



FCCTEST REPORT

Application No: ZR/20019/60038
Applicant: LG Electronics USA, Inc.
Address of Applicant: 1000 Sylvan Ave. Englewood Cliffs, New Jersey, United States 07632
Manufacturer: Huaqin Telecom Technology Co., Ltd.
Address of Manufacturer: No.1 Building, No.9 Building, No.399, Keyuan Road, Zhangjiang Hi-tech Park, Shanghai, P.R.China
Factory: Dong Guan Huabel Electronic Technology Co., Ltd
Address of Factory: No.9 Industrial Northern Road, National High-Tech Industrial Development Zone, Songshan Lake, Dong Guan
EUT Description: Mobile Handset
Model No.: LM-X430FMW, LM-X430HM
Trade Mark: LG
FCC ID: ZNFX430HM
Standards: 47 CFR FCC Part 2, Subpart J
 47 CFR Part 15, Subpart C
Test Method: KDB558074 D01 15.247 Meas Guidance v05r02
 ANSI C63.10 (2013)
Date of Receipt: 2019/7/31
Date of Test: 2019/7/31 to 2019/8/26
Date of Issue: 2019/8/26

Test Result:	PASS *
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* In the configuration tested, the EUT complied with the standards specified above.

Derek Yang

Derek Yang
Wireless Laboratory Manager



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1 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00		2019/8/26		Original

Authorized for issue by:			
Tested By		 _____ (Mike Hu) /Project Engineer	2019/8/26

Checked By		 _____ (David Chen) /Reviewer	2019/8/26





Remark:

The difference between LM-X430FMW, LM-X430HM and LM-X430EMW is show in the below table:

		LM-X430FMW (Updated approval)	LM-X430HM (Updated approval)	LM-X430EMW (Full approval)
	Software version	different	different	different
Licensed Frequency	LTE	B1/ B2/B3/ B4/B5/B7/B8/B12/ B13/B17/B28/B38/B4 0/B66	B1/ B2/B3/ B4/B5/B7/B8/B12/ B13/B17/B28/B38/B4 0/B66	B1/ B3/ B7/B8/B20/ B38
	CA	Not support	Not support	Not support
	UMTS	B1,B2,B4,B5,B8	B1,B2,B4,B5,B8	B1,B2,B5,B8
	GSM	the same	the same	the same
	IC	the same	the same	the same
	Antenna	the same	the same	the same
Unlicensed Frequency	Bluetooth	the same	the same	the same
	2.4G Wi-Fi	the same	the same	the same
	IC	the same	the same	the same
	Antenna	the same	the same	the same
Hardware	Ram / Rom	2G/32G	2G/32G	2G/32G
	Camera	the same	the same	the same
	PCB	the same	the same	the same
	USB Port	the same	the same	the same
	NFC	Not support	Not support	support
	FM	support	support	Not support
Appearance	Dimension	the same	the same	the same
	Color	the same	the same	the same
Accessory	Battery	the same	the same	the same
	External Charger	the same	the same	the same
	USB Cable	the same	the same	the same
other	SIM card	Double SIM	Single SIM	Double SIM

According to the difference above, there were no test on LM-X430FMW, LM-X430HM, the data were copied from the report of LM-X430EMW (ZR/2019/7002102), and the worst case data spot check on LM-X430FMW, LM-X430HM, and the data displayed in the sport check attachment.



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2 Test Summary

Test Item	Test Requirement	Test method	Test Result	Result
AC Power Line Conducted Emission	15.207	ANSI C63.10 2013	Clause 4.2	PASS
Duty Cycle	--	--	Clause 4.3	PASS
Conducted Output Power	15.247 (b)(3)	ANSI C63.10 2013	Clause 4.4	PASS
DTS (6 dB) Bandwidth & 99% Occupied Bandwidth	15.247 (a)(2)	ANSI C63.10 2013	Clause 4.5	PASS
Power Spectral Density	15.247 (e)	ANSI C63.10 2013	Clause 4.6	PASS
Band-edge for RF Conducted Emissions	15.247(d)	ANSI C63.10 2013	Clause 4.7	PASS
RF Conducted Spurious Emissions	15.247(d)	ANSI C63.10 2013	Clause 4.8	PASS
Radiated Spurious Emissions	15.247(d); 15.205/15.209	ANSI C63.10 2013	Clause 4.9	PASS
Restricted bands around fundamental frequency (Radiated Emission)	15.247(d); 15.205/15.209	ANSI C63.10 2013	Clause 4.10	PASS



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3 General Information

3.1 Client Information

Applicant:	LG Electronics USA, Inc.
Address of Applicant:	1000 Sylvan Ave. Englewood Cliffs, New Jersey, United States 07632
Manufacturer:	Huaqin Telecom Technology Co., Ltd.
Address of Manufacturer:	No.1 Building, No.9 Building, No.399, Keyuan Road, Zhangjiang Hi-tech Park, Shanghai, P.R. China
Factory:	Dong Guan Huabel Electronic Technology Co., Ltd
Address of Factory:	No.9 Industrial Northern Road, National High-Tech Industrial Development Zone, Songshan Lake, Dong Guan

3.2 Test Location

Company:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
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Fax:	+86 (0) 755 2671 0594
E-mail:	ee.shenzhen@sgs.com

3.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 3816.01.

• **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• **Industry Canada (IC)**

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.



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Shenzhen Branch EMC Laboratory

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3.4 General Description of EUT

EUT Description:	Mobile Handset
Model No.:	LM-X430FMW, LM-X430HM
Trade Mark:	LG
Hardware Version:	
Software Version:	
IEEE 802.11 WLAN Mode Supported	<input checked="" type="checkbox"/> 802.11B (20 MHz channel bandwidth), <input checked="" type="checkbox"/> 802.11G (20 MHz channel bandwidth) <input checked="" type="checkbox"/> 802.11N (20 MHz channel bandwidth),
Operation Frequency:	2400 MHz -2483.5MHz $f_c = 2407 \text{ MHz} + N * 5 \text{ MHz}$, where: $-f_c$ = "Operating Frequency" in MHz, $-N$ = "Channel Number" with the range from 1 to 13 for the 20 MHz channel bandwidth,
Type of Modulation:	IEEE for 802.11B: DSSS IEEE for 802.11G : OFDM IEEE for 802.11N(HT20) : OFDM
Sample Type:	<input checked="" type="checkbox"/> Portable Device, <input type="checkbox"/> Module
Antenna Type:	<input type="checkbox"/> External, <input checked="" type="checkbox"/> Integrated
Antenna Ports	<input checked="" type="checkbox"/> Ant 1, <input type="checkbox"/> Ant 2, <input type="checkbox"/> Ant 3
Smart System	<input checked="" type="checkbox"/> SISO (for 802.11B/G/N), <input type="checkbox"/> MIMO (for 802.11N): 2 Tx & 2 Rx, <input type="checkbox"/> Diversity (for 802.11B/G) : Tx & Rx
Antenna Gain:	-2.0dBi
Power Supply	<input checked="" type="checkbox"/> AC/DC Adapter; <input type="checkbox"/> Battery <input type="checkbox"/> PoE;; <input type="checkbox"/> Other:

Operation Frequency of each channel (802.11B/G/N HT20)

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	5	2432MHz	9	2452MHz	13	2472 MHz
2	2417MHz	6	2437MHz	10	2457MHz		
3	2422MHz	7	2442MHz	11	2462MHz		
4	2427MHz	8	2447MHz	12	2467MHz		

Remark:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the CH1 frequency, the CH6 frequency, and the CH11, CH13 frequency of channel were selected to perform the test, and the selected

channel see below:

Channel	Frequency for 802.11B/G/N (HT20)
CH1	2412MHz
CH6	2437MHz





CH11	2462MHz
CH13	2472 MHz

3.5 Test Environment and Mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	50 % RH
Atmospheric Pressure:	101.30KPa
Test mode:	
Transmitting mode:	Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.

3.6 Description of Support Units

The EUT has been tested independent unit.

4 Test results and Measurement Data

4.1 Antenna Requirement

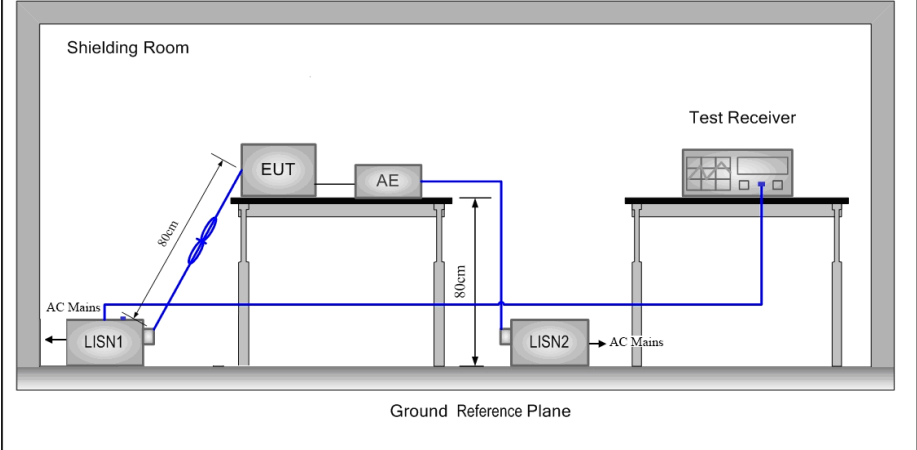
Standard requirement:	47 CFR Part 15C Section 15.203 /247(c)
<p>15.203 requirement:</p> <p>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</p> <p>15.247(b) (4) requirement:</p> <p>The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.</p> <p>The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is -2.0dBi.</p>	



4.2 AC Power Line Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.207		
Test Method:	ANSI C63.10: 2013		
Test Frequency Range:	150kHz to 30MHz		
Limit:	Frequency range (MHz)	Limit (dBuV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
* Decreases with the logarithm of the frequency.			
Test Procedure:	<p>1) The mains terminal disturbance voltage test was conducted in a shielded room.</p> <p>2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a $50\Omega/50\mu\text{H} + 5\Omega$ linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.</p> <p>3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,</p> <p>4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.</p> <p>5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.</p>		



Test Setup:	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates at CH1, CH6 and CH11. Charge + Transmitting mode.
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate of 802.11B at CH1 is the worst case. Charge + Transmitting mode. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass



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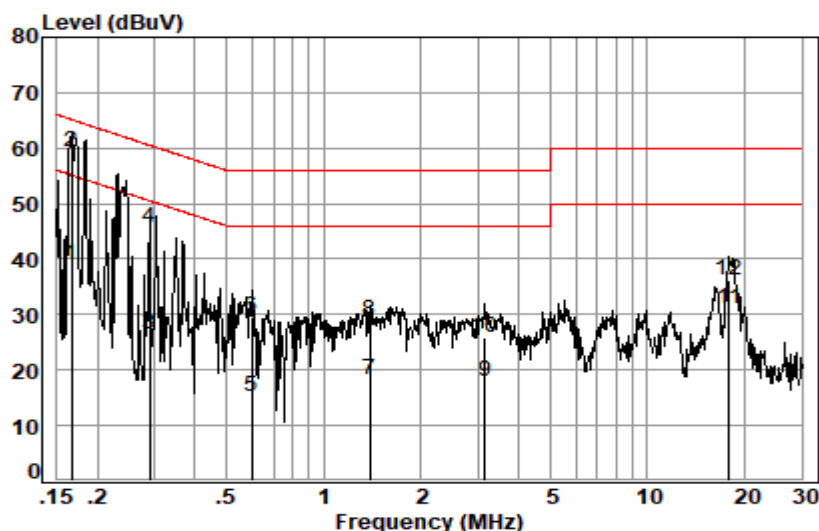
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Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Live Line:



Site : Shielding Room

Condition: Line

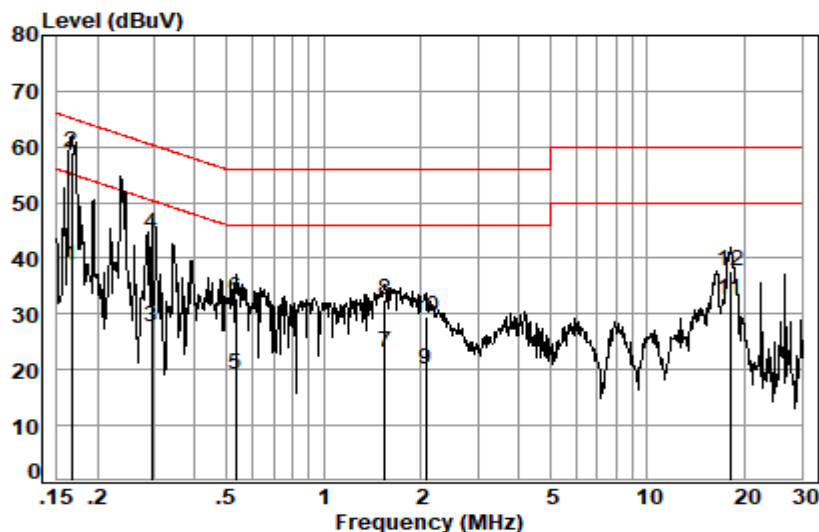
Job No. : 16976CR

Test mode: b

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1668	0.01	9.66	29.11	38.78	55.12	-16.34	Average
2	0.1668	0.01	9.66	49.76	59.43	65.12	-5.69	QP
3	0.2893	0.04	9.67	16.73	26.44	50.54	-24.10	Average
4	0.2893	0.04	9.67	35.86	45.57	60.54	-14.97	QP
5	0.5979	0.07	9.67	5.38	15.12	46.00	-30.88	Average
6	0.5979	0.07	9.67	19.77	29.51	56.00	-26.49	QP
7	1.3884	0.12	9.73	8.39	18.24	46.00	-27.76	Average
8	1.3884	0.12	9.73	19.18	29.03	56.00	-26.97	QP
9	3.1563	0.16	9.71	8.06	17.93	46.00	-28.07	Average
10	3.1563	0.16	9.71	15.90	25.77	56.00	-30.23	QP
11	17.9441	0.23	10.17	20.49	30.89	50.00	-19.11	Average
12	17.9441	0.23	10.17	25.87	36.27	60.00	-23.73	QP



Neutral Line:



Site : Shielding Room
 Condition: Neutral
 Job No. : 16976CR
 Test mode: b

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1659	0.01	9.64	28.83	38.48	55.16	-16.68	Average
2	0.1659	0.01	9.64	49.39	59.04	65.16	-6.12	QP
3	0.2940	0.04	9.64	17.92	27.60	50.41	-22.81	Average
4	0.2940	0.04	9.64	34.62	44.30	60.41	-16.11	QP
5	0.5350	0.06	9.64	9.40	19.10	46.00	-26.90	Average
6	0.5350	0.06	9.64	23.19	32.89	56.00	-23.11	QP
7	1.5436	0.13	9.70	13.25	23.08	46.00	-22.92	Average
8	1.5436	0.13	9.70	22.65	32.48	56.00	-23.52	QP
9	2.0659	0.16	9.69	10.14	19.99	46.00	-26.01	Average
10	2.0659	0.16	9.69	19.60	29.45	56.00	-26.55	QP
11	18.0394	0.23	10.20	22.25	32.68	50.00	-17.32	Average
12	18.0394	0.23	10.20	27.24	37.67	60.00	-22.33	QP

Remarks:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.



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4.3 Duty Cycle

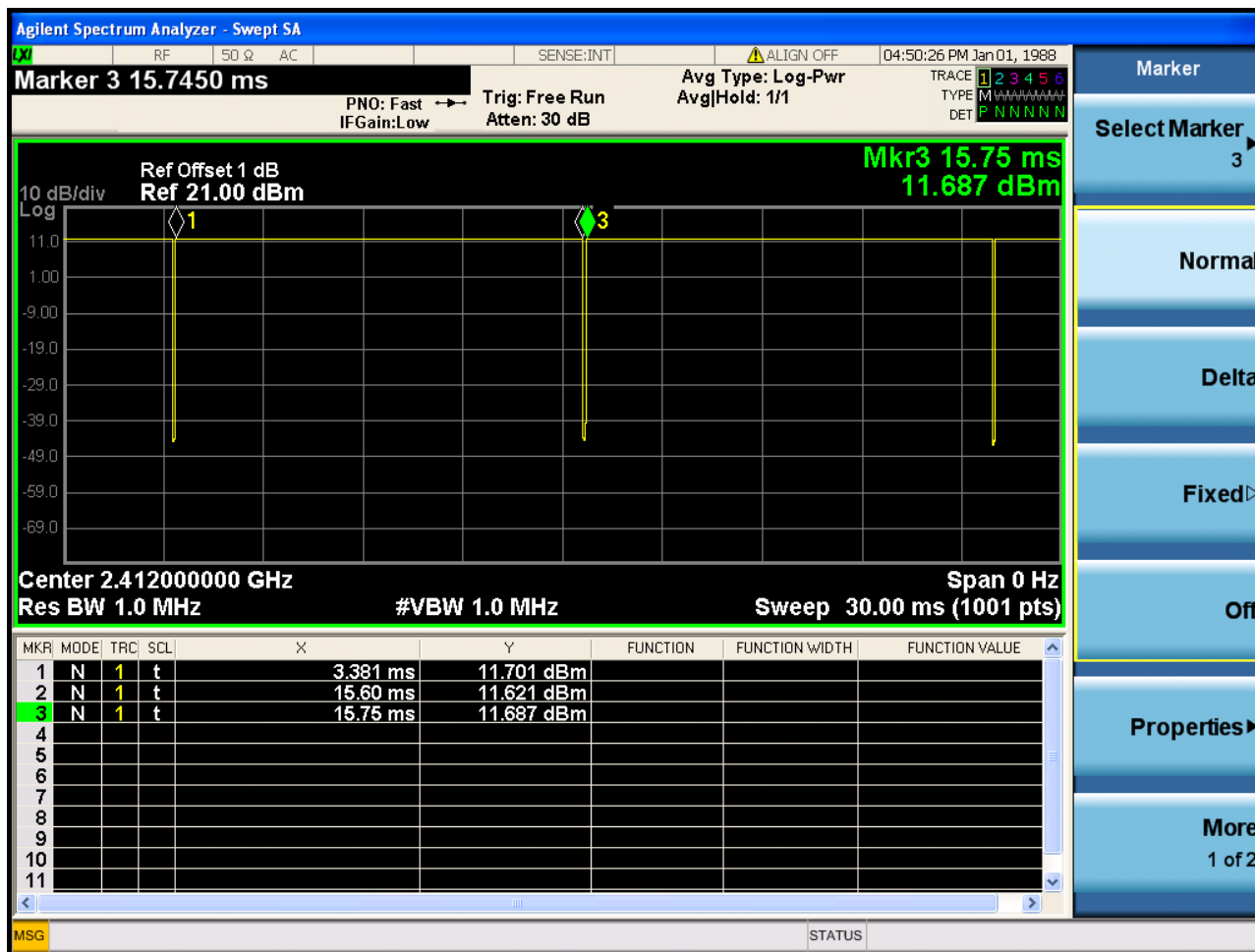
4.3.1 Test Results

Test Mode	TX Freq. [MHz]	Duty cycle [%]
11B	CH1	98.79
11G	CH1	96.39
11N20	CH1	96.12

4.3.1 Test Plots

4.3.1.1 ANT1

4.3.1.1.1 11B



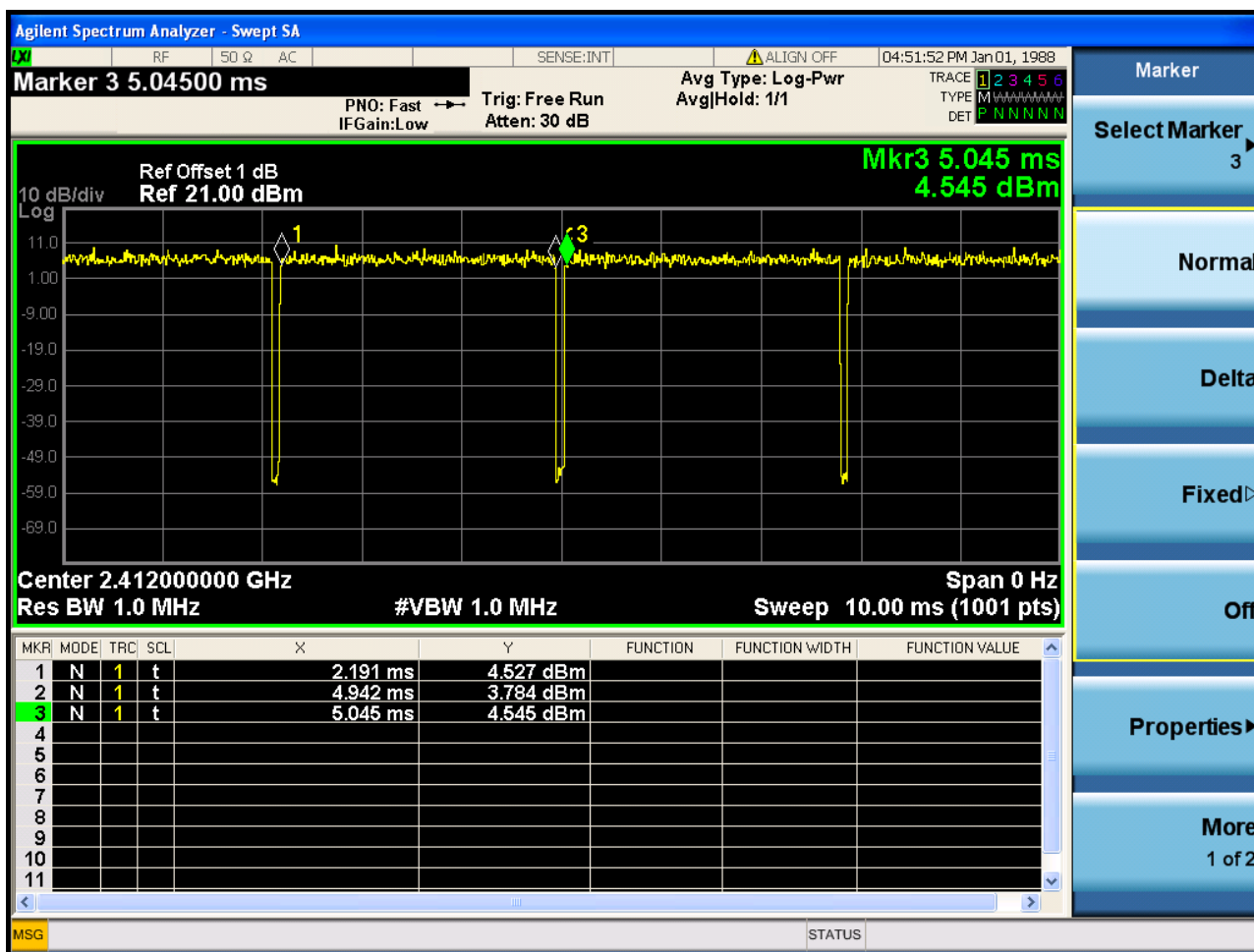
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4.3.1.1.2 11G



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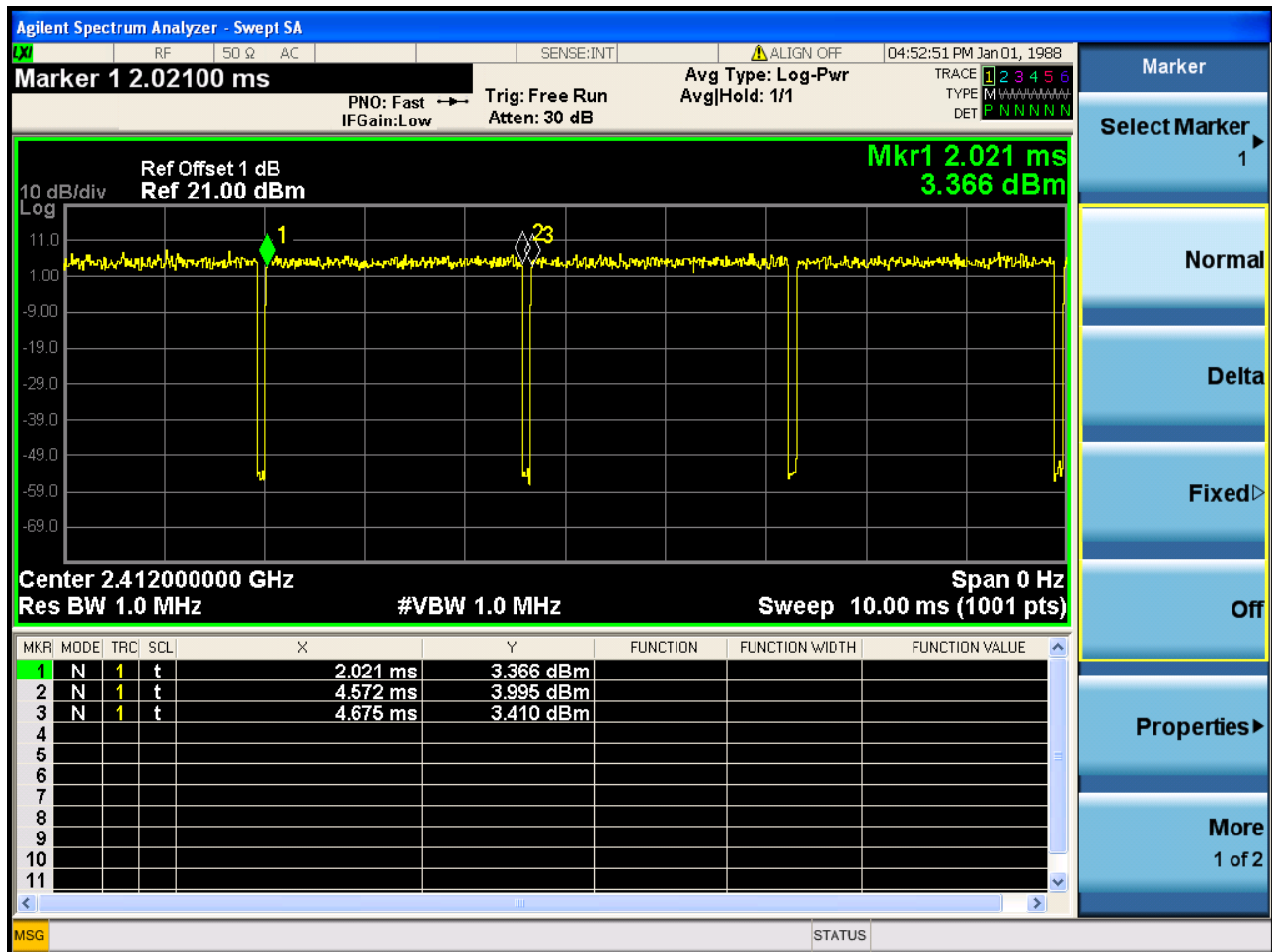
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4.3.1.1.3 11N20



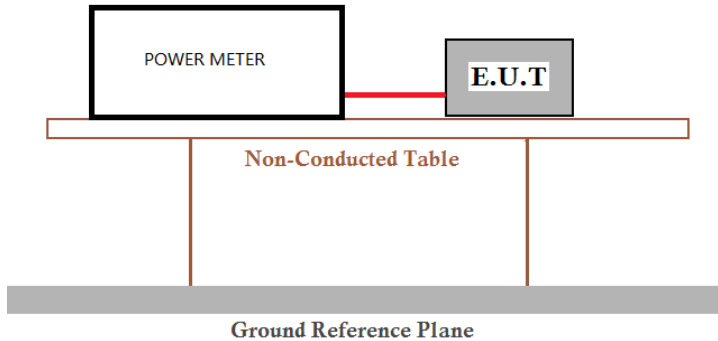
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4.4 Conducted Output Power

Test Requirement:	47 CFR Part 15C Section 15.247 (b)(3)
Test Method:	ANSI C63.10 :2013 Section 11.9.1.3
Test Setup:	
Test Instruments:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G ; 6.5Mbps of rate is the worst case of 802.11N(HT20);
Limit:	30dBm
Test Results:	Pass



4.4.1 Test Results

Measurement Data of Peak Power:

Mode	Test Channel	Peak Output Power (dBm)	Limit (dBm)	Result
802.11B	CH1	22.95	30.00	Pass
	CH6	23.10	30.00	Pass
	CH11	22.69	30.00	Pass
	CH13	4.32	30.00	Pass
802.11G	CH1	23.11	30.00	Pass
	CH6	25.09	30.00	Pass
	CH11	22.90	30.00	Pass
	CH13	4.27	30.00	Pass
802.11N20	CH1	20.66	30.00	Pass
	CH6	23.57	30.00	Pass
	CH11	20.50	30.00	Pass
	CH13	4.24	30.00	Pass



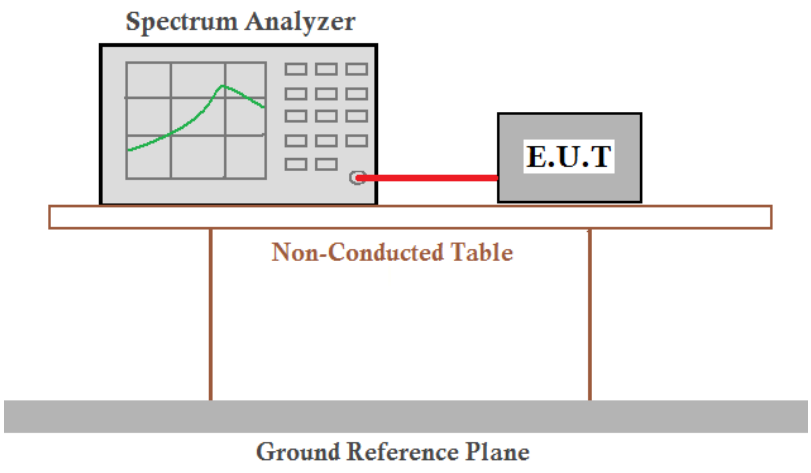
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4.5 DTS (6 dB) Bandwidth&99% Occupied Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(2)
Test Method:	ANSI C63.10: 2013 Section 11.8.1 Option 1
Test Setup:	
Instruments Used:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G; 6.5Mbps of rate is the worst case of 802.11N(HT20);
Limit:	≥ 500 kHz
Test Results:	Pass

4.5.1 Test Results

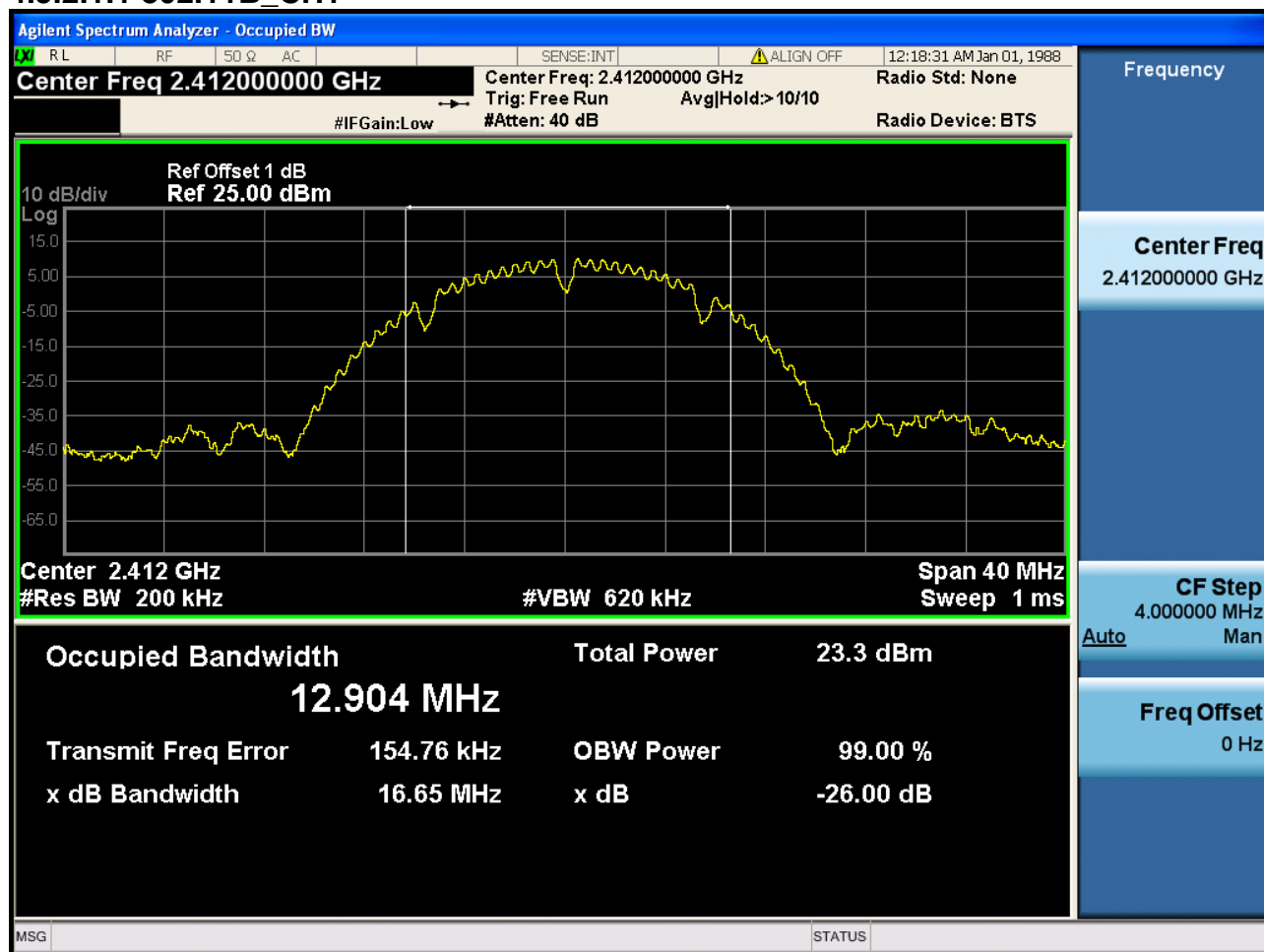
Mode	Test Channel	Occupied Bandwidth (MHz)	6dB Emission Bandwidth (MHz)	Limit (kHz)	Result
802.11B	CH1	12.90	12.90	≥500	Pass
	CH6	12.96	12.92	≥500	Pass
	CH11	12.86	12.84	≥500	Pass
	CH13	13.22	12.94	≥500	Pass
802.11G	CH1	16.53	16.38	≥500	Pass
	CH6	16.69	16.54	≥500	Pass
	CH11	16.83	16.59	≥500	Pass
	CH13	16.66	16.53	≥500	Pass
802.11N20	CH1	17.64	12.56	≥500	Pass
	CH6	17.84	17.70	≥500	Pass
	CH11	17.92	17.75	≥500	Pass
	CH13	17.82	17.68	≥500	Pass



