FCC PART 15, SUBPART B and C
TEST REPORT

for

INTELIGATEWAY

MODEL: IG-302

Prepared for

IBIS NETWORKS
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HONOLULU, HAWAII 96813

Prepared by:_____

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DATE: MAY 6, 2016

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

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

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

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

Device Tested:	InteliGateway Model: IG-302 S/N: N/A
Product Description:	The EUT is a standalone InteliGateway which implements Ibis' Plover profile. It connects the ZigBee mesh to an Ethernet port, providing connectivity to the InteliNetwork.
Modifications:	The EUT was not modified during the testing.
Customer:	IBIS Networks 841 Bishop Street, Ste 1601 Honolulu, Hawaii 96813
Test Dates:	March 31 and April 4, 2016
Test Specifications:	Emissions requirements CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.247
Test Procedure:	ANSI C63.10 and ANSI C63.4
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz – 30 MHz	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.
2	Spurious Radiated RF Emissions, 30 MHz – 1000 MHz	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 15.209
3	Spurious Radiated RF Emissions, 10 kHz – 30 MHz and 1000 MHz – 25000 MHz	The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, section 15.247(d)
4	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 10 kHz – 25 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
5	Emissions produced by the intentional radiator in restricted bands, 10 kHz – 25 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209, and section 15.247 (d)
6	DTS Bandwidth	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (a)(2)
7	Peak Power Output	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(3)
8	RF Conducted Antenna Test	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (d)
9	Peak Power Spectral Density from the Intentional Radiator to the Antenna	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (e)

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the InteliGateway, Model: IG-302. The emissions measurements were performed according to the measurement procedure described in ANSI C63.10 and 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 15.247.

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

IBIS Networks

Michael Pfeffer	CEO

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
James Ross	Test Engineer

2.4 Date Test Sample was Received

The test sample was received on March 11, 2016.

2.5 Disposition of the Test Sample

The test sample has not been returned to IBIS Networks 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

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
ANSI C63.4 2014	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
FCC Title 47, Part 15 Subpart B	FCC Rules - Radio frequency devices (including digital devices) – Unintentional Radiators
KDB 558074 D01 v03r05	Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under 15.247

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration – Emissions

The InteliGateway Model: IG-302 (EUT) was connected to pair of headphones and a router. The EUT was tested in three orthogonal axis. During the testing, the EUT was continuously transmitting.

The EUT was tested in the X, Y and Z axis. The X orientation is when the EUT is parallel to the ground. The Y orientation is when the EUT is perpendicular to the ground mounted vertically. The Z orientation is when the EUT is perpendicular to the ground mounted horizontally.

The voltage was varied ±15%; the transmitting signal amplitude and frequency did not vary.

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

4.1.1 Cable Construction and Termination

Cable 1 This is a 1-meter unshielded cable connecting the EUT's to a pair of headphones. The cable has a 1/8 inch mono connector at the EUT end and is hard wired into the headphones.

Cable 2 This is a 17-meter unshielded cable connecting the EUT to the router. The cable has RJ-45 connectors at each end.

Cable 3 This is a 2-meter unshielded cable connecting the EUT to AC adapter. The cable has a 1/8 inch power connector at the EUT end and is hard wired into the AC Adapter

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
INTELIGATEWAY	IBIS NETWORKS	IG-302	N/A	2AECN303
AC ADAPTER	CUI, INC.	EPSA033180UW	N/A	N/A
HEADPHONES	N/A	N/A	N/A	N/A
ROUTER	NETGEAR	FS105	N/A	N/A

5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CAL. CYCLE
RF RADIATED EMISSIONS TEST EQUIPMENT					
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	Rohde & Schwarz	ESIB40	100194	December 4, 2014	2 Year
CombiLog Antenna	Com-Power	AC-220	61060	September 3, 2015	1 Year
Preamplifier	Com-Power	PA-118	551024	March 6, 2015	2 Year
Preamplifier	Com-Power	PA-840	711013	May 13, 2014	2 Year
Loop Antenna	Com-Power	AL-130	17089	February 6, 2015	2 Year
Horn Antenna	Com-Power	AH-118	071175	February 26, 2016	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
LISN	Com-Power	LI-215	191951	June 9, 2015	1 Year
LISN	Com-Power	LI-215	191952	June 9, 2015	1 Year
Transient Limiter	Com-Power	252A910	N/A	October 14, 2015	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 frequencies 1 GHz and below: The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

For frequencies above 1 GHz: The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 1.5 meters above the ground plane.

The EUT was grounded via the third wire saftey ground in the AC power plug.

7. CHARACTERISTICS OF THE TRANSMITTER

7.1 Channel Description and Frequencies

The lowest frequency the EUT will use is 2405 MHz and the highest frequency the EUT will use is 2480 MHz. The EUT will be able to be tuned every 5 MHz between the lowest frequency and the highest frequency.

7.2 Antenna Gain

The EUT utilizes a ¼ wave external antenna with an RPSMA connector. The antenna has a gain of 1.6 dBi.

8. TEST PROCEDURES

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

8.1 RF Emissions

8.1.1 Conducted Emissions Test

The spectrum analyzer was used as a measuring meter. The data was collected with the spectrum analyzer in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A transient limiter was used for the protection of the spectrum analyzer input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the spectrum analyzer. The output of the second LISN was terminated by a 50 ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. 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 relevant requirements of FCC Title 47, Part 15, Subpart C section 15.207.

8.1.2 Radiated Emissions (Spurious and Harmonics) Test

The EMI Receiver was used as the measuring meter. Below 1 GHz, a built-in, internal preamplifier was used to increase the sensitivity of the instrument. At frequencies above 1 GHz, external preamplifiers were used. The Com Power Microwave Preamplifier Model: PA-118 was used for frequencies above from1 GHz to 18 GHz, and the Com Power Microwave Preamplifier Model: PA-840 was used for frequencies above 18 GHz. 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 frequencies above 1 GHz were averaged by using a duty cycle correction factor.

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

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Loop Antenna
150 kHz to 30 MHz	9 kHz	Loop Antenna
30 MHz to 1 GHz	120 kHz	Combilog Antenna
1 GHz to 25 GHz	1 MHz	Horn Antenna

The EMI test chamber of Compatible Electronics, Inc. was used for radiated emissions testing. This test site is in full compliance with 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. 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.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, Sections 15.209 and 15.247 (d) for radiated emissions. Please see Appendix E for the data sheets.

8.1.3 RF Emissions Test Results

Table 1.0 CONDUCTED EMISSION RESULTS
InteliGateway, Model: IG-302

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
0.478(BL)	38.55	46.13	-7.58
0.506(BL)	38.51	46.15	-7.64
0.494(BL)	38.08	46.20	-8.12
0.474(BL)	37.96	46.21	-8.25
0.462(BL)	37.44	46.49	-9.05
0.466(BL)	36.90	46.47	-9.56

Table 2.0 RADIATED EMISSION RESULTS
InteliGateway, Model: IG-302

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
7215 (V)(Y-axis)	51.28 (Avg)	54.00	-2.72
590.00 (V)(X-axis)	42.04 (QP)	46.00	-3.96
9900 (H)(Y-axis)	49.58 (Avg)	54.00	-4.42
250.00 (V)(X-axis)	41.57 (QP)	46.00	-4.43
150.00 (V)(X-axis)	38.41 (QP)	43.50	-5.09
590.00 (H)(X-axis)	40.13 (QP)	46.00	-5.87

Notes:

*	The complete emissions data is given in Appendix E of this report.		
Pk	Peak Reading	Avg	Average Reading
H	Horizontal Polarization	V	Vertical Polarization
BL	Black Lead	QP	Quasi-Peak Reading

8.2 DTS Bandwidth

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

1. Set RBW = 100 kHz
2. Set the video bandwidth (VBW) to equal or greater than 3 times the RBW
3. Detector = Peak
4. Trace Mode = Max Hold
5. Sweep = Auto Couple
6. Allow the trace to stabilize
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(2).

8.3 Peak Output Power

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

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (b)(3).

8.4 Emissions in Non-Restricted Bands

The emissions in the non-restricted frequency bands measurements were performed using the EMI receiver directly connected to the EUT. The reference level was established by setting the instrument center frequency to DTS channel center frequency. The span was set to ≥ 1.5 times the DTS bandwidth. The RBW was set to 100 kHz and the VBW was set to 300 kHz. A peak detector was used with sweep set to auto. A max hold trace was used and allowed to fully stabilize. The peak marker function was used to determine the level and 20 dB below that was the reference level. For emission level measurement, the center frequency and span were set to encompass the frequency range to be measured. The RBW was set to 100 kHz and the VBW was set to 300 kHz. A peak detector was used with a sweep time set to auto. The number of measurement points were greater than the span/RBW. A max hold trace was used and allowed to fully stabilize. The peak marker function was used to determine the maximum amplitude level. The final qualification data sheets are located in Appendix E.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). Note: The 2390 MHz to 2400 MHz band was also investigated. The three highest emissions in the non-restricted bands were recorded.

8.5 RF Band Edges

The RF band edges were taken at 2390 MHz when the EUT was on the low channel and 2483.5 MHz when the EUT was on the high channel using the EMI Receiver. A preamplifier was used to boost the signal level, with the plots being taken at a 3 meter test distance. The radiated emissions test procedure as describe in section 8.1.2 of this test report was used to maximize the emission.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The RF power at the restricted bands closest to the band edges at 2390 MHz and 2483.5 MHz also meet the limits of section 15.209. Please see the data sheets located in Appendix E.

8.6 Spectral Density Test

The spectrum density output was measured using the EMI Receiver. The spectral density output was measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The following steps were performed for measuring the spectral density.

1. Set analyzer center frequency to DTS channel center frequency
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to 3 kHz <= RBW <= 100 kHz
4. Set the VBW >= 3 X RBW
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Allow trace to fully stabilize
9. Use the peak marker function to determine the maximum amplitude level within the RBW
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Test Results:

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

9. CONCLUSIONS

The InteliGateway, Model: IG-302, as tested, meets all of the specification limits defined in FCC Title 47, Part 15, Subpart B, and Subpart C, sections 15.205, 15.209, 15.207, and 15.247.

APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

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

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

NVLAP listing links

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

.Quote from ISO-ILAC-IAF Communiqué on 17025:

"A laboratory's fulfilment of the requirements of ISO/IEC 17025:2005 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025:2005 (Section 4) are written in language relevant to laboratory operations and meet the principles of ISO 9001:2008 Quality Management Systems — Requirements."

ANSI listing CETCB

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

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

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

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

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

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

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B and FCC 15.247 specifications.

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

The EUT was not modified during the testing.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST	InteliGateway Model: IG-302 S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: LAYOUT OF THE SEMI-ANECHOIC TEST CHAMBER

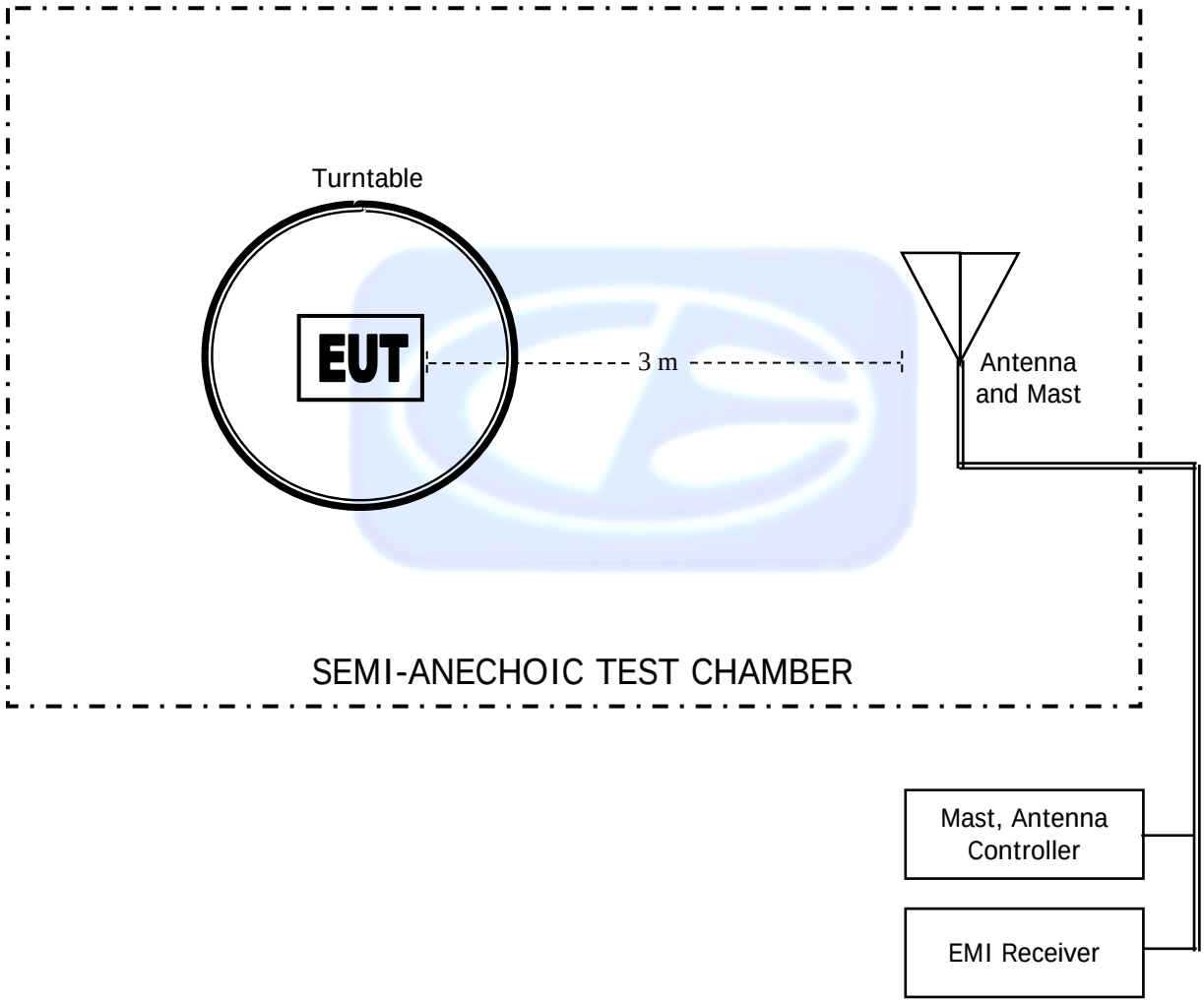
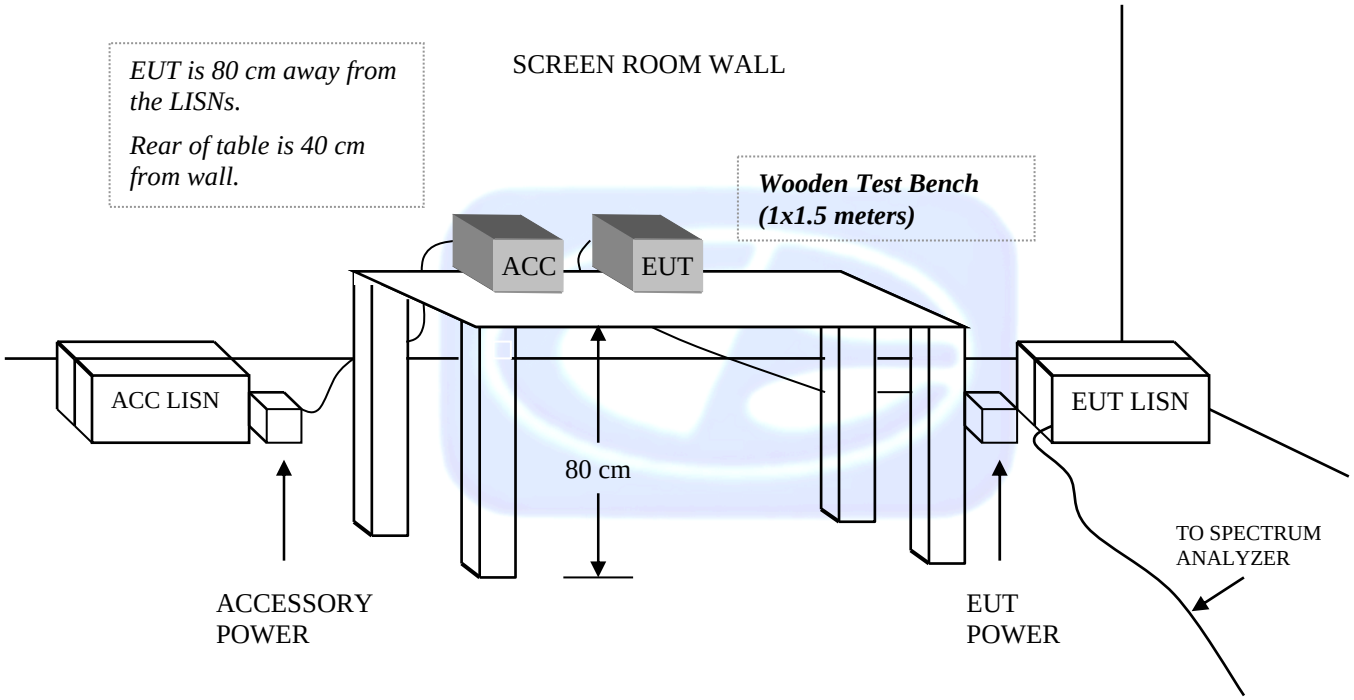


FIGURE 2: CONDUCTED EMISSIONS TEST SETUP



COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: FEBRUARY 6, 2015

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

COM-POWER AC-220

COMBILOG ANTENNA

S/N: 61060

CALIBRATION DATE: 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, 2016

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	23.93	10.0	39.33
1.5	25.54	10.5	39.64
2.0	28.09	11.0	41.04
2.5	30.21	11.5	44.29
3.0	30.15	12.0	41.22
3.5	30.17	12.5	41.50
4.0	31.90	13.0	41.62
4.5	33.51	13.5	40.63
5.0	33.87	14.0	39.94
5.5	35.08	14.5	41.84
6.0	34.81	15.0	42.69
6.5	34.26	15.5	39.03
7.0	36.33	16.0	39.07
7.5	37.03	16.5	41.40
8.0	37.56	17.0	43.18
8.5	40.07	17.5	47.01
9.0	38.92	18.0	46.48
9.5	38.21		

