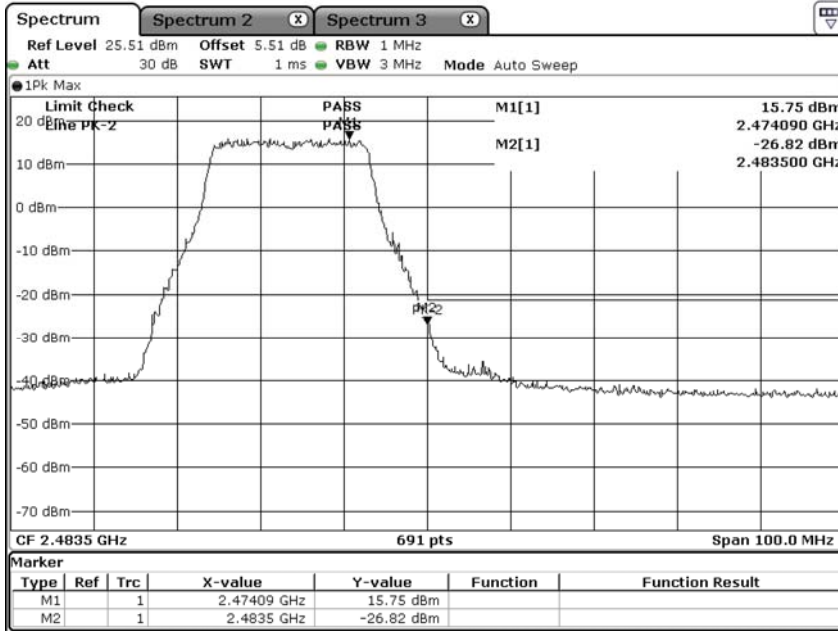


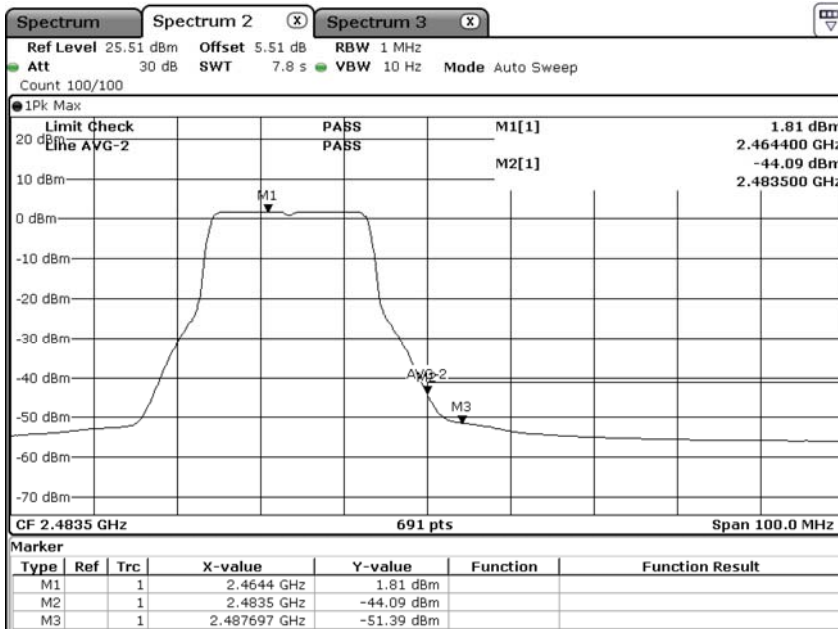
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2467MHz)
 Test Date : 2020/11/19

Peak: - Chain B



Date: 13.NOV.2020 14:42:58

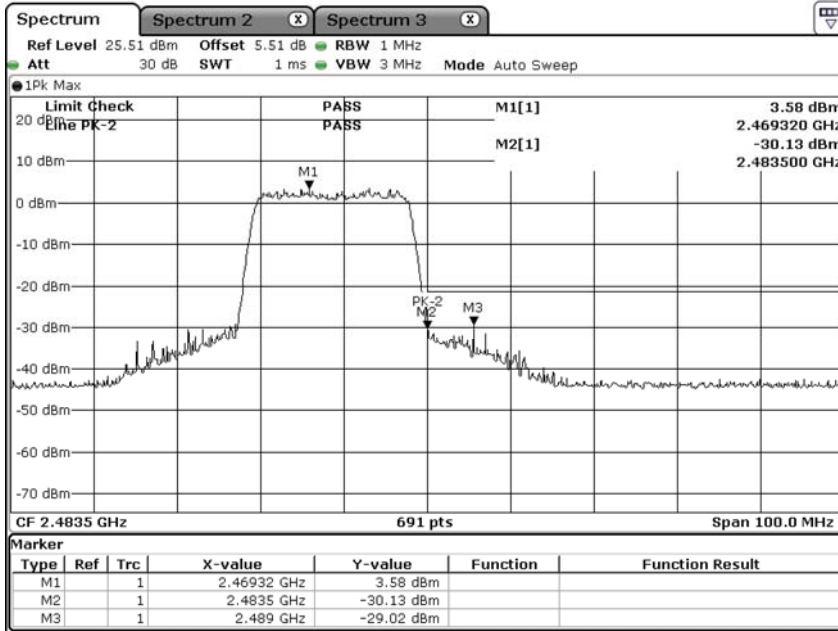
Average: - Chain B



Date: 13.NOV.2020 14:42:26

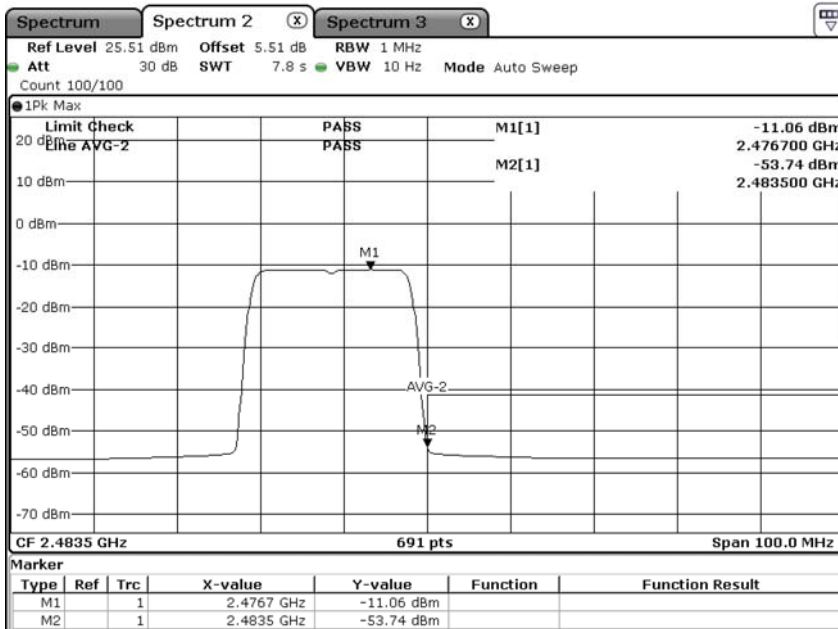
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2472MHz)
 Test Date : 2020/11/19

Peak: - Chain A



Date: 13.NOV.2020 14:56:32

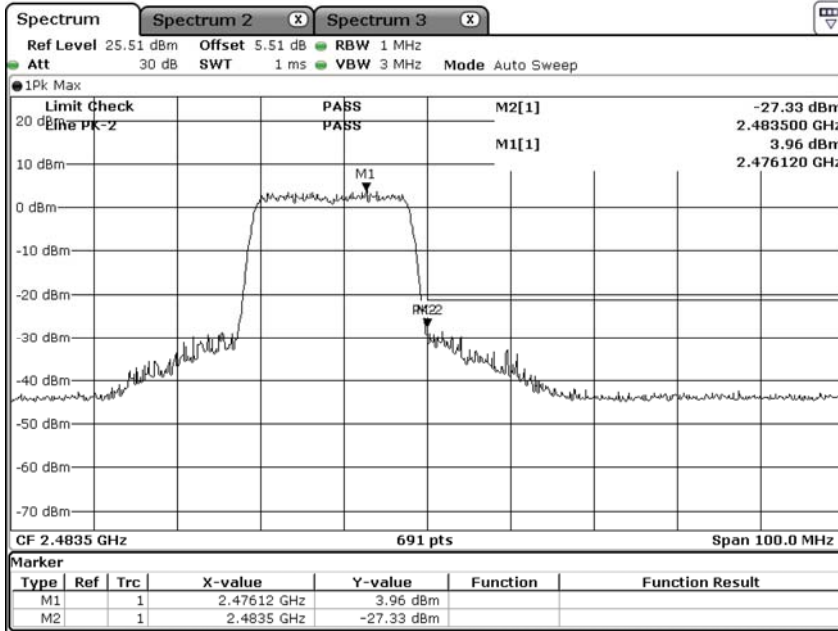
Average: - Chain A



Date: 13.NOV.2020 14:55:55

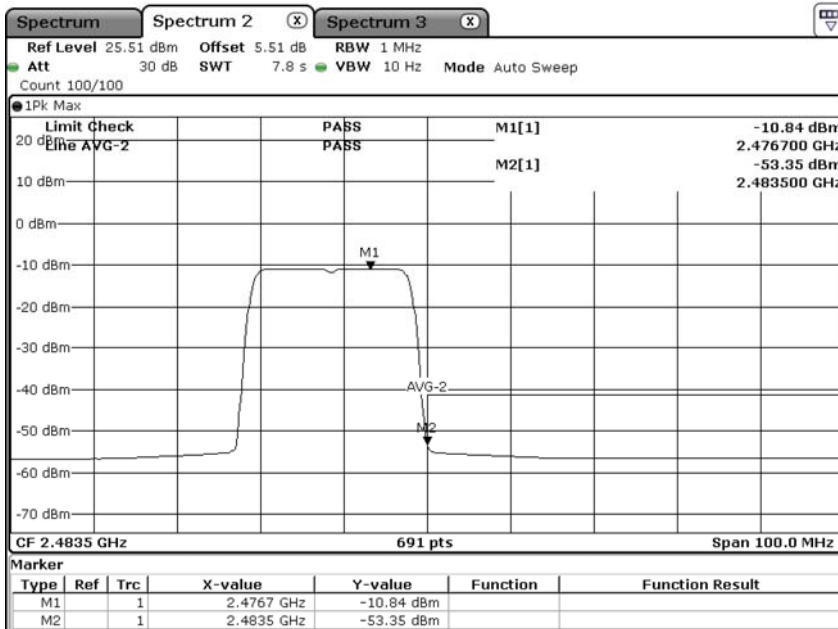
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2472MHz)
 Test Date : 2020/11/19

Peak: - Chain B



Date: 13.NOV.2020 14:58:40

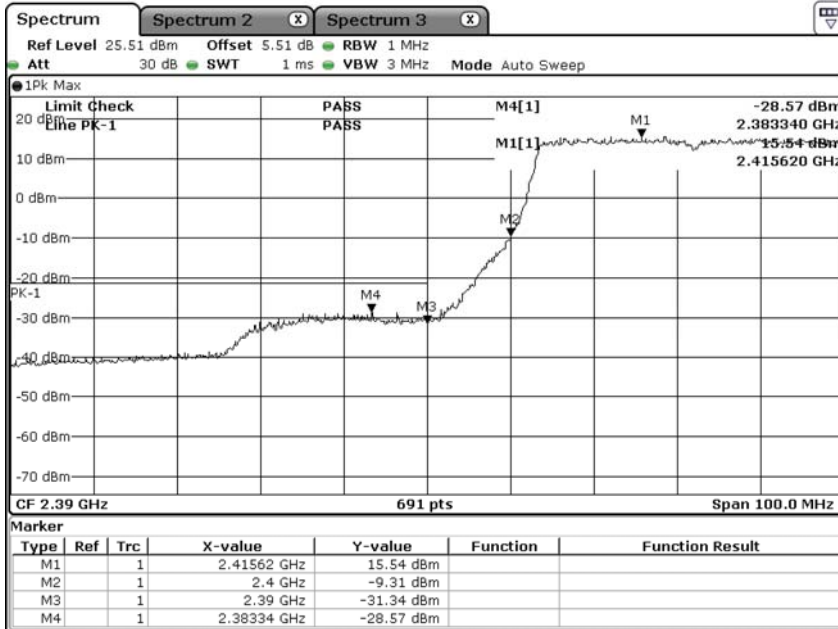
Average: - Chain B



Date: 13.NOV.2020 14:59:23

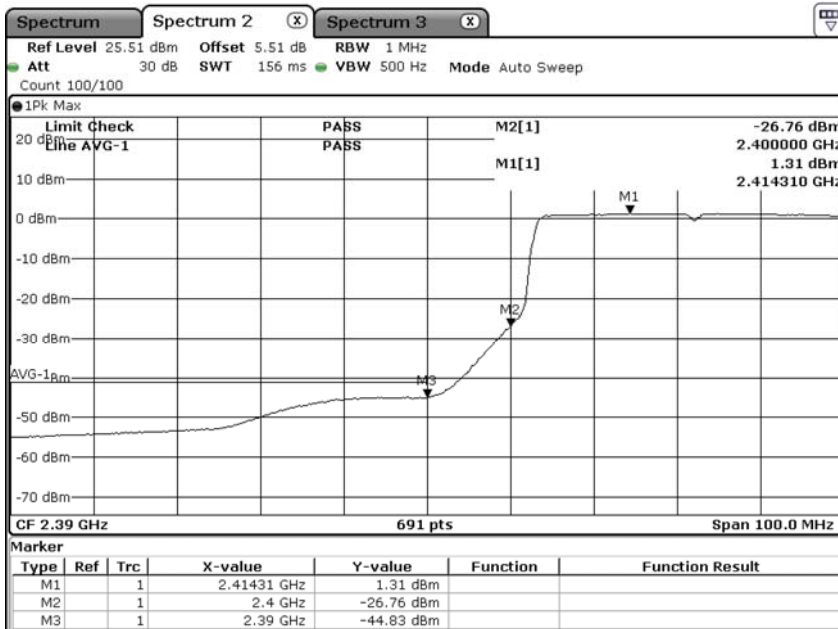
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2422MHz)
 Test Date : 2020/11/19

Peak: - Chain A



Date: 13.NOV.2020 16:26:14

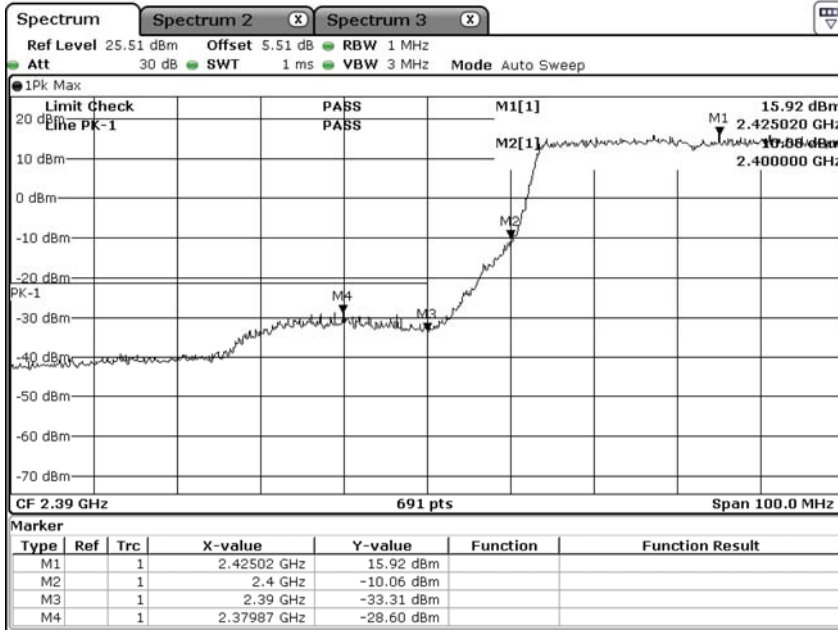
Average: - Chain A



Date: 13.NOV.2020 17:23:10

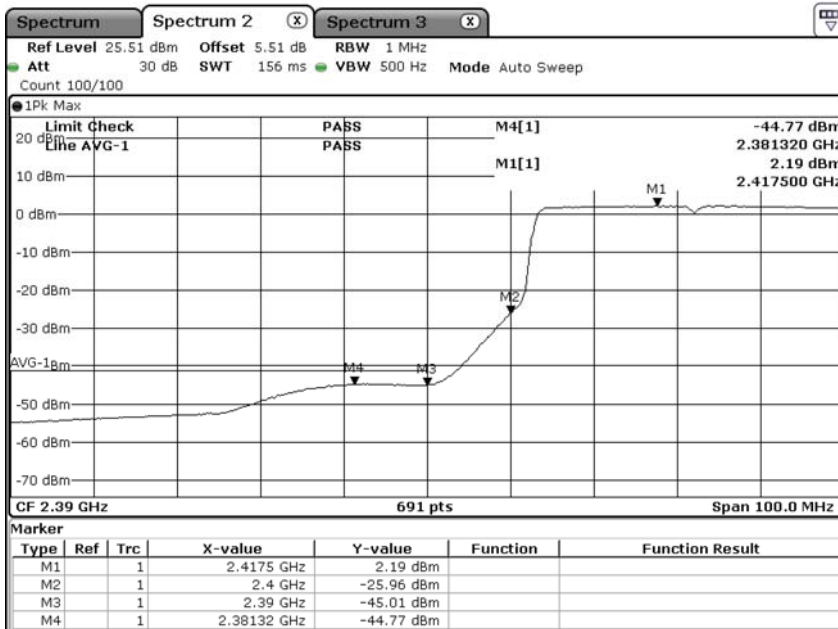
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2422MHz)
 Test Date : 2020/11/19

Peak: - Chain B



Date: 13.NOV.2020 17:24:50

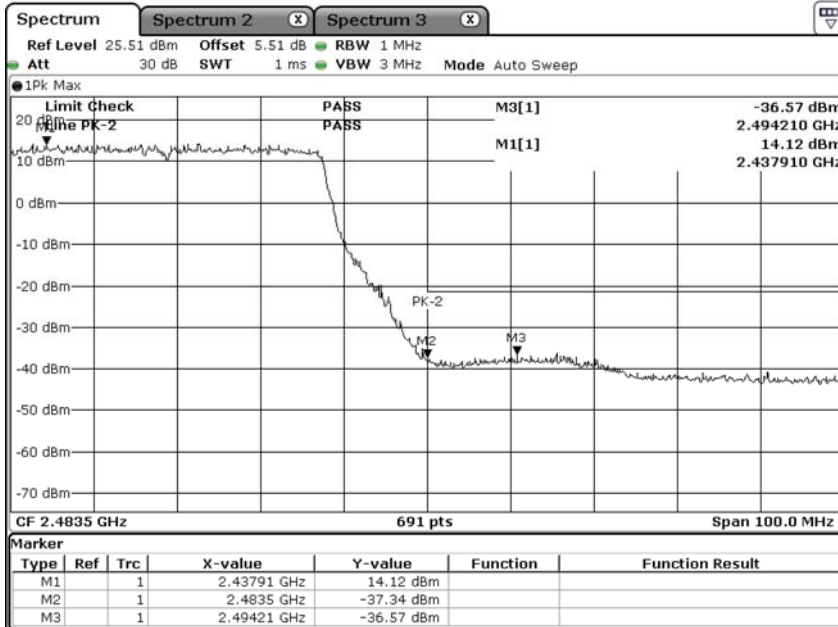
Average: - Chain B



Date: 13.NOV.2020 17:25:33

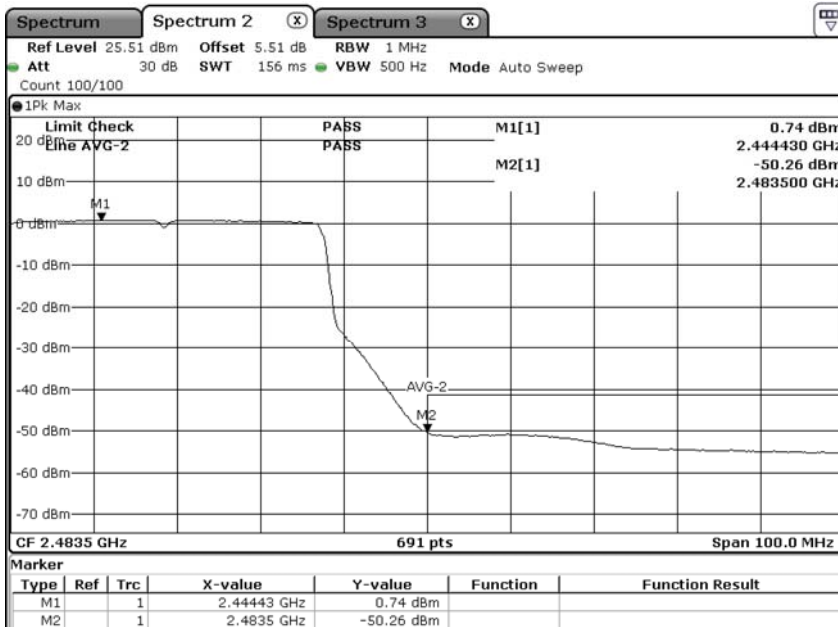
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2452MHz)
 Test Date : 2020/11/19

Peak: - Chain A



Date: 13.NOV.2020 17:30:43

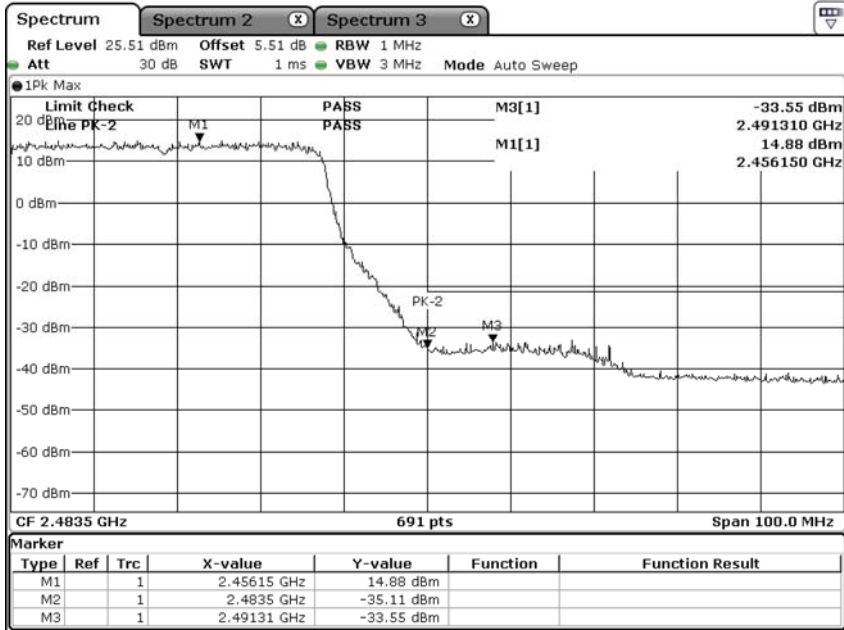
Average: - Chain A



Date: 13.NOV.2020 17:31:29

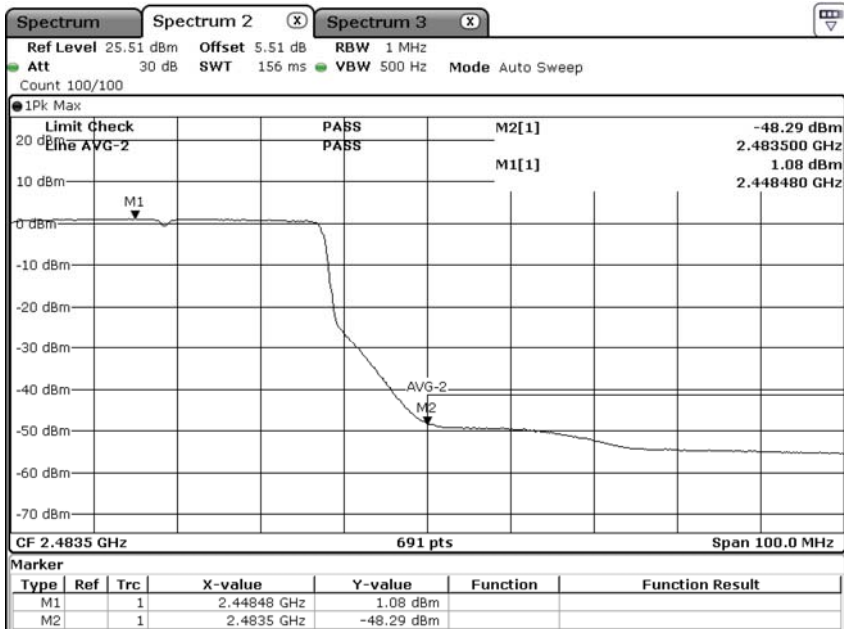
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2452MHz)
 Test Date : 2020/11/19

Peak: - Chain B



Date: 13.NOV.2020 17:28:53

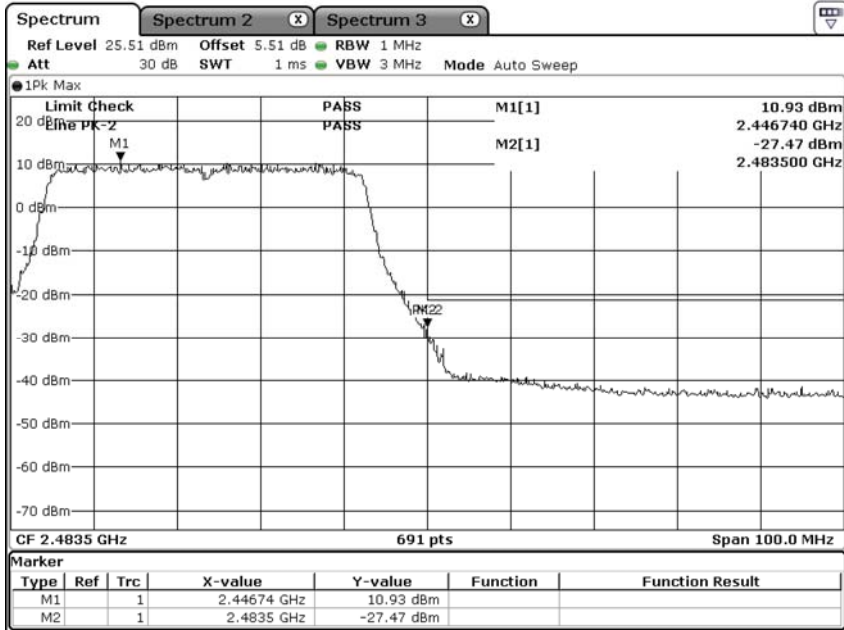
Average: - Chain B



Date: 13.NOV.2020 17:29:25

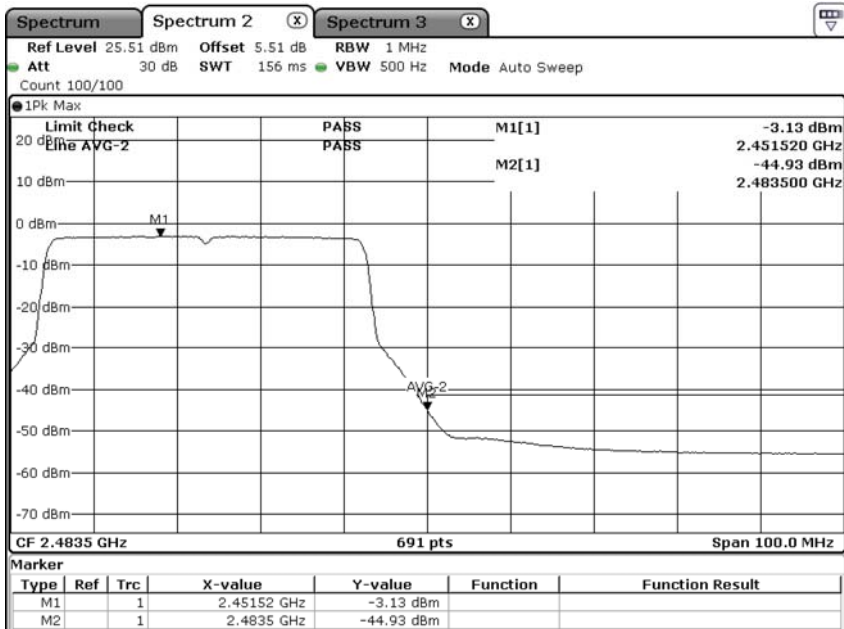
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2457MHz)
 Test Date : 2020/11/19

Peak: - Chain A



Date: 13.NOV.2020 17:32:33

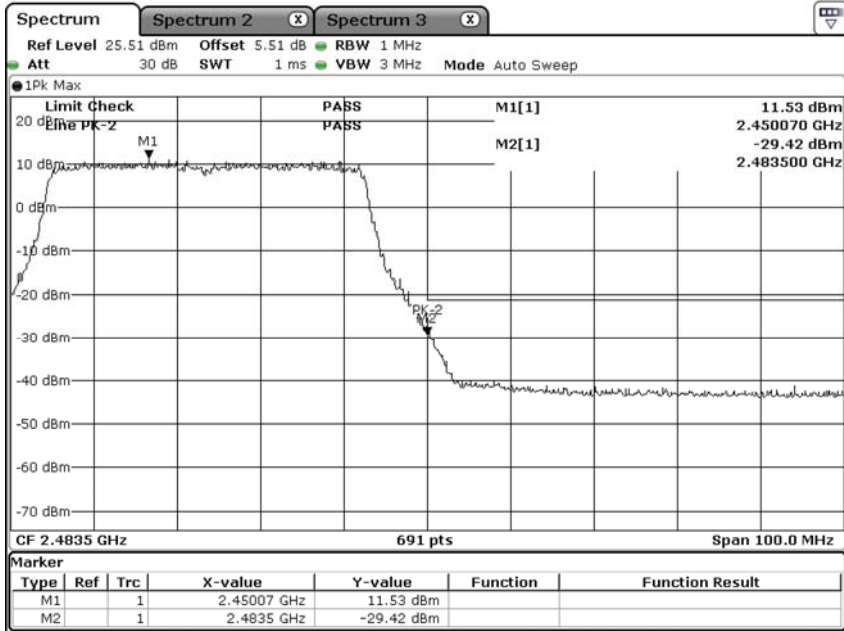
Average: - Chain A



Date: 13.NOV.2020 17:33:00

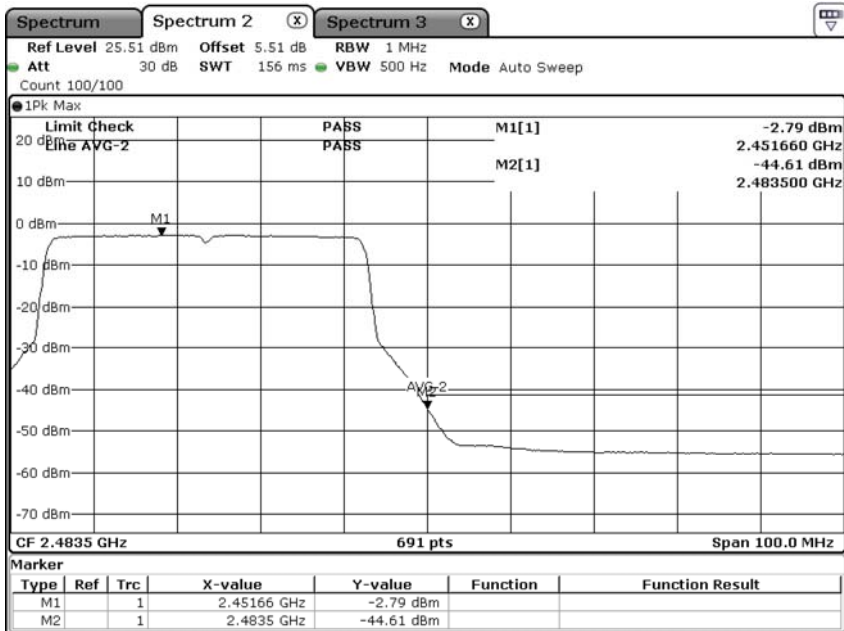
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2457MHz)
 Test Date : 2020/11/19

