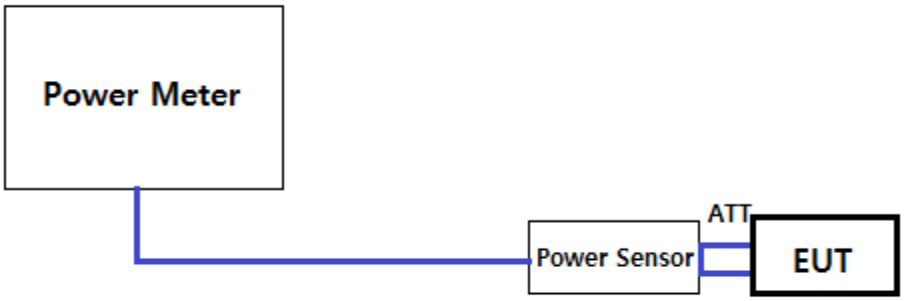
8.2 Maximum Peak Conducted Output Power

Test Requirements and limit, §15.247(b) & RSS-210 [A8.4]

The maximum permissible conducted output power is **1 Watt**.

▣ **TEST CONFIGURATION**



▣ **TEST PROCEDURE:**

1. **PKPM1 Peak power meter method of KDB558074 v03r1**
   The maximum conducted output powers were measured using a broadband peak RF power meter which has greater video bandwidth than DUT's DTS bandwidth and utilize a fast-responding diode detector.

2. **Method AVGPM-G (Measurement using a gated RF average power meter) of KDB558074 v03r1**
   The average conducted output powers were measured using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since this measurement is made only during the ON time of the transmitter, no duty cycle correction is required.

▣ **TEST RESULTS: Comply**

- **Measurement Data: Comply**

- **DC 12 V**

Mode	Channel	Frequency [MHz]	Detector	Test Result [dBm]							
				DATA RATE [Mbps]							
				1	2	5.5	11	N/A	N/A	N/A	N/A
802.11b	1	2412	PK	13.97	13.83	14.24	**14.59**	-	-	-	-
			AV	11.18	11.08	11.31	11.44				
	6	2437	PK	14.38	14.44	14.70	**15.00**	-	-	-	-
			AV	11.58	11.66	11.70	11.72				
	11	2462	PK	15.28	15.41	15.64	**15.94**	-	-	-	-
			AV	12.54	12.56	12.57	12.67				

Mode	Channel	Frequency [MHz]	Detector	Test Result [dBm]							
				DATA RATE [Mbps]							
				6	9	12	18	24	36	48	54
802.11g	1	2412	PK	17.84	17.93	17.96	18.15	18.28	18.24	18.49	**18.78**
			AV	7.24	7.23	7.29	7.48	7.60	7.83	8.12	8.29
	6	2437	PK	20.10	20.35	20.44	20.22	**20.46**	19.63	19.78	19.43
			AV	9.68	9.80	9.79	9.77	10.05	9.17	9.42	8.84
	11	2462	PK	18.63	18.67	18.61	18.79	18.60	18.81	19.04	**19.19**
			AV	8.14	8.16	8.07	8.12	8.17	8.41	8.61	8.65

Mode	Channel	Frequency [MHz]	Detector	Test Result [dBm]							
				DATA RATE [MCS]							
				0	1	2	3	4	5	6	7
802.11n (HT20)	1	2412	PK	18.30	18.18	18.14	18.10	18.23	18.47	18.72	**18.86**
			AV	7.71	7.46	7.45	7.61	7.75	7.94	8.15	8.30
	6	2437	PK	21.42	21.45	21.51	21.58	**21.64**	21.12	20.24	19.40
			AV	10.95	10.92	10.99	10.98	11.13	10.48	9.56	8.76
	11	2462	PK	18.55	18.49	18.40	18.58	18.52	18.84	18.94	**19.11**
			AV	7.76	7.70	7.65	7.82	7.96	8.09	8.22	8.50
802.11n (HT40)	3	2422	PK	18.56	18.43	18.56	19.80	19.90	18.72	18.84	**21.13**
			AV	7.45	7.47	7.58	7.71	7.88	7.95	8.07	8.15
	6	2437	PK	18.67	18.41	18.22	19.88	20.00	19.24	18.98	**21.37**
			AV	7.56	7.54	7.55	7.83	8.03	8.23	8.37	8.43
	9	2452	PK	18.21	18.40	18.53	19.43	19.65	18.44	18.60	**20.81**
			AV	7.17	7.30	7.56	7.62	7.79	7.81	8.00	8.05

- **Measurement Data: Comply**

- **DC 24 V**

Mode	Channel	Frequency [MHz]	Detector	Test Result [dBm]							
				DATA RATE [Mbps]							
				1	2	5.5	11	N/A	N/A	N/A	N/A
802.11b	1	2412	PK	14.02	13.97	14.12	**14.58**	-	-	-	-
			AV	11.20	11.23	11.30	11.39				
	6	2437	PK	14.54	14.52	14.59	**14.89**	-	-	-	-
			AV	11.65	11.71	11.71	11.74				
	11	2462	PK	15.19	15.37	15.52	**15.90**	-	-	-	-
			AV	12.42	12.46	12.58	12.65	-	-	-	-

Mode	Channel	Frequency [MHz]	Detector	Test Result [dBm]							
				DATA RATE [Mbps]							
				6	9	12	18	24	36	48	54
802.11g	1	2412	PK	17.83	17.84	17.94	18.09	18.23	18.11	18.27	**18.55**
			AV	7.19	7.27	7.30	7.32	7.59	7.69	7.93	8.15
	6	2437	PK	19.96	20.26	20.40	20.41	**20.52**	19.72	19.86	19.56
			AV	9.42	9.71	9.76	9.71	10.14	9.05	9.44	9.03
	11	2462	PK	18.67	18.79	18.76	18.80	18.72	18.85	18.95	**19.04**
			AV	8.19	8.28	8.29	8.20	8.23	8.33	8.54	8.59

Mode	Channel	Frequency [MHz]	Detector	Test Result [dBm]							
				DATA RATE [MCS]							
				0	1	2	3	4	5	6	7
802.11n (HT20)	1	2412	PK	18.13	18.11	18.22	18.17	18.19	18.33	18.61	**18.73**
			AV	7.74	7.58	7.46	7.59	7.62	7.97	8.18	8.21
	6	2437	PK	21.32	21.41	21.45	21.51	**21.58**	21.08	20.30	19.43
			AV	10.86	10.95	10.99	11.03	11.14	10.43	9.73	8.69
	11	2462	PK	18.74	18.63	18.46	18.82	18.69	18.91	18.89	**19.00**
			AV	7.77	7.68	7.72	7.78	7.82	7.98	8.17	8.48
802.11n (HT40)	3	2422	PK	18.38	18.40	18.64	19.70	19.93	18.85	18.99	**21.22**
			AV	7.33	7.38	7.43	7.65	7.85	7.98	8.16	8.18
	6	2437	PK	18.77	18.59	18.47	19.87	19.91	19.22	19.21	**21.47**
			AV	7.57	7.51	7.60	7.88	7.98	8.29	8.30	8.41
	9	2452	PK	18.08	18.42	18.43	19.40	19.67	18.50	18.63	**20.62**
			AV	7.09	7.26	7.44	7.53	7.89	7.94	8.12	8.13

8.3 Maximum Power Spectral Density

Test requirements and limit, §15.247(e) & RSS-210 [A8.2]

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

Minimum Standard –specifies a conducted power spectral density (PSD) limit of 8 dBm in any 3 kHz band segment within the fundamental EBW during any time interval of continuous transmission.

▣ TEST CONFIGURATION

Refer to the APPENDIX I.

