



FCC Part 15, Subpart C, Section 15.247
Industry Canada, RSS-247 and RSS-GEN

Test Report

On

DCX9000 Video Gateway
FCC ID: ACQ-DCX900
IC: 109AS-DCX900

Customer Name: Arris Group, Inc.

Customer P.O.: AR1094889

Date of Report Revision: April 18, 2017

Test Report No.: R-2601P-1, Rev. D

Test Start Date: January 23, 2017

Test Finish Date: February 13, 2017

Test Technician: M. Seamans

Report Revision Approved By: T. Hannemann

Report Revision Prepared By: J. Ramsey

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Technical Information

Report Number: R-2601P-1, Rev. D

Customer: Arris Group, Inc.

Address: 101 Tournament Dr.
Horsham, PA 19044

Manufacturer: Arris Group, Inc.

Manufacturer Address: 101 Tournament Dr.
Horsham, PA 19044

Test Sample: DCX900 Video Gateway

Model Number: DCX900

Serial Numbers: XX00L9DB012318101628143415,
XX00L9DB012318101628143409

FCC ID: ACQ-DCX900

IC Number: 109AS-DCX900

Type: Digital Transmission –
Direct Sequence Spread Spectrum Transmitter

Power Requirements: 120 VAC, 60 Hz

Power Supply: Liteon AC Adapter, Model: PB-1300-3AR3

Frequency of Operation: 2402.0 to 2480.0 MHz

Equipment Class: DSS for Frequency Hopper

Antenna Type: PCB Trace Inverted “F” Antenna

Equipment Use: Cable Television Set-top Box

Test Specification:

FCC Rules and Regulations, Telecommunications, Part 15 Radio Frequency Devices, Subpart C, Intentional Radiators

Radio Standards Specification, RSS-247, Issue 1 May 2015

Radio Standards Specification, RSS-GEN, Issue 4, November 2014



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Test Procedure:

ANSI C63.10:2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

ANSI C63.4:2014, Methods of Measurement of Radio Noise Emissions from Low Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

DA 00-705, FCC Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems (FHSS) Operating Under 15.247, March 30, 2000

Test Facility:

Retlif Testing Laboratories
101 New Boston Road
Goffstown, NH 03045

FCC Registered Test Site Number: 90899

IC Registered Test Site Number: 2047C-1

Table 1 – Tests Performed

FCC Part 15, Subpart C	Industry Canada RSS-GEN	Industry Canada RSS-247	Test Method
15.247(a)(1)	N/A	5.1 (1)	20 dB Bandwidth
15.247(a)(1) (iii)	N/A	5.1(3)	Number of Hopping Channels and Time of Occupancy
15.247(a)(1)	N/A	5.1(2)	Channel Separation
15.247(b)(3)	N/A	5.4(2)	Power Output
15.247(d)	N/A	5.5	Antenna Terminal Out of Band/ Band Edge Conducted Emissions (25 MHz – 25 GHz)
15.247(d)	N/A	5.5	Out of Band/Band Edge Radiated Emissions (30 MHz to 25 GHz)
15.207(a)	8.8	8.8	Conducted Emissions, Power Leads, 150 kHz to 30 MHz
15.209(a)	7.1	7.1	Receiver Spurious Emissions



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EUT Description

The EUT is a UHD 4kp60 Cable Television Set-top box with an embedded multi-channel full-band capture QAM front-end receiver and video back-end processor supporting video presentation and transcoding as well as other embedded functions. It is capable of presenting encrypted SD and HD video content through HDMI™ 2.0 and Analog Composite (SD content only). Digital audio is presented through HDMI™ and Optical SPDIF, and analog audio is presented through baseband 3.5mm connector. It has a removable hard drive for DVR capability and dual USB3.0 ports for external peripherals. Wireless interfaces include Bluetooth 4.1+ HS-compliant 2.4 GHz transceiver with embedded antenna (NO 6LoWPAN functionality) and RF4CE with embedded antennas. It has front panel buttons and 38 kHz IR receiver for user interface. System memory consists of DDR4, eMMC and SPI Flash. The DCX900 is home networking capable through MoCA® and Gigabit Ethernet. This model has removable Cablecard for content security.

Table 2 – Support Equipment

Description	Manufacturer	Part Number	Model Number	Serial Number
Laptop PC	HP	FY706UC#ABA	EliteBook 6930p	2CE9395YL3
Display	Samsung	N/A	UN19F4000AF	Z6U03CLF504436B

EUT Operation:

During Occupied Bandwidth, Peak Power Output, Antenna Terminal Out of Band/Band Edge Conducted Emissions, Spurious Radiated and Power Spectral Density, the EUT was continuously transmitting a modulated signal.

During Conducted Emissions, the EUT was continuously transmitting a modulated signal and video playback.

During Receiver Spurious, the EUT was continuously in video playback, not transmitting.



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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.



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Revision History

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

Revision	Date	Pages Affected
-	February 8, 2017	Original Release
A	February 14, 2017	Global Changes: <ul style="list-style-type: none"> • Document changed from R-2601P-1 to R-2601P-1, Rev. A 7: <ul style="list-style-type: none"> • Updated Power Input 9: <ul style="list-style-type: none"> • Updated 20dB Bandwidth 10: <ul style="list-style-type: none"> • Updated RF Exposure information 12: <ul style="list-style-type: none"> • Updated Power Output equipment list • Updated Antenna Terminal Out of Band equipment list 13: <ul style="list-style-type: none"> • Updated 20dB Bandwidth equipment list 16-18: <ul style="list-style-type: none"> • Replaced Peak Power Output data 21-22: <ul style="list-style-type: none"> • Replaced Bandedge Conducted data 24-29: <ul style="list-style-type: none"> • Replaced Unwanted Emissions into Non-Restricted Frequency Bands data 47-49: <ul style="list-style-type: none"> • Replaced 20dB Bandwidth data
B	February 21, 2017	Global Changes: <ul style="list-style-type: none"> • Document changed from R-2601P-1, Rev. A to R-2601P-1, Rev. B 48: <ul style="list-style-type: none"> • Revised Bandwidth from 1.723 MHz to 1.1723 MHz
C	April 12, 2017	Global Changes: <ul style="list-style-type: none"> • Document changed from R-2601P-1, Rev. B to R-2601P-1, Rev. C 2: <ul style="list-style-type: none"> • Corrected Equipment class 28 & 29: <ul style="list-style-type: none"> • Revised Transmit Frequency in heading of test data
D	April 18, 2017	Global Changes: <ul style="list-style-type: none"> • Document changed from R-2601P-1, Rev. C to R-2601P-1, Rev. D 4: <ul style="list-style-type: none"> • Updated EUT Description per customer request



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Requirements and Test Results

Requirement:

Power Output

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.

- **Results:** The maximum measured peak conducted output power was 5.012 mW. The maximum antenna gain of the antenna is 2.0 dBi. The device was found to meet the power output requirements of 15.247 (b)(3) including de facto EIRP.

Requirement:

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).



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Requirements and Test Results (con't)

Requirement:

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).

Requirement:

Receiver Radiated Spurious Emissions

Spurious emissions from receivers must comply with the radiated emissions limits specified in RSS-Gen, Para. 7.1 and as shown above in Table 3.

- **Results:** No EUT receiver spurious emissions were observed within 10dB of the specified limit.



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Requirements and Test Results (con't)

Requirement:

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 maximum 20 dB bandwidth of the hopping channel was 1.1823 MHz. The carrier frequencies were separated by 1.0257 MHz which exceeds 25 kHz or two-thirds (2/3) the 20 dB bandwidth and complies with the requirements specified above.

Requirement:

Number of Channels and Occupancy Time

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

- **Results:**

The frequency hopping system uses 79 Channels. The average time of occupancy did not exceed 0.4 seconds in a 31.6 second period which meets the above requirements.



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Requirements and Test Results (con't)

RF Exposure

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 excess 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.

$$S = \frac{PG}{4\pi D^2}$$

D = Minimum Separation Distance in cm

S = Max allowed Power Density in mW/cm²

Per 1.1310 For the Frequency of 2400 MHz S = 1 mW/cm²

FHSS Transmission Mode:

Power = Max Power Input to Antenna = 5.012 mW

Gain = Max Power Gain of Antenna = 2.0 dBi = 1.6 numeric

$$0.6\text{mW/cm}^2 = \frac{5.012 \times 1.6}{4 (3.14) \times D^2} = \frac{8.0192}{12.56 \times D^2}$$

$$D^2 = \frac{8.0192}{12.56 \times 1.0}$$

$$D = \sqrt{0.6384} = 0.799 \text{ cm}$$

The calculation above uses the highest power level for the device in this band.



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Requirement:

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 μ H/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 (dB μ V)	
	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.



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EQUIPMENT LISTS

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

Antenna Terminal Out of Band/ Band Edge Conducted Emissions, 30 MHz to 25 GHz

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

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	6/16/2016	6/30/2017
3258	ETS / EMCO	ANTENNA, DOUBLE RIDGED GUIDE	1 - 18 GHz	3115	10/13/2016	4/30/2018
3427B	ETS / EMCO	ANTENNA, BICONICAL	20 - 200 MHz	3104	2/5/2016	8/31/2017
3430	MCS	ANTENNA, HORN	18 - 26.5 GHz	K-5039	No Calibration Required	
4029B	RETLIF	OPEN AREA TEST SITE, ATTENUATION	3 / 10 Meters	RNH	4/13/2016	4/30/2018
443	ELECTRO-METRICS	ANTENNA, LOG PERIODIC	200 MHz - 1000 MHz	LPA-25	10/6/2016	4/30/2018
4984G	MICROLAB / FXR	ANTENNA, HIGH GAIN HORN	12.4 - 18 GHz	Y638A	No Calibration Required	
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	10/21/2016	10/31/2017
5188	Cybertron	COMPUTER, CONTROL	N/A	TSVQJA2221	No Calibration Required	
R469	AGILENT / HP	ANALYZER, SPECTRUM	100 Hz - 26.5 GHz	E7405A;A	12/1/2016	12/31/2017



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EQUIPMENT LISTS (continued)

20 dB 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

Channel Separation

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
5135	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB, DC - 12.4 GHz	757C-10	11/23/2016	11/30/2017
R474	AGILENT / HP	ANALYZER, SIGNAL	10 Hz - 26 GHz	N9020B	10/10/2016	10/10/2017

Number of Hopping Channels and Time Occupancy

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
5135	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB, DC - 12.4 GHz	757C-10	11/23/2016	11/30/2017
R474	AGILENT / HP	ANALYZER, SIGNAL	10 Hz - 26 GHz	N9020B	10/10/2016	10/10/2017

Conducted Emissions, Power Leads, 150 kHz to 30 MHz

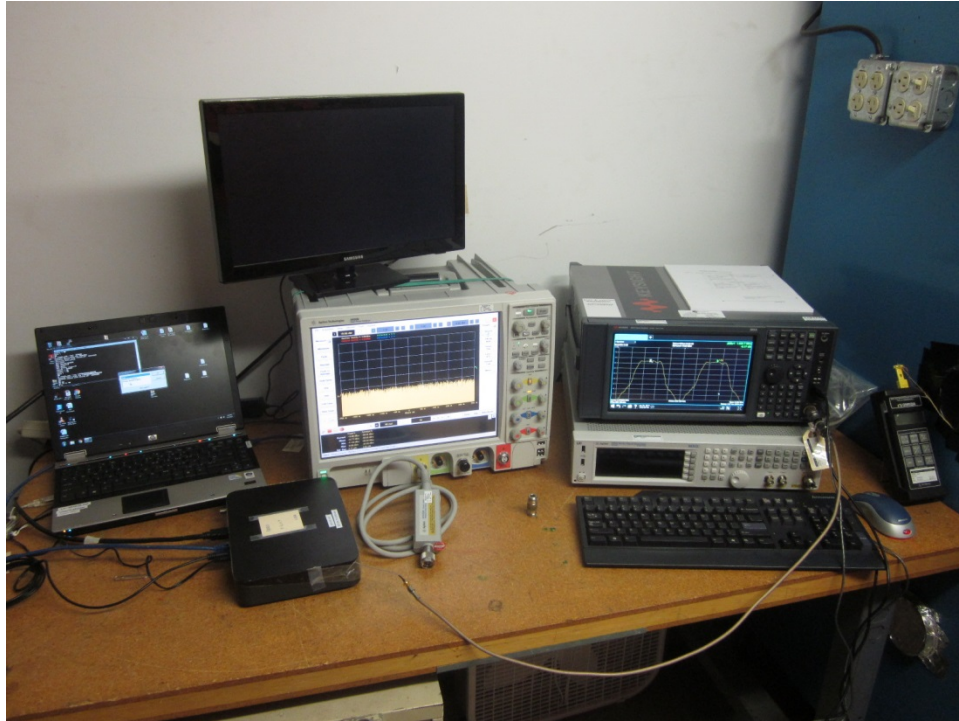
EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
5030B	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB, DC - 12.4 GHz	757C-10	3/16/2016	3/31/2017
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	10/21/2016	10/31/2017
5188	Cybertron	COMPUTER, CONTROL	N/A	TSVQJA2221	No Calibration Required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



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**Test Photograph(s)
Power Output**