4.5.2 Test plots For Occupied Bandwidth

4.5.2.1 ANT1

4.5.2.1.1 802.11B_CH1

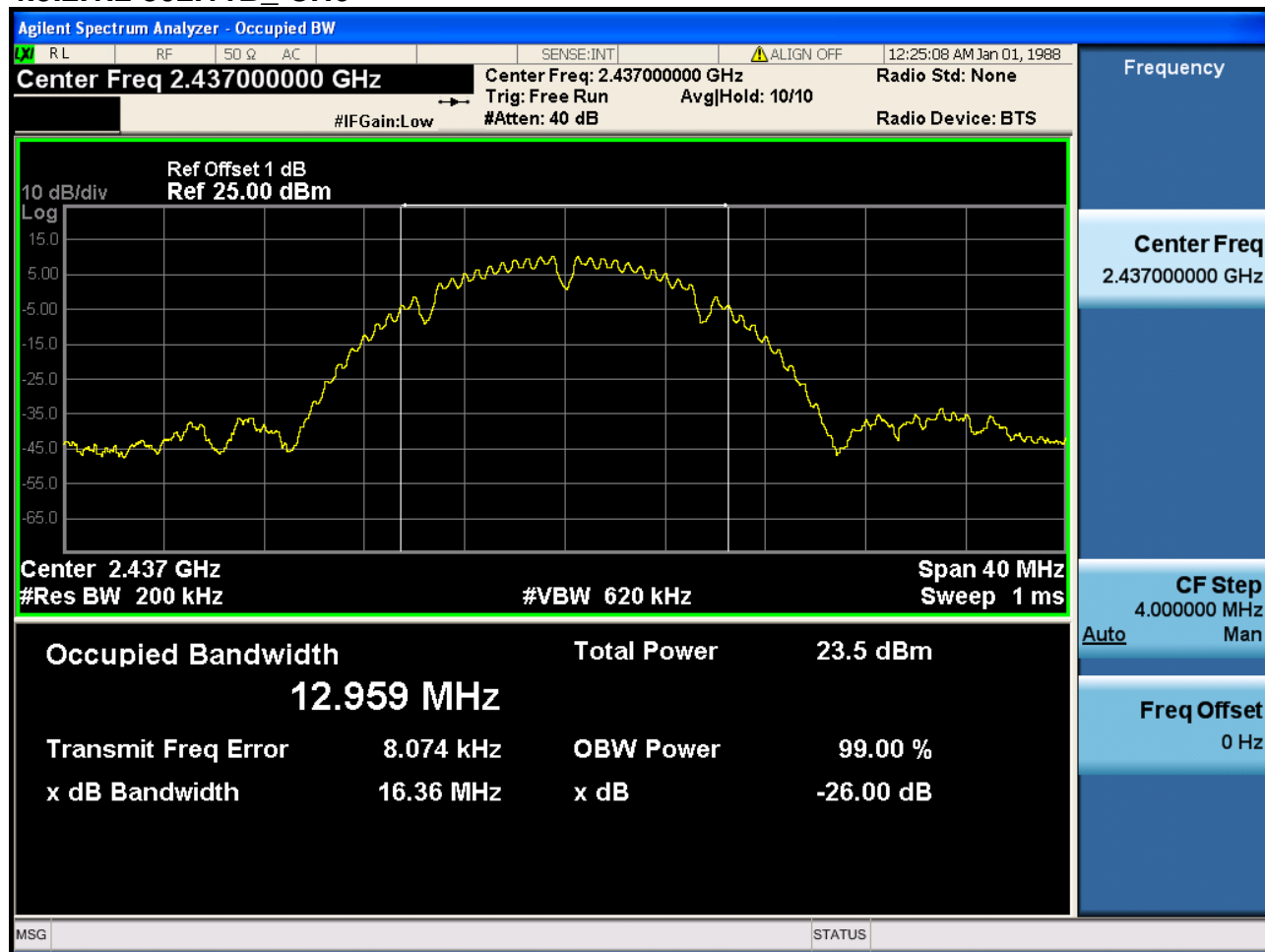


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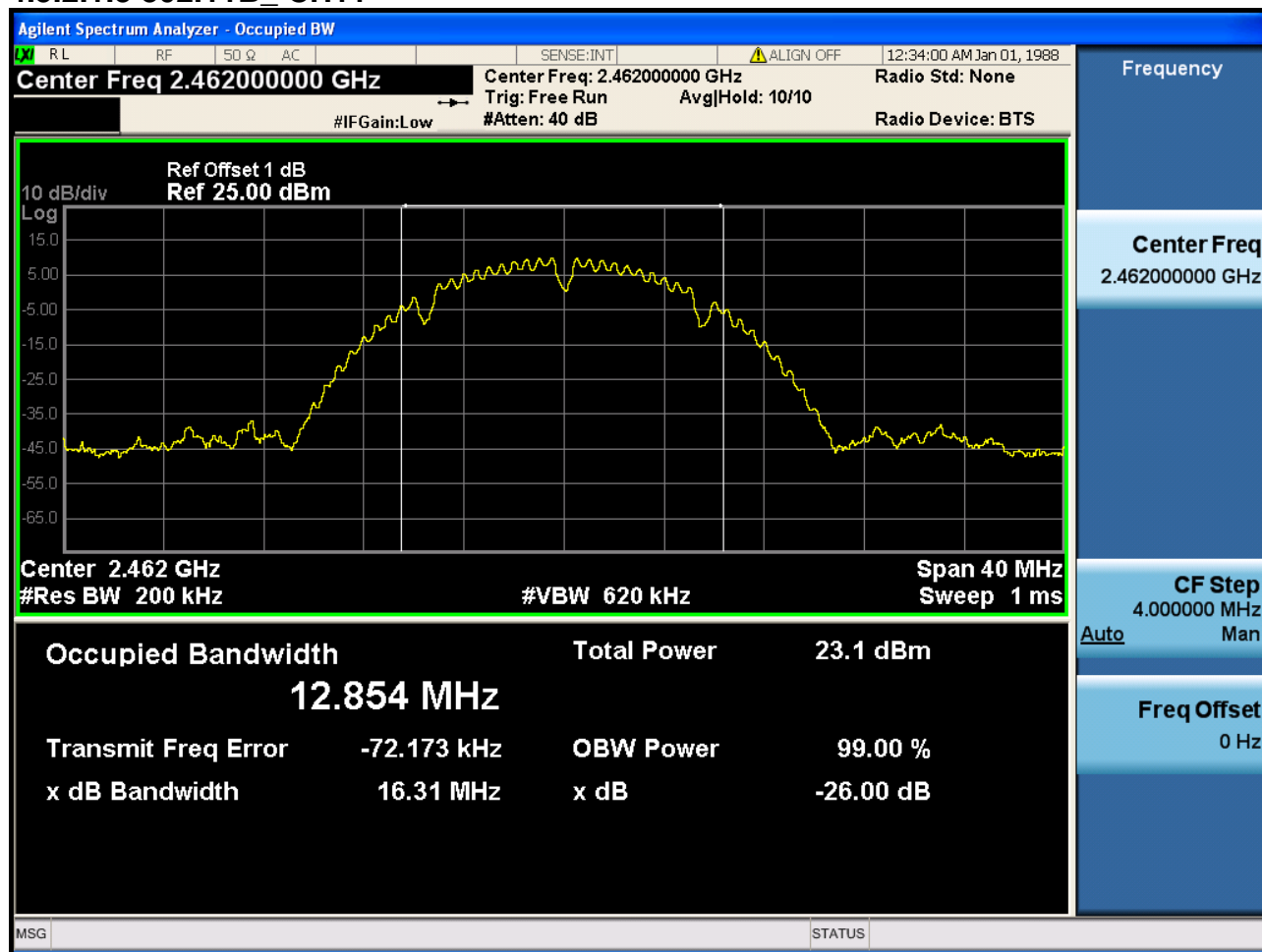


4.5.2.1.2 802.11B_CH6

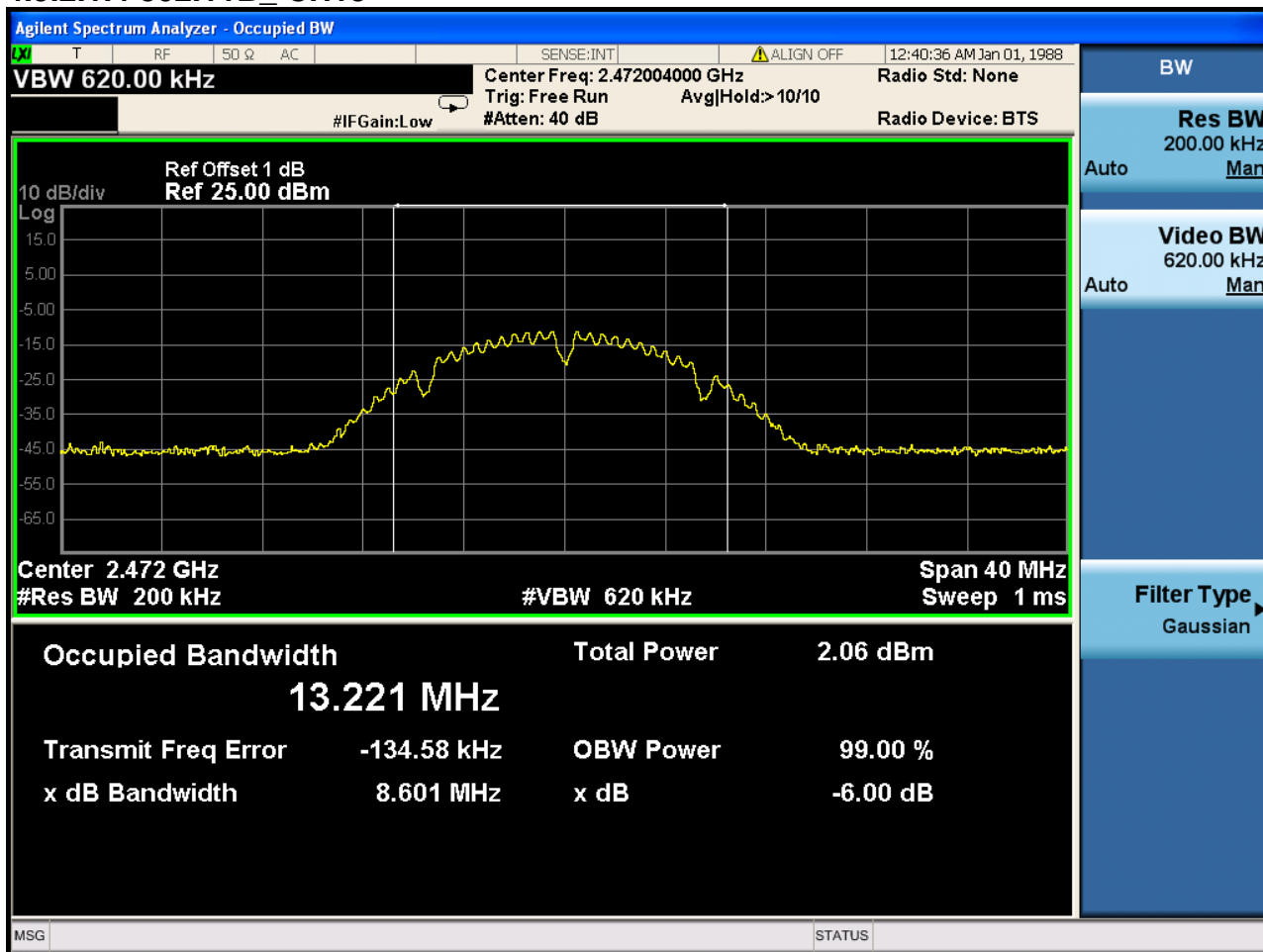




4.5.2.1.3 802.11B_CH11



4.5.2.1.4 802.11B_CH13



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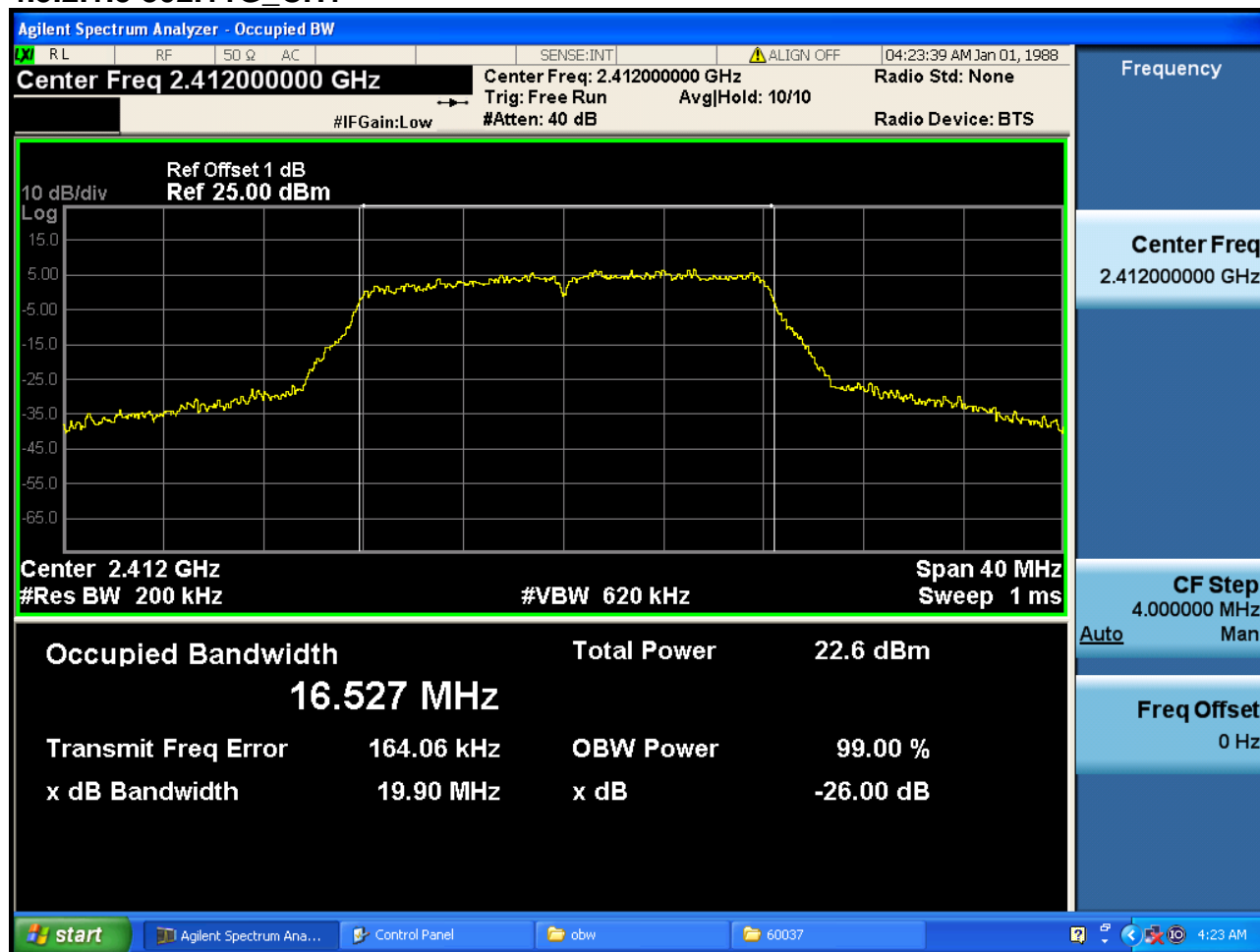
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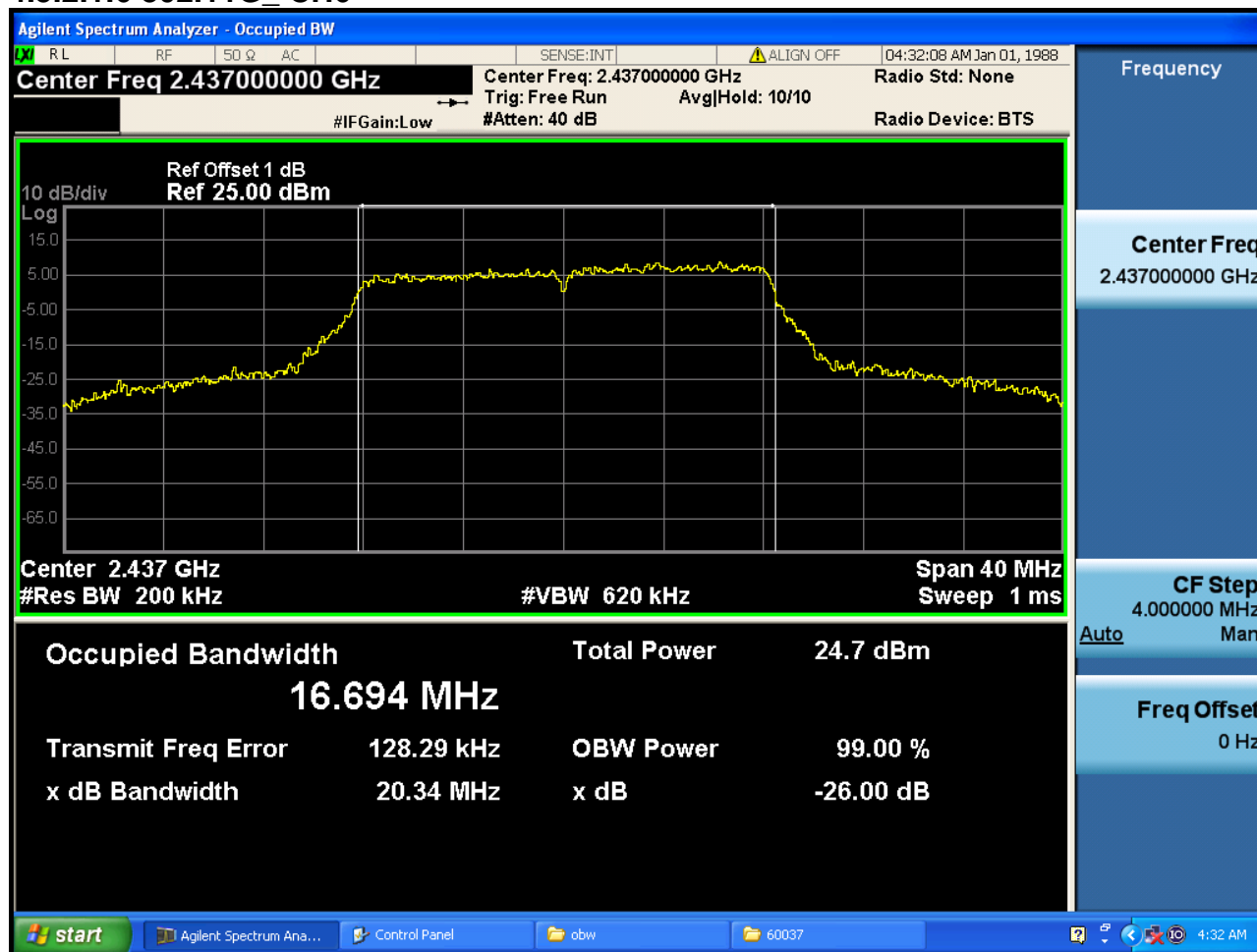


4.5.2.1.5 802.11G_CH1

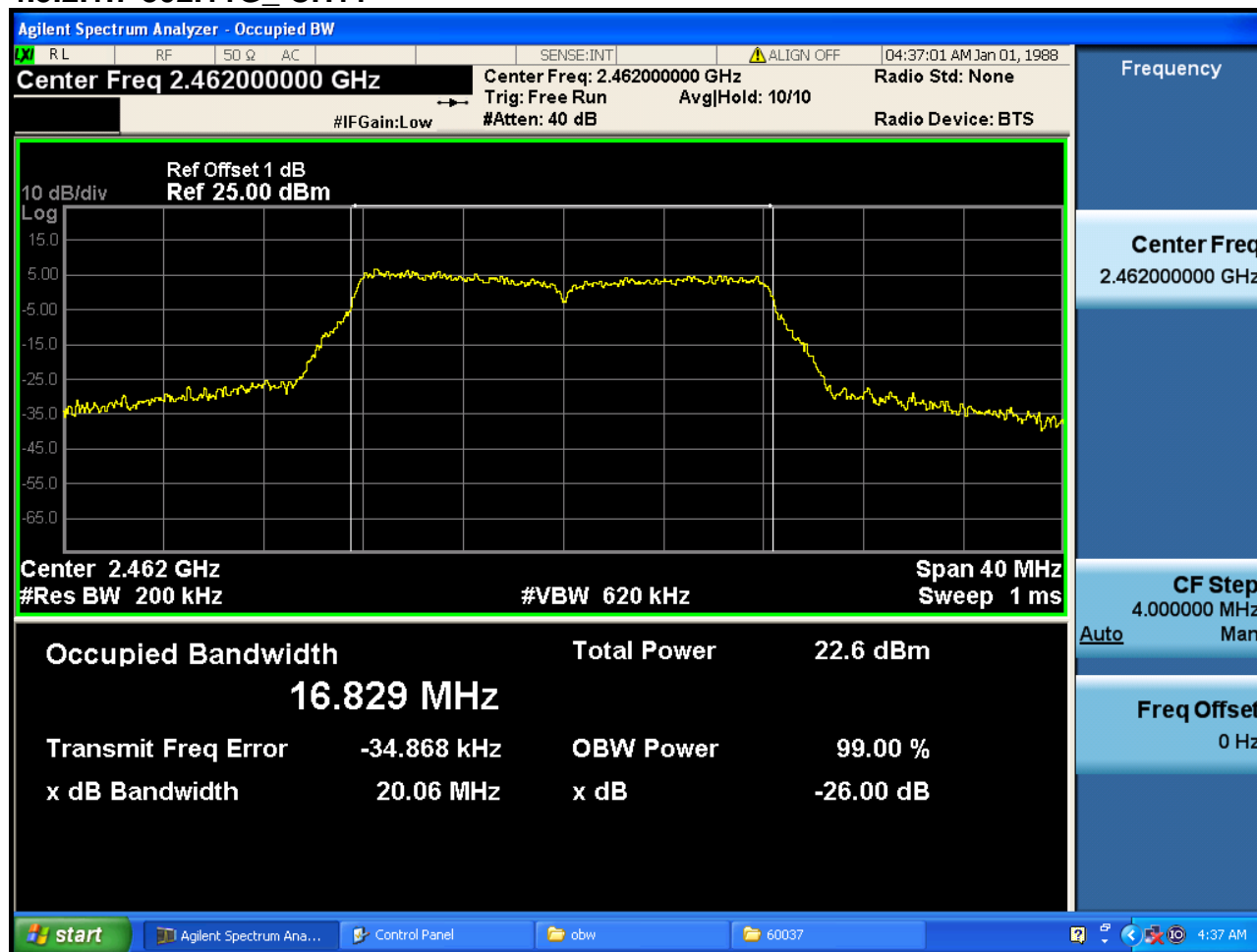




4.5.2.1.6 802.11G_CH6



4.5.2.1.7 802.11G_CH11



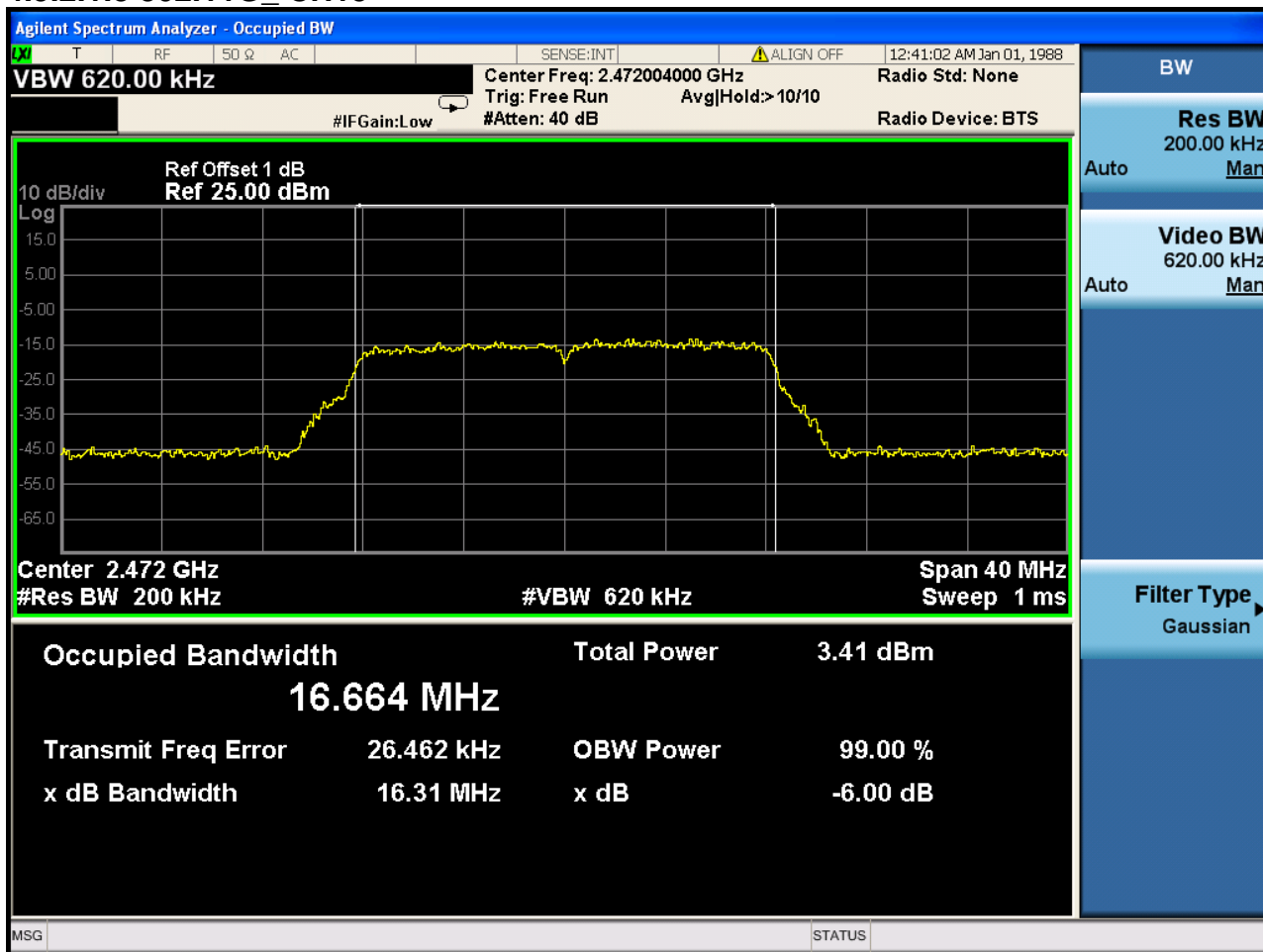
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4.5.2.1.8 802.11G_CH13

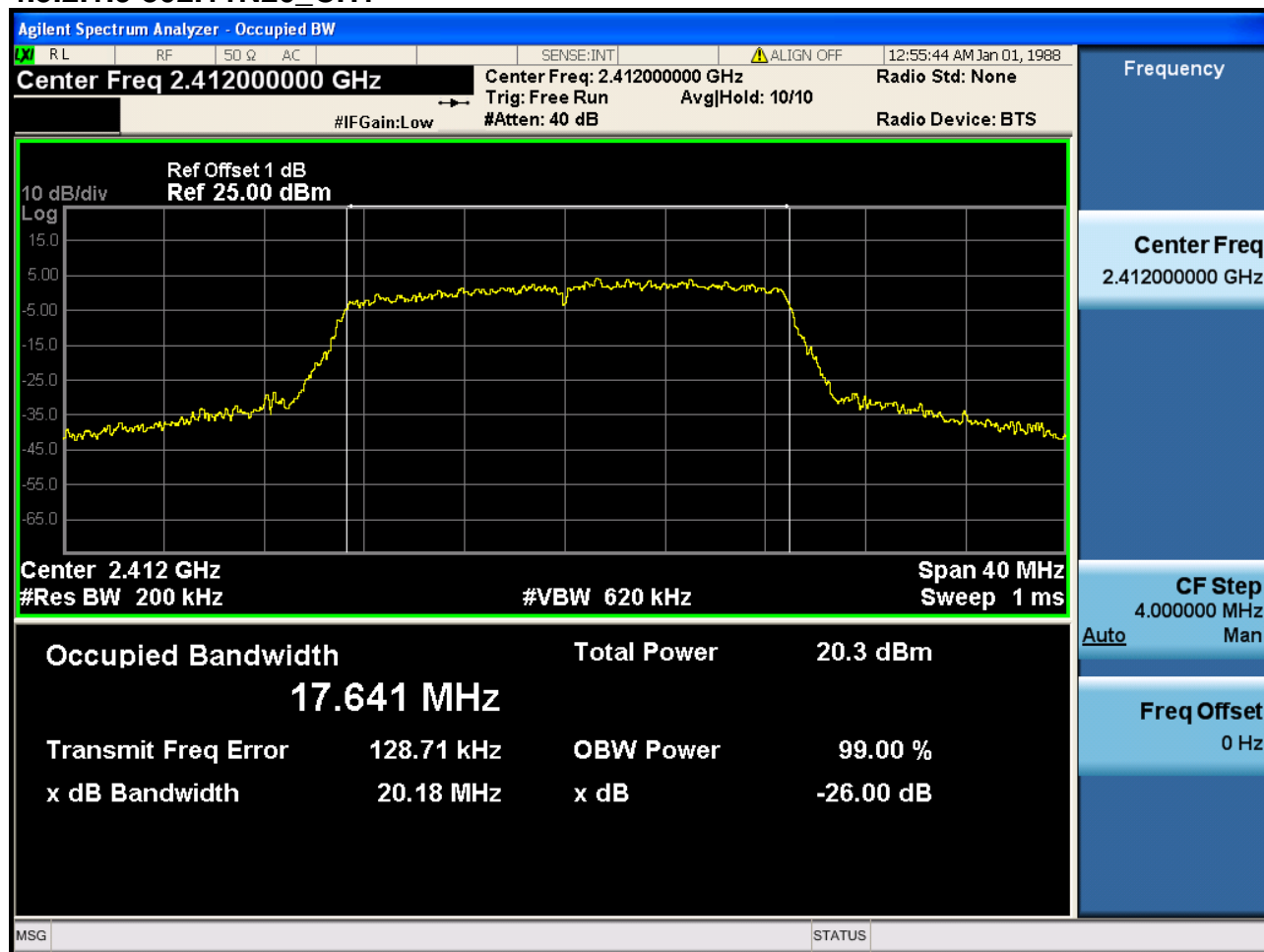


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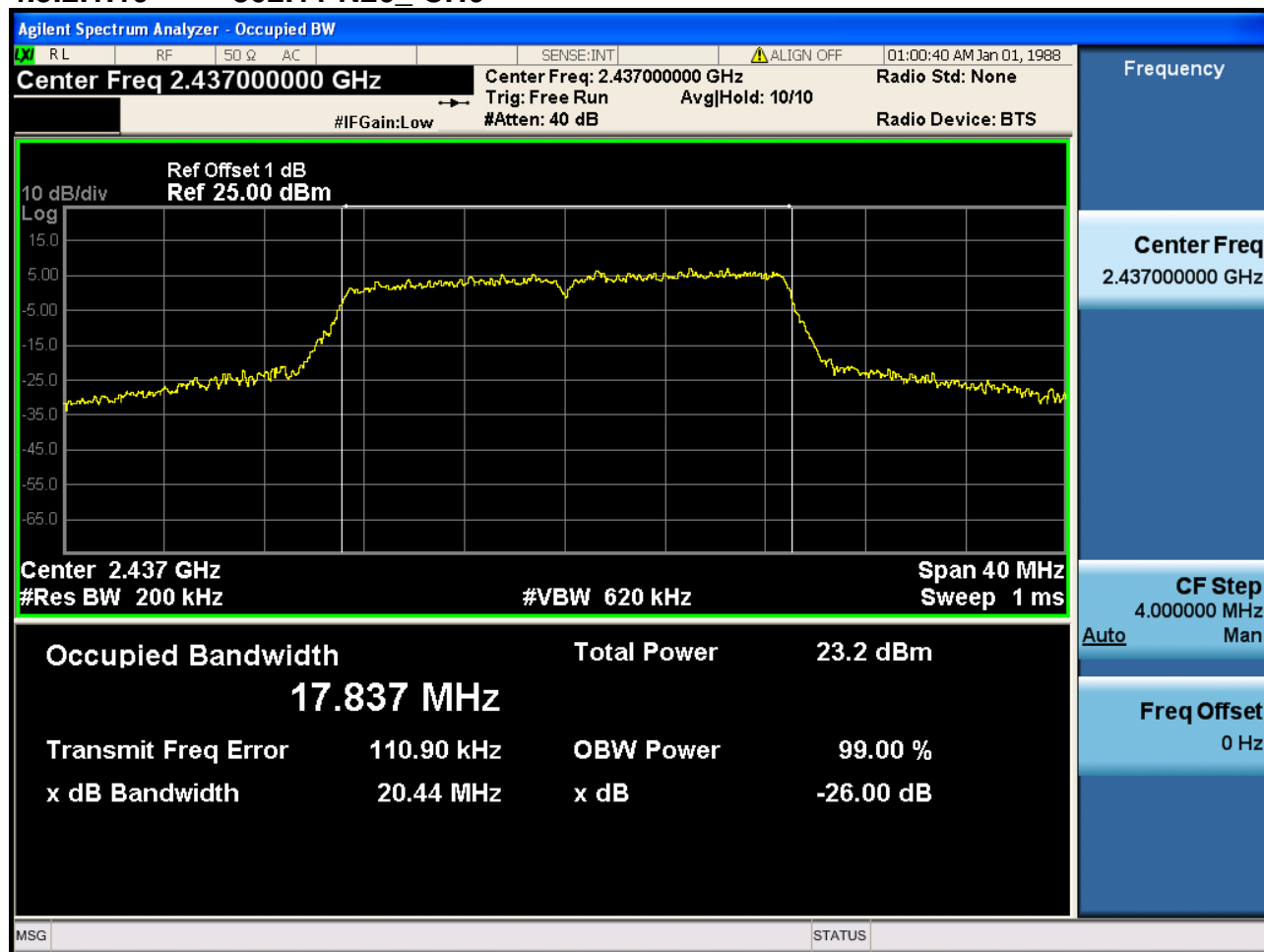
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4.5.2.1.9 802.11N20_CH1



