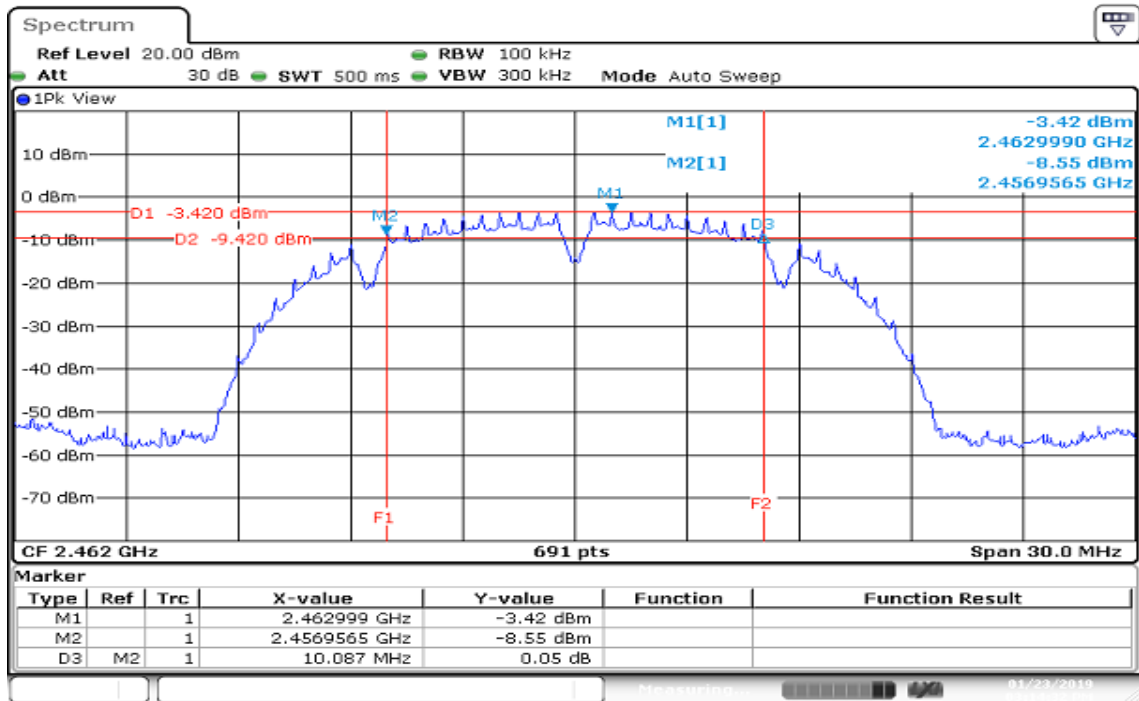


Report No.: T181019D03-RD

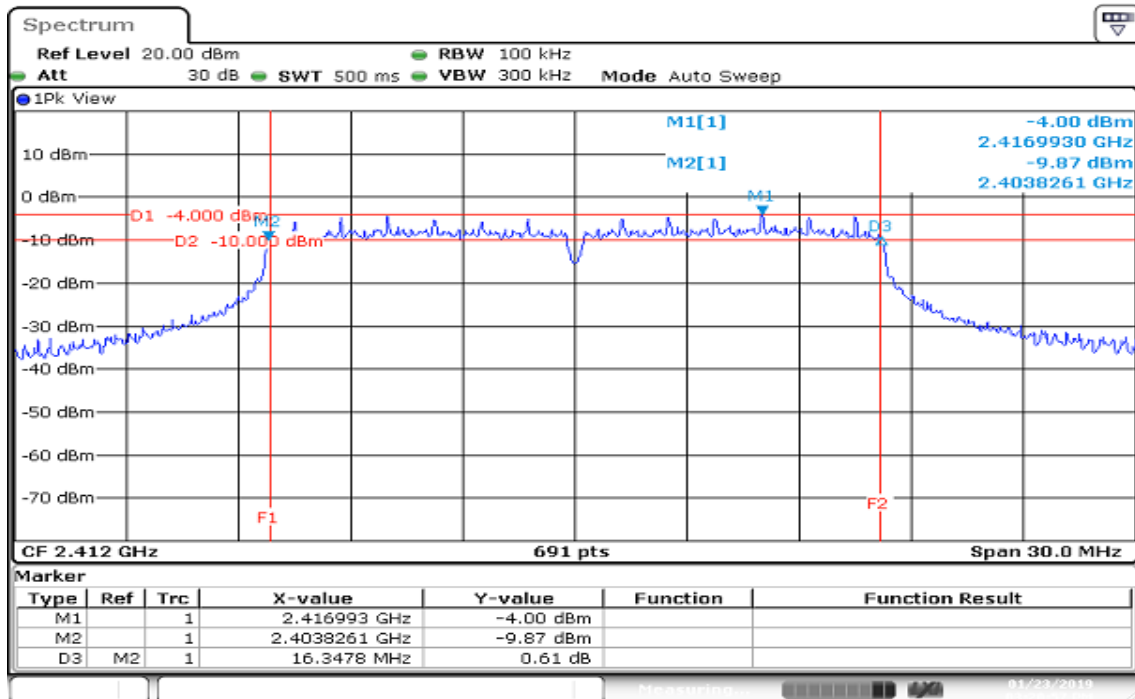
發射頻寬測試值 IEEE 802.11b Mode / CH High



Date: 23 JAN 2019 15:14:33

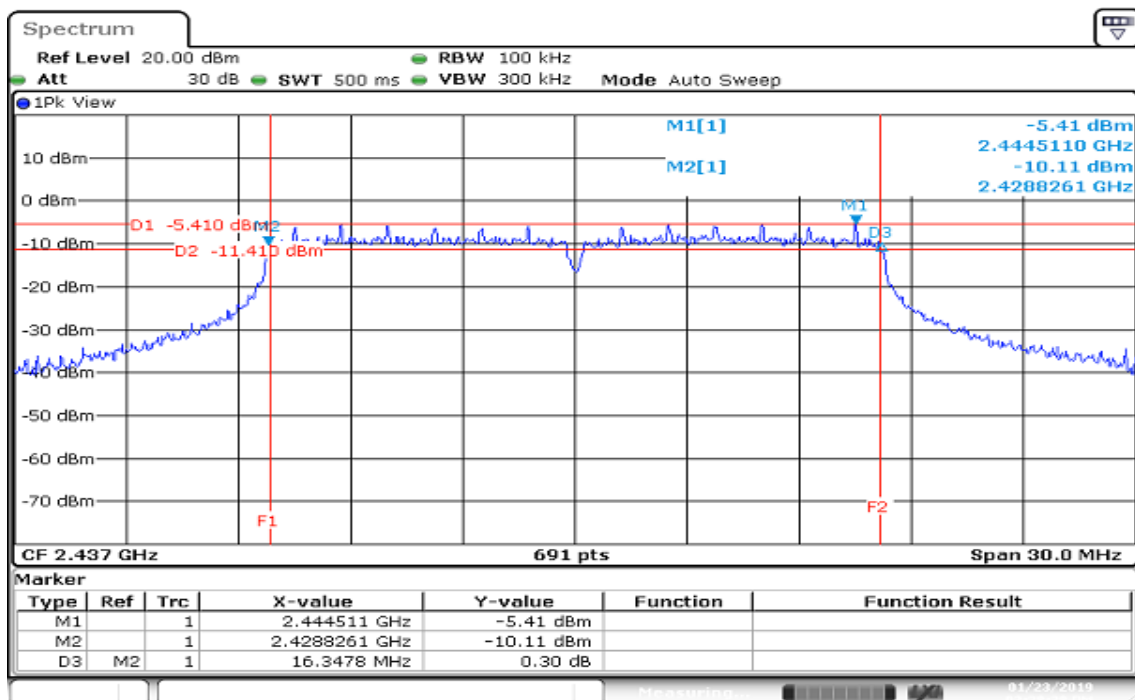
Report No.: T181019D03-RD

發射頻寬測試值 IEEE 802.11g Mode / CH Low



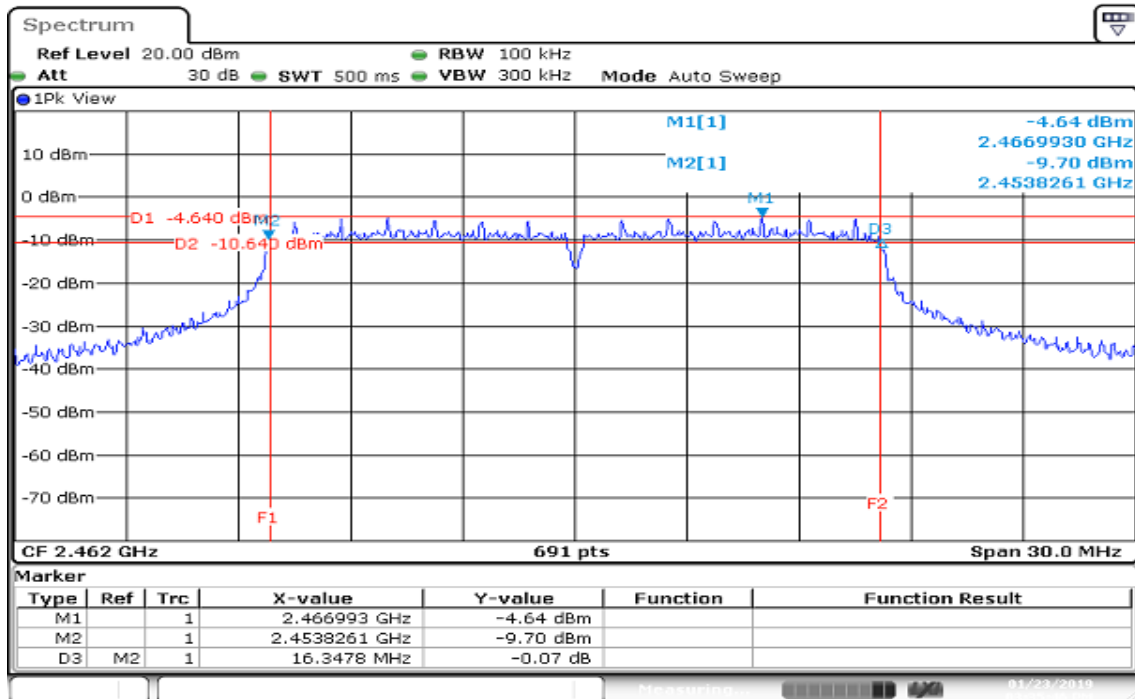
Date: 23.JAN.2019 15:20:56

發射頻寬測試值 IEEE 802.11g Mode / CH Mid



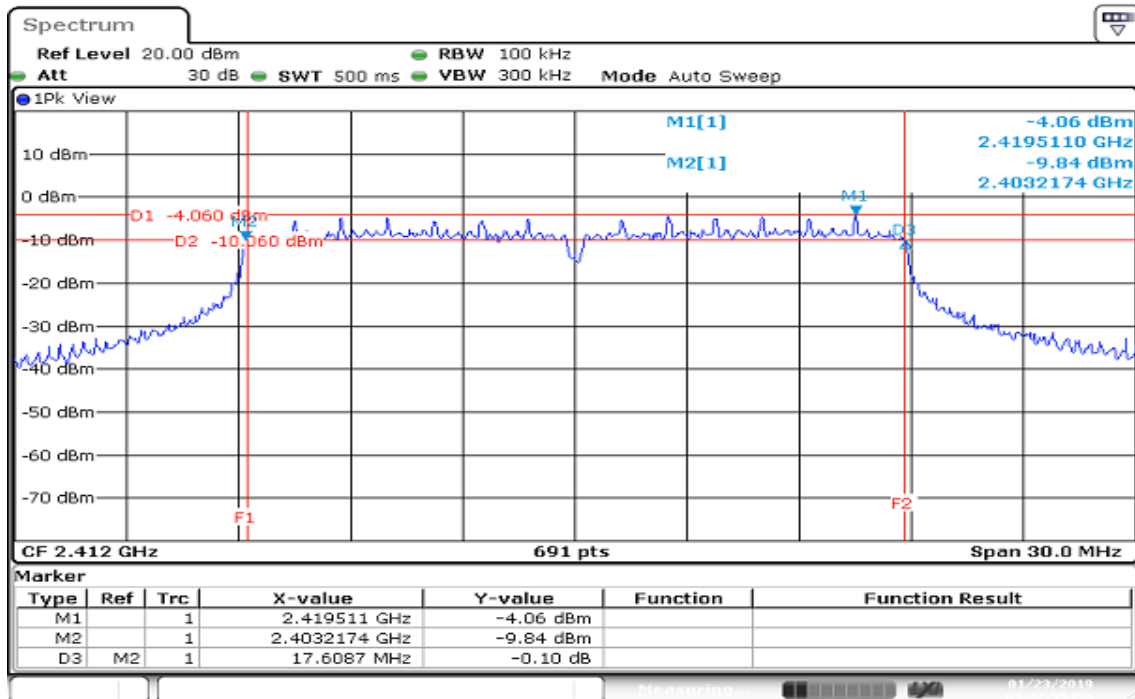
Date: 23.JAN.2019 15:28:38

發射頻寬測試值 IEEE 802.11g Mode / CH High



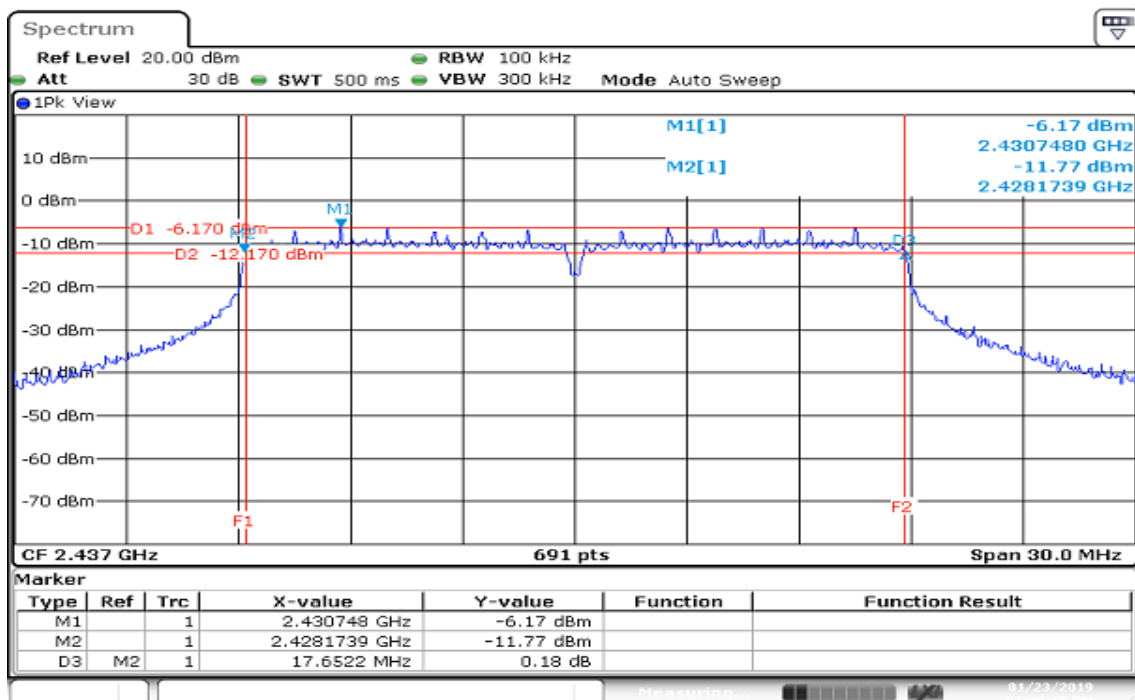
Date: 23 JAN 2019 15:25:47

發射頻寬測試值 IEEE 802.11n HT 20 Mode / CH Low



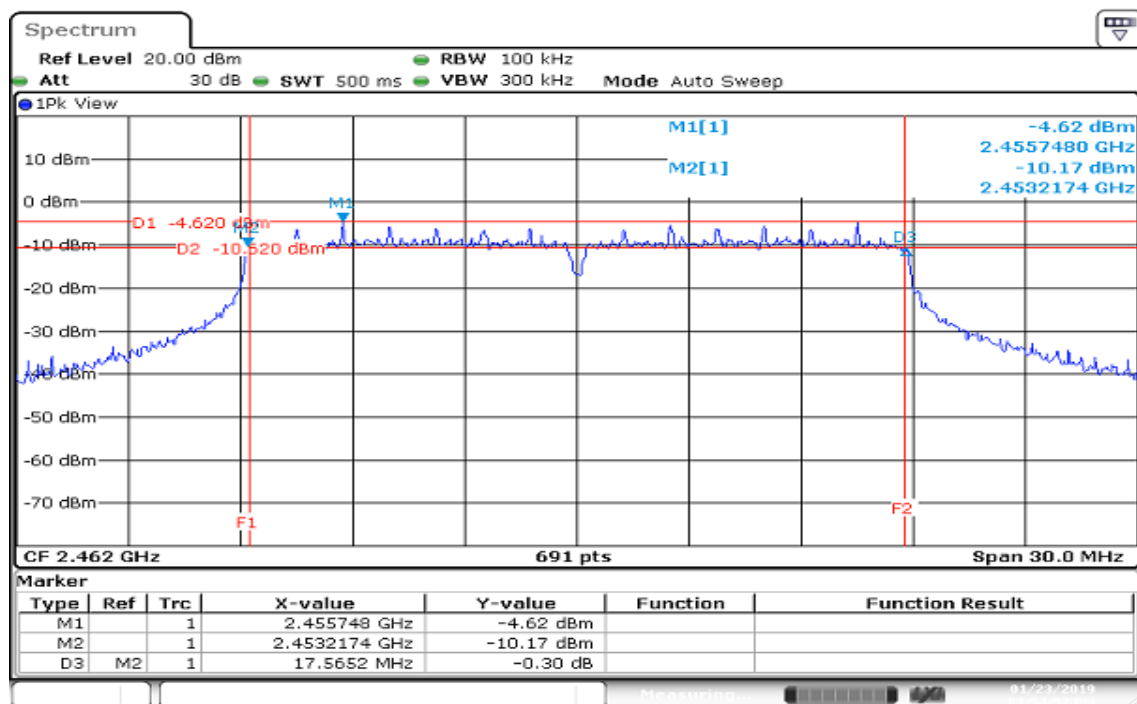
Date: 23 JAN 2019 15:42:55

發射頻寬測試值 IEEE 802.11n HT 20 Mode / CH Mid



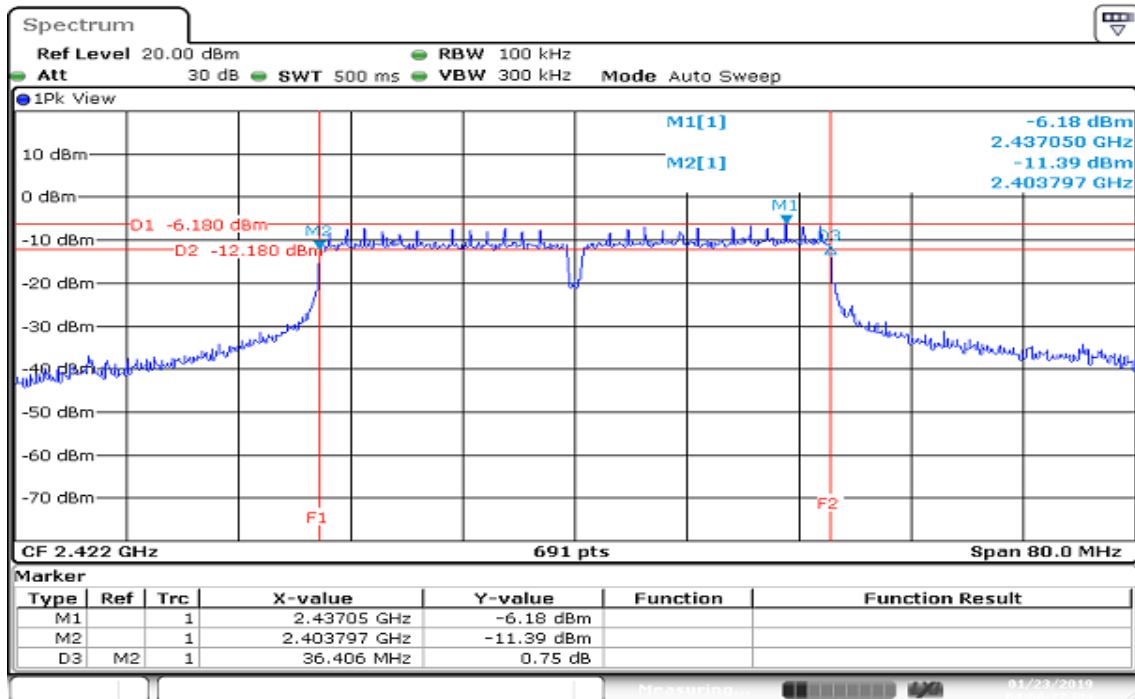
Date: 23 JAN 2019 15:49:10

發射頻寬測試值 IEEE 802.11n HT 20 Mode / CH High



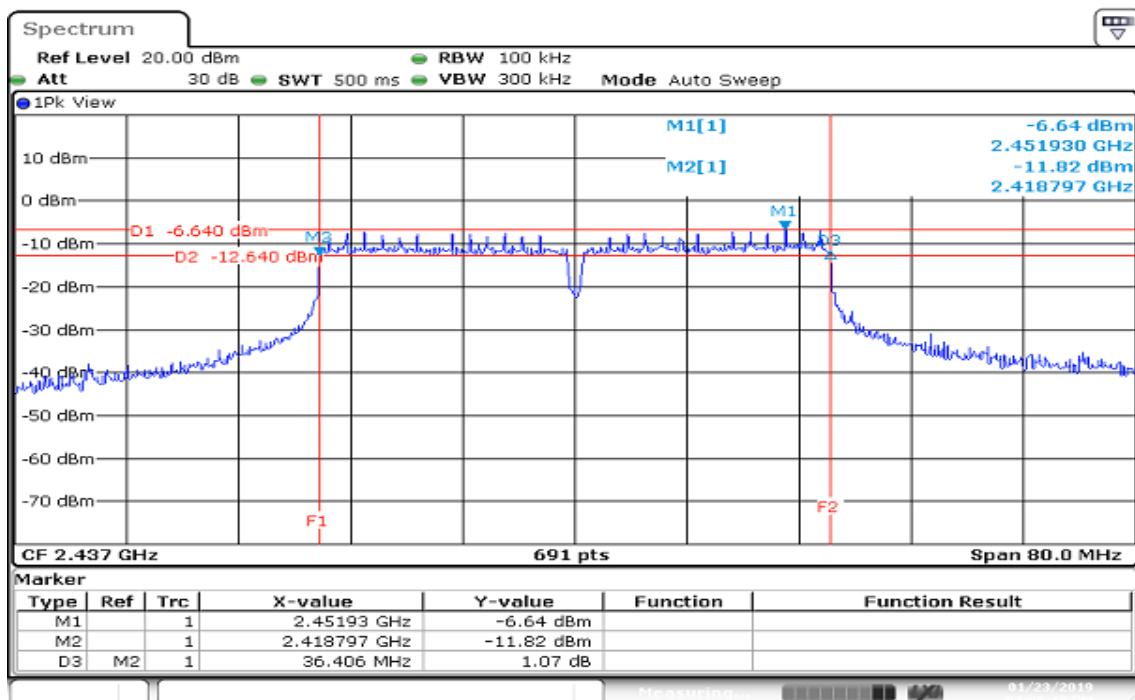
Date: 23 JAN 2019 15:54:57

發射頻寬測試值 IEEE 802.11n HT 40 Mode / CH Low



Date: 23 JAN 2019 16:00:22

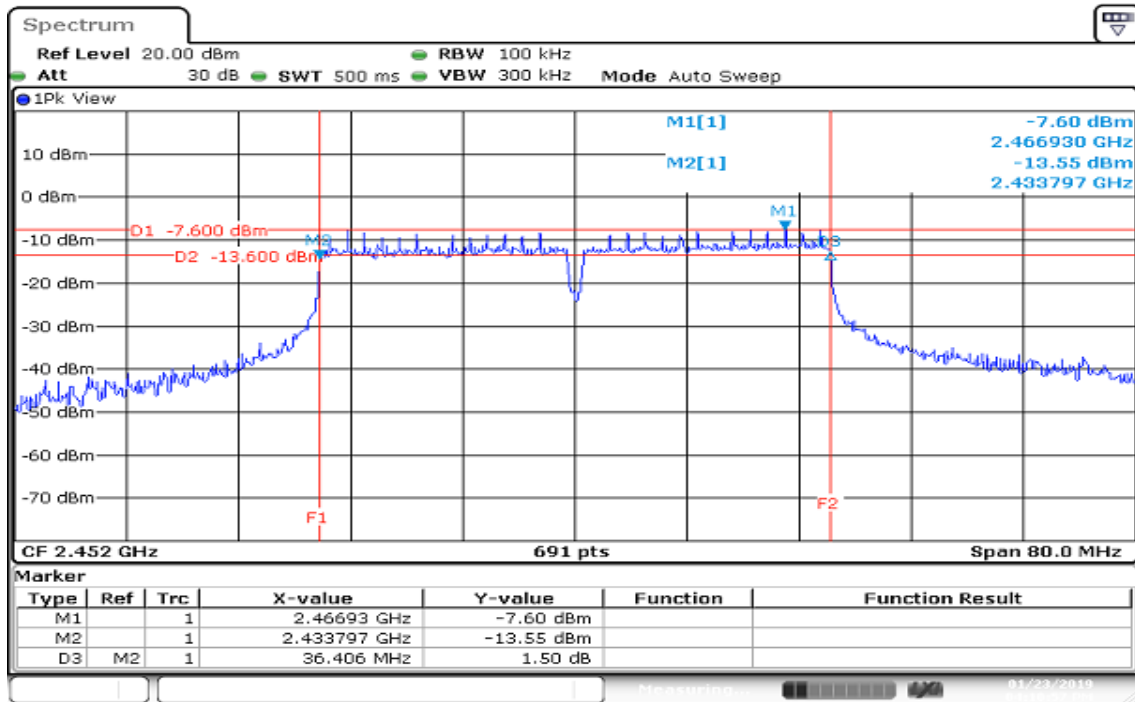
發射頻寬測試值 IEEE 802.11n HT 40 Mode / CH Mid



