

*FCC PART 15, SUBPART B and C  
TEST REPORT**for***INTELIGATEWAY****MODEL: IG-302**

Prepared for

**IBIS NETWORKS  
841 BISHOP STREET, STE 1601  
HONOLULU, HAWAII 96813**

Prepared by: \_\_\_\_\_

**KYLE FUJIMOTO**

Approved by: \_\_\_\_\_

**JAMES ROSS****COMPATIBLE ELECTRONICS INC.  
114 OLINDA DRIVE  
BREA, CALIFORNIA 92823  
(714) 579-0500****DATE: MAY 6, 2016**

|       | REPORT<br>BODY | APPENDICES |          |          |          |          | TOTAL      |
|-------|----------------|------------|----------|----------|----------|----------|------------|
|       |                | <i>A</i>   | <i>B</i> | <i>C</i> | <i>D</i> | <i>E</i> |            |
| PAGES | 19             | 2          | 2        | 2        | 15       | 61       | <b>101</b> |

This report shall not be reproduced except in full, without the written approval of Compatible Electronics.

**TABLE OF CONTENTS**

| <b>Section / Title</b>                                 | <b>PAGE</b> |
|--------------------------------------------------------|-------------|
| <b>GENERAL REPORT SUMMARY</b>                          | <b>4</b>    |
| <b>SUMMARY OF TEST RESULTS</b>                         | <b>5</b>    |
| <b>1. PURPOSE</b>                                      | <b>6</b>    |
| <b>2. ADMINISTRATIVE DATA</b>                          | <b>7</b>    |
| 2.1 Location of Testing                                | 7           |
| 2.2 Traceability Statement                             | 7           |
| 2.3 Cognizant Personnel                                | 7           |
| 2.4 Date Test Sample was Received                      | 7           |
| 2.5 Disposition of the Test Sample                     | 7           |
| 2.6 Abbreviations and Acronyms                         | 7           |
| <b>3. APPLICABLE DOCUMENTS</b>                         | <b>8</b>    |
| <b>4. DESCRIPTION OF TEST CONFIGURATION</b>            | <b>9</b>    |
| 4.1 Description of Test Configuration – Emissions      | 9           |
| 4.1.1 Cable Construction and Termination               | 9           |
| <b>5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT</b> | <b>10</b>   |
| 5.1 EUT and Accessory List                             | 10          |
| 5.2 Emissions Test Equipment                           | 11          |
| <b>6. TEST SITE DESCRIPTION</b>                        | <b>12</b>   |
| 6.1 Test Facility Description                          | 12          |
| 6.2 EUT Mounting, Bonding and Grounding                | 12          |
| <b>7. CHARACTERISTICS OF THE TRANSMITTER</b>           | <b>12</b>   |
| 7.1 Channel Description and Frequencies                | 12          |
| 7.2 Antenna Gain                                       | 12          |
| <b>8. TEST PROCEDURES</b>                              | <b>13</b>   |
| 8.1 RF Emissions                                       | 13          |
| 8.1.1 Conducted Emissions Test                         | 13          |
| 8.1.2 Radiated Emissions (Spurious and Harmonics) Test | 14          |
| 8.1.3 RF Emissions Test Results                        | 15          |
| 8.2 DTS Bandwidth                                      | 16          |
| 8.3 Peak Output Power                                  | 16          |
| 8.4 Emissions in Non-Restricted Bands                  | 17          |
| 8.5 RF Band Edges                                      | 17          |
| 8.6 Spectral Density Test                              | 18          |
| <b>9. CONCLUSIONS</b>                                  | <b>19</b>   |

**LIST OF APPENDICES**

| APPENDIX | TITLE                                                                                                                                                                                             |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A        | Laboratory Accreditations and Recognitions                                                                                                                                                        |
| B        | Modifications to the EUT                                                                                                                                                                          |
| C        | Additional Models Covered Under This Report                                                                                                                                                       |
| D        | Diagrams, Charts, and Photos <ul style="list-style-type: none"><li>• Test Setup Diagrams</li><li>• Radiated and Conducted Emissions Photos</li><li>• Antenna and Effective Gain Factors</li></ul> |
| E        | Data Sheets                                                                                                                                                                                       |

**LIST OF FIGURES**

| FIGURE | TITLE                                    |
|--------|------------------------------------------|
| 1      | Layout of the Semi-Anechoic Test Chamber |
| 2      | Conducted Emissions Test Setup           |

**LIST OF TABLES**

| TABLE | TITLE                            |
|-------|----------------------------------|
| 1     | Conducted Emissions Test Results |
| 2     | Radiated Emissions Test Results  |

## 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 <b>Class B</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 <b>Class B</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 <b>Class B</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,<br>Part 15<br>Subpart C | FCC Rules - Radio frequency devices (including digital devices) –<br>Intentional Radiators                                              |
| ANSI C63.4<br>2014                    | Methods of measurement of radio-noise emissions from low-voltage<br>electrical and electronic equipment in the range of 9 kHz to 40 GHz |
| ANSI C63.10<br>2013                   | American National Standard for Testing Unlicensed Wireless Devices                                                                      |
| FCC Title 47,<br>Part 15<br>Subpart B | FCC Rules - Radio frequency devices (including digital devices) –<br>Unintentional Radiators                                            |
| KDB 558074<br>D01 v03r05              | Guidance for Performing Compliance Measurements on Digital<br>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  $\pm 15\%$ ; 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 |
|---------------------------------------------|----------------------------|--------------|---------------|-------------------|------------|
| <b>RF RADIATED EMISSIONS TEST EQUIPMENT</b> |                            |              |               |                   |            |
| 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 safety 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  $\frac{1}{4}$  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 from 1 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<br>MHz | Corrected Reading*<br>dBuV | Specification Limit<br>dBuV | Delta<br>(Cor. Reading – Spec.<br>Limit)<br>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<br>MHz   | Corrected<br>Reading*<br>dBuV | Specification Limit<br>dBuV | Delta<br>(Cor. Reading – Spec.<br>Limit)<br>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  $\geq 1.5$  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  $\leq$  RBW  $\leq$  100 kHz
4. Set the VBW  $\geq$  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***

---

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Agoura Division**  
2337 Troutdale Drive  
Agoura, CA 91301  
(818) 597-0600

**Silverado Division**  
19121 El Toro Road  
Silverado, CA 92676  
(949) 589-0700

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

## LABORATORY ACCREDITATIONS AND RECOGNITIONS



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/](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>

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Agoura Division**  
2337 Troutdale Drive  
Agoura, CA 91301  
(818) 597-0600

**Silverado Division**  
19121 El Toro Road  
Silverado, CA 92676  
(949) 589-0700

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

  
**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***

---

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Agoura Division**  
2337 Troutdale Drive  
Agoura, CA 91301  
(818) 597-0600

**Silverado Division**  
19121 El Toro Road  
Silverado, CA 92676  
(949) 589-0700

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

## **ADDITIONAL MODELS COVERED UNDER THIS REPORT**

USED FOR THE PRIMARY TEST

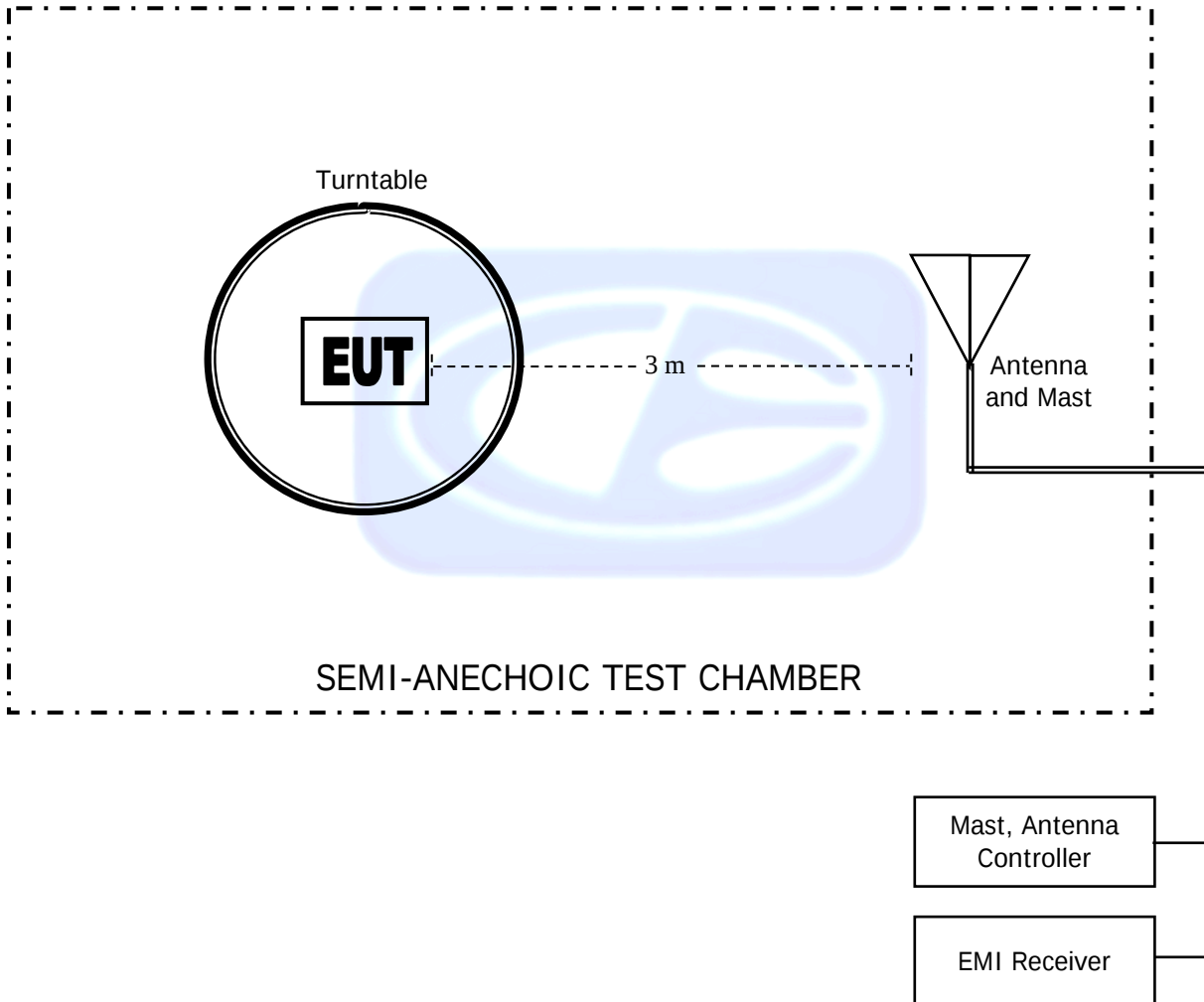
InteliGateway  
Model: IG-302  
S/N: N/A

There were no additional models covered under this report.

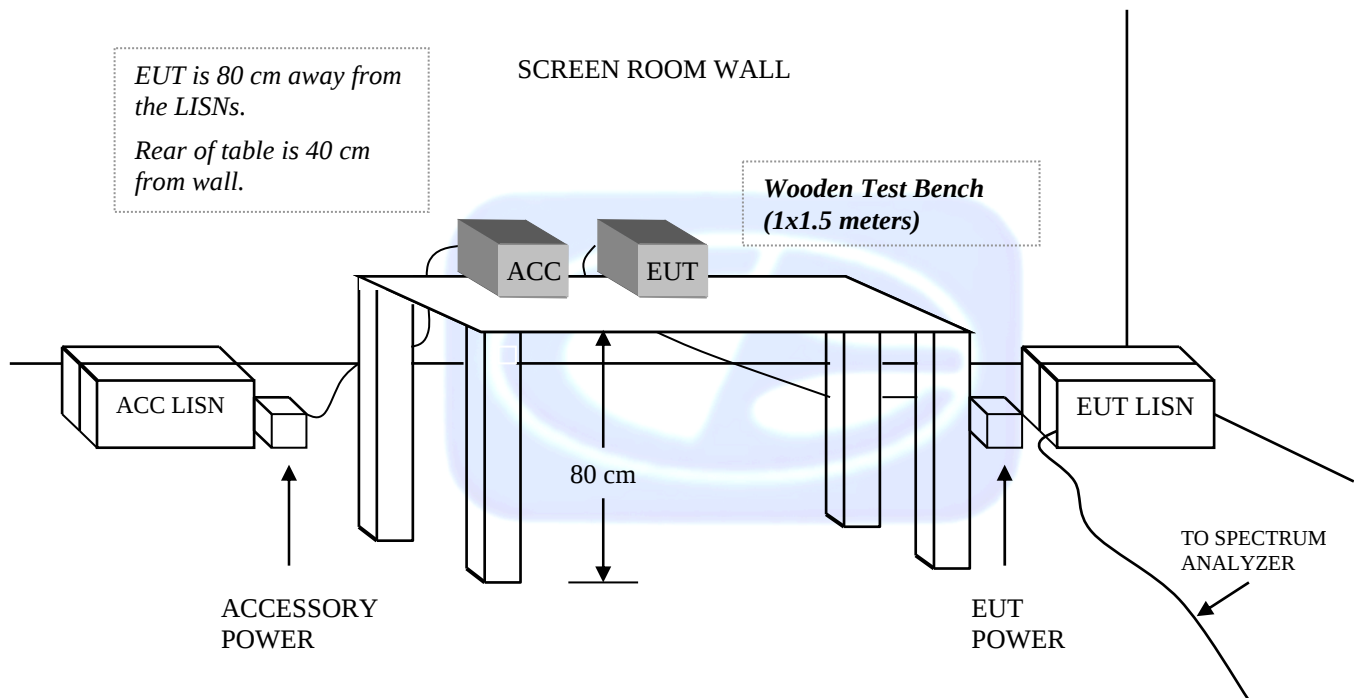


  
**APPENDIX D*****DIAGRAMS AND CHARTS***

***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

| <b>FREQUENCY<br/>(MHz)</b> | <b>MAGNETIC<br/>(dB/m)</b> | <b>ELECTRIC<br/>(dB/m)</b> |
|----------------------------|----------------------------|----------------------------|
| 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**

| <b>FREQUENCY<br/>(MHz)</b> | <b>FACTOR<br/>(dB)</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>FACTOR<br/>(dB)</b> |
|----------------------------|------------------------|----------------------------|------------------------|
| 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**

| <b>FREQUENCY<br/>(GHz)</b> | <b>FACTOR<br/>(dB)</b> | <b>FREQUENCY<br/>(GHz)</b> | <b>FACTOR<br/>(dB)</b> |
|----------------------------|------------------------|----------------------------|------------------------|
| 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

| <b>FREQUENCY<br/>(GHz)</b> | <b>FACTOR<br/>(dB)</b> | <b>FREQUENCY<br/>(GHz)</b> | <b>FACTOR<br/>(dB)</b> |
|----------------------------|------------------------|----------------------------|------------------------|
| 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**

| <b>FREQUENCY<br/>(GHz)</b> | <b>FACTOR<br/>(dB)</b> | <b>FREQUENCY<br/>(GHz)</b> | <b>FACTOR<br/>(dB)</b> |
|----------------------------|------------------------|----------------------------|------------------------|
| 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**

| <b>FREQUENCY<br/>(GHz)</b> | <b>FACTOR<br/>(dB)</b> | <b>FREQUENCY<br/>(GHz)</b> | <b>FACTOR<br/>(dB)</b> |
|----------------------------|------------------------|----------------------------|------------------------|
| 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                  |

