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FCC Part 15, Subpart C, Section 15.247

Test Report

On

Blink Camera
FCC ID: 2AF77-BCM00100U

Customer Name:	Immedia Semiconductor
Customer P.O:	H109215-1A2
Date of Report Revision:	November 20, 2015
Test Report No:	R-6022N-2, Rev. A
Test Start Date:	October 2, 2015
Test Finish Date:	October 6, 2015
Test Technician:	M. Seamans
Revision Approved By:	S. Wentworth
Report Revision Prepared By:	J. Ramsey

Technical Information

Report Number:	R-6022N-2, Rev. A
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 Camera (Wifi Connected Home Security Camera)
Model Number:	BCM00100U
FCC ID:	2AF77-BCM00100U
Type:	Frequency Hopping Spread Spectrum Transmitter
Power Requirements:	5VDC Via 120 VAC, 60 Hz AC/DC Power Adapter
Power Supply:	AC Adapter, Flypower, Model PS06B050K1000UU
Frequency of Operation:	902.3 MHz to 927.2 MHz
Equipment Class:	DSS
Antenna Type:	Internal PCB Antenna – 1.5 dBi gain
Equipment Use:	Used in a Home Monitoring System

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

Test Procedure:
ANSI C63.4:2009

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

FCC Registered Test Site Number: 90899

Table 1 – Tests Performed

FCC Part 15, Subpart C	Test Method
15.247(a)(1)	Channel Separation
15.247(a)(1)	20 dB Bandwidth
15.247(a)(1)(i)	Number of Channels and Occupancy Time
15.247(b)(1) and (4)	Peak Conducted Output Power
15.247(d)	Spurious Emissions, 30 MHz to 10 GHz
15.247(a)/15.209(a)	Field Strength of Spurious Emissions
15.207(a)	Conducted Emissions, Power Leads, 150 kHz to 30 MHz

Table 2 – Support Equipment

Description	Manufacturer	Part Number	Model Number	Serial Number
Laptop PC	Toshiba	N/A	Satellite P55-A	00179-60817-80261-AAOEM

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

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
-	November 9, 2015	Original Release
A	November 20, 2015	Global Changes: • Revised document from R-6022N-2 to R-6022N-2, Rev. A • Removed all references and information regarding Industry Canada testing 11: • Added calculations

Requirements and Test Results

Requirement:
FCC Section 15.247 (a)(1)
Channel Separation and 20 dB Bandwidth
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

- **Results**:
  The carrier frequencies were separated by 399.79 kHz which exceeded the maximum 20 dB bandwidth of 388.78 kHz which complies with the requirements specified above.

FCC Section 15.247 (a)(1)(i)
Number of Channels and Occupancy Time

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

- **Results:**
  The number of hopping frequencies used was 64 and the average time of occupancy was 360.72msec which complied with the above requirements.

FCC Section 15.247 (b)(1) and (4)
Peak Conducted Output Power

(1) For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

(4) The conducted output power limit specified in Paragraph (b) of Section 15.247 is based on the use of antenna with directional gains that do not exceed 6 dBi. Except as shown in Paragraph (c) of Section 15.247, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in Paragraph (b)(1), (b)(2) and (b)(3) of Section 15.247, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

- **Results:**
  The frequency hopping system utilizes a transmitting antenna with a gain of 1.5 dBi. The maximum peak conducted output power was measured to be 16.37 milliwatts.

FCC Section 15.247 (d)
Spurious Emissions

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 Section 15.247, 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 emission limits specified in Section 15.209(a) (see Section 15.205(c)).

- **Results:**
  The antenna port conducted spurious emissions comply with the requirement that the radio frequency power be at least 20 dB below the highest in band level.

  In addition, Harmonic and Spurious Emissions which were found to be within the restricted bands of operation, as defined in section 15.205 (a) were found to be in compliance with the general limits specified in section 15.209 (a).

FCC Section 15.247 (a)
Field Strength of Spurious Radiation
Operation under the provisions of Section 15.247 is limited to frequency hopping and digitally modulated intentional radiators that comply with the provisions stated in Section 15.247(a)(1).

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 3.

Table 3 - 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 3.

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 928 MHz S = 928 / 1500 = 0.618 mW/cmsq

Power = Max Power Input to Antenna = 16.37 mW

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

$$0.618 \text{ mW/cmsq} = \frac{16.37 x 1.41}{4x(3.14)xD\text{^}2} = \frac{23.08}{12.56xD\text{^}2}$$

$$D\text{^}2 = \frac{23.08}{12.56x0.618}$$

$$D = \sqrt{2.97} = 1.7 \text{ cm}$$

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

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 4, 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 4 - 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 4.

Equipment List

FCC Section 15.247(a)(1)
Channel Separation

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	10/29/2014	10/31/2016
5137	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB, DC - 11 GHz, 20 W	768-10	10/28/2014	10/31/2015

FCC Section 15.247(a)(1)
20 dB Bandwidth

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	10/29/2014	10/31/2016
5137	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB, DC - 11 GHz, 20 W	768-10	10/28/2014	10/31/2015

FCC Section 15.247 (a)(1) (iii)
Number of Channels and Occupancy Time

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	10/29/2014	10/31/2016
5137	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB, DC - 11 GHz, 20 W	768-10	10/28/2014	10/31/2015

FCC Section 15.247 (a)(1)
Peak Conducted Output Power

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	10/29/2014	10/31/2016
5137	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB, DC - 11 GHz, 20 W	768-10	10/28/2014	10/31/2015

FCC Section 15.247 (d)
Conducted Spurious Emissions, 30 MHz to 10 GHz

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	10/29/2014	10/31/2016
5137	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB, DC - 11 GHz, 20 W	768-10	10/28/2014	10/31/2015

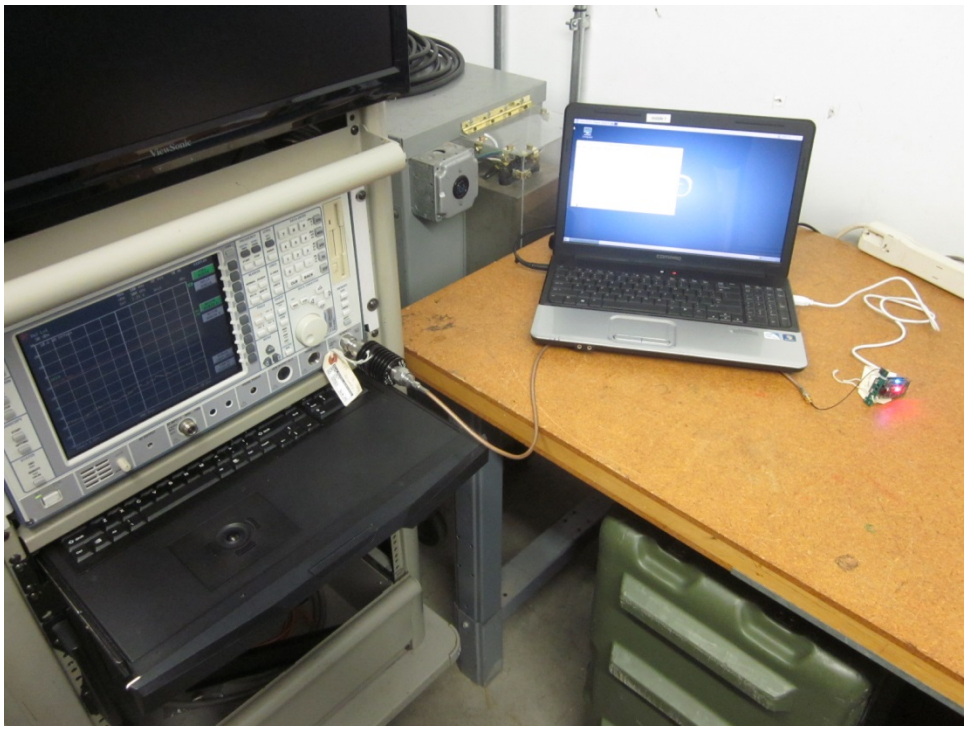
FCC Section 15.247 (a) / 15.209(a)
Field Strength of Spurious Radiated Emissions

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
1232	AGILENT / HP	PRE-AMPLIFIER	1 - 26.5 GHz	8449B	6/17/2015	6/30/2016
3258	ETS / EMCO	ANTENNA, DOUBLE RIDGED GUIDE	1 - 18 GHz	3115	3/24/2015	9/30/2016
4029	RETLIF	OPEN AREA TEST SITE, FILING	3 / 10 Meters	RNH	5/15/2013	5/31/2016
5053	ETS / EMCO	ANTENNA, BICONILOG	26 MHz - 3 GHz	3142C	2/24/2015	8/31/2016
R462	AGILENT / HP	ANALYZER, SPECTRUM	9 kHz - 26.5 GHz	E7405A	1/8/2015	1/31/2016

FCC Section 15.207 (a)
AC Line Conducted Emissions

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
4027	SOLAR ELECTRONICS	LISN	50 uH, 10 kHz - 50 MHz	9252-50-R-24-BNC	2/23/2015	2/29/2016
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	10/29/2014	10/31/2016
5137	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB, DC - 11 GHz, 20 W	768-10	10/28/2014	10/31/2015
5188	Cybertron	COMPUTER, CONTROL	N/A	TSVQJA2221	No Calibration Required	

Test Photographs
Channel Separation

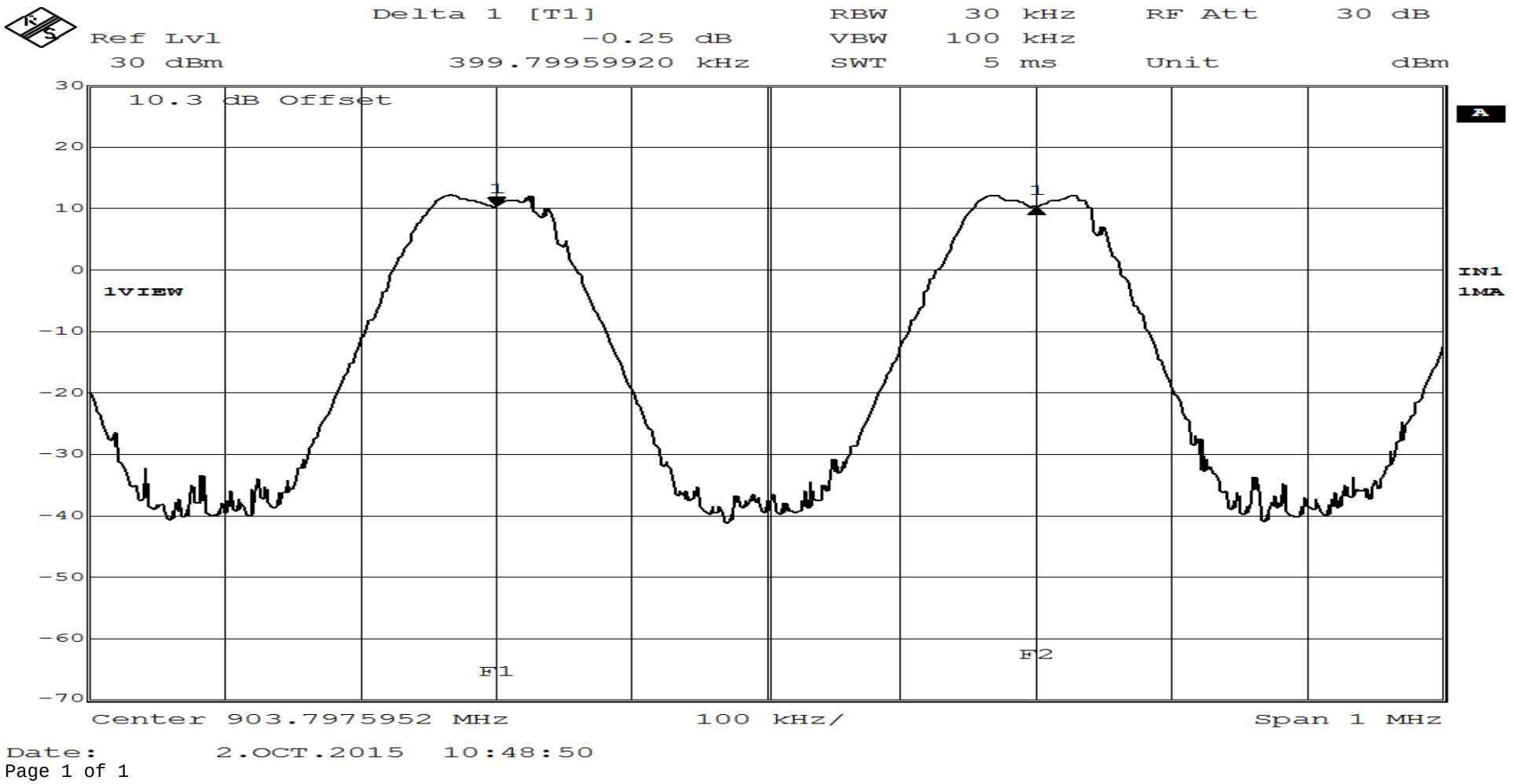


Test Setup

FCC Section 15.247(a)(1) / IC Section A8.1(b)
Channel Separation
Test Data

RETLIF TESTING LABORATORIES

Test Method:	Channel Carrier Frequency Separation		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting hopping frequency data		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(1)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	**Channel Carrier Frequency Separation: 399.799 kHz**		



