ENGINEERING TEST REPORT

DRU-2KW
Model: DRU-2KW
FCC ID: 2ACLT-DRU2KW

Applicant:

Unique Broadband Systems Ltd.
400 Spinnaker Way
Vaughan, Ontario
Canada L4K 5Y9

Tested in Accordance With

Federal Communications Commission (FCC)
47 CFR, Parts 2 and 25

UltraTech's File No.: 15UNBS024_FCC25

This Test report is Issued under the Authority of Tri M. Luu Vice President of Engineering UltraTech Group of Labs Date: August 25, 2015	
Report Prepared by: Dharmajit Solanki Issued Date: August 25, 2015	Tested by: Wei Wu Test Dates: July 20 to August 19, 2015

- *The results in this Test Report apply only to the sample(s) tested, and the sample tested is randomly selected.*
- *This report must not be used by the client to claim product endorsement by NVLAP or any agency of the US Government.*

UltraTech

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EXHIBIT 1. INTRODUCTION

1.1. SCOPE

Reference:	FCC Parts 2 and 25
Title:	Code of Federal Regulations (CFR), Title 47 –Telecommunication, Part 25 – Satellite Communications
Purpose of Test:	To gain FCC Equipment Authorization for Radio operating in Part 25.
Test Procedures:	FCC KDB Publication 971168 D01

1.2. RELATED SUBMITTAL(S)/GRANT(S)

None

1.3. NORMATIVE REFERENCES

Publication	Year	Title
FCC CFR Parts 0-19, 80-End	2015	Code of Federal Regulations, Title 47 – Telecommunication
ANSI C63.4	2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
FCC KDB Publication 971168 D01 v02r02	2014	Measurement Guidance for Certification of Licensed Digital Transmitters
TIA/EIA 603, Edition D	2010	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards
CISPR 22 & EN 55022	2009, Ed 6 2010	Information Technology Equipment - Radio Disturbance Characteristics - Limits and Methods of Measurement

EXHIBIT 2. PERFORMANCE ASSESSMENT

2.1. CLIENT INFORMATION

Applicant	
Name:	Unique Broadband Systems Ltd.
Address:	400 Spinnaker Way Vaughan, Ontario Canada L4K 5Y9
Contact Person:	Mr. Catalin Popescu Phone #: 905-669-8533 ext 125 Fax #: 905-669-8516 Email Address: catalinp@uniquesys.com

Manufacturer	
Name:	Unique Broadband Systems Ltd.
Address:	400 Spinnaker Way Vaughan, Ontario Canada L4K 5Y9
Contact Person:	Mr. Mihail Gheorghe Phone #: 905-669-8533 ext 183 Fax #: 905-669-8516 Email Address: mihailg@uniquesys.com

2.2. EQUIPMENT UNDER TEST (EUT) INFORMATION

The following information (with the exception of the Date of Receipt) has been supplied by the applicant.

Brand Name:	Unique Broadband Systems Ltd.
Product Name:	DRU-2KW
Model Name or Number:	DRU-2KW
Serial Number:	Test Sample
Type of Equipment:	Licensed Non-Broadcast Station Transmitter
Power Supply Requirement:	3-Phase, 208VAC, 60Hz Nominal
Transmitting/Receiving Antenna Type:	Non-integral
Primary User Functions of EUT:	SDARS Terrestrial Repeater

2.3. EUT'S TECHNICAL SPECIFICATIONS

Transmitter	
Equipment Type:	Base station (fixed use)
Intended Operating Environment:	Commercial, industrial or business environment
Power Supply Requirement:	3-Phase, 190–264 VAC (208 VAC, 60 Hz Nominal)
RF Output Power Rating:	1740 W, for Low Band (LB)* 1740 W, for High Band (HB)** 2.75 W, for Low Band Diversity (LBD)
Operating Frequency Range:	2326.250 MHz (LB) 2326.256040 MHz (LBD) 2338.755 MHz (HB)
RF Output Impedance:	50 Ω
Channel Spacing:	N/A
Duty Cycle:	100%
Modulation Employed:	OFDM
Emission Designation:	3M81W1W, 4M98W1W, 20K8W1W
Antenna Connector Type:	WR340 7/8 EIA

*Low Band: 2320.0 – 2332.5 MHz

**High Band: 2332.5 – 2345.0 MHz

2.4. LIST OF EUT'S PORTS

Port Number	EUT's Port Description	Number of Identical Ports	Connector Type	Cable Type (Shielded/Non-shielded)
1	GPS (Control Cabinet)	1	N	Shielded
2	HB Sat (Control Cabinet)	1	N	Shielded
3	Test (Control Cabinet)	1	SMA	Shielded
4	Alarm (Control Cabinet)	1	Terminal Block	Non-Shielded
5	POTS (Control Cabinet)	1	2-wire	Non-Shielded
6	V-SAT (Control Cabinet)	1	F	Shielded
7	AC Power (Low Band Cabinet)	1	4-wire (L1, L2, L3, G)	Non-Shielded
8	AC Power (High Band Cabinet)	1	4-wire (L1, L2, L3, G)	Non-Shielded
9	AC Power (Control Cabinet)	1	4-wire (L1, L2, N, G)	Non-Shielded
10	Output 1	1	WR340	Shielded
11	Output 2	1	WR340 or 7/8 EIA	Shielded

2.5. ANCILLARY EQUIPMENT

None

EXHIBIT 3. EUT OPERATING CONDITIONS AND CONFIGURATIONS DURING TESTS

3.1. CLIMATE TEST CONDITIONS

The climate conditions of the test environment are as follows:

Temperature:	21°C - 24°C
Humidity:	45% to 58%
Pressure:	102 kPa
Power input source:	208 VAC 60Hz

3.2. OPERATIONAL TEST CONDITIONS & ARRANGEMENT FOR TEST SIGNALS

Operating Modes:	The transmitter was operated in a continuous transmission mode with the carrier modulated as specified in the Test Data.
Special Test Software:	N/A
Special Hardware Used:	N/A
Transmitter Test Antenna:	The EUT is tested with the transmitter antenna port terminated to a 50 Ω Load.

Transmitter Test Signals	
Frequency Band(s):	2326.250 MHz 2326.25604 MHz 2338.755 MHz
Test Frequency(ies):	2326.250 MHz 2326.256040 MHz 2338.755 MHz
Transmitter Wanted Output Test Signals:	
• Transmitter Power (measured maximum output power):	1753.9 W for LB and 1745.8 W HB 2.75 W, for LBD
• Normal Test Modulation:	OFDM
• Modulating signal source:	External

3.3. General System Setup Diagram

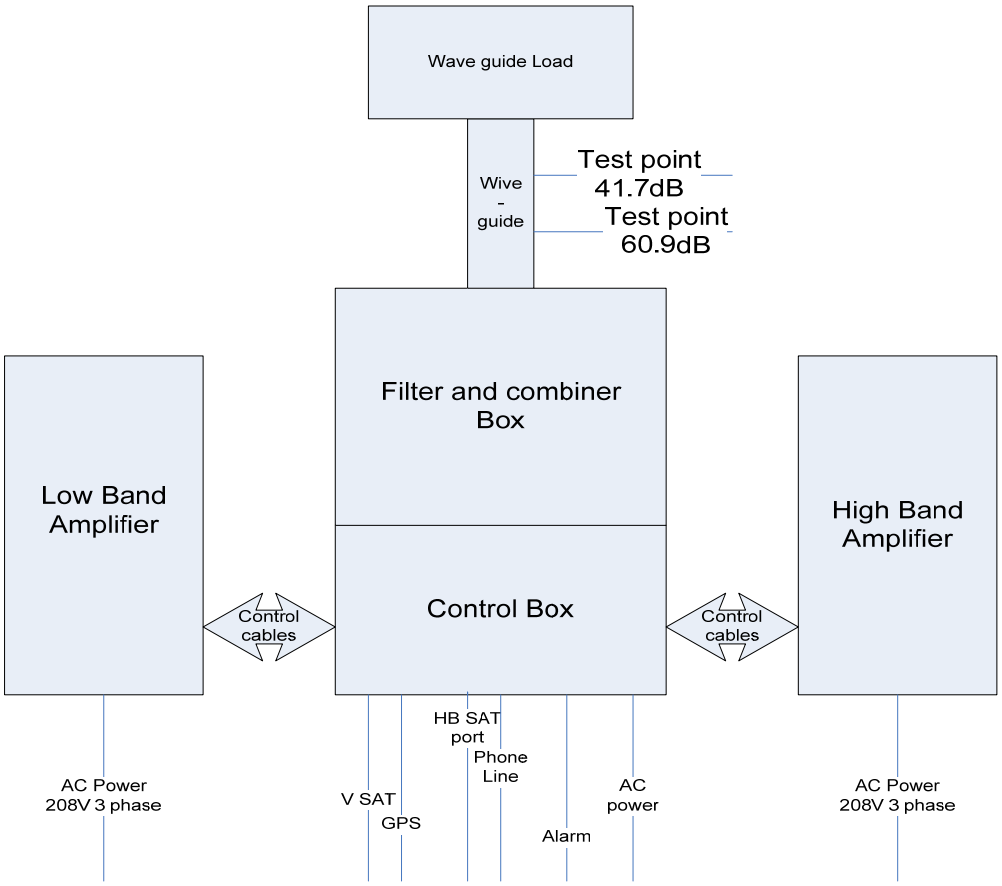


EXHIBIT 4. SUMMARY OF TEST RESULTS

4.1. LOCATION OF TESTS

All of the measurements described in this report were performed at Ultratech Group of Labs located in the city of Oakville, Province of Ontario, Canada.

- AC Power Line Conducted Emissions were performed in UltraTech's shielded room, 24'(L) by 16'(W) by 8'(H).

- Radiated Emissions were performed at the Ultratech's 3-10 TDK Semi-Anechoic Chamber situated in the Town of Oakville, province of Ontario. This test site been calibrated in accordance with ANSI C63.4, and found to be in compliance with the requirements of Sec. 2.948 of the FCC Rules. The descriptions and site measurement data of the Oakville 3-10 TDK Semi-Anechoic Chamber has been filed with FCC office (FCC File No.: 91038) and Industry Canada office (Industry Canada File No.: 2049A-3). Expiry Date: 2017-04-02.

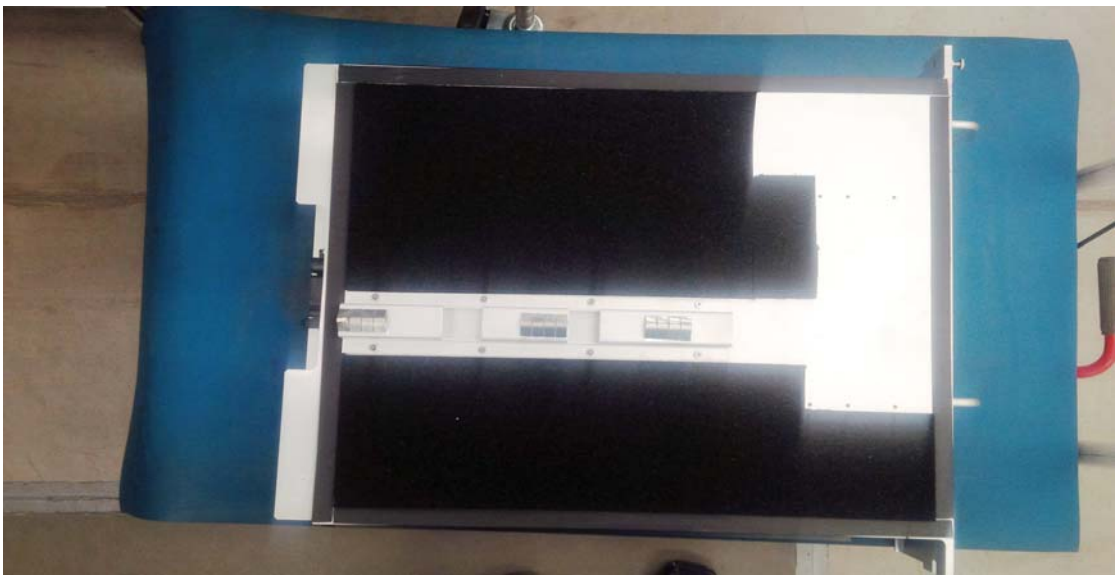
4.2. APPLICABILITY & SUMMARY OF EMC EMISSION TEST RESULTS

FCC Section(s)	Test Requirements	Applicability (Yes/No)
2.1046, 25.144(e)(7)(ii) & 25.214(d)(1)	RF Power Output	Yes
2.1049, 25.202(a)(6) & 25.202(f)	Occupied Bandwidth	Yes
2.1051, 2.1057 & 25.202(h)(1)	Spurious Emissions at Antenna Terminal	Yes
2.1053, 2.1057 & 25.202(h)(1)	Field Strength of Spurious Emissions	Yes
2.1055 & 25.202(d)	Frequency Stability	Yes
1.1307 & 1.1310	RF Exposure	See Note 1
Note 1: To be addressed at the time of licensing.		