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

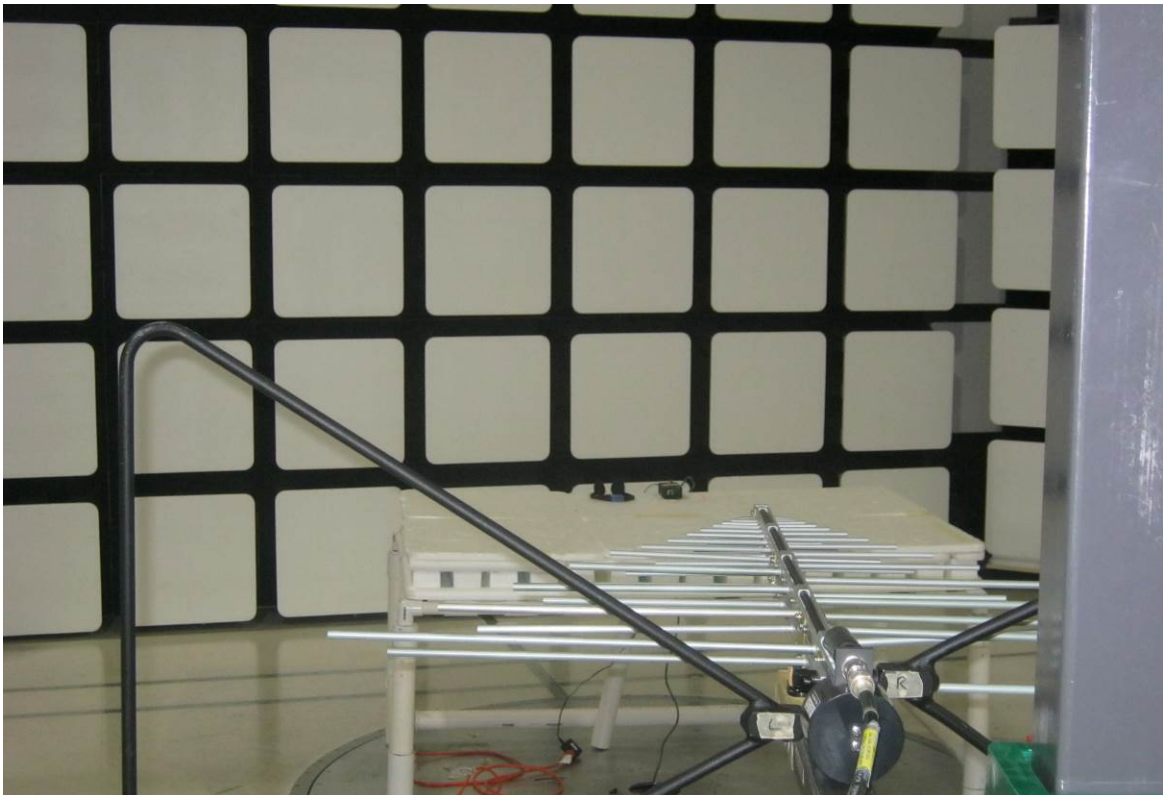
COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MAY 13, 2014

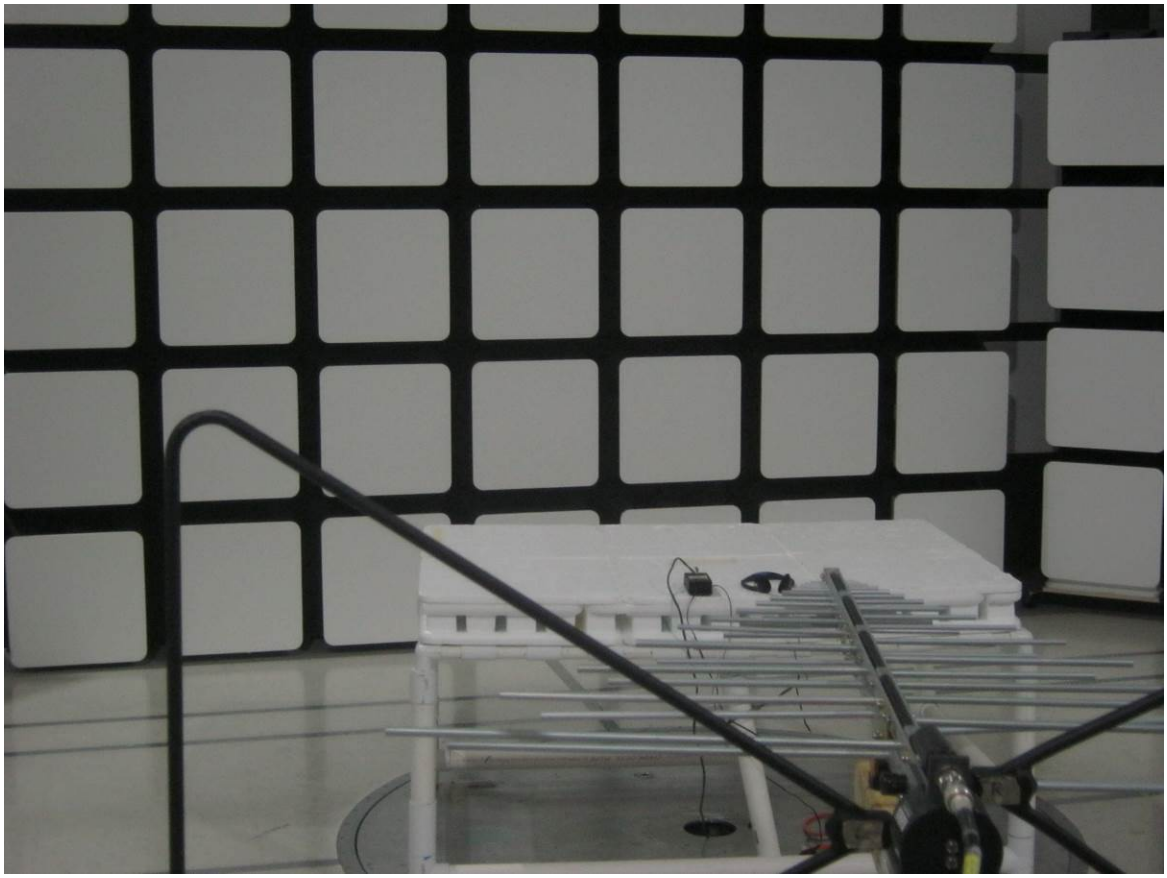
FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	25.19	31.0	25.69
19.0	24.48	31.5	25.74
20.0	24.39	32.0	26.35
21.0	24.73	32.5	26.64
22.0	23.49	33.0	25.98
23.0	24.23	33.5	24.68
24.0	24.59	34.0	24.61
25.0	25.32	34.5	23.78
26.0	25.66	35.0	24.74
26.5	25.99	35.5	24.39
27.0	26.26	36.0	23.46
27.5	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

IBIS NETWORKS
INTELIGATEWAY
MODEL: IG-302
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

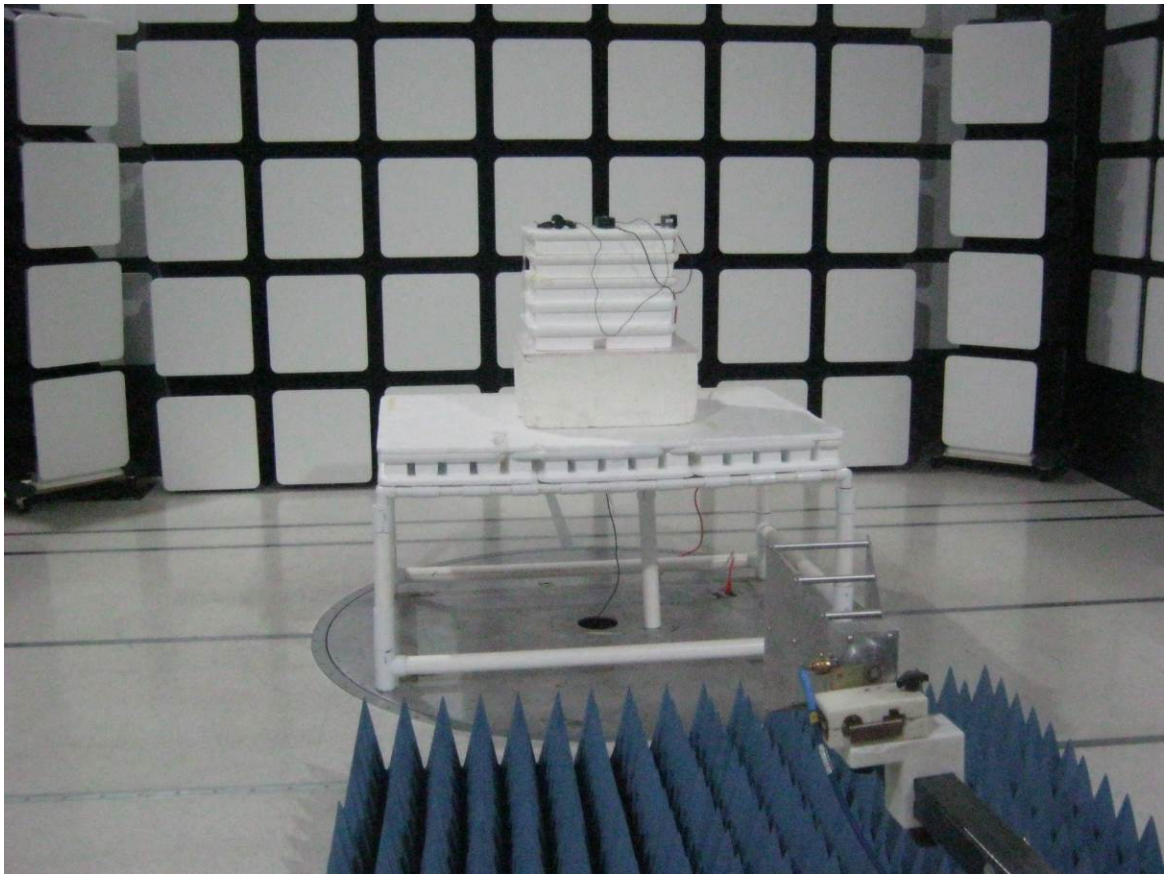
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

IBIS NETWORKS
INTELIGATEWAY
MODEL: IG-302
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

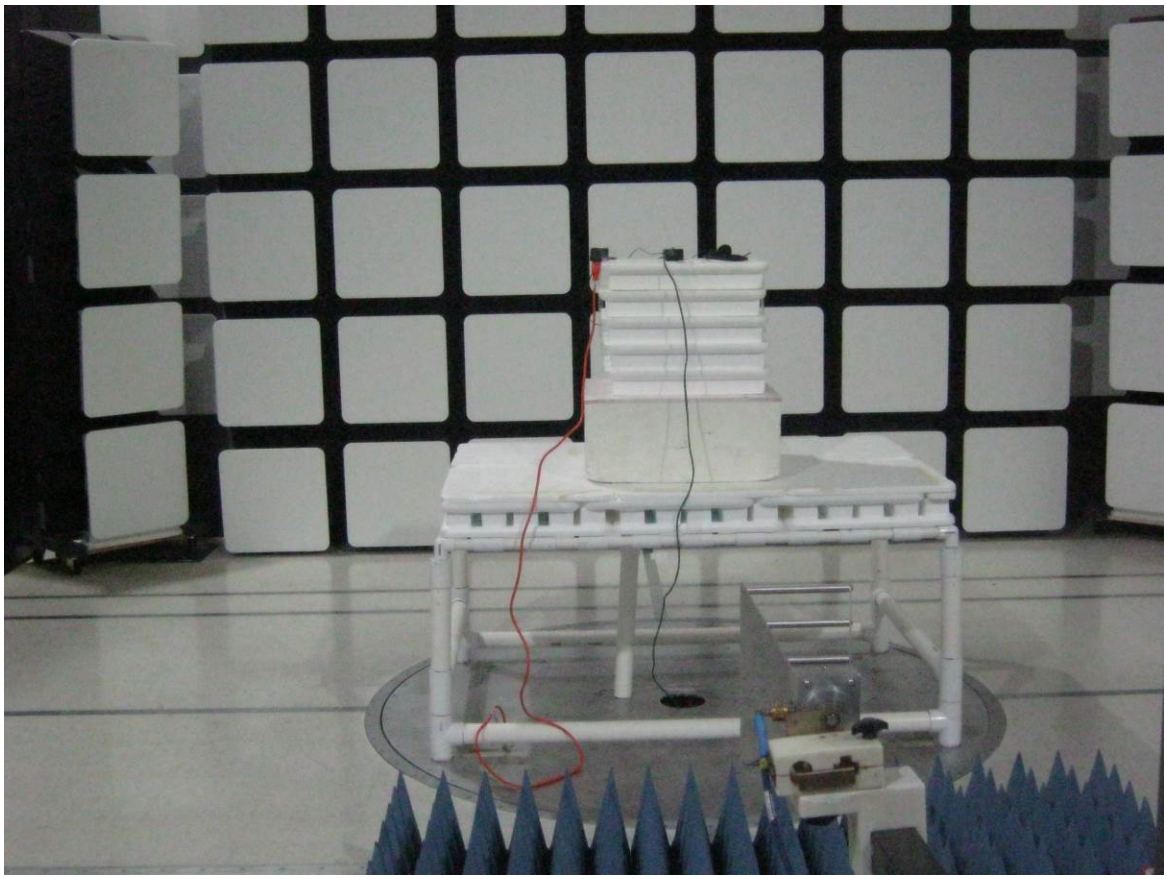
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

IBIS NETWORKS
INTELIGATEWAY
MODEL: IG-302
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

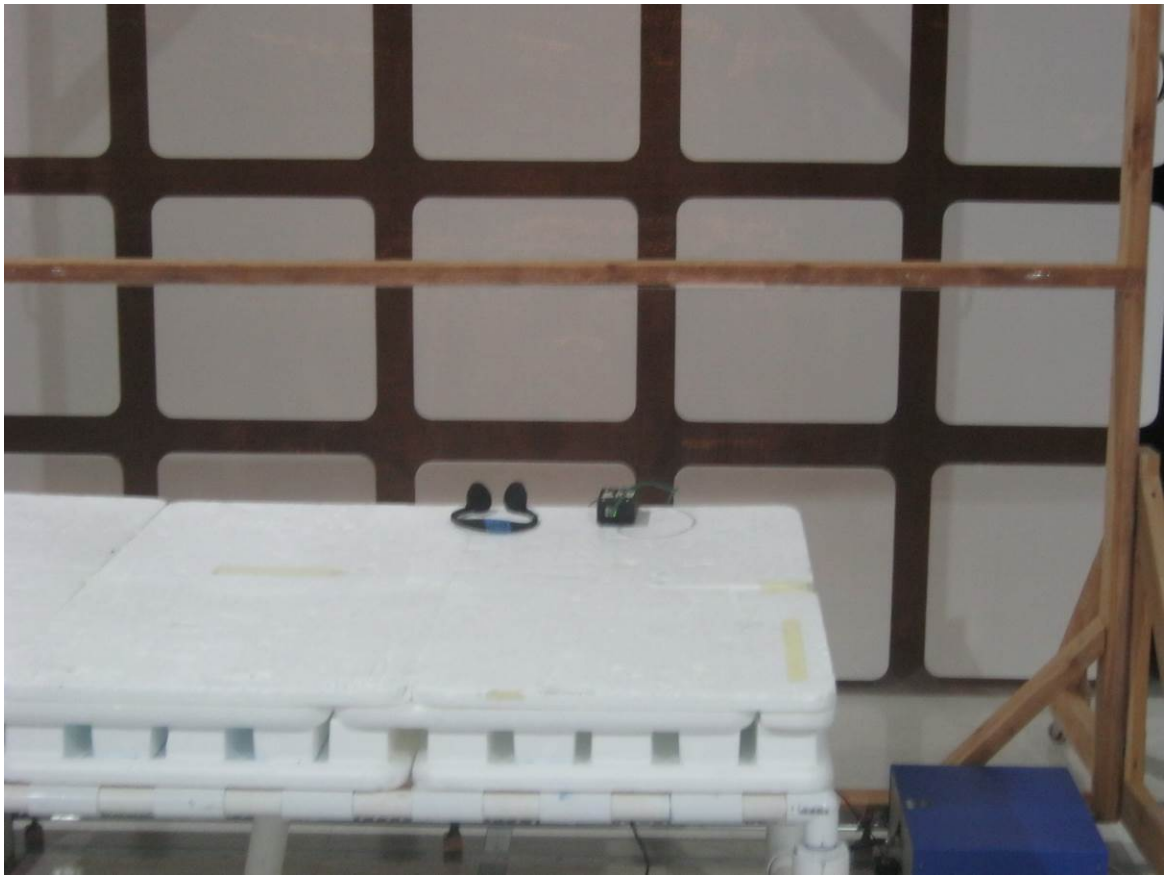
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

IBIS NETWORKS
INTELIGATEWAY
MODEL: IG-302
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

IBIS NETWORKS
INTELIGATEWAY
MODEL: IG-302
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