Test Setup



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Peak Power Output

**FCC Part 15, Subpart C, Paragraph: 15.247 (b)(3)
RSS-247, Paragraph: 5.4(2)
Test Data**

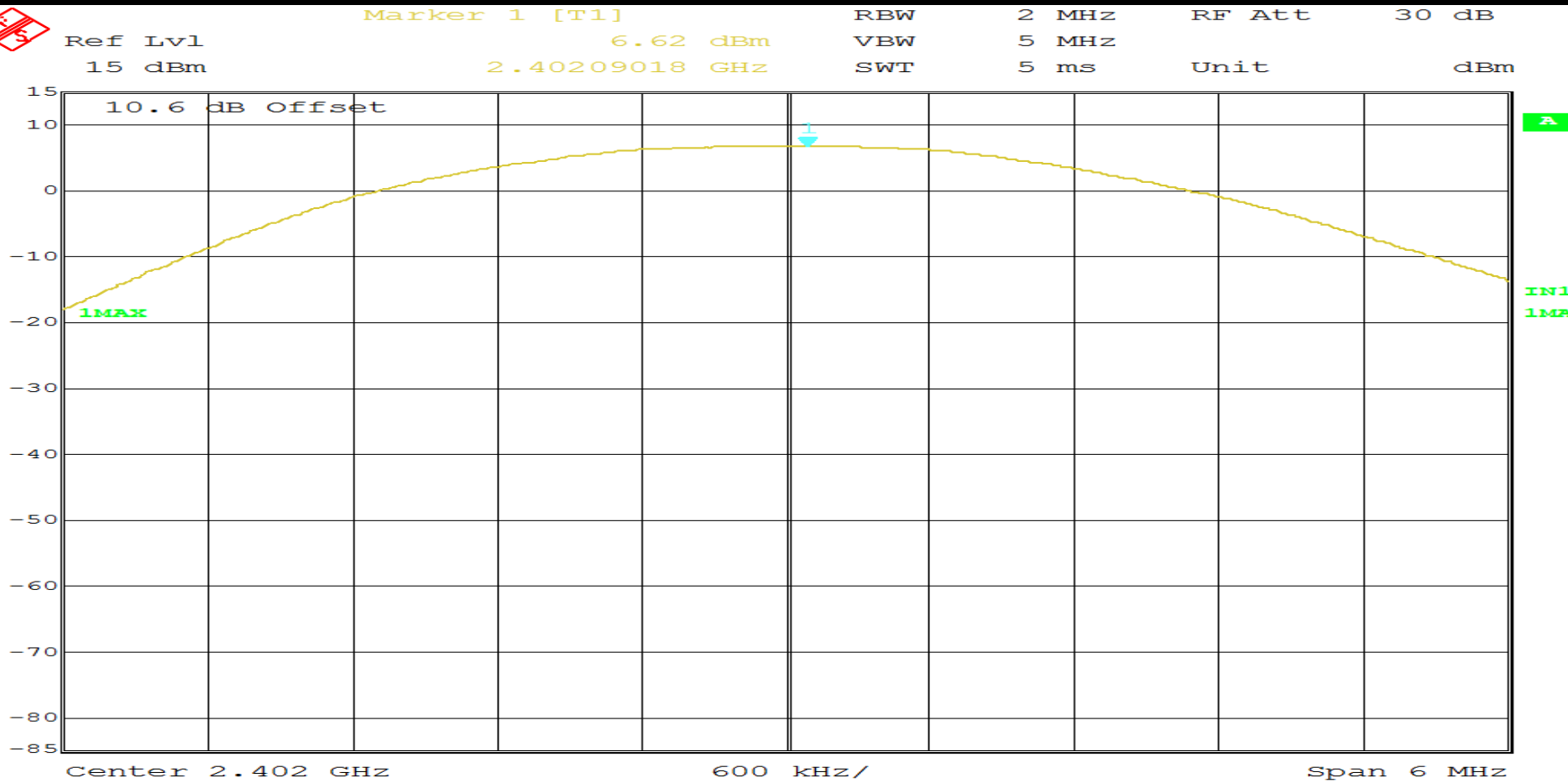


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RETLIF TESTING LABORATORIES

Test Method	Peak Power Output		
Customer	Arris	Job No.	R-2601P-1
Test Sample	DCX900 Video Gateway		
Model Number	DCX900	Serial No.	XX00L9DB012318101628143409
Operating Mode	Transmitting modulated signal (Classic Bluetooth)		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (b)(3)		
Technician	M. Seamans	Date	February 10 th , 2017
Climatic Conditions	Temp: 23.9 °C Relative Humidity: 14.7 %		
Notes	Transmit Frequency: 2402 MHz Peak Power Output: 6.62 dBm (4.592mW)		

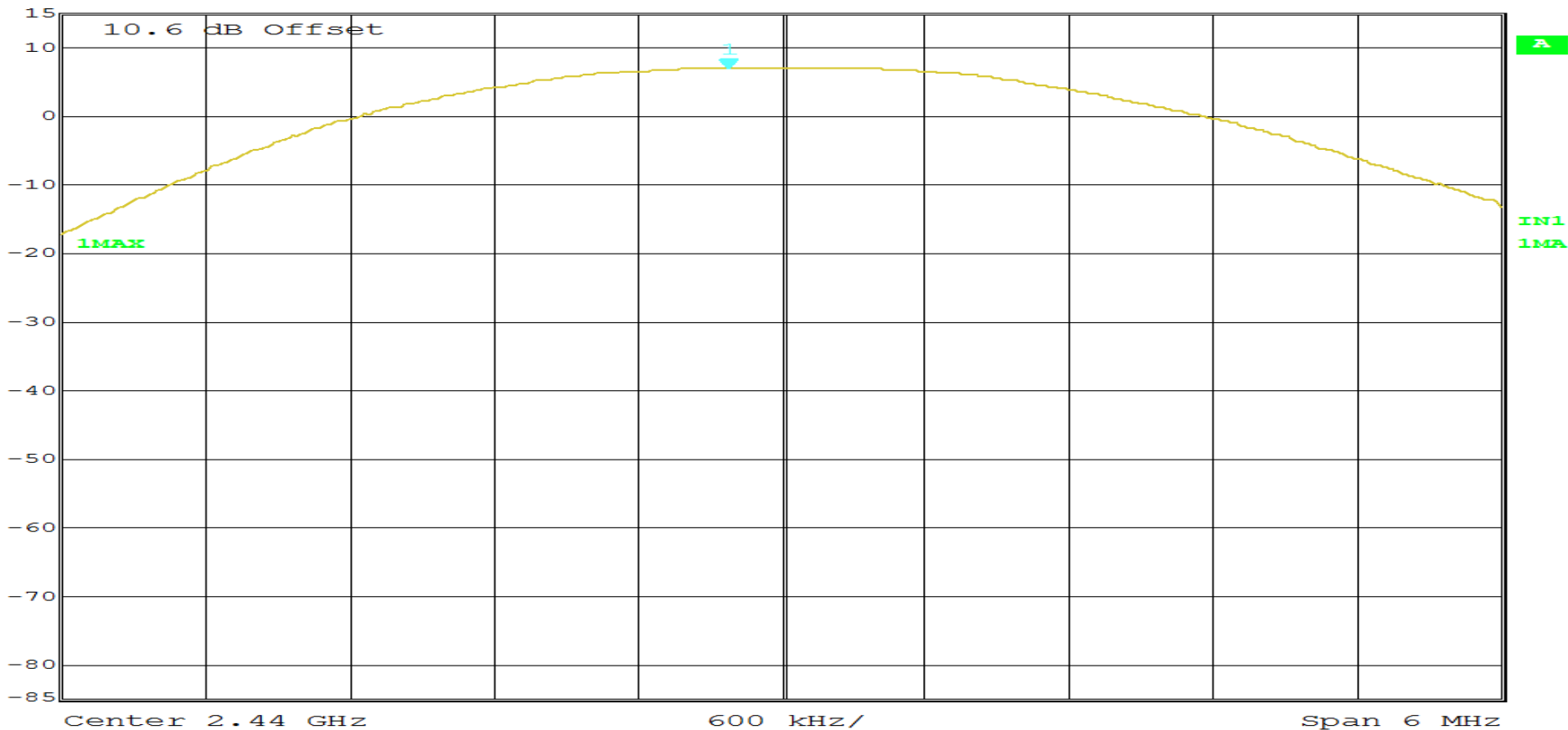


RETLIF TESTING LABORATORIES

Test Method	Peak Power Output		
Customer	Arris	Job No.	R-2601P-1
Test Sample	DCX900 Video Gateway		
Model Number	DCX900	Serial No.	XX00L9DB012318101628143409
Operating Mode	Transmitting modulated signal (Classic Bluetooth)		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (b)(3)		
Technician	M. Seamans	Date	February 10 th , 2017
Climatic Conditions	Temp: 23.9 °C Relative Humidity: 14.7 %		
Notes	Transmit Frequency: 2441 MHz Peak Power Output: 7.00 dBm (5.012mW)		

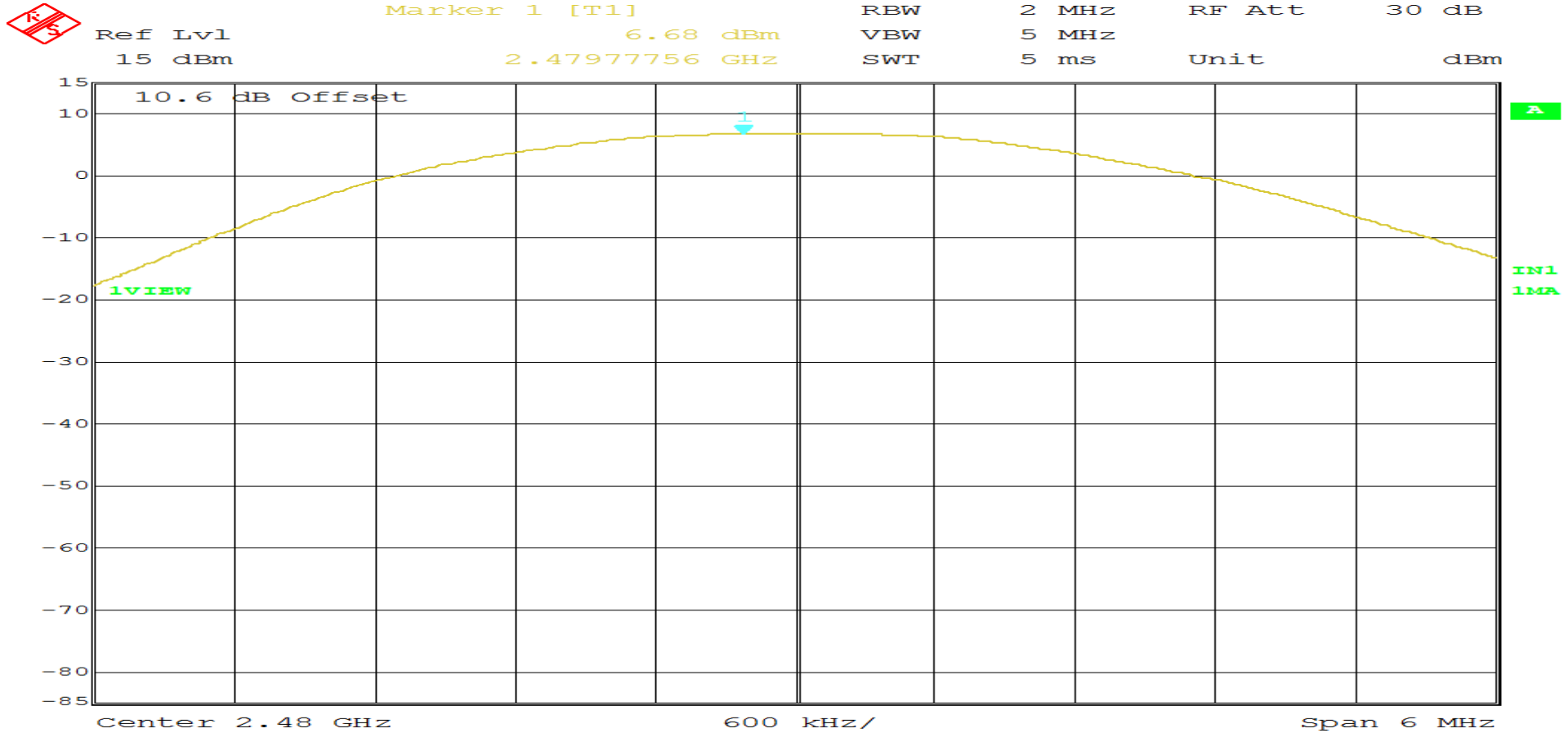


Marker 1 [T1] RBW 2 MHz RF Att 30 dB
 Ref Lvl 7.00 dBm VBW 5 MHz
 15 dBm 2.43977756 GHz SWT 5 ms Unit dBm



RETLIF TESTING LABORATORIES

Test Method	Peak Power Output		
Customer	Arris	Job No.	R-2601P-1
Test Sample	DCX900 Video Gateway		
Model Number	DCX900	Serial No.	XX00L9DB012318101628143409
Operating Mode	Transmitting modulated signal (Classic Bluetooth)		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (b)(3)		
Technician	M. Seamans	Date	February 10 th , 2017
Climatic Conditions	Temp: 23.9 °C Relative Humidity: 14.7 %		
Notes	Transmit Frequency: 2480 MHz Peak Power Output: 6.68 dBm (4.656mW)		



Test Photograph(s)
Antenna Terminal Out of Band/Band Edge Conducted Emissions, 25 MHz to 10 GHz



Test Setup



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Band Edge Emissions Conducted