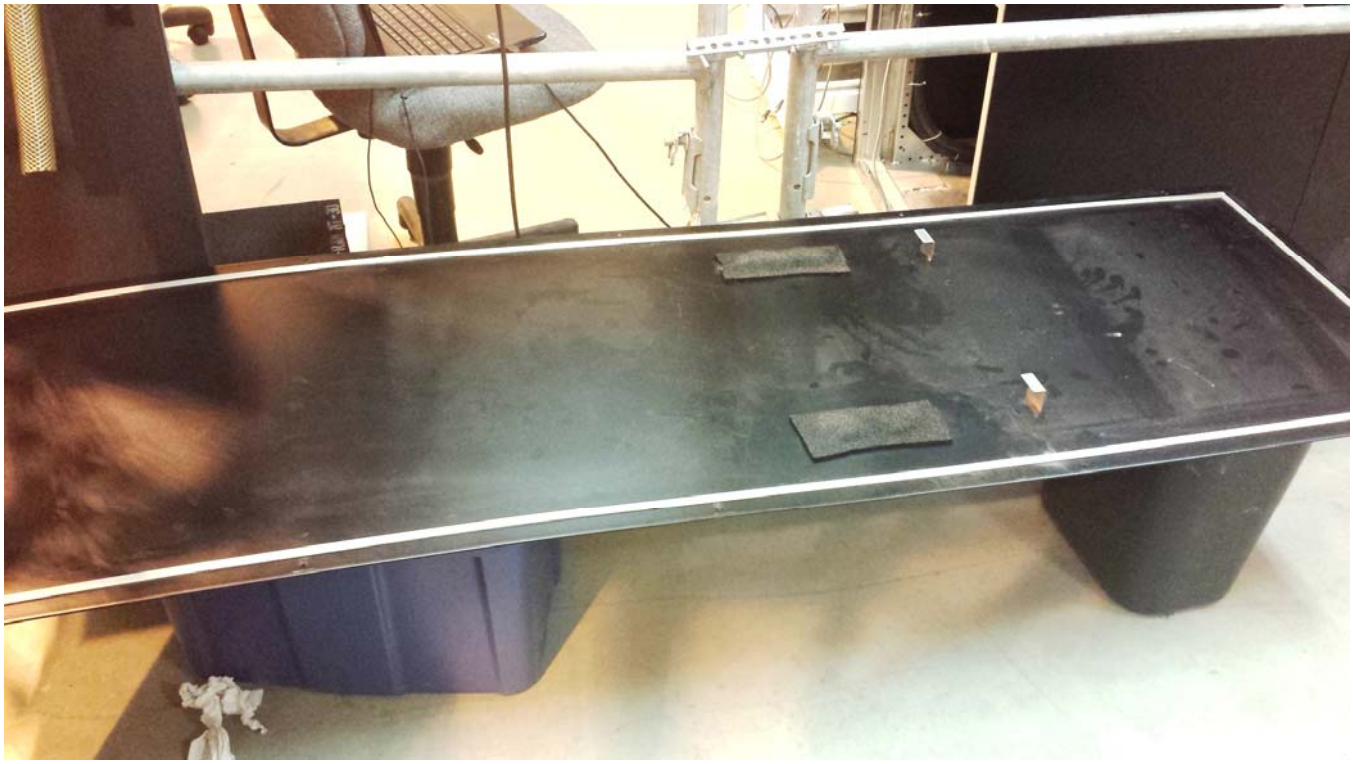
4.3. MODIFICATIONS INCORPORATED IN THE EUT FOR COMPLIANCE PURPOSES

In order to comply with Radiated Emissions limits each DRU shall be supplied with following two modifications.

1. Absorber material placed inside the top cover of each HPA unit (High Power Amplifiers) as shown below.



2. All side panel handles shall be covered with the absorber material as shown in the photo below.



4.4. DEVIATION OF STANDARD TEST PROCEDURES

None

EXHIBIT 5. TEST DATA

5.1. RF POWER OUTPUT [§§ 2.1046, 25.144(e)(7)(ii) & 25.214(d)]

5.1.1. Limit(s)

§25.214(d)(1) SDARS terrestrial repeaters must be operated at a power level less than or equal to 12-kW average EIRP, with a maximum peak-to-average power ratio of 13 dB.

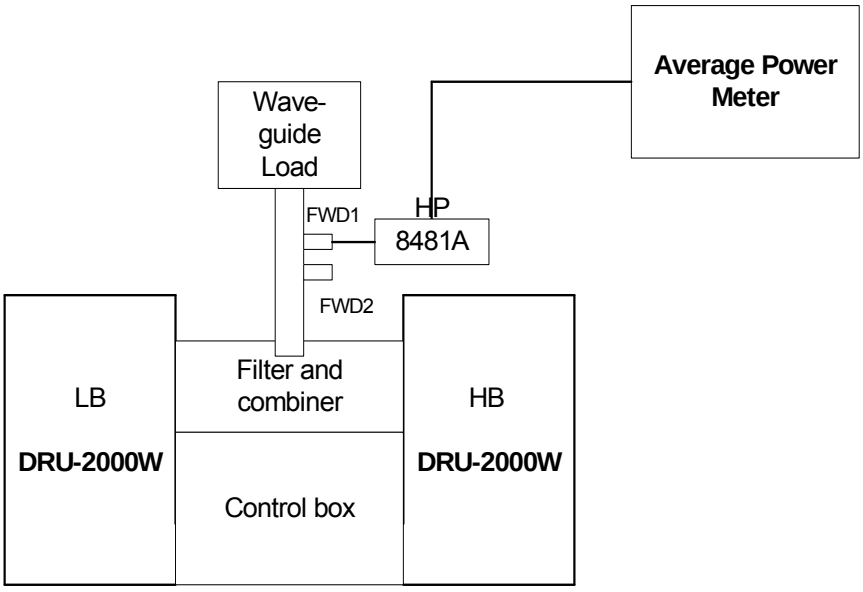
§25.144(e)(7)(ii) In addition to the procedures set forth in subpart J of part 2 of this chapter, power measurements for SDARS repeater transmitters may be made in accordance with a Commission-approved average power technique. Peak-to-average power ratio (PAPR) measurements for SDARS repeater transmitters should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that the PAPR will not exceed 13 dB for more than 0.1 percent of the time or another Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

5.1.2. Method of Measurements

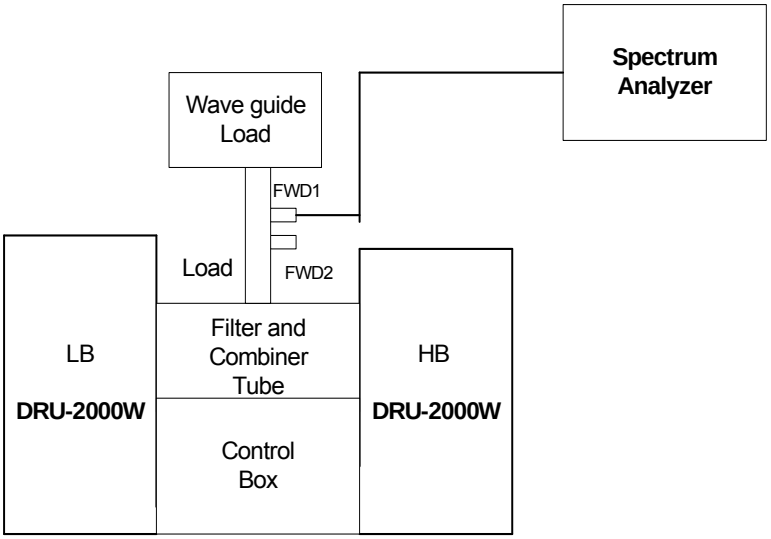
FCC KDB Publication 971168 D01, Sections 5.2.3 and 5.7.1

