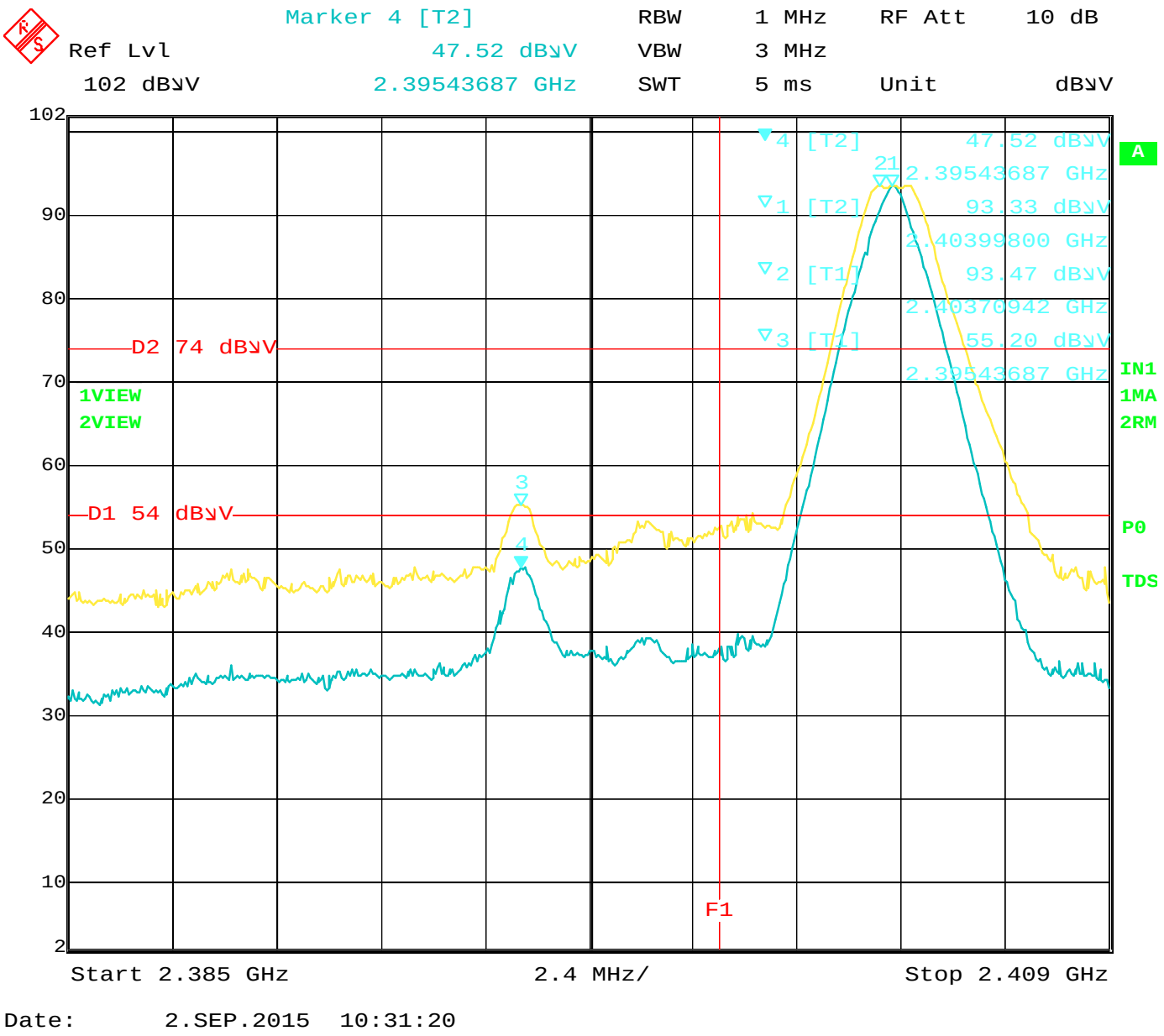
FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Band Edges - Data Rate 2 Mbps
High Channel - See Comments for Worst Case Axis