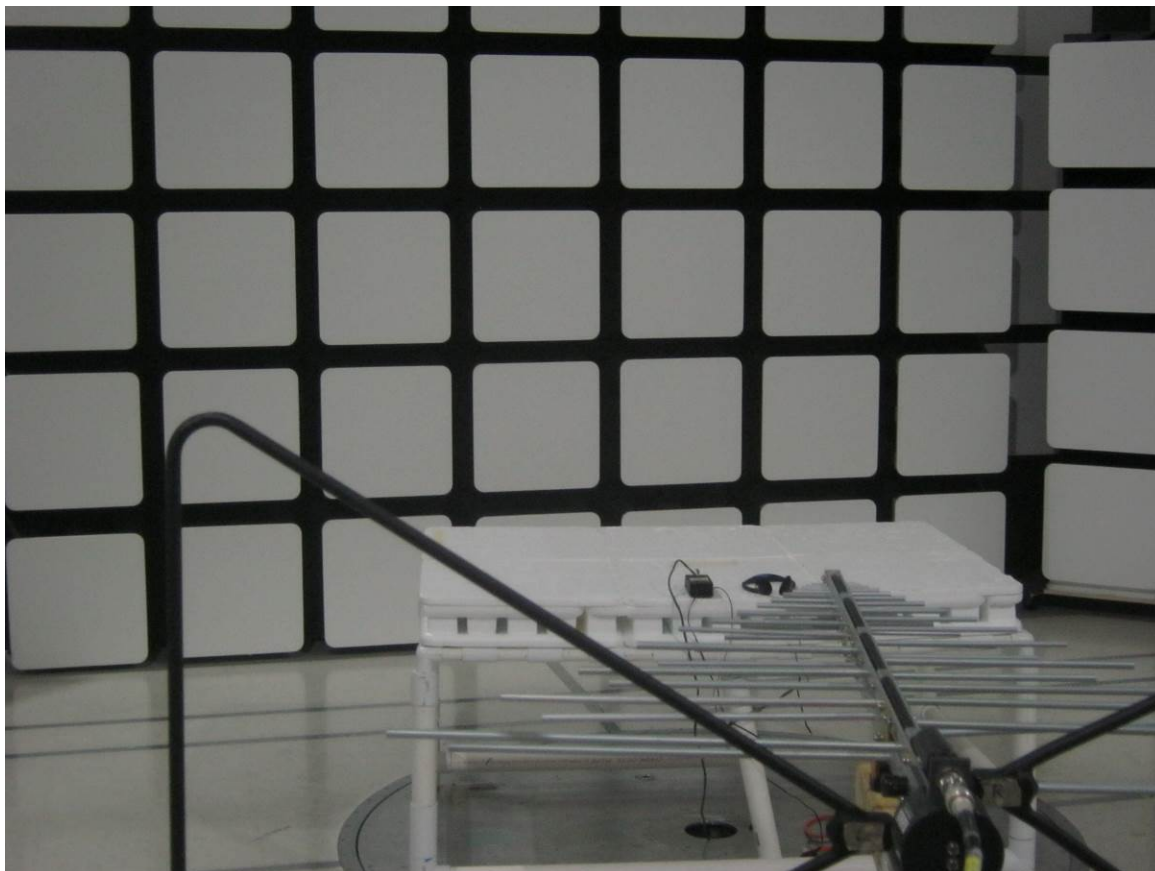


**FRONT VIEW**

IBIS NETWORKS  
INTELIGATEWAY  
MODEL: IG-302

FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**

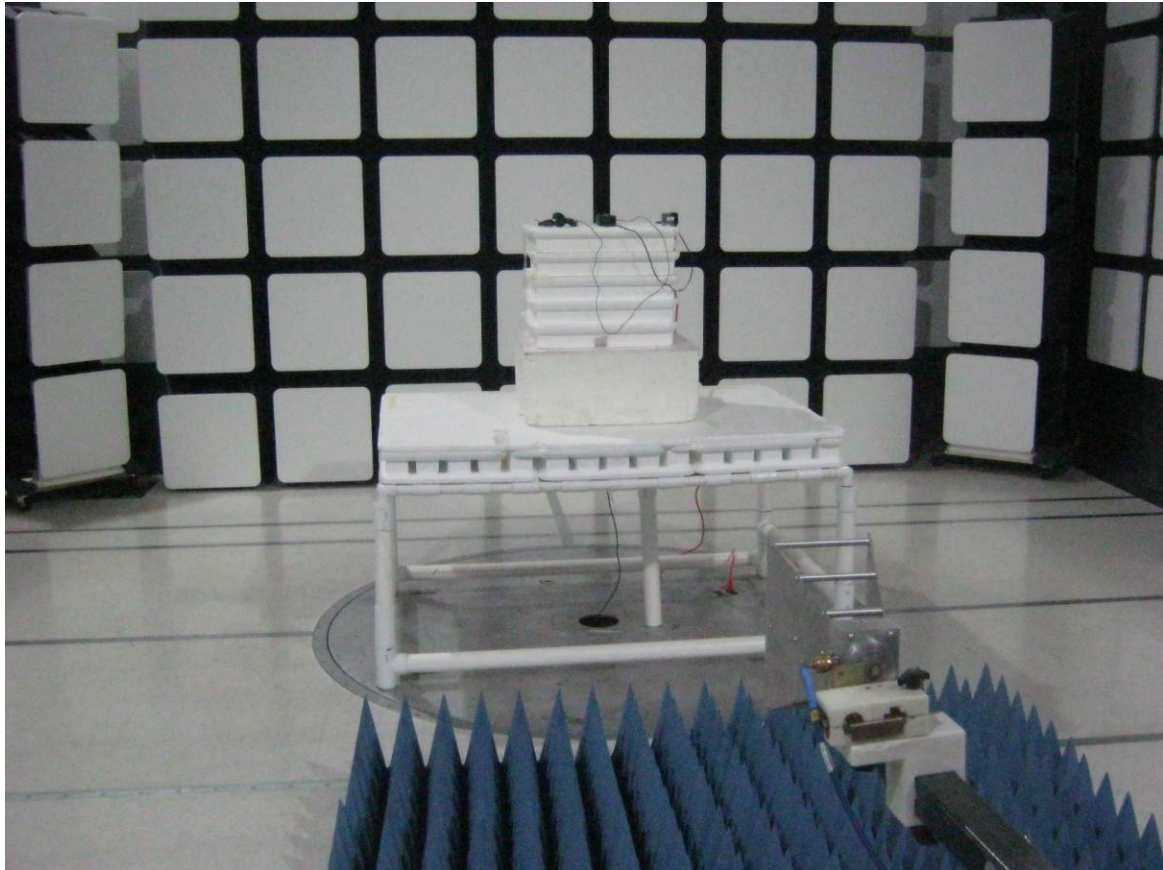


**REAR VIEW**

IBIS NETWORKS  
INTELI GATEWAY  
MODEL: IG-302

FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**

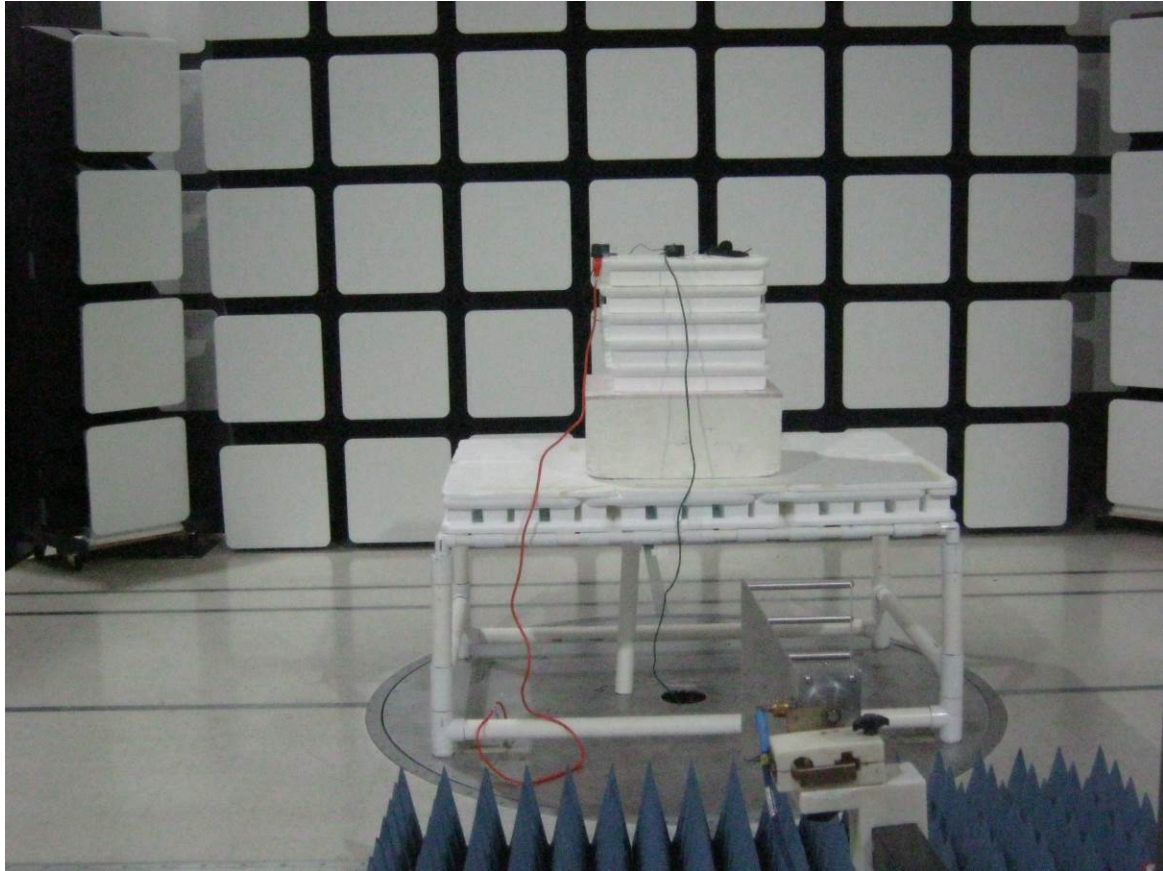


**FRONT VIEW**

IBIS NETWORKS  
INTELI GATEWAY  
MODEL: IG-302

FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**

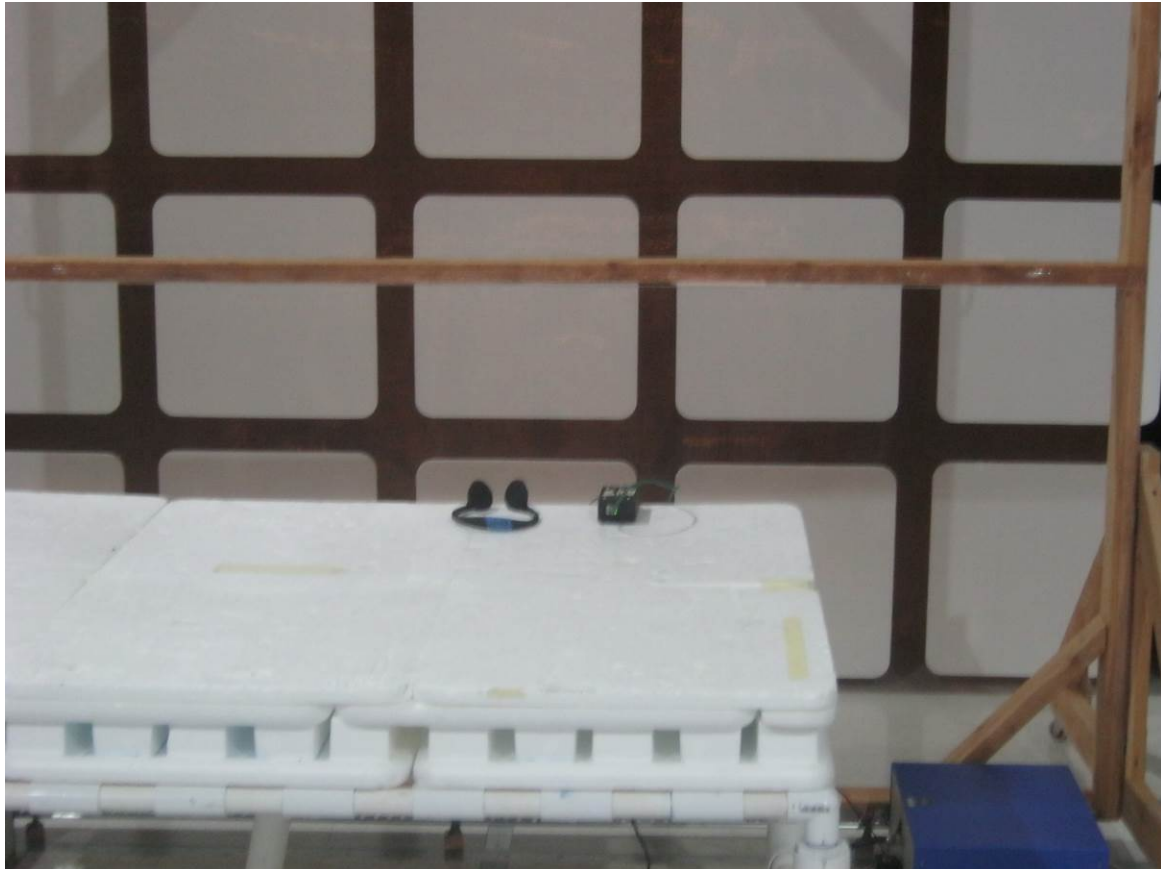


**REAR VIEW**

IBIS NETWORKS  
INTELEGATEWAY  
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  
INTELI GATEWAY  
MODEL: IG-302

FCC SUBPART B AND C – CONDUCTED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**REAR VIEW**