IBIS NETWORKS
INTELIGATEWAY
MODEL: IG-302
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2405 MHz
Transmit Mode - X-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	61.47	V	74.00	-12.53	Peak	186.75	221.28	
4810	41.47	V	54.00	-12.53	Avg	186.75	221.28	
7215	61.90	V	74.00	-12.10	Peak	70.00	195.31	
7215	41.90	V	54.00	-12.10	Avg	70.00	195.31	
9620	49.83	V	74.00	-24.17	Peak	201.50	183.91	
9620	29.83	V	54.00	-24.17	Avg	201.50	183.91	
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2405 MHz
Transmit Mode - Y-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	64.34	V	74.00	-9.66	Peak	174.25	160.38	
4810	44.34	V	54.00	-9.66	Avg	174.25	160.38	
7215	71.28	V	74.00	-2.72	Peak	87.75	155.56	
7215	51.28	V	54.00	-2.72	Avg	87.75	155.56	
9620	50.34	V	74.00	-23.66	Peak	161.25	152.02	
9620	30.34	V	54.00	-23.66	Avg	161.25	152.02	
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2405 MHz
Transmit Mode - Z-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	56.23	V	74.00	-17.77	Peak	162.75	176.14	
4810	36.23	V	54.00	-17.77	Avg	162.75	176.14	
7215	60.08	V	74.00	-13.92	Peak	199.75	190.53	
7215	40.08	V	54.00	-13.92	Avg	199.75	190.53	
9620	49.92	V	74.00	-24.08	Peak	140.00	207.61	
9620	29.92	V	54.00	-24.08	Avg	140.00	207.61	
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2405 MHz
Transmit Mode - X-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	52.74	H	74.00	-21.26	Peak	148.00	129.40	
4810	32.74	H	54.00	-21.26	Avg	148.00	129.40	
7215	58.16	H	74.00	-15.84	Peak	204.25	118.59	
7215	38.16	H	54.00	-15.84	Avg	204.25	118.59	
9620	49.60	H	74.00	-24.40	Peak	22.00	118.25	
9620	29.60	H	54.00	-24.40	Avg	22.00	118.25	
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2405 MHz
Transmit Mode - Y-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	52.95	H	74.00	-21.05	Peak	91.75	125.10	
4810	32.95	H	54.00	-21.05	Avg	91.75	125.10	
7215	66.01	H	74.00	-7.99	Peak	187.50	146.65	
7215	46.01	H	54.00	-7.99	Avg	187.50	146.65	
9620	49.19	H	74.00	-24.81	Peak	355.00	148.85	
9620	29.19	H	54.00	-24.81	Avg	355.00	148.85	
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2405 MHz
Transmit Mode - Z-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	51.24	H	74.00	-22.76	Peak	102.75	128.14	
4810	31.24	H	54.00	-22.76	Avg	102.75	128.14	
7215	65.24	H	74.00	-8.76	Peak	192.25	151.51	
7215	45.24	H	54.00	-8.76	Avg	192.25	151.51	
9620	49.02	H	74.00	-24.98	Peak	351.25	163.50	
9620	29.02	H	54.00	-24.98	Avg	351.25	163.50	
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2440 MHz
Transmit Mode - X-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	58.48	V	74.00	-15.52	Peak	115.75	249.25	
4880	38.48	V	54.00	-15.52	Peak	115.75	249.25	
7320	59.42	V	74.00	-14.58	Peak	189.00	127.01	
7320	39.42	V	54.00	-14.58	Avg	189.00	127.01	
9760	50.41	V	74.00	-23.59	Peak	270.00	130.25	
9760	30.41	V	54.00	-23.59	Avg	270.00	130.25	
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2440 MHz
Transmit Mode - Y-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	63.95	V	74.00	-10.05	Peak	119.25	213.64	
4880	43.95	V	54.00	-10.05	Peak	119.25	213.64	
7320	64.84	V	74.00	-9.16	Peak	120.50	198.77	
7320	44.84	V	54.00	-9.16	Avg	120.50	198.77	
9760	50.87	V	74.00	-23.13	Peak	219.75	248.68	
9760	30.87	V	54.00	-23.13	Avg	219.75	248.68	
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2440 MHz
Transmit Mode - Z-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	55.45	V	74.00	-18.55	Peak	5.00	173.52	
4880	35.45	V	54.00	-18.55	Peak	5.00	173.52	
7320	59.36	V	74.00	-14.64	Peak	137.00	250.00	
7320	39.36	V	54.00	-14.64	Avg	137.00	250.00	
9760	52.01	V	74.00	-21.99	Peak	202.50	219.07	
9760	32.01	V	54.00	-21.99	Avg	202.50	219.07	
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2440 MHz
Transmit Mode - X-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	58.56	H	74.00	-15.44	Peak	256.75	208.26	
4880	38.56	H	54.00	-15.44	Avg	256.75	208.26	
7320	63.16	H	74.00	-10.84	Peak	234.00	250.00	
7320	43.16	H	54.00	-10.84	Avg	234.00	250.00	
9760	50.54	H	74.00	-23.46	Peak	201.50	201.22	
9760	30.54	H	54.00	-23.46	Avg	201.50	201.22	
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2440 MHz
Transmit Mode - Y-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	60.75	H	74.00	-13.25	Peak	191.75	148.68	
4880	40.75	H	54.00	-13.25	Avg	191.75	148.68	
7320	59.48	H	74.00	-14.52	Peak	177.00	141.70	
7320	39.48	H	54.00	-14.52	Avg	177.00	141.70	
9760	51.15	H	74.00	-22.85	Peak	59.00	132.14	
9760	31.15	H	54.00	-22.85	Avg	59.00	132.14	
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2440 MHz
Transmit Mode - Z-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	64.52	H	74.00	-9.48	Peak	126.75	138.83	
4880	44.52	H	54.00	-9.48	Avg	126.75	138.83	
7320	67.09	H	74.00	-6.91	Peak	193.75	144.32	
7320	47.09	H	54.00	-6.91	Avg	193.75	144.32	
9760	50.14	H	74.00	-23.86	Peak	143.50	148.68	
9760	30.14	H	54.00	-23.86	Avg	143.50	148.68	
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2475 MHz
Transmit Mode - X-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4950	57.61	V	74.00	-16.39	Peak	89.50	207.55	
4950	37.61	V	54.00	-16.39	Avg	89.50	207.55	
7425	60.21	V	74.00	-13.79	Peak	257.50	229.82	
7425	40.21	V	54.00	-13.79	Avg	257.50	229.82	
9900	48.59	V	74.00	-25.41	Peak	212.24	198.25	
9900	28.59	V	54.00	-25.41	Avg	212.24	198.25	
12375								**No Emissions**
12375								**Detected**
14850								**No Emissions**
14850								**Detected**
17325								**No Emissions**
17325								**Detected**
19800								**No Emissions**
19800								**Detected**
22275								**No Emissions**
22275								**Detected**
24750								**No Emissions**
24750								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2475 MHz
Transmit Mode - Y-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4950	58.09	V	74.00	-15.91	Peak	218.25	258.89	
4950	38.09	V	54.00	-15.91	Avg	218.25	258.89	
7425	61.11	V	74.00	-12.89	Peak	192.50	133.52	
7425	41.11	V	54.00	-12.89	Avg	192.50	133.52	
9900	52.76	V	74.00	-21.24	Peak	1.75	144.80	
9900	32.76	V	54.00	-21.24	Avg	1.75	144.80	
12375								**No Emissions**
12375								**Detected**
14850								**No Emissions**
14850								**Detected**
17325								**No Emissions**
17325								**Detected**
19800								**No Emissions**
19800								**Detected**
22275								**No Emissions**
22275								**Detected**
24750								**No Emissions**
24750								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2475 MHz
Transmit Mode - Z-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4950	61.93	V	74.00	-12.07	Peak	188.00	179.01	
4950	41.93	V	54.00	-12.07	Avg	188.00	179.01	
7425	63.01	V	74.00	-10.99	Peak	152.00	255.91	
7425	43.01	V	54.00	-10.99	Avg	152.00	255.91	
9900	52.24	V	74.00	-21.76	Peak	121.75	182.35	
9900	32.24	V	54.00	-21.76	Avg	121.75	182.35	
12375								**No Emissions**
12375								**Detected**
14850								**No Emissions**
14850								**Detected**
17325								**No Emissions**
17325								**Detected**
19800								**No Emissions**
19800								**Detected**
22275								**No Emissions**
22275								**Detected**
24750								**No Emissions**
24750								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2475 MHz
Transmit Mode - X-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4950	53.73	H	74.00	-20.27	Peak	162.75	193.58	
4950	33.73	H	54.00	-20.27	Peak	162.75	193.58	
7425	58.26	H	74.00	-15.74	Peak	233.50	241.70	
7425	38.26	H	54.00	-15.74	Avg	233.50	241.70	
9900	53.29	H	74.00	-20.71	Peak	126.58	184.54	
9900	33.29	H	54.00	-20.71	Avg	126.58	184.54	
12375								**No Emissions**
12375								**Detected**
14850								**No Emissions**
14850								**Detected**
17325								**No Emissions**
17325								**Detected**
19800								**No Emissions**
19800								**Detected**
22275								**No Emissions**
22275								**Detected**
24750								**No Emissions**
24750								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2475 MHz
Transmit Mode - Y-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4950	60.67	H	74.00	-13.33	Peak	206.00	232.80	
4950	40.67	H	54.00	-13.33	Peak	206.00	232.80	
7425	64.78	H	74.00	-9.22	Peak	141.00	245.22	
7425	44.78	H	54.00	-9.22	Avg	141.00	245.22	
9900	69.58	H	74.00	-4.42	Peak	146.25	247.55	
9900	49.58	H	54.00	-4.42	Avg	146.25	247.55	
12375								**No Emissions**
12375								**Detected**
14850								**No Emissions**
14850								**Detected**
17325								**No Emissions**
17325								**Detected**
19800								**No Emissions**
19800								**Detected**
22275								**No Emissions**
22275								**Detected**
24750								**No Emissions**
24750								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2475 MHz
Transmit Mode - Z-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4950	56.96	H	74.00	-17.04	Peak	140.75	318.29	
4950	36.96	H	54.00	-17.04	Peak	140.75	318.29	
7425	60.33	H	74.00	-13.67	Peak	123.25	260.56	
7425	40.33	H	54.00	-13.67	Avg	123.25	260.56	
9900	62.45	H	74.00	-11.55	Peak	129.25	275.25	
9900	42.45	H	54.00	-11.55	Avg	129.25	275.25	
12375								**No Emissions**
12375								**Detected**
14850								**No Emissions**
14850								**Detected**
17325								**No Emissions**
17325								**Detected**
19800								**No Emissions**
19800								**Detected**
22275								**No Emissions**
22275								**Detected**
24750								**No Emissions**
24750								**Detected**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2480 MHz
Transmit Mode - X-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	50.56	V	74.00	-23.44	Peak	132.00	182.29	
4960	30.56	V	54.00	-23.44	Peak	132.00	182.29	
7440	53.99	V	74.00	-20.01	Peak	209.25	189.82	
7440	33.99	V	54.00	-20.01	Avg	209.25	189.82	
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 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2480 MHz
Transmit Mode - Y-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	48.58	H	74.00	-25.42	Peak	35.75	165.70	
4960	28.58	H	54.00	-25.42	Peak	35.75	165.70	
7440	54.01	H	74.00	-19.99	Peak	206.50	188.50	
7440	34.01	H	54.00	-19.99	Avg	206.50	188.50	
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 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2480 MHz
Transmit Mode - Z-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	49.32	V	74.00	-24.68	Peak	209.25	189.82	
4960	29.32	V	54.00	-24.68	Peak	209.25	189.82	
7440	53.74	V	74.00	-20.26	Peak	67.50	197.46	
7440	33.74	V	54.00	-20.26	Avg	67.50	197.46	
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 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2480 MHz
Transmit Mode - X-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	49.66	H	74.00	-24.34	Peak	336.00	175.25	
4960	29.66	H	54.00	-24.34	Peak	336.00	175.25	
7440	54.33	H	74.00	-19.67	Peak	156.75	172.38	
7440	34.33	H	54.00	-19.67	Avg	156.75	172.38	
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 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2480 MHz
Transmit Mode - Y-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	51.82	H	74.00	-22.18	Peak	290.75	165.70	
4960	31.82	H	54.00	-22.18	Peak	290.75	165.70	
7440	52.58	H	74.00	-21.42	Peak	165.70	116.50	
7440	32.58	H	54.00	-21.42	Avg	165.70	116.50	
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**

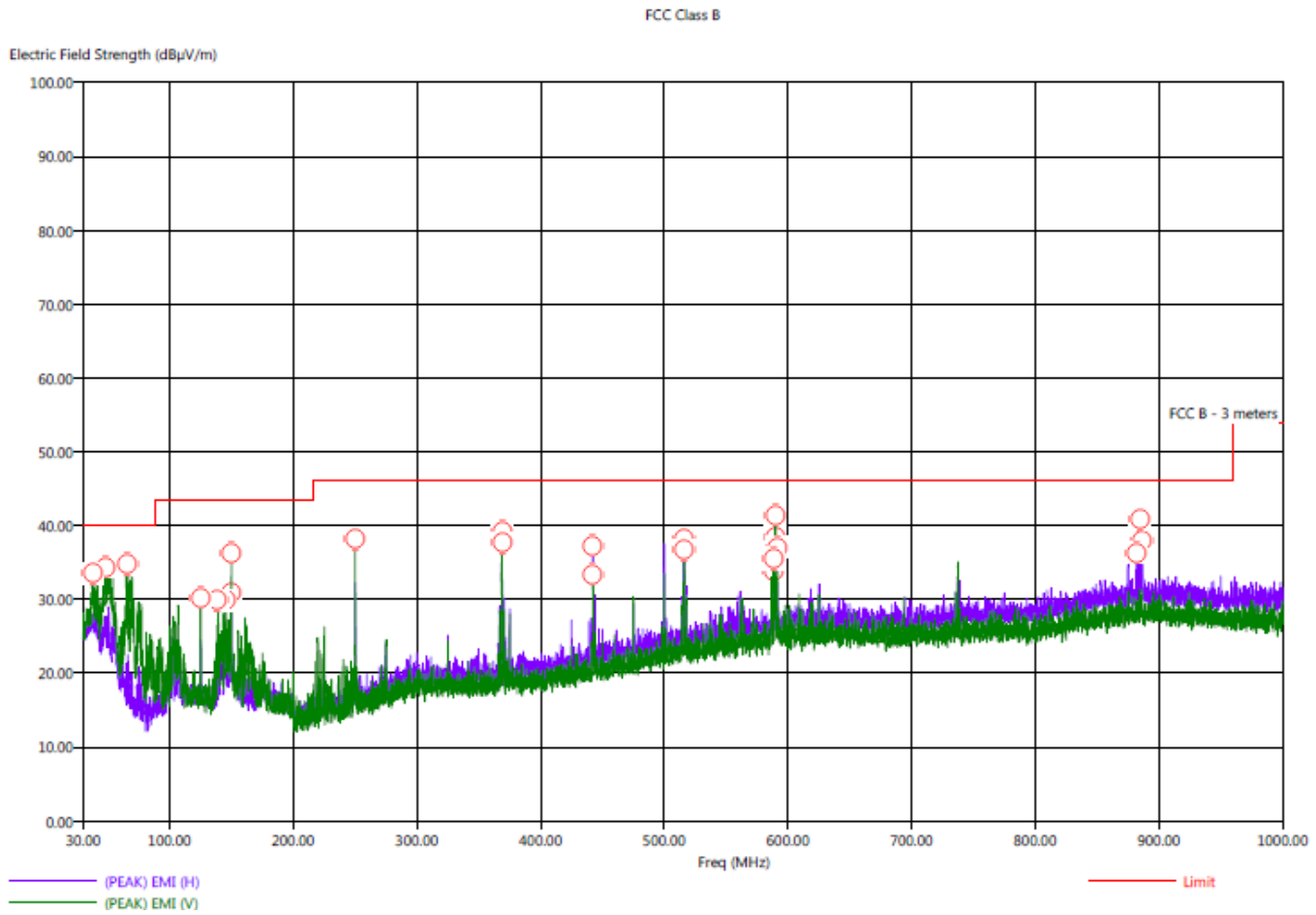
FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2480 MHz
Transmit Mode - Z-Axis

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	50.76	H	74.00	-23.24	Peak	135.50	122.65	
4960	30.76	H	54.00	-23.24	Peak	135.50	122.65	
7440	54.77	H	74.00	-19.23	Peak	35.55	125.25	
7440	34.77	H	54.00	-19.23	Avg	35.55	125.25	
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**

Title: Pre-Scan - FCC Class B
File: 1- Rohde & Schwarz - Pre-Scan - FCC Class B - 30 MHz to 1000 MHz.set
Operator: Kyle Fujimoto
EUT Type: InteliGateway
EUT Condition: The EUT is continuously transmitting - X-Axis Worst Case
Comments: Company: IBIS Networks
Model: IG-302
120 VAC / 60 Hz

3/31/2016 11:17:07 AM
Sequence: Preliminary Scan



No additional emissions, except for harmonics, were found between 10 kHz – 30 MHz and 1 GHz – 25 GHz.

Title: Radiated Final - FCC Class B
File: 1- Rohde & Schwarz - Final Scan - FCC Class B - 30 MHz to 1000 MHz.set
Operator: Kyle Fujimoto
EUT Type: INteltGateway
EUT Condition: The EUT is continuously transmitting
Comments: Company: IBIS Networks
Model: IG-302
120 VAC / 60 Hz

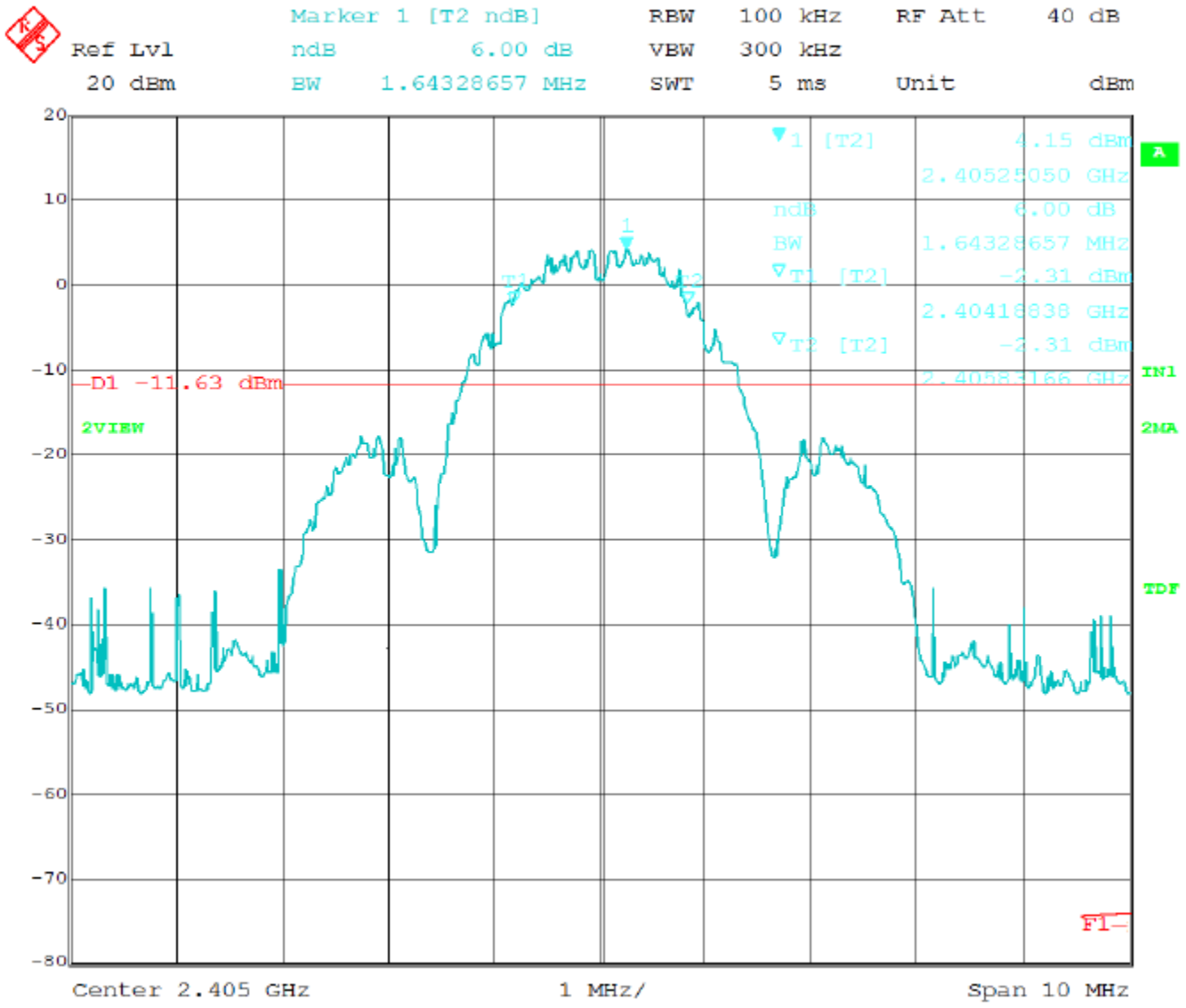
3/31/2016 11:47:07 AM
Sequence: Final Measurements