▣ TEST PROCEDURE:

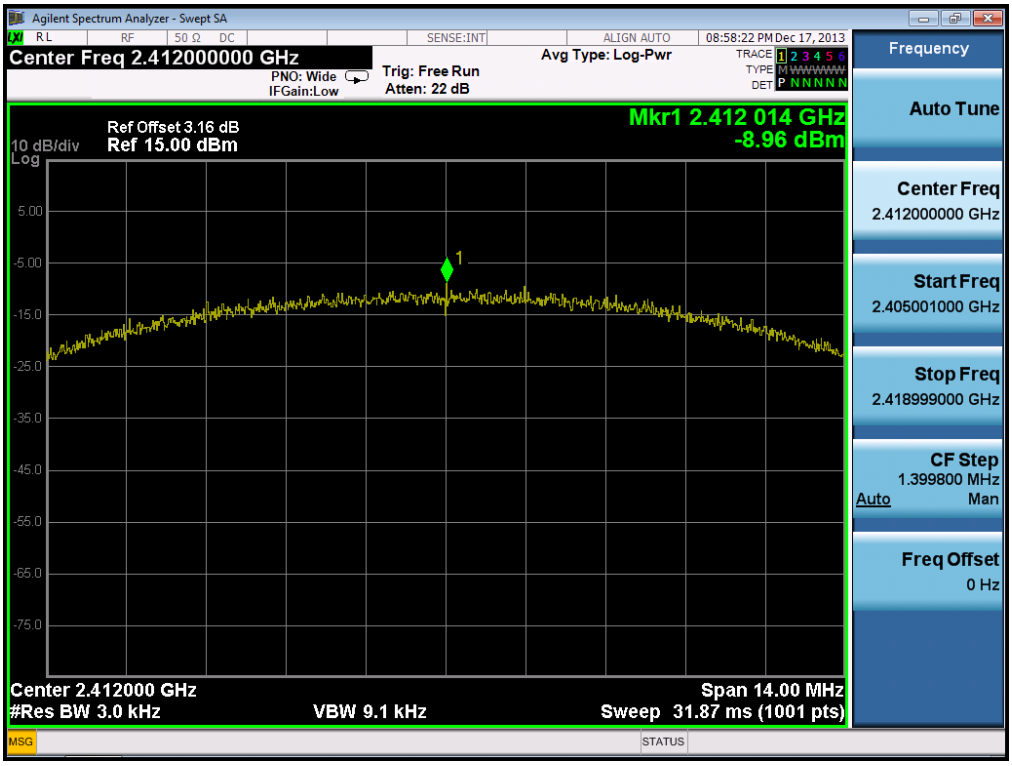
The Measurement Procedure **Method PKPSD of KDB558074 v03r1** is used.
1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to **1.5 times** the DTS bandwidth.
3. Set the RBW to: **3 kHz ≤ RBW ≤ 100 kHz**.
4. Set the VBW ≥ **3 x RBW.**
5. Detector = **peak.**
6. Sweep time = **auto couple.**
7. Trace mode = **max hold.**
8. Allow trace to fully stabilize.
9. Use the **peak marker function** to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

▣ TEST RESULTS: Comply

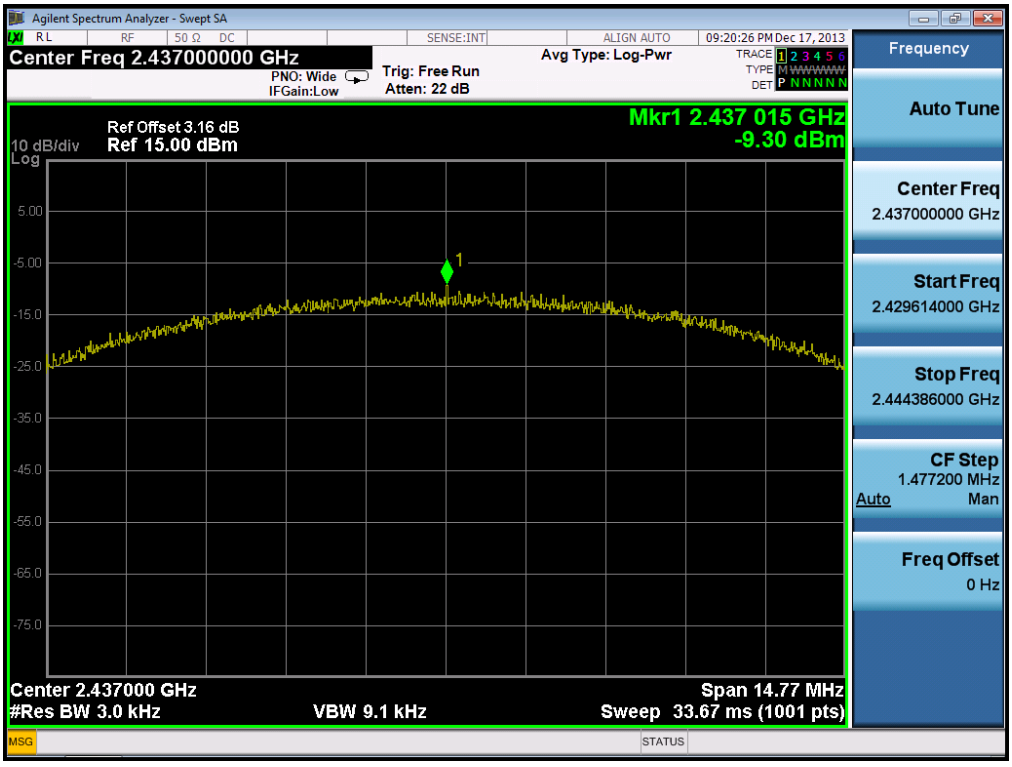
Test Mode	Data Rate	Frequency [MHz]	RBW	PKPSD [dBm]	
				DC 12 V	DC 24 V
802.11b	11Mbps	2412	3 kHz	- 8.96	- 9.17
	11Mbps	2437	3 kHz	- 9.30	- 9.31
	11Mbps	2462	3 kHz	- 9.16	- 9.12
802.11g	54Mbps	2412	3 kHz	- 14.93	- 15.52
	24Mbps	2437	3 kHz	- 13.76	- 12.63
	54Mbps	2462	3 kHz	- 15.97	- 15.42
802.11n (HT20)	MCS 7	2412	3 kHz	- 15.23	- 15.84
	MCS 4	2437	3 kHz	- 12.77	- 12.32
	MCS 7	2462	3 kHz	- 14.59	- 16.68
802.11n (HT40)	MCS 7	2422	3 kHz	- 17.01	- 17.05
	MCS 7	2437	3 kHz	- 18.65	- 18.21
	MCS 7	2452	3 kHz	- 18.62	- 18.73

▣RESULT PLOTS

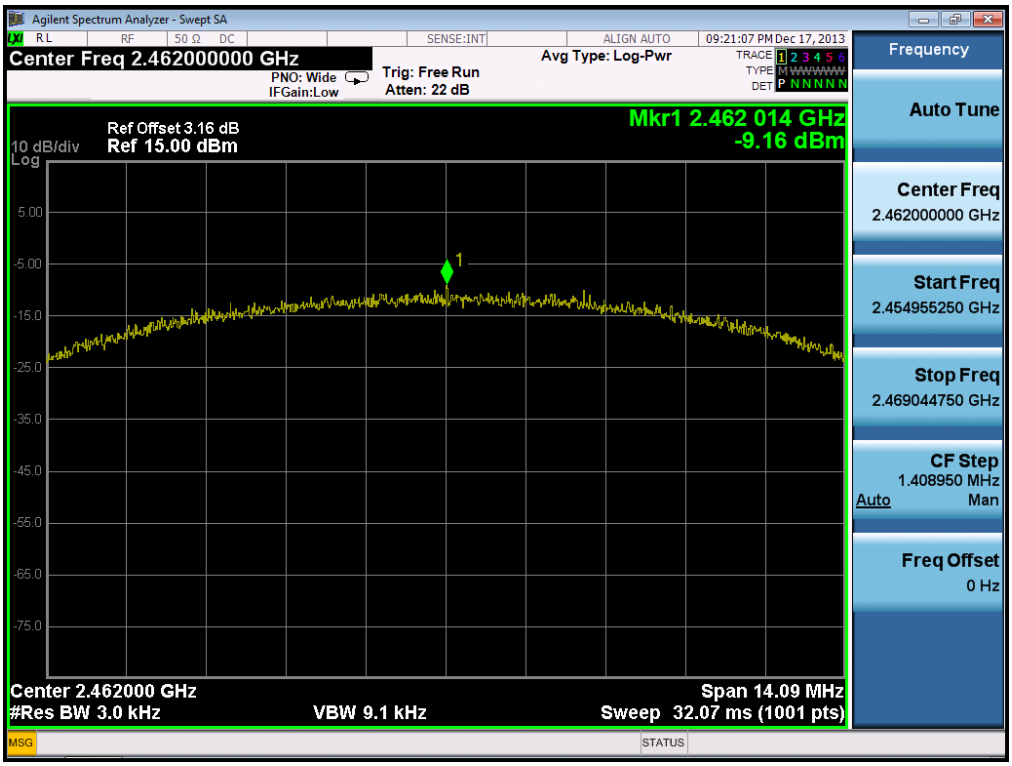
Maximum PPSD Test Mode: DC 12 V & 802.11b & 11Mbps & 2412MHz