Date: 23 JAN 2019 16:06:19

Report No.: T181019D03-RD

發射頻寬測試值 IEEE 802.11n HT 40 Mode / CH High



Date: 23 JAN 2019 16:10:57

7.5 輸出峰值功率之量測

7.6 適用標準

依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.2(1)(C)之規定，對使用展頻技術之低功率發射機，其輸出峰值功率不大於 1 Watt，且其所使用天線之增益不可大於 6dBi；若使用大於 6dBi 增益之天線，則其輸出峰值功率相對需衰減天線增益所增加之量(單位為 dB)。例外放寬之條件如下：

依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.3(1)(C)之規定，2400-2483.5MHz 僅用於固定式點對點操作，每超過 3dB 應降低 1dB 之峰值輸出功率。

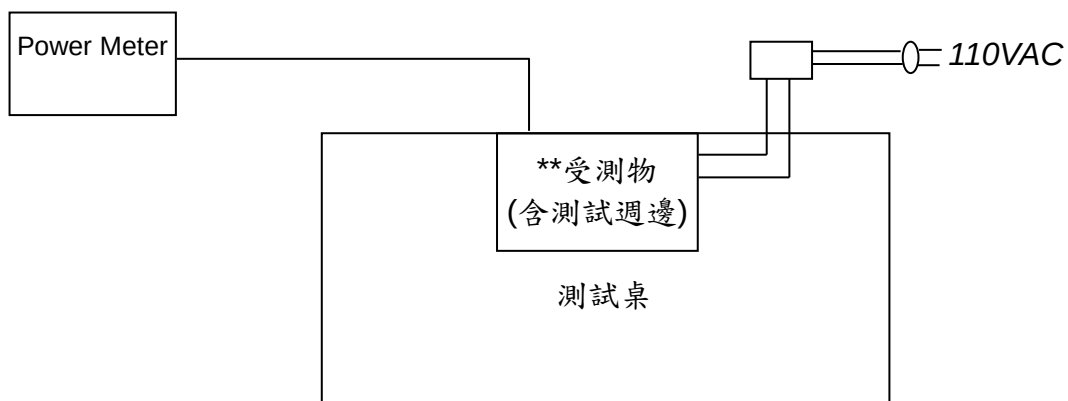
依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.2(2)之規定，5724-5850MHz 僅用於固定式點對點操作，無須降低峰值輸出功率。

7.7 測試方法

此為 RF 傳導測試，將發射機之天線埠經由適當之衰減直接連至測試儀器。設定儀器之解析頻寬大於 6 dB 發射頻寬或使用峰值功率表。

註：測試方法依據 FCC KDB 558074 D01

7.8 測試配置



註：**請參照 3.2 節

7.9 輸出功率之量測結果

Test Mode: IEEE 802.11b Mode

頻道	頻率 (MHz)	輸出峰值 (dBm) Chain 0	輸出峰值 (dBm) Chain 1	總輸出峰值 (dBm)	總輸出峰值 (W)	限制值 (dBm)	測試結果
CH Low	2412	19.93	20.33	*23.14	0.20606	30	PASS
CH Mid	2437	19.6	19.51	22.57	0.18072		PASS
CH High	2462	19.81	20.04	22.94	0.19679		PASS

Test Mode: IEEE 802.11g Mode

頻道	頻率 (MHz)	輸出峰值 (dBm) Chain 0	輸出峰值 (dBm) Chain 1	總輸出峰值 (dBm)	總輸出峰值 (W)	限制值 (dBm)	測試結果
CH Low	2412	23.42	23.81	26.63	0.46026	30	PASS
CH Mid	2437	24.58	24.85	*27.73	0.59293		PASS
CH High	2462	23.55	23.91	26.74	0.47206		PASS

Test Mode: IEEE 802.11n HT 20 Mode

頻道	頻率 (MHz)	輸出峰值 (dBm) Chain 0	輸出峰值 (dBm) Chain 1	總輸出峰值 (dBm)	總輸出峰值 (W)	限制值 (dBm)	測試結果
CH Low	2412	23.61	24.07	26.86	0.48529	30	PASS
CH Mid	2437	24.71	25.01	*27.87	0.61235		PASS
CH High	2462	23.51	23.88	26.71	0.46881		PASS

Test Mode: IEEE 802.11n HT 40 Mode

頻道	頻率 (MHz)	輸出峰值 (dBm) Chain 0	輸出峰值 (dBm) Chain 1	總輸出峰值 (dBm)	總輸出峰值 (W)	限制值 (dBm)	測試結果
CH Low	2422	22.07	23.03	25.59	0.36224	30	PASS
CH Mid	2437	24.65	25.01	*27.84	0.60814		PASS
CH High	2452	22.4	23.03	25.74	0.37497		PASS

7.10 開放頻帶邊緣 100kHz 頻寬內之限制

7.11 適用標準

依據國家傳播委員會低功率射頻電機技術規範 3.10.1.5 之規定，

帶外發射限制：操作頻帶範圍外之任意 100 千赫 (kHz) 內，發射機所產生的射頻功率相較於使用頻帶範圍中包含最高所需功率之 100 千赫(kHz) 內的射頻功率，其衰減值限制如下： 3.10.1.5(1) 輸出功率以本規範附件二之峰值輸出功率方式量測者，至少須衰減 20 dB，可使用射頻傳導或輻射方式測量。 3.10.1.5 輸出功率以本節 3.10.1.2(1)(C) 之最大傳導輸出功率方式量測者，至少須衰減 30 dB。此外，落於第 2.7 節禁用頻段之輻射發射，應符合第 2.8 節之規定。

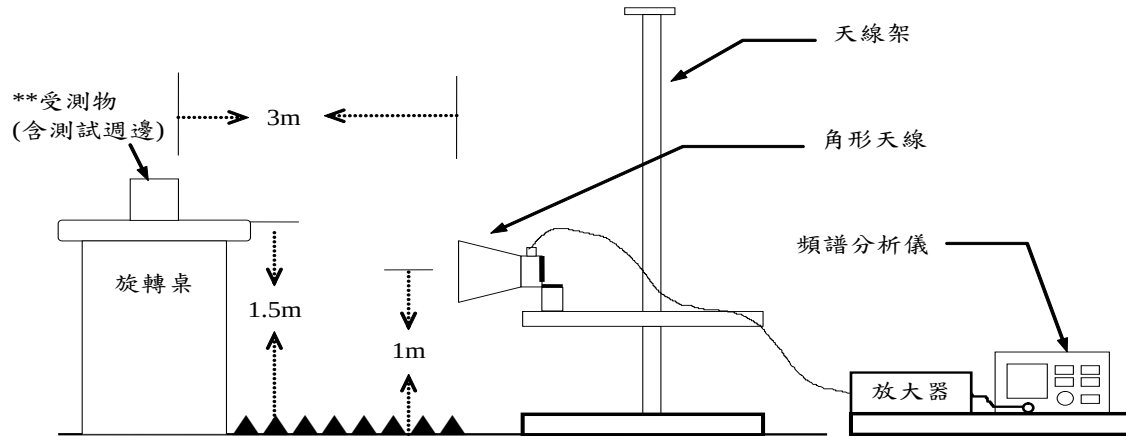
7.12 測試方法

1. 頻率掃描範圍足以涵蓋操作在最靠近頻帶邊緣之頻道的發射波峰位準以及任何落於許可頻帶外之調變產物。
2. 將標記設定於在頻帶邊緣上的發射，或將標記設定於最大之頻帶外調變產物上若其位準大於頻帶邊緣上的發射。啟動標記差值之功能，利用標記至波峰功能 (Marker to Peak) 功能以標記頻帶內發射之波峰，所顯示之標記差值必須符合指定之限制值。

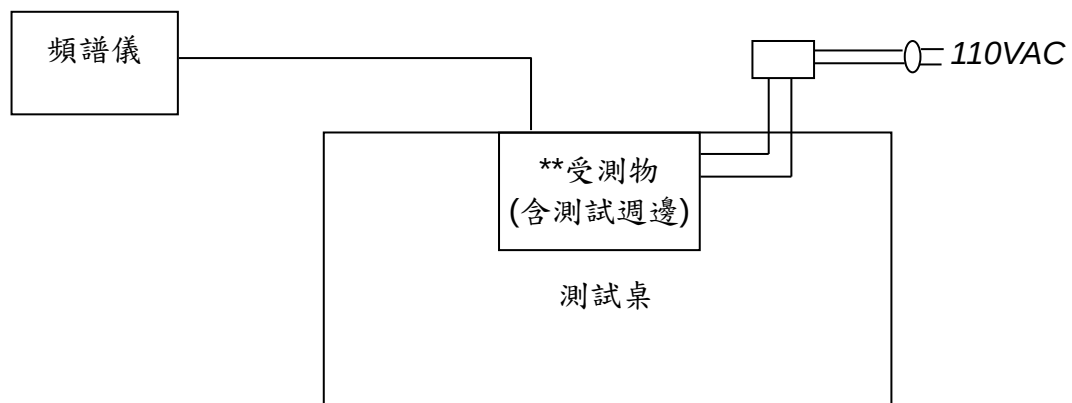
以上述相同的步驟決定由跳頻功能所產生的任何混附波是否亦符合規定之限制值。

註：測試方式引用自 FCC KDB 558074 D01

7.13 測試配置



註: **請參照 3.2 節



註: **請參照 3.2 節

7.14 開放頻帶邊緣之量測結果

請參考附圖

判定結果：合格

發射限制測試值

Test Mode: IEEE 802.11b Mode

發射限制測試值 CH Low(下邊緣頻帶):

在下邊緣頻帶之 100kHz 頻寬內 Peak 為 66.70dBuV/m ; Average 為 44.77dBuV/m 。

發射限制測試值 CH High(上邊緣頻帶):

在上邊緣頻帶之 100kHz 頻寬內 Peak 為 68.65dBuV/m ; Average 為 45.38dBuV/m 。

Test Mode: IEEE 802.11g Mode

發射限制測試值 CH Low(下邊緣頻帶):

在下邊緣頻帶之 100kHz 頻寬內 Peak 為 69.76dBuV/m ; Average 為 47.96dBuV/m 。

發射限制測試值 CH High(上邊緣頻帶):

在上邊緣頻帶之 100kHz 頻寬內 Peak 為 71.58dBuV/m ; Average 為 47.74dBuV/m 。

Test Mode: IEEE 802.11n HT 20 Mode

發射限制測試值 CH Low(下邊緣頻帶):

在下邊緣頻帶之 100kHz 頻寬內 Peak 為 69.15dBuV/m ; Average 為 47.25dBuV/m 。

發射限制測試值 CH High(上邊緣頻帶):

在上邊緣頻帶之 100kHz 頻寬內 Peak 為 71.17dBuV/m ; Average 為 49.67dBuV/m 。

Test Mode: IEEE 802.11n HT 40 Mode

發射限制測試值 CH Low(下邊緣頻帶):

在下邊緣頻帶之 100kHz 頻寬內 Peak 為 71.69dBuV/m ; Average 為 51.38dBuV/m 。

發射限制測試值 CH High(上邊緣頻帶):

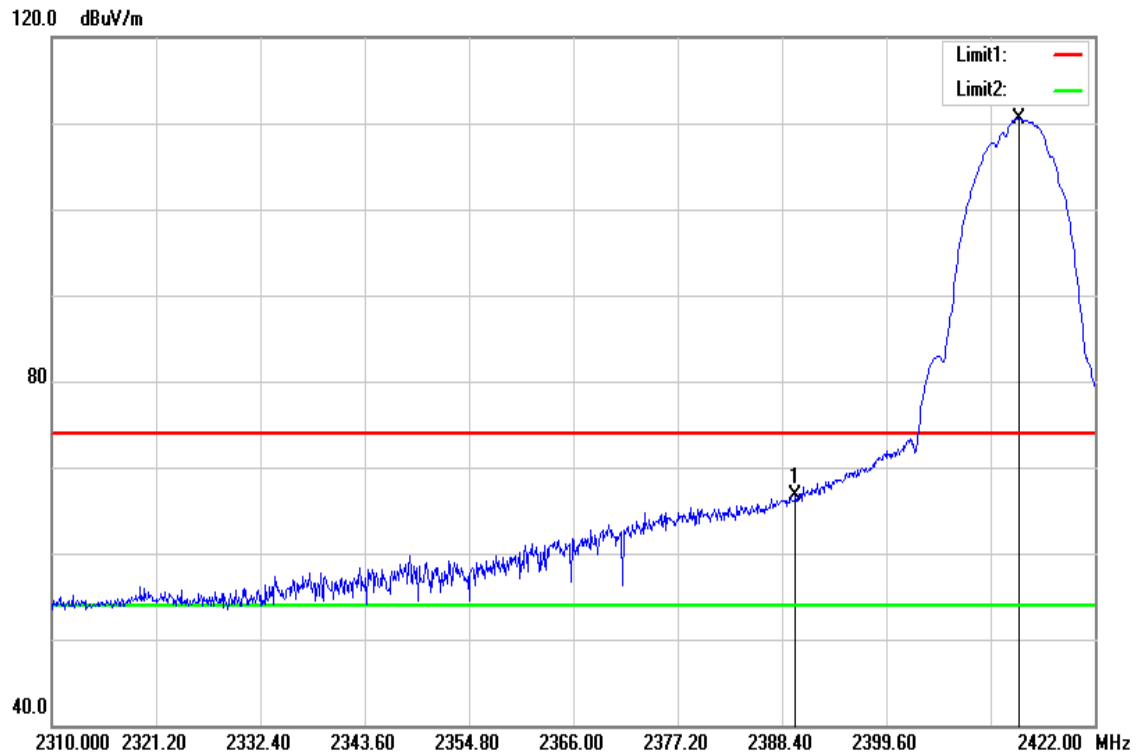
在上邊緣頻帶之 100kHz 頻寬內 Peak 為 70.61dBuV/m ; Average 為 50.76dBuV/m 。

Report No.: T181019D03-RD

發射限制測試

IEEE 802.11b Mode / CH Low

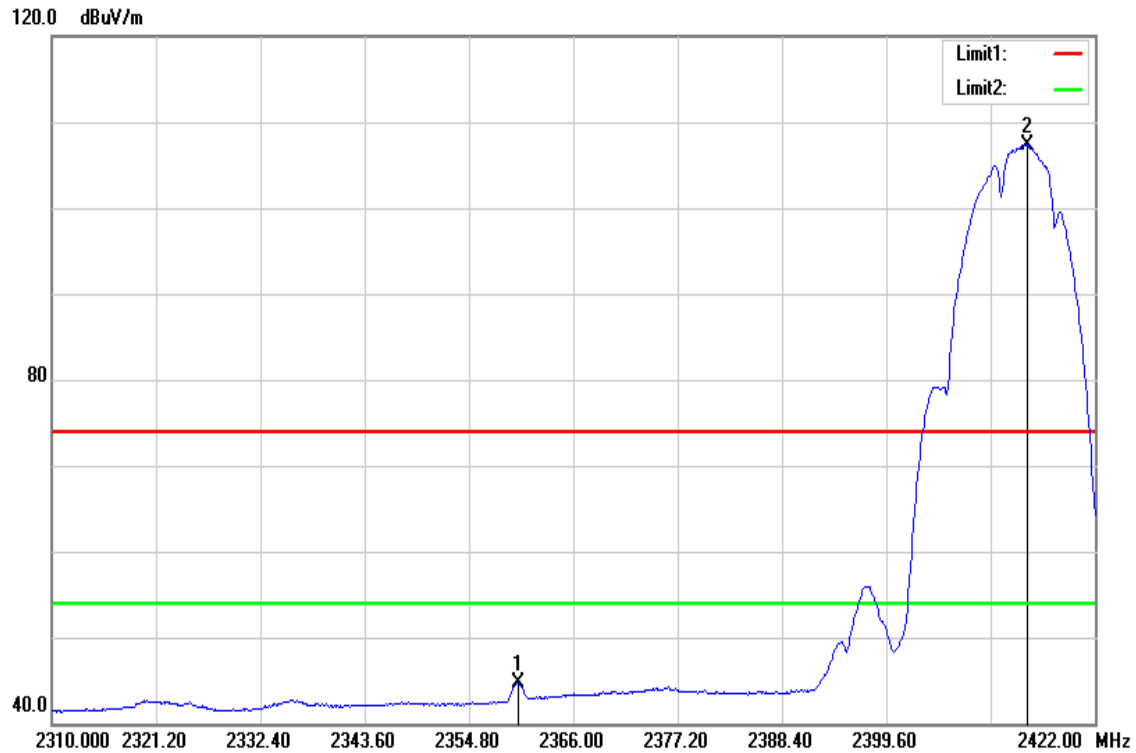
Detector mode: Peak



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.856	69.83	-3.13	66.70	74.00	-7.30	peak
2	2413.824	113.56	-3.06	110.50	-	-	peak

Report No.: T181019D03-RD

Detector mode: Average

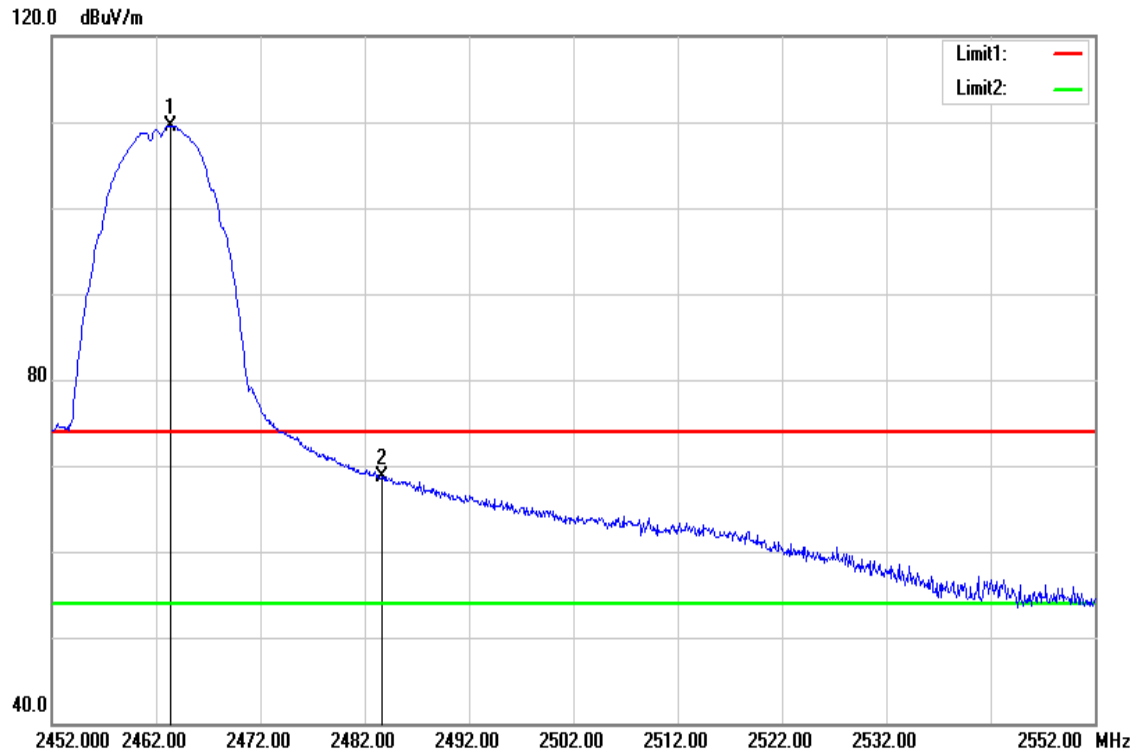


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2360.064	47.85	-3.08	44.77	54.00	-9.23	AVG
2	2414.720	110.45	-3.06	107.39	-	-	AVG

Report No.: T181019D03-RD

IEEE 802.11b Mode / CH High

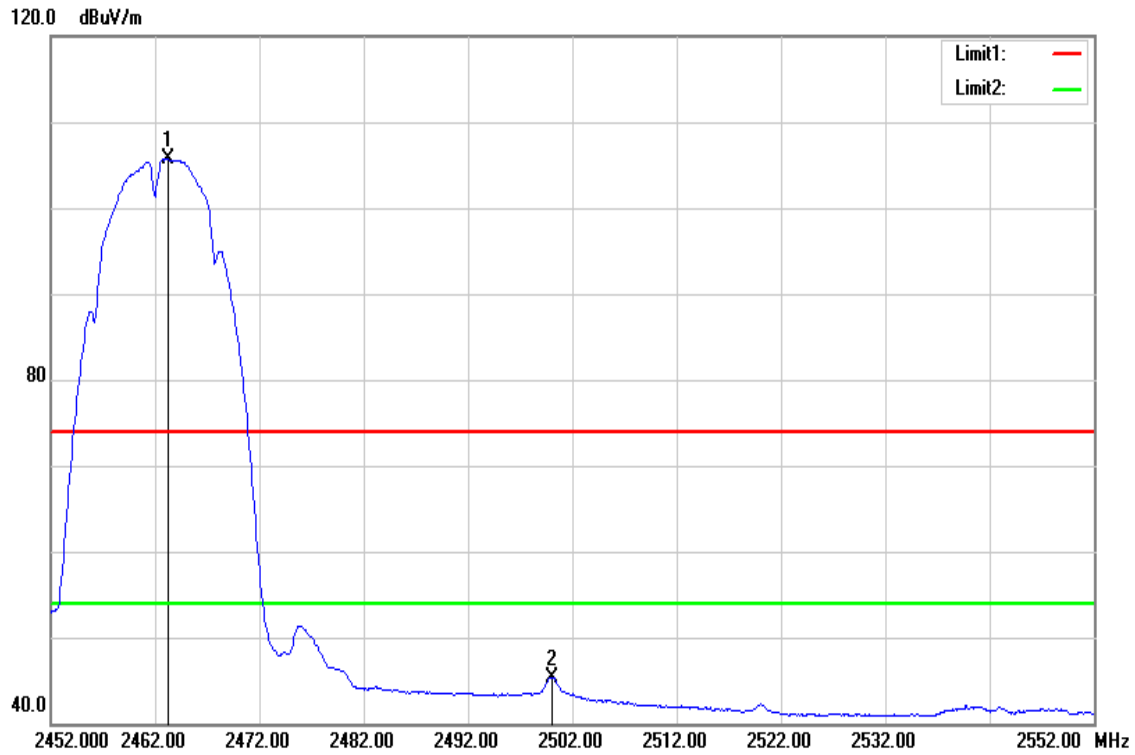
Detector mode: Peak



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2463.400	112.40	-2.82	109.58	-	-	peak
2	2483.700	71.36	-2.71	68.65	74.00	-5.35	peak