5.1.3. Test Arrangement

Average Power for LB and HB



Peak-to-Average Power Ratio



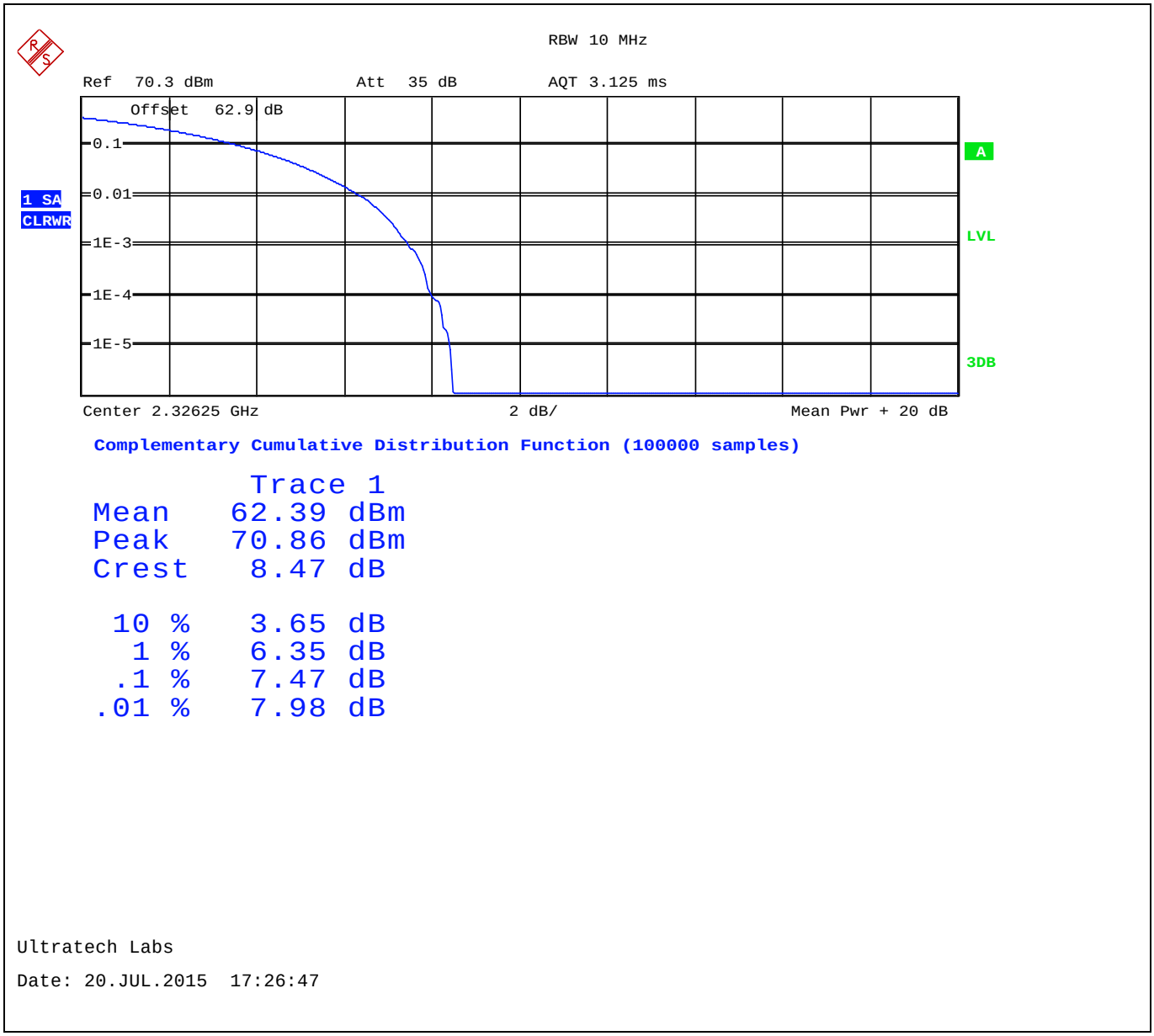
5.1.4. Test Data

5.1.4.1. Average Power

Frequency Band	Frequency (MHz)	Measured Conducted Power Output		Power Output Rating	
		(dBm)	(W)	(dBm)	(W)
LB (2320.0 – 2332.5 MHz)	2326.250	62.44	1753.9	62.41	1740.0
LB Diversity (2320.0 – 2332.5 MHz	2326.25604	34.42	2.77	34.40	2.75
HB (2332.5 – 2345.0 MHz)	2338.755	62.42	1745.8	62.41	1740.0
Combined Power (LB + HB)	2326.250 & 2338.755	65.42	3483.4	65.41	3480.0

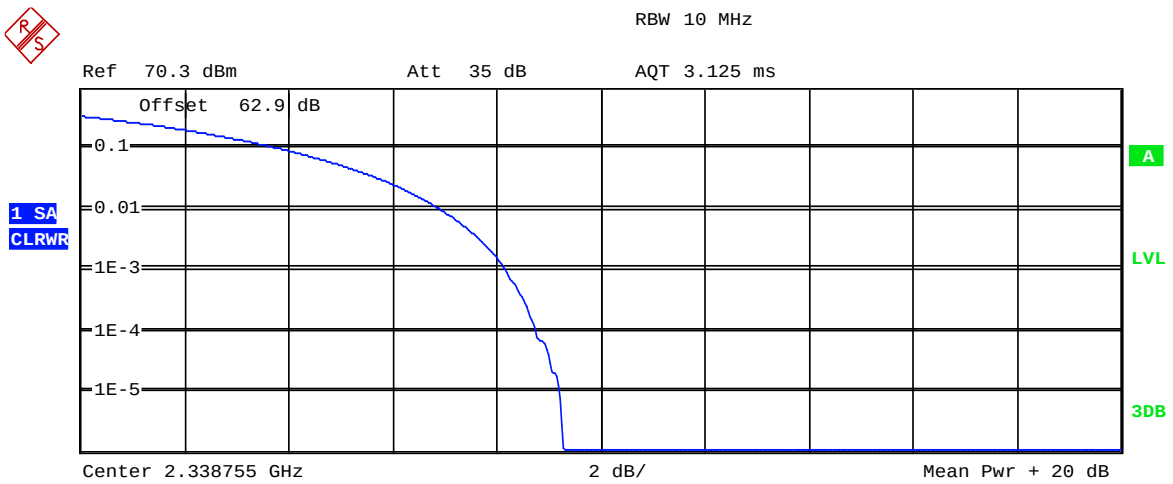
5.1.4.2. Peak-to-Average Power Ratio (PAPR)

Plot 5.1.4.2.1. Peak-to-Average Power Ratio, LB, 2326.250 MHz, OFDM Modulation, CCDF



- Measured PAPR < 13 dB for each 0.1 percent of time

Plot o Peak-to-Average Power Ratio, HB, 2338.755 MHz, OFDM Modulation, CCDF



Complementary Cumulative Distribution Function (100000 samples)

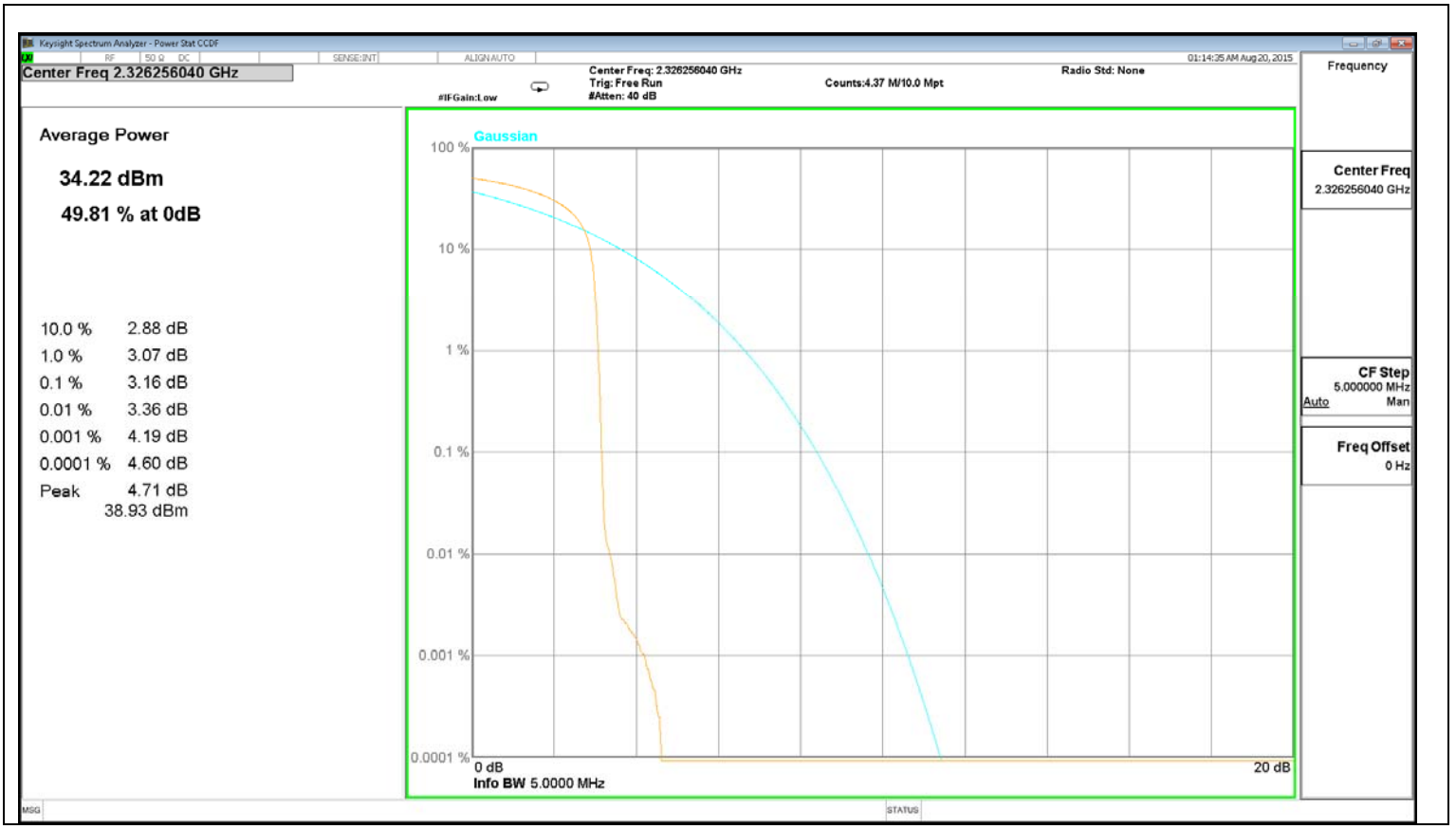
	Trace 1
Mean	62.37 dBm
Peak	71.63 dBm
Crest	9.27 dB
10 %	3.91 dB
1 %	6.92 dB
.1 %	8.17 dB
.01 %	8.75 dB

Ultratech Labs

Date: 20.JUL.2015 17:24:18

- Measured PAPR < 13 dB for each 0.1 percent of time

Plot o Peak-to-Average Power Ratio, LB Diversity, 2326.25604 MHz, OFDM Modulation, CCDF



- Measured PAPR < 13 dB for each 0.1 percent of time

5.2. OCCUPIED BANDWIDTH [§§ 2.1049 & 25.202(a)(6)]

5.2.1. Limit(s)

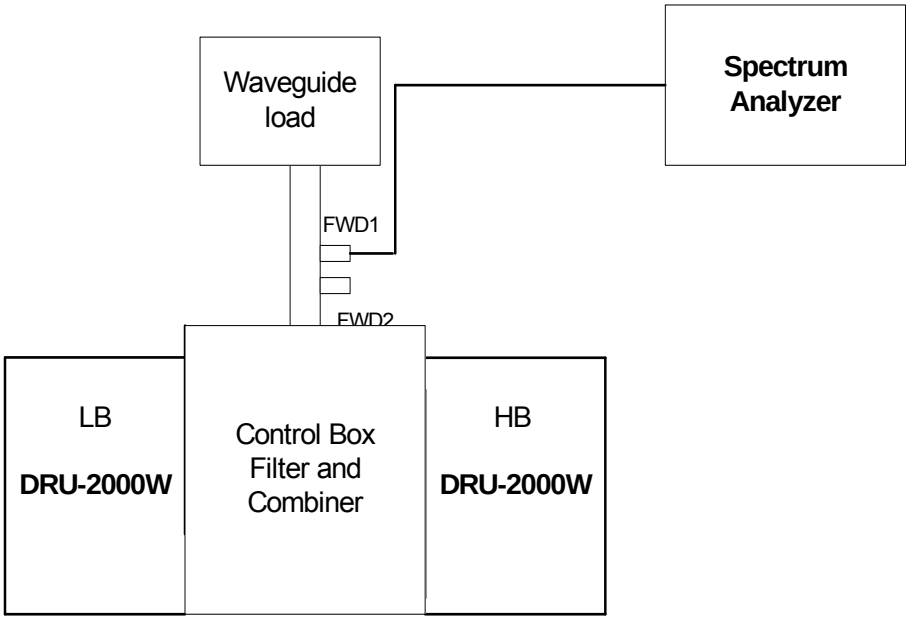
The occupied bandwidth shall be within the authorized frequency band of §25.202(a)(6) under which the equipment is operated.

