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# FCC Part 15, Subpart C, Section 15.247
# Test Report

On

## Blink Sync Module
## FCC ID: 2AF77-H1621502

| | |
|---|---|
| **Customer Name:** | Immedia Semiconductor |
| **Customer P.O:** | 1001 |
| **Date of Report:** | January 5, 2017 |
| **Test Report No:** | R-6151N-3 |
| **Test Start Date:** | November 15, 2016 |
| **Test Finish Date:** | December 19, 2016 |
| **Test Technician:** | M. Seamans |
| **Revision Approved By:** | S. Wentworth |
| **Report Revision Prepared By:** | J. Ramsey |

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## Technical Information

| | |
|---|---|
| **Report Number:** | R-6151N-3 |
| **Customer:** | Immedia Semiconductor |
| **Address:** | 100 Burtt Road, Suite 100 |
| | Andover, MA 01810 |
| **Manufacturer:** | Immedia Semiconductor |
| **Manufacturer Address:** | 100 Burtt Road, Suite 100 |
| | Andover, MA 01810 |
| **Test Sample:** | Blink Sync Module |
| **Model Number:** | BSM00201U |
| **Serial Numbers:** | IMS0606441600042, IMS0606441600030 |
| **FCC ID:** | 2AF77-H1621502 |
| **Type:** | Digital Transmission - Direct Sequence Spread Spectrum Transmitter |
| **Power Requirements:** | 5VDC via 120 VAC, 60 Hz AC/DC Power Adapter |
| **Power Supply:** | AC Adapter, Sunun, Model: SA68-050100U |
| **Frequency of Operation:** | 2412.0 MHz to 2472.0 MHz |
| **Equipment Class:** | DTS |
| **Equipment Use:** | Used in a Home Monitoring System |

**Test Specification:**
FCC Rules and Regulations Part 15, Subpart C, Section 15.247

**Test Procedure**:
ANSI C63.4:2014
ANSI C63.10:2013

**Test Facility:**
Retlif Testing Laboratories
101 New Boston Road
Goffstown, NH 03045

FCC Registered Test Site Number: 90899

## Tests Performed

| FCC Part 15, Subpart C | Test Method |
|---|---|
| 15.247(a)(2) | Occupied Bandwidth (6dB Bandwidth) |
| 15.247(b)(3) | Power Output |
| 15.247(d) | Antenna Port, Conducted Emissions |
| 15.247(e) | Antenna Port, Power Density |
| 15.247(d) | Spurious Radiated Emissions, 30 MHz to 25 GHz |
| 15.207(b) | Conducted Emissions, Power Leads, 150 kHz to 30 MHz |

**EUT Operation:**
The Blink Sync Module operates using only 802.11n20 protocol. The EUT was evaluated in all possible data rates and the lowest data rate of 1Mbps was used for testing as this data rate resulted in the highest output power and worst case emissions.

## Certification and Signatures

We certify that this report is a true representation of the results obtained from the tests of the equipment stated. We further certify that the measurements shown in this report were made in accordance with the procedures indicated and vouch for the qualifications of all Retlif Testing Laboratories personnel taking them.

Scott Wentworth
Branch Manager
NVLAP Approved Signatory

Todd Hannemann
EMC Test Engineer
iNARTE Certified Technician ATL-0255-T

**Non-Warranty Provision**
The testing services have been performed, findings obtained and reports prepared in accordance with generally accepted laboratory principles and practices. This warranty is in lieu of all others, either expressed or implied.

**Non-Endorsement**
This test report contains only findings and results arrived at after employing the specific test procedures and standards listed herein. It is not intended to constitute a recommendation, endorsement or certification of the product or material tested. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

## Revision History

Revisions to this document are listed below; the latest revised document supersedes all previous issues of this document:

| Revision | Date | Pages Affected |
|---|---|---|
| - | January 5, 2017 | Original Release |

## Requirements and Test Results

**Requirement:**
**FCC Section 15.247(a)(2)**
**Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz and 5725 - 5850 MHz**
Systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz and 5725 - 5850 MHz bands. The minimum 6 dB bandwidths shall be at least 500 kHz.

- **Results**:
  The minimum 6 dB bandwidth measured 16583 kHz which complies with the requirement that the Bandwidth be no less than 500 kHz.

**Requirement:**
**FCC Sections 15.247(b)(3)**
**Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz and 5725 - 5850 MHz**
The maximum peak conducted output power of the intentional radiator shall not exceed the following:

For systems using digital modulation in the 902 - 928 MHz, 2400 - 2483.5 MHz and 5725 - 5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antenna and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antenna and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

- **Results**:
  The maximum measured peak conducted output power was 202.768 mW. The maximum antenna gain of the PCB antenna is 1.5 dBi. The device was found to meet the power output requirements of 15.247 (b)(3) including de facto EIRP.

**Requirements and Test Results (con't)**

**Requirement:**
**FCC Section 15.247(d):**
**Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz and 5725 - 5850 MHz**
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) must also comply with the radiated emissions limits specified in Section 15.209(a) (see Section 15.205(c)).

- **Results**:
  In any 100 kHz bandwidth outside the frequency band in which the Spread spectrum intentional radiator was operating, the radio frequency power that was produced by the intentional radiator was at least 20 dB below that in the 100 kHz bandwidth within the band that contained the highest level of the desired power. All emissions, which fell within the restricted bands specified in 15.205(a), were measured and found to be in compliance with the limits specified in 15.209(a).

**Requirements and Test Results (con't)**

**Requirement:**
**FCC Section 15.247(e):**
**Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz and 5725 - 5850 MHz**
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

- **Results**:
  The power spectral density conducted from the intentional radiator to the antenna was not greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density was determined in accordance with Section 15.247(b)(3), herein.

**Requirement:**
**FCC Section 15.209(a) - Radiated Emission Limits, General Requirements**
Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in Table 1.

Table 1 - Radiated Emission Limits

| Frequency of Emission (MHz) | Field Strength (microvolts/meter) | Measurement Distance (meters) |
|---|---|---|
| 30 to 88 | 100 | 3 |
| 88 to 216 | 150 | 3 |
| 216 to 960 | 200 | 3 |
| Above 960 | 500 | 3 |

- **Results**:
  The field strength of spurious radiated emissions did not exceed the limits specified in Table 1.

**Requirements and Test Results (con't)**

**Requirement:**
**FCC Section 15.207(a) - Conducted Limits**
For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits shown in Table 2, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of the paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Table 2 - Conducted Emission Limits

| **Frequency of Emission (MHz)** | **Conducted Limit (dBµV)** | |
|---|---|---|
| | Quasi-Peak | Average |
| 0.15 to 0.5 | 66 to 56* | 56 to 46* |
| 0.5 to 5 | 56 | 46 |
| 5 to 30 | 60 | 50 |
| *Decreases due to logarithm of the frequency | | |

- **Results**:
  The conducted emissions observed did not exceed the limits specified in Table 2.

**Requirements and Test Results (con't)**

Field Strength Calculation/Conversion:

The maximized field strength of the emission was obtained as follows:

$C_R = M_R + C_F$

Where:
$C_R$ = Corrected Reading in dBµV/m
$M_R$ = Uncorrected Meter Reading in dBµV
$C_F$ = Correction Factor in dB (Antenna Factor, Pre-amp + Cable Loss)

Example:

$M_R$ = 15.35 dBµV
$C_F$ = 16.85 dB
$C_R$ = 15.35 dBuV + 16.85 = 32.2 dBµV/m

dBµV/M is converted to uV/M for comparison to the specified limit using the formula:

invLog dBµV/M/20

32.2 dBuV/m = 40.74 uV/m

RF Power Conversion:

Power readings in dBm may be converted to mW using the formula:

InvLog dBm/10

Example: 20dBm = 100mW

**Requirements and Test Results (con't)**

**FCC Section 15.247 (i)**
**RF Exposure Limits**

Spread Spectrum Transmitters operating under 15.247 must be operated in a manner that ensures the public is not exposed to RF energy levels in access of the commission's guidelines. Based on the transmitter power and maximum antenna gain (see calculation below) the minimum separation distance was calculated to determine the distance for acceptable MPE power density levels to meet both the Occupational/Controlled Exposure and the General Population/Uncontrolled Exposure requirements of FCC Part 1.1310. The calculation below uses the more stringent General Population MPE Limits.

$$S = \frac{PG}{4\prod Dsq}$$

D = Minimum Separation Distance in cm

S = Max allowed Power Density in mW/cmsq

Per 1.1310 For the Frequency of 2400 MHz S = 1 mW/cmsq

Power = Max Power Input to Antenna = 202.768 mW

Gain = Max Power Gain of Antenna = 1.5 dBi = 1.41 numeric

$$1.0 \text{ mW/cmsq} = \frac{202.768x1.41}{4x(3.14)xD\text{^}2} = \frac{285.90}{12.56xD\text{^}2}$$

$$D\text{^}2 = \frac{285.90}{12.56x1.0}$$

$$D = \sqrt{12.56} = 4.7 \text{ cm}$$

The test sample has an internal antenna and the minimum separation distance will always be maintained.

# Equipment List

## FCC Section 15.247(a)(2)
## Occupied Bandwidth (6 dB Bandwidth)

| EN | Manufacturer | Description | Range | Model No. | Cal Date | Due Date |
|---|---|---|---|---|---|---|
| 5039 | FLUKE | ATTENUATOR, COAXIAL | 20 dB, DC - 12.4 GHz | Y9305 | 12/2/2015 | 12/31/2016 |
| 5070 | ROHDE & SCHWARZ | RECEIVER, EMI | 20 Hz - 40 GHz | ESIB40 | 10/21/2016 | 10/31/2017 |

## FCC Section 15.247(b)(3)
## Power Output

| EN | Manufacturer | Description | Range | Model No. | Cal Date | Due Date |
|---|---|---|---|---|---|---|
| R477 | AGILENT / HP | ANALYZER, PEAK POWER | 50 MHz - 40 GHz | 8990B | 11/15/2016 | 11/30/2017 |
| R477A | AGILENT / HP | SENSOR, WIDEBAND PEAK POWER | 50 MHz - 18 GHz | N1923A | 11/9/2016 | 11/30/2017 |

## FCC Section 15.247(d)
## Antenna Port, Conducted Emissions

| EN | Manufacturer | Description | Range | Model No. | Cal Date | Due Date |
|---|---|---|---|---|---|---|
| 5039 | FLUKE | ATTENUATOR, COAXIAL | 20 dB, DC - 12.4 GHz | Y9305 | 12/2/2015 | 12/31/2016 |
| R474 | AGILENT / HP | ANALYZER, SIGNAL | 10 Hz – 8.5 GHz | N9020B | 10/10/2016 | 10/10/2017 |

## FCC Section 15.247(e)
## Antenna Port, Power Density

| EN | Manufacturer | Description | Range | Model No. | Cal Date | Due Date |
|---|---|---|---|---|---|---|
| 5039 | FLUKE | ATTENUATOR, COAXIAL | 20 dB, DC - 12.4 GHz | Y9305 | 12/2/2015 | 12/31/2016 |
| R474 | AGILENT / HP | ANALYZER, SIGNAL | 10 Hz – 8.5 GHz | N9020B | 10/10/2016 | 10/10/2017 |

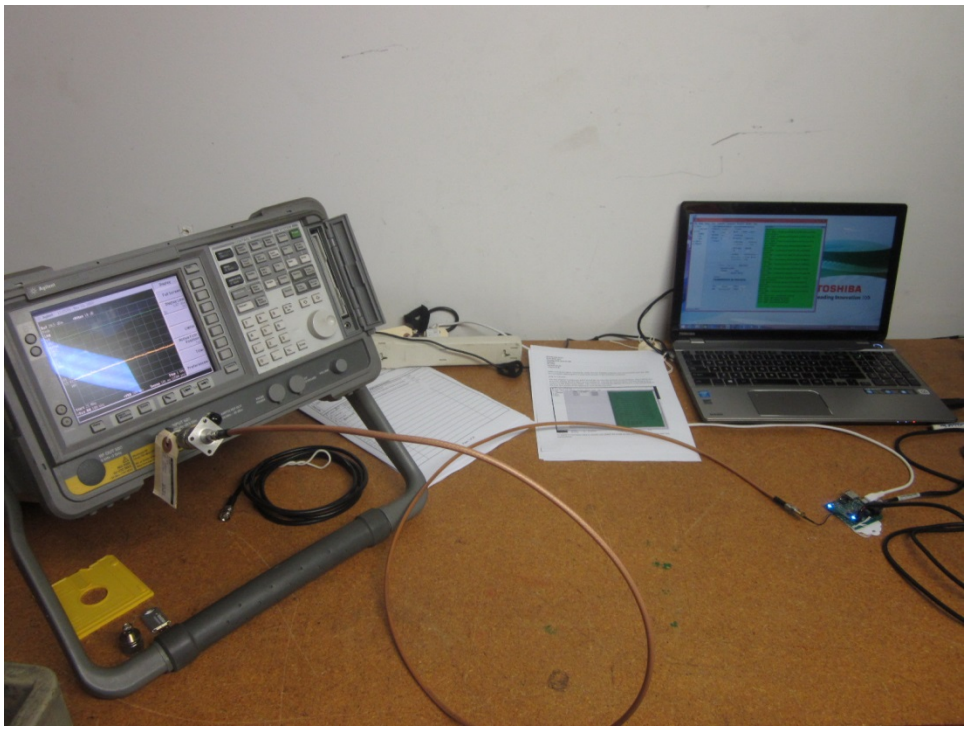
## FCC Section 15.247(d)
## Spurious Radiated Emissions, 30 MHz to 25 GHz

| EN | Manufacturer | Description | Range | Model No. | Cal Date | Due Date |
|---|---|---|---|---|---|---|
| 1232 | AGILENT / HP | PRE-AMPLIFIER | 1 - 26.5 GHz | 8449B | 6/16/2016 | 6/30/2017 |
| 3258 | ETS / EMCO | ANTENNA, DOUBLE RIDGED GUIDE | 1 - 18 GHz | 3115 | 10/13/2016 | 4/30/2018 |
| 3427B | ETS / EMCO | ANTENNA, BICONICAL | 20 - 200 MHz | 3104 | 2/5/2016 | 8/31/2017 |
| 3430 | MCS | ANTENNA, HORN | 18 - 26.5 GHz | K-5039 | No Calibration Required | |
| 4029B | RETLIF | OPEN AREA TEST SITE, ATTENUATION | 3 / 10 Meters | RNH | 4/13/2016 | 4/30/2018 |
| 443 | ELECTRO-METRICS | ANTENNA, LOG PERIODIC | 200 MHz - 1000 MHz | LPA-25 | 10/6/2016 | 4/30/2018 |
| 4984G | MICROLAB / FXR | ANTENNA, HIGH GAIN HORN | 12.4 - 18 GHz | Y638A | No Calibration Required | |
| 5070 | ROHDE & SCHWARZ | RECEIVER, EMI | 20 Hz - 40 GHz | ESIB40 | 10/21/2016 | 10/31/2017 |
| 5070E | MICRO-COAX | CABLE, COAXIAL | 10 KHz - 18 GHz | UFB311A2-1800-50U50U | 5/27/2016 | 5/31/2017 |
| 5179B | MICRO-COAX | CABLE, COAXIAL | 10 kHz - 18 GHz | UFB311A-1-036050U50U | 10/7/2016 | 10/31/2017 |
| R469 | AGILENT / HP | ANALYZER, SPECTRUM | 100 Hz - 26.5 GHz | E7405A;A | 11/17/2015 | 11/30/2016 |