Peak: - Chain B



Date: 13.NOV.2020 17:34:09

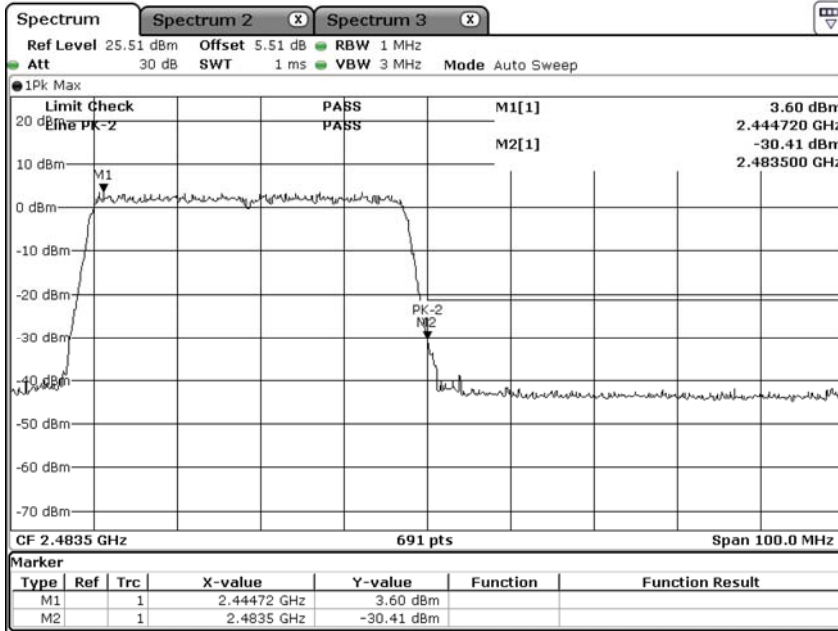
Average: - Chain B



Date: 13.NOV.2020 17:34:48

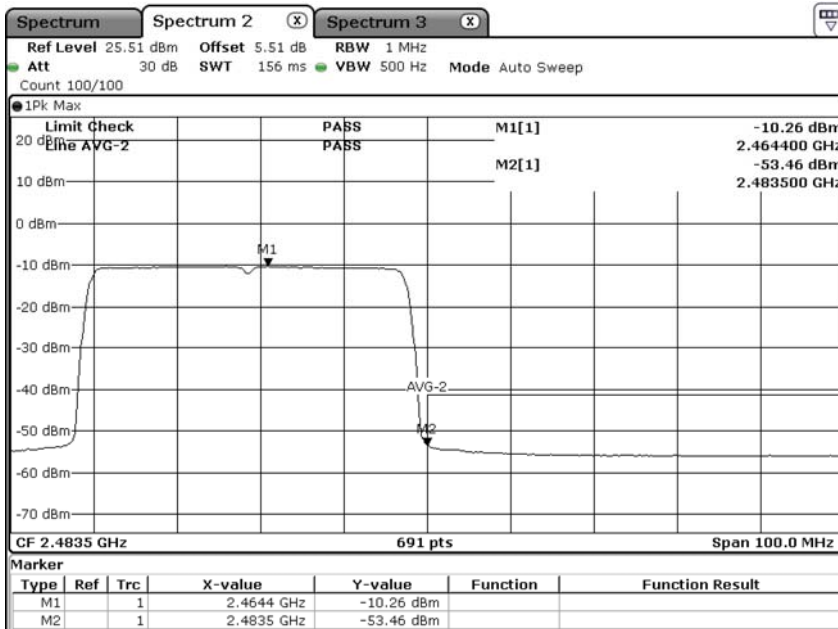
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2462MHz)
 Test Date : 2020/11/19

Peak: - Chain A



Date: 13.NOV.2020 18:09:08

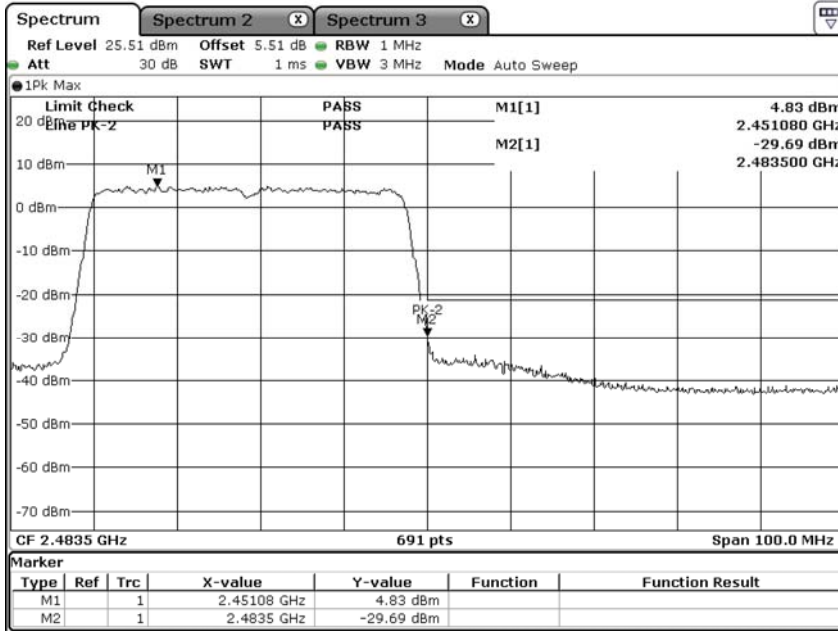
Average: - Chain A



Date: 13.NOV.2020 18:10:11

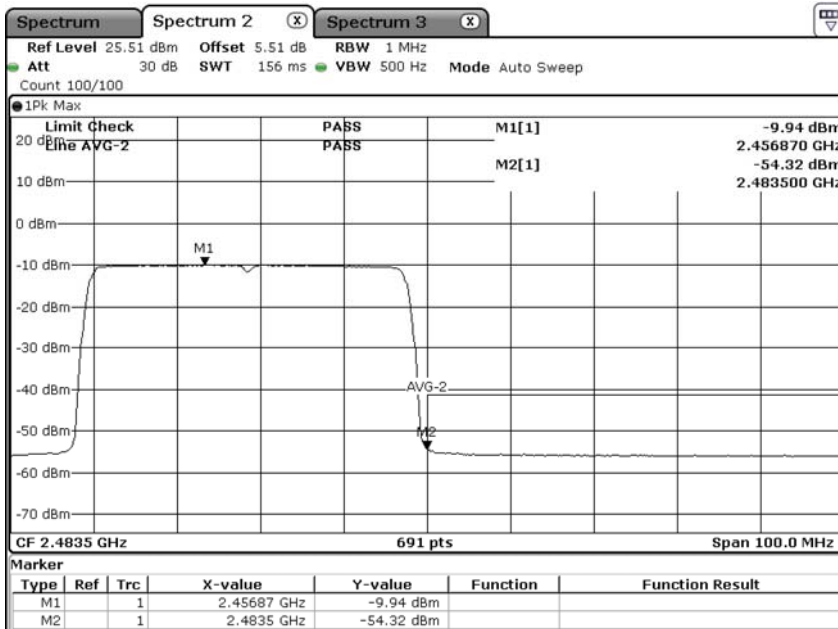
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2462MHz)
 Test Date : 2020/11/19

Peak: - Chain B



Date: 13.NOV.2020 18:07:35

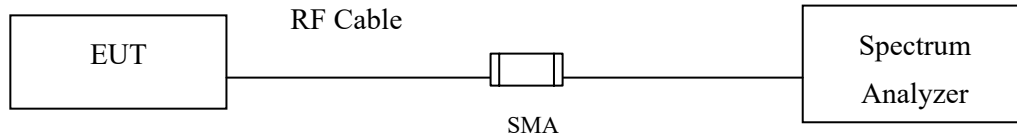
Average: - Chain B



Date: 13.NOV.2020 18:08:06

7. 6dB Bandwidth

7.1. Test Setup



7.2. Limits

The minimum bandwidth shall be at least 500 kHz.

7.3. Test Procedure

The EUT was setup according to ANSI C63.4, 2014; tested according to ANSI C63.10 Section 11.8 for compliance to FCC 47CFR 15.247 requirements.

7.4. Test Result of 6dB Bandwidth

Product : Notebook Computers
 Test Item : 6dB Bandwidth Data
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	9150	>500	Pass
7	2442	9150	>500	Pass
11	2462	9150	>500	Pass
12	2467	9150	>500	Pass
13	2472	9150	>500	Pass

Figure Channel 01:

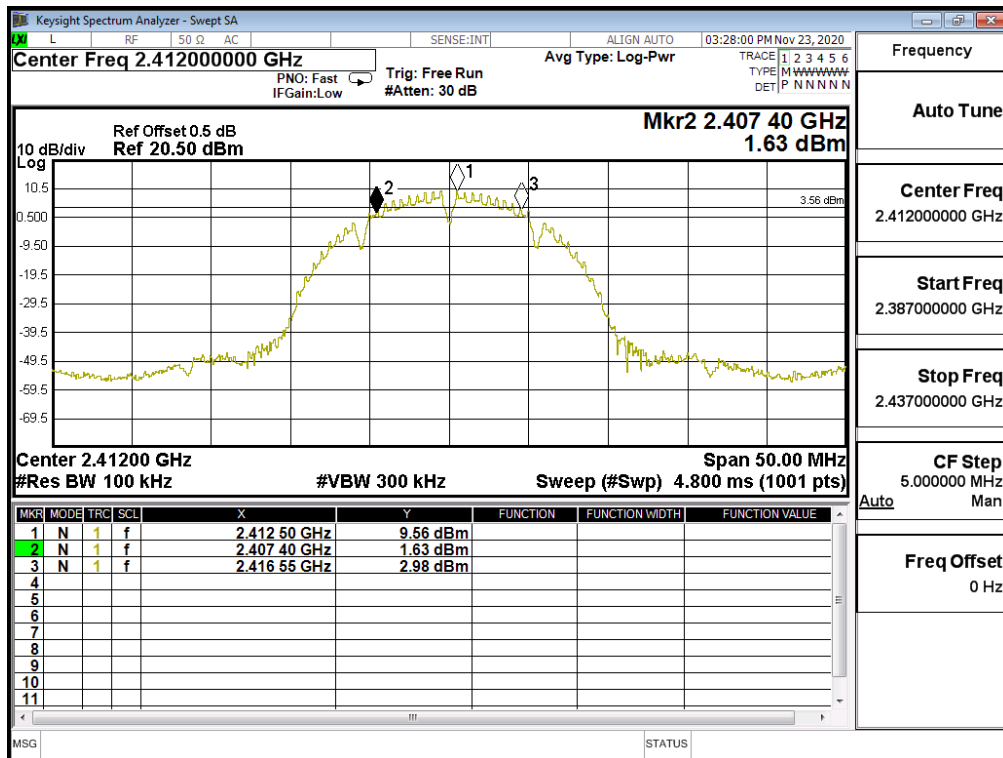


Figure Channel 07:

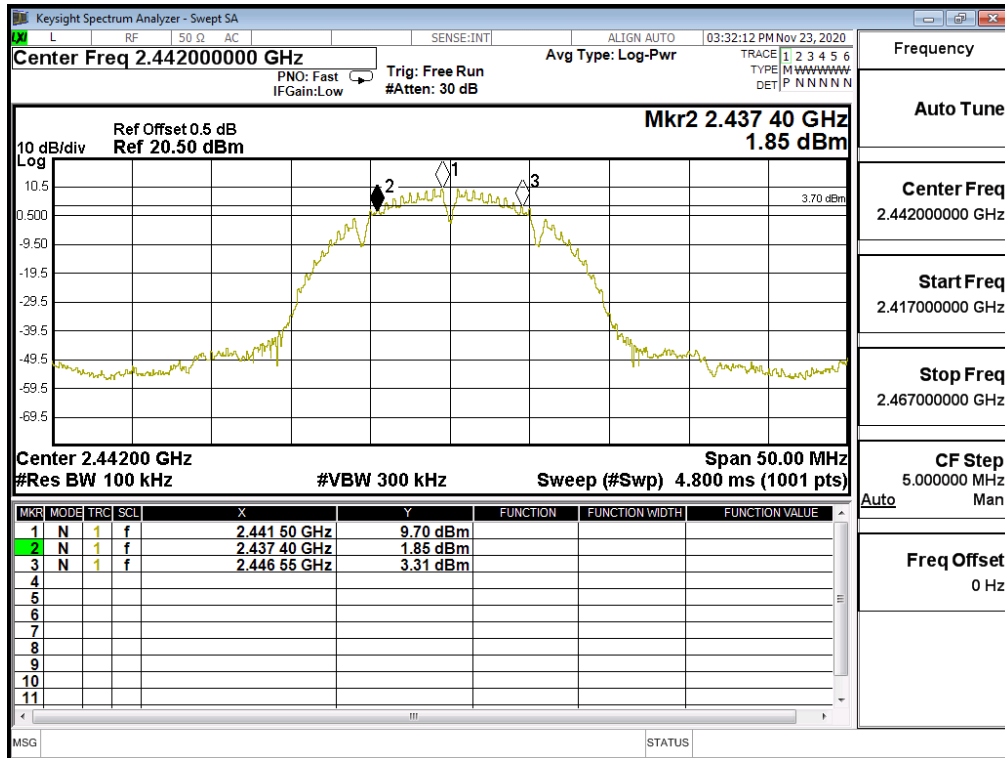


Figure Channel 11:

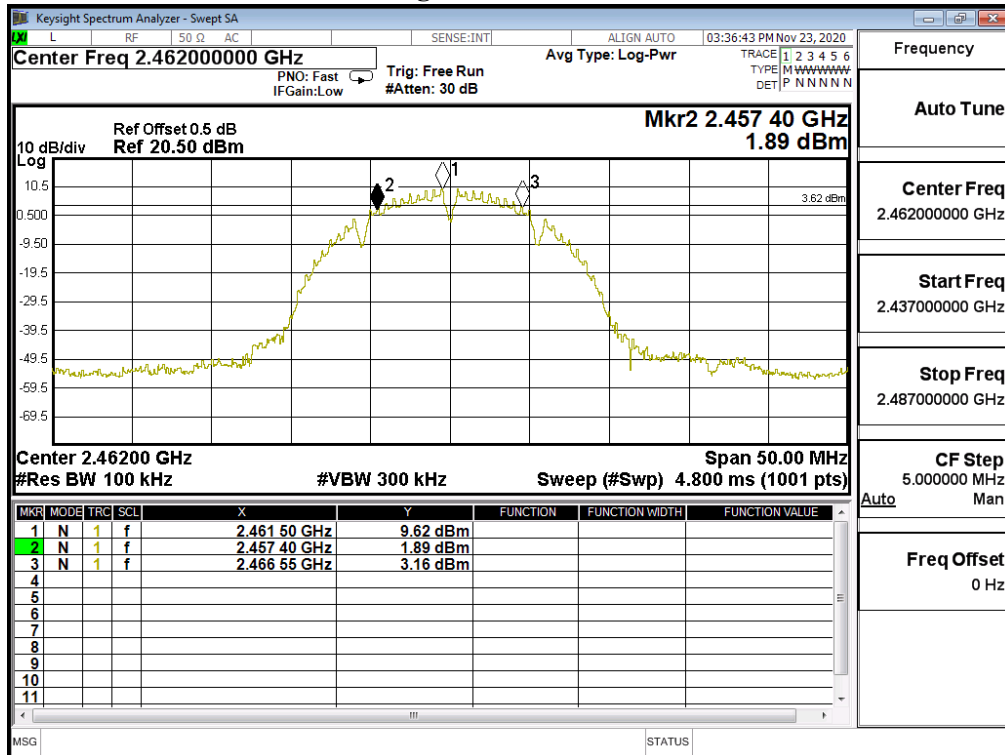


Figure Channel 12:

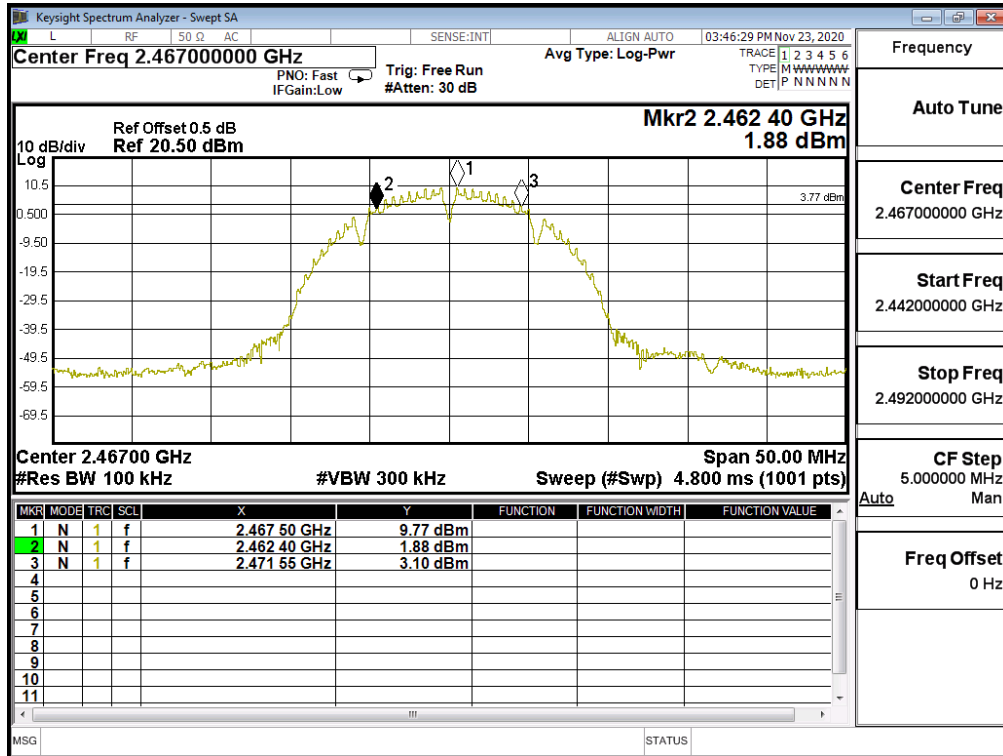
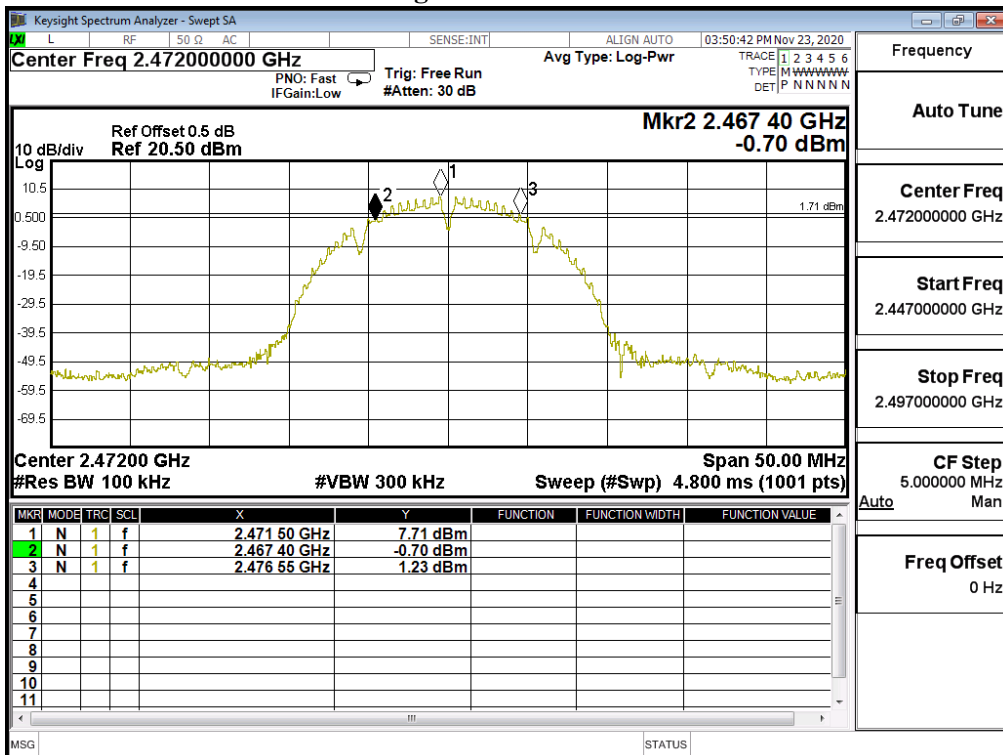


Figure Channel 13:



Product : Notebook Computers
 Test Item : 6dB Bandwidth Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps)

Chain A

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	19050	>500	Pass
7	2442	19000	>500	Pass
11	2462	19000	>500	Pass
12	2467	18950	>500	Pass
13	2472	18750	>500	Pass

Figure Channel 01: (Chain A)

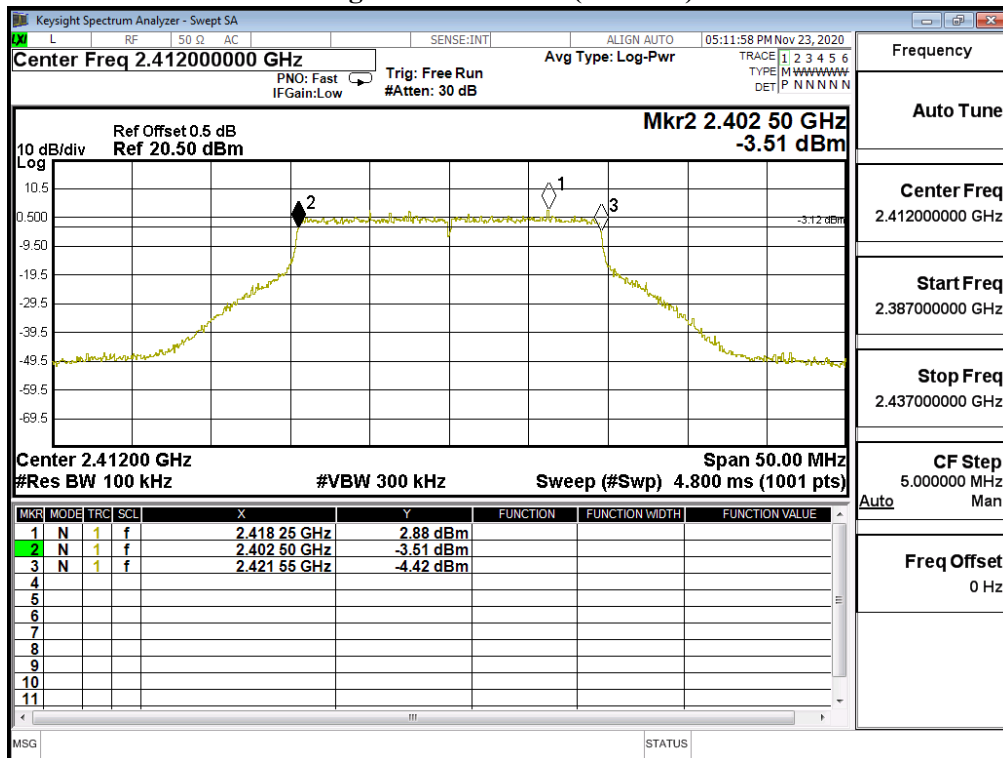


Figure Channel 07: (Chain A)

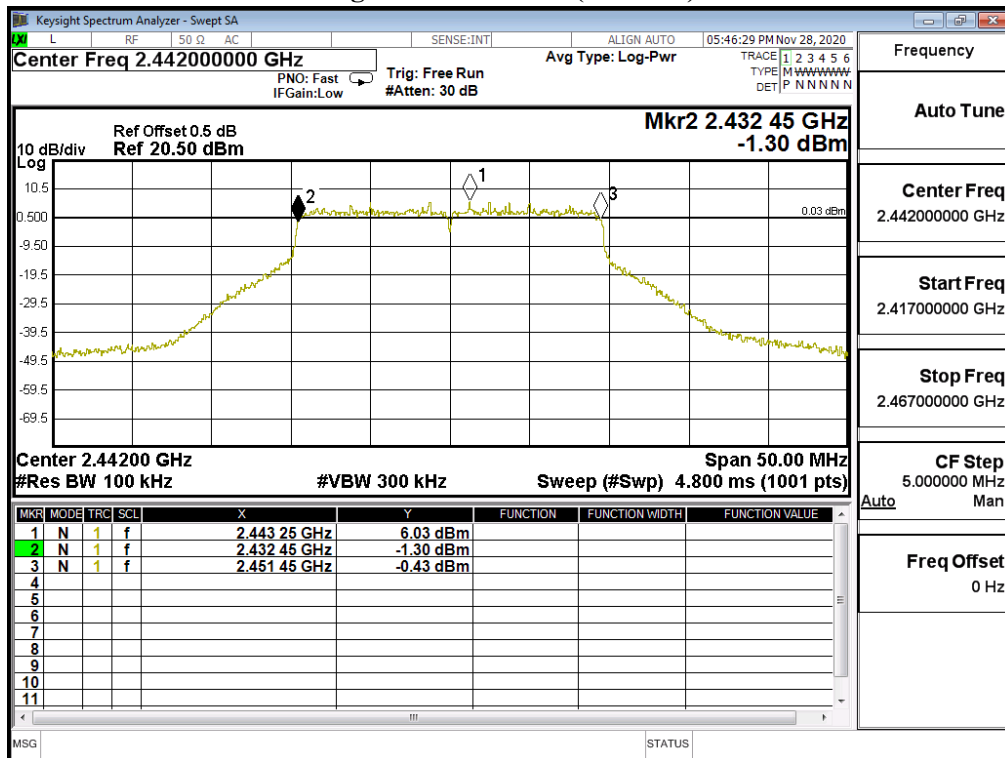


Figure Channel 11: (Chain A)

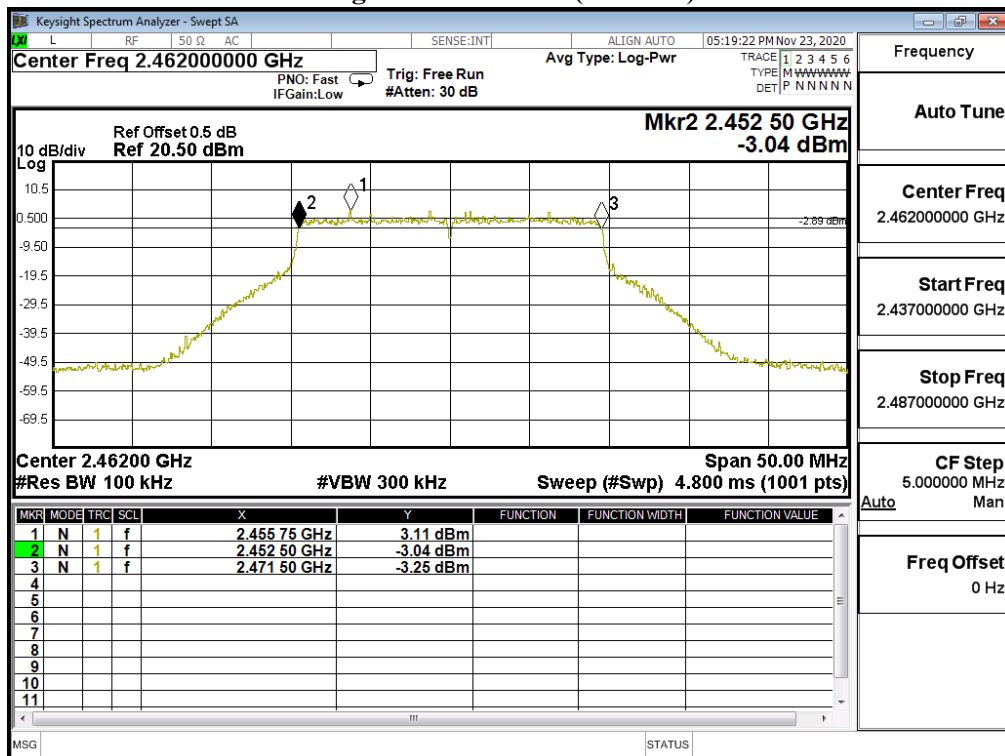


Figure Channel 12: (Chain A)

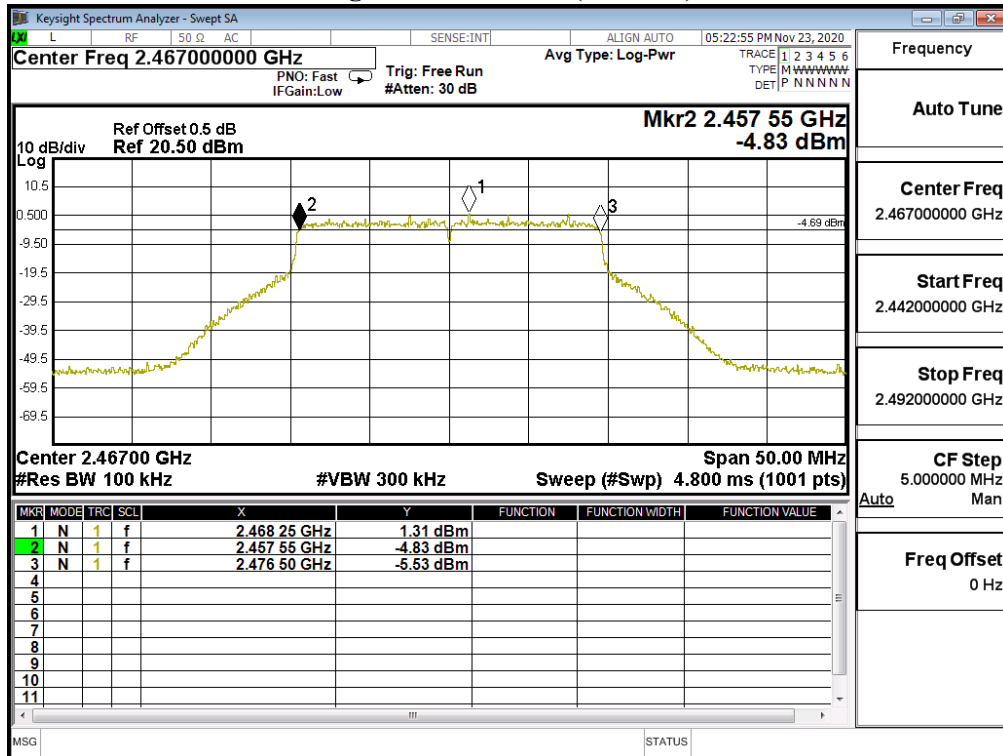
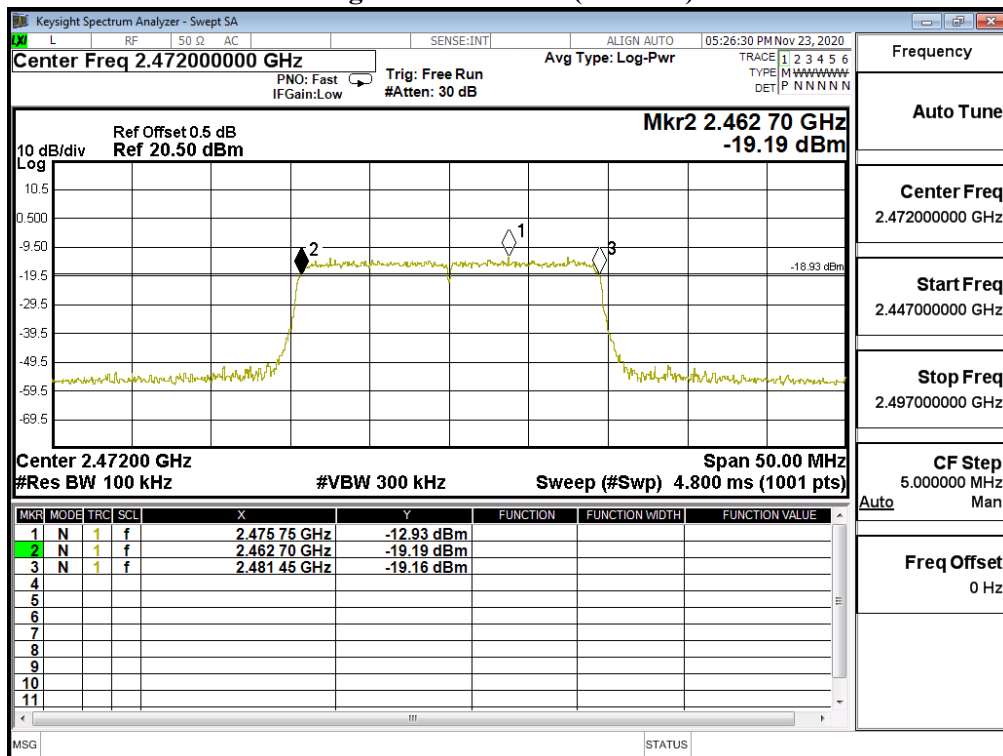


Figure Channel 13: (Chain A)



Product : Notebook Computers
 Test Item : 6dB Bandwidth Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps)

Chain B

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	19000	>500	Pass
7	2442	18800	>500	Pass
11	2462	19000	>500	Pass
12	2467	19000	>500	Pass
13	2472	18600	>500	Pass

Figure Channel 01: (Chain B)