IBIS NETWORKS  
INTELI GATEWAY

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

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

**2405 MHz**

**Transmit Mode - X-Axis**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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

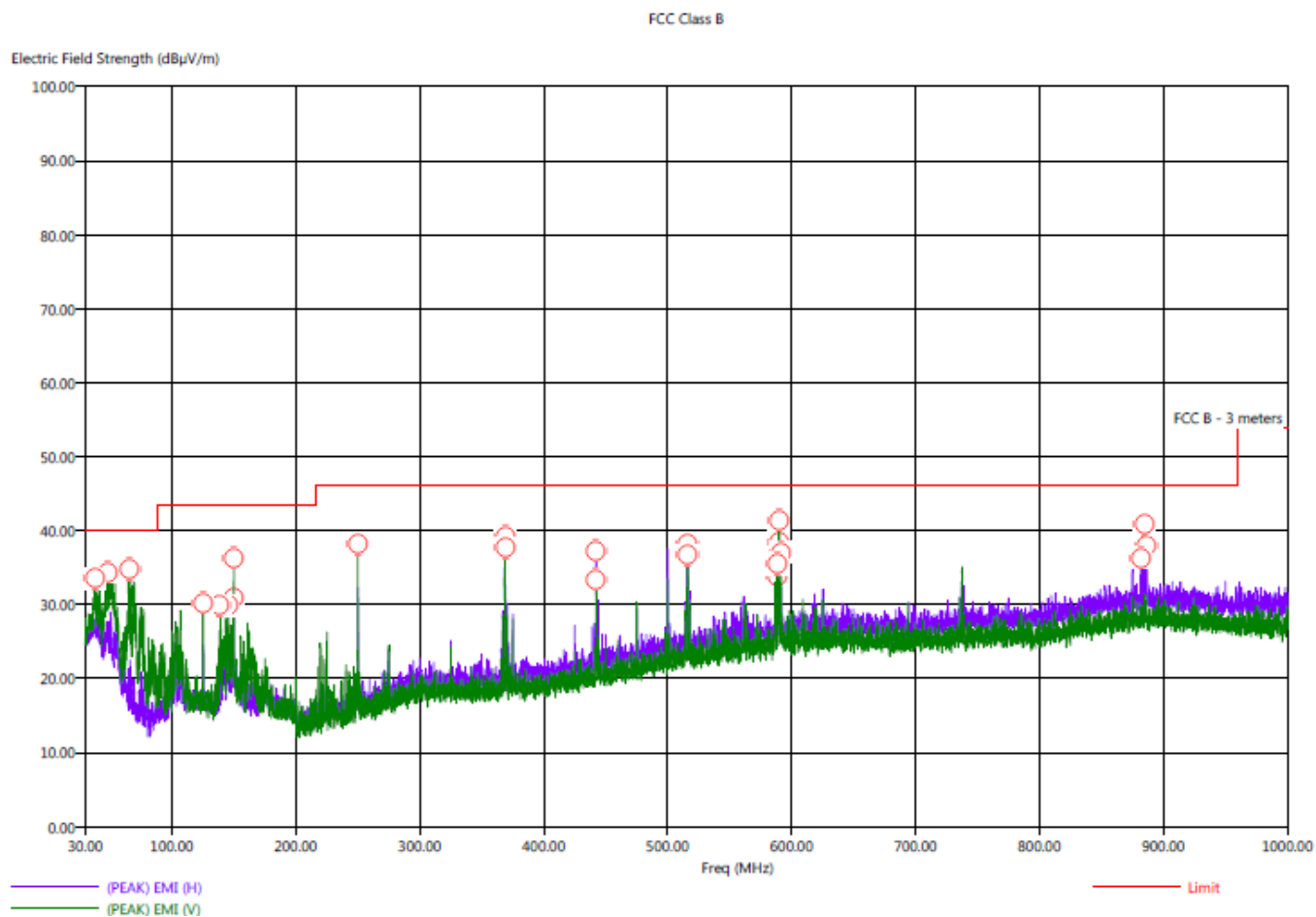
Lab: D

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: IntelliGateway  
EUT Condition: The EUT is continuously transmitting  
Comments: Company: IBIS Networks  
Model: IG-302  
120 VAC / 60 Hz

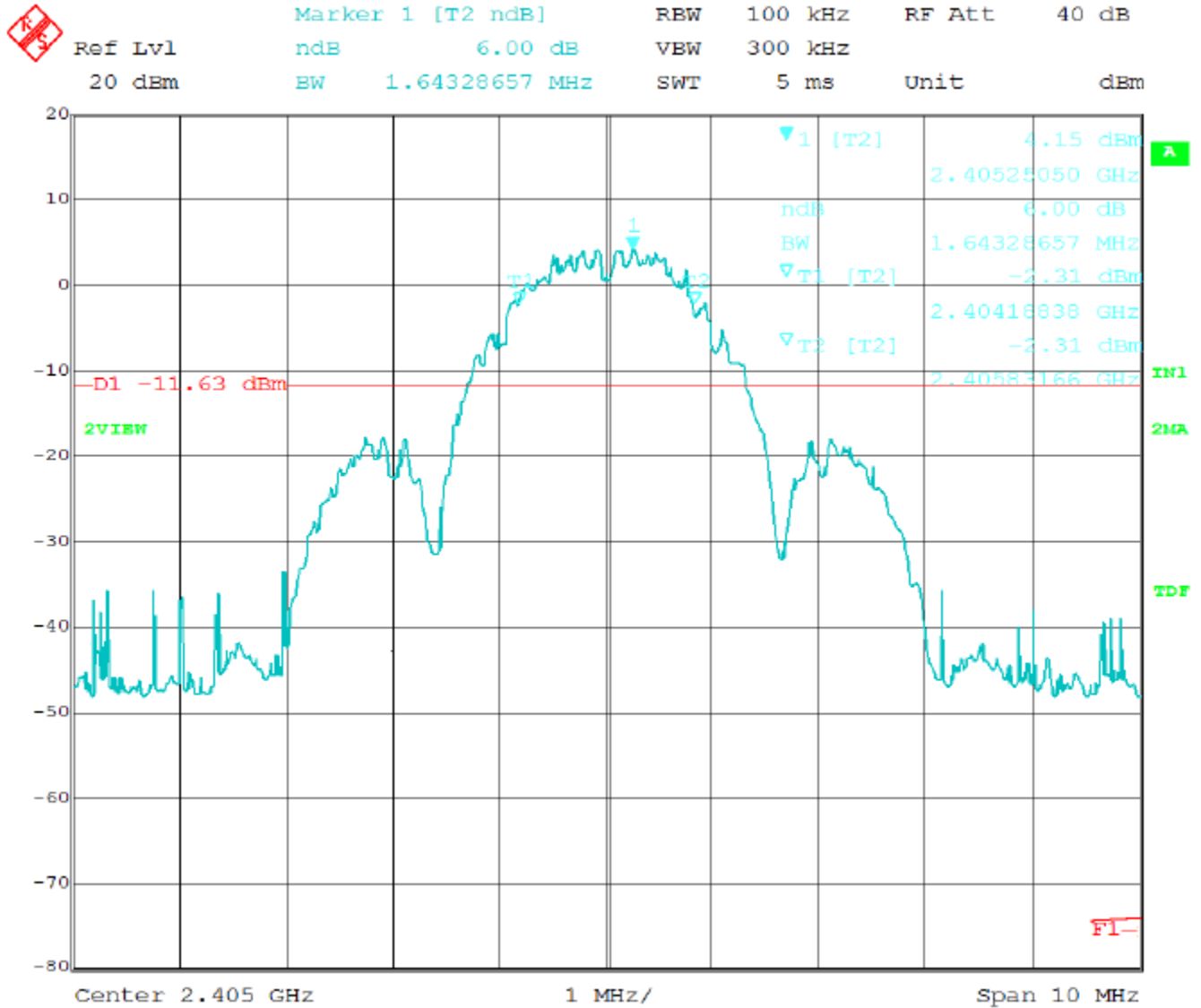
3/31/2016 11:47:07 AM  
Sequence: Final Measurements

| FCC Class B   |     |                        |                      |                       |                     |                   |                    |               |                   |                |
|---------------|-----|------------------------|----------------------|-----------------------|---------------------|-------------------|--------------------|---------------|-------------------|----------------|
| Freq<br>(MHz) | Pol | (PEAK) EMI<br>(dBµV/m) | (OP) EMI<br>(dBµV/m) | (PEAK) Marqin<br>(dB) | (OP) Marqin<br>(dB) | Limit<br>(dBµV/m) | Transducer<br>(dB) | Cable<br>(dB) | Ttbl Aql<br>(deg) | Twr Ht<br>(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         |

