

附錄一

受測裝置之測試結果

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1. 場強輻射之量測

對受測物裝置之其他不必要之發射(測至本地振盪頻率之 10 次諧波)依下列測試模式分別於電波暗室內進行量測，實驗室先將受測物裝置分別以三種不同的擺設方式(站立、平放、側立)進行量試評估，最後選取最大場強值的擺設方式(平放)以低、中、高頻率來進行量測，並將下列測試模式之測試數據隨案件所附。最後，選擇較差模式進行讀值之測量，所得讀值資料請見章節 1.1 ~1.2：

支援 802.11a/n/ac，依測試要求評估低、中、高頻率，並檢附三頻率之最差模式於此測試報告中。

模式	動作狀態	基本頻率		量測頻率範圍
802.11a	發射	UNII Band I	5200MHz(CH40)	1000-40000MHz
		UNII Band IV	5785MHz(CH157)	
802.11n-HT20	發射	UNII Band I	5240MHz(CH48)	1000-40000MHz
		UNII Band IV	5785MHz(CH157)	1000-40000MHz
802.11n-HT40	發射	UNII Band I	5230MHz(CH46)*	30-10000MHz
				1000-40000MHz
		UNII Band IV	5755MHz(CH151)	1000-40000MHz
802.11ac-VHT80	發射	UNII Band I	5210MHz(CH42)	1000-40000MHz
		UNII Band IV	5775MHz(CH155)	
---	接收	UNII Band I	5230MHz(CH46)	30-1000MHz
				1000-40000MHz

註: *: 經評估後，以最差頻率進行 30-1000MHz 量測。

對受測物裝置落於技術規範第 2.7 章節的禁用頻帶之混附發射以下列測試模式依規定分別進行量測，所得量測資料請見章節 1.3。

模式	動作狀態	基本頻率		量測頻率範圍
802.11a	發射	UNII Band I	5180MHz (CH36)	5100-5200MHz
802.11n-HT20	發射	UNII Band I	5180MHz (CH36)	5100-5200MHz
802.11n-HT40	發射	UNII Band I	5190MHz (CH38)	5100-5230MHz
802.11ac-VHT80	發射	UNII Band I	5210MHz (CH42)	5100-5250MHz

測試日期	2020/04/28 ~ 30	環境溫/濕度	19 ~ 22°C/55 ~ 61%
測試電壓	DC 5V (經 USB 連接筆記型電腦供電)	測試人員	Sean Wang

1.1. 30-1000MHz 頻率範圍，其他不必要發射量測

Mode	802.11n-HT40	UNII Band	I
		Frequency	TX 5230MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
32.910	22.98	1.29	26.53	26.82	24.56	40.00	15.44	Peak
171.620	15.57	3.27	25.97	42.16	35.03	43.50	8.47	Peak
276.380	19.01	4.30	25.73	40.98	38.56	46.00	7.44	Peak
619.760	24.84	7.14	27.48	28.15	32.65	46.00	13.35	Peak
835.100	26.38	8.34	27.32	27.72	35.12	46.00	10.88	Peak
984.480	27.32	9.09	26.87	27.64	37.18	54.00	16.82	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
32.910	22.98	1.29	26.53	27.12	24.86	40.00	15.14	Peak
130.880	18.36	2.82	26.14	31.06	26.10	43.50	17.40	Peak
465.530	22.96	6.61	27.02	30.58	33.13	46.00	12.87	Peak
725.490	25.27	7.75	27.48	29.24	34.78	46.00	11.22	Peak
899.120	26.82	8.71	27.15	28.42	36.80	46.00	9.20	Peak
976.720	27.26	9.06	26.90	28.13	37.55	54.00	16.45	Peak

Mode	---	Frequency	RX 5230MHz
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
32.910	22.98	1.29	26.53	28.14	25.88	40.00	14.12	Peak
171.620	15.57	3.27	25.97	42.30	35.17	43.50	8.33	Peak
469.410	23.01	6.65	27.02	30.59	33.23	46.00	12.77	Peak
720.640	25.25	7.72	27.48	28.92	34.41	46.00	11.59	Peak
895.240	26.78	8.69	27.15	27.70	36.02	46.00	9.98	Peak
972.840	27.25	9.04	26.92	28.69	38.06	54.00	15.94	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
33.880	22.55	1.32	26.52	27.67	25.02	40.00	14.98	Peak
177.440	15.09	3.32	25.94	33.60	26.07	43.50	17.43	Peak
399.570	21.82	6.02	26.52	31.09	32.41	46.00	13.59	Peak
466.500	22.99	6.62	27.02	31.99	34.58	46.00	11.42	Peak
830.250	26.33	8.31	27.32	29.46	36.78	46.00	9.22	Peak
991.270	27.34	9.12	26.87	28.61	38.20	54.00	15.80	Peak