## FCC Section 15.207(b)
## Conducted Emissions, Power Leads, 150 kHz to 30 MHz

| EN | Manufacturer | Description | Range | Model No. | Cal Date | Due Date |
|---|---|---|---|---|---|---|
| 5030B | NARDA MICROWAVE | ATTENUATOR, COAXIAL | 10 dB, DC - 12.4 GHz | 757C-10 | 3/16/2016 | 3/31/2017 |
| 5070 | ROHDE & SCHWARZ | RECEIVER, EMI | 20 Hz - 40 GHz | ESIB40 | 10/21/2016 | 10/31/2017 |
| 5188 | Cybertron | COMPUTER, CONTROL | N/A | TSVQJA2221 | No Calibration Required | |
| 5209 | SOLAR ELECTRONICS | LISN | 50 uH, 150 kHz - 30 MHz | 21106-50-BP-25-BNC | 3/23/2016 | 3/31/2017 |
| 5210 | SOLAR ELECTRONICS | LISN | 50 uH, 150 kHz - 30 MHz | 21106-50-BP-25-BNC | 3/23/2016 | 3/31/2017 |

**Test Photographs**
**Occupied Bandwidth (6dB Bandwidth)**

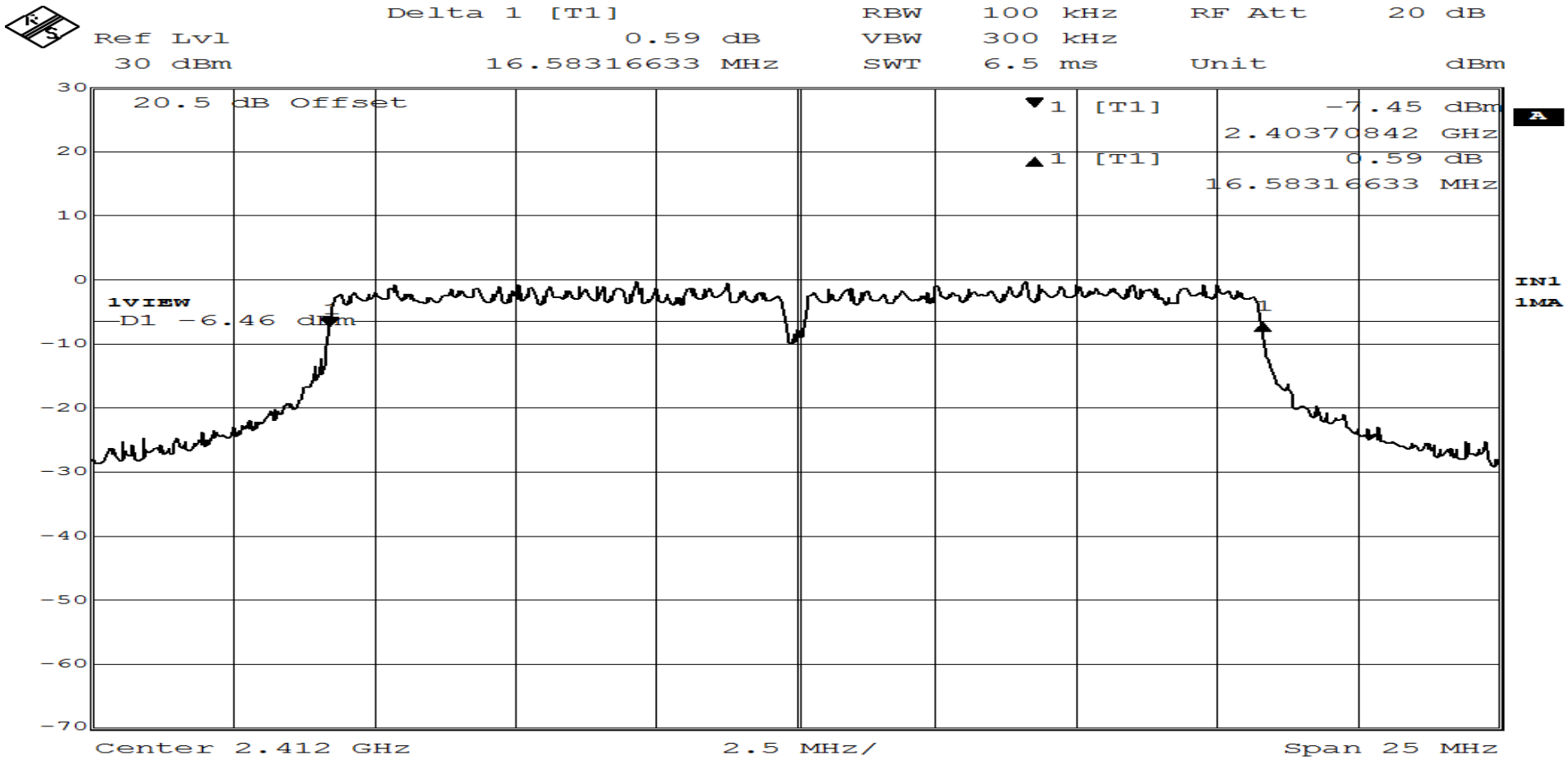



Test Setup

**FCC Part 15, Subpart C, Section 15.247(a)(2)**
**Occupied Bandwidth (6 dB Bandwidth)**
**Test Data**

# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | 6dB Channel Bandwidth | | |
| **Customer** | Immedia Semiconducter | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model Number** | BSM00201U | **Serial No.** | IMS0606441600042 |
| **Operating Mode** | Transmitting modulated Data | | |
| **Test Specification** | FCC Part 15, Subpart C Paragraph: 15.247 (a)(2) | | |
| **Technician** | M. Seamans | **Date** | November 15th, 2016 |
| **Climatic Conditions** | Temp: 21.0 °C Relative Humidity: 32.0 % | | |
| **Notes** | Transmit Frequency: 2412 MHz 6dB Bandwidth: 16.583 MHz | | |

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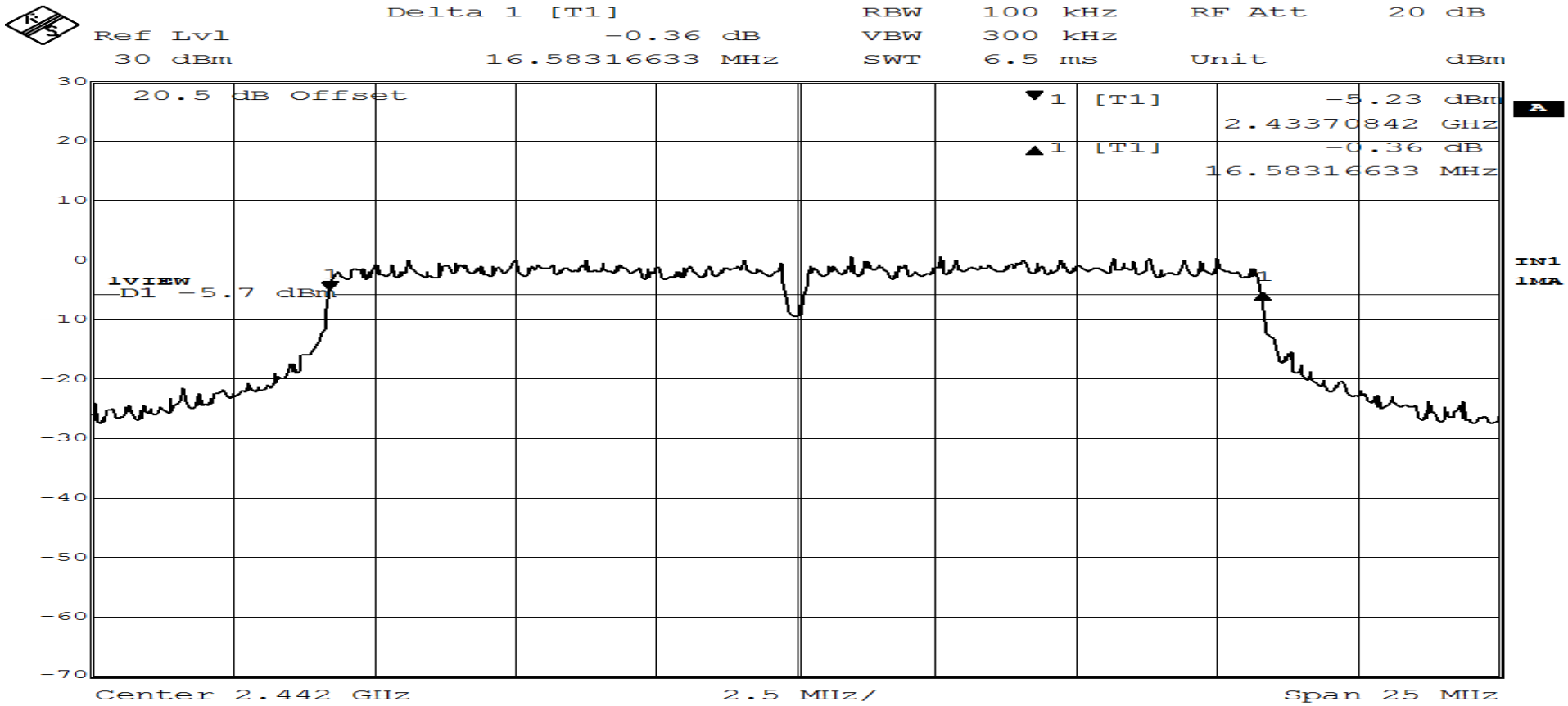
# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | 6dB Channel Bandwidth | | |
| **Customer** | Immedia Semiconducter | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model Number** | BSM00201U | **Serial No.** | IMS0606441600042 |
| **Operating Mode** | Transmitting modulated Data | | |
| **Test Specification** | FCC Part 15, Subpart C Paragraph: 15.247 (a)(2) | | |
| **Technician** | M. Seamans | **Date** | November 15th, 2016 |
| **Climatic Conditions** | Temp: 21.0 °C Relative Humidity: 32.0 % | | |
| **Notes** | Transmit Frequency: 2442 MHz 6dB Bandwidth: 16.583 MHz | | |

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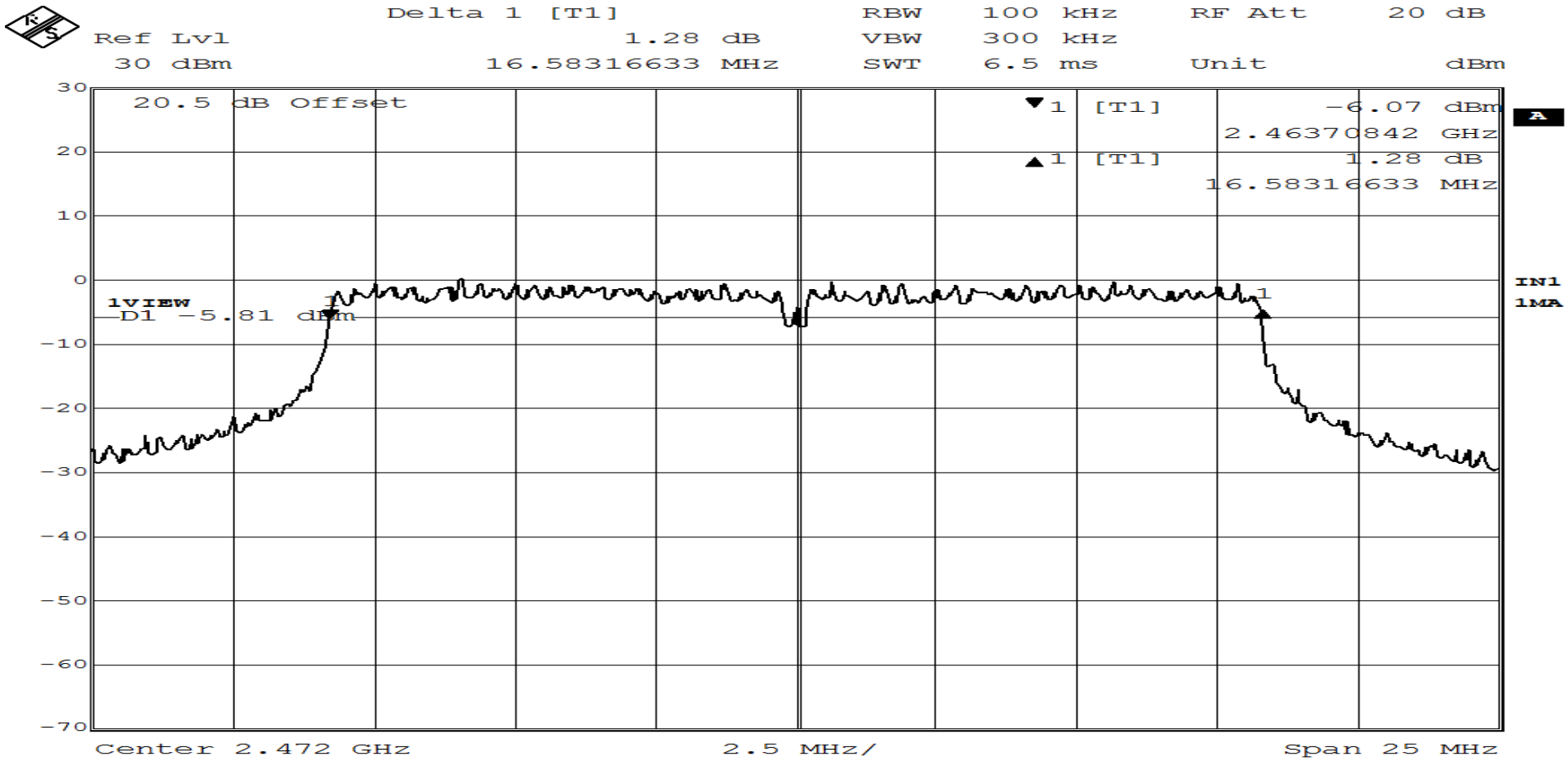
# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | 6dB Channel Bandwidth | | |
| **Customer** | Immedia Semiconducter | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model Number** | BSM00201U | **Serial No.** | IMS0606441600042 |
| **Operating Mode** | Transmitting modulated Data | | |
| **Test Specification** | FCC Part 15, Subpart C Paragraph: 15.247 (a)(2) | | |
| **Technician** | M. Seamans | **Date** | November 15th, 2016 |
| **Climatic Conditions** | Temp: 21.0 °C Relative Humidity: 32.0 % | | |
| **Notes** | Transmit Frequency: 2472 MHz 6dB Bandwidth: 16.583 MHz | | |

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**Test Photographs**
**Conducted Emissions, Power Output**

Test Setup

**FCC Part 15, Subpart C, Section 15.247(b)(3)**
**Conducted Emissions, Power Output**
**Test Data**

# RETLIF TESTING LABORATORIES

## EMISSIONS TEST DATA SHEET

| | |
|---|---|
| **Test Method** | **Peak Power Output** |
| **Customer** | Immedia Semiconducter |
| **Job Number** | R-6151N-3 |
| **Test Sample** | Blink Sync Module |
| **Model Number** | BSM00201U |
| **Serial Number** | IMS0606441600042 |
| **Test Specification** | FCC Part 15, Subpart C Paragraph 15.247 (b)(3) |
| **Operating Mode** | Transmitting modulated signal |
| **Technician** | M. Seamans |
| **Date** | December 19th, 2016 |