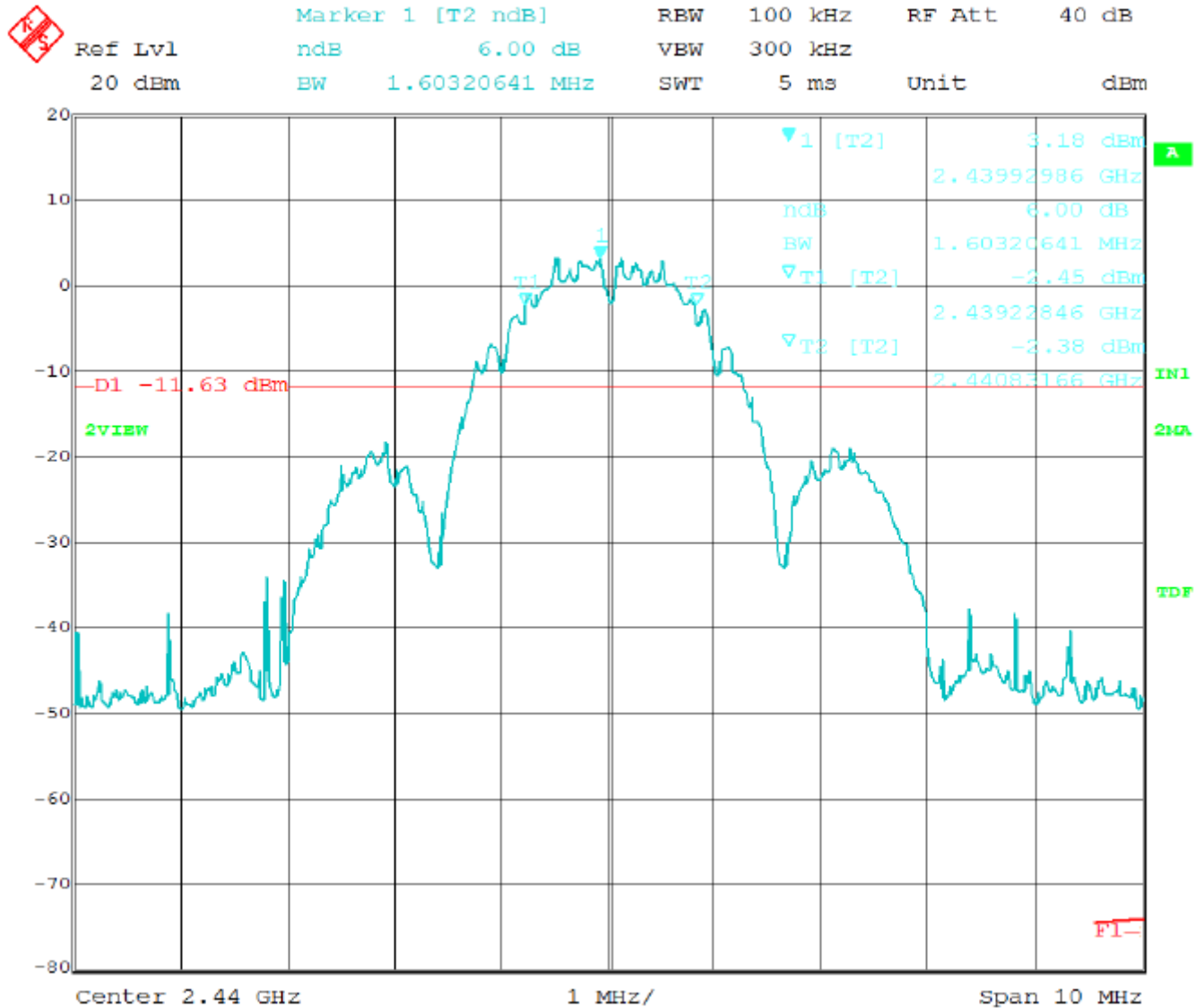


***-6 dB BANDWIDTH***

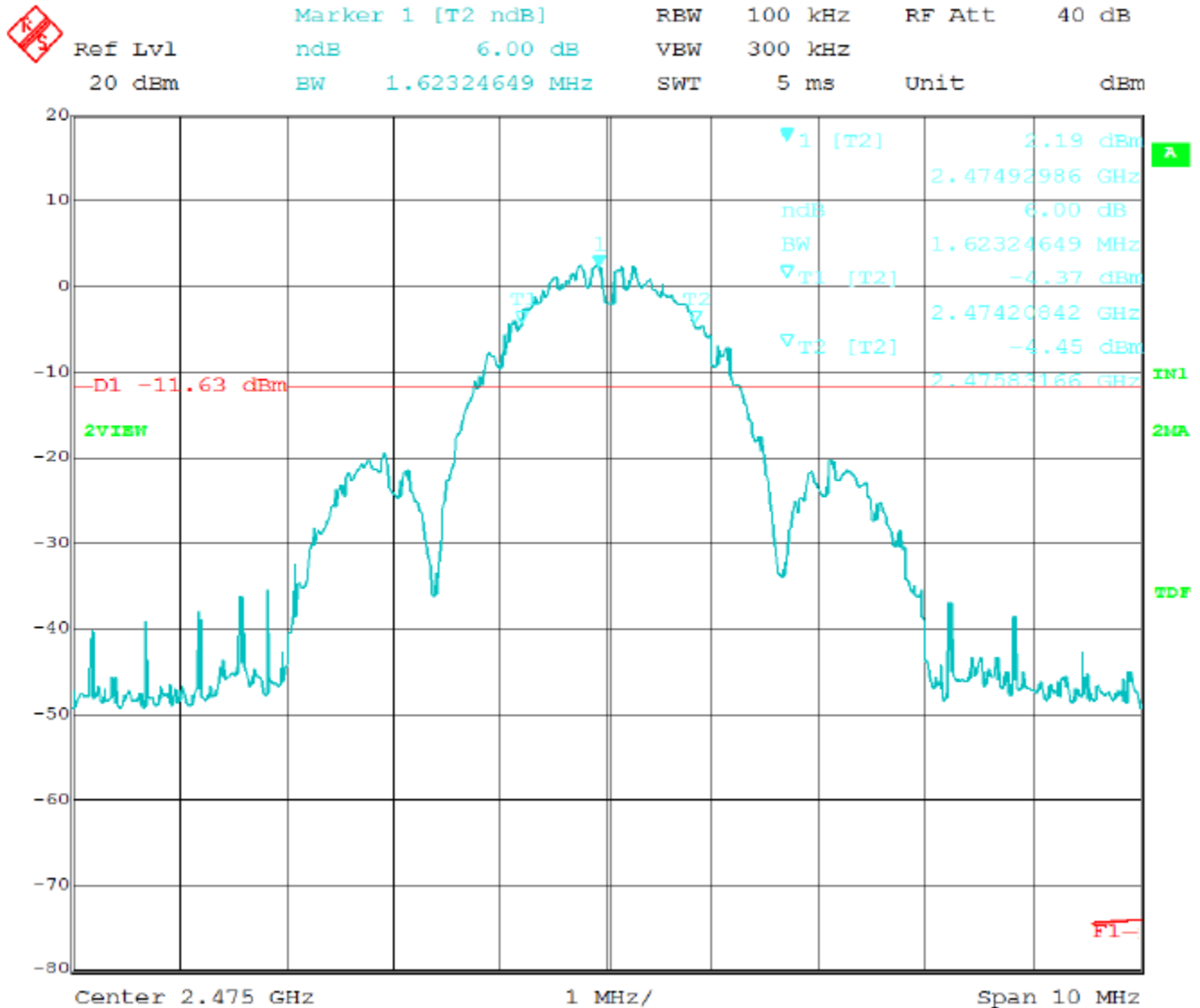
***DATA SHEETS***



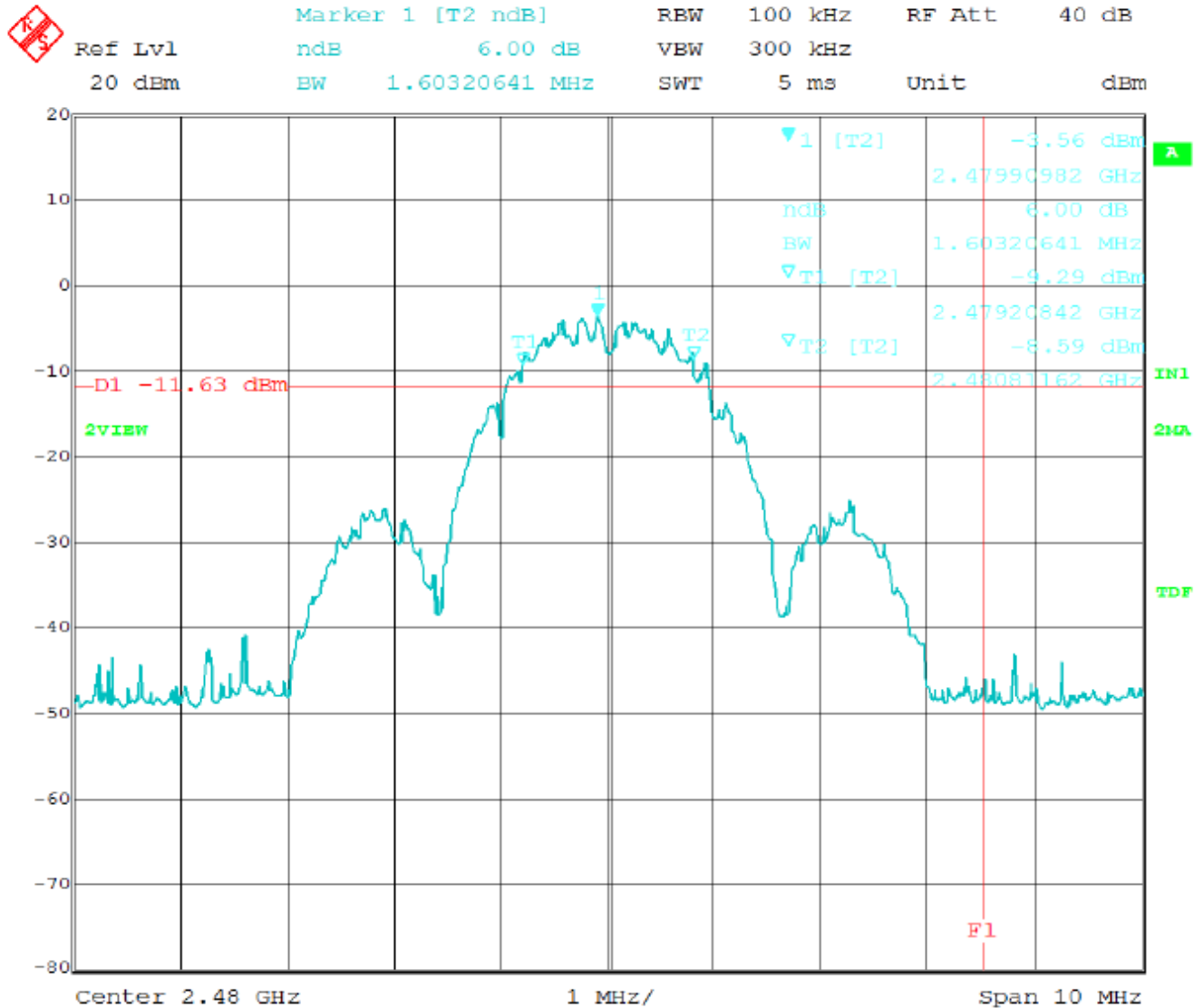
-6 dB Bandwidth – Low Channel – Model: IG-302