Maximum PPSD Test Mode: DC 12 V & 802.11b & 11Mbps & 2437MHz

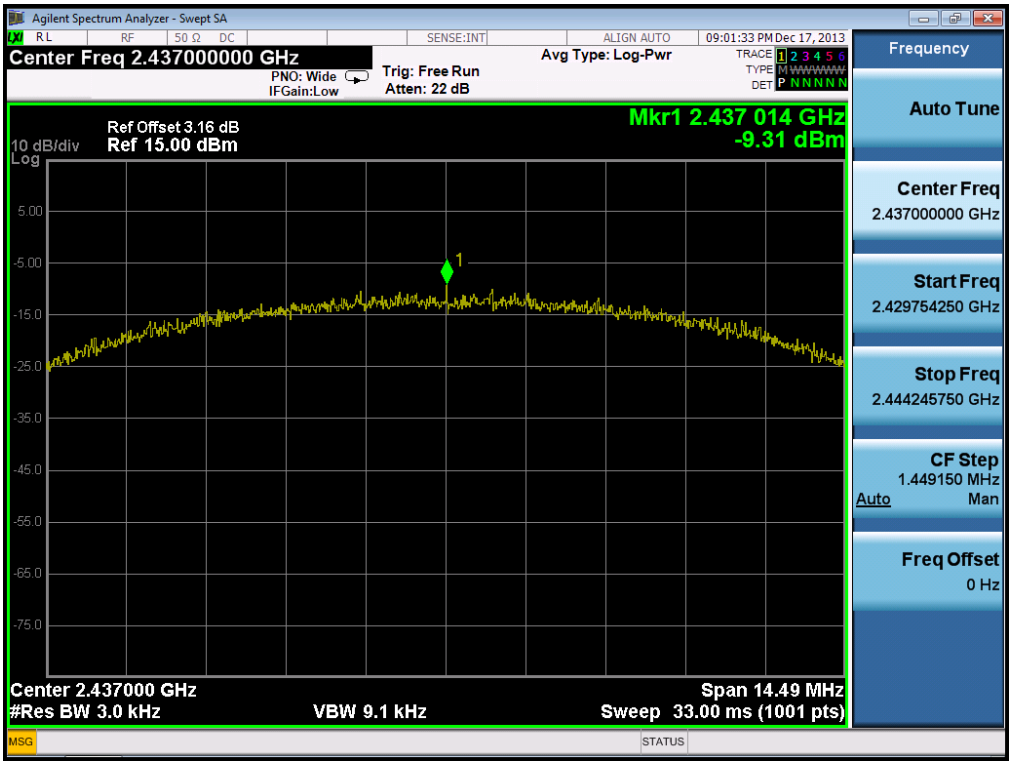


Maximum PPSD Test Mode: DC 12 V & 802.11b & 11Mbps & 2462MHz

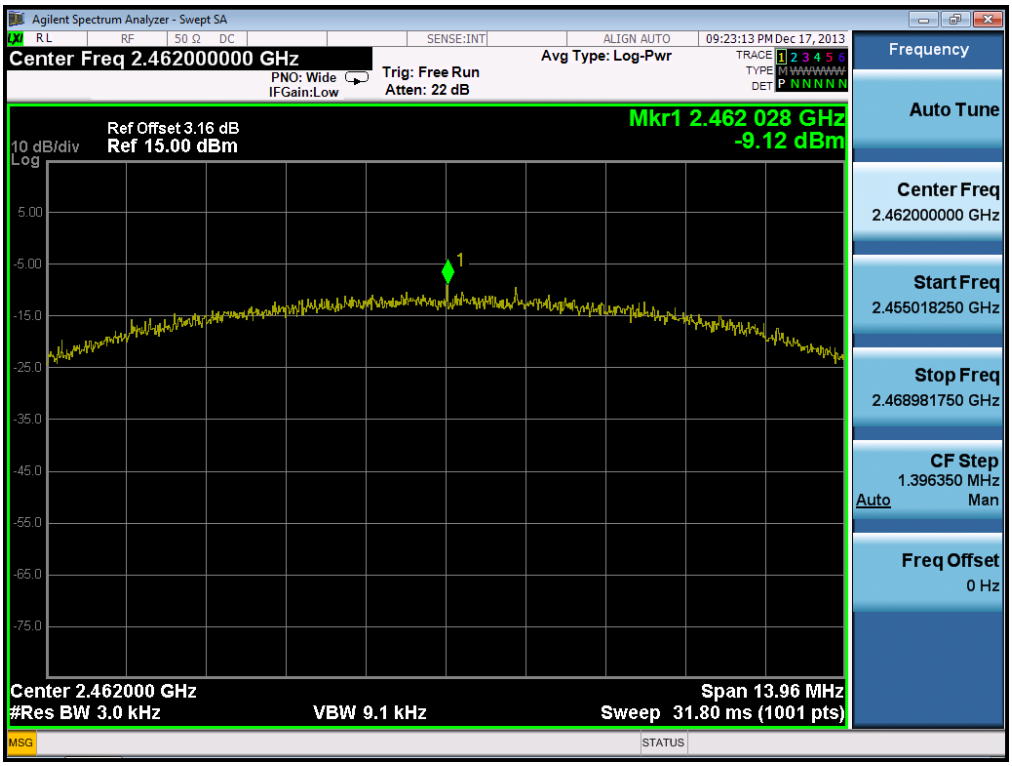


Maximum PPSD Test Mode: DC 24 V & 802.11b & 11Mbps & 2412MHz

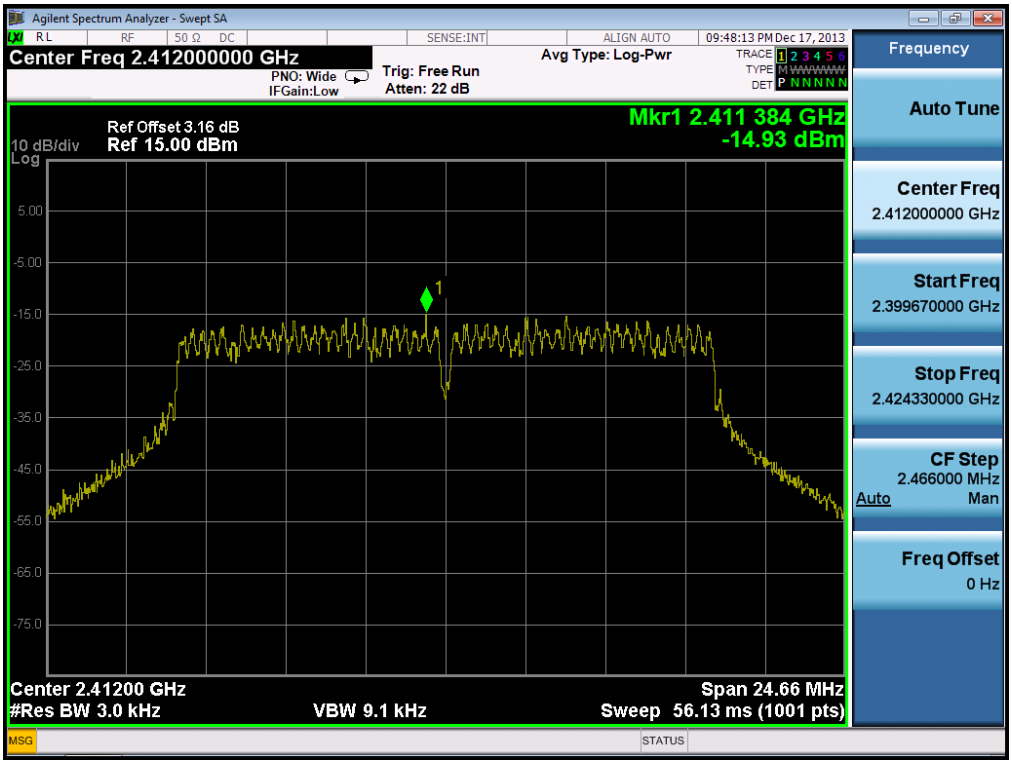
Maximum PPSD Test Mode: DC 24 V & 802.11b & 11Mbps & 2437MHz