4.5.2.1.10 802.11 N20_ CH6



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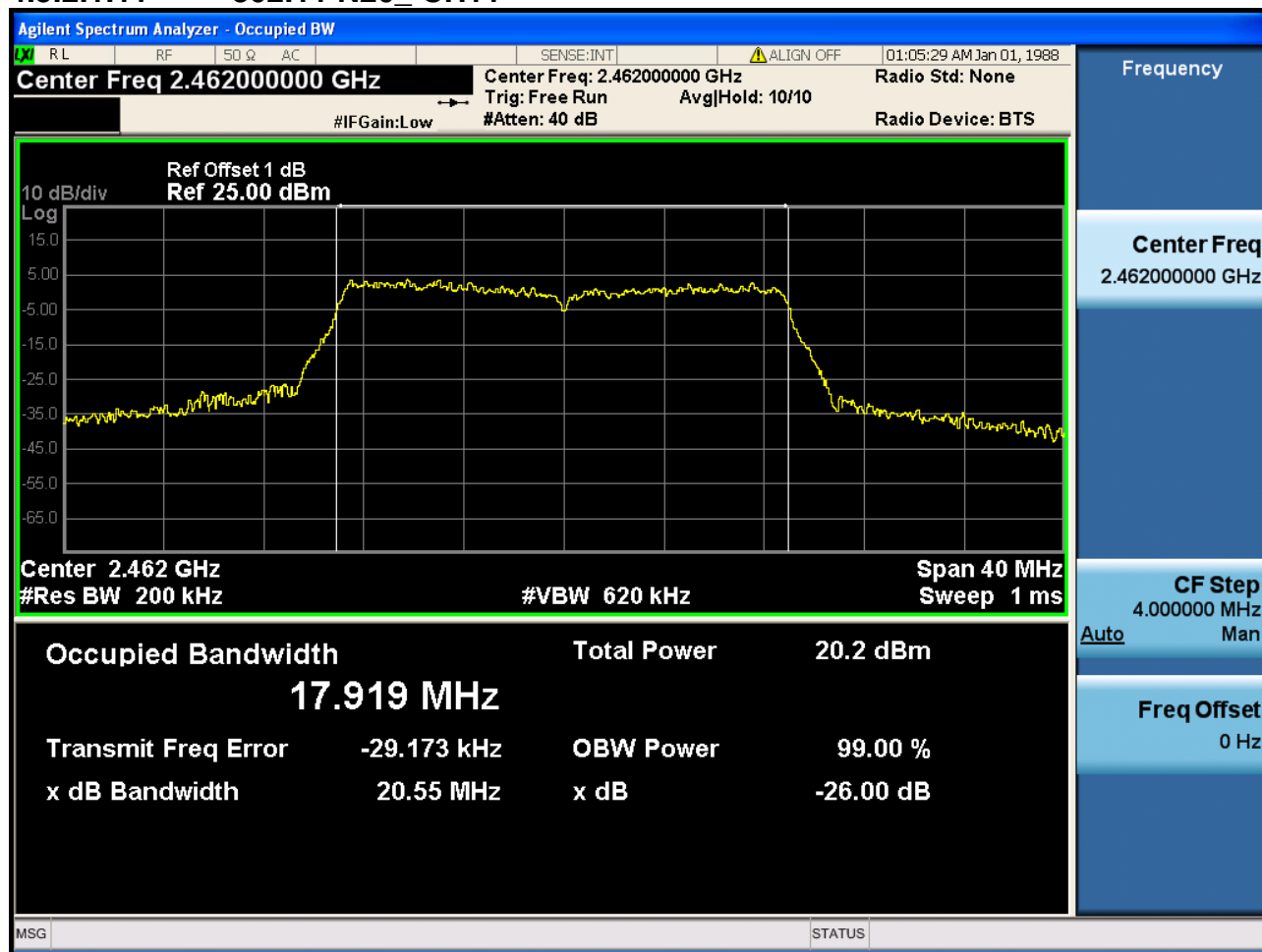
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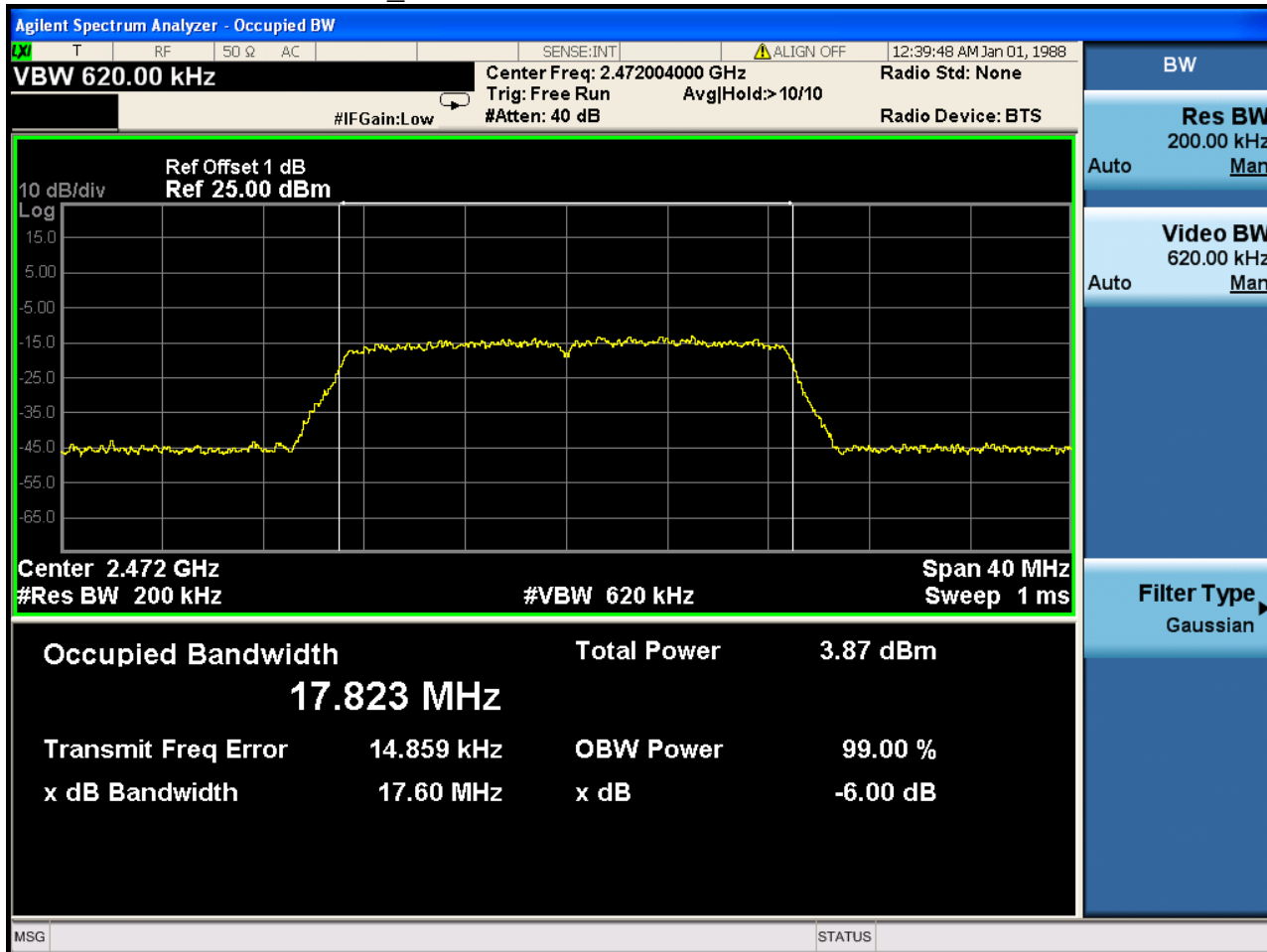
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4.5.2.1.11 802.11 N20_ CH11



4.5.2.1.12 802.11N20_CH13



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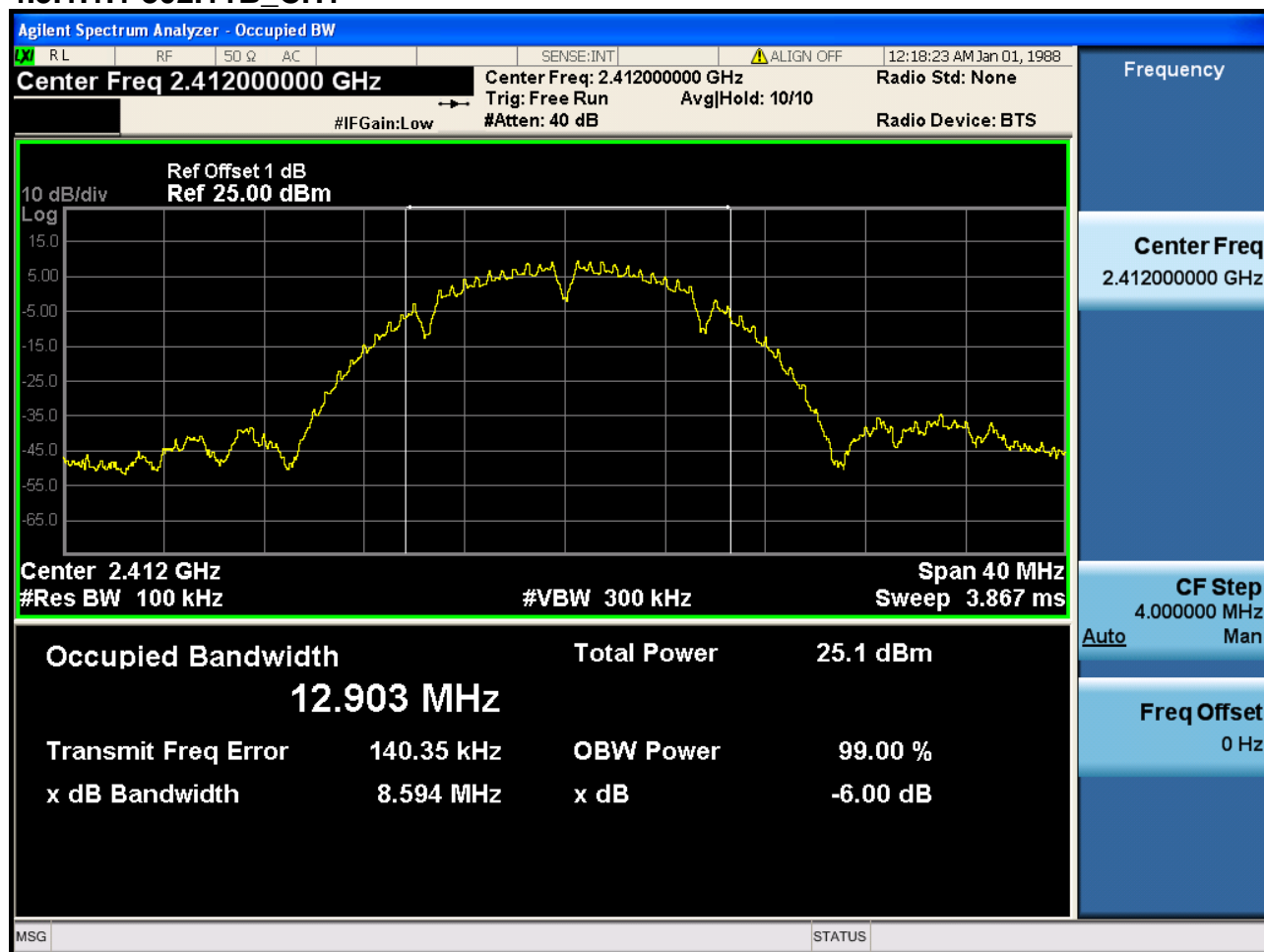
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4.5.1 Test plots For 6dB Emission Bandwidth

4.5.1.1 ANT1

4.5.1.1.1 802.11B_CH1



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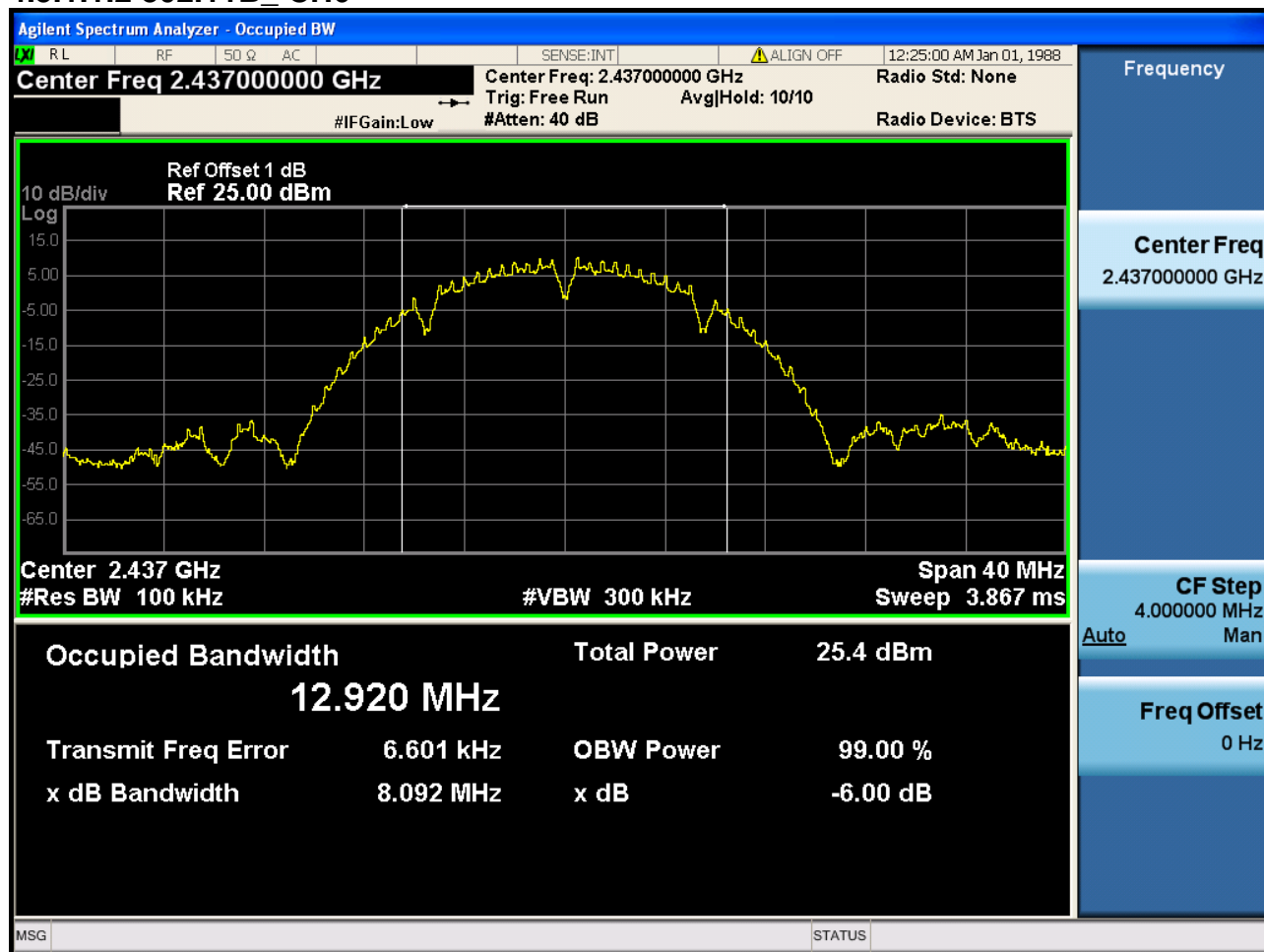
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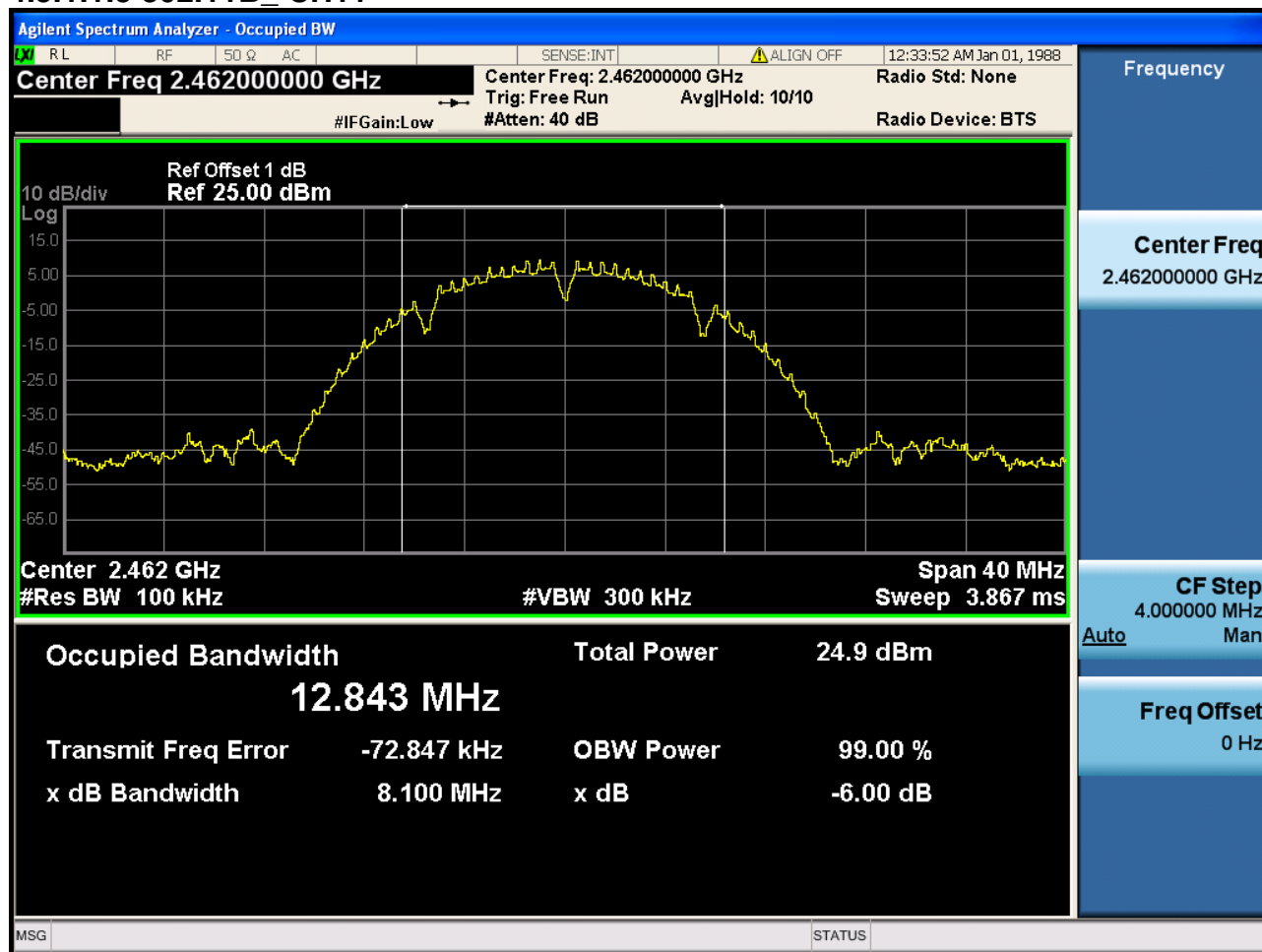


4.5.1.1.2 802.11B_CH6

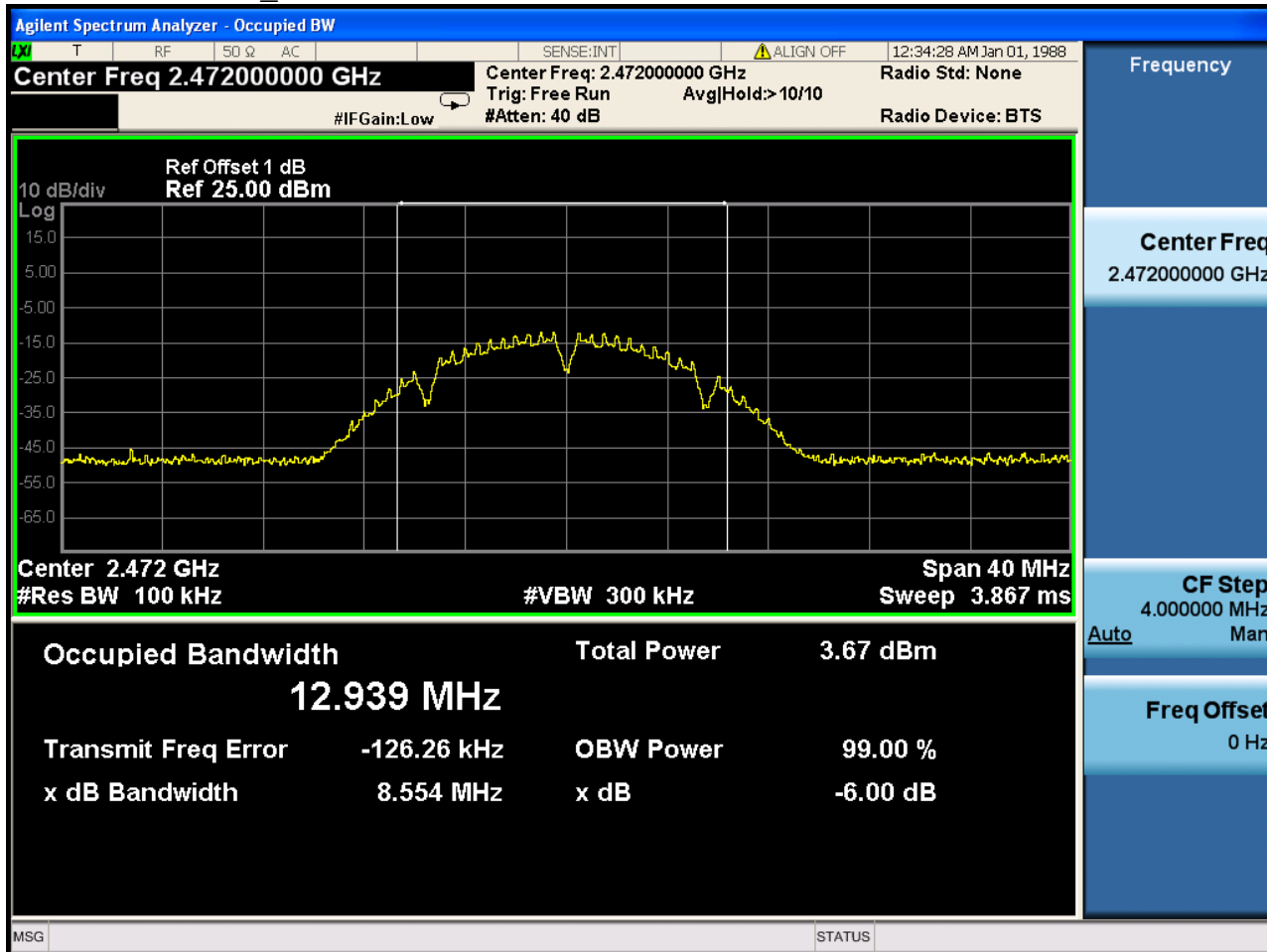




4.5.1.1.3 802.11B_CH11



4.5.1.1.4 802.11B_ CH13



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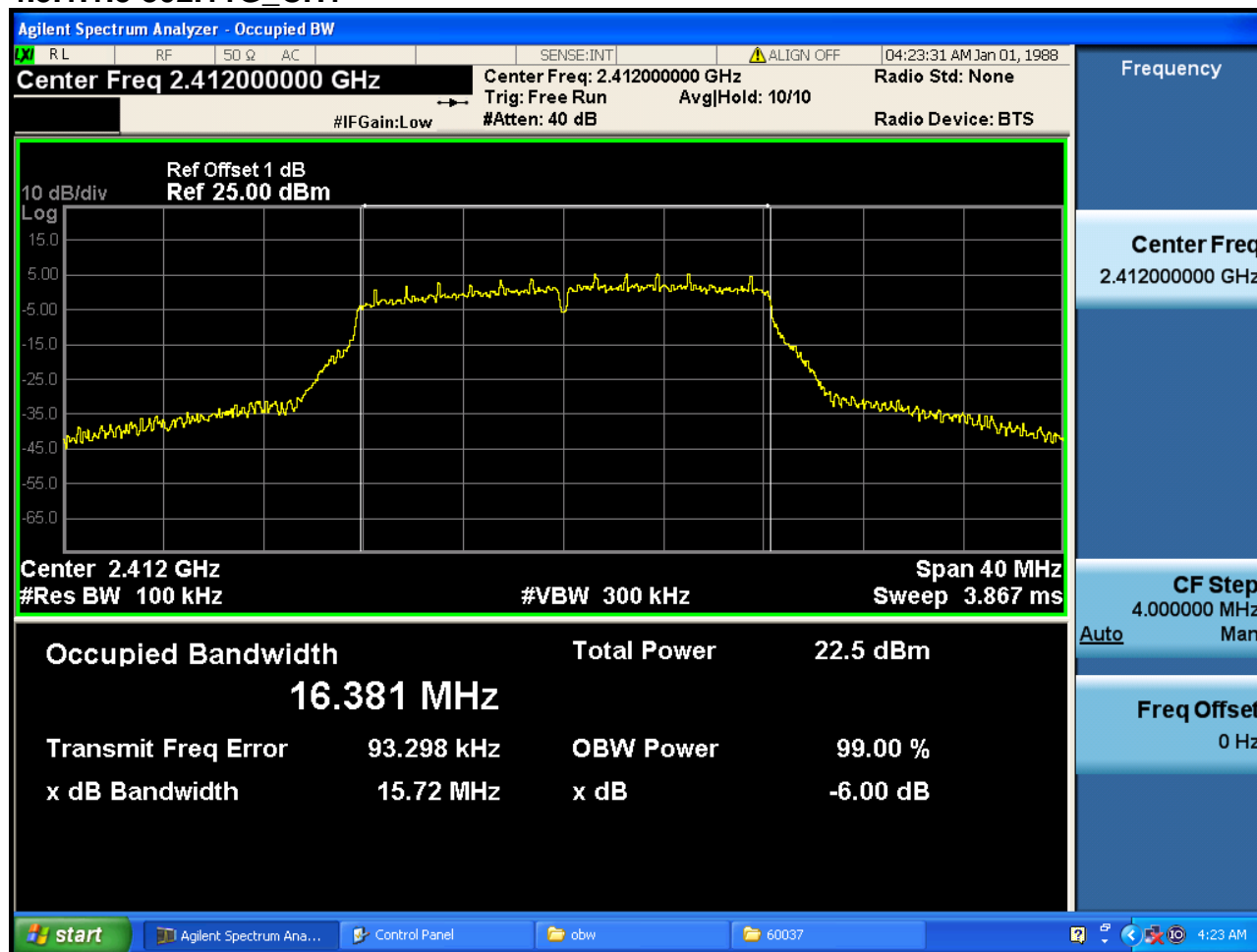
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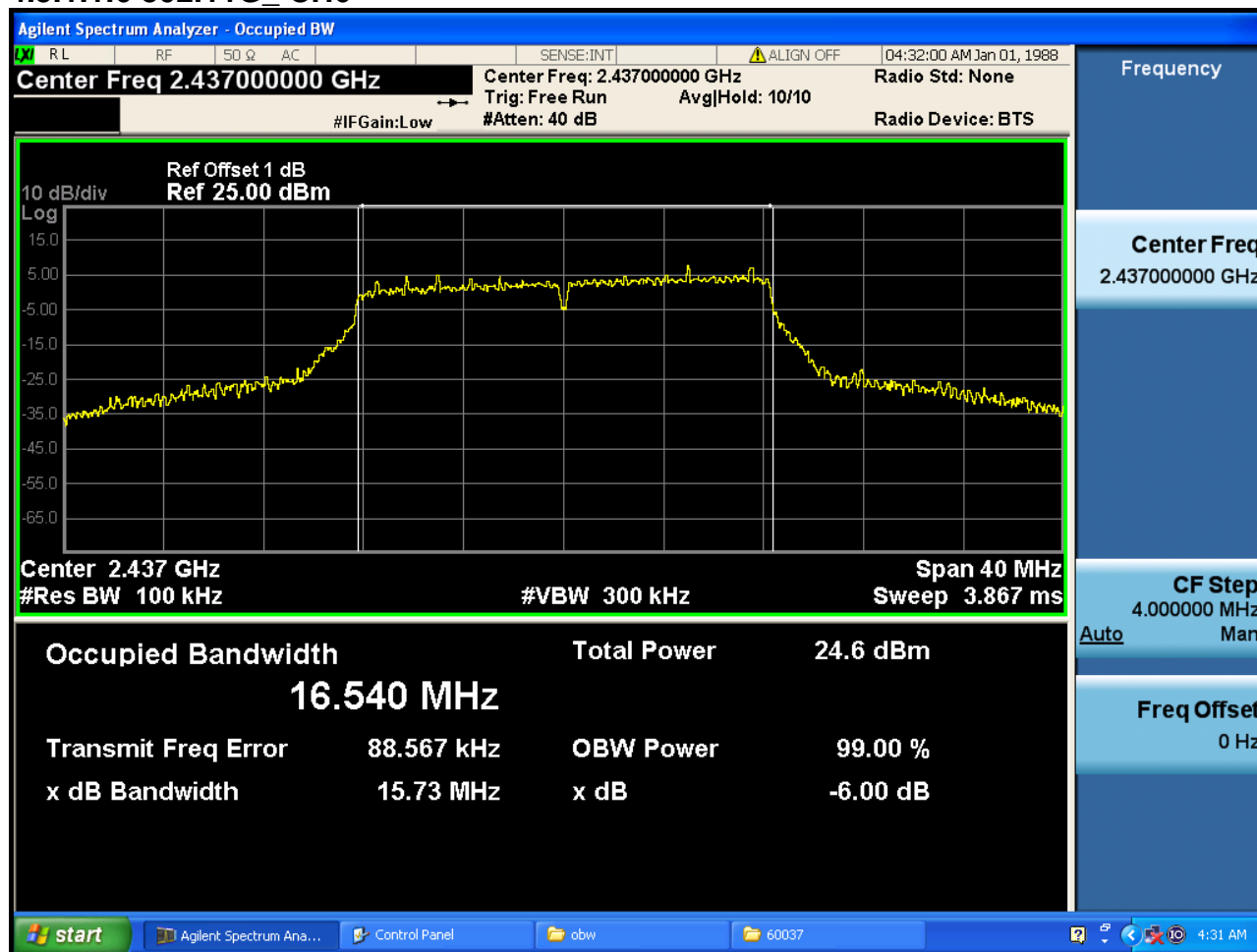
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4.5.1.1.5 802.11G_CH1