Report No.: T181019D03-RD

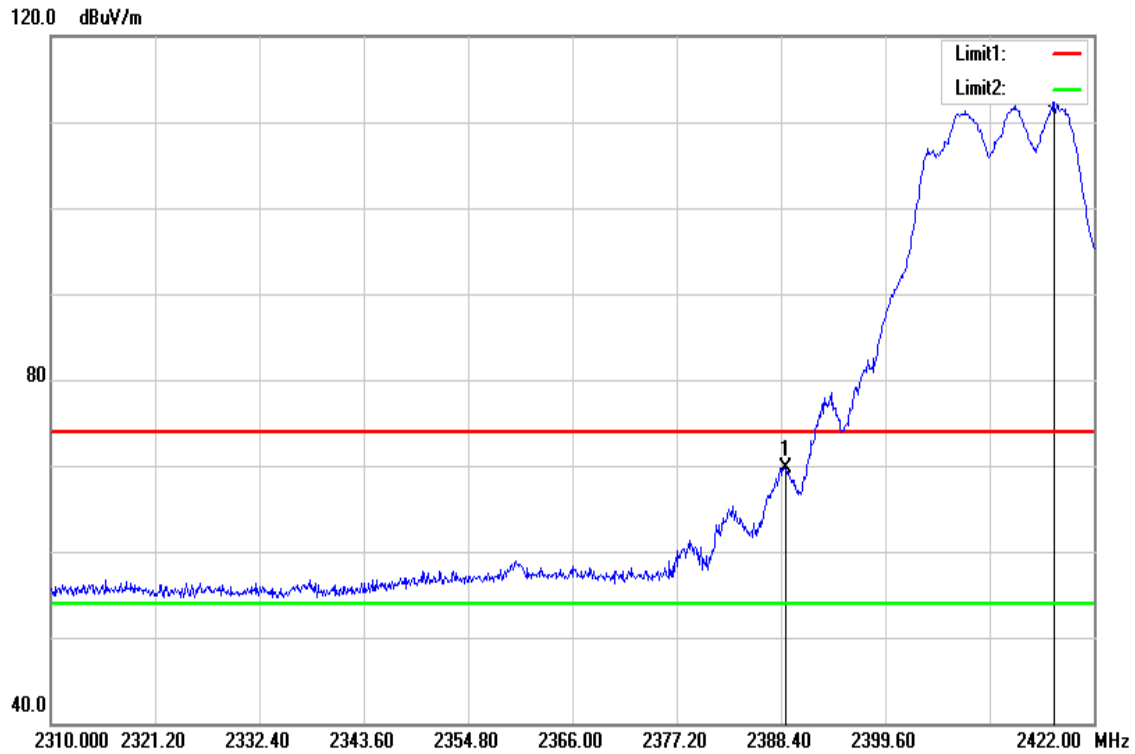
Detector mode: Average



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2463.200	108.48	-2.82	105.66	-	-	AVG
2	2500.000	48.01	-2.63	45.38	54.00	-8.62	AVG

IEEE 802.11g Mode / CH Low

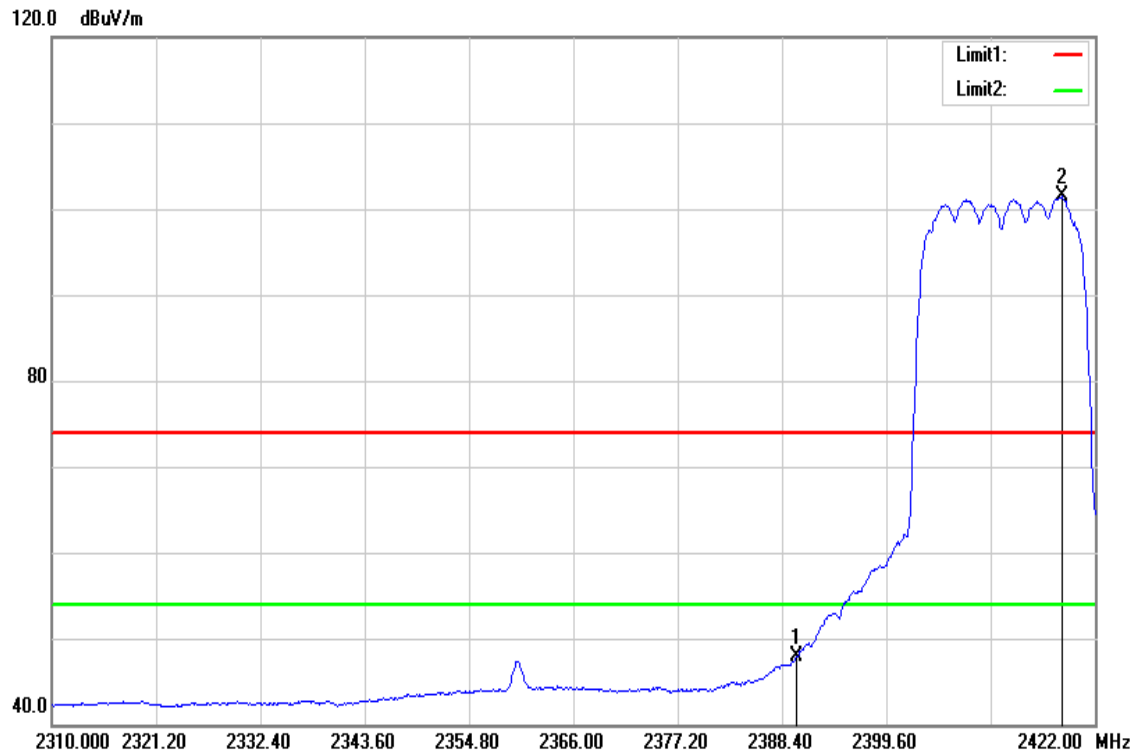
Detector mode: Peak



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.960	72.89	-3.13	69.76	74.00	-4.24	peak
2	2417.744	115.33	-3.05	112.28	-	-	peak

Report No.: T181019D03-RD

Detector mode: Average

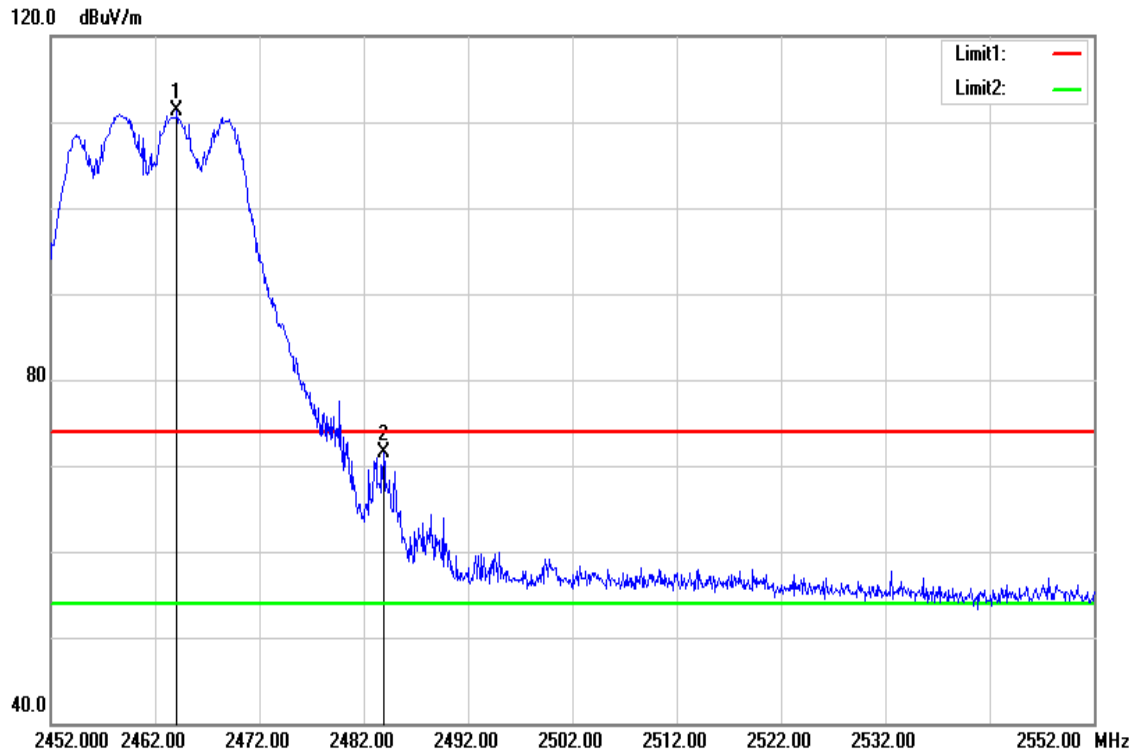


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	51.09	-3.13	47.96	54.00	-6.04	AVG
2	2418.528	104.60	-3.05	101.55	-	-	AVG

Report No.: T181019D03-RD

IEEE 802.11g Mode / CH High

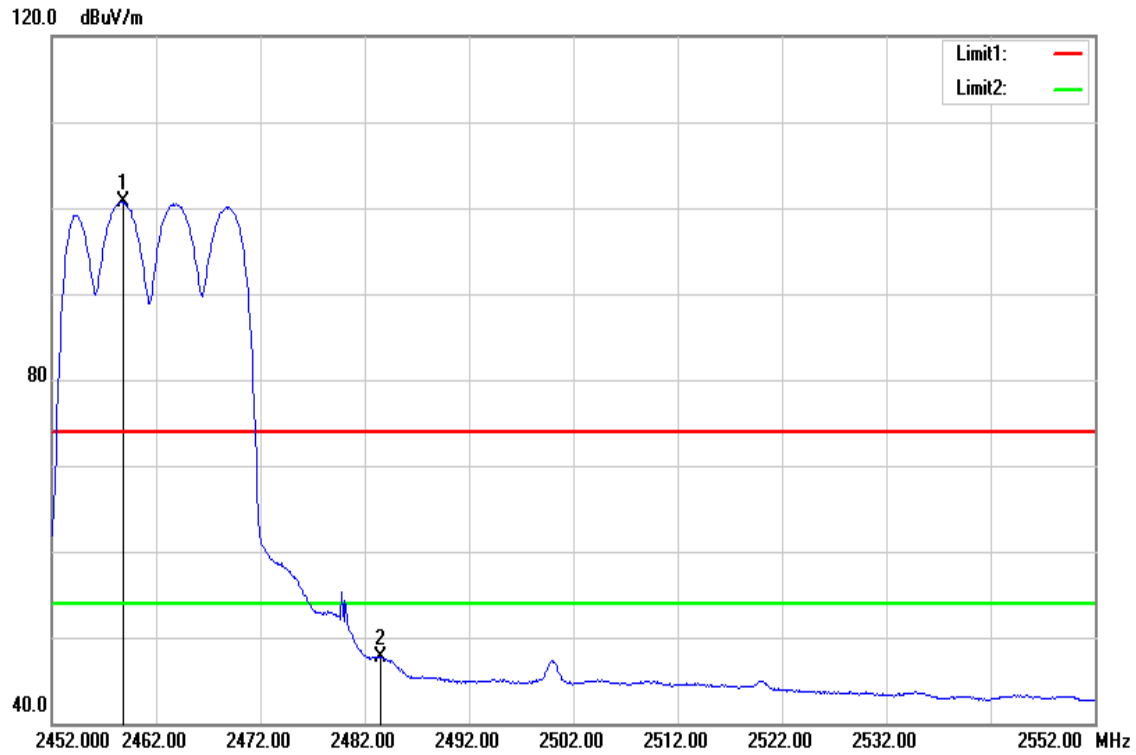
Detector mode: Peak



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2464.100	114.05	-2.82	111.23	-	-	peak
2	2483.900	74.29	-2.71	71.58	74.00	-2.42	peak

Report No.: T181019D03-RD

Detector mode: Average

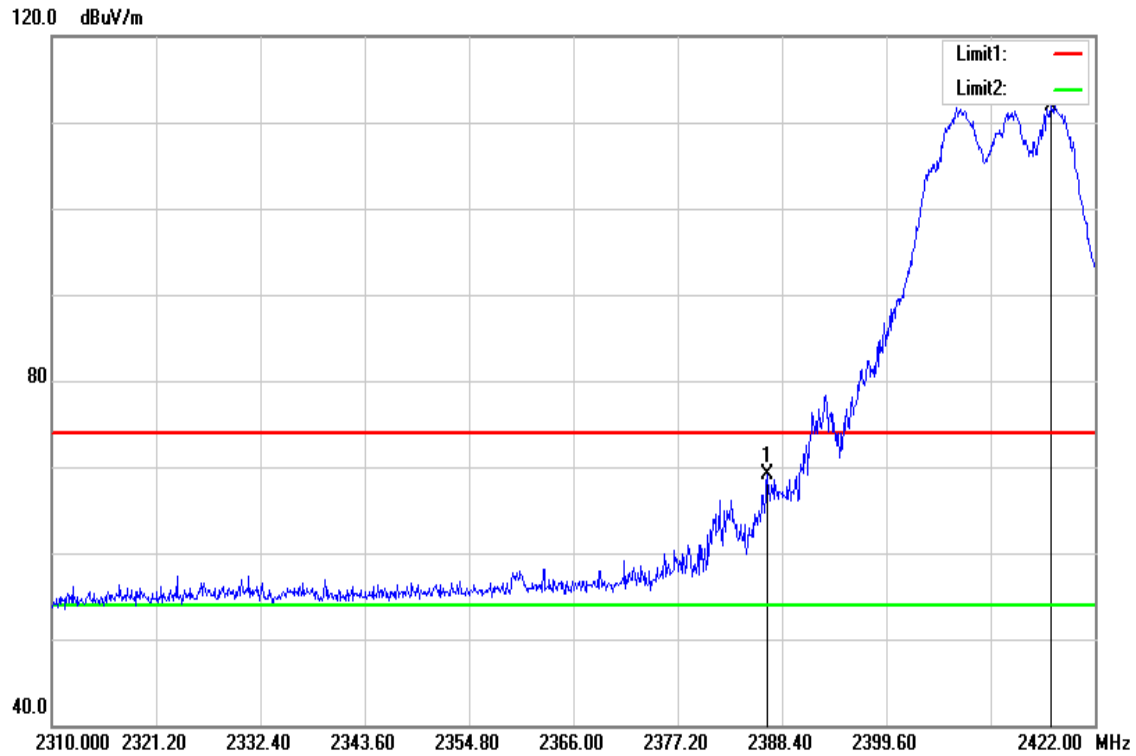


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2458.800	103.61	-2.84	100.77	-	-	AVG
2	2483.500	50.45	-2.71	47.74	54.00	-6.26	AVG

Report No.: T181019D03-RD

IEEE 802.11n HT 20 Mode / CH Low

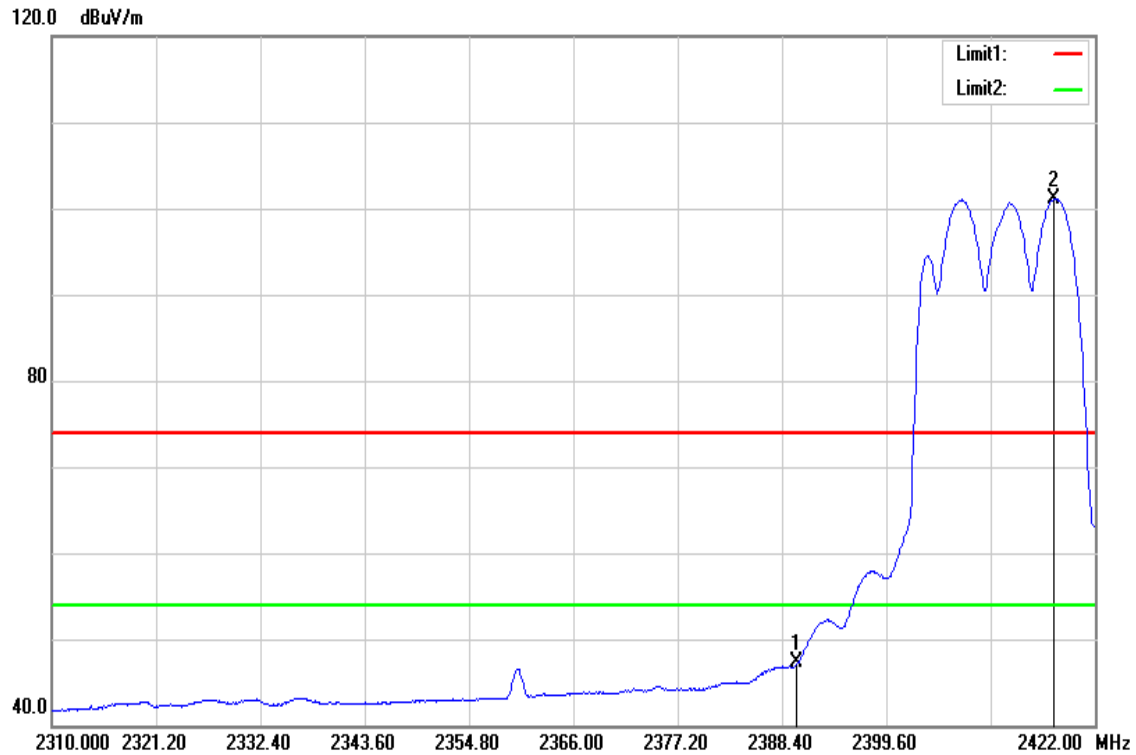
Detector mode: Peak



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.832	72.27	-3.12	69.15	74.00	-4.85	peak
2	2417.296	114.89	-3.05	111.84	-	-	peak

Report No.: T181019D03-RD

Detector mode: Average

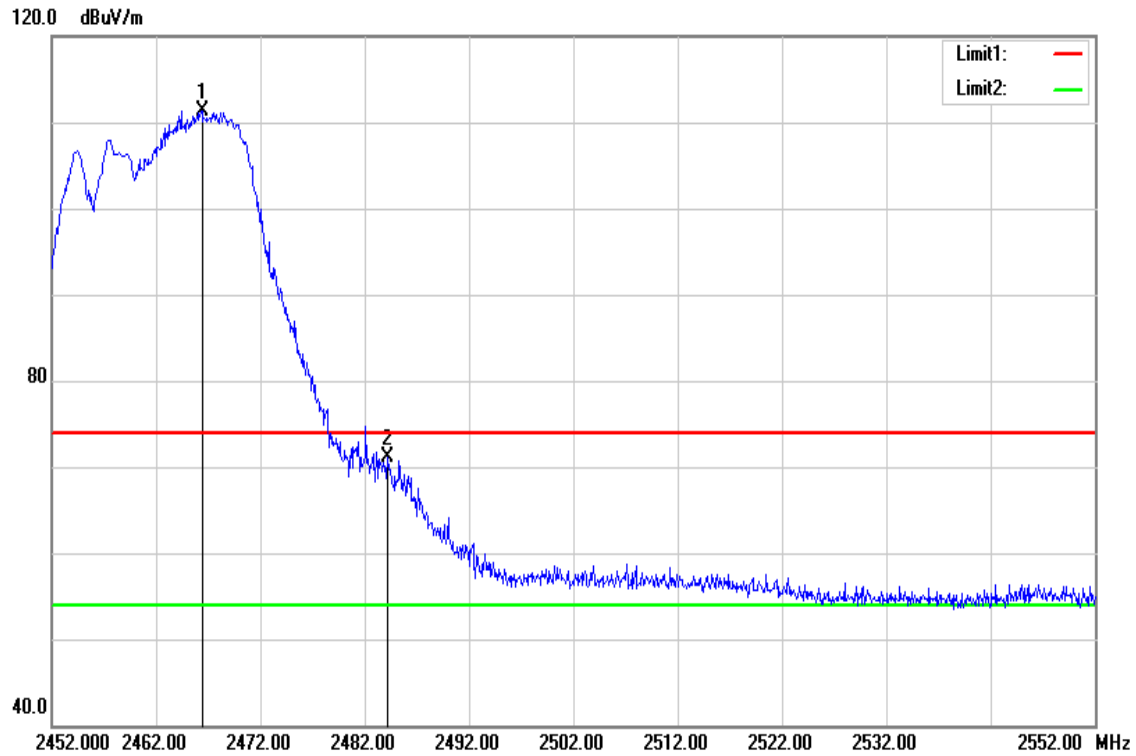


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	50.38	-3.13	47.25	54.00	-6.75	AVG
2	2417.632	104.19	-3.05	101.14	-	-	AVG

Report No.: T181019D03-RD

IEEE 802.11n HT 20 Mode / CH High

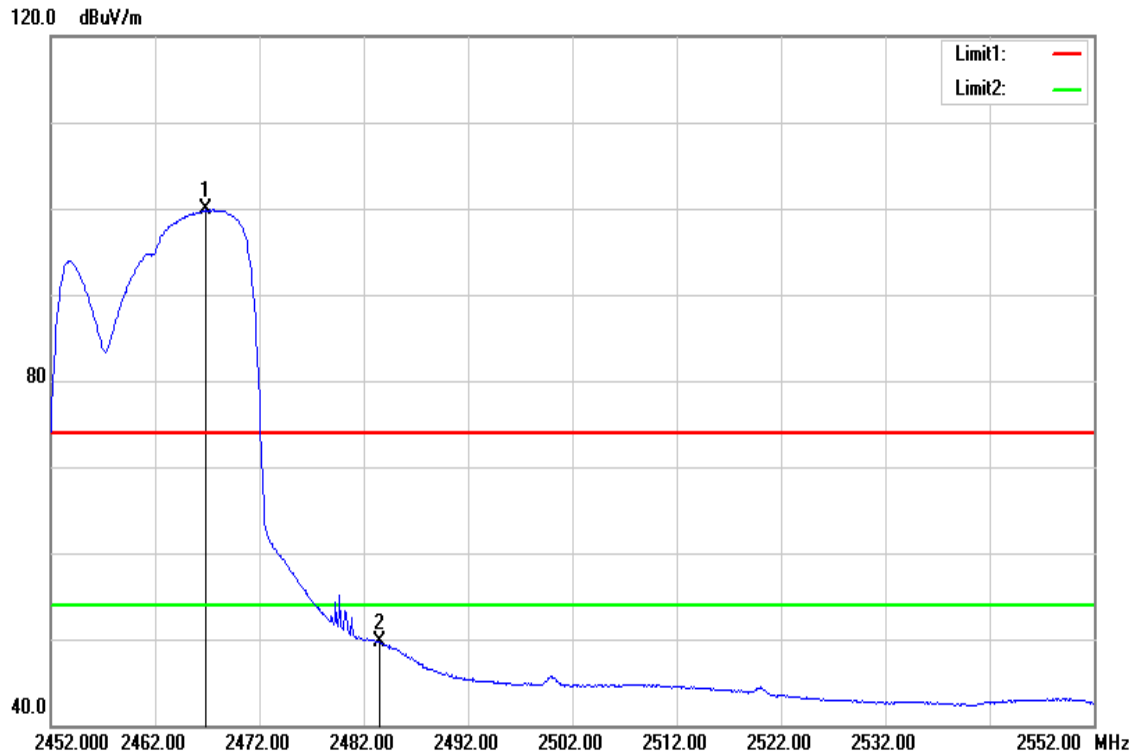
Detector mode: Peak



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2466.400	114.21	-2.81	111.40	-	-	peak
2	2484.200	73.88	-2.71	71.17	74.00	-2.83	peak

Report No.: T181019D03-RD

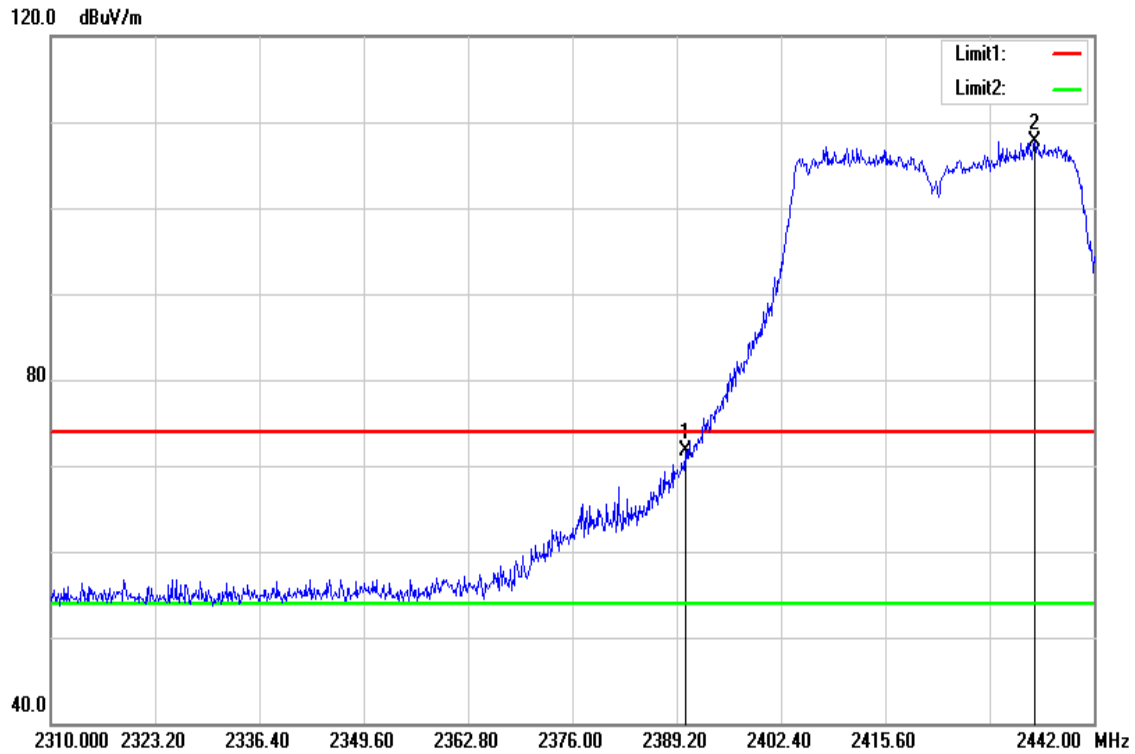
Detector mode: Average



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2466.900	102.64	-2.81	99.83	-	-	AVG
2	2483.500	52.38	-2.71	49.67	54.00	-4.33	AVG

