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FCC Part 15, Subpart C, Section 15.247

Test Report

On

200 Series Radio Module
FCC ID: XJQMSLINK0006

Customer Name:	Lord Corporation
Customer P.O:	702539
Date of Report:	September 14, 2017
Test Report No:	R-6220N-1
Test Start Date:	June 14, 2017
Test Finish Date:	August 3, 2017
Test Technician:	M. Seamans
Report Approved By:	T. Hannemann
Report Prepared By:	J. Ramsey

Technical Information

Report Number:	R-6220N-1
Customer:	Lord Corporation
Address:	459 Hurricane Lane, Suite 102
	Williston, VT 05495
Manufacturer:	Lord Corporation
Manufacturer Address:	459 Hurricane Lane, Suite 102
	Williston, VT 05495
Test Sample:	200 Series Radio Module
Model Number:	3022-0017
Serial Numbers:	6307-2040-00086, 6307-2140-00075
FCC ID:	XJQMSLINK0006
Type:	Digital Transmission – Direct Sequence Spread Spectrum Transmitter
Power Requirements:	5.0 VDC
Frequency of Operation:	2402.0 to 2480.0 MHz
Equipment Class:	DTS
Antenna Type:	Internal Chip Antenna 1.5 dBi Gain
Equipment Use:	Wireless Data Module

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 Designation Number: US5327

Table 1 – Tests Performed

FCC Part 15, Subpart C	Test Method
15.247(b)(3)	Power Output
15.247(a)(2)	Occupied Bandwidth
15.247(d)	Antenna Terminal Out of Band/Band Edge Conducted Emissions
15.247(d)	Out of Band/Band Edge Radiated Emissions
15.247(e)	Power Density
15.207(a)	AC Conducted Emissions

EUT Operation:
The EUT was transmitting a modulating signal at 2.405 GHz Channel 11, 2.440 GHz Channel 18 and 2.480 GHz Channel 26.

EUT Description:
The EUT is a 2.4 GHz Wireless Module for use in Gateway and Sensor Node products.

All equipment that was utilized to achieve the EUT operating state is specified in the table below:

Table 2 – Support Equipment

Description	Manufacturer	Model Number	Serial Number
Host PC	Gateway	NE56R52U	NXY1UAA045348509F63400
AC Adapter for Host PC	Liteon	PA-1650-86	KP0650301034305096PE02

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
-	September 14, 2017	Original Release

Requirements and Test Results

FCC Section 15.247 (a)(2) – Bandwidth
For systems using digital modulation techniques operating in the 902-928 MHz, 2400-2483.5 MHz, and 5725 – 5850 MHz bands the minimum 6 dB bandwidth shall be at least 500 kHz.

- **Results**:
  The minimum 6dB bandwidth measured while transmitting was 2.24 MHz. The device was found to meet the requirement of 15.247 (a)(2).

FCC Section 15.247 (b)(3) - Power Output
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 antennas 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 antennas 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 when transmitting was 41.40 mW. The maximum antenna gain of the 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)

FCC Section 15.247(d) – Unwanted Emissions

Antenna Terminal Out of Band/Band Edge Conducted 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**:
  All measured out of band/band edge conducted emissions were below the specified limits and the device was found to meet the requirements of 15.247 (d).

FCC Section 15.247(d) – Unwanted Emissions

Radiated Spurious Emissions/Restricted Bands/Band Edge
Emissions which fall into restricted bands, as defined in 15.205(a) must comply with the radiated emissions limits specified in 15.209(a) and shown below in Table 3. Emissions emanating from the EUT cabinet and cables must also comply with the radiated emissions limits. Radiated emissions measurements were also performed at the band edges to ensure band edge compliance.

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**:
  All spurious emissions were measured and found to be in compliance with the limits specified in 15.209(a). Band edge emissions were also found to be in compliance with the limits specified in 15.209(a).

Requirements and Test Results (con't)

FCC Section 15.247(e) – Power Spectral Density

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.

FCC 15.207(a) – AC Conducted Emissions

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 as measured on the 120 VAC host computer AC Power port did not exceed the limits specified in Table 4.

Requirements and Test Results (con't)

Field Strength Calculation/Conversion:

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

CR = MR + CF

Where:
CR = Corrected Reading in dBµV/m
MR = Uncorrected Meter Reading in dBµV
CF = Correction Factor in dB (Antenna Factor, Pre-amp + Cable Loss)

Example:

MR = 15.35 dBµV
CF = 16.85 dB
CR = 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

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 = 41.40 mW

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

$$1.0 \text{ mW/cmsq} = \frac{41.4x1.41}{4x(3.14)xD\text{^}2} = \frac{58.48}{12.56xD\text{^}2}$$

$$D\text{^}2 = \frac{58.48}{12.56x1.0}$$

$$D = \sqrt{4.65} = 2.16 \text{ cm}$$

Equipment List

FCC Section 15.247(a)(2)
Occupied Bandwidth

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	10/21/2016	10/31/2017
5135	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB, DC - 12.4 GHz	757C-10	11/23/2016	11/30/2017
5229	FLORIDA RS TECHNOLOGY	CABLE, COAXIAL	DC - 40 GHz	FLRST-2.92 (102ö)	2/8/2017	10/31/2017

FCC Section 15.247 (d)
Band Edge Conducted Emissions

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	10/21/2016	10/31/2017
5135	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB, DC - 12.4 GHz	757C-10	11/23/2016	11/30/2017
5229	FLORIDA RS TECHNOLOGY	CABLE, COAXIAL	DC - 40 GHz	FLRST-2.92 (102ö)	2/8/2017	10/31/2017

FCC Section 15.247(b)(3)
Power Output

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	10/21/2016	10/31/2017
5135	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB, DC - 12.4 GHz	757C-10	11/23/2016	11/30/2017
5229	FLORIDA RS TECHNOLOGY	CABLE, COAXIAL	DC - 40 GHz	FLRST-2.92 (102ö)	2/8/2017	10/31/2017

FCC Section 15.247 (d)
Out of Band/Band Edge Radiated Emissions

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
1232	AGILENT / HP	PRE-AMPLIFIER	1 - 26.5 GHz	8449B	5/23/2017	5/31/2018
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
443	ELECTRO-METRICS	ANTENNA, LOG PERIODIC	200 MHz - 1000 MHz	LPA-25	10/6/2016	4/30/2018
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	10/21/2016	10/31/2017
5135	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB, DC - 12.4 GHz	757C-10	11/23/2016	11/30/2017
5179C	MICRO-COAX	CABLE, COAXIAL	10 kHz - 18 GHz	UFB311A-1-072050U50U	10/7/2016	10/31/2017
5179D	MICRO-COAX	CABLE, COAXIAL	10 kHz - 18 GHz	UFB311A-1-240050U50U	10/7/2016	10/31/2017
5188	Cybertron	COMPUTER, CONTROL	N/A	TSVQJA2221	No Calibration Required	

FCC Section 15.247(e)
Power Density

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	10/21/2016	10/31/2017
5135	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB, DC - 12.4 GHz	757C-10	11/23/2016	11/30/2017
5229	FLORIDA RS TECHNOLOGY	CABLE, COAXIAL	DC - 40 GHz	FLRST-2.92 (102ö)	2/8/2017	10/31/2017

FCC Section 15.207(a)
AC Conducted Emissions

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
5030B	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB, DC - 12.4 GHz	757C-10	3/7/2017	3/31/2018
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	4/4/2017	4/30/2018
5210	SOLAR ELECTRONICS	LISN 50 uH,	150 kHz - 30 MHz	21106-50-BP-25-BNC	4/4/2017	4/30/2018

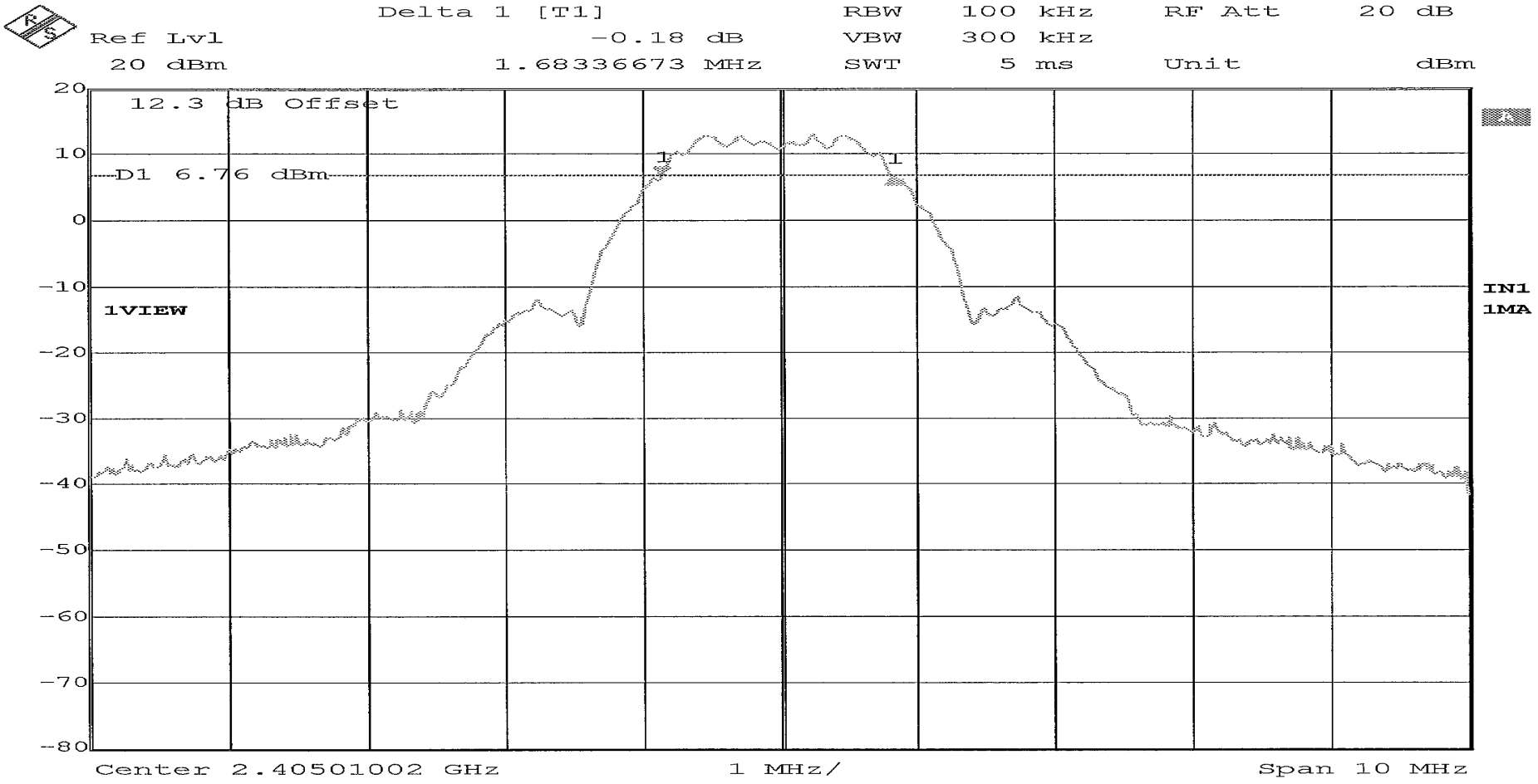
Test Photographs
Occupied Bandwidth

Test Setup

FCC Section 15.247(a)(2)
Occupied Bandwidth
Test Data

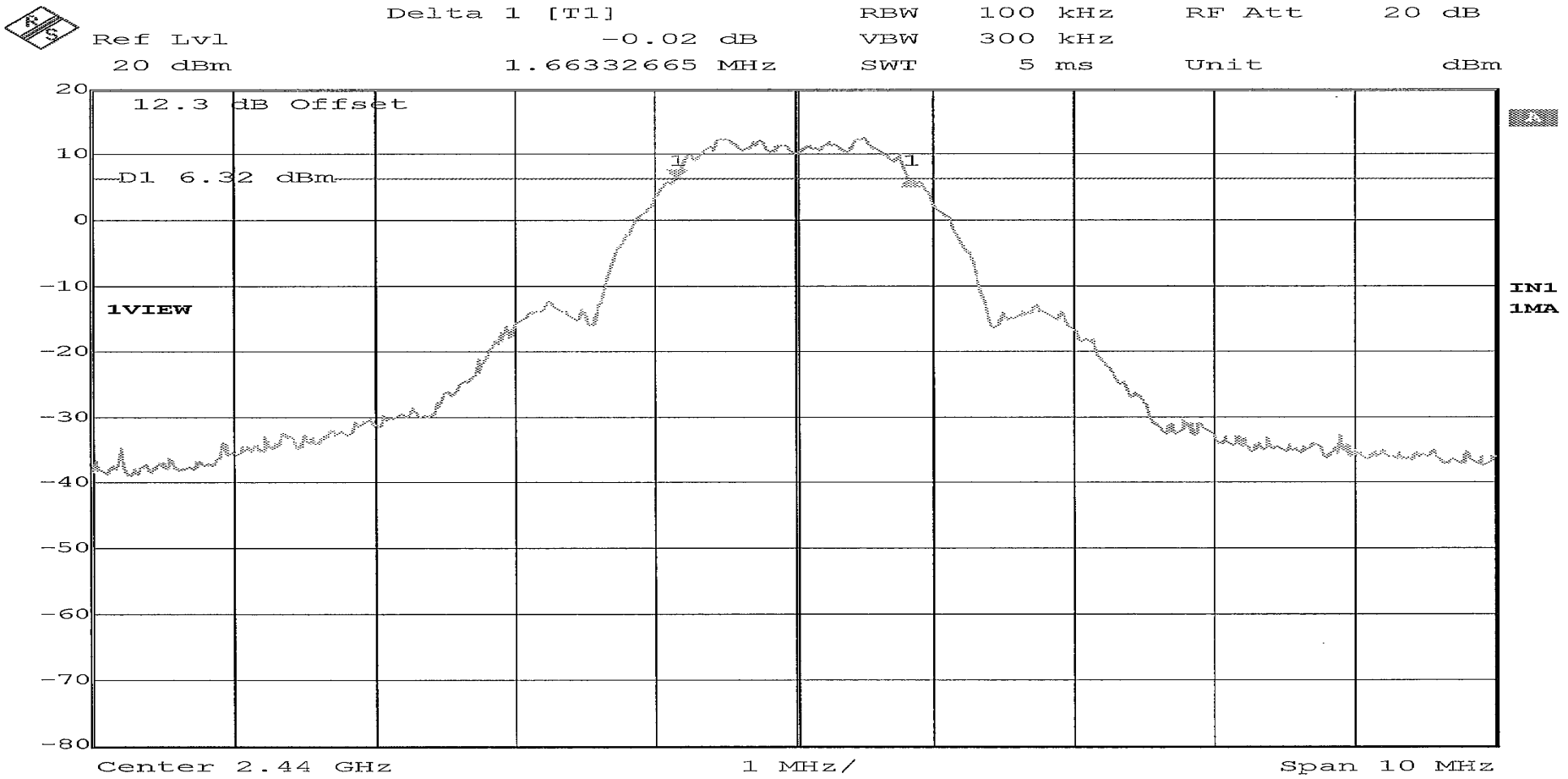
RETLIF TESTING LABORATORIES

Test Method:	6dB Bandwidth		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(DSSS) signal at 2.405 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(2)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 22.8 °C Relative Humidity: 55.0 %		
Notes	Occupied Bandwidth: 1.683 MHz		



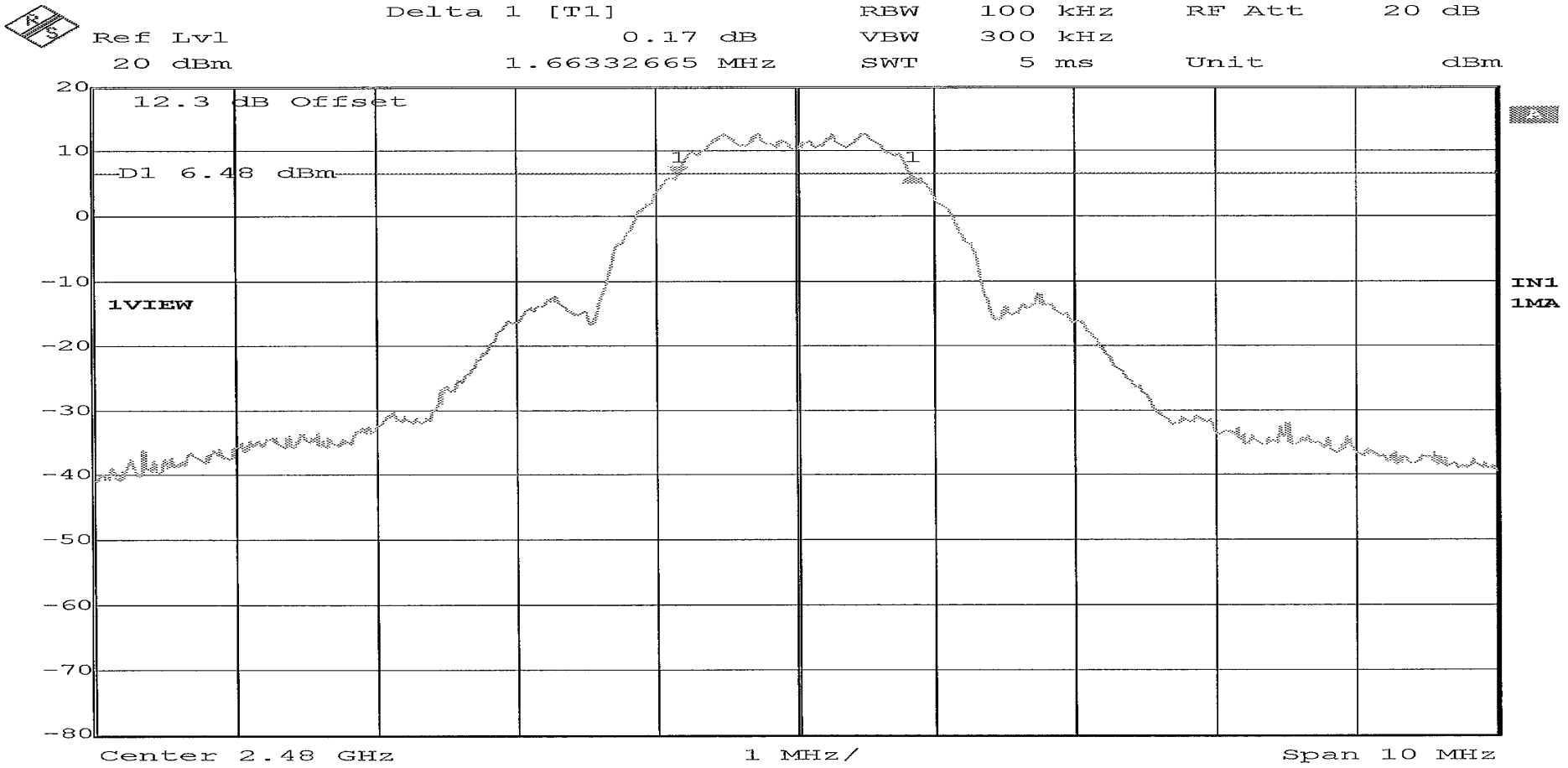
RETLIF TESTING LABORATORIES

Test Method:	6dB Bandwidth		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(DSSS) signal at 2.440 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(2)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 22.8 °C Relative Humidity: 55.0 %		
Notes	Occupied Bandwidth: 1.663 MHz		