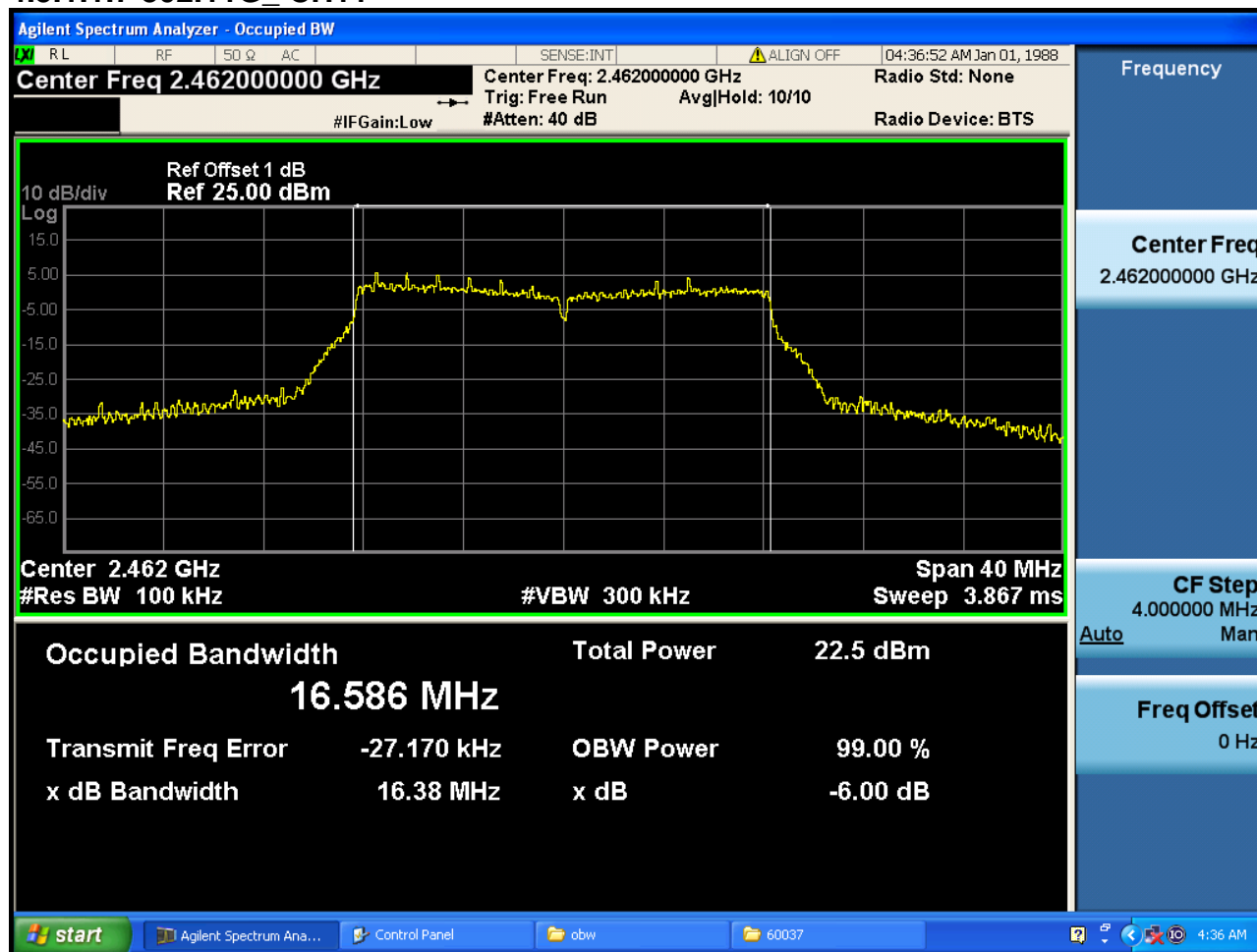


4.5.1.1.6 802.11G_CH6

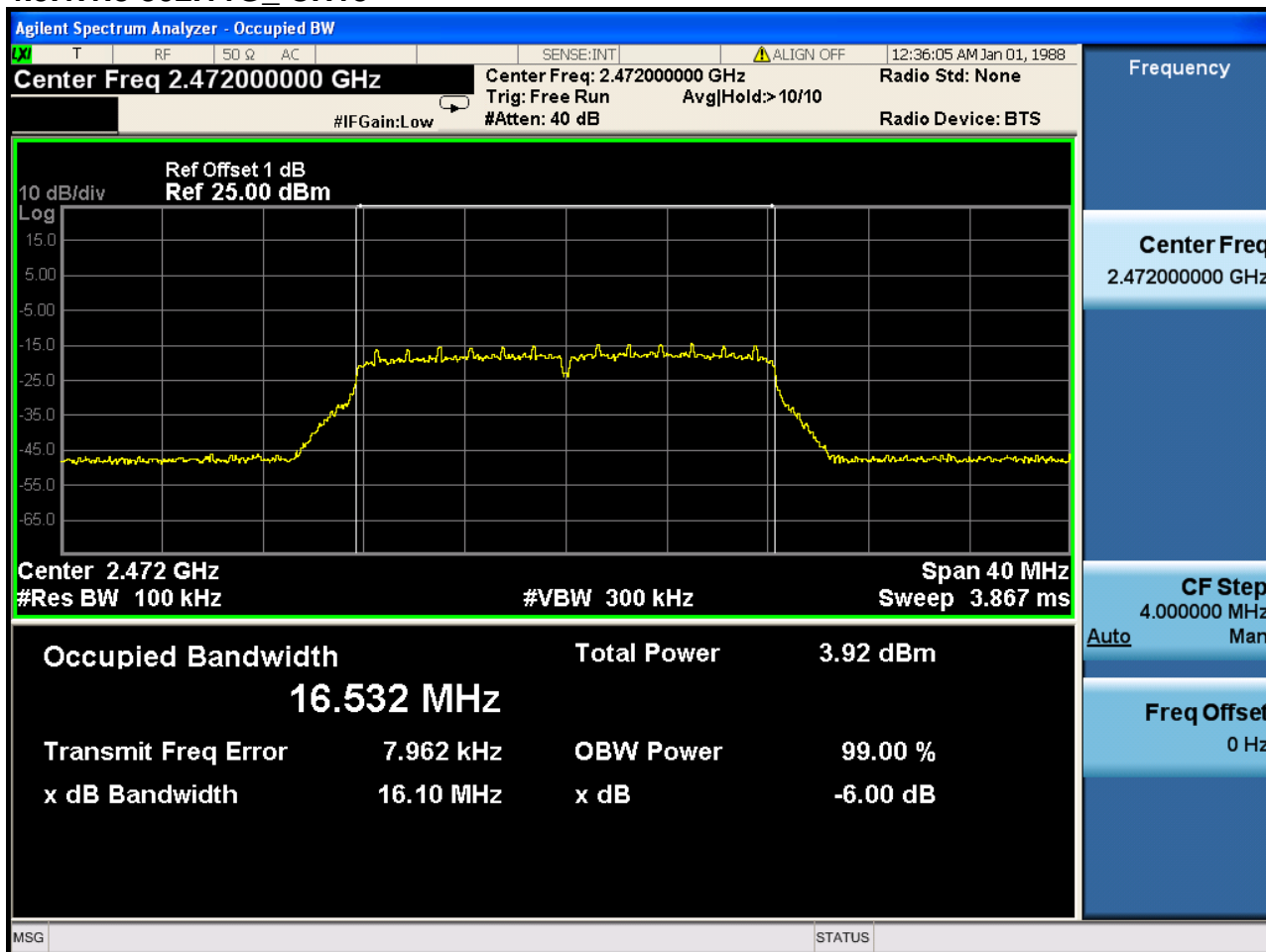




4.5.1.1.7 802.11G_CH11



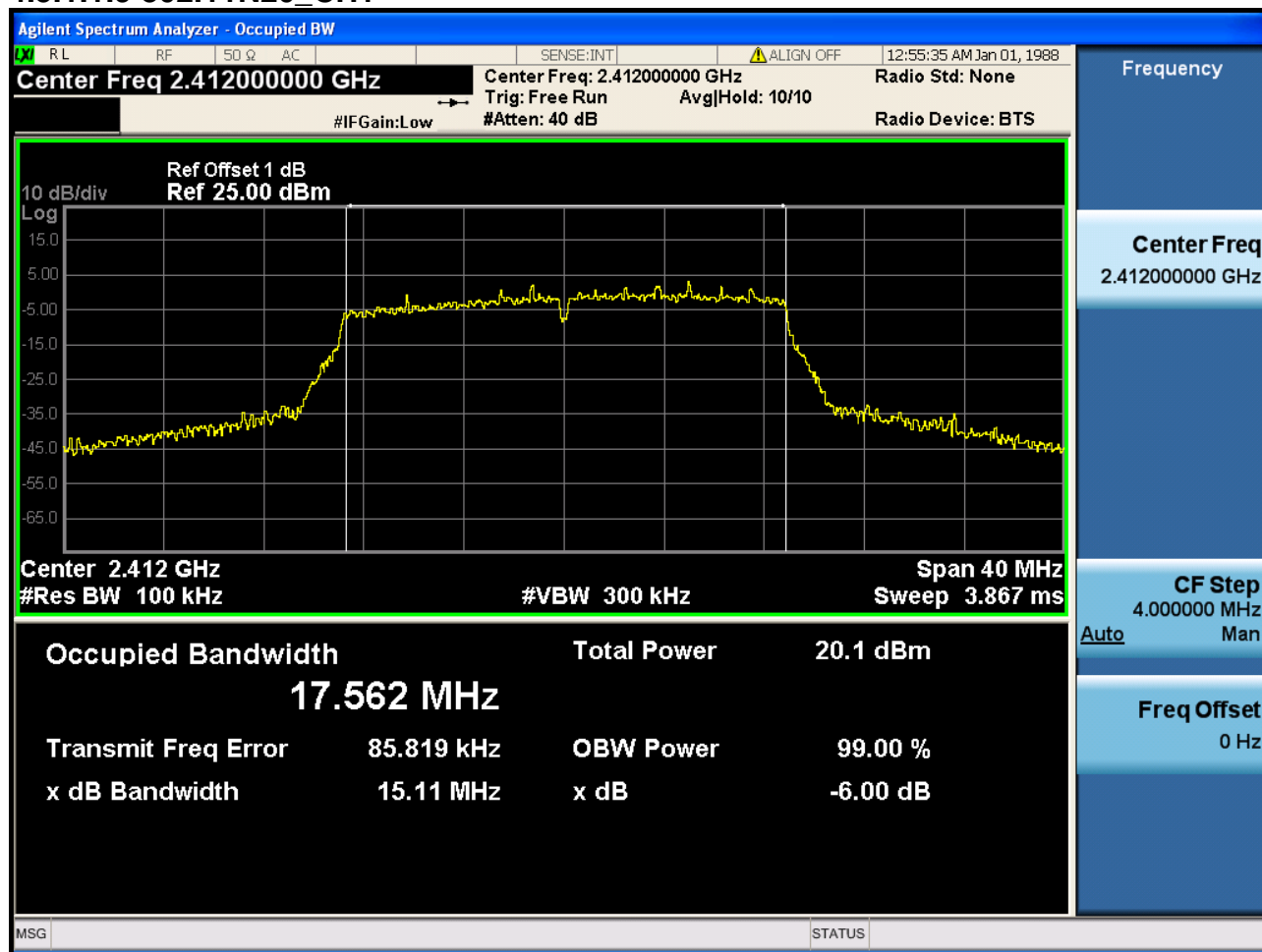
4.5.1.1.8 802.11G_CH13



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4.5.1.1.9 802.11N20_CH1



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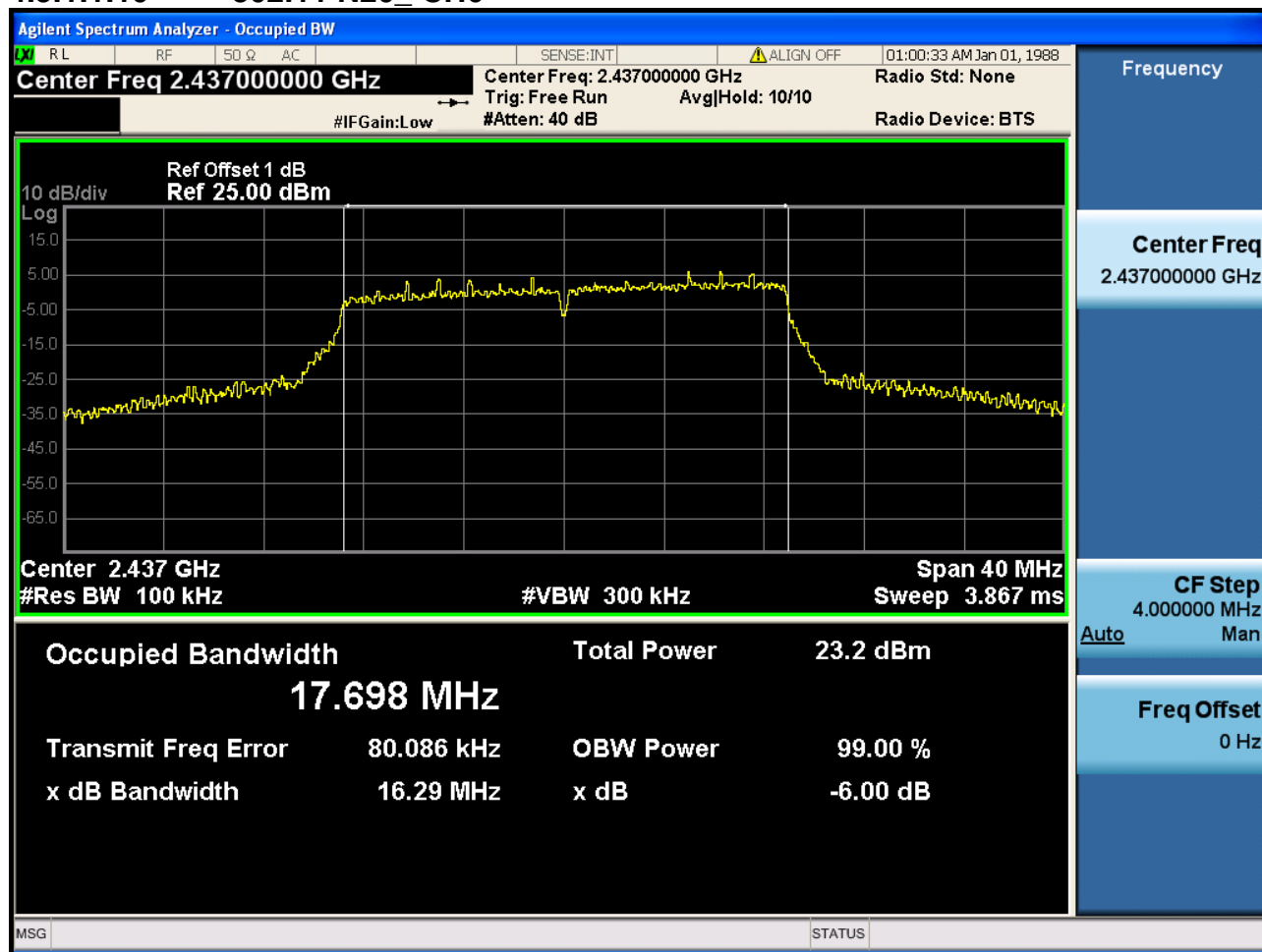
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4.5.1.1.10 802.11 N20_ CH6



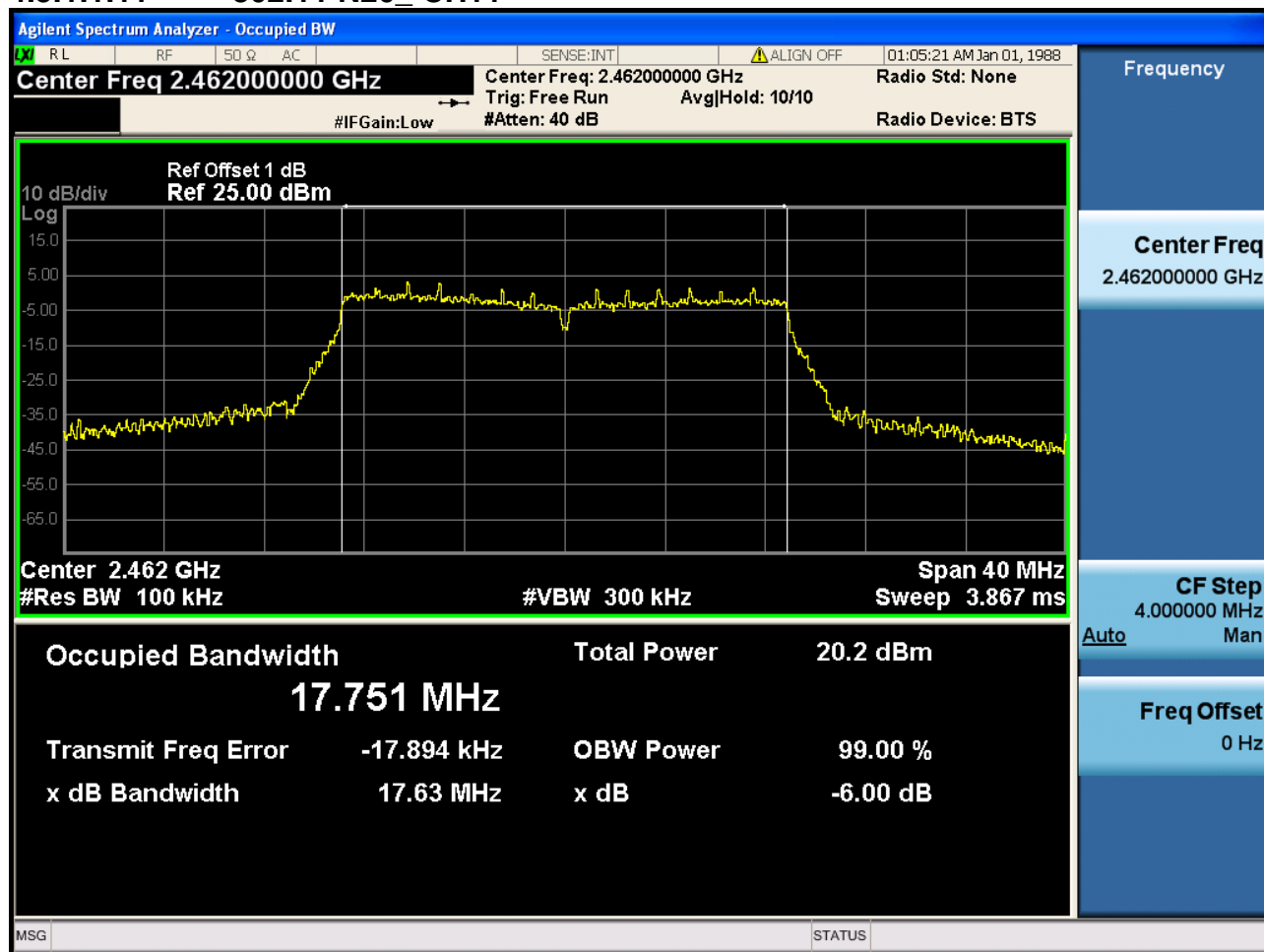
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4.5.1.1.11 802.11 N20_ CH11



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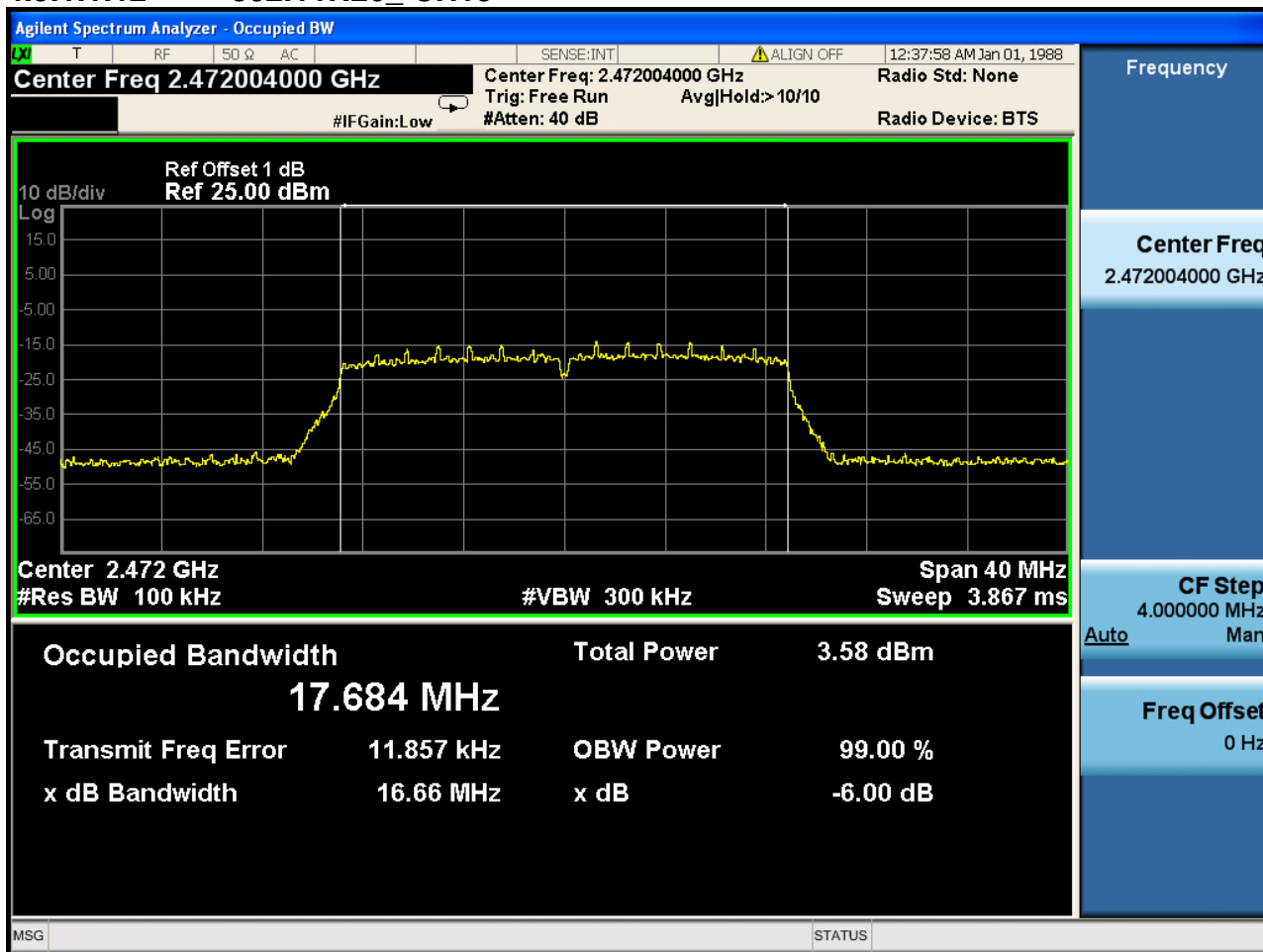
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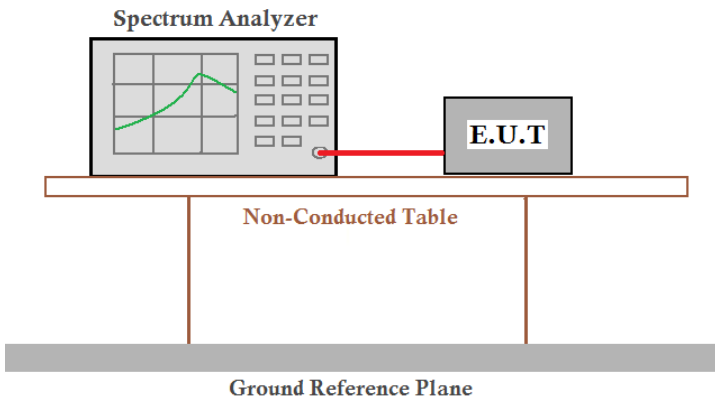
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4.5.1.1.12 802.11N20_CH13



4.6 Power Spectral Density

Test Requirement:	47 CFR Part 15C Section 15.247 (e)
Test Method:	ANSI C63.10 :2013 Section 11.10.2
Test Setup:	
Test Instruments:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G ; 6.5Mbps of rate is the worst case of 802.11N(HT20);
Limit:	≤8.00dBm/3kHz
Test Results:	Pass

4.6.1 Test Results

Mode	Test Channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
802.11B	CH1	-1.20	≤8.00	Pass
	CH6	-3.95	≤8.00	Pass
	CH11	-3.68	≤8.00	Pass
	CH13	-22.98	≤8.00	Pass
802.11G	CH1	-8.13	≤8.00	Pass
	CH6	-6.56	≤8.00	Pass
	CH11	-5.30	≤8.00	Pass
	CH13	-27.80	≤8.00	Pass
802.11N20	CH1	-11.44	≤8.00	Pass
	CH6	-7.63	≤8.00	Pass
	CH11	-11.22	≤8.00	Pass
	CH13	-28.29	≤8.00	Pass



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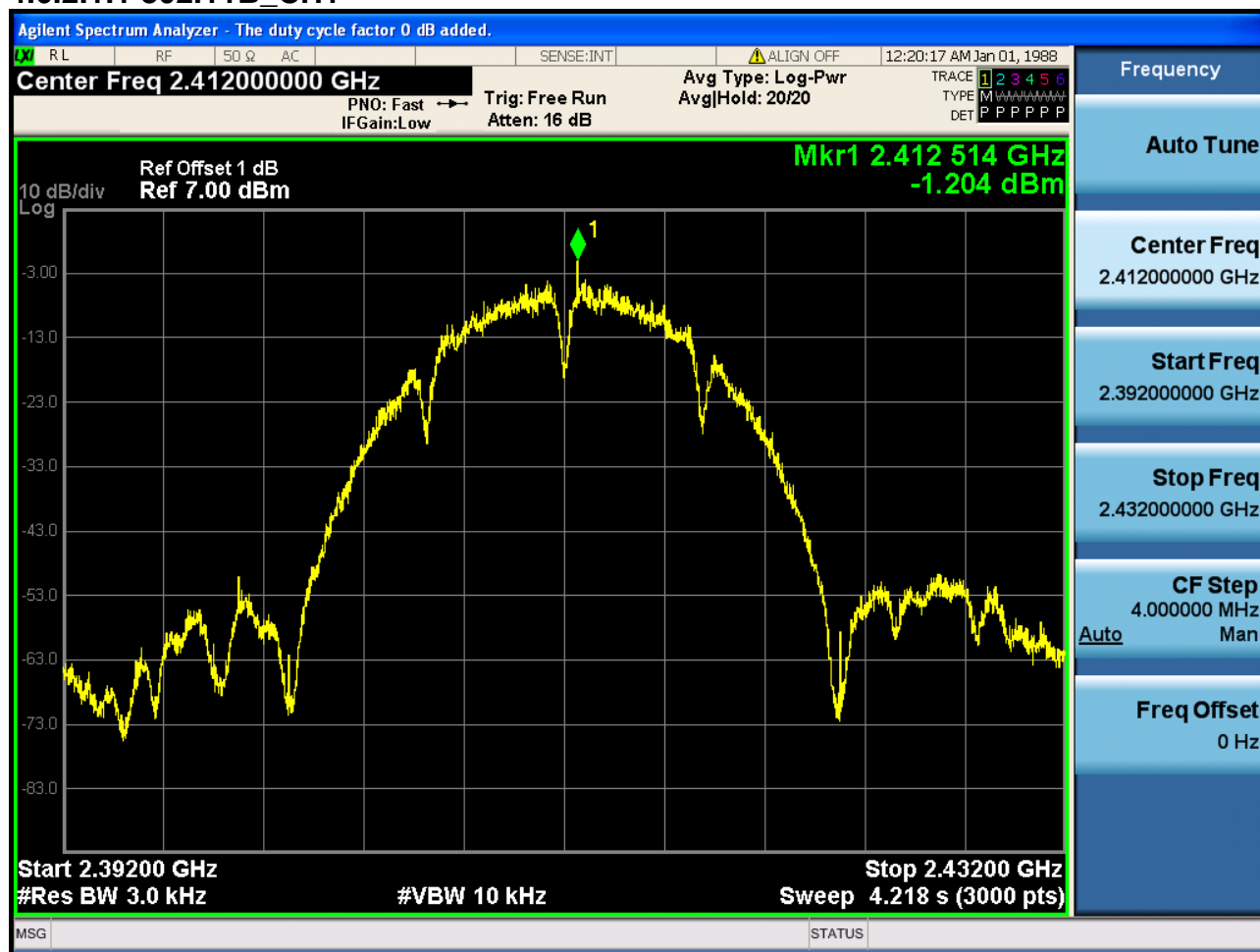
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4.6.2 Test plots

4.6.2.1 ANT1

4.6.2.1.1 802.11B_CH1



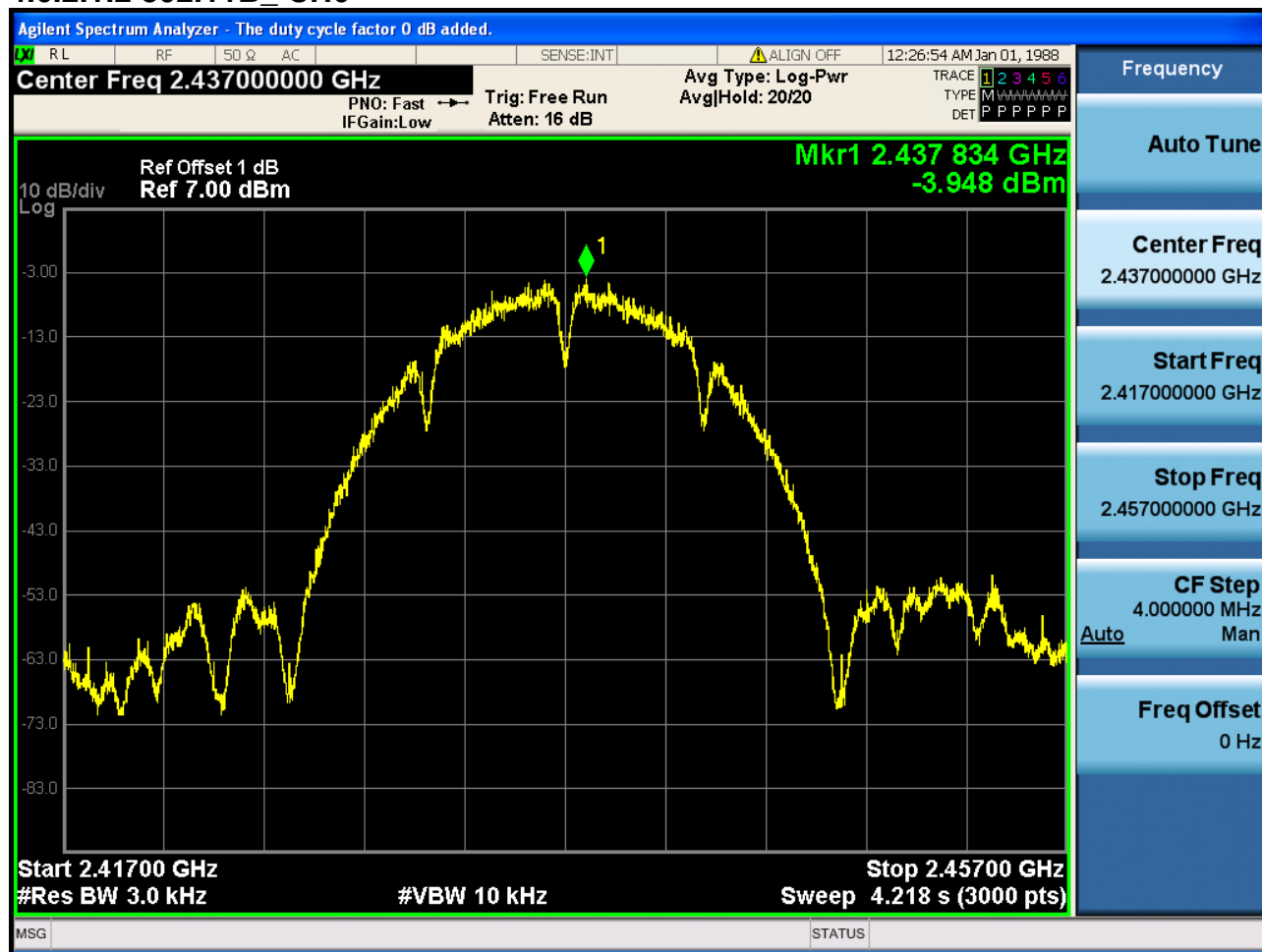
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4.6.2.1.2 802.11B_CH6