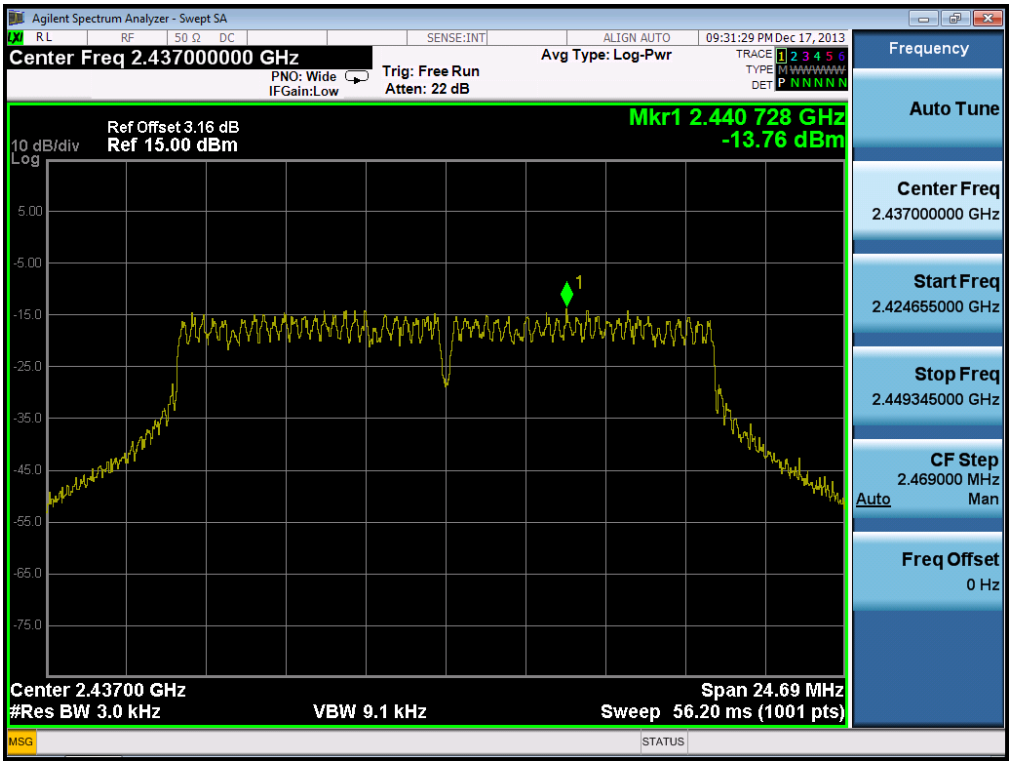
Maximum PPSD Test Mode: DC 24 V & 802.11b & 11Mbps & 2462MHz



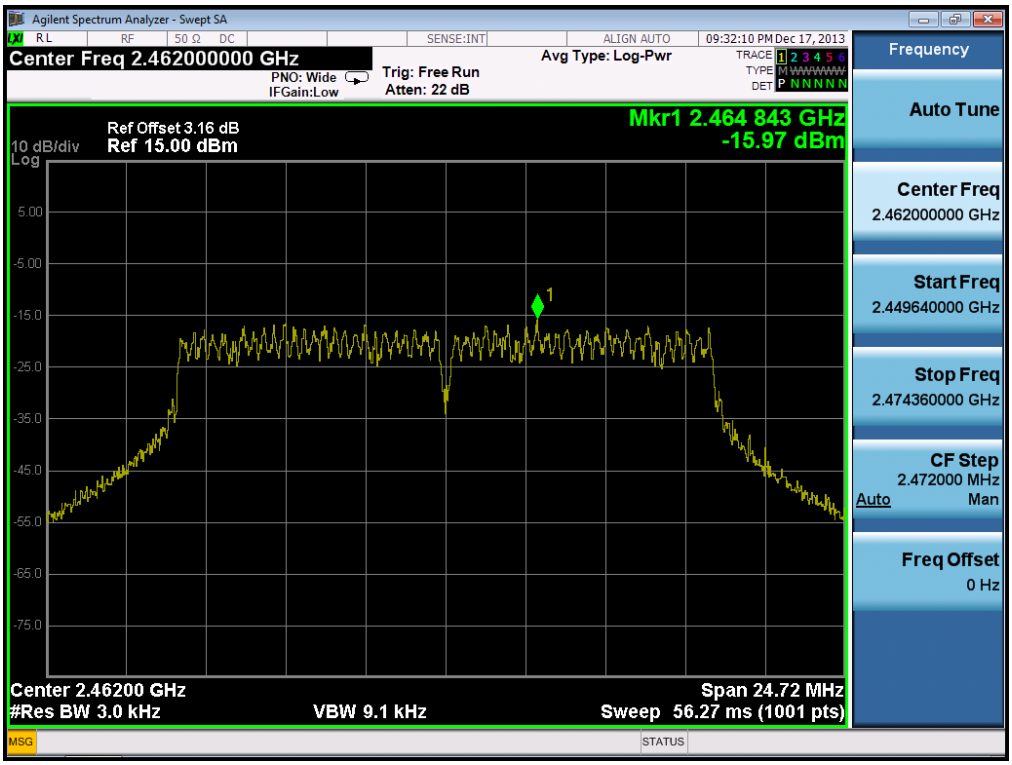
Maximum PPSD Test Mode: DC 12 V & 802.11g & 54Mbps & 2412MHz



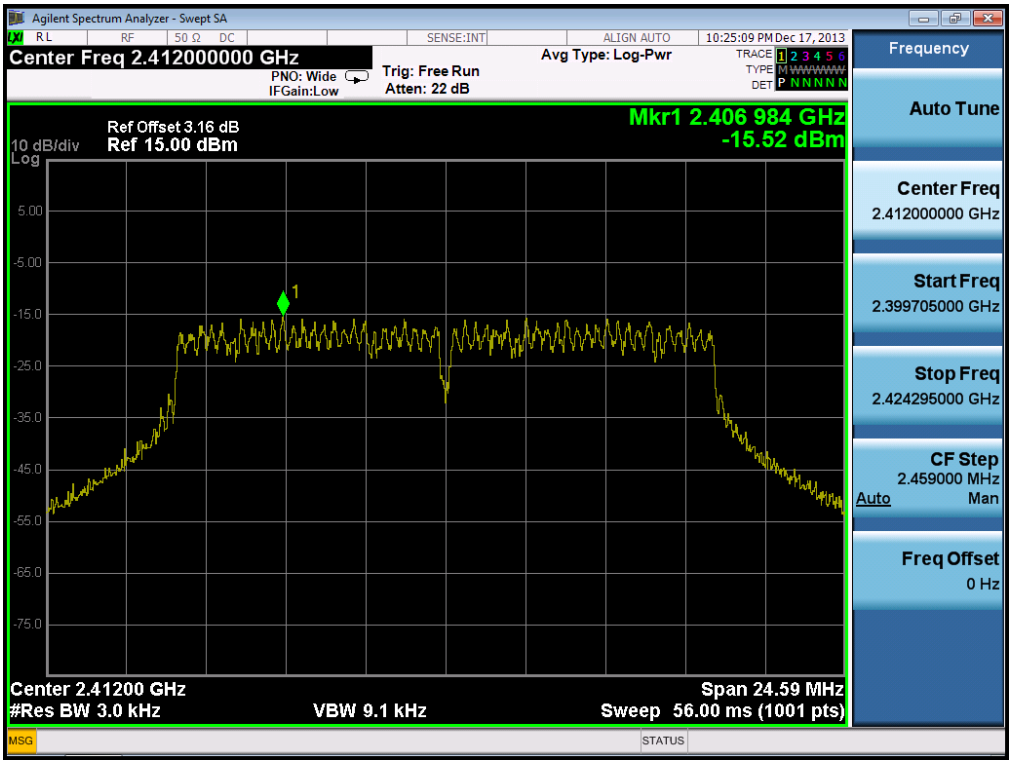
Maximum PPSD Test Mode: DC 12 V & 802.11g & 24Mbps & 2437MHz