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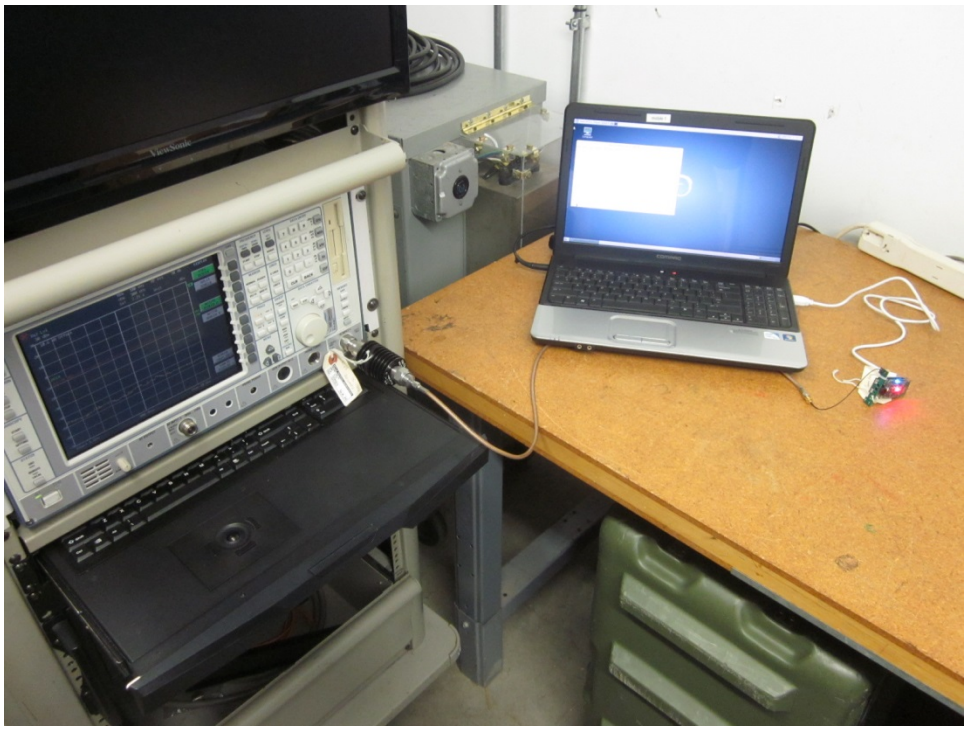
Test Photographs
20 dB Bandwidth

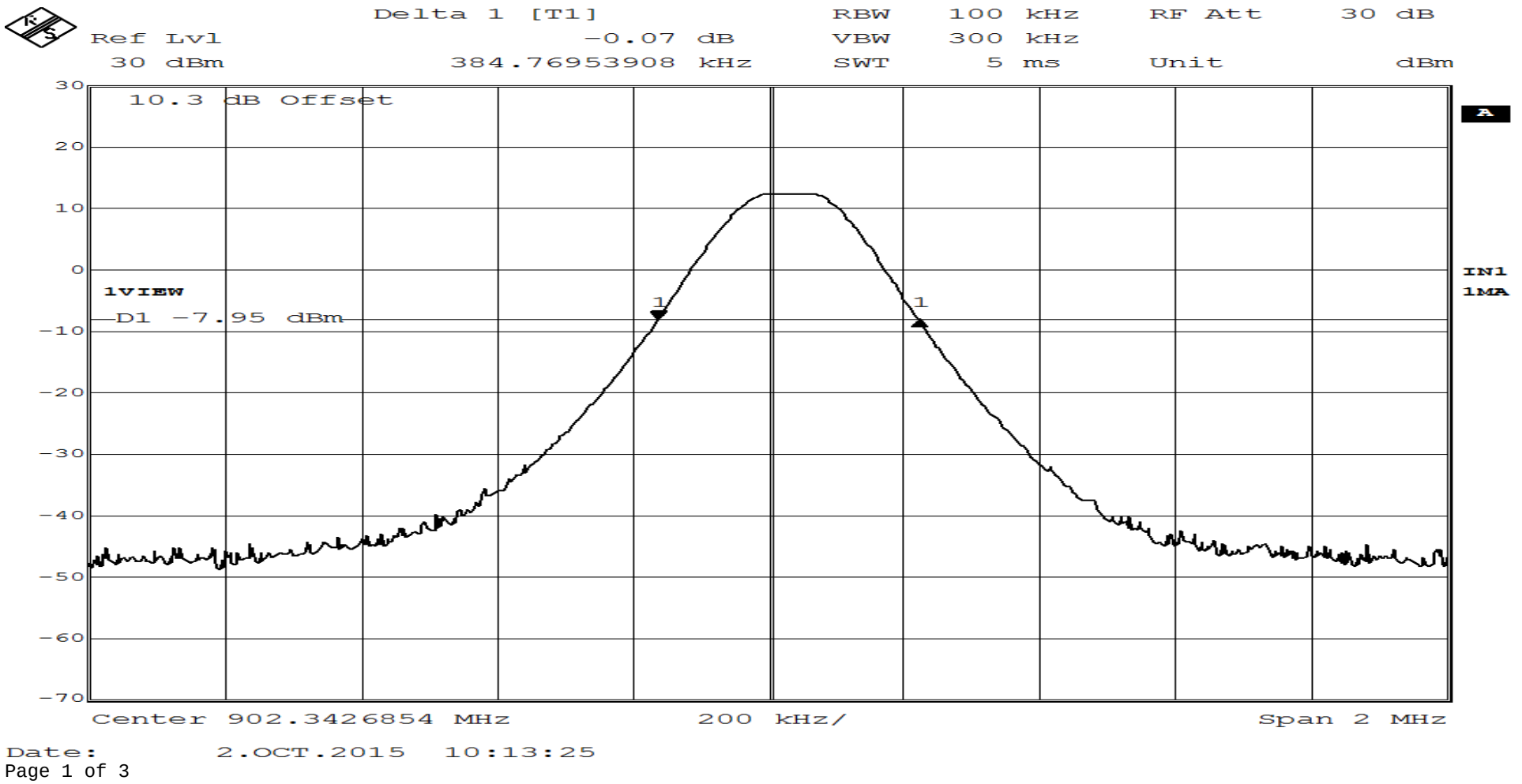


Test Setup

FCC Section 15.247(a)(1)
20 dB Bandwidth
Test Data

RETLIF TESTING LABORATORIES

Test Method:	20dB Bandwidth		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting modulated signal		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(1)(i)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	Transmit Frequency: 902.34 MHz **20dB Bandwidth: 384.769 kHz**		



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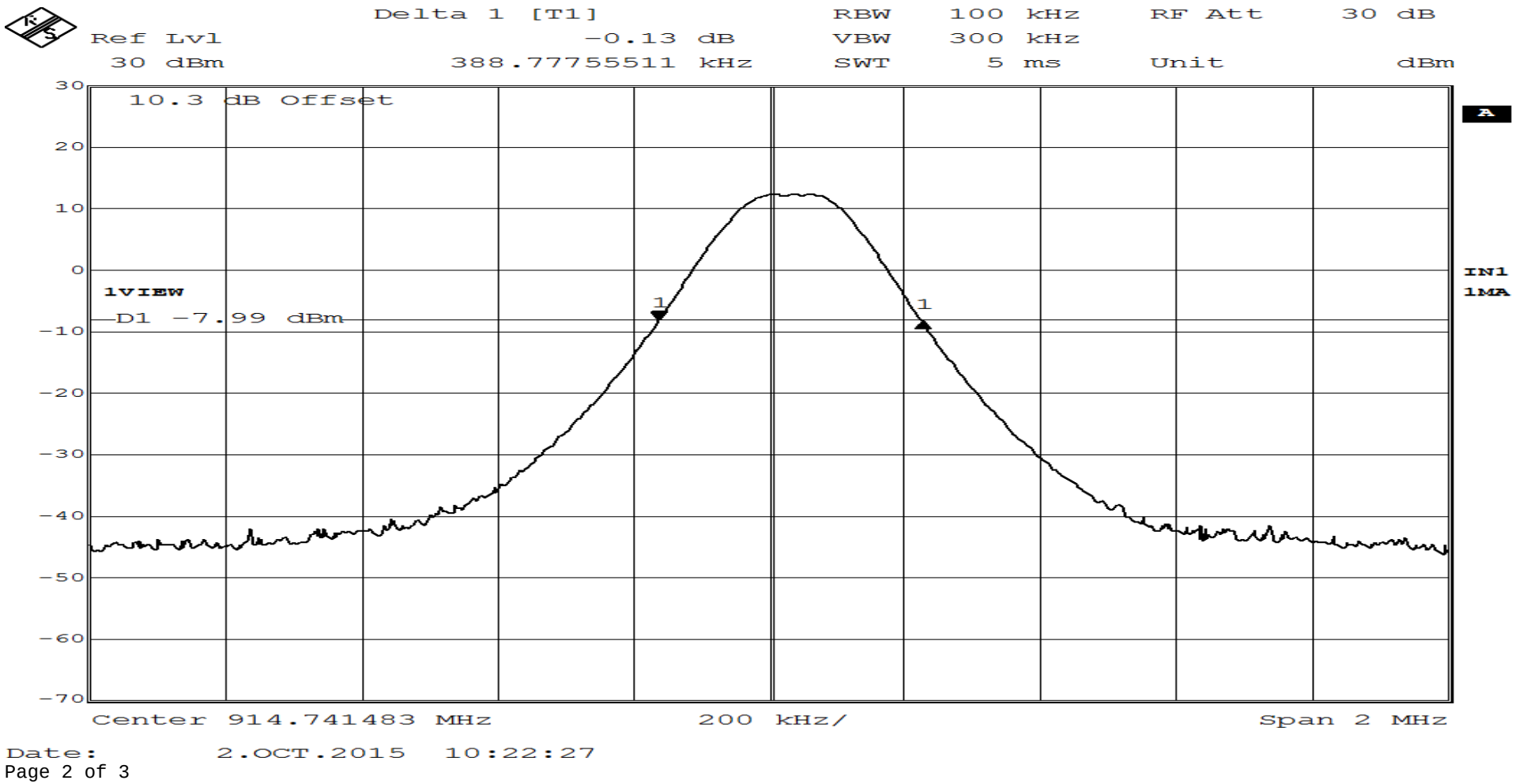
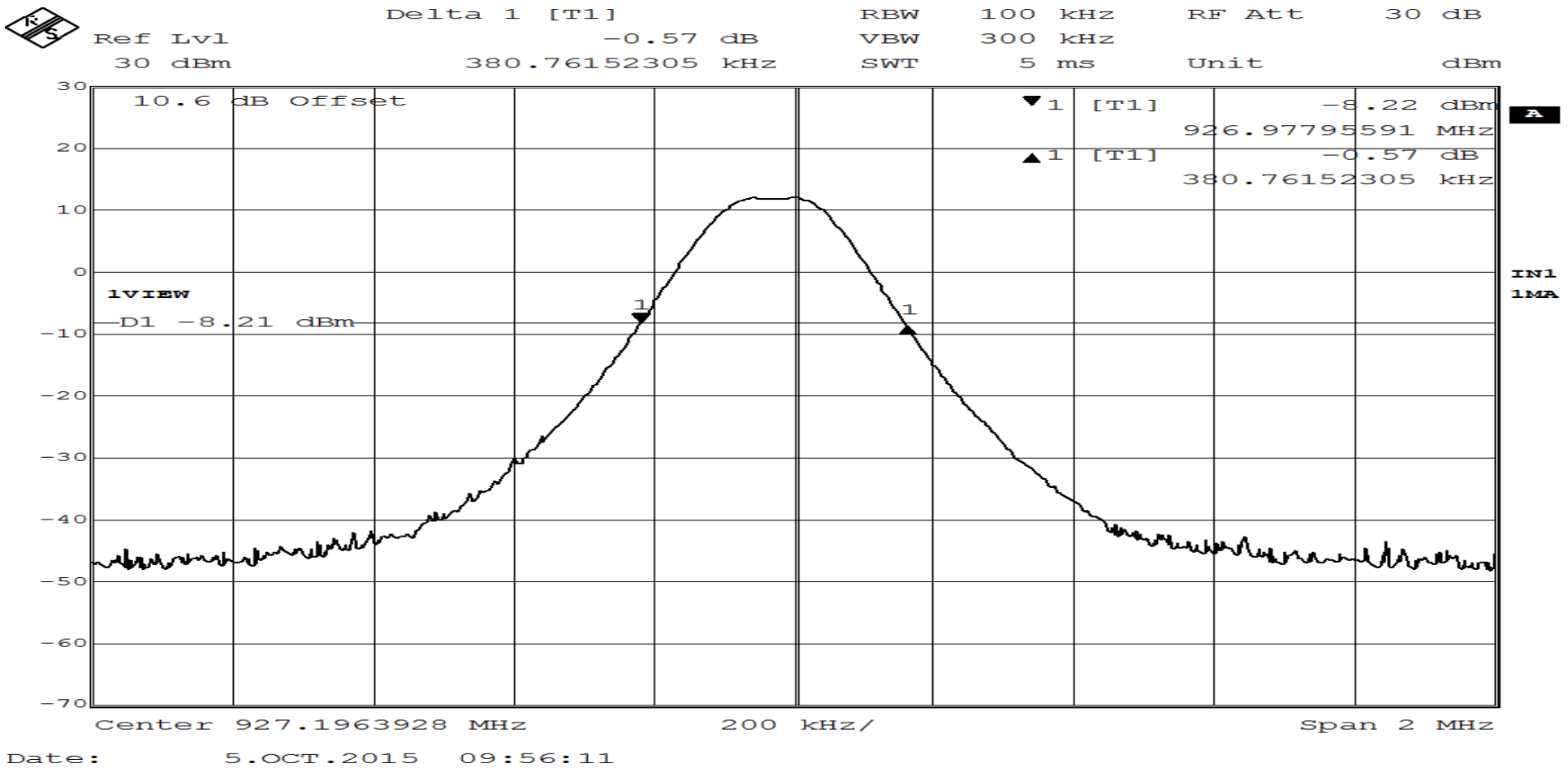
RETLIF TESTING LABORATORIES

Test Method:	20dB Bandwidth		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting modulated signal		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(1)(i)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	Transmit Frequency: 914.74 MHz **20dB Bandwidth: 388.777 kHz**		