1.2. 1000MHz 以上頻率範圍，其他不必要發射量測

頻率範圍量測至 40GHz，其他未列在報告上乃因訊號太小無法量測。

Mode	802.11a	Frequency	TX 5200MHz
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
10400.000	37.70	14.77	34.81	30.87	48.53	54.00	5.47	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
10400.000	37.70	14.77	34.81	31.77	49.43	54.00	4.57	Peak

Mode	802.11a	Frequency	TX 5785MHz
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
11570.000	38.37	15.53	34.65	31.23	50.48	54.00	3.52	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
11570.000	38.37	15.53	34.65	31.75	51.00	54.00	3.00	Peak

Mode	802.11n-HT20	Frequency	TX 5240MHz
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
10480.000	37.78	14.82	34.75	29.93	47.78	54.00	6.22	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
10480.000	37.78	14.82	34.75	29.81	47.66	54.00	6.34	Peak

Mode	802.11n-HT20	Frequency	TX 5785MHz
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
11570.000	38.37	15.53	34.65	29.57	48.82	54.00	5.18	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
11570.000	38.37	15.53	34.65	29.95	49.20	54.00	4.80	Peak

Mode	802.11n-HT40	Frequency	TX 5230MHz
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
10460.000	37.70	14.80	34.78	29.90	47.62	54.00	6.38	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
10460.000	37.70	14.80	34.78	31.53	49.25	54.00	4.75	Peak

Mode	802.11n-HT40	Frequency	TX 5755MHz
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
11510.000	38.30	15.49	34.64	29.63	48.78	54.00	5.22	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
11510.000	38.30	15.49	34.64	31.01	50.16	54.00	3.84	Peak

Mode	802.11ac-VHT80	Frequency	TX 5210MHz
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
10420.000	37.70	14.78	34.81	31.08	48.75	54.00	5.25	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
10420.000	37.70	14.78	34.81	31.43	49.10	54.00	4.90	Peak

Mode	802.11ac-VHT80	Frequency	TX 5775MHz
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
11550.000	38.33	15.52	34.65	29.86	49.06	54.00	4.94	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
11550.000	38.33	15.52	34.65	29.14	48.34	54.00	5.66	Peak

Mode	---	Frequency	RX 5230MHz
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Antenna at Horizontal Polarization

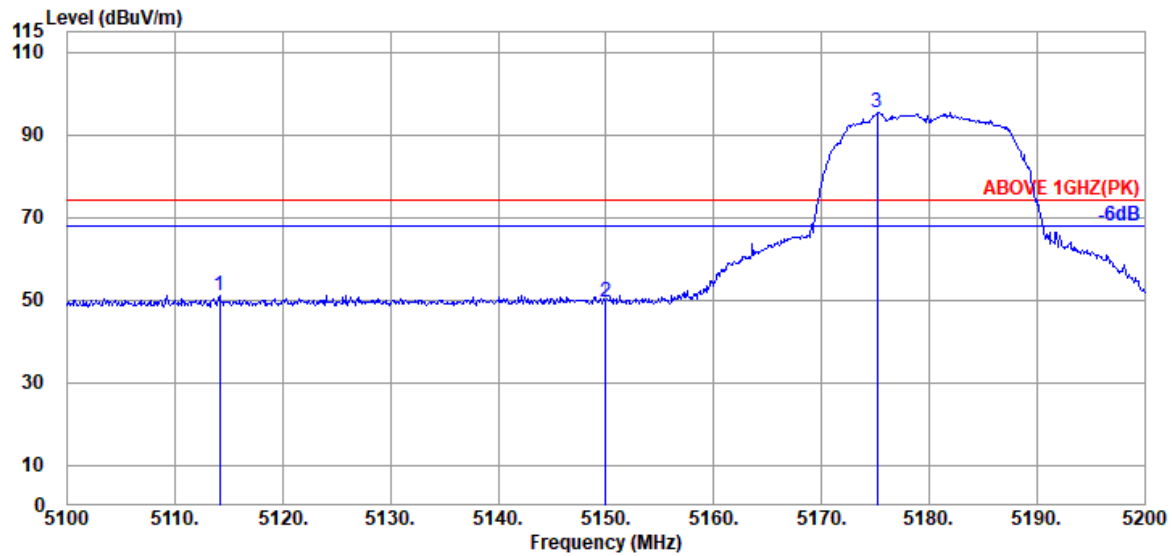
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
10460.000	37.70	14.80	34.78	29.91	47.63	54.00	6.37	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
10460.000	37.70	14.80	34.78	31.21	48.93	54.00	5.07	Peak