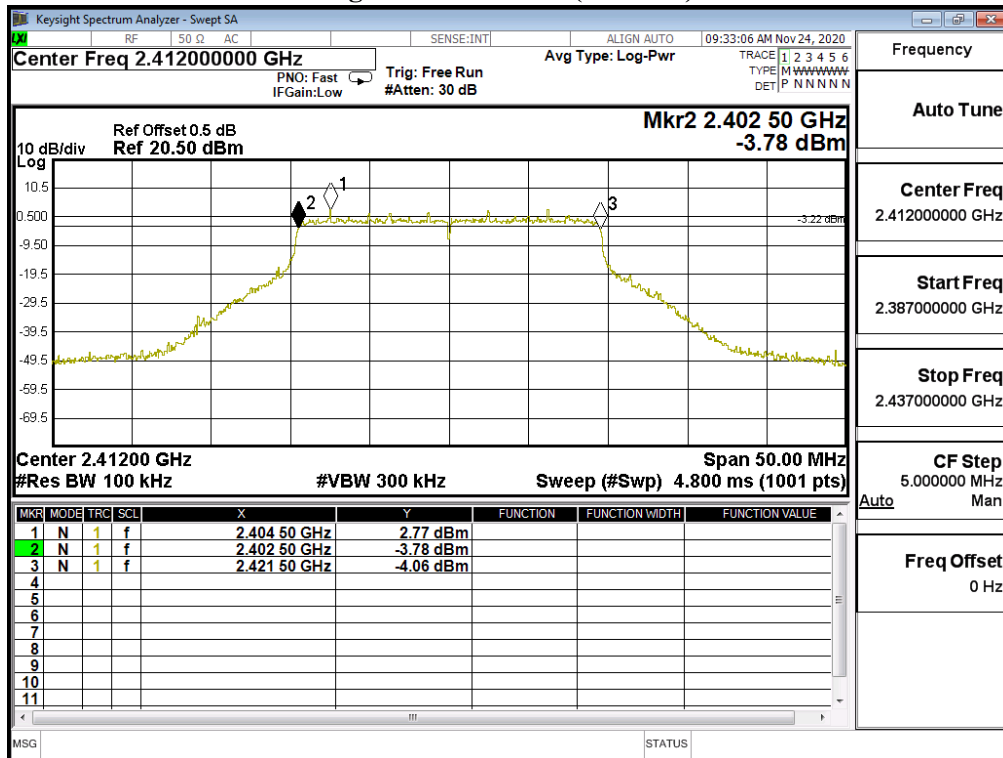


Figure Channel 07: (Chain B)

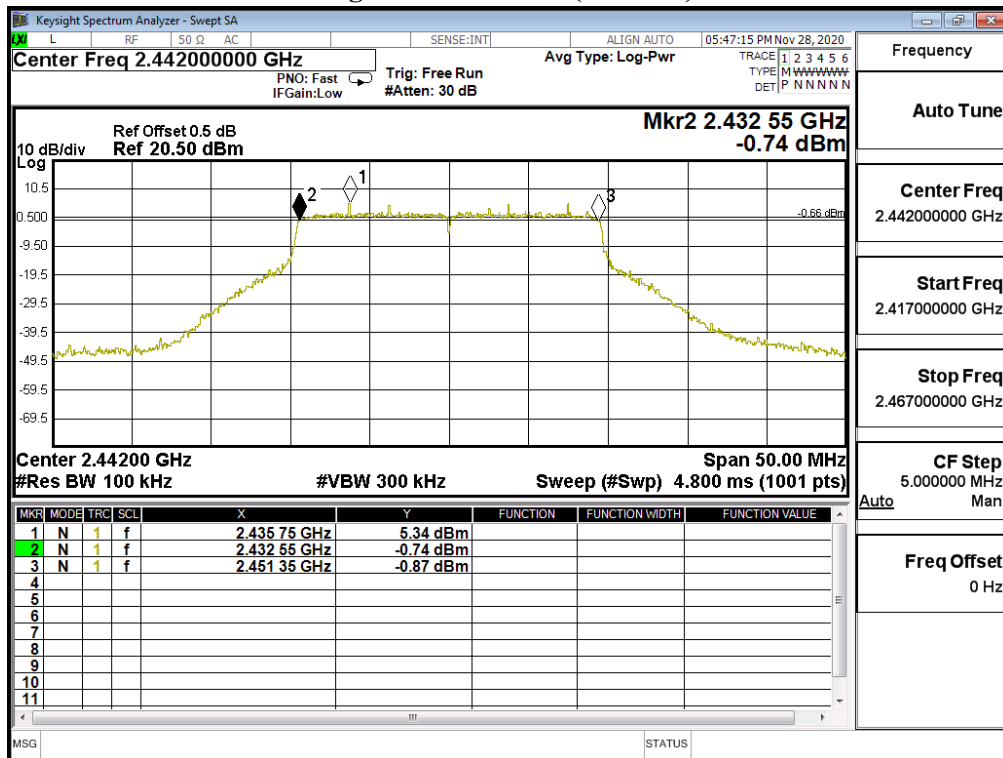


Figure Channel 11: (Chain B)

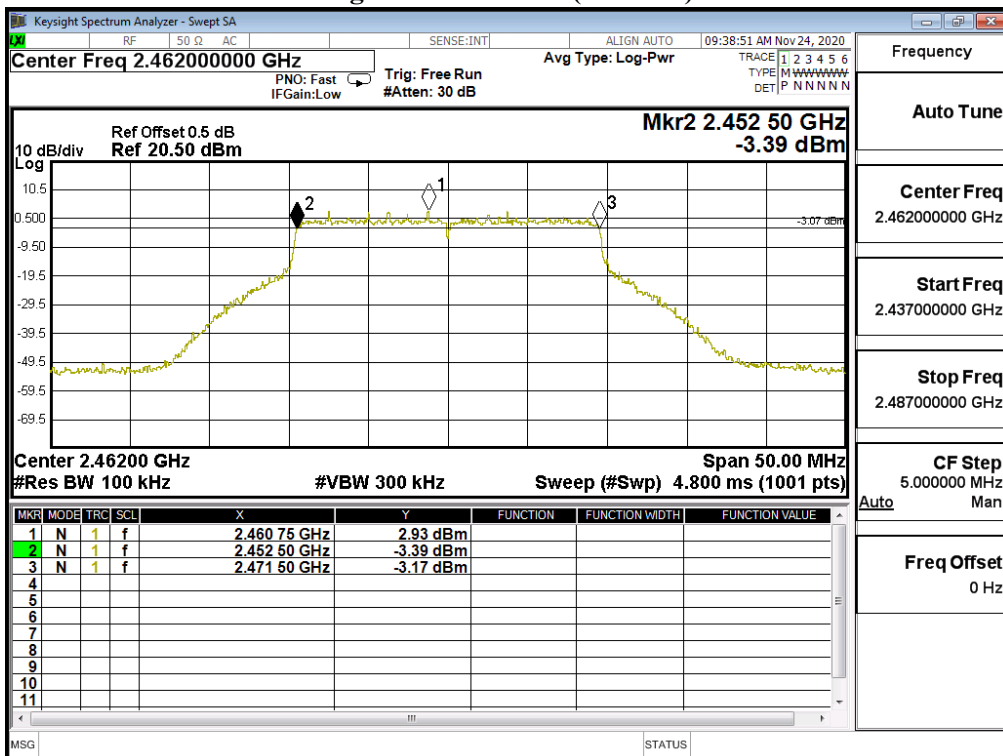


Figure Channel 12: (Chain B)

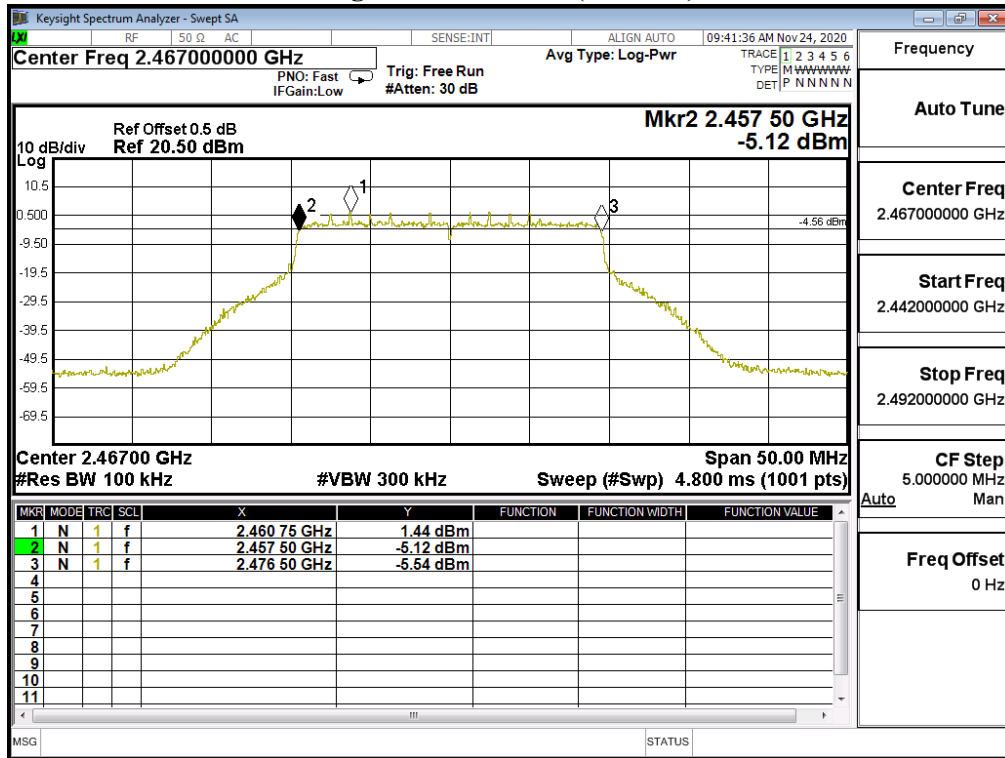
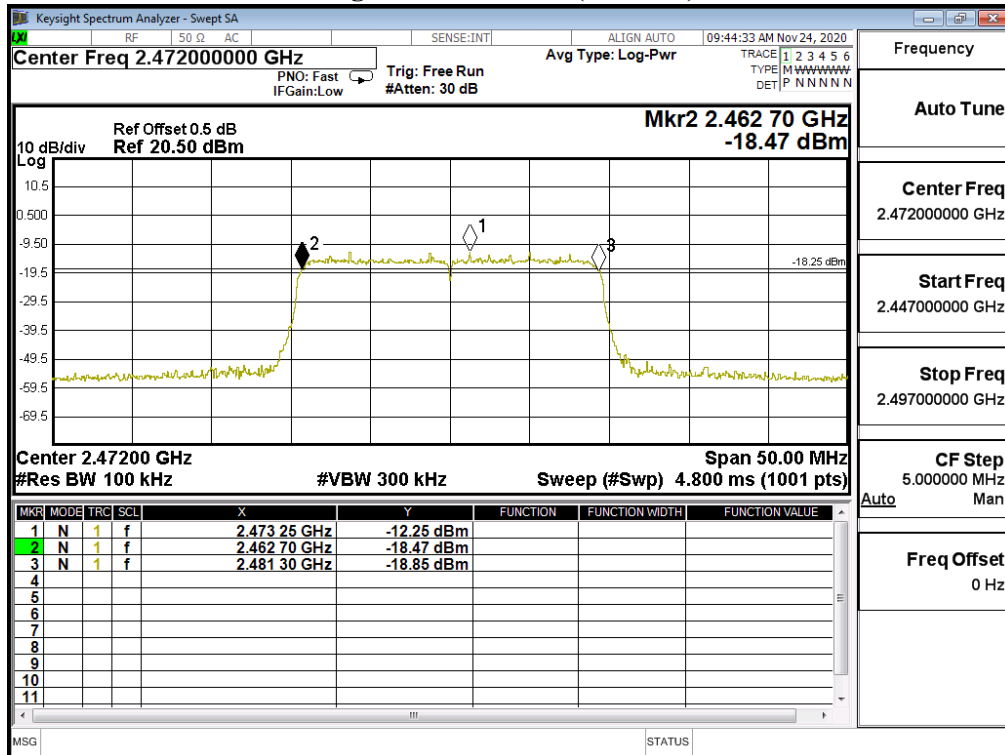


Figure Channel 13: (Chain B)



Product : Notebook Computers
 Test Item : 6dB Bandwidth Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps)

Chain A

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
3	2422	38100	>500	Pass
7	2442	38100	>500	Pass
9	2452	38000	>500	Pass
10	2457	38000	>500	Pass
11	2462	37900	>500	Pass

Figure Channel 03: (Chain A)

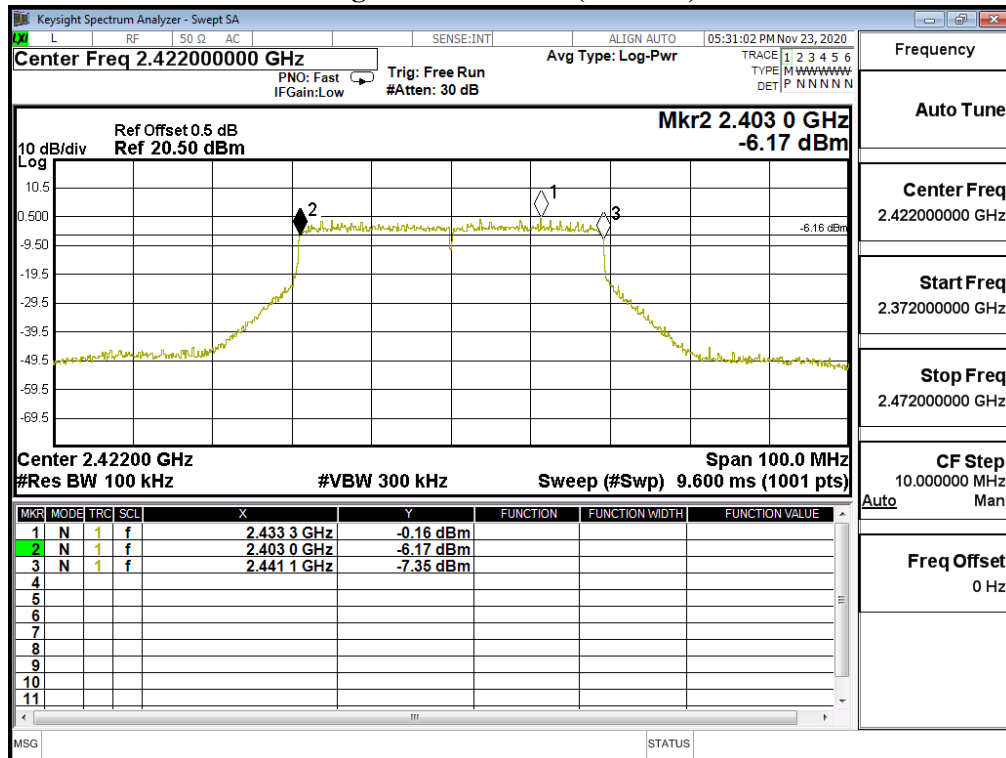


Figure Channel 07: (Chain A)

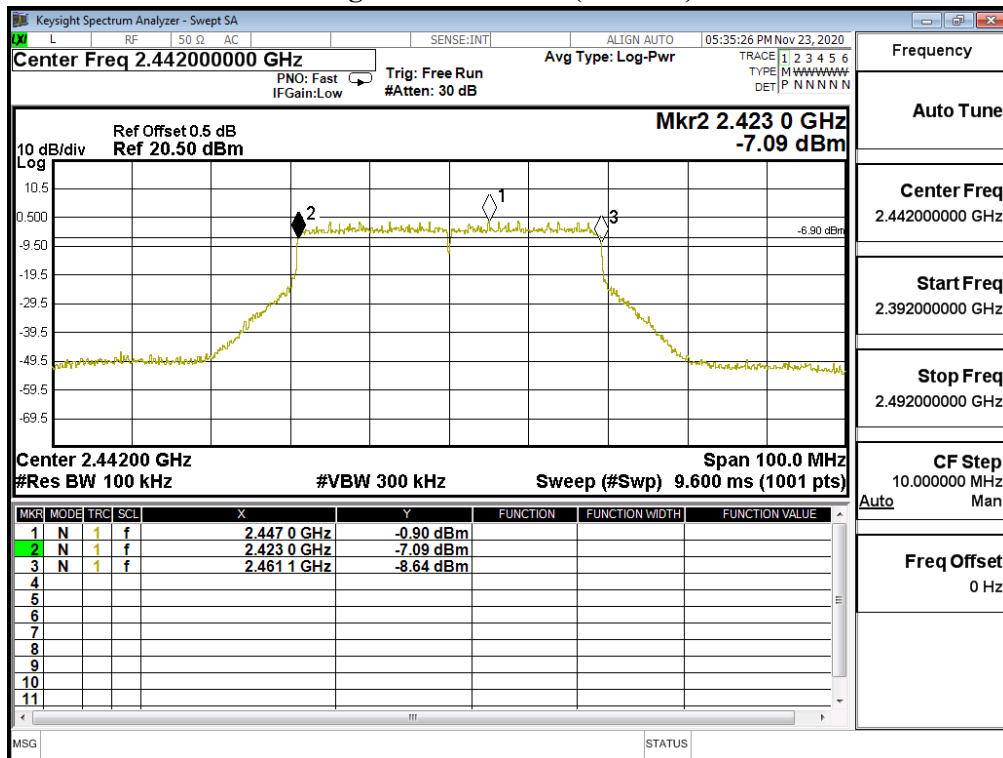


Figure Channel 09: (Chain A)

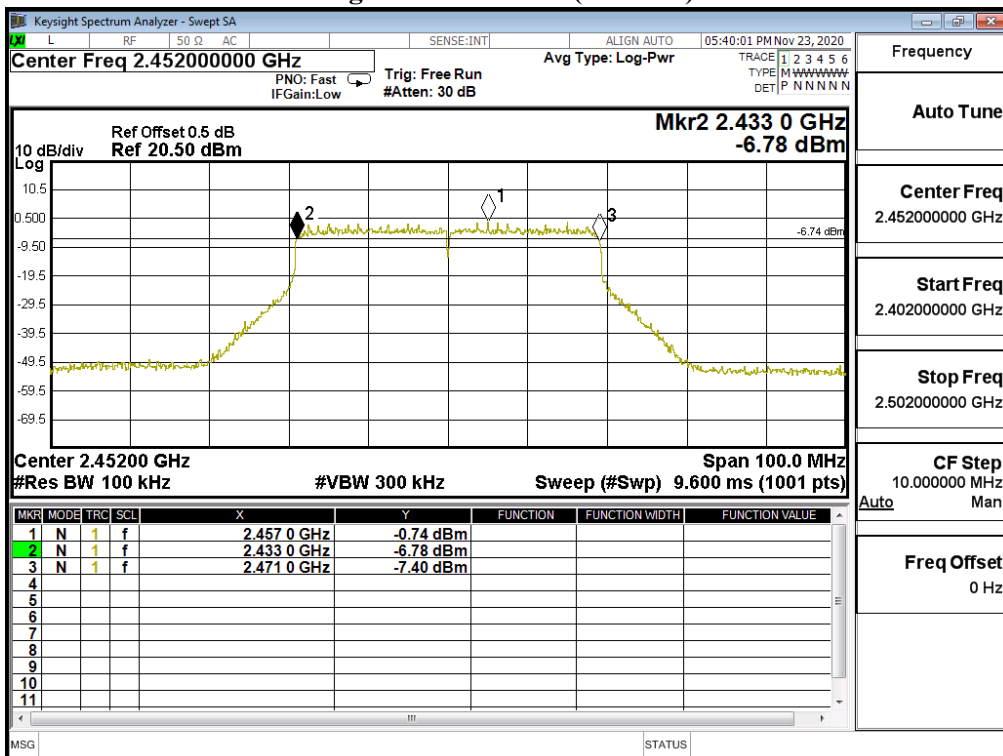


Figure Channel 10: (Chain A)

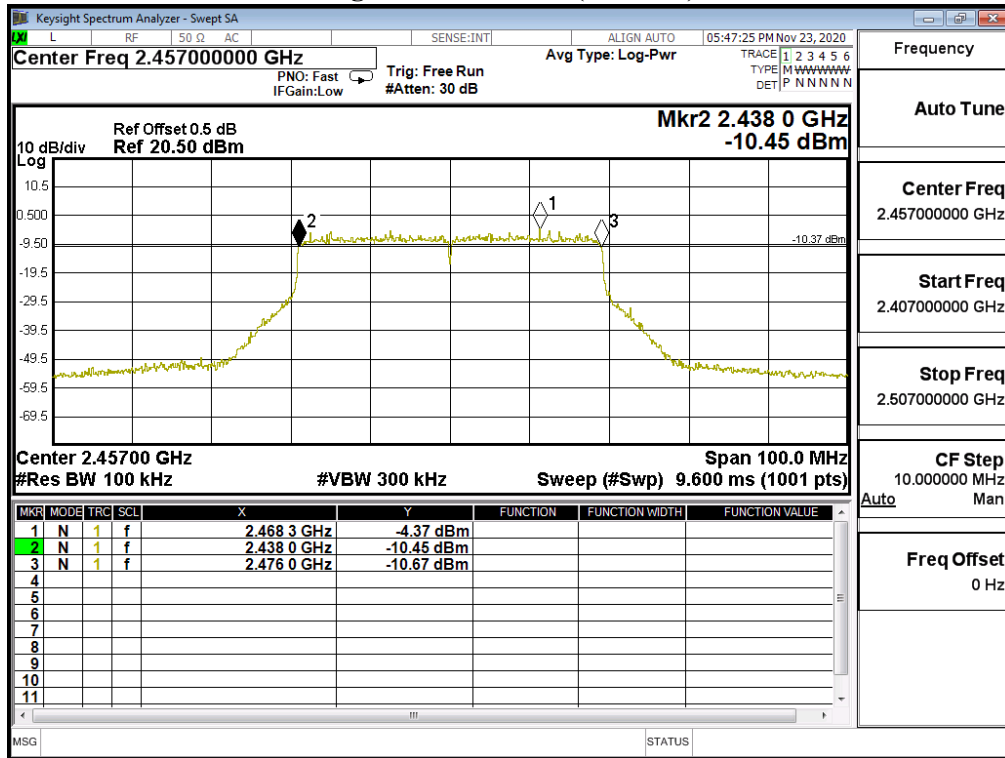
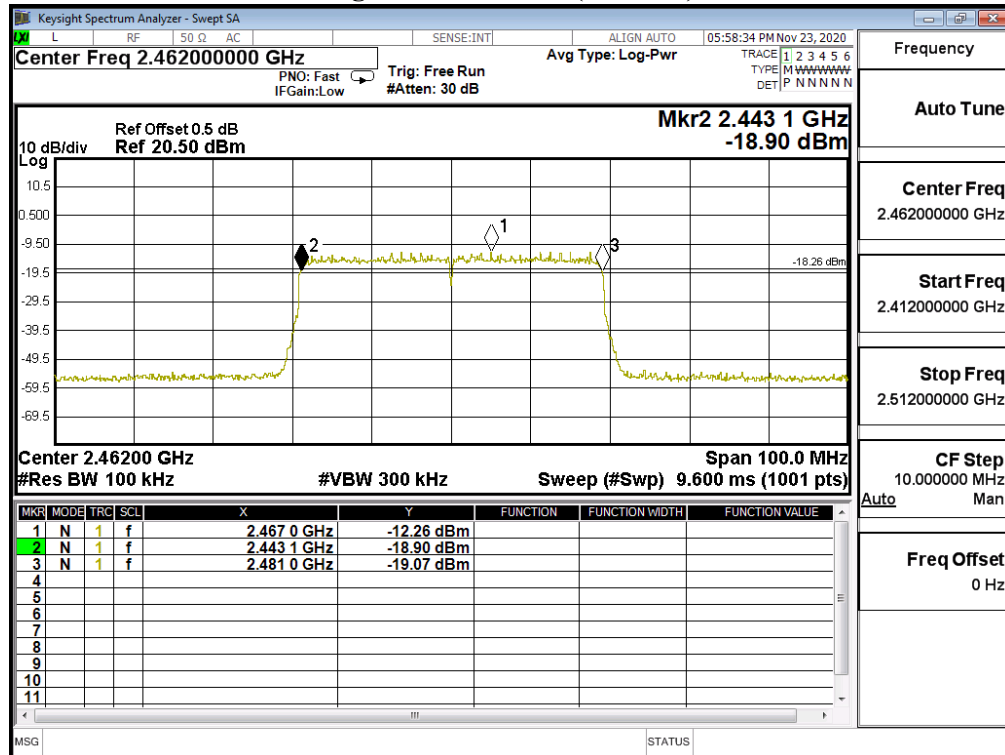


Figure Channel 11: (Chain A)



Product : Notebook Computers
 Test Item : 6dB Bandwidth Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps)

Chain B

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
3	2422	38000	>500	Pass
7	2442	38000	>500	Pass
9	2452	37900	>500	Pass
10	2457	38000	>500	Pass
11	2462	37700	>500	Pass

Figure Channel 03: (Chain B)

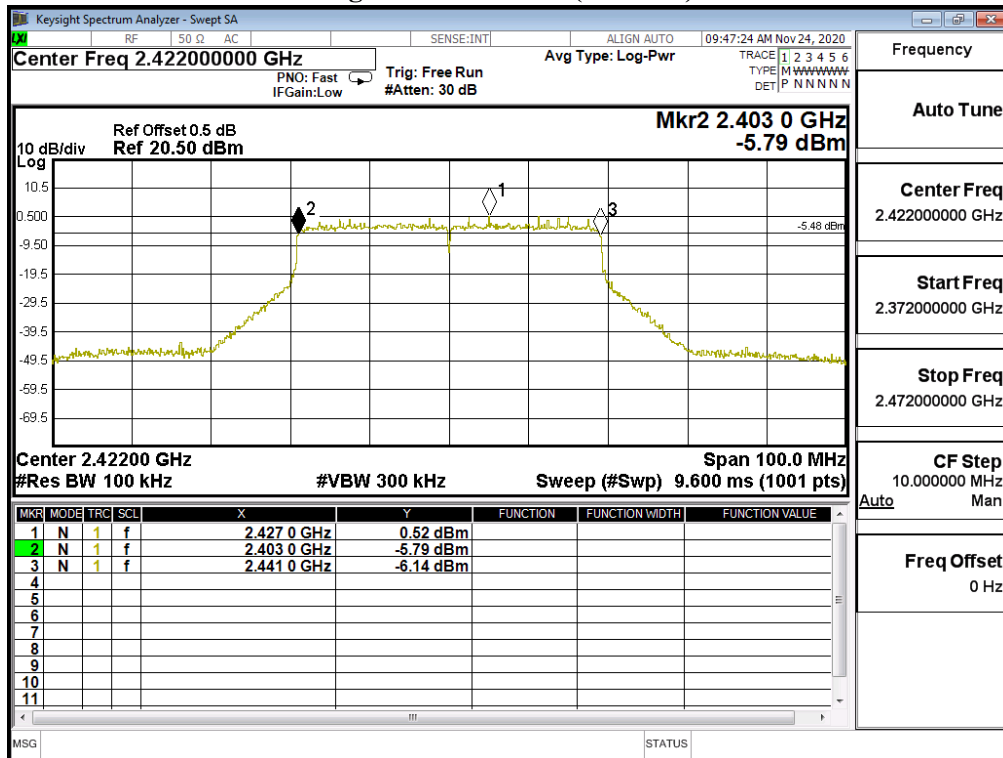


Figure Channel 07: (Chain B)

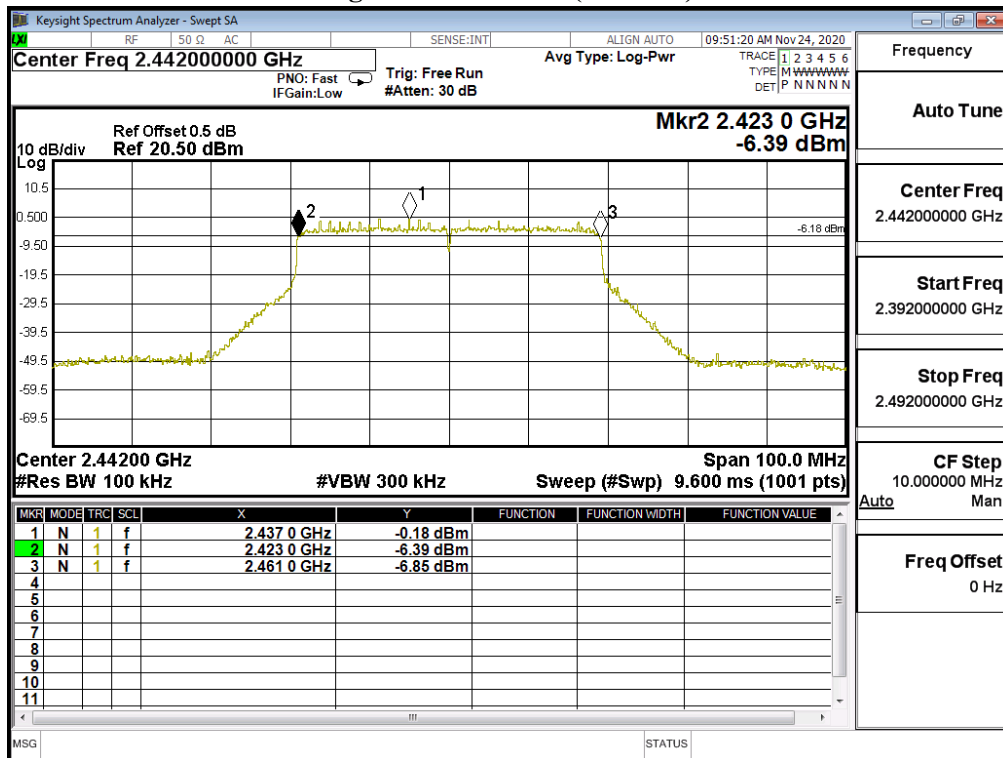


Figure Channel 09: (Chain B)

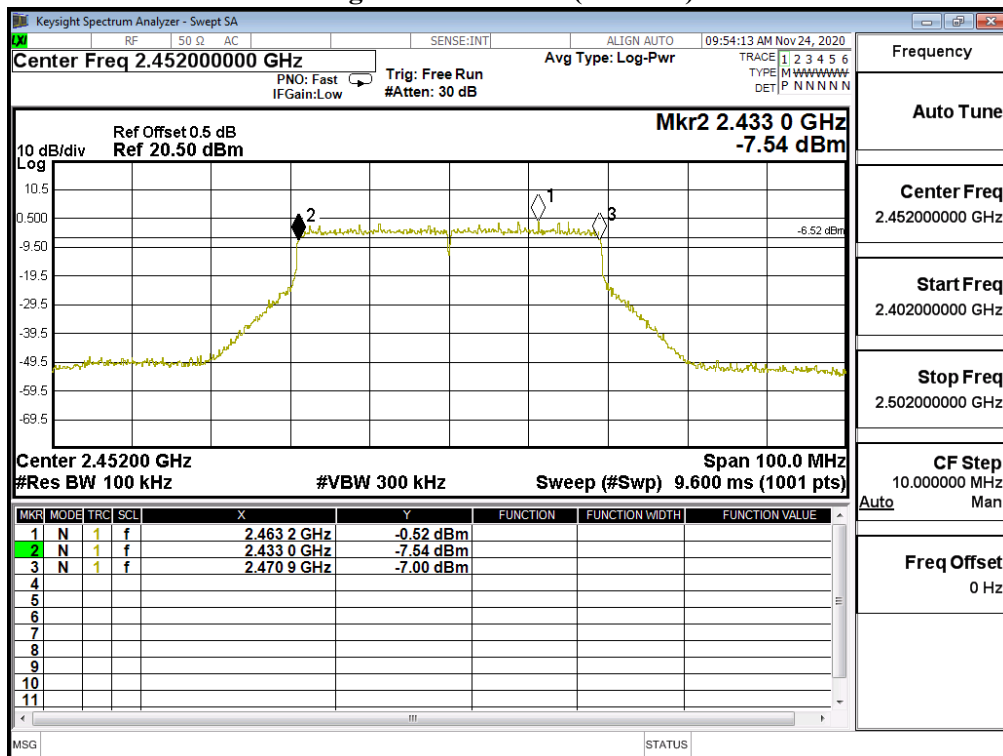


Figure Channel 10: (Chain B)