FCC Class B

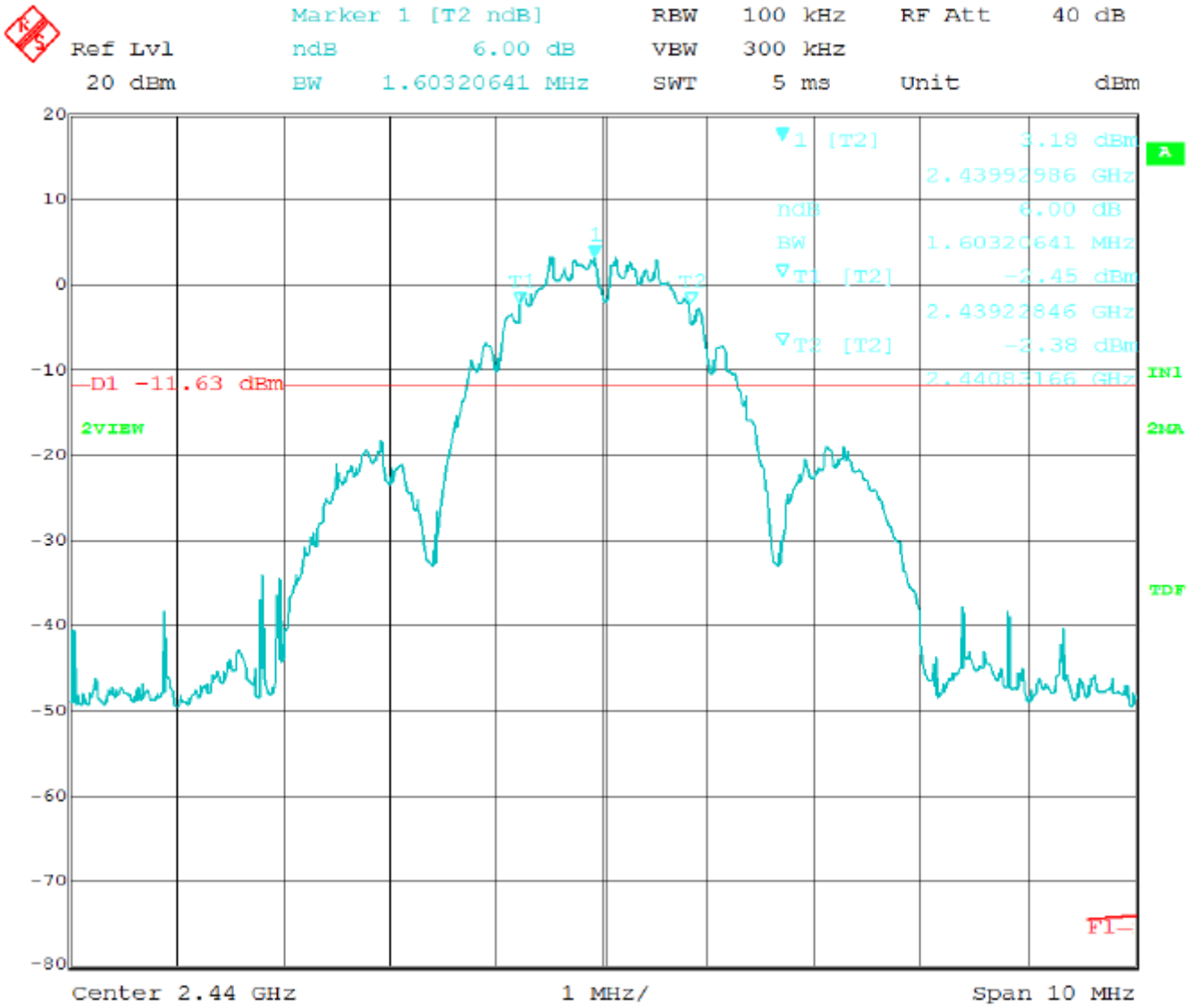
Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Tbl Agl (deg)	Twr Ht (cm)
37.80	V	33.92	30.17	-6.08	-9.83	40.00	24.88	0.38	93.75	127.97
47.80	V	35.87	31.59	-4.13	-8.41	40.00	22.08	0.41	54.00	111.49
66.30	V	36.42	33.40	-3.58	-6.60	40.00	13.66	0.59	110.75	111.31
125.10	V	33.48	31.43	-10.02	-12.07	43.50	15.40	0.81	48.00	111.31
139.20	V	28.80	25.11	-14.70	-18.39	43.50	13.21	0.86	102.25	143.97
145.30	V	28.55	24.76	-14.95	-18.74	43.50	15.30	0.88	52.75	111.19
150.00	H	32.97	31.23	-10.53	-12.27	43.50	17.20	0.90	137.00	309.16
150.00	V	39.82	38.41	-3.68	-5.09	43.50	17.20	0.90	62.25	110.47
250.00	V	42.17	41.57	-3.83	-4.43	46.00	15.30	1.24	359.75	111.31
368.70	H	41.54	40.00	-4.46	-6.00	46.00	18.17	1.50	276.75	111.43
368.70	V	41.10	39.57	-4.90	-6.43	46.00	18.17	1.50	16.25	110.95
442.50	H	34.84	32.74	-11.16	-13.26	46.00	19.63	1.69	293.75	260.62
442.50	V	31.72	28.79	-14.28	-17.21	46.00	19.63	1.69	48.25	227.13
516.20	H	38.79	37.03	-7.21	-8.97	46.00	21.87	1.79	311.25	111.37
516.20	V	41.51	39.27	-4.49	-6.73	46.00	21.87	1.79	234.25	111.55
588.40	H	39.17	36.17	-6.83	-9.83	46.00	23.41	1.95	205.00	127.07
588.40	V	38.95	36.33	-7.05	-9.67	46.00	23.41	1.95	170.00	111.37
590.00	H	42.32	40.13	-3.68	-5.87	46.00	23.44	1.96	197.75	111.37
590.00	V	44.01	42.04	-1.99	-3.96	46.00	23.44	1.96	176.75	111.49
591.50	V	38.00	35.27	-8.00	-10.73	46.00	23.49	1.96	173.00	128.02
881.70	H	34.39	29.02	-11.61	-16.98	46.00	26.68	2.52	311.25	194.00
884.90	H	42.30	39.03	-3.70	-6.97	46.00	26.72	2.52	263.25	111.19
886.50	H	37.10	32.97	-8.90	-13.03	46.00	26.74	2.52	311.25	161.04

-6 dB BANDWIDTH

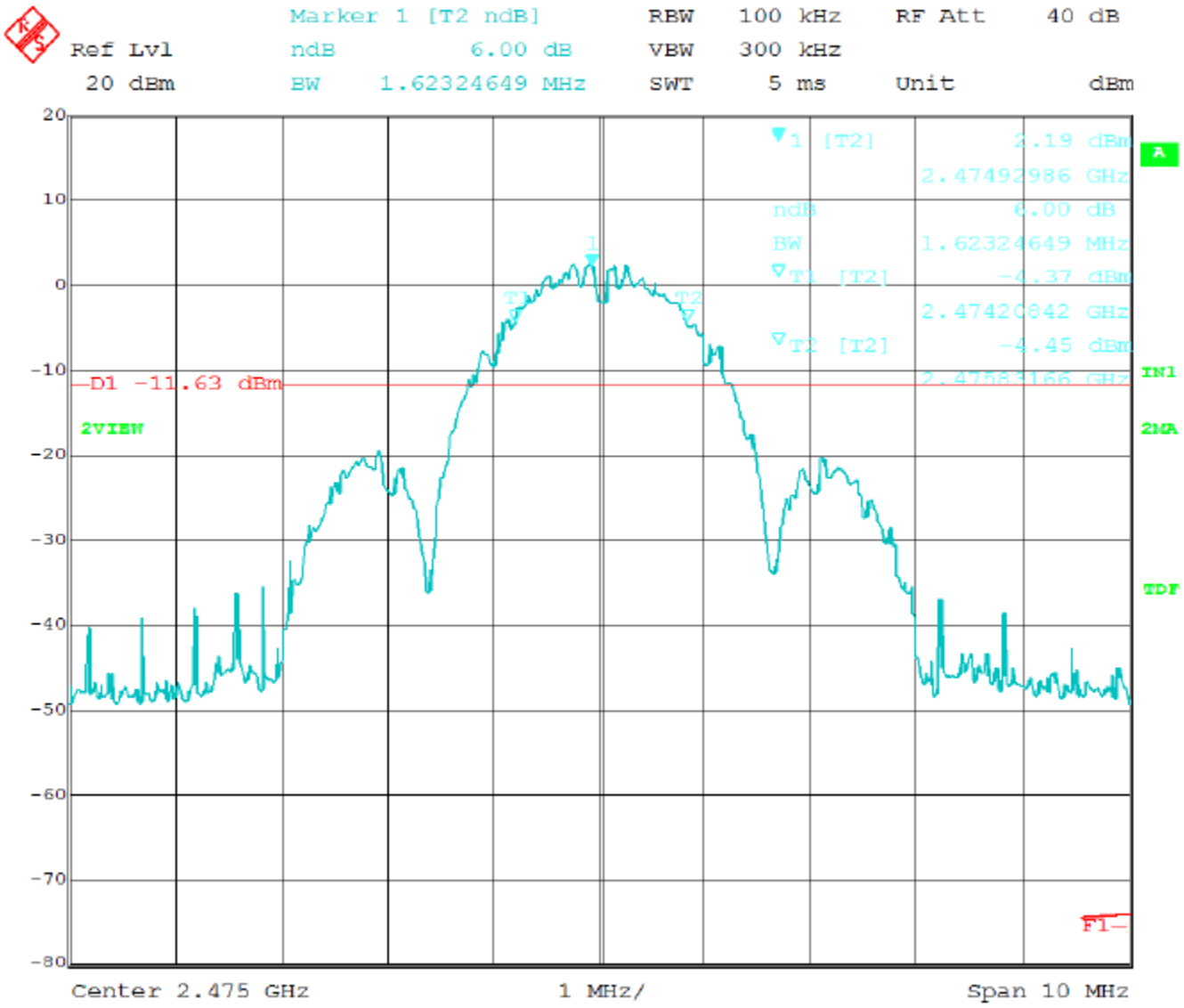
DATA SHEETS



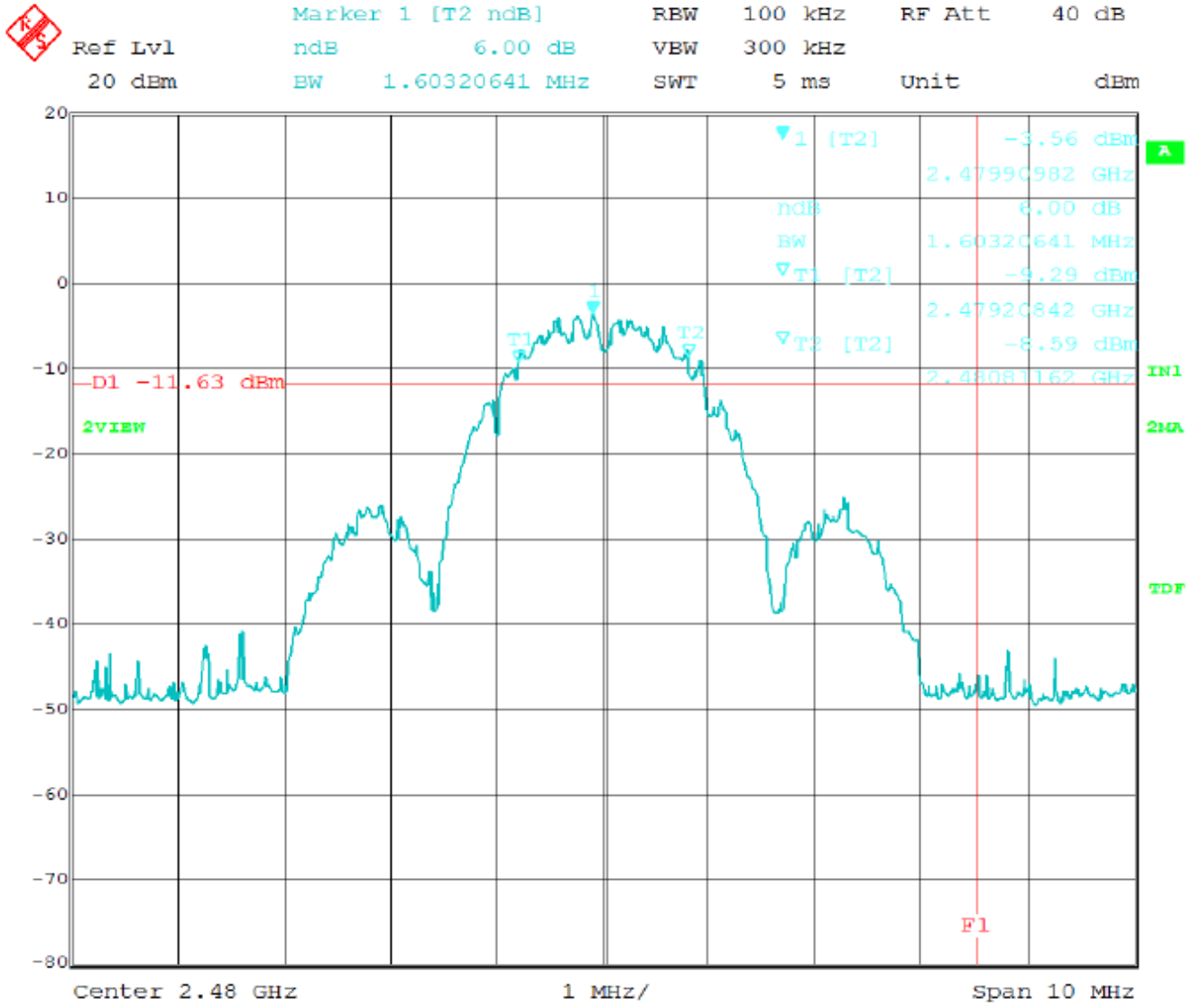
-6 dB Bandwidth – Low Channel – Model: IG-302



-6 dB Bandwidth – Middle Channel – Model: IG-302



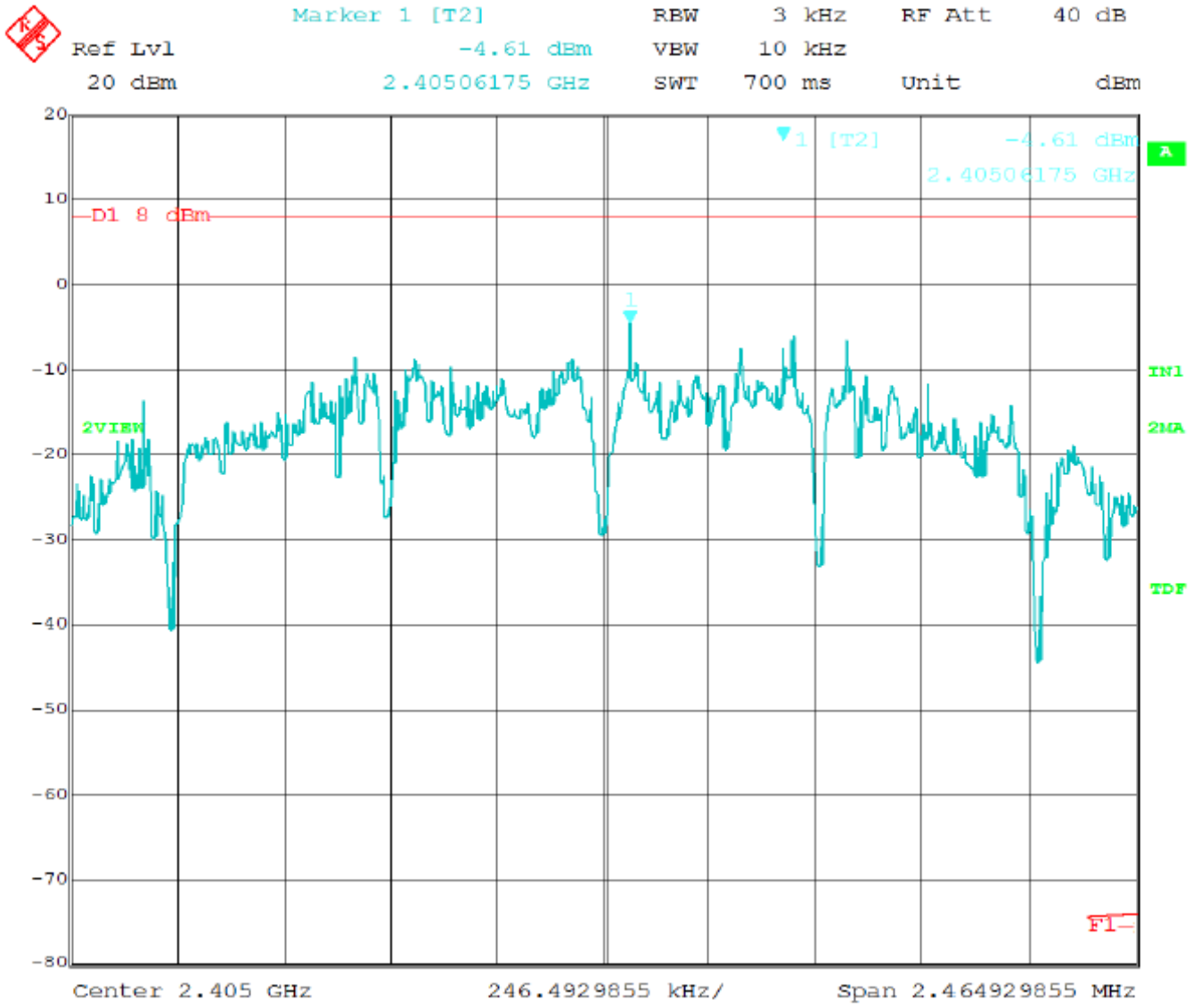
-6 dB Bandwidth – High Channel (2475 MHz) – Model: IG-302