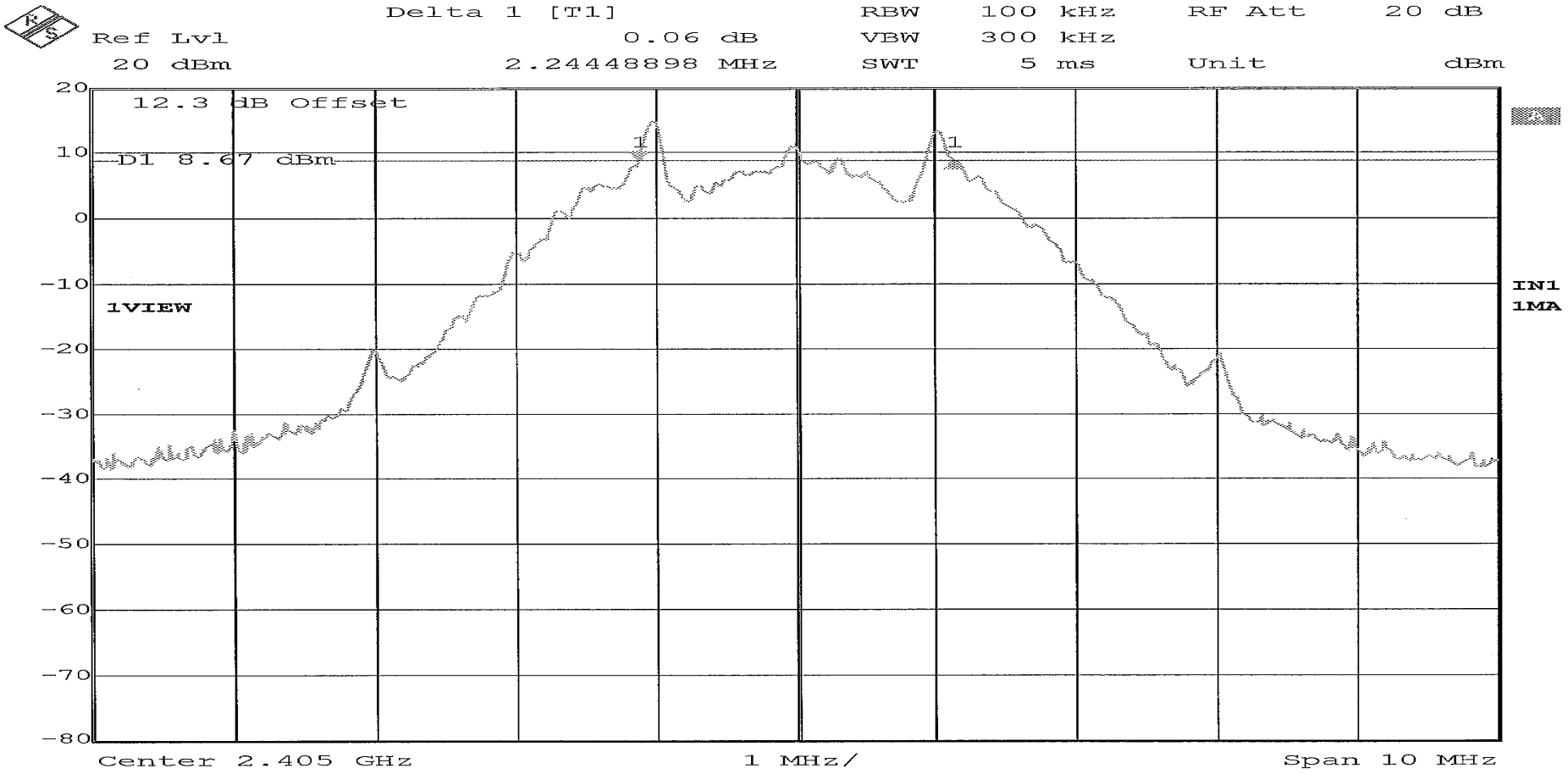
RETLIF TESTING LABORATORIES

Test Method:	6dB Bandwidth		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(DSSS) signal at 2.480 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(2)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 22.8 °C Relative Humidity: 55.0 %		
Notes	Occupied Bandwidth: 1.663 MHz		



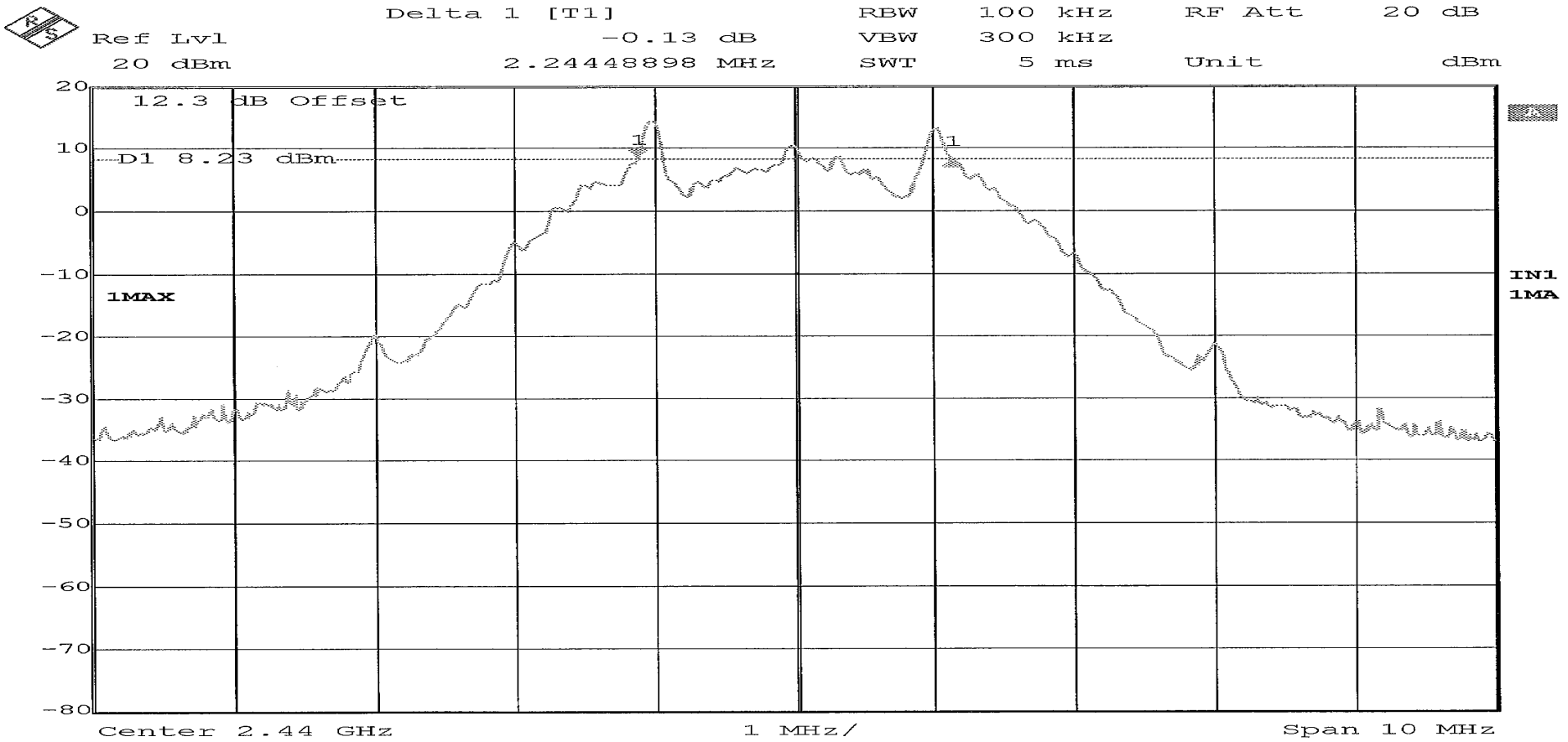
RETLIF TESTING LABORATORIES

Test Method:	6dB Bandwidth		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(LXRS+) signal at 2.405 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(2)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 22.8 °C Relative Humidity: 55.0 %		
Notes	Occupied Bandwidth: 2.244 MHz		



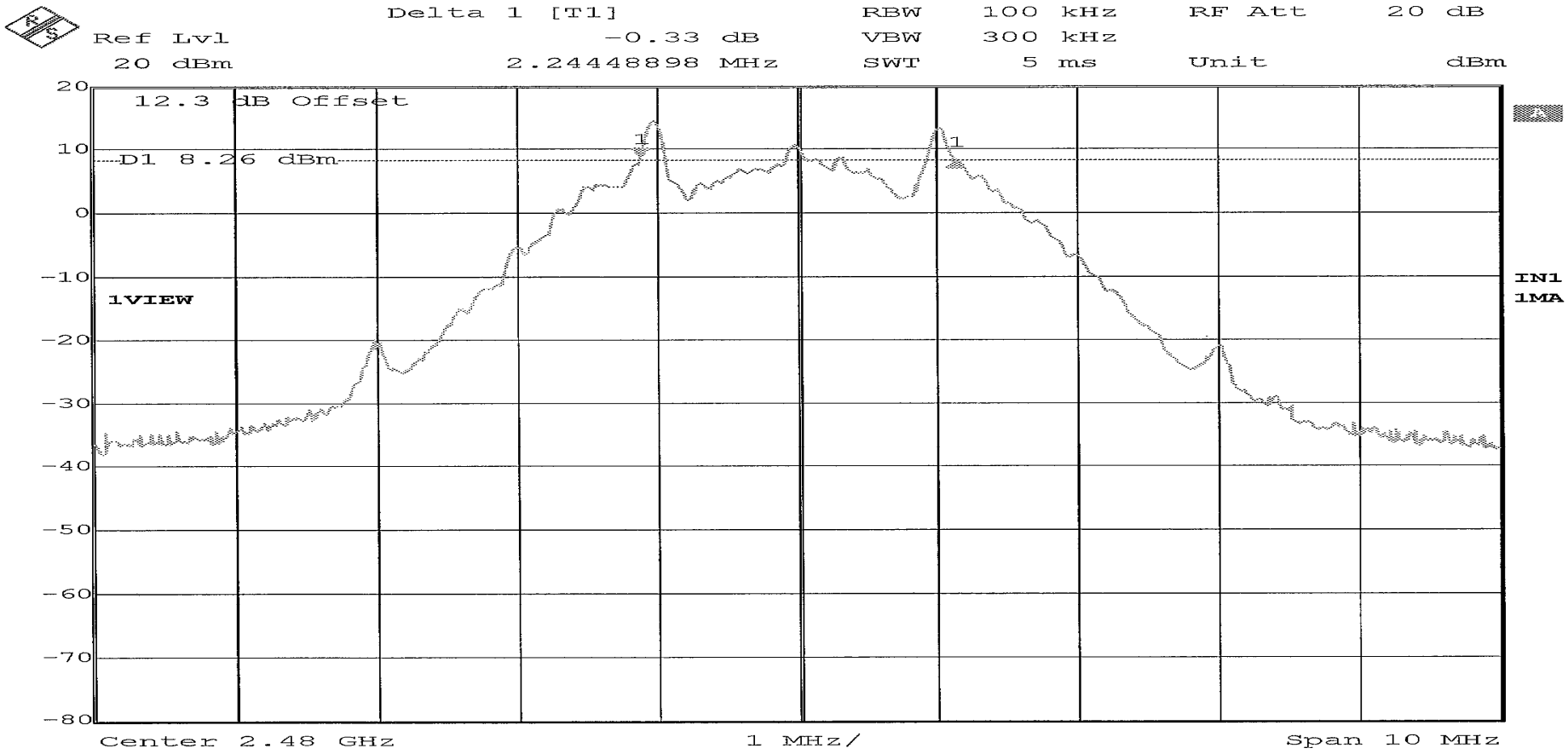
RETLIF TESTING LABORATORIES

Test Method:	6dB Bandwidth		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(LXRS+) signal at 2.440 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(2)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 22.8 °C Relative Humidity: 55.0 %		
Notes	Occupied Bandwidth: 2.244 MHz		



RETLIF TESTING LABORATORIES

Test Method:	6dB Bandwidth		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(LXRS+) signal at 2.480 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(2)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 22.8 °C Relative Humidity: 55.0 %		
Notes	Occupied Bandwidth: 2.244 MHz		



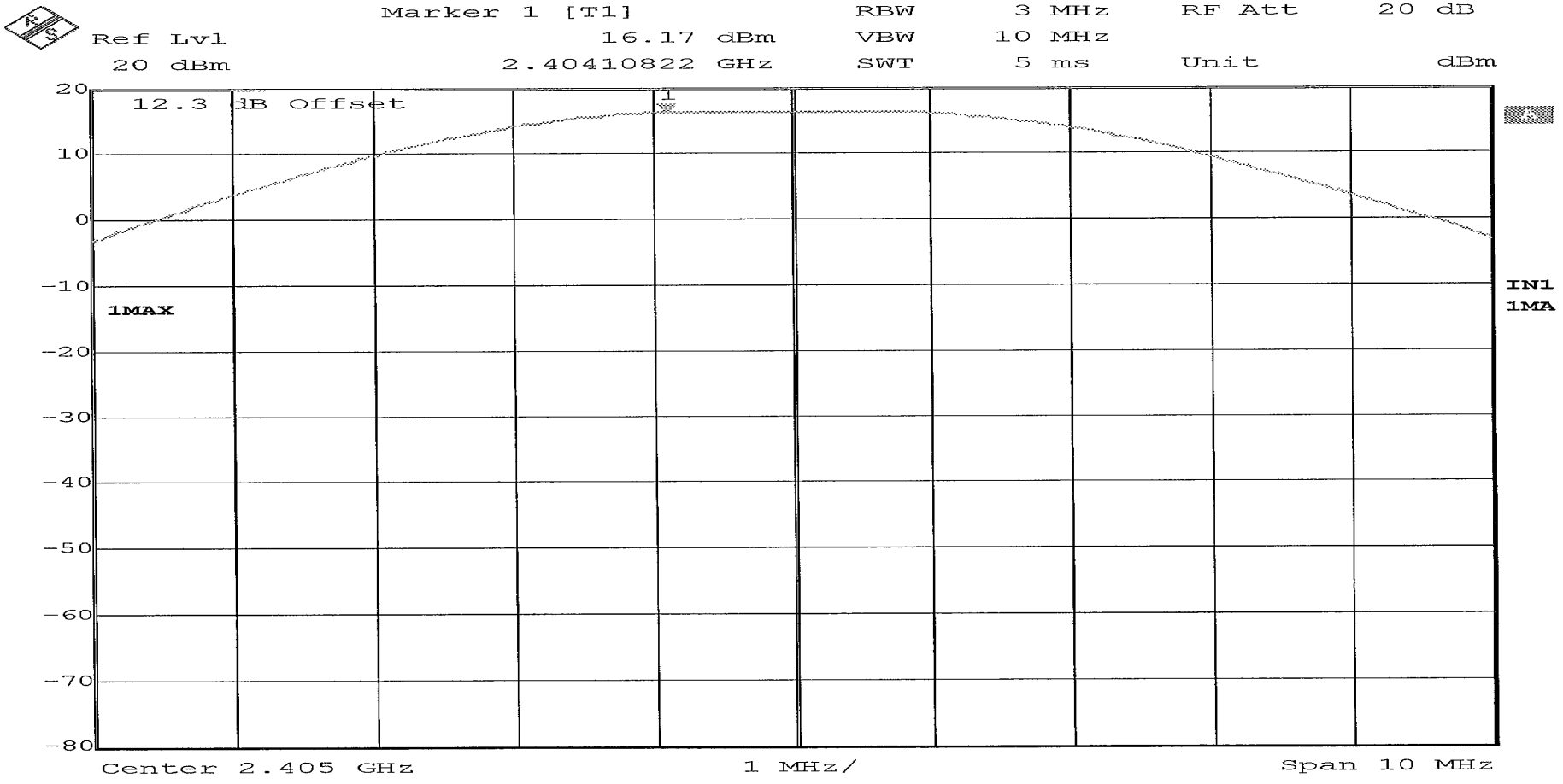
Test Photographs
Power Output

Test Setup

FCC Section 15.247 (b)(3)
Power Output
Test Data

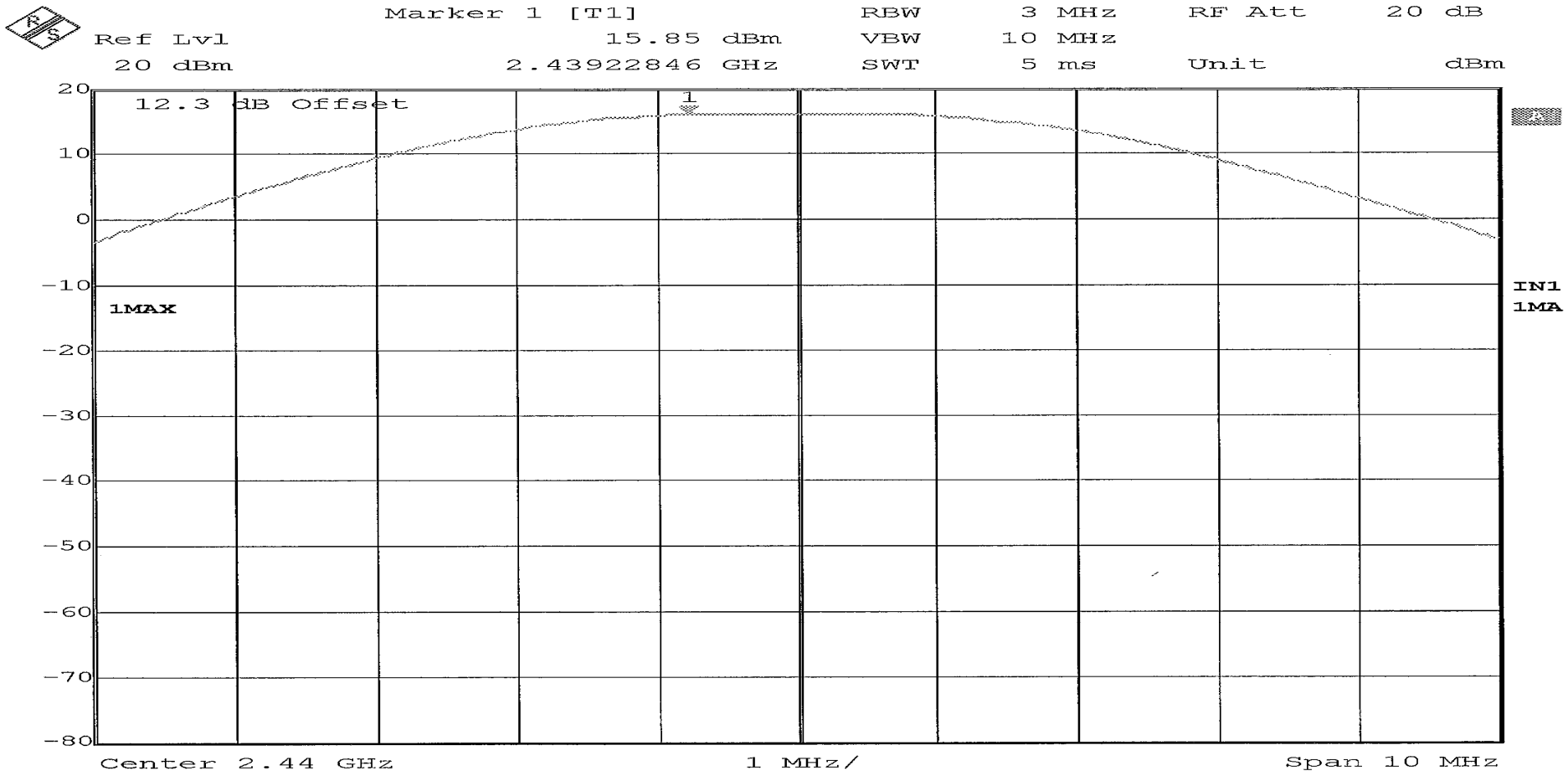
RETLIF TESTING LABORATORIES

Test Method:	Conducted Peak Power Output		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(DSSS) signal at 2.405 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (b)(3)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.2 °C Relative Humidity: 48.4 %		
Notes	Peak Power Output: 16.17 dBm		