5.2.2. Method of Measurements

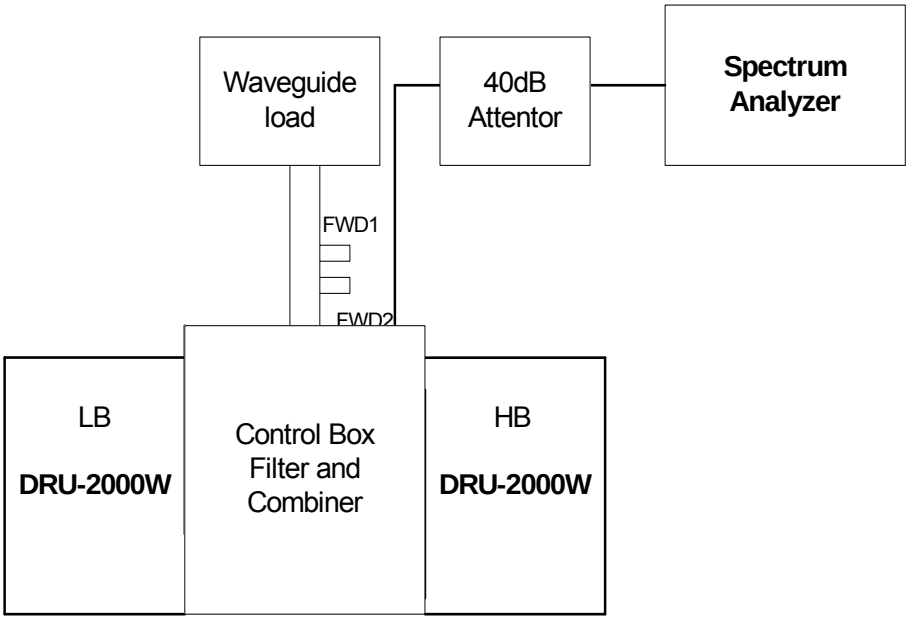
FCC KDB Publication 971168 D01, Section 4.2

5.2.3. Test Arrangement

Occupied Bandwidth for LB and HB



Occupied Bandwidth for LB Diversity



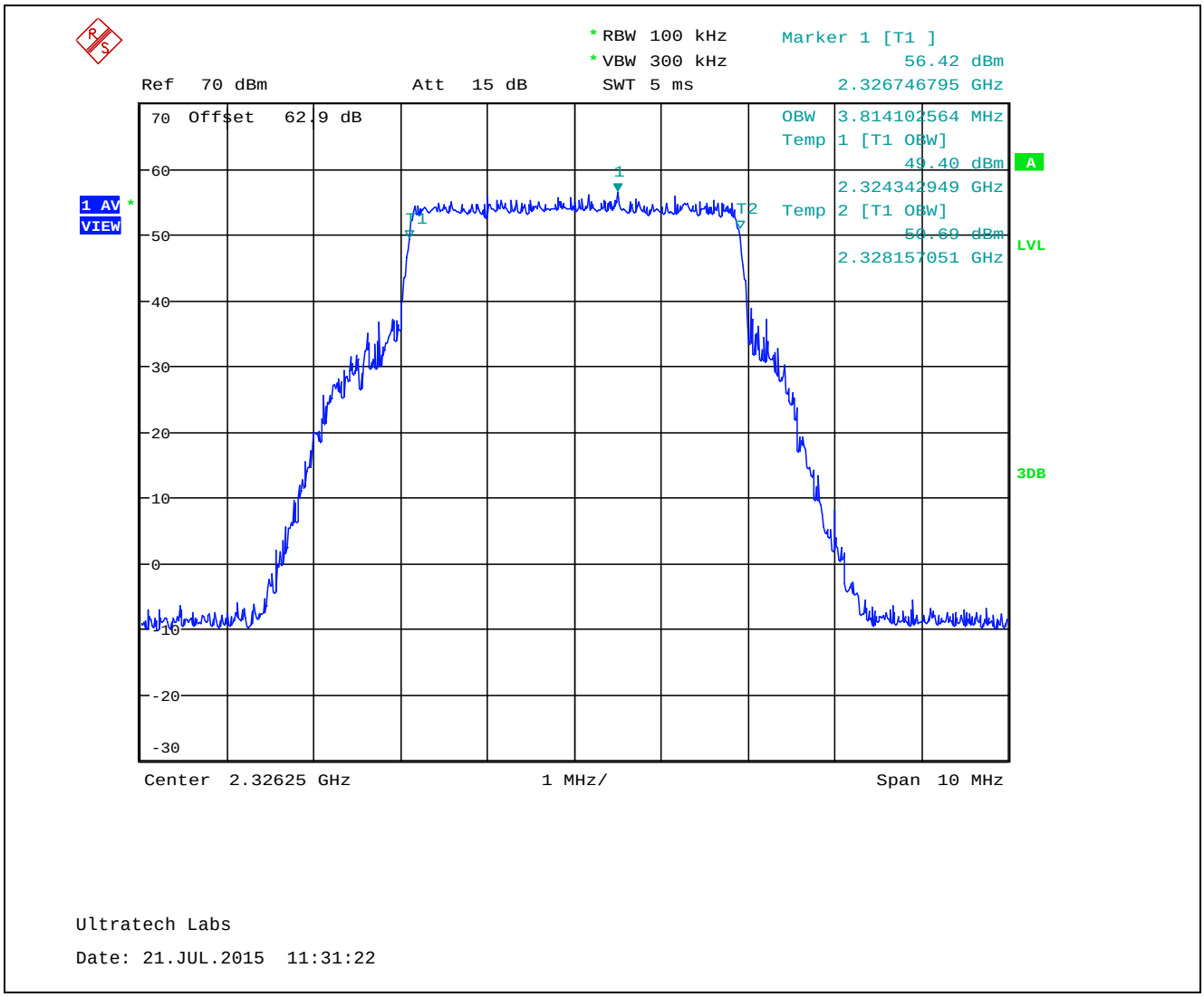
5.2.4. Test Data

Frequency Band	Frequency (MHz)	99% OBW (MHz)
LB (2320.0 – 2332.5 MHz)	2326.250	3.814
HB (2332.5 – 2345.0 MHz)	2338.755	4.984
LBD (2320.0 – 2332.5 MHz)	2326.25604	0.020821

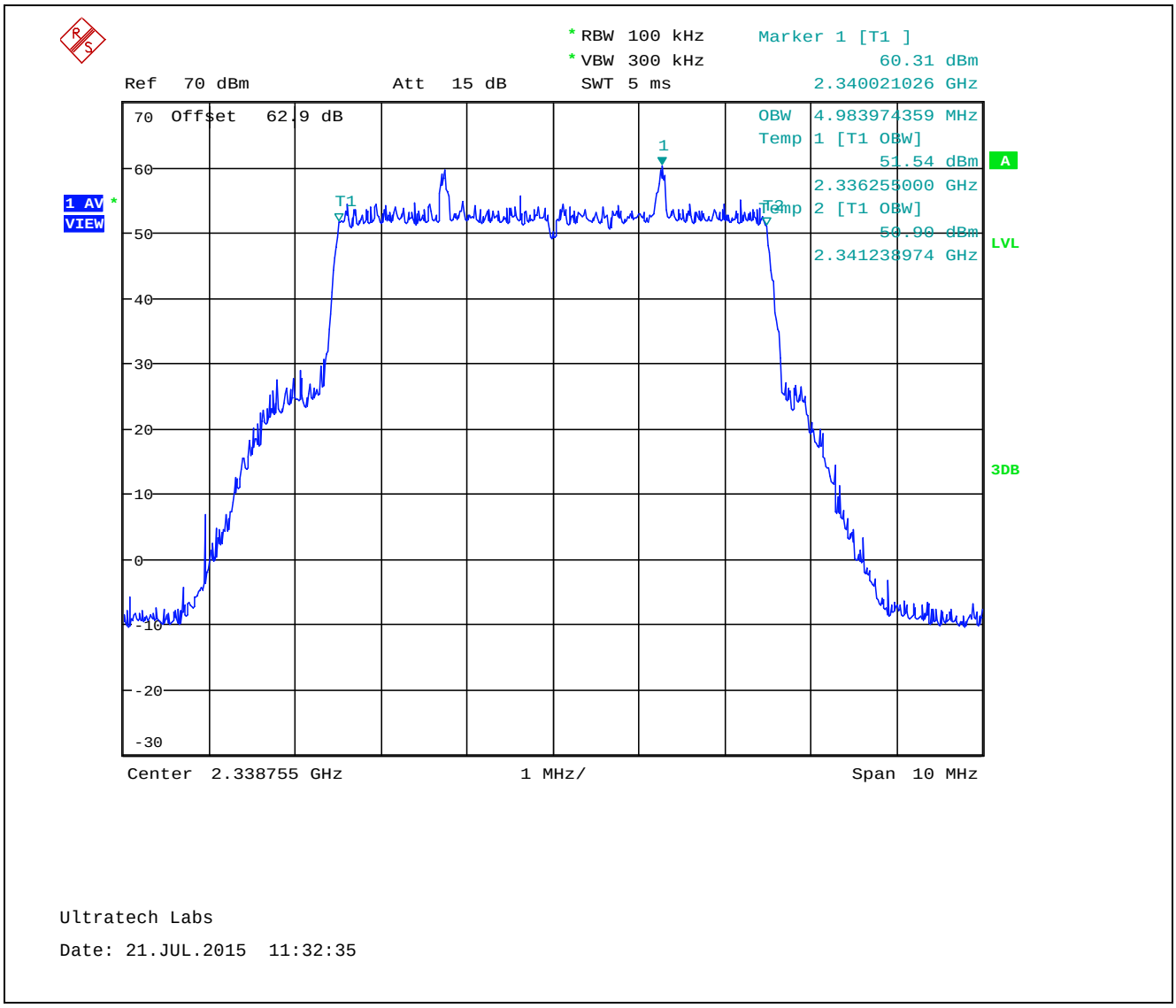
Note: 99% Occupied Bandwidth measurements were conducted using the built-in auto function of the analyzer.

See the following plots for detailed measurements.

Plot 5.2.4.1.1. 99% Occupied Bandwidth, Low Band, 2326.250 MHz, OFDM Modulation



Plot 5.2.4.1.2. 99% Occupied Bandwidth, High Band, 2338.755 MHz, OFDM Modulation



Plot 5.2.4.1.3. 99% Occupied Bandwidth, LB Diversity 2326.256040 MHz, OFDM Modulation

5.3. TRANSMITTER ANTENNA POWER SPURIOUS/HARMONIC CONDUCTED EMISSIONS [§§ 2.1051, 2.1057 & 25.202]

5.3.1. Limit(s)

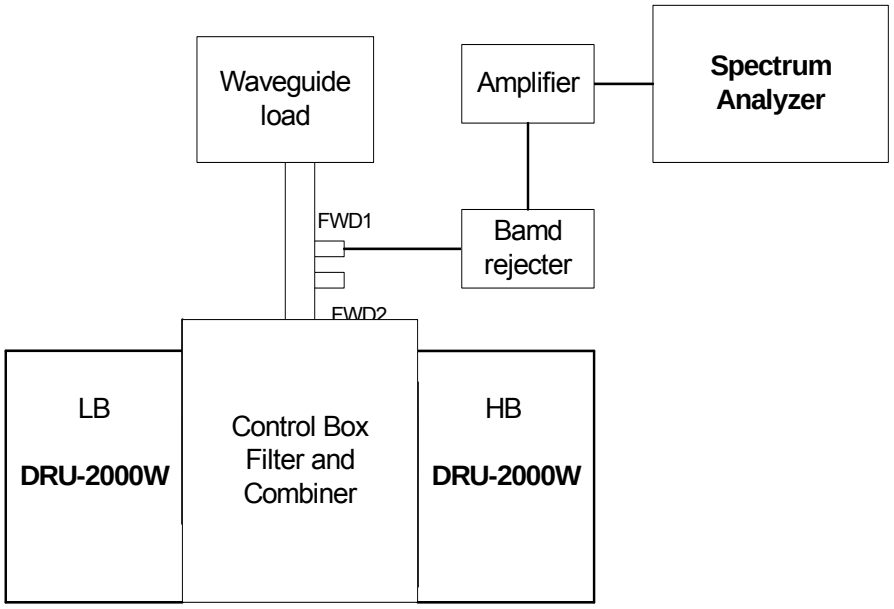
§25.202(h)(1) Any SDARS terrestrial repeater operating at a power level greater than 2-watt average EIRP is required to attenuate its out-of-band emissions below the transmitter power P by a factor of not less than 90 + 10 log (P) dB in a 1-megahertz bandwidth outside the 2320-2345 MHz band, where P is average transmitter output power in watts.