IEEE 802.11n HT 40 Mode / CH Low

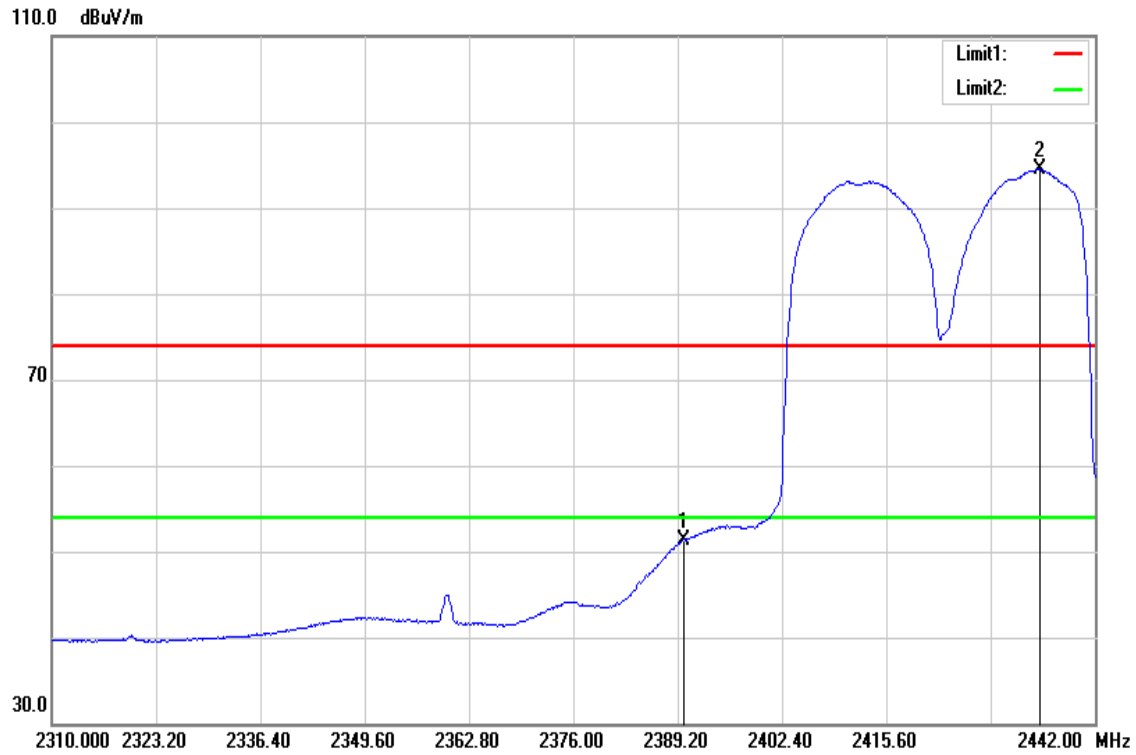
Detector mode: Peak



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.256	74.82	-3.13	71.69	74.00	-2.31	peak
2	2434.476	110.73	-2.96	107.77	-	-	peak

Report No.: T181019D03-RD

Detector mode: Average

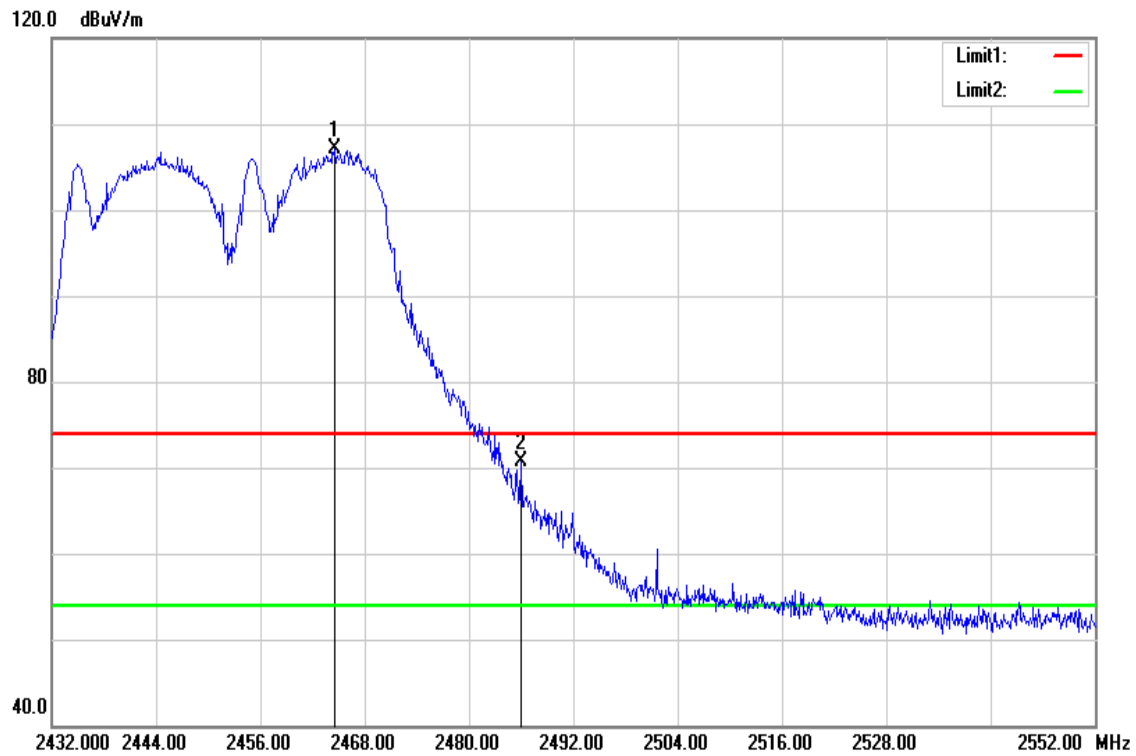


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	54.51	-3.13	51.38	54.00	-2.62	AVG
2	2435.004	97.48	-2.96	94.52	-	-	AVG

Report No.: T181019D03-RD

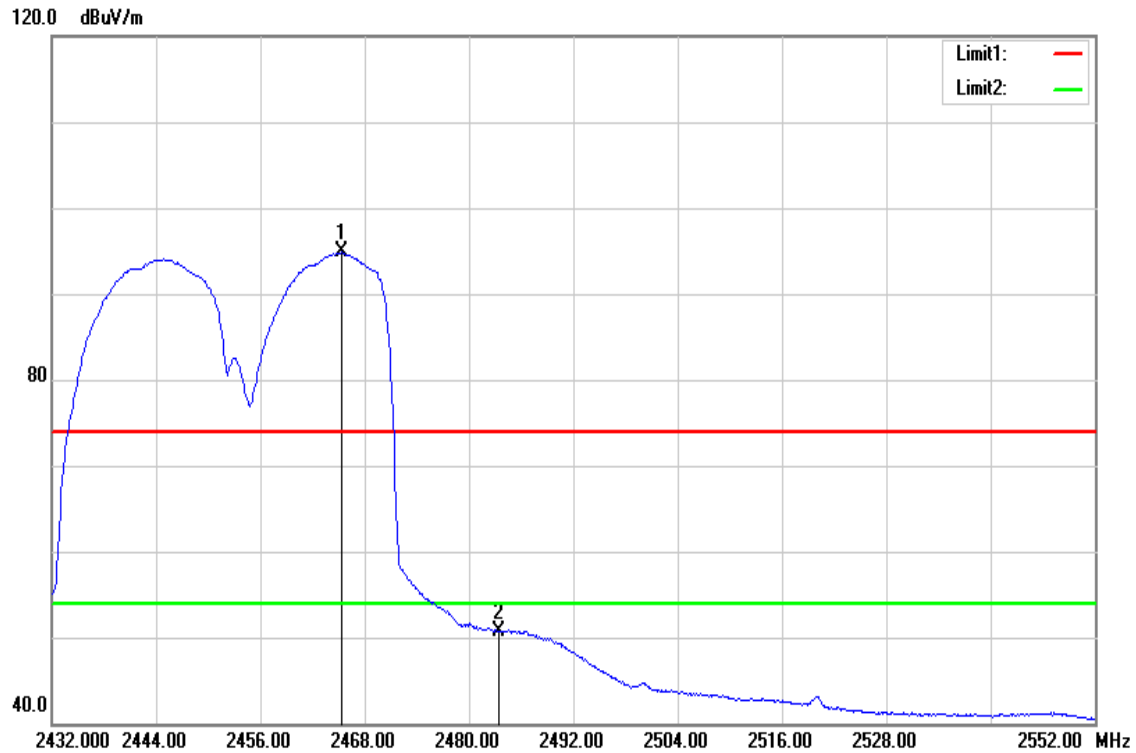
IEEE 802.11n HT 40 Mode / CH High

Detector mode: Peak



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2464.520	109.97	-2.81	107.16	-	-	peak
2	2486.000	73.31	-2.70	70.61	74.00	-3.39	peak

Detector mode: Average



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2465.360	97.64	-2.81	94.83	-	-	AVG
2	2483.500	53.47	-2.71	50.76	54.00	-3.24	AVG

Report No.: T181019D03-RD

7.15 帶外發射限制

7.16 適用標準

操作頻帶範圍外之任意 100 kHz 內，發射機所產生的射頻功率相較於使用頻帶範圍中包含最高所需功率之 100 kHz 內的射頻功率，其衰減值限制如下：

- (1) 輸出功率以附件二之峰值輸出功率方式測量者，至少須衰減 20 dB，可使用射頻傳導或輻射方式測量。
- (2) 輸出功率以 3.10.1.2(1)(C)之最大傳導輸出功率測量方式者，至少須衰減 30 dB。此外，落於 2.7 禁用頻段之輻射發射，應符合 2.8 之規定。

7.17 測試方法

Test method Refer as KDB 558074 D01.

1. EUT RF output port connected to the SA by RF cable, and the path loss was compensated to result.
2. SA setting, RBW=100kHz, VBW=300kHz, Detector=Peak, Trace mode = max hold, SWT = Auto.
3. In any 100 kHz bandwidth outside the authorized frequency band, shall be attenuated at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when conducted power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

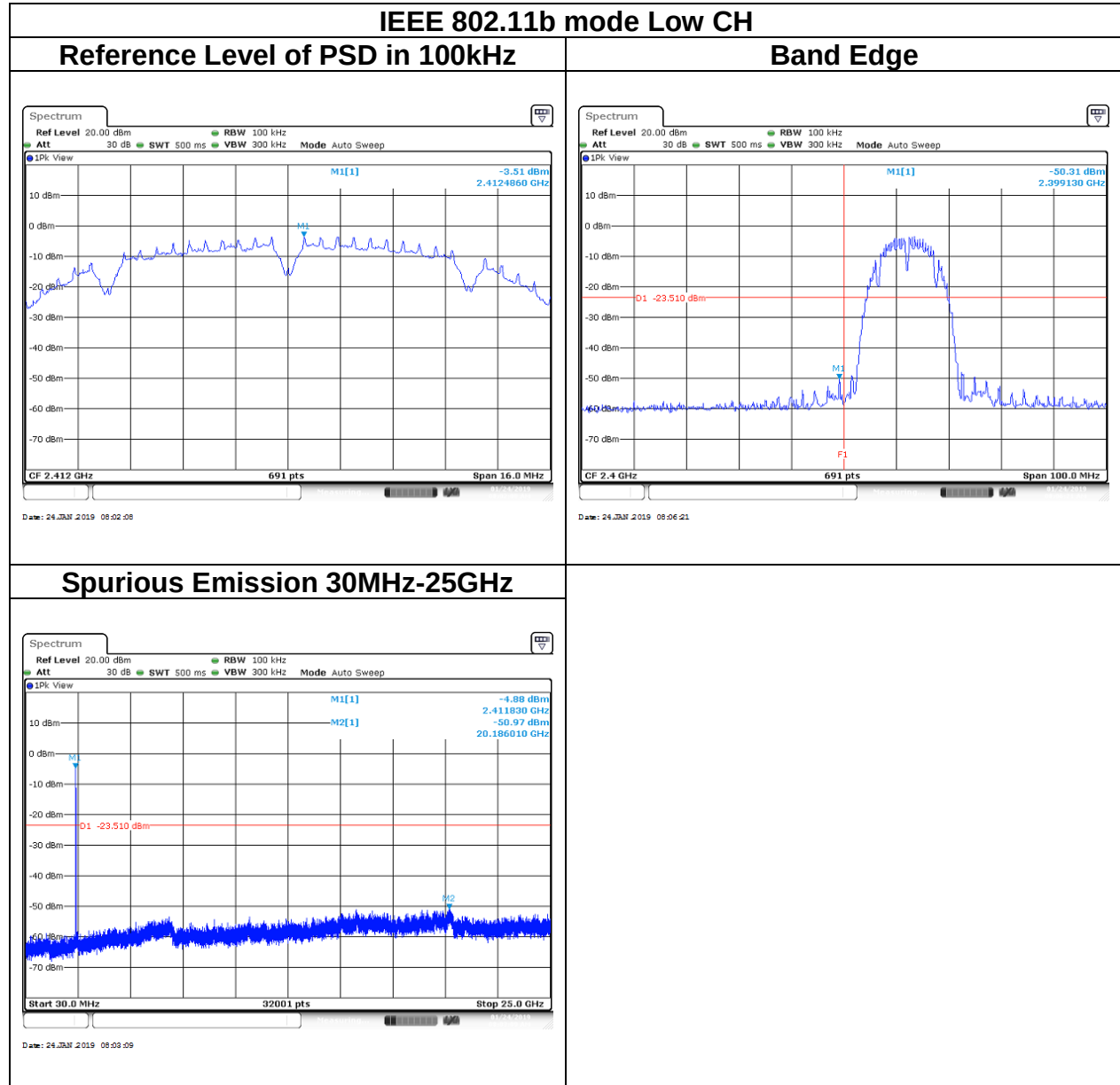
7.18 帶外發射限制之測試配置

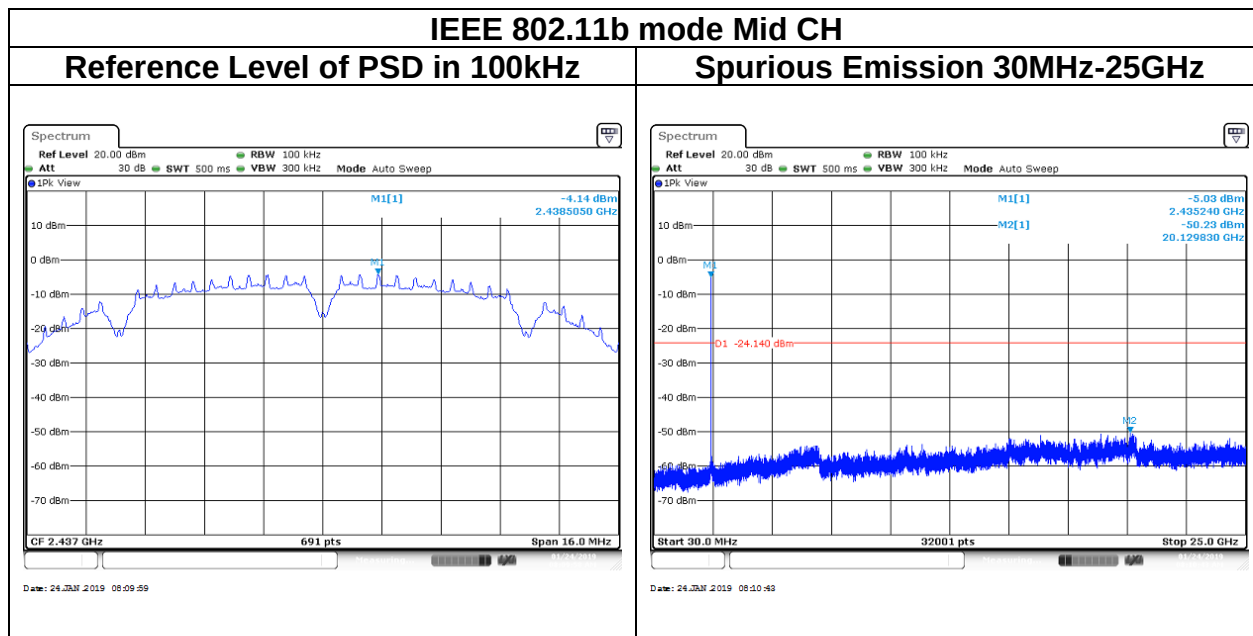




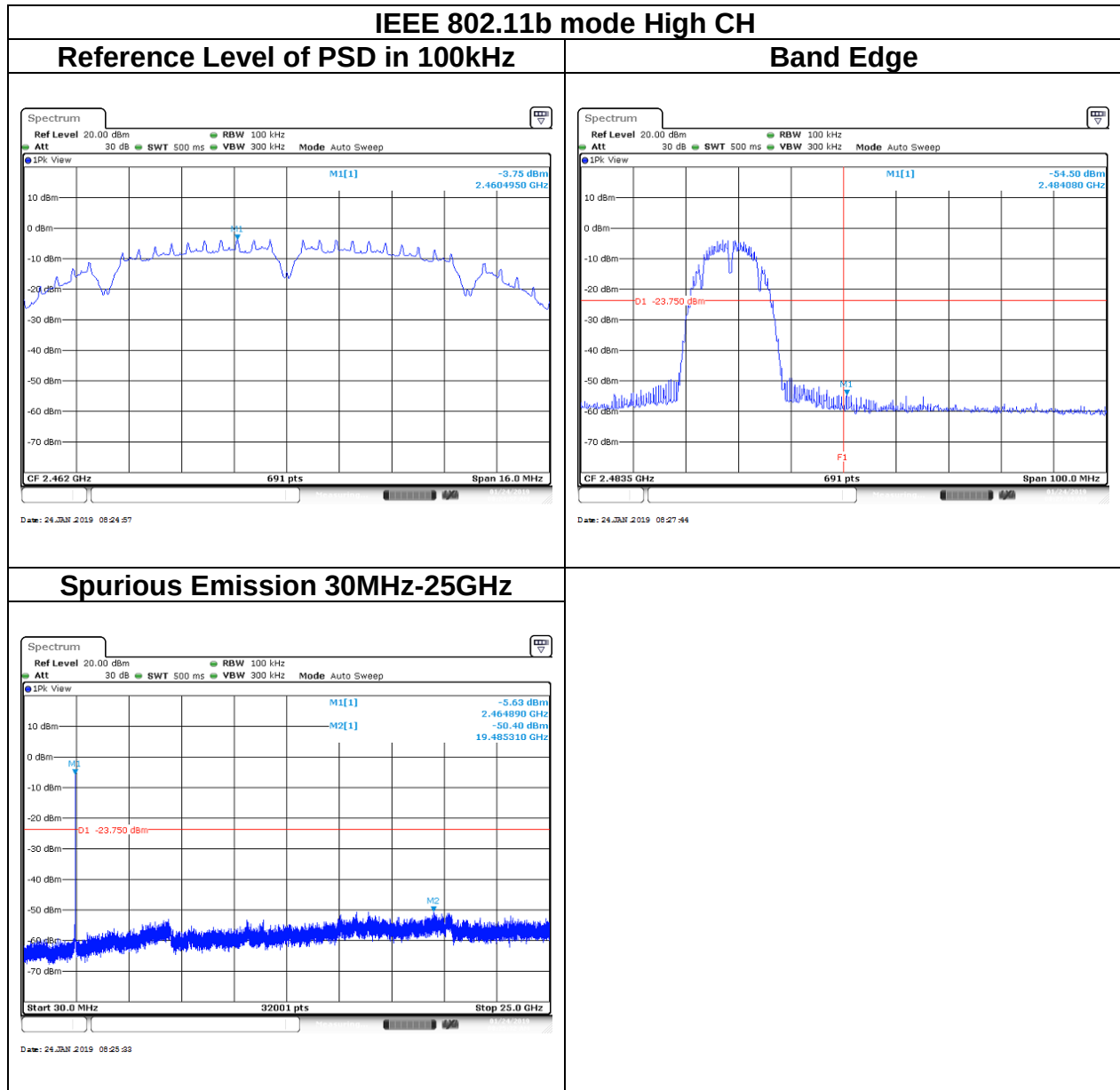
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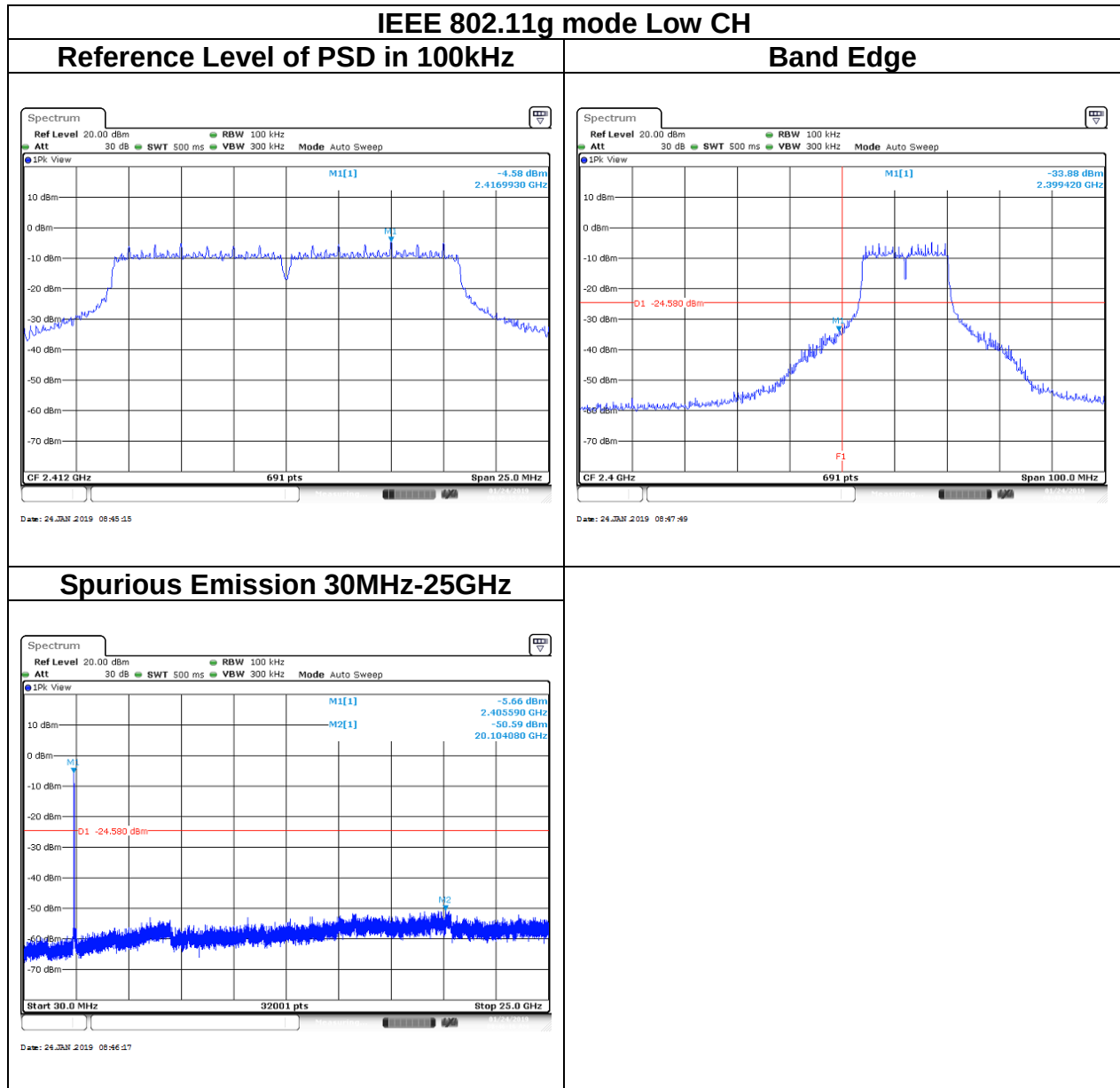


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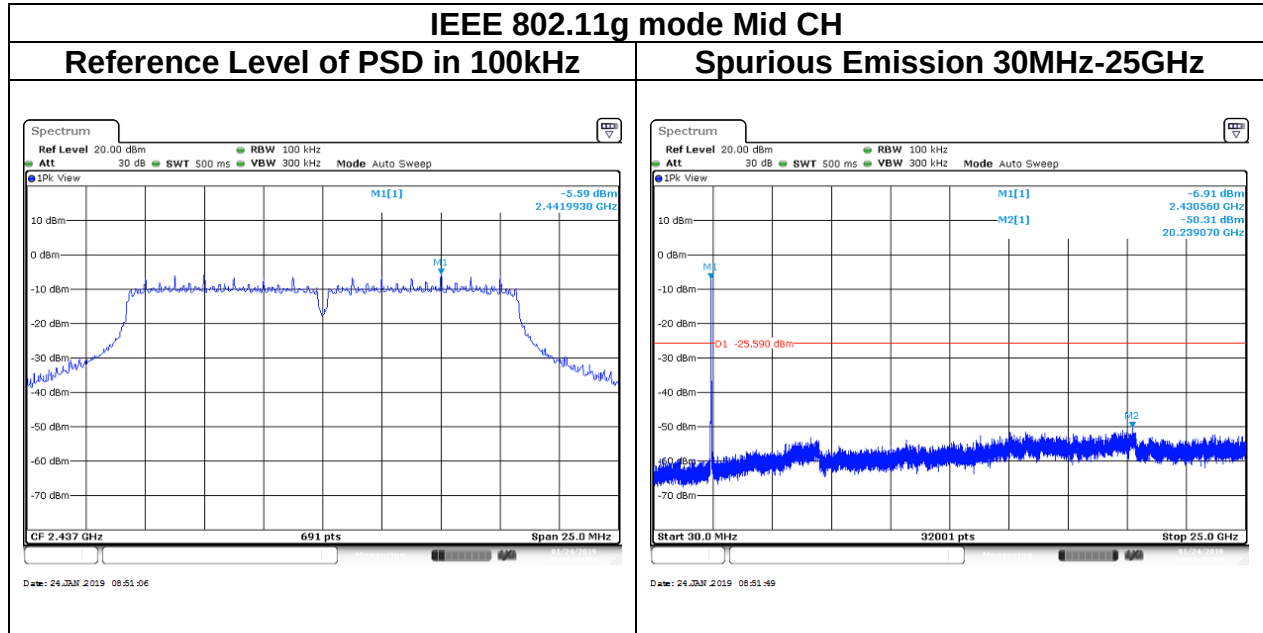