**Notes:** Measurement method: 9.1.2, PKPM1 Broadband RF Peak Power Meter
EUT Gain Setting: 75db

| Transmit Frequency | Power Meter Reading | Cable Loss | Corrected Reading | Converted Reading | Limit |
|---|---|---|---|---|---|
| **MHz** | **dBm** | **dB** | **dBM** | **mW** | **mW** |
| 2412.00 | 21.68 | 0.50 | 22.18 | 165.196 | 1000.00 |
| 2442.00 | 21.97 | 0.50 | 22.47 | 176.604 | 1000.00 |
| 2472.00 | 22.57 | 0.50 | 23.07 | 202.768 | 1000.00 |
| | | | | | |
| | | | | | |
| | | | | | |
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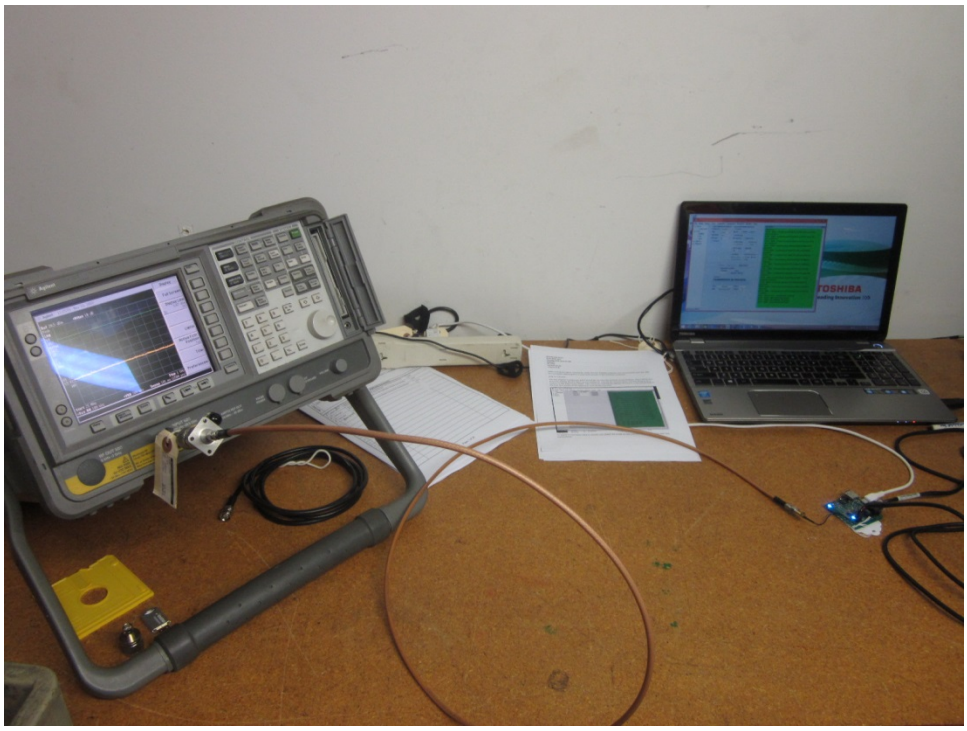
| | | | | | |

**Test Photographs**
**Antenna Port, Conducted Emissions**

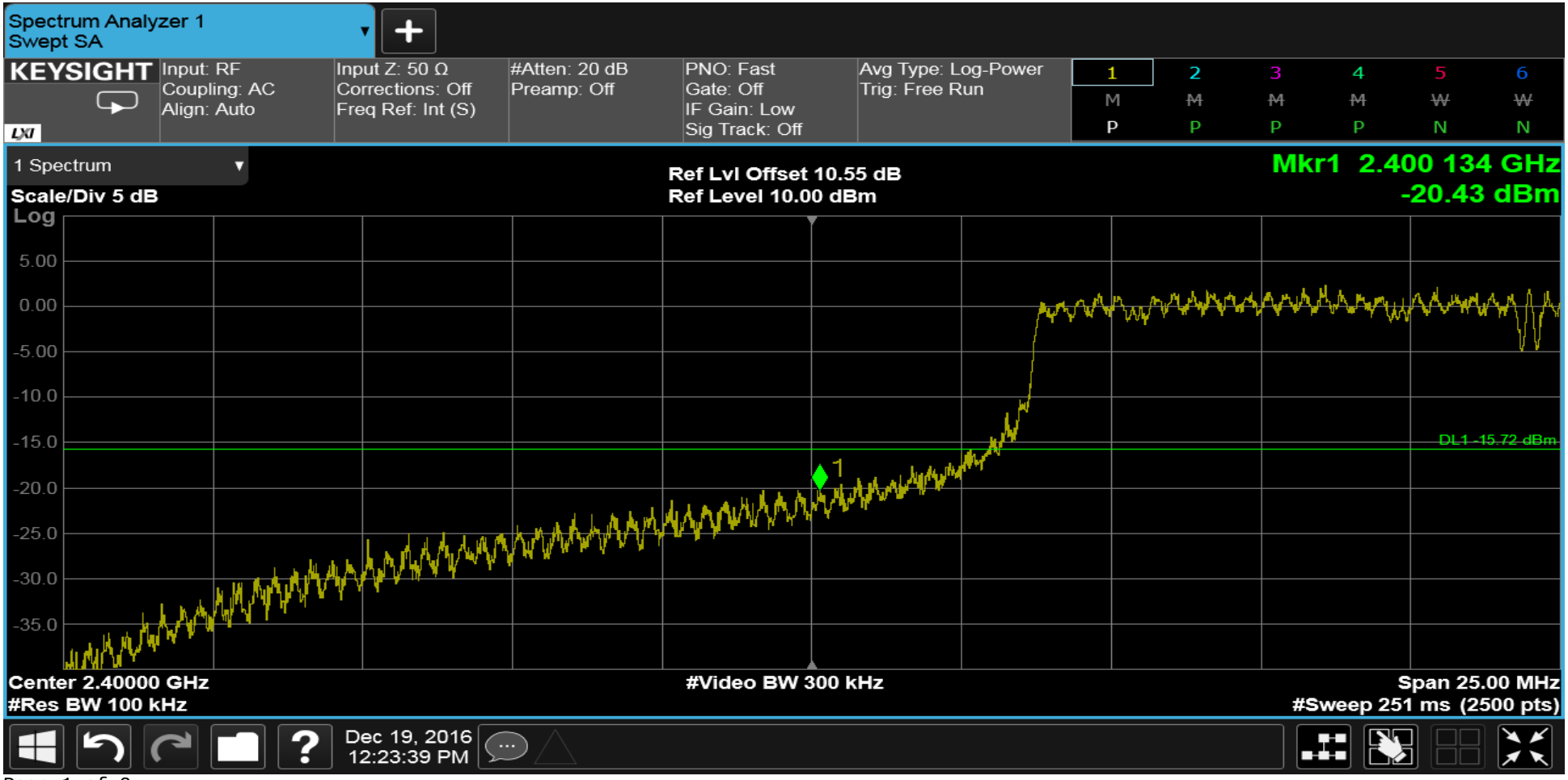



Test Setup

**FCC Part 15, Subpart C, Section 15.247(d)**
**Antenna Port, Conducted Emissions**
**Band Edge Test Data**

# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | Band Edge Emissions Conducted | | |
| **Customer** | Immedia Semiconductor | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model Number** | BSM00201U | **Serial No.** | IMS0606441600042 |
| **Operating Mode** | Transmitting modulated signal | | |
| **Test Specification** | FCC Part 15, Subpart C Paragraph: 15.247 (d) | | |
| **Technician** | M. Seamans | **Date** | December 19th, 2016 |
| **Climatic Conditions** | Temp: 20.5 °C Relative Humidity: 23.7 % | | |
| **Notes** | Transmit Frequency: 2412 MHz **Limit based on 100kHz PSD Level of 4.28dBm** | | |

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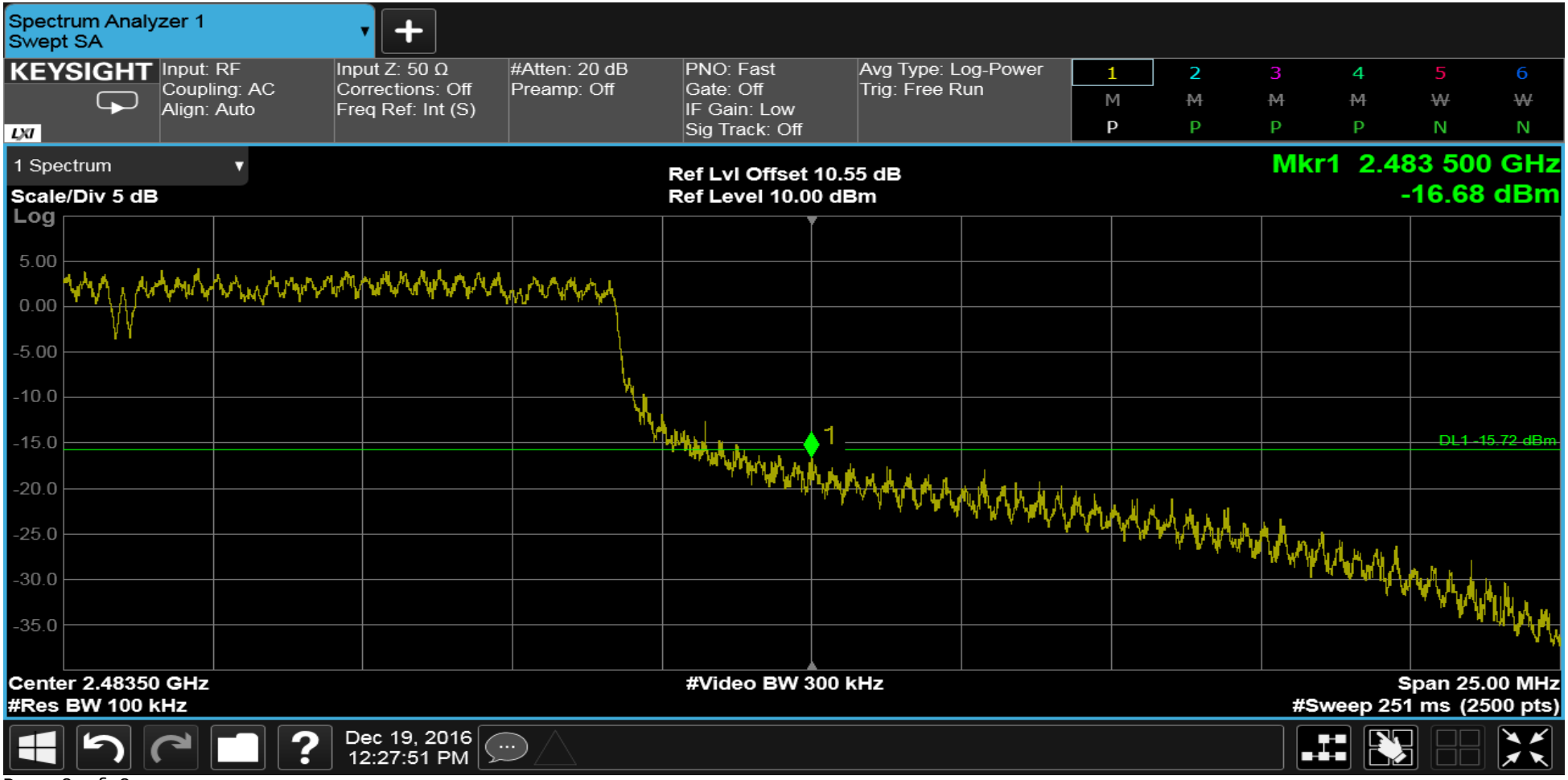
# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | Band Edge Emissions Conducted | | |
| **Customer** | Immedia Semiconductor | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model Number** | BSM00201U | **Serial No.** | IMS0606441600042 |
| **Operating Mode** | Transmitting modulated signal | | |
| **Test Specification** | FCC Part 15, Subpart C Paragraph: 15.247 (d) | | |
| **Technician** | M. Seamans | **Date** | December 19th, 2016 |
| **Climatic Conditions** | Temp: 20.5 °C Relative Humidity: 23.7 % | | |
| **Notes** | Transmit Frequency: 2472 MHz **Limit based on 100kHz PSD Level of 4.28dBm** | | |

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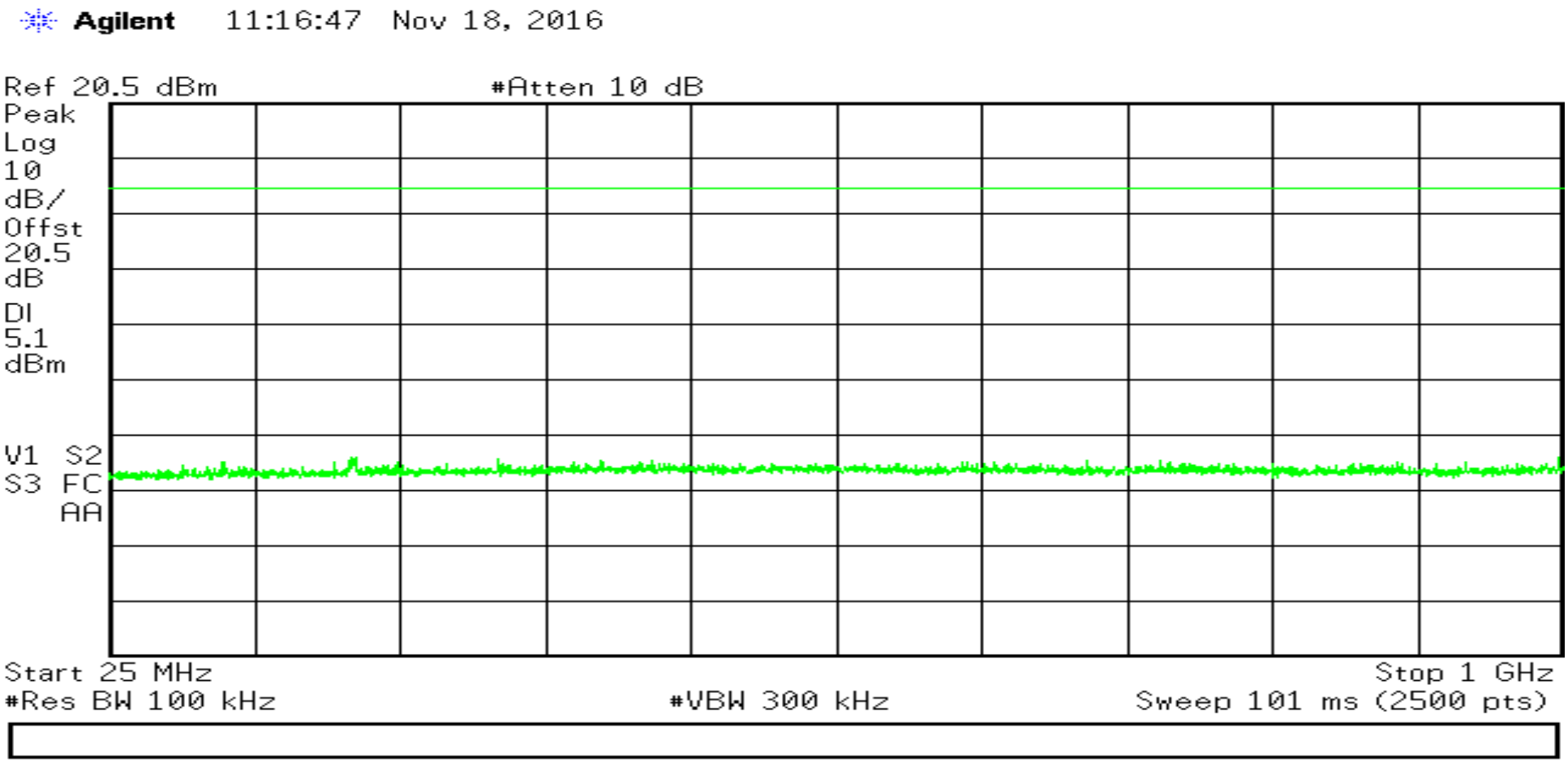
**Unwanted Emissions into Non-Restricted Frequency Bands**
**25 MHz to 25 GHz**
**Test Data**

# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | Unwanted Emissions into Non-Restricted Frequency Bands | | |
| **Customer** | Immedia Semiconductor | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model Number** | BSM00201U | **Serial No.** | IMS0606441600042 |
| **Operating Mode** | Transmitting modulated signal | | |
| **Test Specification** | FCC Part 15, Subpart C Paragraph: 15.247 (d) | | |
| **Technician** | M. Seamans | **Date** | November 18th, 2016 |
| **Climatic Conditions** | Temp: 21.0 °C Relative Humidity: 32.0 % | | |
| **Notes** | Transmit Frequency: 2412 MHz **Limit is 20dB down from the Fundamental Frequency Peak Power Output** | | |

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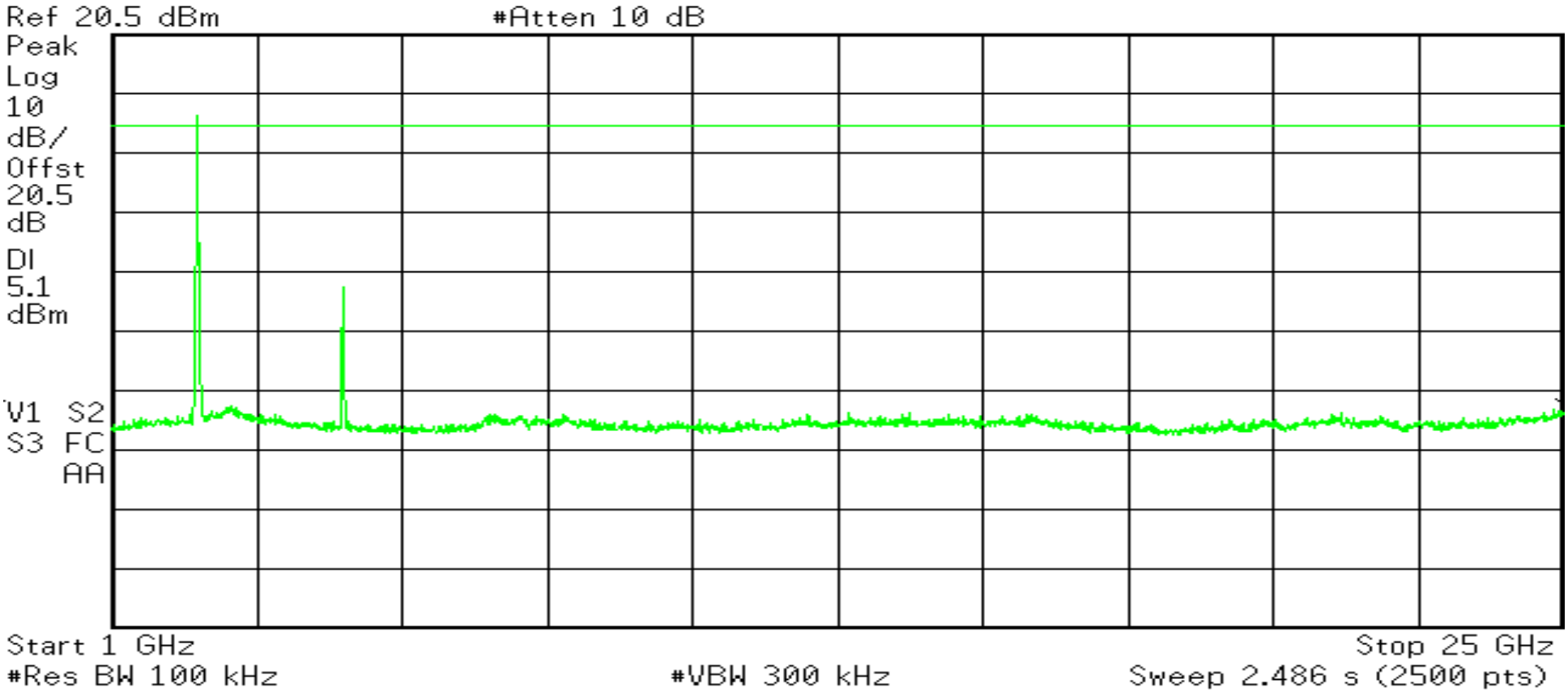
# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | Unwanted Emissions into Non-Restricted Frequency Bands | | |
| **Customer** | Immedia Semiconductor | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model Number** | BSM00201U | **Serial No.** | IMS0606441600042 |
| **Operating Mode** | Transmitting modulated signal | | |
| **Test Specification** | FCC Part 15, Subpart C Paragraph: 15.247 (d) | | |
| **Technician** | M. Seamans | **Date** | November 18th, 2016 |
| **Climatic Conditions** | Temp: 21.0 °C Relative Humidity: 32.0 % | | |
| **Notes** | Transmit Frequency: 2412 MHz **Limit is 20dB down from the Fundamental Frequency Peak Power Output** | | |

**Agilent** 11:15:27 Nov 18, 2016

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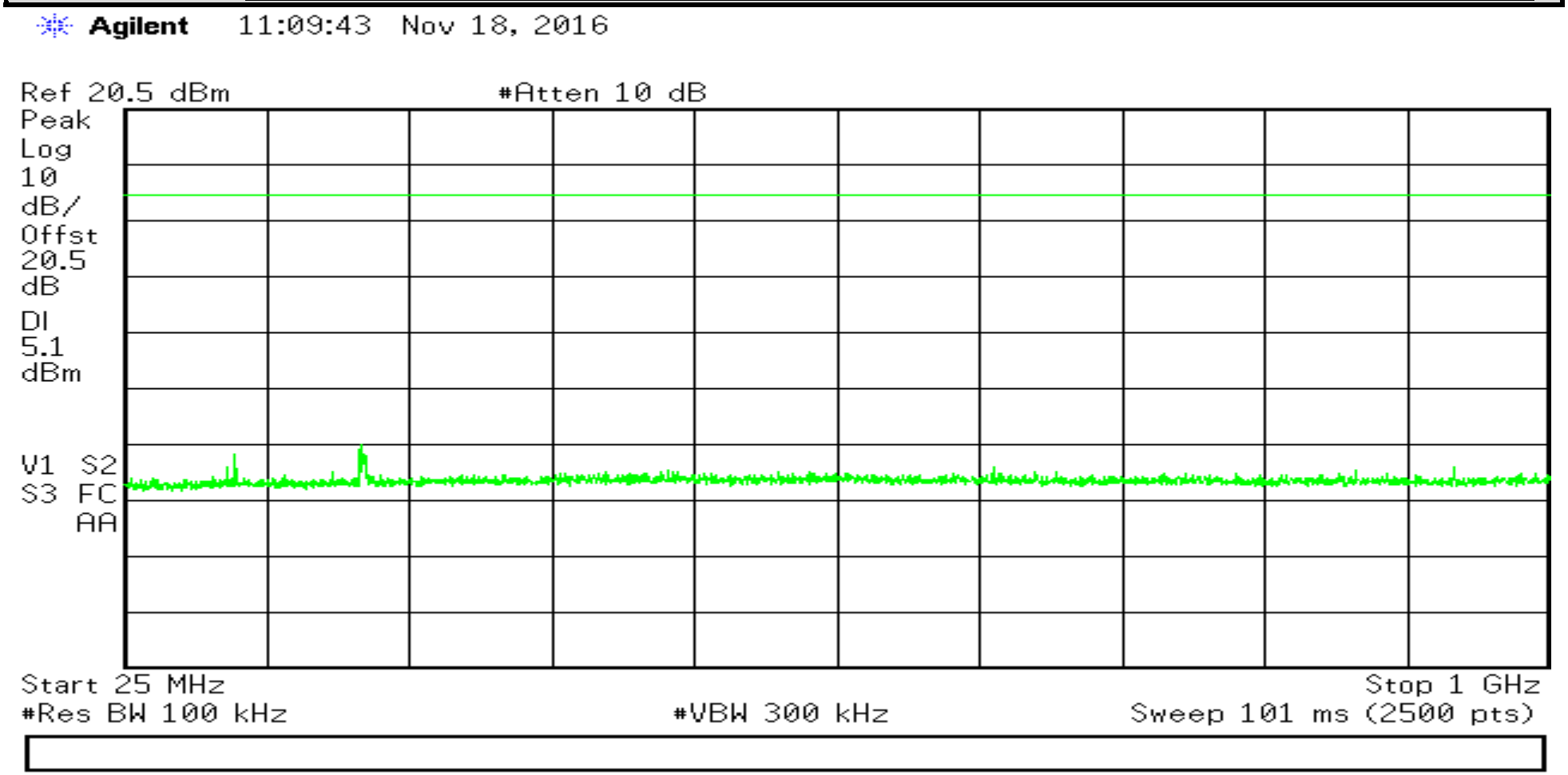
# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | Unwanted Emissions into Non-Restricted Frequency Bands | | |
| **Customer** | Immedia Semiconductor | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model Number** | BSM00201U | **Serial No.** | IMS0606441600042 |
| **Operating Mode** | Transmitting modulated signal | | |
| **Test Specification** | FCC Part 15, Subpart C Paragraph: 15.247 (d) | | |
| **Technician** | M. Seamans | **Date** | November 18th, 2016 |
| **Climatic Conditions** | Temp: 21.0 °C Relative Humidity: 32.0 % | | |
| **Notes** | Transmit Frequency: 2442 MHz **Limit is 20dB down from the Fundamental Frequency Peak Power Output** | | |

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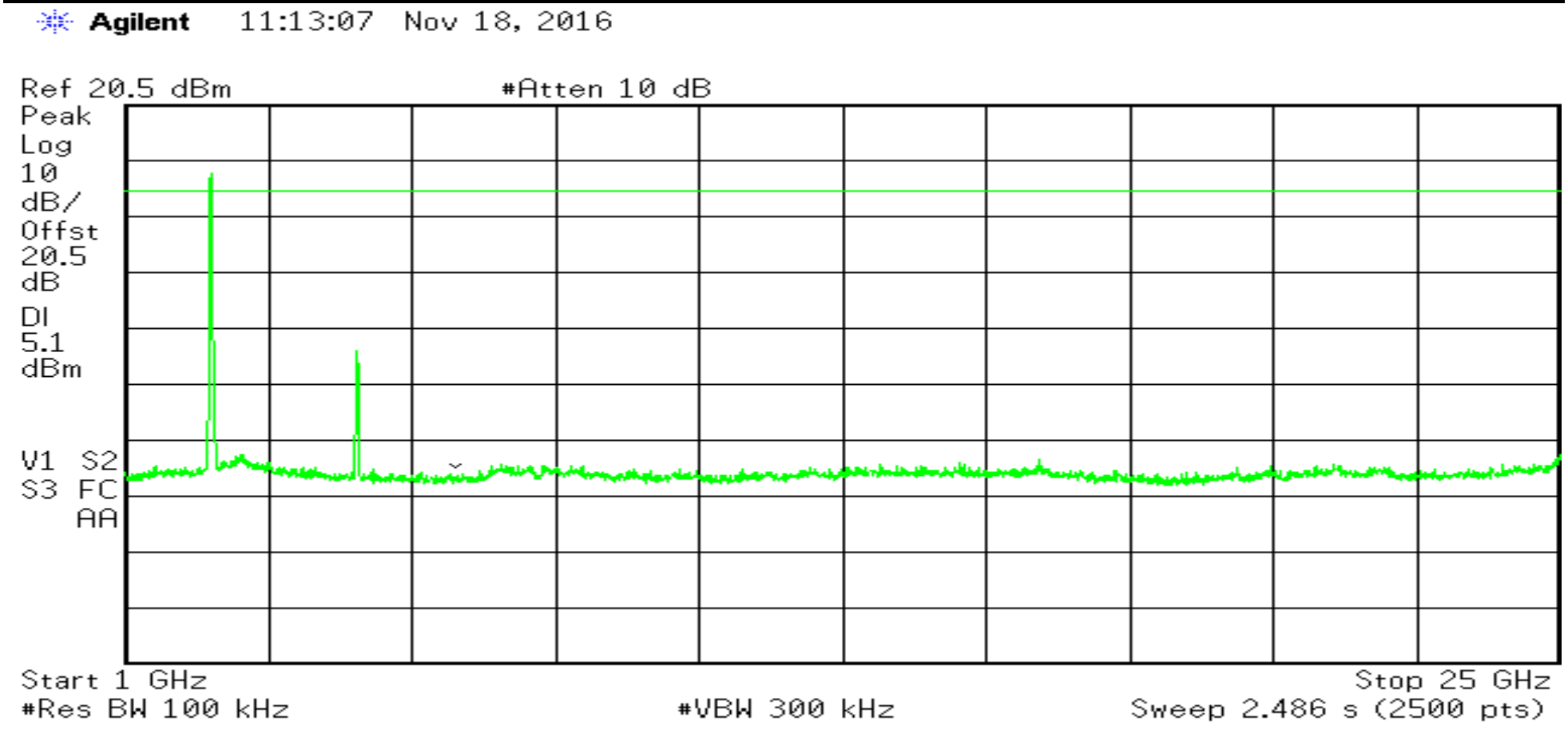
# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | Unwanted Emissions into Non-Restricted Frequency Bands | | |
| **Customer** | Immedia Semiconductor | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model Number** | BSM00201U | **Serial No.** | IMS0606441600042 |
| **Operating Mode** | Transmitting modulated signal | | |
| **Test Specification** | FCC Part 15, Subpart C Paragraph: 15.247 (d) | | |
| **Technician** | M. Seamans | **Date** | November 18th, 2016 |
| **Climatic Conditions** | Temp: 21.0 °C Relative Humidity: 32.0 % | | |
| **Notes** | Transmit Frequency: 2442 MHz **Limit is 20dB down from the Fundamental Frequency Peak Power Output** | | |