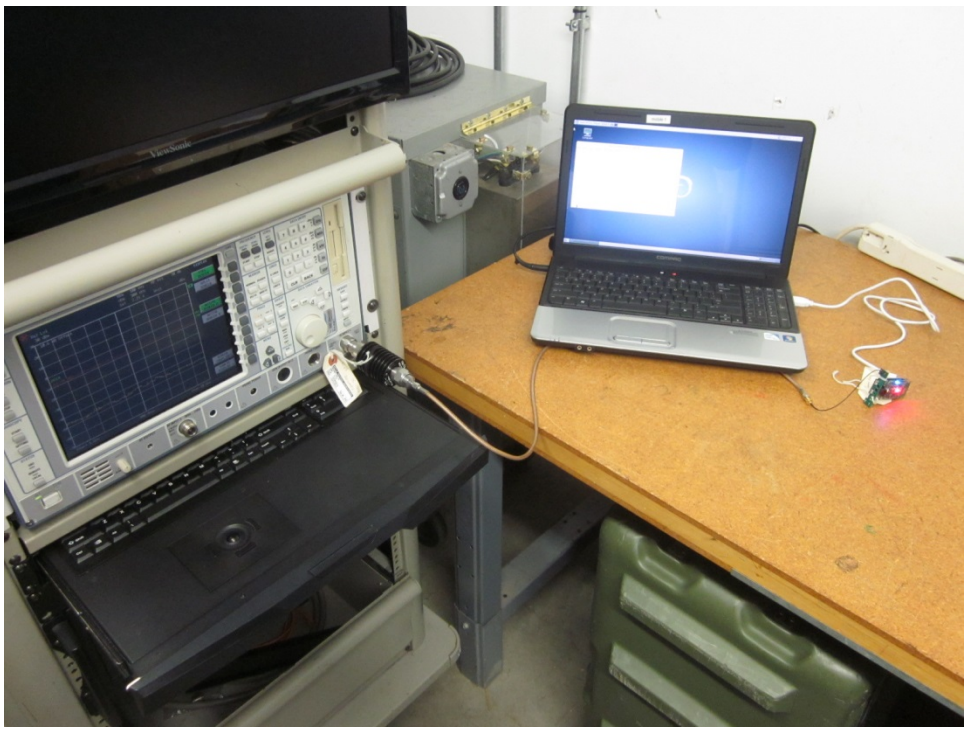


RETLIF TESTING LABORATORIES

Test Method:	20dB Bandwidth		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting modulated signal		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(1)(i)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	Transmit Frequency: 927.196 MHz **20dB Bandwidth: 380.761 kHz**		



Test Photographs
Number of Channels and Occupancy Time

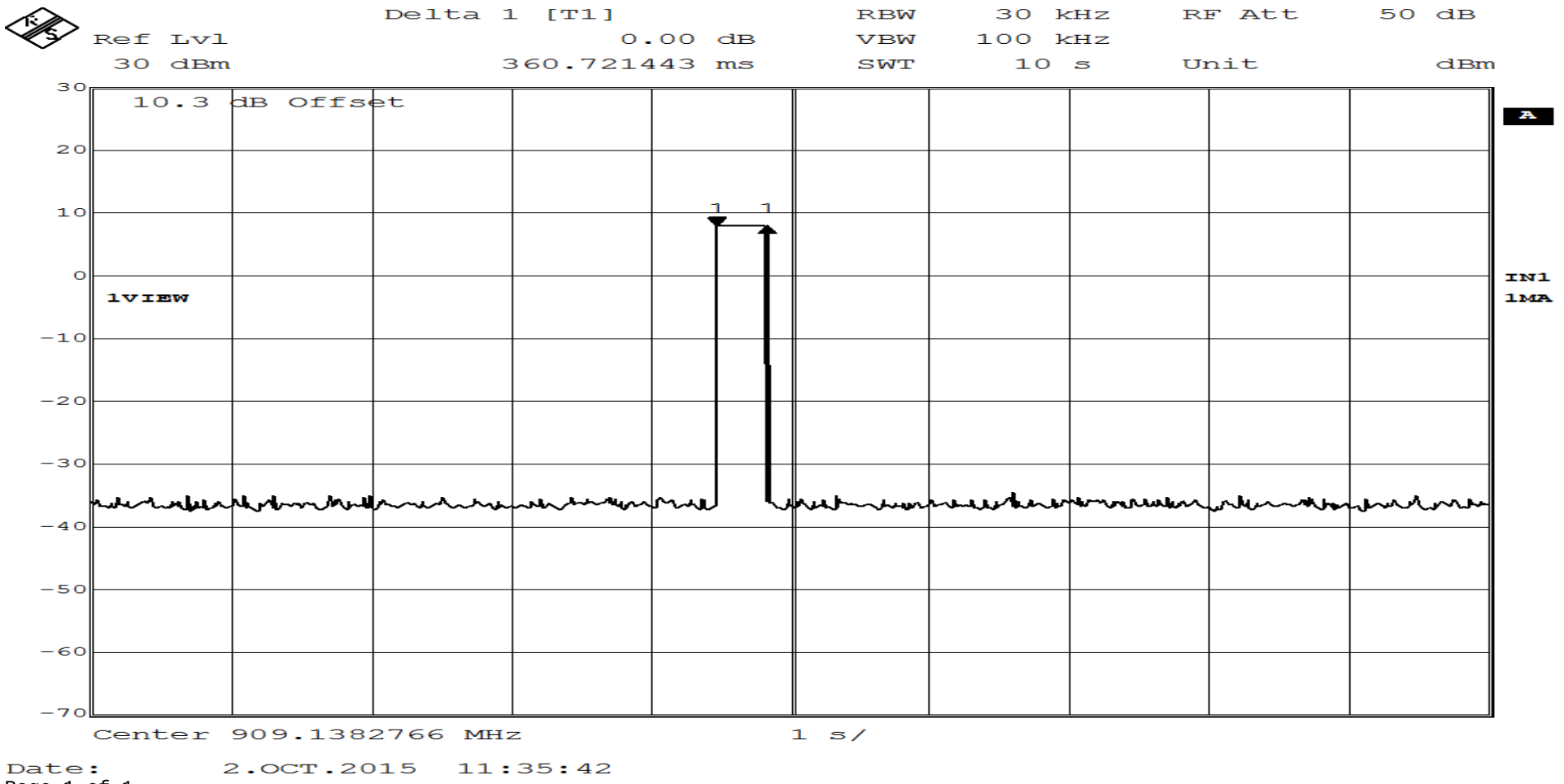


Test Setup

FCC Section 15.247 (a)(1)(i)
Number of Channels and Occupancy Time
Test Data

RETLIF TESTING LABORATORIES

Test Method:	Time of Occupancy		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting hopping frequency data		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(1)(i)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	Test Frequency: 909.138 MHz **Pulse Width: 360.721ms**		



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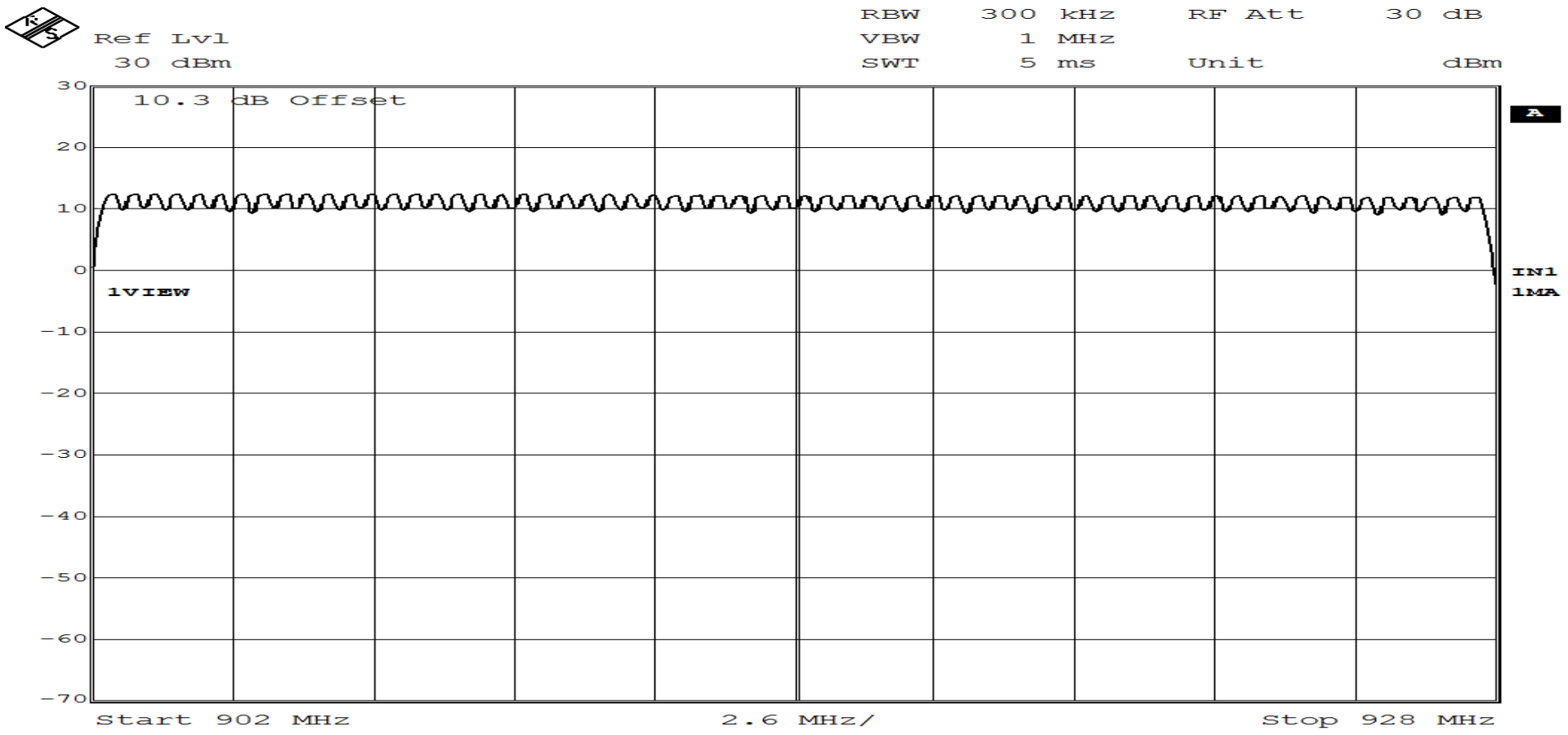
Number of Hopping Frequencies
Test Data

RETLIF TESTING LABORATORIES

Test Method:	Number of Hopping Frequencies		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Part Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting hopping frequency data		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(1)(i)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	Number of Hopping Frequencies: 64		



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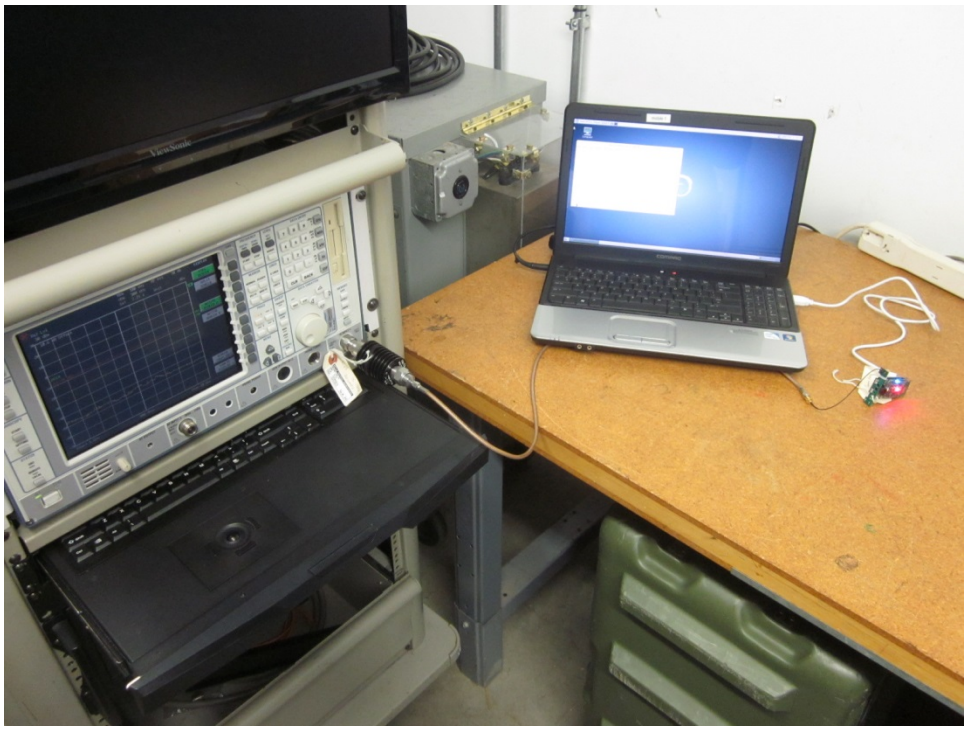
Test Photographs
Peak Conducted Output Power