**FCC Part 15, Subpart C, Paragraph: 15.247 (d)
RSS-247, Paragraph: 5.5
Test Data**

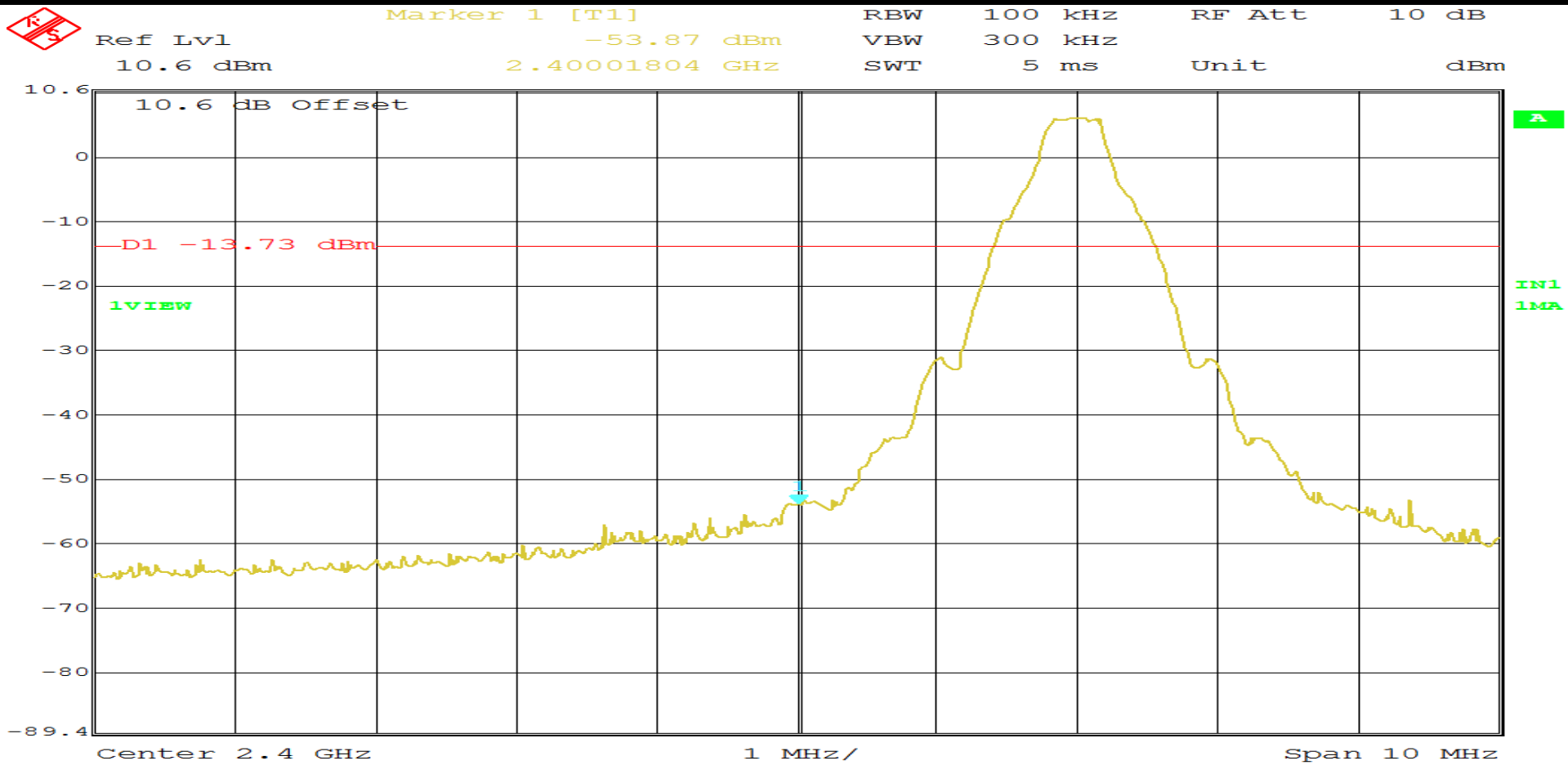


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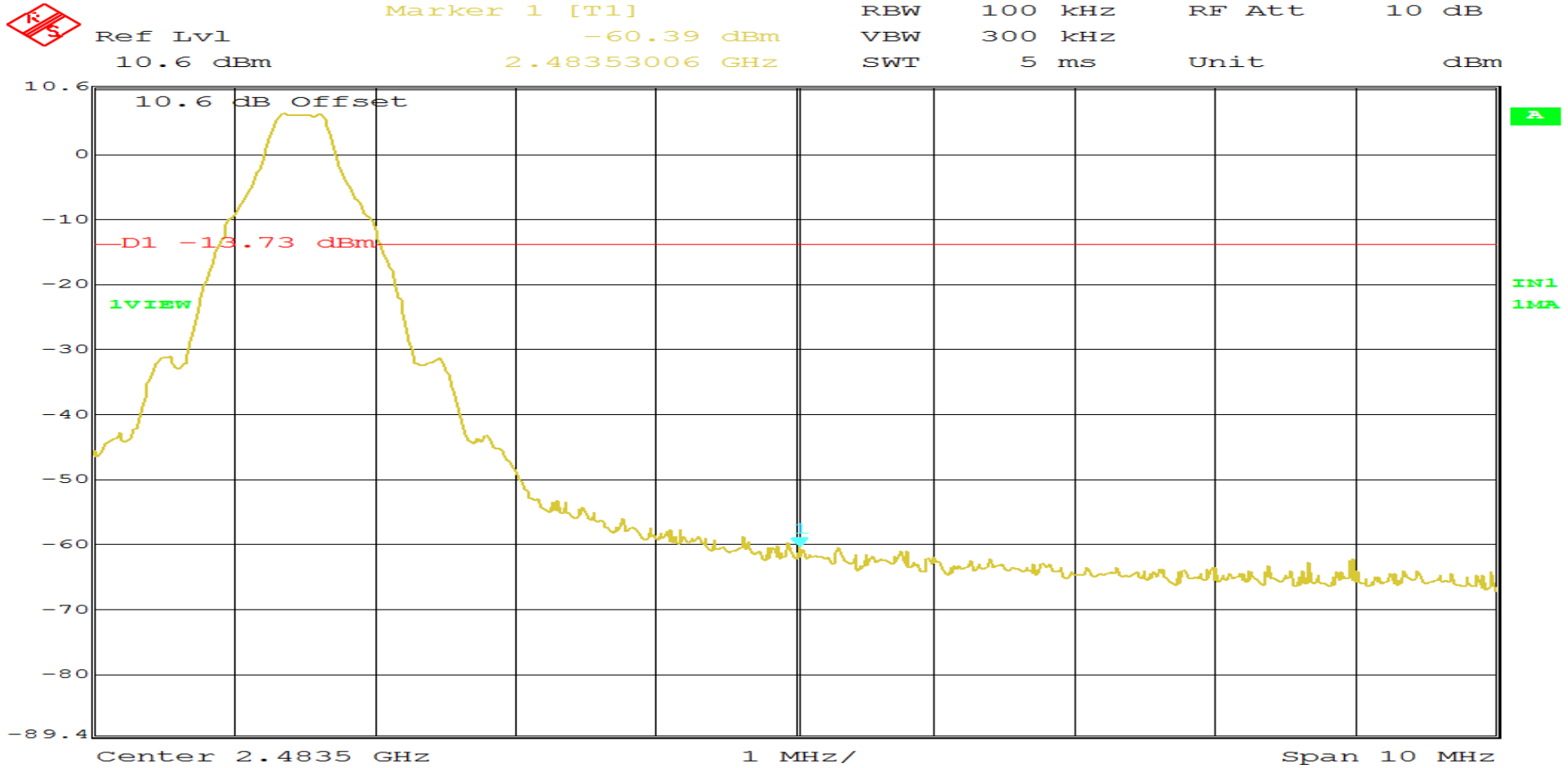
RETLIF TESTING LABORATORIES

Test Method	Band Edge Emissions Conducted		
Customer	Arris	Job No.	R-2601P-1
Test Sample	DCX900 Video Gateway		
Model Number	DCX900	Serial No.	XX00L9DB012318101628143409
Operating Mode	Transmitting Modulated Data (Classic Bluetooth)		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	Date	February 10 th , 2017
Climatic Conditions	Temp: 24.2 °C Relative Humidity: 14.1 %		
Notes	Transmit Frequency: 2402 MHz Limit based on 100kHz PSD Level of -13.73 dBm		



RETLIF TESTING LABORATORIES

Test Method	Band Edge Emissions Conducted		
Customer	Arris	Job No.	R-2601P-1
Test Sample	DCX900 Video Gateway		
Model Number	DCX900	Serial No.	XX00L9DB012318101628143409
Operating Mode	Transmitting Modulated Data (Classic Bluetooth)		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	Date	February 10 th , 2017
Climatic Conditions	Temp: 24.2 °C Relative Humidity: 14.1 %		
Notes	Transmit Frequency: 2480 MHz Limit based on 100kHz PSD Level of -13.73 dBm		



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

**FCC Part 15, Subpart C, Paragraph: 15.247 (d)
RSS-247, Paragraph: 5.5
Test Data**



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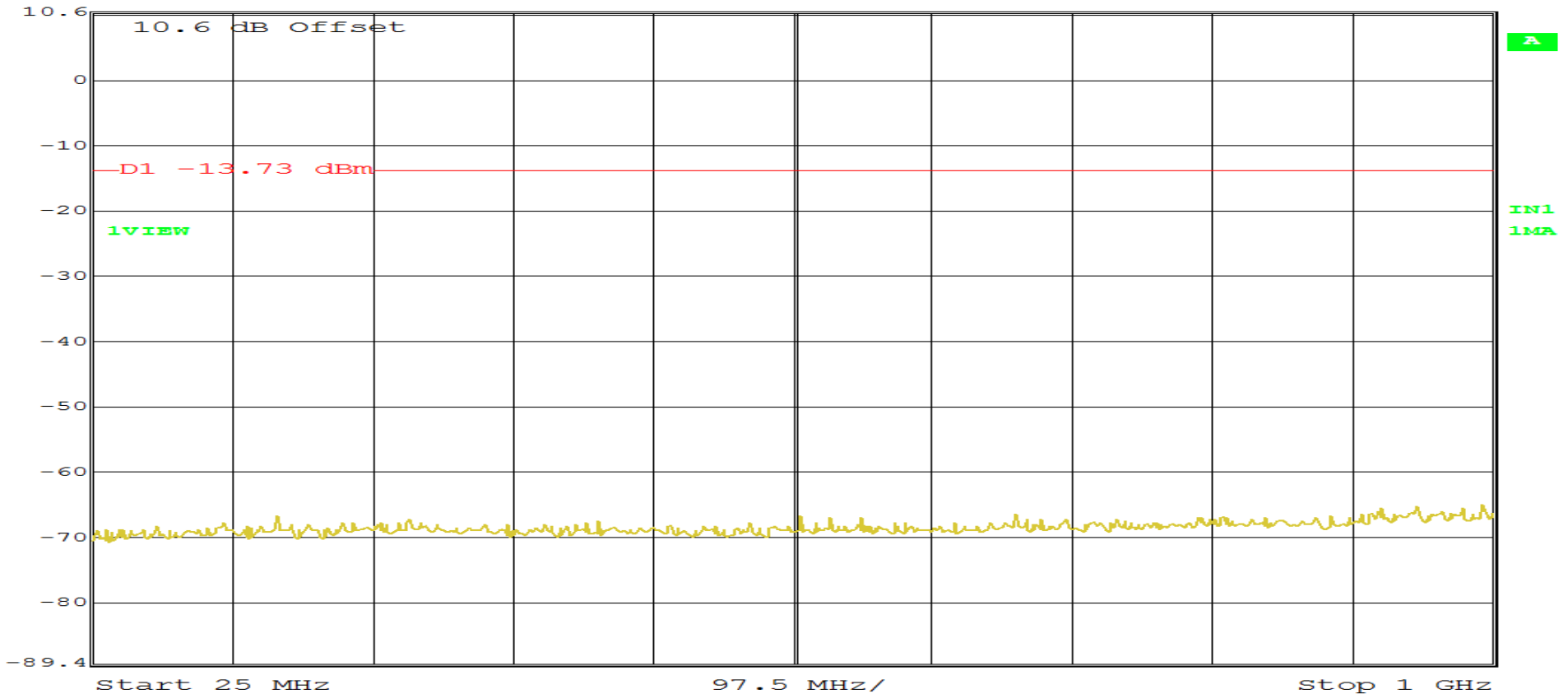
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Test Method	Unwanted Emissions into Non-Restricted Frequency Bands		
Customer	Arris	Job No.	R-2601P-1
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Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	Date	February 10 th , 2017
Climatic Conditions	Temp: 24.2 °C Relative Humidity: 14.1 %		
Notes	Transmit Frequency: 2402 MHz Limit based on 100kHz PSD Level of -13.73dBm		



