FCC PART 15 SUBPART B and C
TEST REPORT

for

RF MODULE

Model: R25

Prepared for

RF DIGITAL CORPORATION
1601 PACIFIC COAST HIGHWAY, SUITE 290
HERMOSA BEACH, CALIFORNIA 90254

Prepared by:_____

KYLE FUJIMOTO

Approved by:_____

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DATE: AUGUST 13, 2013

	REPORT	APPENDICES					TOTAL
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GENERAL REPORT SUMMARY

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

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

This report must not be used to claim product endorsement by NVLAP, NIST or any other agency of the U.S. Government.

Device Tested:	RF Module Model: R25 S/N: N/A
Product Description:	See Expository Statement
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 Date(s):	June 18 and 19, 2013
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
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions 150 kHz to 30 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and Subpart C, section 15.207
2	Radiated RF Emissions 10 kHz to 25000 MHz (Transmitter and Digital Portion)	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.249.

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the RF Module, Model: R25 (EUT). 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 for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.207, 15.209, and 15.249 for the transmitter portion.

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.

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 Corporation

Armen Kazanchian President / CEO

Compatible Electronics Inc.

James Ross Test Engineer
Kyle Fujimoto Test Engineer

2.4 Date Test Sample was Received

The test sample was received on the initial test date of July 8, 2013.

2.5 Disposition of the Test Sample

The test sample has not been returned to RF Digital Corporation as of the date of the test report.

2.6 Abbreviations and Acronyms

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

FCC	Federal Communications Commission
RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
ITE	Information Technology Equipment
LISN	Line Impedance Stabilization Network
NVLAP	National Voluntary Laboratory Accreditation Program
CFR	Code of Federal Regulations
N/A	Not Applicable
Ltd.	Limited
Inc.	Incorporated
NCR	No Calibration Required
PCB	Printed Circuit Board

3. APPLICABLE DOCUMENTS

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

SPEC	TITLE
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4: 2009	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

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration – Emissions

The RF Module, Model: R25 (EUT) was connected to the programming PCB via 10-centimeter cables. The programming PCB was also connected to a class 2 power supply via is power port. The EUT was programmed via the programming PCB that enabled the EUT to be tested at the low, middle, or high channels. The EUT was continuously transmitting and tested in three orthogonal axis.

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

4.1.1 Cable Construction and Termination

Cables 1-11 These are 10-centimeter unshielded cables connecting the EUT to the programming board. The cables are hard wired at each end.

Cable 12 This is a 2-meter unshielded cable connecting the programming board to the class 2 power supply. The cable has a 1/8 inch power connector at the programming board end and is hard wired into the class 2 power supply.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
RF MODULE (EUT)	RF DIGITAL CORPORATION	R25	N/A	UYI25
PROGRAMMING BOARD	PARALLAX, INC.	28850	N/A	N/A
CLASS 2 POWER SUPPLY	N/A	PPI-0930-UL	N/A	N/A

5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
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	November 19, 2012	2 Years
GENERAL TEST EQUIPMENT USED IN LAB D					
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A
Monitor	Hewlett Packard	HPs2031a	3CQ046N3MG	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	2637A03618	May 6, 2013	1 Year
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	2648A13404	May 6, 2013	1 Year
Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01363	May 29, 2013	1 Year
RF RADIATED EMISSIONS TEST EQUIPMENT					
Combilog Antenna	Com Power	AC-220	61027	May 29, 2013	1 Year
Preamplifier	Com-Power	PA-103	1582	December 28, 2012	1 Year
Preamplifier	Com-Power	PA-118	181656	December 27, 2012	1 Year
Preamplifier	Com-Power	PA-840	711013	May 17, 2012	2 Year
Loop Antenna	Com-Power	AL-130	17089	January 29, 2013	2 Years
Horn Antenna	Com-Power	AH-118	071175	February 29, 2012	2 Years
Horn Antenna	Com-Power	AH-826	0071957	N/A	N/A
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A

5.2 Emissions Test Equipment (Continued)

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION CYCLE
CONDCUTED EMISSIONS TEST EQUIPMENT					
Emissions Program	Compatible Electronics	2.3 (SR19)	N/A	N/A	N/A
LISN	Com Power	LI-215	12082	June 17, 2013	1 Year
LISN	Com Power	LI-215	12090	June 17, 2013	1 Year
Transient Limiter	Seward	252A910	K39-0220	November 7, 2012	1 Year

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1.2 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.

6.3 Facility Environmental Characteristics

When applicable refer to the data sheets in Appendix E for the relative humidity, air temperature, and barometric pressure.

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 Conducted Emissions Test

The measurement receiver was used as a measuring meter. The data was collected with the measurement receiver 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 measurement receiver's input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the measurement receiver. The output of the second LISN was terminated by a 50-ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by the Compatible Electronics conducted emissions software in several overlapping sweeps by running the spectrum analyzer at a minimum scan rate of 10 seconds per octave. The final qualification data is located in Appendix E.

Test Results:

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.

7.1.2 Radiated Emissions (Spurious and Harmonics) Test

The spectrum analyzer, along with the quasi-peak adapter, and EMI Receiver were used as a measuring meter. Amplifiers were used to increase the sensitivity of the instrument. The Com-Power Preamplifier Model: PA-103 was used for frequencies from 30 MHz to 1 GHz, the Com-Power Microwave Preamplifier Model: PA-118 was used for frequencies from 1 GHz to 18 GHz, and the Com-Power Microwave Preamplifier Model: PA-840 were used for frequencies above 18 GHz. The spectrum analyzer and EMI Receiver were used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer and EMI receiver records the highest measured reading over the sweeps.

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

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

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

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 25 GHz	1 MHz	Horn Antennas

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. 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 gun sight method was used when measuring with the horn antenna in order to ensure accurate results. The loop antenna was also rotated in the vertical axis in order to ensure accurate results.

Radiated Emissions (Spurious and Harmonics) Test (continued)

For frequencies above 1 GHz, RF absorbing material was used to cover the ground screen to meet the requirements of section 5.5 of ANSI C63.4: 2009.

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 30 MHz to 25 GHz and at a 10-meter distance from 10 kHz to 30 MHz to obtain the final test data.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, Sections 15.209 and 15.249.

7.1.3 RF Emissions Test Results

Table 1.0 CONDUCTED EMISSION RESULTS
RF Module, Model: R25

Frequency MHz	Emission Level* dBuV	Average Specification Limit dBuV	Delta (Emission – Spec. Limit) dB
0.634 (WL)	42.50	46.00	-3.50
0.831 (BL)	42.37	46.00	-3.63
0.637 (BL)	41.90	46.00	-4.10
0.826 (WL)	41.26	46.00	-4.74
0.398 (WL)	40.11	47.90	-7.79
1.016 (BL)	37.03	46.00	-8.97

Table 2.0 RADIATED EMISSION RESULTS
RF Module, Model: R25

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
4804 (H) (Y-Axis)	49.22 (A)	54.00	-4.78
7206 (V) (Y-Axis)	49.16 (A)	54.00	-4.84
2402 (V) (Y-Axis)	88.61 (A)	94.00	-5.39
2402 (V) (X-Axis)	88.56 (A)	94.00	-5.44
2400 (V) (Z-Axis)	48.26 (A)	54.00	-5.74
2400 (H) (X-Axis)	47.46 (A)	54.00	-6.54

Notes:

* The complete emissions data is given in Appendix E of this report.
(BL) BLACK LEAD
(WL) WHITE LEAD
(V) VERTICAL
(H) HORIZONTAL
(A) AVERAGE

8. CONCLUSIONS

The RF Module, Model: R25 (EUT), as tested, meets all of the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.207, 15.209, and 15.249 for the transmitter portion.