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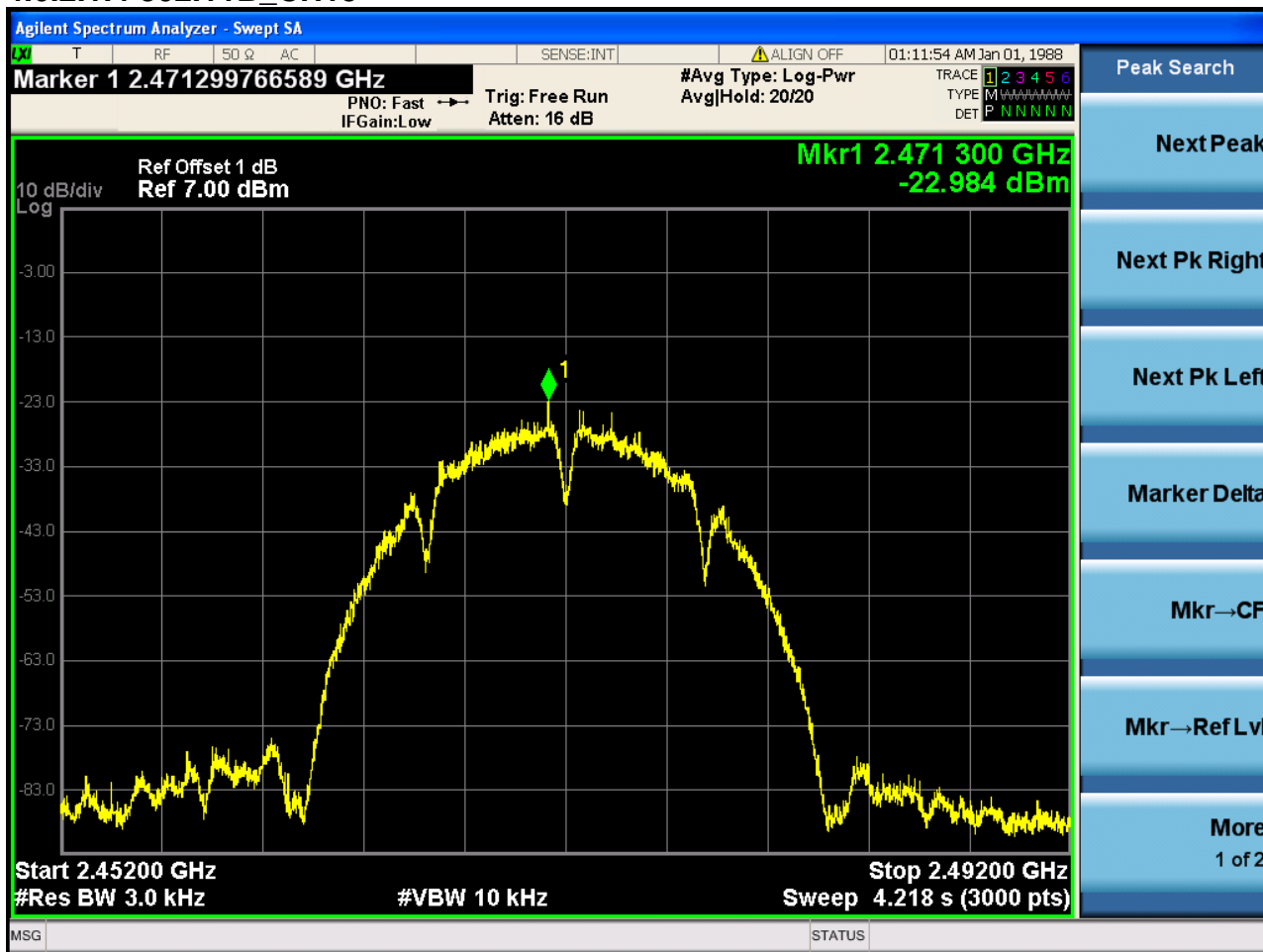
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4.6.2.1.3 802.11B_CH11



4.6.2.1.4 802.11B_CH13

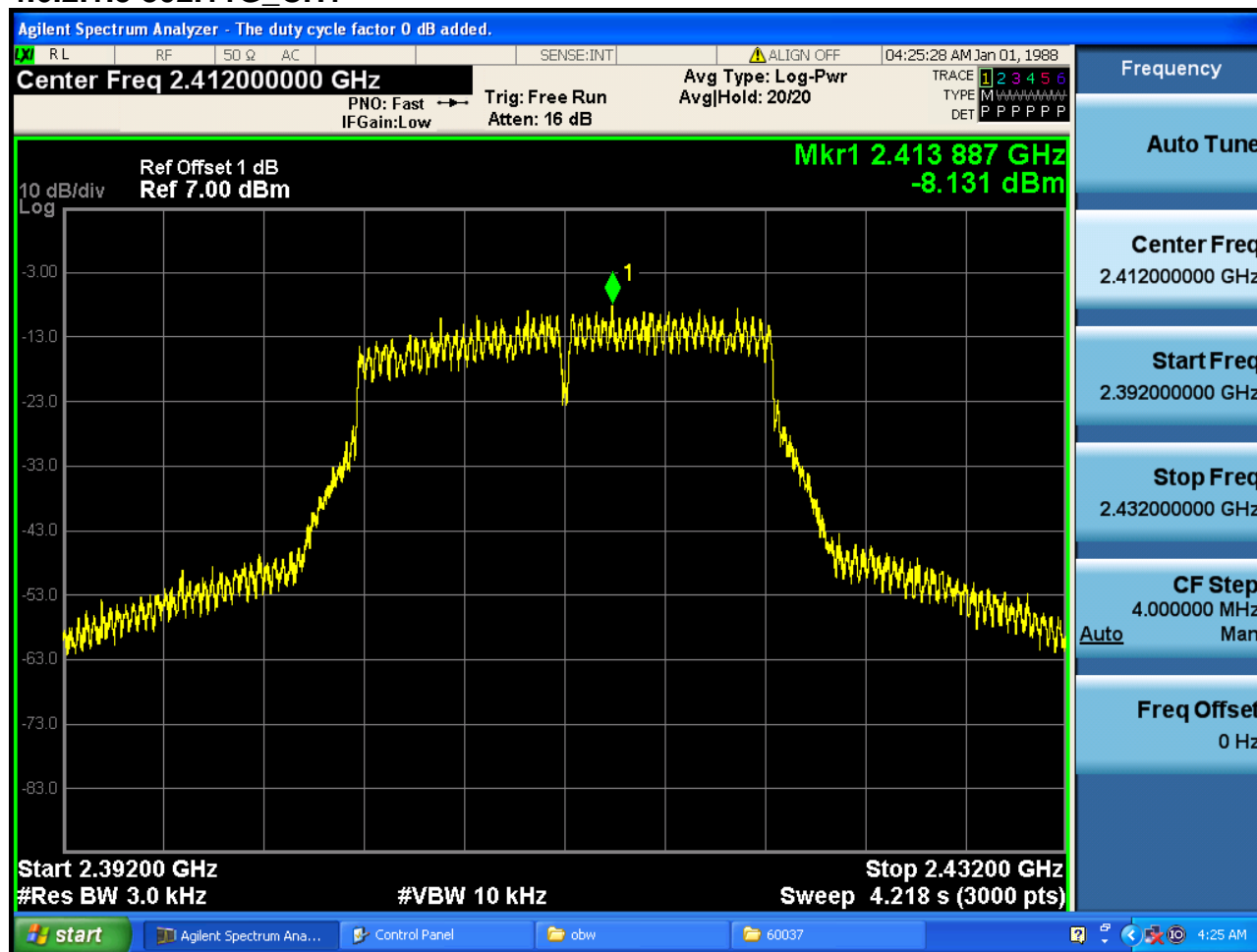


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4.6.2.1.5 802.11G_CH1



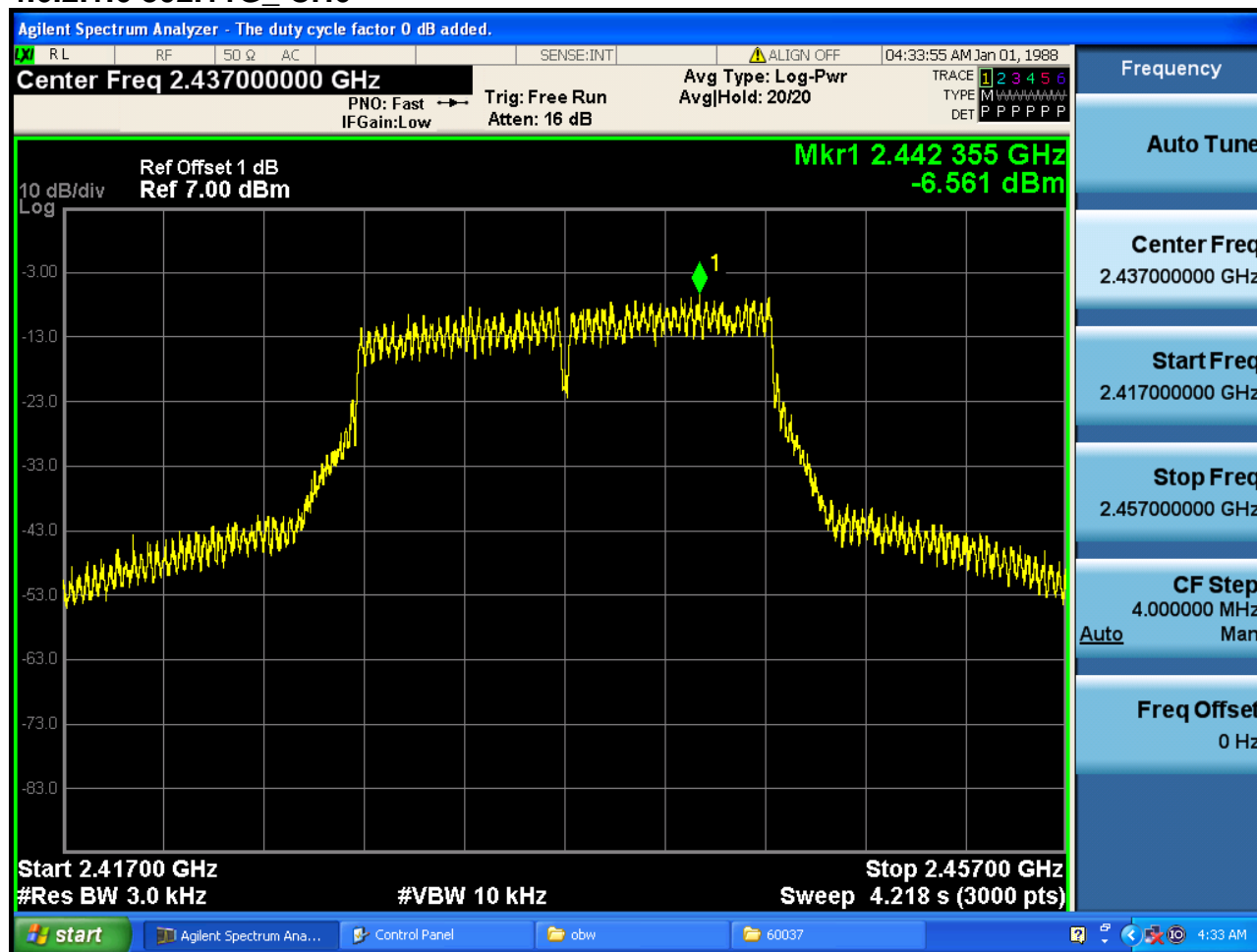
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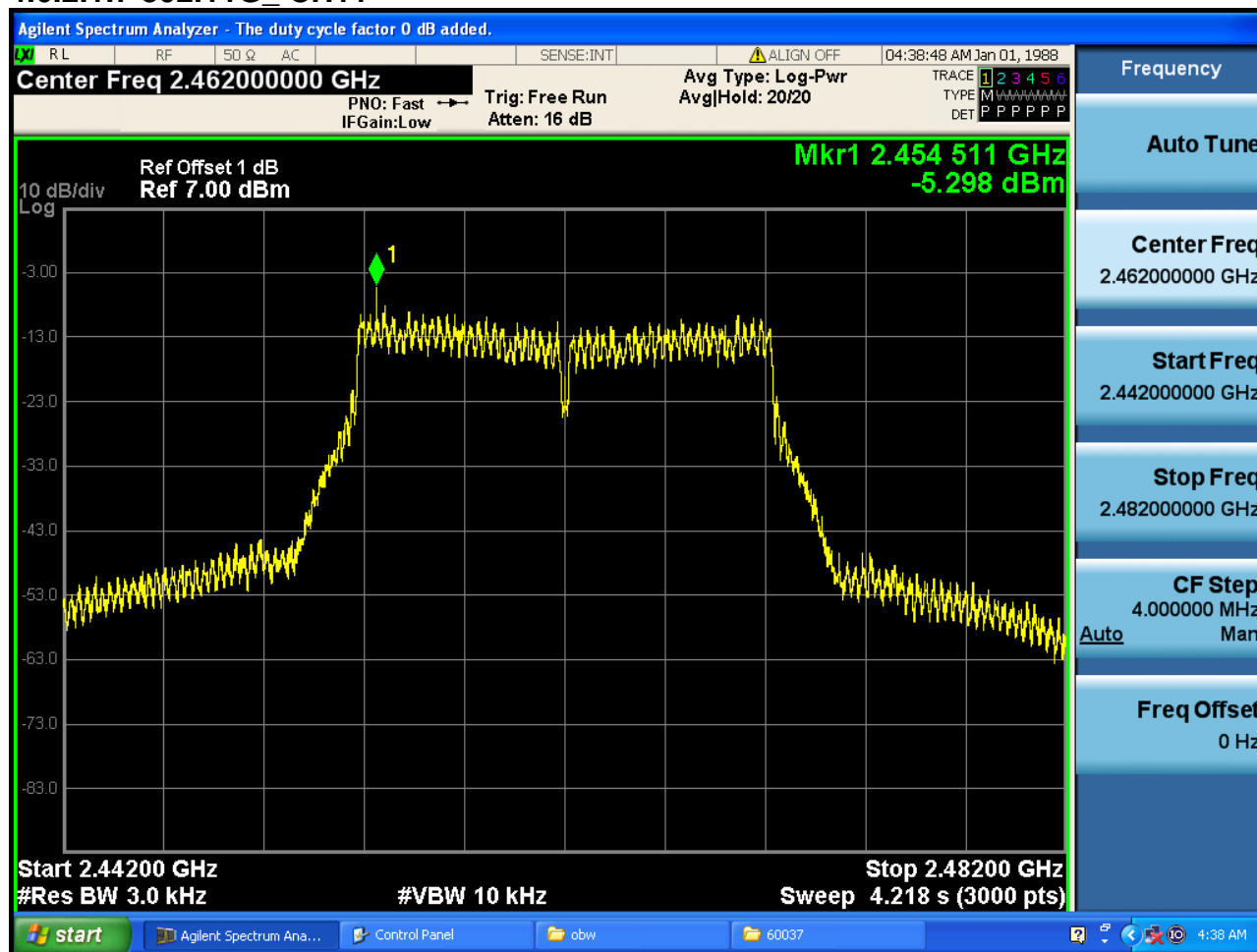
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4.6.2.1.6 802.11G_CH6



4.6.2.1.7 802.11G_CH11



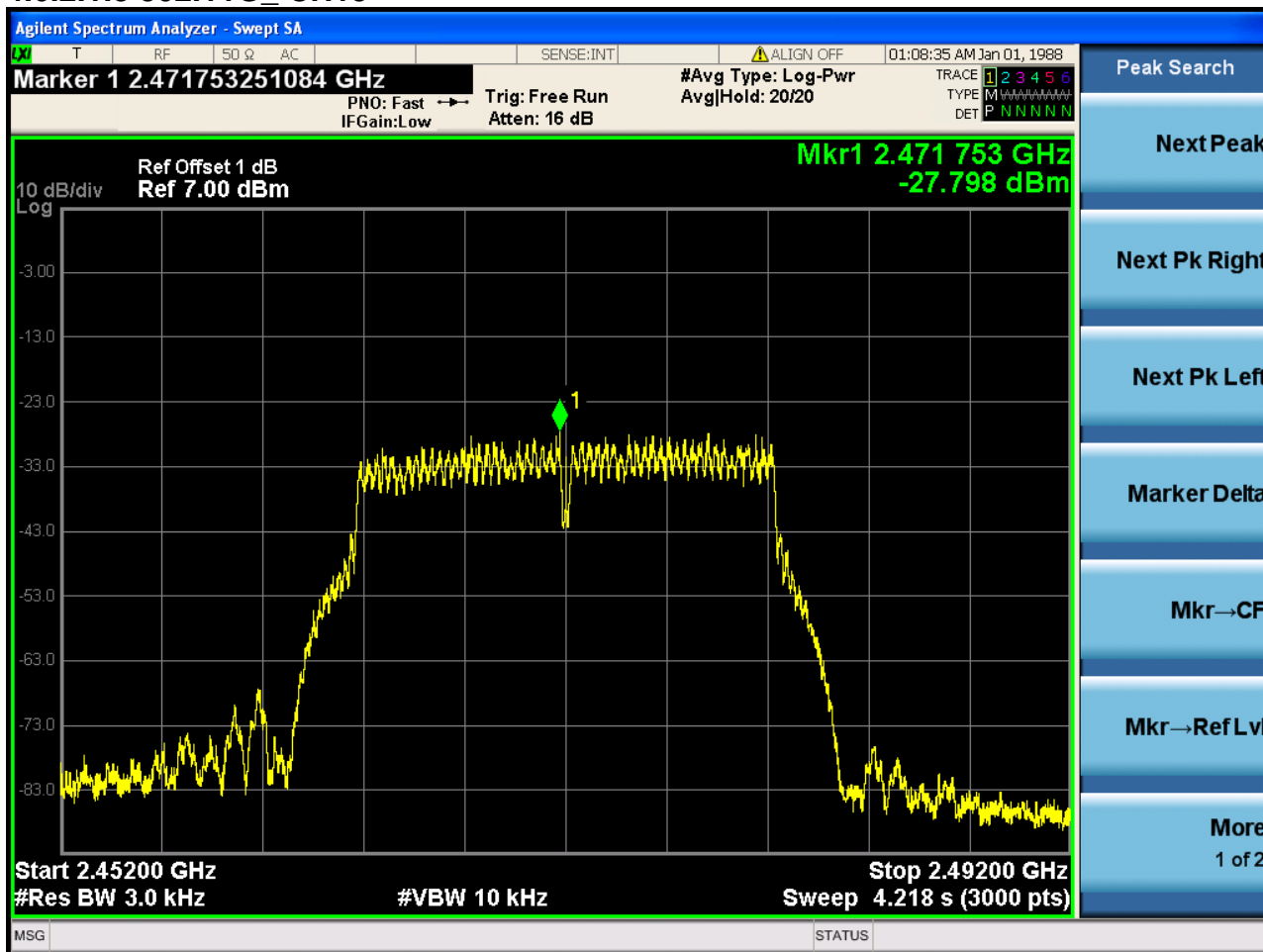
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4.6.2.1.8 802.11G_CH13



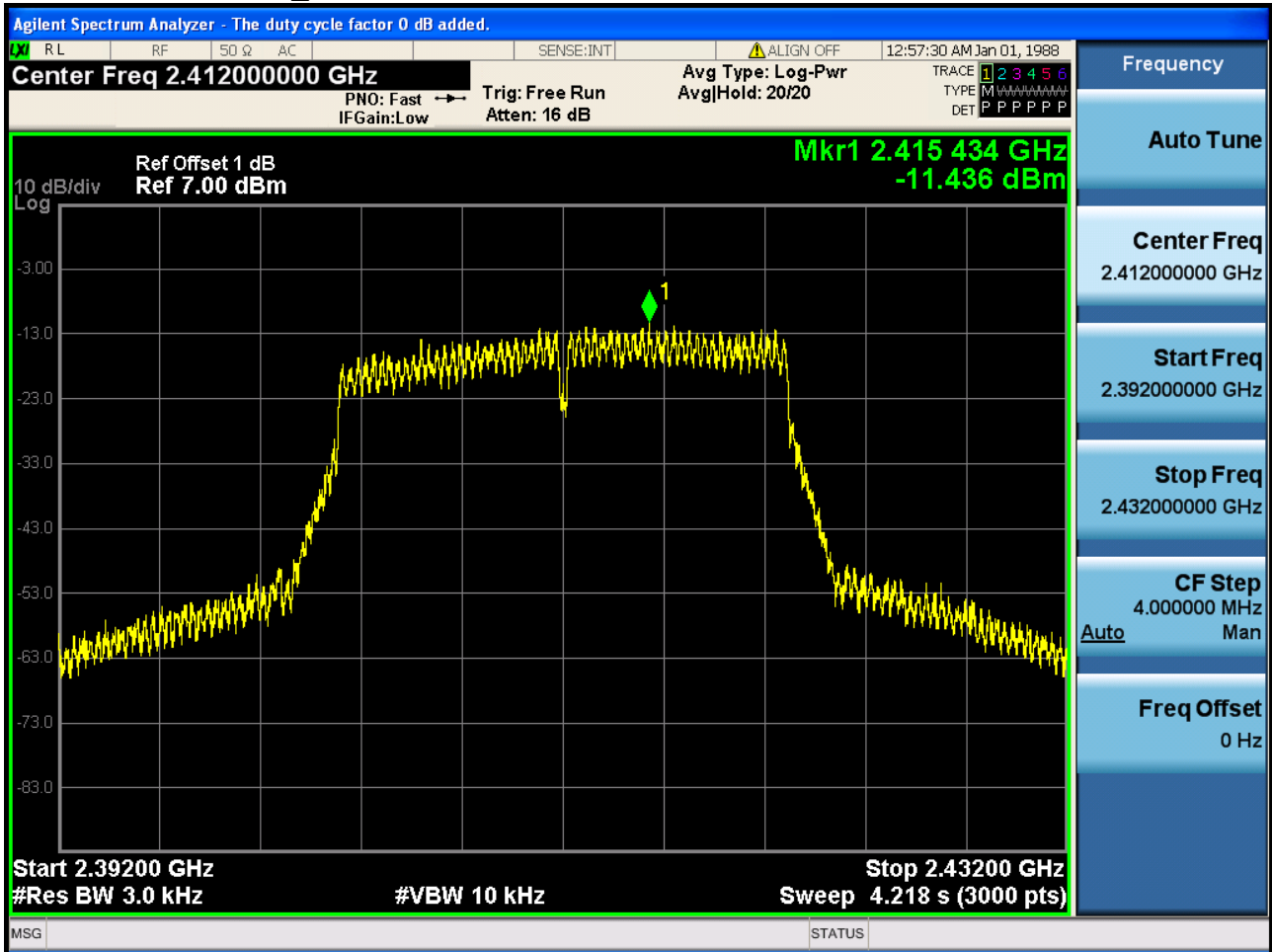
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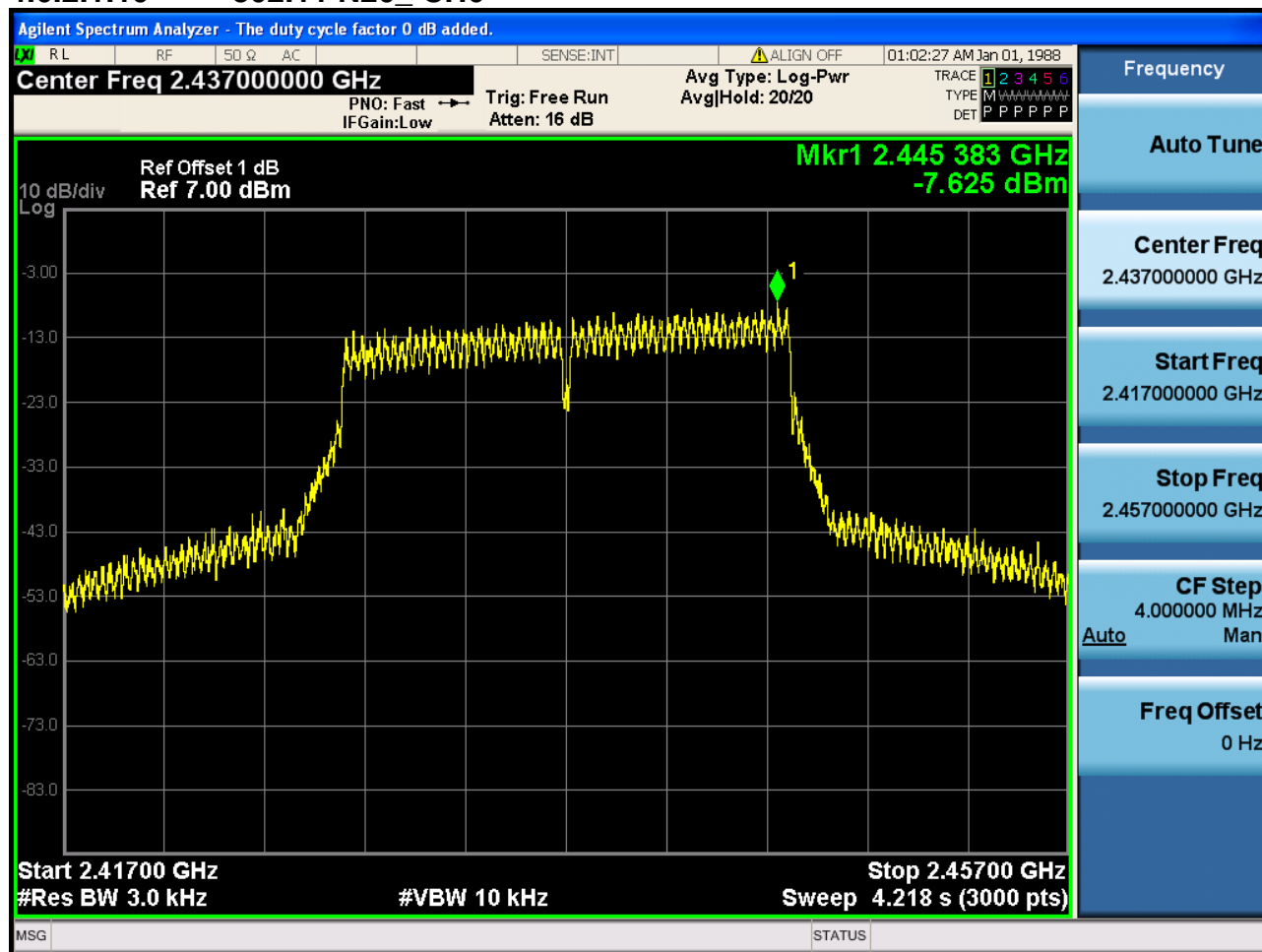
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4.6.2.1.9 802.11N20_CH1



4.6.2.1.10 802.11 N20_ CH6



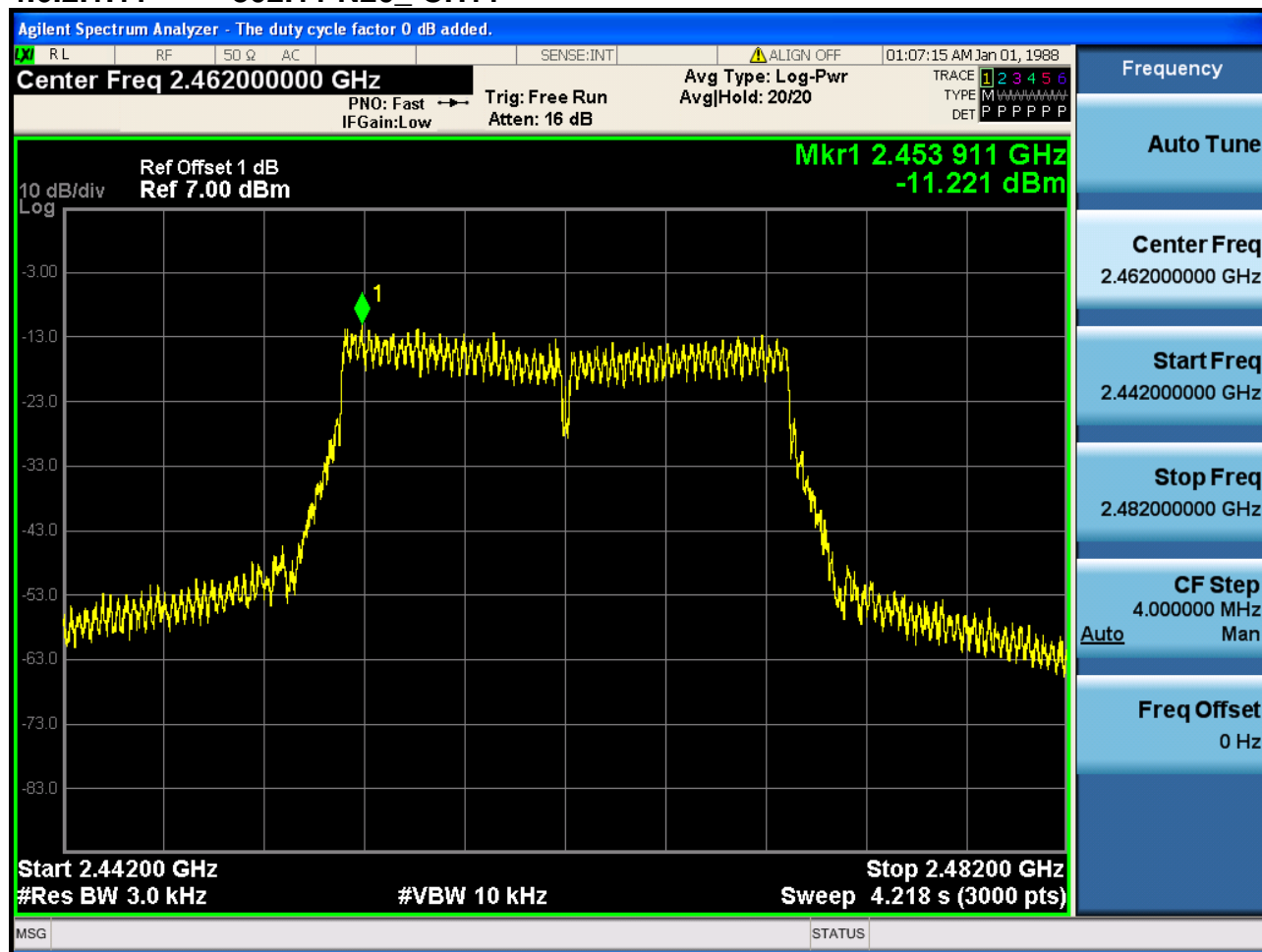
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4.6.2.1.11 802.11 N20_ CH11

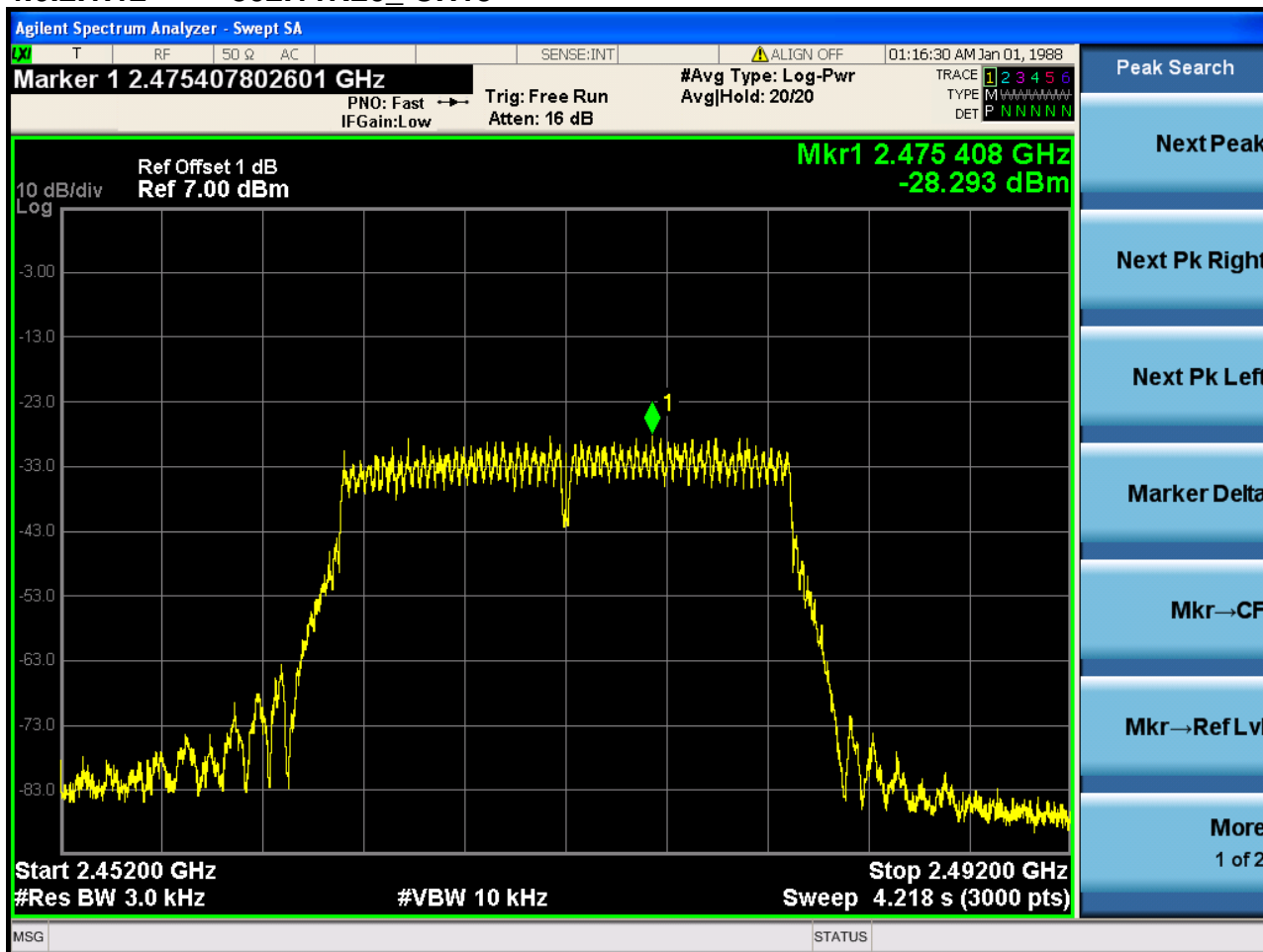


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4.6.2.1.12 802.11N20_CH13



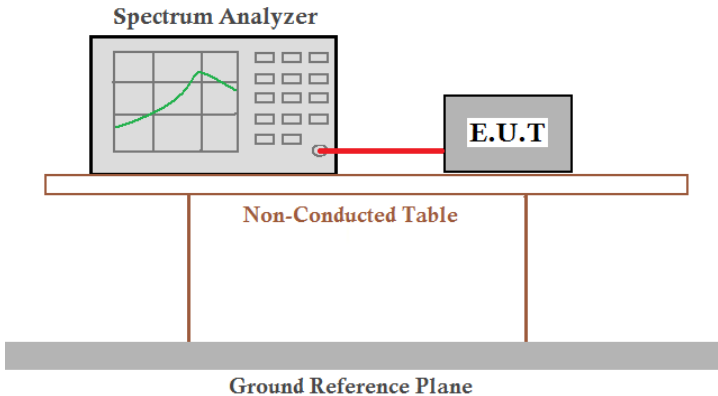
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4.7 Band-edge for RF Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10: 2013 Section 11.13
Test Setup:	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G ; 6.5Mbps of rate is the worst case of 802.11N(HT20) ;
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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 CH11 level of the desired power, based on either an RF conducted or a radiated measurement.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass



4.7.1 Test plots

4.7.1.1 ANT1

4.7.1.1.1 802.11B_CH1



4.7.1.1.2 802.11B_CH11



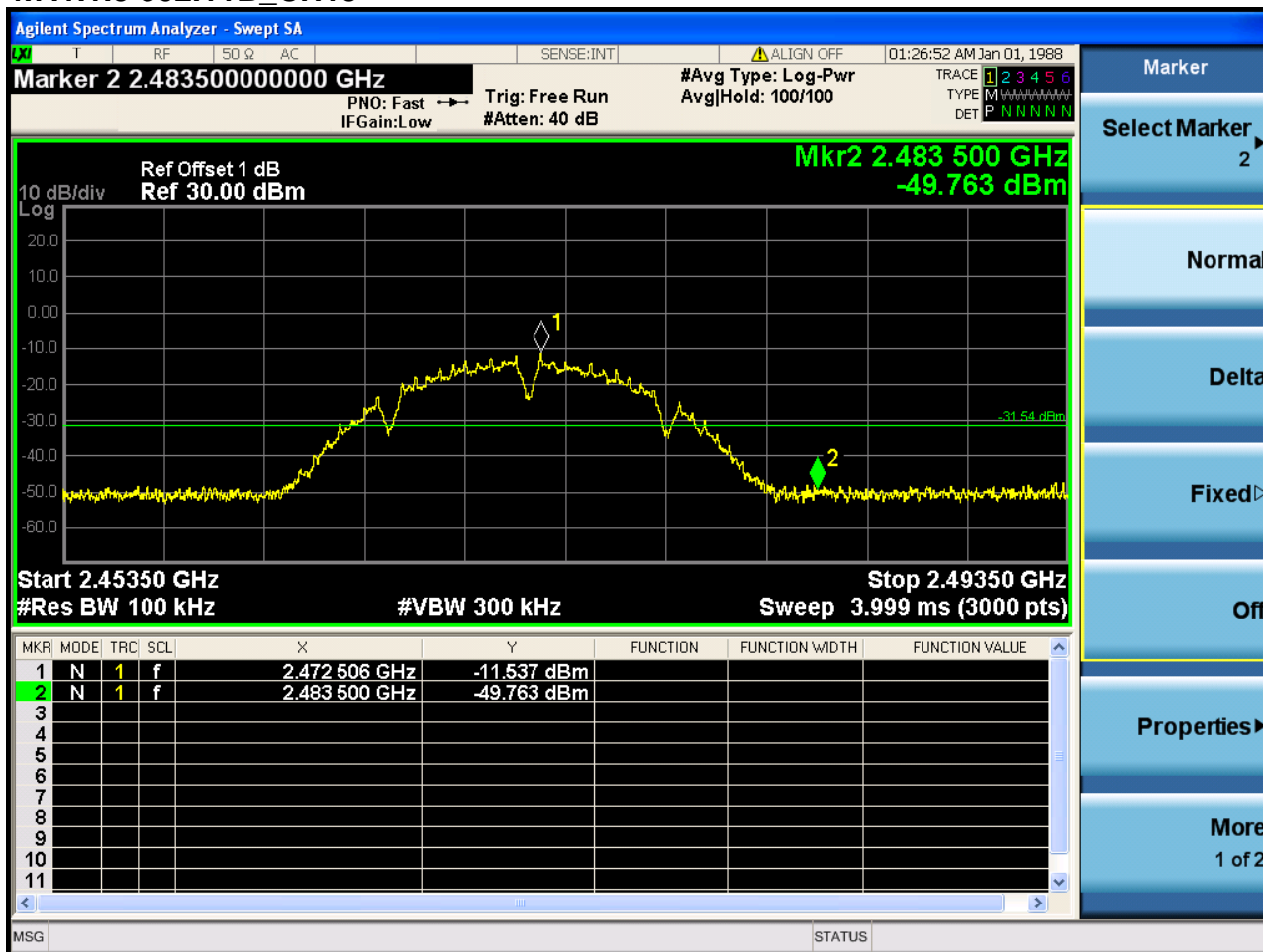
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4.7.1.1.3 802.11B_CH13



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4.7.1.1.4 802.11G_CH1



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4.7.1.1.5 802.11G_CH11

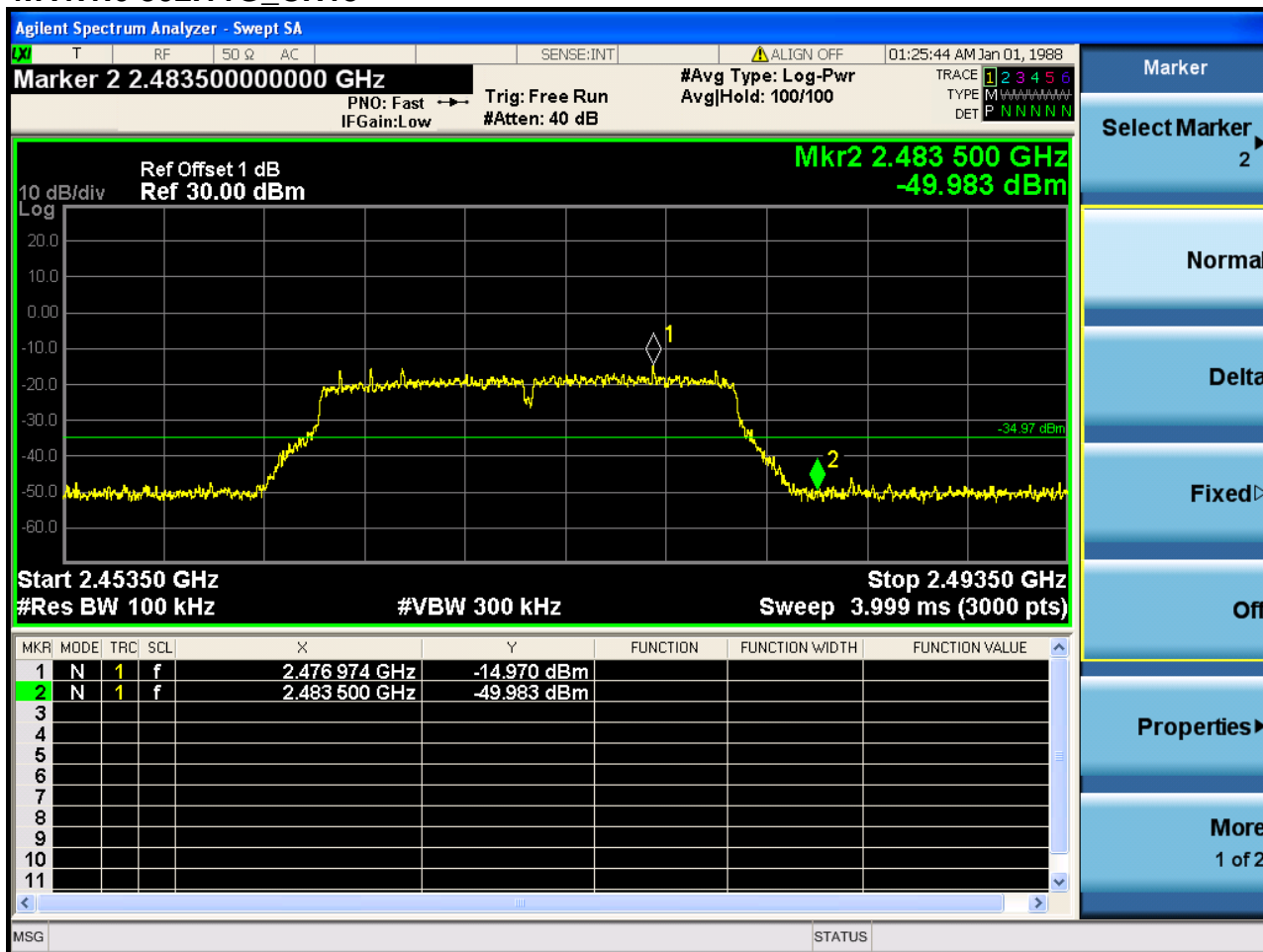


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4.7.1.1.6 802.11G_CH13



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4.7.1.1.7 802.11N20_CH1



4.7.1.1.8 802.11 N20_ CH11



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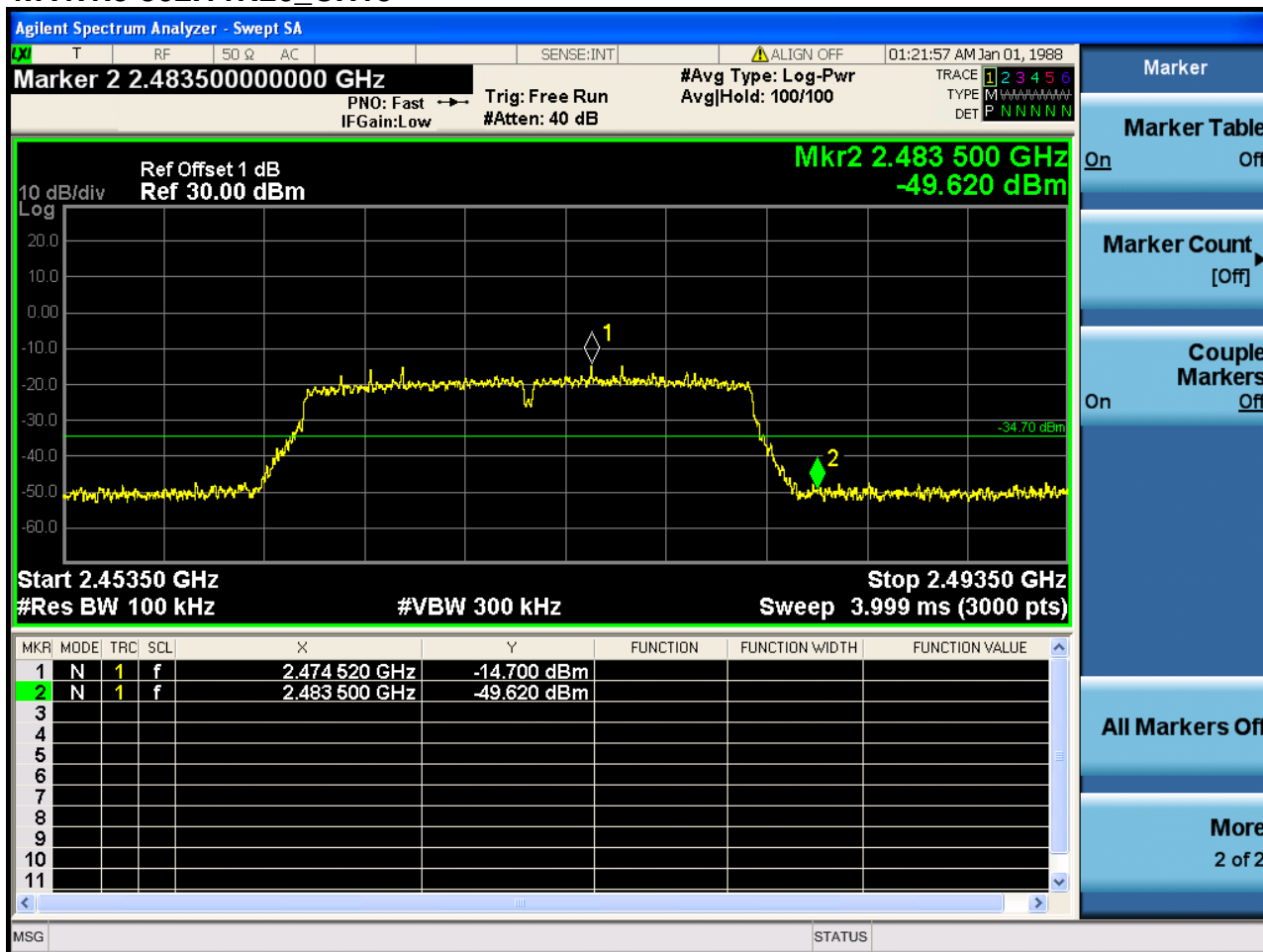
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4.7.1.1.9 802.11N20_CH13



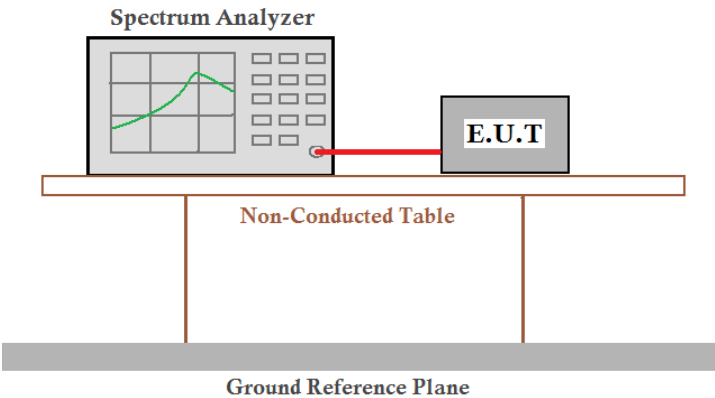
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4.8 RF Conducted Spurious Emissions

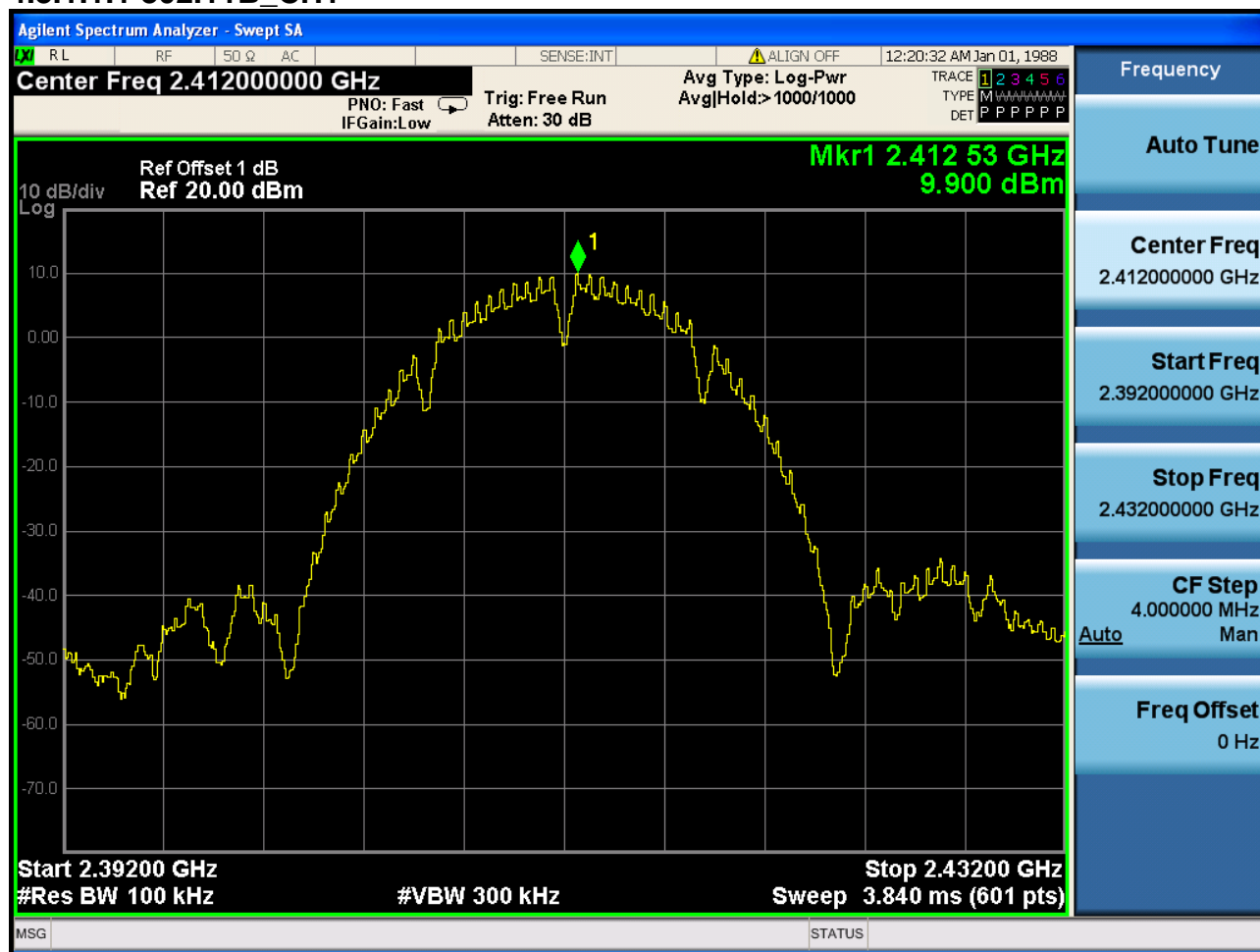
Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10: 2013 Section 11.11
Test Setup:	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G; 6.5Mbps of rate is the worst case of 802.11N(HT20);
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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 CH11 level of the desired power, based on either an RF conducted or a radiated measurement.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass



4.8.1 Test plots

4.8.1.1 ANT1

4.8.1.1.1 802.11B_CH1



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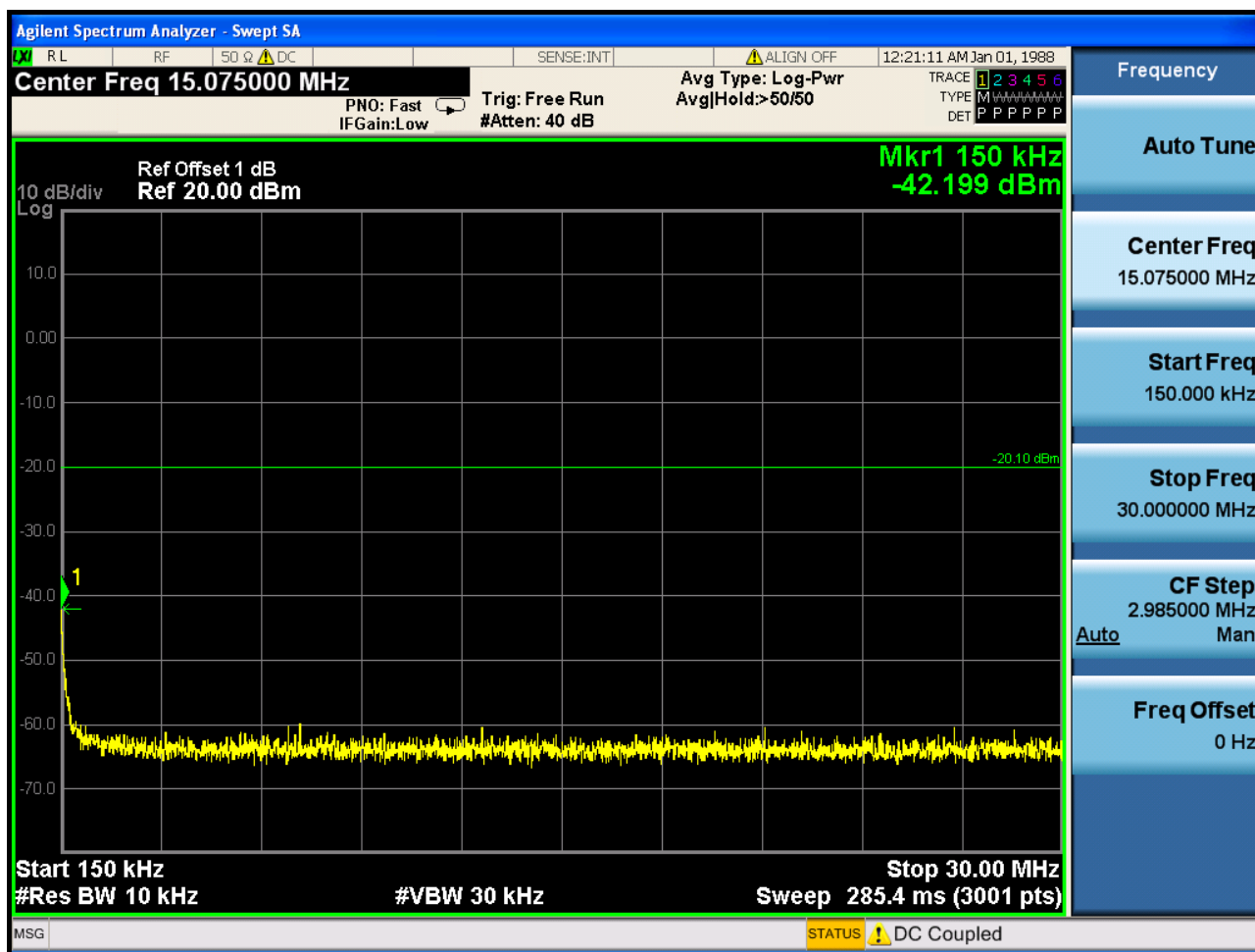


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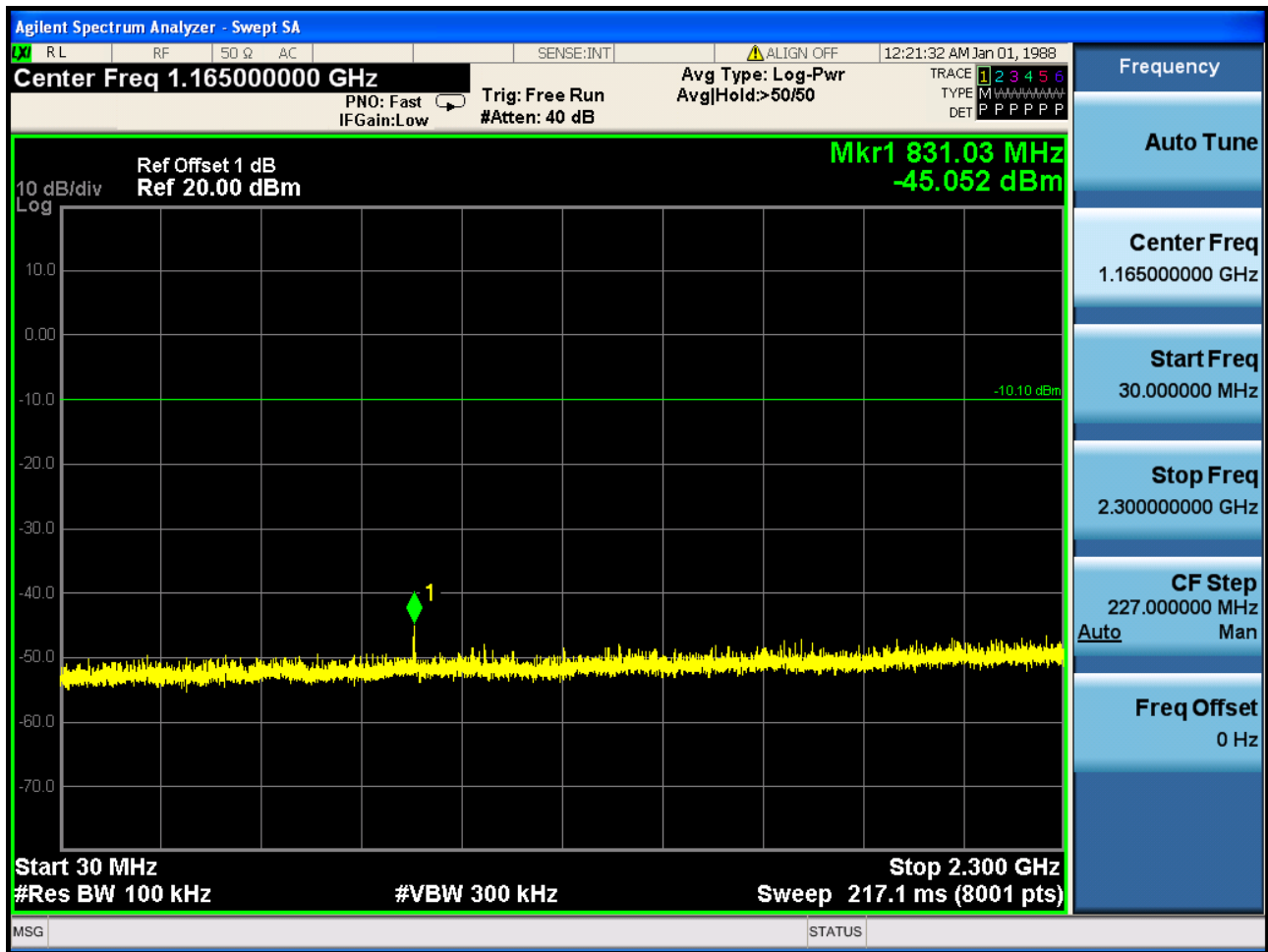


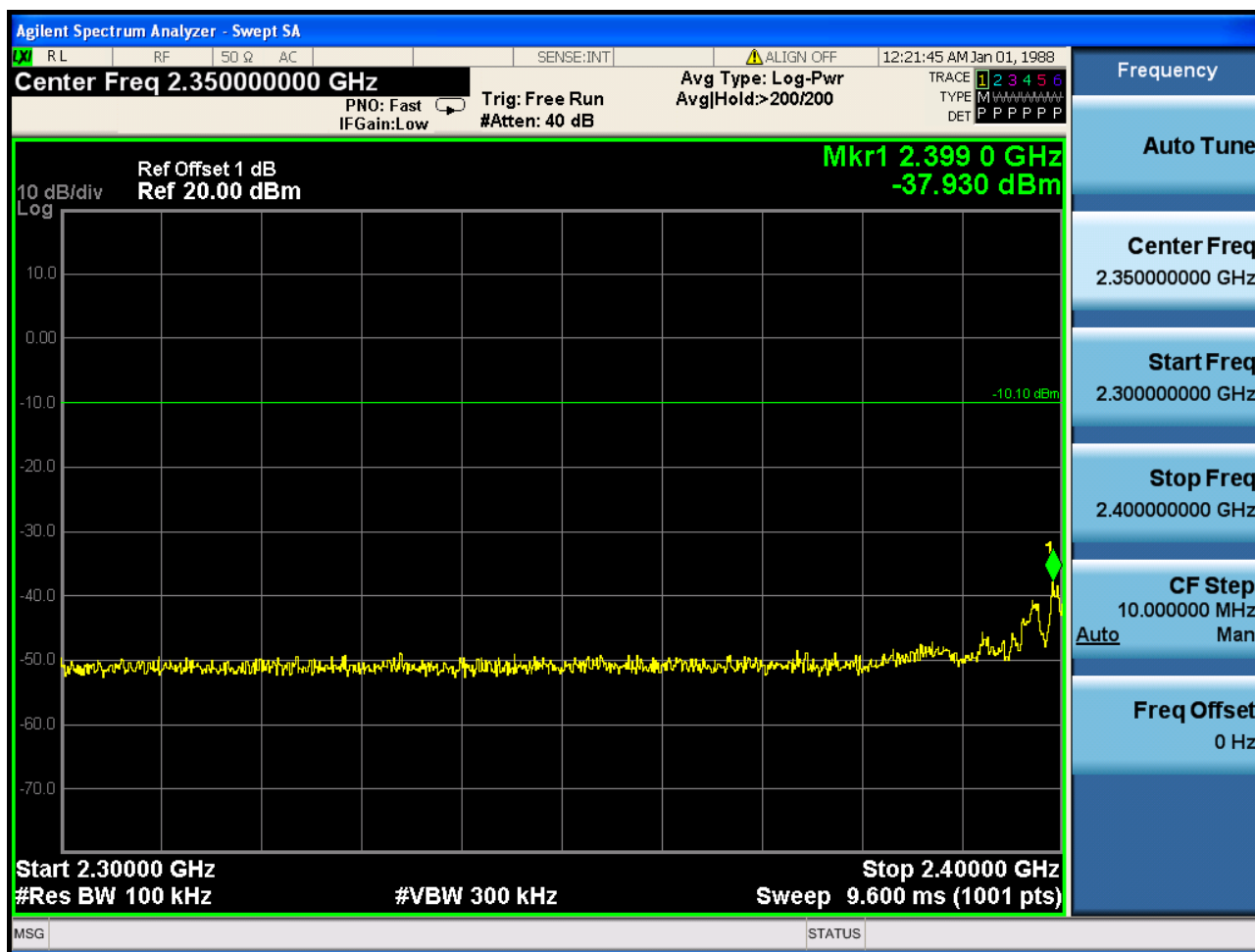
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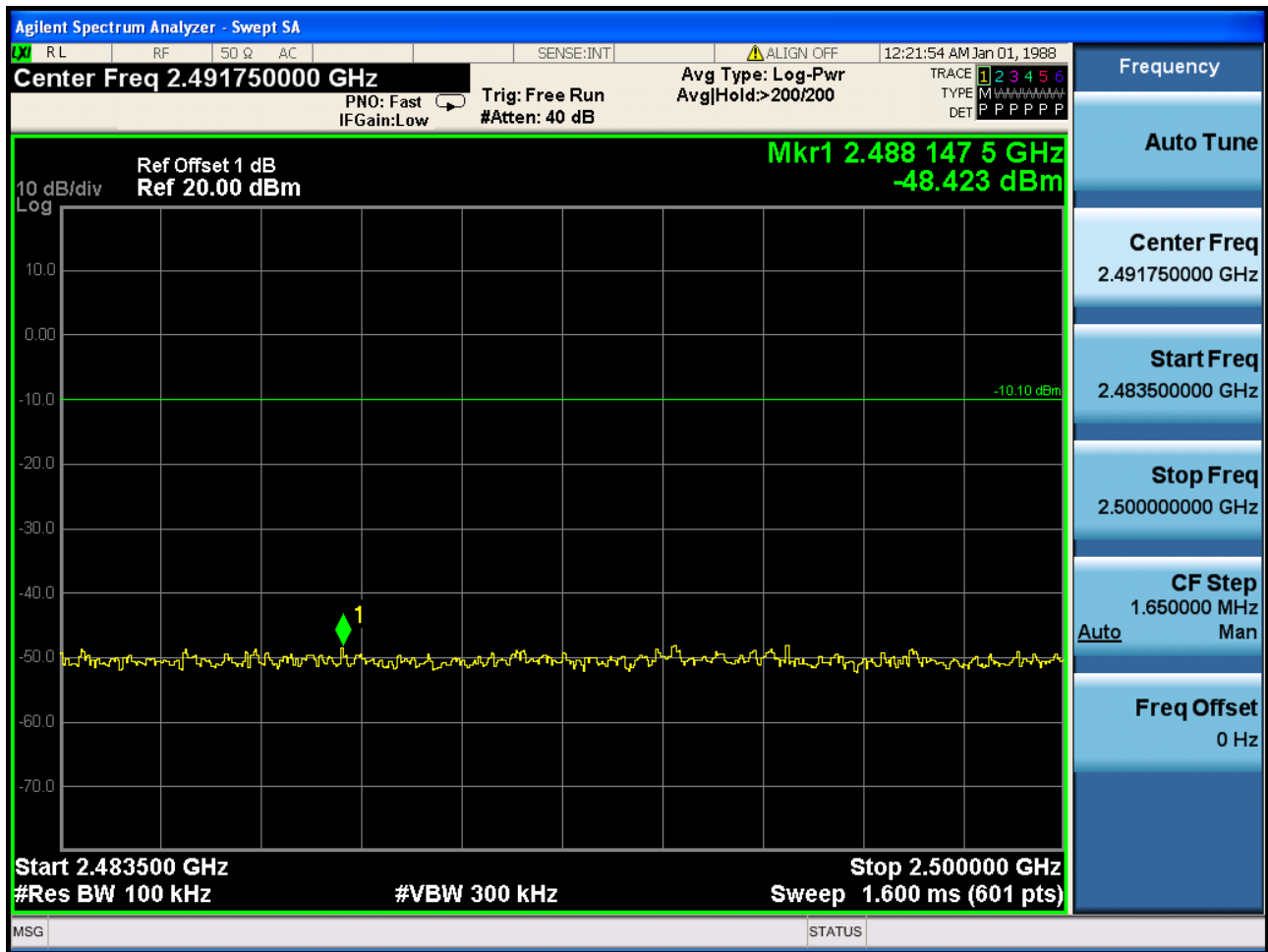