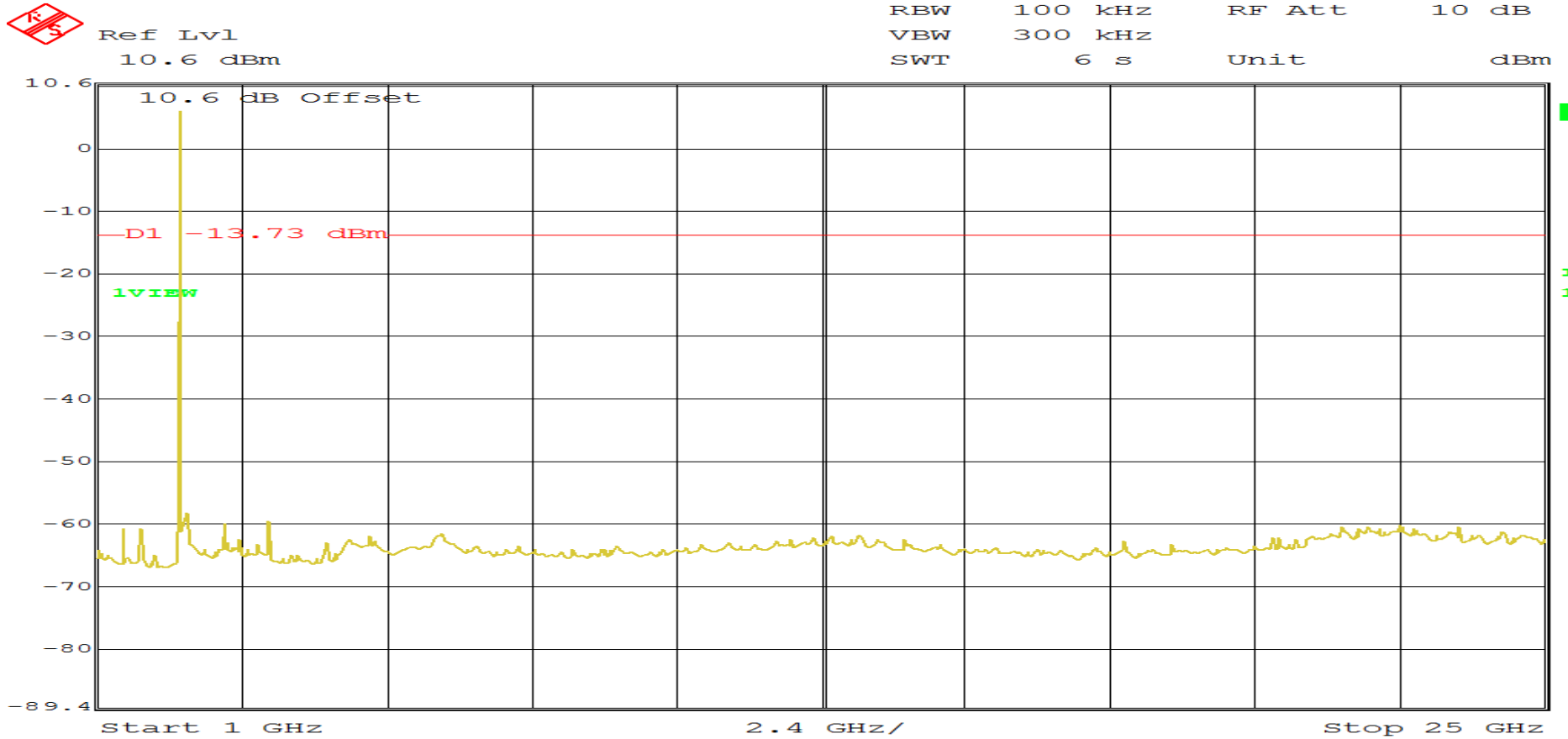
Ref Lvl
10.6 dBm

RBW	100 kHz	RF Att	10 dB
VBW	300 kHz	Unit	dBm
SWT	245 ms		



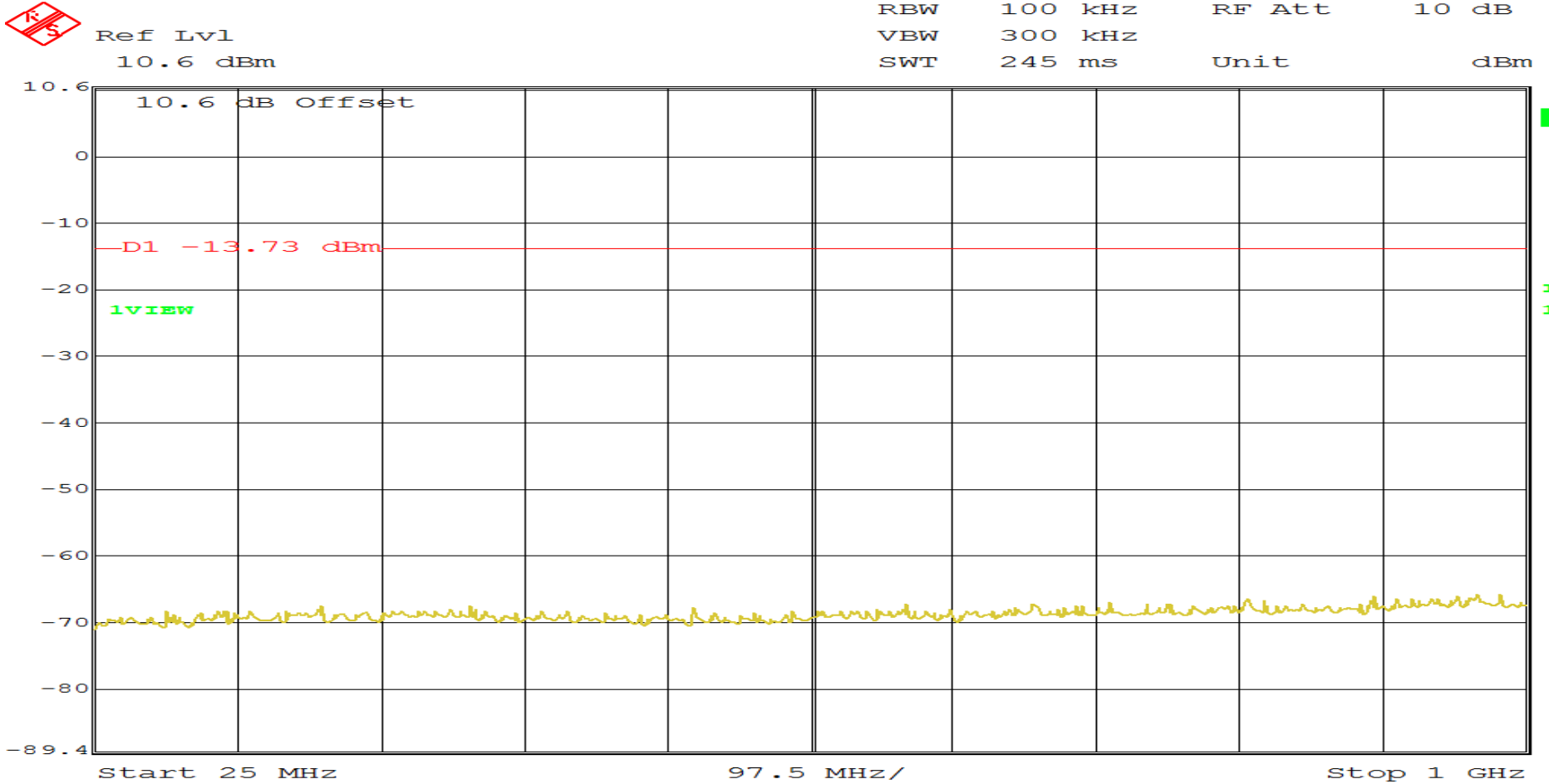
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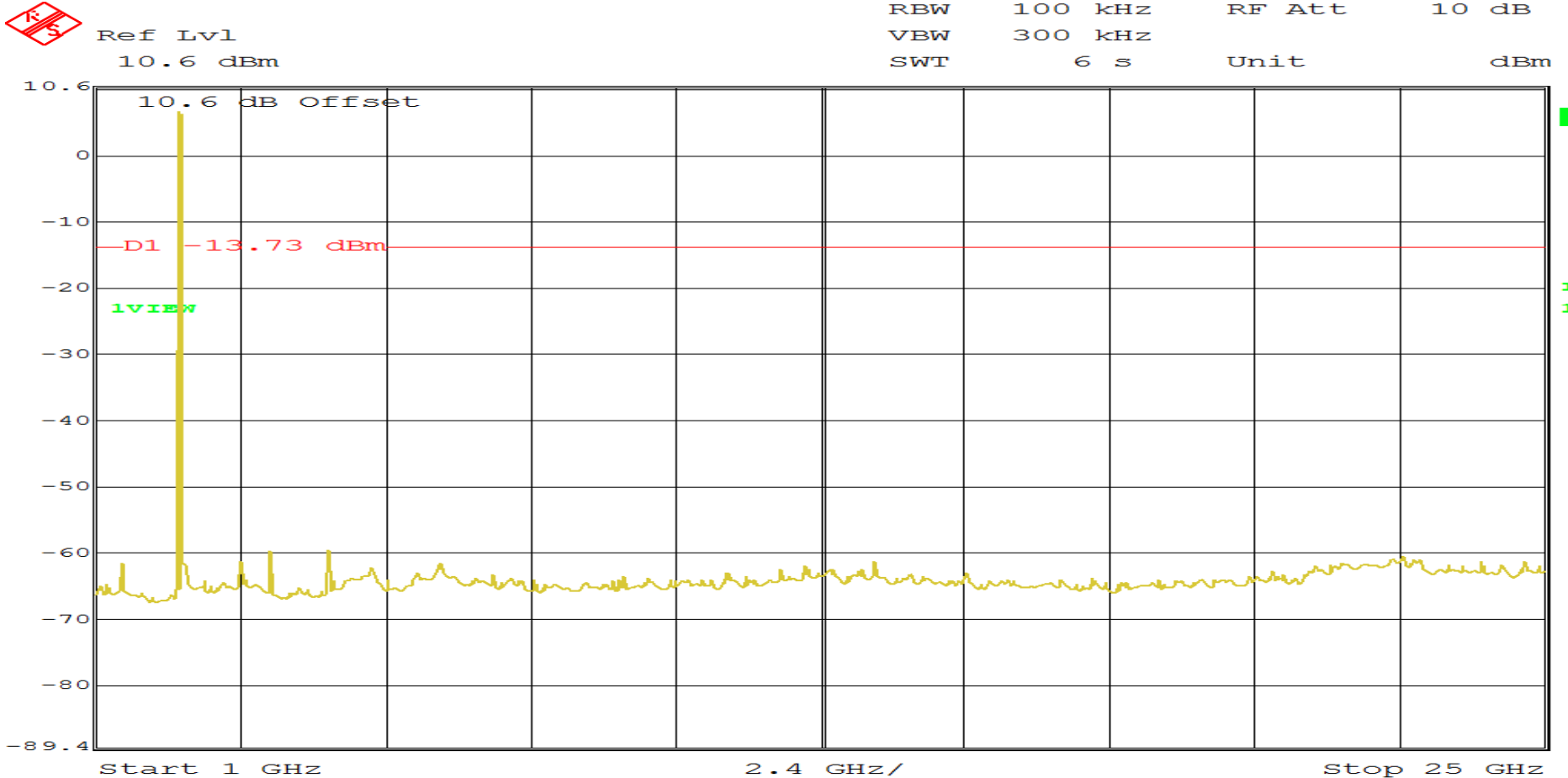
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Test Sample	DCX900 Video Gateway		
Model Number	DCX900	Serial No.	XX00L9DB012318101628143409
Operating Mode	Transmitting Modulated Data (Classic Bluetooth)		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	Date	February 10 th , 2017
Climatic Conditions	Temp: 24.2 °C Relative Humidity: 14.1 %		
Notes	Transmit Frequency: 2441 MHz Limit based on 100kHz PSD Level of -13.73dBm		



RETLIF TESTING LABORATORIES

Test Method	Unwanted Emissions into Non-Restricted Frequency Bands		
Customer	Arris	Job No.	R-2601P-1
Test Sample	DCX900 Video Gateway		
Model Number	DCX900	Serial No.	XX00L9DB012318101628143409
Operating Mode	Transmitting Modulated Data (Classic Bluetooth)		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	Date	February 10 th , 2017
Climatic Conditions	Temp: 24.2 °C Relative Humidity: 14.1 %		
Notes	Transmit Frequency: 2441 MHz Limit based on 100kHz PSD Level of -13.73dBm		



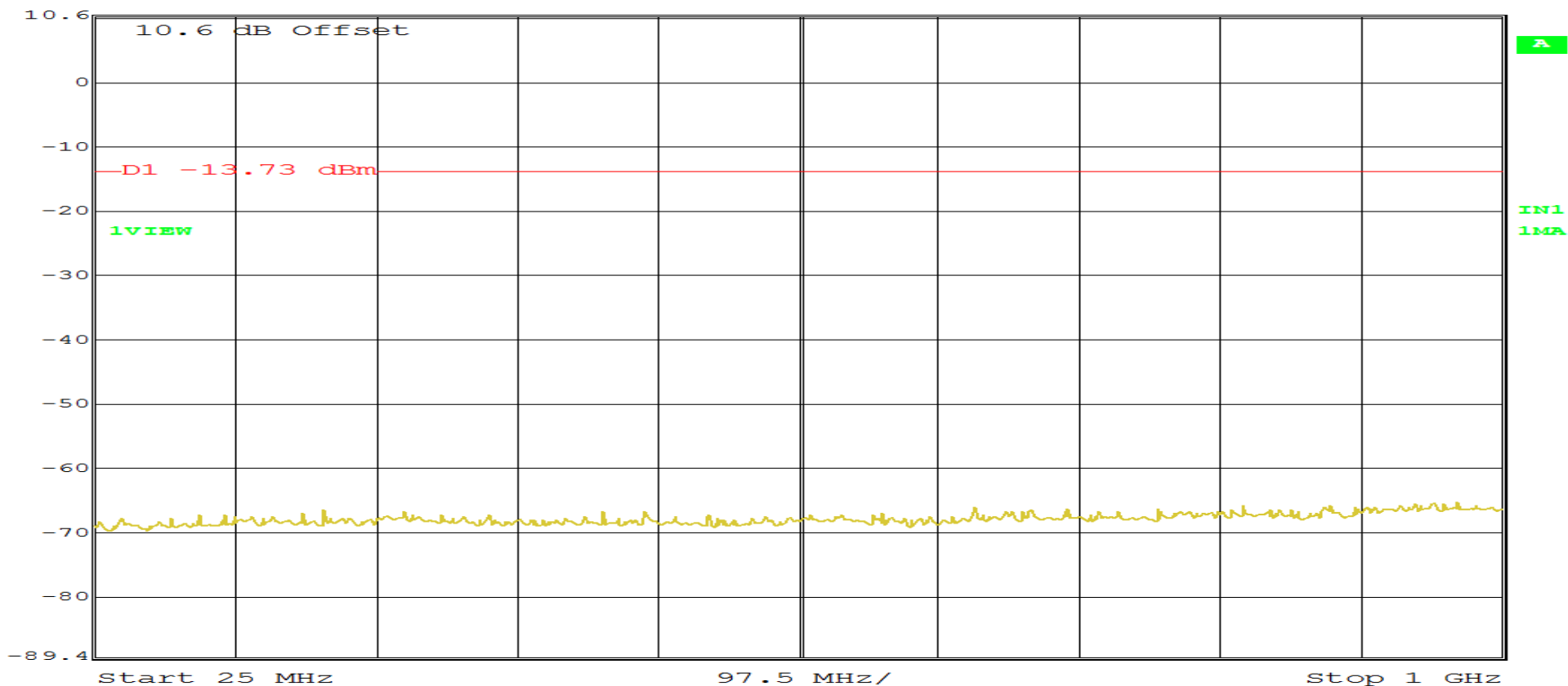
RETLIF TESTING LABORATORIES

Test Method	Unwanted Emissions into Non-Restricted Frequency Bands		
Customer	Arris	Job No.	R-2601P-1
Test Sample	DCX900 Video Gateway		
Model Number	DCX900	Serial No.	XX00L9DB012318101628143409
Operating Mode	Transmitting Modulated Data (Classic Bluetooth)		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	Date	February 10 th , 2017
Climatic Conditions	Temp: 24.2 °C Relative Humidity: 14.1 %		
Notes	Transmit Frequency: 2480 MHz Limit based on 100kHz PSD Level of -13.73dBm		



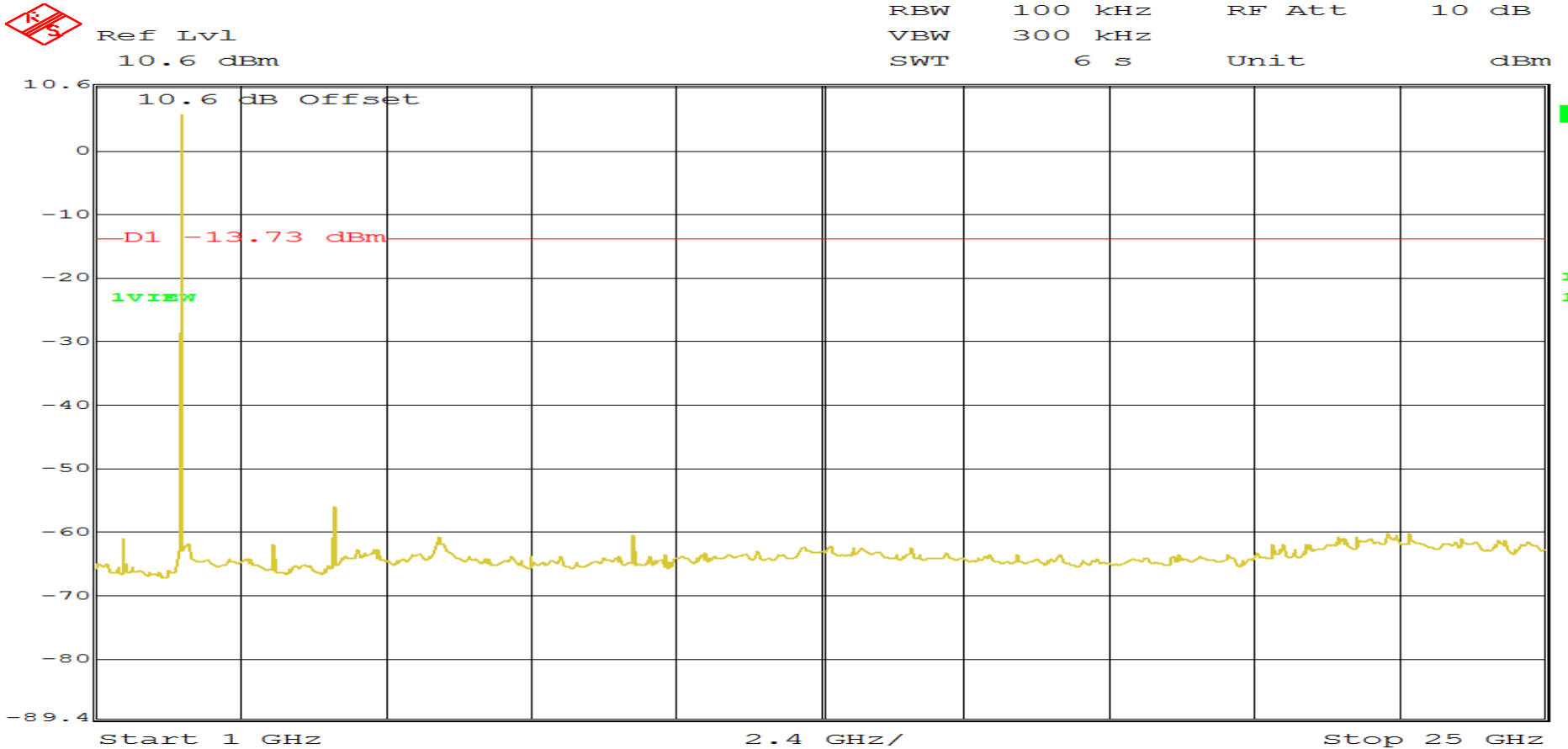
Ref Lvl
10.6 dBm

RBW 100 kHz RF Att 10 dB
 VBW 300 kHz
 SWT 245 ms Unit dBm



RETLIF TESTING LABORATORIES

Test Method	Unwanted Emissions into Non-Restricted Frequency Bands		
Customer	Arris	Job No.	R-2601P-1
Test Sample	DCX900 Video Gateway		
Model Number	DCX900	Serial No.	XX00L9DB012318101628143409
Operating Mode	Transmitting Modulated Data (Classic Bluetooth)		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (d)		
Technician	M. Seamans	Date	February 10 th , 2017
Climatic Conditions	Temp: 24.2 °C Relative Humidity: 14.1 %		
Notes	Transmit Frequency: 2480 MHz Limit based on 100kHz PSD Level of -13.73dBm		