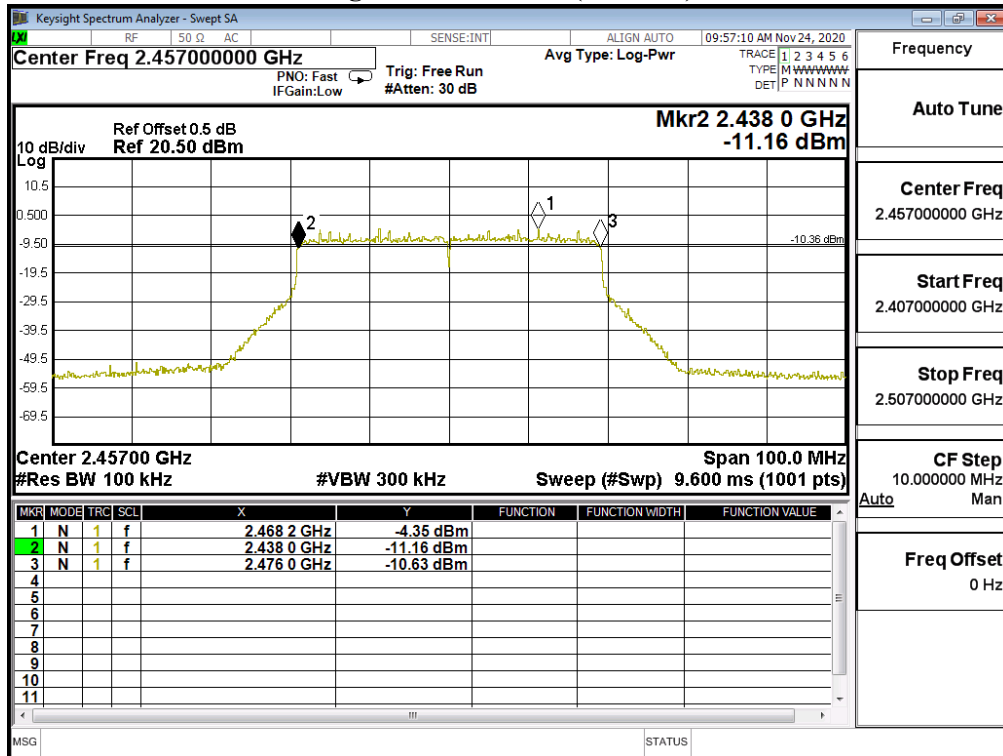
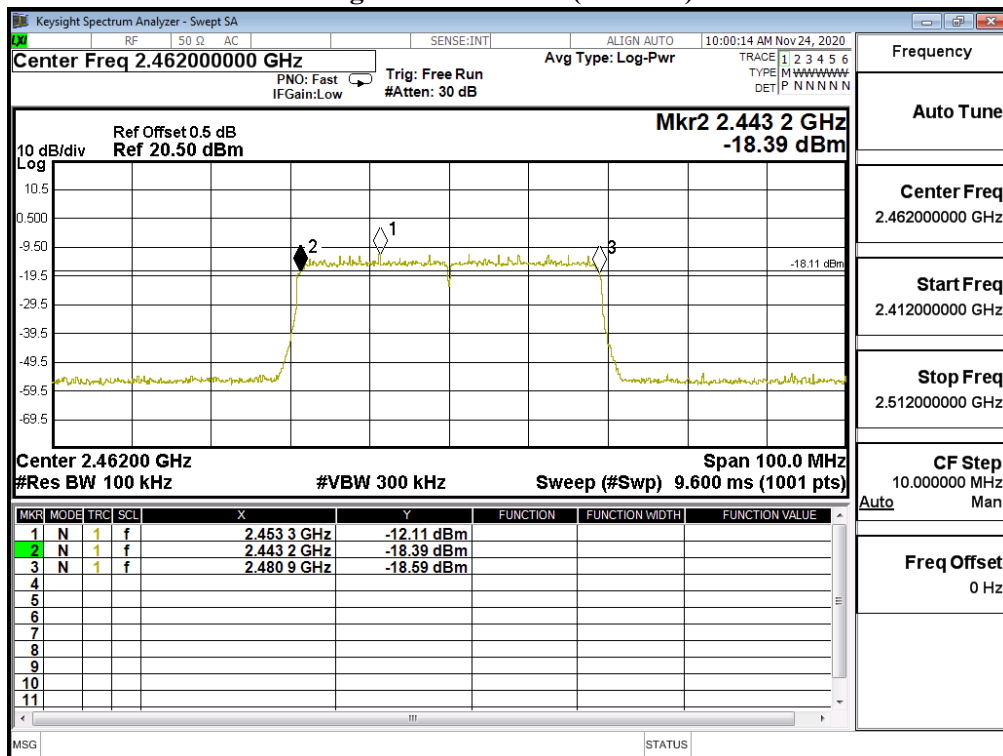
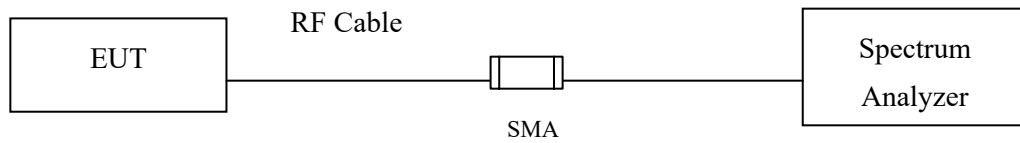


Figure Channel 11: (Chain B)



8. Power Density

8.1. Test Setup



8.2. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

8.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013; tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

The maximum power spectral density using C63.10 Section 11.10.2 Method PKPSD (peak PSD)

8.4. Test Result of Power Density

Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Duty Factor (dB)	Total (dBm)	Limit (dBm)	Result
01	2412	7.28	0.11	7.39	≤ 8dBm	Pass
07	2442	7.38	0.11	7.49	≤ 8dBm	Pass
11	2462	7.36	0.11	7.47	≤ 8dBm	Pass
12	2467	7.49	0.11	7.60	≤ 8dBm	Pass
13	2472	7.78	0.11	7.89	≤ 8dBm	Pass

Figure Channel 1:

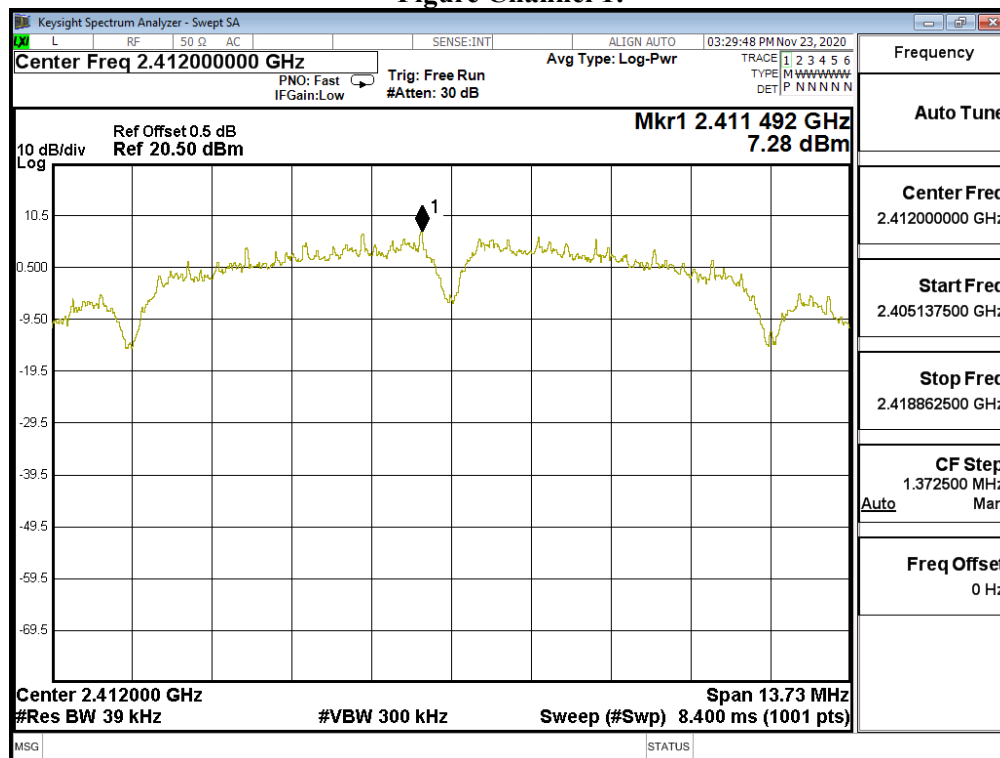


Figure Channel 7:

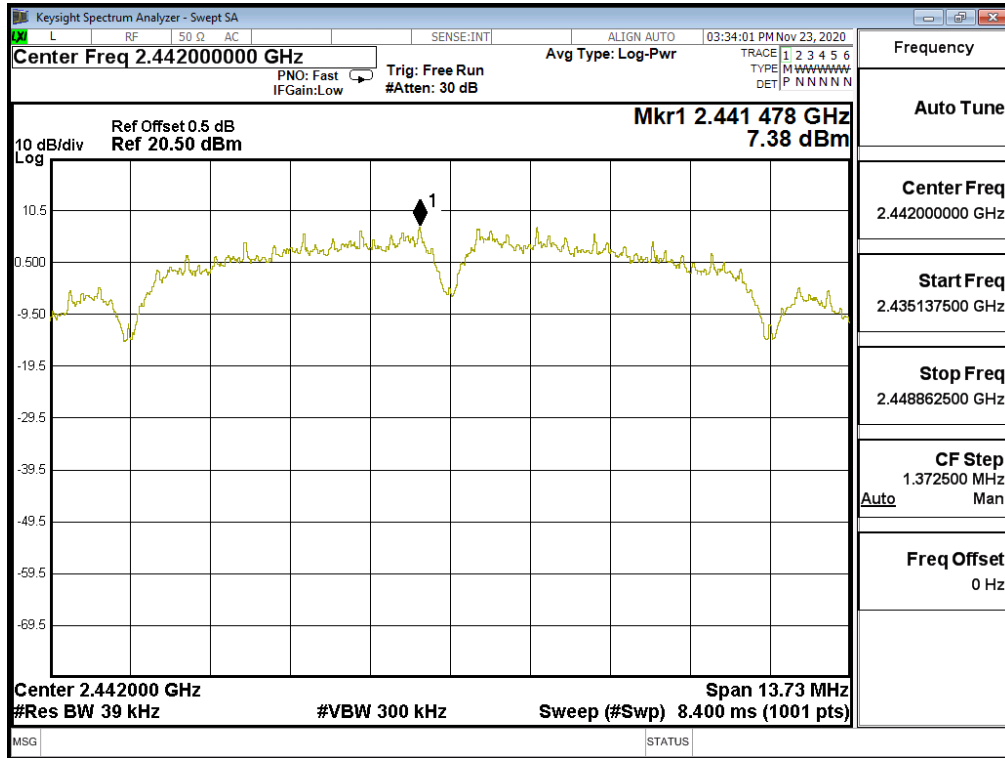


Figure Channel 11:

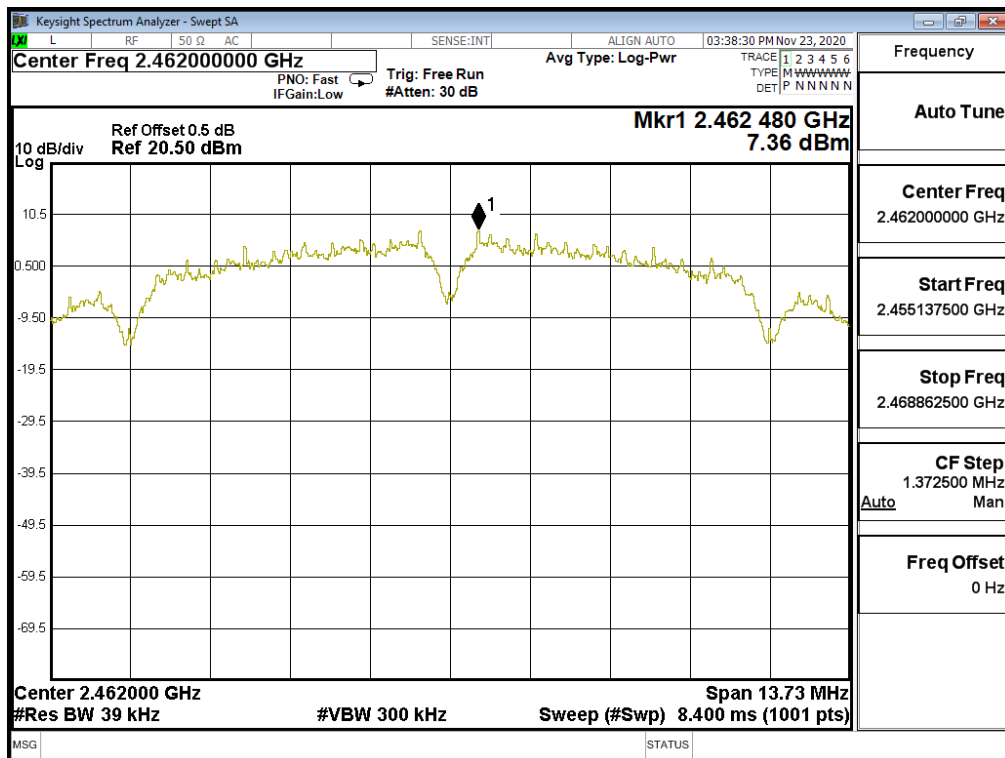


Figure Channel 12:

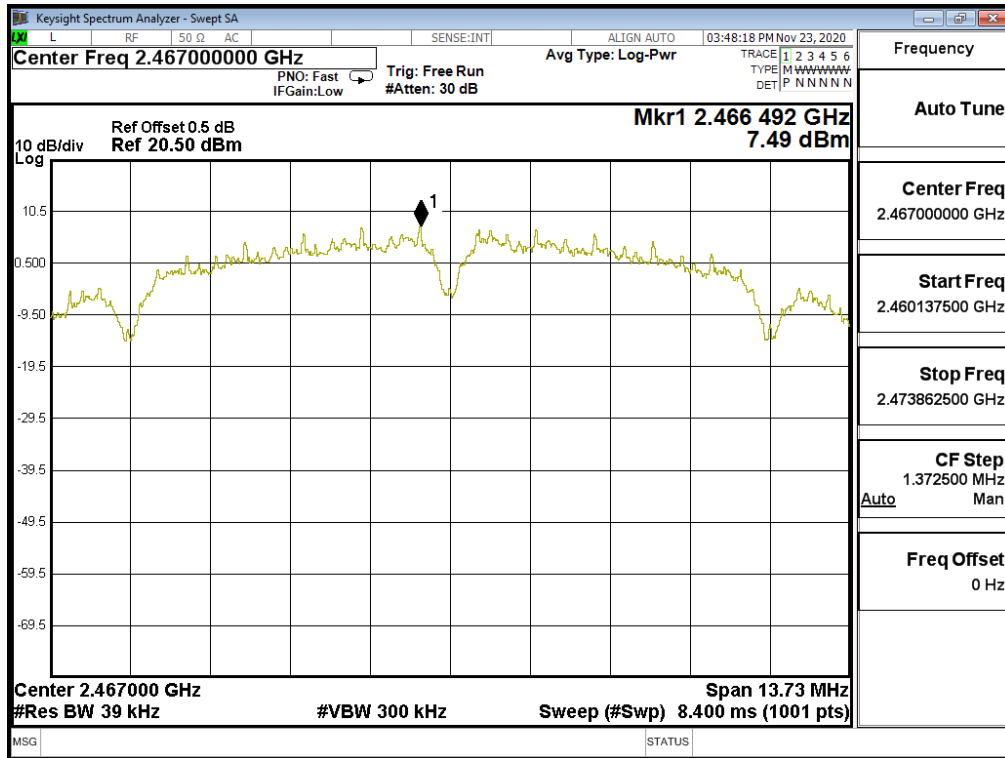
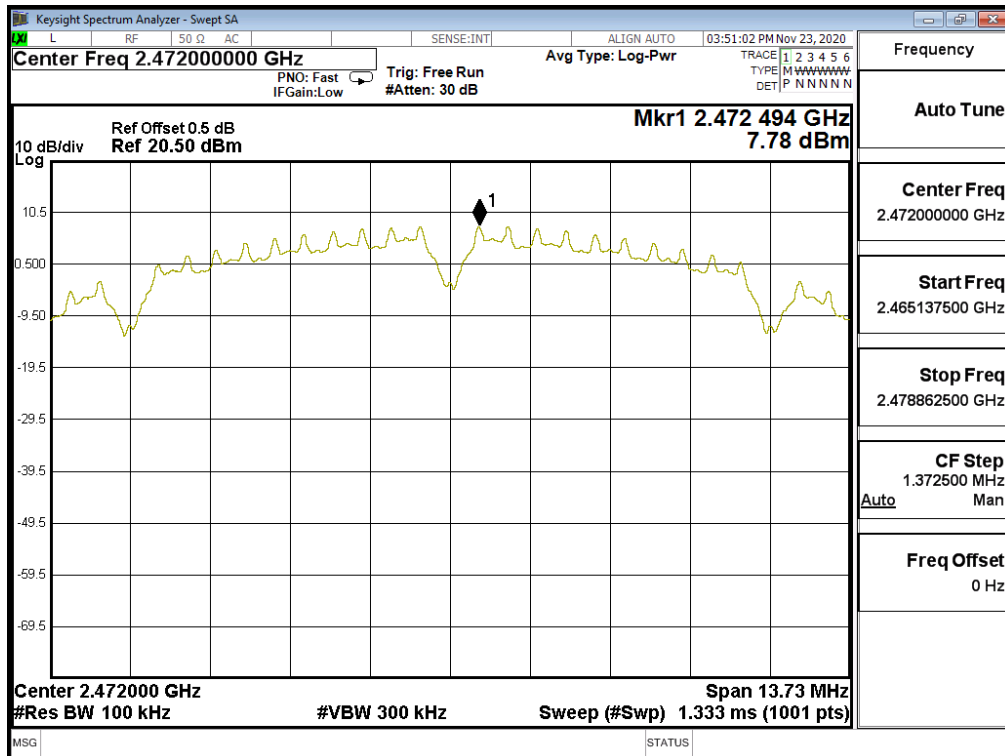


Figure Channel 13:



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 3 SISO A: Transmit (802.11n-20BW_7.2Mbps)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Duty Factor (dB)	Total (dBm)	Limit (dBm)	Result
01	2412	6.45	0.05	6.50	≤ 8dBm	Pass
07	2442	7.04	0.05	7.09	≤ 8dBm	Pass
11	2462	5.25	0.05	5.30	≤ 8dBm	Pass
12	2467	4.74	0.05	4.79	≤ 8dBm	Pass
13	2472	-9.20	0.05	-9.15	≤ 8dBm	Pass

Figure Channel 1:

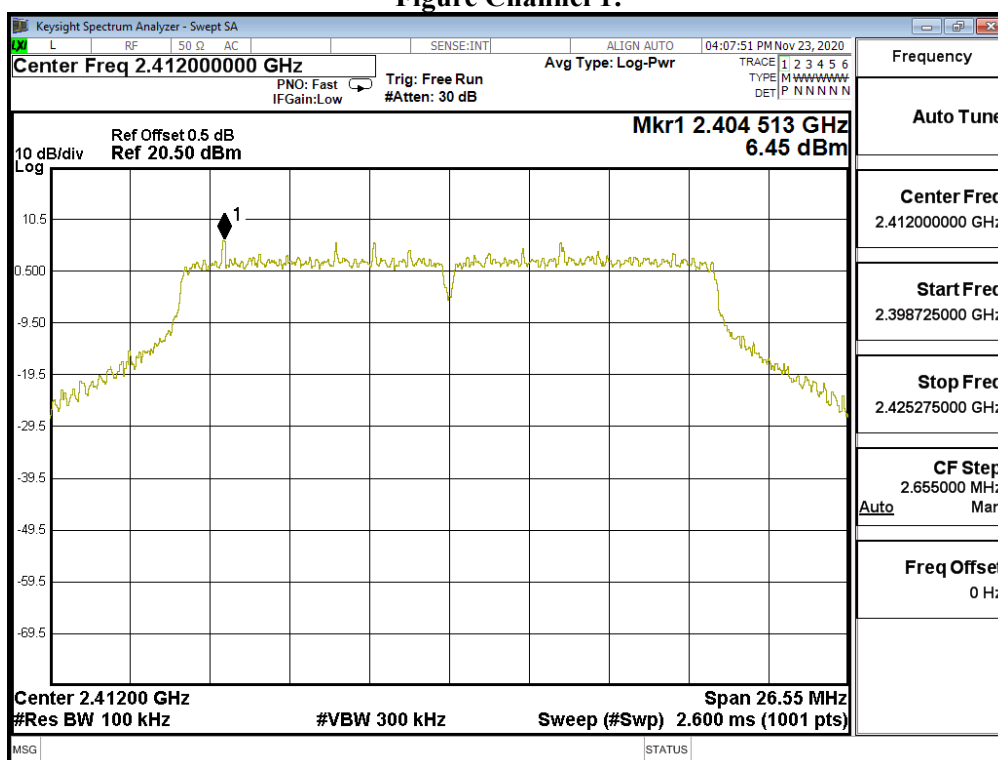


Figure Channel 7:

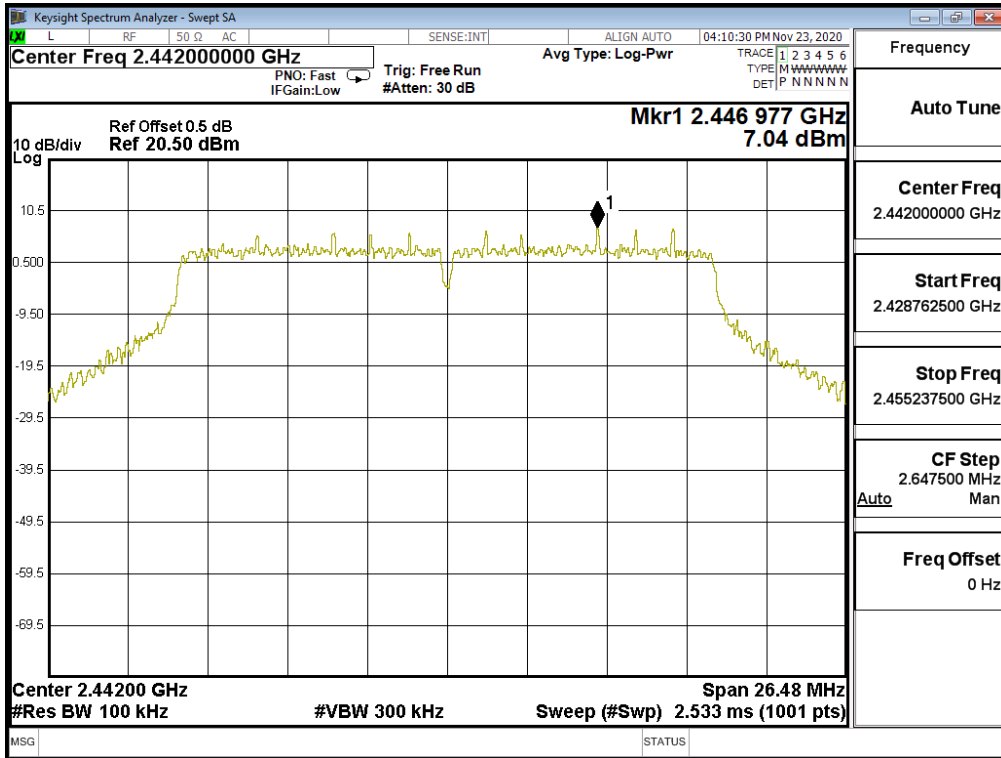


Figure Channel 11:

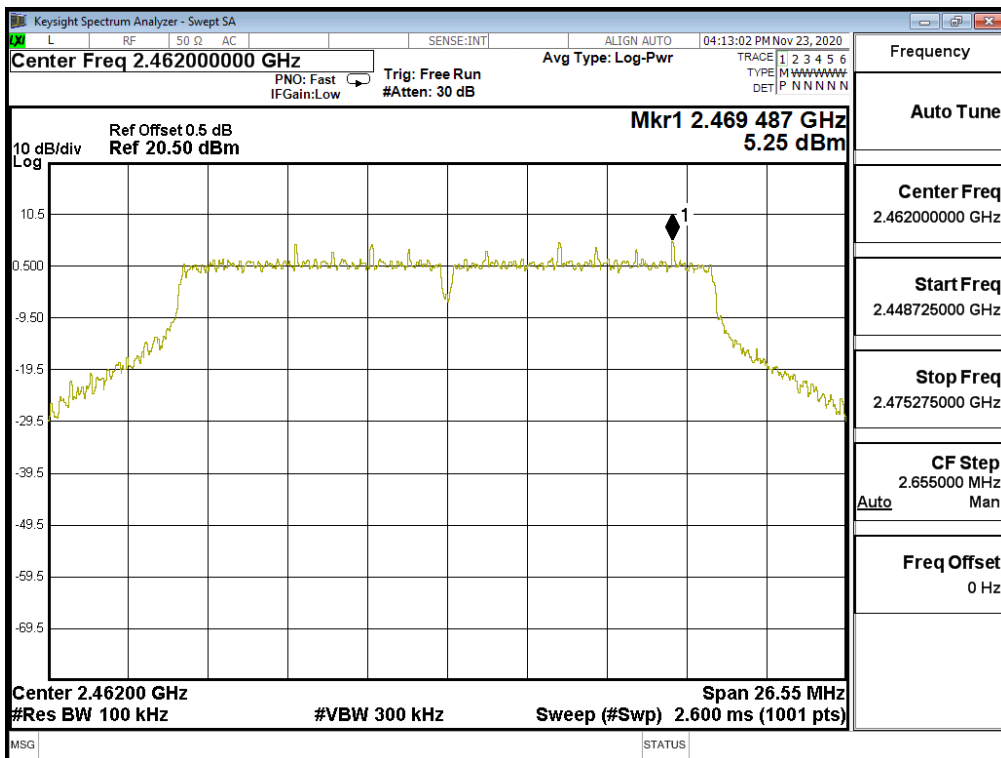


Figure Channel 12:

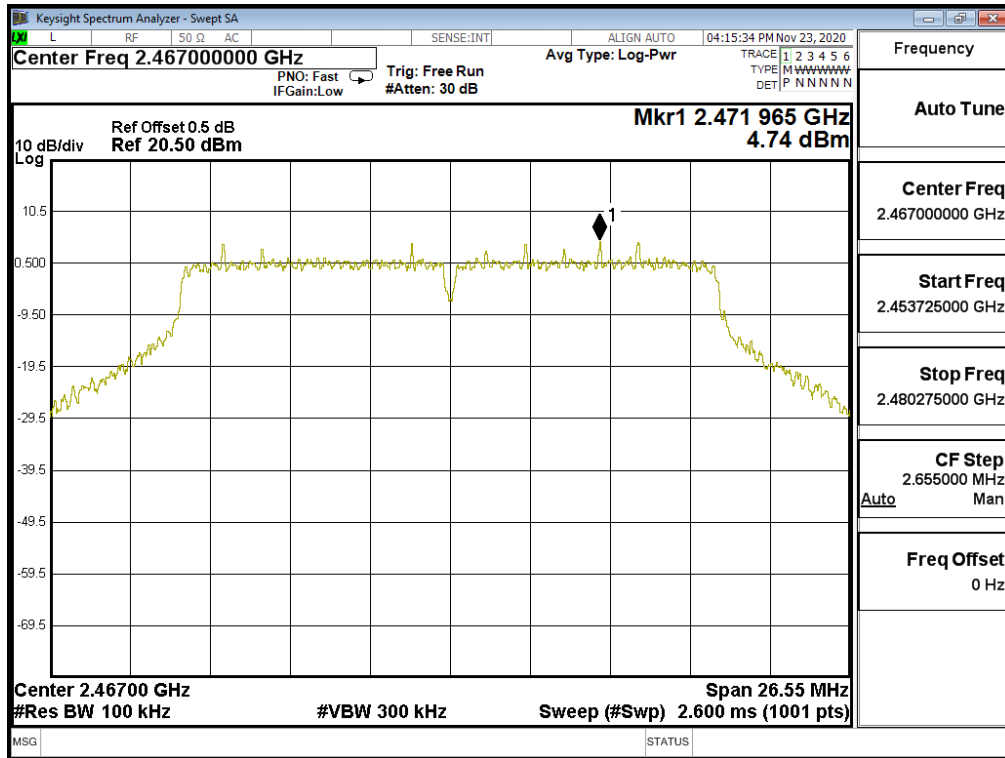
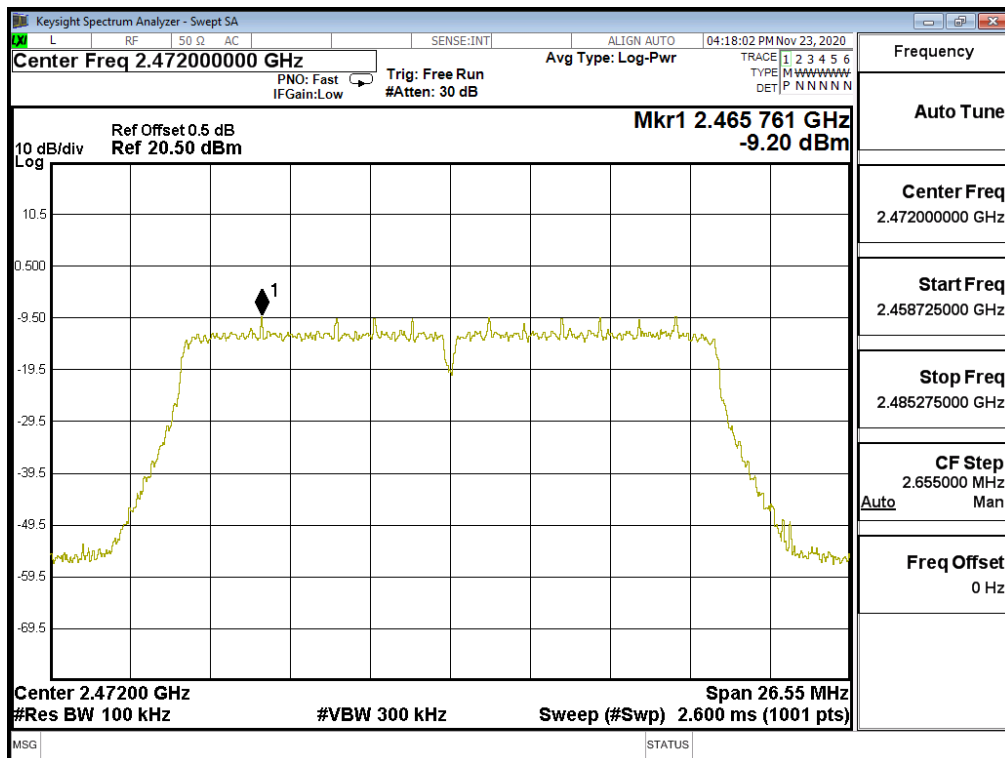


Figure Channel 13:



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 4 SISO A: Transmit (802.11n-40BW_15Mbps)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Duty Factor (dB)	Total (dBm)	Limit (dBm)	Result
03	2422	2.65	0.09	2.74	≤ 8dBm	Pass
07	2442	1.77	0.09	1.86	≤ 8dBm	Pass
09	2452	0.79	0.09	0.88	≤ 8dBm	Pass
10	2457	-0.53	0.09	-0.44	≤ 8dBm	Pass
11	2462	-8.70	0.09	-8.61	≤ 8dBm	Pass

Figure Channel 3:

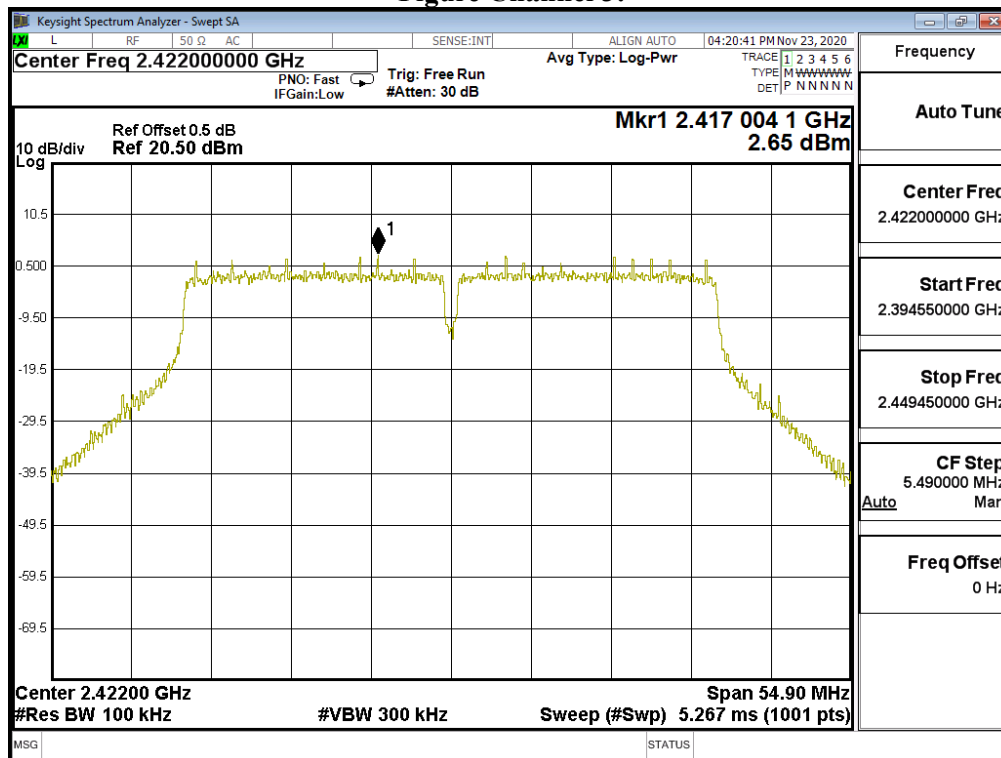


Figure Channel 7:

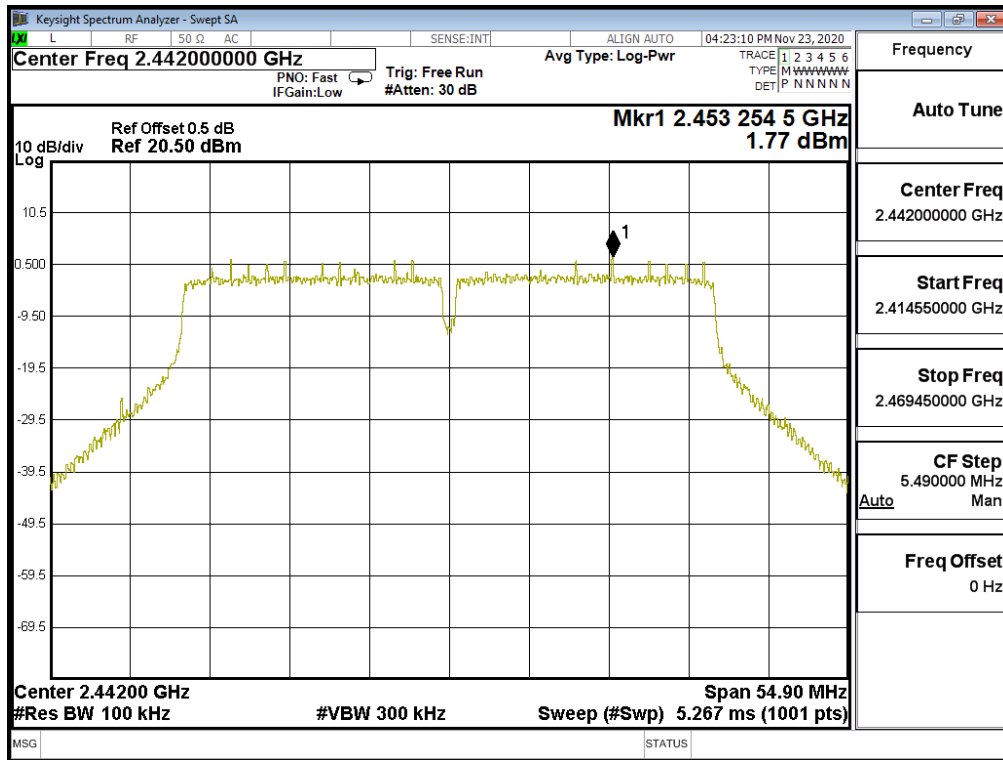


Figure Channel 9:

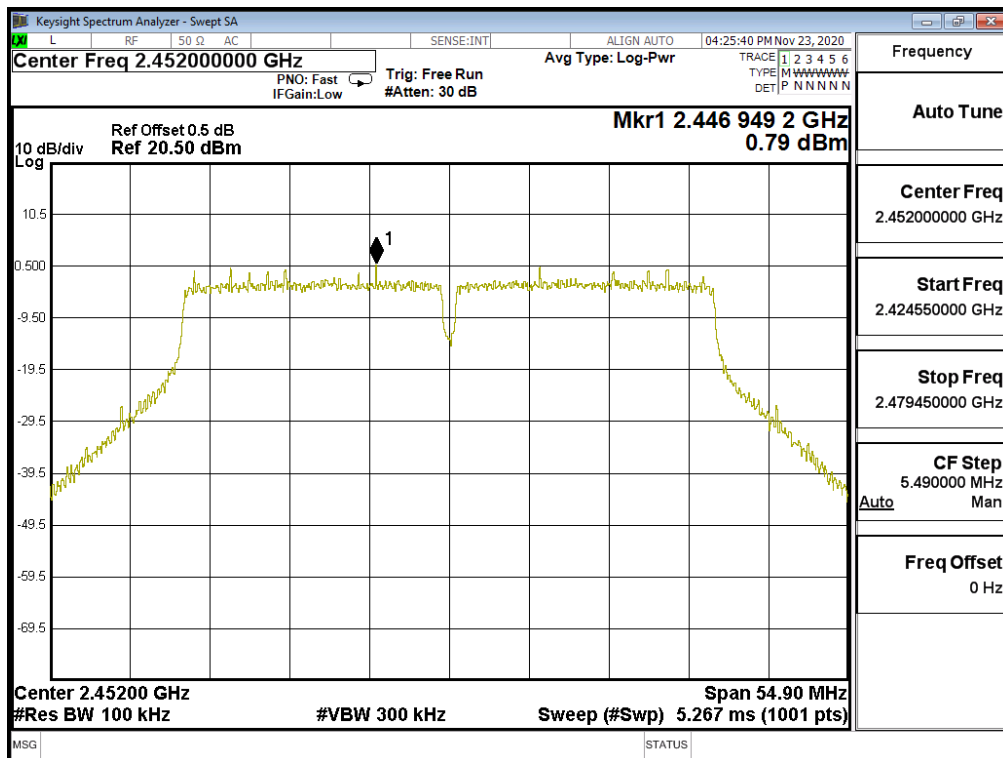


Figure Channel 10:

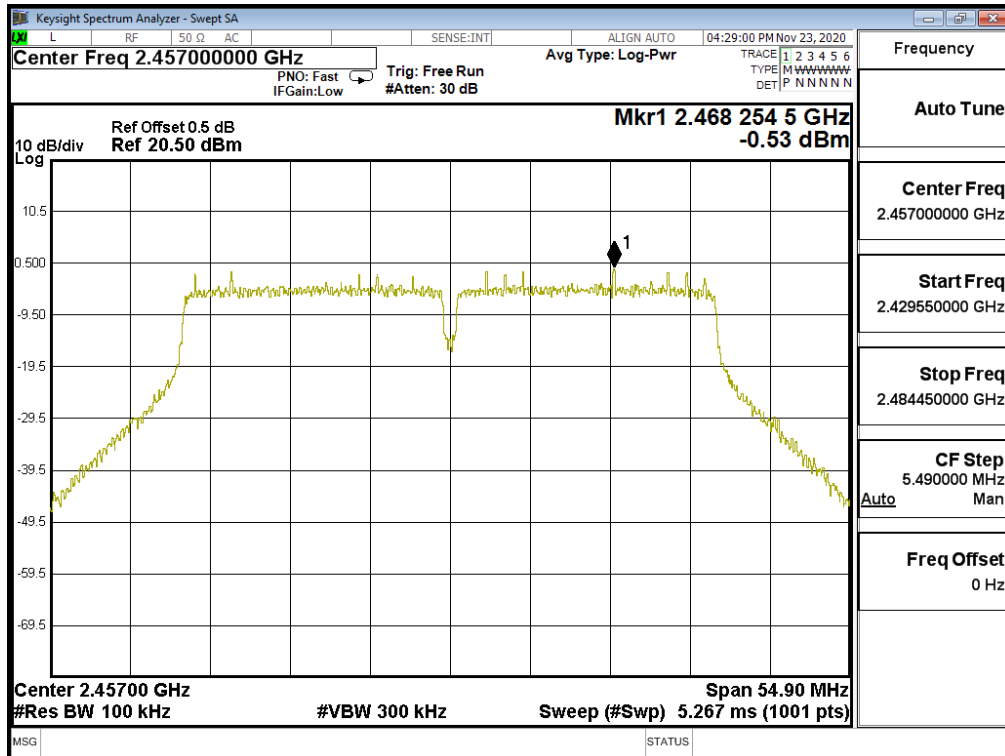
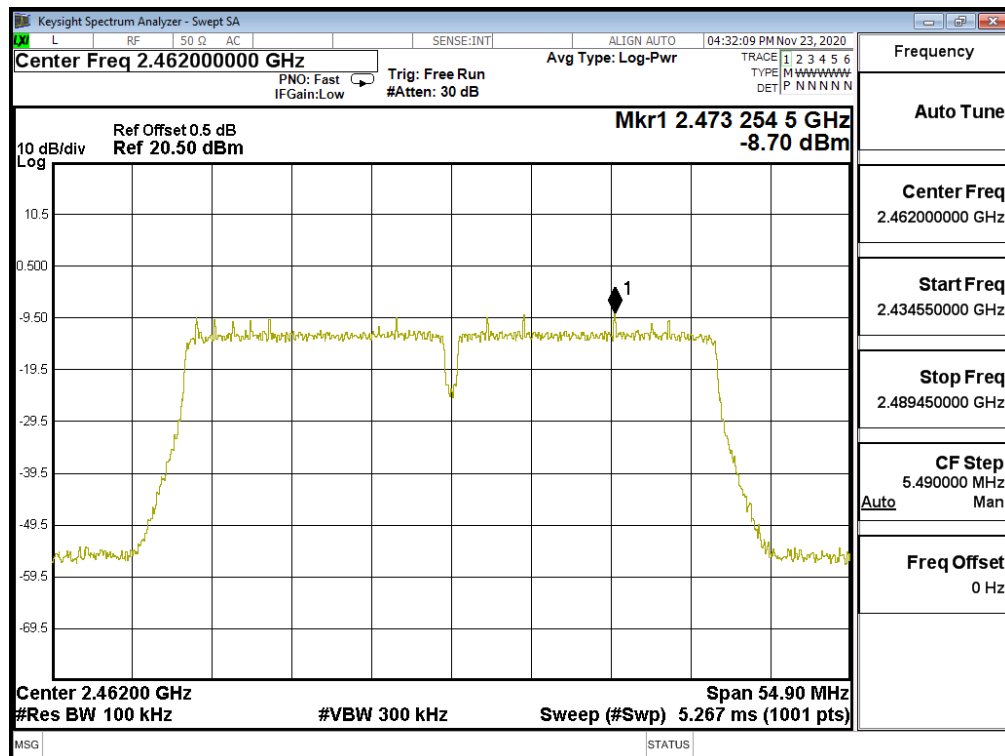


Figure Channel 11:



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 5 SISO A: Transmit (802.11ax-20BW_8.6Mbps)

RU config: Full

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Duty Factor (dB)	Total (dBm)	Limit (dBm)	Result
01	2412	6.61	0.06	6.67	≤ 8dBm	Pass
07	2442	6.54	0.06	6.60	≤ 8dBm	Pass
11	2462	4.55	0.06	4.61	≤ 8dBm	Pass
12	2467	5.07	0.06	5.13	≤ 8dBm	Pass
13	2472	-8.28	0.06	-8.22	≤ 8dBm	Pass

Figure Channel 1:

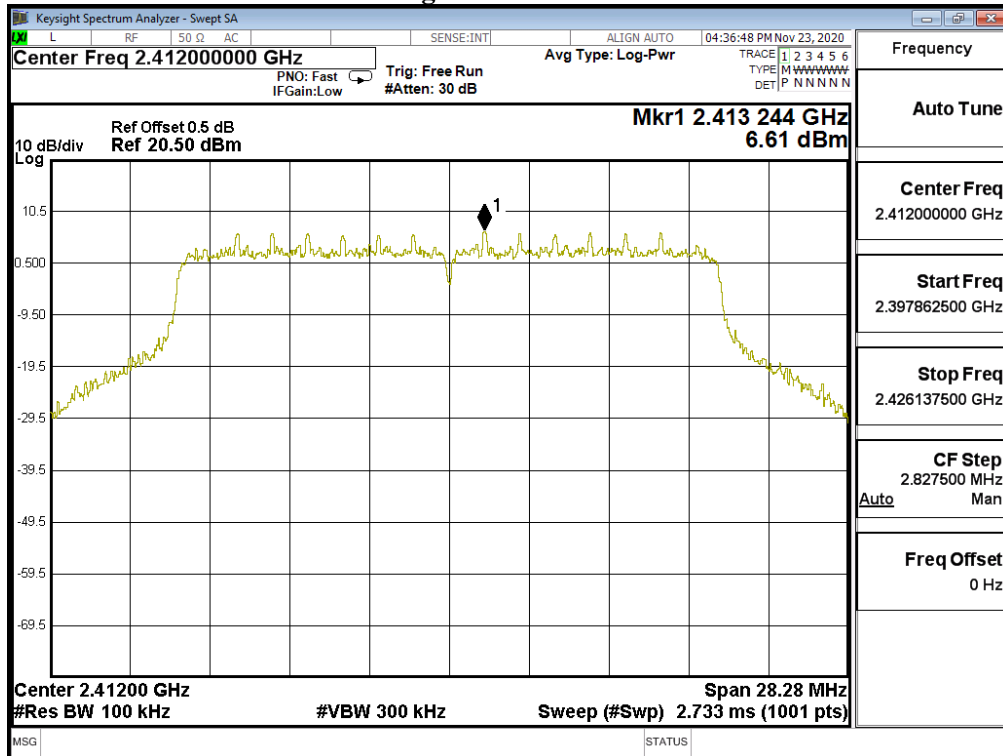


Figure Channel 7:

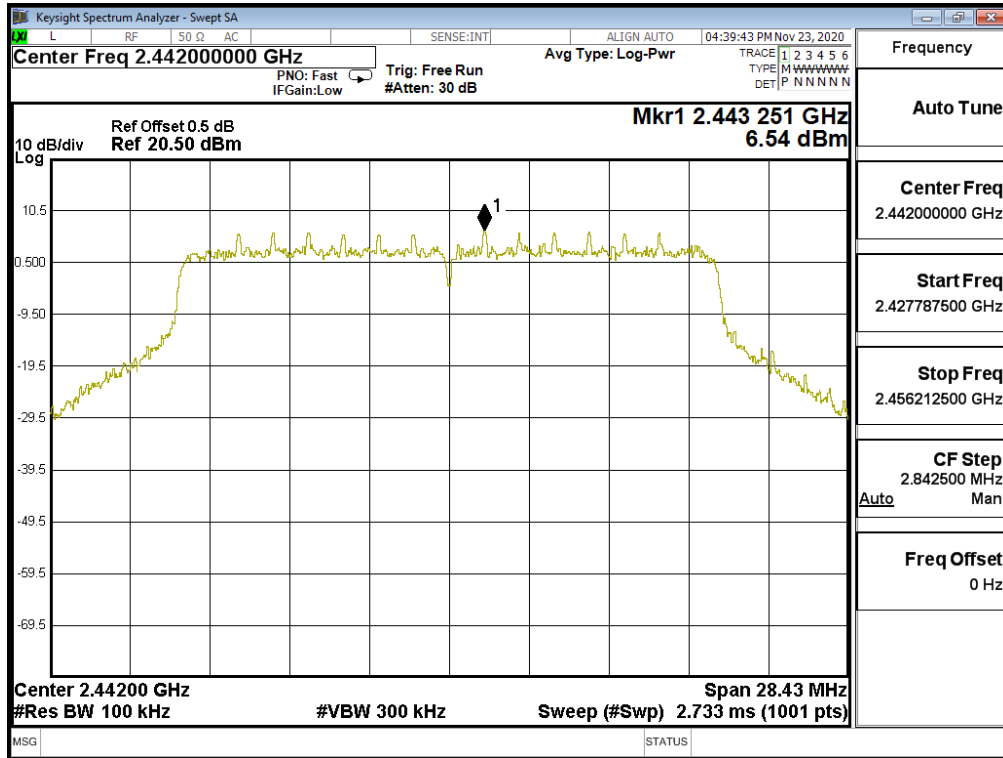


Figure Channel 11:

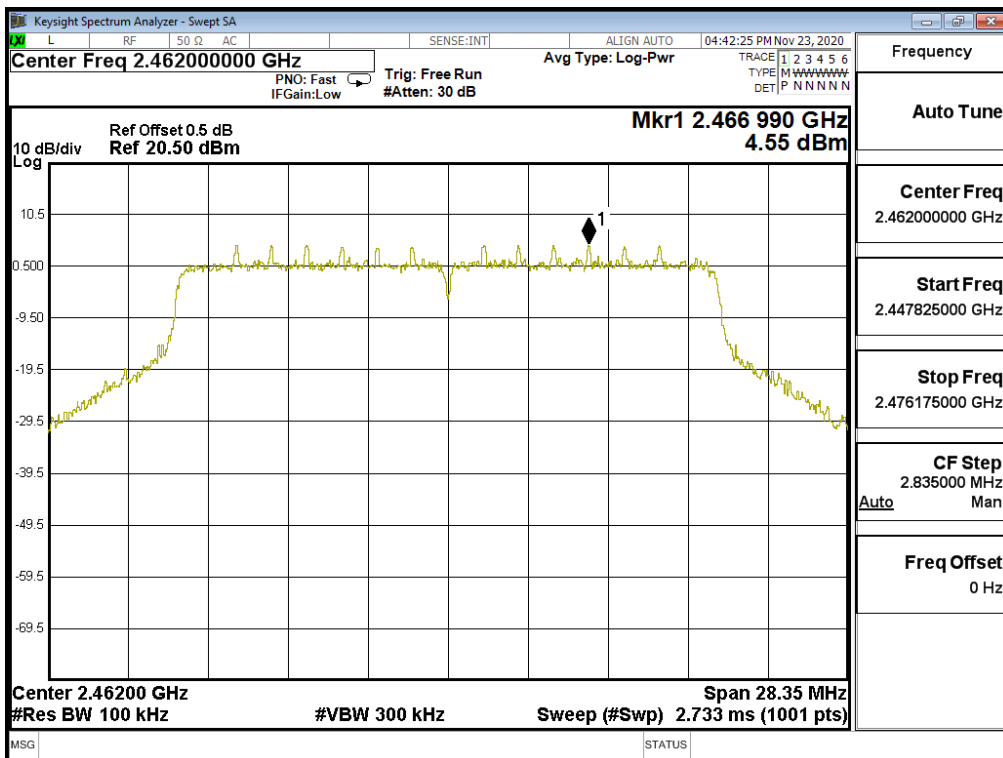


Figure Channel 12:

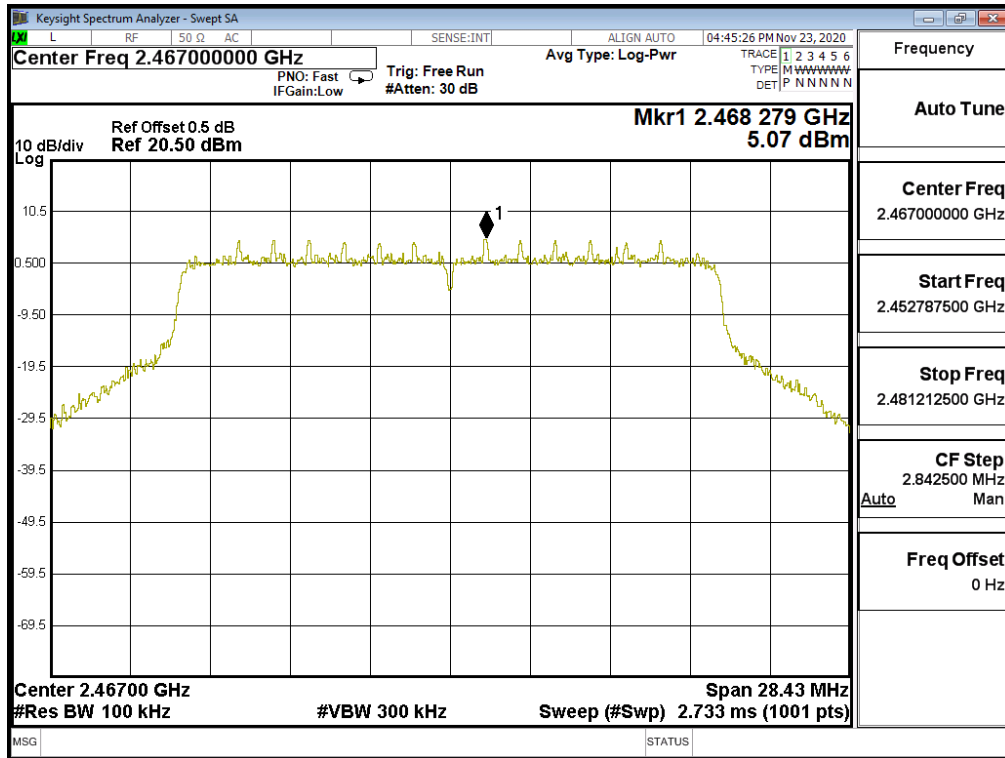
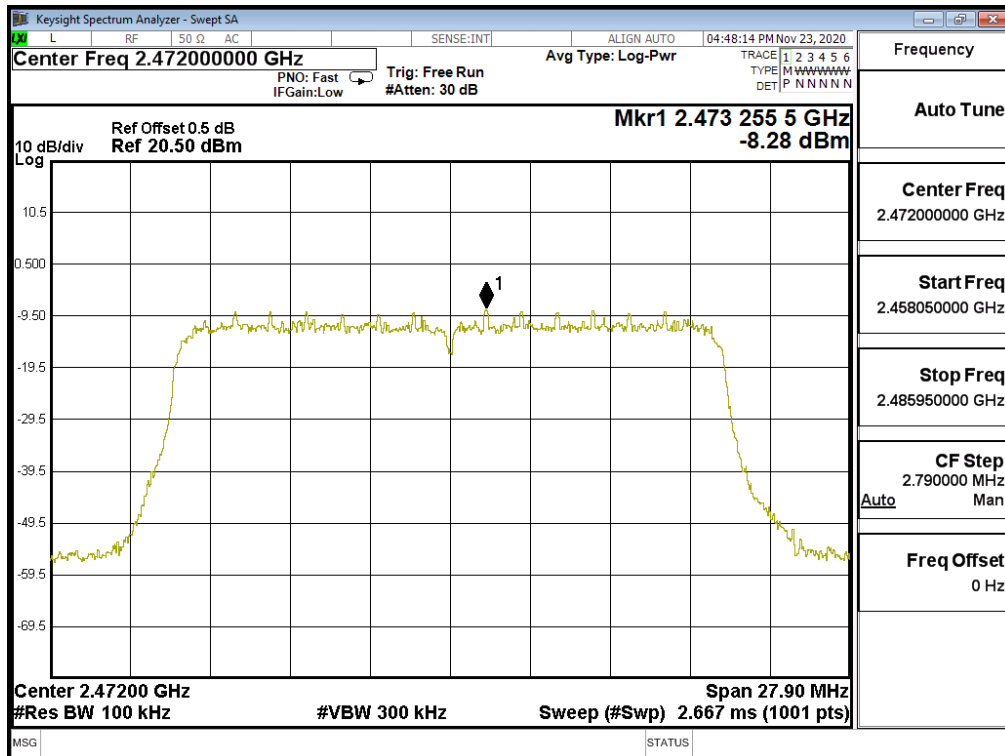


Figure Channel 13:



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 5 SISO A: Transmit (802.11ax-20BW_8.6Mbps)

RU config: Other

Channel No.	Frequency (MHz)	RU setting	Measurement Level (dBm)	Duty Factor (dB)	Total (dBm)	Limit (dBm)	Result
1	2412	26/0	5.86	0.14	6.00	≤ 8dBm	Pass
		52/37	7.69	0.17	7.86	≤ 8dBm	Pass
		106/53	6.32	0.14	6.46	≤ 8dBm	Pass
13	2472	26/8	-0.55	0.14	-0.41	≤ 8dBm	Pass
		52/40	-2.86	0.17	-2.69	≤ 8dBm	Pass
		106/54	-5.94	0.14	-5.80	≤ 8dBm	Pass