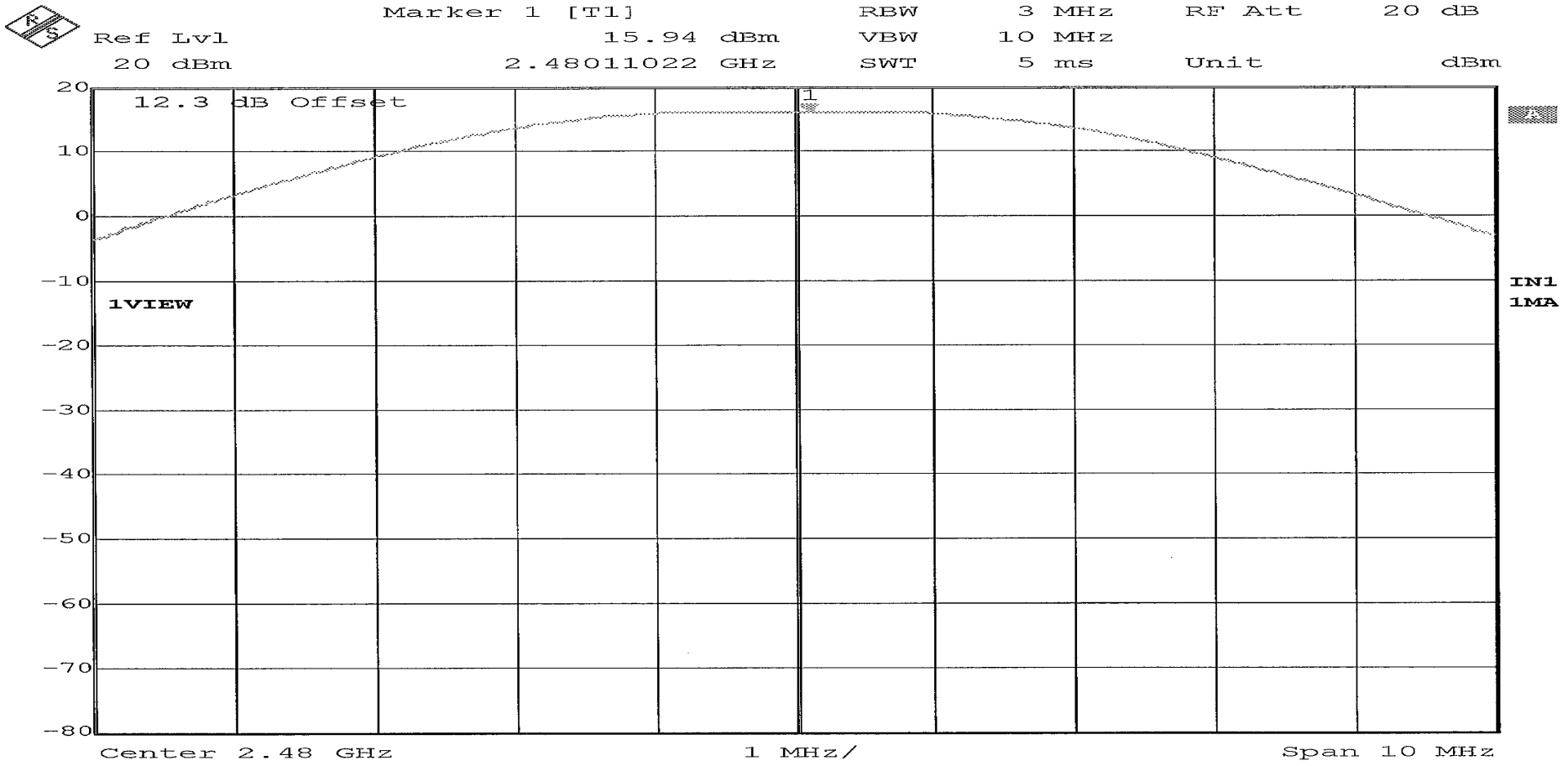
RETLIF TESTING LABORATORIES

Test Method:	Conducted Peak Power Output		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(DSSS) signal at 2.440 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (b)(3)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.2 °C Relative Humidity: 48.4 %		
Notes	Peak Power Output: 15.85 dBm		



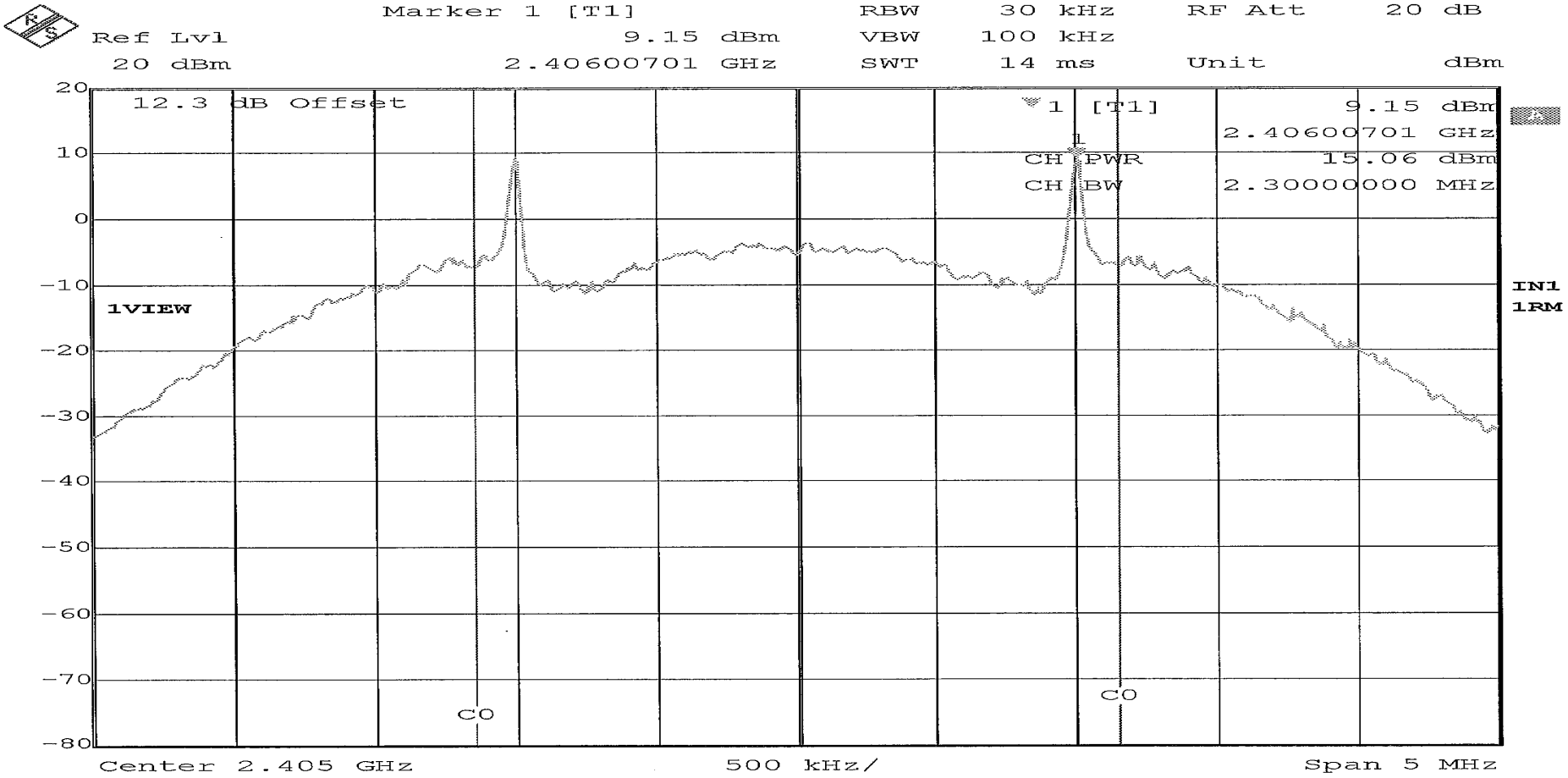
RETLIF TESTING LABORATORIES

Test Method:	Conducted Peak Power Output		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(DSSS) signal at 2.480 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (b)(3)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.2 °C Relative Humidity: 48.4 %		
Notes	Peak Power Output: 15.94 dBm		



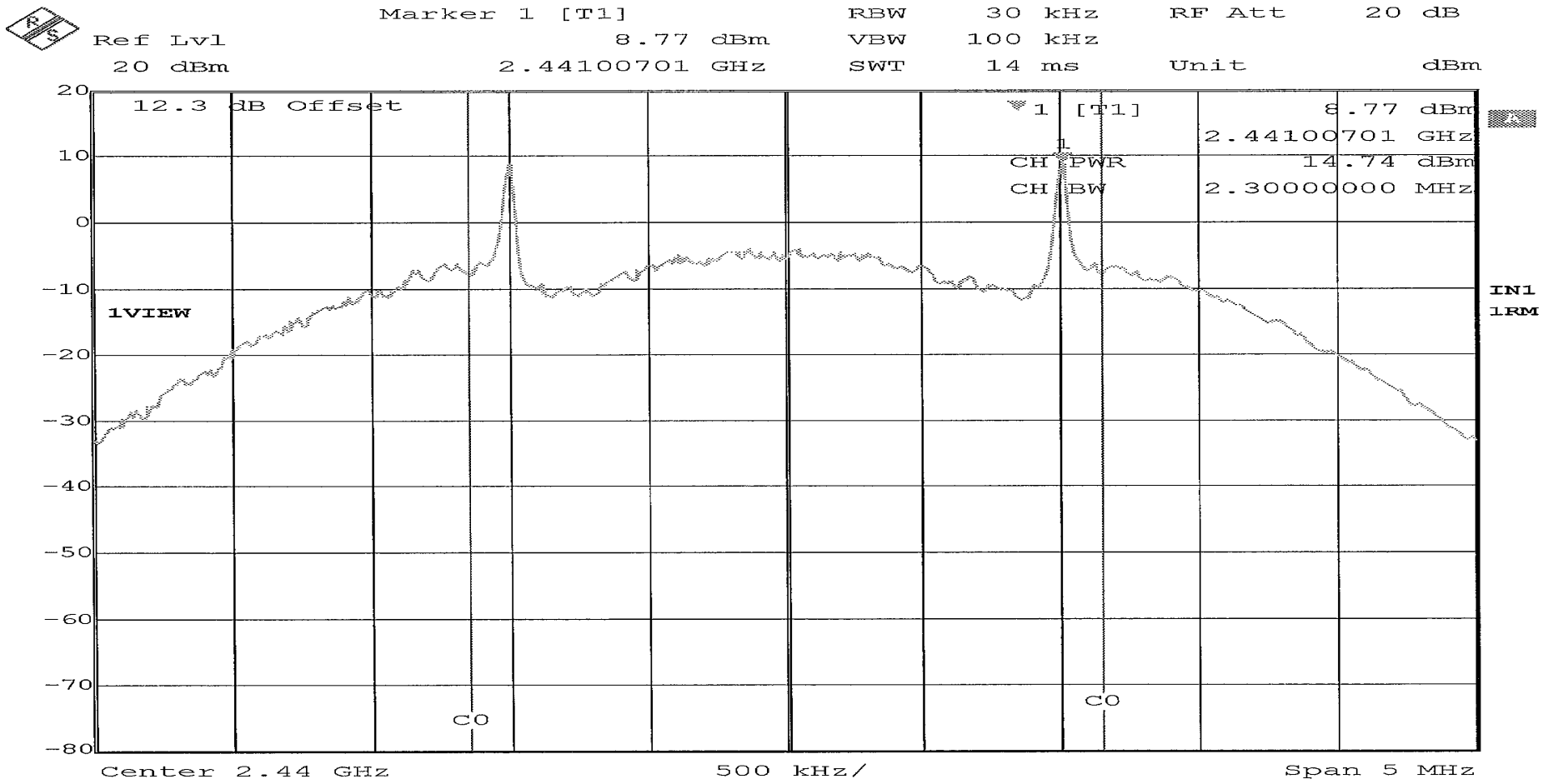
RETLIF TESTING LABORATORIES

Test Method:	Conducted Peak Power Output		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(LXRS+) signal at 2.405 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (b)(3)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.2 °C Relative Humidity: 48.4 %		
Notes	Power Output: 15.06 dBm		



RETLIF TESTING LABORATORIES

Test Method:	Conducted Peak Power Output		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(LXRS+) signal at 2.440 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (b)(3)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.2 °C Relative Humidity: 48.4 %		
Notes	Power Output: 14.74 dBm		



RETLIF TESTING LABORATORIES

Test Method:	Conducted Peak Power Output		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
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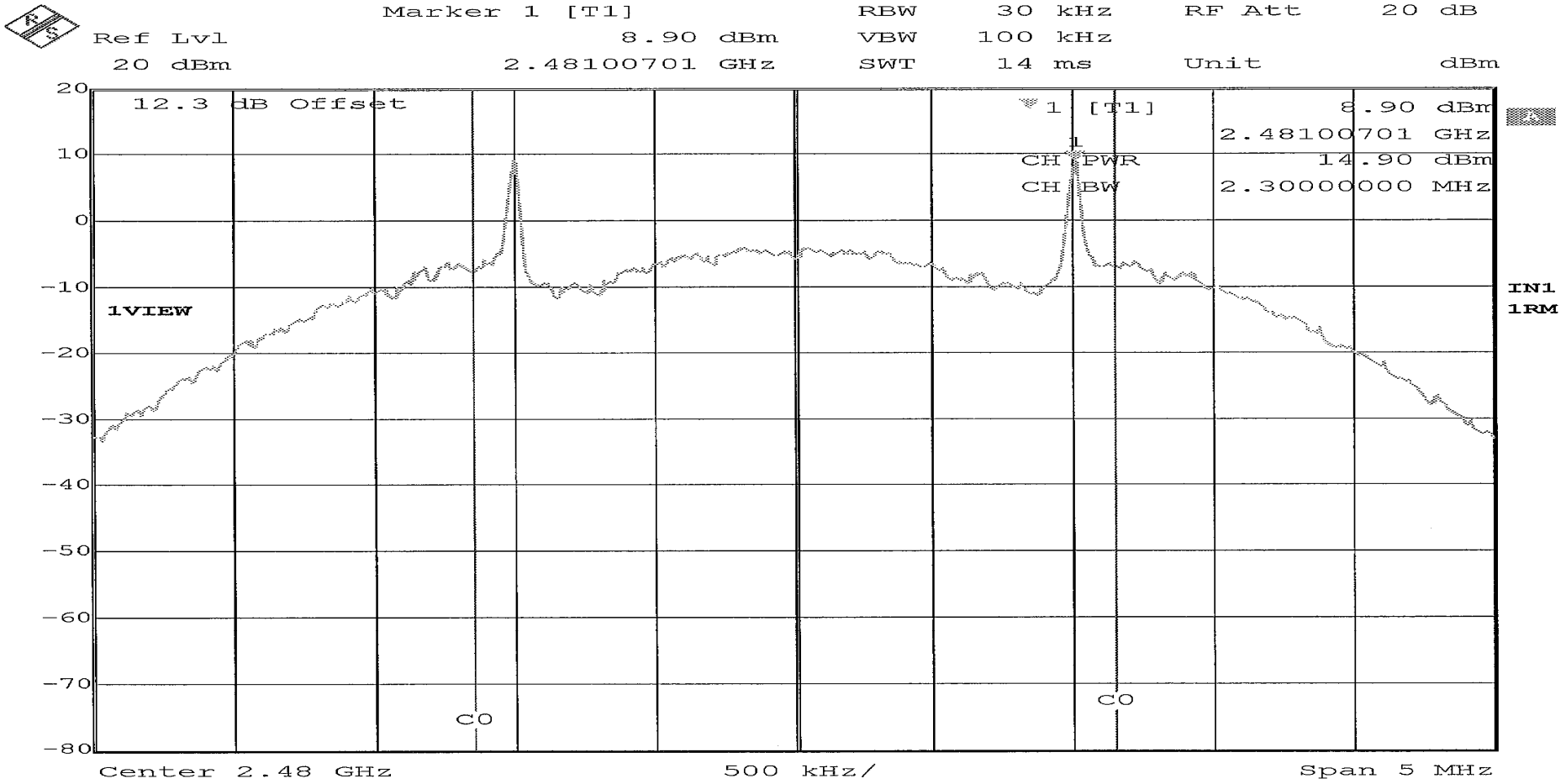
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (b)(3)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.2 °C Relative Humidity: 48.4 %		
Notes	Power Output: 14.90 dBm		



Test Photographs
Antenna Terminal Out of Band/Band Edge Conducted Emissions

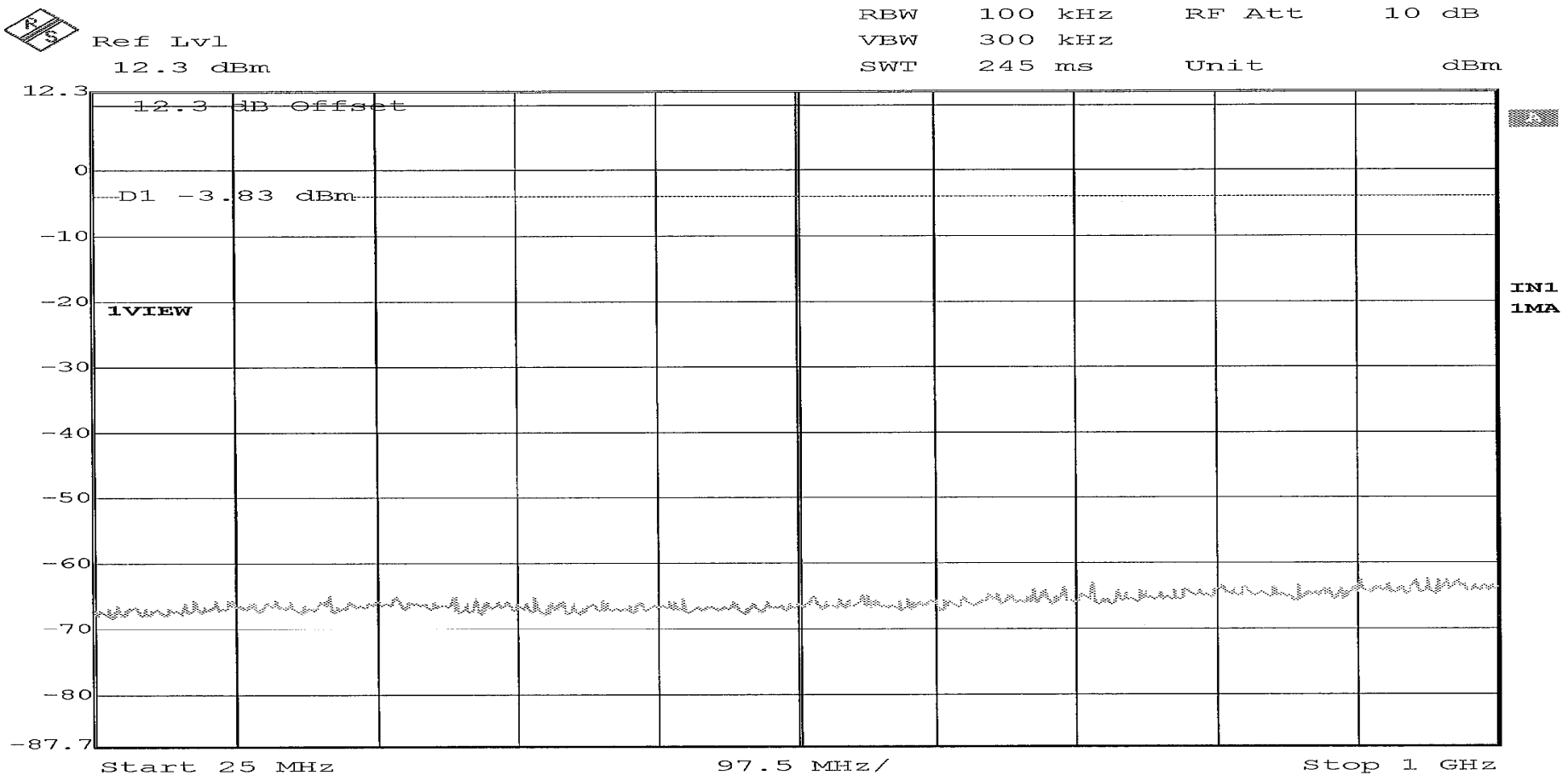
Test Setup

FCC Section 15.247 (d)
Antenna Terminal Out of Band/Band Edge Conducted Emissions
Test Data