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



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

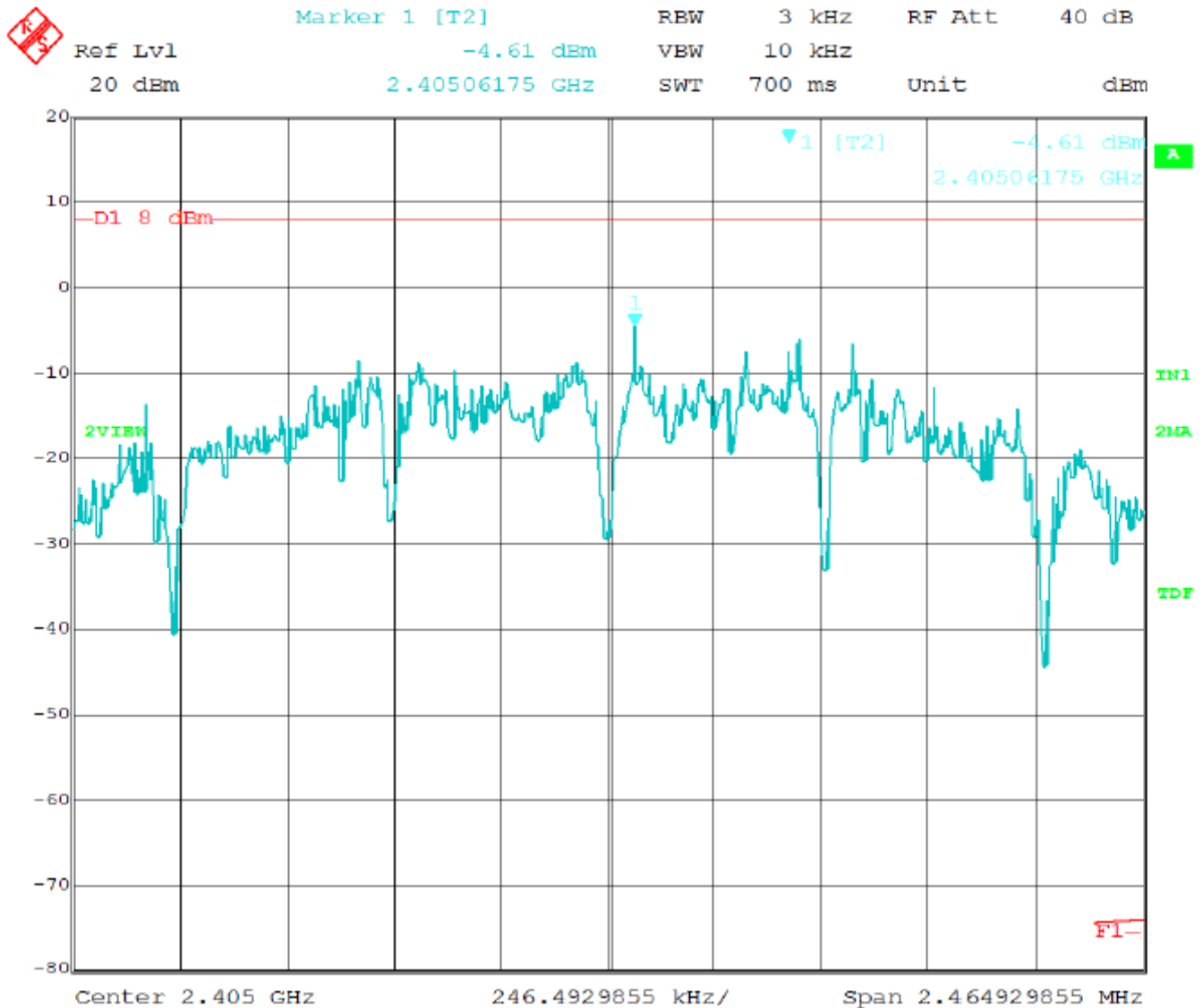


-6 dB Bandwidth – High Channel (2480 MHz) – Model: IG-302

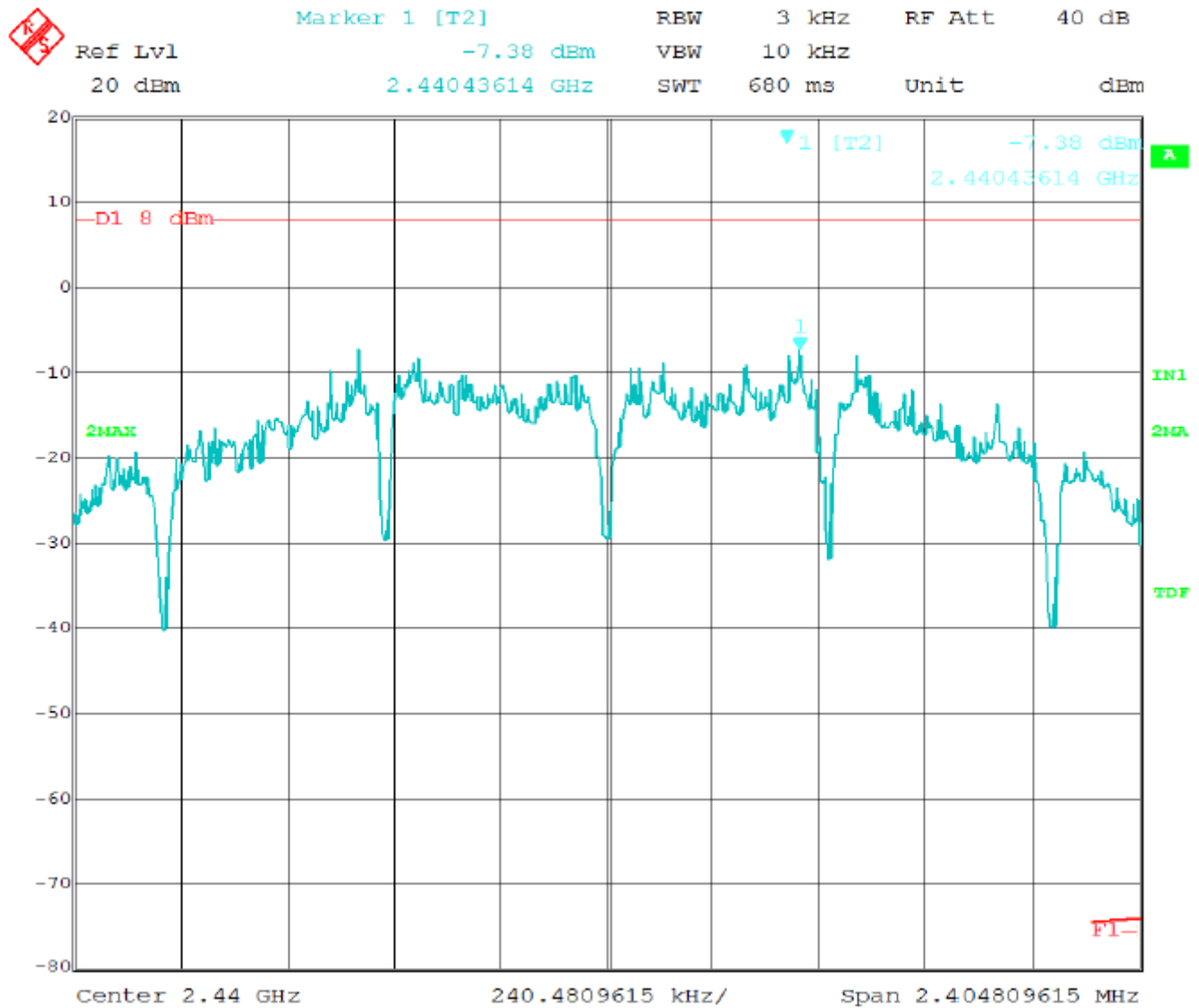


***SPECTRAL DENSITY OUTPUT***

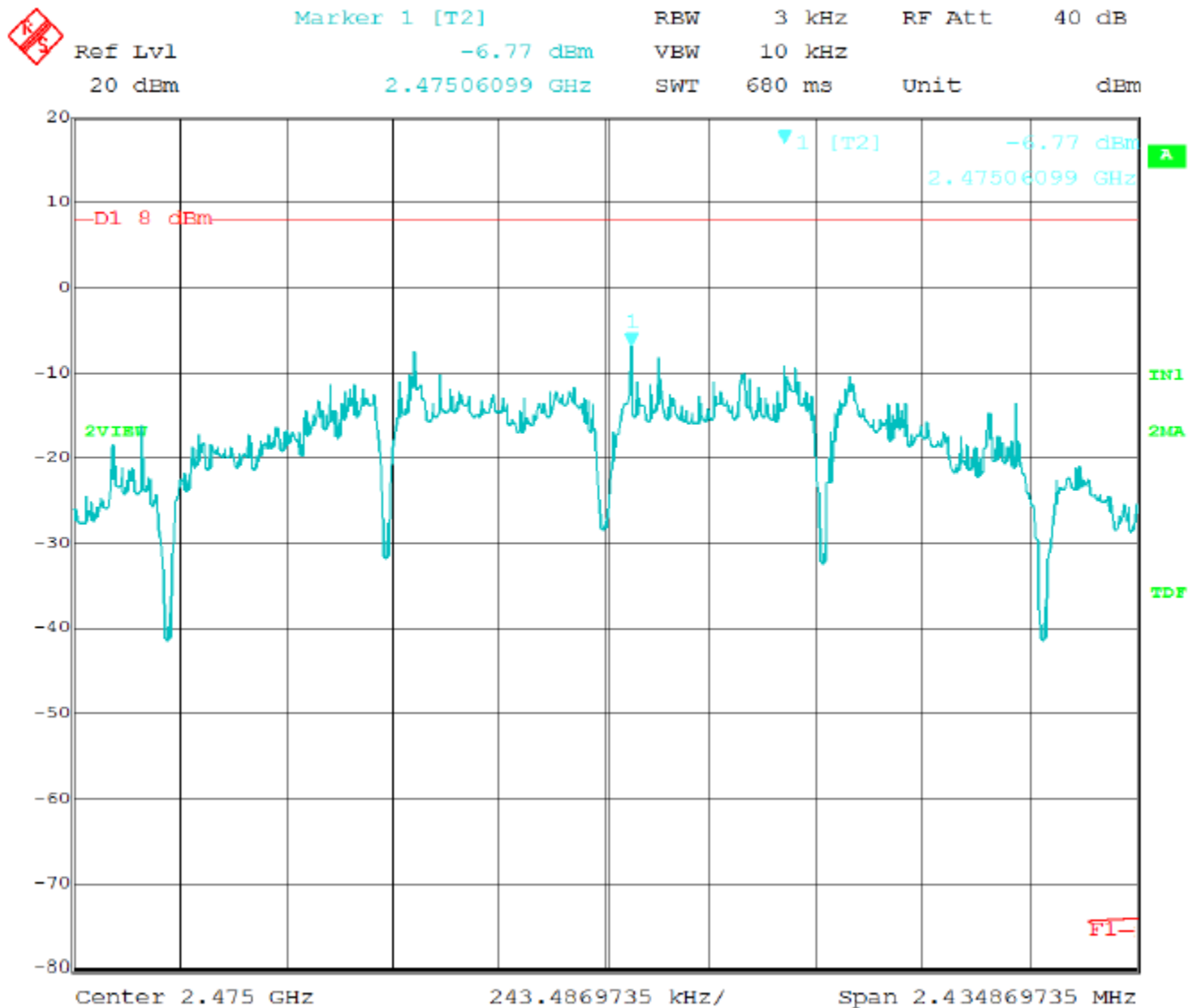
***DATA SHEETS***



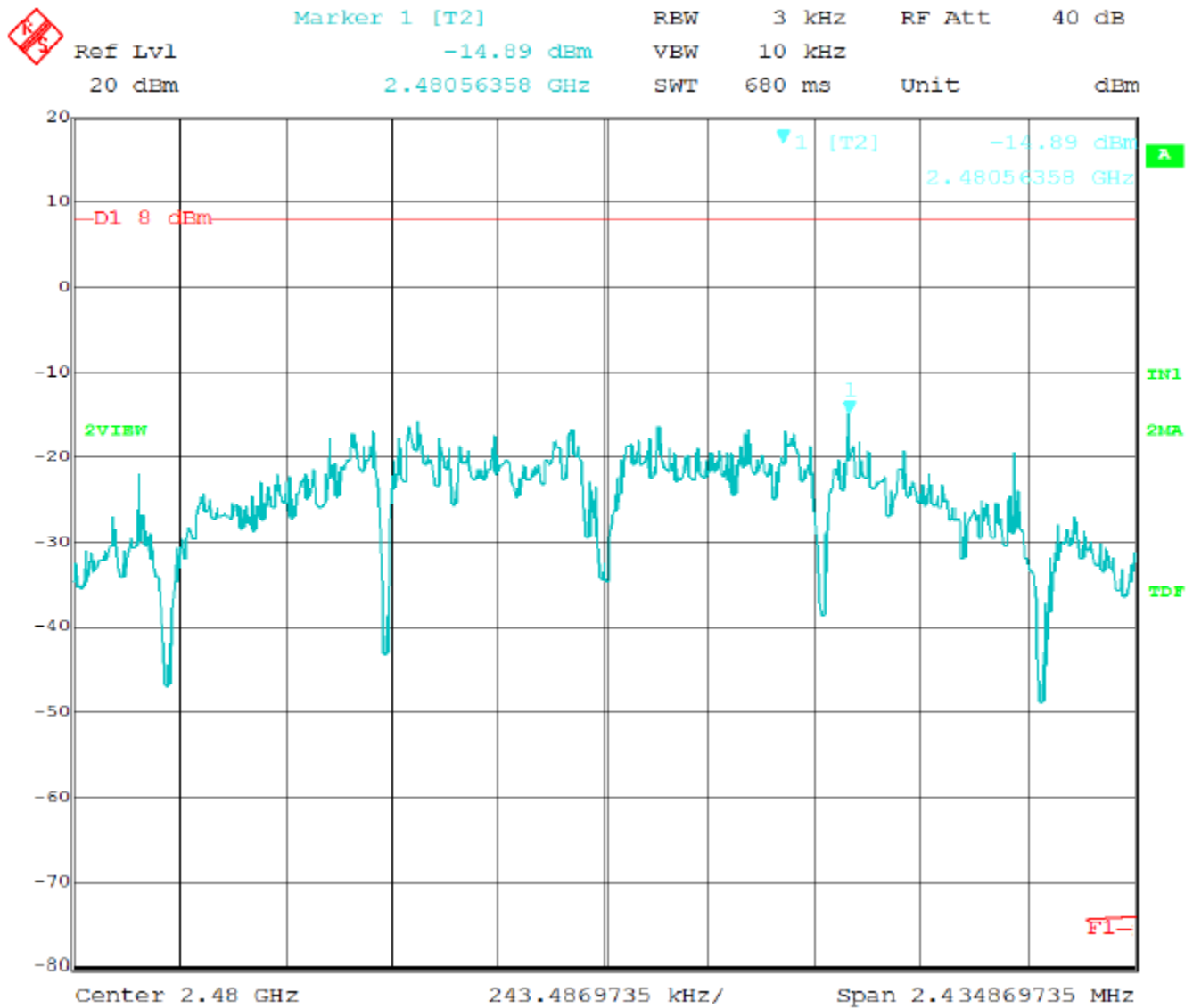
Spectral Density – Low Channel – Model: IG-302



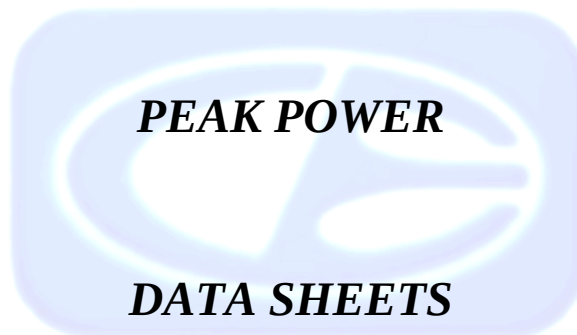
Spectral Density – Middle Channel – Model: IG-302