Figure Channel 1: 26/0

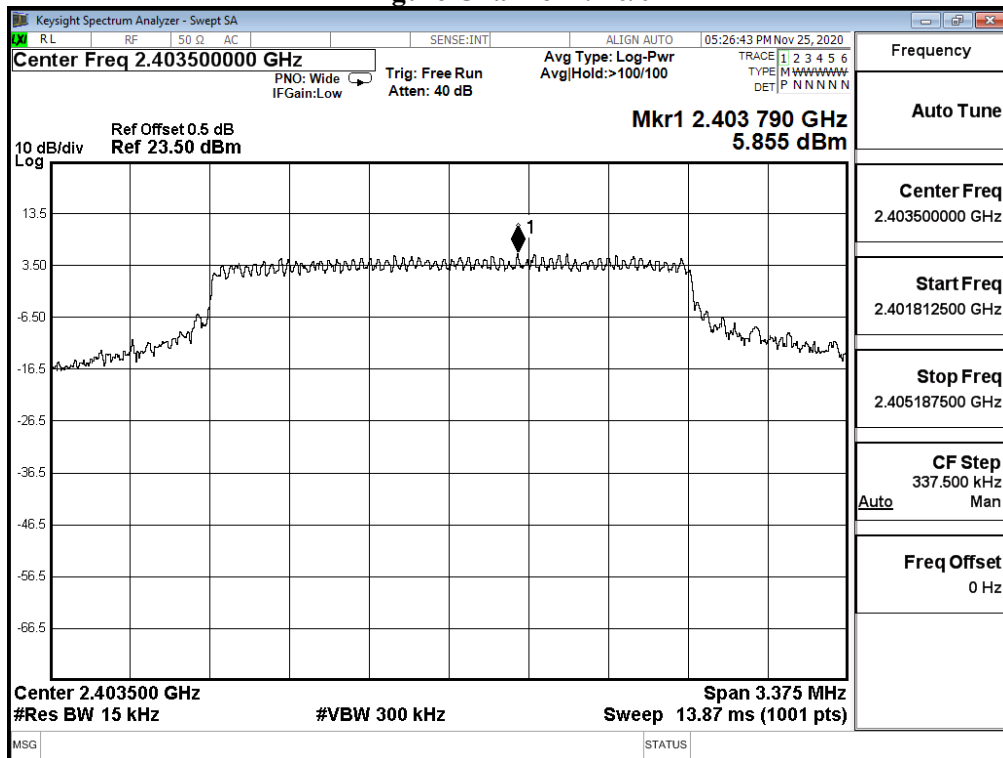


Figure Channel 1: 52/37

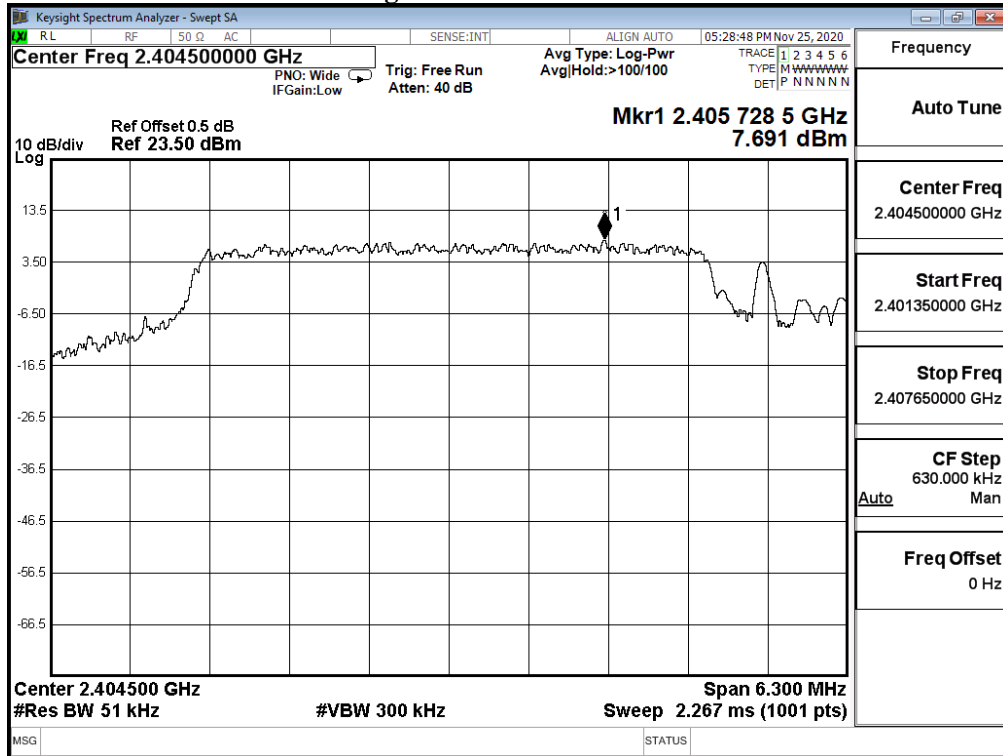


Figure Channel 1: 106/53

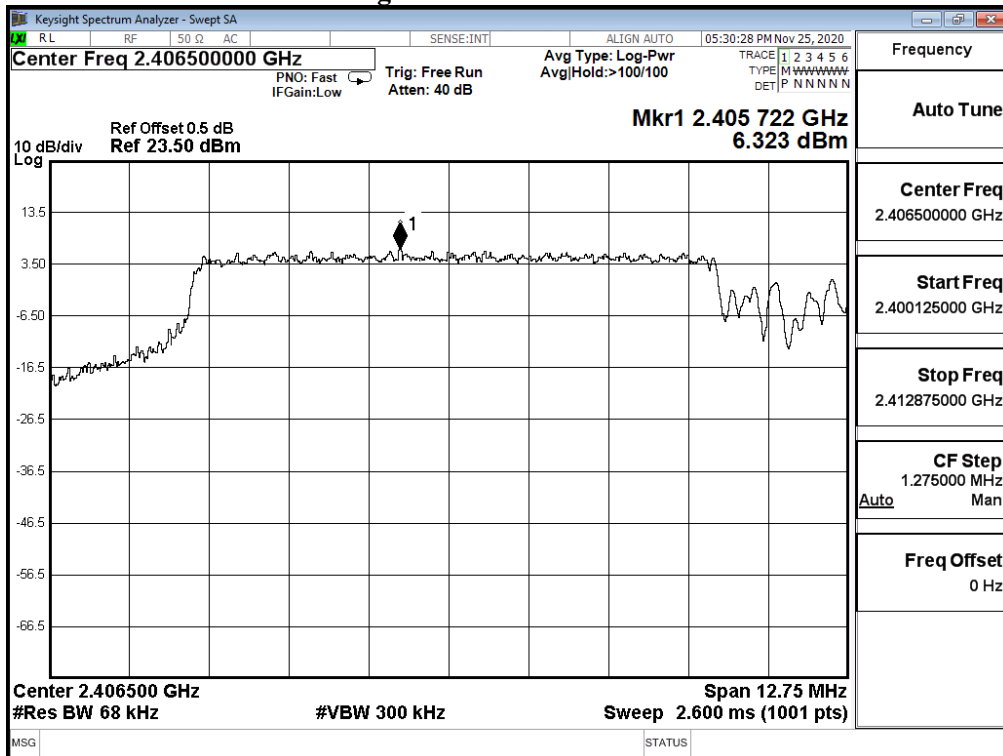


Figure Channel 13: 26/8

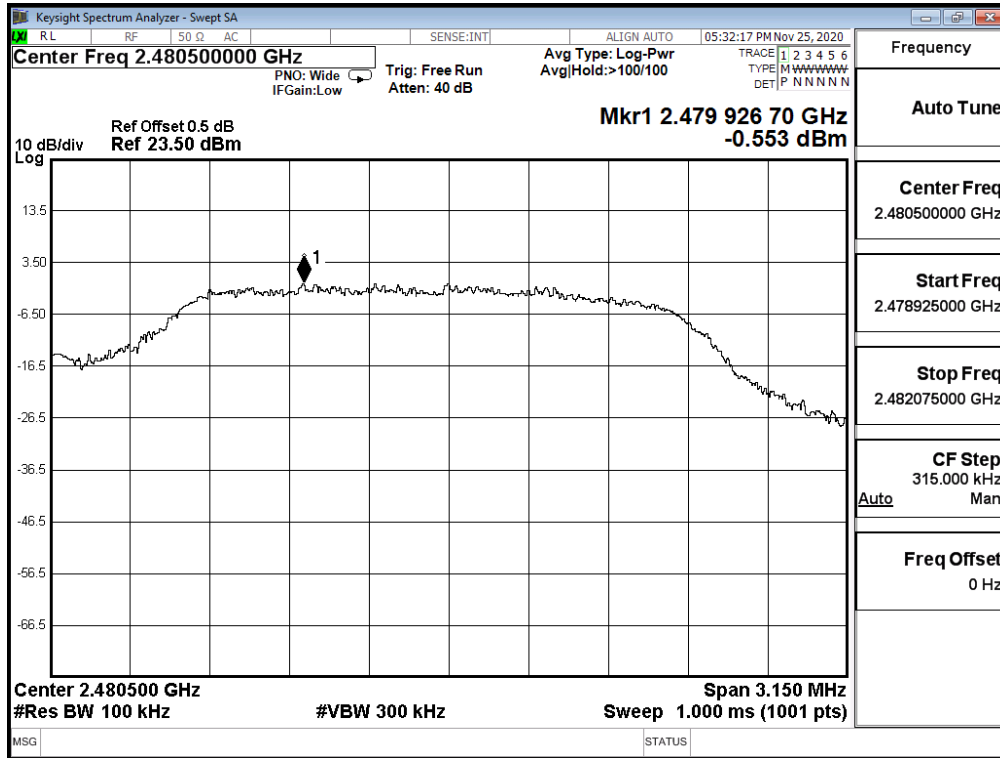


Figure Channel 13: 52/40

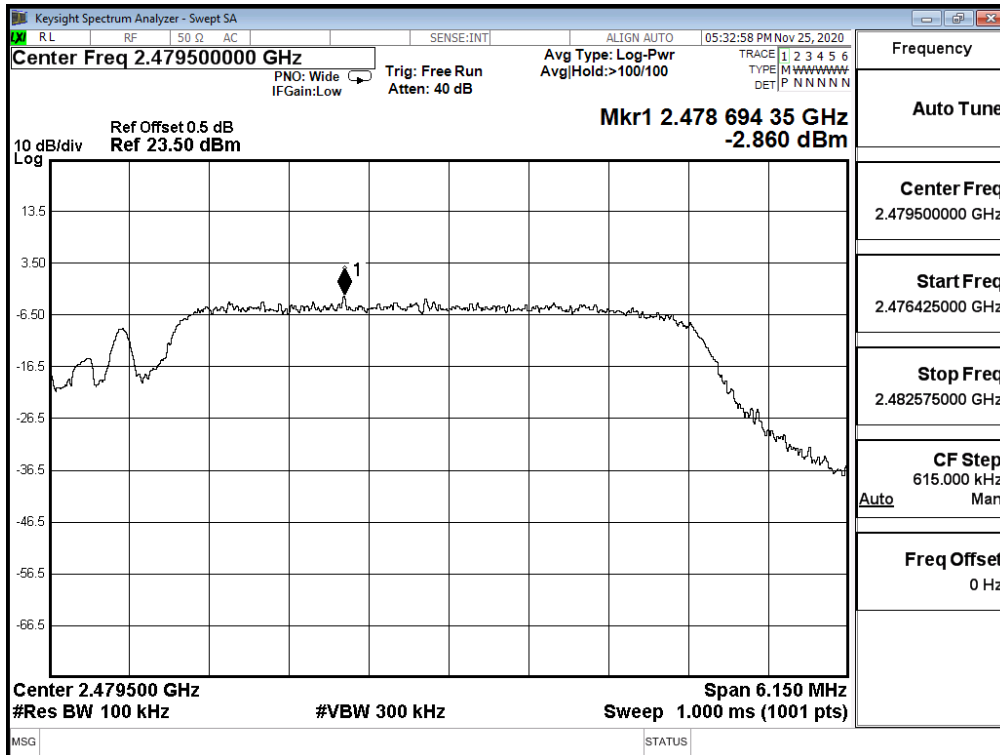
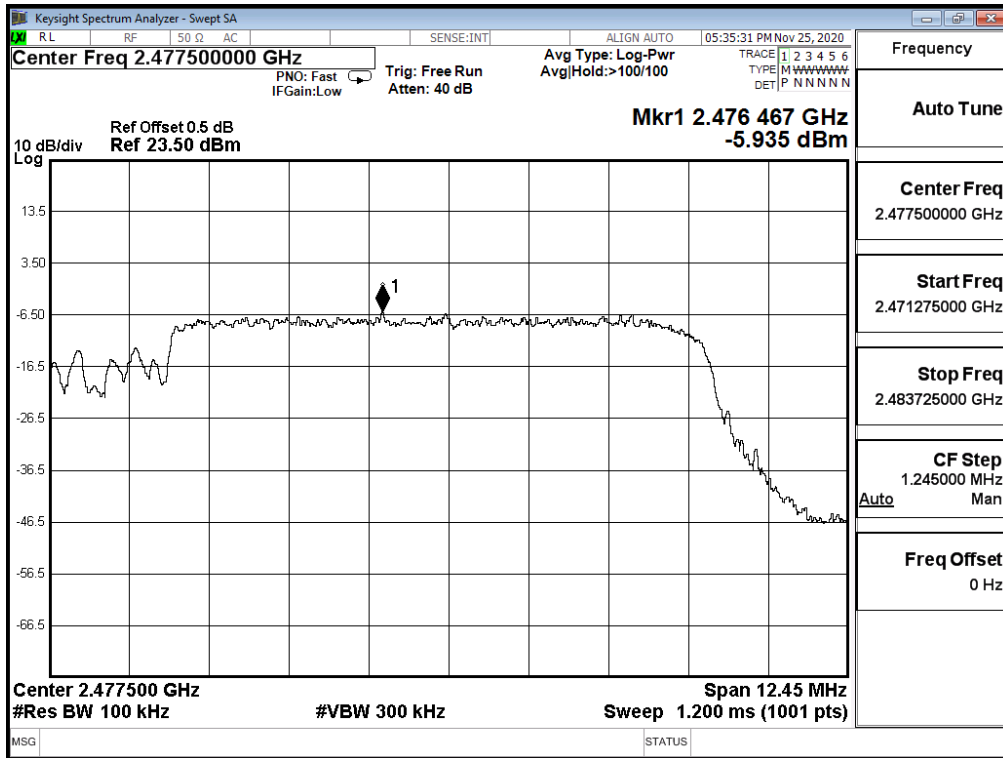


Figure Channel 13: 106/54



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 6 SISO A: Transmit (802.11ax-40BW_17.2Mbps)

RU config: Full

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Duty Factor (dB)	Total (dBm)	Limit (dBm)	Result
03	2422	1.94	0.07	2.01	≤ 8dBm	Pass
07	2442	2.00	0.07	2.07	≤ 8dBm	Pass
09	2452	2.07	0.07	2.14	≤ 8dBm	Pass
10	2457	-1.07	0.07	-1.00	≤ 8dBm	Pass
11	2462	-8.71	0.07	-8.64	≤ 8dBm	Pass

Figure Channel 3:

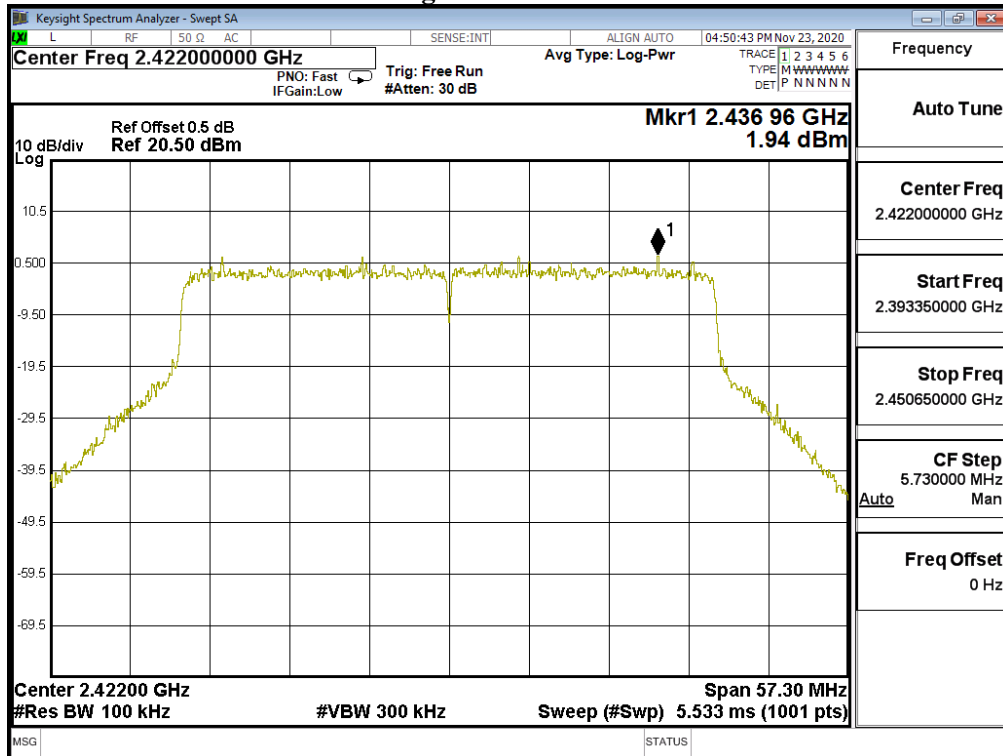


Figure Channel 7:

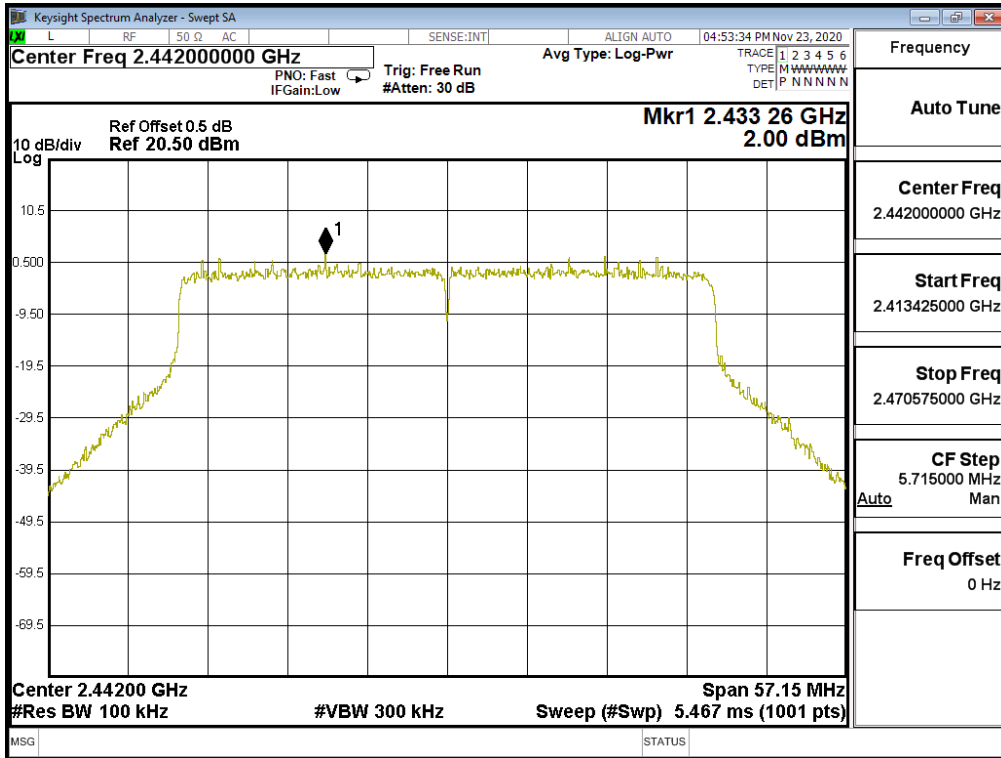


Figure Channel 9:

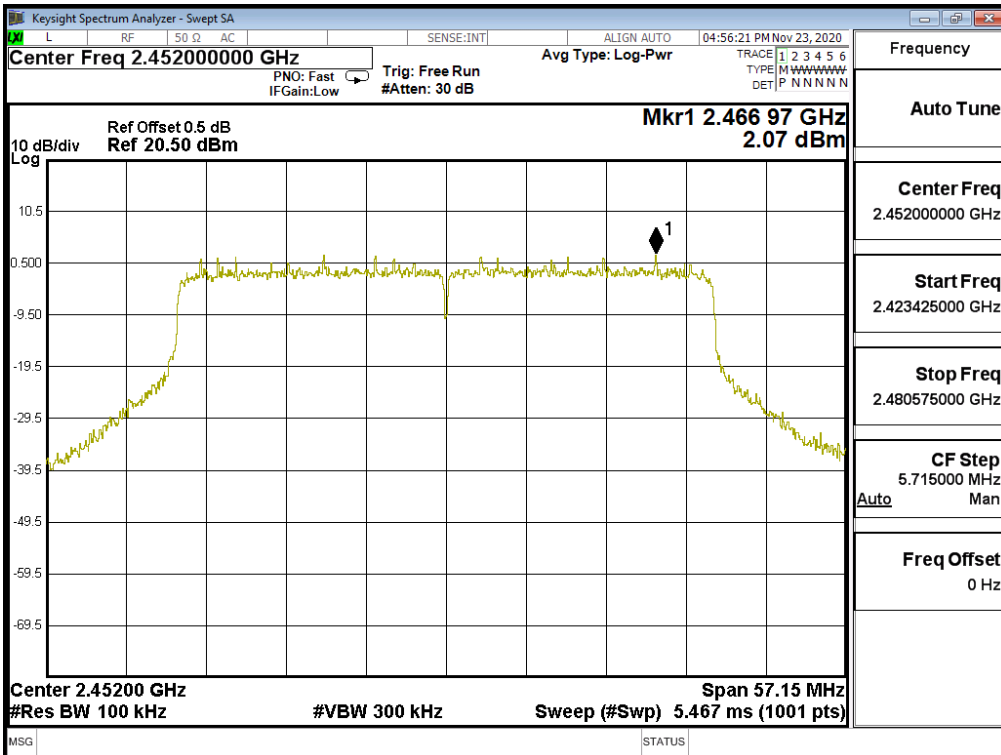


Figure Channel 10:

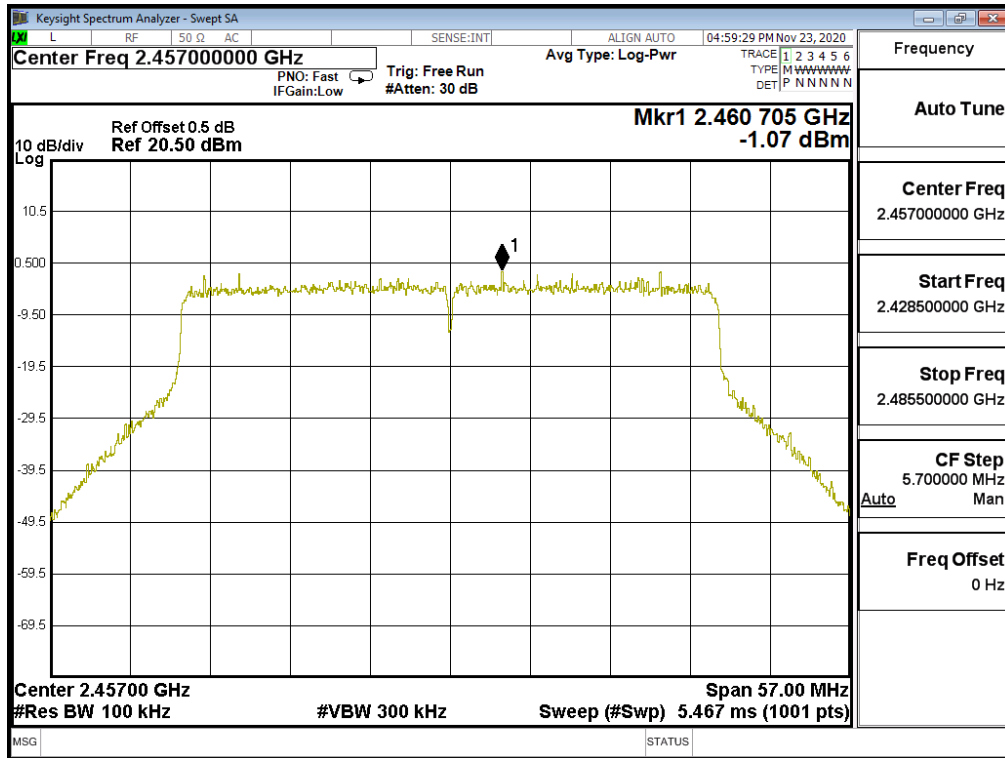
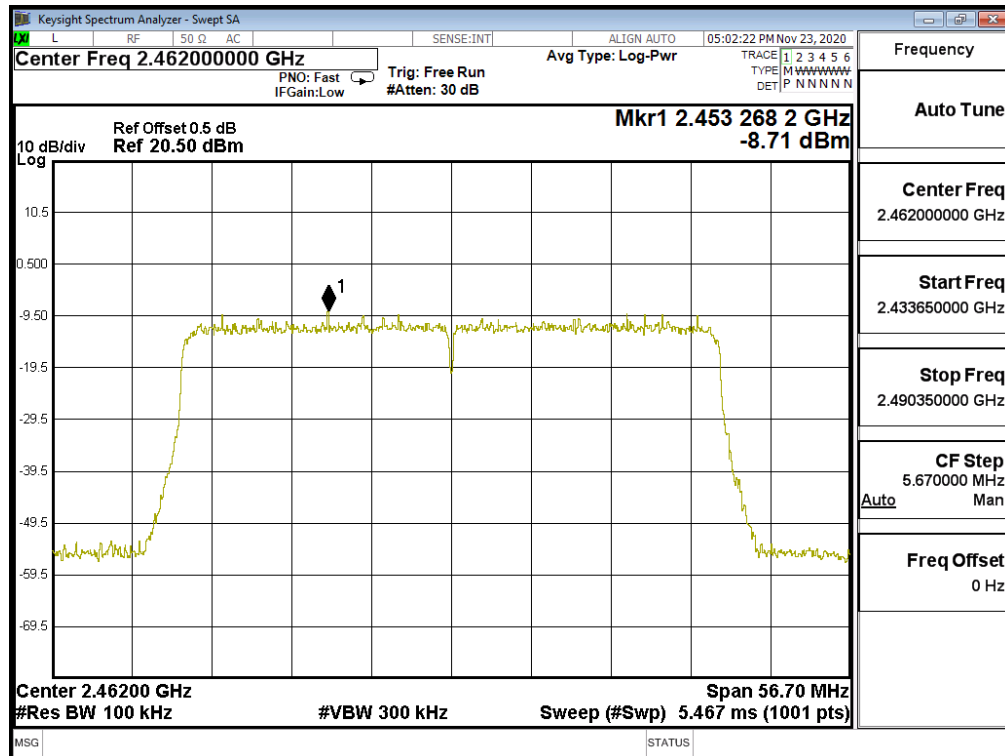


Figure Channel 11:



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 6 SISO A: Transmit (802.11ax-40BW_17.2Mbps)

RU config: Other

Channel No.	Frequency (MHz)	RU setting	Measurement Level (dBm)	Duty Factor (dB)	Total (dBm)	Limit (dBm)	Result
3	2422	242/61	5.90	0.07	5.97	≤ 8dBm	Pass
11	2462	242/62	-5.83	0.07	-5.76	≤ 8dBm	Pass

Figure Channel 3: 242/61

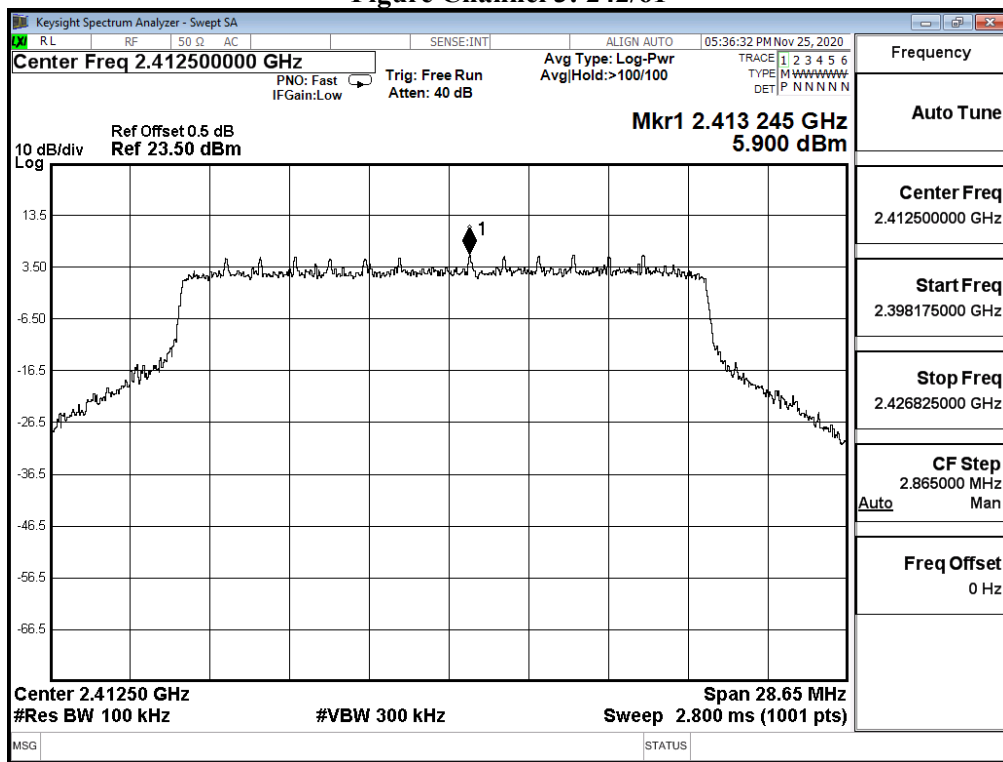
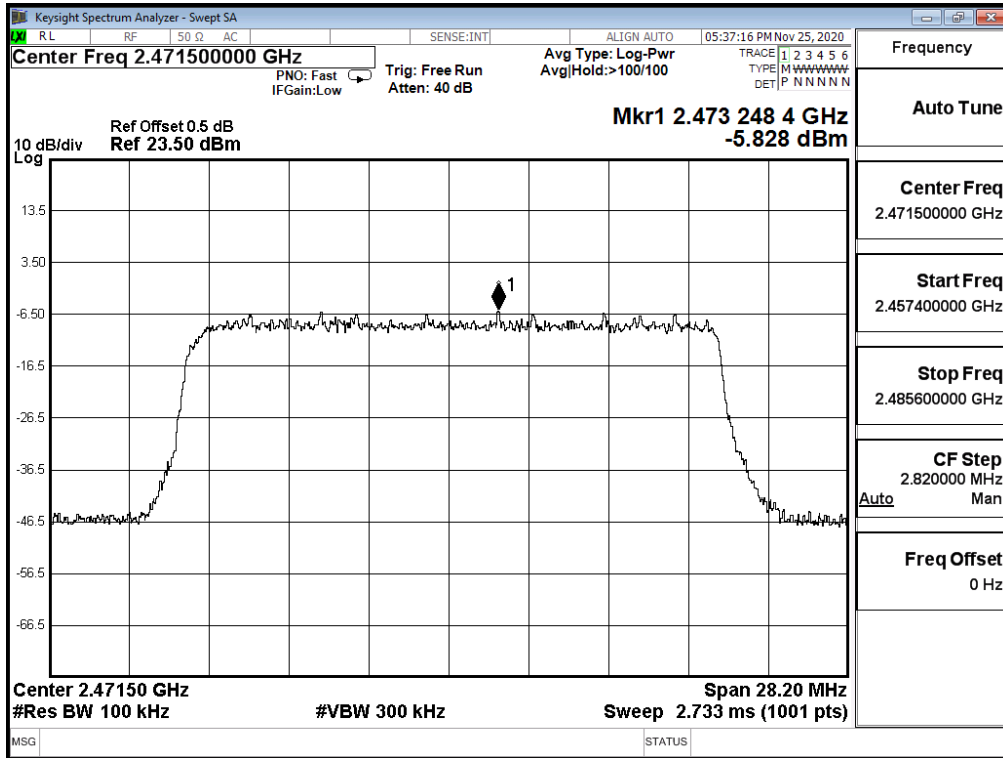


Figure Channel 11: 242/62



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 13 MIMO: Transmit (802.11n-20BW_14.4Mbps)

Channel No.	Frequency (MHz)	Chain	Measurement Level (dBm)	Duty Factor (dB)	Total (dBm)	Limit (dBm)	Result
1	2412	A	3.60	0.14	6.75	≤ 8dBm	Pass
		B	3.27	0.14	6.42	≤ 8dBm	Pass
7	2442	A	4.39	0.14	7.54	≤ 8dBm	Pass
		B	3.38	0.14	6.53	≤ 8dBm	Pass
11	2462	A	3.71	0.14	6.86	≤ 8dBm	Pass
		B	4.23	0.14	7.38	≤ 8dBm	Pass
12	2467	A	1.46	0.14	4.61	≤ 8dBm	Pass
		B	1.70	0.14	4.85	≤ 8dBm	Pass
13	2472	A	-12.50	0.14	-9.35	≤ 8dBm	Pass
		B	-12.33	0.14	-9.18	≤ 8dBm	Pass

Note :

The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

Figure Channel 1: (Chain A)

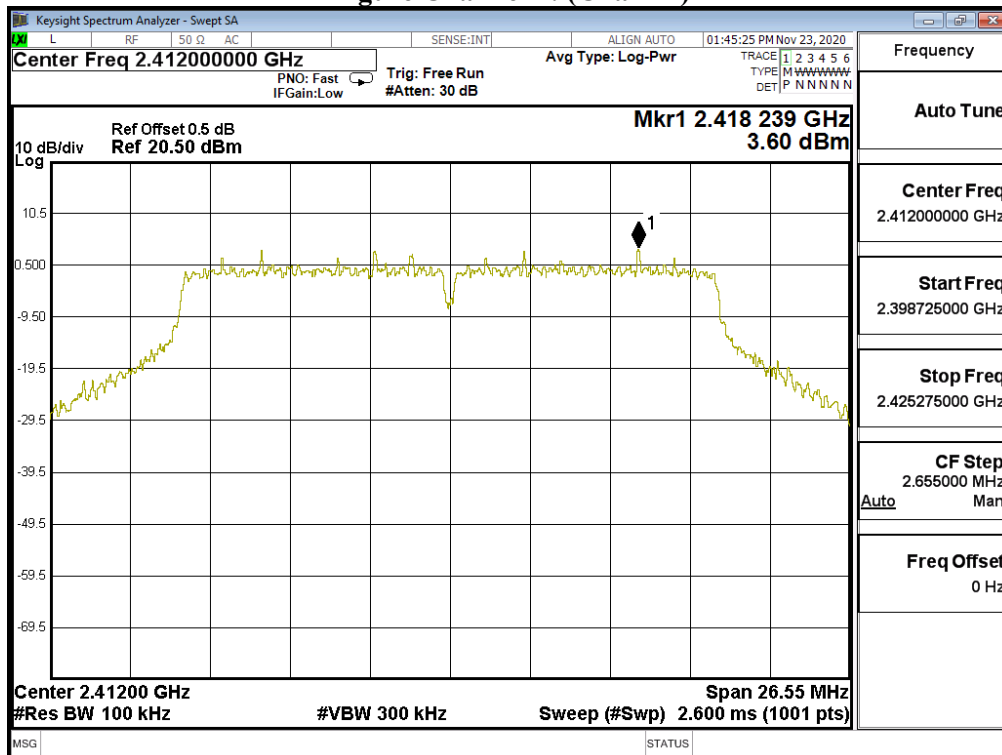


Figure Channel 7: (Chain A)

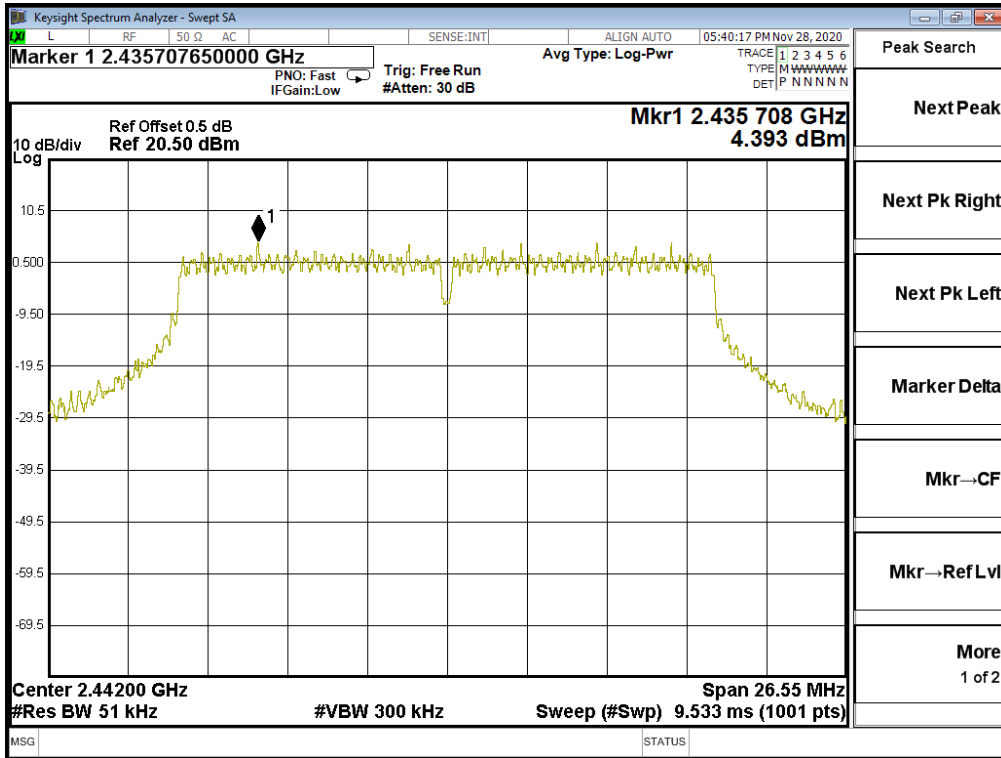


Figure Channel 11: (Chain A)

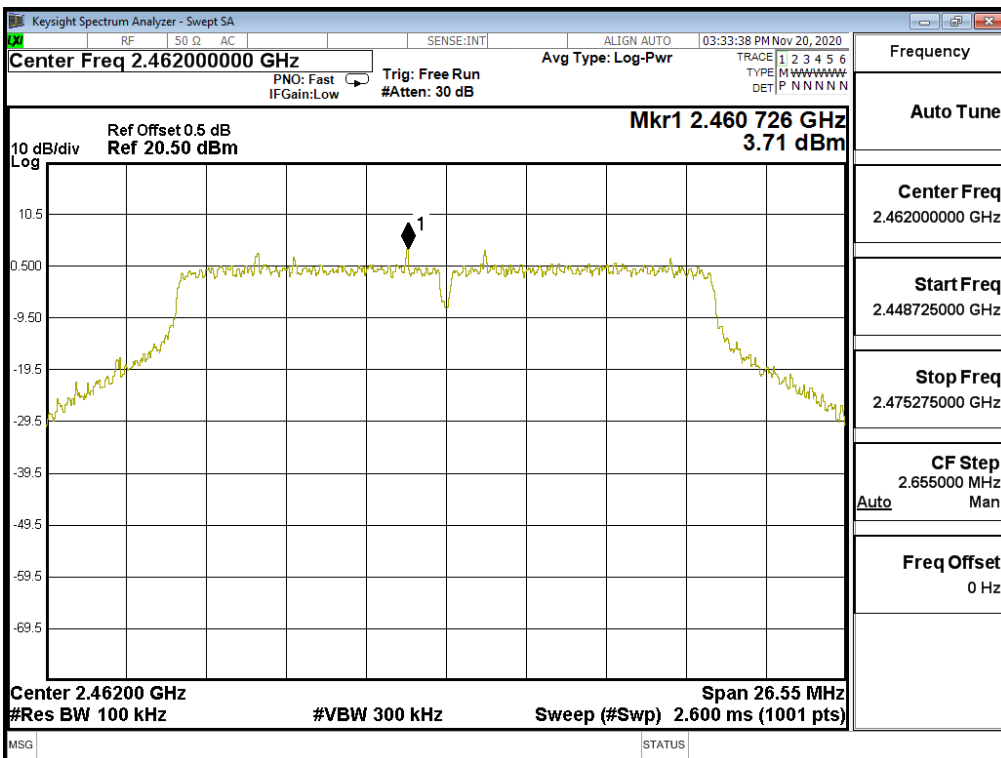


Figure Channel 12: (Chain A)