**Test Photograph(s)
Out of Band/Band Edge Radiated Emissions**



Configuration, Back



Configuration, Front



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

**Test Photograph(s)
Out of Band/Band Edge Radiated Emissions**



25 MHz – 200 MHz, Horizontal Polarization



25 MHz – 200 MHz, Vertical Polarization



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

**Test Photograph(s)
Out of Band/Band Edge Radiated Emissions**



200 MHz – 1 GHz, Horizontal Polarization



200 MHz – 1 GHz, Vertical Polarization



Retlif Testing Laboratories

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**Test Photograph(s)
Out of Band/Band Edge Radiated Emissions**



1 GHz – 12 GHz, Horizontal Polarization



1 GHz – 12 GHz, Vertical Polarization



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

Test Photograph(s)
Out of Band/Band Edge Radiated Emissions



12 GHz – 18 GHz, Horizontal Polarization



12 GHz – 18 GHz, Vertical Polarization



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

Test Photograph(s)
Out of Band/Band Edge Radiated Emissions



18 GHz – 25 GHz, Horizontal Polarization



18 GHz – 25 GHz, Vertical Polarization



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

**Unwanted Emissions into Restricted Frequency Bands
25 MHz to 25 GHz**

**FCC Part 15 Subpart C, Paragraph: 15.247(d)
RSS-247, Paragraph: 5.5
Test Data**



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Arris	
Job Number	R-2601P-1	
Test Sample	DCX900 Video Gateway	
Model Number	DCX900	
Serial Number	XX00L9DB012318101628143415	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting modulated signal (Classic Bluetooth)	
Technician	M. Seamans	
Date	January 26 th , 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	22.10	14.20	36.30	*	65.31	I
38.25	-	-	-	-		-	100.00
73.00	-	-	-	-		-	100.00
	74.00	22.84	8.36	31.20	*	36.31	I
74.60	-	-	-	-		-	100.00
74.80	-	-	-	-		-	100.00
	75.00	19.54	8.36	27.90	*	24.83	
75.20	-	-	-	-		-	100.00
108.00	-	-	-	-		-	150.00
	115.00	12.78	10.02	22.80	*	13.80	
	-	-	-	-		-	
121.94	-	-	-	-		-	150.00
123.00	-	-	-	-		-	150.00
	130.00	7.74	15.96	23.70	*	15.31	
	-	-	-	-		-	
138.00	-	-	-	-		-	150.00

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

Data Sheet 1 of 8



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Arris	
Job Number	R-2601P-1	
Test Sample	DCX900 Video Gateway	
Model Number	DCX900	
Serial Number	XX00L9DB012318101628143415	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting modulated signal (Classic Bluetooth)	
Technician	M. Seamans	
Date	January 26 th , 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	15.43	11.17	26.60	*		22.13	
150.05	-	-	-	-			-	150.00
156.52	-	-	-	-			-	150.00
	156.52	13.82	12.08	25.90	*		19.72	
156.52	-	-	-	-			-	150.00
156.70	-	-	-	-			-	150.00
	156.80	12.08	12.12	24.20	*		16.22	
156.90	-	-	-	-			-	150.00
162.01	-	-	-	-			-	150.00
	165.00	9.92	12.68	22.60	*		13.49	
167.17	-	-	-	-			-	150.00
167.72	-	-	-	-			-	150.00
	170.00	9.60	12.80	22.40	*		13.18	
173.20	-	-	-	-			-	150.00

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

Data Sheet 2 of 8



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Arris	
Job Number	R-2601P-1	
Test Sample	DCX900 Video Gateway	
Model Number	DCX900	
Serial Number	XX00L9DB012318101628143415	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting modulated signal (Classic Bluetooth)	
Technician	M. Seamans	
Date	January 26 th , 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
	269.661	13.35	16.85	30.20		32.36	
285.00	-	-	-	-		-	200.00
322.80	-	-	-	-		-	200.00
	330.00	7.89	18.91	26.80	*	21.88	
335.40	-	-	-	-		-	200.00
399.90	-	-	-	-		-	200.00
	405.00	2.11	21.49	23.60	*	15.14	
410.00	-	-	-	-		-	200.00
608.00	-	-	-	-		-	200.00
	611.00	-1.84	27.34	25.50	*	18.84	
614.00	-	-	-	-		-	200.00
960.00	-	-	-	-		-	500.00
	975.00	0.80	32.10	32.90	*	44.16	
1240.00	-	-	-	-		-	500.00
1300.00	-	-	-	-		-	500.00
	1350.00	33.67	-5.55	28.12	*	25.47	
1427.00	-	-	-	-		-	500.00

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

Data Sheet 3 of 8



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Arris	
Job Number	R-2601P-1	
Test Sample	DCX900 Video Gateway	
Model Number	DCX900	
Serial Number	XX00L9DB012318101628143415	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting modulated signal (Classic Bluetooth)	
Technician	M. Seamans	
Date	January 26 th , 2017	
Notes: Antenna Test Distance: 3 meters Detector: Quasi-Peak <1GHz, Average >1GHz		

TEST PARAMETERS

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

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

Data Sheet 4 of 8



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Arris	
Job Number	R-2601P-1	
Test Sample	DCX900 Video Gateway	
Model Number	DCX900	
Serial Number	XX00L9DB012318101628143415	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting modulated signal (Classic Bluetooth)	
Technician	M. Seamans	
Date	January 26 th , 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
	2706.00	37.91	-0.97	36.94	*		70.31	
	2745.00	38.09	-0.89	37.20	*		72.44	
	2781.00	38.19	-0.81	37.38	*		73.96	
2900.00	-	-	-	-			-	500.00
3260.00	-	-	-	-			-	500.00
	3263.00	30.75	0.11	30.86	*		34.91	
3267.00	-	-	-	-			-	500.00
3332.00	-	-	-	-			-	500.00
	3336.00	30.80	0.23	31.03	*		35.60	
3339.00	-	-	-	-			-	500.00
3345.00	-	-	-	-			-	500.00
	3350.00	31.45	0.26	31.71	*		38.50	
3358.00	-	-	-	-			-	500.00
3600.00	-	-	-	-			-	500.00
	3608.00	38.15	0.67	38.82	*		87.30	
	3660.00	38.45	0.75	39.20	*		91.20	
	3708.00	38.32	0.83	39.15	*		90.68	

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

Data Sheet 5 of 8



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Arris	
Job Number	R-2601P-1	
Test Sample	DCX900 Video Gateway	
Model Number	DCX900	
Serial Number	XX00L9DB012318101628143415	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting modulated signal (Classic Bluetooth)	
Technician	M. Seamans	
Date	January 26 th , 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
	4804.00	37.02	0.30	37.32	*		73.45	
	4882.00	37.05	0.35	37.40	*		74.13	
	4960.00	37.15	0.40	37.55	*		75.42	
	-	-	-	-			-	
5150.00	-	-	-	-			-	500.00
5350.00	-	-	-	-			-	500.00
	5400.00	29.72	2.43	32.15	*		40.50	
5460.00	-	-	-	-			-	500.00
7250.00	-	-	-	-			-	500.00
	7326.00	38.02	3.85	41.87	*		124.02	
7750.00	-	-	-	-			-	500.00
8025.00	-	-	-	-			-	500.00
	8118.00	34.08	4.19	38.27	*		81.94	
	8235.00	34.50	4.25	38.75	*		86.60	
	8343.00	34.79	4.26	39.05	*		89.64	
	-	-	-	-			-	
8500.00	-	-	-	-			-	500.00

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 6 of 8



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Arris	
Job Number	R-2601P-1	
Test Sample	DCX900 Video Gateway	
Model Number	DCX900	
Serial Number	XX00L9DB012318101628143415	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting modulated signal (Classic Bluetooth)	
Technician	M. Seamans	
Date	January 26 th , 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
9000.00	-	-	-	-			-	500.00
	9100.00	31.99	4.68	36.67	*		68.16	
9200.00	-	-	-	-			-	500.00
9300.00	-	-	-	-			-	500.00
	9400.00	31.72	4.82	36.54	*		67.14	
9500.00	-	-	-	-			-	500.00
10600.00	-	-	-	-			-	500.00
	12010.00	30.87	6.91	37.78	*		77.50	
12700.00	-	-	-	-			-	500.00
13250.00	-	-	-	-			-	500.00
	13300.00	30.04	9.86	39.90	*		98.87	
13400.00	-	-	-	-			-	500.00
14470.00	-	-	-	-			-	500.00
	14490.00	30.41	11.2	41.61	*		120.36	
14500.00	-	-	-	-			-	500.00
15350.00	-	-	-	-			-	500.00

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

Data Sheet 7 of 8



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Unwanted Emissions into Restricted Frequency Bands	
Customer	Arris	
Job Number	R-2601P-1	
Test Sample	DCX900 Video Gateway	
Model Number	DCX900	
Serial Number	XX00L9DB012318101628143415	
Test Specification	FCC Part 15 Subpart C	Paragraph: 15.247(d)
Operating Mode	Transmitting modulated signal (Classic Bluetooth)	
Technician	M. Seamans	
Date	January 26 th , 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
	15800.00	31.91	5.79	37.70	*		76.73	
16200.00	-	-	-	-			-	500.00
17700.00	-	-	-	-			-	500.00
	19000.00	31.41	-5.57	25.84	*		19.58	
	19216.00	31.19	-5.37	25.82	*		19.54	
	19528.00	32.05	-5.37	26.68	*		21.57	
	19840.00	32.45	-5.37	27.08	*		22.59	
21400.00	-	-	-	-			-	500.00
22010.00	-	-	-	-			-	500.00
	22500.00	32.60	-6.61	25.99	*		19.92	
23120.00	-	-	-	-			-	500.00
23600.00	-	-	-	-			-	500.00
	23800.00	35.03	-6.08	28.95	*		28.02	
24000.00	-	-	-	-			-	500.00