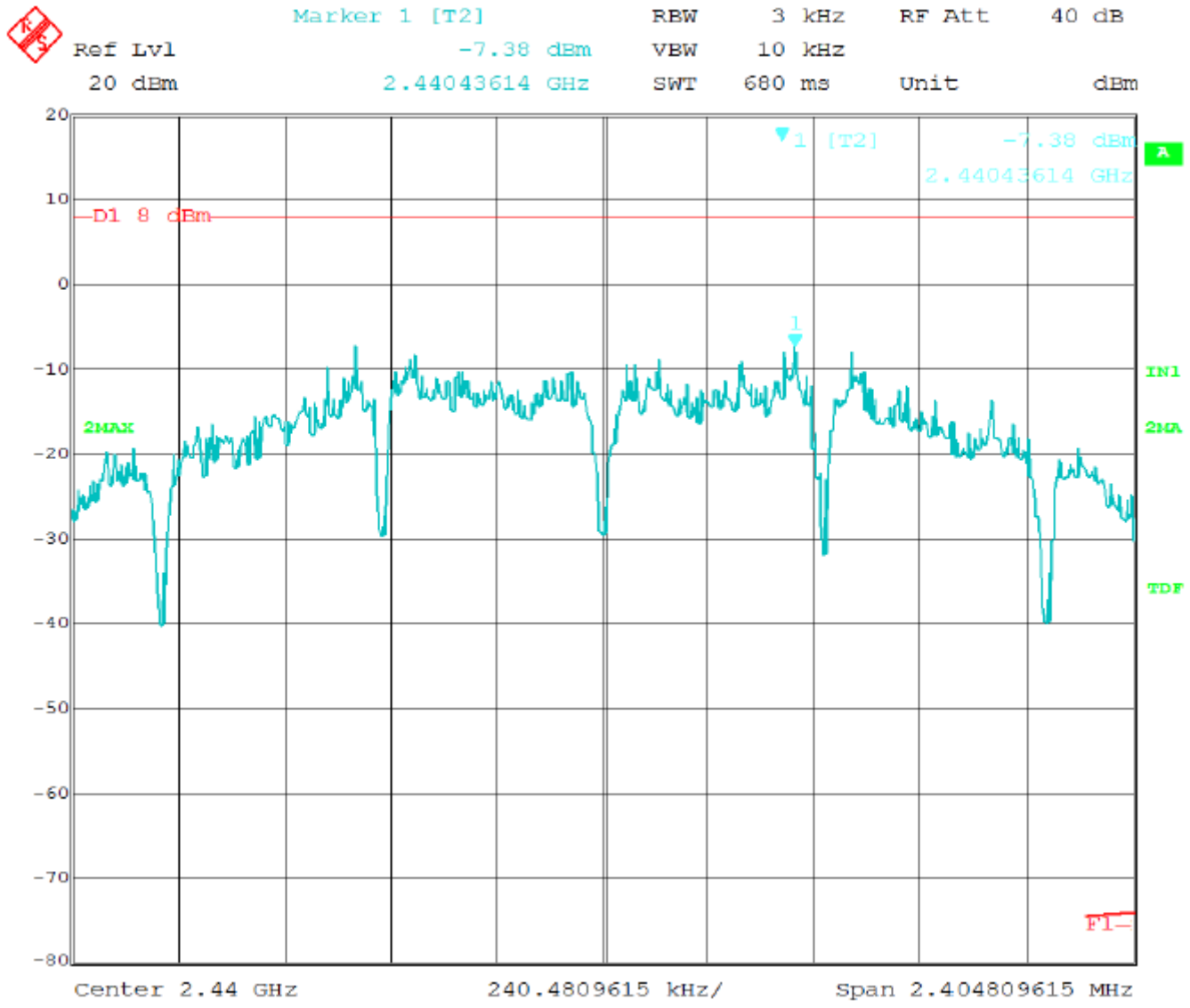
-6 dB Bandwidth – High Channel (2480 MHz) – Model: IG-302

SPECTRAL DENSITY OUTPUT

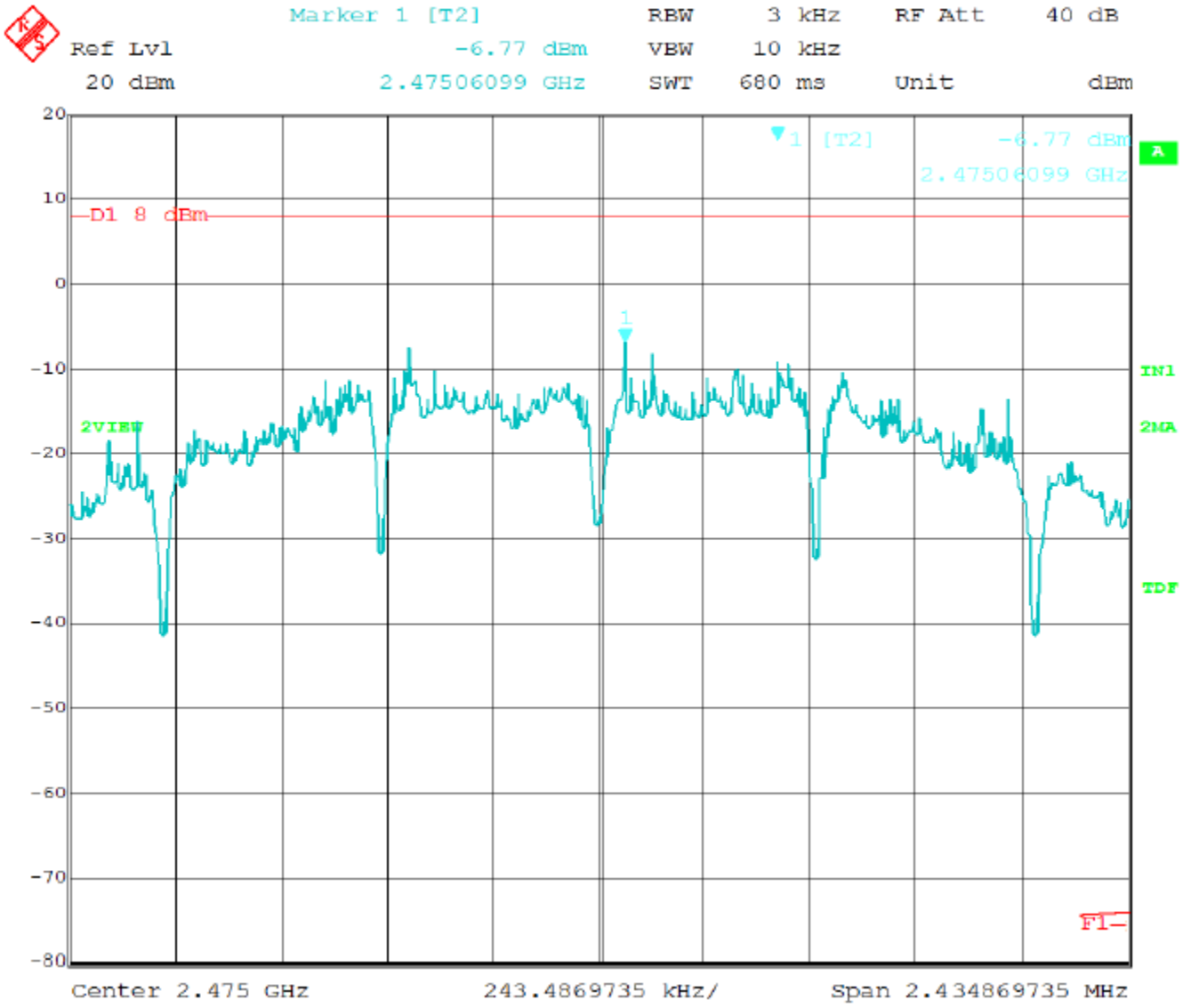
DATA SHEETS



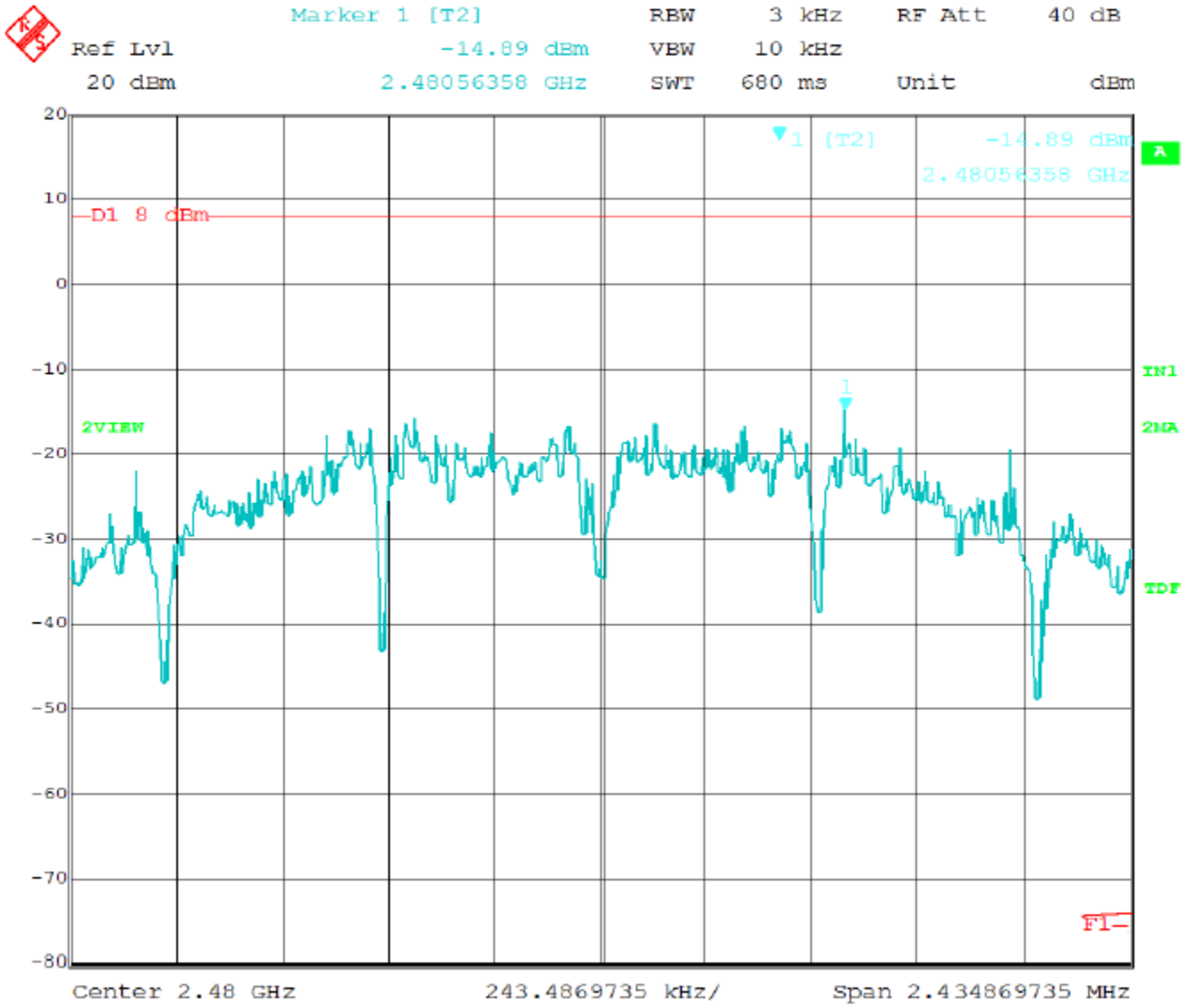
Spectral Density – Low Channel – Model: IG-302



Spectral Density – Middle Channel – Model: IG-302



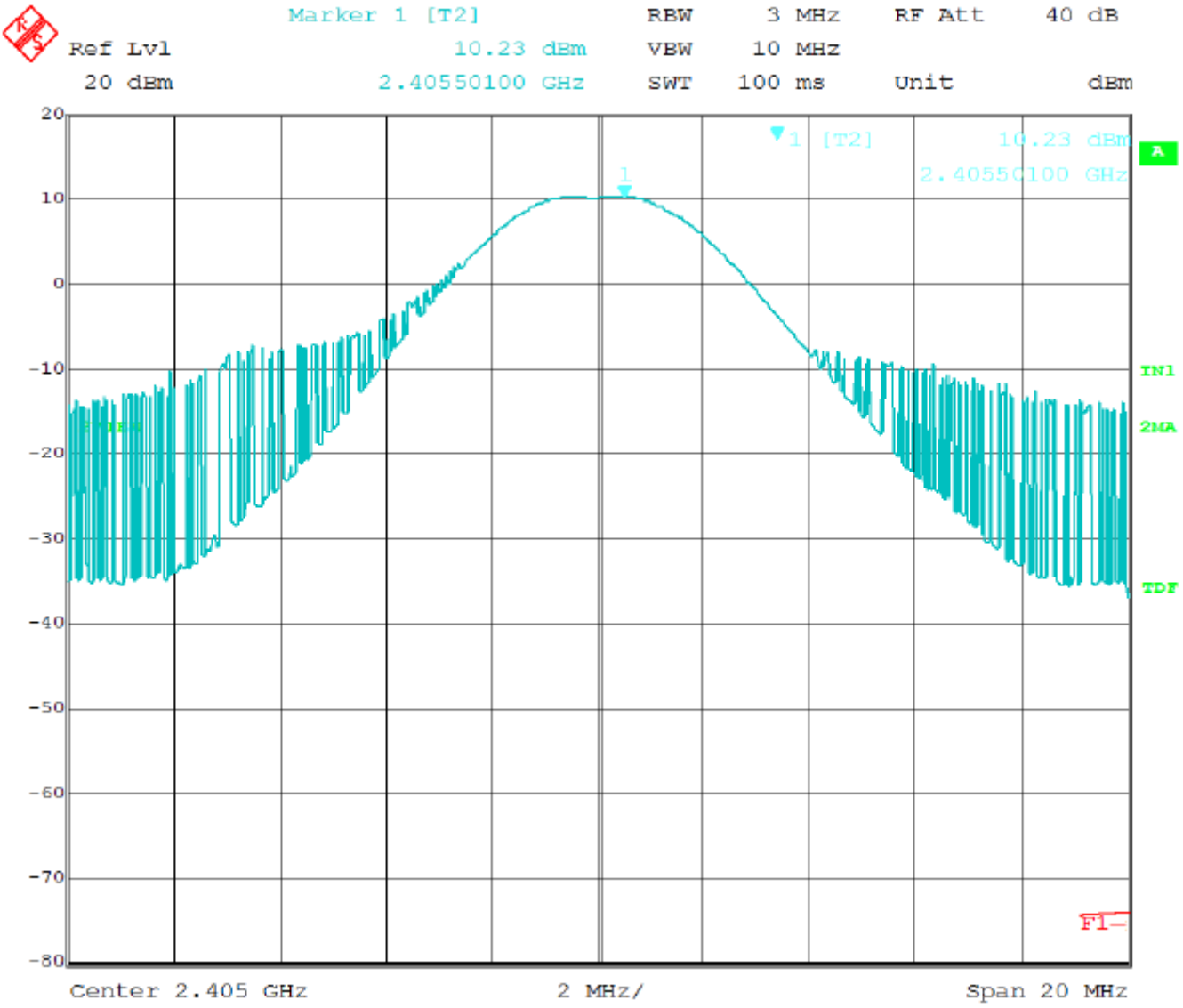
Spectral Density – High Channel (2475 MHz) – Model: IG-302



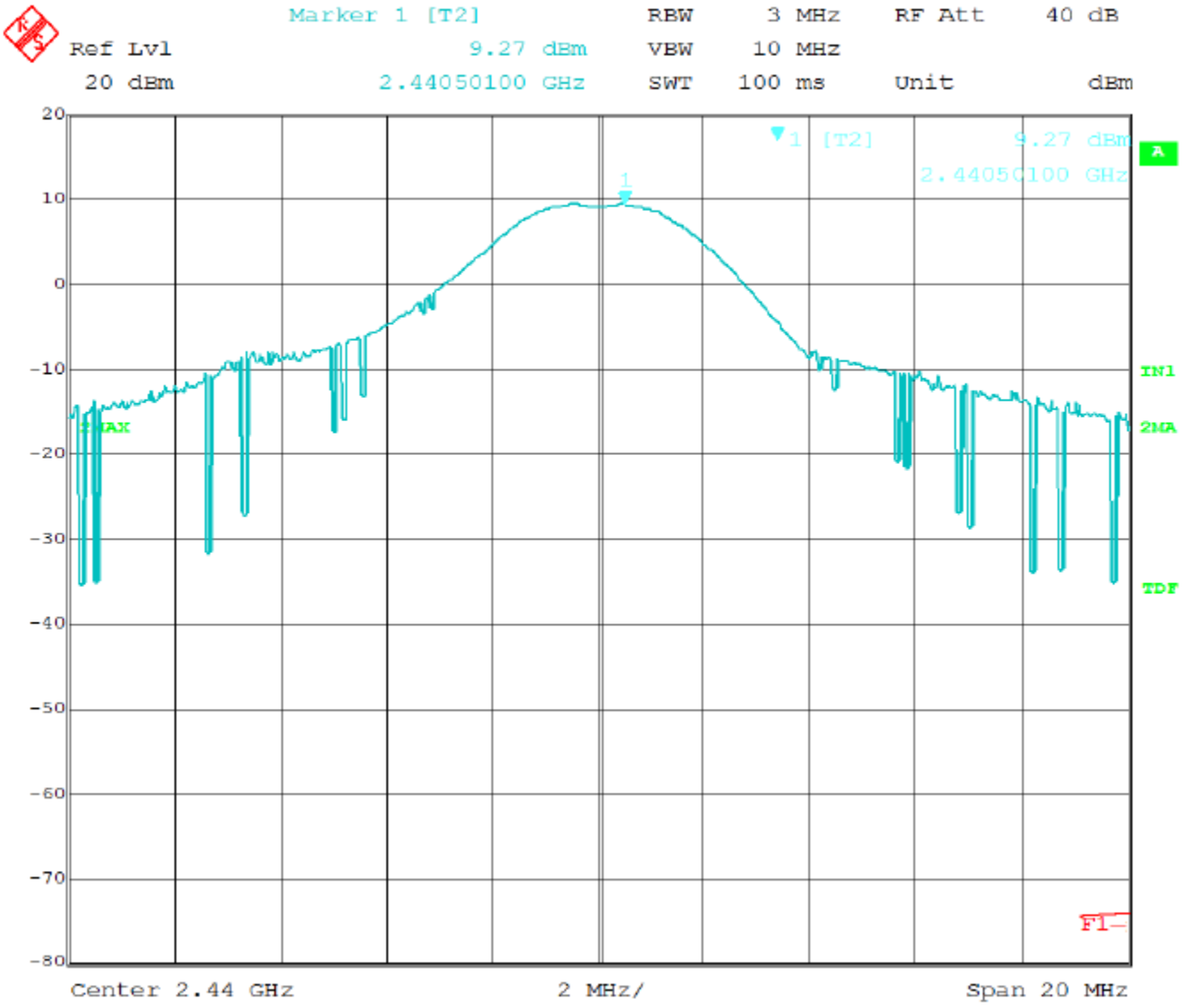
Spectral Density – High Channel (2480 MHz) – Model: IG-302