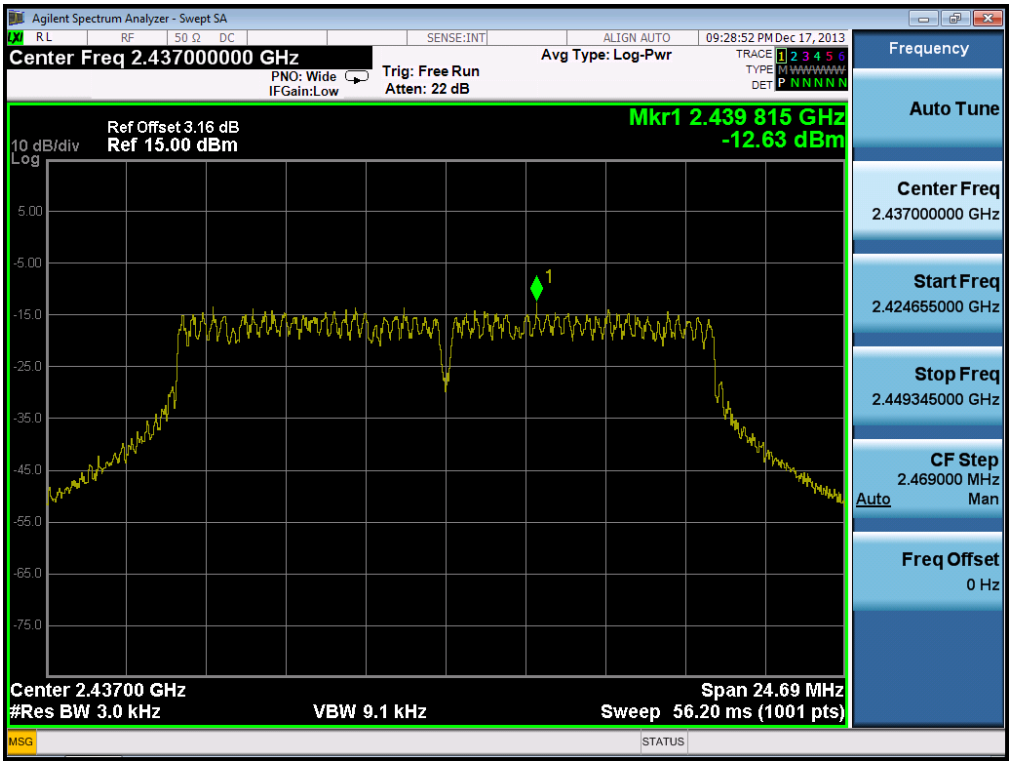
Maximum PPSD Test Mode: DC 12 V & 802.11g & 54Mbps & 2462MHz



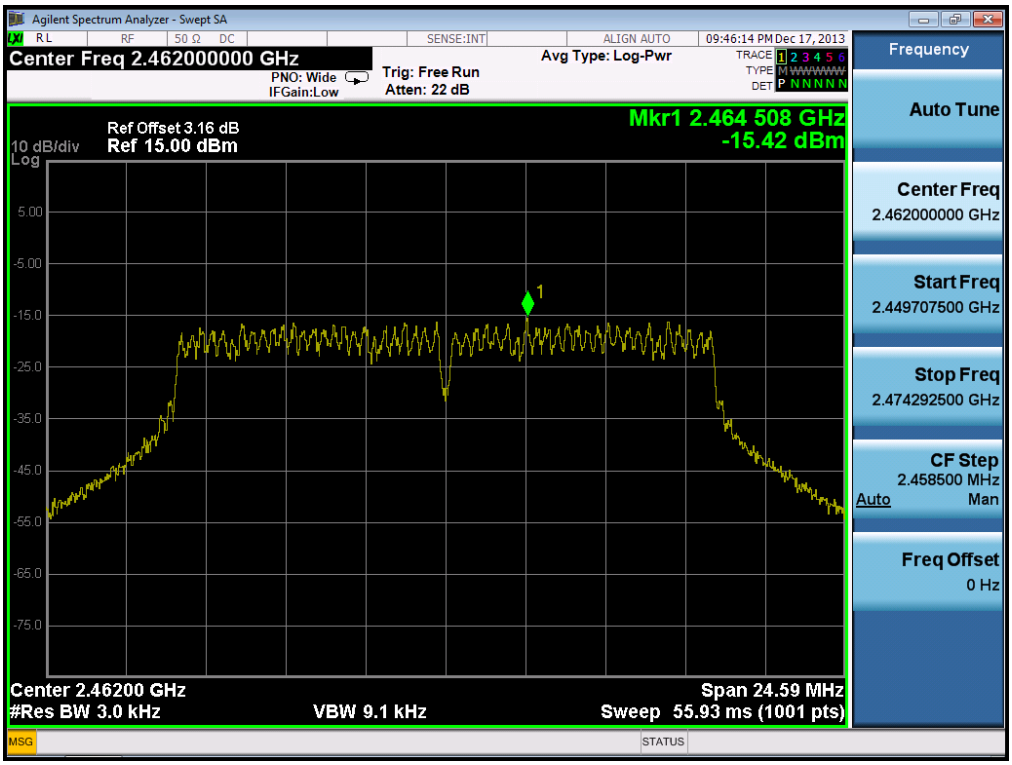
Maximum PPSD Test Mode: DC 24 V & 802.11g & 54Mbps & 2412MHz



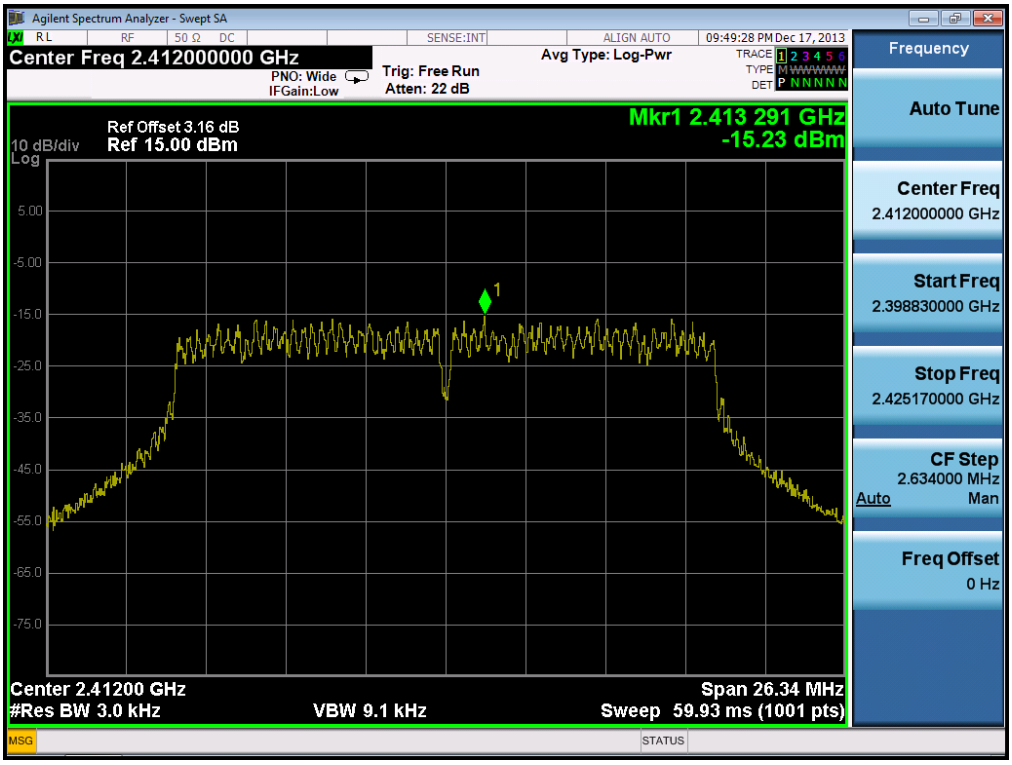
Maximum PPSD Test Mode: DC 24 V & 802.11g & 24Mbps & 2437MHz



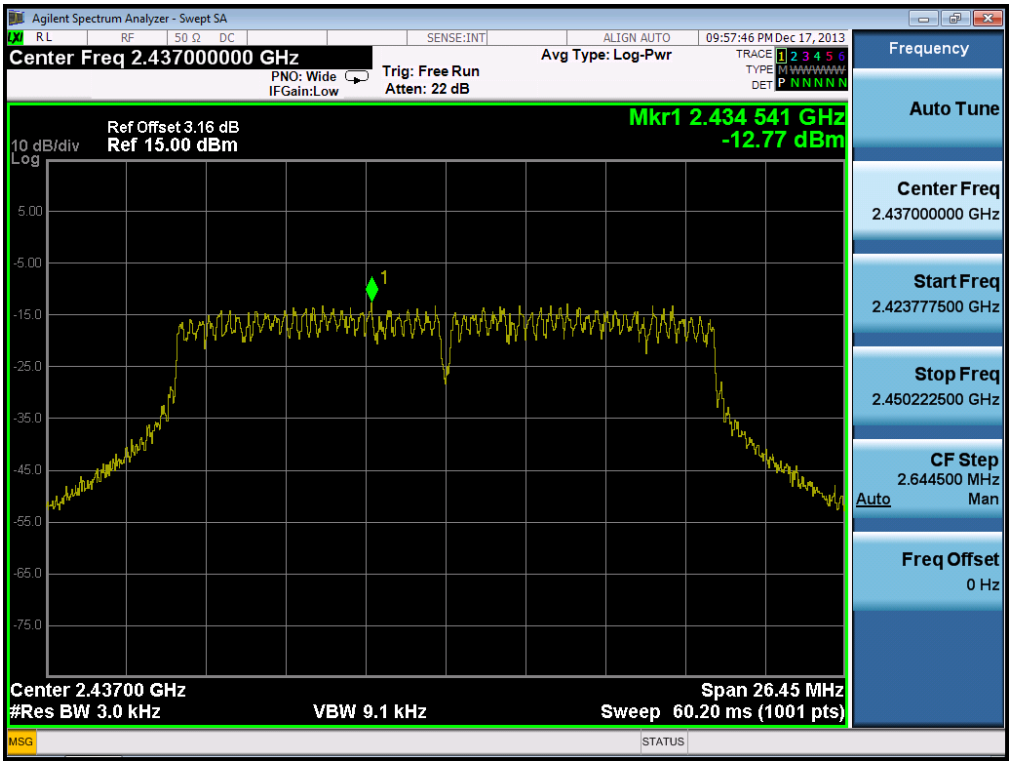
Maximum PPSD Test Mode: DC 24 V & 802.11g & 54Mbps & 2462MHz