Out of Band Conducted Emissions
Test Data

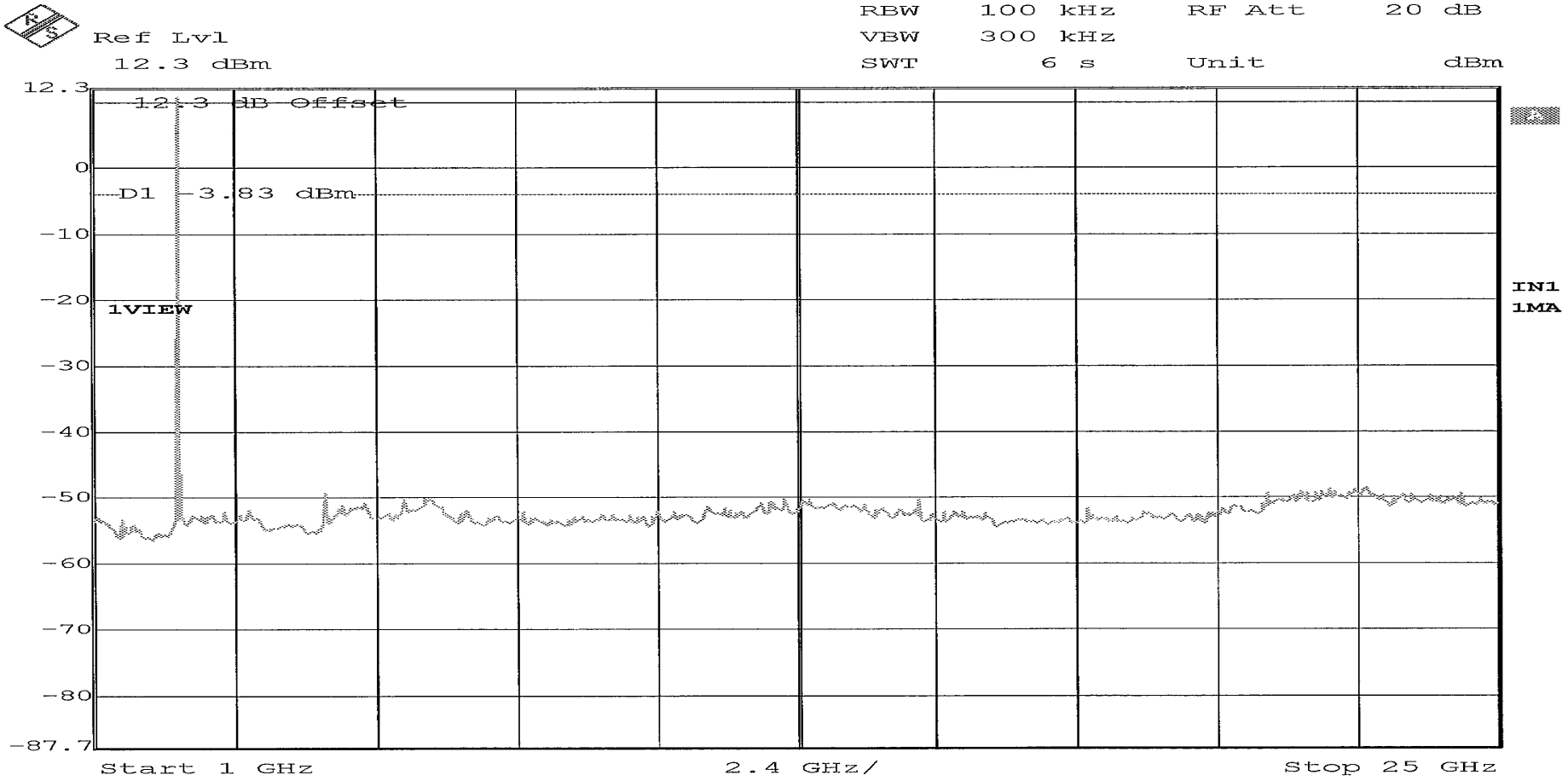
RETLIF TESTING LABORATORIES

Test Method:	Out of Band Conducted Emissions 25 MHz to 1 GHz		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(DSSS) signal at 2.405 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.3 °C Relative Humidity: 48.4 %		
Notes	Limit: -3.83 dBm		



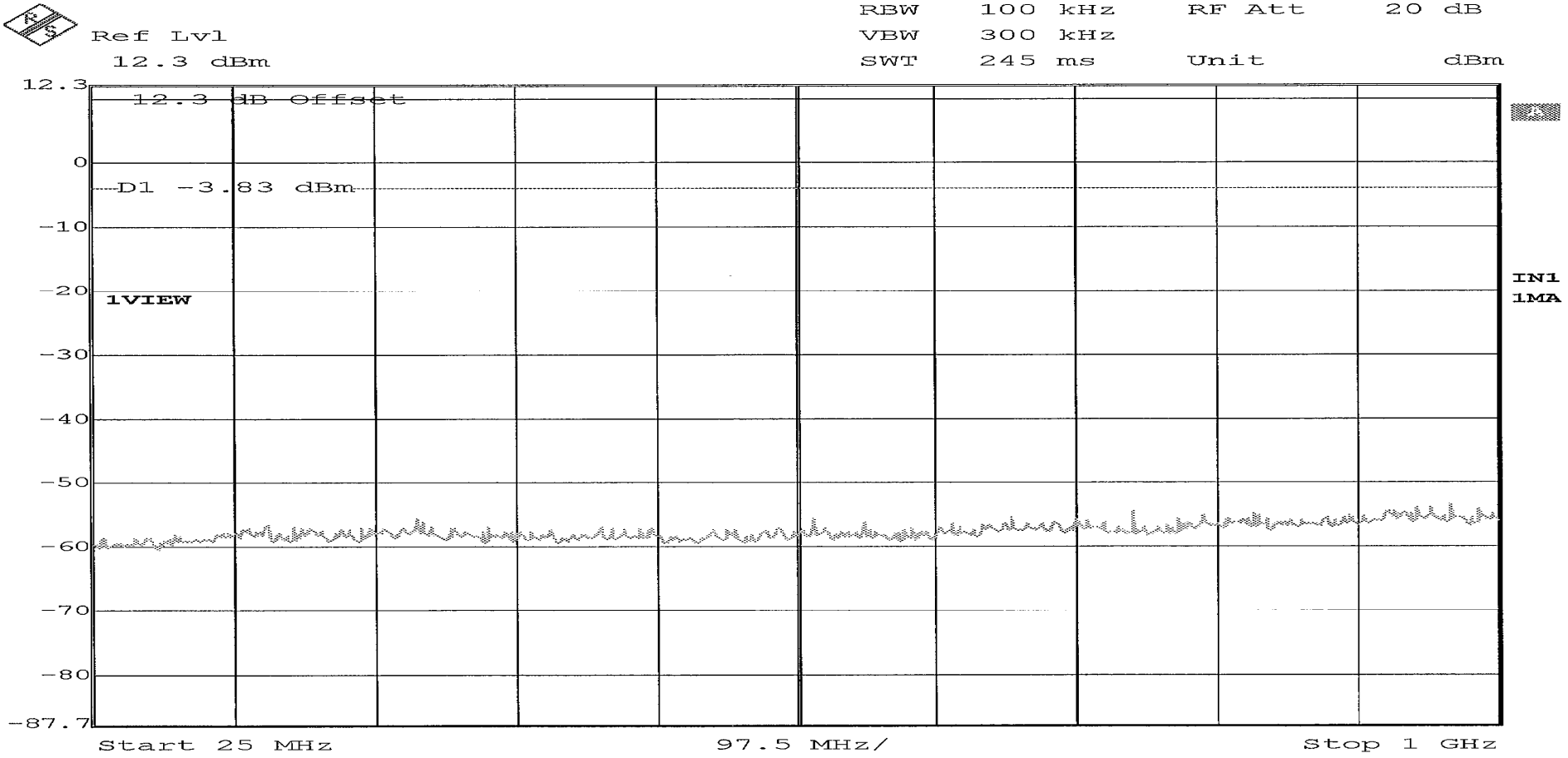
RETLIF TESTING LABORATORIES

Test Method:	Out of Band Conducted Emissions 1 GHz to 25 GHz		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(DSSS) signal at 2.405 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.3 °C Relative Humidity: 48.4 %		
Notes	Limit: -3.83 dBm		



RETLIF TESTING LABORATORIES

Test Method:	Out of Band Conducted Emissions 25 MHz to 1 GHz		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(DSSS) signal at 2.440 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.3 °C Relative Humidity: 48.4 %		
Notes	Limit: -3.83 dBm		



RETLIF TESTING LABORATORIES

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Operating Mode	Transmitting modulated(DSSS) signal at 2.440 GHz		
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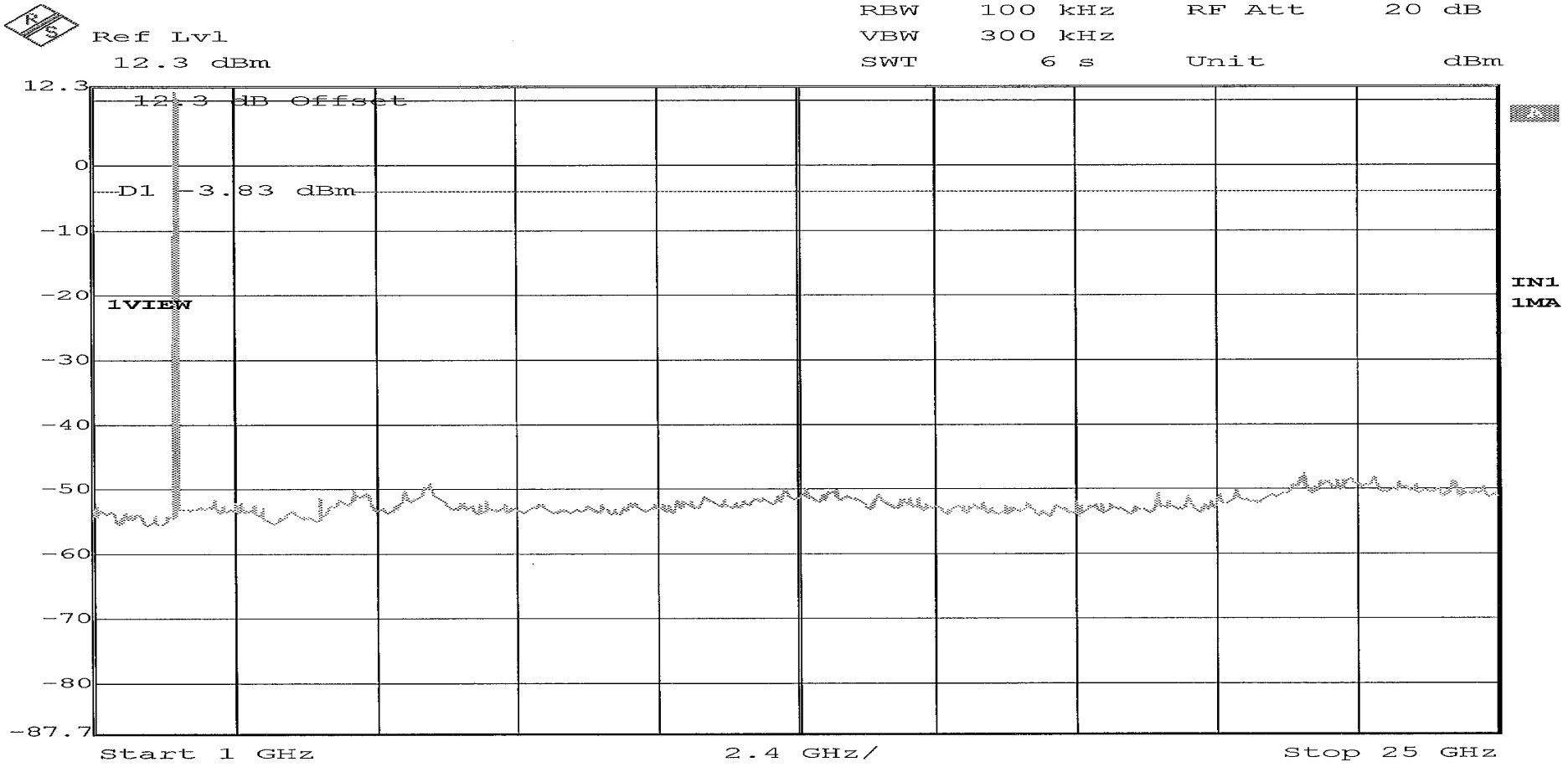
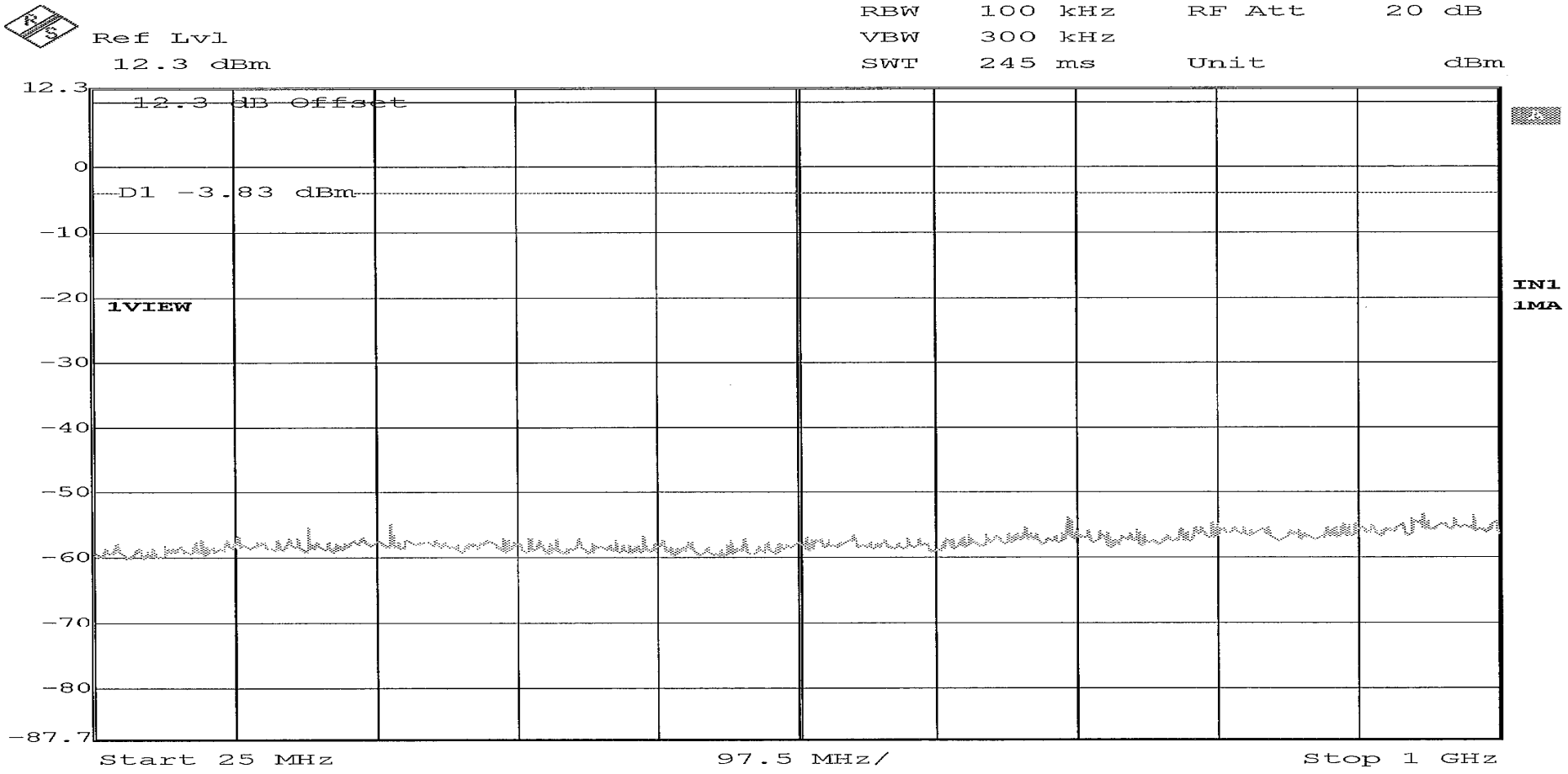


RETLIF TESTING LABORATORIES

Test Method:	Out of Band Conducted Emissions 25 MHz to 1 GHz		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(DSSS) signal at 2.480 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.3 °C Relative Humidity: 48.4 %		
Notes	Limit: -3.83 dBm		



RETLIF TESTING LABORATORIES

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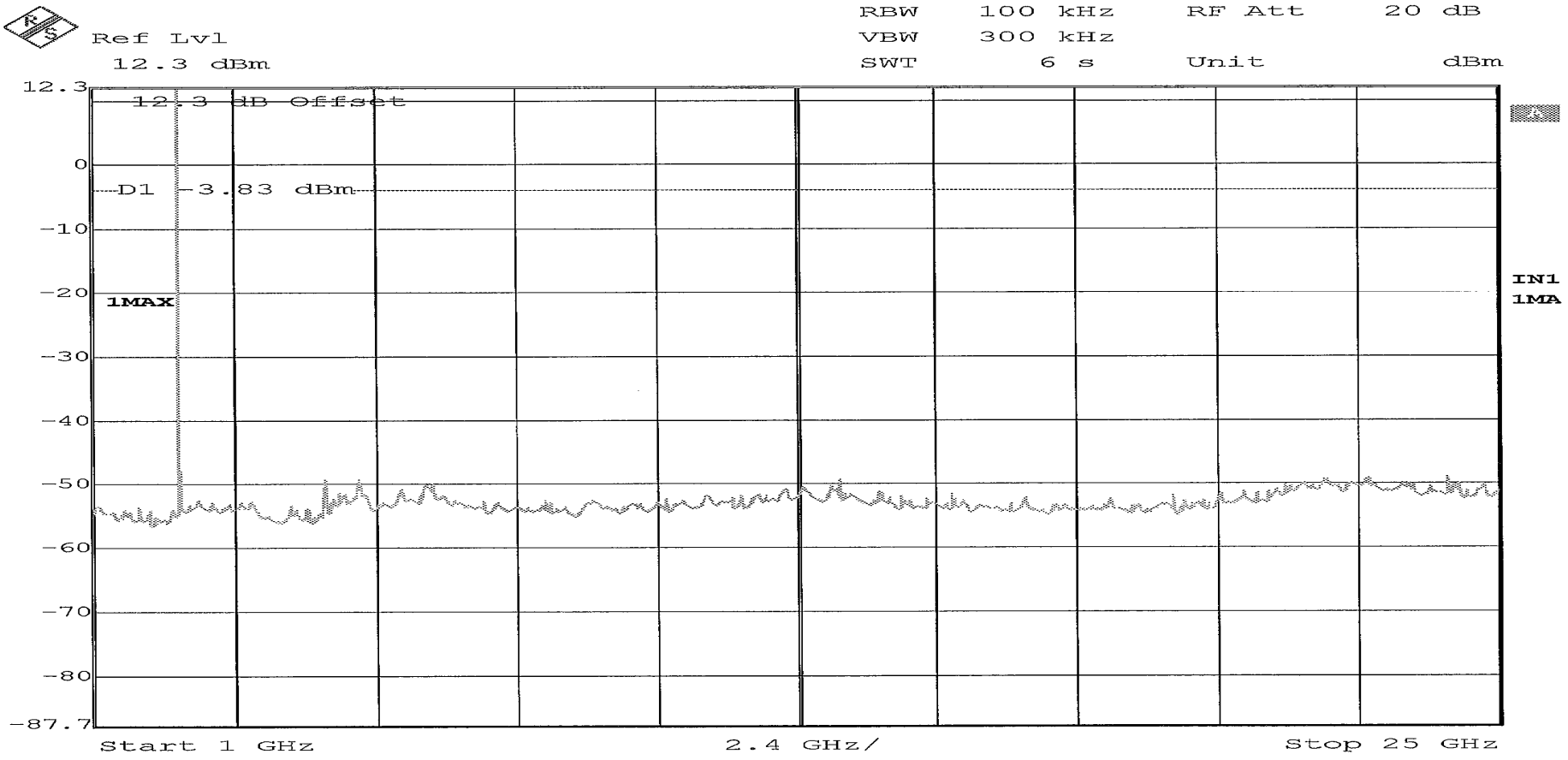