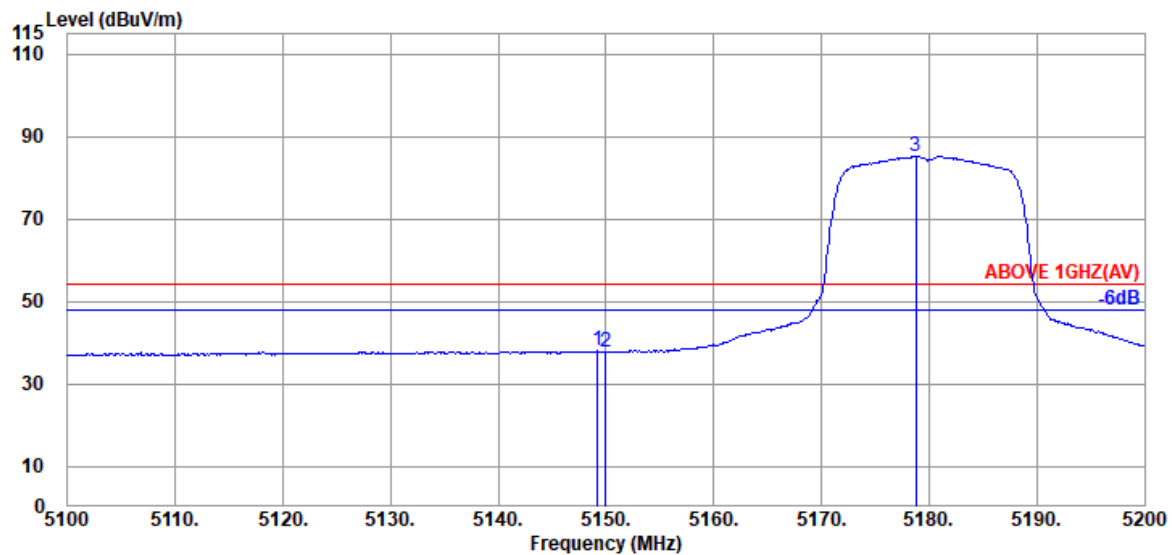
1.3. 禁用頻帶量測結果 (其他不必要發射)

Mode	802.11a	Frequency	TX 5180MHz
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5114.10	34.33	10.35	34.39	40.77	51.06	74.00	22.94	Peak
5150.00	34.40	10.36	34.38	39.10	49.48	74.00	24.52	Peak
@ 5175.20	34.47	10.38	34.37	84.76	95.24	---	---	Peak