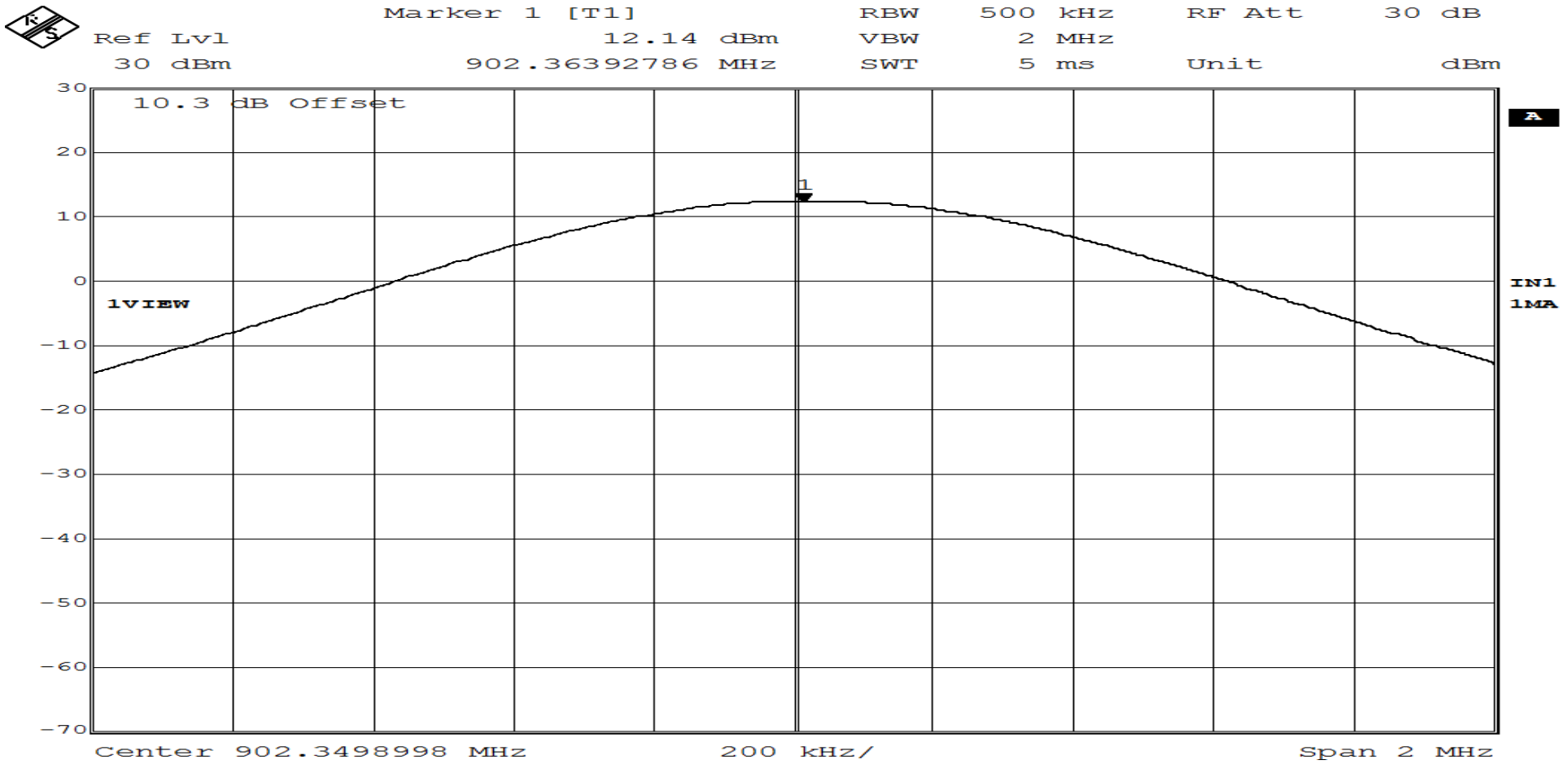


Test Setup

FCC Section 15.247 (a)(1)
Peak Conducted Output Power
Test Data

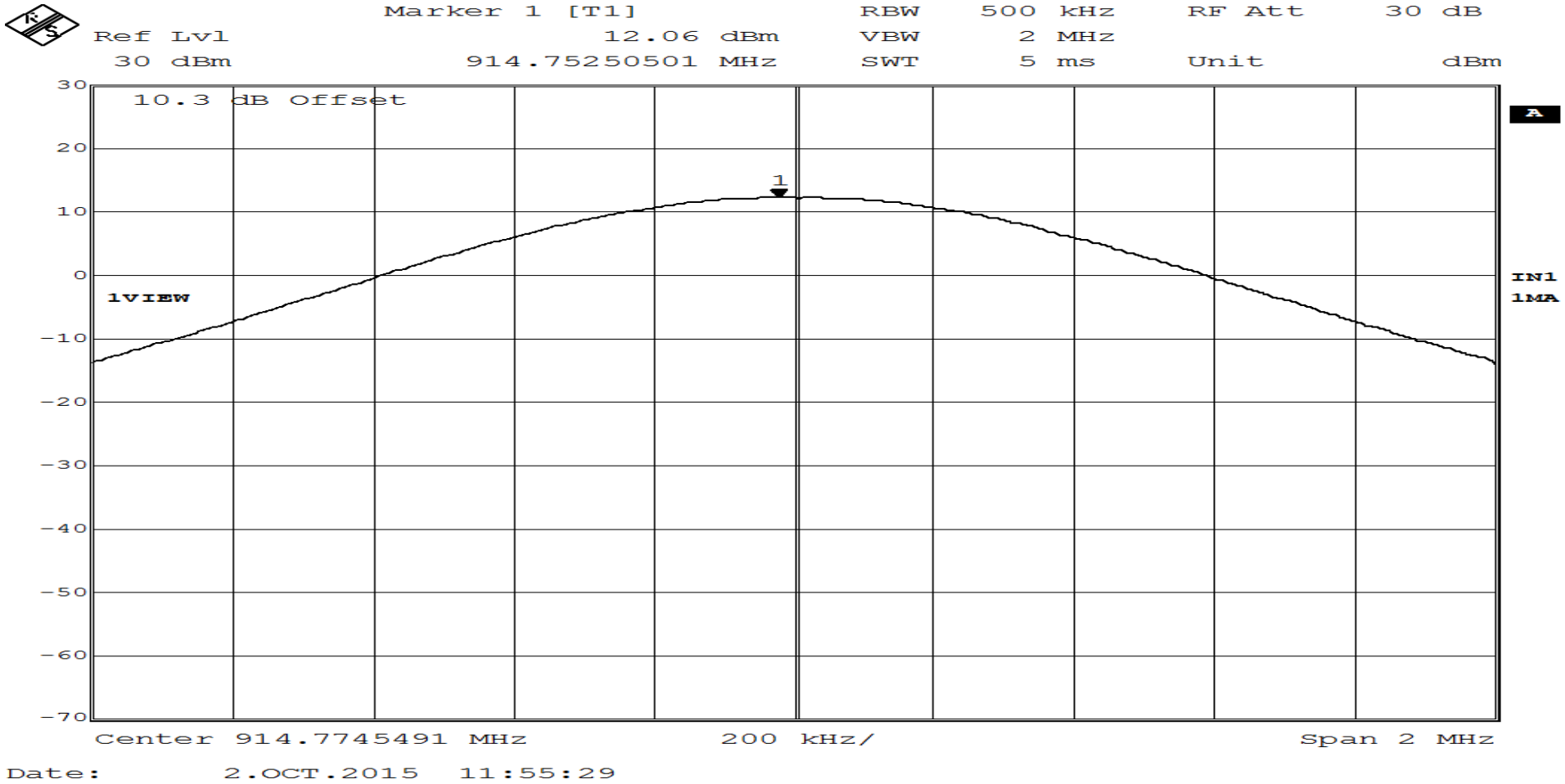
RETLIF TESTING LABORATORIES

Test Method	Peak Power Output		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting modulated signal		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (b)(3)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	Transmit Frequency: 902.36 MHz **Peak Power Output: 12.14 dBm (16.368mW)**		



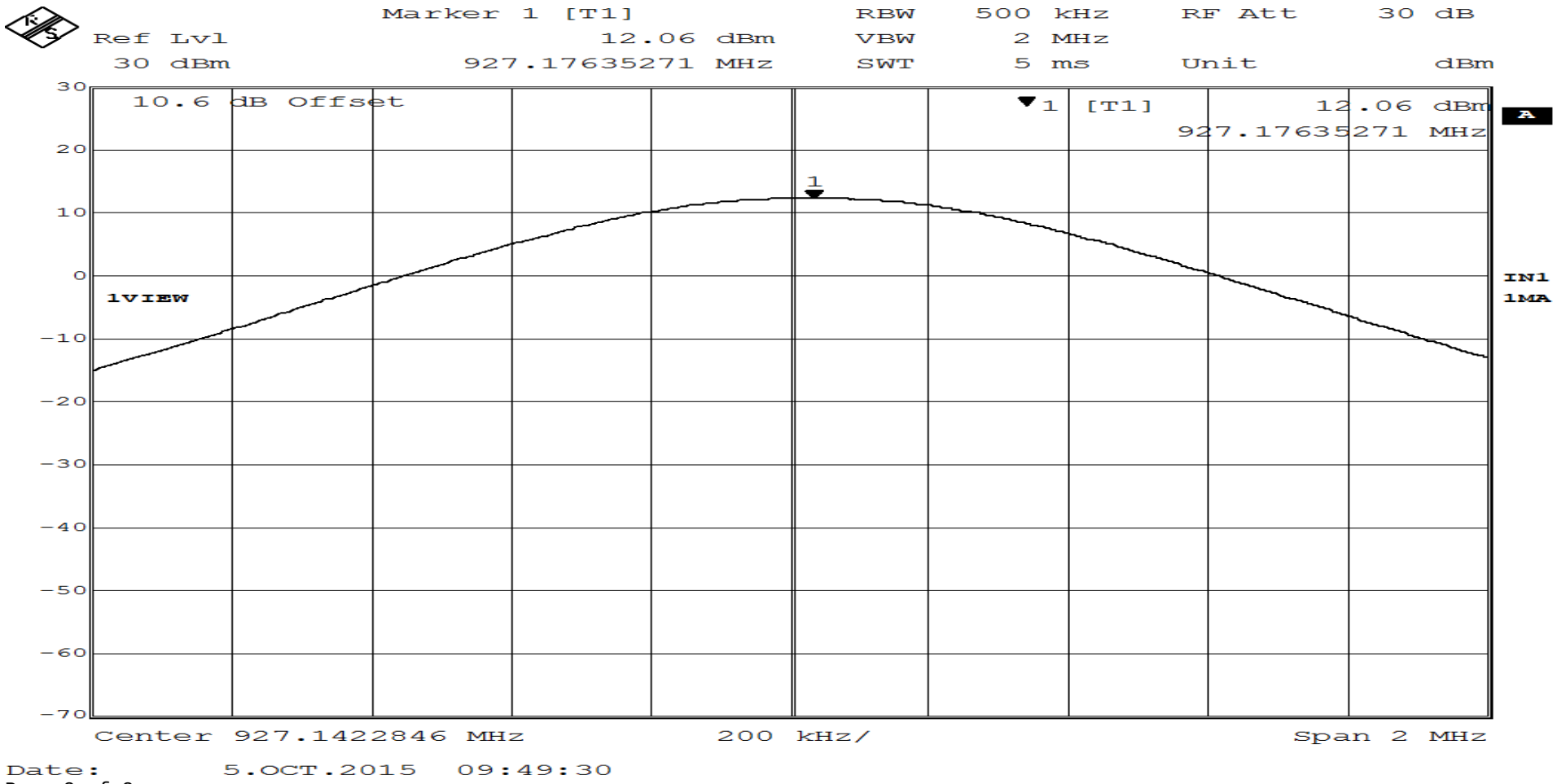
RETLIF TESTING LABORATORIES

Test Method	Peak Power Output		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting modulated signal		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (b)(3)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	Transmit Frequency: 914.774 MHz **Peak Power Output: 12.06 dBm (16.069mW)**		



RETLIF TESTING LABORATORIES

Test Method	Peak Power Output		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting modulated signal		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (b)(3)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	Transmit Frequency: 927.176 MHz **Peak Power Output: 12.06 dBm (16.069mW)**		



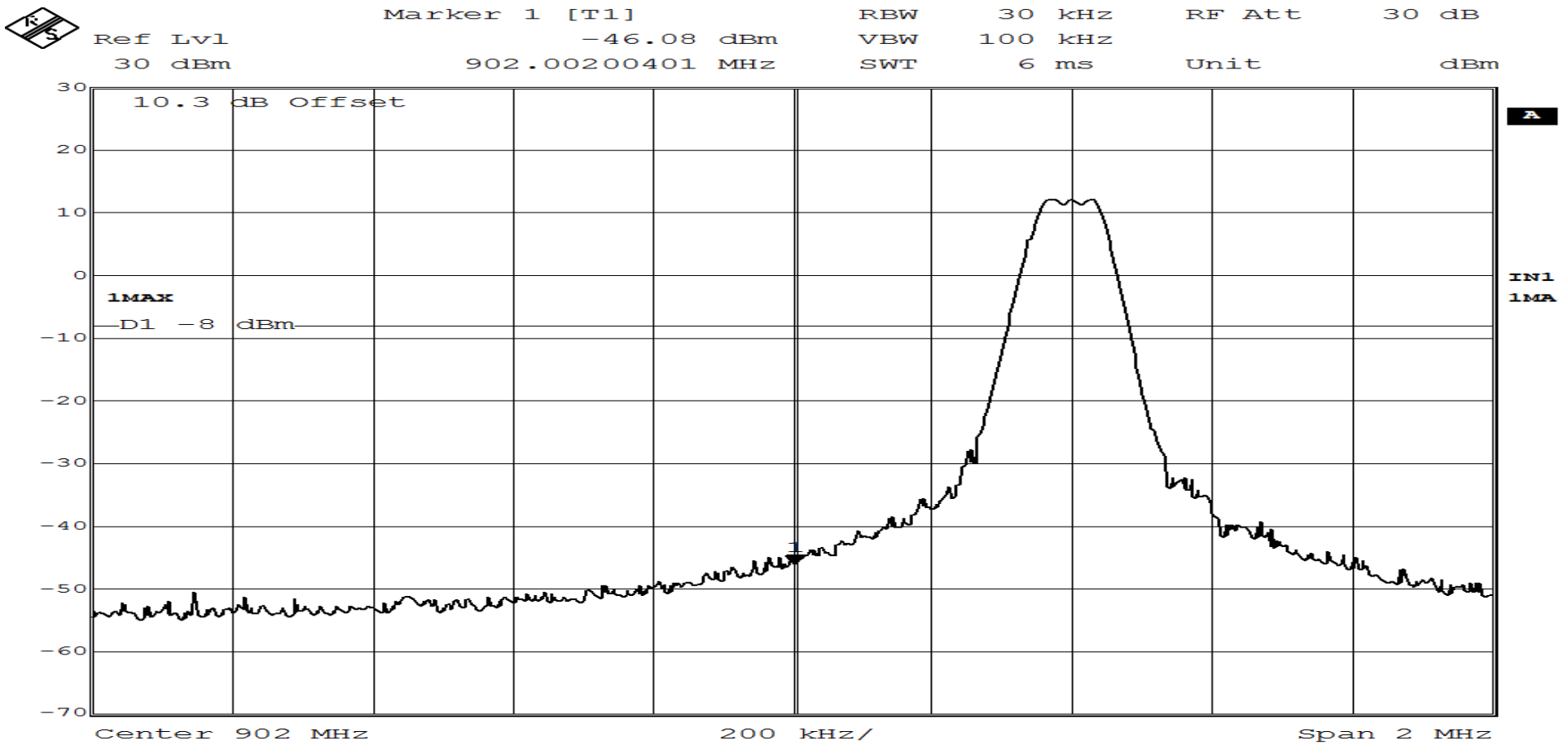
Test Photographs
Conducted Spurious Emissions, 30 MHz to 10 GHz