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 fulfillment 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 15.249 and/or FCC **Class B** 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: R25
S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

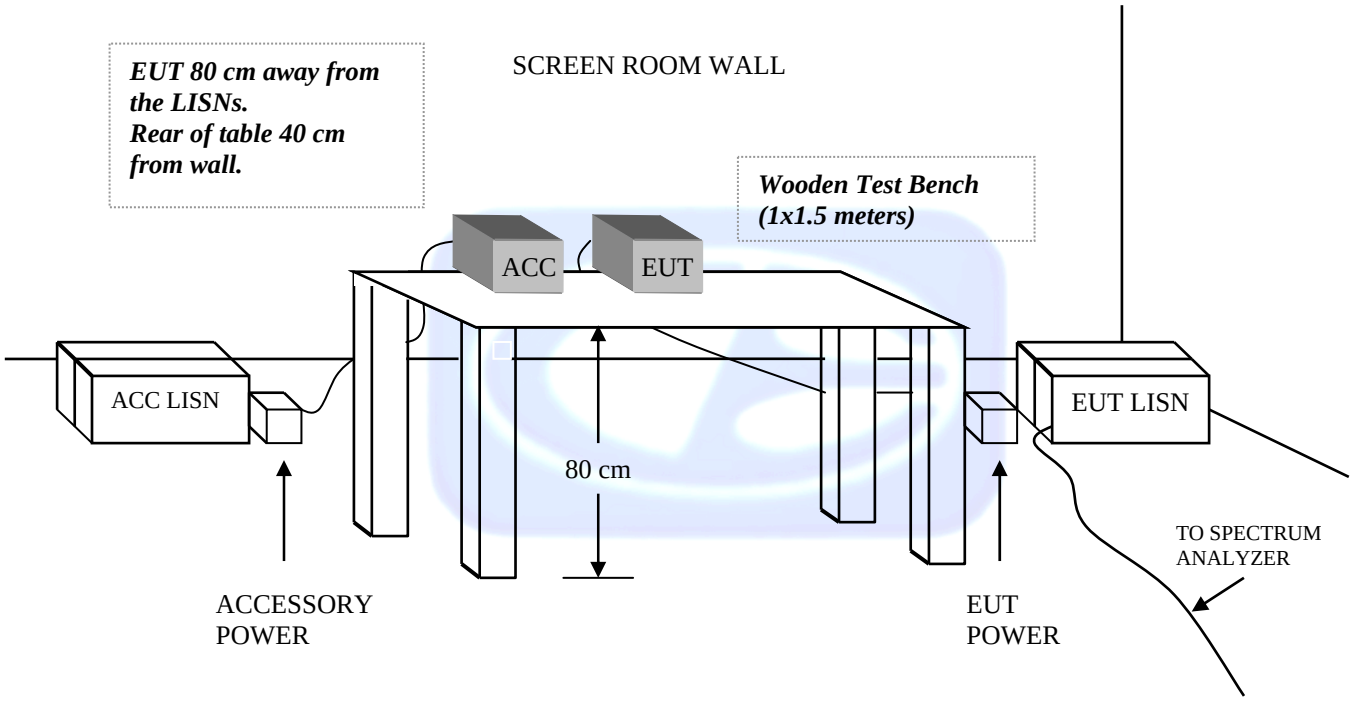
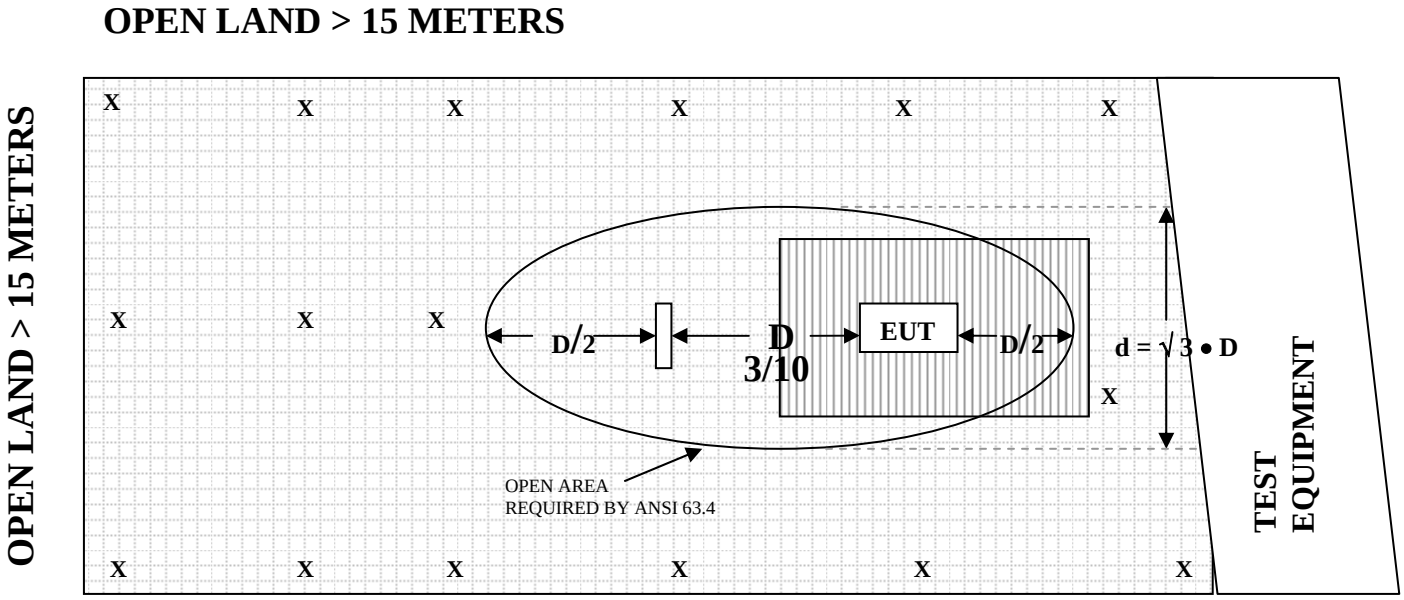


FIGURE 2: PLOT MAP AND LAYOUT OF THE RADIATED TEST SITE



COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: JANUARY 29, 2013

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-42.5	9
0.01	-42.3	9.2
0.02	-42.1	9.4
0.03	-41.4	10.1
0.04	-41.8	9.7
0.05	-42.4	9.1
0.06	-42.3	9.2
0.07	-42.5	9
0.08	-42.4	9.1
0.09	-42.5	9
0.1	-42.5	9
0.2	-42.7	8.8
0.3	-42.6	8.9
0.4	-42.5	9
0.5	-42.7	8.8
0.6	-42.7	8.8
0.7	-42.5	9
0.8	-42.3	9.2
0.9	-42.2	9.3
1	-42.2	9.3
2	-41.8	9.7
3	-41.7	9.8
4	-41.7	9.8
5	-41.5	10
6	-41.6	9.9
7	-41.4	10.1
8	-41	10.5
9	-40.8	10.7
10	-41.3	10.2
15	-41.4	10.1
20	-41.2	10.3
25	-42.6	8.9
30	-41.7	9.8

COM-POWER AC-220

COMBILOG ANTENNA

S/N: 61027

CALIBRATION DATE: MAY 29, 2013

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	12.30	700	20.40
350	14.40	750	21.60
400	18.70	800	21.70
450	17.30	850	21.80
500	17.80	900	22.30
550	16.50	950	22.40
600	18.20	1000	23.10
650	19.30		

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: FEBRUARY 29, 2012

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

COM-POWER AH-826

HORN ANTENNA

S/N: 0071957

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-103

PREAMPLIFIER

S/N: 1582

CALIBRATION DATE: DECEMBER 28, 2012

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	32.80	300	32.26
40	33.10	350	32.23
50	33.10	400	32.17
60	33.10	450	32.16
70	33.00	500	32.11
80	33.00	550	32.07
90	33.10	600	32.02
100	33.00	650	31.97
125	33.00	700	31.87
150	33.00	750	31.81
175	32.90	800	31.73
200	32.80	850	31.57
225	32.34	900	31.43
250	32.32	950	31.29
275	32.28	1000	31.14