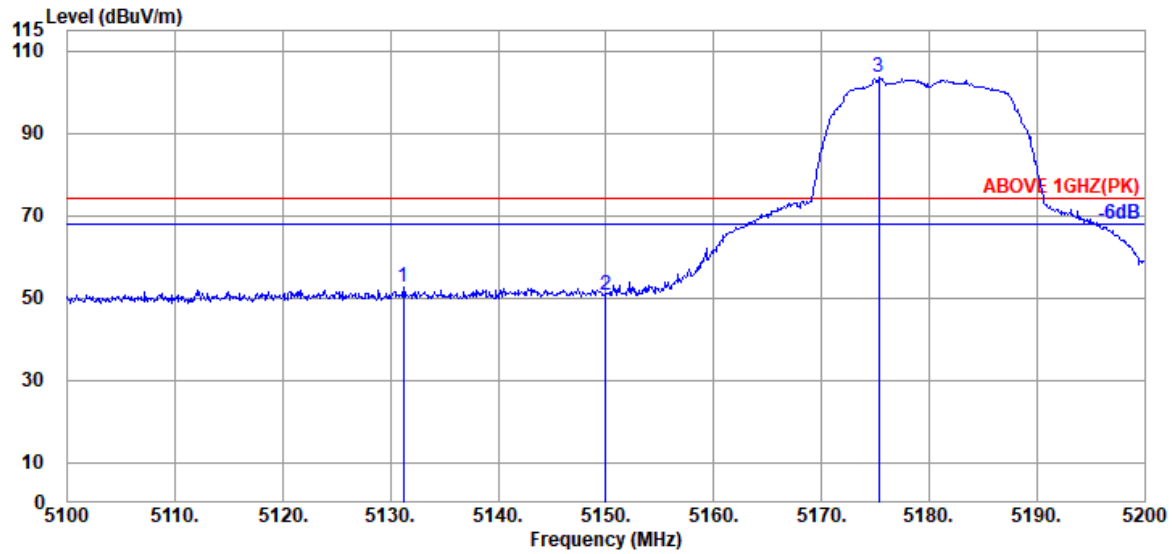


Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5149.20	34.40	10.36	34.38	27.50	37.88	54.00	16.12	Average
5150.00	34.40	10.36	34.38	27.12	37.50	54.00	16.50	Average
@ 5178.80	34.47	10.38	34.37	74.81	85.29	---	---	Average

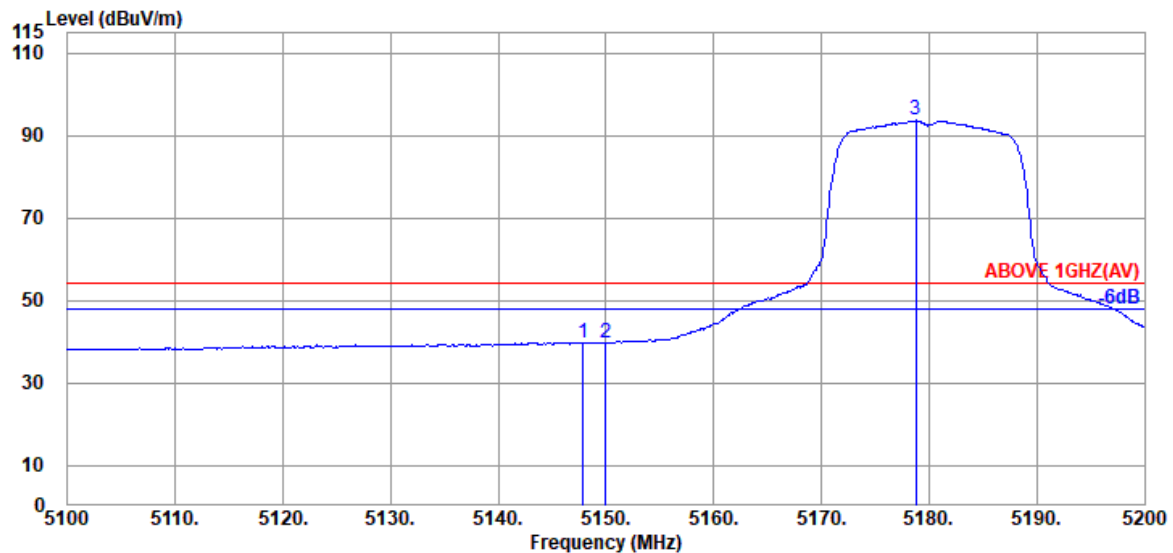
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11a	Frequency	TX 5180MHz
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Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5131.20	34.37	10.35	34.39	42.24	52.57	74.00	21.43	Peak
5150.00	34.40	10.36	34.38	40.07	50.45	74.00	23.55	Peak
@ 5175.30	34.47	10.38	34.37	93.05	103.53	---	---	Peak