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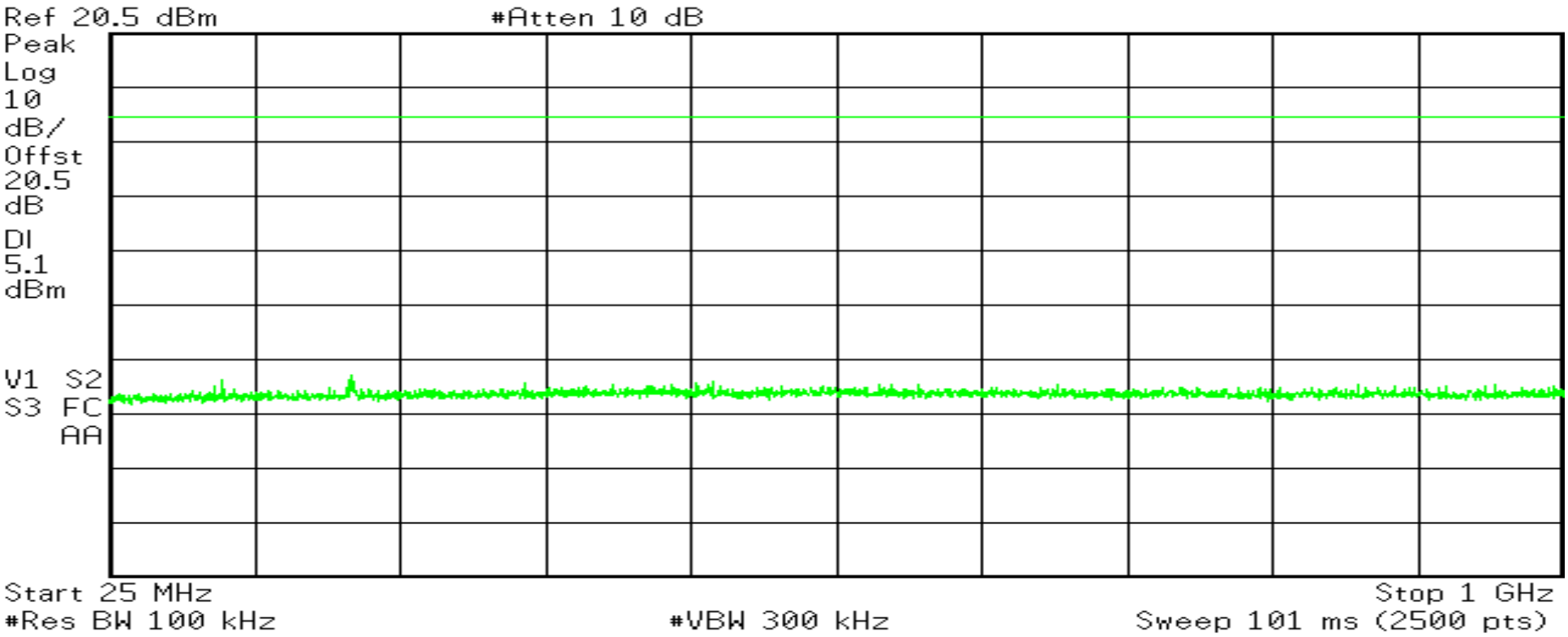
# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | Unwanted Emissions into Non-Restricted Frequency Bands | | |
| **Customer** | Immedia Semiconductor | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model Number** | BSM00201U | **Serial No.** | IMS0606441600042 |
| **Operating Mode** | Transmitting modulated signal | | |
| **Test Specification** | FCC Part 15, Subpart C Paragraph: 15.247 (d) | | |
| **Technician** | M. Seamans | **Date** | November 18th, 2016 |
| **Climatic Conditions** | Temp: 21.0 °C Relative Humidity: 32.0 % | | |
| **Notes** | Transmit Frequency: 2472 MHz **Limit is 20dB down from the Fundamental Frequency Peak Power Output** | | |

**Agilent** 11:08:37 Nov 18, 2016

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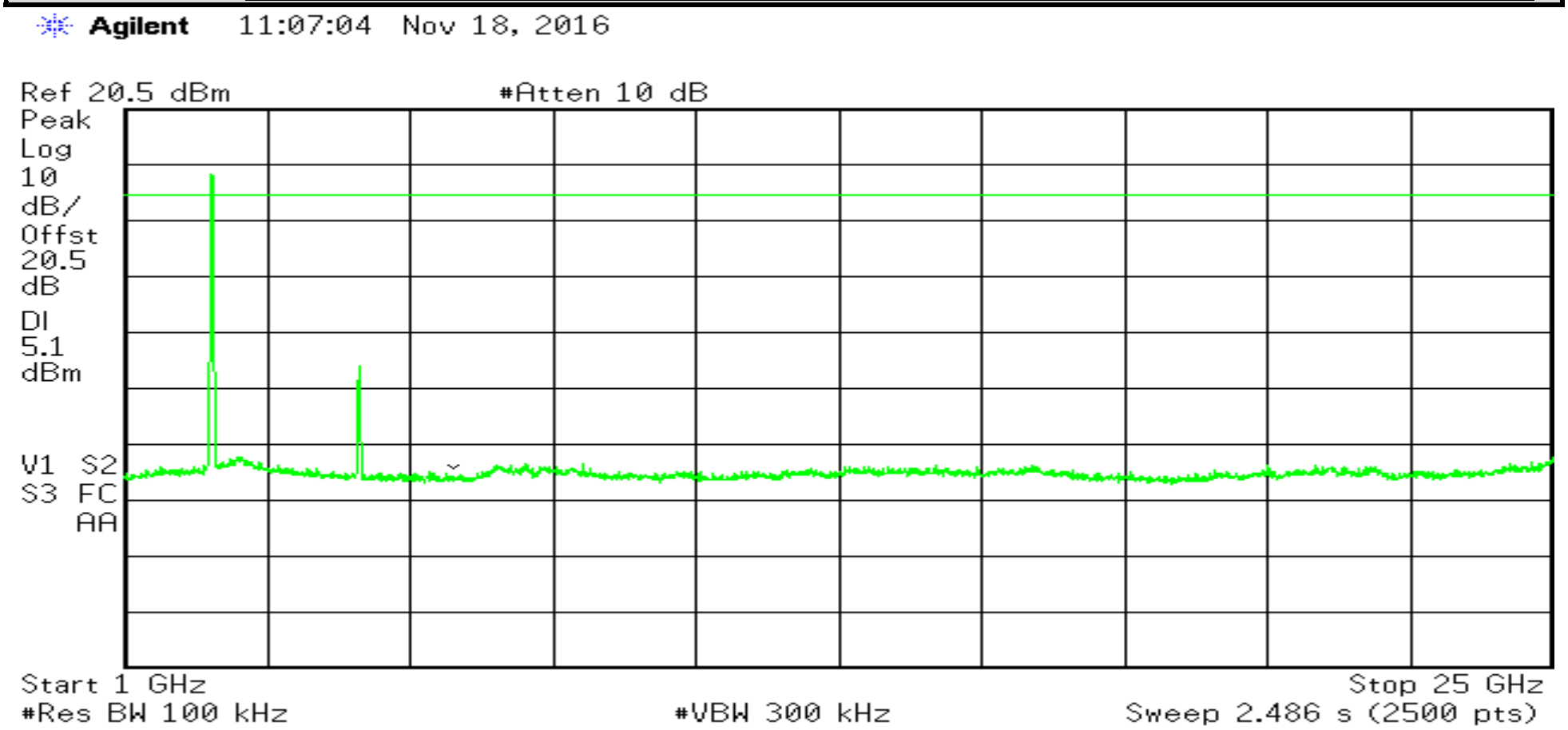
| | | | |
|---|---|---|---|
| **Test Method** | Unwanted Emissions into Non-Restricted Frequency Bands | | |
| **Customer** | Immedia Semiconductor | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model Number** | BSM00201U | **Serial No.** | IMS0606441600042 |
| **Operating Mode** | Transmitting modulated signal | | |
| **Test Specification** | FCC Part 15, Subpart C Paragraph: 15.247 (d) | | |
| **Technician** | M. Seamans | **Date** | November 18th, 2016 |
| **Climatic Conditions** | Temp: 21.0 °C Relative Humidity: 32.0 % | | |
| **Notes** | Transmit Frequency: 2472 MHz **Limit is 20dB down from the Fundamental Frequency Peak Power Output** | | |

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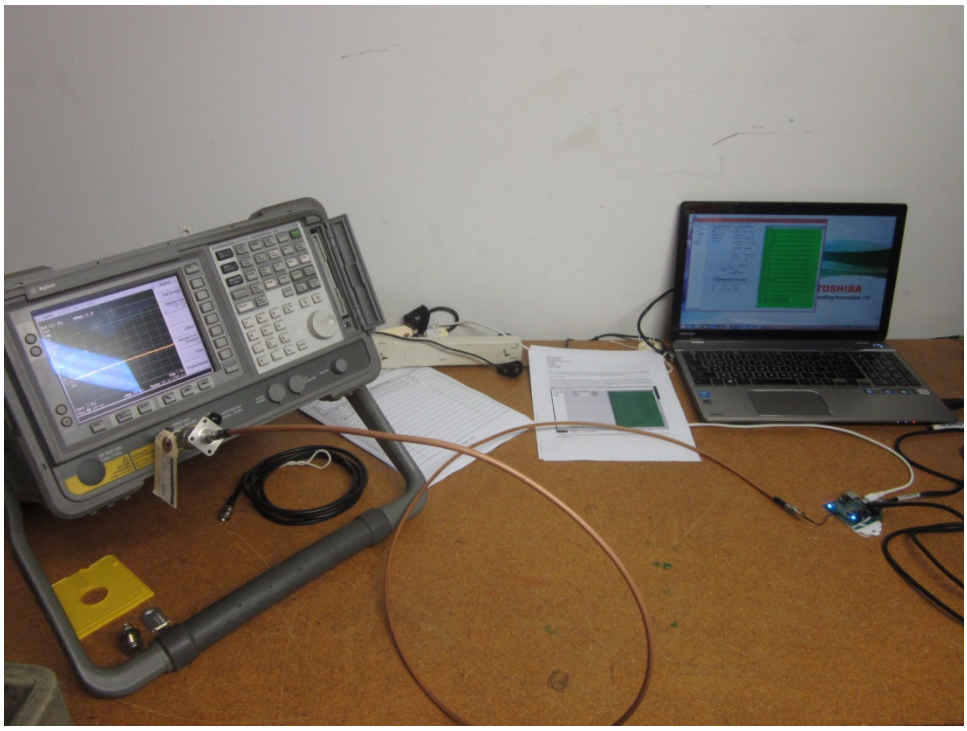
**Test Photographs**
**Antenna Port, Power Density**




Test Setup

**FCC Part 15, Subpart C, Section 15.247(e)**
**Antenna Port, Power Density**
**Test Data**

# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | Power Spectral Density | | |
| **Customer** | Immedia Semiconducter | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model Number** | BSM00201U | **Serial No.** | IMS0606441600042 |
| **Operating Mode** | Transmitting modulated signal | | |
| **Test Specification** | FCC Part 15, Subpart C Paragraph: 15.247 (b)(3) | | |
| **Technician** | M. Seamans | **Date** | December 19th, 2016 |
| **Climatic Conditions** | Temp: 20.5 °C Relative Humidity: 23.7 % | | |
| **Notes** | Transmit Frequency: 2412 MHz Limit: 8dBm **Power Spectral Density: 2.71 dBm** | | |

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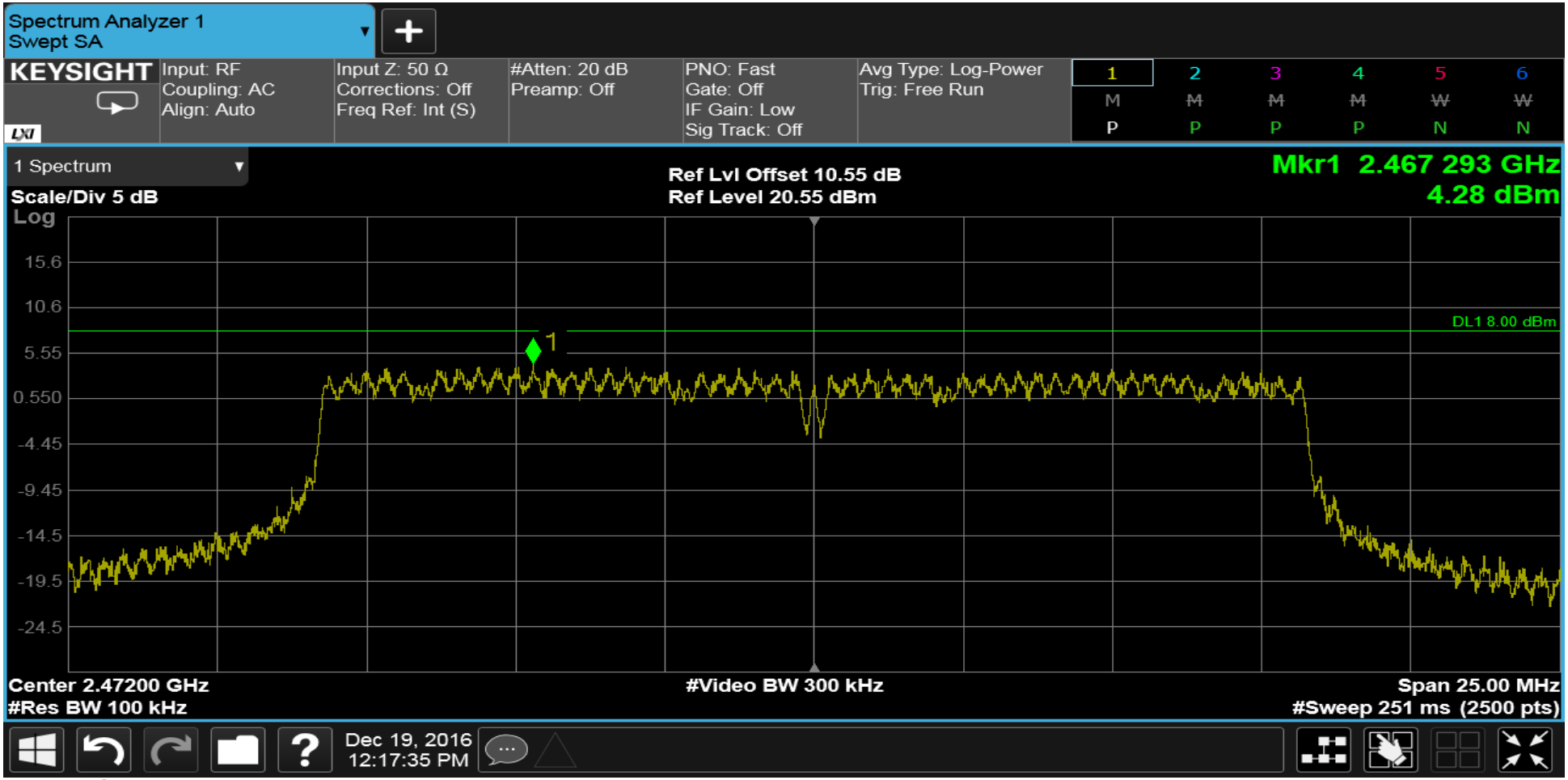
# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | Power Spectral Density | | |
| **Customer** | Immedia Semiconducter | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model Number** | BSM00201U | **Serial No.** | IMS0606441600042 |
| **Operating Mode** | Transmitting modulated signal | | |
| **Test Specification** | FCC Part 15, Subpart C Paragraph: 15.247 (b)(3) | | |
| **Technician** | M. Seamans | **Date** | December 19th, 2016 |
| **Climatic Conditions** | Temp: 20.5 °C Relative Humidity: 23.7 % | | |
| **Notes** | Transmit Frequency: 2442 MHz Limit: 8dBm **Power Spectral Density: 3.33 dBm** | | |

Page 2 of 3

# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | Power Spectral Density | | |
| **Customer** | Immedia Semiconducter | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model Number** | BSM00201U | **Serial No.** | IMS0606441600042 |
| **Operating Mode** | Transmitting modulated signal | | |
| **Test Specification** | FCC Part 15, Subpart C Paragraph: 15.247 (b)(3) | | |
| **Technician** | M. Seamans | **Date** | December 19th, 2016 |
| **Climatic Conditions** | Temp: 20.5 °C Relative Humidity: 23.7 % | | |
| **Notes** | Transmit Frequency: 2472 MHz Limit: 8dBm **Power Spectral Density: 4.28 dBm** | | |