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

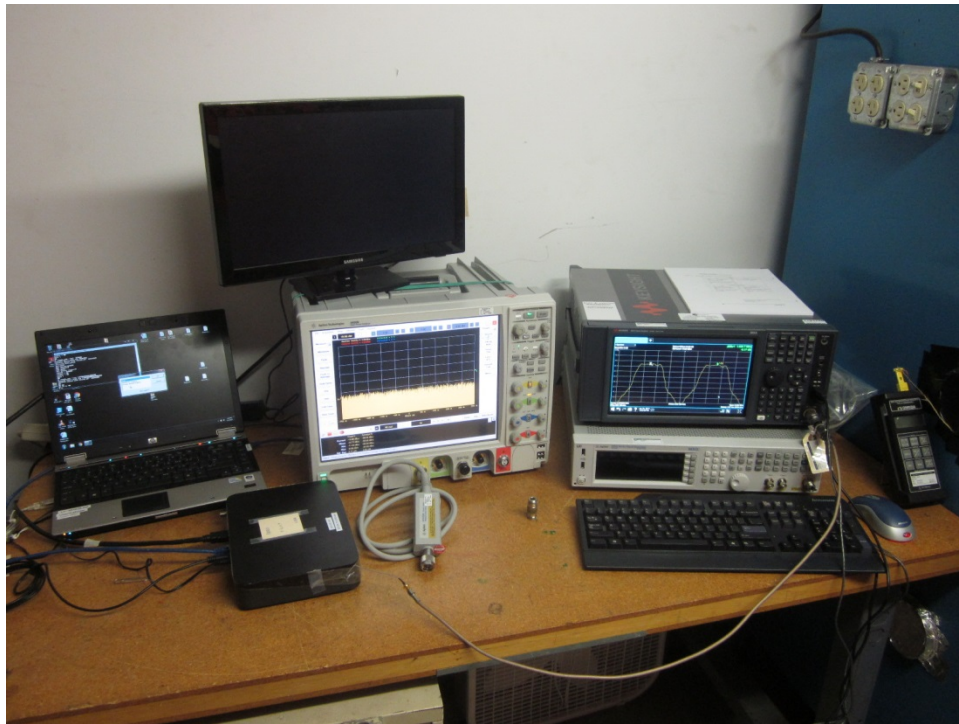
Data Sheet 8 of 8



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

**Test Photograph(s)
20 dB Bandwidth**



Test Setup



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

20dB Bandwidth

**FCC Part 15, Subpart C, Paragraph: 15.247 (a)(1)(i)
RSS-247, Paragraph: 5.1
Test Data**

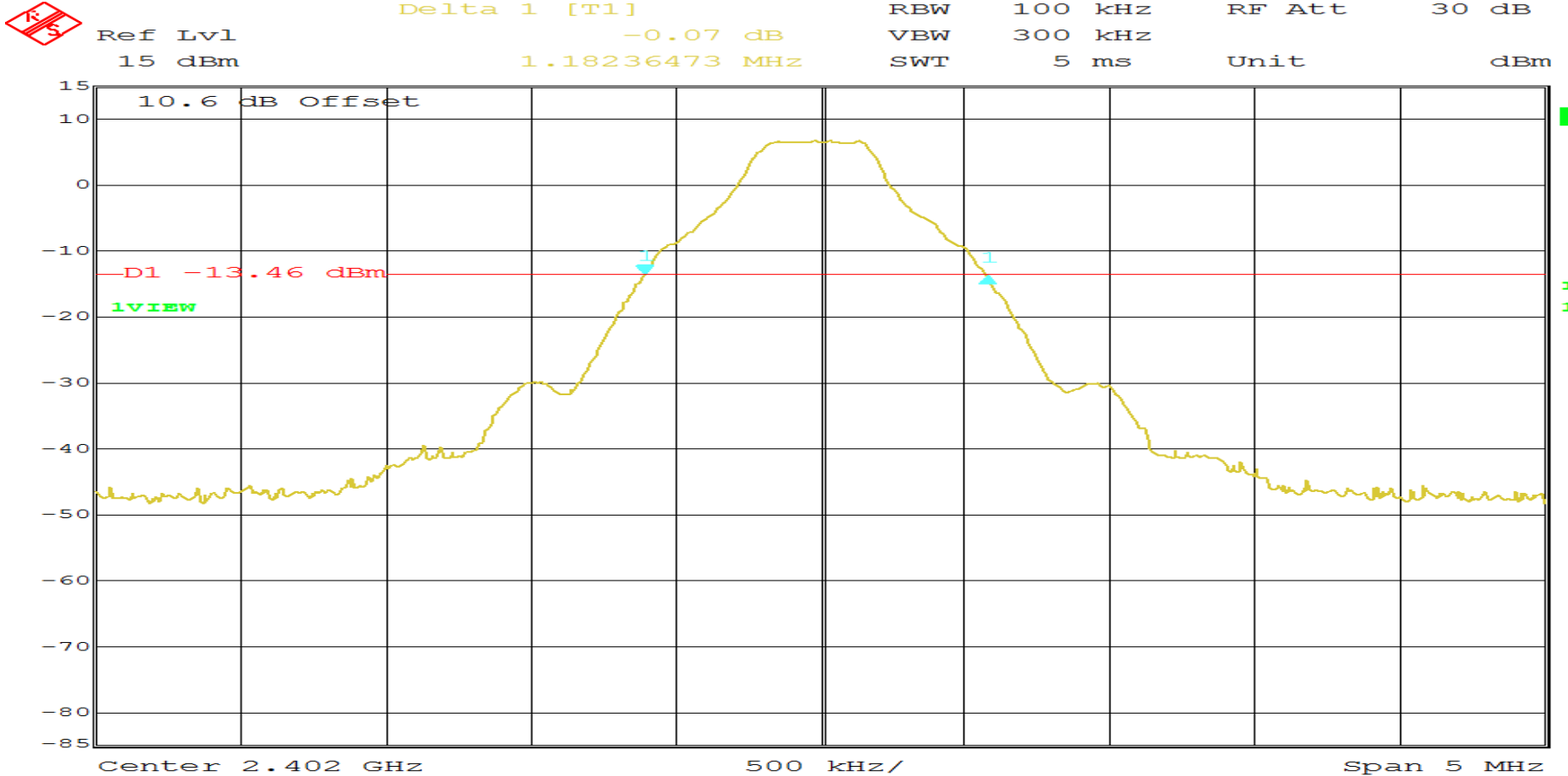


Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

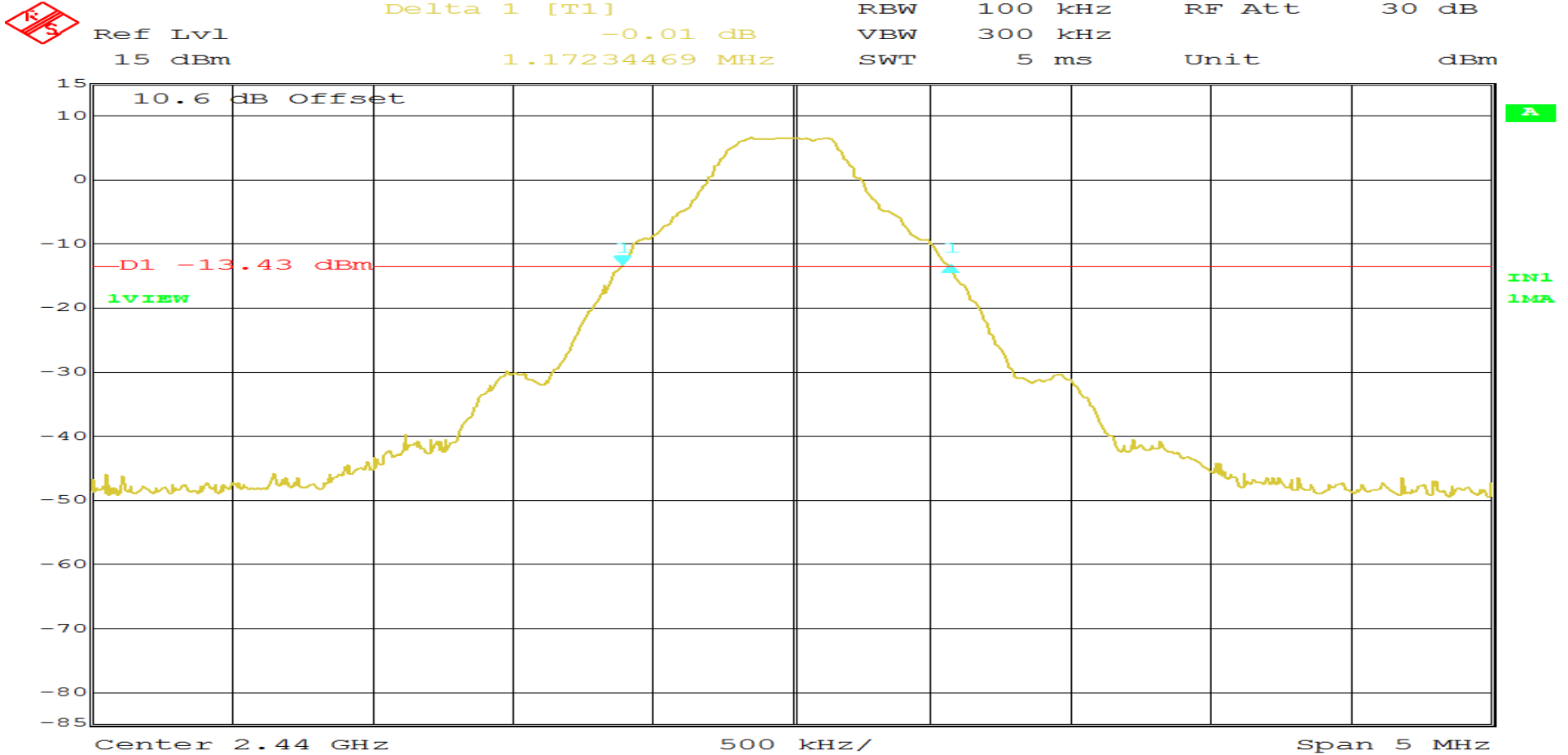
RETLIF TESTING LABORATORIES

Test Method:	20dB Bandwidth		
Customer	Arris	Job No.	R-2601P-1
Test Sample	DCX900 Video Gateway		
Model Number	DCX900	Serial No.	XX00L9DB012318101628143409
Operating Mode	Transmitting modulated signal (Classic Bluetooth)		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(1)(i)		
Technician	M. Seamans	Date	February 10 th , 2017
Climatic Conditions	Temp: 23.9 °C Relative Humidity: 14.3 %		
Notes	Transmit Frequency: 2402 MHz 20dB Bandwidth: 1.1823 MHz		



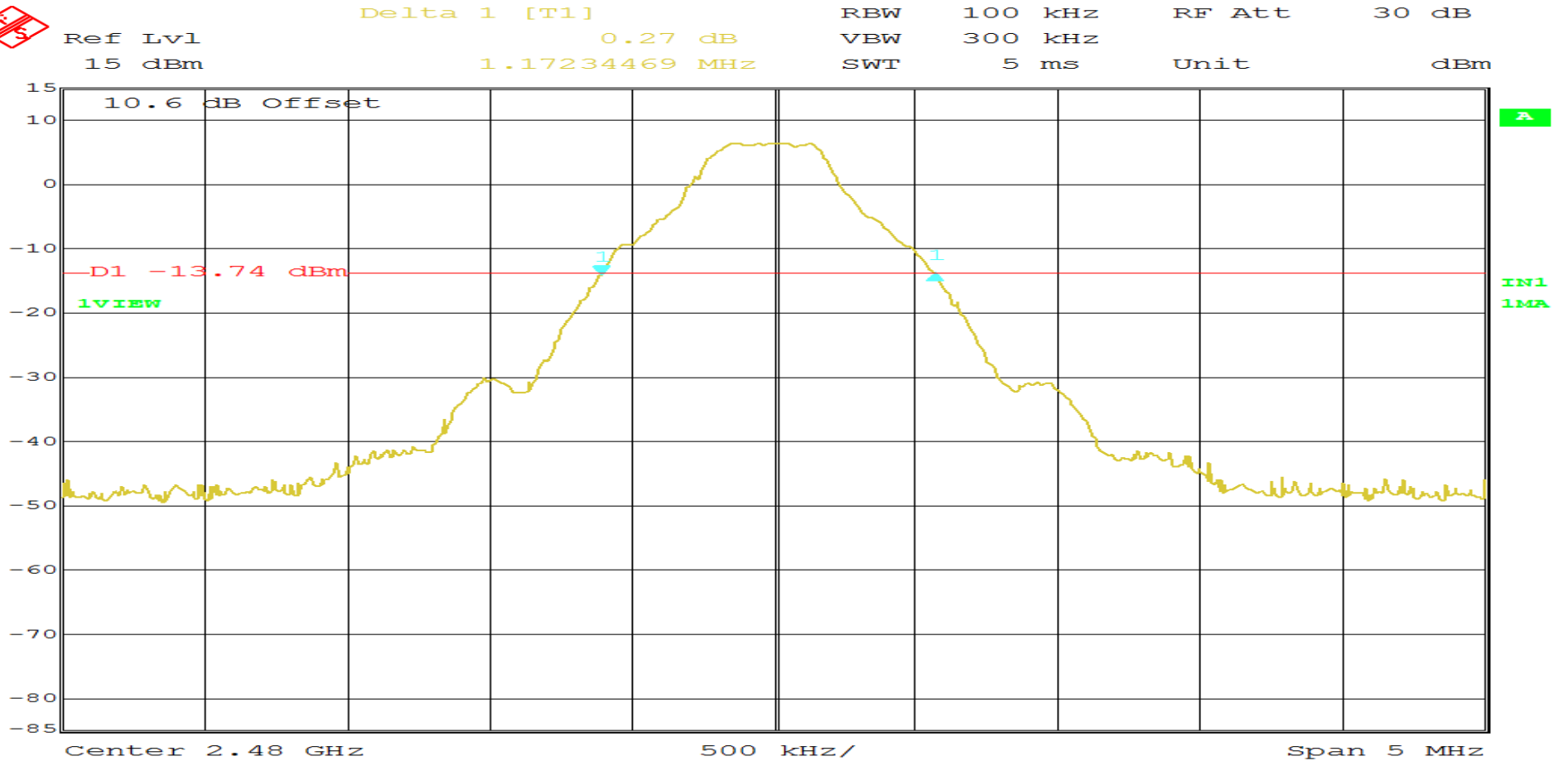
RETLIF TESTING LABORATORIES

Test Method:	20dB Bandwidth		
Customer	Arris	Job No.	R-2601P-1
Test Sample	DCX900 Video Gateway		
Model Number	DCX900	Serial No.	XX00L9DB012318101628143409
Operating Mode	Transmitting modulated signal (Classic Bluetooth)		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(1)(i)		
Technician	M. Seamans	Date	February 10 th , 2017
Climatic Conditions	Temp: 23.9 °C Relative Humidity: 14.3 %		
Notes	Transmit Frequency: 2440 MHz 20dB Bandwidth: 1.1723 MHz		

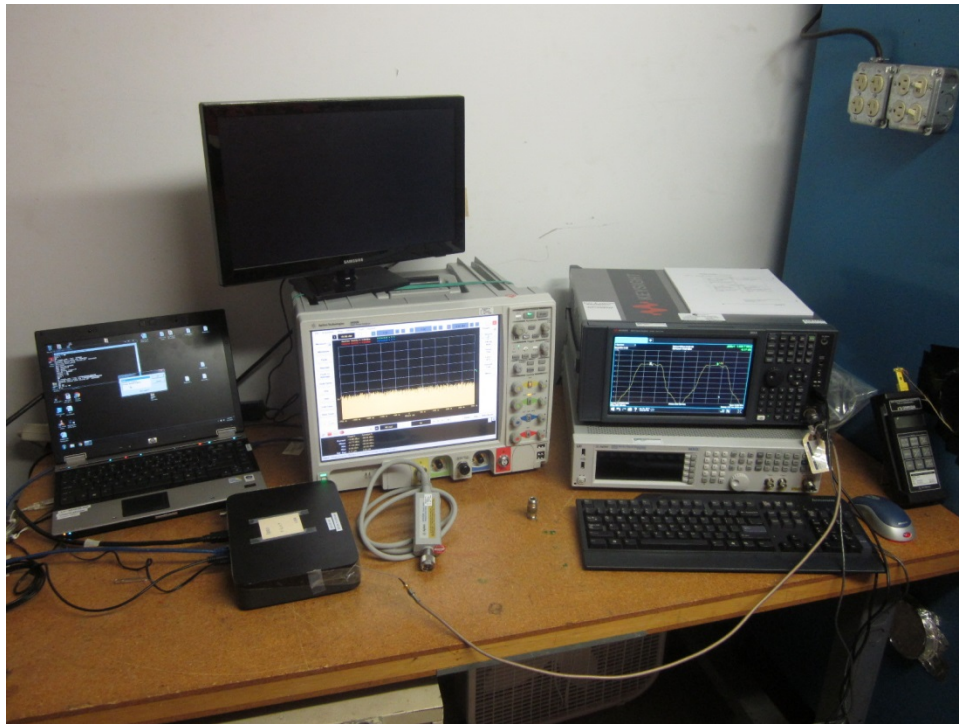


RETLIF TESTING LABORATORIES

Test Method:	20dB Bandwidth		
Customer	Arris	Job No.	R-2601P-1
Test Sample	DCX900 Video Gateway		
Model Number	DCX900	Serial No.	XX00L9DB012318101628143409
Operating Mode	Transmitting modulated signal (Classic Bluetooth)		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(1)(i)		
Technician	M. Seamans	Date	February 10 th , 2017
Climatic Conditions	Temp: 23.9 °C Relative Humidity: 14.3 %		
Notes	Transmit Frequency: 2480 MHz 20dB Bandwidth: 1.1723 MHz		