Date: 09/02/2015
Lab: B
Tested By: Kenneth Lee

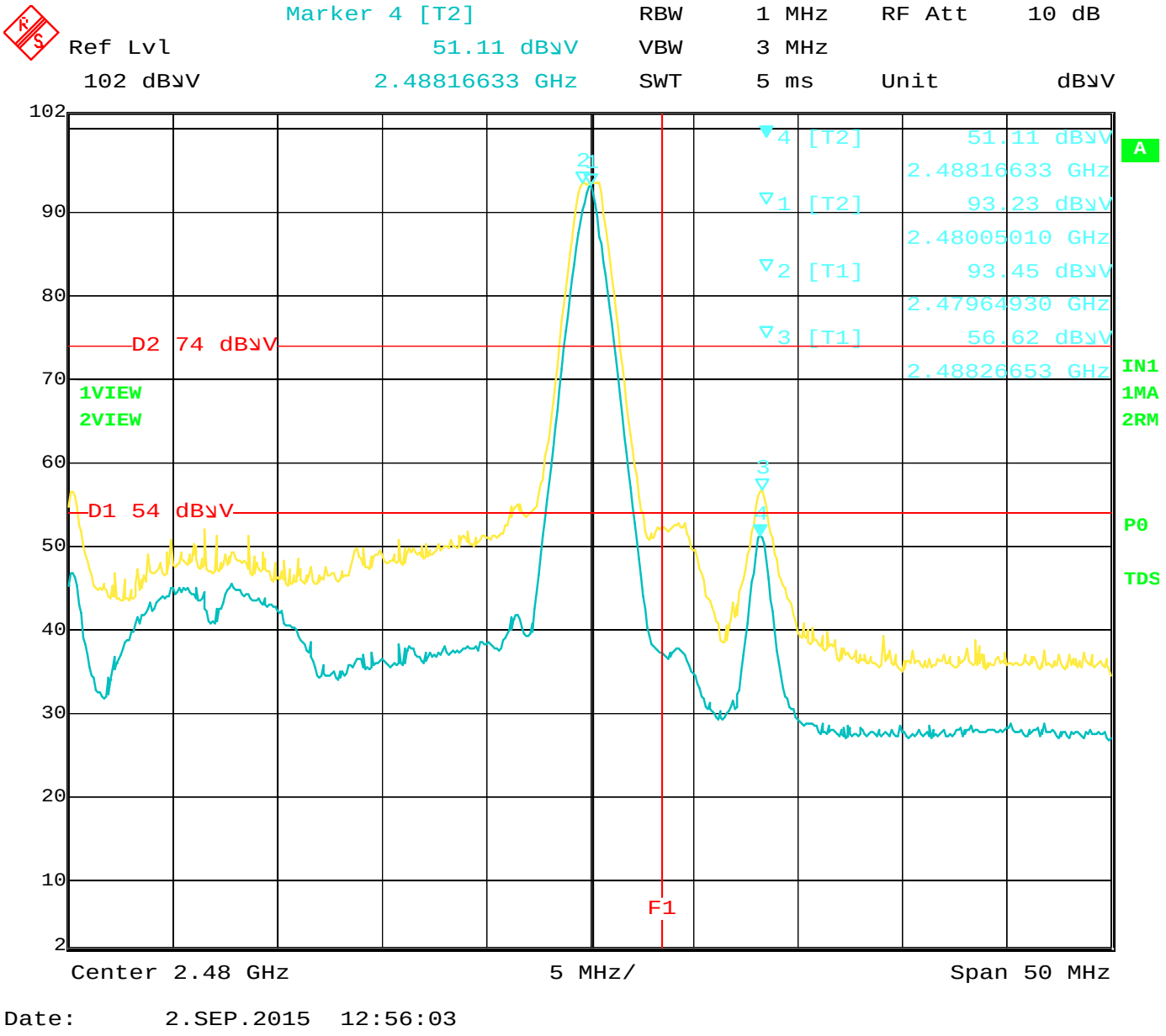
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2480	93.29	H	114	-20.71	Peak	1.5	135	Fundamental
2480	92.99	H	94	-1.01	Avg	1.5	135	of High Channel
2485.46	56.49	H	74	-17.51	Peak	1.5	135	**Band Edge of High Channel**
2485.46	51.07	H	54	-2.93	Avg	1.5	135	**Z-Axis Worst Case**
2480	93.45	V	114	-20.55	Peak	1.25	90	Fundamental of
2480	93.23	V	94	-0.77	Avg	1.25	90	High Channel
2488.16	56.62	V	74	-17.38	Peak	1.25	90	**Band Edge of High Channel**
2488.16	51.11	V	54	-2.89	Avg	1.25	90	**Y-Axis Worst Case**



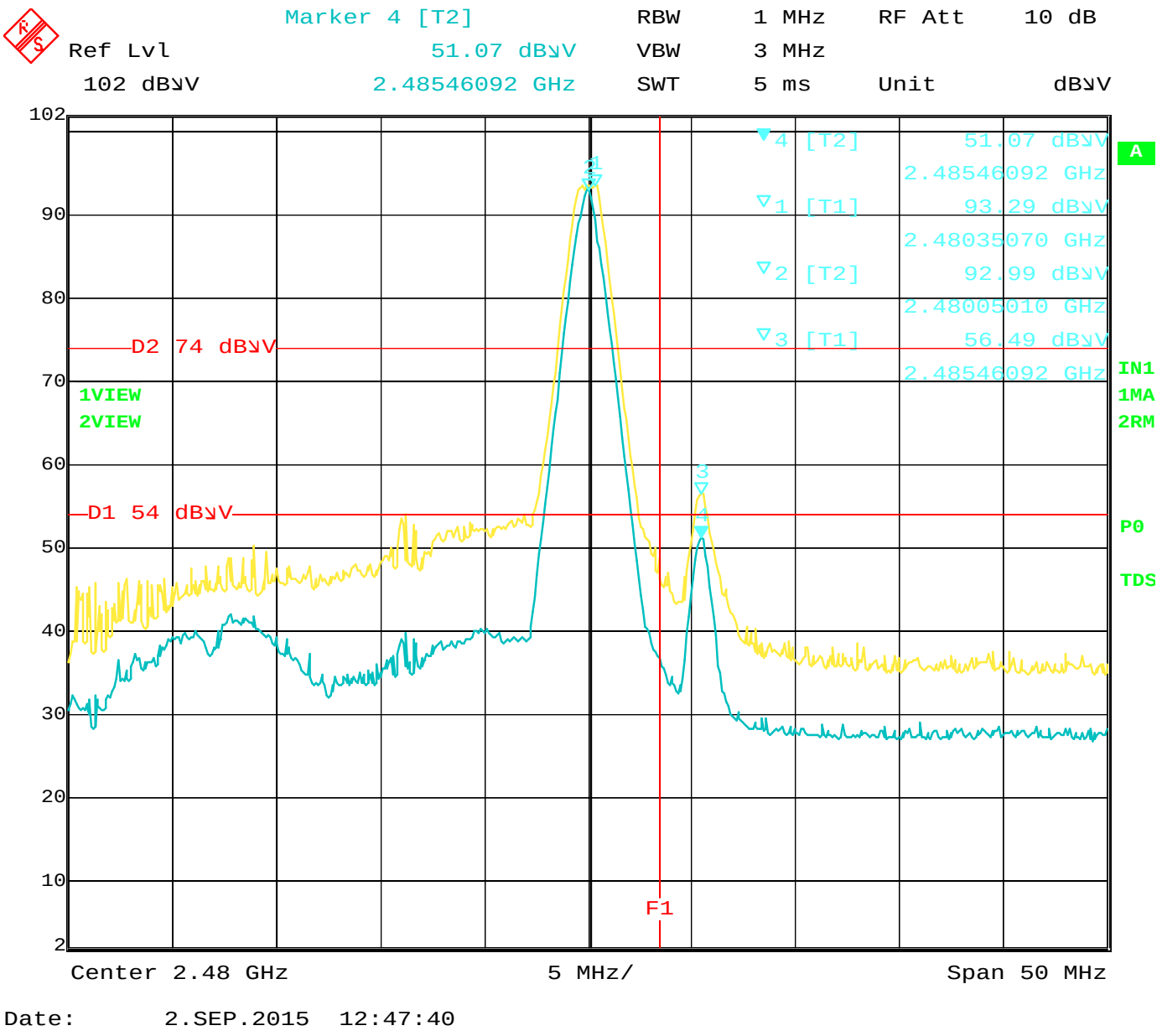
Band Edge – Low Channel – Vertical Polarization – 2 Mbps Data Rate – Y-Axis – Worst Case