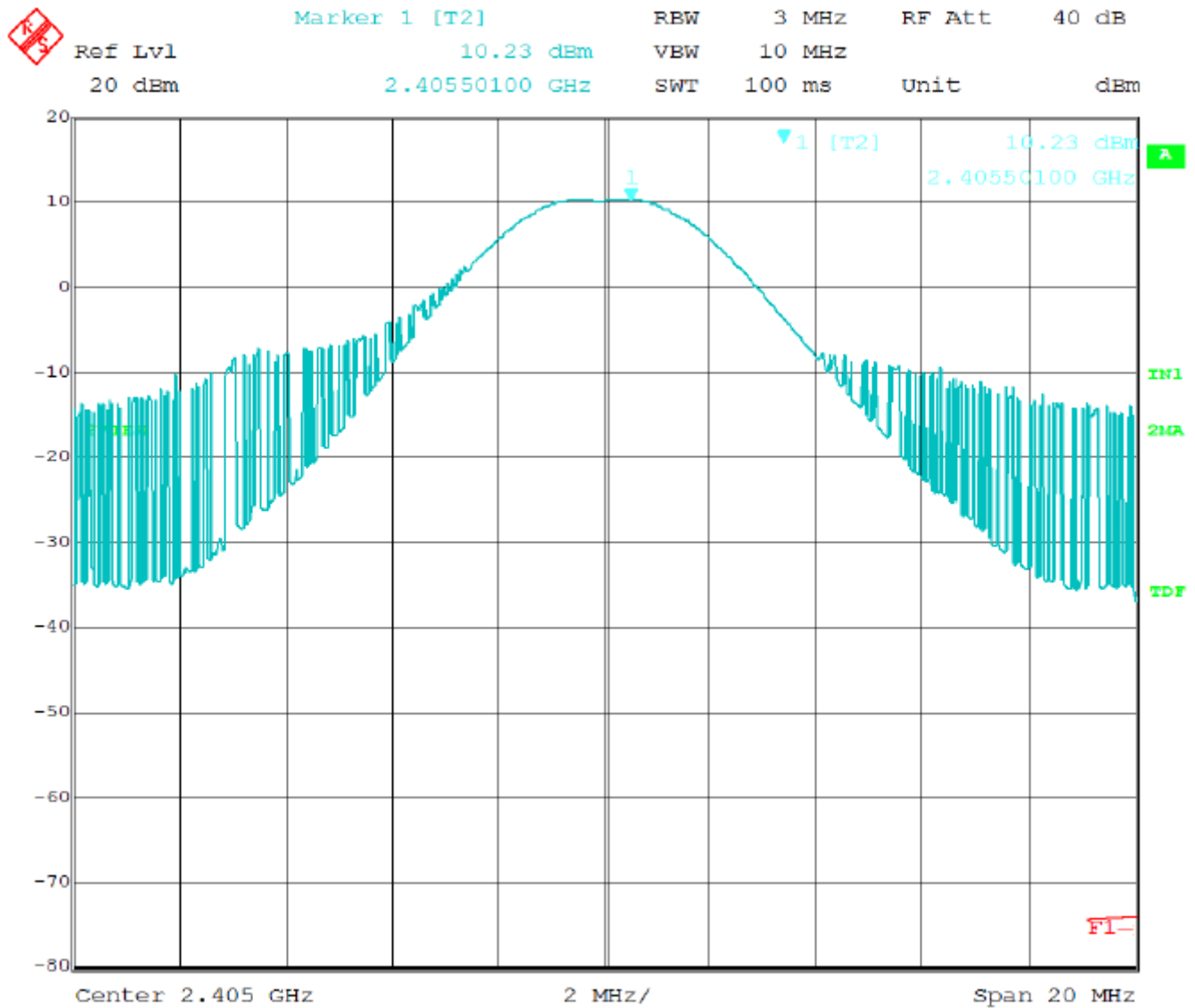


Spectral Density – High Channel (2475 MHz) – Model: IG-302

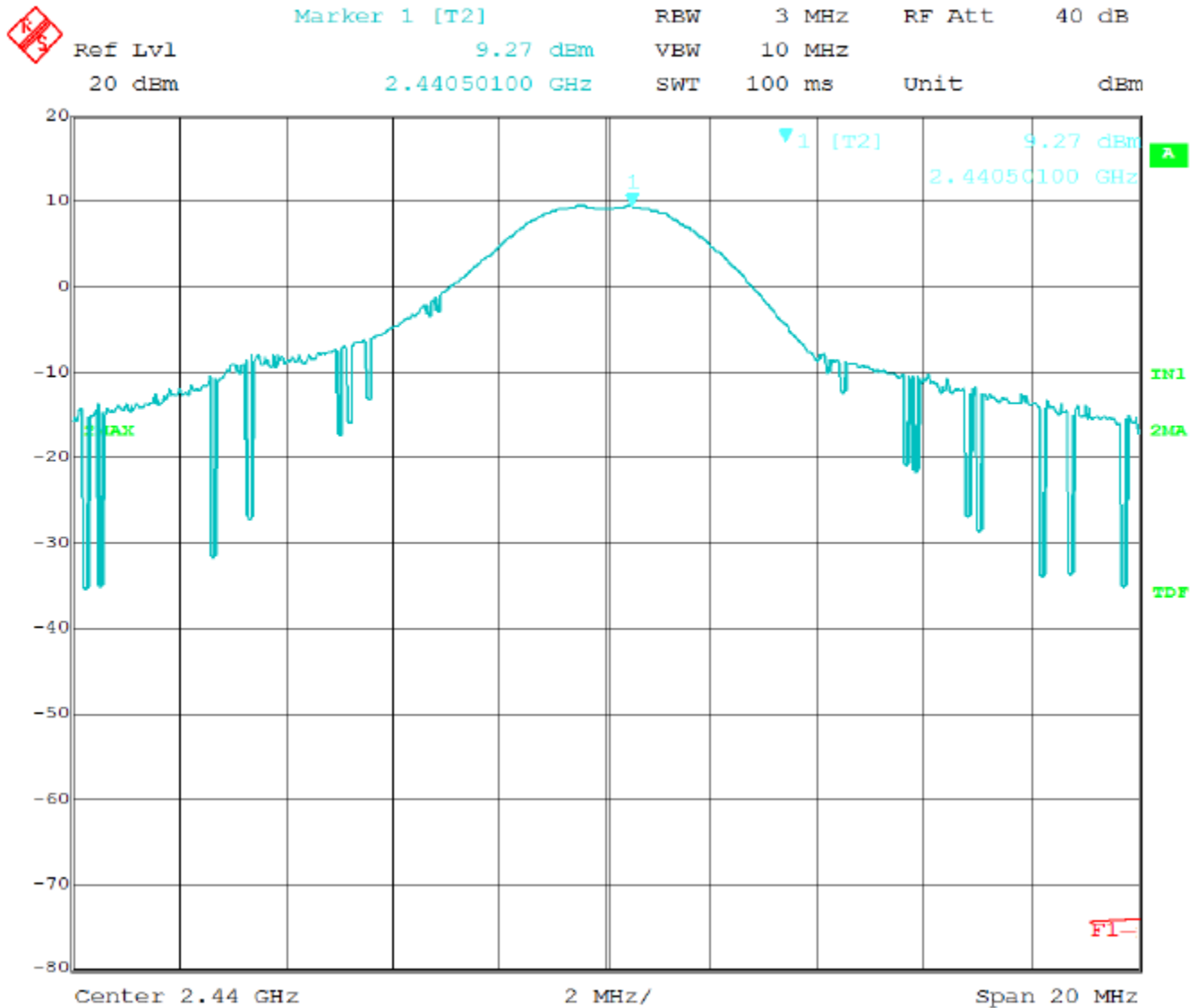


Spectral Density – High Channel (2480 MHz) – Model: IG-302

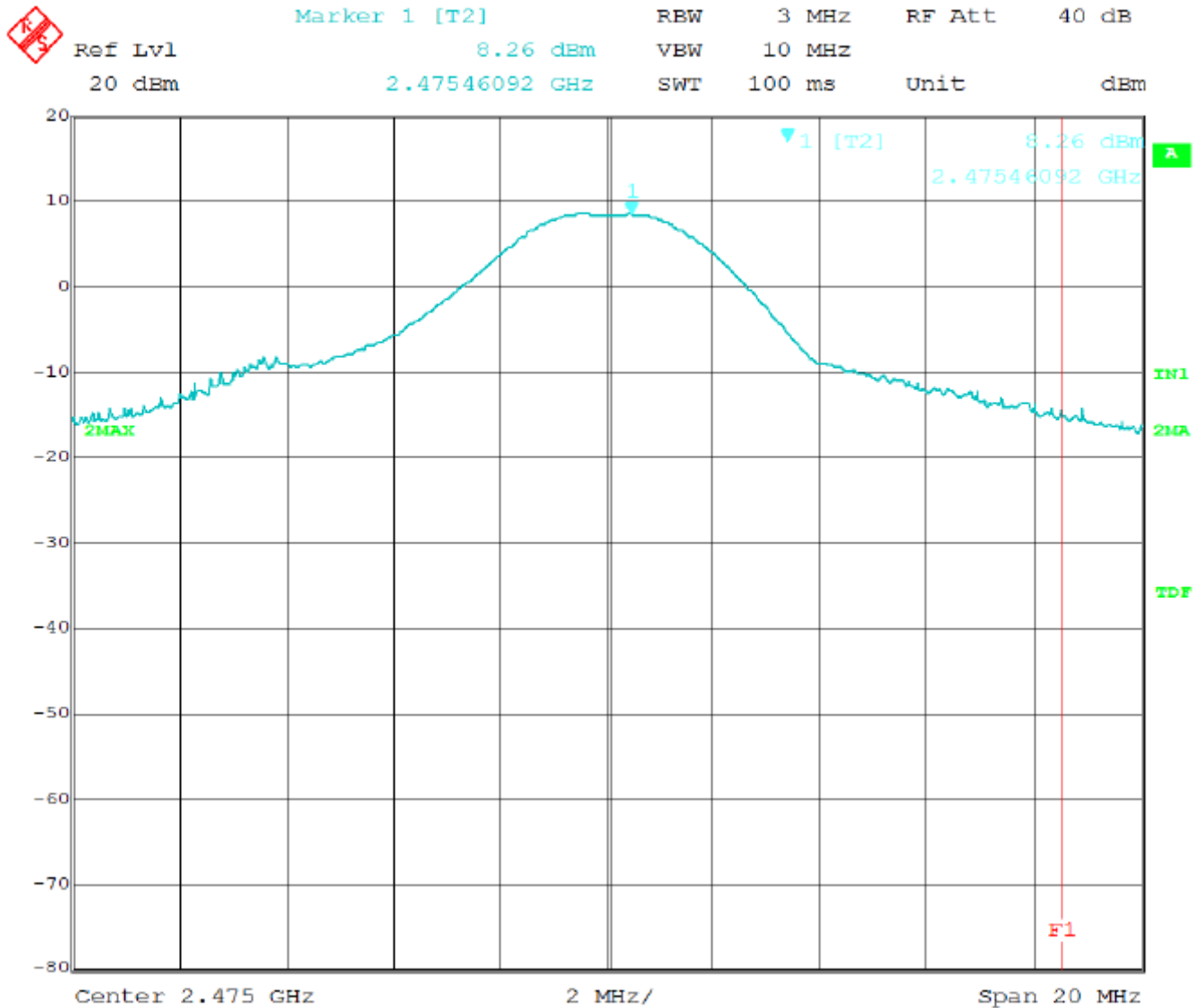




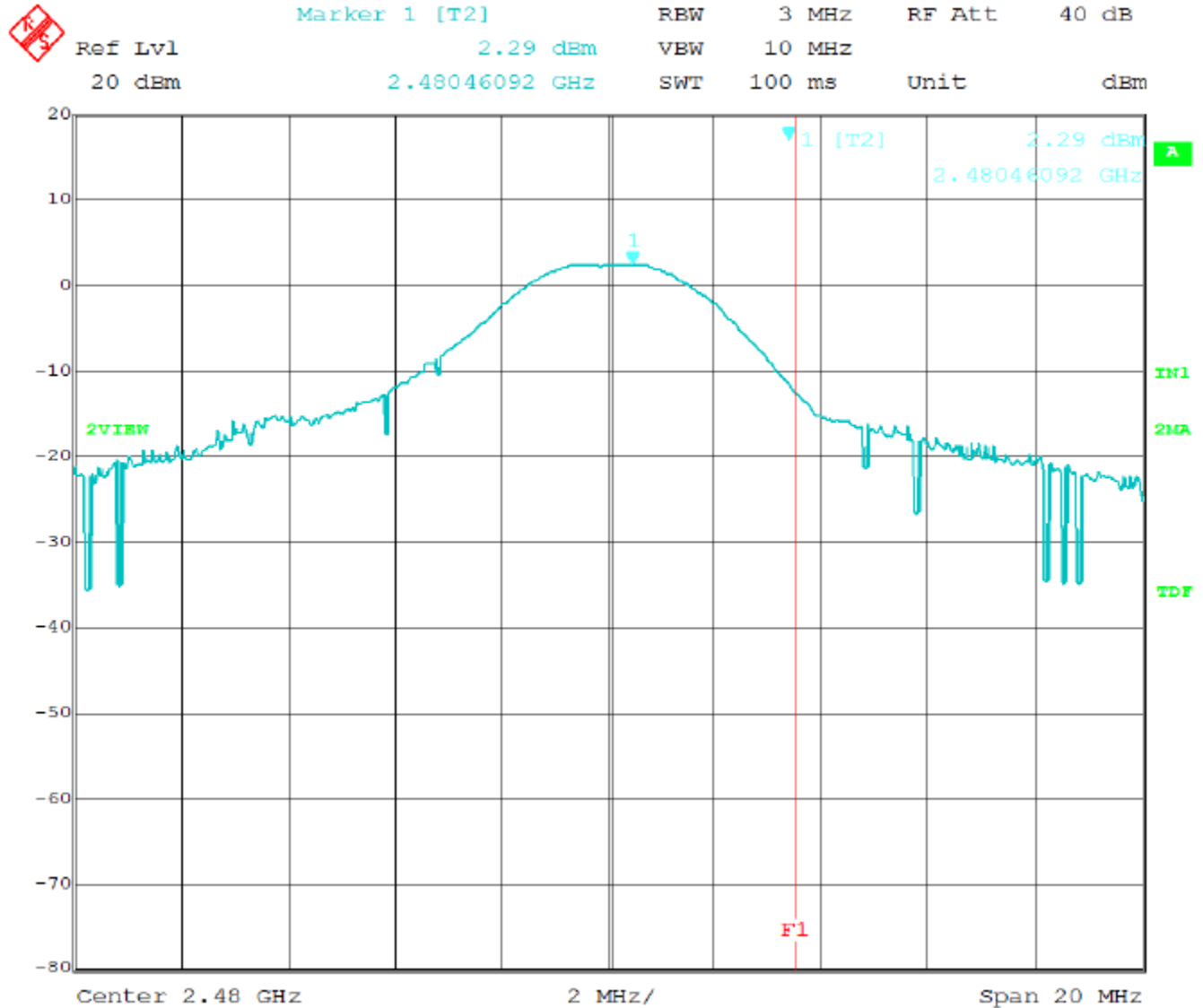
Peak Power Output – Low Channel – Model: IG-302



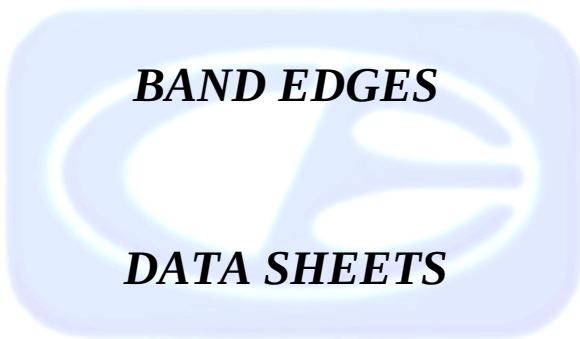
Peak Power Output – Middle Channel – Model: IG-302



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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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