Test Setup

FCC Section 15.247 (d)
Conducted Spurious Emissions, 30 MHz to 10 GHz
Band Edge Test Data

RETLIF TESTING LABORATORIES

Test Method	Band Edge Emissions Conducted		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting modulated signal		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	Transmit Frequency: 902.36 MHz		



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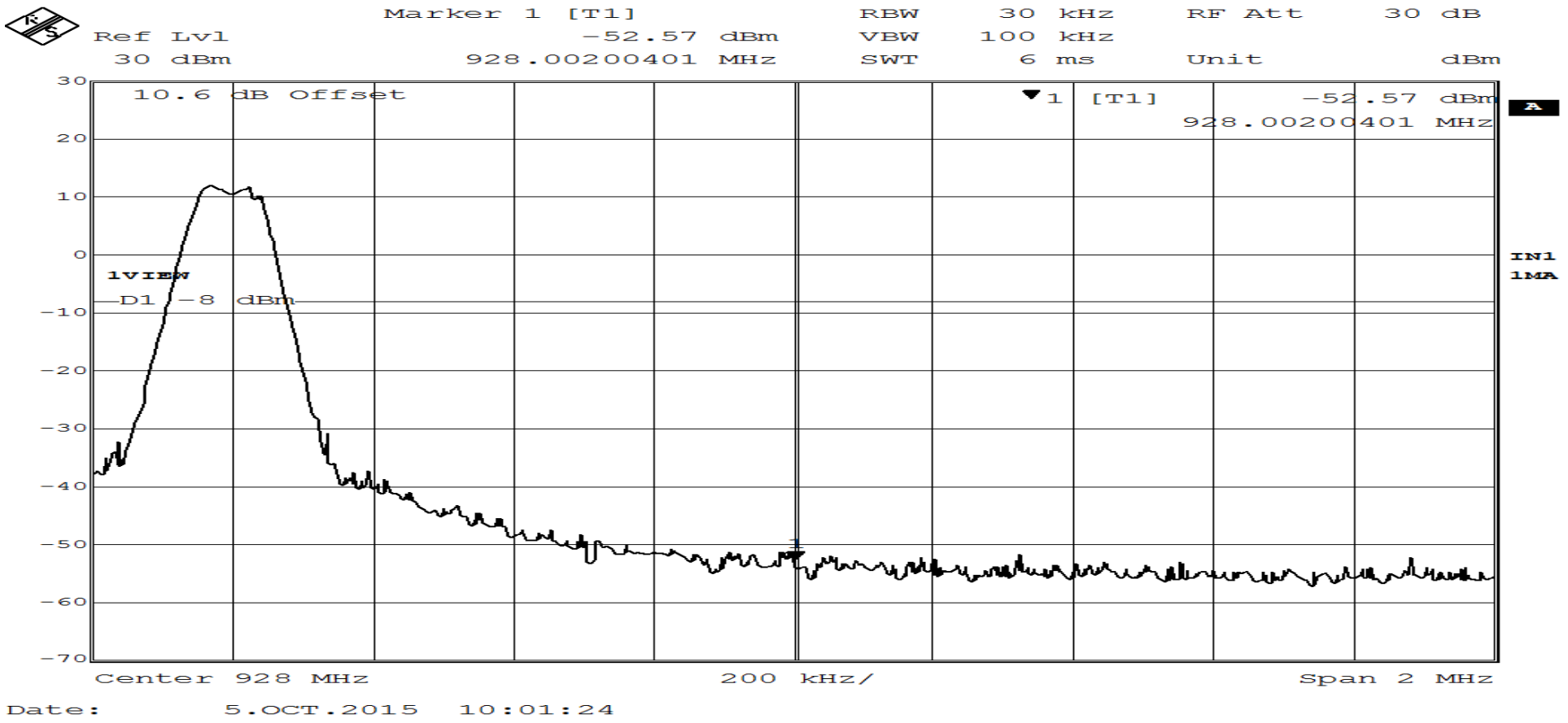
RETLIF TESTING LABORATORIES

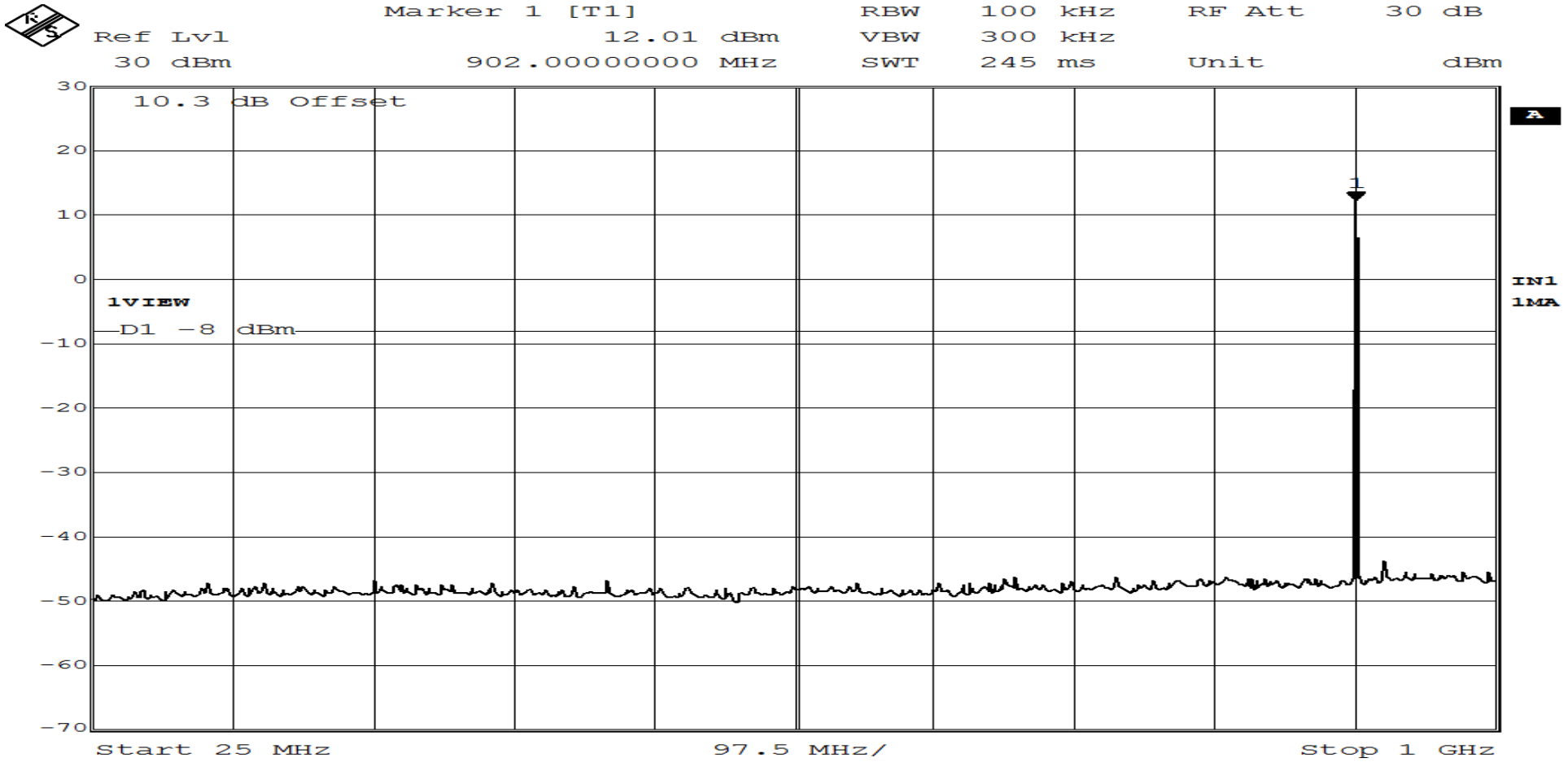
Test Method	Band Edge Emissions Conducted		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting modulated signal		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	Transmit Frequency: 927.3 MHz		



Unwanted Emissions into Non-Restricted Frequency Bands
25 MHz to 10 GHz
Test Data

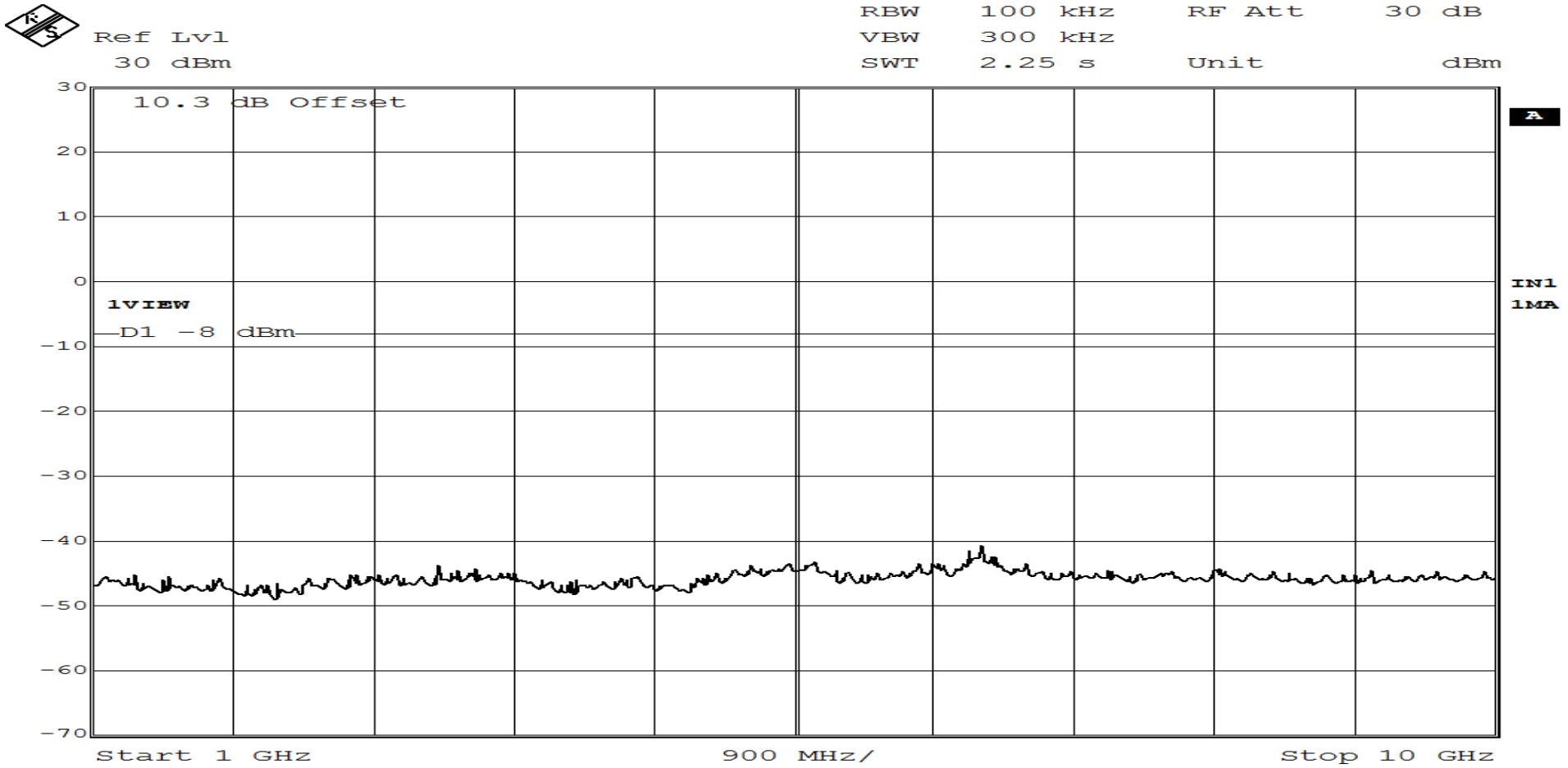
RETLIF TESTING LABORATORIES

Test Method	Unwanted Emissions into Non-Restricted Frequency Bands		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting modulated signal		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	Transmit Frequency: 902.4 MHz **Limit is 20dB down from the Fundamental Frequency Peak Power Output**		