Band Edge – Low Channel – Horizontal Polarization – 2 Mbps Data Rate – X-Axis – Worst Case



Band Edge – High Channel – Vertical Polarization – 2 Mbps Data Rate – Y-Axis – Worst Case



Band Edge – High Channel – Horizontal Polarization – 2 Mbps Data Rate – Z-Axis – Worst Case

BAND EDGES

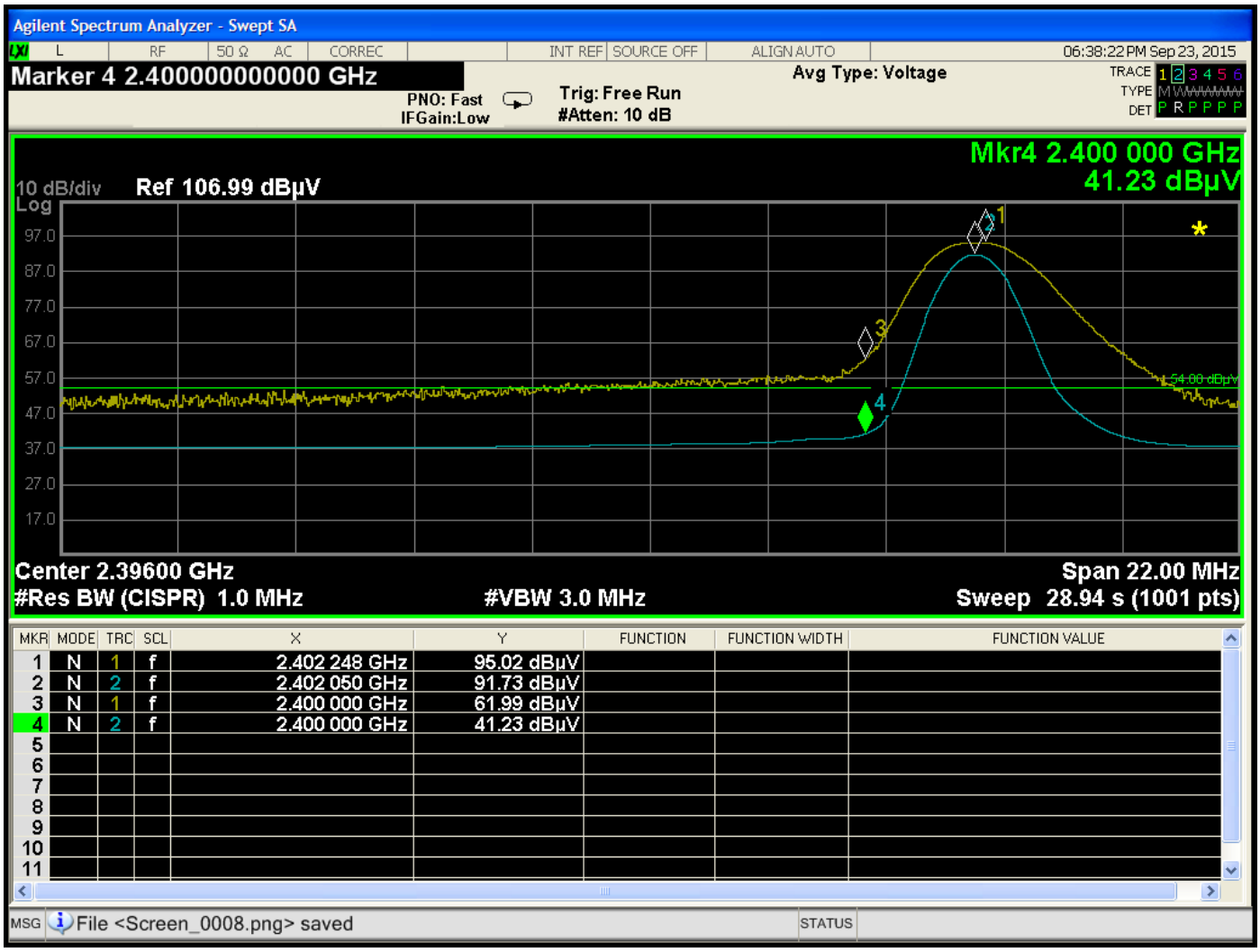
DATA SHEETS

1 Mbps DATA RATE

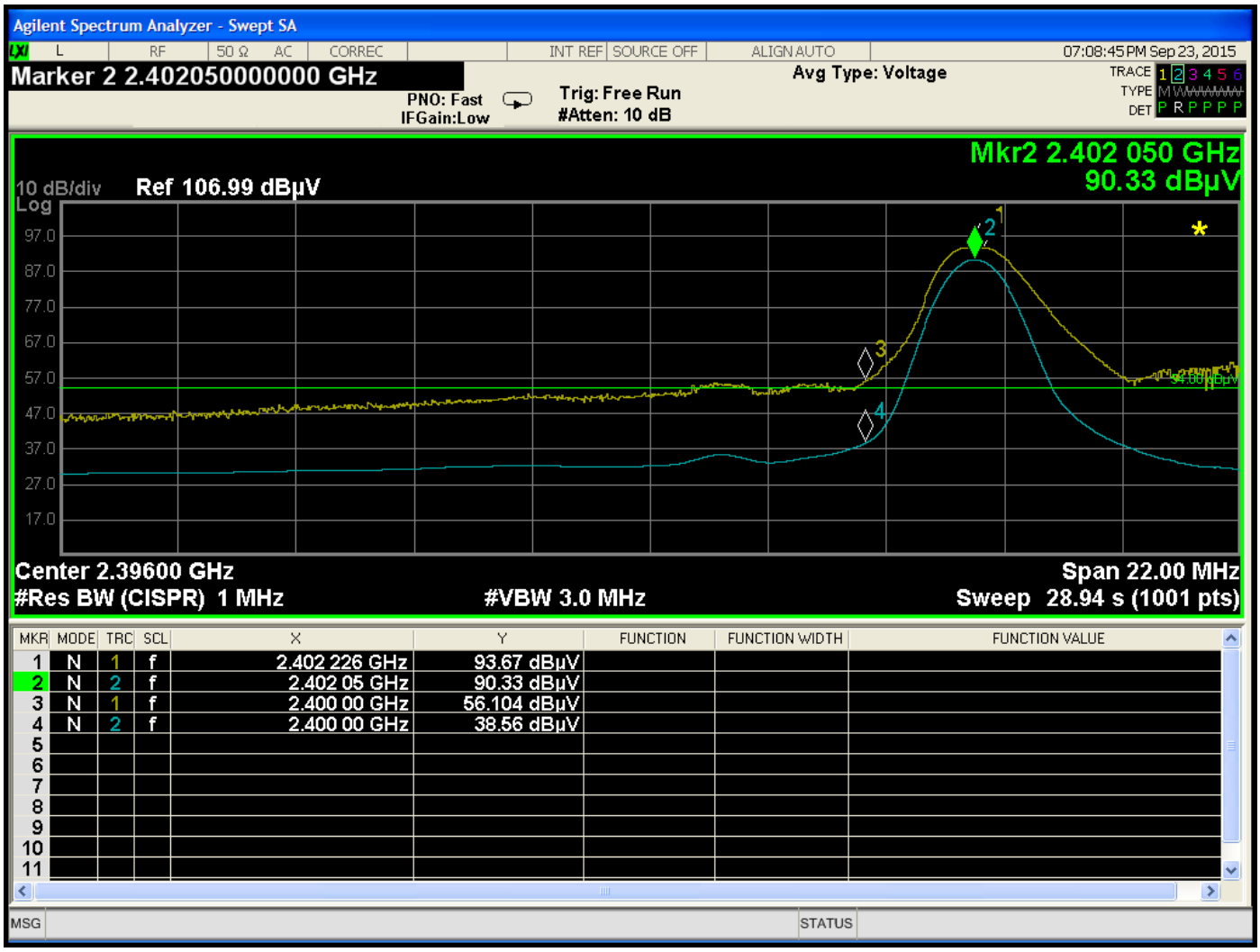
FCC 15.249
RF Digital Corp.
RF Module
Model: R71
Note: Output Power Setting +4 dBm
Band Edges - Data Rate 1 Mbps
Low Channel - See Comments for Worst Case Axis

Date: 09/23/2015
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	93.67	H	114	-20.33	Peak	1.13	160	Fundamental
2402	90.33	H	94	-3.67	Avg	1.13	160	of Low Channel
2400	56.10	H	74	-17.9	Peak	1	135	**Band Edge of Low Channel**
2400	38.56	H	54	-15.44	Avg	1	135	**X-Axis Worst Case**
2402	95.02	V	114	-18.98	Peak	1.75	239	Fundamental of
2402	91.73	V	94	-2.27	Avg	1.75	239	Low Channel
2400	61.99	V	74	-12.01	Peak	1.5	90	**Band Edge of Low Channel**
2400	41.23	V	54	-12.77	Avg	1.5	90	**Y-Axis Worst Case**



Band Edge – Low Channel – Vertical Polarization – 1 Mbps Data Rate – Y-Axis – Worst Case