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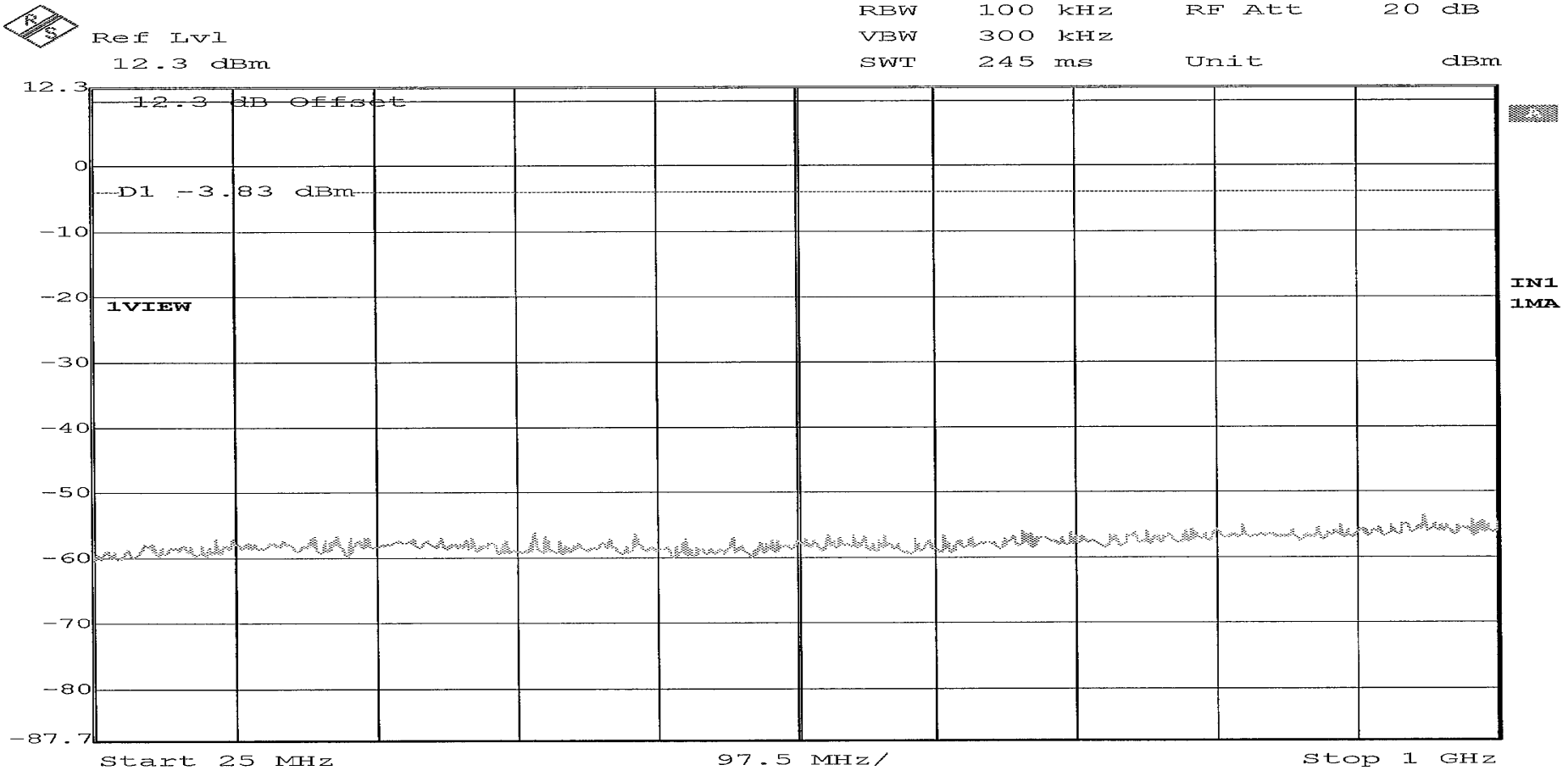
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.3 °C Relative Humidity: 48.4 %		
Notes	Limit: -3.83 dBm		



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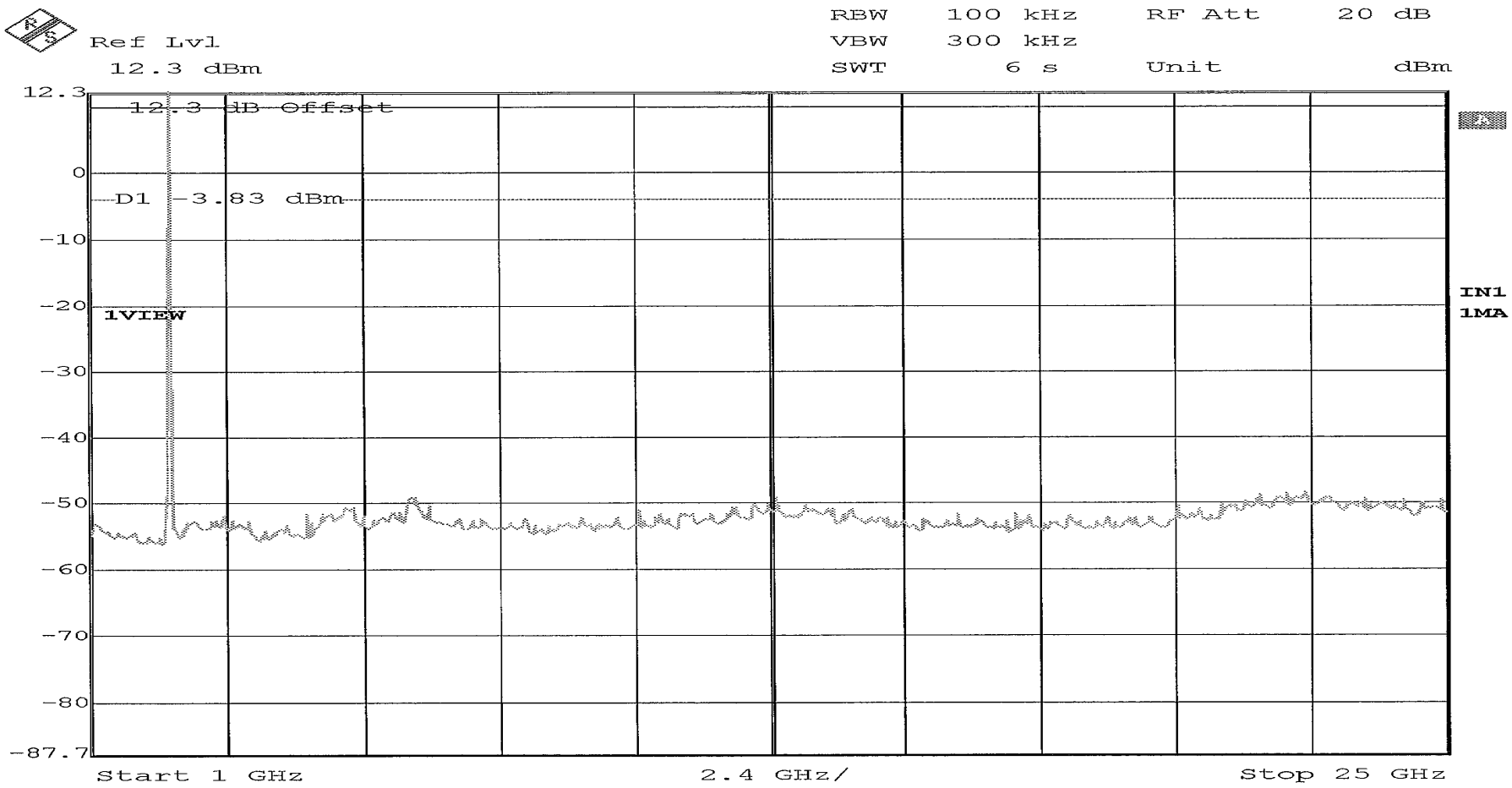

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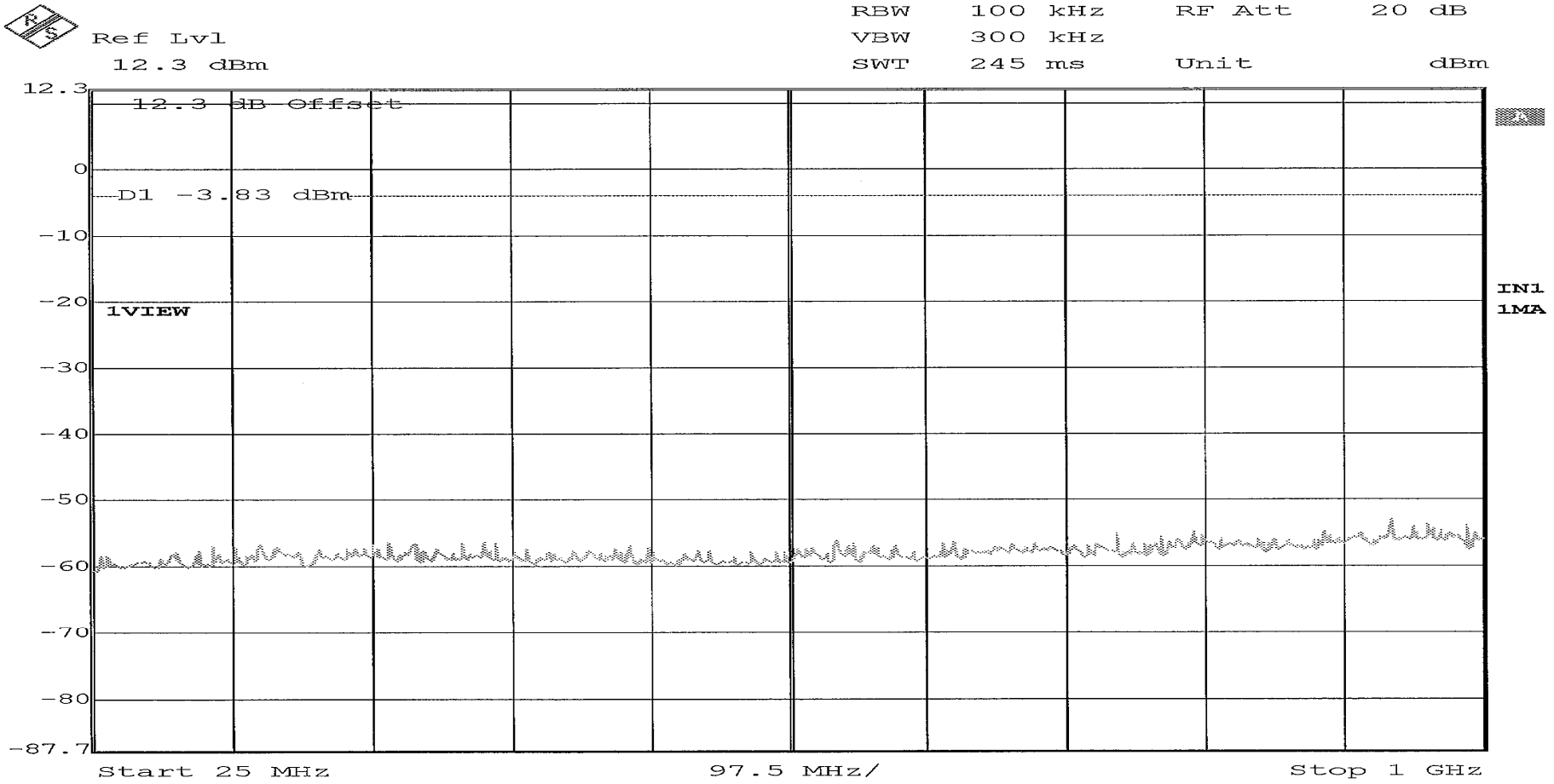

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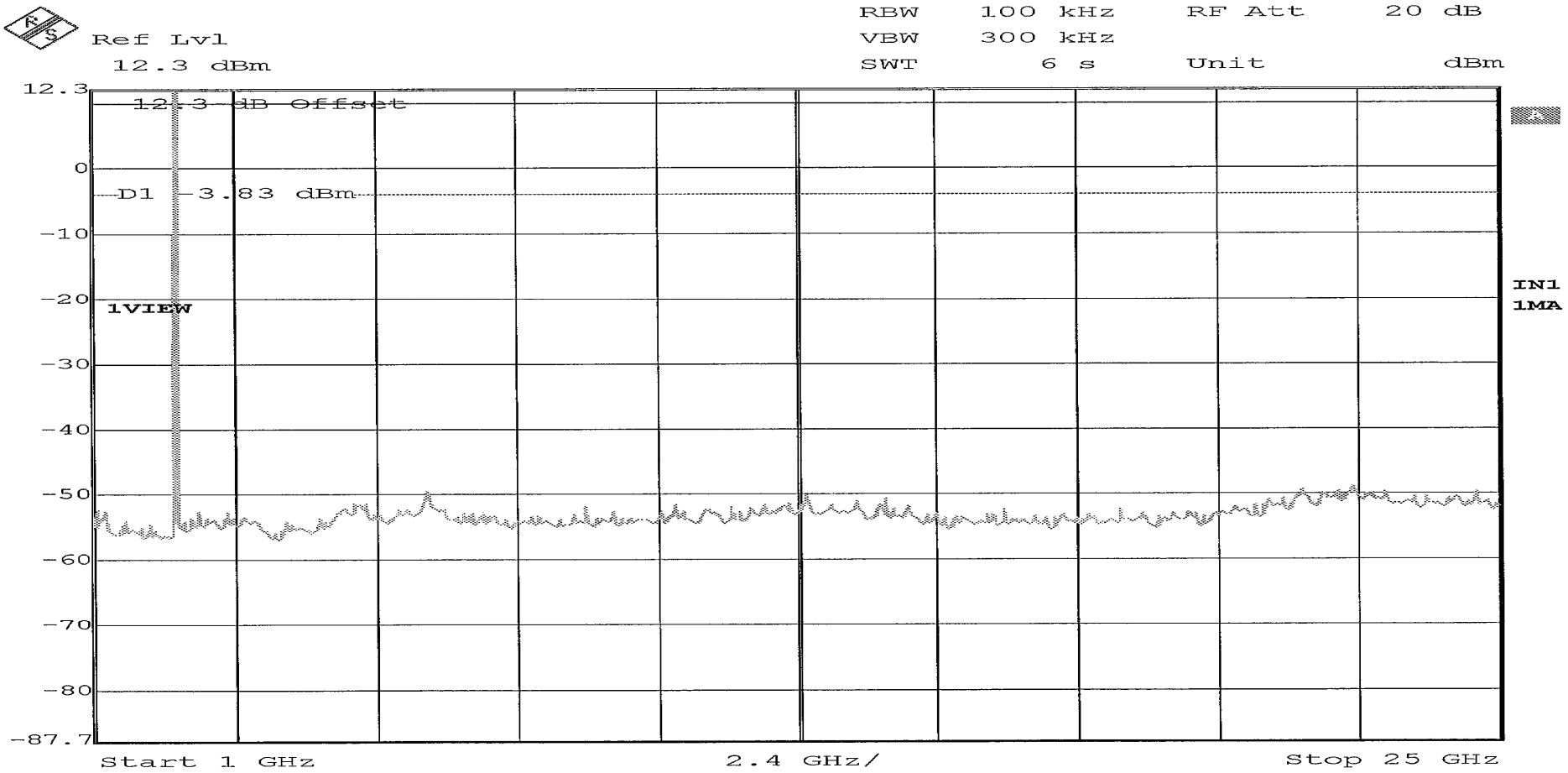

RETLIF TESTING LABORATORIES

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Test Sample	200 Series Radio Module		
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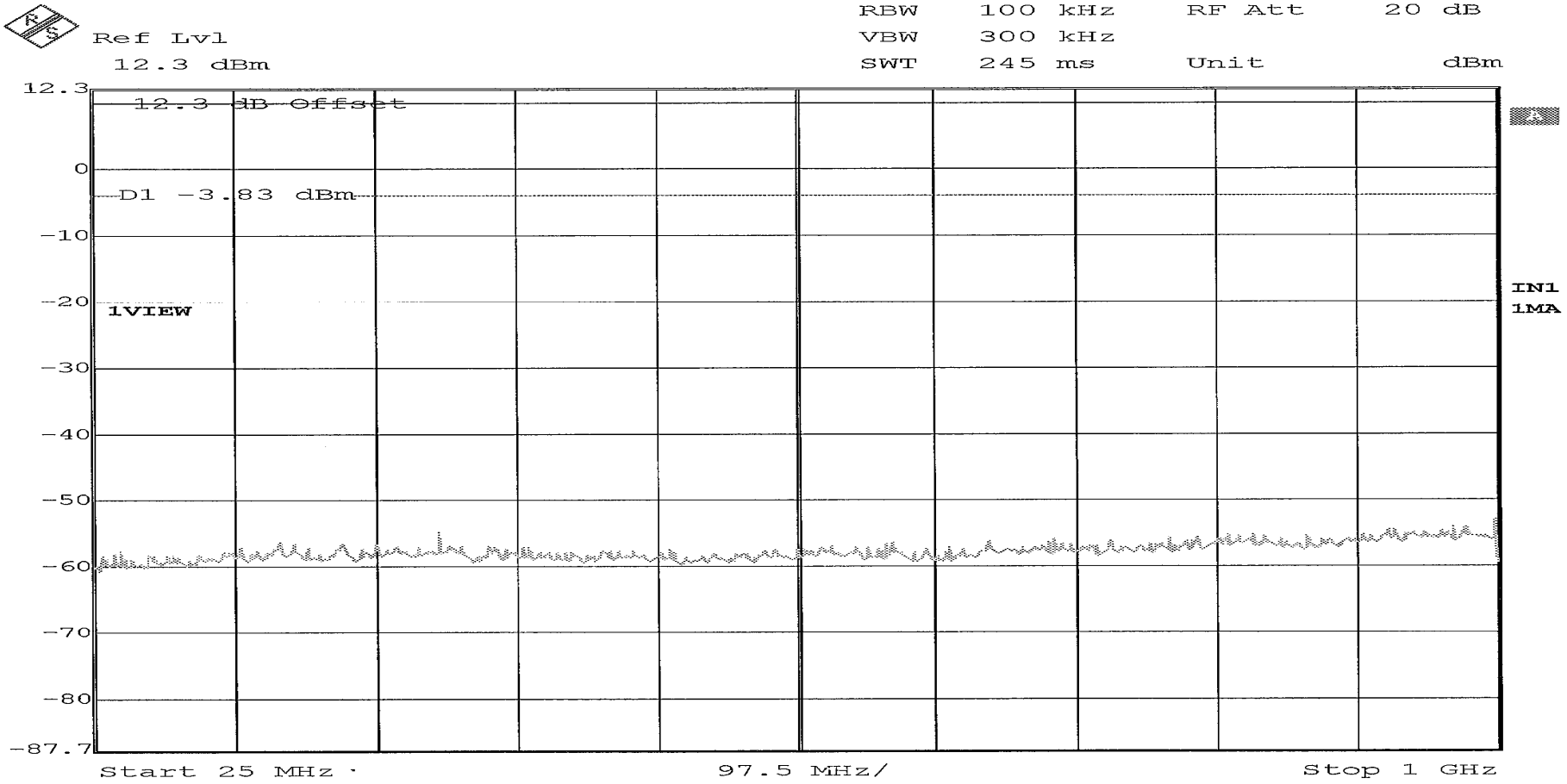

RETLIF TESTING LABORATORIES

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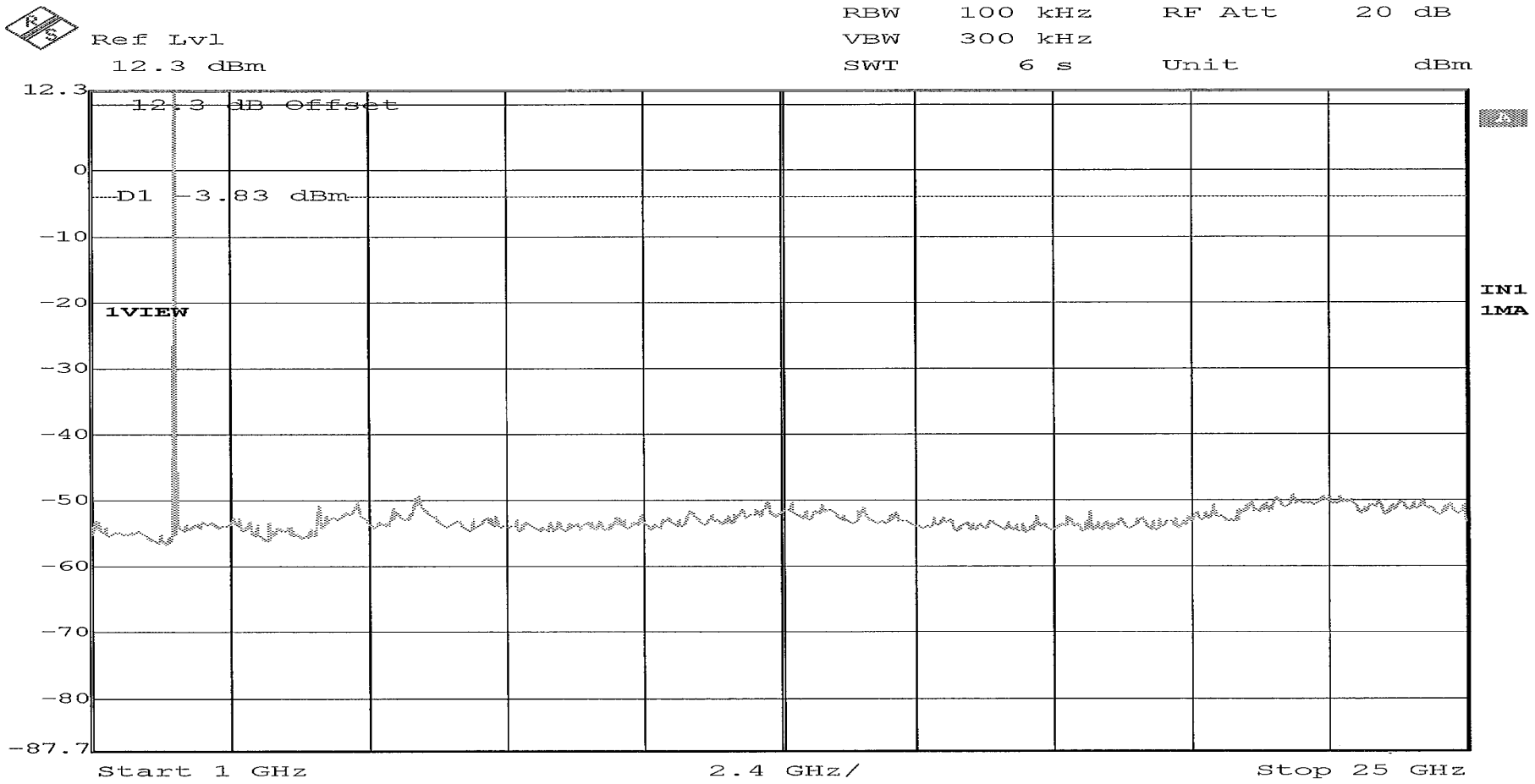