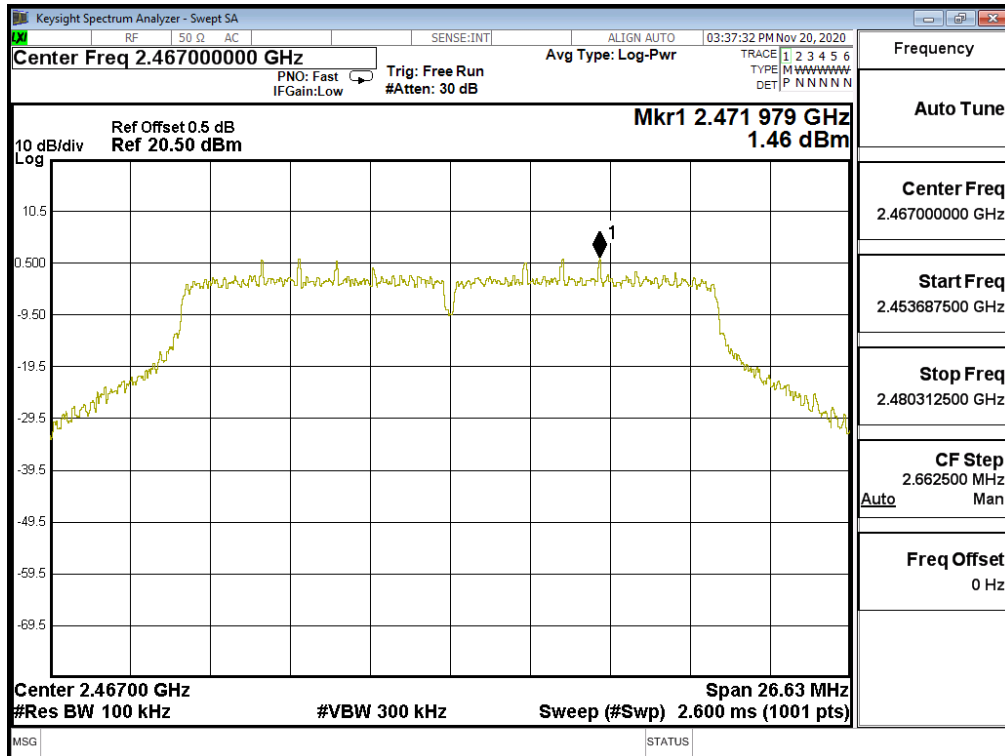


Figure Channel 13: (Chain A)

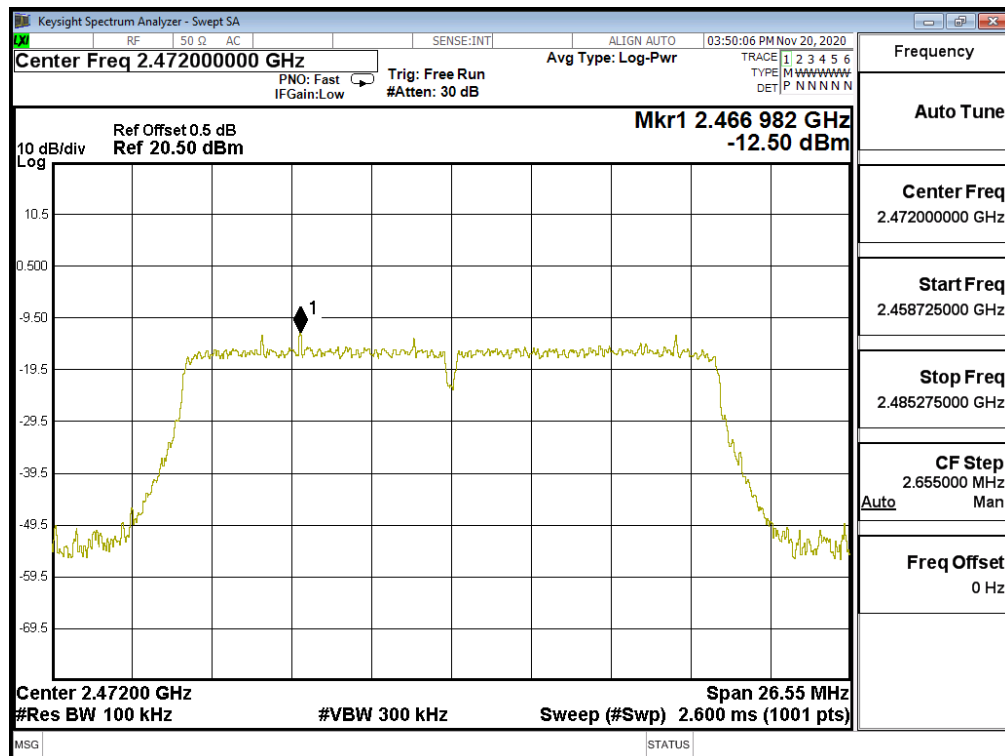


Figure Channel 1: (Chain B)

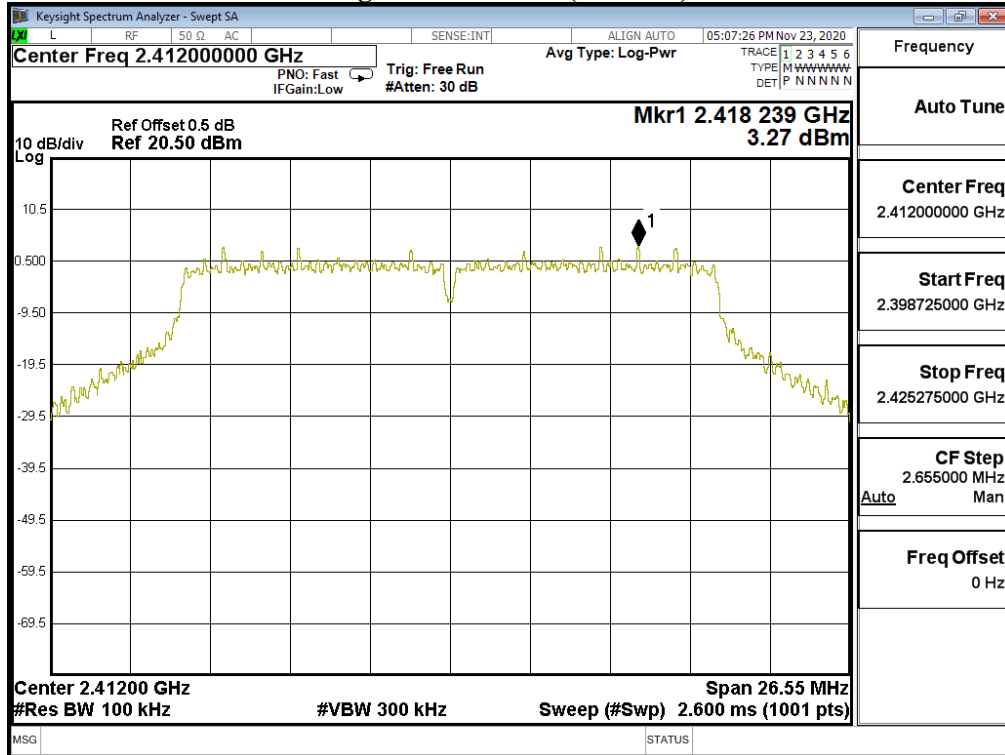


Figure Channel 7: (Chain B)

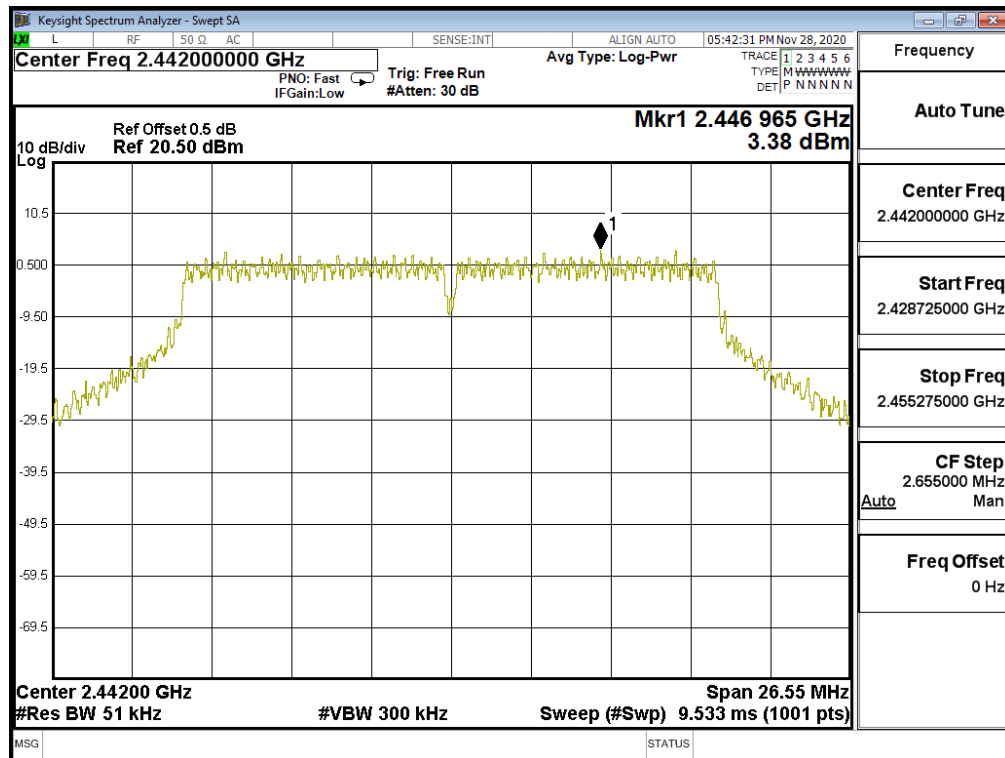


Figure Channel 11: (Chain B)

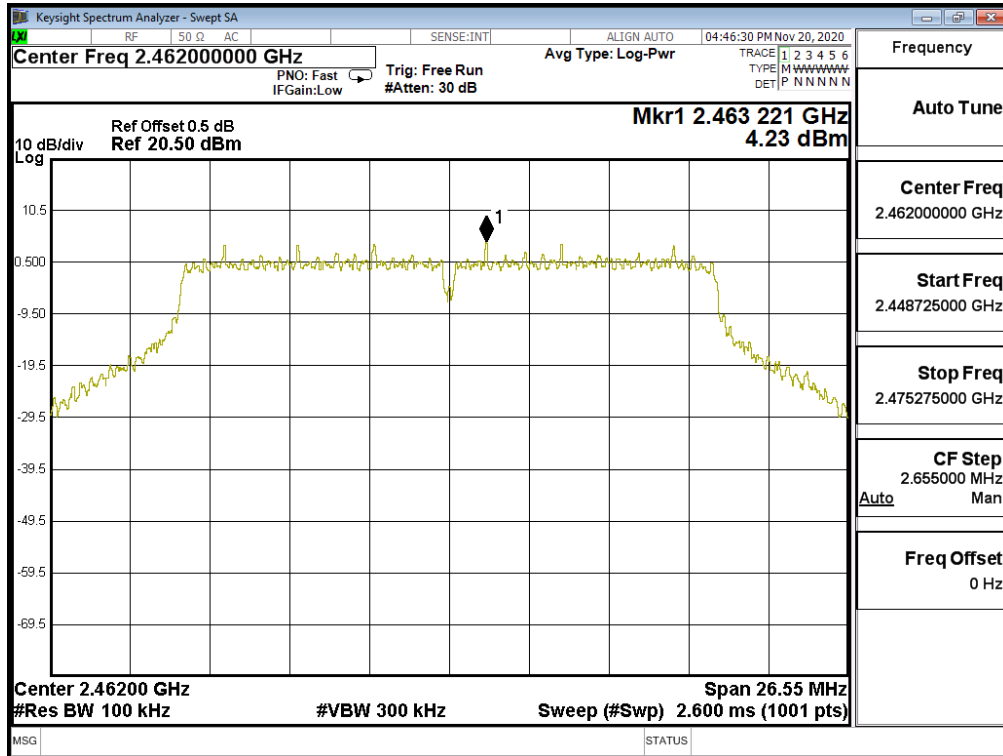


Figure Channel 12: (Chain B)

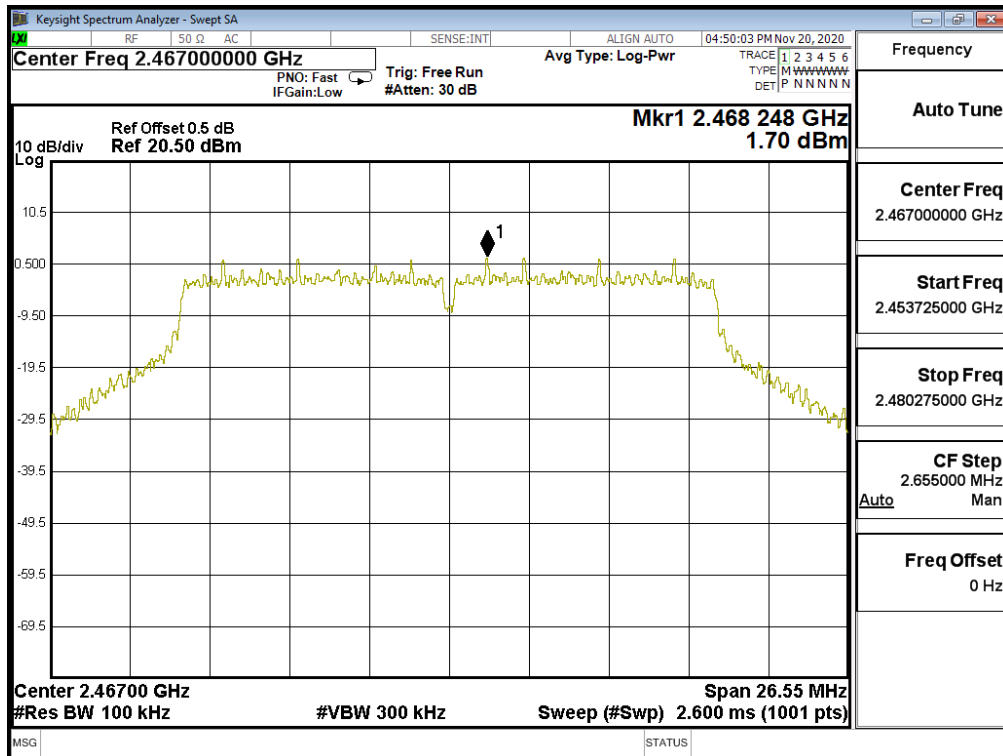
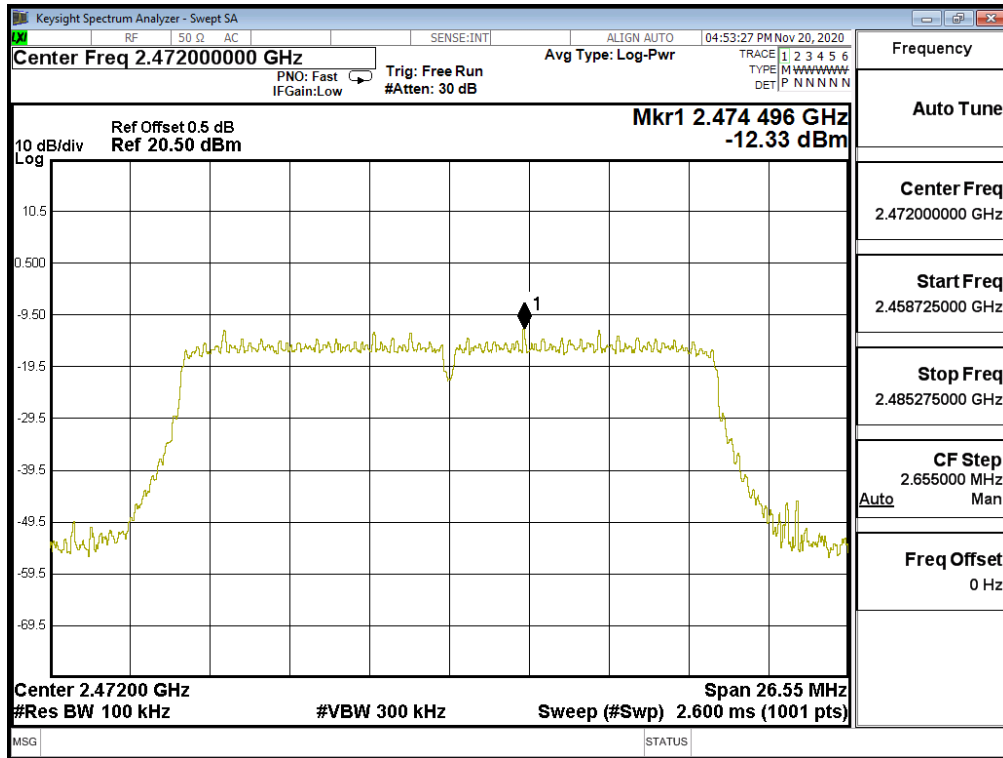


Figure Channel 13: (Chain B)



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 14 MIMO: Transmit (802.11n-40BW_30Mbps)

Channel No.	Frequency (MHz)	Chain	Measurement Level (dBm)	Duty Factor (dB)	Total (dBm)	Limit (dBm)	Result
3	2422	A	0.67	0.19	3.87	≤ 8dBm	Pass
		B	0.31	0.19	3.51	≤ 8dBm	Pass
7	2442	A	0.24	0.19	3.44	≤ 8dBm	Pass
		B	0.02	0.19	3.22	≤ 8dBm	Pass
9	2452	A	-0.30	0.19	2.90	≤ 8dBm	Pass
		B	-0.20	0.19	3.00	≤ 8dBm	Pass
10	2457	A	-4.02	0.19	-0.82	≤ 8dBm	Pass
		B	-4.35	0.19	-1.15	≤ 8dBm	Pass
11	2462	A	-11.15	0.19	-7.95	≤ 8dBm	Pass
		B	-11.27	0.19	-8.07	≤ 8dBm	Pass

Note :

The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

Figure Channel 3: (Chain A)

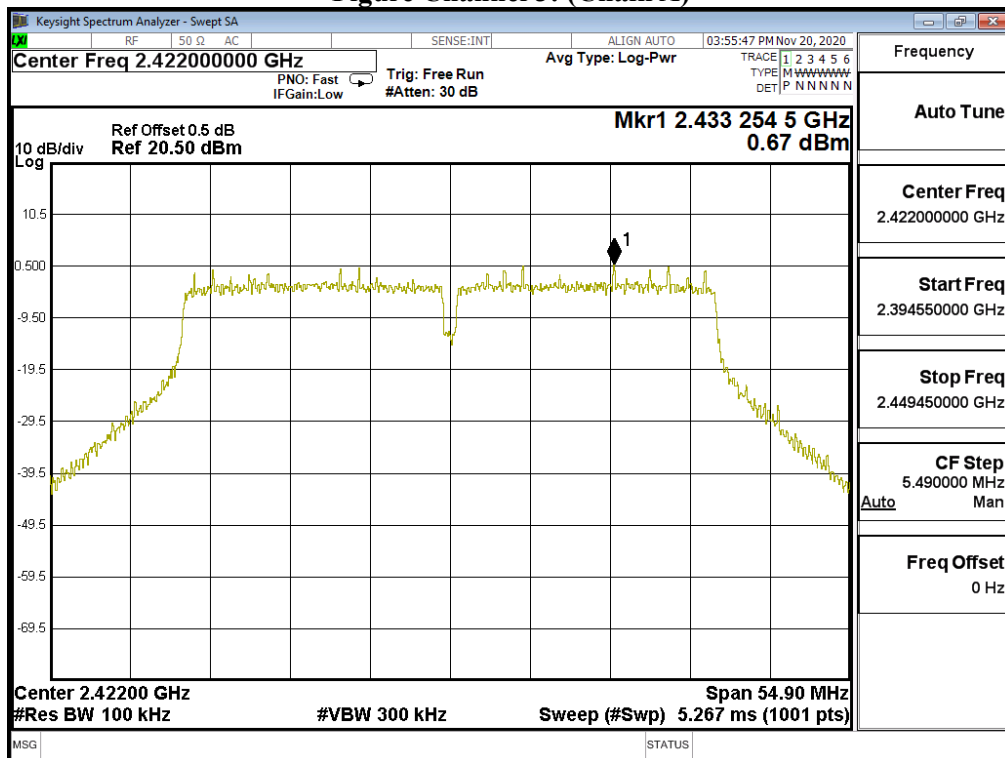


Figure Channel 7: (Chain A)

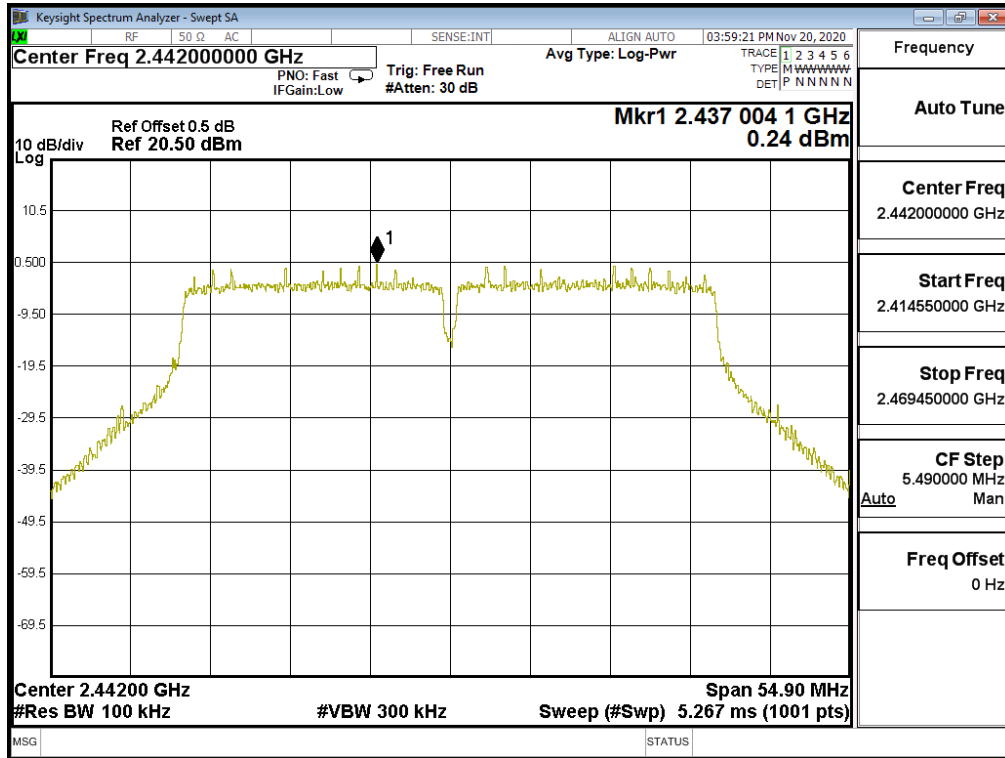


Figure Channel 9: (Chain A)

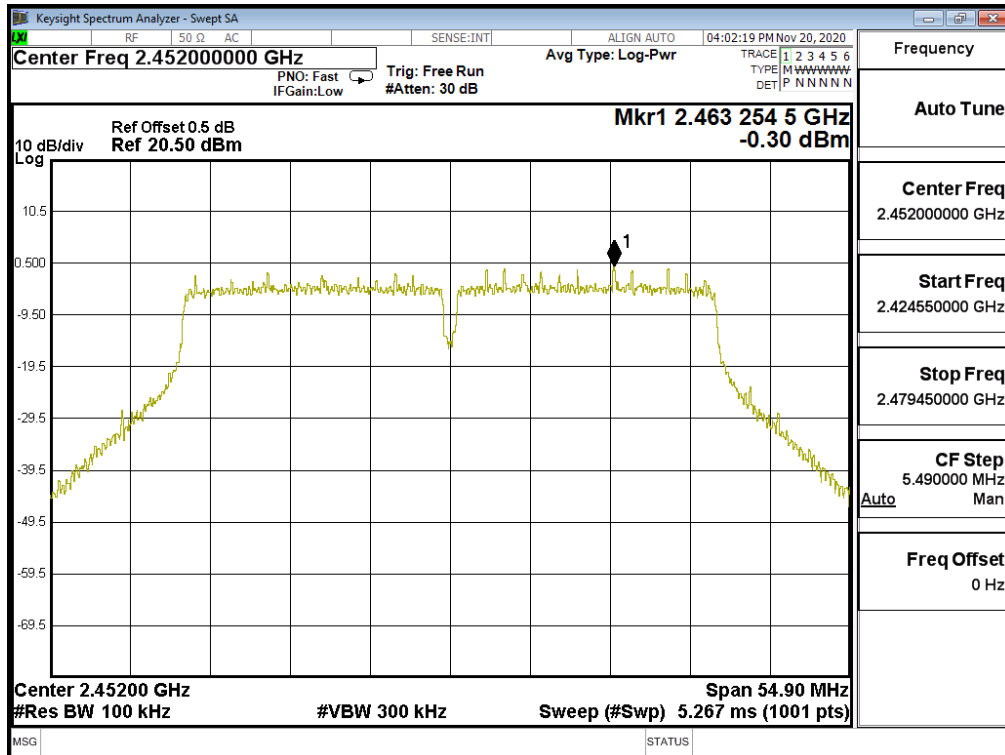


Figure Channel 10: (Chain A)

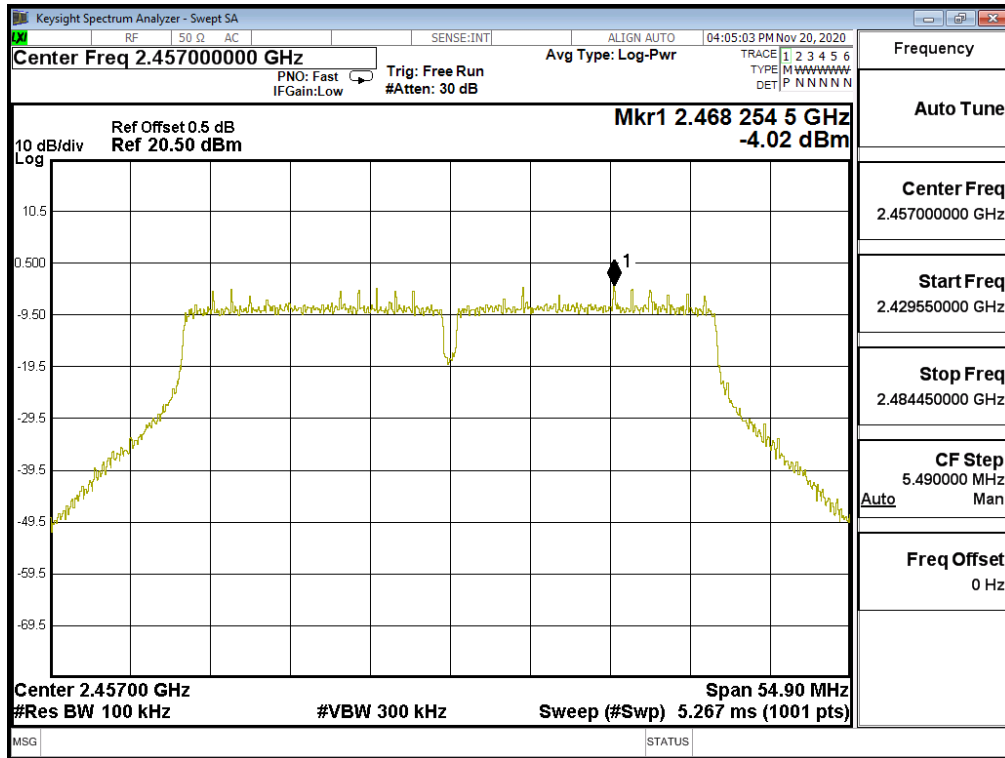


Figure Channel 11: (Chain A)

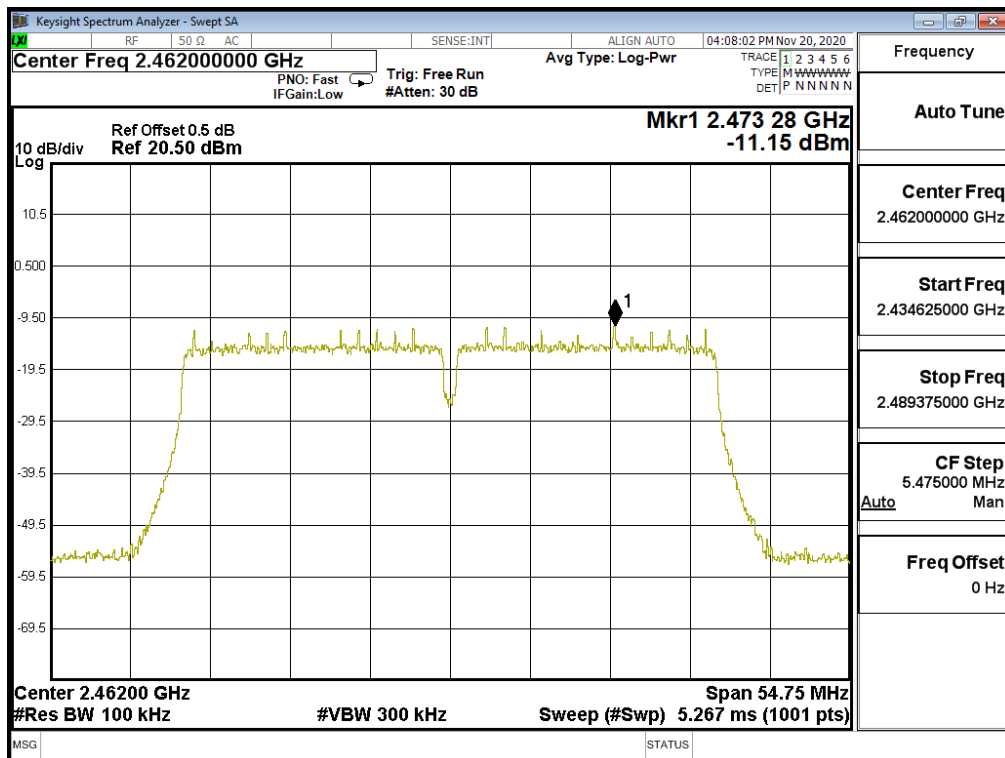


Figure Channel 3: (Chain B)

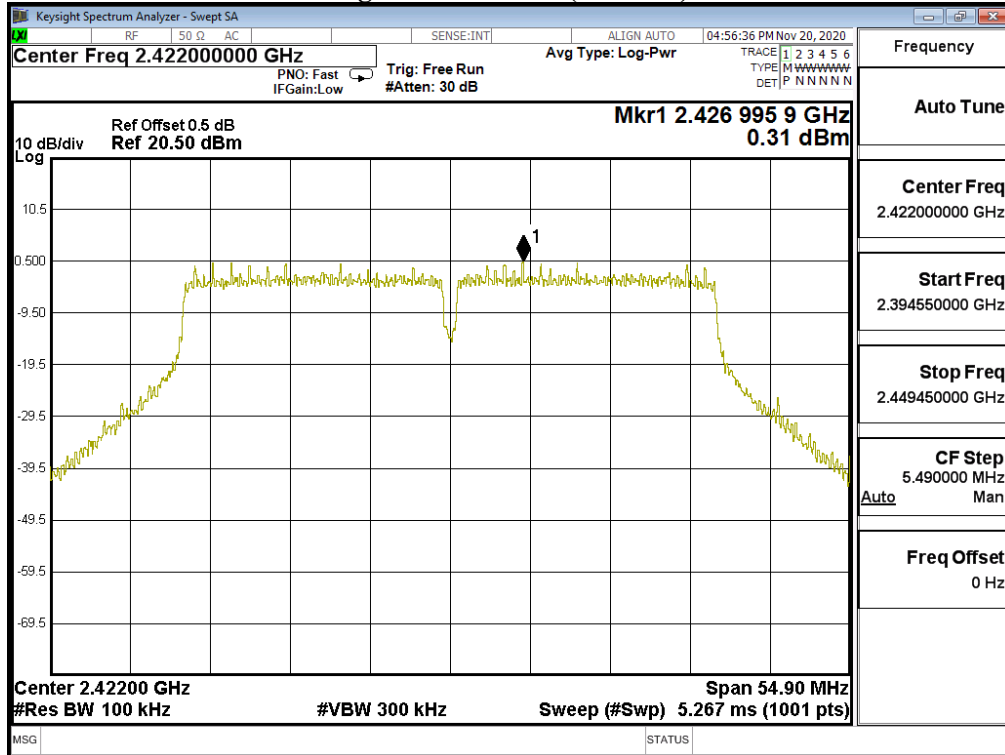


Figure Channel 7: (Chain B)