COM-POWER PA-118

PREAMPLIFIER

S/N: 181656

CALIBRATION DATE: DECEMBER 27, 2012

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.68	6.0	25.75
1.1	25.08	6.5	25.28
1.2	25.70	7.0	24.83
1.3	25.98	7.5	24.49
1.4	26.11	8.0	24.38
1.5	26.23	8.5	25.06
1.6	26.34	9.0	25.55
1.7	26.39	9.5	25.32
1.8	26.44	10.0	25.25
1.9	26.45	11.0	24.99
2.0	26.48	12.0	25.08
2.5	26.59	13.0	24.44
3.0	26.67	14.0	25.02
3.5	26.66	15.0	26.12
4.0	26.82	16.0	25.67
4.5	26.46	17.0	24.33
5.0	26.22	18.0	26.75
5.5	25.98		

COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MAY 17, 2012

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	25.81	31.0	25.77
19.0	24.57	31.5	25.36
20.0	23.46	32.0	25.15
21.0	22.51	32.5	25.13
22.0	23.85	33.0	25.52
23.0	23.31	33.5	25.24
24.0	24.44	34.0	25.08
25.0	25.42	34.5	25.27
26.0	25.71	35.0	23.99
26.5	25.66	35.5	24.67
27.0	25.84	36.5	24.80
27.5	25.29	37.0	26.27
28.0	25.46	37.5	24.86
28.5	25.58	38.0	24.64
29.0	26.16	38.5	23.46
29.5	26.14	39.0	21.29
30.0	26.01	39.5	20.83
30.5	25.67	40.0	19.96

FRONT VIEW

RF DIGITAL CORPORATION
RF MODULE
MODEL: R25
FCC SUBPART B AND C – RADIATED EMISSIONS – 30 MHz to 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

RF DIGITAL CORPORATION
RF MODULE
MODEL: R25
FCC SUBPART B AND C – RADIATED EMISSIONS – 30 MHz to 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

RF DIGITAL CORPORATION
RF MODULE
MODEL: R25
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

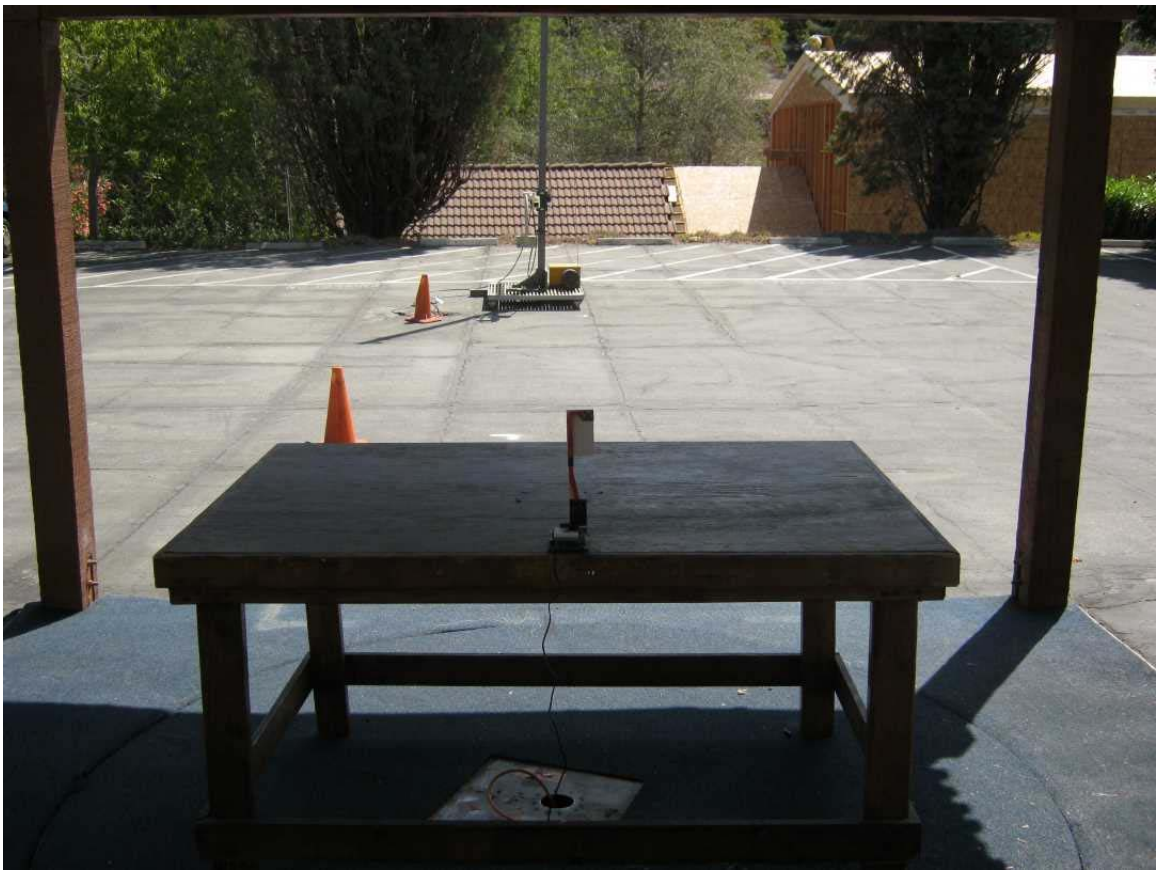
RF DIGITAL CORPORATION
RF MODULE
MODEL: R25
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

RF DIGITAL CORPORATION
RF MODULE
MODEL: R25
FCC SUBPART C – RADIATED EMISSIONS – BELOW 30 MHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

RF DIGITAL CORPORATION
RF MODULE
MODEL: R25
FCC SUBPART C – RADIATED EMISSIONS – BELOW 30 MHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

RF DIGITAL CORPORATION
RF MODULE
MODEL: R25
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

RF DIGITAL CORPORATION
RF MODULE
MODEL: R25
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date:06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	90.26	V	114	-23.74	Peak	1.25	45	
2402	88.56	V	94	-5.44	Avg	1.25	45	
4804	49.91	V	74	-24.09	Peak	1.25	225	
4804	42.96	V	54	-11.04	Avg	1.25	225	
7206	53.1	V	74	-20.9	Peak	1.25	135	
7206	41.58	V	54	-12.42	Avg	1.25	135	
9608								No Emission
9608								Detected
12010								No Emission
12010								Detected
14412								No Emission
14412								Detected
16814								No Emission
16814								Detected
19216								No Emission
19216								Detected
21618								No Emission
21618								Detected
24020								No Emission
24020								Detected

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date:06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	89.43	H	114	-24.57	Peak	1.15	135	
2402	86.87	H	94	-7.13	Avg	1.15	135	
4804	51.36	H	74	-22.64	Peak	1.35	2255	
4804	44.31	H	54	-9.69	Avg	1.35	255	
7206	54.26	H	74	-19.74	Peak	1.25	155	
7206	39.85	H	54	-14.15	Avg	1.25	155	
9608								**No Emission**
9608								**Detected**
12010								**No Emission**
12010								**Detected**
14412								**No Emission**
14412								**Detected**
16814								**No Emission**
16814								**Detected**
19216								**No Emission**
19216								**Detected**
21618								**No Emission**
21618								**Detected**
24020								**No Emission**
24020								**Detected**

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date:06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	89.42	V	114	-24.58	Peak	1.25	180	
2402	88.61	V	94	-5.39	Avg	1.25	180	
4804	51.05	V	74	-22.95	Peak	1	135	
4804	43.83	V	54	-10.17	Avg	1	135	
7206	54.18	V	74	-19.82	Peak	1.25	180	
7206	49.16	V	54	-4.84	Avg	1.25	180	
9608								No Emission
9608								Detected
12010								No Emission
12010								Detected
14412								No Emission
14412								Detected
16814								No Emission
16814								Detected
19216								No Emission
19216								Detected
21618								No Emission
21618								Detected
24020								No Emission
24020								Detected