Band Edge Conducted
Test Data

RETLIF TESTING LABORATORIES

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Customer	Lord Corporation	**Job No.**	R-6220N-1
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Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(DSSS) signal at 2.405 GHz		
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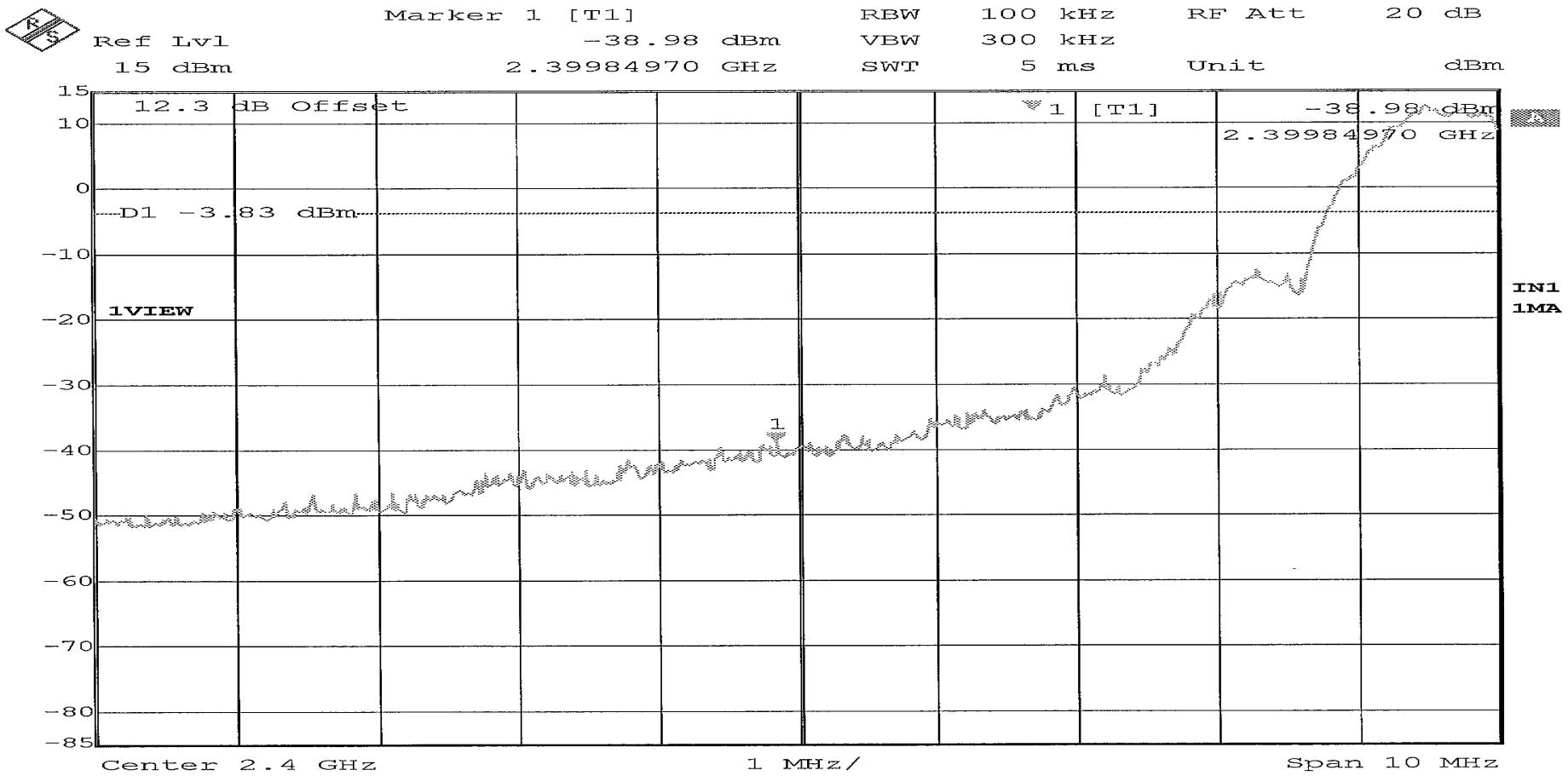

RETLIF TESTING LABORATORIES

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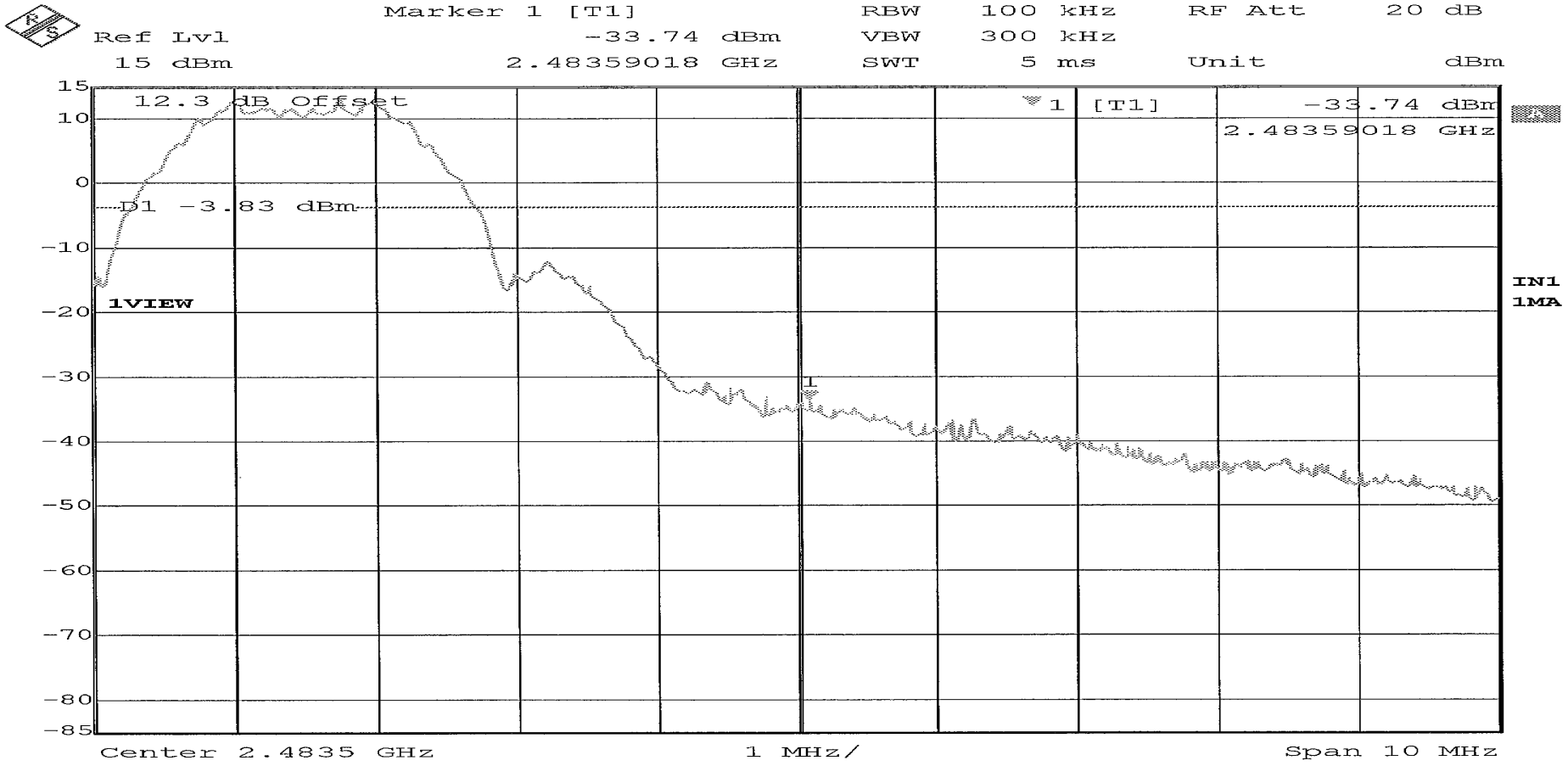

RETLIF TESTING LABORATORIES

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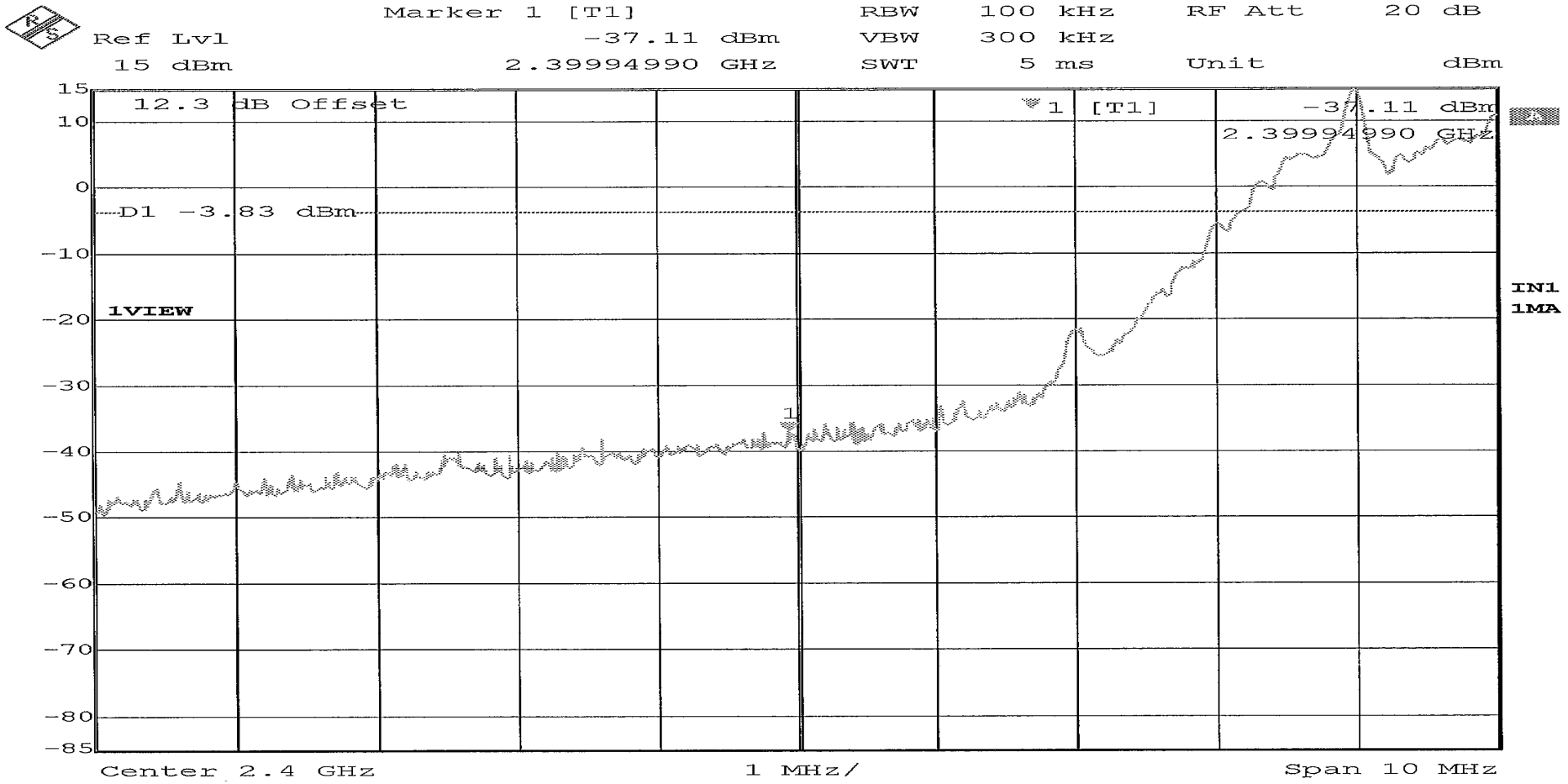

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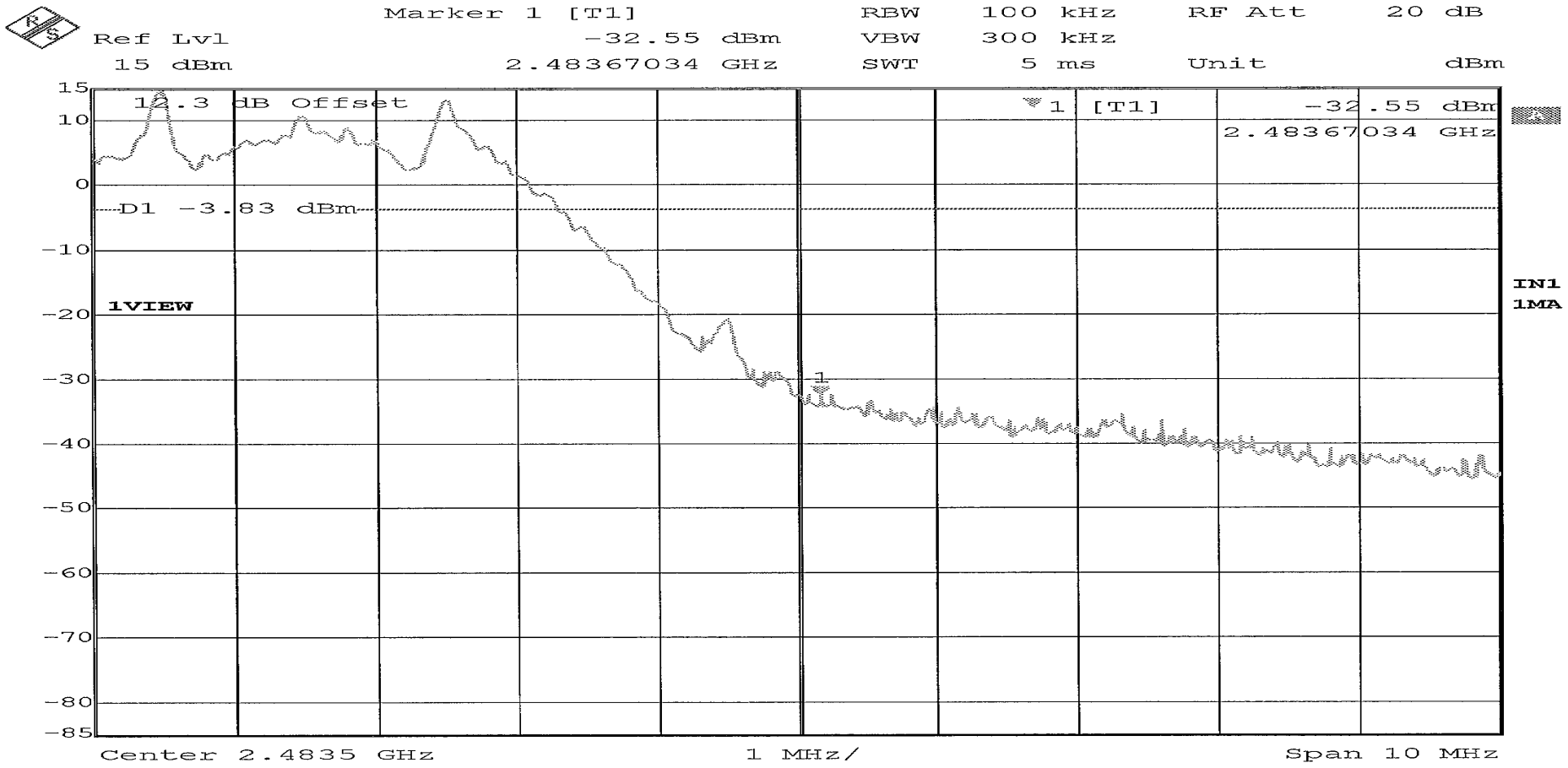


Test Photographs
Spurious Radiated Emissions

Test Setup

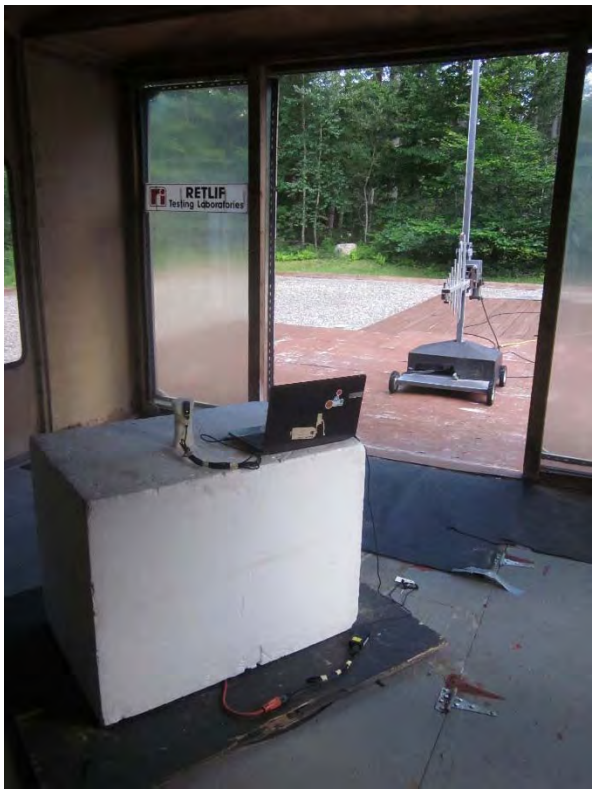
Test Photographs
Spurious Radiated Emissions

Horizontal Antenna Polarization, 30 MHz to 200 MHz, Biconical Antenna

Vertical Antenna Polarization, 30 MHz to 200 MHz, Biconical Antenna

Test Photographs
Spurious Radiated Emissions

Horizontal Antenna Polarization, 200 MHz to 1 GHz, Log Periodic



Vertical Antenna Polarization, 200 MHz to 1 GHz, Log Periodic

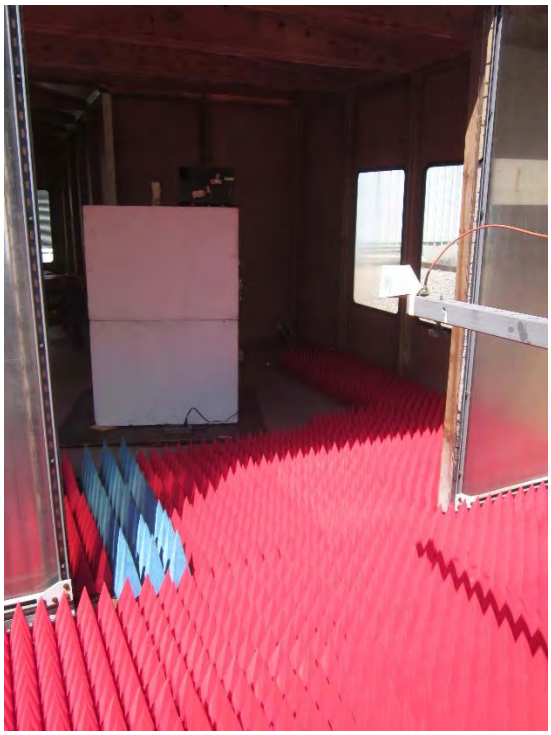
Test Photographs
Spurious Radiated Emissions