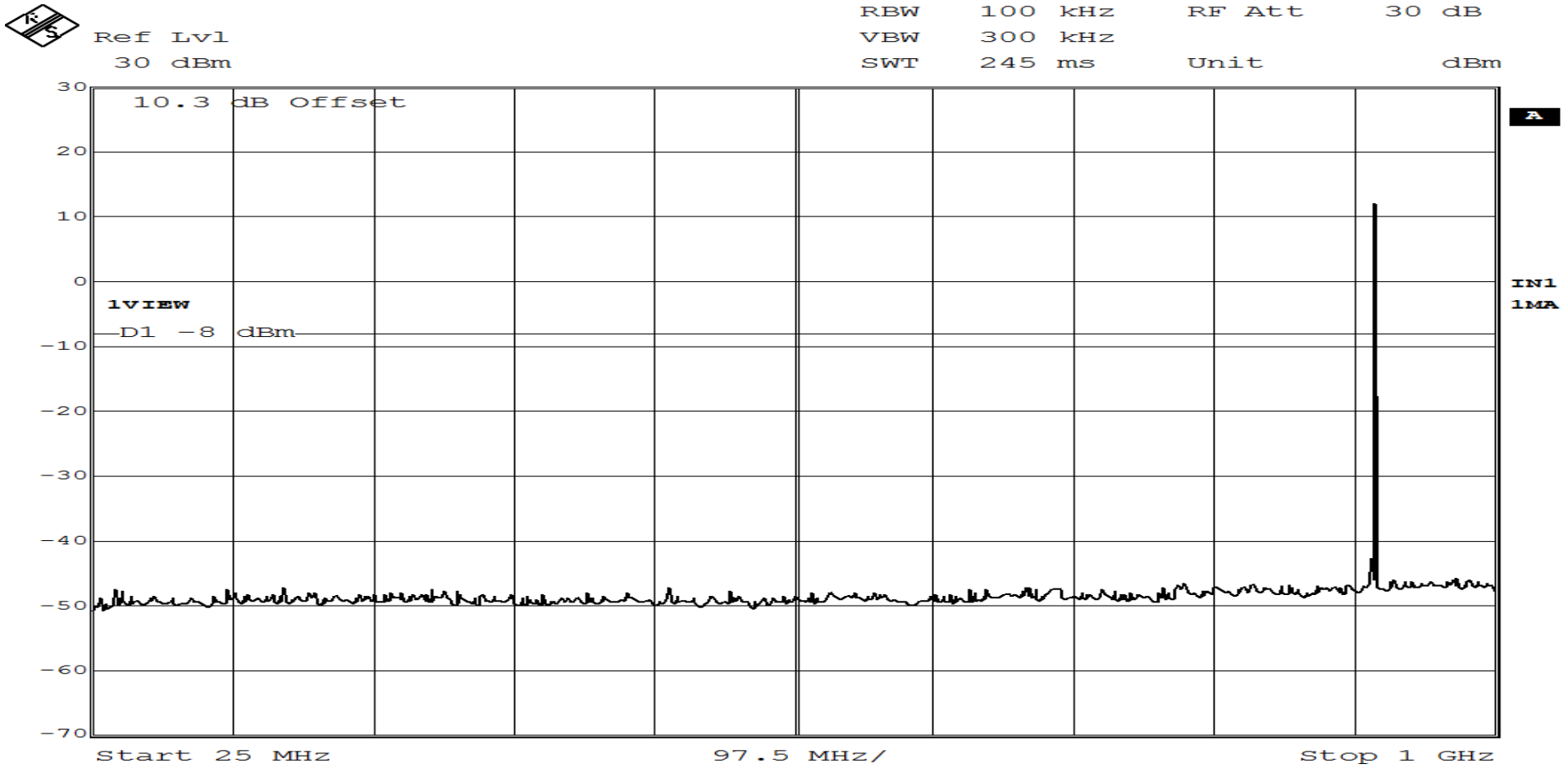
RETLIF TESTING LABORATORIES

Test Method	Unwanted Emissions into Non-Restricted Frequency Bands		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting modulated signal		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	Transmit Frequency: 902.4 MHz **Limit is 20dB down from the Fundamental Frequency Peak Power Output**		



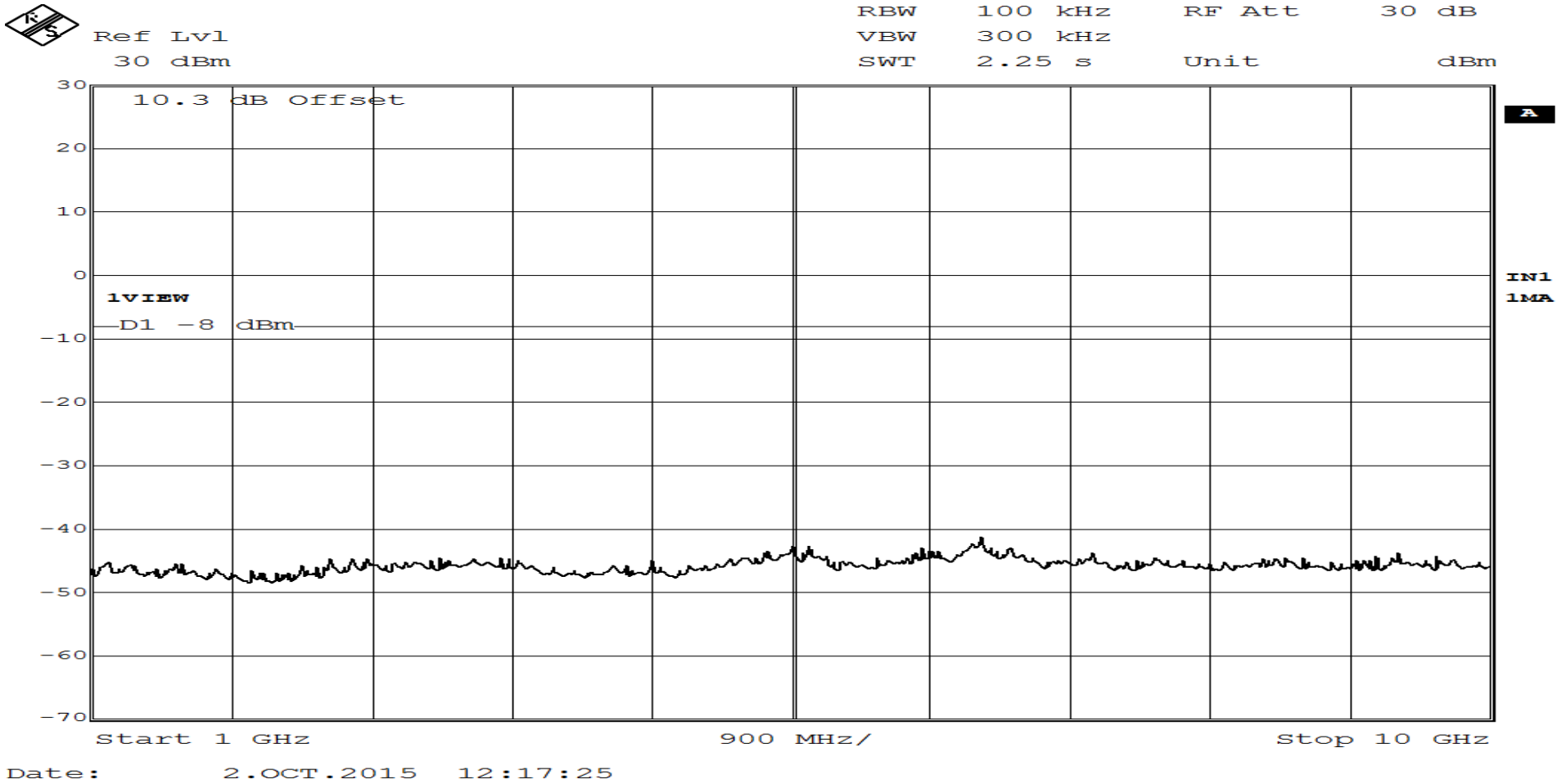
RETLIF TESTING LABORATORIES

Test Method	Unwanted Emissions into Non-Restricted Frequency Bands		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting modulated signal		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	Transmit Frequency: 915 MHz **Limit is 20dB down from the Fundamental Frequency Peak Power Output**		



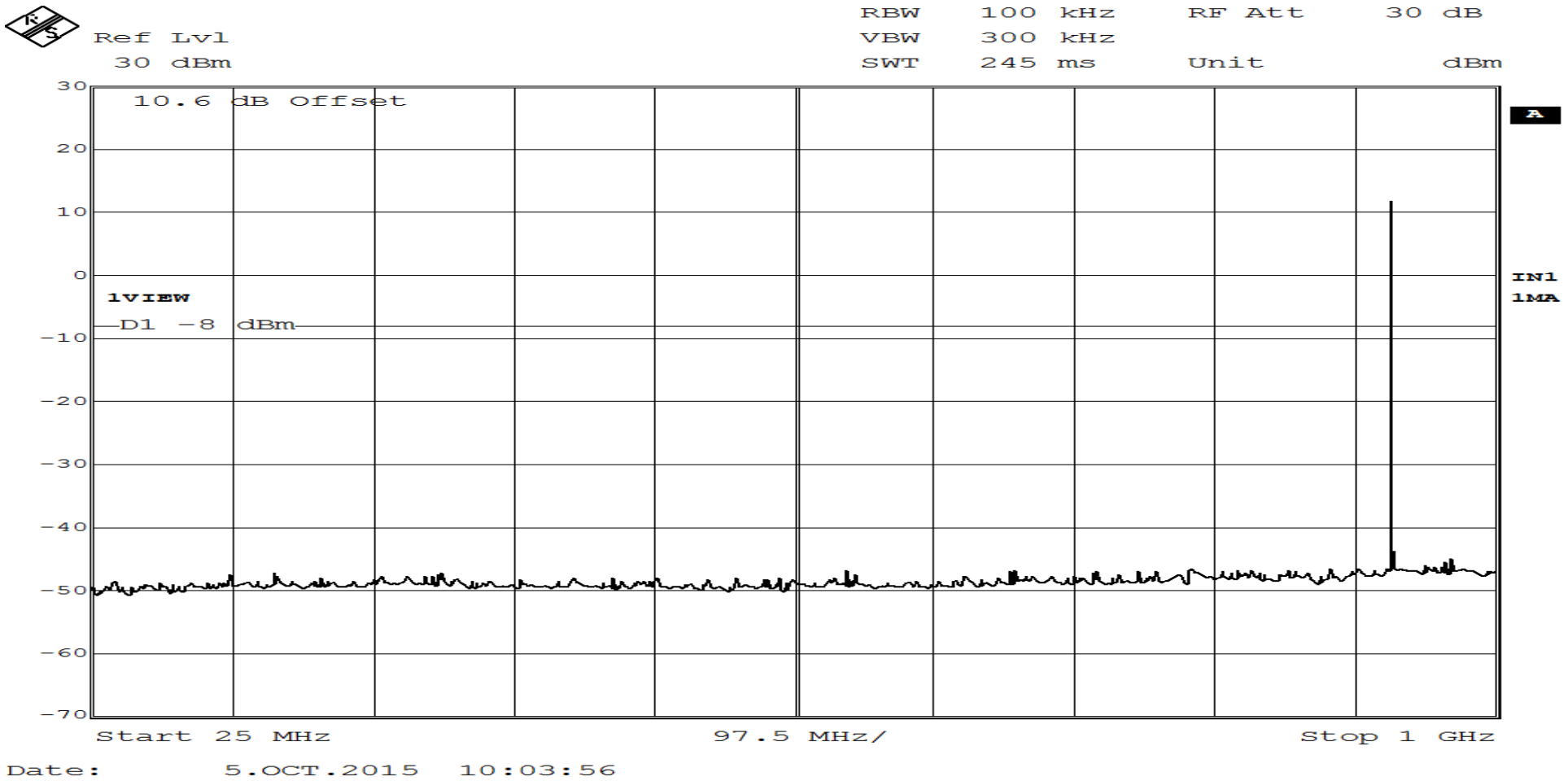
RETLIF TESTING LABORATORIES

Test Method	Unwanted Emissions into Non-Restricted Frequency Bands		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting modulated signal		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	Transmit Frequency: 915 MHz **Limit is 20dB down from the Fundamental Frequency Peak Power Output**		



RETLIF TESTING LABORATORIES

Test Method	Unwanted Emissions into Non-Restricted Frequency Bands		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting modulated signal		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	Transmit Frequency: 927 MHz **Limit is 20dB down from the Fundamental Frequency Peak Power Output**		



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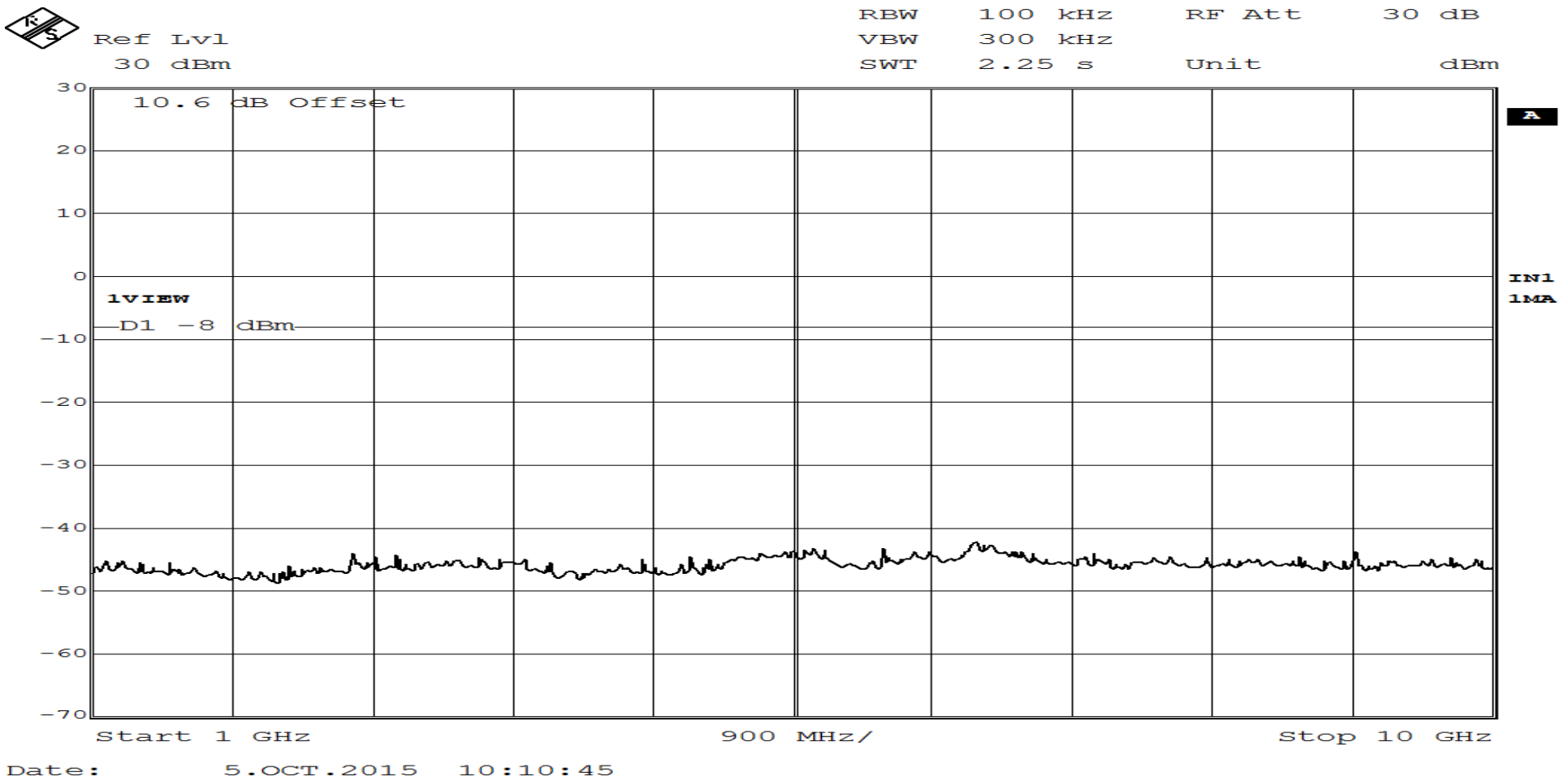
RETLIF TESTING LABORATORIES