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date:06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	88.45	H	114	-25.55	Peak	1.25	135	
2402	87.13	H	94	-6.87	Avg	1.25	135	
4804	55.91	H	74	-18.09	Peak	1.25	145	
4804	49.22	H	54	-4.78	Avg	1.25	145	
7206	53.91	H	74	-20.09	Peak	1.25	135	
7206	43.37	H	54	-10.63	Avg	1.25	135	
9608								No Emission
9608								Detected
12010								No Emission
12010								Detected
14412								No Emission
14412								Detected
16814								No Emission
16814								Detected
19216								No Emission
19216								Detected
21618								No Emission
21618								Detected
24020								No Emission
24020								Detected

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date:06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	87.78	V	114	-26.22	Peak	1.25	225	
2402	87.3	V	94	-6.7	Avg	1.25	225	
4804	56.42	V	74	-17.58	Peak	1.25	225	
4804	47.31	V	54	-6.69	Avg	1.25	225	
7206	53.62	V	74	-20.38	Peak	1.35	155	
7206	42.05	V	54	-11.95	Avg	1.35	155	
9608								No Emission
9608								Detected
12010								No Emission
12010								Detected
14412								No Emission
14412								Detected
16814								No Emission
16814								Detected
19216								No Emission
19216								Detected
21618								No Emission
21618								Detected
24020								No Emission
24020								Detected

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date:06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	88.48	H	114	-25.52	Peak	1.25	225	
2402	87.04	H	94	-6.96	Avg	1.25	225	
4804	49.88	H	74	-24.12	Peak	1.35	270	
4804	39.88	H	54	-14.12	Avg	1.35	270	
7206	53.38	H	74	-20.62	Peak	1.45	135	
7206	42.31	H	54	-11.69	Avg	1.45	135	
9608								No Emission
9608								Detected
12010								No Emission
12010								Detected
14412								No Emission
14412								Detected
16814								No Emission
16814								Detected
19216								No Emission
19216								Detected
21618								No Emission
21618								Detected
24020								No Emission
24020								Detected

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date: 06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2442	81.29	V	114	-32.71	Peak	1.25	225	
2442	79.05	V	94	-14.95	Avg	1.25	225	
4884	52.65	V	74	-21.35	Peak	1.35	45	
4884	40.41	V	54	-13.59	Avg	1.35	45	
7326	54.91	V	74	-19.09	Peak	1.25	165	
7326	42.52	V	54	-11.48	Avg	1.25	165	
9768								No Emission
9768								Detected
12210								No Emission
12210								Detected
14652								No Emission
14652								Detected
17094								No Emission
17094								Detected
19536								No Emission
19536								Detected
21978								No Emission
21978								Detected
24420								No Emission
24420								Detected

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date: 06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2442	89.72	H	114	-24.28	Peak	1.25	155	
2442	87.41	H	94	-6.59	Avg	1.25	155	
4884	51.64	H	74	-22.36	Peak	1.35	175	
4884	38.29	H	54	-15.71	Avg	1.35	175	
7326	55.94	H	74	-18.06	Peak	1.25	185	
7326	43.49	H	54	-10.51	Avg	1.25	185	
9768								No Emission
9768								Detected
12210								No Emission
12210								Detected
14652								No Emission
14652								Detected
17094								No Emission
17094								Detected
19536								No Emission
19536								Detected
21978								No Emission
21978								Detected
24420								No Emission
24420								Detected

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date: 06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2442	84.82	V	114	-29.18	Peak	1.15	135	
2442	82.45	V	94	-11.55	Avg	1.15	135	
4884	51.32	V	74	-22.68	Peak	1.25	135	
4884	39.08	V	54	-14.92	Avg	1.25	135	
7326	54.65	V	74	-19.35	Peak	1.15	155	
7326	42.48	V	54	-11.52	Avg	1.15	155	
9768								No Emission
9768								Detected
12210								No Emission
12210								Detected
14652								No Emission
14652								Detected
17094								No Emission
17094								Detected
19536								No Emission
19536								Detected
21978								No Emission
21978								Detected
24420								No Emission
24420								Detected

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date: 06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2442	87.91	H	114	-26.09	Peak	1.25	155	
2442	85.03	H	94	-8.97	Avg	1.25	155	
4884	50.52	H	74	-23.48	Peak	1.35	165	
4884	38.98	H	54	-15.02	Avg	1.35	165	
7326	55.86	H	74	-18.14	Peak	1.25	175	
7326	42.68	H	54	-11.32	Avg	1.25	175	
9768								No Emission
9768								Detected
12210								No Emission
12210								Detected
14652								No Emission
14652								Detected
17094								No Emission
17094								Detected
19536								No Emission
19536								Detected
21978								No Emission
21978								Detected
24420								No Emission
24420								Detected

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date: 06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2442	88.02	V	114	-25.98	Peak	1.25	225	
2442	85.22	V	94	-8.78	Avg	1.25	225	
4884	51.44	V	74	-22.56	Peak	1.35	135	
4884	39.07	V	54	-14.93	Avg	1.35	135	
7326	55.28	V	74	-18.72	Peak	1.25	145	
7326	45.52	V	54	-8.48	Avg	1.25	145	
9768								No Emission
9768								Detected
12210								No Emission
12210								Detected
14652								No Emission
14652								Detected
17094								No Emission
17094								Detected
19536								No Emission
19536								Detected
21978								No Emission
21978								Detected
24420								No Emission
24420								Detected

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date: 06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2442	80.34	H	114	-33.66	Peak	1.5	225	
2442	77.13	H	94	-16.87	Avg	1.5	225	
4884	50.96	H	74	-23.04	Peak	1.25	135	
4884	37.21	H	54	-16.79	Avg	1.25	135	
7326	54.23	H	74	-19.77	Peak	1.35	165	
7326	42.77	H	54	-11.23	Avg	1.35	165	
9768								No Emission
9768								Detected
12210								No Emission
12210								Detected
14652								No Emission
14652								Detected
17094								No Emission
17094								Detected
19536								No Emission
19536								Detected
21978								No Emission
21978								Detected
24420								No Emission
24420								Detected

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date: 06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2481	84.19	V	114	-29.81	Peak	1.25	225	
2481	81.52	V	94	-12.48	Avg	1.25	225	
4962	51.11	V	74	-22.89	Peak	1.25	165	
4962	36.11	V	54	-17.89	Avg	1.25	165	
7443	54.59	V	74	-19.41	Peak	1.35	175	
7443	42.05	V	54	-11.95	Avg	1.35	175	
9924								No Emission
9924								Detected
12405								No Emission
12405								Detected
14886								No Emission
14886								Detected
17367								No Emission
17367								Detected
19848								No Emission
19848								Detected
22329								No Emission
22329								Detected
24810								No Emission
24810								Detected

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date: 06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2481	87.62	H	114	-26.38	Peak	1.25	155	
2481	85.41	H	94	-8.59	Avg	1.25	155	
4962	51.09	H	74	-22.91	Peak	1.35	145	
4962	36.11	H	54	-17.89	Avg	1.35	145	
7443	54.82	H	74	-19.18	Peak	1.25	165	
7443	44.44	H	54	-9.56	Avg	1.25	165	
9924								No Emission
9924								Detected
12405								No Emission
12405								Detected
14886								No Emission
14886								Detected
17367								No Emission
17367								Detected
19848								No Emission
19848								Detected
22329								No Emission
22329								Detected
24810								No Emission
24810								Detected

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date: 06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2481	84.23	V	114	-29.77	Peak	1.25	155	
2481	81.27	V	94	-12.73	Avg	1.25	155	
4962	52.39	V	74	-21.61	Peak	1.25	145	
4962	38.99	V	54	-15.01	Avg	1.25	145	
7443	57.01	V	74	-16.99	Peak	1.25	155	
7443	42.98	V	54	-11.02	Avg	1.25	155	
9924								No Emission
9924								Detected
12405								No Emission
12405								Detected
14886								No Emission
14886								Detected
17367								No Emission
17367								Detected
19848								No Emission
19848								Detected
22329								No Emission
22329								Detected
24810								No Emission
24810								Detected