5.3.2. Method of Measurements

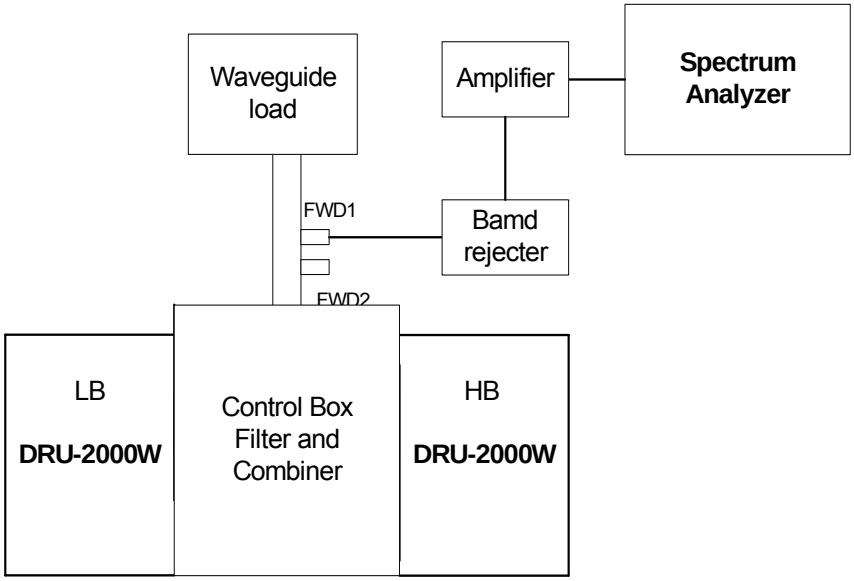
FCC KDB Publication 971168 Sections 5.4.1 and 6.0

5.3.3. Test Arrangement

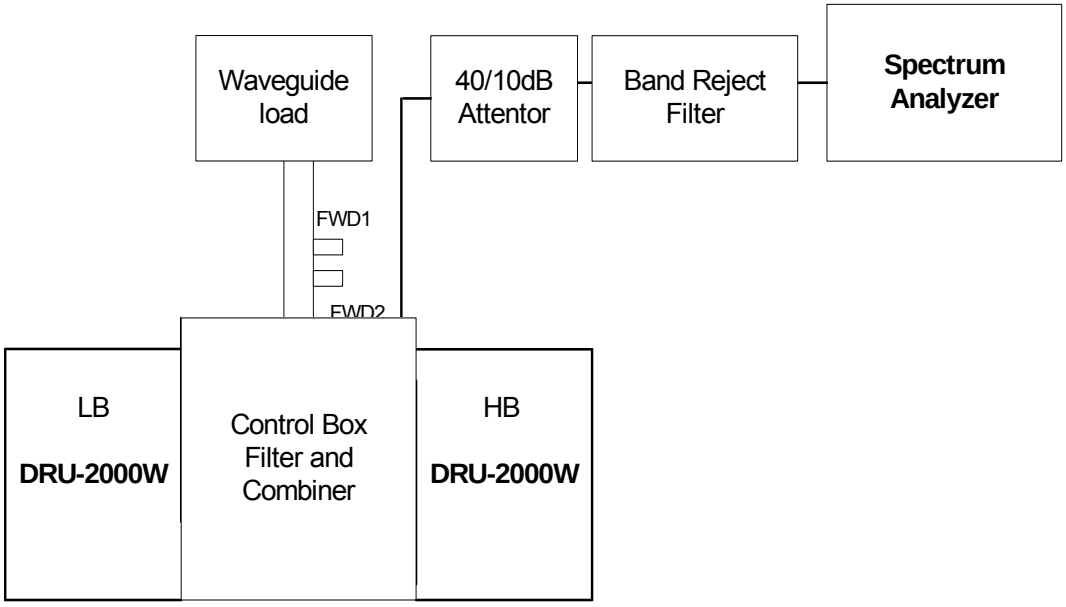
Band-Edge Conducted Emission



Out of Band Conducted Emission for LB and HB



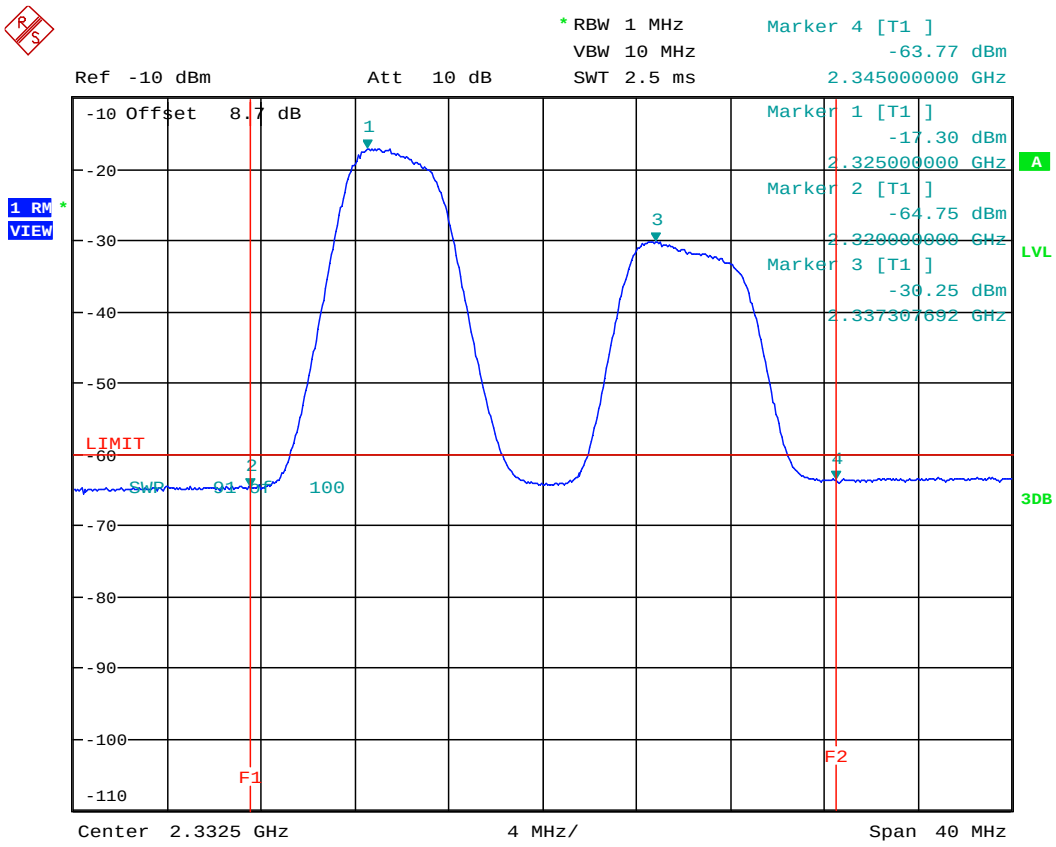
Out of Band Conducted Emission for LBD



5.3.4. Test Data

5.3.4.1. Band-Edge RF Conducted Emissions

Plot 5.3.4.1.1. Band-Edge RF Conducted Emissions, Low & High Bands, OFDM Modulation, Average Detector

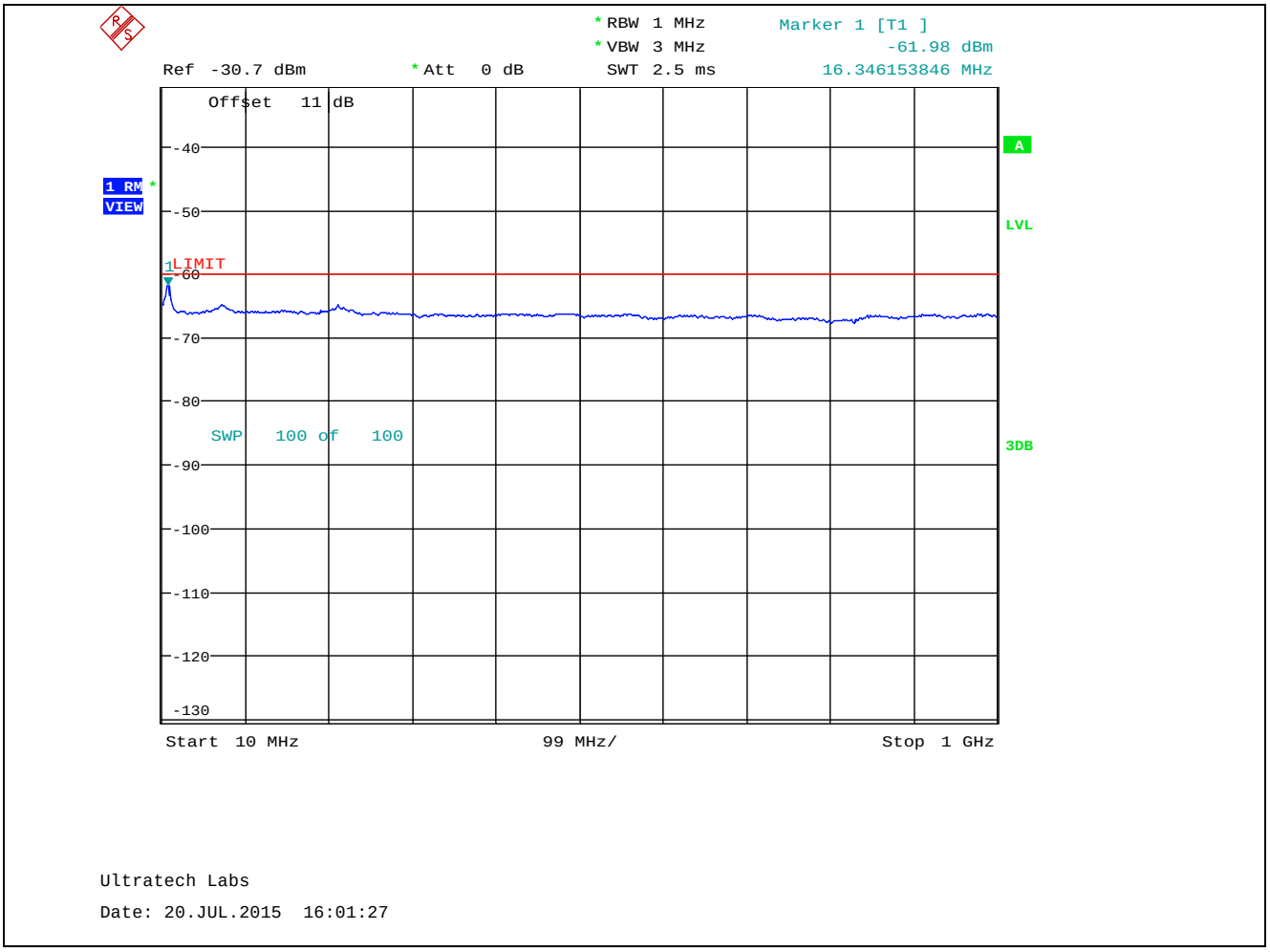


Note: The setup use Band Reject filter therefore the carrier level was low on the plot.