PEAK POWER

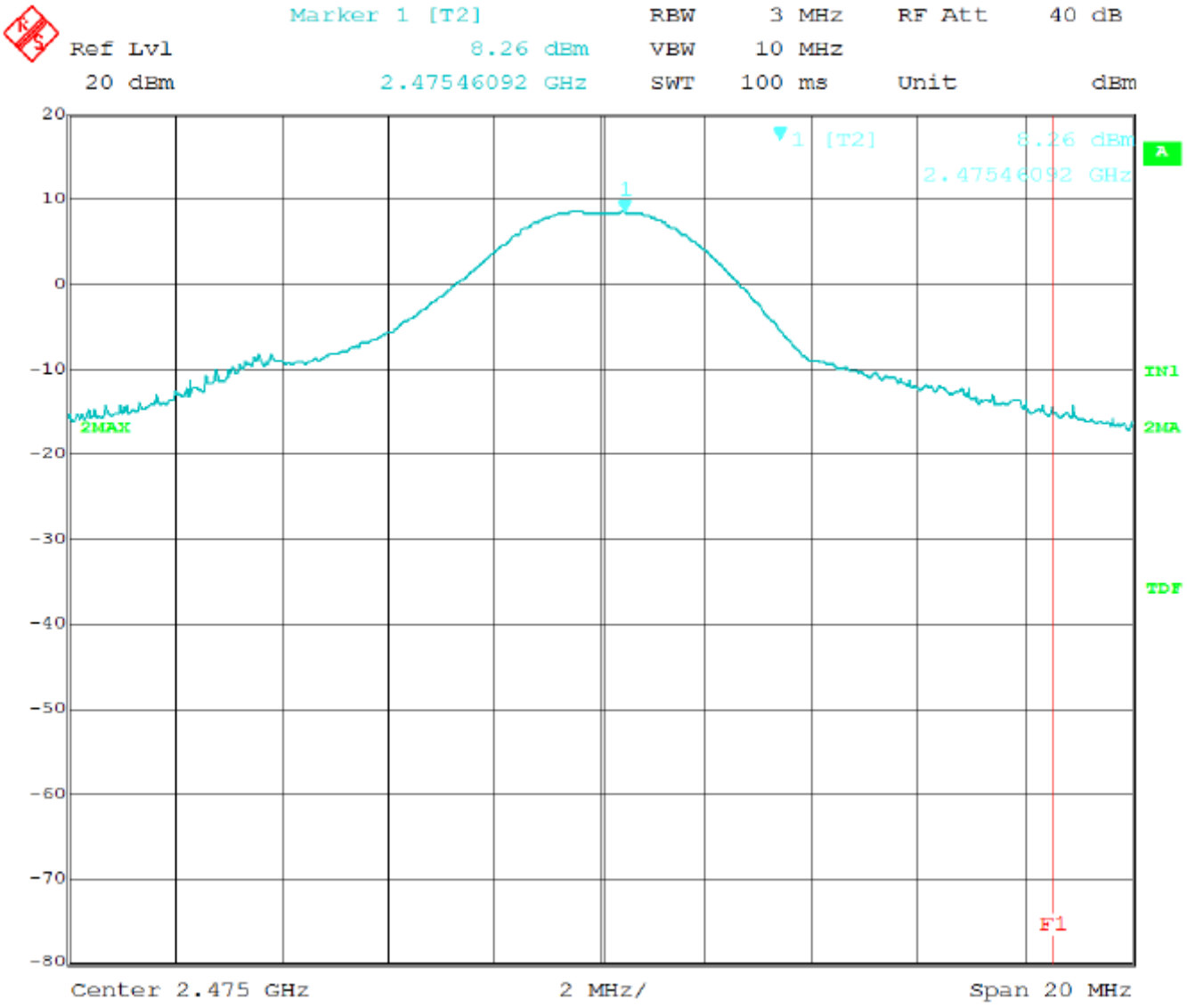
DATA SHEETS



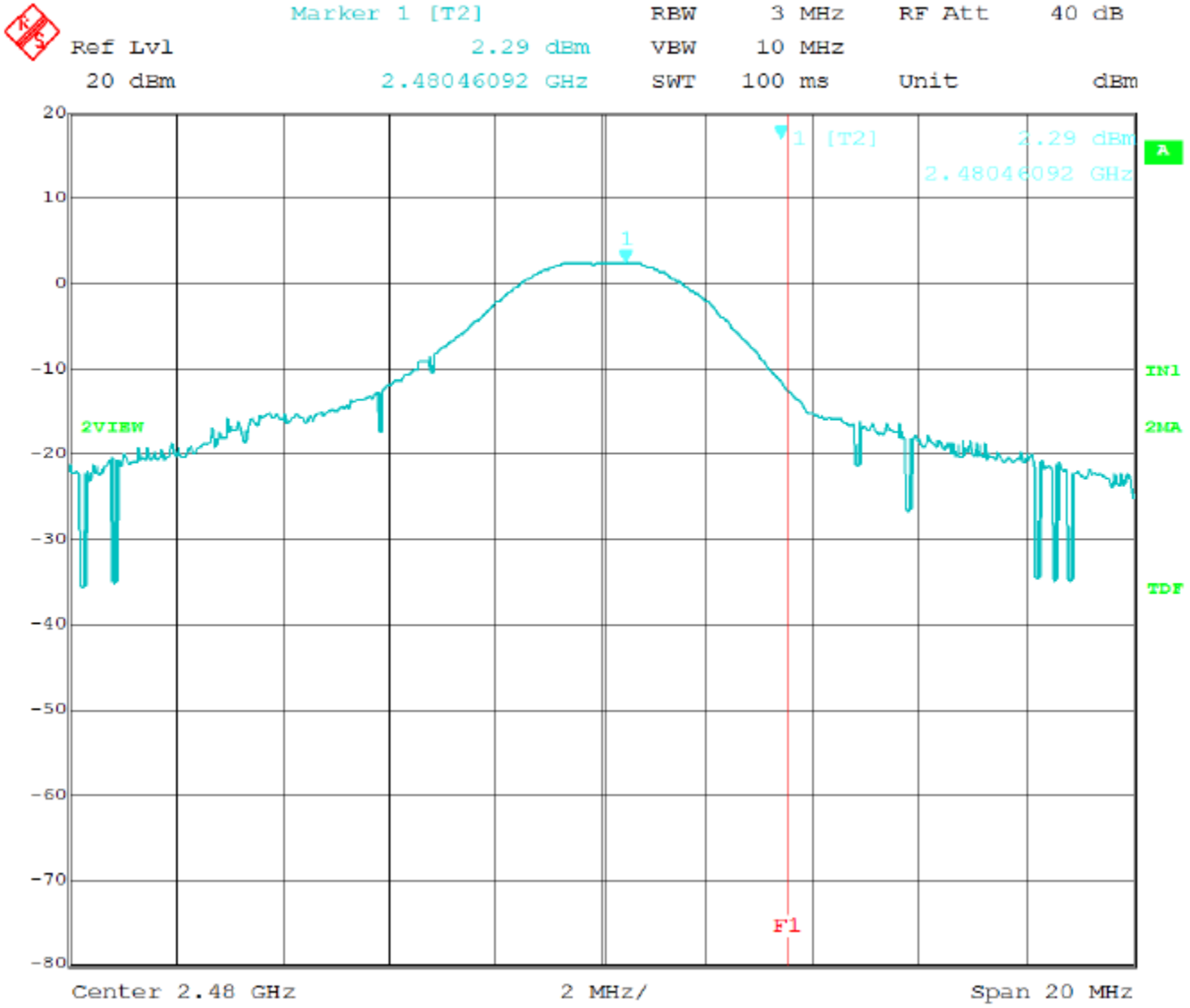
Peak Power Output – Low Channel – Model: IG-302



Peak Power Output – Middle Channel – Model: IG-302



Peak Power Output – High Channel (2475 MHz) – Model: IG-302



Peak Power Output – High Channel (2480 MHz) – Model: IG-302

BAND EDGES

DATA SHEETS

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2405 MHz
Band Edges

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405	100.58	H	--	--	Peak	55.75	214.29	**X-Axis Worst Case**
2405	80.58	H	--	--	Avg	55.75	214.29	**Fundamental @ 3 Meters**
2390	64.95	H	74	-9.05	Peak	55.75	214.29	**X-Axis Worst Case**
2390	44.95	H	54	-9.05	Avg	55.75	214.29	**Band Edge**
2405	105.66	V	--	--	Peak	203.25	204.21	**X-Axis Worst Case**
2405	85.66	V	--	--	Avg	203.25	204.21	**Fundamental @ 3 Meters**
2390	70.69	V	74	-3.31	Peak	203.25	204.21	**X-Axis Worst Case**
2390	50.69	V	54	-3.31	Avg	203.25	204.21	**Band Edge**

FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2475 MHz
Band Edges

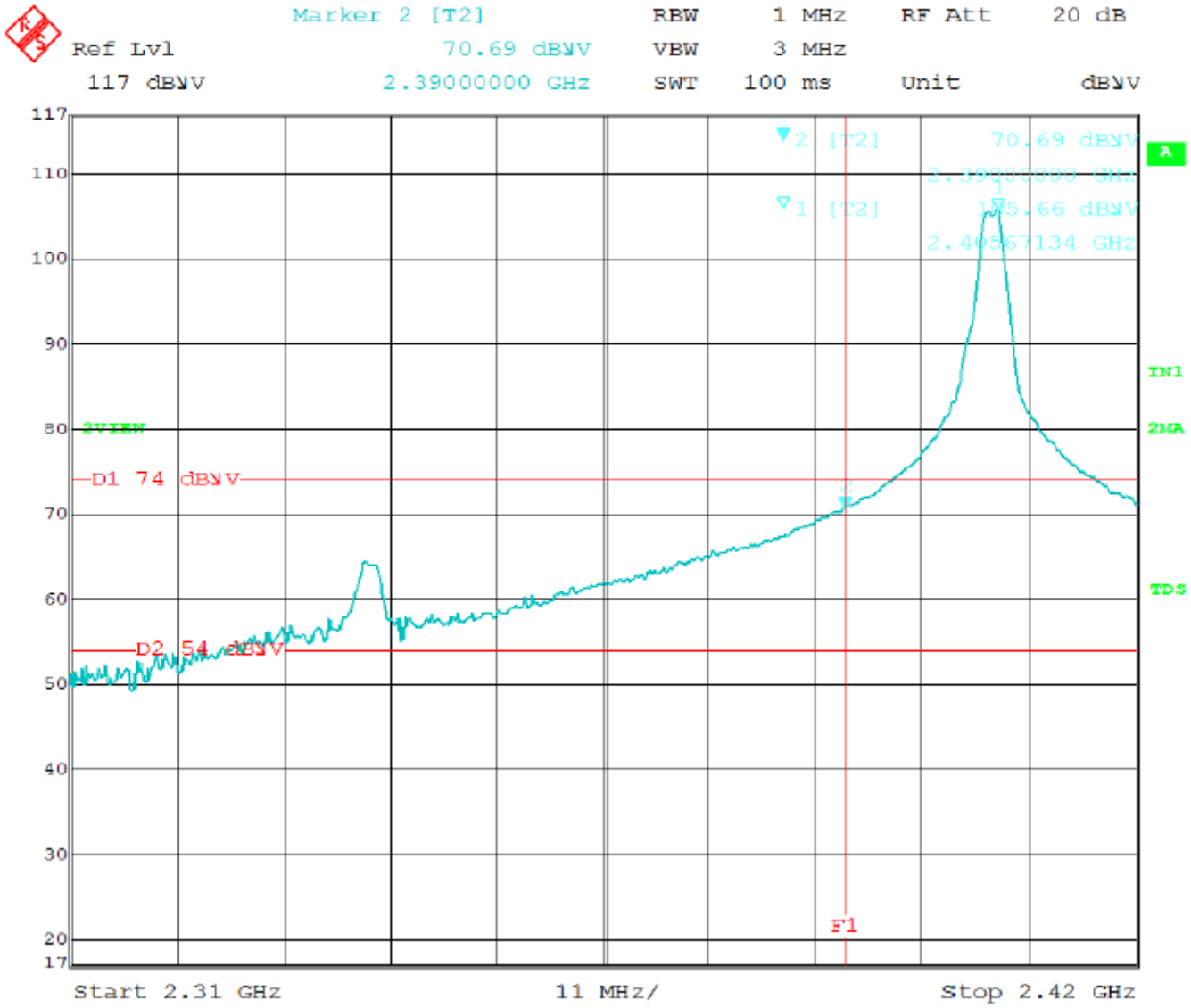
Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2475	100.83	H	--	--	Peak	62.51	238.35	**X-Axis Worst Case**
2475	80.83	H	--	--	Avg	62.51	238.35	**Fundamental @ 3 Meters**
2483.5	69.96	H	74	-4.04	Peak	62.51	238.35	**X-Axis Worst Case**
2483.5	49.96	H	54	-4.04	Avg	62.51	238.35	**Band Edge**
2475	103.04	V	--	--	Peak	98.51	178.41	**X-Axis Worst Case**
2475	83.04	V	--	--	Avg	98.51	178.41	**Fundamental @ 3 Meters**
2483.5	72.98	V	74	-1.02	Peak	98.51	178.41	**X-Axis Worst Case**
2483.5	52.98	V	54	-1.02	Avg	98.51	178.41	**Band Edge**

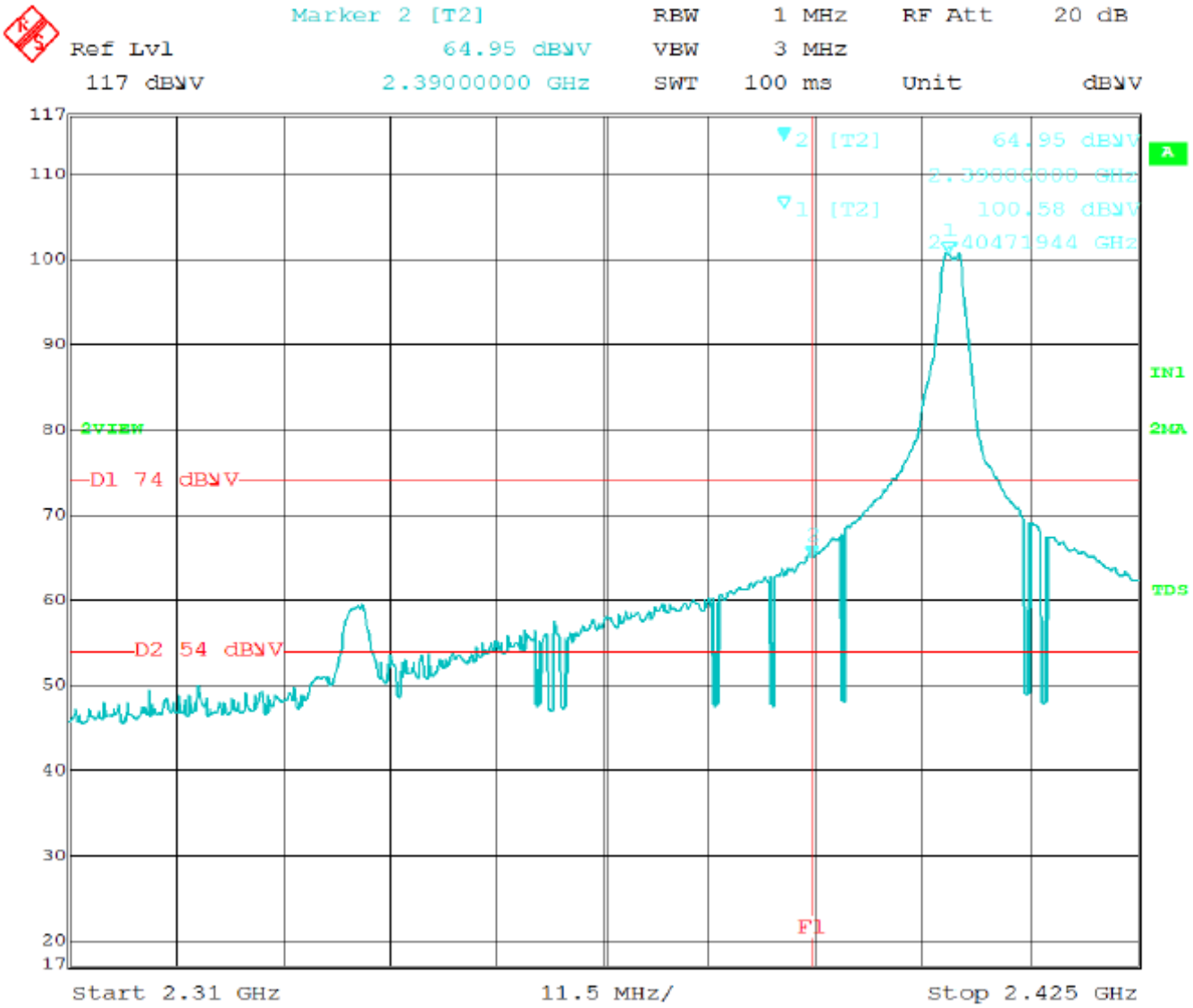
FCC 15.247
IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting
2480 MHz
Band Edges