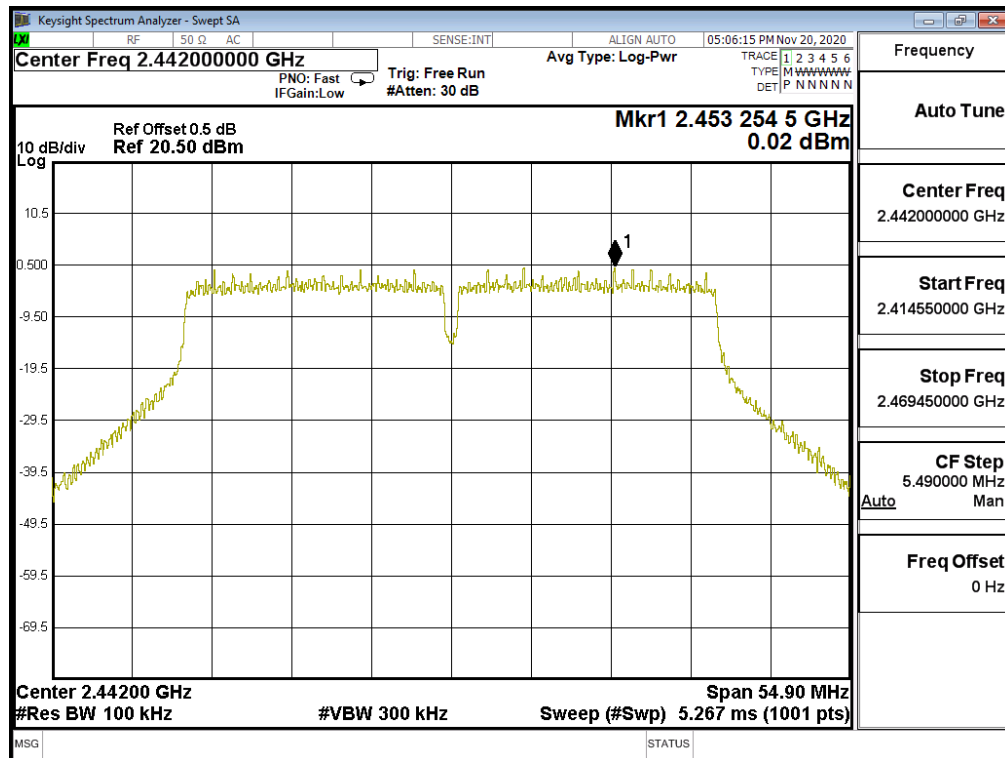


Figure Channel 9: (Chain B)

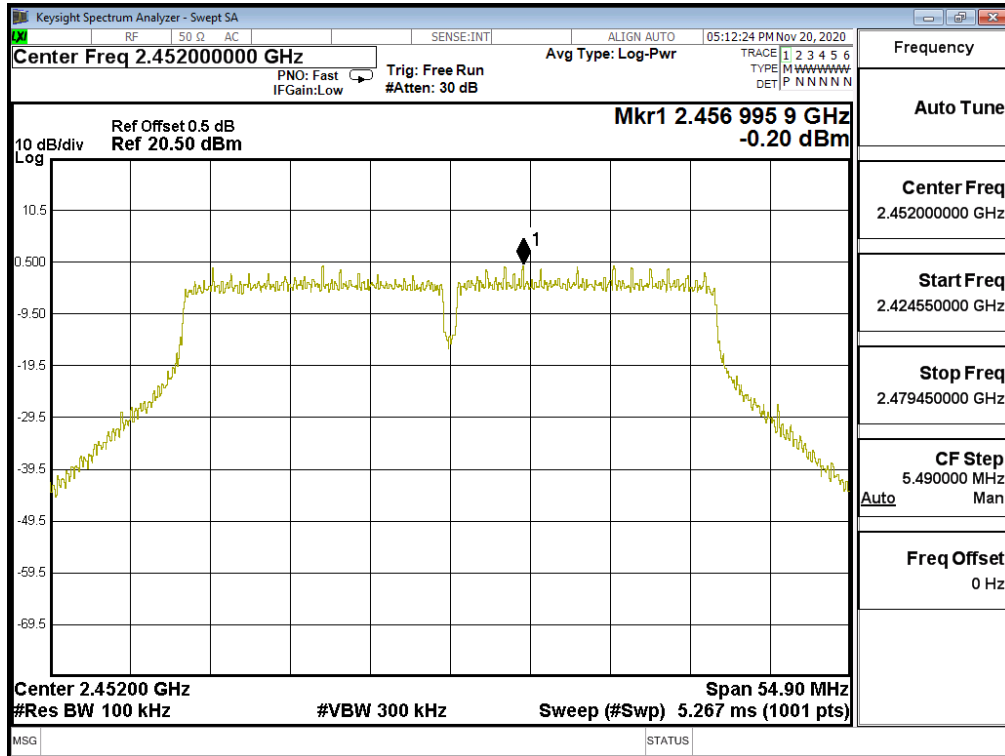


Figure Channel 10: (Chain B)

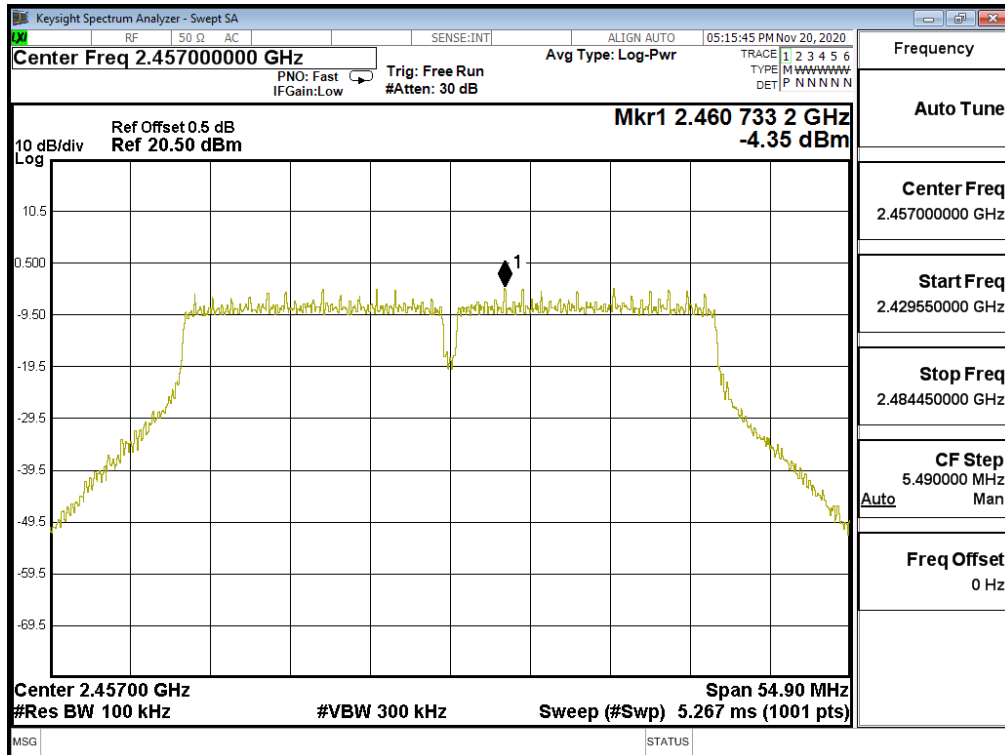
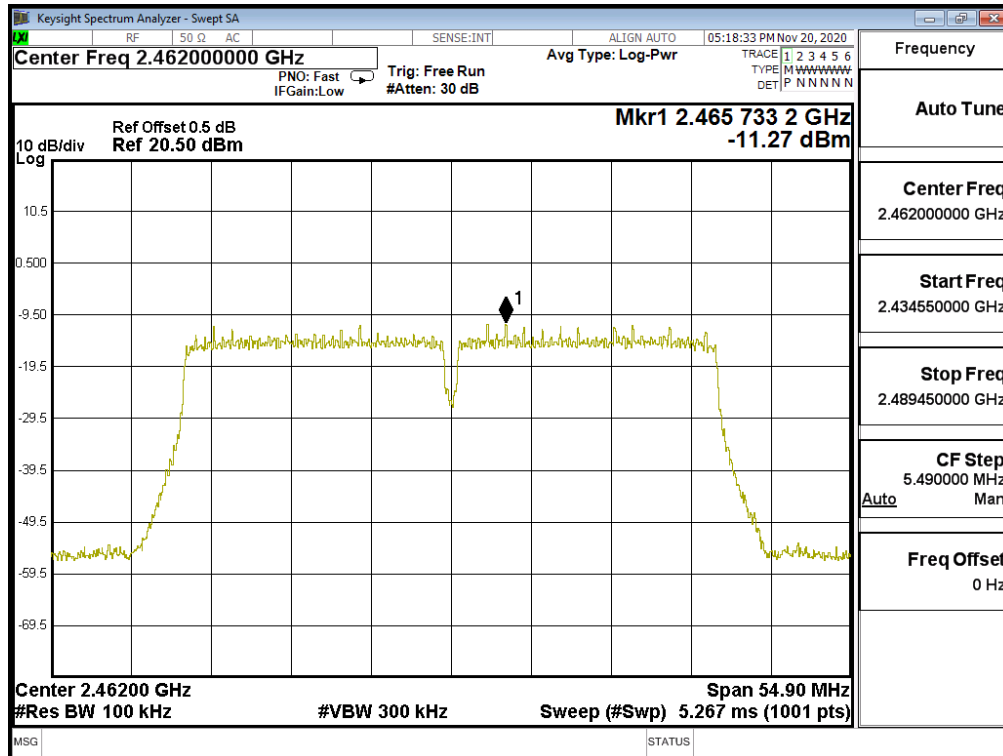


Figure Channel 11: (Chain B)



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps)

RU config: Full

Channel No.	Frequency (MHz)	Chain	Measurement Level (dBm)	Duty Factor (dB)	Total (dBm)	Limit (dBm)	Result
1	2412	A	3.45	0.07	6.53	≤ 8dBm	Pass
		B	2.98	0.07	6.06	≤ 8dBm	Pass
7	2442	A	2.89	0.07	5.97	≤ 8dBm	Pass
		B	2.83	0.07	5.91	≤ 8dBm	Pass
11	2462	A	3.13	0.07	6.21	≤ 8dBm	Pass
		B	3.43	0.07	6.51	≤ 8dBm	Pass
12	2467	A	1.14	0.07	4.22	≤ 8dBm	Pass
		B	1.44	0.07	4.52	≤ 8dBm	Pass
13	2472	A	-12.97	0.07	-9.89	≤ 8dBm	Pass
		B	-12.56	0.07	-9.48	≤ 8dBm	Pass

Note :

The quantity $10 \cdot \log 2$ (two antennas) is added to the spectrum peak value according to document 662911 D01.

Figure Channel 1: (Chain A)

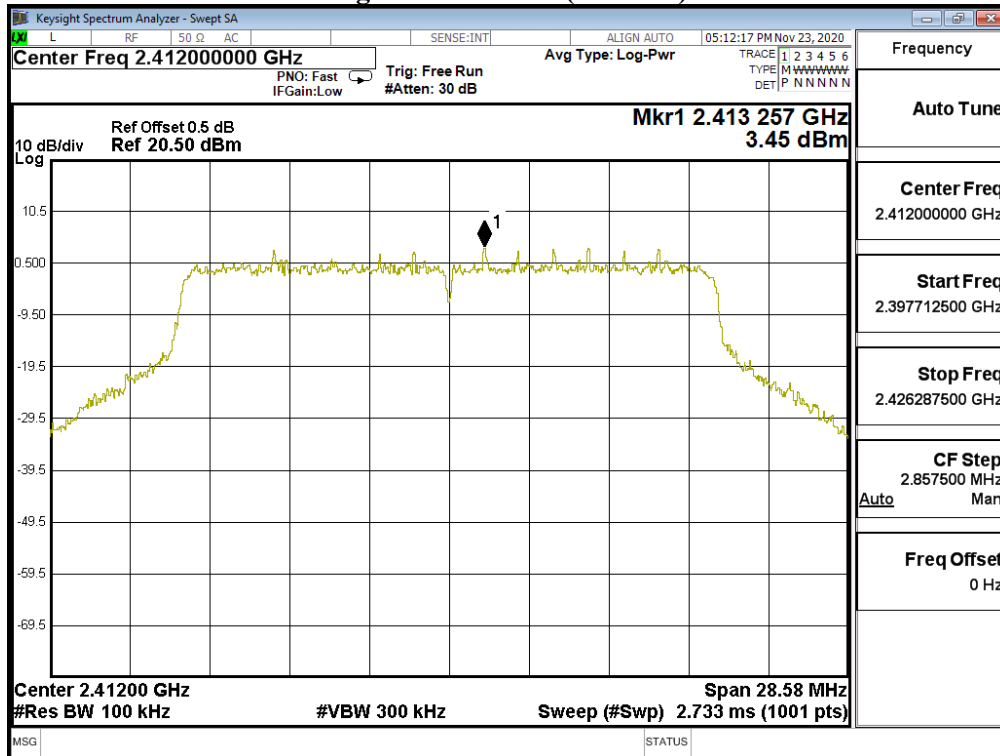


Figure Channel 7: (Chain A)

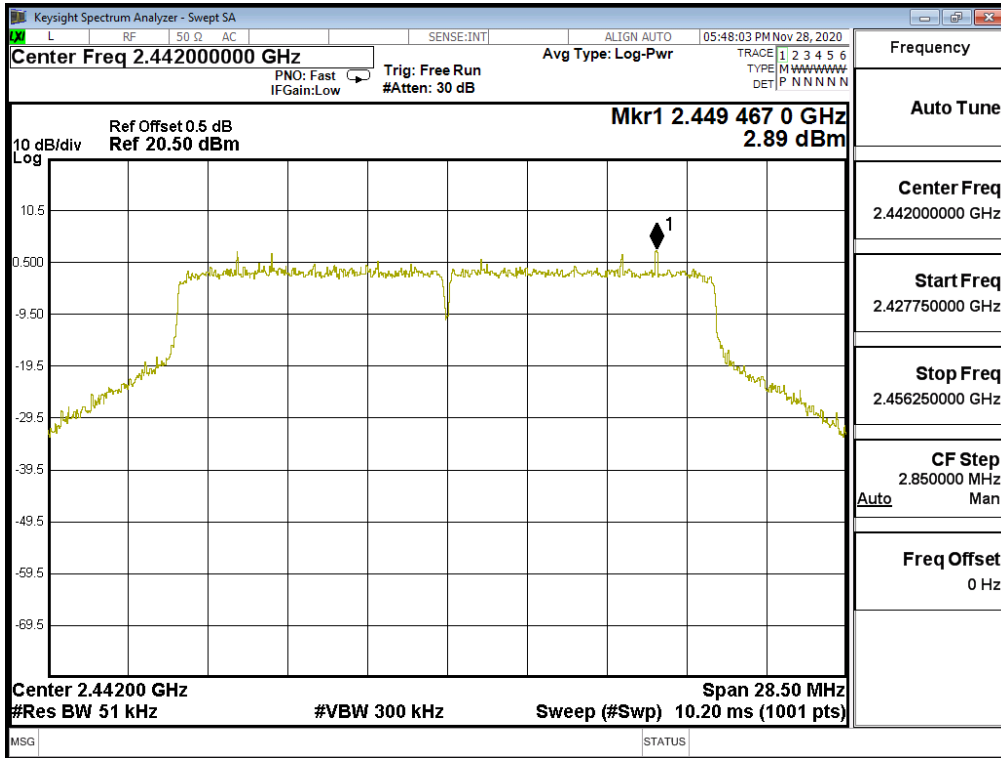


Figure Channel 11: (Chain A)

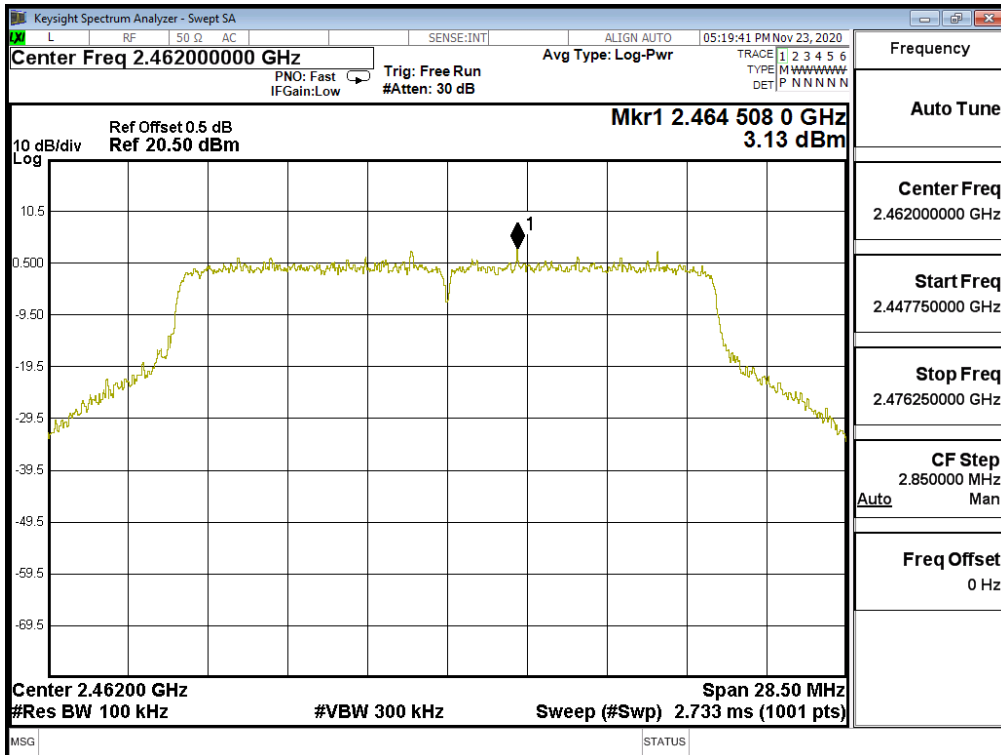


Figure Channel 12: (Chain A)

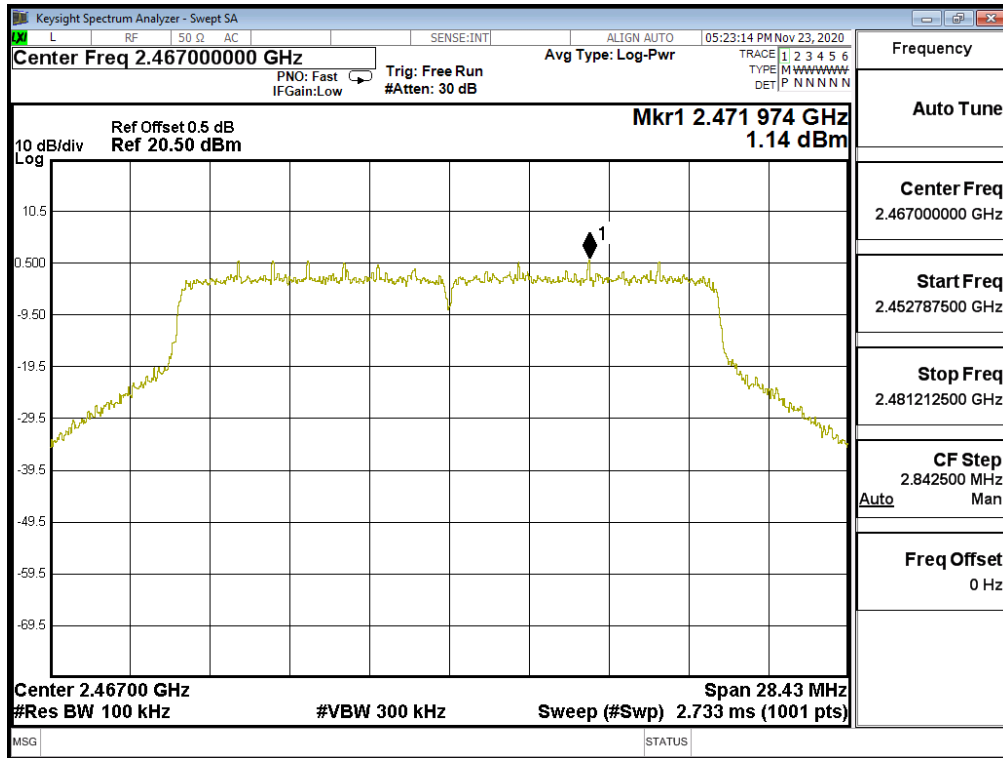


Figure Channel 13: (Chain A)

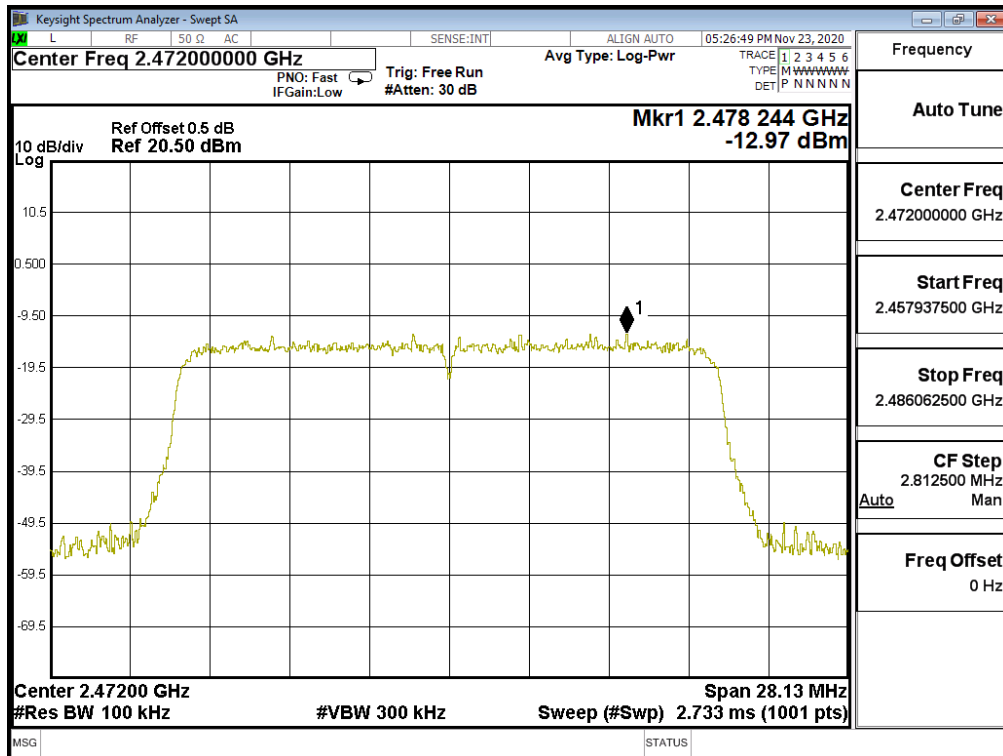


Figure Channel 1: (Chain B)

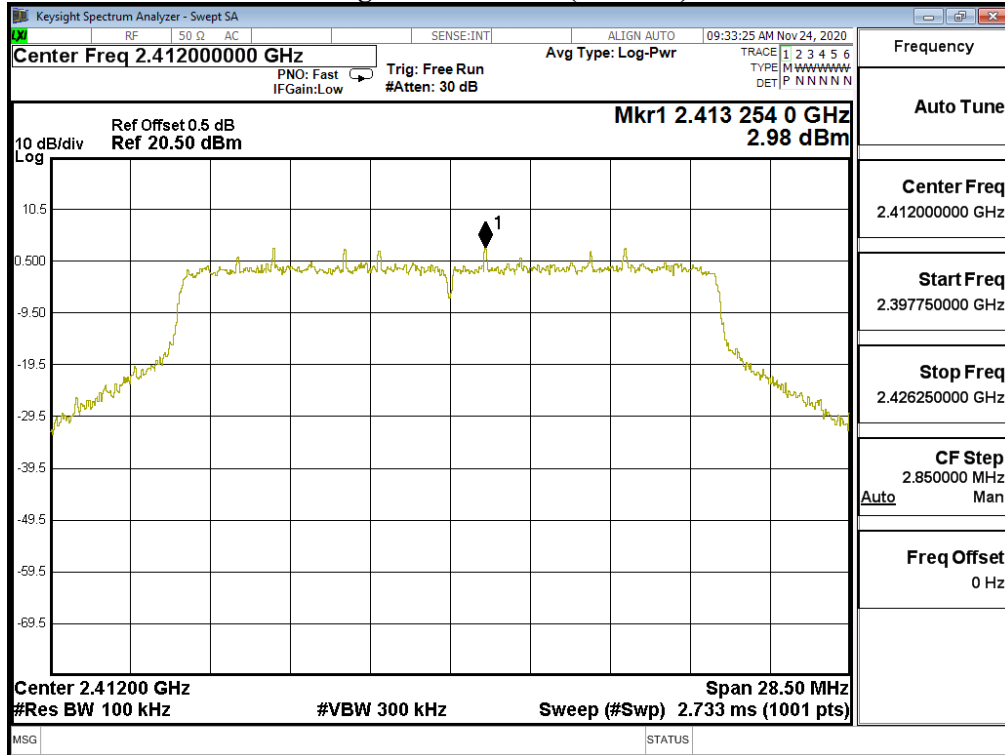


Figure Channel 7: (Chain B)

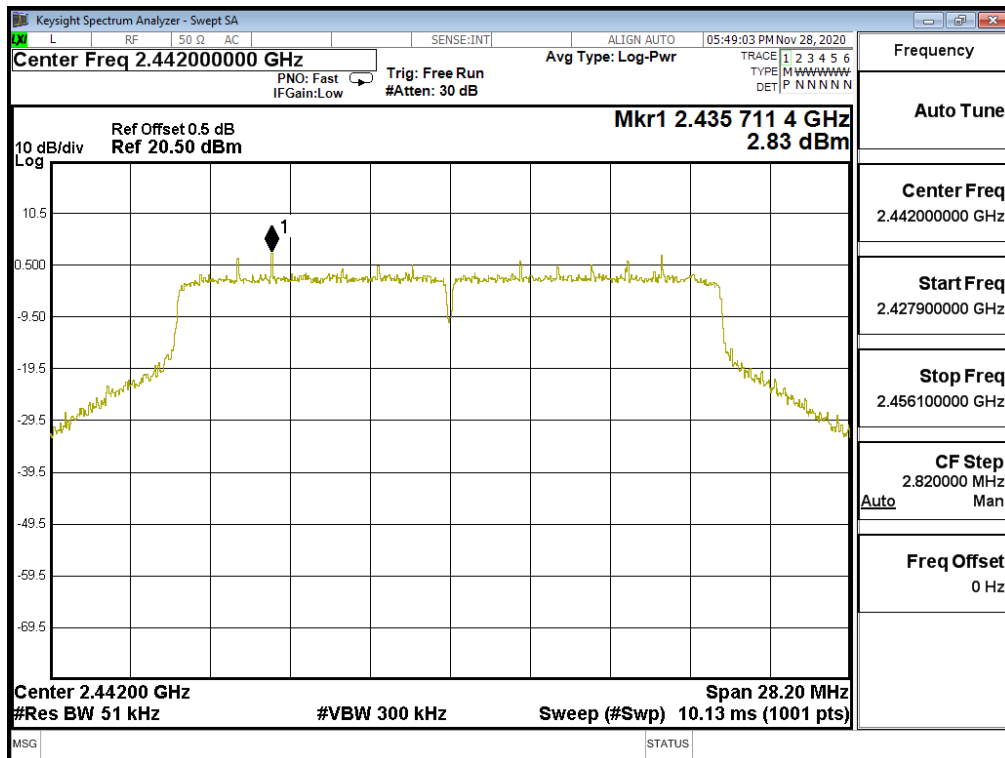


Figure Channel 11: (Chain B)

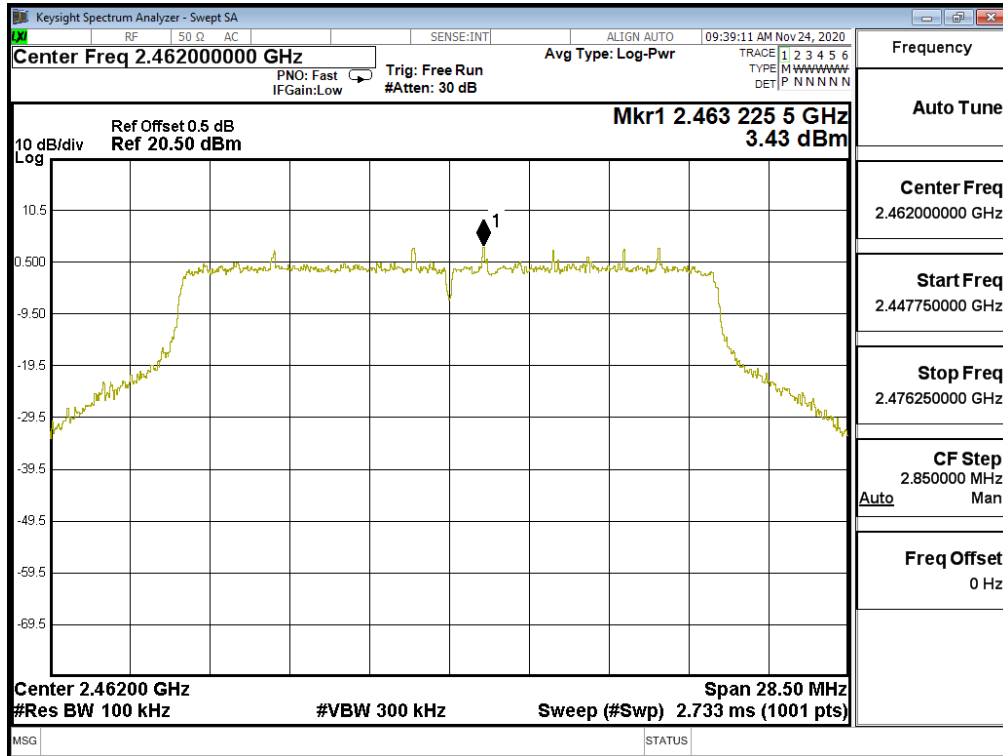


Figure Channel 12: (Chain B)

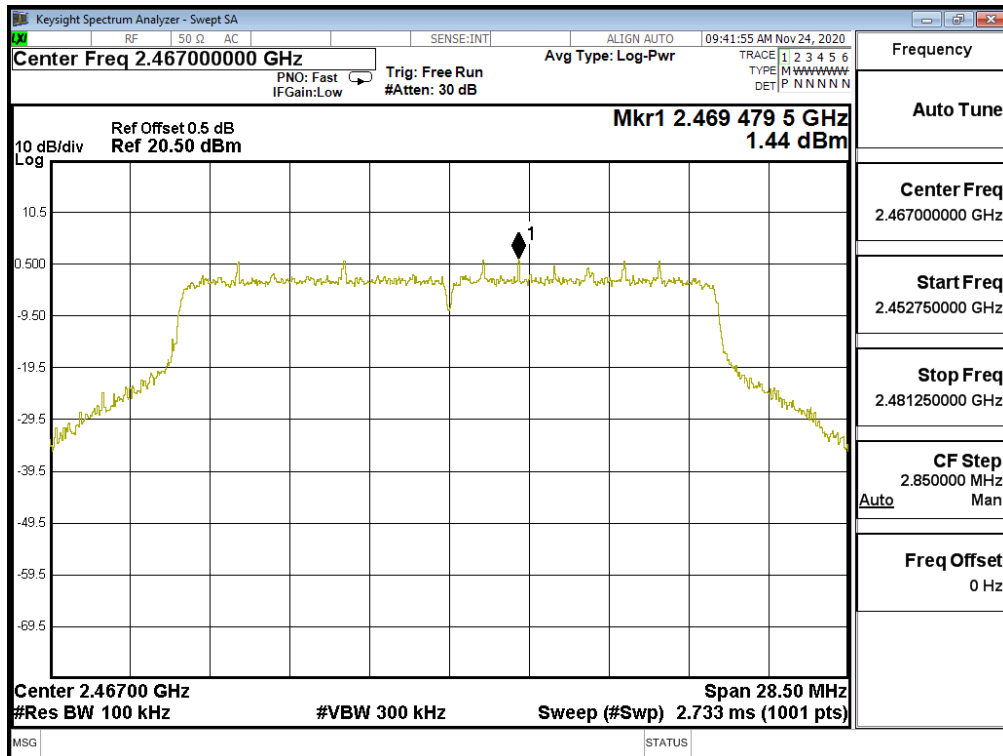


Figure Channel 13: (Chain B)