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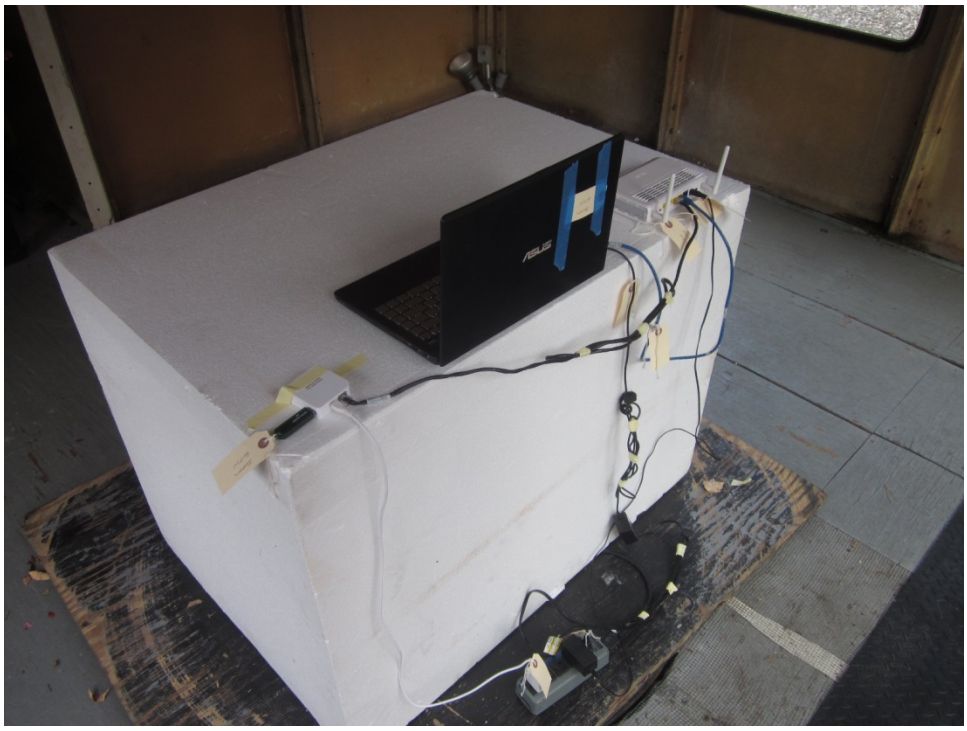
**Test Photographs**
**Spurious Radiated Emissions, 30 MHz to 25 GHz**



EUT Configuration, 80 cm

**Test Photographs**
**Spurious Radiated Emissions, 30 MHz to 25 GHz**

Horizontal Polarization, 30 MHz – 200 MHz, Biconical Antenna, 80 cm

Vertical Polarization, 30 MHz – 200 MHz, Biconical Antenna, 80 cm

**Test Photographs**
**Spurious Radiated Emissions, 30 MHz to 25 GHz**

Horizontal Polarization, 200 MHz - 1 GHz, Log Periodic, 80 cm

Vertical Polarization, 200 MHz - 1 GHz, Log Periodic, 80 cm

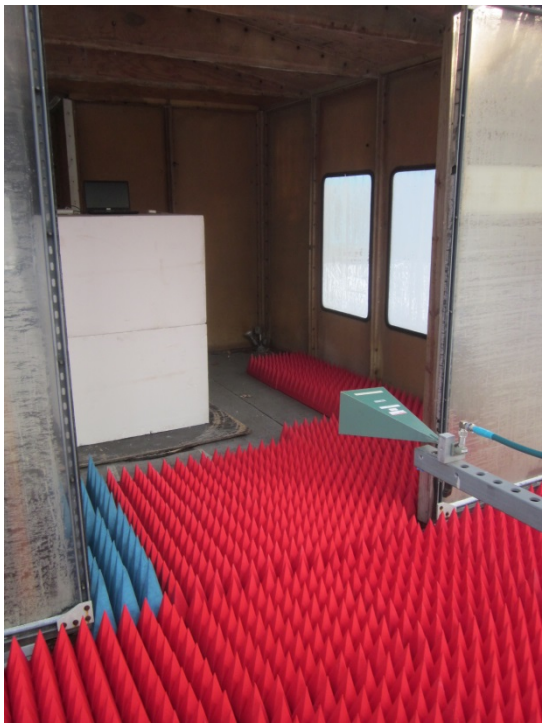
**Test Photographs**
**Spurious Radiated Emissions, 30 MHz to 25 GHz**

Horizontal Polarization, 1- 12 GHz, Double Ridge Guide, 150 cm

Vertical Polarization, 1- 12 GHz, Double Ridge Guide, 150 cm

**Test Photographs**
**Spurious Radiated Emissions, 30 MHz to 25 GHz**

Horizontal Polarization, 12- 18 GHz, High Gain Horn, 150 cm



Vertical Polarization, 12- 18 GHz, High Gain Horn, 150 cm

**Test Photographs**
**Spurious Radiated Emissions, 30 MHz to 25 GHz**

Horizontal Polarization, 18 - 25 GHz, Standard Gain Horn, 150 cm

Vertical Polarization, 18 - 25 GHz, Standard Gain Horn, 150 cm

**FCC Part 15, Subpart B, Section 15.209(a)**
**Spurious Radiated Emissions, 30 MHz to 25 GHz**
**Test Data**

# RETLIF TESTING LABORATORIES

## EMISSIONS TEST DATA SHEET

| | | |
|---|---|---|
| **Test Method** | Unwanted Emissions into Restricted Frequency Bands | |
| **Customer** | Immedia Semiconductor | |
| **Job Number** | R-6151N-3 | |
| **Test Sample** | Blink Sync Module | |
| **Model Number** | BSM00201U | |
| **Serial Number** | IMS0606441600030 | |
| **Test Specification** | FCC Part 15 Subpart C | Paragraph: 15.247(d) |
| **Operating Mode** | Transmitting Modulated Data at 2412 MHz, 2442 MHz and 2472 MHz consecutively. | |
| **Technician** | M. Seamans | |
| **Date** | November 17th, 2016 | |

**Notes:** Antenna Test Distance: 3 meters Detector: Quasi-Peak <1GHz, Average >1GHz

## TEST PARAMETERS

| Restricted Band | Measured Frequency | Meter Reading | Correction Factor | Corrected Reading | | | Converted Reading | Limit at 3M |
|---|---|---|---|---|---|---|---|---|
| MHz | MHz | dBuV | dB | dBuV/m | | | uV/m | uV/m |
| 37.50 | - | - | - | - | | | - | 100.00 |
| \| | 38.00 | 22.10 | 14.20 | 36.30 | * | | 65.31 | \| |
| 38.25 | - | - | - | - | | | - | 100.00 |
| | | | | | | | | |
| 73.00 | - | - | - | - | | | - | 100.00 |
| \| | 74.00 | 22.84 | 8.36 | 31.20 | * | | 36.31 | \| |
| 74.60 | - | - | - | - | | | - | 100.00 |
| | | | | | | | | |
| 74.80 | - | - | - | - | | | - | 100.00 |
| \| | 75.00 | 19.54 | 8.36 | 27.90 | * | | 24.83 | \| |
| 75.20 | - | - | - | - | | | - | 100.00 |
| | | | | | | | | |
| 108.00 | - | - | - | - | | | - | 150.00 |
| \| | 115.00 | 12.78 | 10.02 | 22.80 | * | | 13.80 | \| |
| \| | - | - | - | - | | | - | \| |
| 121.94 | - | - | - | - | | | - | 150.00 |
| | | | | | | | | |
| 123.00 | - | - | - | - | | | - | 150.00 |
| \| | 130.00 | 7.74 | 15.96 | 23.70 | * | | 15.31 | \| |
| \| | - | - | - | - | | | - | \| |
| 138.00 | - | - | - | - | | | - | 150.00 |
| | | | | | | | | |

No EUT emissions within 10 dB of the specified test limit were observed at the specified test distance throughout the given frequency spectrum. * This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity (Noise Floor).

Data Sheet 1 of 8

# RETLIF TESTING LABORATORIES

## EMISSIONS TEST DATA SHEET

| | | |
|---|---|---|
| **Test Method** | Unwanted Emissions into Restricted Frequency Bands | |
| **Customer** | Immedia Semiconductor | |
| **Job Number** | R-6151N-3 | |
| **Test Sample** | Blink Sync Module | |
| **Model Number** | BSM00201U | |
| **Serial Number** | IMS0606441600030 | |
| **Test Specification** | FCC Part 15 Subpart C | Paragraph: 15.247(d) |
| **Operating Mode** | Transmitting Modulated Data at 2412 MHz, 2442 MHz and 2472 MHz consecutively. | |
| **Technician** | M. Seamans | |
| **Date** | November 17th, 2016 | |

**Notes:** Antenna Test Distance: 3 meters Detector: Quasi-Peak <1GHz, Average >1GHz

## TEST PARAMETERS

| Restricted Band | Measured Frequency | Meter Reading | Correction Factor | Corrected Reading | | | Converted Reading | Limit at 3M |
|---|---|---|---|---|---|---|---|---|
| MHz | MHz | dBuV | dB | dBuV/m | | | uV/m | uV/m |
| 149.90 | - | - | - | - | | | - | 150.00 |
| \| | 150.00 | 15.43 | 11.17 | 26.60 | * | | 22.13 | \| |
| 150.05 | - | - | - | - | | | - | 150.00 |
| | | | | | | | | |
| 156.52 | - | - | - | - | | | - | 150.00 |
| \| | 156.52 | 13.82 | 12.08 | 25.90 | * | | 19.72 | \| |
| 156.52 | - | - | - | - | | | - | 150.00 |
| | | | | | | | | |
| 156.70 | - | - | - | - | | | - | 150.00 |
| \| | 156.80 | 12.08 | 12.12 | 24.20 | * | | 16.22 | \| |
| 156.90 | - | - | - | - | | | - | 150.00 |
| | | | | | | | | |
| 162.01 | - | - | - | - | | | - | 150.00 |
| \| | 165.00 | 9.92 | 12.68 | 22.60 | * | | 13.49 | \| |
| 167.17 | - | - | - | - | | | - | 150.00 |
| | | | | | | | | |
| 167.72 | - | - | - | - | | | - | 150.00 |
| \| | 170.00 | 9.60 | 12.80 | 22.40 | * | | 13.18 | \| |
| 173.20 | - | - | - | - | | | - | 150.00 |
| | | | | | | | | |

No EUT emissions within 10 dB of the specified test limit were observed at the specified test distance throughout the given frequency spectrum. * This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity (Noise Floor).

Data Sheet 2 of 8

# RETLIF TESTING LABORATORIES

## EMISSIONS TEST DATA SHEET

| | | |
|---|---|---|
| **Test Method** | Unwanted Emissions into Restricted Frequency Bands | |
| **Customer** | Immedia Semiconductor | |
| **Job Number** | R-6151N-3 | |
| **Test Sample** | Blink Sync Module | |
| **Model Number** | BSM00201U | |
| **Serial Number** | IMS0606441600030 | |
| **Test Specification** | FCC Part 15 Subpart C | Paragraph: 15.247(d) |
| **Operating Mode** | Transmitting Modulated Data at 2412 MHz, 2442 MHz and 2472 MHz consecutively. | |
| **Technician** | M. Seamans | |
| **Date** | November 17th, 2016 | |

**Notes:** Antenna Test Distance: 3 meters Detector: Quasi-Peak <1GHz, Average >1GHz

## TEST PARAMETERS

| Restricted Band | Measured Frequency | Meter Reading | Correction Factor | Corrected Reading | | | Converted Reading | Limit at 3M |
|---|---|---|---|---|---|---|---|---|
| MHz | MHz | dBuV | dB | dBuV/m | | | uV/m | uV/m |
| 240.00 | - | - | - | - | | | - | 200.00 |
| \| | 266.46 | 12.85 | 16.85 | 29.70 | | | 30.55 | \| |
| 285.00 | - | - | - | - | | | - | 200.00 |
| | | | | | | | | |
| 322.80 | - | - | - | - | | | - | 200.00 |
| \| | 330.00 | 7.89 | 18.91 | 26.80 | * | | 21.88 | \| |
| 335.40 | - | - | - | - | | | - | 200.00 |
| | | | | | | | | |
| 399.90 | - | - | - | - | | | - | 200.00 |
| \| | 405.00 | 2.11 | 21.49 | 23.60 | * | | 15.14 | \| |
| 410.00 | - | - | - | - | | | - | 200.00 |
| | | | | | | | | |
| 608.00 | - | - | - | - | | | - | 200.00 |
| \| | 611.00 | -1.84 | 27.34 | 25.50 | * | | 18.84 | \| |
| 614.00 | - | - | - | - | | | - | 200.00 |
| | | | | | | | | |
| 960.00 | - | - | - | - | | | - | 500.00 |
| \| | 975.00 | 0.80 | 32.10 | 32.90 | * | | 44.16 | \| |
| 1240.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 1300.00 | - | - | - | - | | | - | 500.00 |
| \| | 1350.00 | 33.67 | -5.55 | 28.12 | * | | 25.47 | \| |
| 1427.00 | - | - | - | - | | | - | 500.00 |

No EUT emissions within 10 dB of the specified test limit were observed at the specified test distance throughout the given frequency spectrum. * This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity (Noise Floor).

Data Sheet 3 of 8

# RETLIF TESTING LABORATORIES

| EMISSIONS TEST DATA SHEET | | |
|---|---|---|
| **Test Method** | Unwanted Emissions into Restricted Frequency Bands | |
| **Customer** | Immedia Semiconductor | |
| **Job Number** | R-6151N-3 | |
| **Test Sample** | Blink Sync Module | |
| **Model Number** | BSM00201U | |
| **Serial Number** | IMS0606441600030 | |
| **Test Specification** | FCC Part 15 Subpart C | Paragraph: 15.247(d) |
| **Operating Mode** | Transmitting Modulated Data at 2412 MHz, 2442 MHz and 2472 MHz consecutively. | |
| **Technician** | M. Seamans | |
| **Date** | November 17th, 2016 | |
| **Notes:** Antenna Test Distance: 3 meters Detector: Quasi-Peak <1GHz, Average >1GHz | | |

## TEST PARAMETERS

| Restricted Band | Measured Frequency | Meter Reading | Correction Factor | Corrected Reading | | | Converted Reading | Limit at 3M |
|---|---|---|---|---|---|---|---|---|
| MHz | MHz | dBuV | dB | dBuV/m | | | uV/m | uV/m |
| 1435.00 | - | - | - | - | | | - | 500.00 |
| \| | 1500.00 | 32.21 | -4.81 | 27.40 | * | | 23.44 | \| |
| 1646.50 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 1660.00 | - | - | - | - | | | - | 500.00 |
| \| | 1680.00 | 31.41 | -4.01 | 27.40 | * | | 23.44 | \| |
| 1710.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 1718.80 | - | - | - | - | | | - | 500.00 |
| \| | 1720.00 | 32.08 | -3.84 | 28.24 | * | | 25.82 | \| |
| 1722.20 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 2200.00 | - | - | - | - | | | - | 500.00 |
| \| | 2250.00 | 32.14 | -2.07 | 30.07 | * | | 31.88 | \| |
| 2300.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 2310.00 | - | - | - | - | | | - | 500.00 |
| \| | 2360.00 | 31.69 | -1.79 | 29.90 | * | | 31.26 | \| |
| 2390.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 2483.50 | - | - | - | - | | | - | 500.00 |
| \| | 2490.00 | 31.91 | -1.47 | 30.44 | * | | 33.27 | \| |
| 2500.00 | - | - | - | - | | | - | 500.00 |

No EUT emissions within 10 dB of the specified test limit were observed at the specified test distance throughout the given frequency spectrum. * This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity (Noise Floor).