Test Photograph(s)
Number of Hopping Channels and Time of Occupancy



Test Setup



Retlif Testing Laboratories

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Number of Hopping Frequencies

**FCC Part 15, Subpart C, Paragraph: 15.247 (a)(1)(i)
RSS-247, Paragraph: 5.1(4)
Test Data**

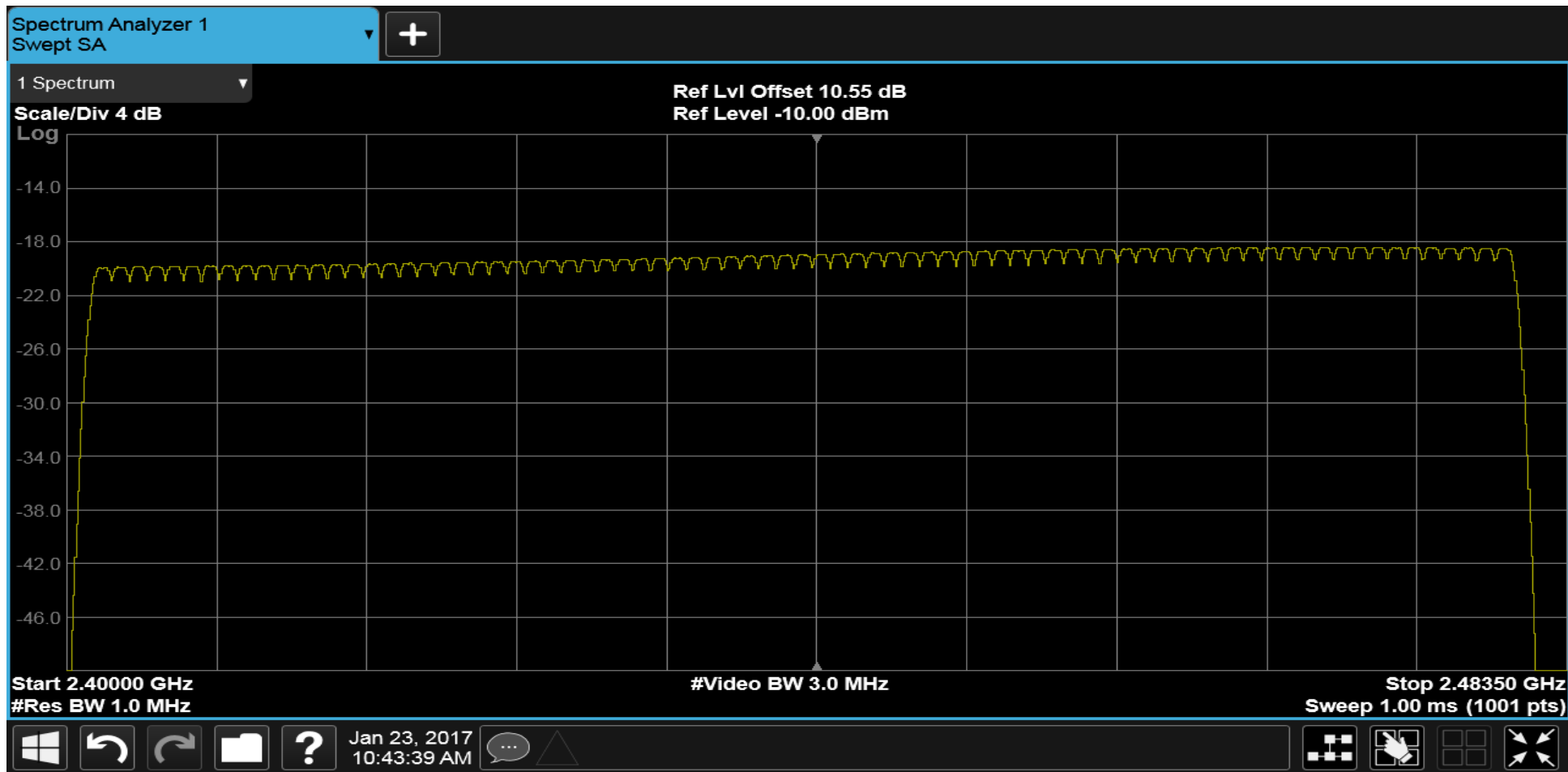


Retlif Testing Laboratories

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RETLIF TESTING LABORATORIES

Test Method:	Number of Hopping Frequencies		
Customer	Arris	Job No.	R-2601P-1
Test Sample	DCX900 Video Gateway		
Model Number	DCX900	Serial No.	XX00L9DB012318101628143409
Operating Mode	Transmitting hopping frequency data (Classic Bluetooth)		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(1)(i)		
Technician	M. Seamans	Date	January 23 rd , 2017
Climatic Conditions	Temp: 21.8 °C Relative Humidity: 23.9 %		
Notes	Number of Hopping Frequencies: 79		



Time of Occupancy

**RSS-247, Paragraph: 5.1(4)
FCC Part 15, Subpart C, Paragraph: 15.247 (a)(1)(i)
Test Data**

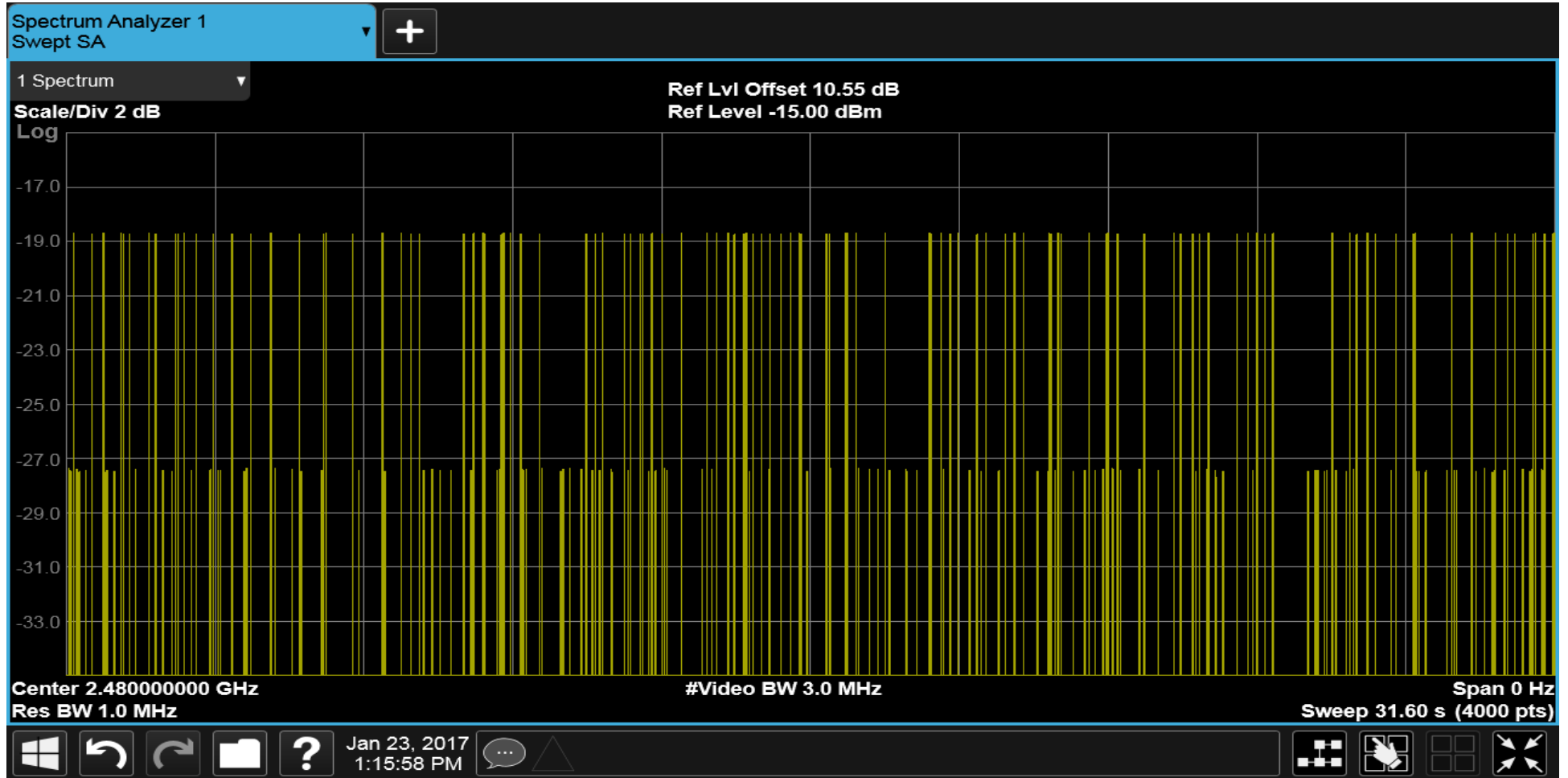


Retlif Testing Laboratories

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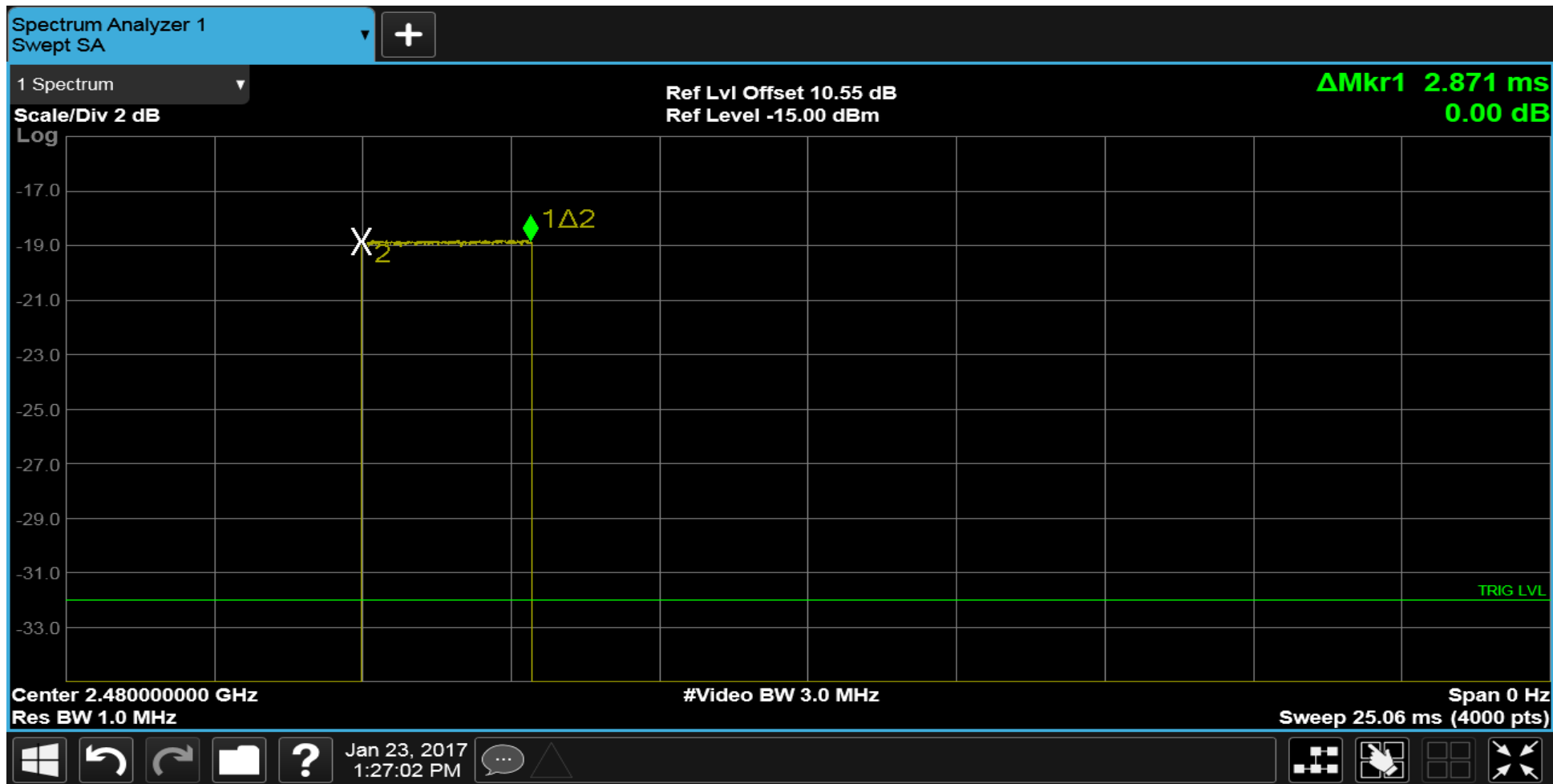
RETLIF TESTING LABORATORIES

Test Method:	Time of Occupancy		
Customer	Arris	Job No.	R-2601P-1
Test Sample	DCX900 Video Gateway		
Model Number	DCX900	Serial No.	XX00L9DB012318101628143409
Operating Mode	Transmitting hopping frequency data (Classic Bluetooth)		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(1)(i)		
Technician	M. Seamans	Date	January 23 rd , 2017
Climatic Conditions	Temp: 21.8 °C Relative Humidity: 23.9 %		
Notes	Test Frequency: 2480 MHz Pulses: 104 in a 31.6 second window		



RETLIF TESTING LABORATORIES

Test Method:	Time of Occupancy		
Customer	Arris	Job No.	R-2601P-1
Test Sample	DCX900 Video Gateway		
Model Number	DCX900	Serial No.	XX00L9DB012318101628143409
Operating Mode	Transmitting hopping frequency data (Classic Bluetooth)		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(1)(i)		
Technician	M. Seamans	Date	January 23 rd , 2017
Climatic Conditions	Temp: 21.8 °C Relative Humidity: 23.9 %		
Notes	Test Frequency: 2480 MHz Pulses: 104 Pulse Width: 2.871ms Time of Occupancy: 298.584ms		