Horizontal Antenna Polarization, 1 GHz to 18 GHz

Vertical Antenna Polarization, 1 GHz to 18 GHz

Test Photographs
Spurious Radiated Emissions

Horizontal Antenna Polarization, 18 GHz to 24 GHz



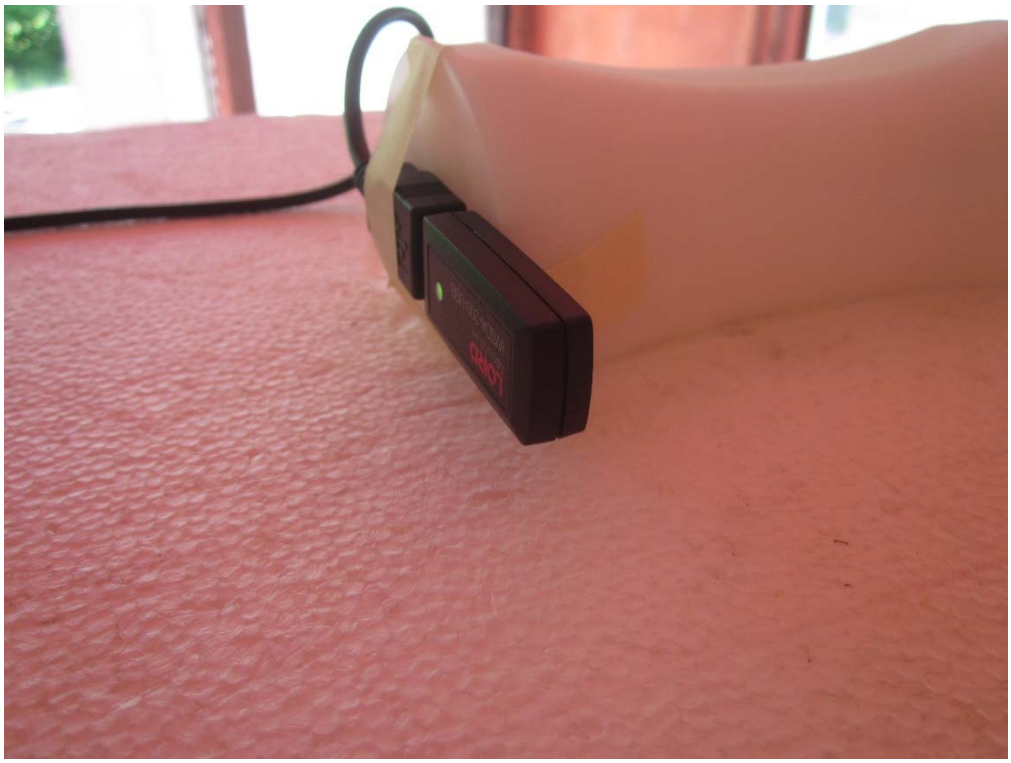
Vertical Antenna Polarization, 18 GHz to 24 GHz

Test Photographs
Spurious Radiated Emissions

X Axis

Y Axis

Test Photographs
Spurious Radiated Emissions



Z Axis

FCC Section 15.247 (d)
Out of Band/Band Edge Radiated Emissions
Test Data

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Lord Corporation	
Job Number	R-6220N-1	
Test Sample	200 Series Radio Module	
Model Number	3022-0017	
Serial Number	6307-2140-00075	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting modulated signal at 2405 MHz, 2442 MHz and 2480 MHz consecutively.	
Technician	M. Seamans	
Date	August 4th, 2017	

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	9.40	14.20	23.60	*		15.14	I
38.25	-	-	-	-			-	100.00
73.00	-	-	-	-			-	100.00
|	74.00	16.94	8.36	25.30	*		18.41	I
74.60	-	-	-	-			-	100.00
74.80	-	-	-	-			-	100.00
|	75.00	13.54	8.36	21.90	*		12.45	|
75.20	-	-	-	-			-	100.00
108.00	-	-	-	-			-	150.00
|	115.00	7.88	10.02	17.90	*		7.85	|
|	-	-	-	-			-	|
121.94	-	-	-	-			-	150.00
123.00	-	-	-	-			-	150.00
|	130.00	12.76	9.44	22.20	*		12.88	|
|	-	-	-	-			-	|
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).

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Lord Corporation	
Job Number	R-6220N-1	
Test Sample	200 Series Radio Module	
Model Number	3022-0017	
Serial Number	6307-2140-00075	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting modulated signal at 2405 MHz, 2442 MHz and 2480 MHz consecutively.	
Technician	M. Seamans	
Date	August 4th, 2017	

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	6.93	11.17	18.10	*		8.04	|
150.05	-	-	-	-			-	150.00
156.52	-	-	-	-			-	150.00
|	156.52	4.12	12.08	16.20	*		6.46	|
156.52	-	-	-	-			-	150.00
156.70	-	-	-	-			-	150.00
|	156.80	3.78	12.12	15.90	*		6.24	|
156.90	-	-	-	-			-	150.00
162.01	-	-	-	-			-	150.00
|	165.00	4.92	12.68	17.60	*		7.59	|
167.17	-	-	-	-			-	150.00
167.72	-	-	-	-			-	150.00
|	170.00	6.10	12.80	18.90	*		8.81	|
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).

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Lord Corporation	
Job Number	R-6220N-1	
Test Sample	200 Series Radio Module	
Model Number	3022-0017	
Serial Number	6307-2140-00075	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting modulated signal at 2405 MHz, 2442 MHz and 2480 MHz consecutively.	
Technician	M. Seamans	
Date	August 4th, 2017	

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
|	260.00	9.15	16.85	26.00			19.95	|
285.00	-	-	-	-			-	200.00
322.80	-	-	-	-			-	200.00
|	330.00	4.19	18.91	23.10	*		14.29	|
335.40	-	-	-	-			-	200.00
399.90	-	-	-	-			-	200.00
|	405.00	-0.99	21.49	20.50	*		10.59	|
410.00	-	-	-	-			-	200.00
608.00	-	-	-	-			-	200.00
|	611.00	-3.34	27.34	24.00	*		15.85	|
614.00	-	-	-	-			-	200.00
960.00	-	-	-	-			-	500.00
|	975.00	1.00	32.10	33.10	*		45.19	|
1240.00	-	-	-	-			-	500.00
1300.00	-	-	-	-			-	500.00
|	1350.00	31.47	-9.40	22.07	*		12.69	|
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	Lord Corporation	
Job Number	R-6220N-1	
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Model Number	3022-0017	
Serial Number	6307-2140-00075	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
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Technician	M. Seamans	
Date	August 4th, 2017	

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	31.49	-8.64	22.85	*		13.88	|
1646.50	-	-	-	-			-	500.00
1660.00	-	-	-	-			-	500.00
|	1680.00	30.42	-7.65	22.77	*		13.76	|
1710.00	-	-	-	-			-	500.00
1718.80	-	-	-	-			-	500.00
|	1720.00	31.56	-5.78	25.78	*		19.45	|
1722.20	-	-	-	-			-	500.00
2200.00	-	-	-	-			-	500.00
|	2250.00	30.50	-5.46	25.04	*		17.86	|
2300.00	-	-	-	-			-	500.00
2310.00	-	-	-	-			-	500.00
|	2360.00	29.86	-5.46	24.40	*		16.60	|
2390.00	-	-	-	-			-	500.00
2483.50	-	-	-	-			-	500.00
|	2490.00	30.26	-5.11	25.15	*		18.09	|
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	Lord Corporation	
Job Number	R-6220N-1	
Test Sample	200 Series Radio Module	
Model Number	3022-0017	
Serial Number	6307-2140-00075	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting modulated signal at 2405 MHz, 2442 MHz and 2480 MHz consecutively.	
Technician	M. Seamans	
Date	August 4th, 2017	

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
|	-	-	-	-			-	|
|	2750.00	30.61	-4.45	26.16	*		20.32	|
|	-	-	-	-			-	|
2900.00	-	-	-	-			-	500.00
3260.00	-	-	-	-			-	500.00
|	3263.00	29.51	-2.88	26.63	*		21.45	|
3267.00	-	-	-	-			-	500.00
3332.00	-	-	-	-			-	500.00
|	3336.00	30.07	-2.62	27.45	*		23.58	|
3339.00	-	-	-	-			-	500.00
3345.00	-	-	-	-			-	500.00
|	3350.00	30.05	-2.57	27.48	*		23.66	|
3358.00	-	-	-	-			-	500.00
3600.00	-	-	-	-			-	500.00
|	-	-	-	-			-	|
|	3700.00	29.75	-1.40	28.50	*		26.61	|
|	-	-	-	-			-	|

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	Lord Corporation	
Job Number	R-6220N-1	
Test Sample	200 Series Radio Module	
Model Number	3022-0017	
Serial Number	6307-2140-00075	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting modulated signal at 2405 MHz, 2442 MHz and 2480 MHz consecutively.	
Technician	M. Seamans	
Date	August 4th, 2017	

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
|	4810.00	50.77	0.29	51.06			357.27	|
|	-	-	-	-			-	|
5150.00	-	-	-	-			-	500.00
5350.00	-	-	-	-			-	500.00
|	5400.00	28.77	0.92	29.69	*		30.51	|
5460.00	-	-	-	-			-	500.00
7250.00	-	-	-	-			-	500.00
|	7440.00	29.96	3.65	33.61	*		47.92	|
7750.00	-	-	-	-			-	500.00
8025.00	-	-	-	-			-	500.00
|	8300.00	30.45	4.43	34.88	*		55.46	|
8500.00	-	-	-	-			-	500.00
9000.00	-	-	-	-			-	500.00
|	9100.00	30.82	5.10	35.92	*		62.52	|
9200.00	-	-	-	-			-	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).

Data Sheet 6 of 7

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Lord Corporation	
Job Number	R-6220N-1	
Test Sample	200 Series Radio Module	
Model Number	3022-0017	
Serial Number	6307-2140-00075	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting modulated signal at 2405 MHz, 2442 MHz and 2480 MHz consecutively.	
Technician	M. Seamans	
Date	August 4th, 2017	

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
9300.00	-	-	-	-			-	500.00
|	9400.00	30.35	5.38	35.73	*		61.16	|
9500.00	-	-	-	-			-	500.00
10600.00	-	-	-	-			-	500.00
|	12200.00	31.05	8.37	39.42	*		93.54	|
12700.00	-	-	-	-			-	500.00
13250.00	-	-	-	-			-	500.00
|	15800.00	32.89	8.84	41.73	*		122.04	|
16200.00	-	-	-	-			-	500.00
17700.00	-	-	-	-			-	500.00
|	19240.00	33.15	-6.52	26.63	*		21.45	|
21400.00	-	-	-	-			-	500.00
22010.00	-	-	-	-			-	500.00
|	22320.00	33.14	-5.30	27.85	*		24.69	|
23120.00	-	-	-	-			-	500.00
23000.00	-	-	-	-			-	500.00
|	23800.00	34.11	-4.17	29.94	*		31.41	|
24000.00	-	-	-	-			-	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).

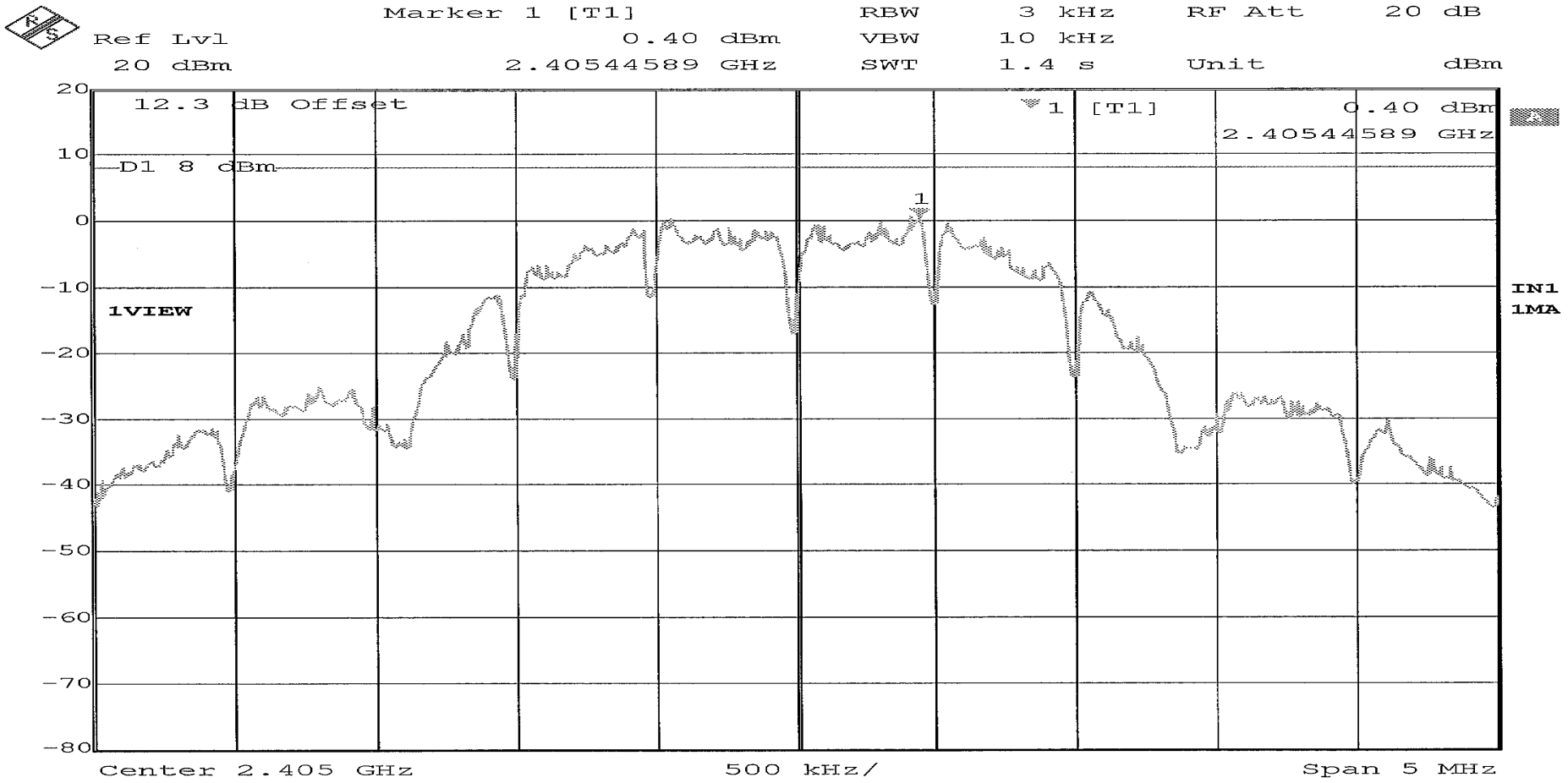
Test Photographs
Power Density

Test Configuration

FCC Section 15.247(e)
Power Density
Test Data

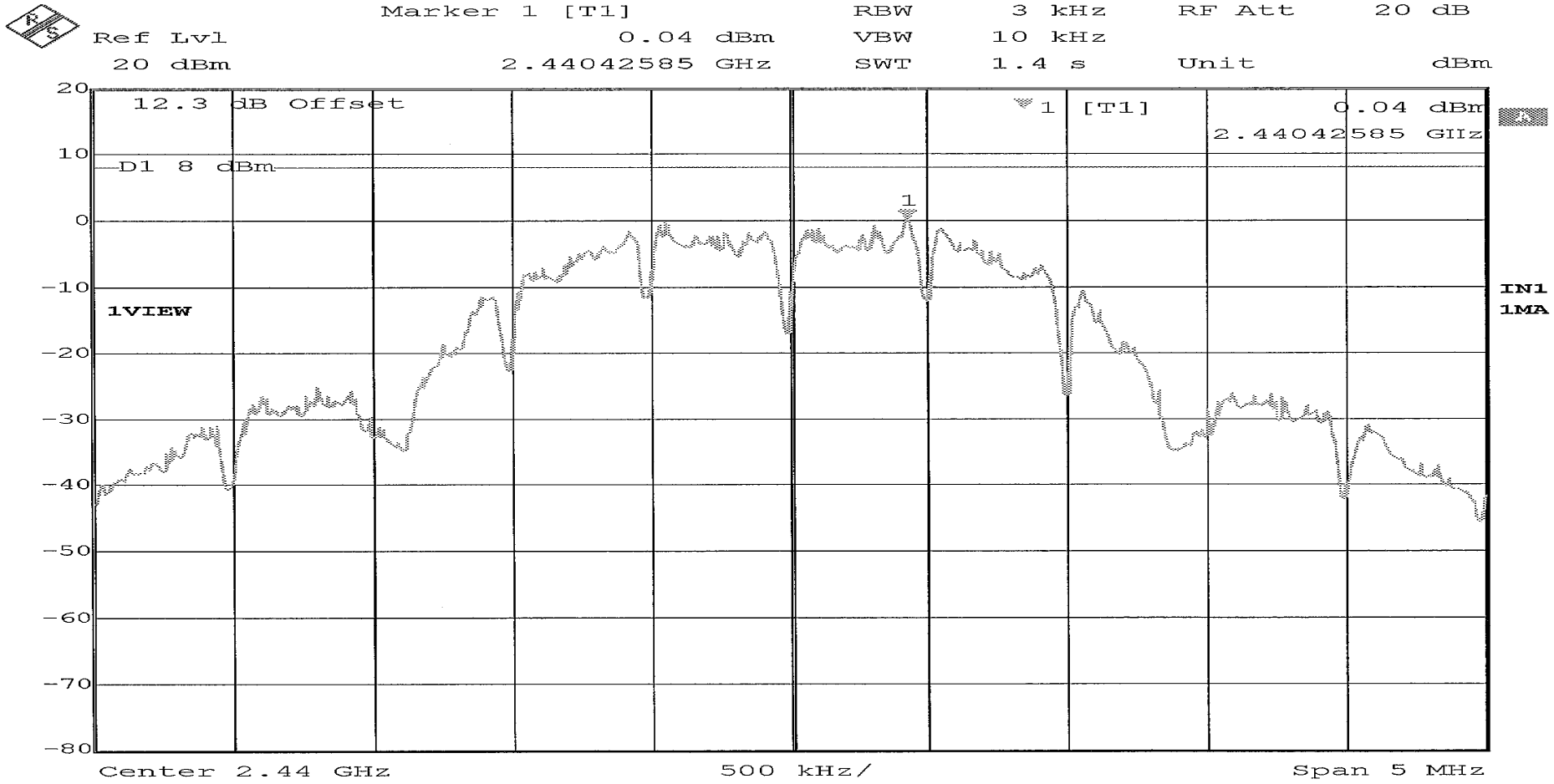
RETLIF TESTING LABORATORIES

Test Method:	Power Spectral Density		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(DSSS) signal at 2.405 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (e)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.3 °C Relative Humidity: 48.4 %		
Notes	Power Spectral Density: 0.40 dBm Limit: 8 dBm		