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date: 06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2481	86.08	H	114	-27.92	Peak	1.25	155	
2481	83.22	H	94	-10.78	Avg	1.25	155	
4962	49.94	H	74	-24.06	Peak	1.35	165	
4962	36.15	H	54	-17.85	Avg	1.35	165	
7443	56.54	H	74	-17.46	Peak	1.45	175	
7443	42.33	H	54	-11.67	Avg	1.45	175	
9924								No Emission
9924								Detected
12405								No Emission
12405								Detected
14886								No Emission
14886								Detected
17367								No Emission
17367								Detected
19848								No Emission
19848								Detected
22329								No Emission
22329								Detected
24810								No Emission
24810								Detected

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date: 06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2481	87.54	V	114	-26.46	Peak	1	1.25	
2481	85.23	V	94	-8.77	Avg	1	1.25	
4962	49.91	V	74	-24.09	Peak	1.25	225	
4962	38.38	V	54	-15.62	Avg	1.25	225	
7443	54.68	V	74	-19.32	Peak	1.35	45	
7443	42.51	V	54	-11.49	Avg	1.35	45	
9924								No Emission
9924								Detected
12405								No Emission
12405								Detected
14886								No Emission
14886								Detected
17367								No Emission
17367								Detected
19848								No Emission
19848								Detected
22329								No Emission
22329								Detected
24810								No Emission
24810								Detected

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

Date: 06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2481	80.85	H	114	-33.15	Peak	1.25	135	
2481	79.73	H	94	-14.27	Avg	1.25	135	
4962	42.11	H	74	-31.89	Peak	1.35	155	
4962	29.01	H	54	-24.99	Avg	1.35	155	
7443	47.64	H	74	-26.36	Peak	1.25	165	
7443	35.97	H	54	-18.03	Avg	1.25	165	
9924								No Emission
9924								Detected
12405								No Emission
12405								Detected
14886								No Emission
14886								Detected
17367								No Emission
17367								Detected
19848								No Emission
19848								Detected
22329								No Emission
22329								Detected
24810								No Emission
24810								Detected

FCC Class B and RSS-210
RF Digital Corporation
RF Module
Model: R25

Dates: 06/18/2013 and 06/19/2013
Labs: A and B
Tested By: Kyle Fujimoto & Alex Benitez

Receiver Mode - Middle Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions Found for the
								Receive Mode
								from 10 kHz to 25000 MHz
								for both Vertical and Horizontal
								Polarizations
								Investigated in the
								X, Y, and Z-Axis

FCC Class B and FCC 15.249
RF Digital Corporation
RF Module
Model: R25

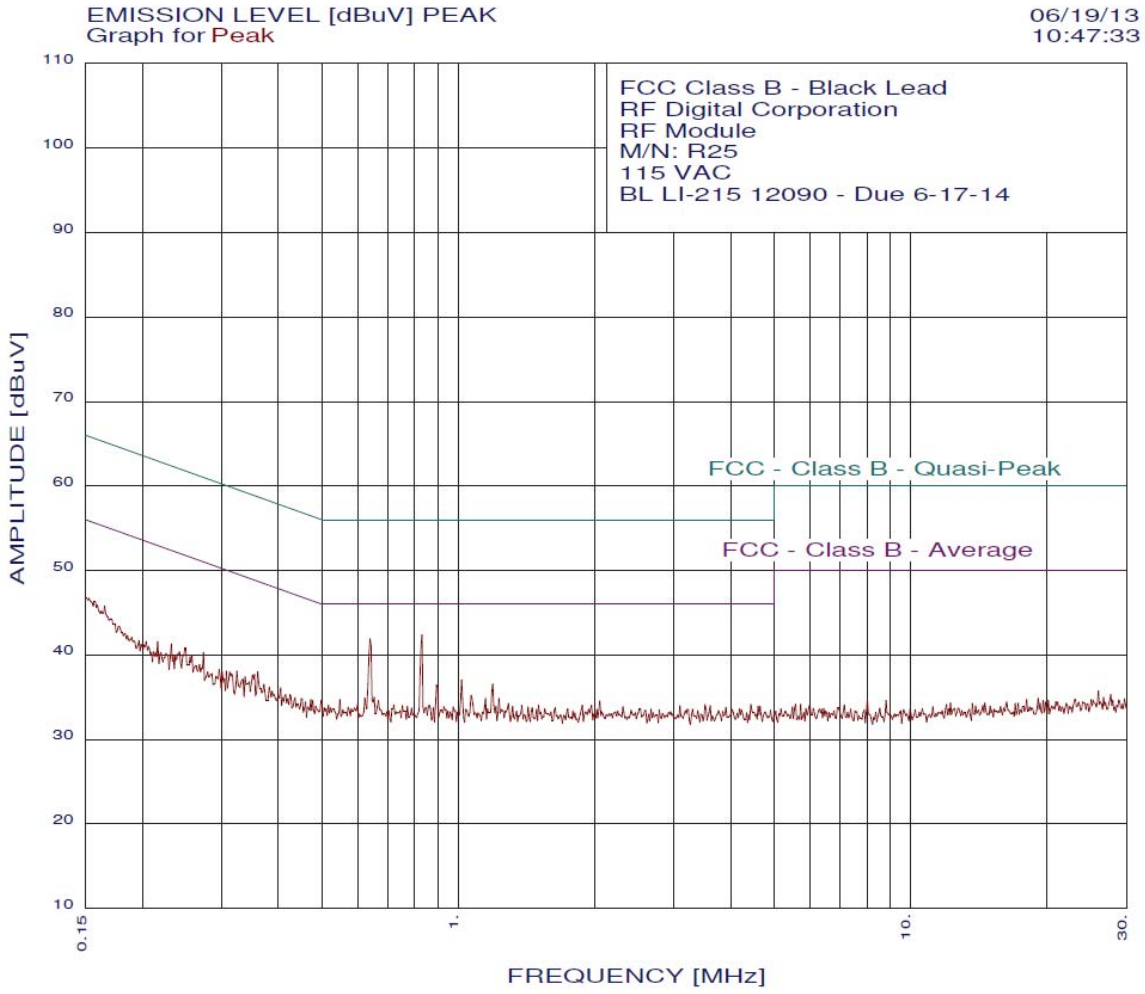
Dates: 06/18/2013 and 06/19/2013
Labs: A and B
Tested By: Kyle Fujimoto & Alex Benitez

Non Harmonic Emissions from the Tx and Digital Portion 1 GHz to 25 GHz

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 25 GHz
								for both Vertical and Horizontal
								Polarizations
								No Non Harmonic
								Emissions Found
								for the Tx Mode
								from 10 kHz to 25 GHz
								for both Vertical and Horizontal
								Polarizations
								Investigated in the
								X, Y, and Z-Axis

CONDUCTED EMISSIONS

DATA SHEETS


EMISSION LEVEL [dBuV] PEAK
Graph for Peak
06/19/13
10:47:33
FCC Class B - Black Lead
RF Digital Corporation
RF Module
M/N: R25
115 VAC
BL LI-215 12090 - Due 6-17-14
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]

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06/19/13 10:47:33

FCC Class B - Black Lead
RF Digital Corporation
RF Module
M/N: R25
115 VAC
BL LI-215 12090 - Due 6-17-14
Test Engineer : Alex Benitez