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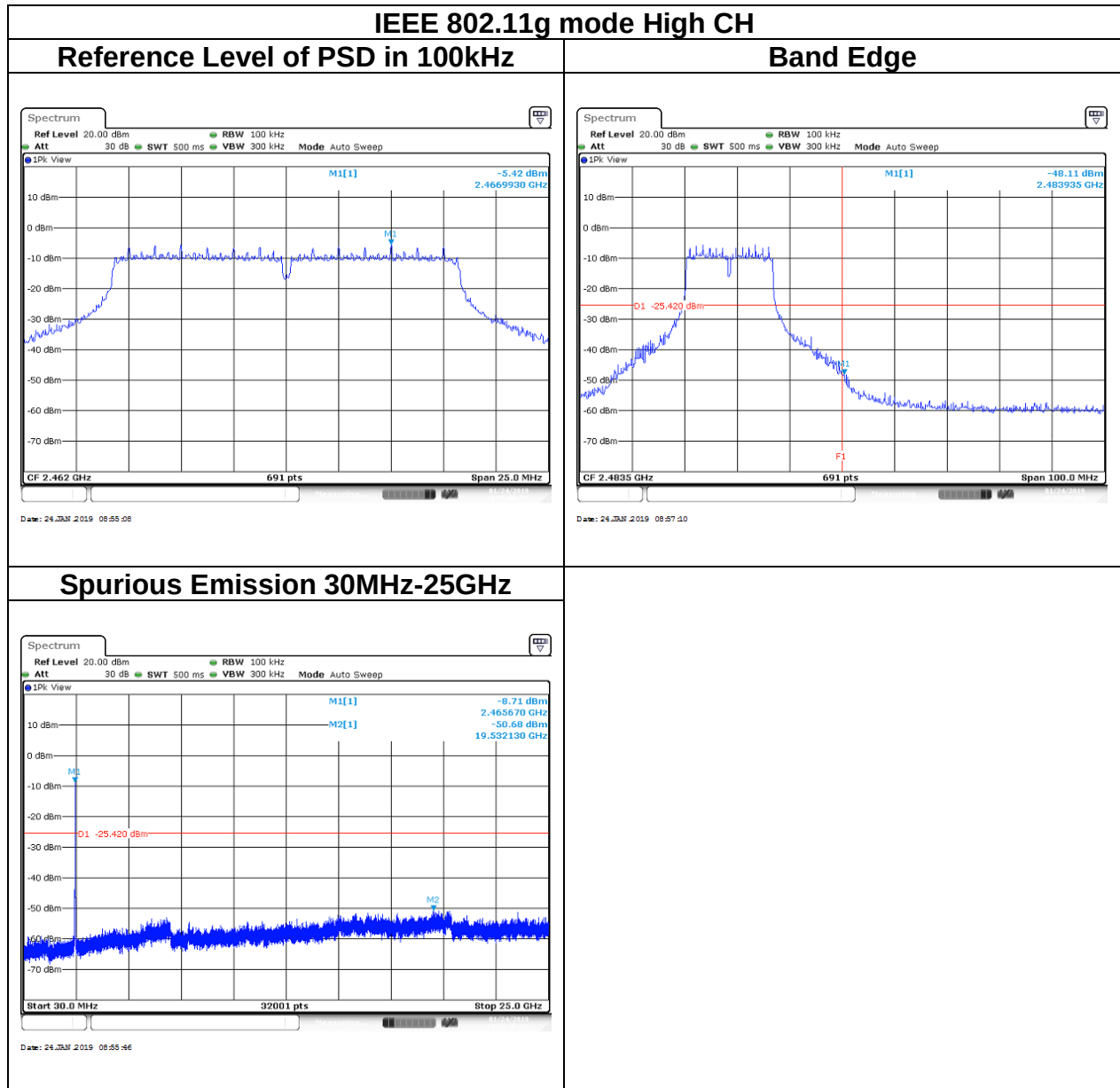
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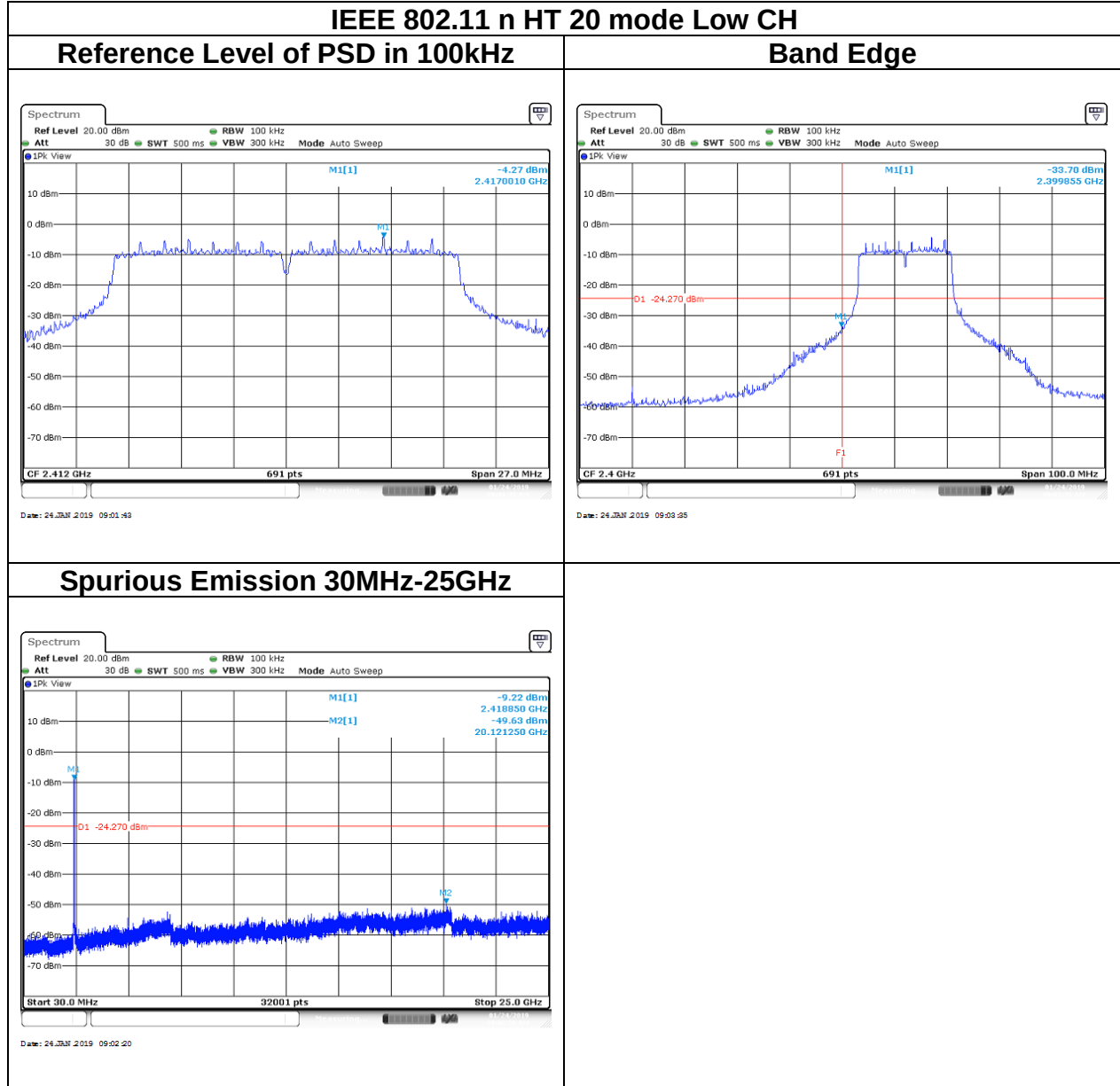
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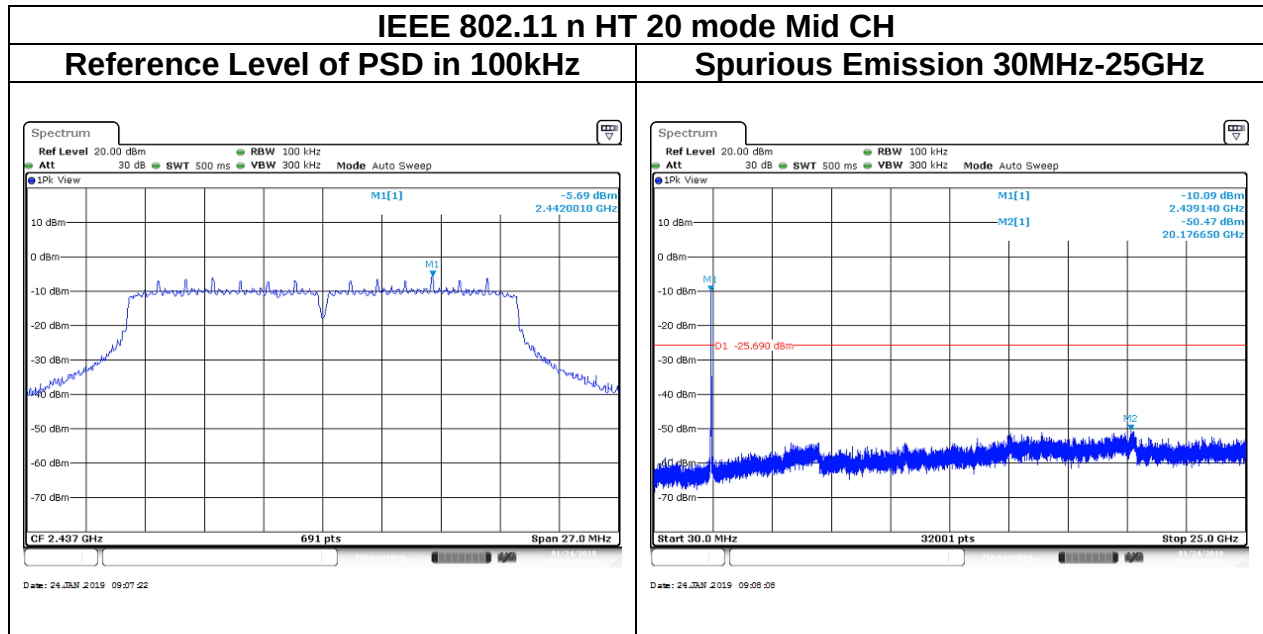




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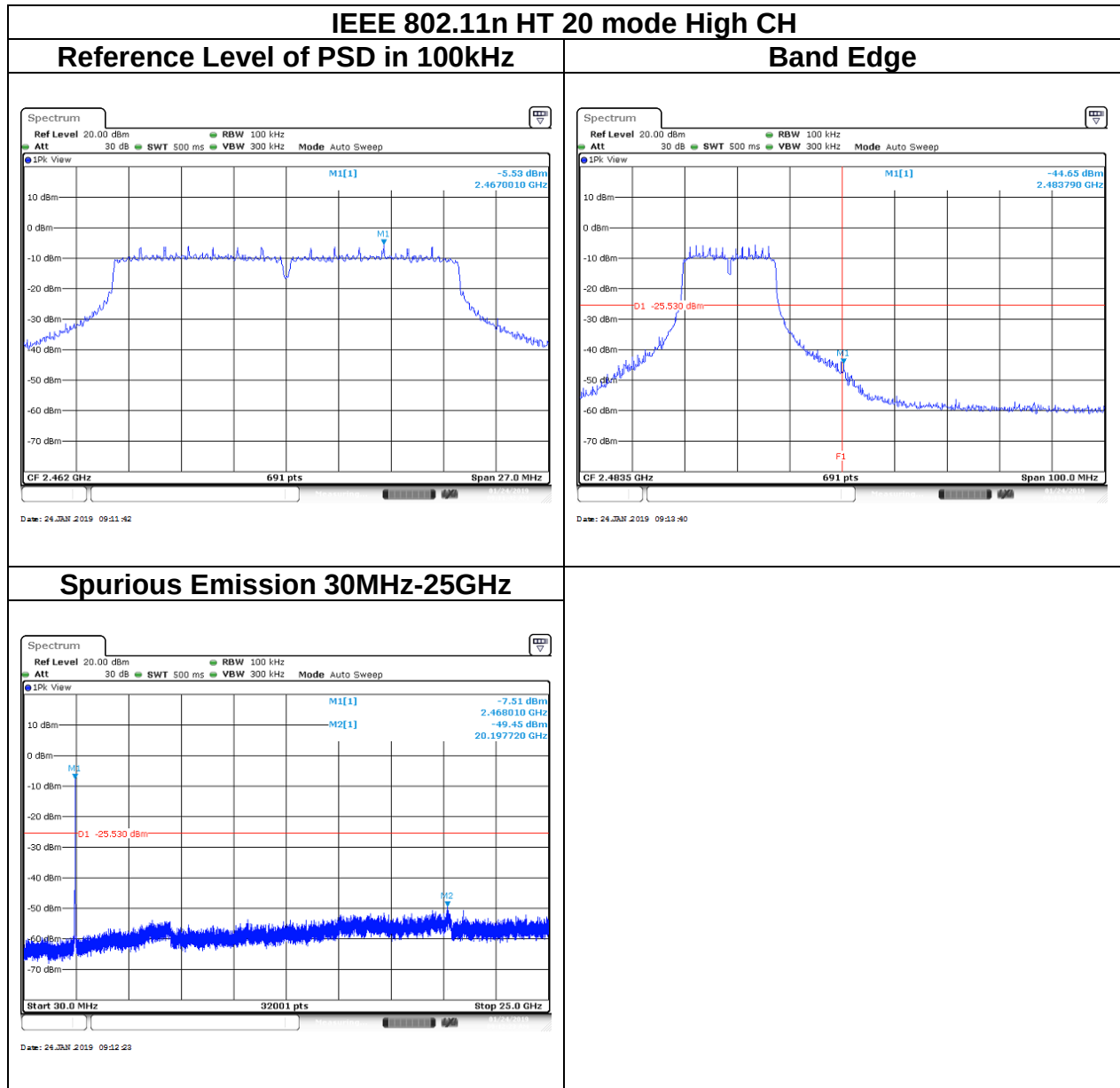




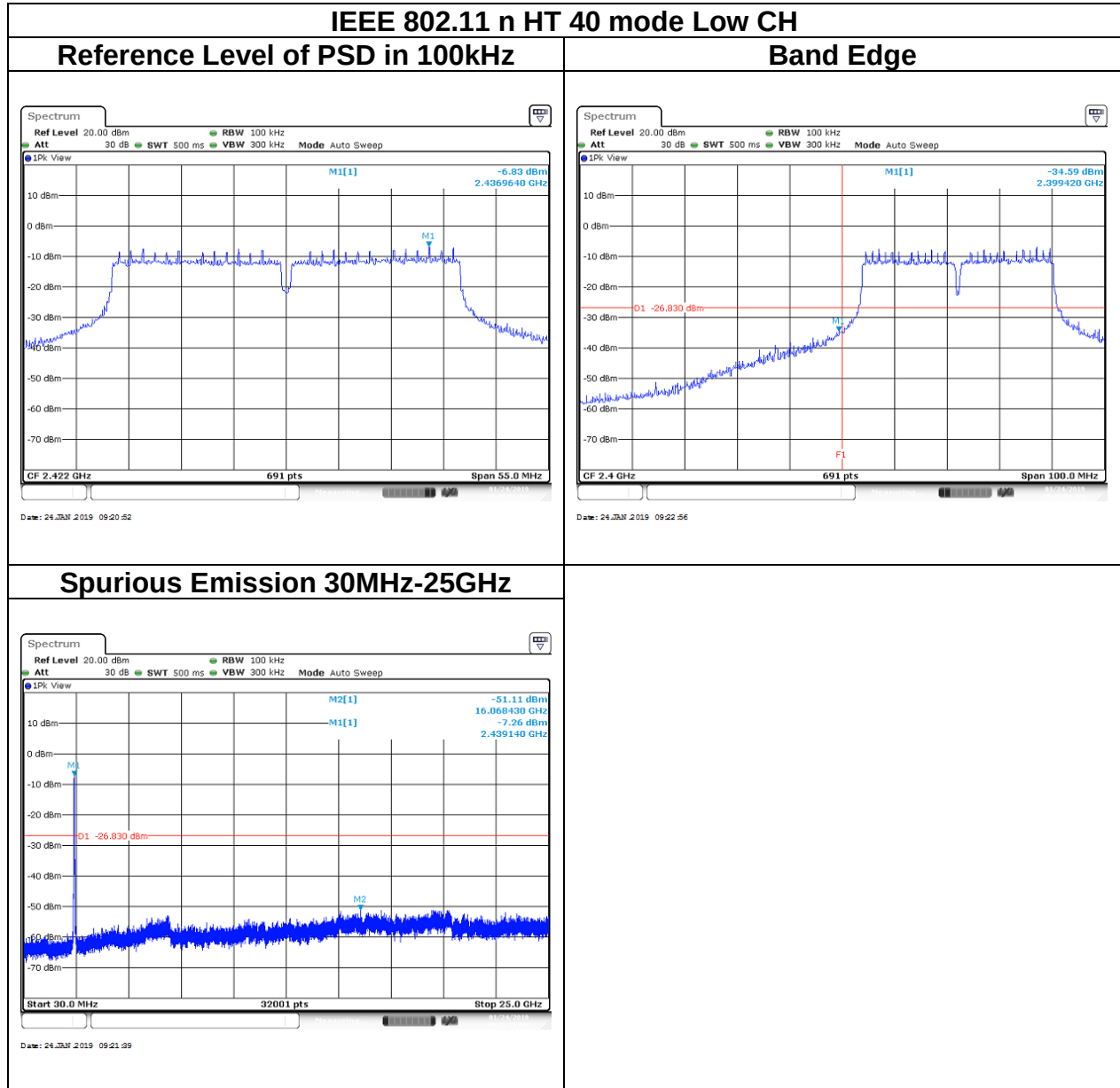




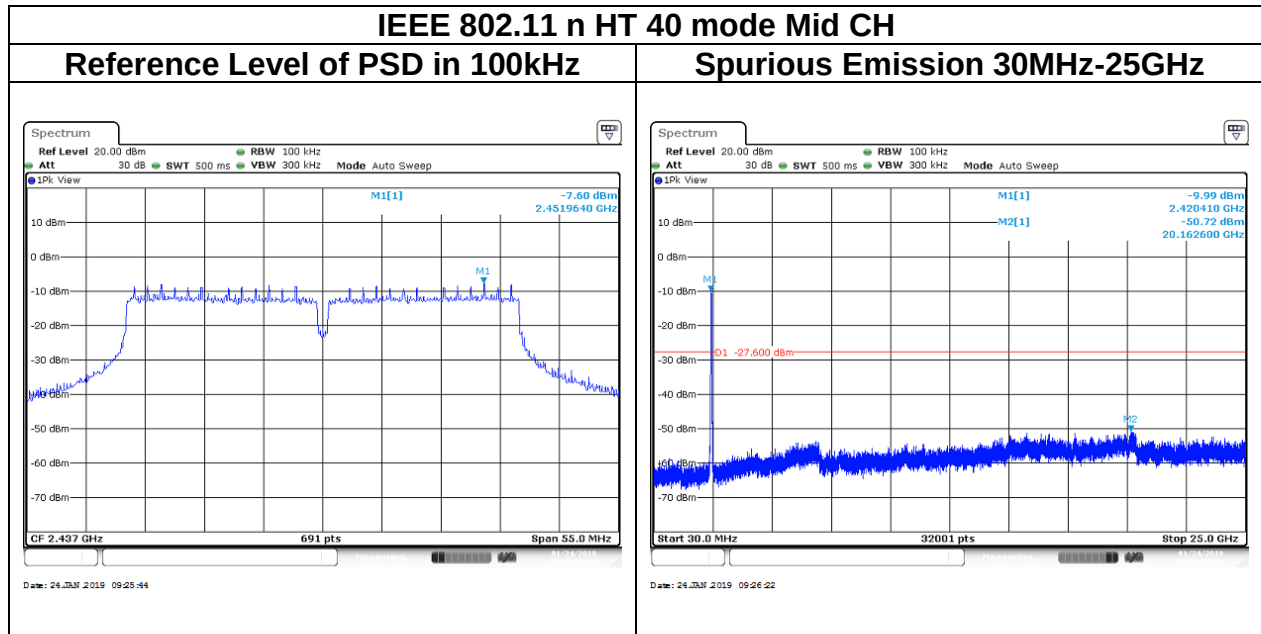
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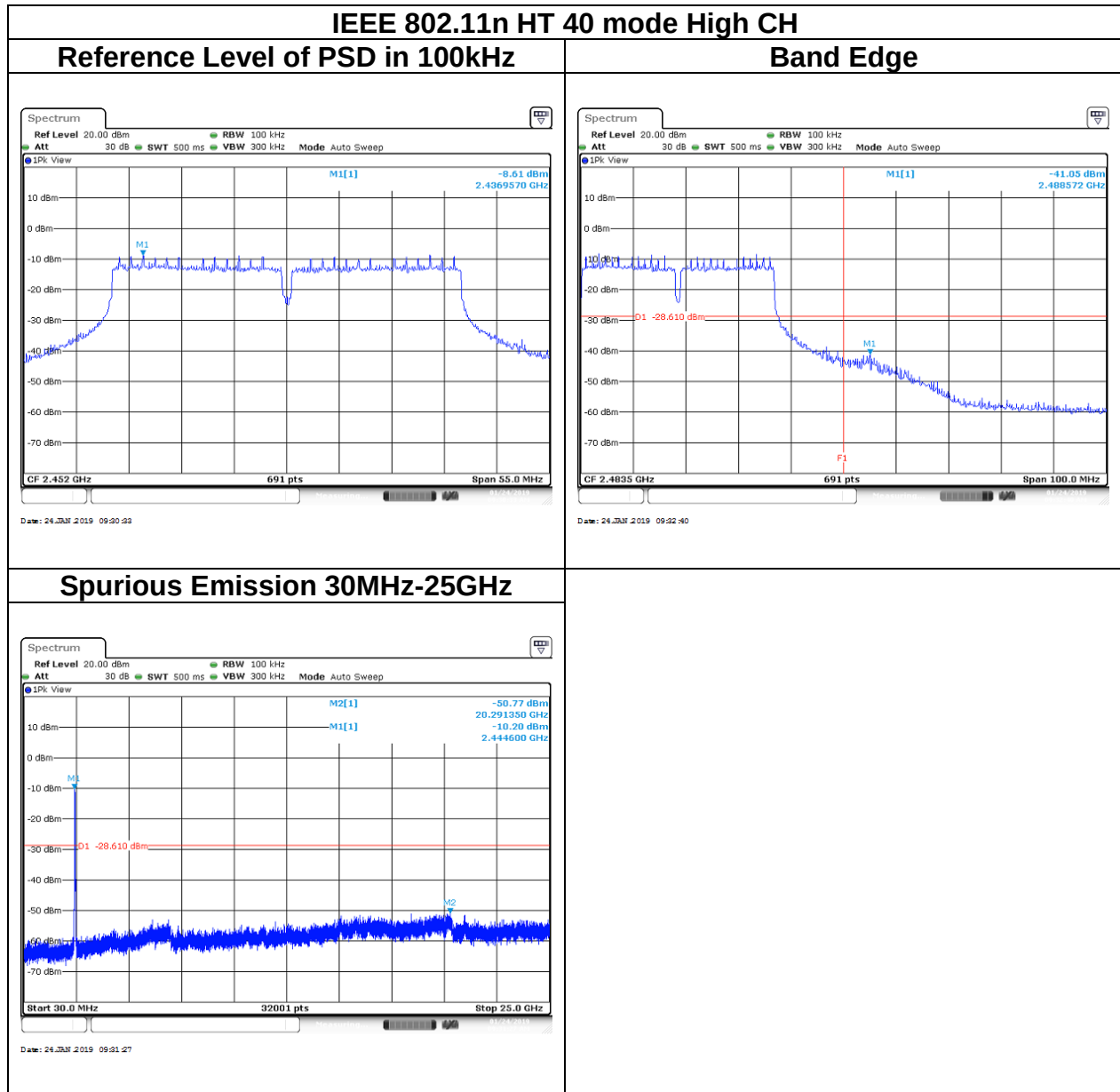