Data Sheet 4 of 8

# RETLIF TESTING LABORATORIES

## EMISSIONS TEST DATA SHEET

| | | |
|---|---|---|
| **Test Method** | Unwanted Emissions into Restricted Frequency Bands | |
| **Customer** | Immedia Semiconductor | |
| **Job Number** | R-6151N-3 | |
| **Test Sample** | Blink Sync Module | |
| **Model Number** | BSM00201U | |
| **Serial Number** | IMS0606441600030 | |
| **Test Specification** | FCC Part 15 Subpart C | Paragraph: 15.247(d) |
| **Operating Mode** | Transmitting Modulated Data at 2412 MHz, 2442 MHz and 2472 MHz consecutively. | |
| **Technician** | M. Seamans | |
| **Date** | November 17th, 2016 | |

**Notes:** Antenna Test Distance: 3 meters Detector: Quasi-Peak <1GHz, Average >1GHz

## TEST PARAMETERS

| Restricted Band | Measured Frequency | Meter Reading | Correction Factor | Corrected Reading | | | Converted Reading | Limit at 3M |
|---|---|---|---|---|---|---|---|---|
| MHz | MHz | dBuV | dB | dBuV/m | | | uV/m | uV/m |
| 2690.00 | - | - | - | - | | | - | 500.00 |
| \| | 2706.00 | 37.91 | -0.97 | 36.94 | * | | 70.31 | \| |
| \| | 2745.00 | 38.09 | -0.89 | 37.20 | * | | 72.44 | \| |
| \| | 2781.00 | 38.19 | -0.81 | 37.38 | * | | 73.96 | \| |
| 2900.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 3260.00 | - | - | - | - | | | - | 500.00 |
| \| | 3263.00 | 30.75 | 0.11 | 30.86 | * | | 34.91 | \| |
| 3267.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 3332.00 | - | - | - | - | | | - | 500.00 |
| \| | 3336.00 | 30.80 | 0.23 | 31.03 | * | | 35.60 | \| |
| 3339.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 3345.00 | - | - | - | - | | | - | 500.00 |
| \| | 3350.00 | 31.45 | 0.26 | 31.71 | * | | 38.50 | \| |
| 3358.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 3600.00 | - | - | - | - | | | - | 500.00 |
| \| | 3608.00 | 38.15 | 0.67 | 38.82 | * | | 87.30 | \| |
| \| | 3660.00 | 38.45 | 0.75 | 39.20 | * | | 91.20 | \| |
| \| | 3708.00 | 38.32 | 0.83 | 39.15 | * | | 90.68 | \| |

No EUT emissions within 10 dB of the specified test limit were observed at the specified test distance throughout the given frequency spectrum. * This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity (Noise Floor).

Data Sheet 5 of 8

# RETLIF TESTING LABORATORIES

## EMISSIONS TEST DATA SHEET

| | | |
|---|---|---|
| **Test Method** | Unwanted Emissions into Restricted Frequency Bands | |
| **Customer** | Immedia Semiconductor | |
| **Job Number** | R-6151N-3 | |
| **Test Sample** | Blink Sync Module | |
| **Model Number** | BSM00201U | |
| **Serial Number** | IMS0606441600030 | |
| **Test Specification** | FCC Part 15 Subpart C | Paragraph: 15.247(d) |
| **Operating Mode** | Transmitting Modulated Data at 2412 MHz, 2442 MHz and 2472 MHz consecutively. | |
| **Technician** | M. Seamans | |
| **Date** | November 17th, 2016 | |

**Notes:** Antenna Test Distance: 3 meters Detector: Quasi-Peak <1GHz, Average >1GHz

## TEST PARAMETERS

| Restricted Band | Measured Frequency | Meter Reading | Correction Factor | Corrected Reading | | | Converted Reading | Limit at 3M |
|---|---|---|---|---|---|---|---|---|
| MHz | MHz | dBuV | dB | dBuV/m | | | uV/m | uV/m |
| \| | - | - | - | - | | | - | \| |
| 4400.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 4500.00 | - | - | - | - | | | - | 500.00 |
| \| | 4824.00 | 49.20 | 1.71 | 50.91 | | | 351.16 | \| |
| \| | 4884.00 | 49.01 | 1.76 | 50.77 | | | 345.54 | \| |
| \| | 4944.00 | 48.98 | 1.81 | 50.79 | | | 346.34 | \| |
| \| | - | - | - | - | | | - | \| |
| 5150.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 5350.00 | - | - | - | - | | | - | 500.00 |
| \| | 5400.00 | 29.72 | 2.43 | 32.15 | * | | 40.50 | \| |
| 5460.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 7250.00 | - | - | - | - | | | - | 500.00 |
| \| | 7326.00 | 39.71 | 3.85 | 43.56 | | | 150.66 | \| |
| 7750.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 8025.00 | - | - | - | - | | | - | 500.00 |
| \| | 8118.00 | 34.08 | 4.19 | 38.27 | * | | 81.94 | \| |
| \| | 8235.00 | 34.50 | 4.25 | 38.75 | * | | 86.60 | \| |
| \| | 8343.00 | 34.79 | 4.26 | 39.05 | * | | 89.64 | \| |
| \| | - | - | - | - | | | - | \| |
| 8500.00 | - | - | - | - | | | - | 500.00 |

EUT emissions within 10 dB of the specified test limit were observed at the specified test distance throughout the given frequency spectrum. * This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity (Noise Floor).

Data Sheet 6 of 8

# RETLIF TESTING LABORATORIES

## EMISSIONS TEST DATA SHEET

| | | |
|---|---|---|
| **Test Method** | Unwanted Emissions into Restricted Frequency Bands | |
| **Customer** | Immedia Semiconductor | |
| **Job Number** | R-6151N-3 | |
| **Test Sample** | Blink Sync Module | |
| **Model Number** | BSM00201U | |
| **Serial Number** | IMS0606441600030 | |
| **Test Specification** | FCC Part 15 Subpart C | Paragraph: 15.247(d) |
| **Operating Mode** | Transmitting Modulated Data at 2412 MHz, 2442 MHz and 2472 MHz consecutively. | |
| **Technician** | M. Seamans | |
| **Date** | November 17th, 2016 | |

**Notes:** Antenna Test Distance: 3 meters Detector: Quasi-Peak <1GHz, Average >1GHz

## TEST PARAMETERS

| Restricted Band | Measured Frequency | Meter Reading | Correction Factor | Corrected Reading | | | Converted Reading | Limit at 3M |
|---|---|---|---|---|---|---|---|---|
| MHz | MHz | dBuV | dB | dBuV/m | | | uV/m | uV/m |
| 9000.00 | - | - | - | - | | | - | 500.00 |
| \| | 9100.00 | 31.99 | 4.68 | 36.67 | * | | 68.16 | \| |
| 9200.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 9300.00 | - | - | - | - | | | - | 500.00 |
| \| | 9400.00 | 31.72 | 4.82 | 36.54 | * | | 67.14 | \| |
| 9500.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 10600.00 | - | - | - | - | | | - | 500.00 |
| \| | 12000.00 | 30.87 | 6.91 | 37.78 | * | | 77.50 | \| |
| 12700.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 13250.00 | - | - | - | - | | | - | 500.00 |
| \| | 13300.00 | 30.04 | 9.86 | 39.90 | * | | 98.87 | \| |
| 13400.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 14470.00 | - | - | - | - | | | - | 500.00 |
| \| | 14490.00 | 30.41 | 11.2 | 41.61 | * | | 120.36 | \| |
| 14500.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 15350.00 | - | - | - | - | | | - | 500.00 |

No EUT emissions within 10 dB of the specified test limit were observed at the specified test distance throughout the given frequency spectrum. * This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity (Noise Floor).

Data Sheet 7 of 8

# RETLIF TESTING LABORATORIES

## EMISSIONS TEST DATA SHEET

| | | |
|---|---|---|
| **Test Method** | Unwanted Emissions into Restricted Frequency Bands | |
| **Customer** | Immedia Semiconductor | |
| **Job Number** | R-6151N-3 | |
| **Test Sample** | Blink Sync Module | |
| **Model Number** | BSM00201U | |
| **Serial Number** | IMS0606441600030 | |
| **Test Specification** | FCC Part 15 Subpart C | Paragraph: 15.247(d) |
| **Operating Mode** | Transmitting Modulated Data at 2412 MHz, 2442 MHz and 2472 MHz consecutively. | |
| **Technician** | M. Seamans | |
| **Date** | November 17th, 2016 | |

**Notes:** Antenna Test Distance: 3 meters Detector: Quasi-Peak <1GHz, Average >1GHz

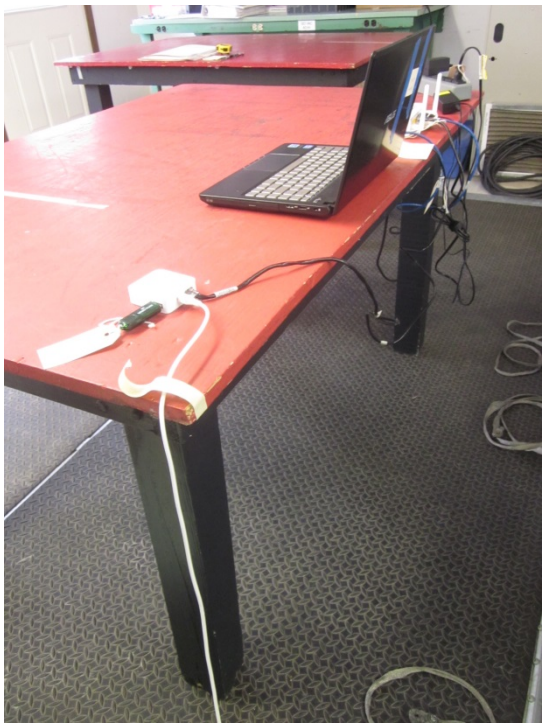
## TEST PARAMETERS

| Restricted Band | Measured Frequency | Meter Reading | Correction Factor | Corrected Reading | | | Converted Reading | Limit at 3M |
|---|---|---|---|---|---|---|---|---|
| MHz | MHz | dBuV | dB | dBuV/m | | | uV/m | uV/m |
| \| | 15800.00 | 31.91 | 5.79 | 37.70 | * | | 76.73 | \| |
| 16200.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 17700.00 | - | - | - | - | | | - | 500.00 |
| \| | 19000.00 | 31.41 | -5.57 | 25.84 | * | | 19.58 | \| |
| \| | 19296.00 | 31.19 | -5.37 | 25.82 | * | | 19.54 | \| |
| \| | 19536.00 | 32.05 | -5.37 | 26.68 | * | | 21.57 | \| |
| \| | 19776.00 | 32.45 | -5.37 | 27.08 | * | | 22.59 | \| |
| 21400.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 22010.00 | - | - | - | - | | | - | 500.00 |
| \| | 22500.00 | 32.60 | -6.61 | 25.99 | * | | 19.92 | \| |
| 23120.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| 23600.00 | - | - | - | - | | | - | 500.00 |
| \| | 23800.00 | 35.03 | -6.08 | 28.95 | * | | 28.02 | \| |
| 24000.00 | - | - | - | - | | | - | 500.00 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

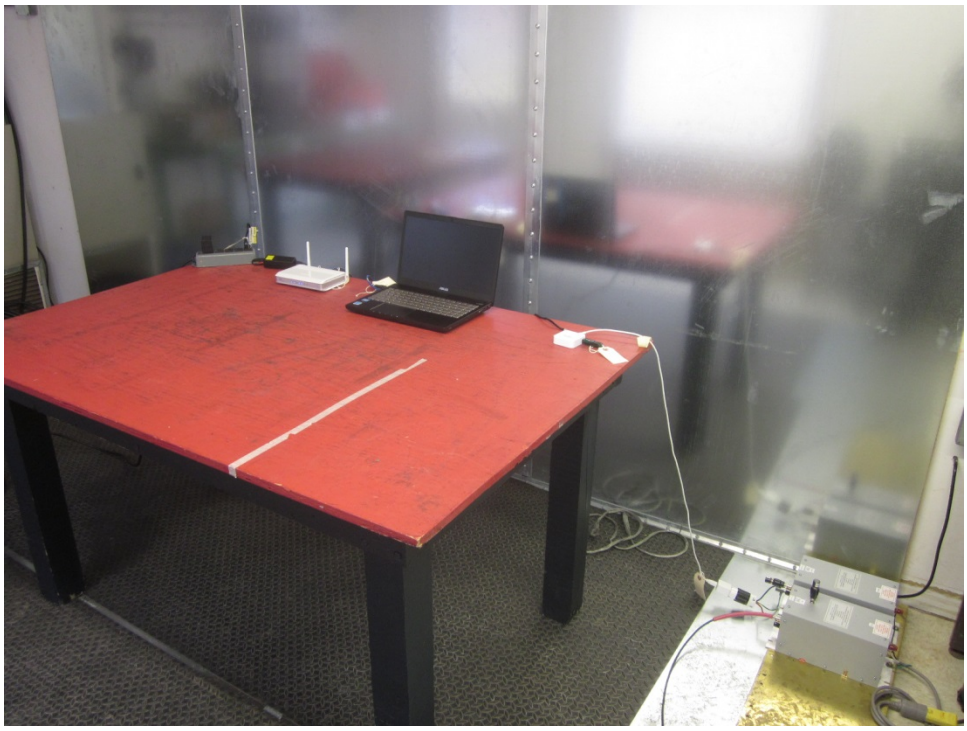
No EUT emissions within 10 dB of the specified test limit were observed at the specified test distance throughout the given frequency spectrum. * This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity (Noise Floor).

Data Sheet 8 of 8

**Test Photographs**
**Conducted Emissions, Power Leads, 150 kHz to 30 MHz**



EUT Configuration

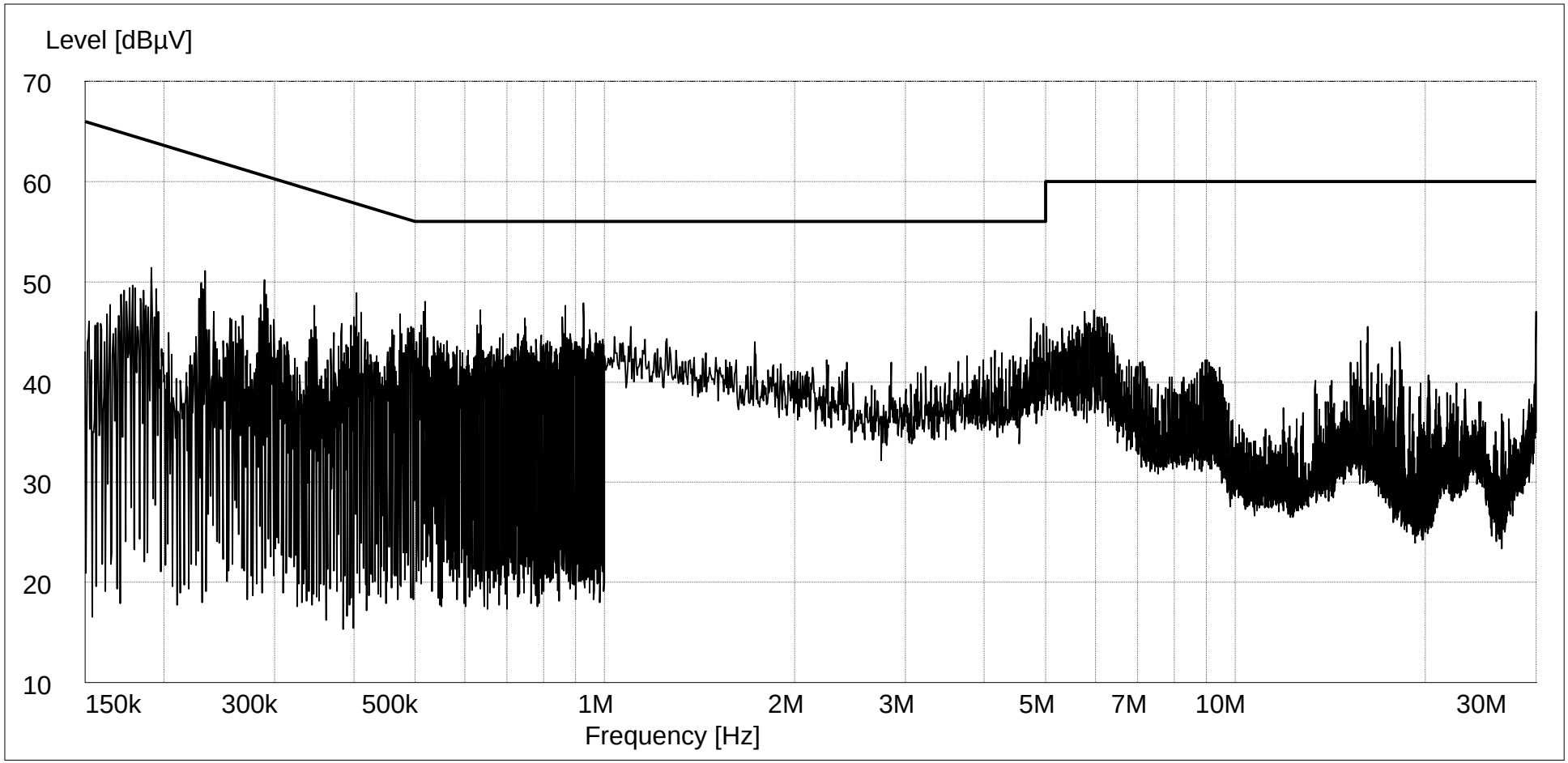


Test Setup

**FCC Part 15, Subpart B, Section 15.207(a)**
**Conducted Emissions, Power Leads, 150 kHz to 30 MHz**
**Test Data**

# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | Conducted Emissions 150 kHz to 30 MHz | | |
| **Customer** | Immedia Semiconductor | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model No.** | BSM00201U | **Serial No.** | IMS0606441600030 |
| **Operating Mode** | Exercising USB, WiFi, and 902-928MHz Radio | | |
| **Test Specification** | FCC Part 15. 207(a) | | |
| **Technician** | M. Seamans | **Date** | November 16th, 2016 |
| **Climatic Conditions** | Temp: 21.0 °C Relative Humidity: 46.0 % | | |
| **Lead Tested** | 120 VAC 60 Hz Hot Peak Readings to Quasi-Peak Limits. | | |