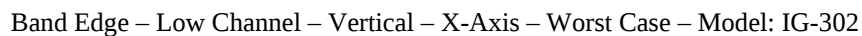
**2480 MHz****Band Edges**

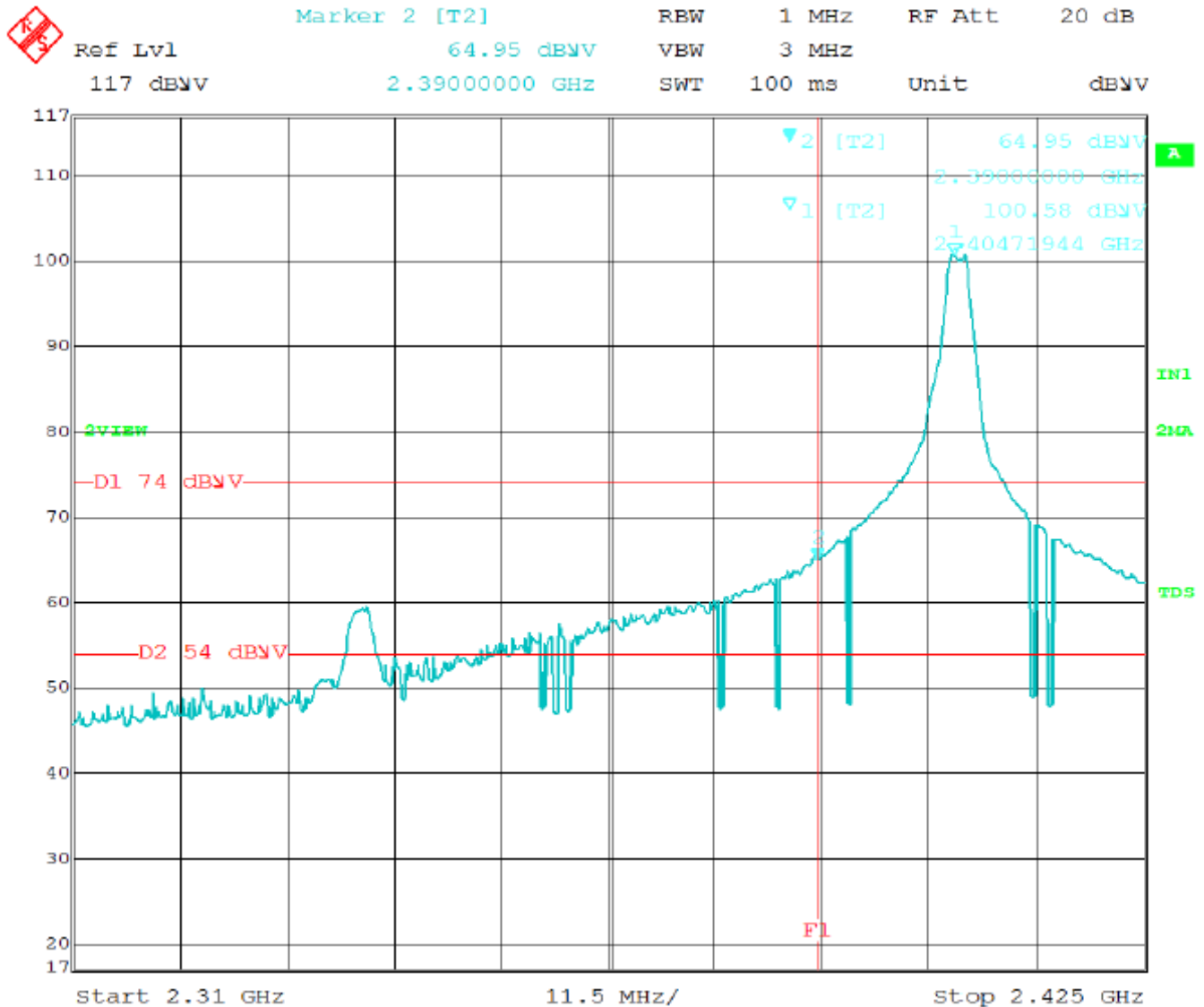
Date: 03/31/2016

Lab: D

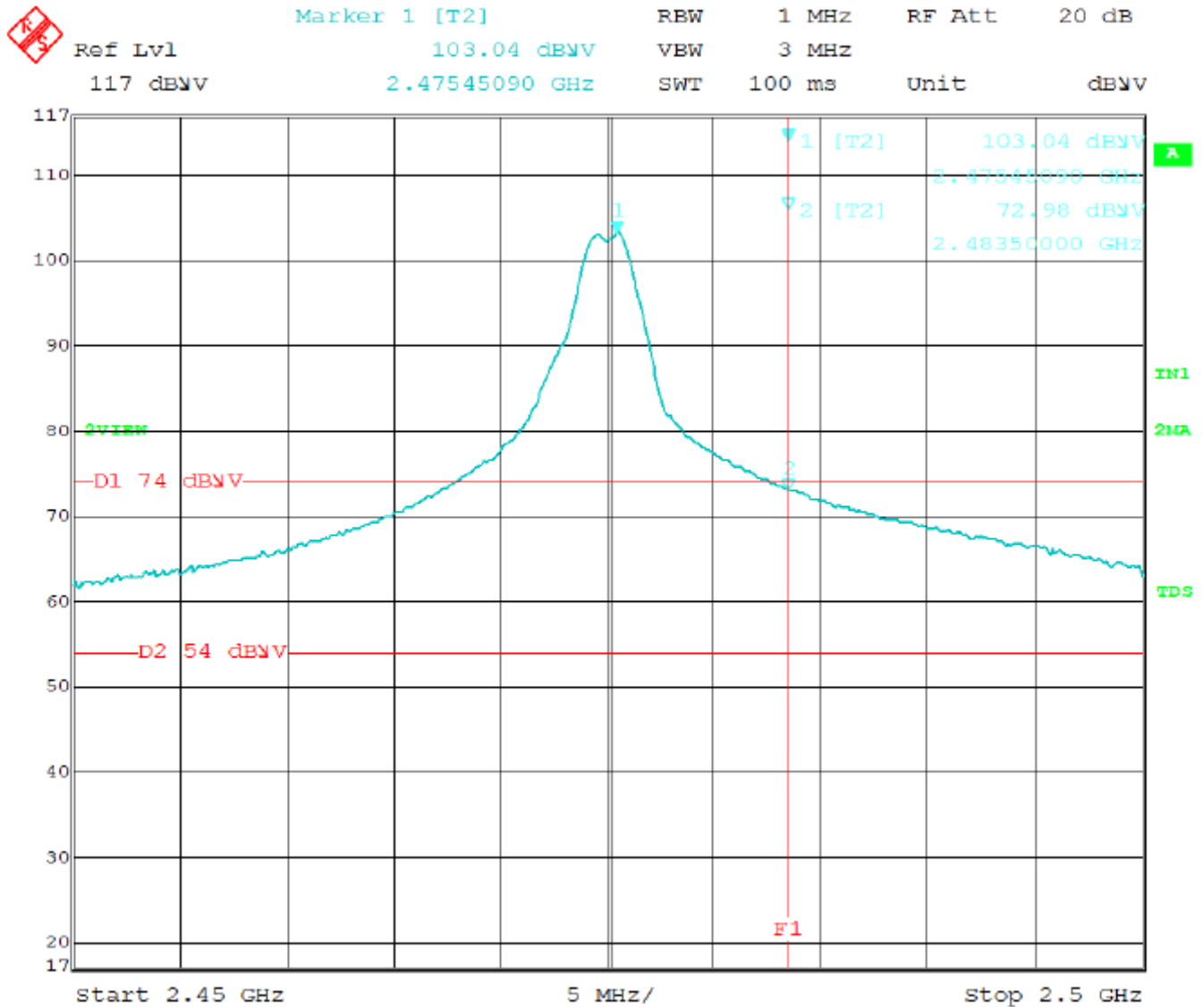
Tested By: Kyle Fujimoto

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(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              |

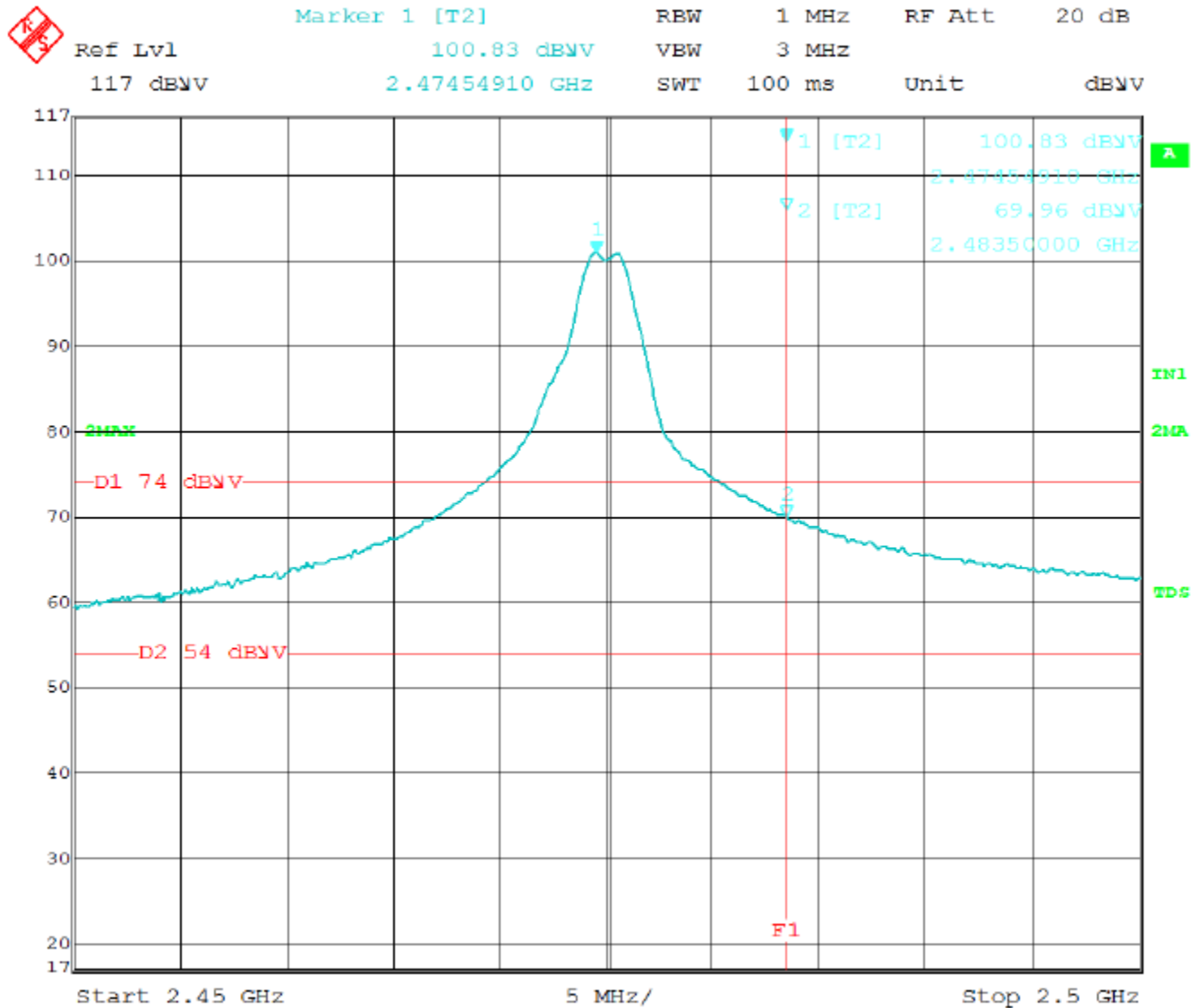




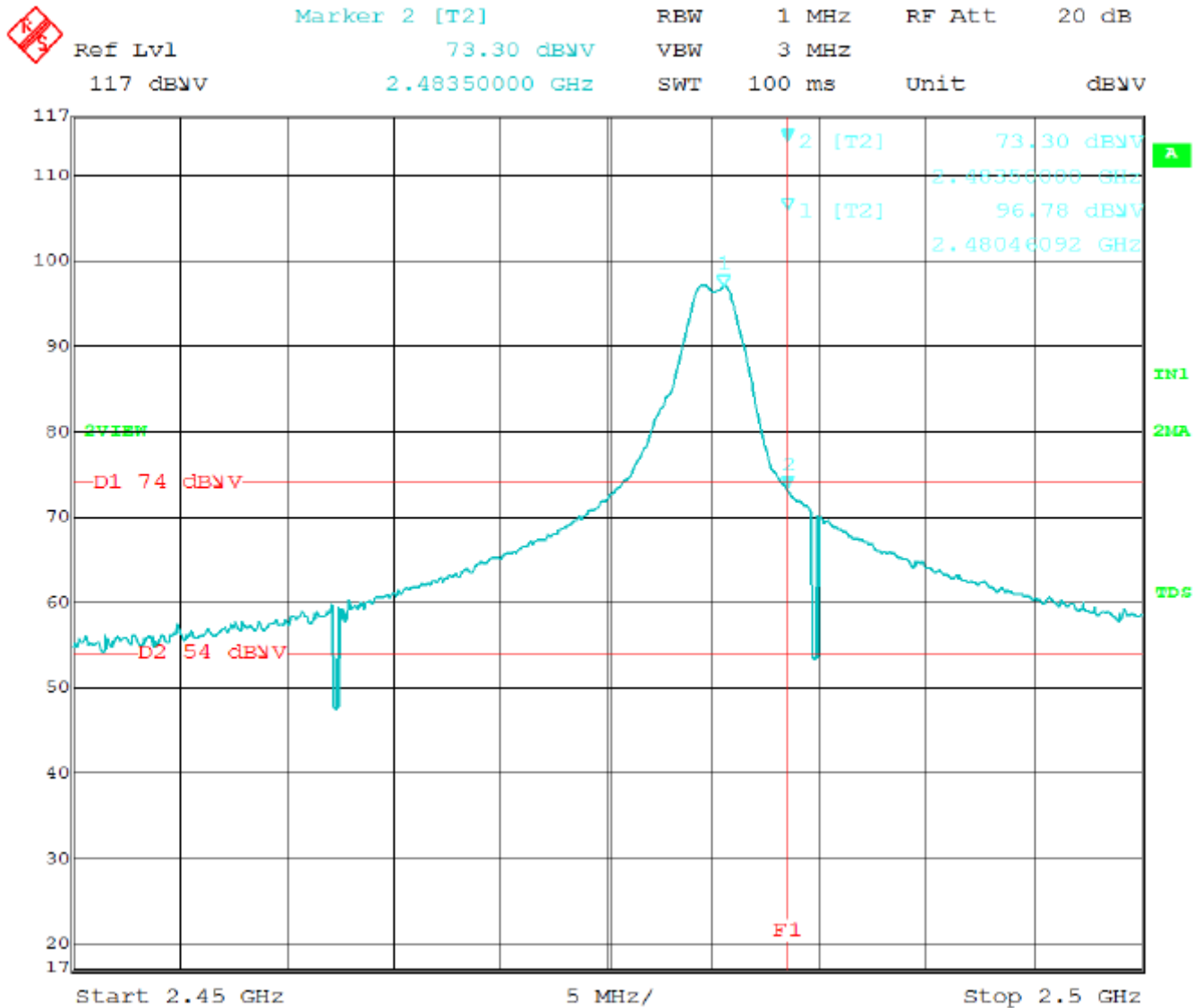
Band Edge – Low Channel – Horizontal – X-Axis – Worst Case – Model: IG-302



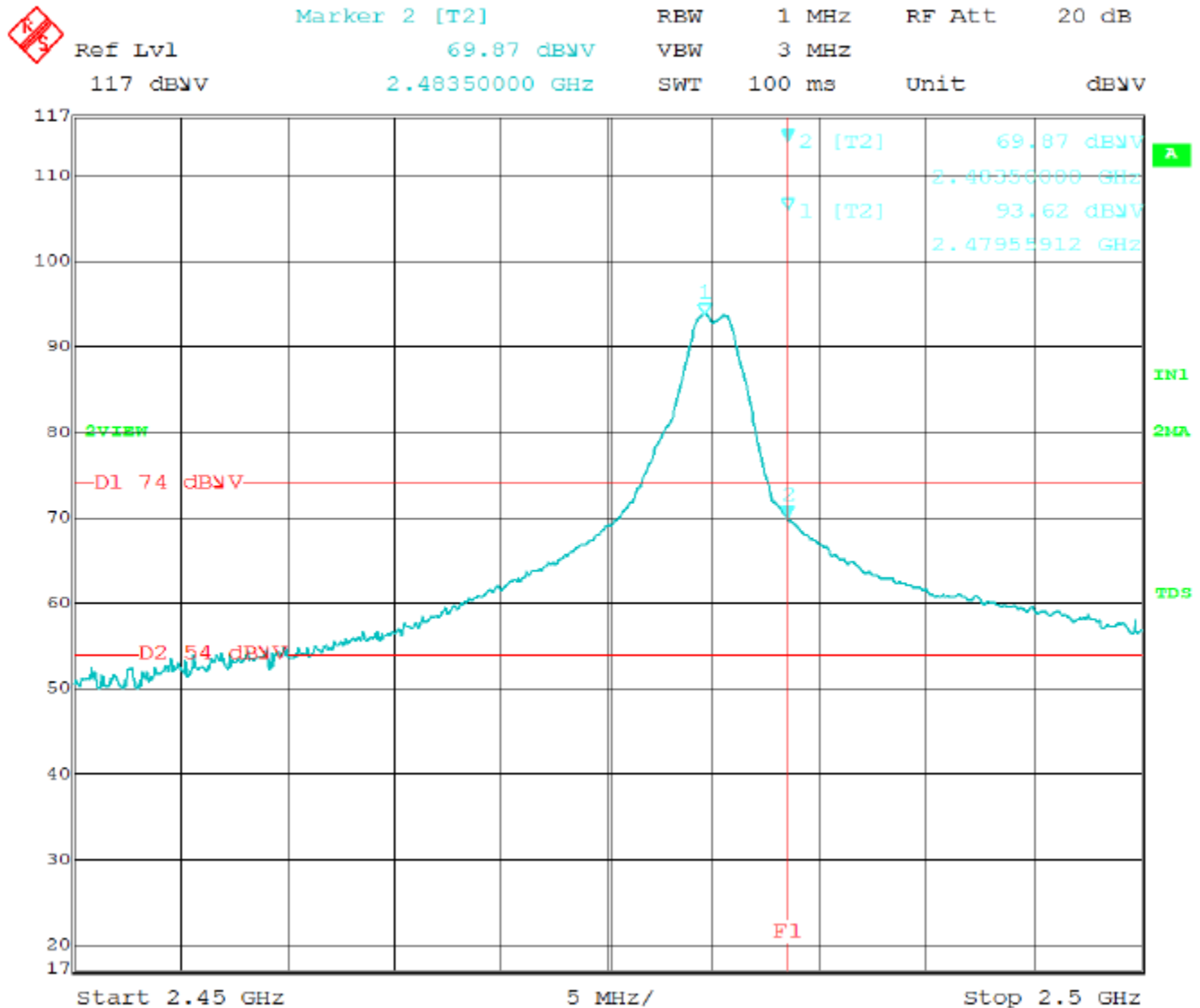
Band Edge – High Channel (2475 MHz) – Vertical – X-Axis – Worst Case – Model: IG-302