Test Method	Unwanted Emissions into Non-Restricted Frequency Bands		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model Number	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Transmitting modulated signal		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	**Date**	October 2nd, 2015
Climatic Conditions	Temp: 20.0 °C Relative Humidity: 42.0 %		
Notes	Transmit Frequency: 927 MHz **Limit is 20dB down from the Fundamental Frequency Peak Power Output**		



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Test Photographs
Field Strength of Spurious Emissions

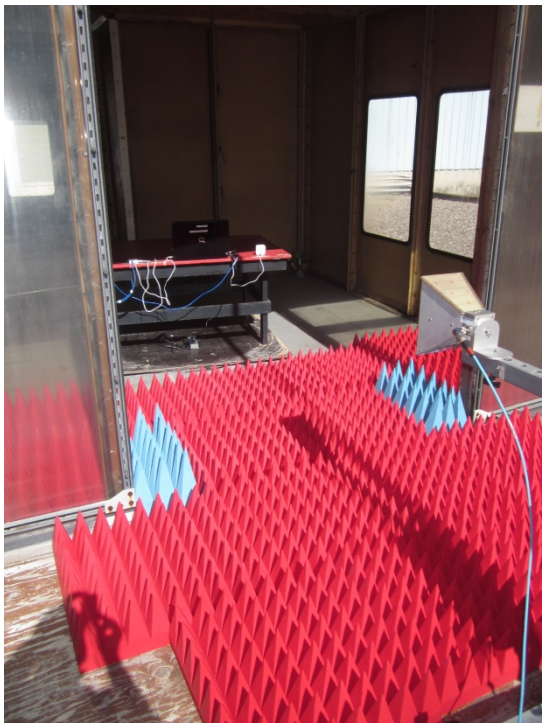
Test Configuration

Test Photographs
Field Strength of Spurious Emissions

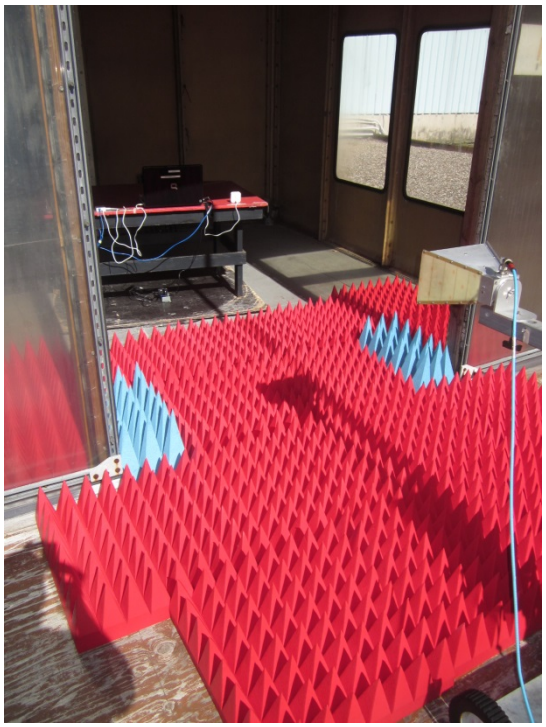
Horizontal Antenna Polarization, 25 MHz – 1 GHz

Vertical Antenna Polarization, 25 MHz – 1 GHz

Test Photographs
Field Strength of Spurious Emissions



Horizontal Antenna Polarization, 1 GHz – 10 GHz



Vertical Antenna Polarization, 1 GHz – 10 GHz

FCC Section 15.247 (a) / 15.209(a)
Field Strength of Spurious Emissions
Test Data

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Immedia Semiconductor	
Job Number	R-6022N-2	
Test Sample	WiFi Connected Home Security Camera	
Model Number	BCM00100U	
Serial Number	100-006-159	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting hopping frequency data	
Technician	M. Seamans	
Date	October 6th, 2015	

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	21.99	14.20	36.19	*		64.49	I
38.25	-	-	-	-			-	100.00
73.00	-	-	-	-			-	100.00
|	74.00	17.88	8.36	26.24	*		20.51	I
74.60	-	-	-	-			-	100.00
74.80	-	-	-	-			-	100.00
|	75.00	17.14	8.36	25.50	*		18.84	|
75.20	-	-	-	-			-	100.00
108.00	-	-	-	-			-	150.00
|	111.60	18.65	10.02	28.67			27.13	|
|	114.20	24.29	9.86	34.15			50.99	|
121.94	-	-	-	-			-	150.00
123.00	-	-	-	-			-	150.00
|	123.30	13.29	9.44	22.73			13.69	|
|	125.60	19.34	9.40	28.74			27.35	|
138.00	-	-	-	-			-	150.00

EUT emissions observed throughout the given frequency spectrum were recorded and evaluated. Emission levels closest to the limit are listed on this data sheet. * This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity (Noise Floor).

Data Sheet 1 of 7

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET		
Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Immedia Semiconductor	
Job Number	R-6022N-2	
Test Sample	WiFi Connected Home Security Camera	
Model Number	BCM00100U	
Serial Number	100-006-159	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting hopping frequency data	
Technician	M. Seamans	
Date	October 6th, 2015	

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	13.66	11.17	24.83	*		17.44	|
150.05	-	-	-	-			-	150.00
156.52	-	-	-	-			-	150.00
|	156.52	8.88	12.08	20.96	*		11.17	|
156.52	-	-	-	-			-	150.00
156.70	-	-	-	-			-	150.00
|	156.80	6.31	12.12	18.43	*		8.35	|
156.90	-	-	-	-			-	150.00
162.01	-	-	-	-			-	150.00
|	165.00	9.21	12.68	21.89	*		12.43	|
167.17	-	-	-	-			-	150.00
167.72	-	-	-	-			-	150.00
|	170.00	9.50	12.80	22.30	*		13.03	|
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 7

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET		
Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Immedia Semiconductor	
Job Number	R-6022N-2	
Test Sample	WiFi Connected Home Security Camera	
Model Number	BCM00100U	
Serial Number	100-006-159	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting hopping frequency data	
Technician	M. Seamans	
Date	October 6th, 2015	

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
|	266.70	15.35	16.85	32.20			40.74	|
285.00	-	-	-	-			-	200.00
322.80	-	-	-	-			-	200.00
|	330.00	3.41	18.91	22.32	*		13.06	|
335.40	-	-	-	-			-	200.00
399.90	-	-	-	-			-	200.00
|	405.00	3.40	21.49	24.89	*		17.56	|
410.00	-	-	-	-			-	200.00
608.00	-	-	-	-			-	200.00
|	611.00	0.54	27.34	27.88	*		24.77	|
614.00	-	-	-	-			-	200.00
960.00	-	-	-	-			-	500.00
|	975.00	1.33	32.10	33.43	*		46.94	|
1240.00	-	-	-	-			-	500.00
1300.00	-	-	-	-			-	500.00
|	1350.00	32.8	-9.50	23.30	*		14.62	|
1427.00	-	-	-	-			-	500.00

EUT emissions observed throughout the given frequency spectrum were recorded and evaluated. Emission levels closest to the limit are listed on this data sheet. * This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity (Noise Floor).

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET		
Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Immedia Semiconductor	
Job Number	R-6022N-2	
Test Sample	WiFi Connected Home Security Camera	
Model Number	BCM00100U	
Serial Number	100-006-159	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting hopping frequency data	
Technician	M. Seamans	
Date	October 6th, 2015	

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	36.73	-9.4	27.33	*		23.25	|
1646.50	-	-	-	-			-	500.00
1660.00	-	-	-	-			-	500.00
|	1680.00	31.71	-9.04	22.67	*		13.59	|
1710.00	-	-	-	-			-	500.00
1718.80	-	-	-	-			-	500.00
|	1720.00	31.46	-8.64	22.82	*		13.83	|
1722.20	-	-	-	-			-	500.00
2200.00	-	-	-	-			-	500.00
|	2250.00	31.79	-6.76	25.03	*		17.84	|
2300.00	-	-	-	-			-	500.00
2310.00	-	-	-	-			-	500.00
|	2360.00	30.93	-6.51	24.42	*		16.63	|
2390.00	-	-	-	-			-	500.00
2483.50	-	-	-	-			-	500.00
|	2490.00	32.19	-6.11	26.08	*		20.13	|
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).

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Immedia Semiconductor	
Job Number	R-6022N-2	
Test Sample	WiFi Connected Home Security Camera	
Model Number	BCM00100U	
Serial Number	100-006-159	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting hopping frequency data	
Technician	M. Seamans	
Date	October 6th, 2015	

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	36.42	-5.4	31.02			35.56	|
|	2745.00	36.91	-5.4	31.51			37.62	|
|	2781.00	37.15	-5.4	31.51			38.68	|
2900.00	-	-	-	-			-	500.00
3260.00	-	-	-	-			-	500.00
|	3263.00	29.93	-3.4	26.53	*		21.20	|
3267.00	-	-	-	-			-	500.00
3332.00	-	-	-	-			-	500.00
|	3336.00	30.58	-3.1	27.48	*		23.65	|
3339.00	-	-	-	-			-	500.00
3345.00	-	-	-	-			-	500.00
|	3350.00	30.1	-3.1	27.00	*		22.38	|
3358.00	-	-	-	-			-	500.00
3600.00	-	-	-	-			-	500.00
|	3608.00	38.19	-2.4	35.79			61.58	|
|	3660.00	37.90	-2.4	35.50			59.56	|
|	3708.00	37.50	-2.4	35.10			56.88	|

EUT emissions observed throughout the given frequency spectrum were recorded and evaluated. Emission levels closest to the limit are listed on this data sheet. * This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity (Noise Floor).

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Immedia Semiconductor	
Job Number	R-6022N-2	
Test Sample	WiFi Connected Home Security Camera	
Model Number	BCM00100U	
Serial Number	100-006-159	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting hopping frequency data	
Technician	M. Seamans	
Date	October 6th, 2015	

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
|	3800.00	29.29	-0.74	28.55	*		26.76	|
4400.00	-	-	-	-			-	500.00
4500.00	-	-	-	-			-	500.00
|	4510.00	40.17	-1.16	39.01			89.22	|
|	4575.00	39.85	-1.16	38.69			86.00	|
|	4635.00	40.16	-0.91	39.25			91.72	|
|	4900.00	29.47	-0.48	28.99	*		28.15	|
5150.00	-	-	-	-			-	500.00
5350.00	-	-	-	-			-	500.00
|	5400.00	28.45	0.89	29.34	*		29.32	|
5460.00	-	-	-	-			-	500.00
7250.00	-	-	-	-			-	500.00
|	7500.00	30.58	2.87	33.45	*		47.04	|
7750.00	-	-	-	-			-	500.00
8025.00	-	-	-	-			-	500.00
|	8118.00	30.89	3.20	34.09	*		50.64	|
|	8235.00	30.56	3.30	33.86	*		49.31	|
|	8250.00	30.35	3.50	33.90	*		49.54	|
|	8343.00	30.30	3.30	33.60	*		47.86	|
8500.00	-	-	-	-			-	500.00

EUT emissions observed throughout the given frequency spectrum were recorded and evaluated. Emission levels closest to the limit are listed on this data sheet. * This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity (Noise Floor).

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET		
Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Immedia Semiconductor	
Job Number	R-6022N-2	
Test Sample	WiFi Connected Home Security Camera	
Model Number	BCM00100U	
Serial Number	100-006-159	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting hopping frequency data	
Technician	M. Seamans	
Date	October 6th, 2015	

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

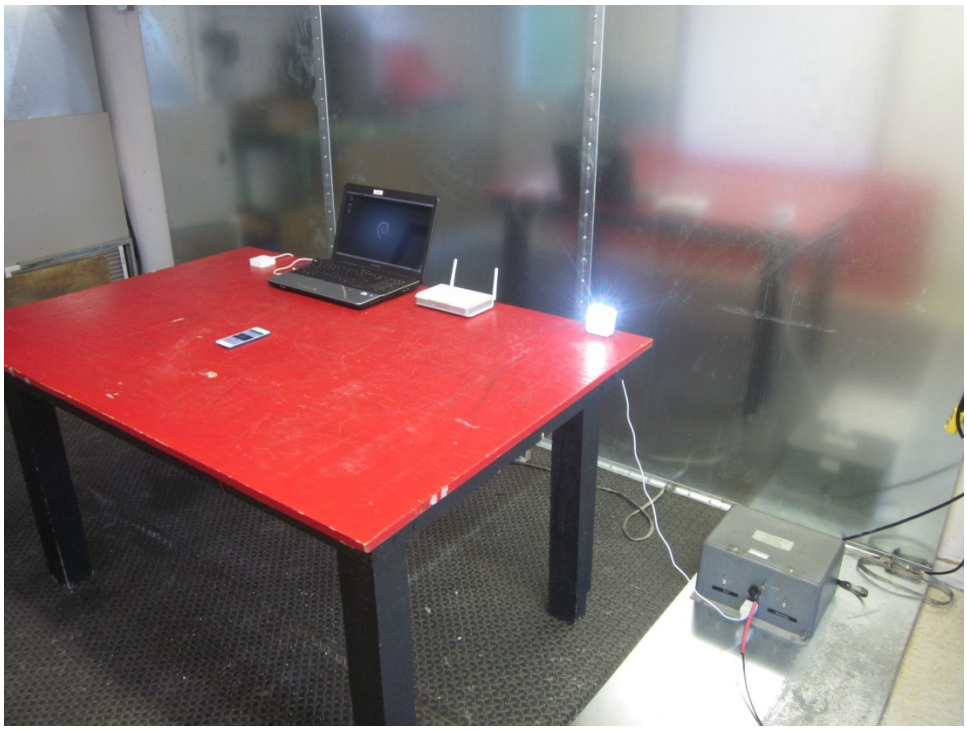
TEST PARAMETERS

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	31.02	4.72	35.74	*		61.23	|
9200.00	-	-	-	-			-	500.00
9300.00	-	-	-	-			-	500.00
|	9400.00	31.21	4.56	35.77	*		61.44	|
9500.00	-	-	-	-			-	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).