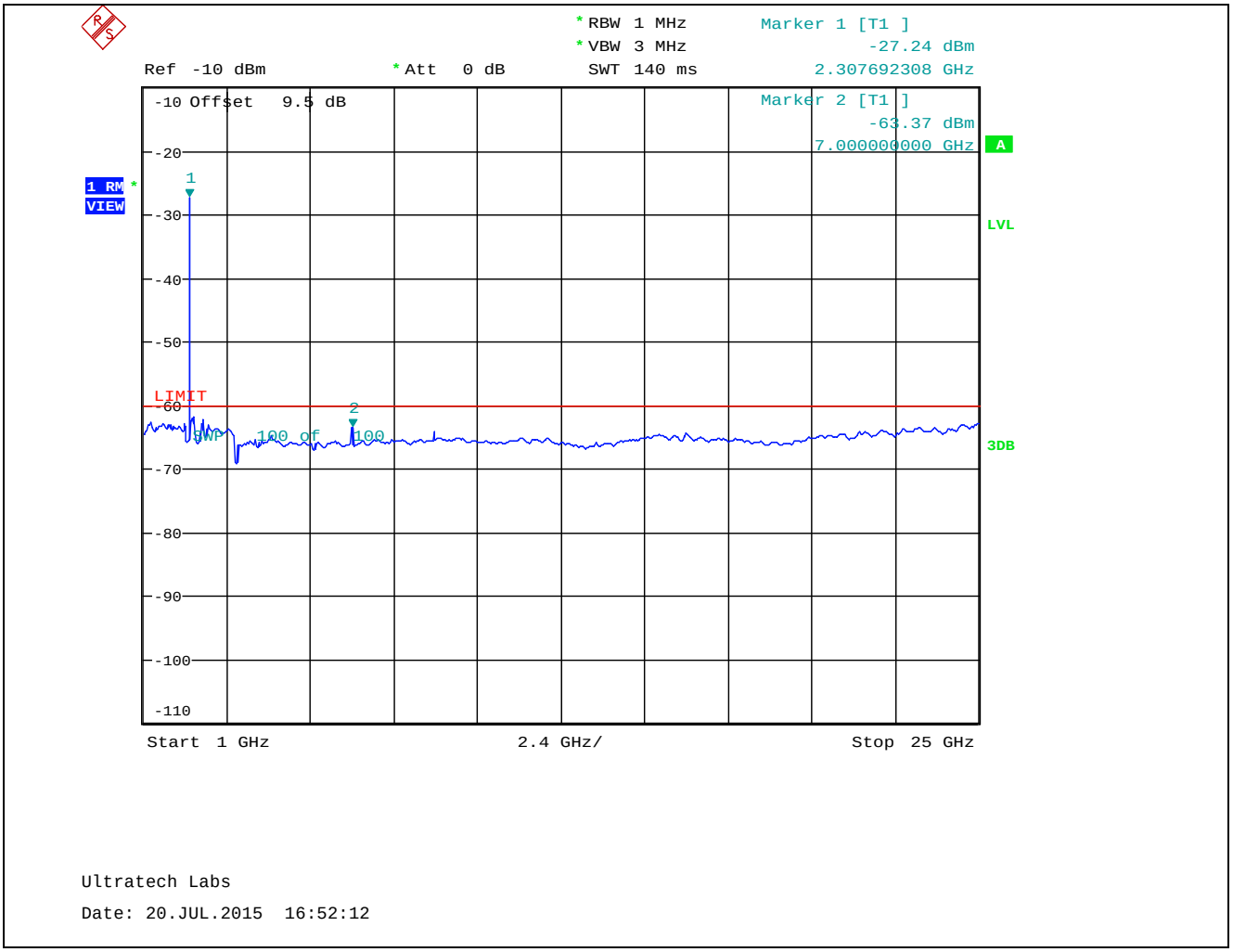
5.3.4.2. Conducted Spurious Emissions

Remark: The following test results are the worst-case measurements.

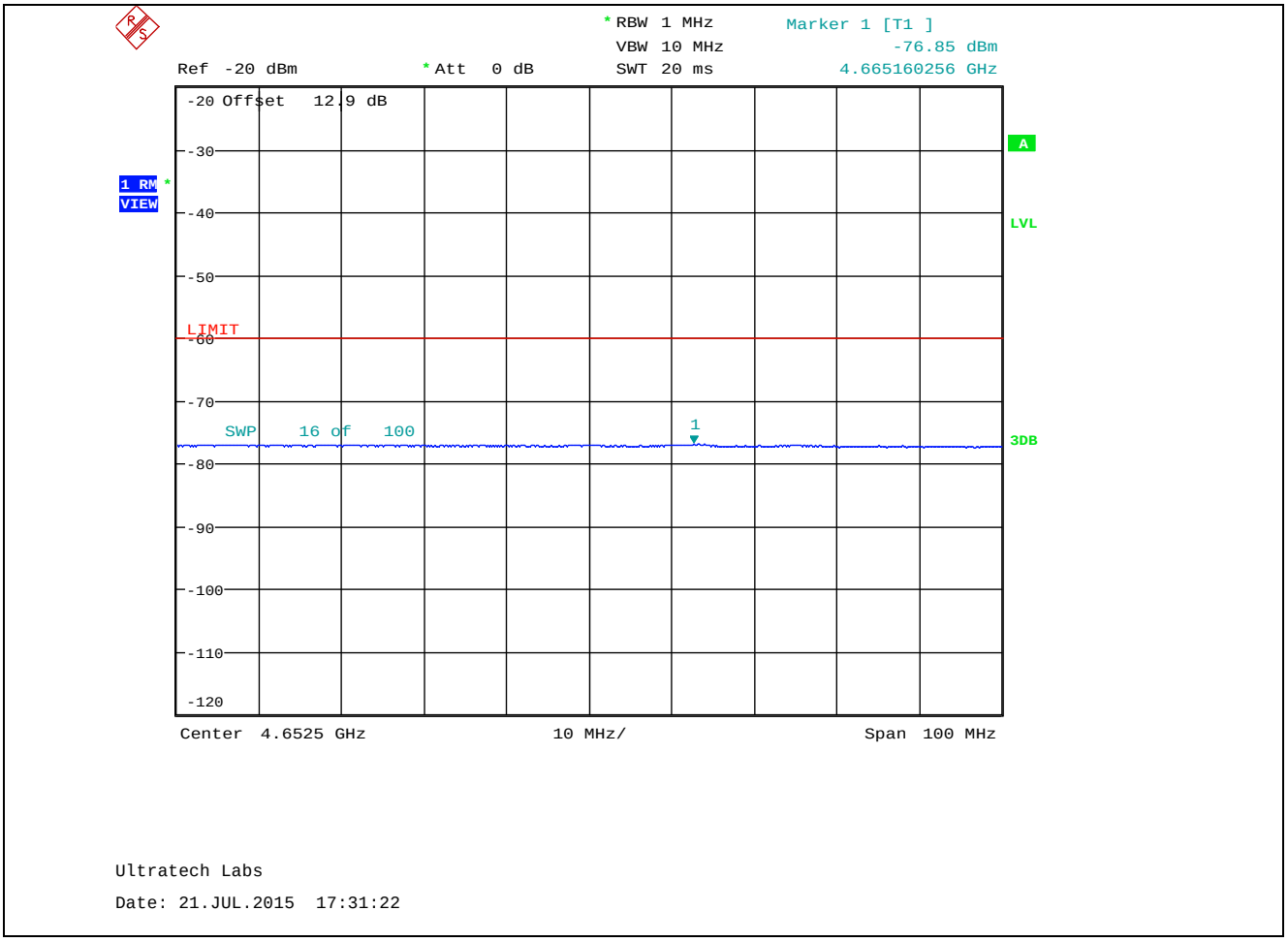
Plot 5.3.4.2.1. Conducted Spurious Emissions for LB + HB, 2326.25 and 2338.755 MHz, 10 MHz – 1 GHz



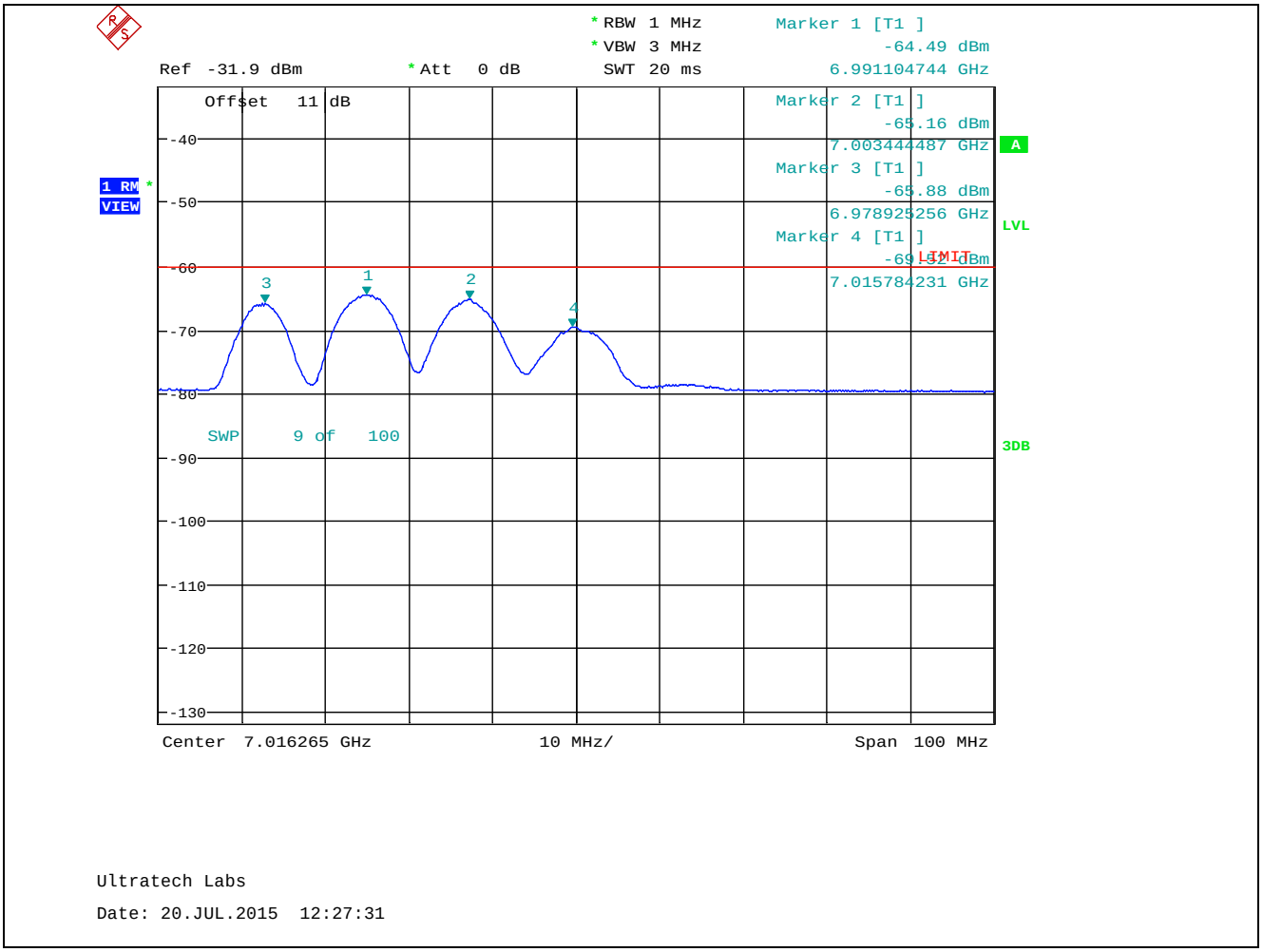
Plot 5.3.4.2.2. Conducted Spurious Emissions for LB + HB, 2326.25 and 2338.755 MHz, 1 GHz – 25 GHz