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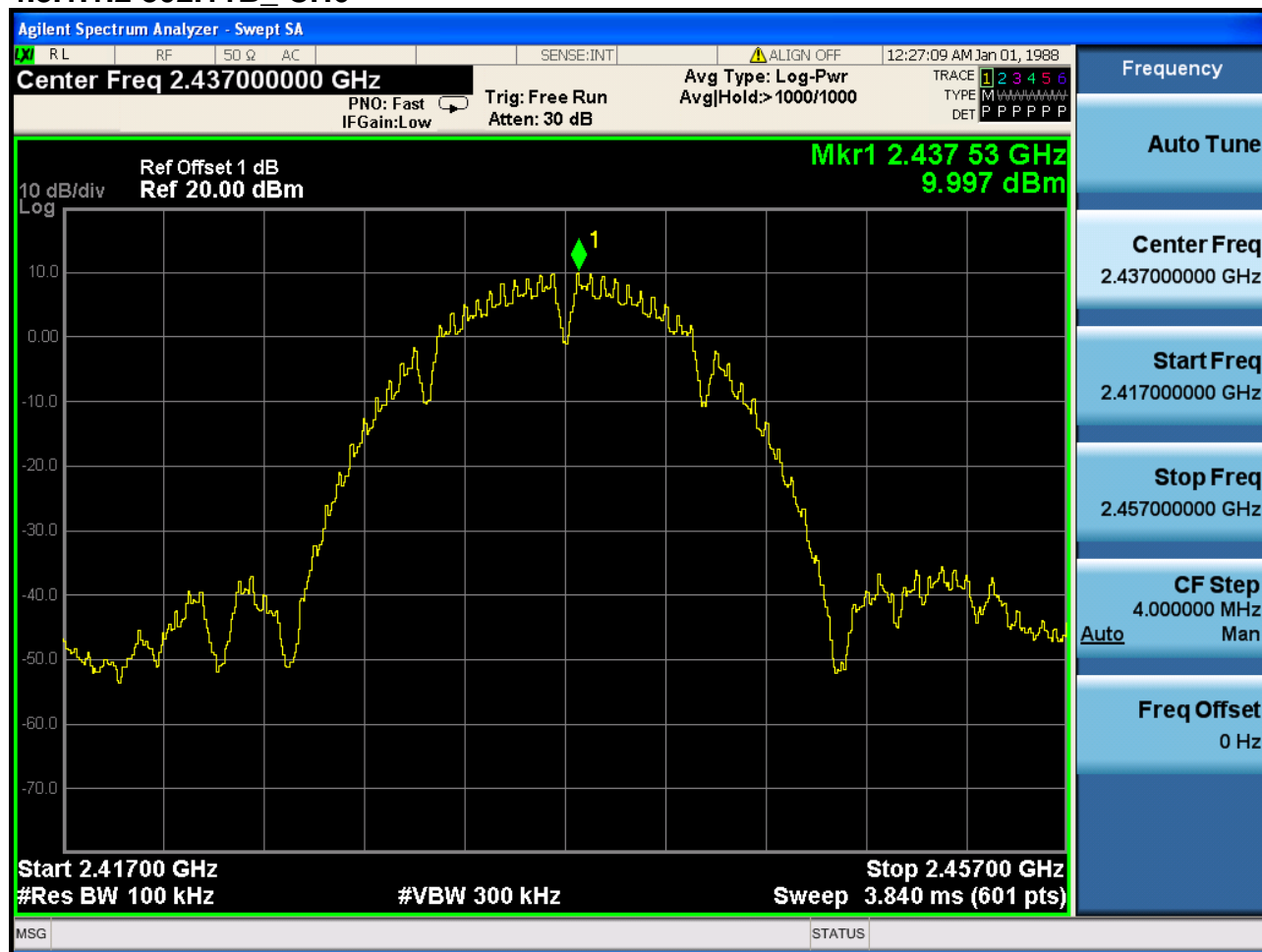
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4.8.1.1.2 802.11B_CH6



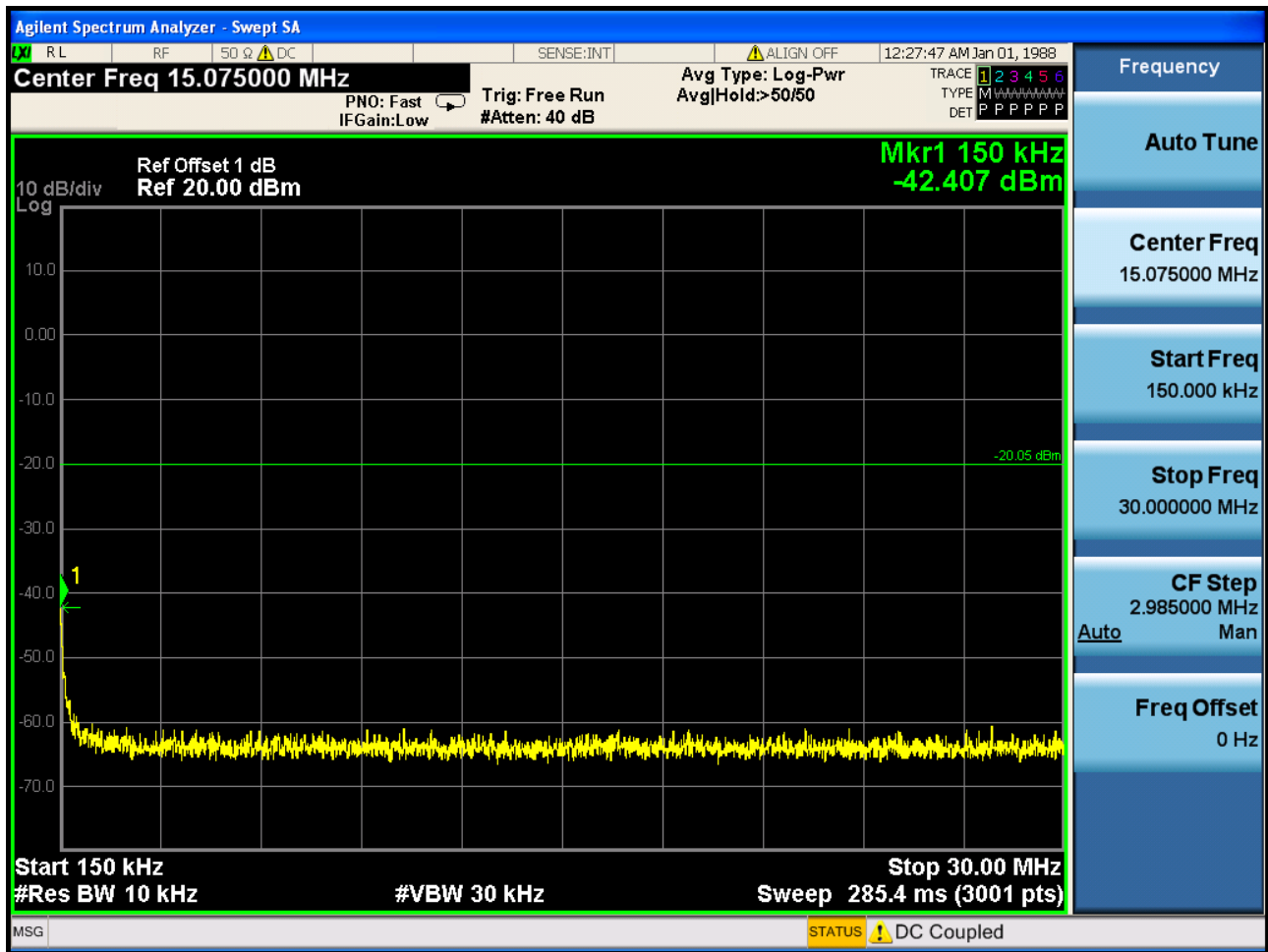
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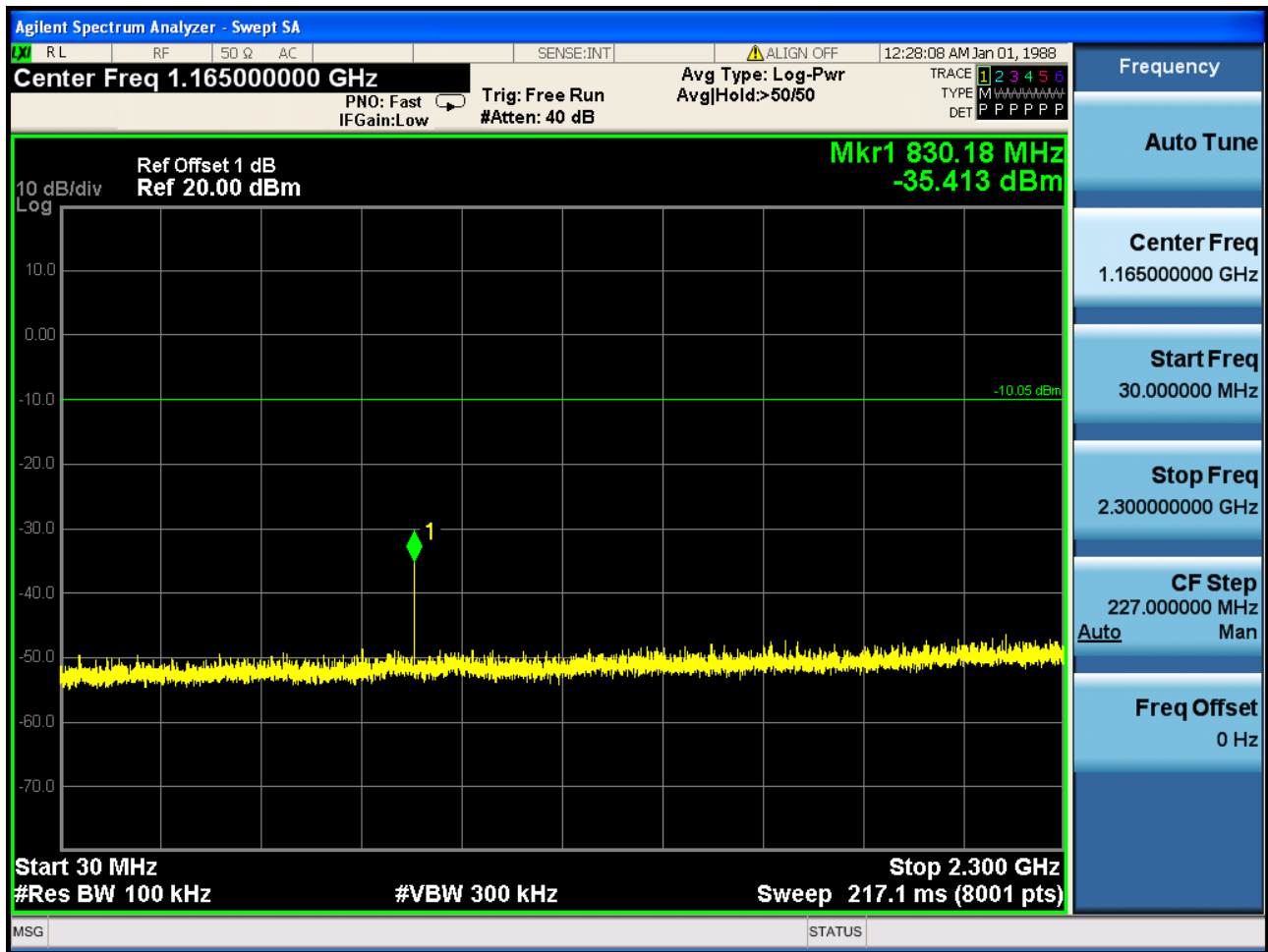
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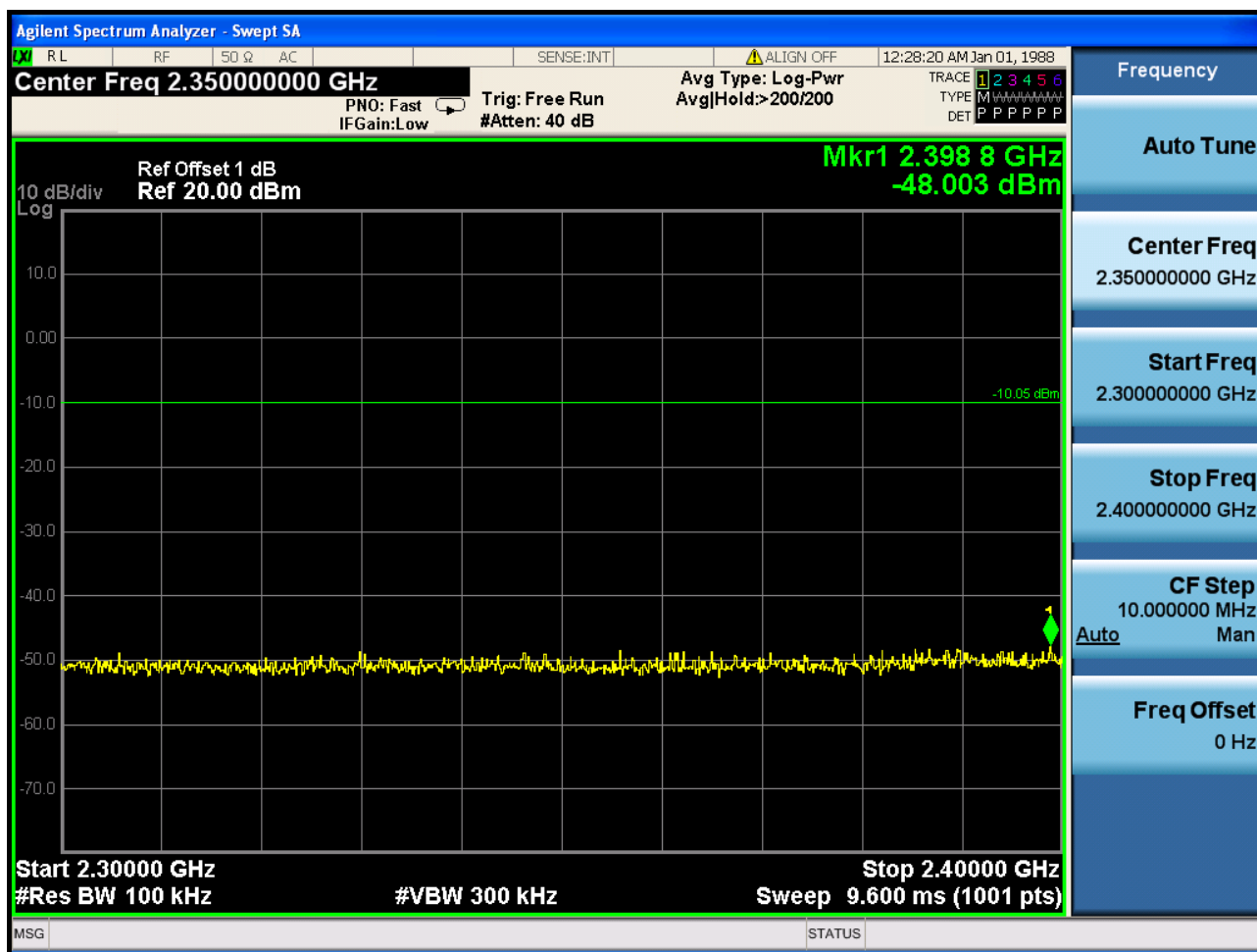
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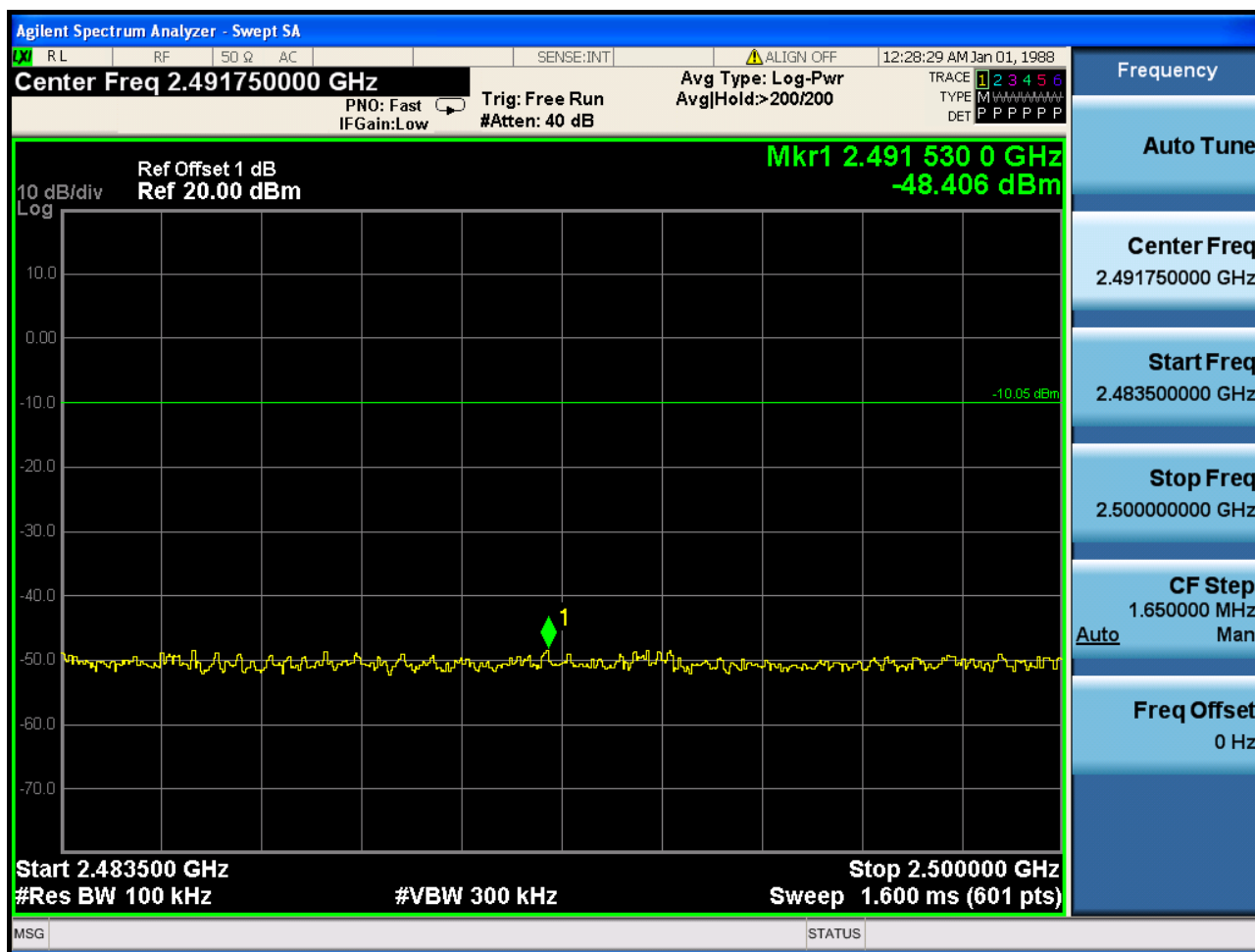




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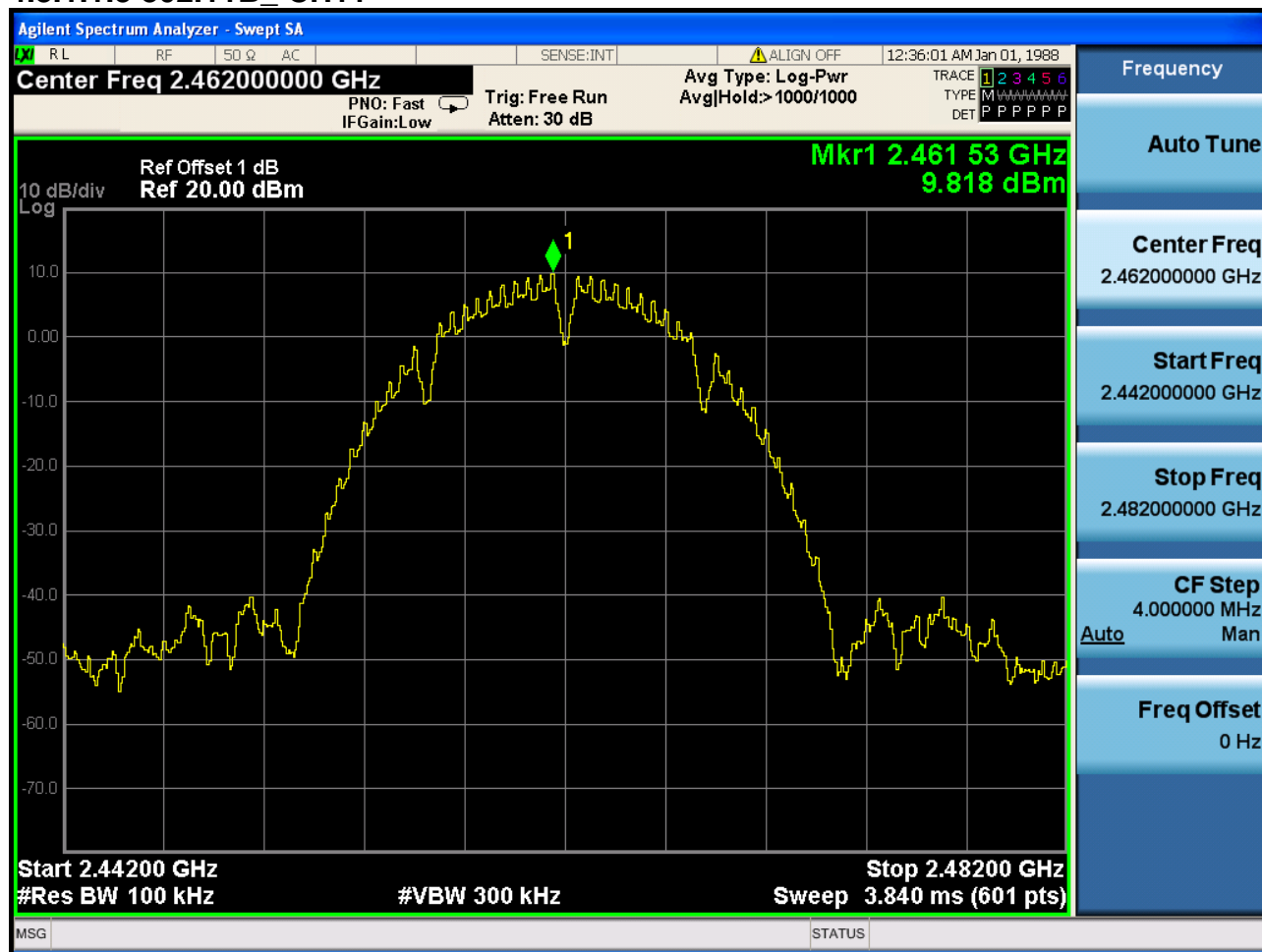
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4.8.1.1.3 802.11B_CH11



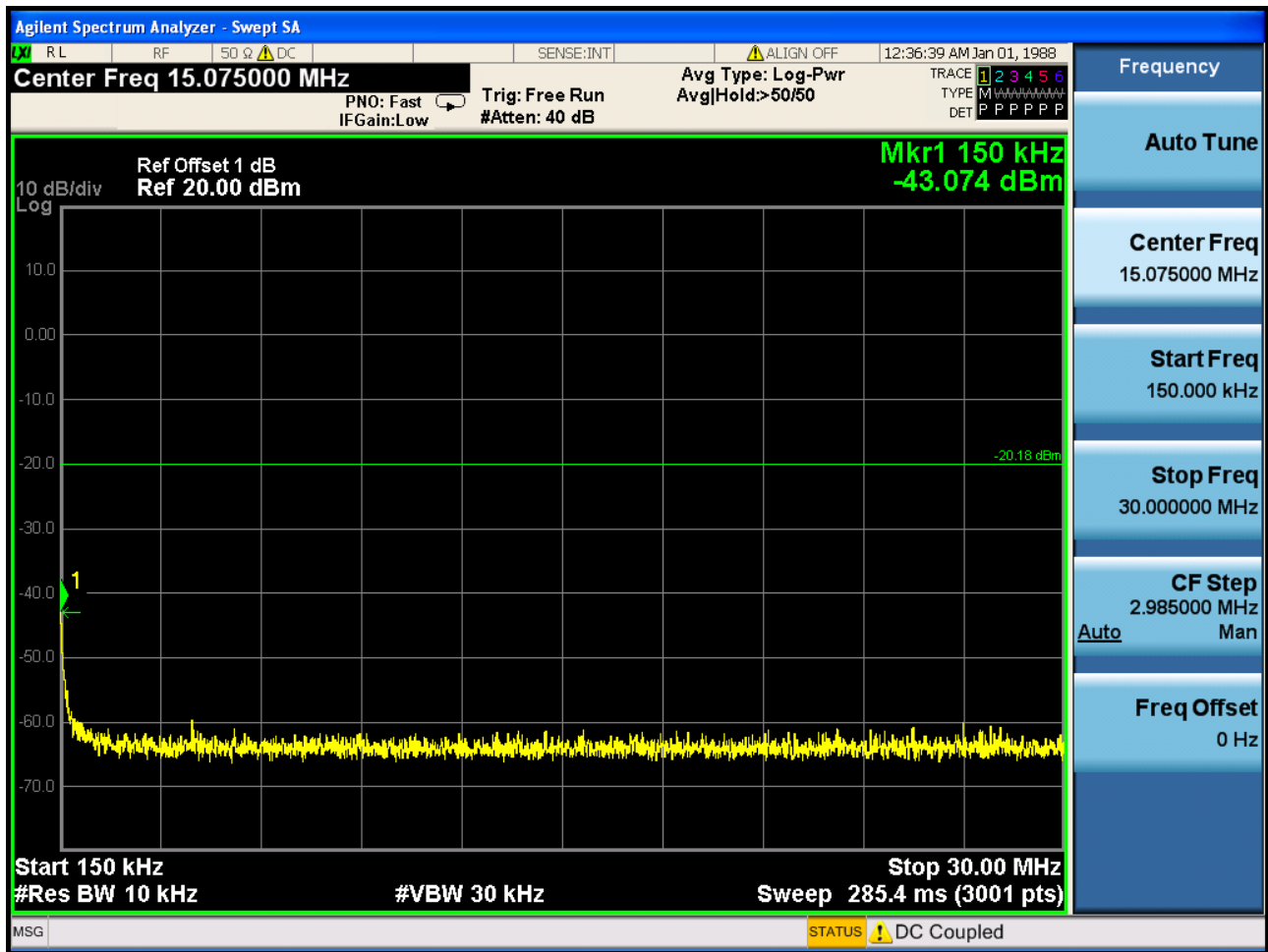
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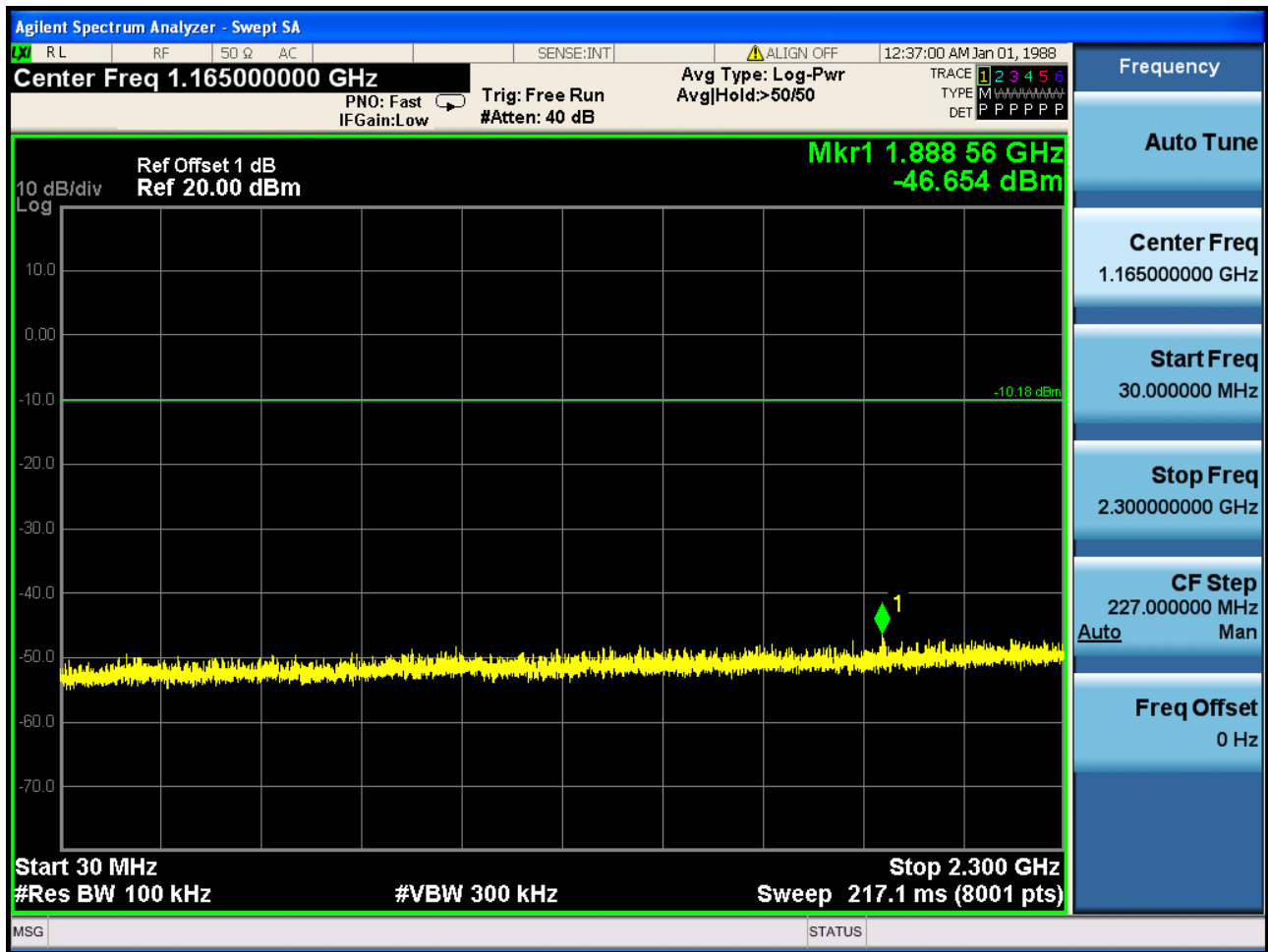