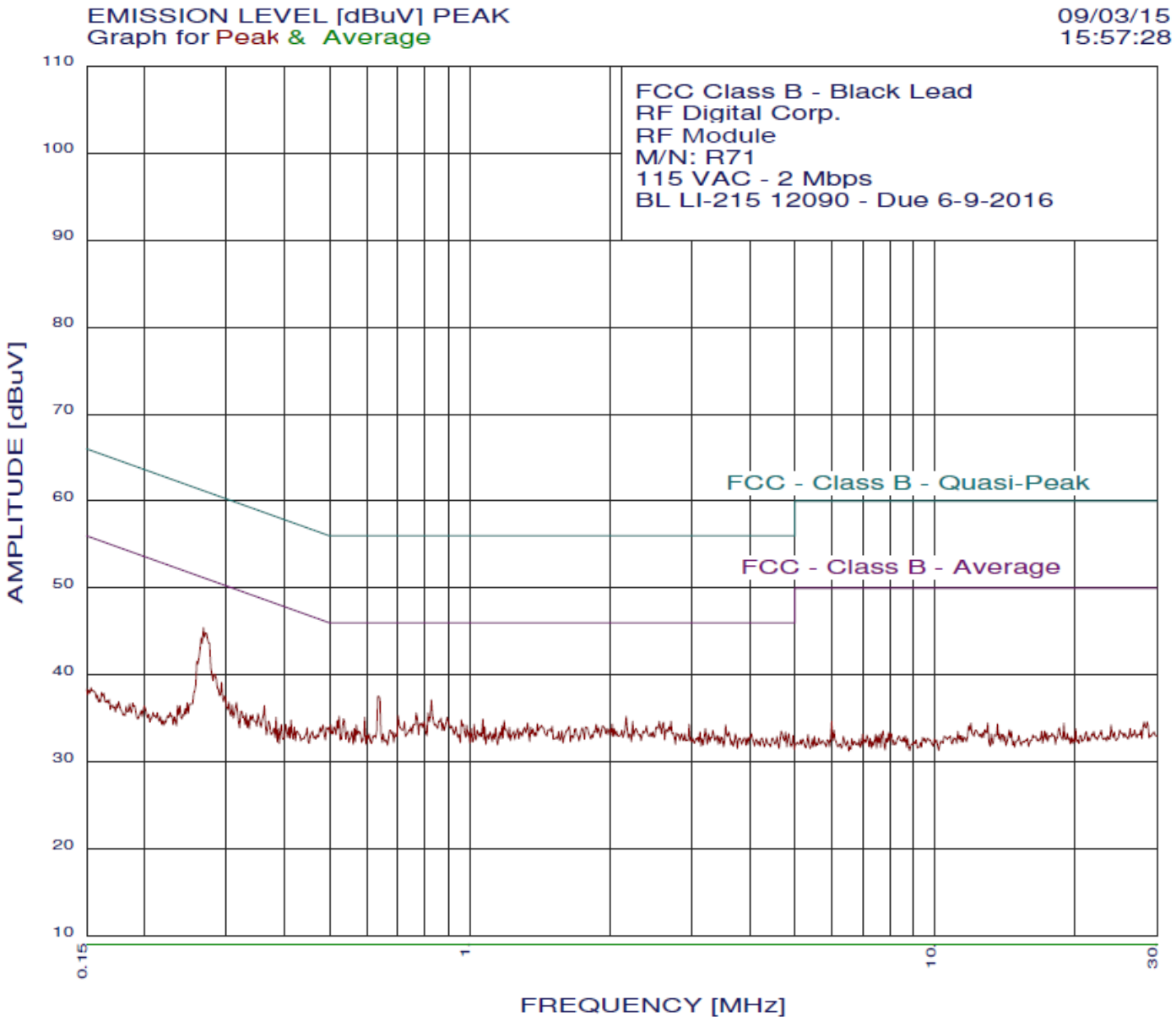


Band Edge – Low Channel – Horizontal Polarization – 1 Mbps Data Rate – X-Axis – Worst Case

CONDUCTED EMISSIONS

DATA SHEETS

2 Mbps DATA RATE


EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average
09/03/15
15:57:28
FCC Class B - Black Lead
RF Digital Corp.
RF Module
M/N: R71
115 VAC - 2 Mbps
BL LI-215 12090 - Due 6-9-2016
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

09/03/15 15:57:28

FCC Class B - Black Lead
RF Digital Corp.
RF Module
M/N: R71
115 VAC - 2 Mbps
BL LI-215 12090 - Due 6-9-2016
Test Engineer : Kenneth Lee