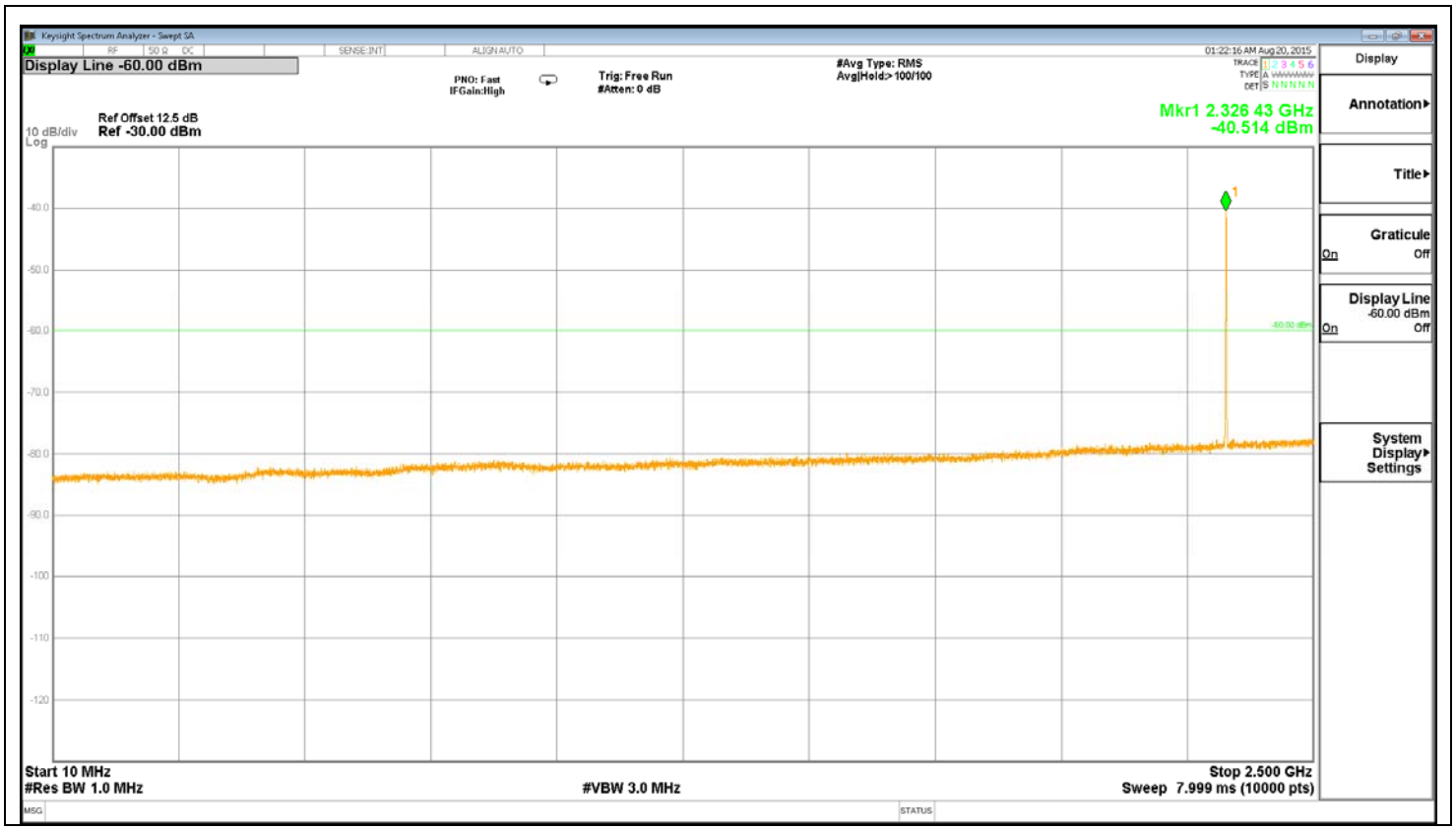
Plot 5.3.4.2.3. Conducted Spurious Emissions for LB + HB, Second Harmonic 4677.5 MHz
Check with T-Splitter Connected



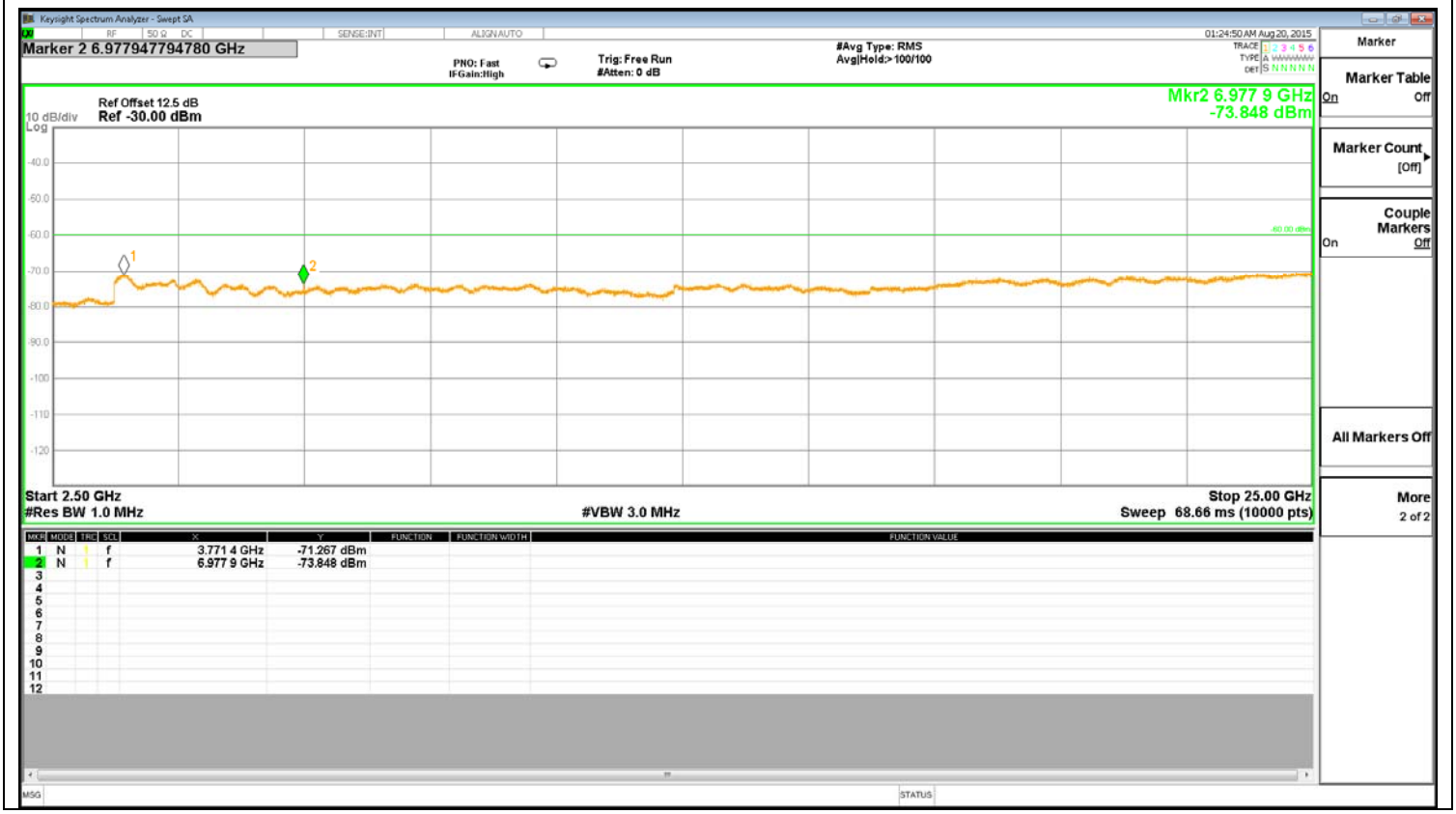
Plot 5.3.4.2.4. Conducted Spurious Emissions for LB + HB, Third Harmonic 7016.265 MHz
Check with T-Splitter Connected



Plot 5.3.4.2.5. Conducted Spurious Emissions for LB Diversity, 2326.256040 MHz, 10 MHz – 2.5 GHz



Plot 5.3.4.2.6. Conducted Spurious Emissions for LB Diversity, 2326.256040 MHz, 2.5 GHz – 25 GHz



5.4. TRANSMITTER SPURIOUS/HARMONIC RADIATED EMISSIONS [§§ 2.1053, 2.1057 & 25.202(h)(1)]

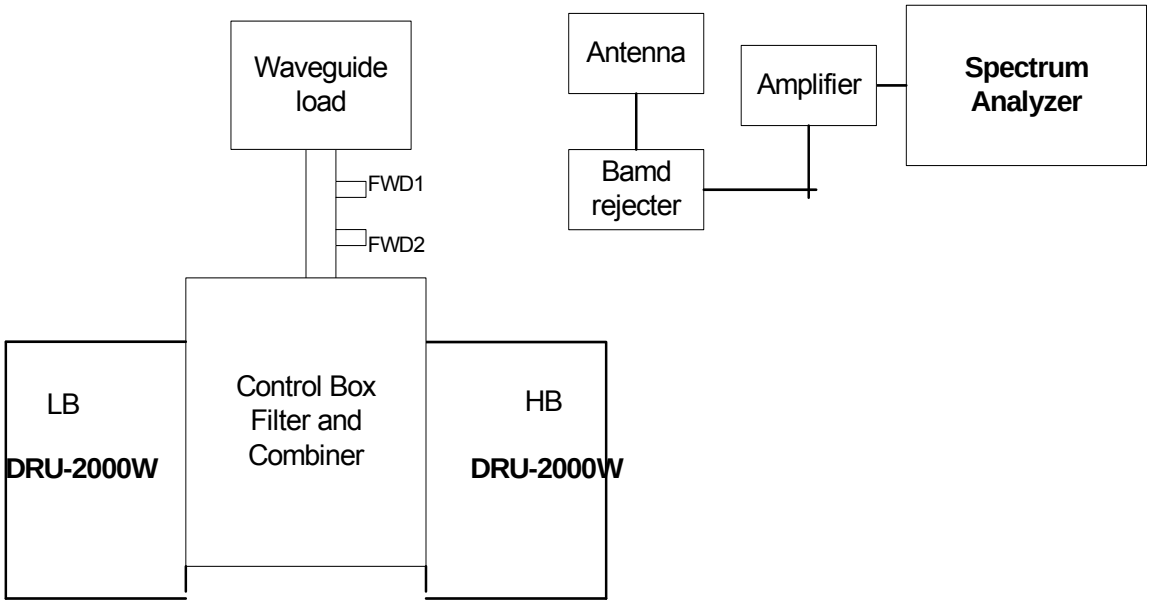
5.4.1. Limits

§25.202(h)(1) Any SDARS terrestrial repeater operating at a power level greater than 2-watt average EIRP is required to attenuate its out-of-band emissions below the transmitter power P by a factor of not less than 90 + 10 log (P) dB in a 1-megahertz bandwidth outside the 2320-2345 MHz band, where P is average transmitter output power in watts.

5.4.2. Method of Measurements

FCC KDB Publication 971168 D01, Sections 5.4.1 and 7.0

5.4.3. Test Arrangement



5.4.4. Test Data

Remarks:

- Initially, the test setup was at 3m distance; but the limit at 3m was below the noise floor. Therefore, the receiving antenna had to move closer at 0.5m, in order to get the limit over the noise floor; and hand measurements were recorded inside the chamber with a spectrum analyzer. The second and third harmonics were detected when the transmitter was turned on. The setup pictures were taken at 3m distance.

- The emissions were scanned from 30 MHz to 10th harmonics; all spurious emissions that are in excess of 20dB below the specified limit shall be recorded.

- Testing was conducted at 2326.250 MHz (LB) and 2338.755 MHz (HB) transmitting at the same time for worst-case final test configuration.