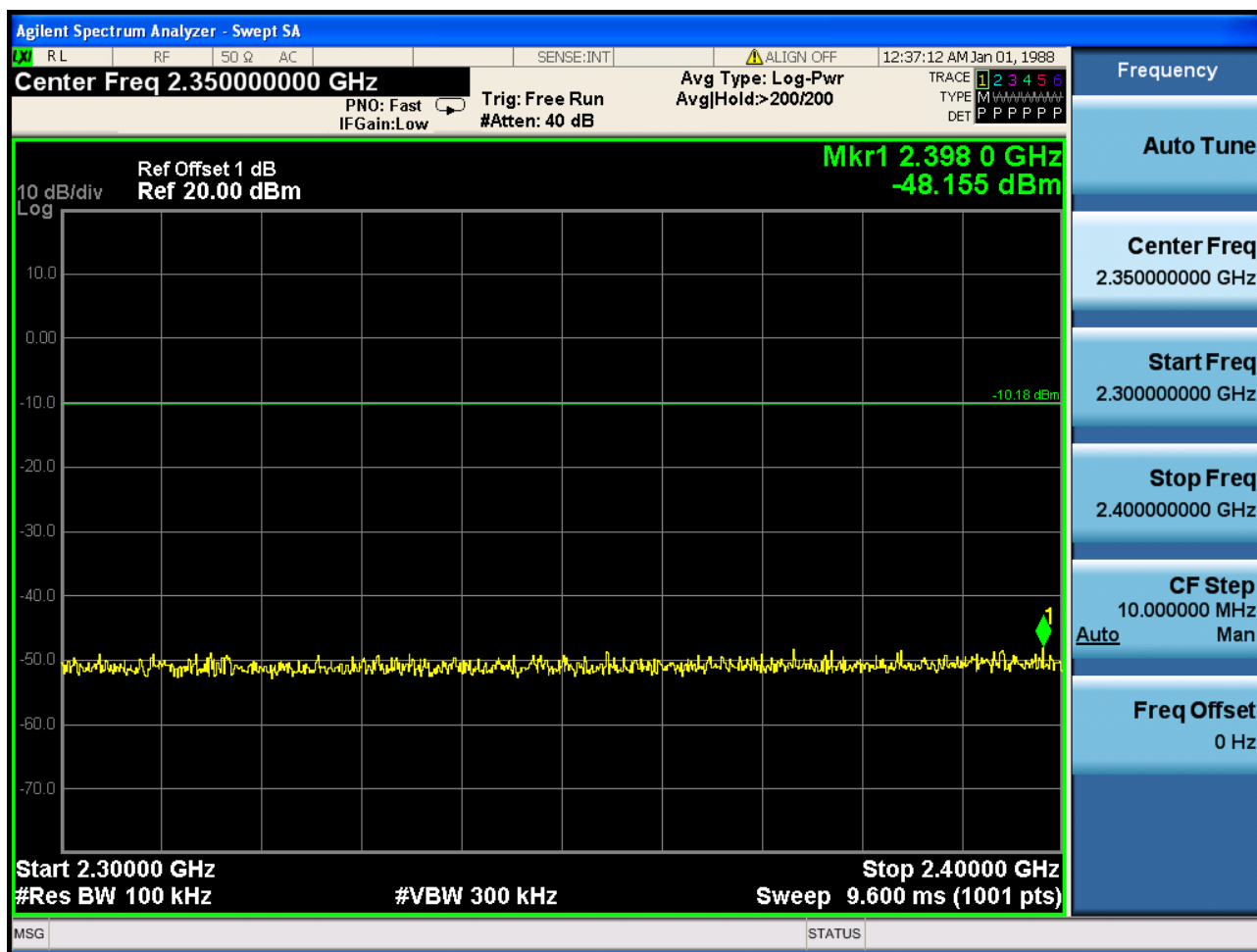
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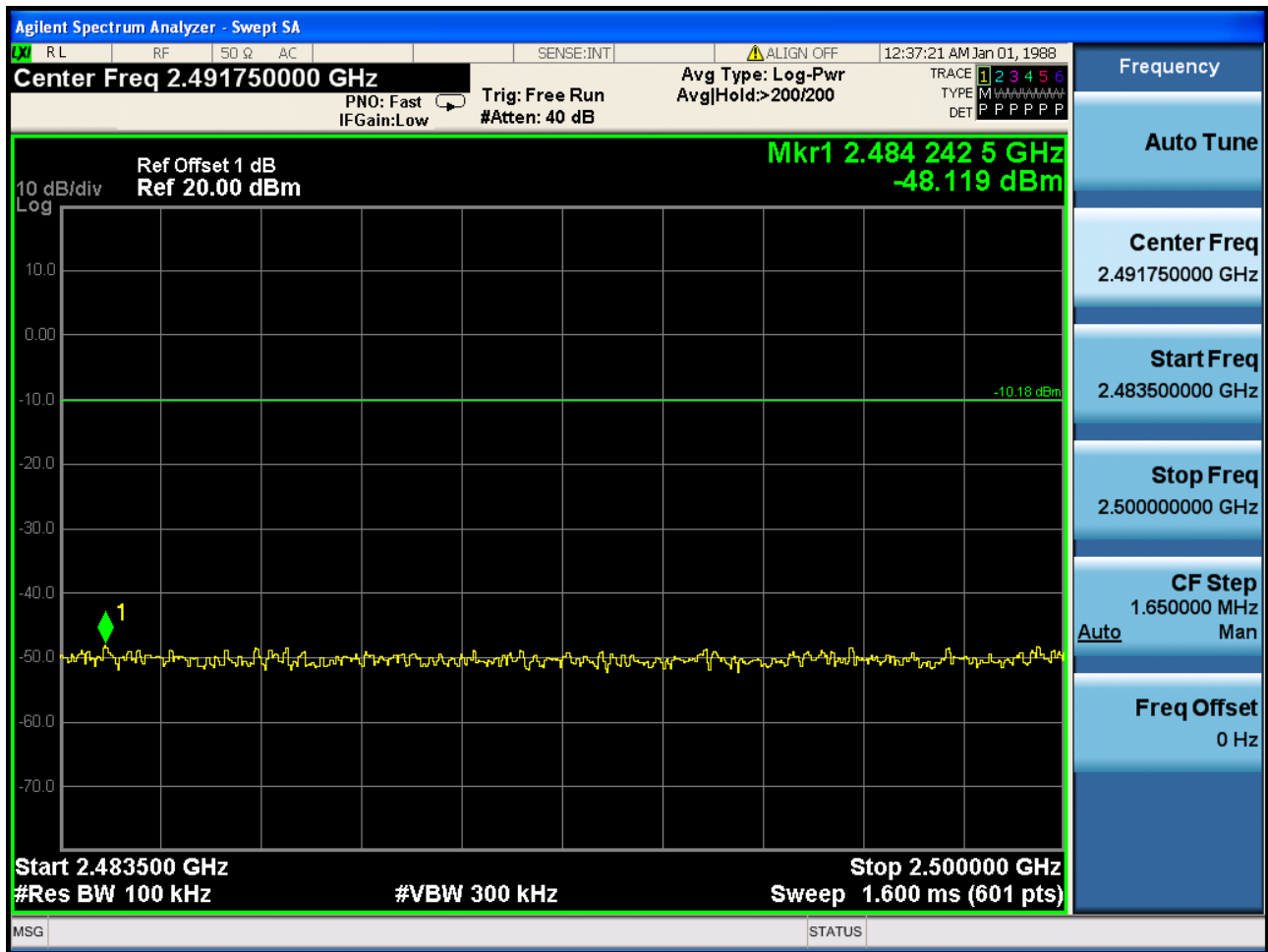
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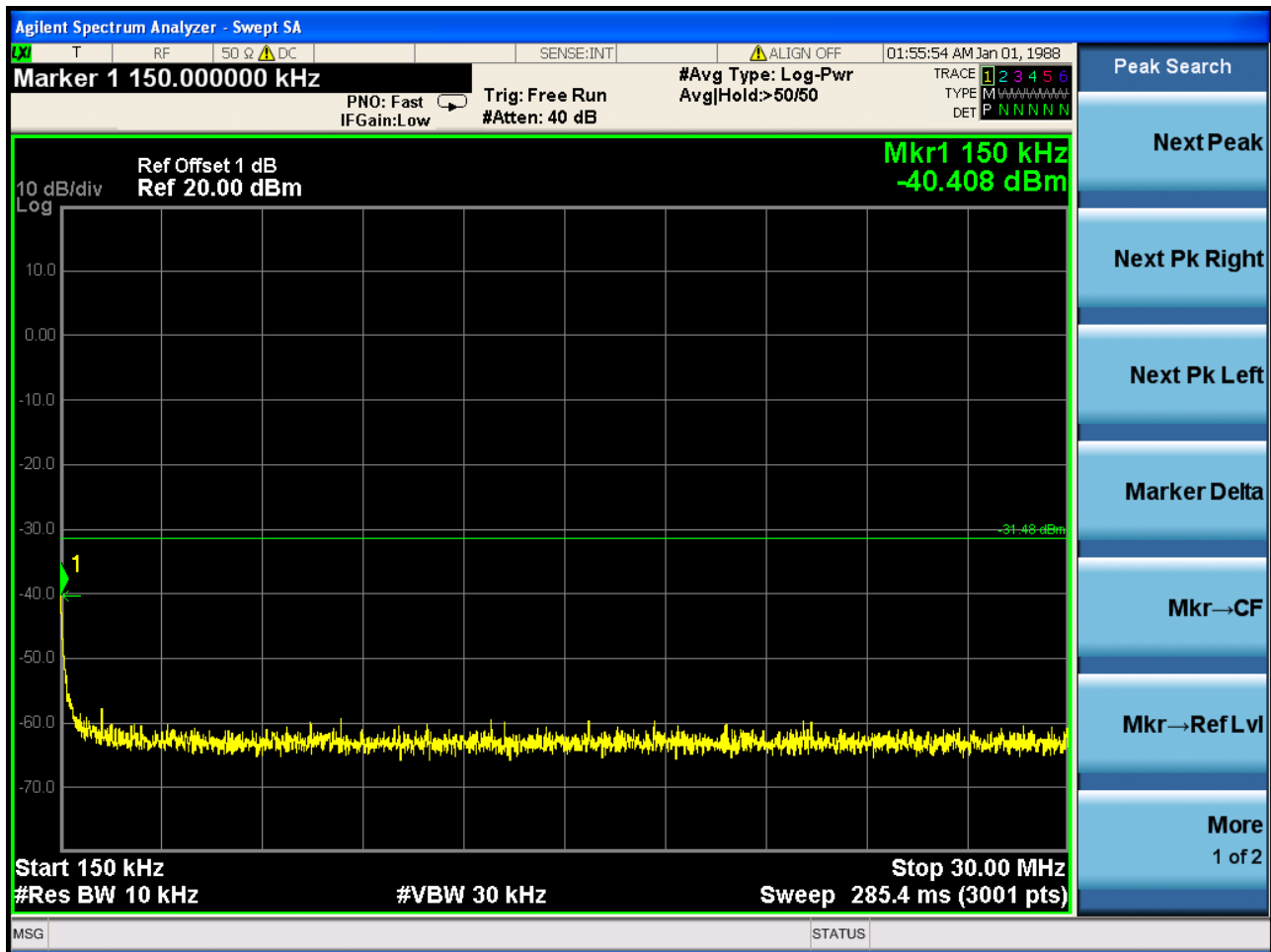


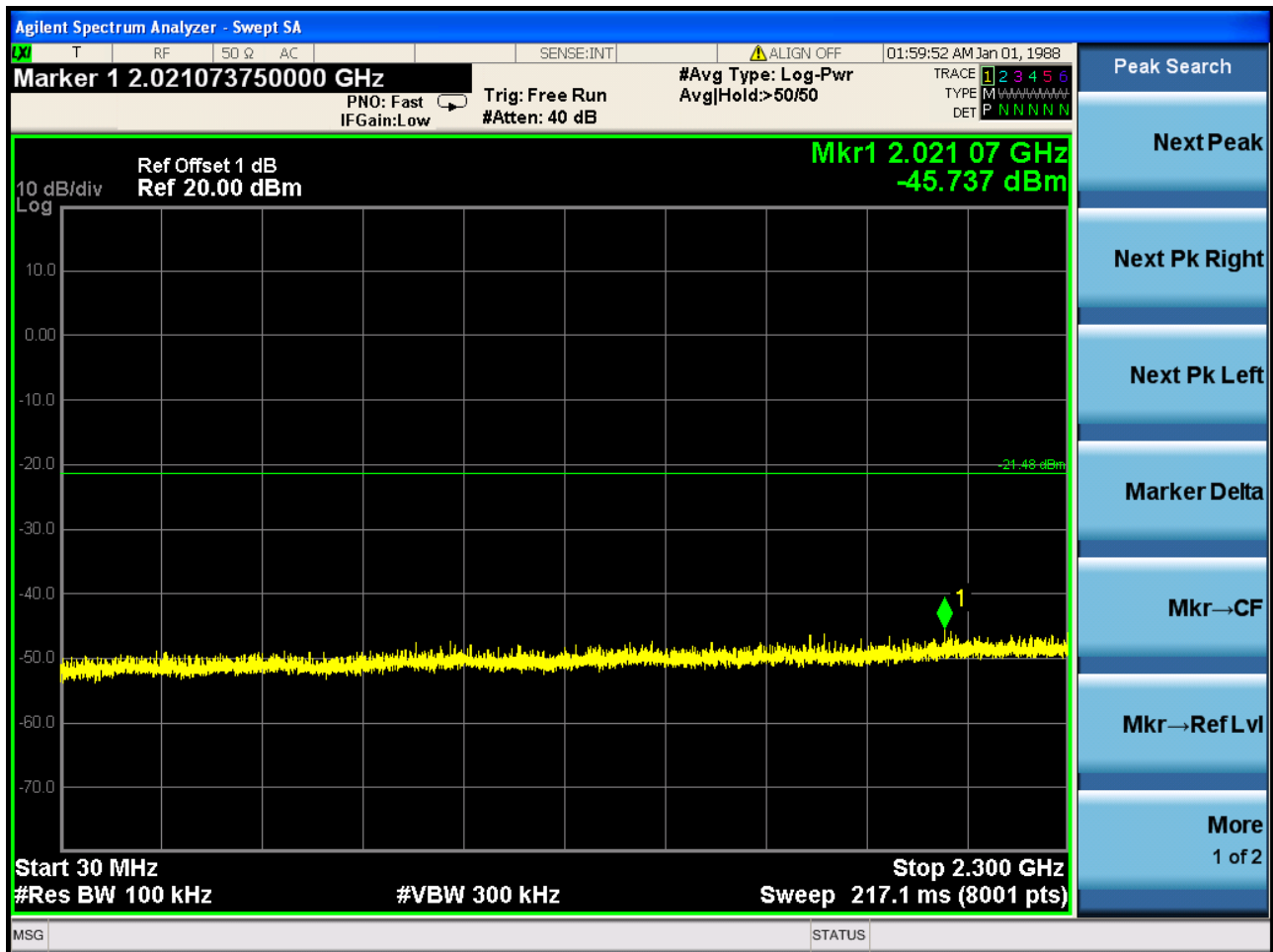


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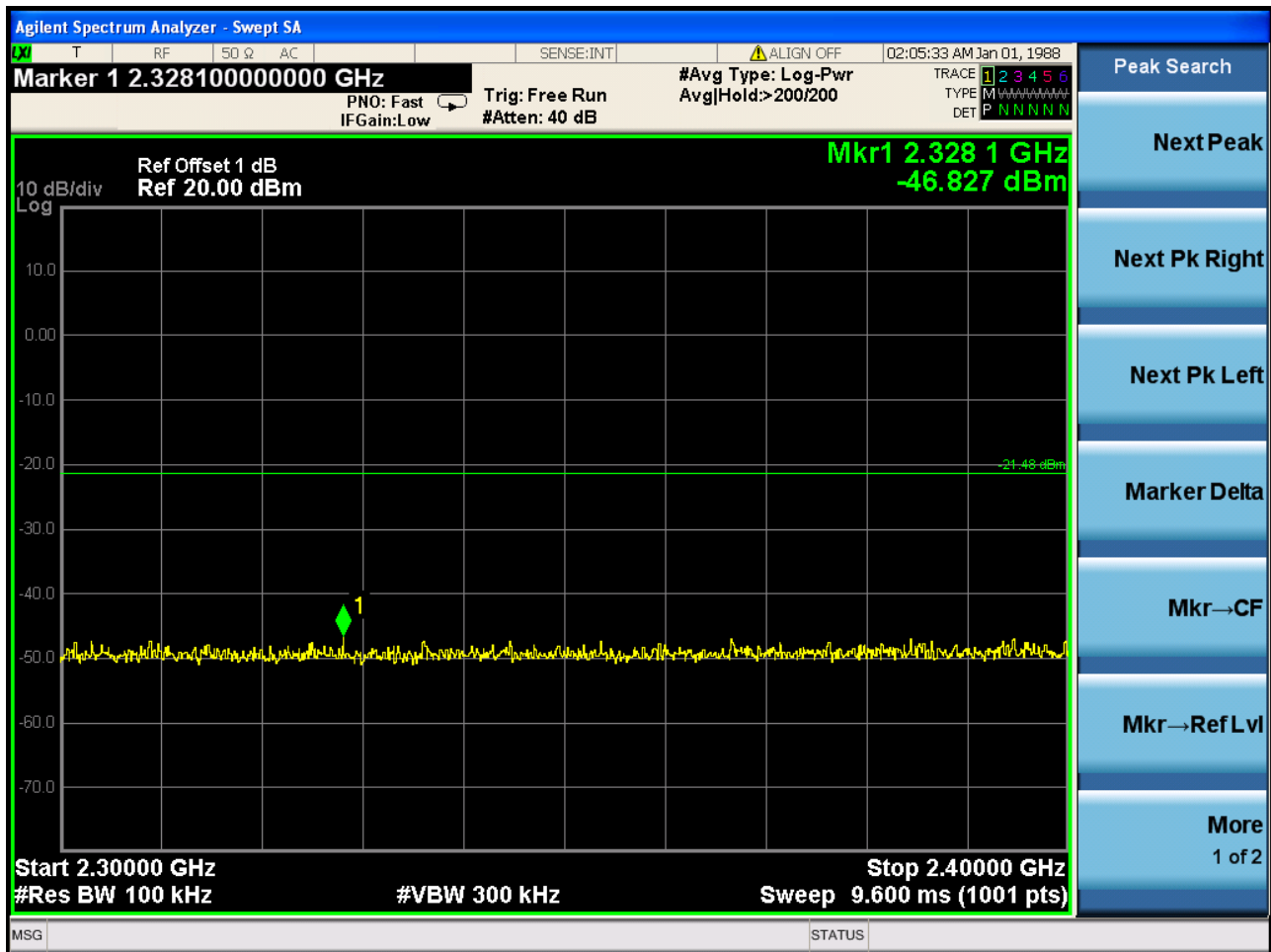


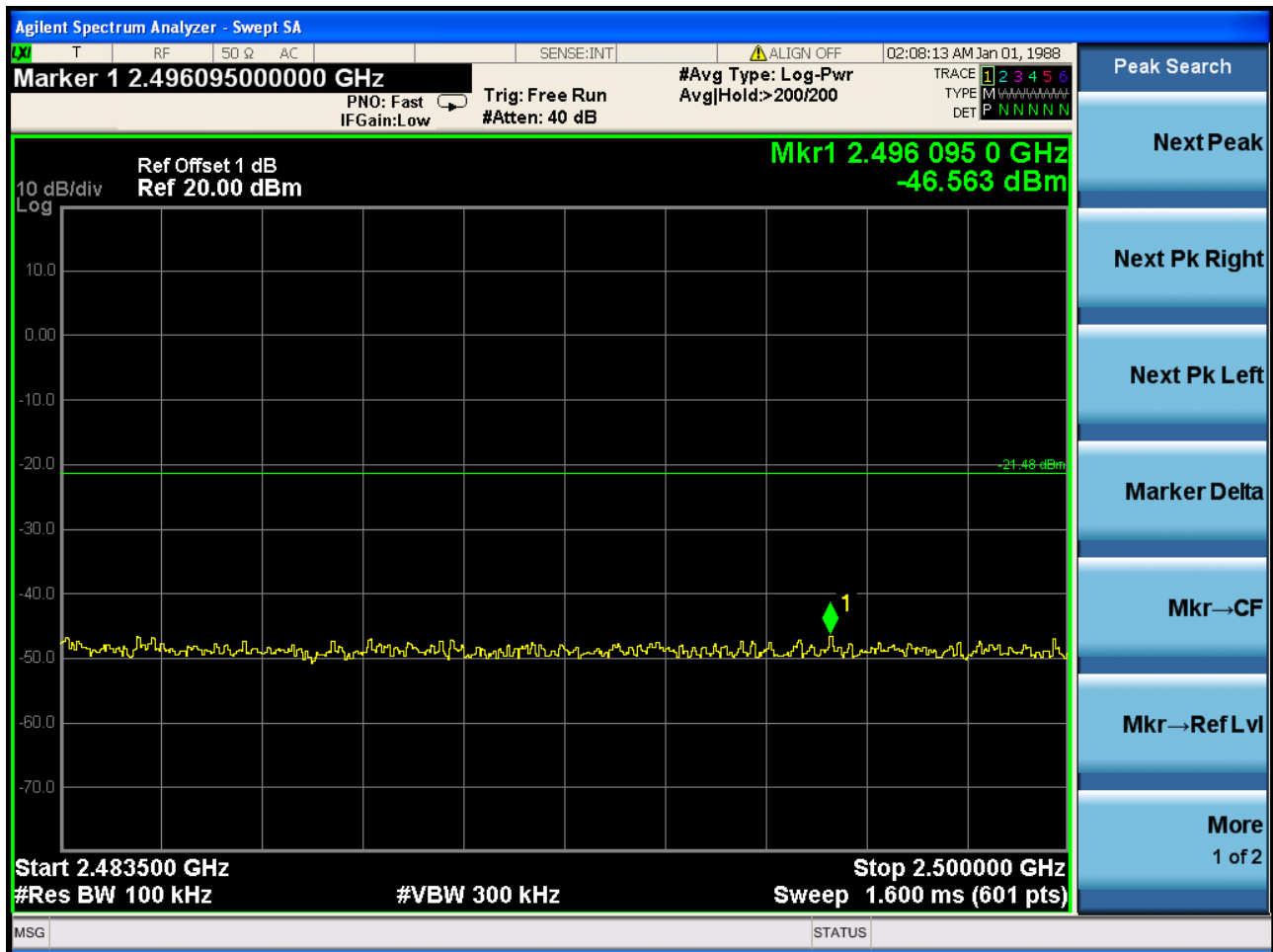


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4.8.1.1.5 802.11G_CH1



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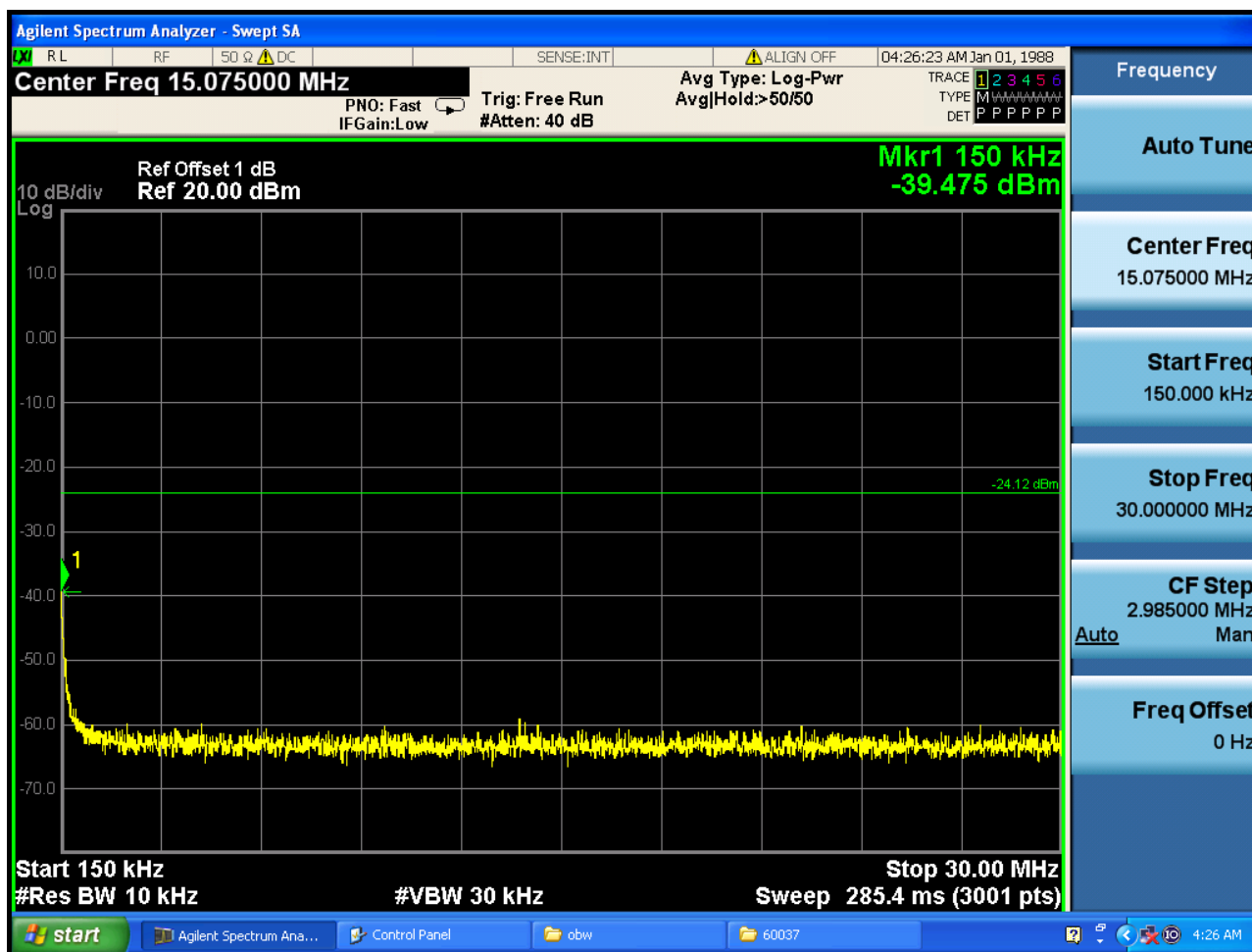
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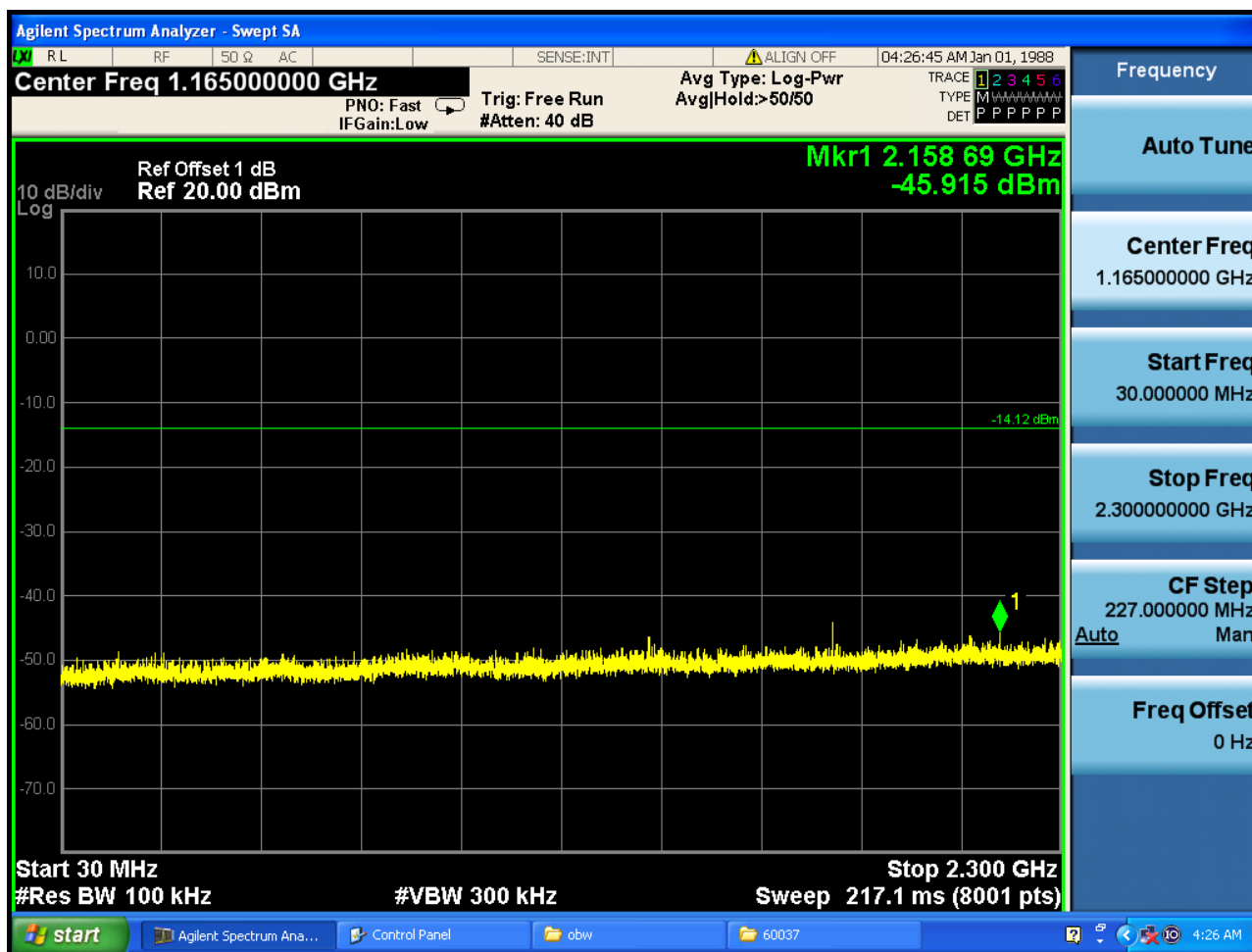
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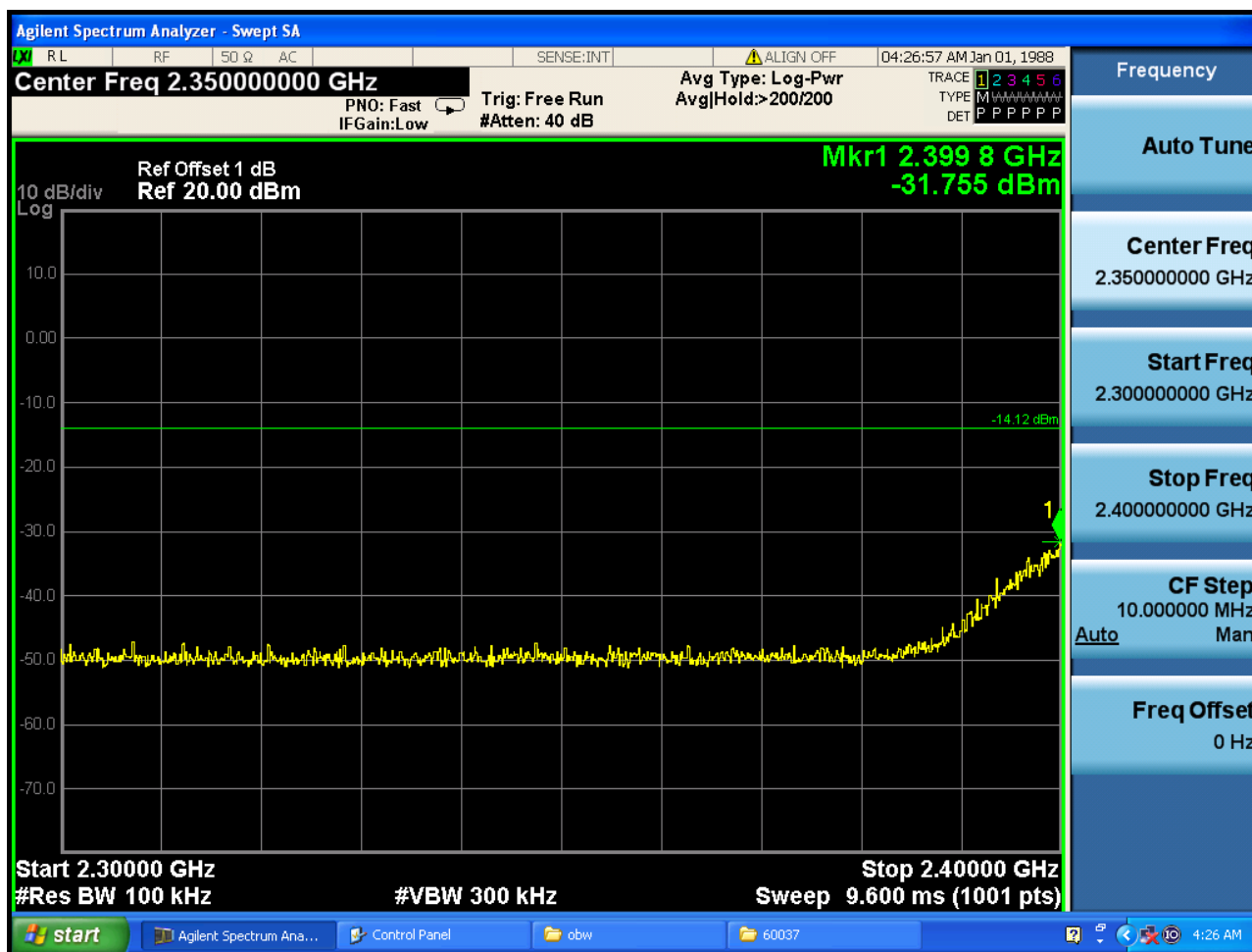


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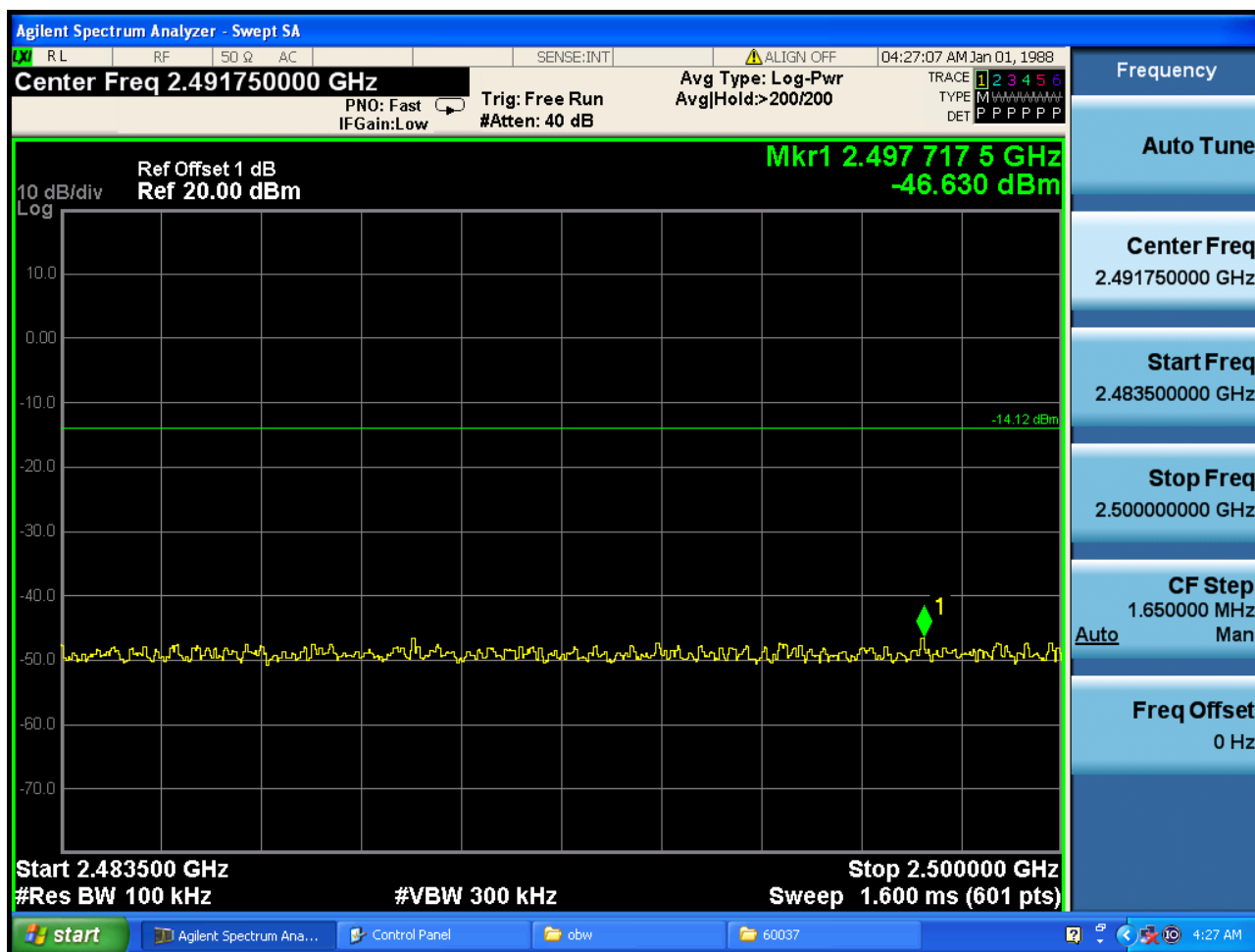
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