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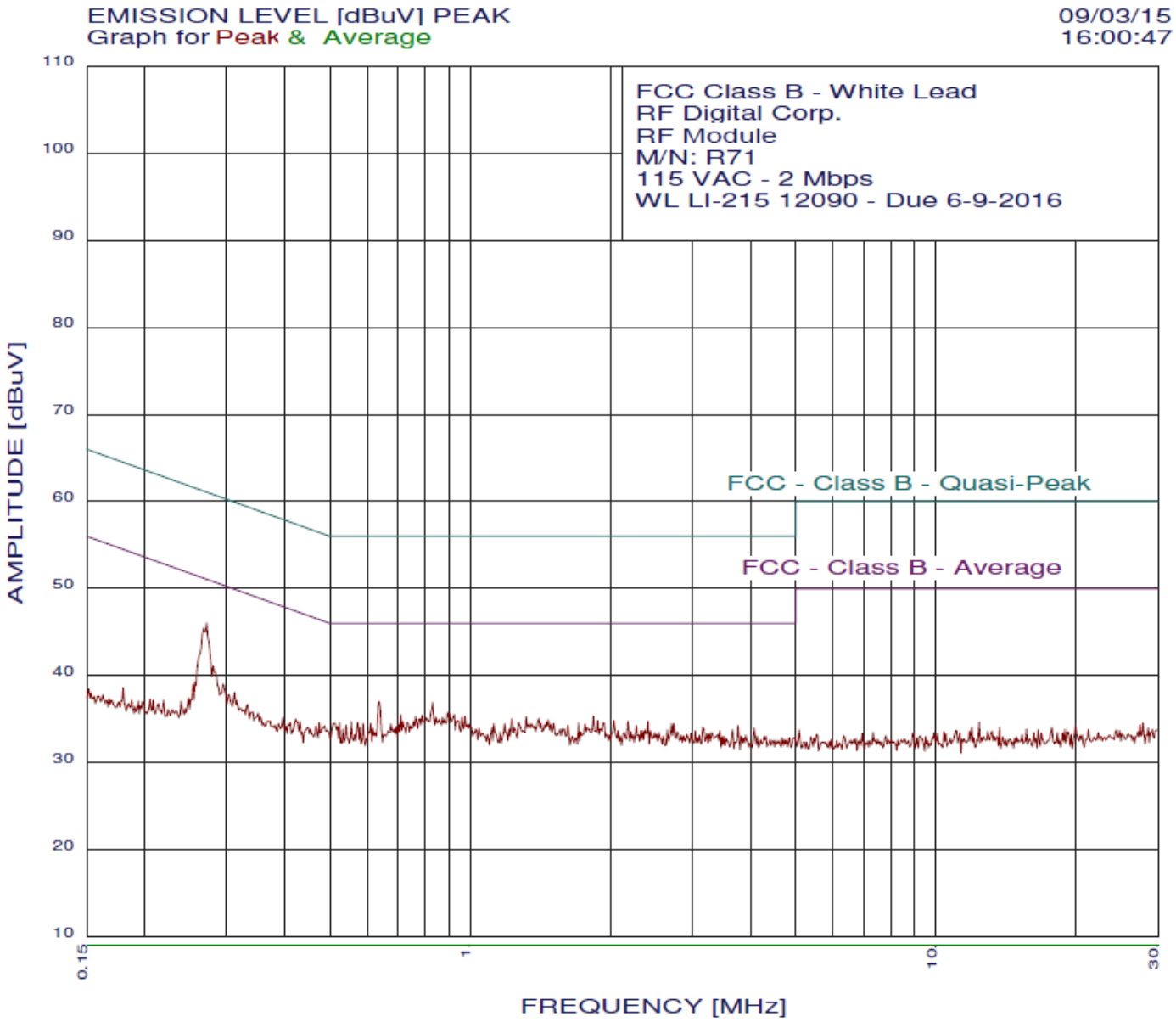
40 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 0.10 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.267	45.43	51.20	-5.77
2	0.270	44.82	51.11	-6.29
3	0.265	44.25	51.29	-7.04
4	0.634	37.54	46.00	-8.46
5	0.826	37.13	46.00	-8.87
6	0.259	41.57	51.47	-9.90
7	0.767	35.64	46.00	-10.36
8	0.814	35.64	46.00	-10.36
9	0.283	40.07	50.72	-10.65
10	0.701	35.34	46.00	-10.66
11	2.168	35.25	46.00	-10.75
12	0.524	35.25	46.00	-10.75
13	0.595	35.14	46.00	-10.86
14	0.895	35.13	46.00	-10.87
15	0.867	35.03	46.00	-10.97
16	0.535	34.95	46.00	-11.05
17	1.066	34.94	46.00	-11.06
18	0.958	34.83	46.00	-11.17
19	1.184	34.75	46.00	-11.25
20	0.518	34.75	46.00	-11.25
21	0.858	34.73	46.00	-11.27
22	0.293	39.13	50.45	-11.32
23	2.238	34.65	46.00	-11.35
24	2.554	34.65	46.00	-11.35
25	2.707	34.65	46.00	-11.35
26	0.724	34.64	46.00	-11.36
27	0.796	34.64	46.00	-11.36
28	2.610	34.55	46.00	-11.45
29	1.331	34.47	46.00	-11.53
30	0.779	34.44	46.00	-11.56
31	0.788	34.44	46.00	-11.56
32	0.876	34.43	46.00	-11.57
33	1.397	34.38	46.00	-11.62
34	2.023	34.35	46.00	-11.65
35	2.963	34.35	46.00	-11.65
36	0.759	34.34	46.00	-11.66
37	1.869	34.34	46.00	-11.66
38	1.021	34.33	46.00	-11.67
39	0.969	34.33	46.00	-11.67
40	0.502	34.25	46.00	-11.75


EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average
09/03/15
16:00:47
FCC Class B - White Lead
RF Digital Corp.
RF Module
M/N: R71
115 VAC - 2 Mbps
WL LI-215 12090 - Due 6-9-2016
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

09/03/15 16:00:47

FCC Class B - White Lead
RF Digital Corp.
RF Module
M/N: R71
115 VAC - 2 Mbps
WL LI-215 12090 - Due 6-9-2016
Test Engineer : Kenneth Lee