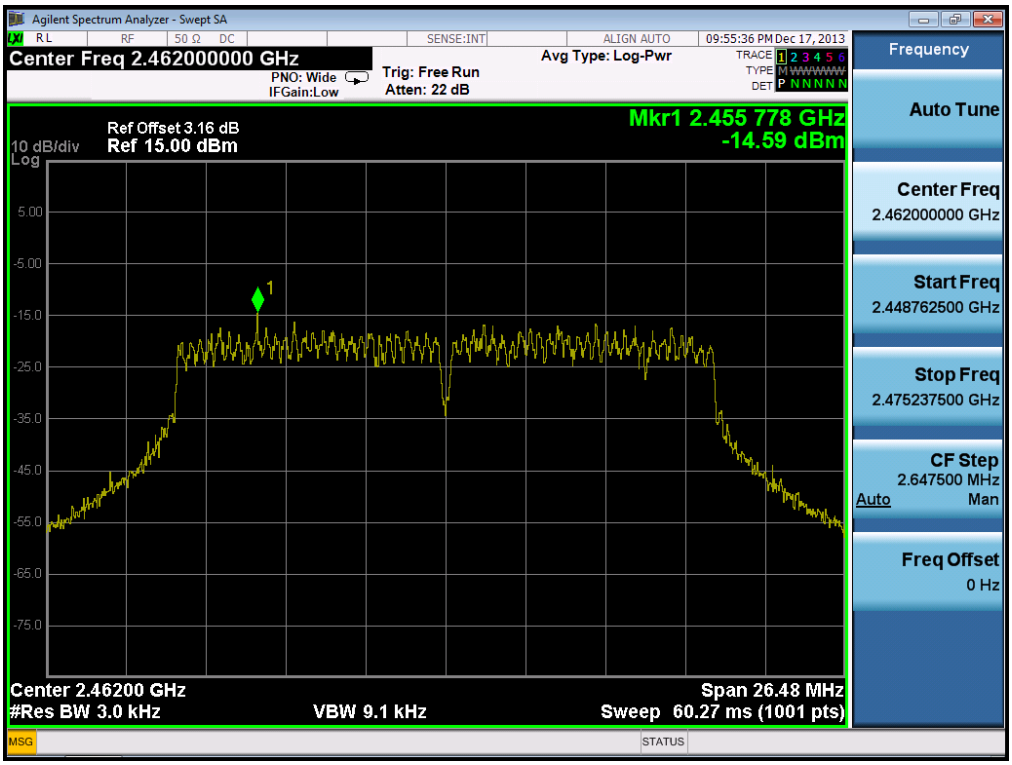
Maximum PPSD Test Mode: DC 12 V & 802.11n HT20 & MCS 7 & 2412MHz



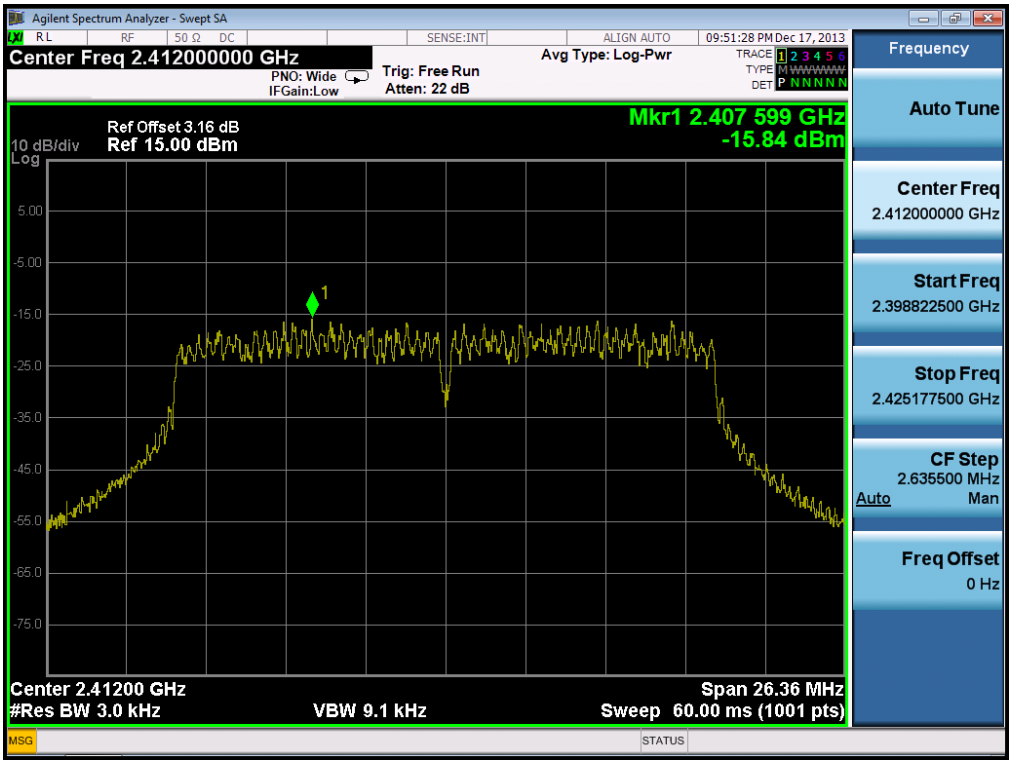
Maximum PPSD Test Mode: DC 12 V & 802.11n HT20 & MCS 4 & 2437MHz



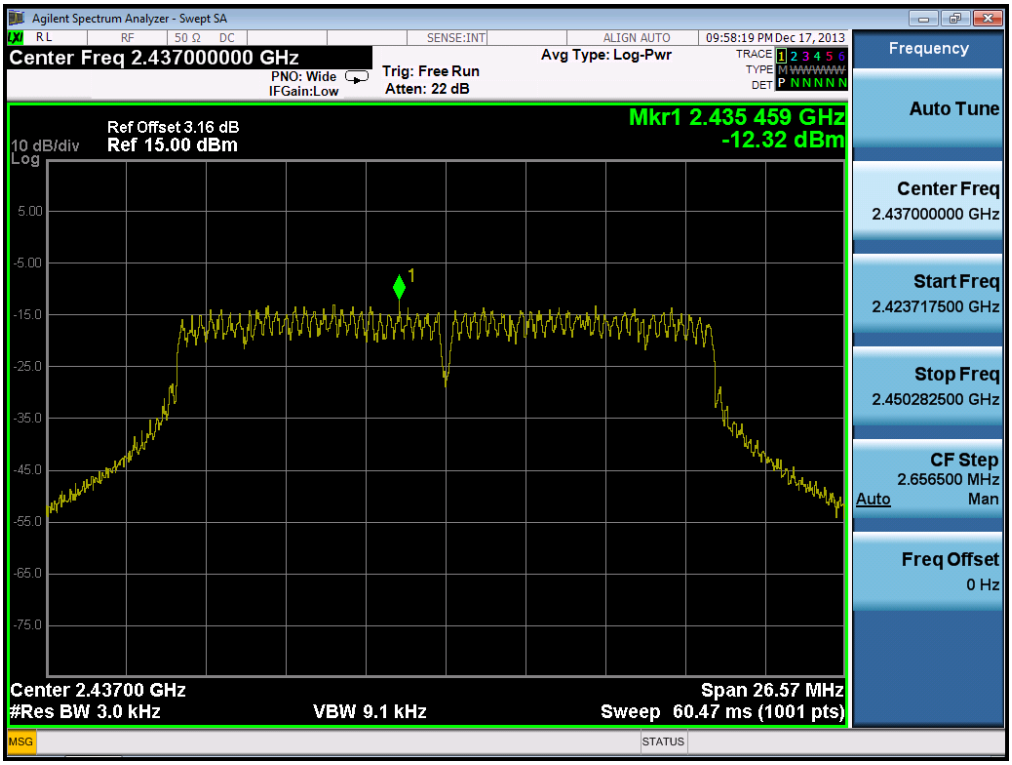
Maximum PPSD Test Mode: DC 12 V & 802.11n HT20 & MCS 7 & 2462MHz