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Report No.: T181019D03-RD

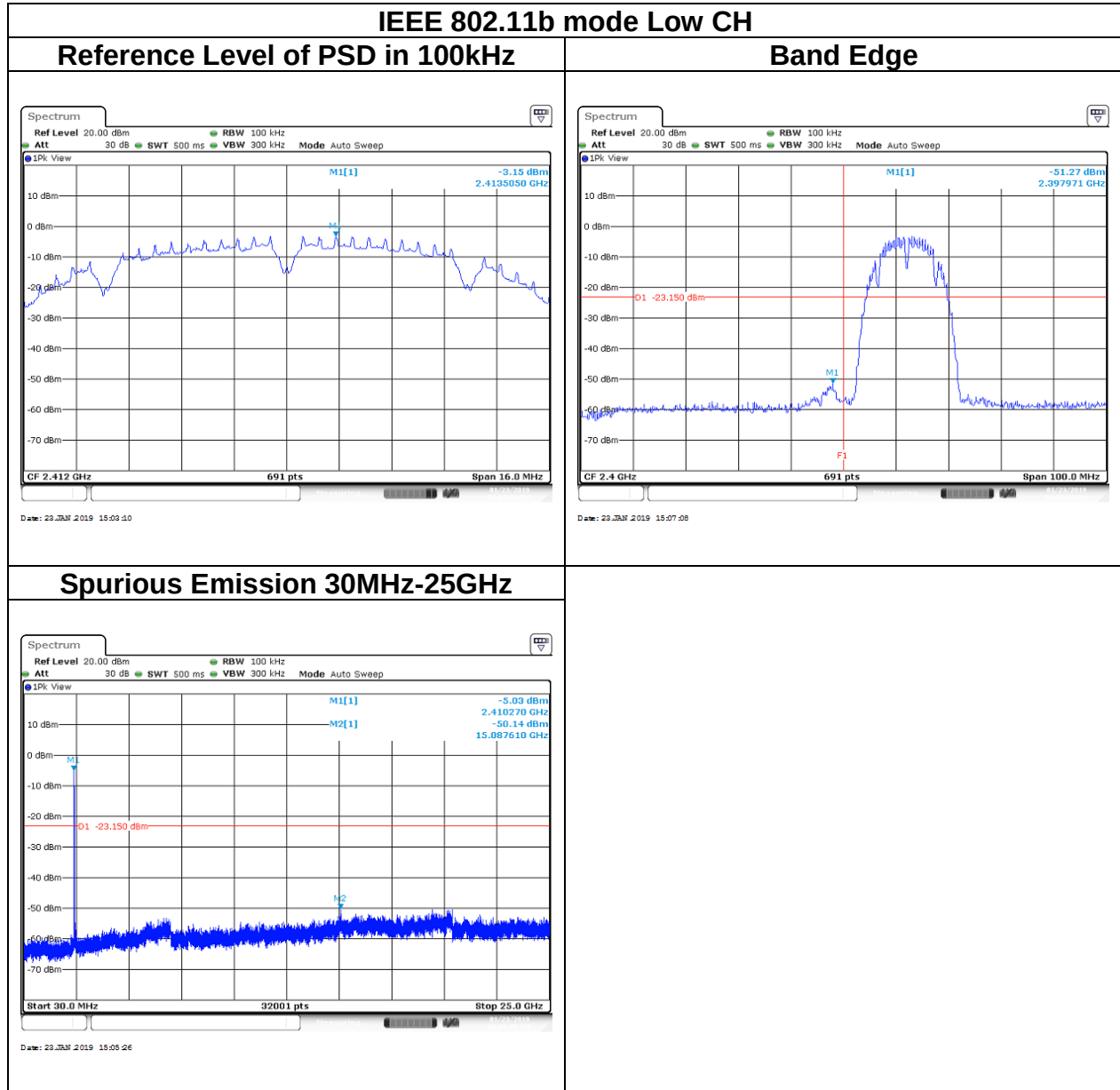






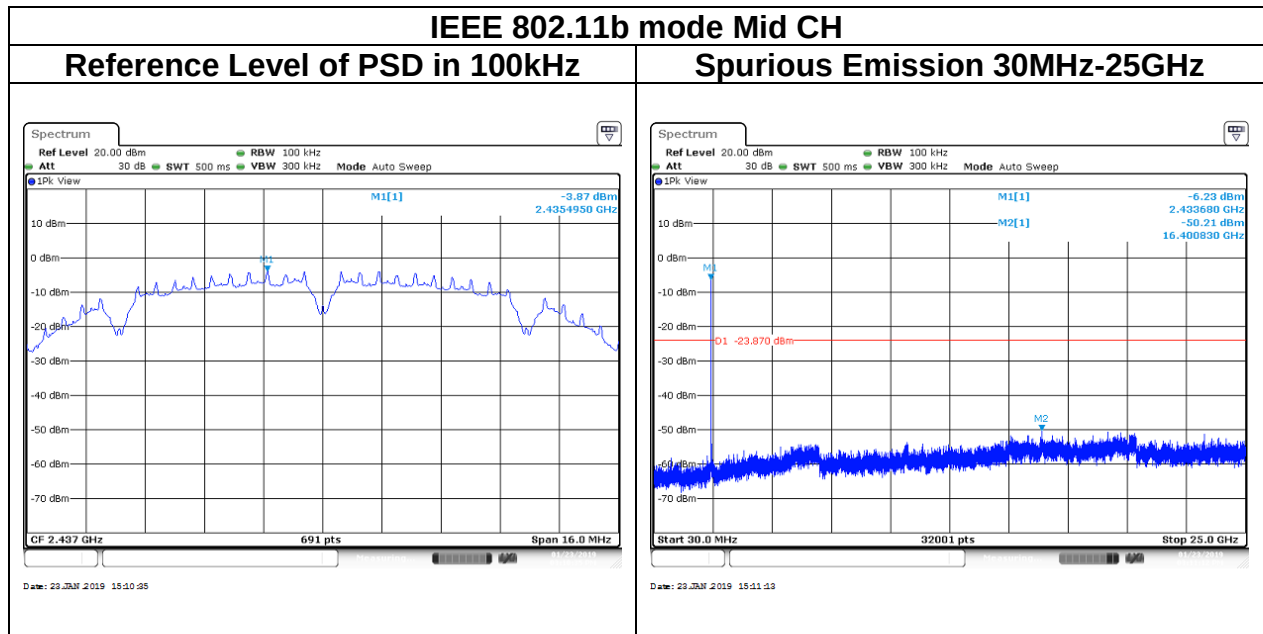
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For Chain 1





Report No.: T181019D03-RD

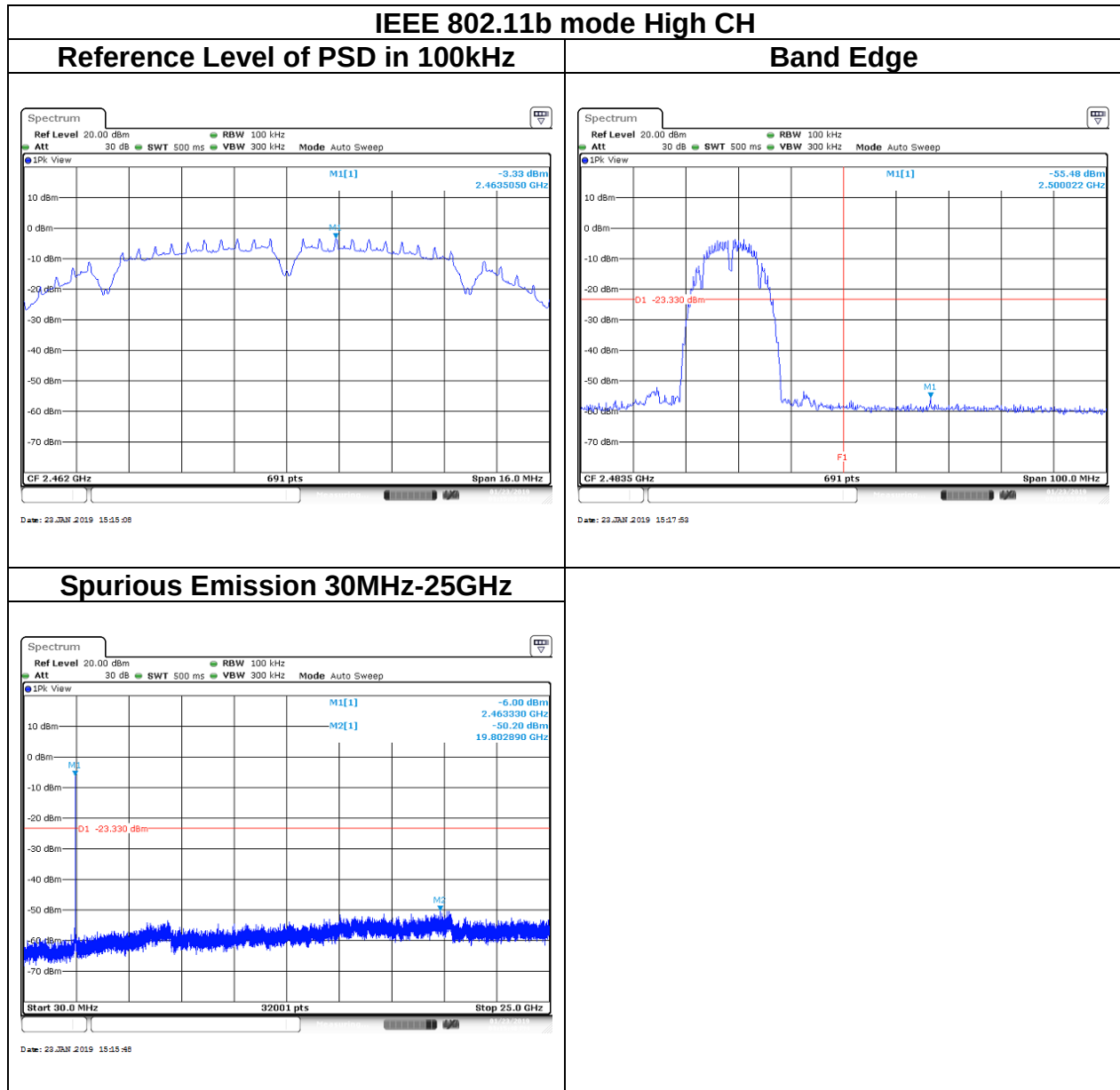




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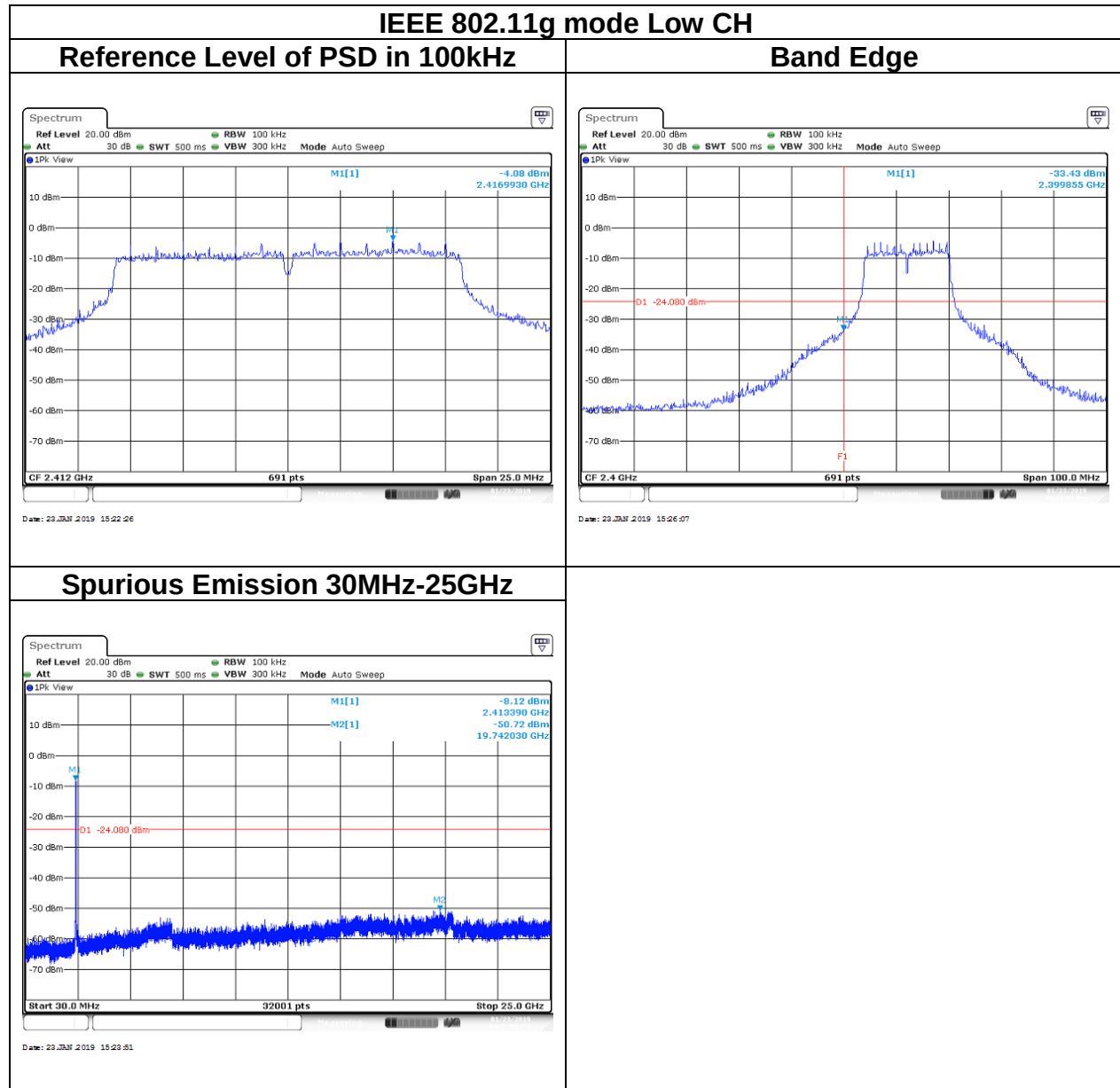




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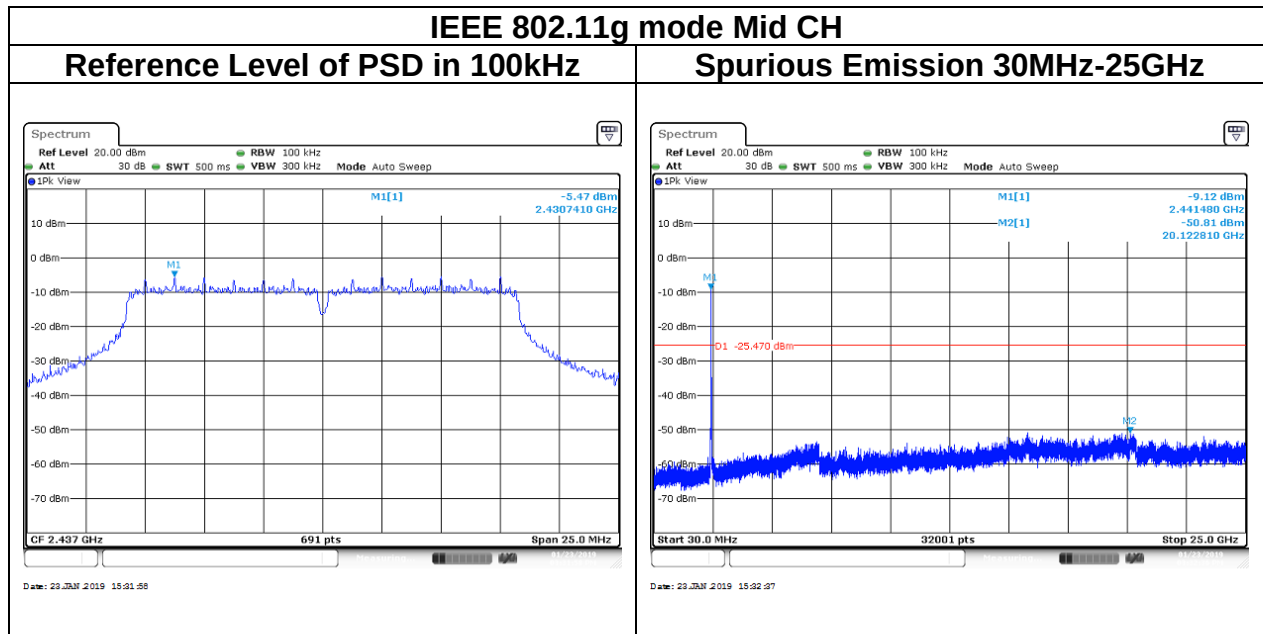
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Report No.: T181019D03-RD

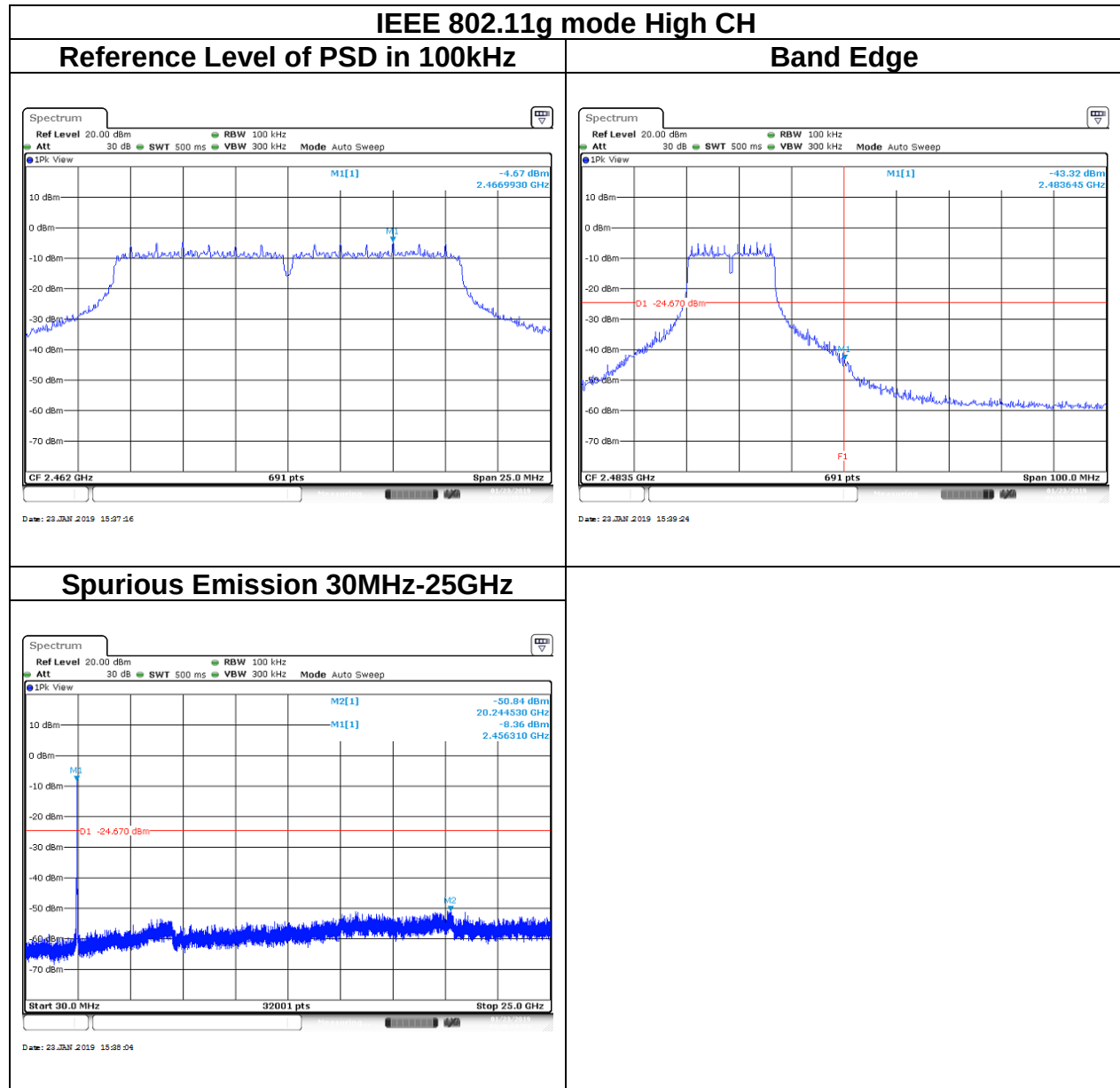




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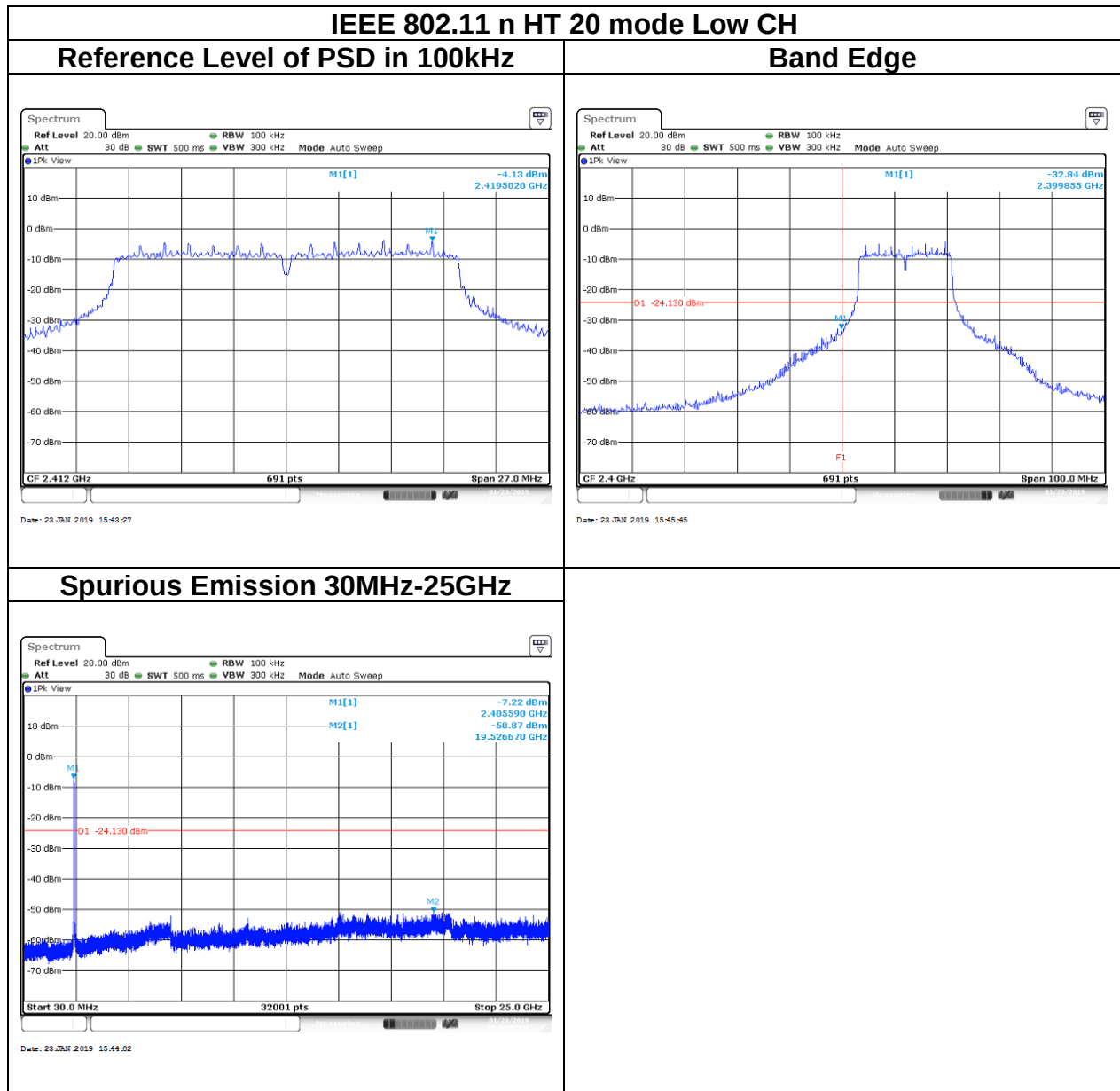
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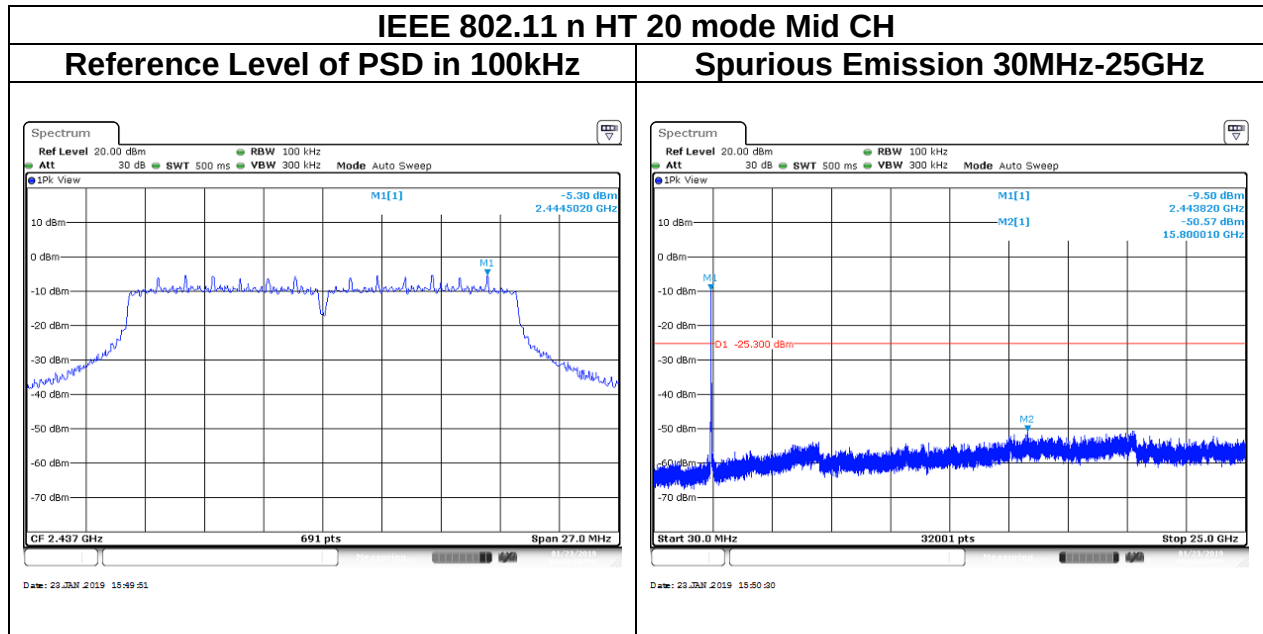
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Report No.: T181019D03-RD