Date: 03/31/2016
Lab: D
Tested By: Kyle Fujimoto

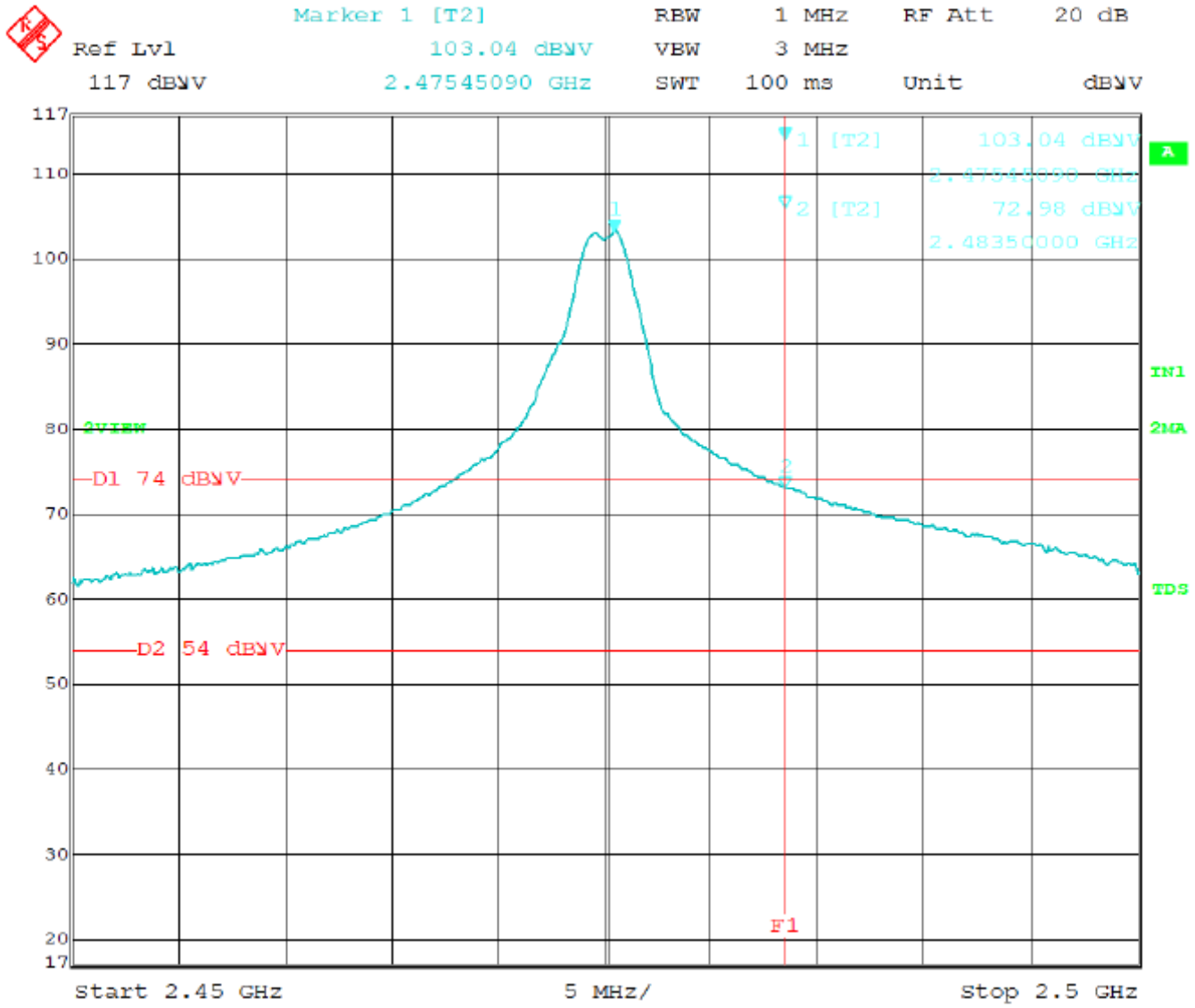
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480	93.62	H	--	--	Peak	62.51	238.35	**X-Axis Worst Case**
2480	73.62	H	--	--	Avg	62.51	238.35	**Fundamental @ 3 Meters**
2483.5	69.87	H	74	-4.13	Peak	62.51	238.35	**X-Axis Worst Case**
2483.5	49.87	H	54	-4.13	Avg	62.51	238.35	**Band Edge**
2480	96.78	V	--	--	Peak	98.51	178.41	**X-Axis Worst Case**
2480	76.78	V	--	--	Avg	98.51	178.41	**Fundamental @ 3 Meters**
2483.5	73.30	V	74	-0.70	Peak	98.51	178.41	**X-Axis Worst Case**
2483.5	53.30	V	54	-0.70	Avg	98.51	178.41	**Band Edge**



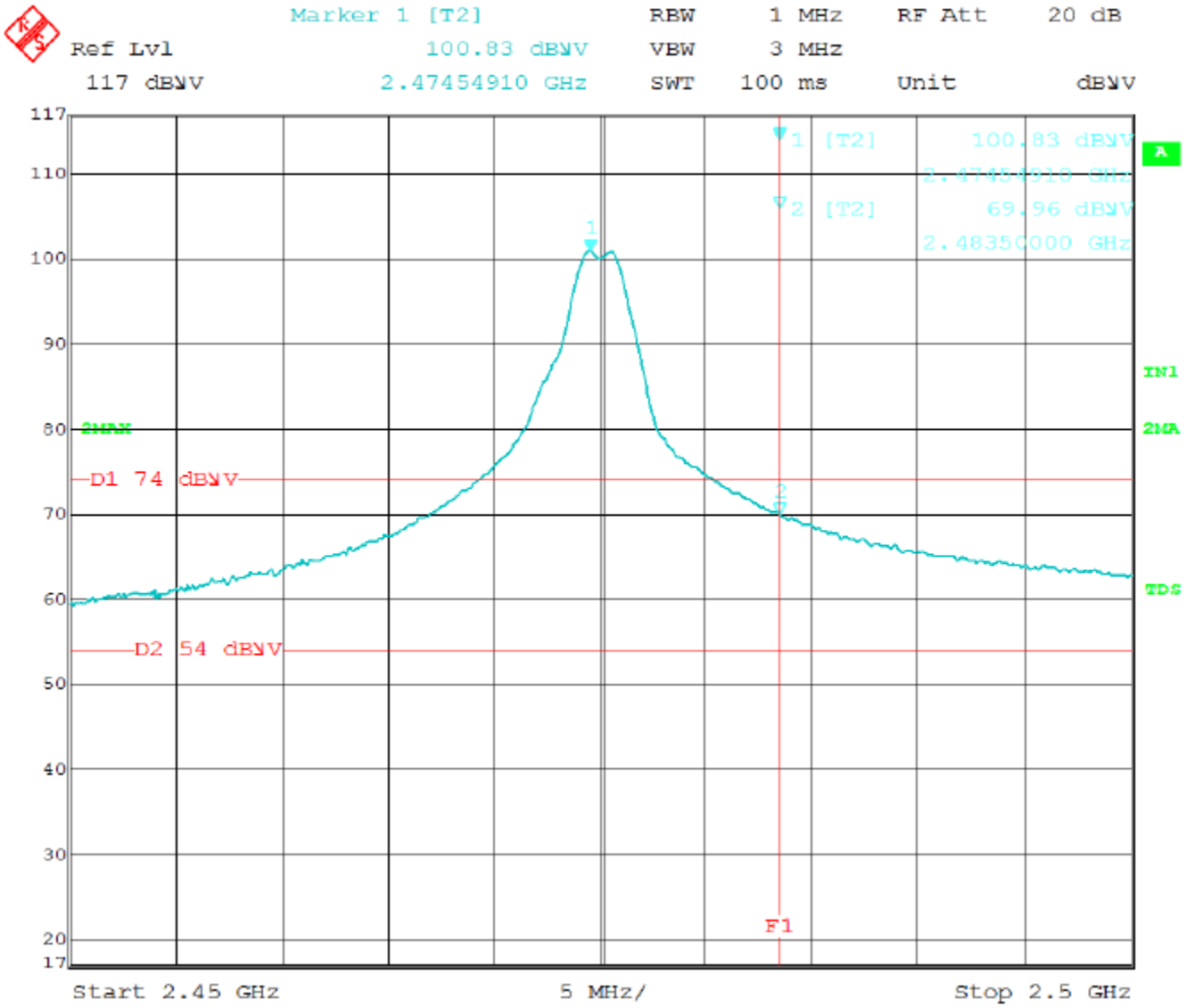
Band Edge – Low Channel – Vertical – X-Axis – Worst Case – Model: IG-302



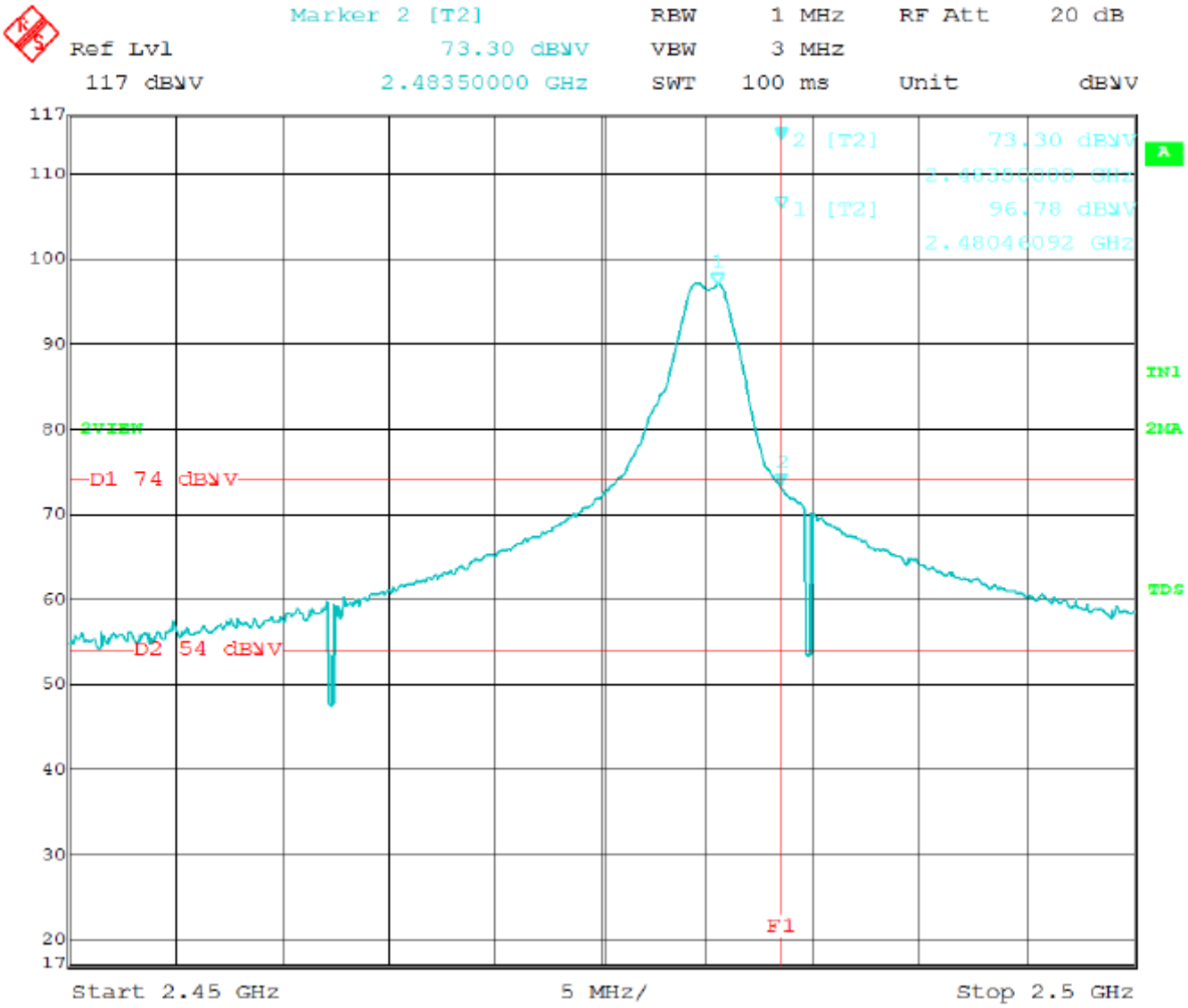
Band Edge – Low Channel – Horizontal – X-Axis – Worst Case – Model: IG-302



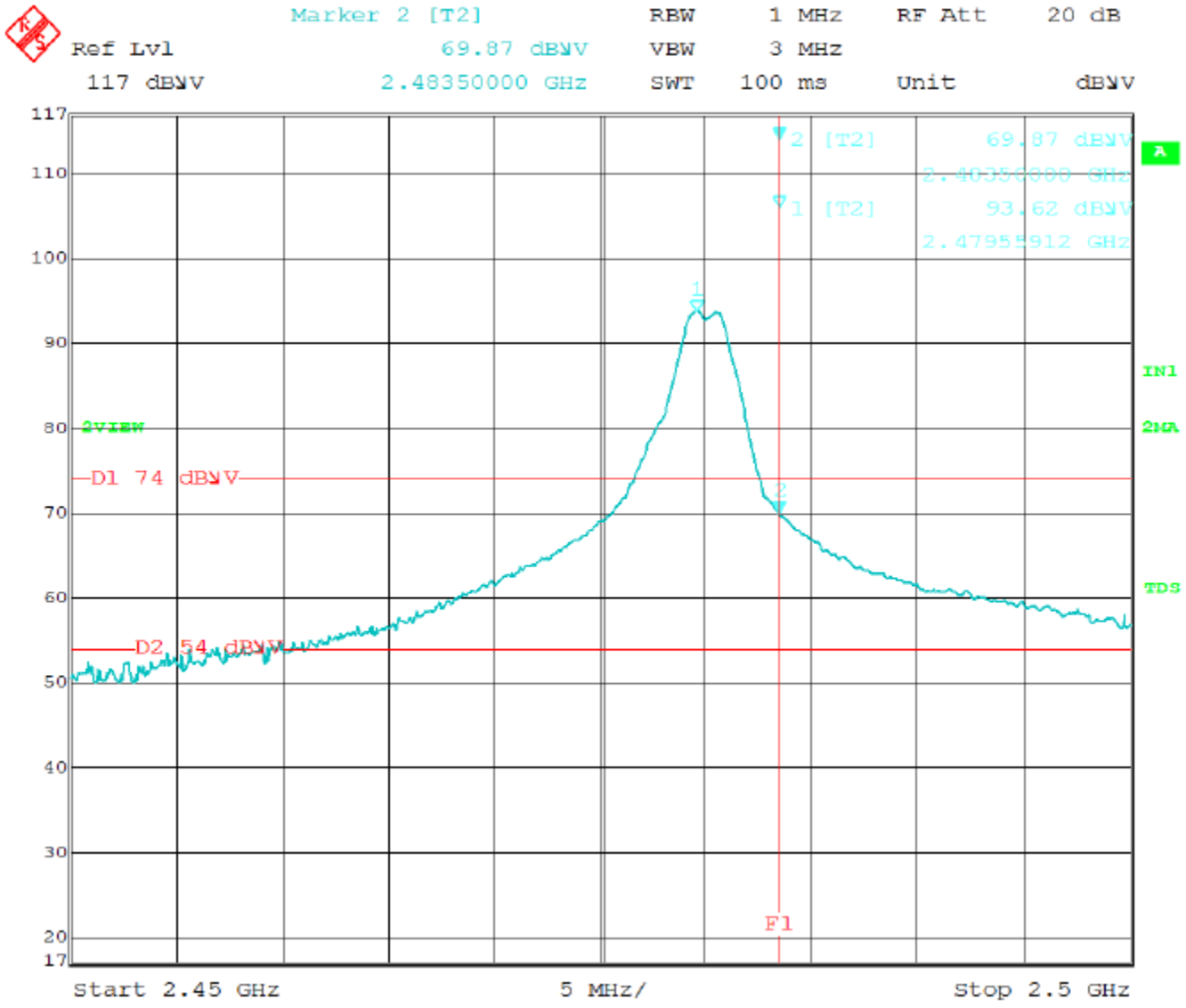
Band Edge – High Channel (2475 MHz) – Vertical – X-Axis – Worst Case – Model: IG-302



Band Edge – High Channel (2475 MHz) – Horizontal – X-Axis – Worst Case – Model: IG-302



Band Edge – High Channel (2480 MHz) – Vertical – X-Axis – Worst Case – Model: IG-302



Band Edge – High Channel (2480 MHz) – Horizontal – X-Axis – Worst Case – Model: IG-302

EMISSIONS IN
NON-RESRTICTED BANDS
DATA SHEETS

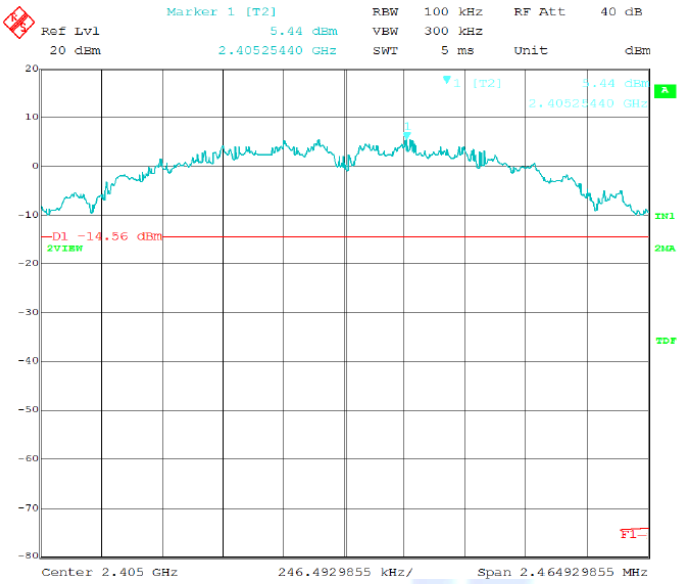
FCC 15.247 - Emissions in Non-Restricted Bands

IBIS Networks
InteliGateway
Model: IG-302
Configuration: Continuously Transmitting

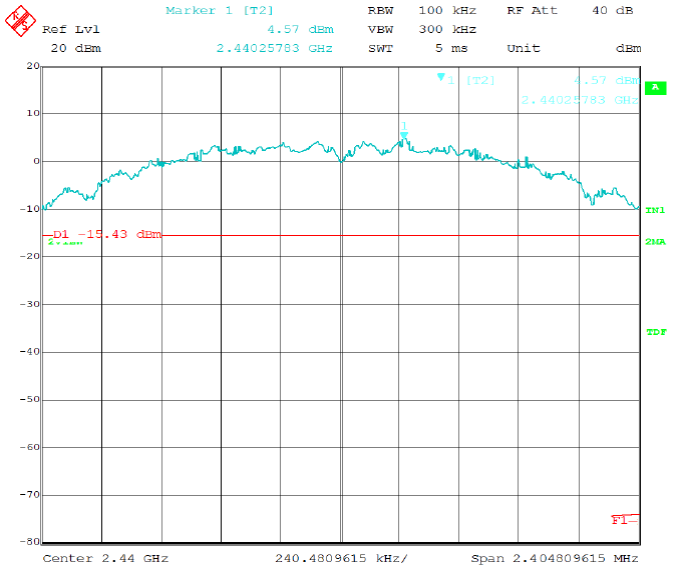
Date: 04/04/2016
Lab: D
Tested By: Kyle Fujimoto