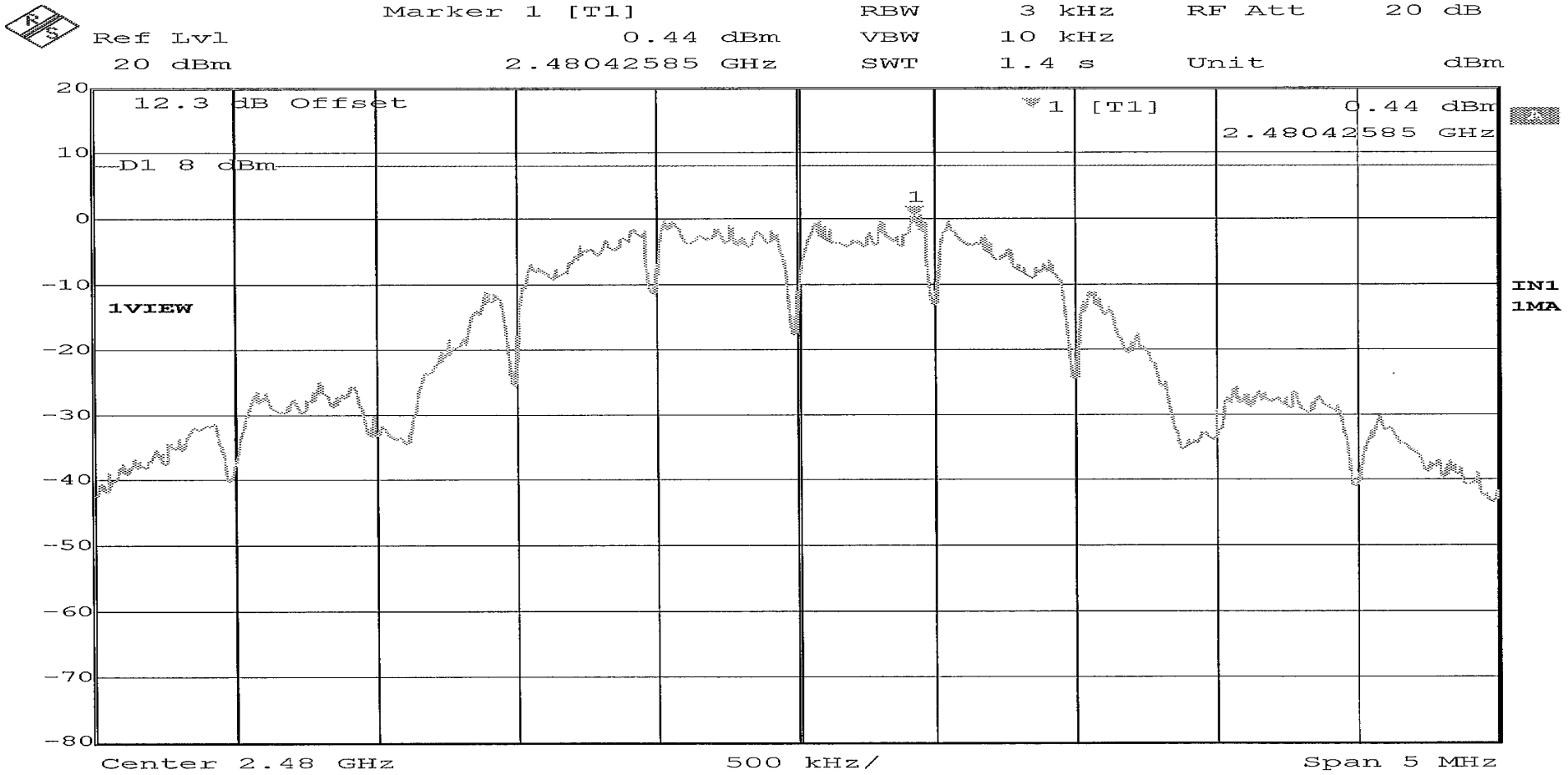
RETLIF TESTING LABORATORIES

Test Method:	Power Spectral Density		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(DSSS) signal at 2.440 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (e)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.3 °C Relative Humidity: 48.4 %		
Notes	Power Spectral Density: 0.04 dBm Limit: 8 dBm		



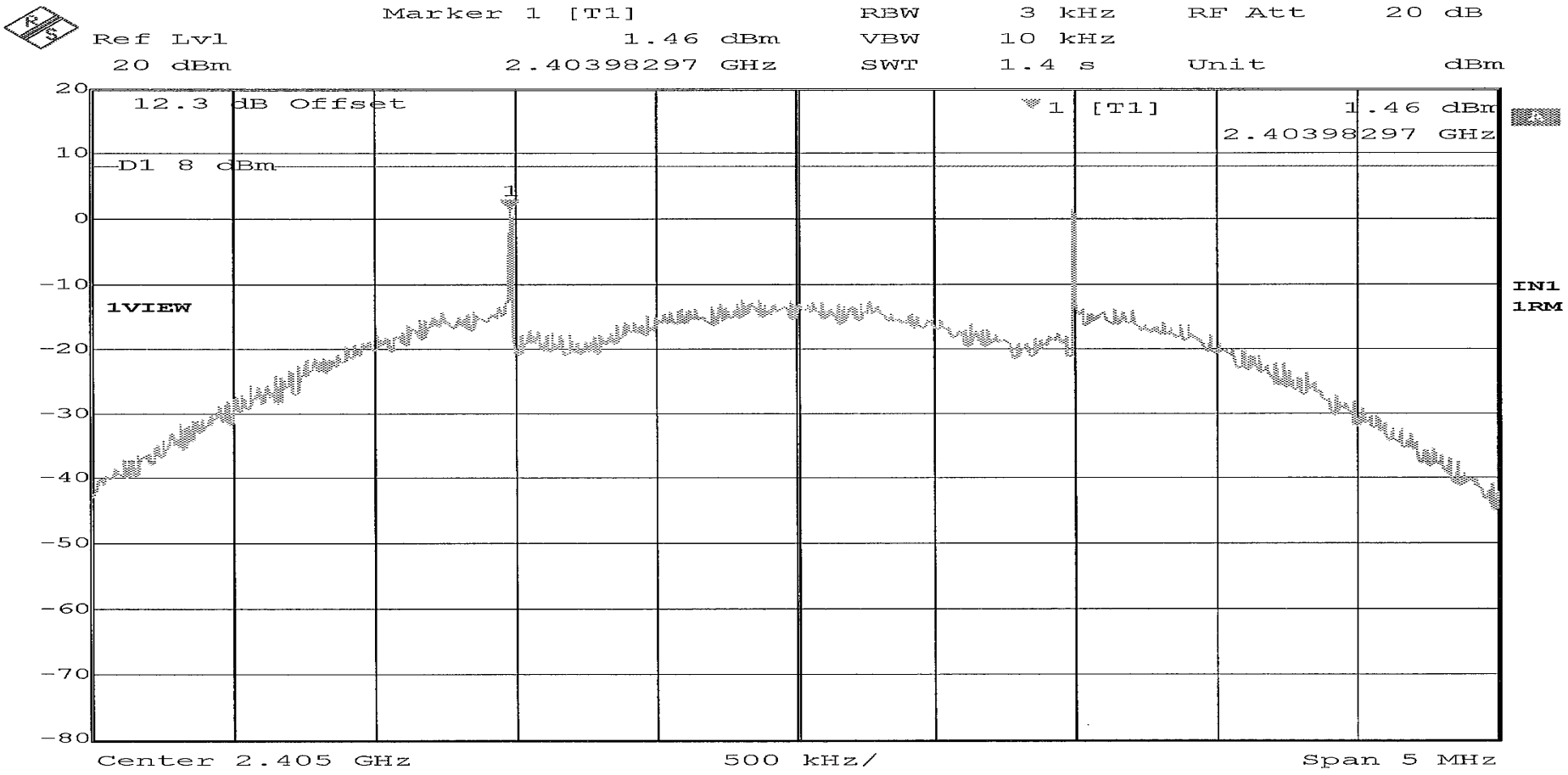
RETLIF TESTING LABORATORIES

Test Method:	Power Spectral Density		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(DSSS) signal at 2.480 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (e)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.3 °C Relative Humidity: 48.4 %		
Notes	Power Spectral Density: 0.44 dBm Limit: 8 dBm		



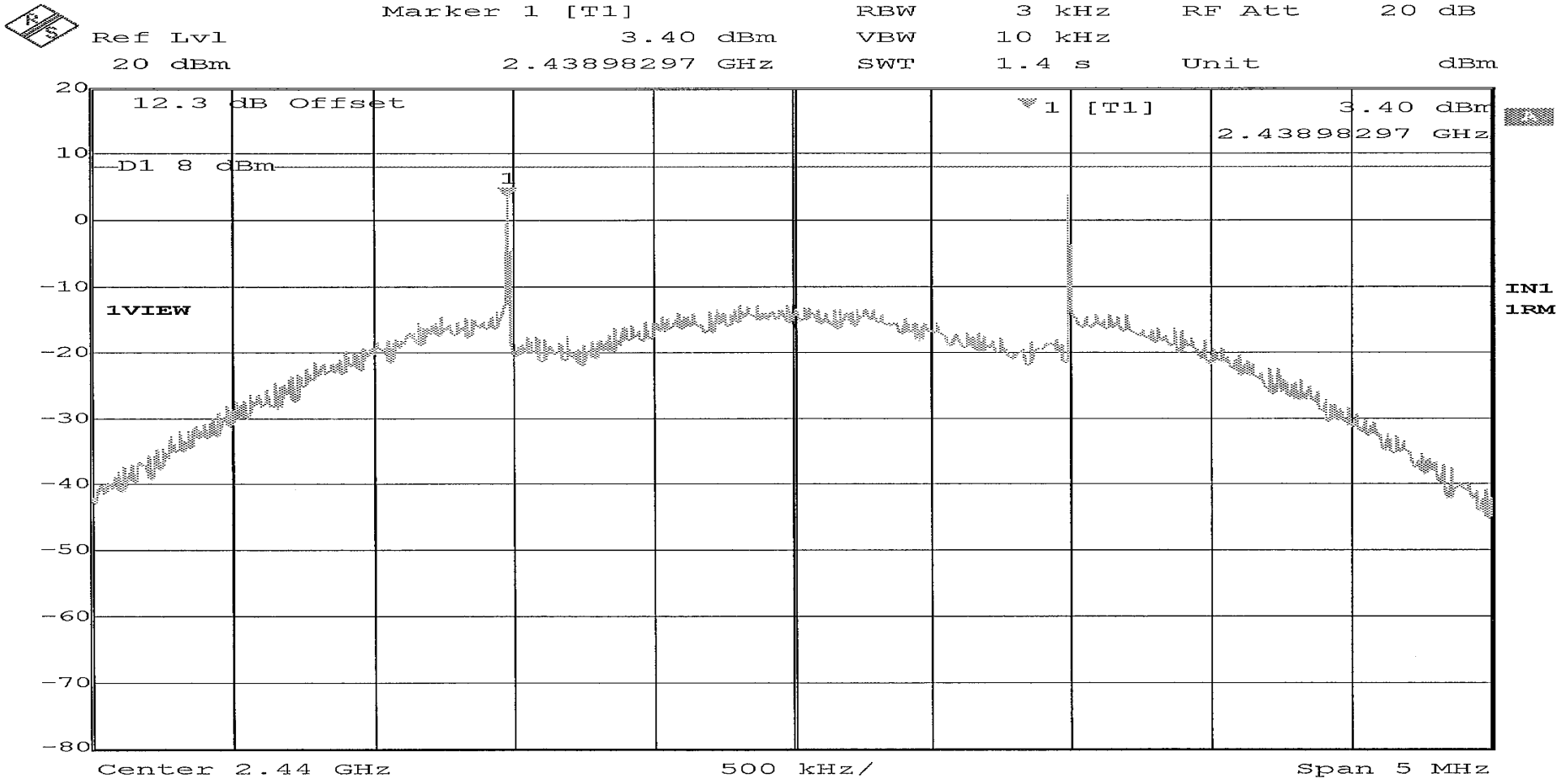
RETLIF TESTING LABORATORIES

Test Method:	Power Spectral Density		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(LXRS+) signal at 2.405 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (e)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.3 °C Relative Humidity: 48.4 %		
Notes	Power Spectral Density: 1.46 dBm Limit: 8 dBm		



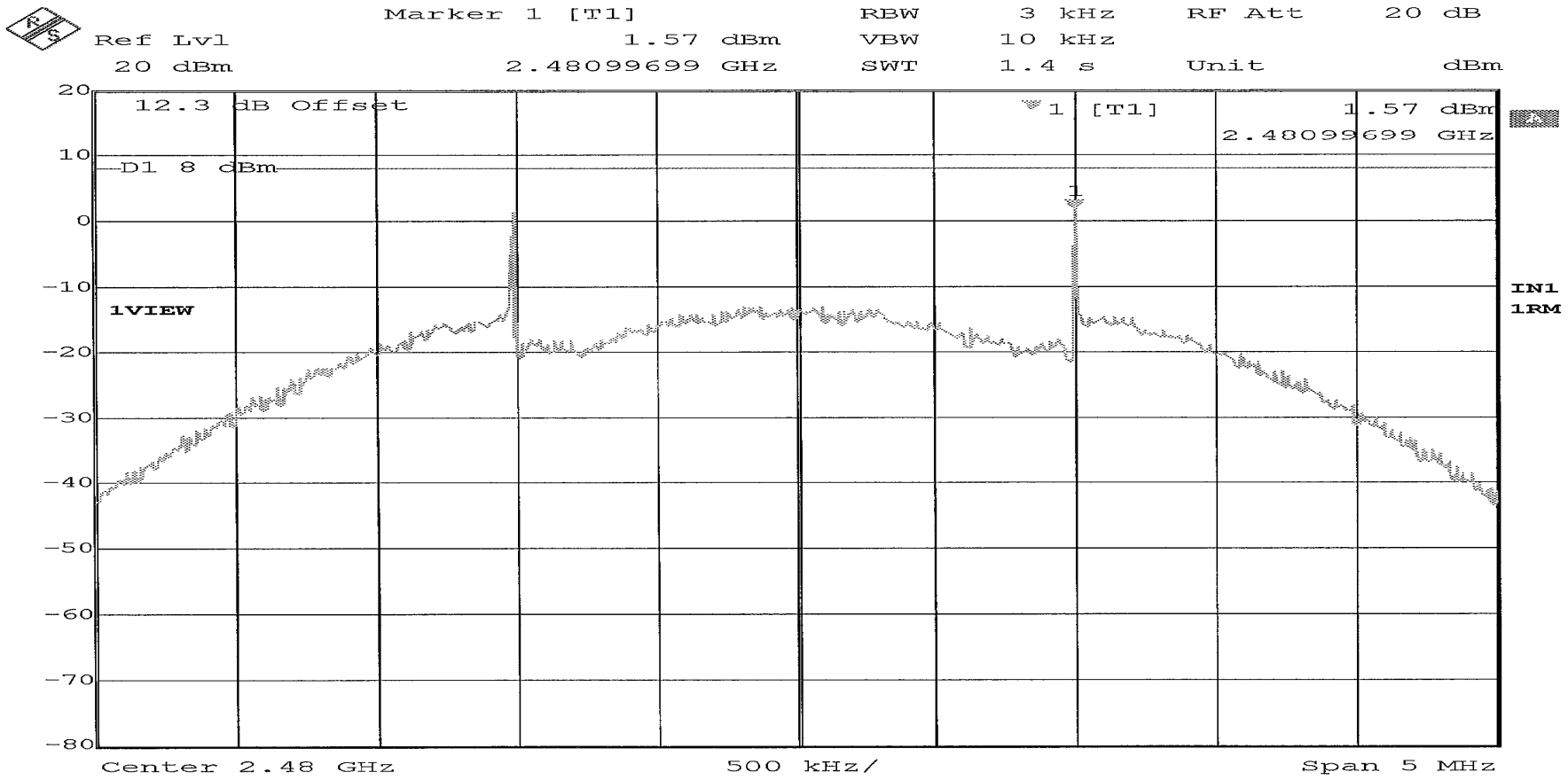
RETLIF TESTING LABORATORIES

Test Method:	Power Spectral Density		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(LXRS+) signal at 2.440 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (e)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.3 °C Relative Humidity: 48.4 %		
Notes	Power Spectral Density: 3.40 dBm Limit: 8 dBm		

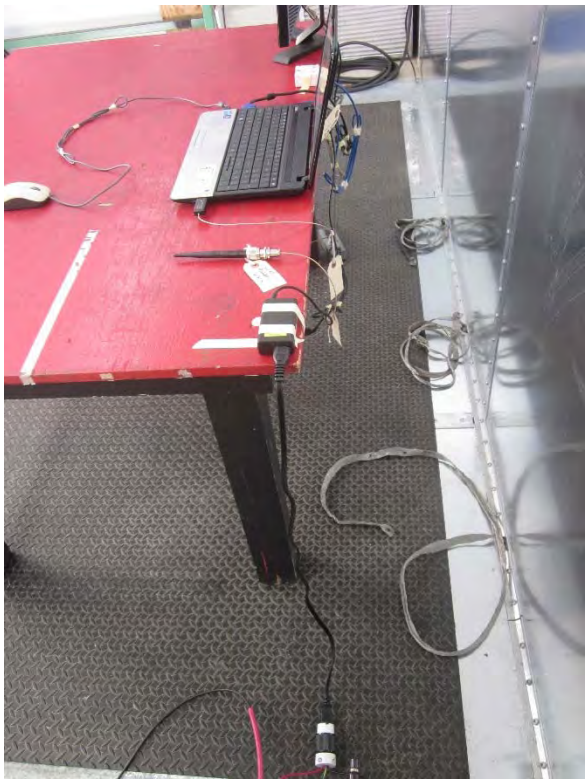


RETLIF TESTING LABORATORIES

Test Method:	Power Spectral Density		
Customer	Lord Corporation	**Job No.**	R-6220N-1
Test Sample	200 Series Radio Module		
Model Number	3022-0017	**Serial No.**	6307-2140-00075
Operating Mode	Transmitting modulated(LXRS+) signal at 2.480 GHz		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (e)		
Technician	M. Seamans	**Date**	August 2nd, 2017
Climatic Conditions	Temp: 23.3 °C Relative Humidity: 48.4 %		
Notes	Power Spectral Density: 1.57 dBm Limit: 8 dBm		



Test Photographs
AC Conducted Emissions



EUT Configuration

Test Setup

FCC Section 15.207(a)
AC Conducted Emissions
Test Data

EMISSIONS TEST DATA SHEET

Method:	**Conducted Emissions 0.15 MHz to 30 MHz**
Test Specification:	FCC Part 15.207(a)
Job Number:	R-6220N-1
Customer:	Lord Corporation
Test Sample:	200 Series Radio Module
Model Number:	3022-0017
Serial Number:	6307-2140-50717
Operating Mode:	Transmitting modulated(DSSS) signal at 2.405 GHz
Technician:	M. Seamans
Date(s):	June 15th, 2017
Temp/ Relative Humidity:	22.4 ºC / 46.2 %
Port Tested:	120 VAC 60 Hz (Host Computer)

TEST PARAMETERS

Test Frequency	Lead Tested	Quasi-Peak Reading	Quasi-Peak Limit	Quasi-Peak Margin		Average Reading	Average Limit	Average Margin
MHz		dBuV	dBuV	dB		dBuV	dBuV	dB
0.150	-	-	66.0	-		-	56.0	-
|	-	-	|	-		-	|	-
0.151	Hot	41.40	65.9	24.54		27.8	55.9	28.1
0.154	Hot	48.50	65.8	17.28		33.7	55.8	22.1
0.276	Hot	33.10	60.9	27.84		20.6	50.9	30.3
|	-	-	|	-		-	|	-
0.500	-	-	56.0	-		-	46.0	-
|	-	-	|	-		-	|	-
4.028	Hot	34.30	|	21.70		25.0	|	21.0
|	-	-	|	-		-	|	-
5.000	-	-	56.0	-		-	46.0	-
5.000	-	-	60.0	-		-	50.0	-
|	-	-	|	-		-	|	-
11.066	Hot	34.70	|	25.30		26.1	|	23.9
12.326	Hot	28.30	|	31.70		20.1	|	29.9
|	-	-	|	-		-	|	-
30.000	-	-	60.0	-		-	50.0	-

EUT emissions observed throughout the given frequency spectrum were recorded and evaluated. Emission levels closest to the limit are listed on this data sheet.

EMISSIONS TEST DATA SHEET

Method:	**Conducted Emissions 0.15 MHz to 30 MHz**
Test Specification:	FCC Part 15.207(a)
Job Number:	R-6220N-1
Customer:	Lord Corporation
Test Sample:	200 Series Radio Module
Model Number:	3022-0017
Serial Number:	6307-2140-50717
Operating Mode:	Transmitting modulated(DSSS) signal at 2.405 GHz
Technician:	M. Seamans
Date(s):	June 15th, 2017
Temp/ Relative Humidity:	22.4 ºC / 46.2 %
Port Tested:	120 VAC 60 Hz (Host Computer)

TEST PARAMETERS

Test Frequency	Lead Tested	Quasi-Peak Reading	Quasi-Peak Limit	Quasi-Peak Margin		Average Reading	Average Limit	Average Margin
MHz		dBuV	dBuV	dB		dBuV	dBuV	dB
0.150	-	-	66.0	-		-	56.0	-
|	-	-	|	-		-	|	-
0.154	Neutral	49.20	65.8	16.58		34.7	55.8	21.1
0.253	Neutral	35.00	61.7	26.66		24.1	51.7	27.6
|	-	-	|	-		-	|	-
0.500	-	-	56.0	-		-	46.0	-
|	-	-	|	-		-	|	-
1.248	Neutral	30.10	|	25.90		22.1	|	23.9
3.988	Neutral	39.60	|	16.40		26.3	|	19.7
|	-	-	|	-		-	|	-
5.000	-	-	56.0	-		-	46.0	-
5.000	-	-	60.0	-		-	50.0	-
|	-	-	|	-		-	|	-
10.988	Neutral	36.30	|	23.70		25.9	|	24.1
12.983	Neutral	26.80	|	33.20		18.7	|	31.3
|	-	-	|	-		-	|	-
30.000	-	-	60.0	-		-	50.0	-

EUT emissions observed throughout the given frequency spectrum were recorded and evaluated. Emission levels closest to the limit are listed on this data sheet.