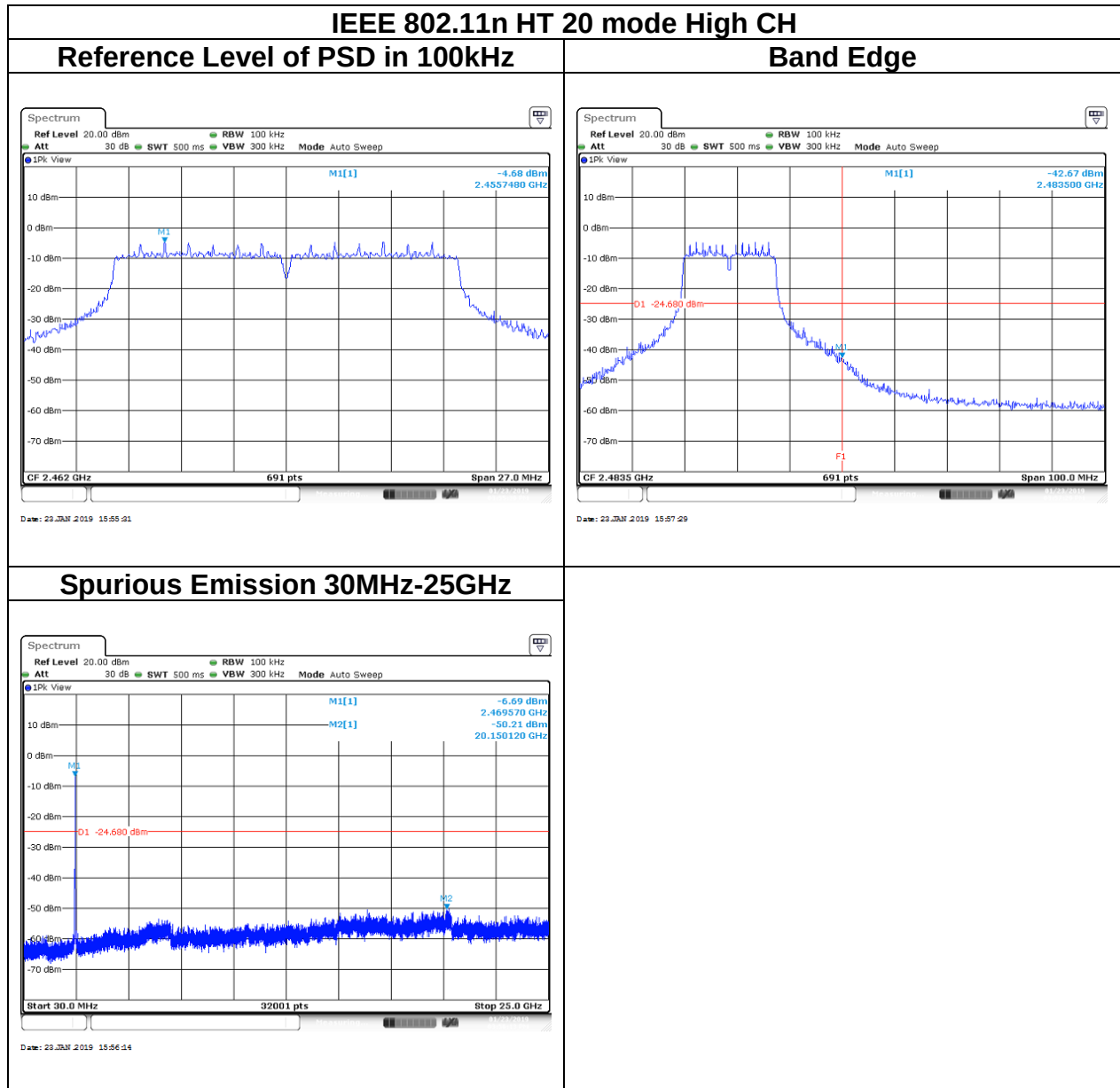




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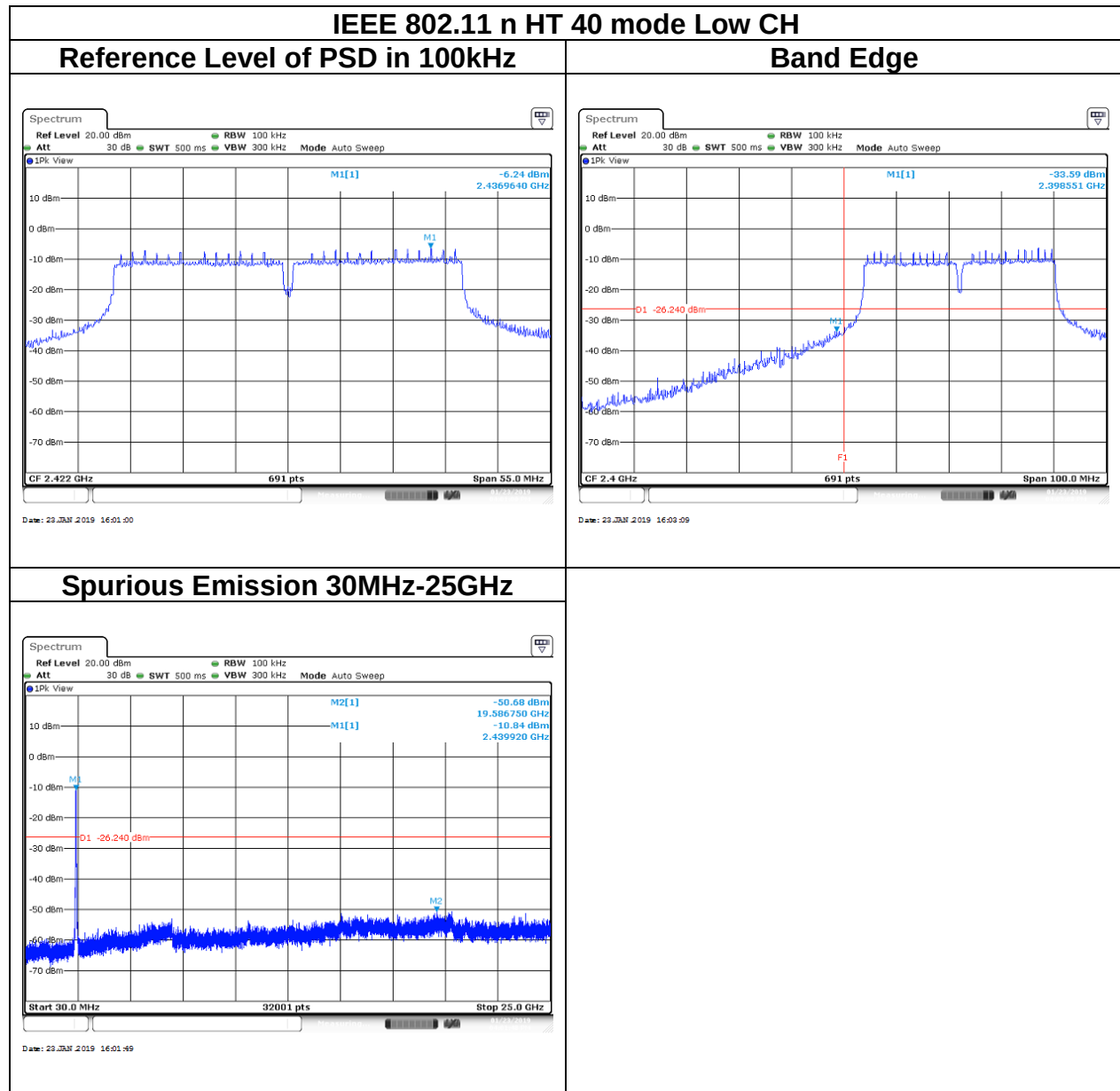
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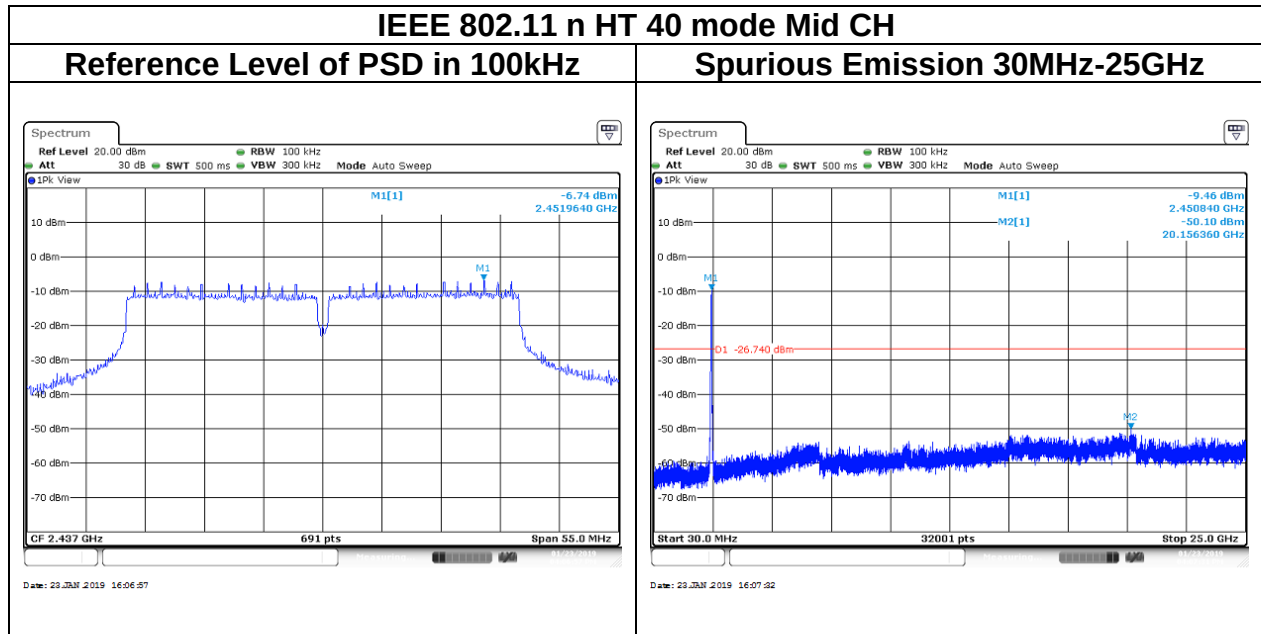
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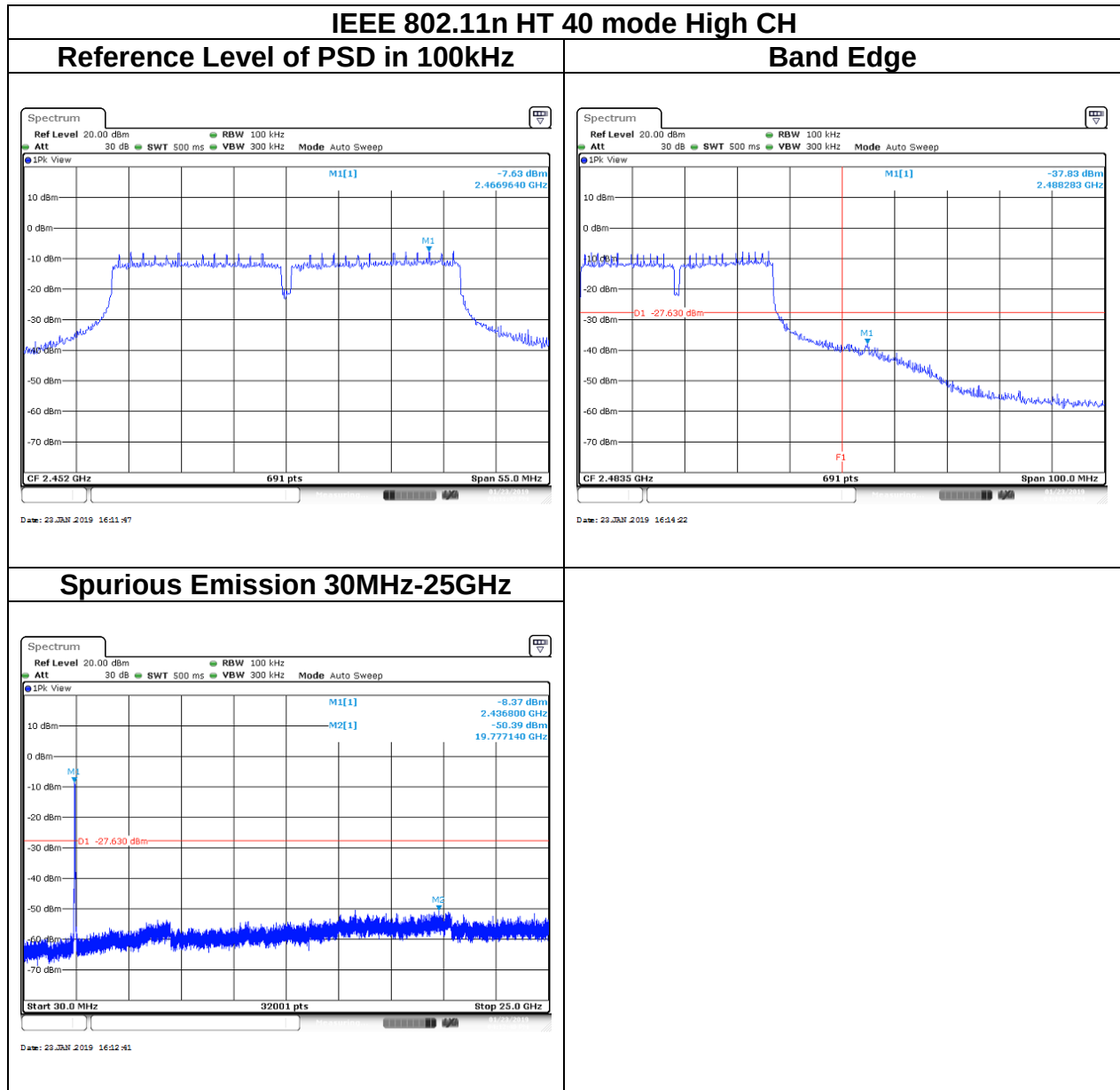




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7.19 功率密度之量測

7.20 適用標準

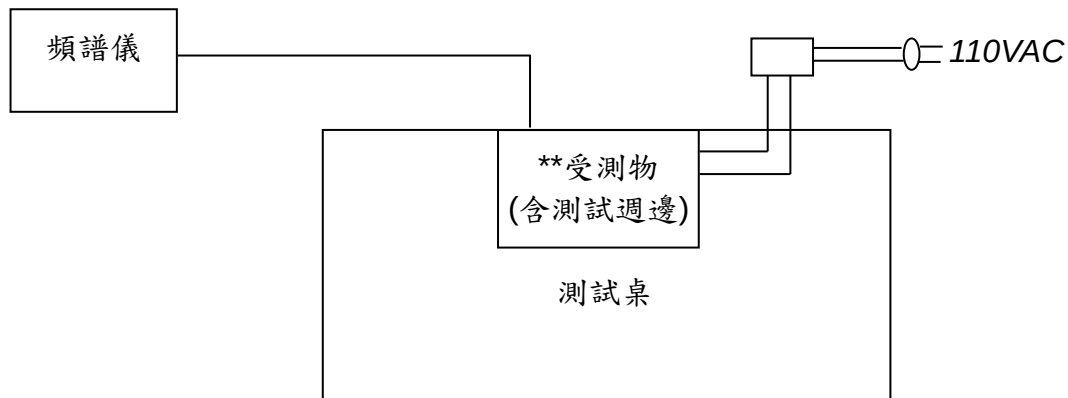
依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.6(2)(B)條規定，對數位調變之系統，在使用頻率範圍之任意 3kHz 頻寬內，由發射機傳導至天線之峰值發射電功率密度在任意期間內，皆不得大於 8dBm。

7.21 測試方法

1. 將發射機之天線埠經由適當之衰減直接連至測試儀器。找出發射峰值並擴展於通帶內，設定解析頻寬為 $3\text{ kHz} \leq \text{RBW} \leq 100\text{ kHz}$ ，視訊頻寬 $\geq 3 \times \text{RBW}$ ，掃描時間為 auto couple, Span 大於 DTS 頻寬 1.5 倍。所測得之峰值位準必須不大於 +8dBm。
2. 若受測裝置之頻譜線間隔小於 3 kHz，測量時應將解析頻寬降低以使頻譜線間隔大於 3kHz，所測得之數據再藉加總 3 kHz 頻帶內所有個別頻譜線之功率而標準化至 3 kHz 以決定是否符合規定。

註：測試方法依據 FCC KDB 558074 D01

7.22 測試配置



註：**請參照 3.2 節

7.23 功率密度之量測結果

Test Mode: IEEE 802.11b Mode

頻道	頻率 (MHz)	PPSD (dBm) Chain 0	PPSD (dBm) Chain 1	Total PSD (dBm)	限制值 (dBm)	測試結果
CH Low	2412	-6.14	-6.04	-3.08	8	PASS
CH Mid	2437	-6.48	-6.62	-3.54		PASS
CH High	2462	-6.66	-6.55	-3.59		PASS

Test Mode: IEEE 802.11g Mode

頻道	頻率 (MHz)	PPSD (dBm) Chain 0	PPSD (dBm) Chain 1	Total PSD (dBm)	限制值 (dBm)	測試結果
CH Low	2412	-10.4	-9.41	-6.87	8	PASS
CH Mid	2437	-8.33	-7.57	-4.92		PASS
CH High	2462	-10.79	-10.13	-7.44		PASS

Test Mode: IEEE 802.11n HT 20 Mode

頻道	頻率 (MHz)	PPSD (dBm) Chain 0	PPSD (dBm) Chain 1	Total PSD (dBm)	限制值 (dBm)	測試結果
CH Low	2412	-11.35	-10.65	-7.98	8	PASS
CH Mid	2437	-8.77	-8.8	-5.77		PASS
CH High	2462	-11.78	-11.45	-8.60		PASS

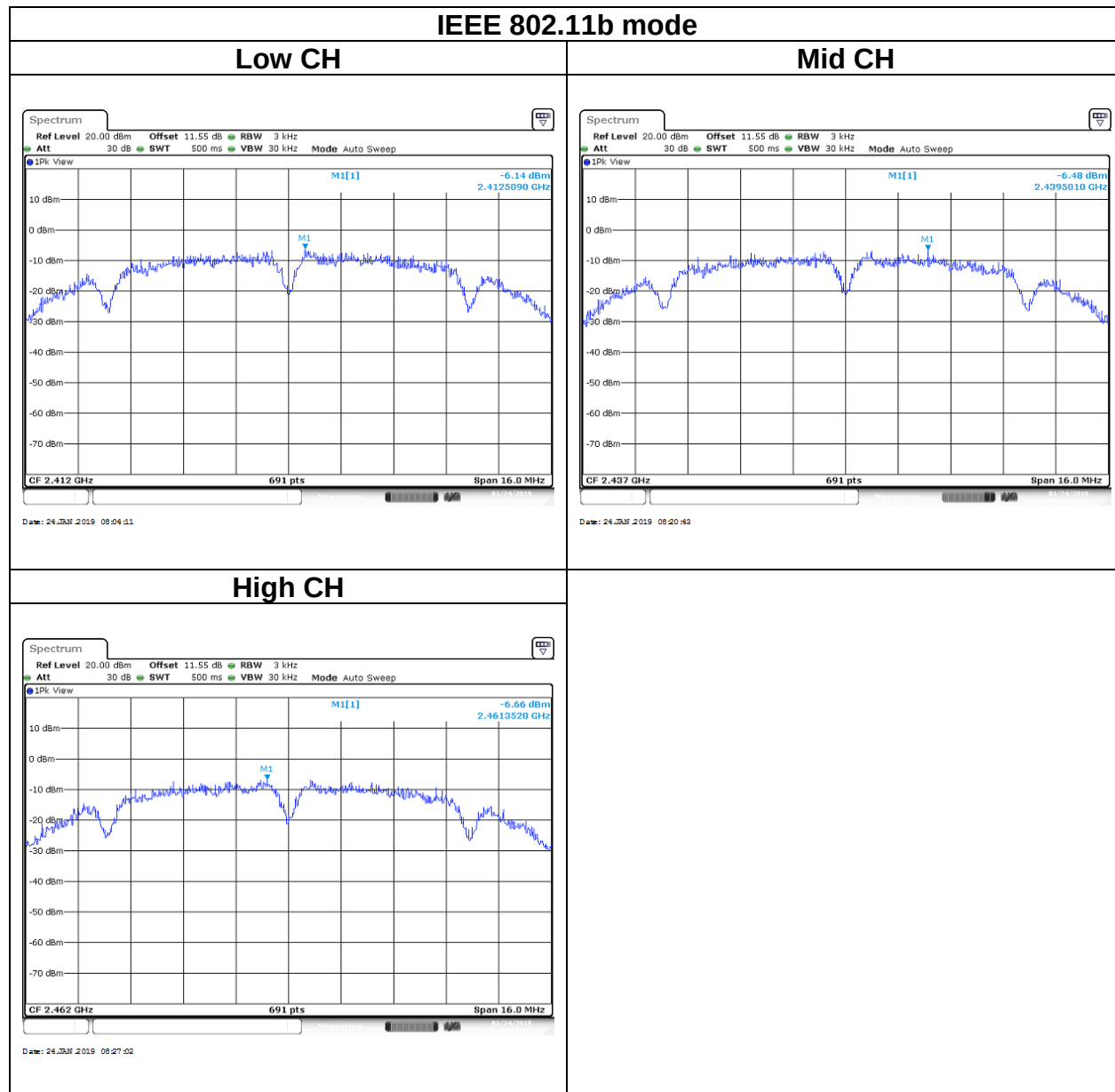
Test mode: IEEE 802.11n HT 40 mode

頻道	頻率 (MHz)	PPSD (dBm) Chain 0	PPSD (dBm) Chain 1	Total PSD (dBm)	限制值 (dBm)	測試結果
CH Low	2422	-14.52	-13.74	-11.10	8	PASS
CH Mid	2437	-9.83	-8.66	-6.20		PASS
CH High	2452	-15.69	-15.06	-12.35		PASS