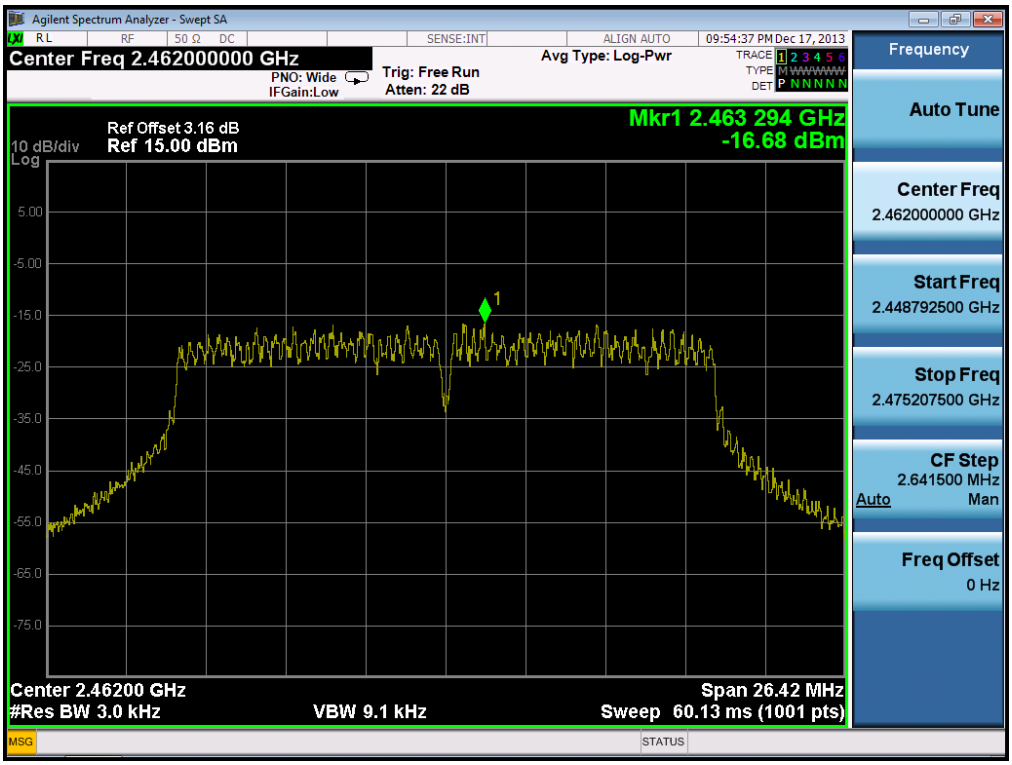
Maximum PPSD Test Mode: DC 24 V & 802.11n HT20 & MCS 7 & 2412MHz



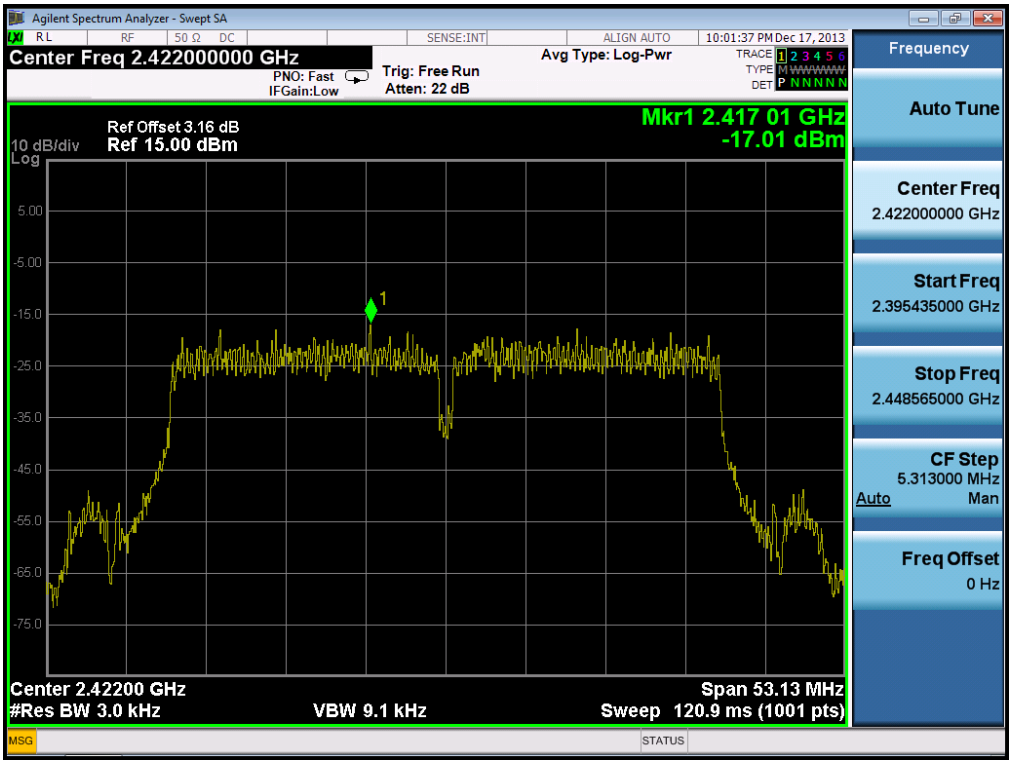
Maximum PPSD Test Mode: DC 24 V & 802.11n HT20 & MCS 4 & 2437MHz



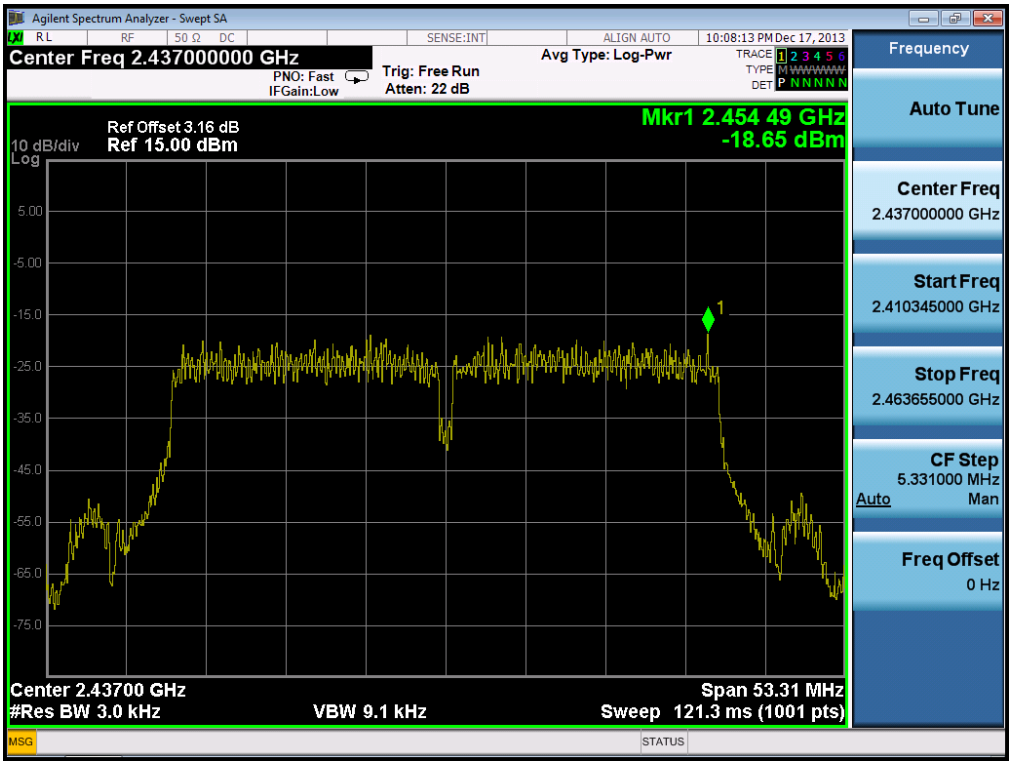
Maximum PPSD Test Mode: DC 24 V & 802.11n HT20 & MCS 7 & 2462MHz