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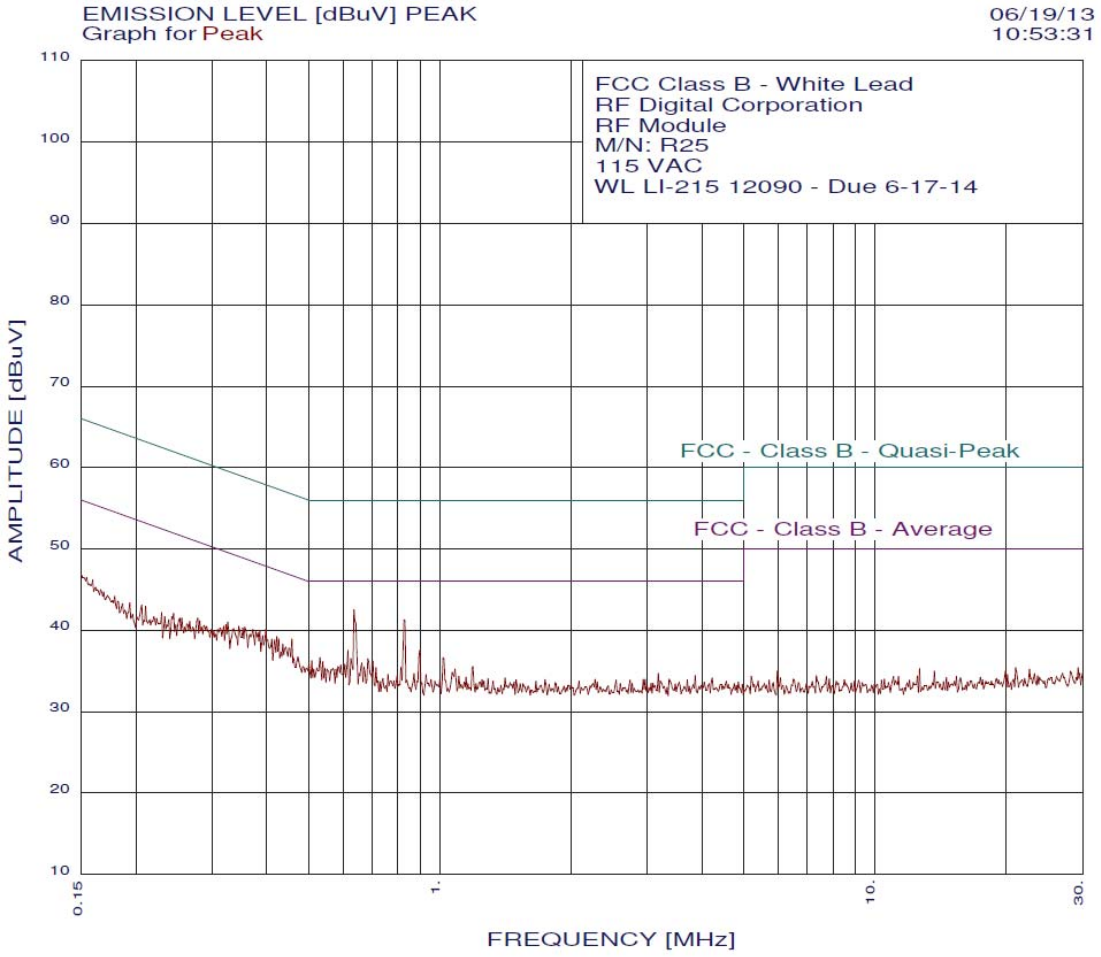
30 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.831	42.37	46.00	-3.63
2	0.637	41.90	46.00	-4.10
3	1.016	37.03	46.00	-8.97
4	1.191	36.53	46.00	-9.47
5	0.895	36.46	46.00	-9.54
6	0.360	38.00	48.73	-10.73
7	0.273	40.27	51.02	-10.75
8	1.066	35.23	46.00	-10.77
9	0.248	40.77	51.82	-11.05
10	0.621	34.90	46.00	-11.10
11	0.232	41.27	52.39	-11.12
12	0.354	37.70	48.87	-11.17
13	1.230	34.83	46.00	-11.17
14	1.148	34.83	46.00	-11.17
15	0.547	34.72	46.00	-11.28
16	0.216	41.58	52.96	-11.38
17	0.665	34.59	46.00	-11.41
18	0.497	34.64	46.05	-11.41
19	2.055	34.55	46.00	-11.45
20	0.324	38.08	49.62	-11.53
21	0.258	39.97	51.51	-11.54
22	0.404	36.11	47.77	-11.66
23	0.242	40.37	52.04	-11.67
24	0.471	34.73	46.49	-11.76
25	1.290	34.24	46.00	-11.76
26	0.476	34.64	46.40	-11.77
27	0.204	41.58	53.44	-11.86
28	0.338	37.39	49.26	-11.87
29	4.432	34.12	46.00	-11.88
30	0.598	34.11	46.00	-11.89


EMISSION LEVEL [dBuV] PEAK
Graph for Peak
06/19/13
10:53:31
FCC Class B - White Lead
RF Digital Corporation
RF Module
M/N: R25
115 VAC
WL LI-215 12090 - Due 6-17-14
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

06/19/13 10:53:31

FCC Class B - White Lead
RF Digital Corporation
RF Module
M/N: R25
115 VAC
WL LI-215 12090 - Due 6-17-14
Test Engineer : Alex Benitez

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30 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	0.634	42.50	46.00	-3.50
2	0.826	41.26	46.00	-4.74
3	0.398	40.11	47.90	-7.79
4	0.457	38.93	46.76	-7.83
5	0.385	40.00	48.16	-8.16
6	0.421	39.21	47.42	-8.20
7	0.371	40.09	48.47	-8.38
8	0.426	38.92	47.33	-8.41
9	0.356	40.38	48.82	-8.44
10	0.899	37.55	46.00	-8.45
11	0.614	37.51	46.00	-8.49
12	0.377	39.79	48.34	-8.54
13	0.325	40.98	49.57	-8.59
14	0.345	40.48	49.09	-8.61
15	0.352	40.28	48.91	-8.63
16	0.417	38.81	47.50	-8.69
17	0.411	38.91	47.63	-8.72
18	0.391	39.30	48.03	-8.73
19	0.435	38.32	47.15	-8.83
20	0.322	40.68	49.66	-8.98
21	0.449	37.82	46.89	-9.07
22	0.336	40.18	49.31	-9.13
23	0.318	40.48	49.75	-9.27
24	1.016	36.63	46.00	-9.37
25	0.530	36.63	46.00	-9.37
26	0.277	41.47	50.89	-9.42
27	0.624	36.51	46.00	-9.49
28	0.683	36.49	46.00	-9.51
29	0.280	41.17	50.81	-9.63
30	0.471	36.73	46.49	-9.76