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For Chain 0

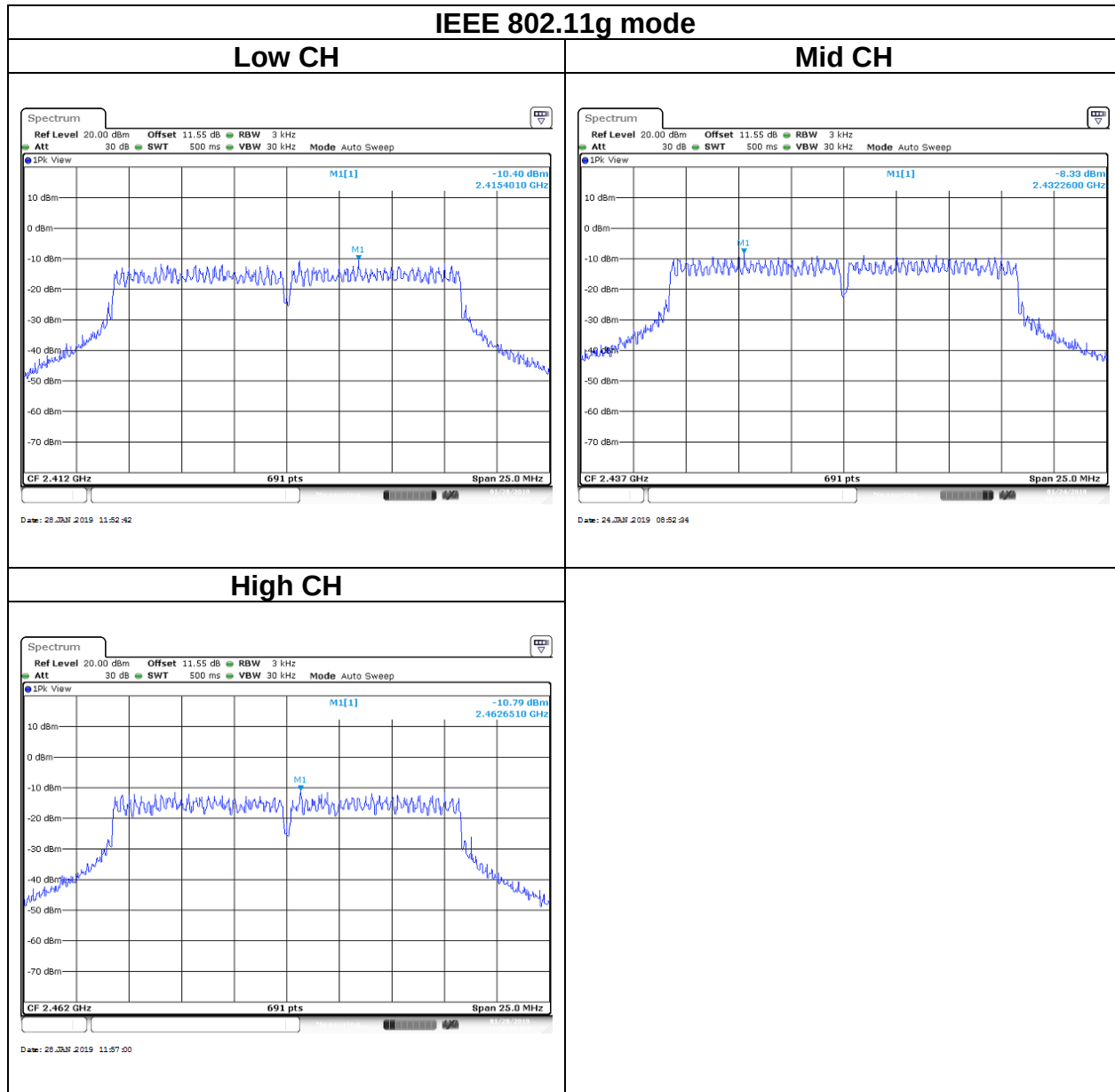




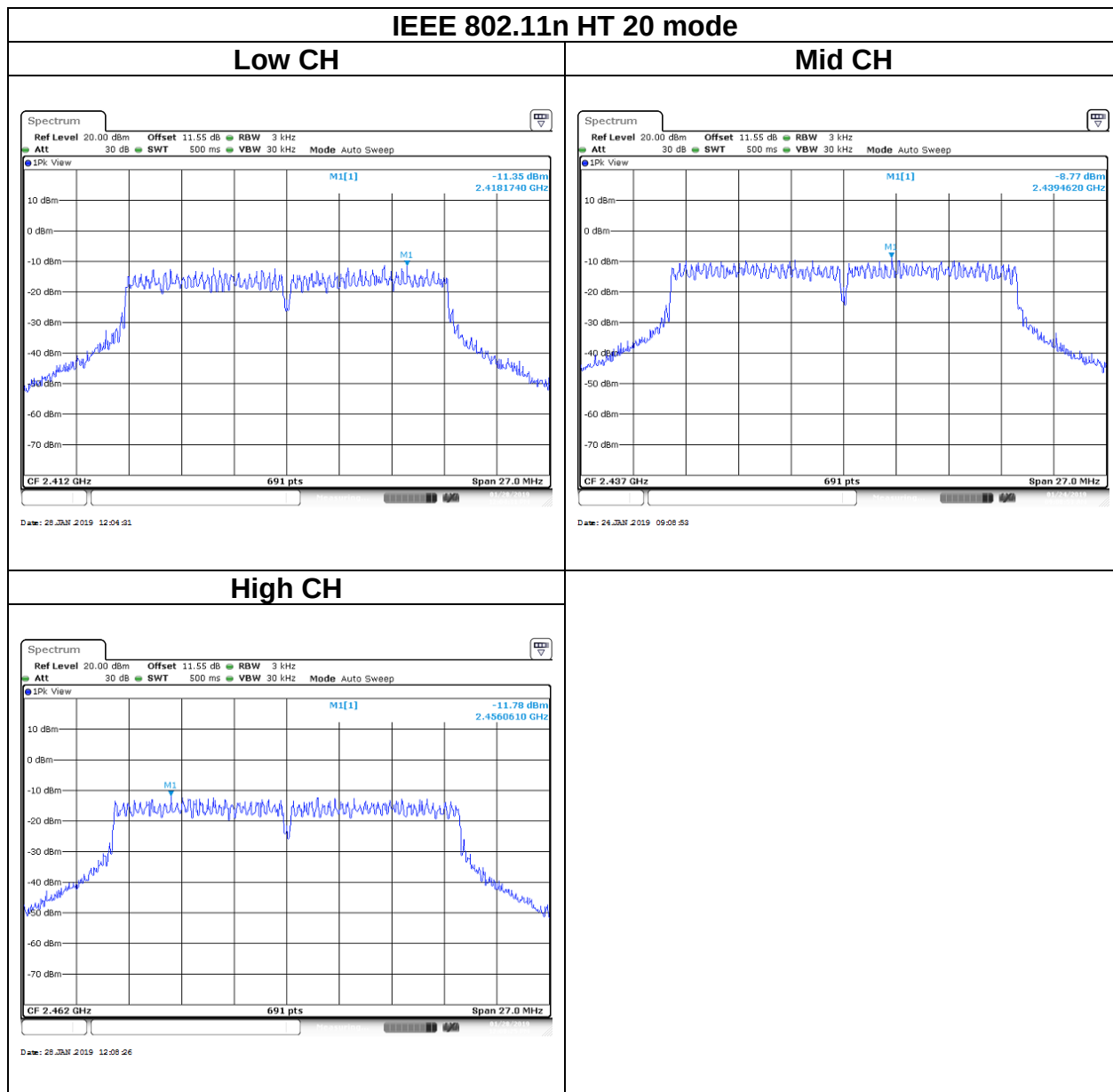
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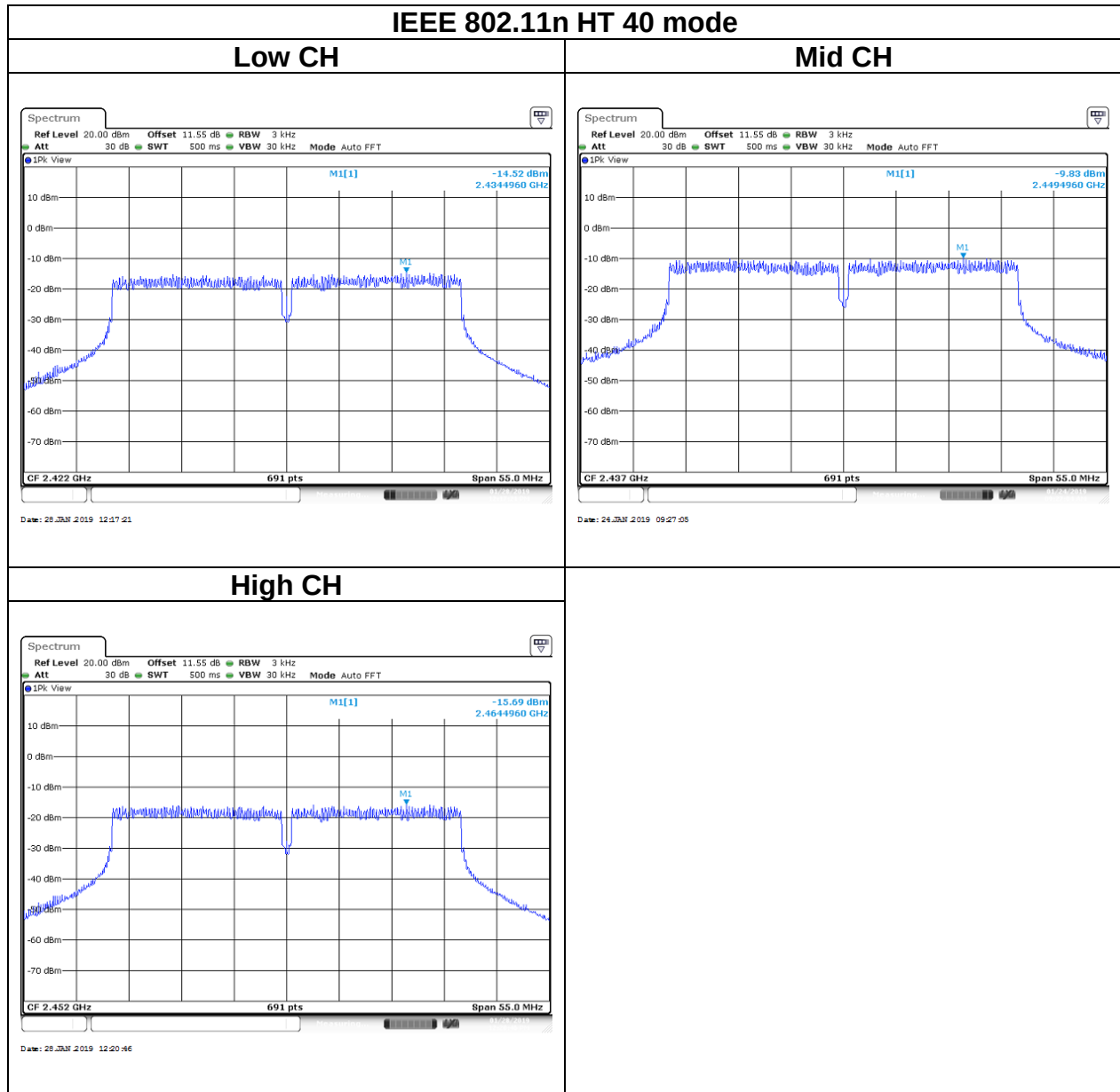
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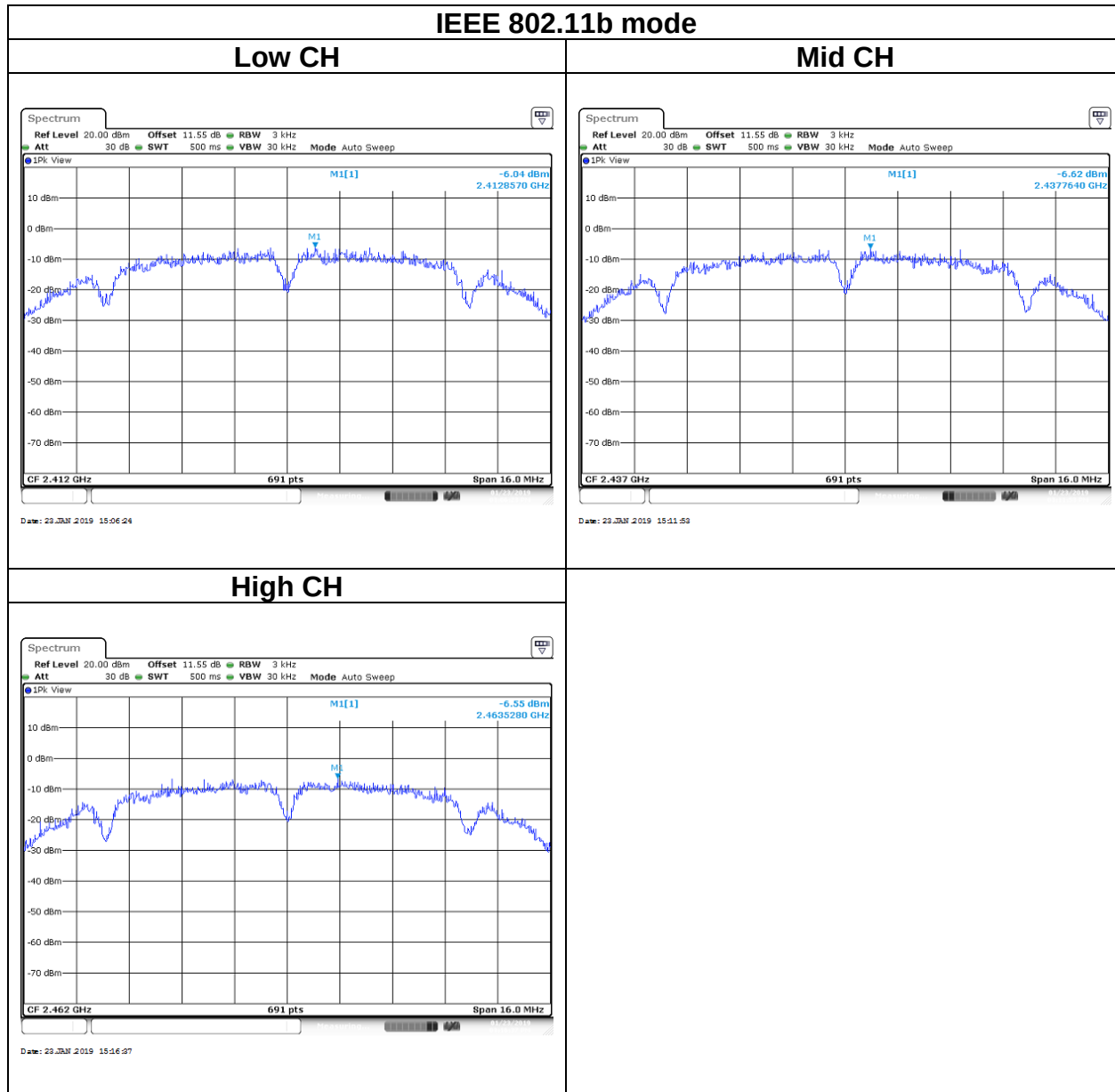




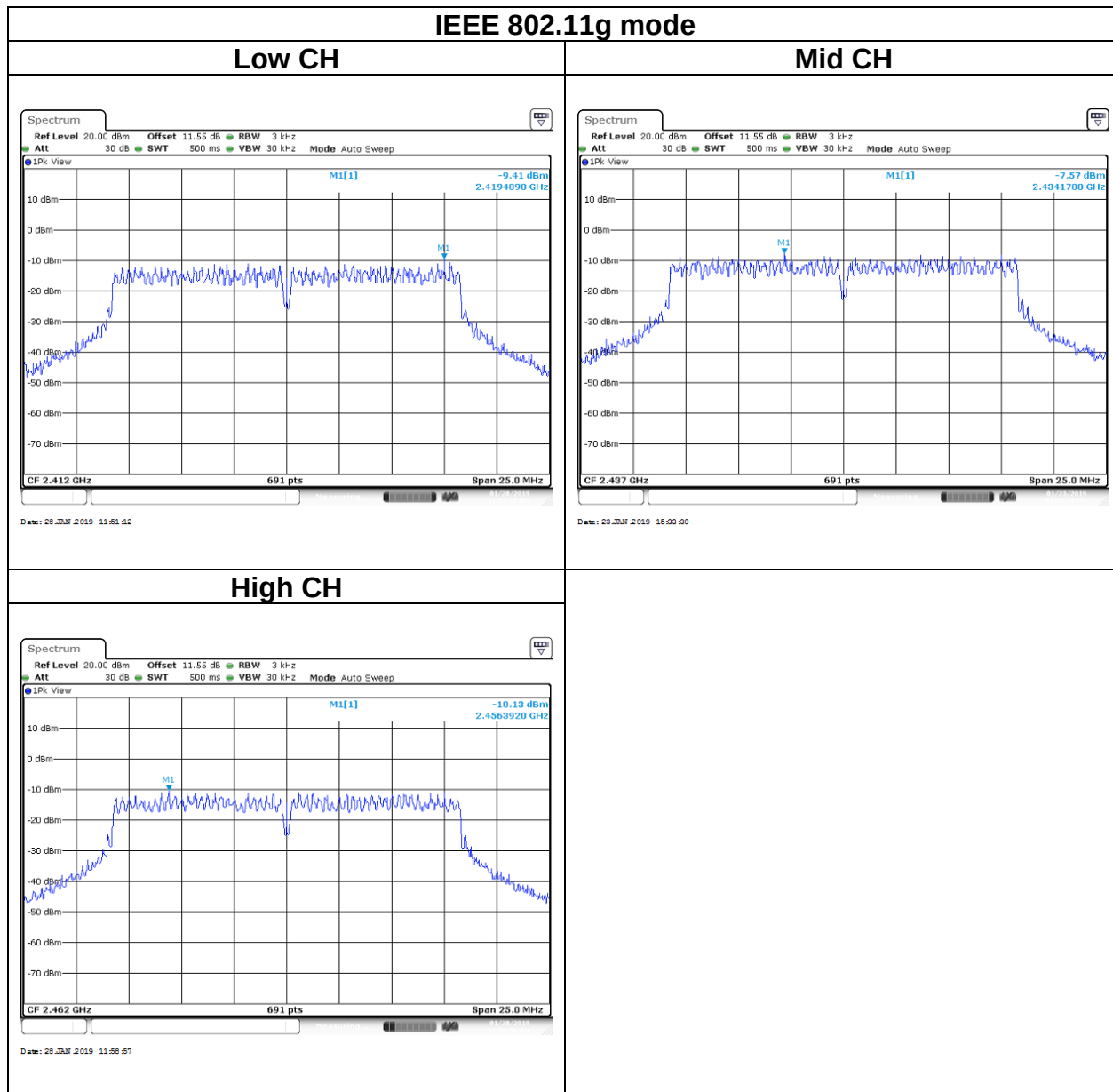


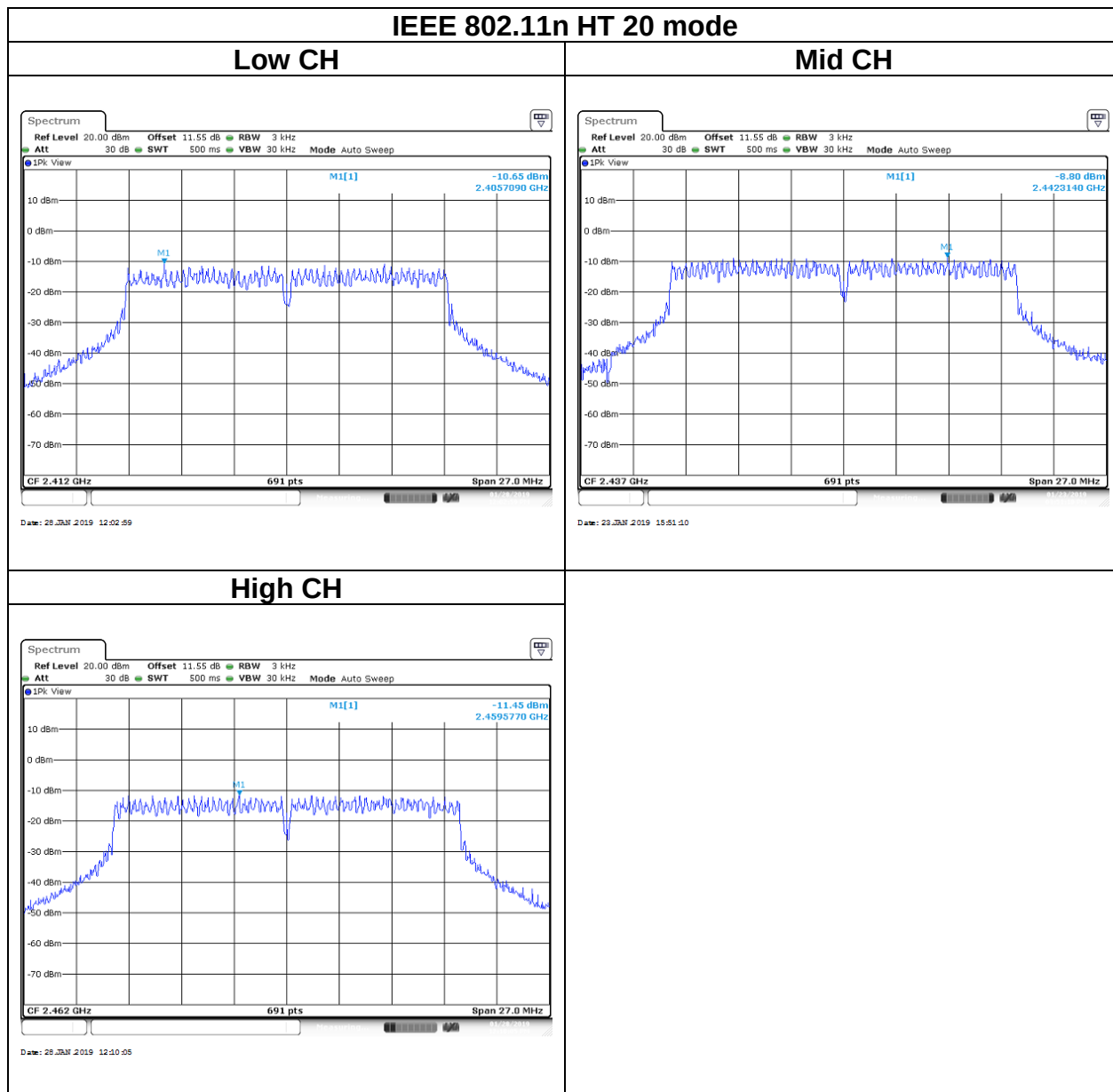
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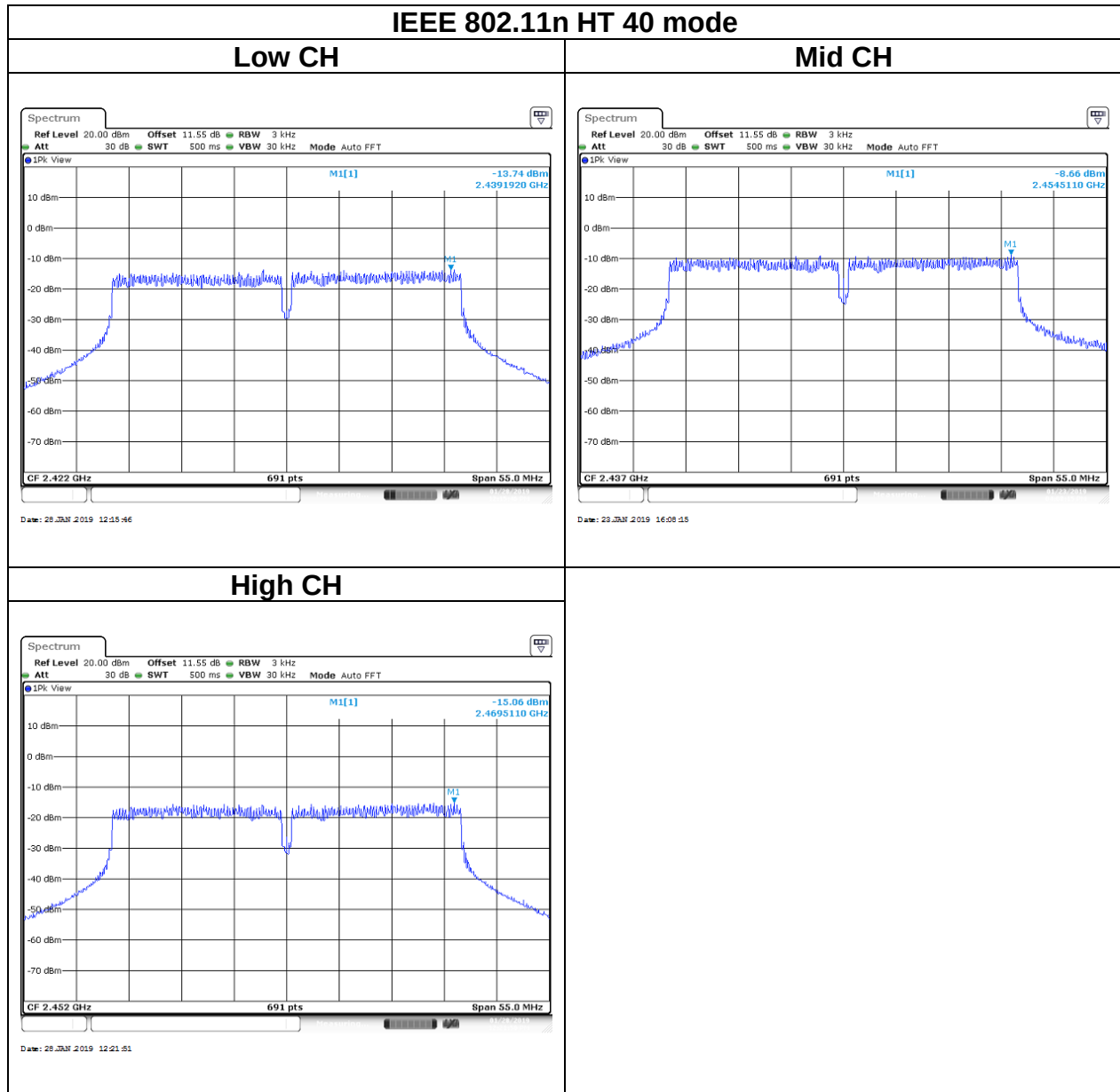
For Chain 1



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--End of Test Report--