Test Frequencies (MHz):	2326.25 MHz (LB) and 2338.755 MHz (HB)					
Limit (dBm):	-60					
Frequency (MHz)	**E-Field at 0.5 m (dBµV/m)**	**EMI Detector (Peak/QP/Avg)**	**Antenna Polarization (H/V)**	***EIRP (dBm)**	**Limit (dBm)**	**Margin (dBm)**
4652.500	49.34	Avg	V	-61.48	-60	-1.48
4652.500	49.64	Avg	H	-61.18	-60	-1.18
4677.510	45.97	Avg	V	-64.85	-60	-4.85
4677.510	46.13	Avg	H	-64.69	-60	-4.69
6978.750	46.80	Avg	V	-64.02	-60	-4.02
6978.750	49.67	Avg	H	-61.15	-60	-1.15
7016.265	42.59	Avg	V	-68.23	-60	-8.23
7016.265	46.32	Avg	H	-64.50	-60	-4.50
6989.980	45.87	Avg	V	-64.95	-60	-4.95
*EIRP(dBm) = E (dBµV/m) + 20log(D) - 104.8; where D is the measurement distance in meters						

5.5. FREQUECNY STABILITY [§§ 2.1055 & 25.202]

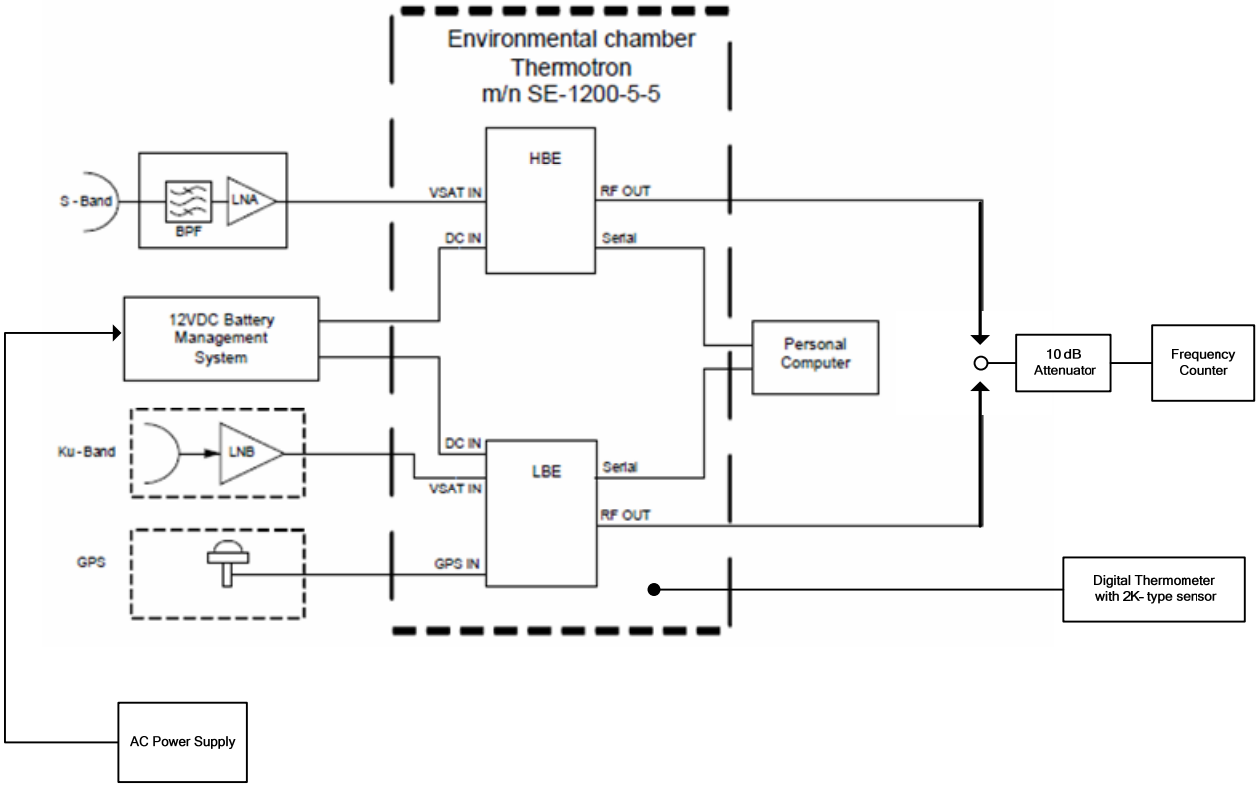
5.5.1. Limit(s)

§ 25.202(d) Frequency tolerance, Earth stations. The carrier frequency of each earth station transmitter authorized in these services shall be maintained within 0.001 percent of the reference frequency.

5.5.2. Method of Measurements

FCC KDB Publication 971168 D01, Section 9.0 or 47 CFR 2.1055

5.5.3. Test Arrangement



5.5.4. Test Data

Remarks:

The DRU-2KW uses the same Low Band Excite (LBE) and High Band Excite (HBE) as the DRU-200W unit. For this reason, the Manufacturer's declared that the Test Data on the Low Band Excite (LBE) and High Band Excite (HBE) for the DRU-200W unit as shown below is valid and representative of the DRU-2KW.

Test was conducted at Unique Broadband Systems Ltd. facility.

It is impracticable to subject the complete EUT to this test because of its physical dimensions, only its frequency determining and stabilizing portions were subjected to this test. The Low Band Exciter (LBE) and High Band Exciter (HBE) modules were tested to demonstrate compliance to this requirement.

Manufacturer's declared ambient temperature for the DRU 200 is -20C to +55C. The ambient temperature correspondent inside of the electronics compartment (the hosts of the Exciters) is -10C to +65C.

The manufacturer's declared operating temperature range of LBE and HBE is -10 °C to +65 °C, the LBE and HBE will cease to function outside of the upper and lower temperatures declared by the manufacturer. Testing was conducted within the declared operating temperatures.

Test Unit:	LBE
Center Frequency:	2326.250 MHz
Full Power Level:	200 W
Frequency Tolerance Limit (Worst Case):	0.001 % or 23263 Hz
Max. Frequency Tolerance Measured:	+18 Hz or 0.0000008 %
Input Voltage Rating:	208 VAC

Ambient Temperature (°C)	**Frequency Drift (Hz)**		
	Supply Voltage 208 VAC (Nominal)	**Supply Voltage 176.8 V AC (85% of Nominal)**	**Supply Voltage 239.2 VAC (115% of Nominal)**
-10	+8	--	--
0	+16	--	--
+10	+8	--	--
+20	+8	+8	+7
+30	+18	--	--
+40	+6	--	--
+50	+8	--	--
+60	+18	--	--
+65	+10	--	--

Test Unit:	HBE
Center Frequency:	2338.755 MHz
Full Power Level:	200 W
Frequency Tolerance Limit (Worst Case):	0.001 % or 23388 Hz
Max. Frequency Tolerance Measured:	+8 Hz or 0.0000003 %
Input Voltage Rating:	208 VAC

Ambient Temperature (^{o}C)	**Frequency Drift (Hz)**		
	Supply Voltage 208 VAC (Nominal)	**Supply Voltage 176.8 V AC (85% of Nominal)**	**Supply Voltage 239.2 VAC (115% of Nominal)**
-10	-3	--	--
0	+3	--	--
+10	-5	--	--
+20	+3	+3	+8
+30	+6	--	--
+40	0	--	--
+50	+2	--	--
+60	+3	--	--
+65	+3	--	--

EXHIBIT 6. TEST EQUIPMENT LIST

Test Instruments	Manufacturer	Model No.	Serial No.	Operating Range	Cal. Due Date
Spectrum Analyzer	Rohde & Schwarz	FSU	200946	20 Hz–26.5 GHz	14 Jul 2016
Wave Guide	UBS	WR340	SX03-51600-01	2.2 – 3.3 GHz	Cal on use
Attenuator (Load)	Apollo	18128-05	CO-29916-1-1	2.2 – 3.3 GHz	Cal on use
PXA Signal Analyzer	Agilent	N9010A	MY52221186	10 MHz–32 GHz	13 May 2016
Attenuator	Weinschel	40dB 158	K309	DC-18GHz	Cal on use
Spectrum Analyzer	Rohde & Schwarz	ESU40	100037	20 Hz – 40 GHz	08 May 2017
RF Amplifier	Hewlett Packard	84498	3008A00769	1 – 26.5 GHz	04 Feb 2016
Band-Reject Filter	Micro-Tronics	BRM50710	201	DC-25GHz	Cal on use
RF Amplifier	Com Power	PA-103A	161040	10-1000 MHz	21 Jul 2016
Biconi-Log Antenna	ETS Lindgren	3142C	26873	26 – 3000 MHz	14 Apr 2016
Horn Antenna	ETS Lindgren	3115	9911-5955	1 -18 GHz	26 Mar 2016
Horn Antenna	ETS Lindgren	3160-09	00118385	18 -26.5 GHz	04 Aug 2016
High Pass Filter	K & L	11SH10-4000/T12000	4	Cut off 2400 MHz	Cal on use
Power Meter	Hewlett Packard	4418A	US38261578	Sensor depend	25 May 2017
Power Sensor	Hewlett Packard	8481A	2549A42432	100MHz-18GHz	25 May 2016
Power Meter	Hewlett Packard	438A	2743A04777	10 MHz–18 GHz	05 Feb 2016
Power Sensor	Hewlett Packard	8481A	1660A15143	100MHz-18GHz	22 Sep 2015
T Splitter	UBS	-	-	Cut off 2.3-2.4 GHz	Cal on use
Environmental Chamber	THERMOTROW	SE-1200-5-5	26512	180 °C to -40 °C	Cal on use
Power Supply	ELGAR	EW3001-1	9947100118	0-300 VAC, 3000 VA	Cal on use
Frequency Counter	EIP	545A	2683	10Hz-18 GHz	07 Apr 2015*
Digital Thermometer	Extech	Easyview 15	30400781	K-type sensor	16 May 2014*

* This equipment was used on February 25, 2014.

EXHIBIT 7. MEASUREMENT UNCERTAINTY

The measurement uncertainties stated were calculated in accordance with the requirements of CISPR 16-4-2 @ IEC:2003 and JCGM 100:2008 (GUM 1995) – Guide to the Expression of Uncertainty in Measurement.

7.1. LINE CONDUCTED EMISSION MEASUREMENT UNCERTAINTY

	Line Conducted Emission Measurement Uncertainty (9 kHz – 30 MHz):	**Measured**	**Limit**
u_c	**Combined standard uncertainty:** $u_c(y) = \sqrt{\sum_{I=1}^{m} u_i^2(y)}$	**± 1.44**	**± 1.8**
U	**Expanded uncertainty U:** $U = 2u_c(y)$	**± 2.89**	**± 3.6**

7.2. RADIATED EMISSION MEASUREMENT UNCERTAINTY

	Radiated Emission Measurement Uncertainty @ 3m, Horizontal (30-1000 MHz):	**Measured (dB)**	**Limit (dB)**
u_c	**Combined standard uncertainty:** $u_c(y) = \sqrt{\sum_{I=1}^{m} u_i^2(y)}$	**± 2.39**	**± 2.6**
U	**Expanded uncertainty U:** $U = 2u_c(y)$	**± 4.79**	**± 5.2**

	Radiated Emission Measurement Uncertainty @ 3m, Vertical (30-1000 MHz):	**Measured (dB)**	**Limit (dB)**
u_c	**Combined standard uncertainty:** $u_c(y) = \sqrt{\sum_{I=1}^{m} u_i^2(y)}$	**± 2.39**	**± 2.6**
U	**Expanded uncertainty U:** $U = 2u_c(y)$	**± 4.78**	**± 5.2**

	Radiated Emission Measurement Uncertainty @ 3 m, Horizontal & Vertical (1 – 18 GHz):	**Measured (dB)**	**Limit (dB)**
u_c	**Combined standard uncertainty:** $u_c(y) = \sqrt{\sum_{I=1}^{m} u_i^2(y)}$	**± 1.87**	**Under consideration**
U	**Expanded uncertainty U:** $U = 2u_c(y)$	**± 3.75**	**Under consideration**