Freq. (MHz)	Level (dBm)	Limit (dBm)	Margin	Peak / QP / Avg	Comments
2395.1	-46.04	-23.93	-22.11	Peak	High Channel (2480 MHz)
21663.3	-41.97	-23.93	-18.04	Peak	High Channel (2480 MHz)
21723.4	-41.28	-16.29	-24.99	Peak	High Channel (2475 MHz)

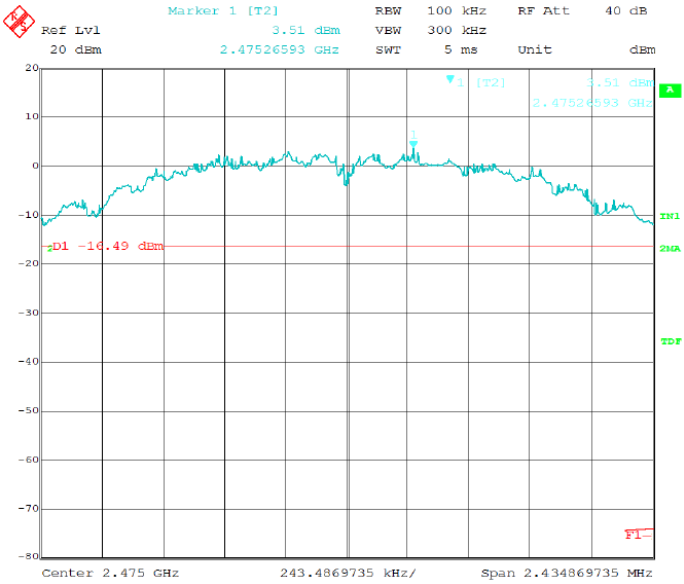
REFERENCE LEVEL MEASUREMENTS



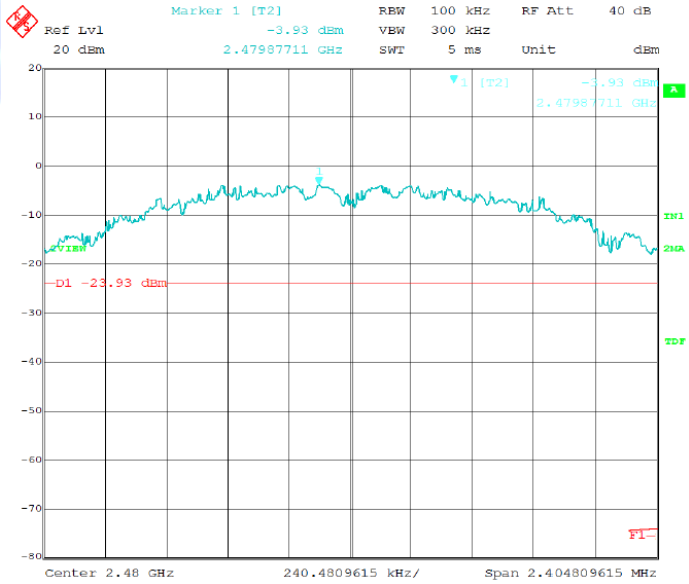
Reference Level – Low Channel(2405 MHz)



Reference Level – Middle Channel(2440 MHz)



Reference Level – High Channel(2475 MHz)



Reference Level – High Channel(2480 MHz)

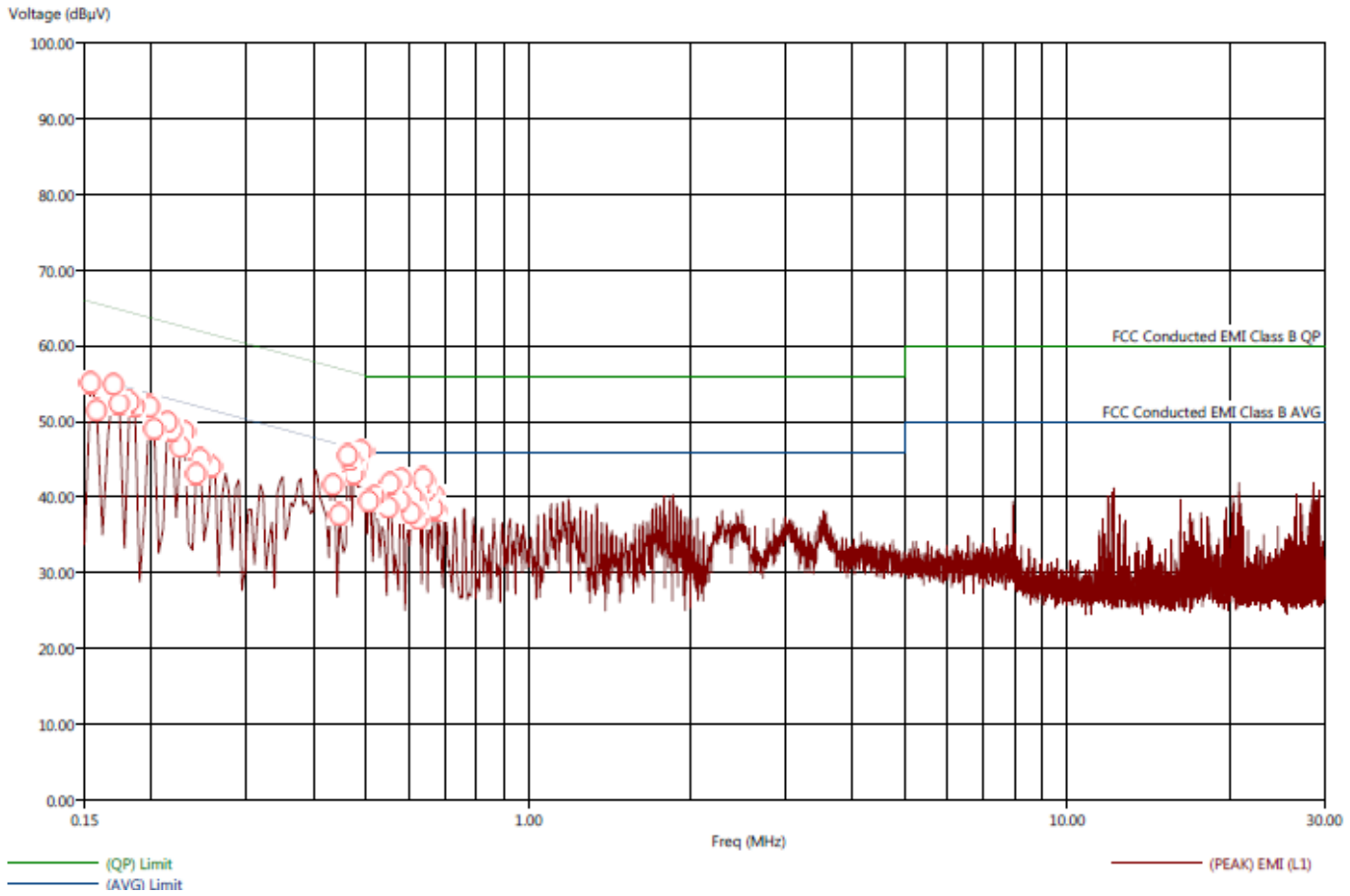
CONDUCTED EMISSIONS

DATA SHEETS

Title: FCC Class B - Conducted Emissions - Black Lead
File: 7a - Rohde & Schwarz - Pre-Scan - Black Lead - 120 VAC - 60 Hz - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: IntelIGateway
EUT Condition: The EUT is continuously transmitting
Comments: Company: IBIS Neworks
Model: IG-302
120 VAC / 60 Hz

3/31/2016 9:06:54 AM
Sequence: Preliminary Scan

FCC Class B - Conducted Emissions - Black Lead



Title: FCC Class B - Conducted Emissions - Black Lead
File: 7a - Rohde & Schwarz - Final Scan - Black Lead - 120 VAC - 60 Hz - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: InteliGateway
EUT Condition: The EUT is continuously transmitting
Comments: Company: IBIS Networks
Model: IG-302
120 VAC / 60 Hz

3/31/2016 9:16:58 AM
Sequence: Final Measurements

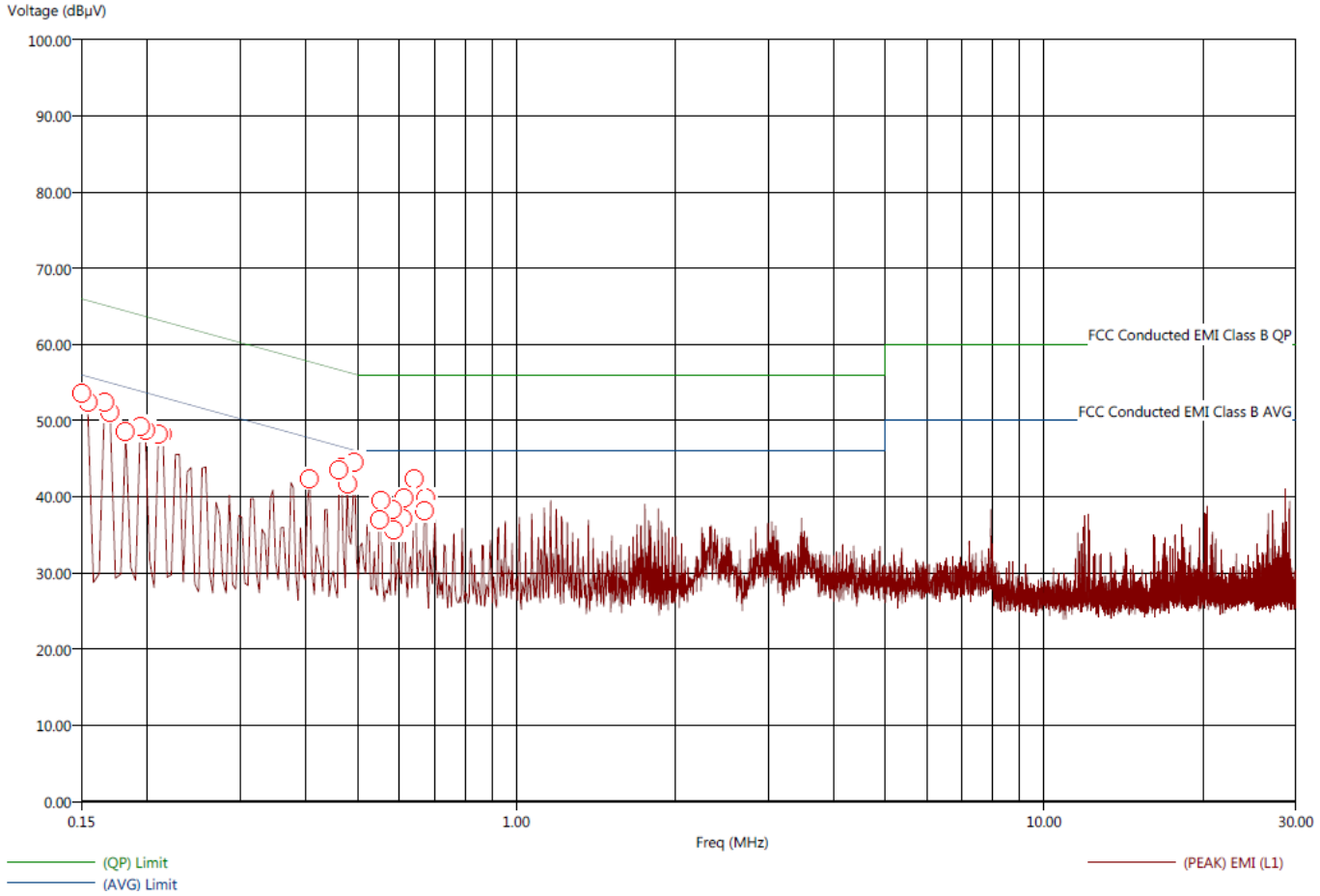
Table13

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Filter (dB)	Transducer (dB)	Cable (dB)
0.1540	55.98	44.51	0.02	-11.44	55.96	9.83	0.51	0.06
0.1580	55.70	40.15	-0.03	-15.58	55.73	9.83	0.49	0.06
0.1700	53.89	42.41	-0.99	-12.47	54.88	9.83	0.44	0.07
0.1740	53.76	42.06	-1.19	-12.89	54.95	9.83	0.44	0.07
0.1820	53.78	37.61	-0.80	-16.97	54.58	9.83	0.42	0.07
0.1860	51.16	37.29	-3.12	-16.99	54.28	9.83	0.40	0.07
0.1980	51.59	39.55	-2.30	-14.34	53.89	9.83	0.37	0.08
0.2020	51.45	39.73	-2.43	-14.15	53.88	9.83	0.37	0.08
0.2140	49.09	37.36	-3.91	-15.64	53.00	9.83	0.31	0.08
0.2180	49.15	37.44	-3.95	-15.65	53.10	9.83	0.32	0.08
0.2260	47.89	34.03	-4.94	-18.81	52.84	9.83	0.30	0.08
0.2300	47.03	31.80	-5.61	-20.84	52.64	9.83	0.29	0.08
0.2420	46.55	35.15	-5.70	-17.11	52.25	9.83	0.26	0.08
0.2460	45.25	32.46	-6.86	-19.64	52.11	9.83	0.25	0.08
0.2580	43.67	31.66	-8.02	-20.02	51.68	9.83	0.22	0.08
0.4340	42.46	33.83	-4.85	-13.48	47.31	9.84	0.05	0.08
0.4460	42.13	29.73	-5.04	-17.45	47.18	9.84	0.05	0.08
0.4620	46.03	37.44	-0.46	-9.05	46.49	9.84	0.05	0.08
0.4660	46.11	36.90	-0.36	-9.56	46.47	9.84	0.05	0.08
0.4740	46.91	37.96	0.70	-8.25	46.21	9.84	0.05	0.08
0.4780	45.96	38.55	-0.17	-7.58	46.13	9.84	0.05	0.08
0.4900	46.85	35.08	0.52	-11.25	46.33	9.84	0.05	0.08
0.4940	47.02	38.08	0.82	-8.12	46.20	9.84	0.05	0.08
0.5060	46.45	38.51	0.29	-7.64	46.15	9.84	0.05	0.08
0.5180	42.67	33.11	-3.33	-12.89	46.00	9.84	0.05	0.08
0.5500	39.10	30.96	-6.90	-15.04	46.00	9.84	0.05	0.08
0.5540	38.96	28.61	-7.04	-17.39	46.00	9.84	0.05	0.08
0.5780	39.97	30.19	-6.03	-15.81	46.00	9.84	0.05	0.09
0.5820	43.25	32.68	-2.75	-13.32	46.00	9.84	0.05	0.09
0.6060	41.68	33.60	-4.32	-12.40	46.00	9.84	0.04	0.09
0.6100	41.67	33.60	-4.33	-12.40	46.00	9.84	0.04	0.09
0.6140	41.94	31.97	-4.06	-14.03	46.00	9.84	0.04	0.09
0.6220	42.36	33.52	-3.64	-12.48	46.00	9.84	0.04	0.09
0.6260	41.85	33.62	-4.15	-12.38	46.00	9.84	0.04	0.09
0.6380	41.89	33.56	-4.11	-12.44	46.00	9.84	0.04	0.09
0.6420	42.62	33.80	-3.38	-12.20	46.00	9.84	0.04	0.09
0.6460	41.93	32.51	-4.07	-13.49	46.00	9.84	0.04	0.09
0.6660	40.73	32.53	-5.27	-13.47	46.00	9.84	0.04	0.09
0.6700	40.37	32.03	-5.63	-13.97	46.00	9.84	0.04	0.09
0.6740	40.78	32.17	-5.22	-13.83	46.00	9.84	0.04	0.09

Title: FCC Class B - Conducted Emissions - White Lead
File: 7b - Rohde & Schwarz - Pre-Scan - White Lead - 120 VAC - 60 Hz - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: InteliGateway
EUT Condition: The EUT is continuously transmitting
Comments: Company: IBIS Networks
Model: IG-302

3/31/2016 9:32:38 AM
Sequence: Preliminary Scan

FCC Class B - Conducted Emissions - White Lead



Title: FCC Class B - Conducted Emissions - White Lead
File: 7b - Rohde & Schwarz - Final Scan - White Lead - 120 VAC - 60 Hz - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: InteliGateway
EUT Condition: The EUT is continuously transmitting
Comments: Company: IBIS Networks
Model: IG-302

3/31/2016 9:45:12 AM
Sequence: Final Measurements

120 VAC / 60 Hz

FCC Class B - Conducted Emissions - White Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Filter (dB)	Transducer (dB)	Cable (dB)
0.1500	54.71	43.14	-1.24	-12.81	55.95	9.83	0.50	0.06
0.1540	54.48	40.47	-1.30	-15.30	55.78	9.83	0.48	0.06
0.1660	52.53	40.20	-2.47	-14.80	55.00	9.83	0.43	0.07
0.1700	52.54	40.52	-2.28	-14.30	54.82	9.83	0.42	0.07
0.1820	51.74	34.19	-2.52	-20.07	54.26	9.83	0.38	0.07
0.1940	50.06	35.40	-3.58	-18.24	53.65	9.83	0.34	0.08
0.1980	50.51	38.54	-3.42	-15.39	53.93	9.83	0.36	0.08
0.2100	48.04	36.21	-5.03	-16.86	53.07	9.83	0.30	0.08
0.2140	48.05	36.39	-5.02	-16.68	53.07	9.83	0.30	0.08
0.4060	44.06	28.27	-3.74	-19.53	47.80	9.84	0.04	0.08
0.4620	45.85	31.03	-0.66	-15.48	46.51	9.84	0.03	0.08
0.4660	48.00	29.28	1.73	-17.00	46.28	9.84	0.02	0.08
0.4780	46.78	29.25	0.21	-17.31	46.56	9.84	0.03	0.08
0.4940	45.74	31.30	-0.36	-14.80	46.10	9.84	0.02	0.08
0.5500	38.78	25.80	-7.22	-20.20	46.00	9.84	0.02	0.08
0.5540	38.70	24.51	-7.30	-21.49	46.00	9.84	0.02	0.08
0.5820	38.99	25.80	-7.01	-20.20	46.00	9.84	0.02	0.09
0.5860	40.35	26.99	-5.65	-19.01	46.00	9.84	0.02	0.09
0.6100	41.79	27.52	-4.21	-18.48	46.00	9.84	0.03	0.09
0.6140	41.88	27.64	-4.12	-18.36	46.00	9.84	0.03	0.09
0.6420	43.15	26.68	-2.85	-19.32	46.00	9.84	0.03	0.09
0.6700	40.57	26.59	-5.43	-19.41	46.00	9.84	0.03	0.09
0.6740	40.13	24.24	-5.87	-21.76	46.00	9.84	0.03	0.09