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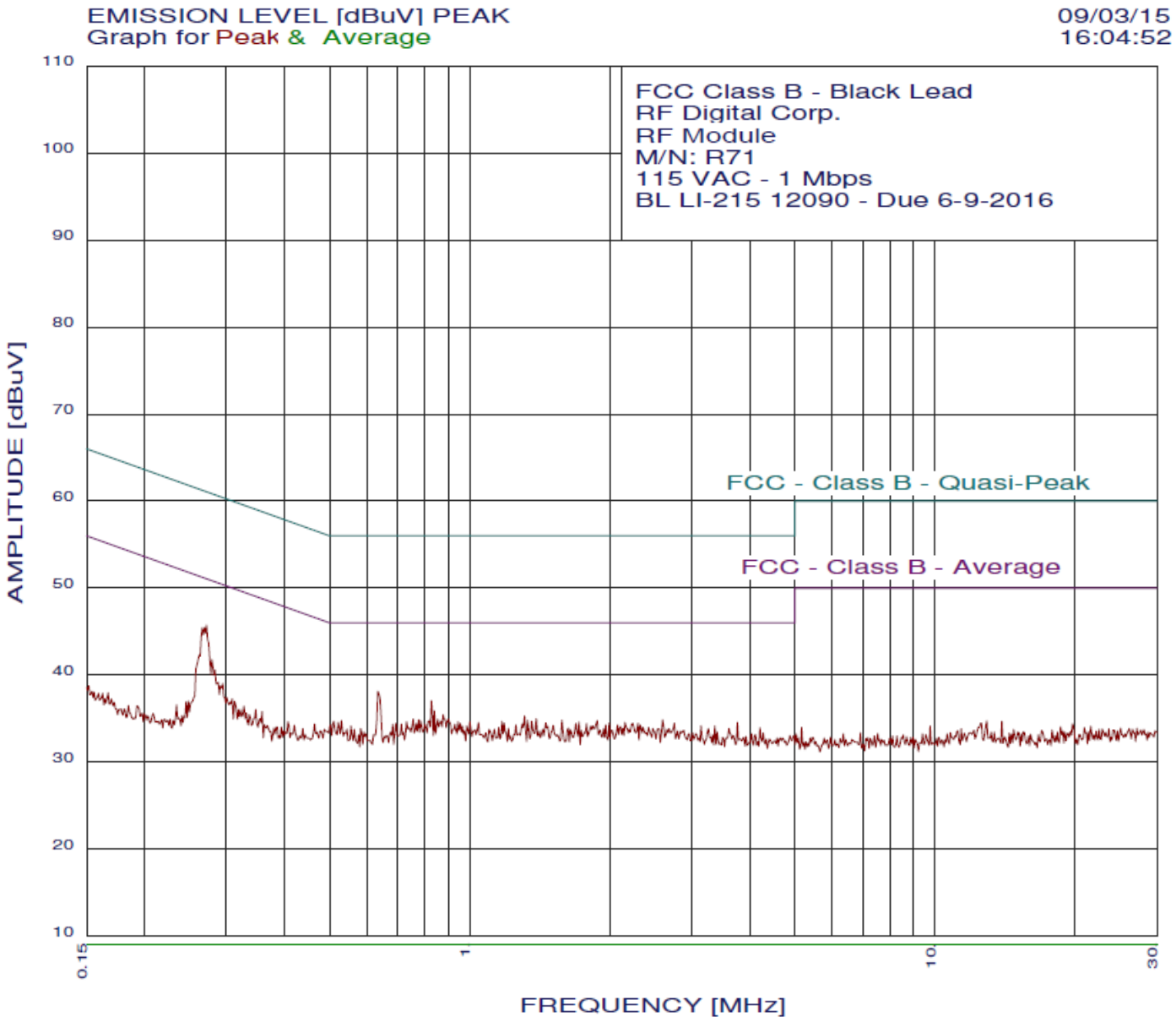
40 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 0.10 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.272	46.01	51.07	-5.06
2	0.267	45.43	51.20	-5.77
3	0.637	37.03	46.00	-8.97
4	0.831	36.93	46.00	-9.07
5	0.280	41.07	50.81	-9.73
6	0.895	35.73	46.00	-10.27
7	0.904	35.63	46.00	-10.37
8	0.924	35.53	46.00	-10.47
9	0.709	35.53	46.00	-10.47
10	0.788	35.43	46.00	-10.57
11	0.974	35.33	46.00	-10.67
12	1.840	35.33	46.00	-10.67
13	0.763	35.33	46.00	-10.67
14	1.318	35.27	46.00	-10.73
15	0.958	35.23	46.00	-10.77
16	0.872	35.23	46.00	-10.77
17	0.844	35.23	46.00	-10.77
18	0.805	35.13	46.00	-10.87
19	1.404	35.08	46.00	-10.92
20	1.230	35.06	46.00	-10.94
21	0.779	35.03	46.00	-10.97
22	0.881	34.93	46.00	-11.07
23	0.858	34.93	46.00	-11.07
24	1.472	34.89	46.00	-11.11
25	2.034	34.85	46.00	-11.15
26	1.879	34.84	46.00	-11.16
27	0.944	34.83	46.00	-11.17
28	2.179	34.75	46.00	-11.25
29	2.410	34.75	46.00	-11.25
30	0.755	34.73	46.00	-11.27
31	0.716	34.73	46.00	-11.27
32	0.555	34.72	46.00	-11.28
33	1.456	34.69	46.00	-11.31
34	1.269	34.66	46.00	-11.34
35	0.731	34.63	46.00	-11.37
36	0.573	34.62	46.00	-11.38
37	0.524	34.62	46.00	-11.38
38	1.708	34.62	46.00	-11.38
39	0.294	39.02	50.41	-11.39
40	1.939	34.54	46.00	-11.46

CONDUCTED EMISSIONS

DATA SHEETS

1 Mbps DATA RATE


EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average
09/03/15
16:04:52
FCC Class B - Black Lead
RF Digital Corp.
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FCC - Class B - Average
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BL LI-215 12090 - Due 6-9-2016
Test Engineer : Kenneth Lee