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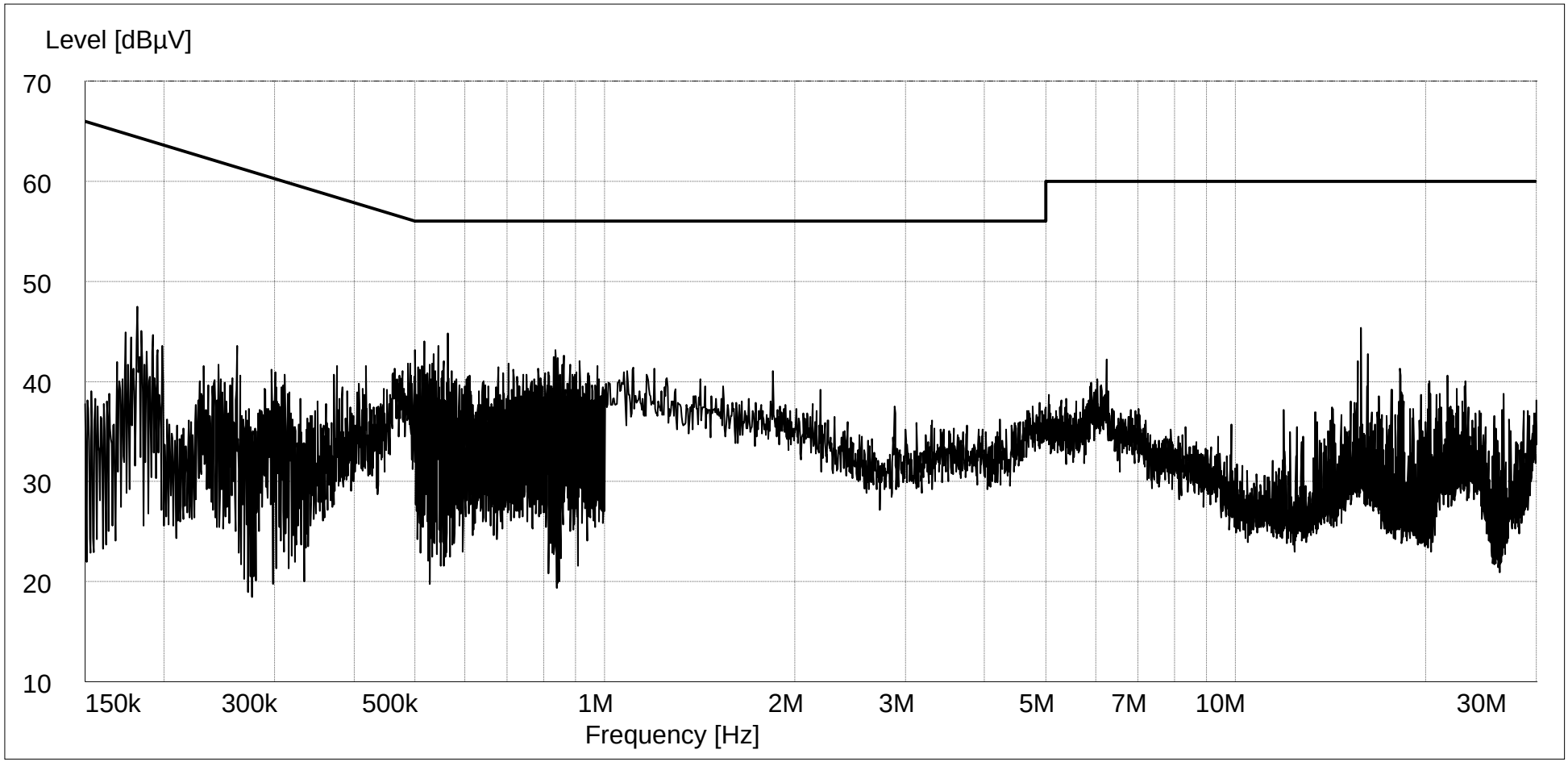
# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | Conducted Emissions 150 kHz to 30 MHz | | |
| **Customer** | Immedia Semiconductor | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model No.** | BSM00201U | **Serial No.** | IMS0606441600030 |
| **Operating Mode** | Exercising USB, WiFi, and 902-928MHz Radio | | |
| **Test Specification** | FCC Part 15. 207(a) | | |
| **Technician** | M. Seamans | **Date** | November 16th, 2016 |
| **Climatic Conditions** | Temp: 21.0 °C Relative Humidity: 46.0 % | | |
| **Lead Tested** | 120 VAC 60 Hz Neutral Peak Readings to Quasi-Peak Limits. | | |

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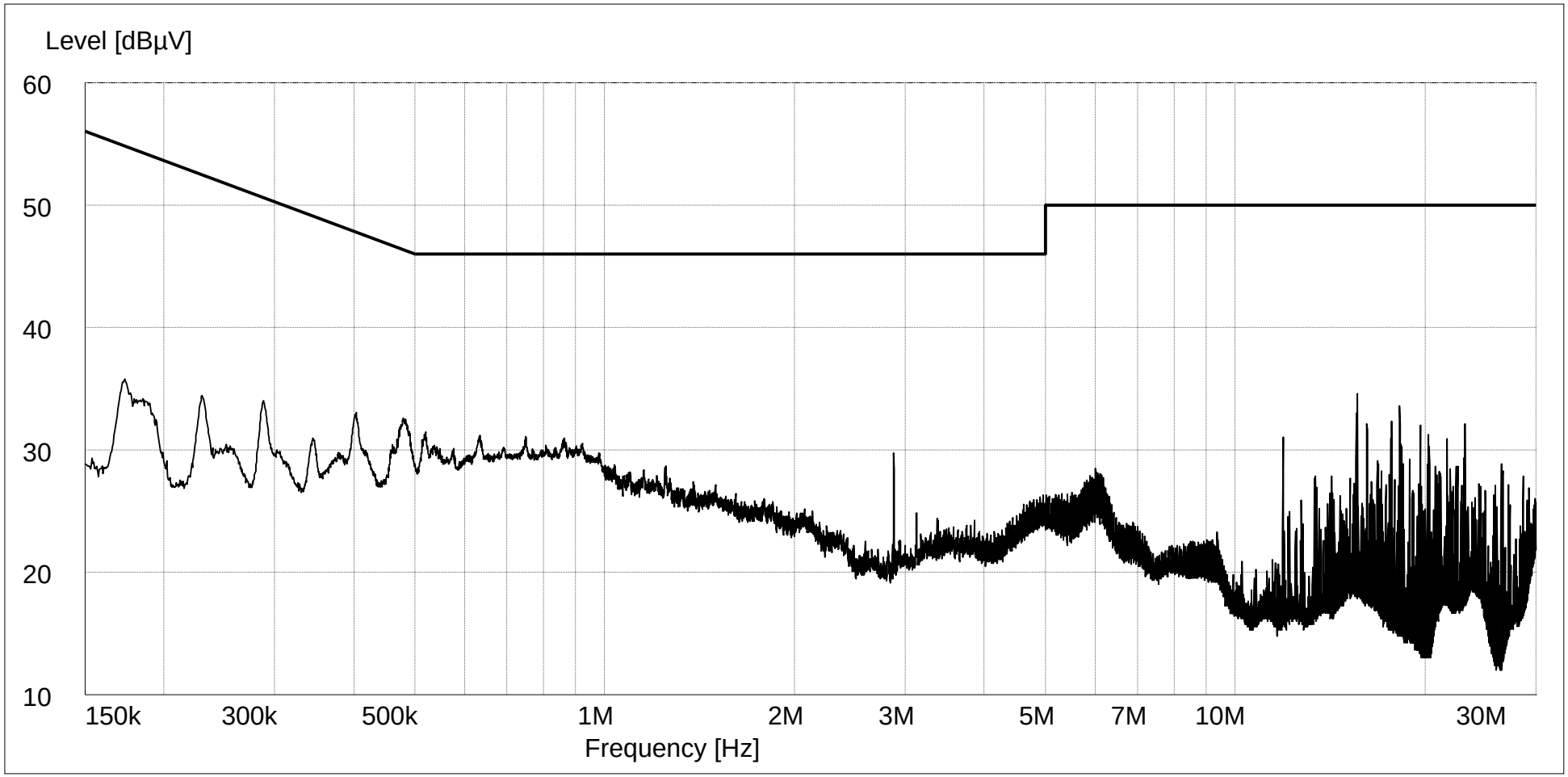
# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | Conducted Emissions 150 kHz to 30 MHz | | |
| **Customer** | Immedia Semiconductor | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model No.** | BSM00201U | **Serial No.** | IMS0606441600030 |
| **Operating Mode** | Exercising USB, WiFi, and 902-928MHz Radio | | |
| **Test Specification** | FCC Part 15. 207(a) | | |
| **Technician** | M. Seamans | **Date** | November 16th, 2016 |
| **Climatic Conditions** | Temp: 21.0 °C Relative Humidity: 46.0 % | | |
| **Lead Tested** | 120 VAC 60 Hz Hot Average Readings to Average Limits. | | |

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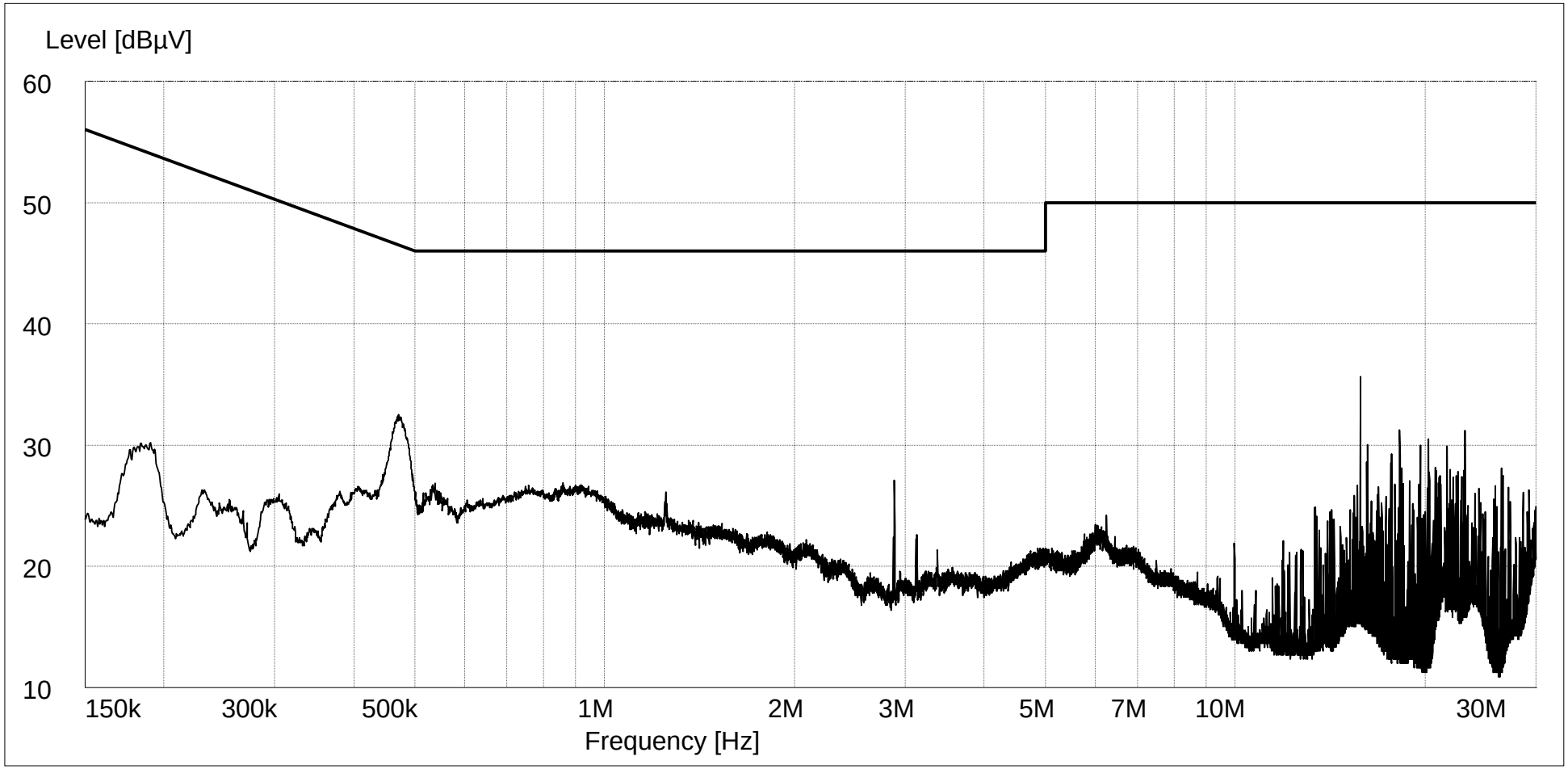
# RETLIF TESTING LABORATORIES

| | | | |
|---|---|---|---|
| **Test Method** | Conducted Emissions 150 kHz to 30 MHz | | |
| **Customer** | Immedia Semiconductor | **Job No.** | R-6151N-3 |
| **Test Sample** | Blink Sync Module | | |
| **Model No.** | BSM00201U | **Serial No.** | IMS0606441600030 |
| **Operating Mode** | Exercising USB, WiFi, and 902-928MHz Radio | | |
| **Test Specification** | FCC Part 15. 207(a) | | |
| **Technician** | M. Seamans | **Date** | November 16th, 2016 |
| **Climatic Conditions** | Temp: 21.0 °C Relative Humidity: 46.0 % | | |
| **Lead Tested** | 120 VAC 60 Hz Neutral Average Readings to Average Limits. | | |