BAND EDGES

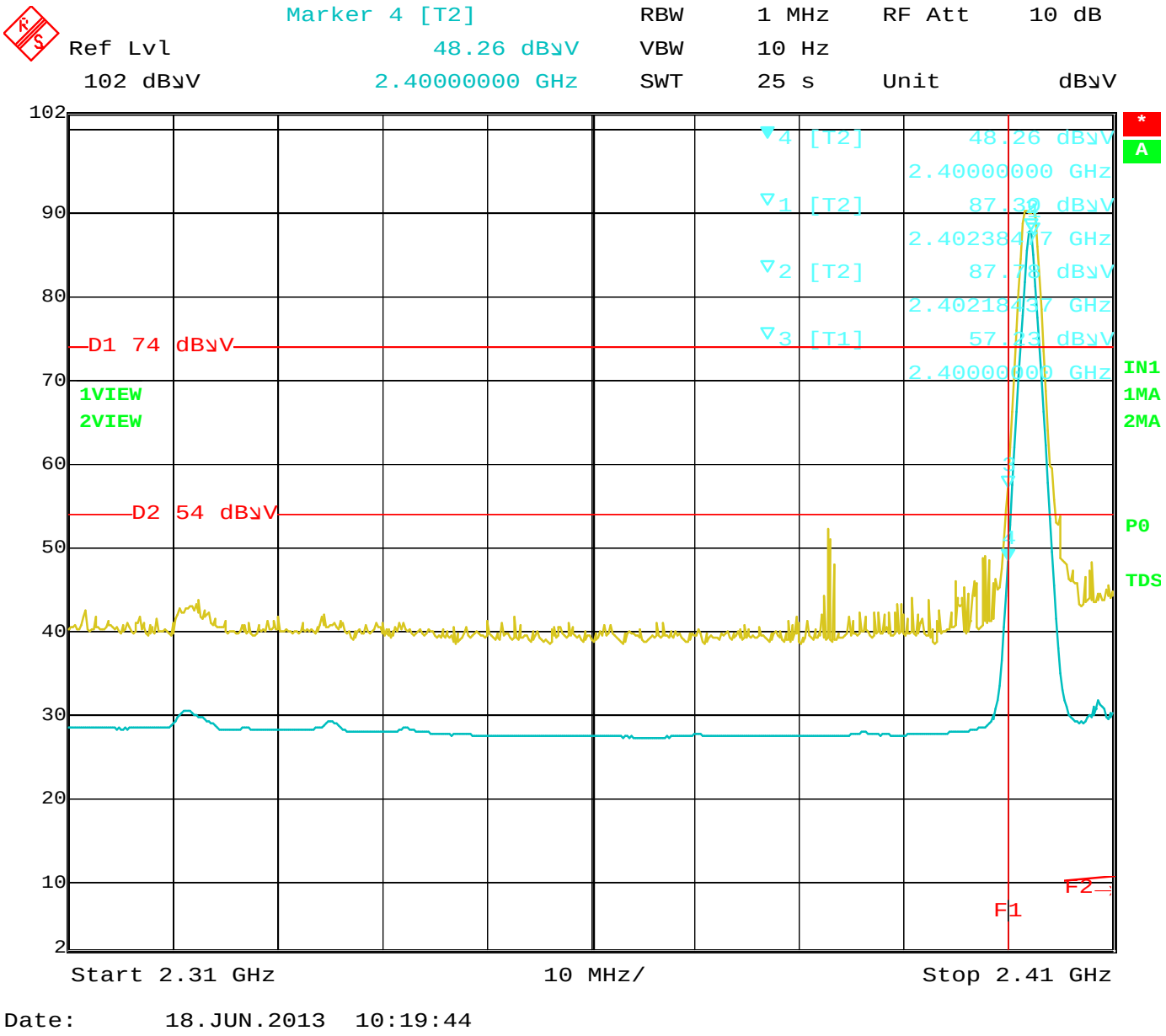
DATA SHEETS

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

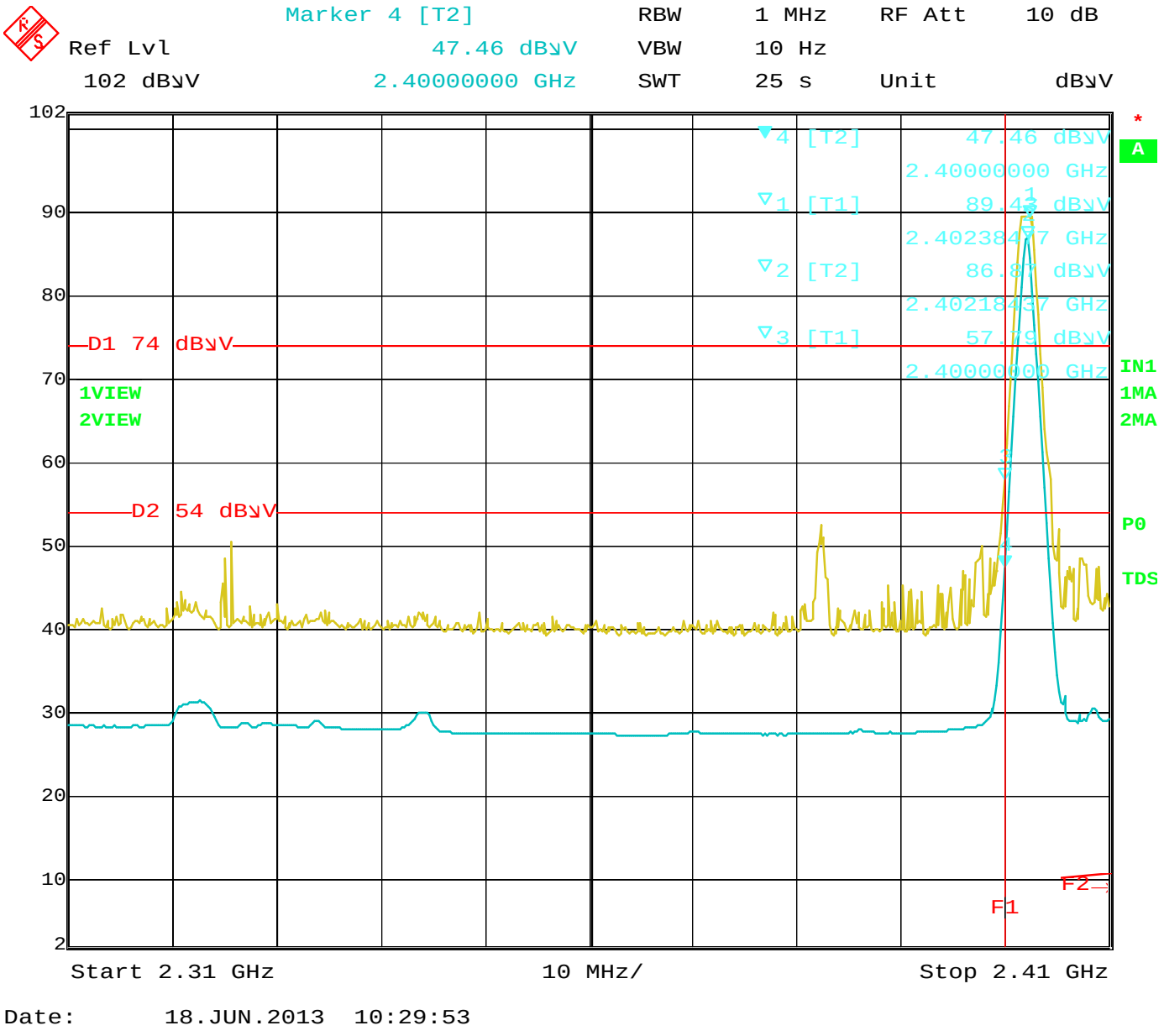
Date:06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
Band Edges

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	87.78	V	114	-26.22	Peak	1.25	225	**Fundamental**
2402	87.3	V	94	-6.7	Avg	1.25	225	**Z-Axis (Worst Case)**
2400	57.23	V	74	-16.77	Peak	1.02	135	**Band Edge**
2400	48.26	V	54	-5.74	Avg	1.02	135	**Z-Axis (Worst Case)**
2402	89.43	H	114	-24.57	Peak	1.15	135	**Fundamental**
2402	86.87	H	94	-7.13	Avg	1.15	135	**X-Axis (Worst Case)**
2400	57.79	H	74	-16.21	Peak	1.02	135	**Band Edge**
2400	47.46	H	54	-6.54	Avg	1.02	135	**X-Axis (Worst Case)**