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

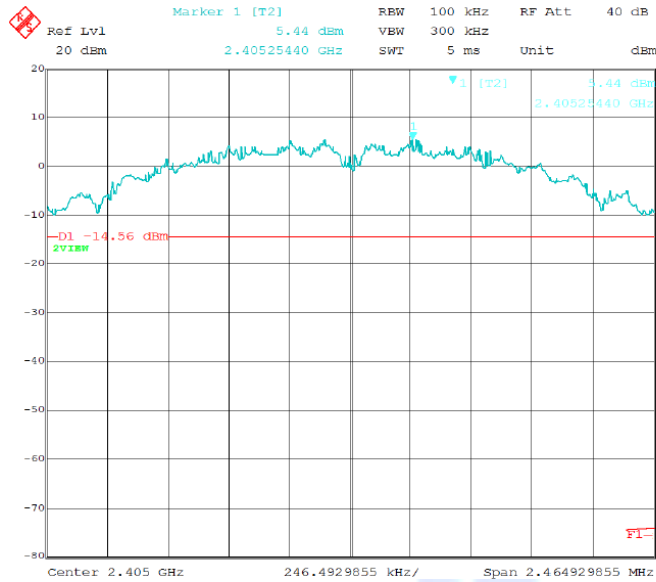
Lab: D

Tested By: Kyle Fujimoto

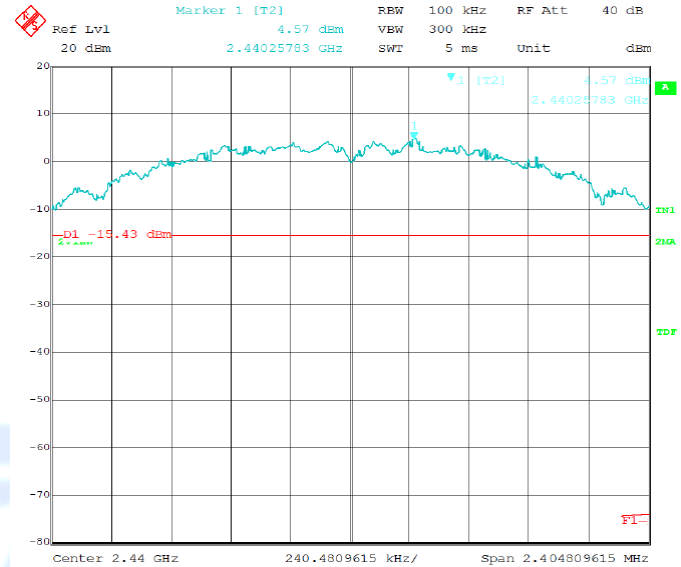
| Freq. (MHz) | Level (dBm) | Limit (dBm) | Margin | Peak / QP / Avg | Comments                |
|-------------|-------------|-------------|--------|-----------------|-------------------------|
| 2395.1      | -46.04      | -23.93      | -22.11 | Peak            | High Channel (2480 MHz) |
| 21663.3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



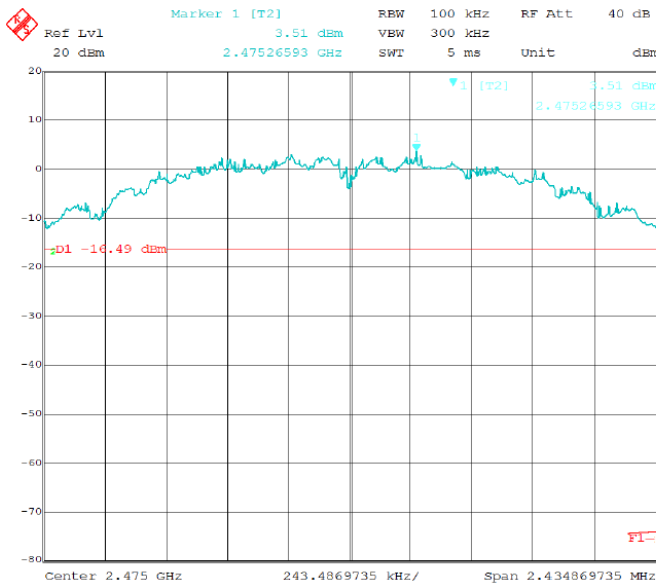
## REFERENCE LEVEL MEASUREMENTS



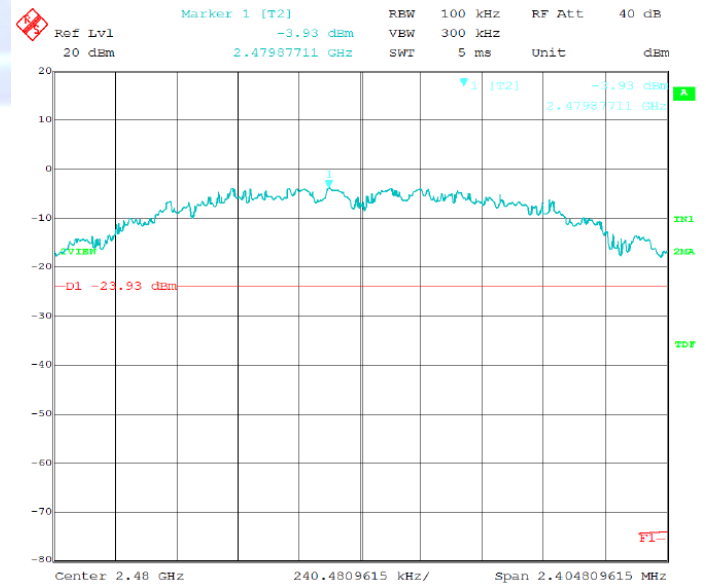
Reference Level – Low Channel(2405 MHz)



Reference Level – Middle Channel(2440 MHz)



Reference Level – High Channel(2475 MHz)



Reference Level – High Channel(2480 MHz)

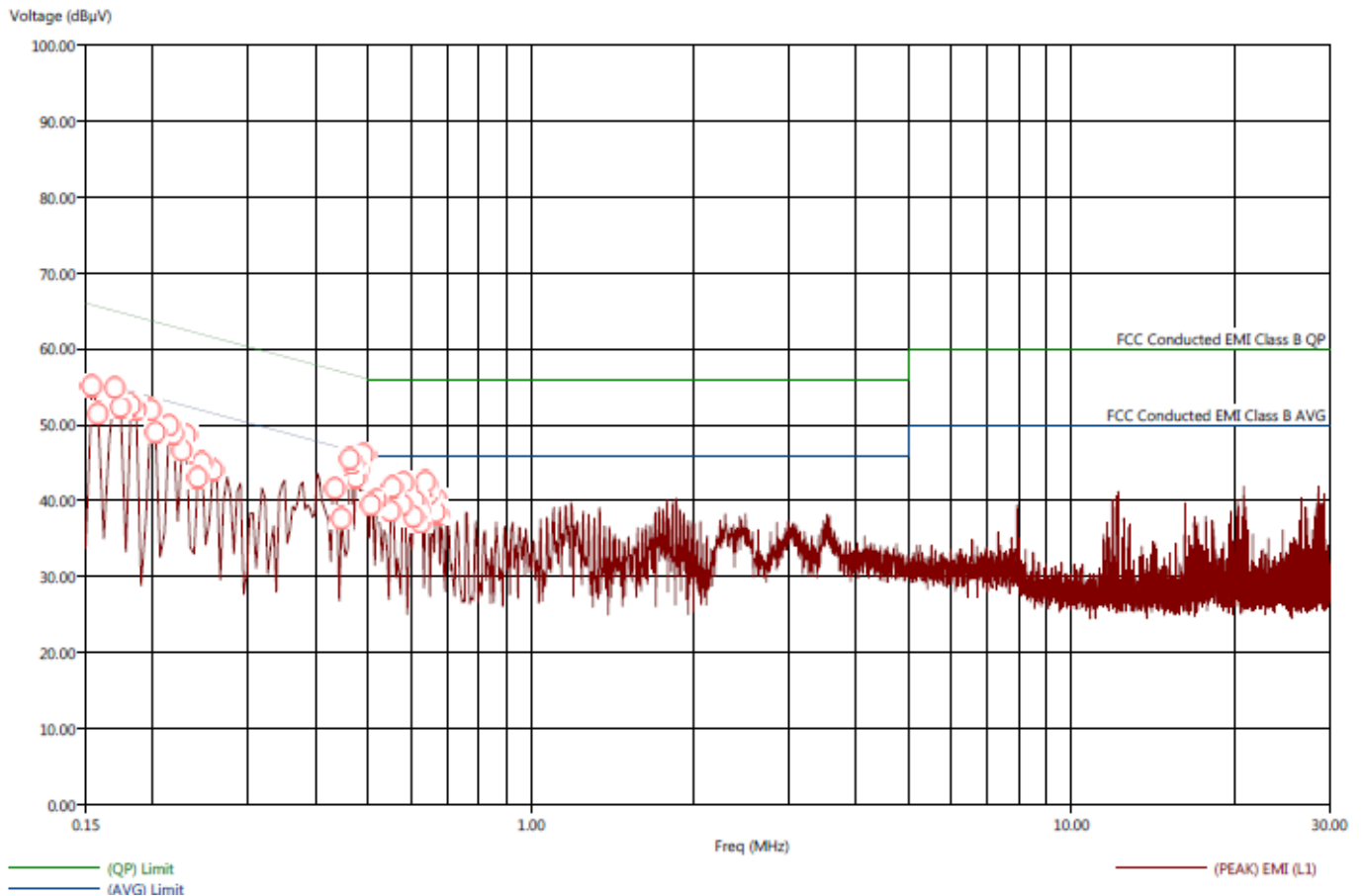


***CONDUCTED EMISSIONS  
DATA SHEETS***

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 Networks  
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

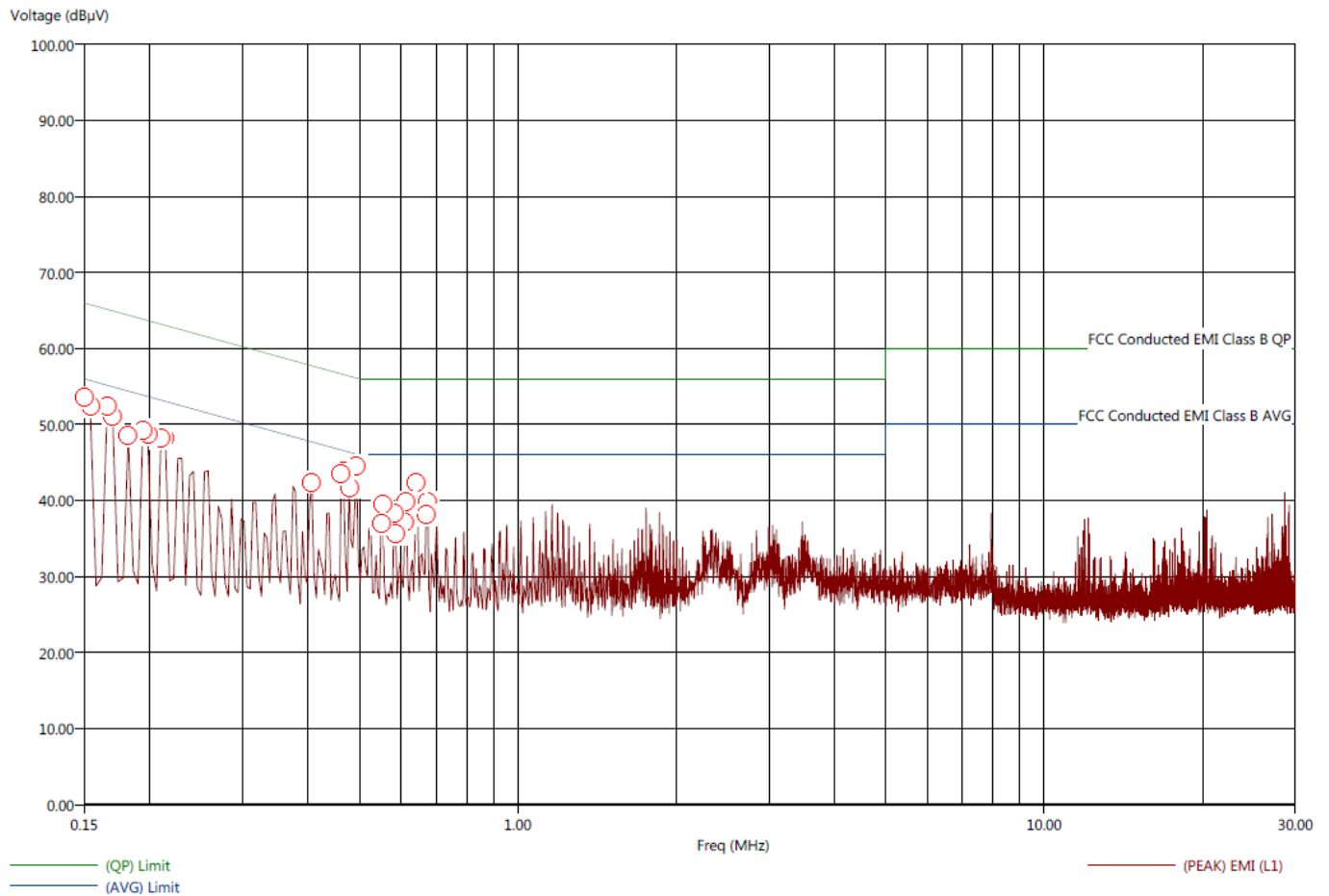
Table13

| Freq<br>(MHz) | (PEAK) EMI<br>(dBµV) | (AVG) EMI<br>(dBµV) | (PEAK) Margin AVL<br>(dB) | (AVG) Margin AVL<br>(dB) | (AVG) Limit<br>(dBµV) | Filter<br>(dB) | Transducer<br>(dB) | Cable<br>(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<br>(MHz) | (PEAK) EMI<br>(dBµV) | (AVG) EMI<br>(dBµV) | (PEAK) Margin AVL<br>(dB) | (AVG) Margin AVL<br>(dB) | (AVG) Limit<br>(dBµV) | Filter<br>(dB) | Transducer<br>(dB) | Cable<br>(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          |