Test Photographs
AC Line Conducted Emissions

Test Configuration

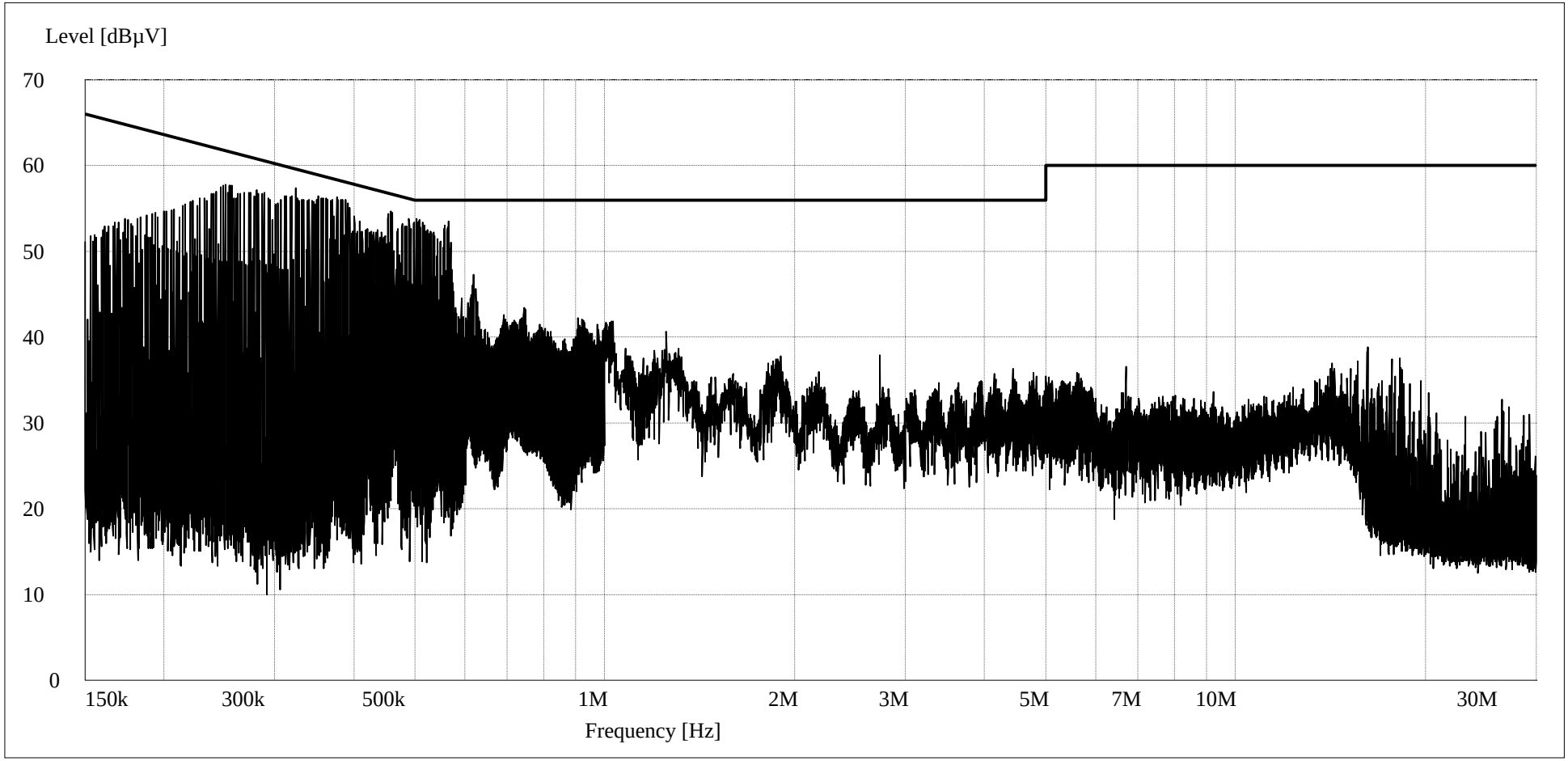


Test Setup

FCC Section 15.207 (a)
AC Line Conducted Emissions
Test Data

RETLIF TESTING LABORATORIES

Test Method	Conducted Emissions 150 kHz to 30 MHz		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model No.	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Live streaming video to iPod		
Test Specification	FCC Part 15. 207(a)		
Technician	M. Seamans	**Date**	October 6th, 2015
Climatic Conditions	Temp: 21.0 °C Relative Humidity: 40.0 %		
Lead Tested	120 VAC 60 Hz Hot Peak Readings to Quasi-Peak Limits.		



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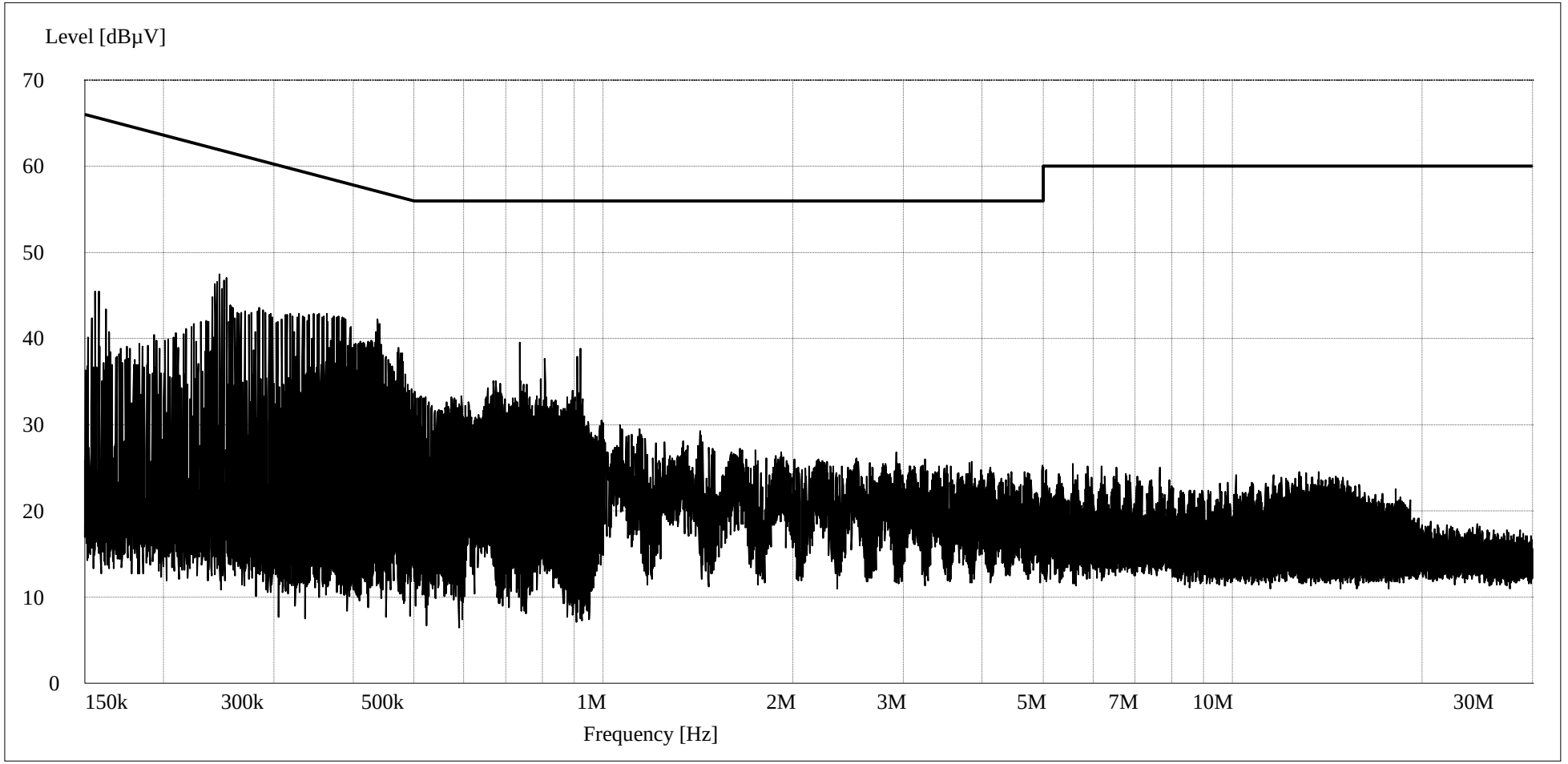
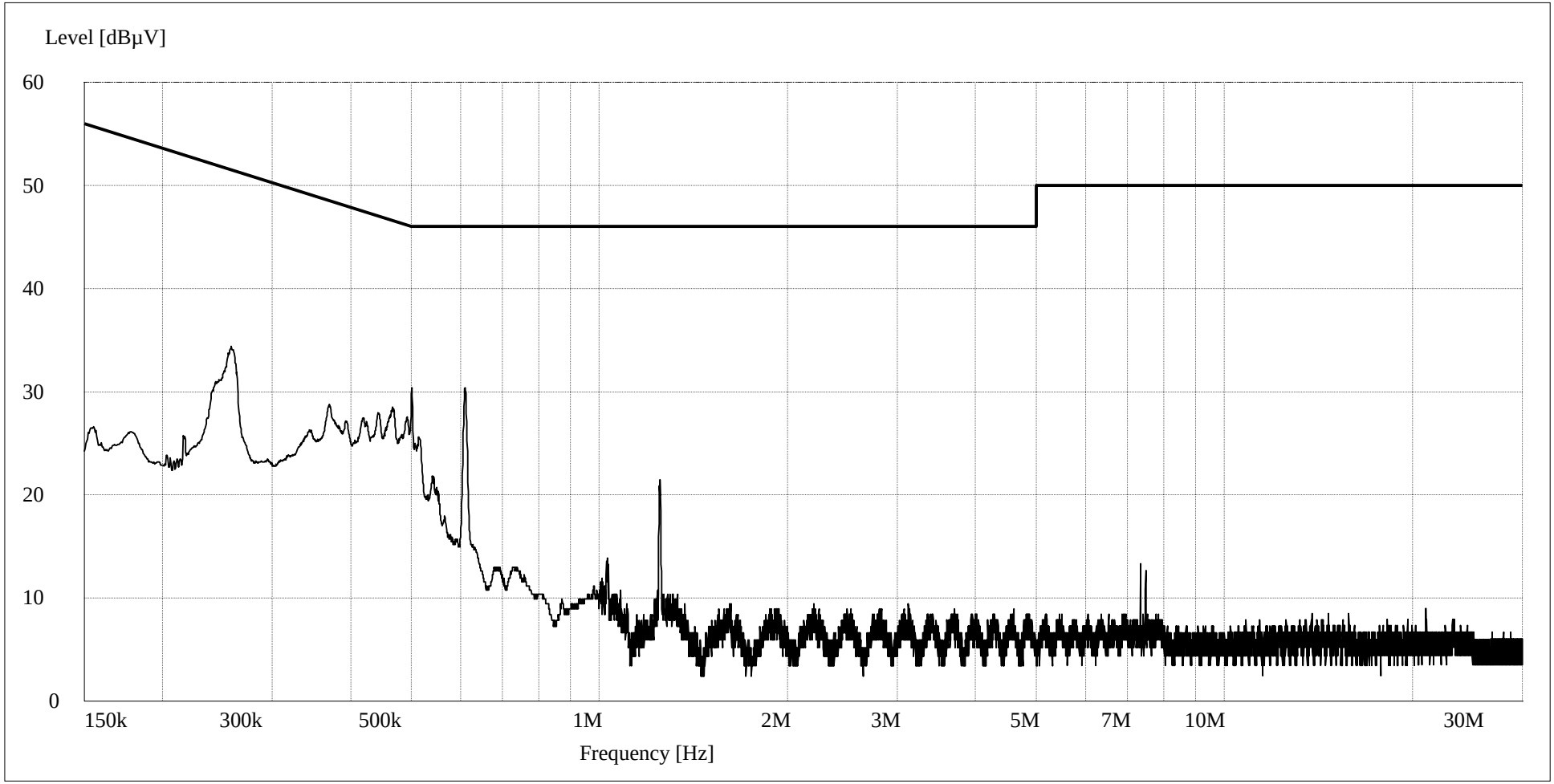
RETLIF TESTING LABORATORIES

Test Method	Conducted Emissions 150 kHz to 30 MHz		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model No.	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Live streaming video to iPod		
Test Specification	FCC Part 15. 207(a)		
Technician	M. Seamans	**Date**	October 6th, 2015
Climatic Conditions	Temp: 21.0 °C Relative Humidity: 40.0 %		
Lead Tested	120 VAC 60 Hz Neutral Peak Readings to Quasi-Peak Limits.		



RETLIF TESTING LABORATORIES

Test Method	Conducted Emissions 150 kHz to 30 MHz		
Customer	Immedia Semiconductor	**Job No.**	R-6022N-2
Test Sample	WiFi Connected Home Security Camera		
Model No.	BCM00100U	**Serial No.**	100-006-159
Operating Mode	Live streaming video to iPod		
Test Specification	FCC Part 15. 207(a)		
Technician	M. Seamans	**Date**	October 6th, 2015
Climatic Conditions	Temp: 21.0 °C Relative Humidity: 40.0 %		
Lead Tested	120 VAC 60 Hz Hot Average Readings to Average Limits.		



RETLIF TESTING LABORATORIES

Test Method	Conducted Emissions 150 kHz to 30 MHz		
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Technician	M. Seamans	**Date**	October 6th, 2015
Climatic Conditions	Temp: 21.0 °C Relative Humidity: 40.0 %		
Lead Tested	120 VAC 60 Hz Neutral Average Readings to Average Limits.