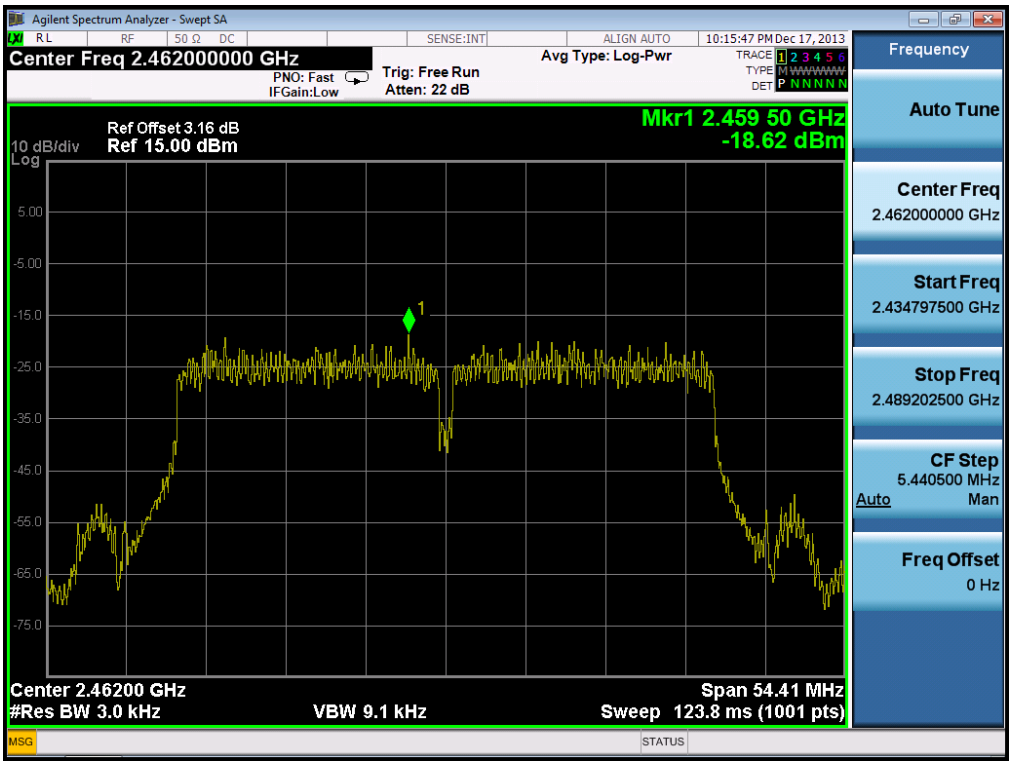
Maximum PPSD Test Mode: DC 12 V & 802.11n HT40 & MCS 7 & 2422MHz



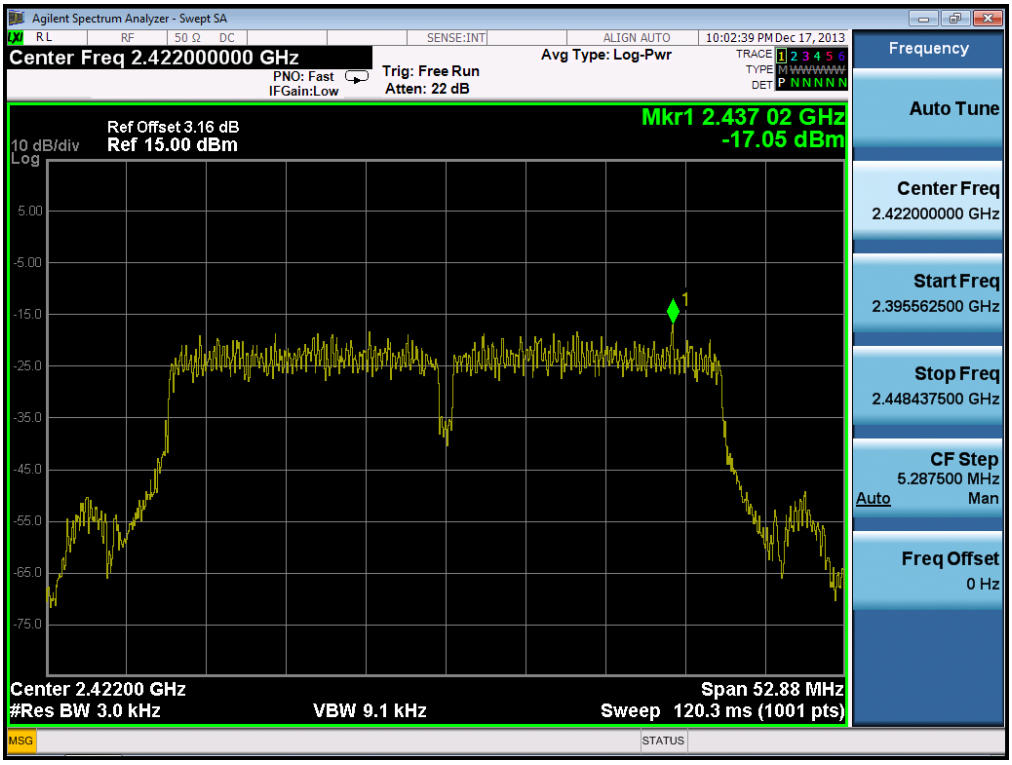
Maximum PPSD Test Mode: DC 12 V & 802.11n HT40 & MCS 7 & 2437MHz



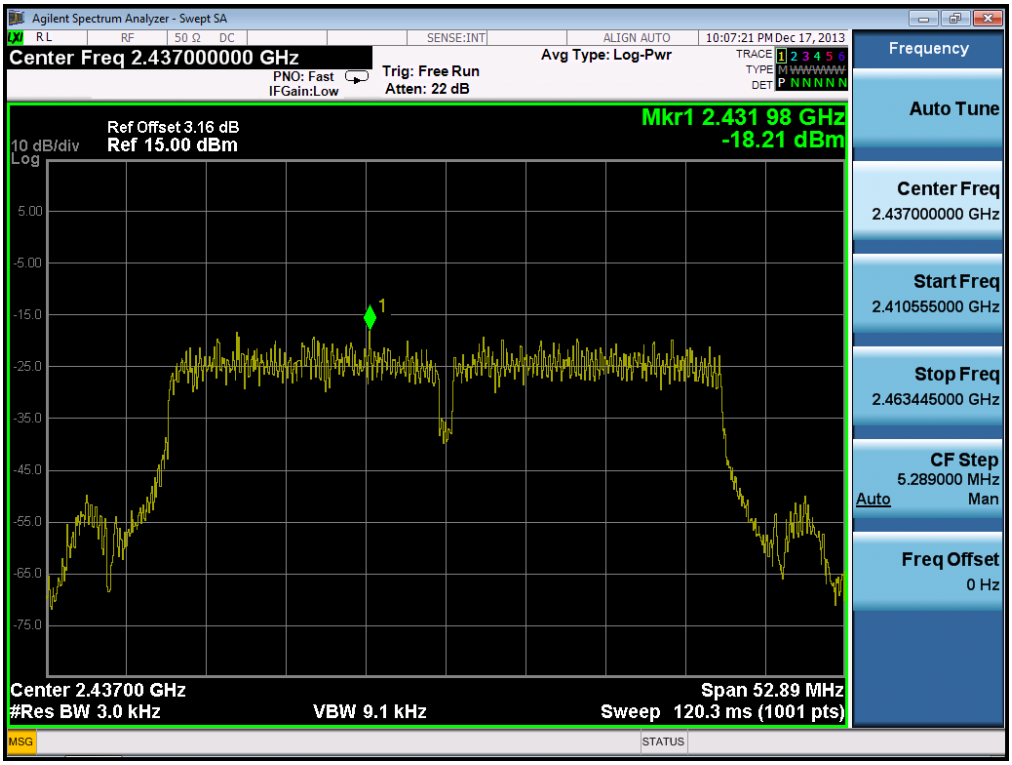
Maximum PPSD Test Mode: DC 12 V & 802.11n HT40 & MCS 7 & 2452MHz



Maximum PPSD Test Mode: DC 24 V & 802.11n HT40 & MCS 7 & 2422MHz



Maximum PPSD Test Mode: DC 24 V & 802.11n HT40 & MCS 7 & 2437MHz



Maximum PPSD Test Mode: DC 24 V & 802.11n HT40 & MCS 7 & 2452MHz