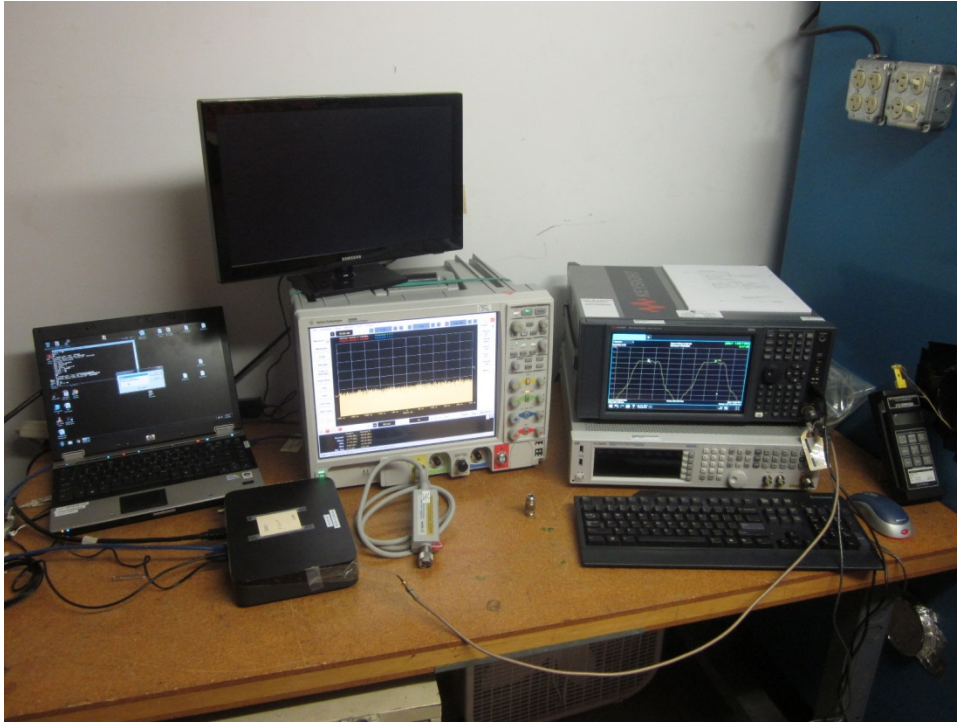
**Test Photograph(s)
Channel Separation
FCC Section 15.247(a)(1)**



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

**Test Photograph(s)
Channel Separation**



Test Setup



Retlif Testing Laboratories

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**Channel Carrier Frequency Separation,
FCC Part 15, Subpart C, Paragraph: 15.247 (a)(1)
RSS-247, Paragraph: 5.1(2)
Test Data**

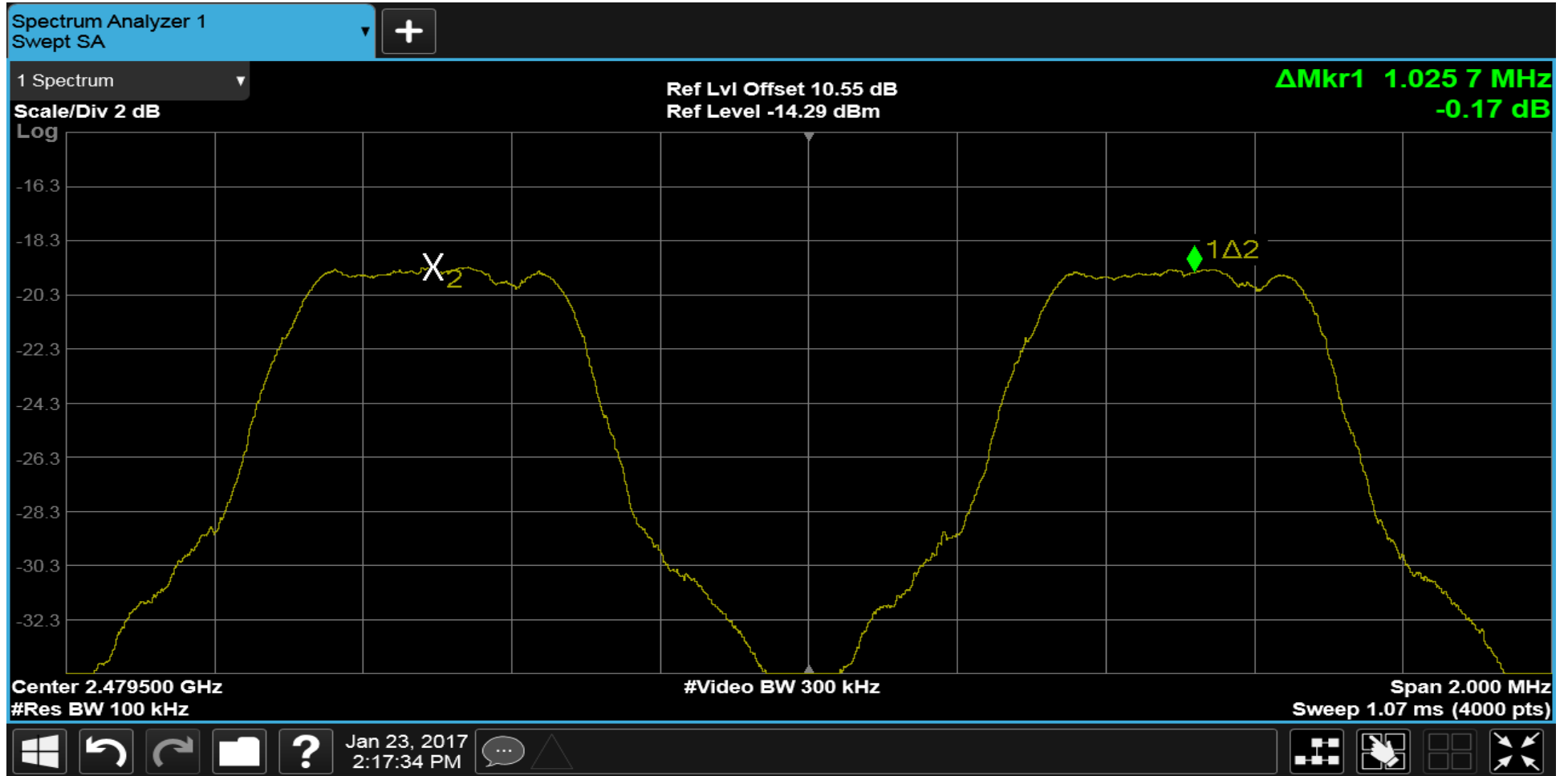


Retlif Testing Laboratories

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RETLIF TESTING LABORATORIES

Test Method:	Channel Carrier Frequency Separation		
Customer	Arris	Job No.	R-2601P-1
Test Sample	DCX900 Video Gateway		
Model Number	DCX900	Serial No.	XX00L9DB012318101628143409
Operating Mode	Transmitting hopping frequency data (Classic Bluetooth)		
Test Specification	FCC Part 15, Subpart C Paragraph: 15.247 (a)(1)		
Technician	M. Seamans	Date	January 23 rd , 2017
Climatic Conditions	Temp: 24.1 °C Relative Humidity: 21.9 %		
Notes	Channel Carrier Frequency Separation: 1.0257 MHz Output Power less than 125mW		



**Test Photograph(s)
Conducted Emissions**



Test Configuration



Test Setup



Retlif Testing Laboratories

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Conducted Emissions, Class B, 150 kHz to 30 MHz

**FCC Part 15, Paragraph: 15.207 (a)
RSS GEN, Paragraph 8.8
Test Data**



Retlif Testing Laboratories

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RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Conducted Emissions, Class B 150 kHz to 30 MHz	
Customer	Arris	
Job Number	R-2601P-1	
Test Sample	DCX900 Video Gateway	
Model Number	DCX900	
Serial Number	XX00L9DB012318143415	
Test Specification	FCC Part 15 Subpart B Class B	Paragraph: 15.207 (a)
Operating Mode	Transmitting modulated signal, video playback	
Technician	M. Seamans	
Date	January 26 th , 2017	
Port Tested	120 VAC 60 Hz	

Notes: Lead Tested: 120 VAC 60 Hz Hot Detector: Quasi-Peak and Average

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	-
	-	-		-		-		-
0.155	Hot	58.50	65.7	7.23		49.5	55.7	6.2
0.184	Hot	52.80	64.3	11.50		46.0	54.3	8.3
0.419	Hot	42.50	57.5	14.97		36.5	47.5	11.0
0.464	Hot	44.70	56.6	11.92		41.6	46.6	5.0
0.495	Hot	46.40	56.1	9.68		39.3	46.1	6.8
	-	-		-		-		-
0.500	-	-	56.0	-		-	46.0	-
	-	-		-		-		-
3.565	Hot	40.80	56.0	15.20		32.2	46.0	13.8
	-	-		-		-		-
5.000	-	-	56.0	-		-	46.0	-
5.000	-	-	60.0	-		-	50.0	-
	-	-		-		-		-
17.537	Hot	40.00	60.0	20.00		33.5	50.0	16.5
	-	-		-		-		-
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.

Data Sheet 1 of 2



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Conducted Emissions, Class B 150 kHz to 30 MHz	
Customer	Arris	
Job Number	R-2601P-1	
Test Sample	DCX900 Video Gateway	
Model Number	DCX900	
Serial Number	XX00L9DB012318143415	
Test Specification	FCC Part 15 Subpart B Class B	Paragraph: 15.207 (a)
Operating Mode	Transmitting modulated signal, video playback	
Technician	M. Seamans	
Date	January 26 th , 2017	
Port Tested	120 VAC 60 Hz	

Notes: Lead Tested: 120 VAC 60 Hz Neutral Detector: Quasi-Peak and Average

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	-
	-	-		-		-		-
0.166	Neutral	57.80	65.2	7.36		50.6	55.2	4.6
0.256	Neutral	45.30	61.6	16.26		35.2	51.6	16.4
0.493	Neutral	42.20	56.1	13.92		34.7	46.1	11.4
	-	-		-		-		-
0.500	-	-	56.0	-		-	46.0	-
	-	-		-		-		-
3.583	Neutral	38.80	56.0	17.20		30.1	46.0	15.9
	-	-		-		-		-
5.000	-	-	56.0	-		-	46.0	-
5.000	-	-	60.0	-		-	50.0	-
	-	-		-		-		-
17.569	Neutral	37.30	60.0	22.70		30.9	50.0	19.1
28.171	Neutral	16.90	60.0	43.10		11.4	50.0	38.6
	-	-		-		-		-
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.

Data Sheet 2 of 2



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

Test Photographs
Receiver Spurious Emissions (30 MHz to 25 GHz)



Configuration, Back



Configuration, Front



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

Test Photographs
Receiver Spurious Emissions (30 MHz to 25 GHz)



Horizontal Antenna Polarization, 25 MHz to 200 MHz



Vertical Antenna Polarization, 25 MHz to 200 MHz



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

Test Photographs
Receiver Spurious Emissions (30 MHz to 25 GHz)



Horizontal Antenna Polarization, 200 GHz to 1 GHz



Vertical Antenna Polarization, 200 GHz to 1 GHz



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

Test Photographs
Receiver Spurious Emissions (30 MHz to 25 GHz)



Horizontal Antenna Polarization, 1 GHz to 12 GHz



Vertical Antenna Polarization, 1 GHz to 12 GHz



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

Test Photographs
Receiver Spurious Emissions (30 MHz to 25 GHz)



Horizontal Antenna Polarization, 12 GHz to 18 GHz



Vertical Antenna Polarization, 12 GHz to 18 GHz



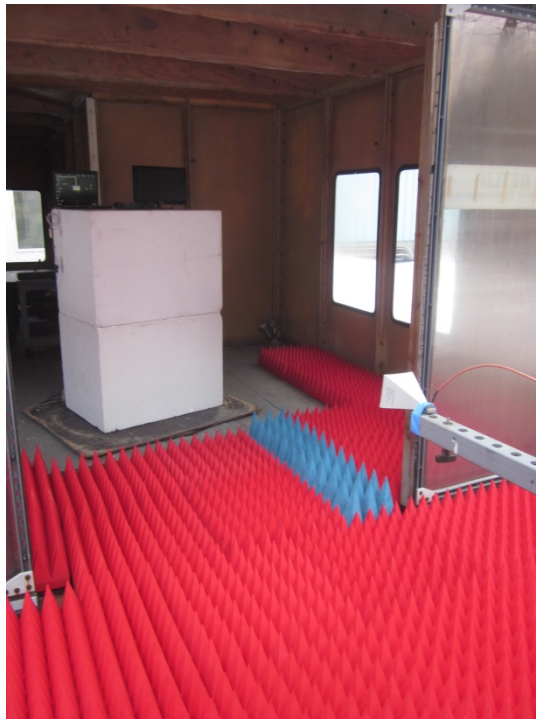
Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

Test Photographs
Receiver Spurious Emissions (30 MHz to 25 GHz)



Horizontal Antenna Polarization, 18 GHz to 25 GHz



Vertical Antenna Polarization, 18 GHz to 25 GHz



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

Receiver Spurious Emissions, 30 MHz to 25 GHz

**FCC Part 15, Subpart C, Paragraph: 15.209(a)
RSS GEN, Paragraph: 8.8
Test Data**



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D

RETLIF TESTING LABORATORIES

EMISSIONS TEST DATA SHEET

Test Method	Receiver Spurious Emissions 30 MHz to 25 GHz	
Customer	Arris	
Job Number	R-2601P-1	
Test Sample	DCX900 Video Gateway	
Model Number	DCX900	
Serial Number	XX00L9DB012318101628143415	
Test Specification	FCC Part 15, Subpart C	Paragraph: 15.209(a)
Operating Mode	Video Playback	
Technician	M. Seamans	
Date	January 26 th , 2017	

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

TEST PARAMETERS

Test Frequency	Measured Frequency	Meter Reading	Correction Factor	Corrected Reading		Converted Reading	Limit at 3M
MHz	MHz	dBuV	dB	dBuV/m		uV/m	uV/m
30.00	-	-	-	-			100.00
	-	-	-	-			
80.00	V-2m	29.33	8.57	37.90	*	78.52	
	-	-	-	-			
88.00	-	-	-	-			100.00
88.00	-	-	-	-			150.00
	-	-	-	-			
150.00	V-2m	11.95	11.95	23.90	*	15.67	
	-	-	-	-			
216.00	-	-	-	-			150.00
216.00	-	-	-	-			200.00
	-	-	-	-			
269.66	V-2m	13.23	16.97	30.20		32.36	
374.65	H-1m	16.25	21.25	37.50		74.99	
377.66	V-2m	8.83	21.27	30.10		31.99	
431.35	V-1.5m	15.38	22.02	37.40		74.13	
	-	-	-	-			
960.00	-	-	-	-			200.00
960.00	-	-	-	-			500.00
	-	-	-	-			
25000.00	-	-	-	-			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 1 of 1



Retlif Testing Laboratories

Report No. R-2601P-1, Rev. D