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



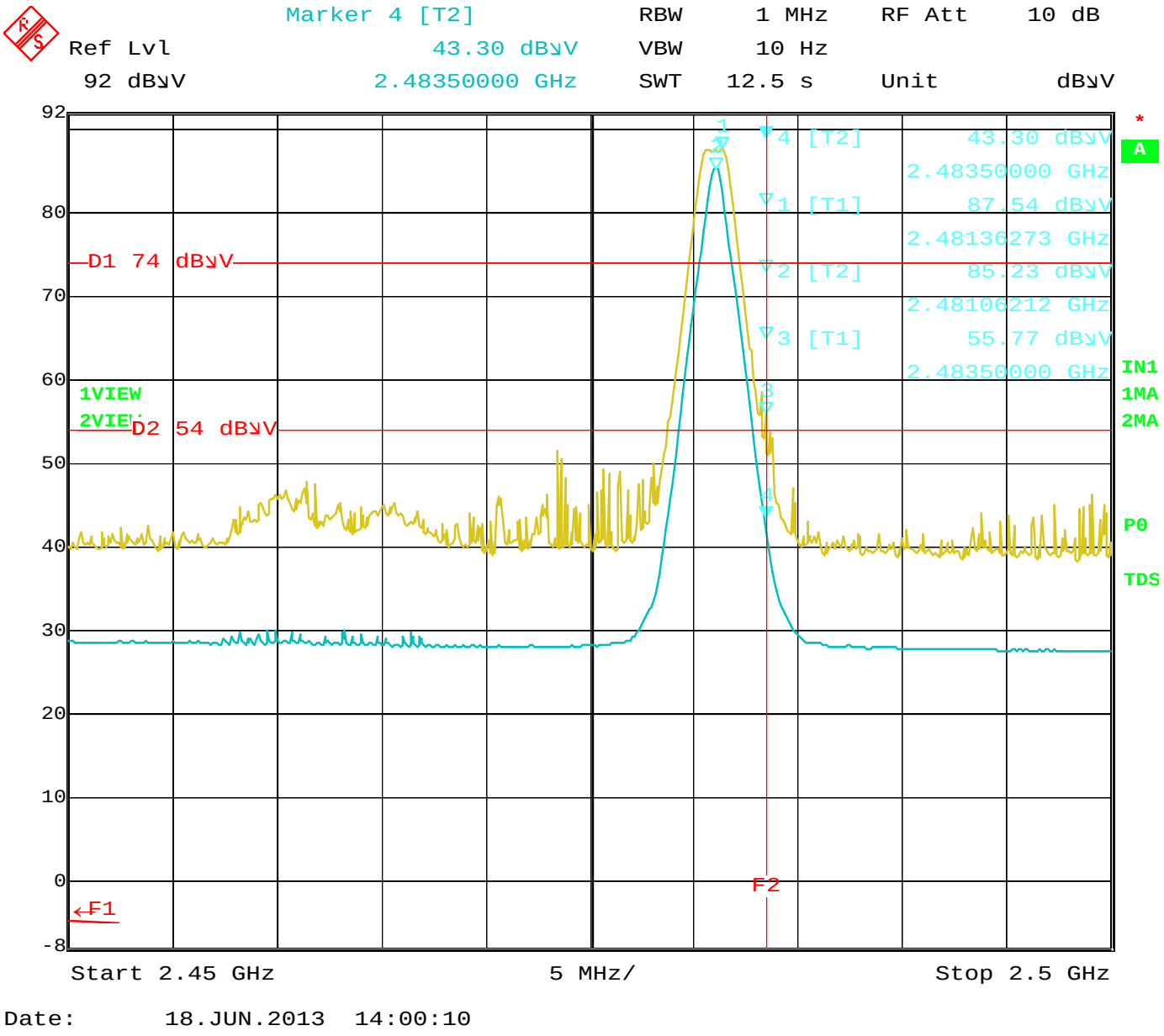
Band Edge – Low Channel – Horizontal Polarization – X-Axis (Worst Case)

FCC 15.249
RF Digital Corporation
RF Module
Model: R25

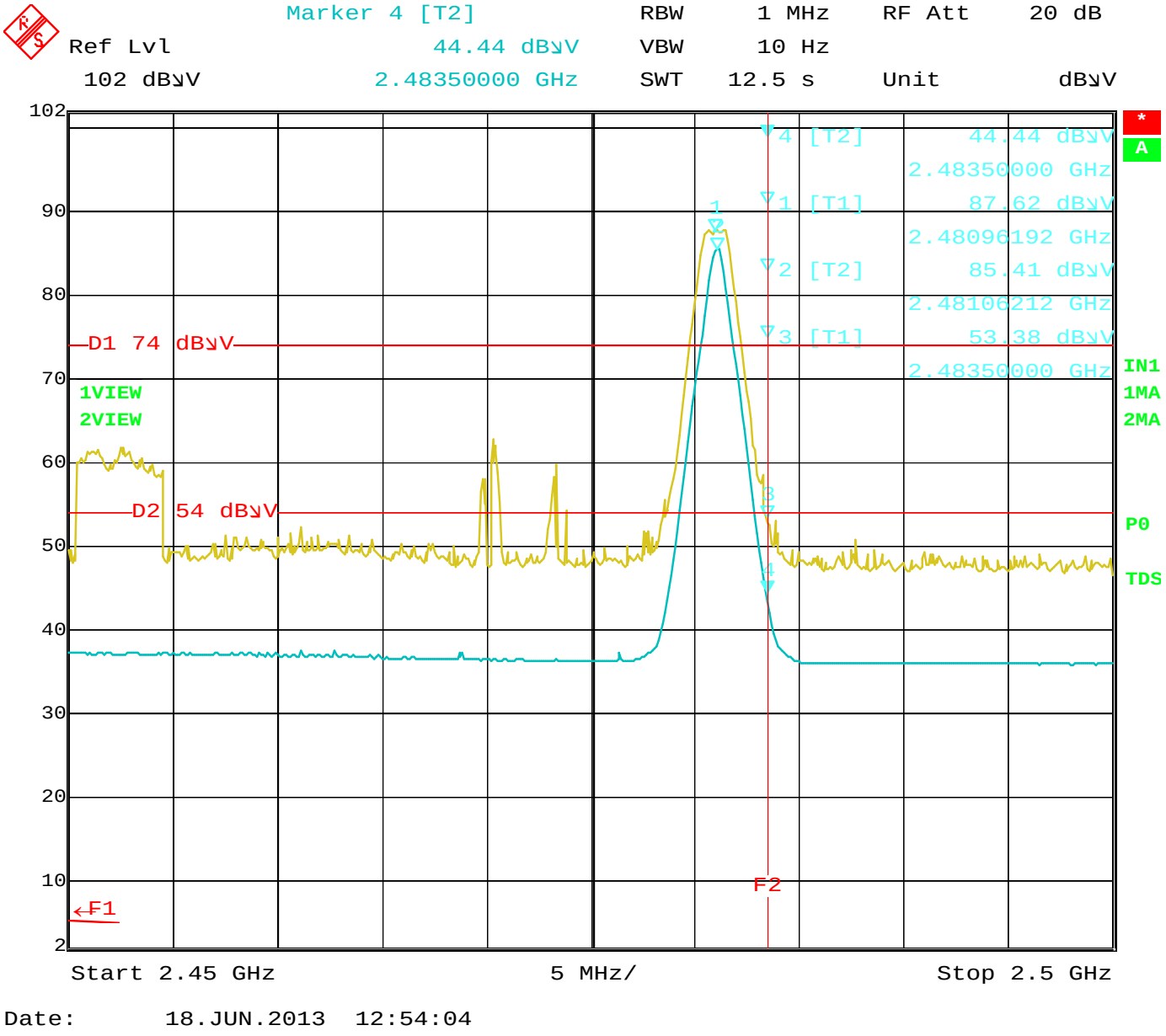
Date: 06/18/2013
Lab: B
Tested By: Kyle Fujimoto

2 MBit Mode (Worst Case)
Band Edges

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2481	87.54	V	114	-26.46	Peak	1	1.25	**Fundamental**
2481	85.23	V	94	-8.77	Avg	1	1.25	**Z-Axis (Worst Case)**
2483.5	55.77	V	74	-18.23	Peak	1	1.25	**Band Edge**
2483.5	43.3	V	54	-10.7	Avg	1	1.25	**Z-Axis (Worst Case)**
2481	87.62	H	114	-26.38	Peak	1.25	155	**Fundamental**
2481	85.41	H	94	-8.59	Avg	1.25	155	**X-Axis (Worst Case)**
2483.5	53.38	H	74	-20.62	Peak	1.25	155	**Band Edge**
2483.5	44.44	H	54	-9.56	Avg	1.25	155	**X-Axis (Worst Case)**



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



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