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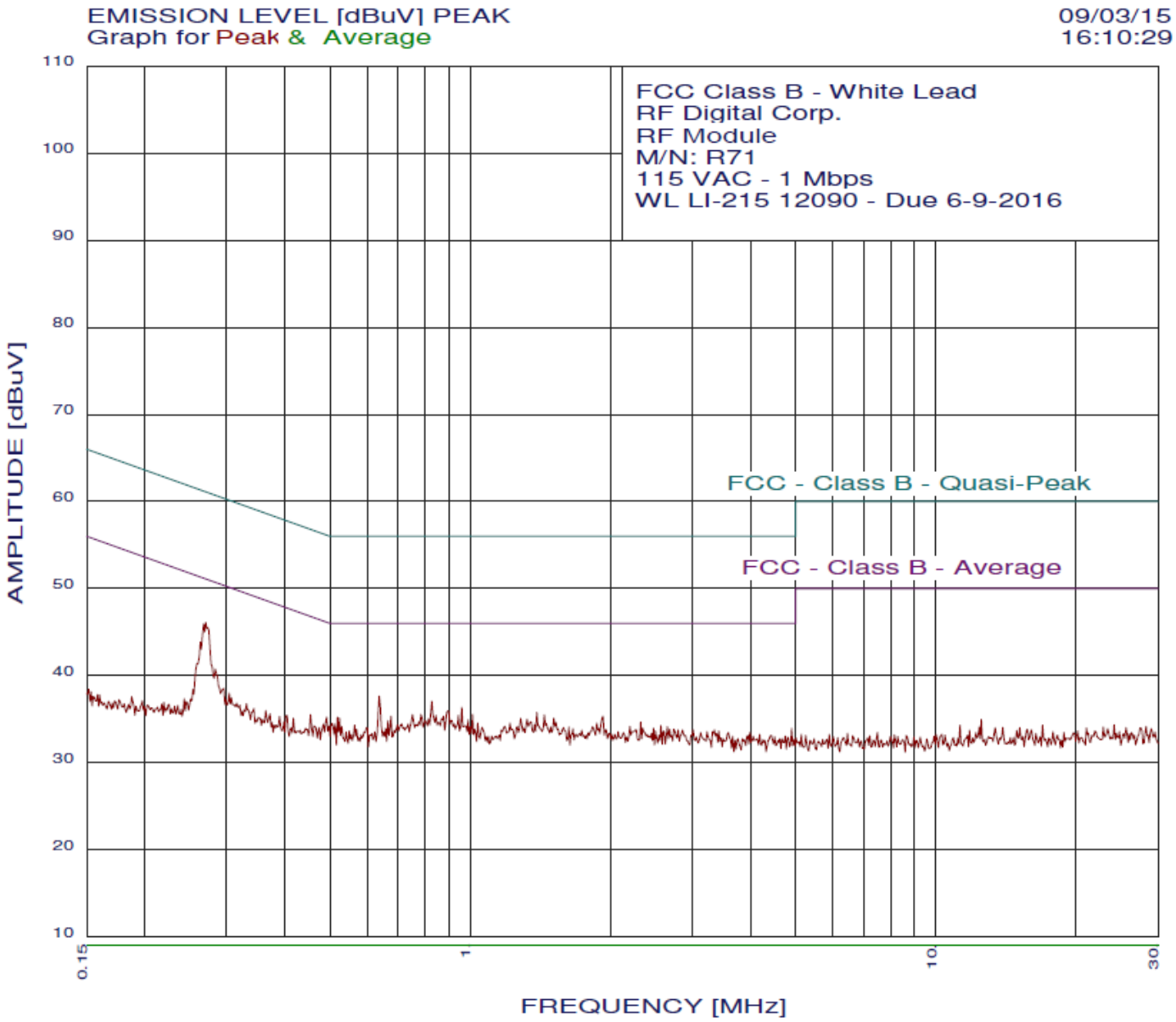
40 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 0.10 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.272	45.72	51.07	-5.35
2	0.269	45.43	51.15	-5.73
3	0.266	45.44	51.24	-5.80
4	0.634	38.14	46.00	-7.86
5	0.826	37.03	46.00	-8.97
6	0.279	41.79	50.85	-9.07
7	0.262	42.26	51.38	-9.12
8	0.283	40.57	50.72	-10.15
9	0.839	35.83	46.00	-10.17
10	0.876	35.43	46.00	-10.57
11	1.311	35.27	46.00	-10.73
12	1.389	34.98	46.00	-11.02
13	0.755	34.94	46.00	-11.06
14	0.853	34.93	46.00	-11.07
15	0.899	34.93	46.00	-11.07
16	2.596	34.85	46.00	-11.15
17	0.775	34.84	46.00	-11.16
18	1.577	34.80	46.00	-11.20
19	1.331	34.77	46.00	-11.23
20	0.530	34.75	46.00	-11.25
21	1.879	34.74	46.00	-11.26
22	0.783	34.74	46.00	-11.26
23	0.818	34.74	46.00	-11.26
24	0.867	34.73	46.00	-11.27
25	1.359	34.67	46.00	-11.33
26	1.172	34.65	46.00	-11.35
27	0.510	34.65	46.00	-11.35
28	0.731	34.64	46.00	-11.36
29	0.944	34.63	46.00	-11.37
30	1.000	34.63	46.00	-11.37
31	1.717	34.62	46.00	-11.38
32	0.294	39.02	50.41	-11.39
33	0.288	39.15	50.58	-11.44
34	2.156	34.55	46.00	-11.45
35	0.521	34.55	46.00	-11.45
36	3.761	34.54	46.00	-11.46
37	1.043	34.54	46.00	-11.46
38	1.456	34.49	46.00	-11.51
39	1.184	34.45	46.00	-11.55
40	2.238	34.45	46.00	-11.55


EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average
09/03/15
16:10:29
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RF Digital Corp.
RF Module
M/N: R71
115 VAC - 1 Mbps
WL LI-215 12090 - Due 6-9-2016
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FCC - Class B - Average
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WL LI-215 12090 - Due 6-9-2016
Test Engineer : Kenneth Lee

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

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.270	46.12	51.11	-4.99
2	0.267	45.93	51.20	-5.27
3	0.263	43.85	51.33	-7.49
4	0.637	37.63	46.00	-8.37
5	0.826	37.03	46.00	-8.97
6	0.958	36.33	46.00	-9.67
7	0.283	40.76	50.72	-9.95
8	0.895	35.93	46.00	-10.07
9	1.389	35.78	46.00	-10.22
10	1.011	35.53	46.00	-10.47
11	0.783	35.53	46.00	-10.47
12	0.751	35.53	46.00	-10.47
13	1.441	35.48	46.00	-10.52
14	0.944	35.43	46.00	-10.57
15	0.844	35.43	46.00	-10.57
16	1.929	35.34	46.00	-10.66
17	0.876	35.33	46.00	-10.67
18	0.676	35.33	46.00	-10.67
19	0.518	35.22	46.00	-10.78
20	0.524	35.12	46.00	-10.88
21	1.512	35.09	46.00	-10.91
22	0.492	35.22	46.14	-10.92
23	1.283	35.07	46.00	-10.93
24	0.814	35.03	46.00	-10.97
25	1.325	34.97	46.00	-11.03
26	0.990	34.93	46.00	-11.07
27	0.914	34.83	46.00	-11.17
28	0.801	34.83	46.00	-11.17
29	0.665	34.83	46.00	-11.17
30	0.775	34.73	46.00	-11.27
31	0.454	35.52	46.80	-11.28
32	1.352	34.67	46.00	-11.33
33	2.322	34.65	46.00	-11.35
34	0.853	34.63	46.00	-11.37
35	1.528	34.59	46.00	-11.41
36	1.217	34.56	46.00	-11.44
37	1.038	34.54	46.00	-11.46
38	1.869	34.53	46.00	-11.47
39	0.505	34.52	46.00	-11.48
40	1.456	34.49	46.00	-11.51