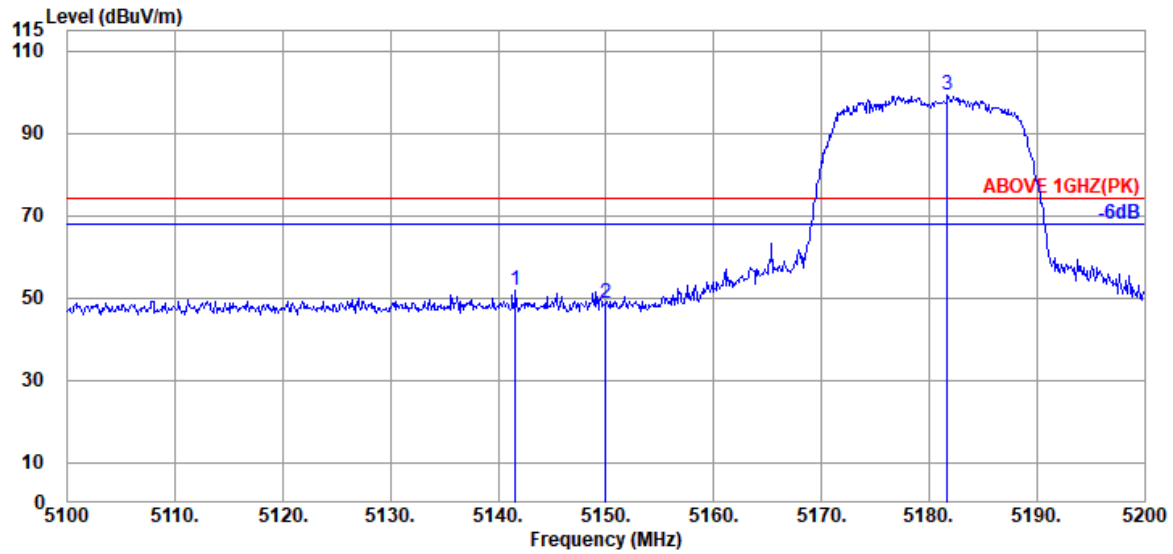


Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5147.90	34.40	10.36	34.38	29.42	39.80	54.00	14.20	Average
5150.00	34.40	10.36	34.38	29.16	39.54	54.00	14.46	Average
@ 5178.80	34.47	10.38	34.37	83.16	93.64	---	---	Average

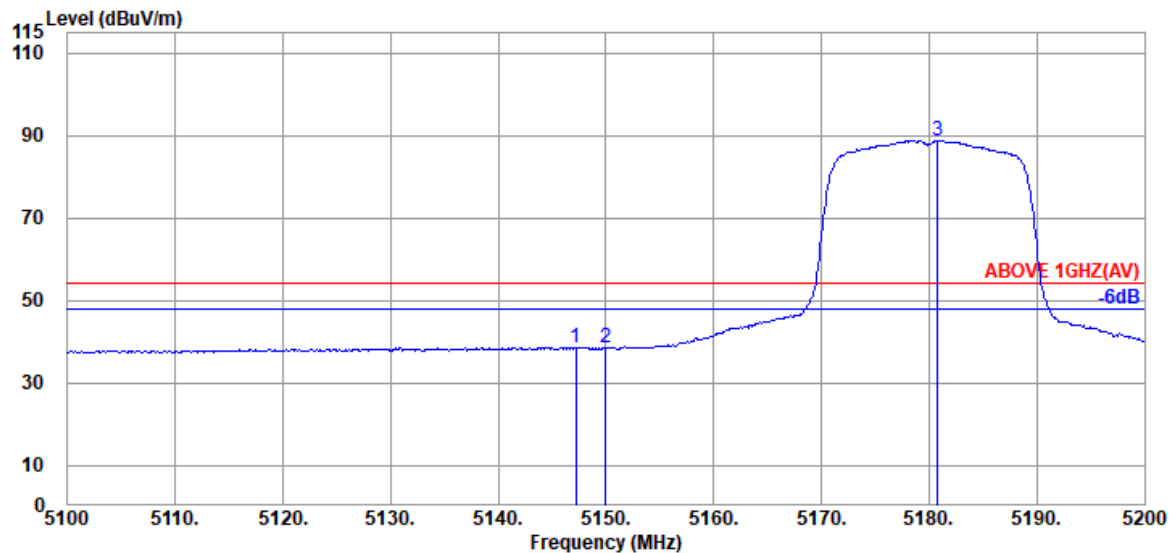
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11n-HT20	Frequency	TX 5180MHz
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5141.60	34.70	10.36	34.38	41.00	51.68	74.00	22.32	Peak
5150.00	34.70	10.36	34.38	38.12	48.80	74.00	25.20	Peak
@ 5181.70	34.57	10.38	34.37	88.69	99.27	---	---	Peak

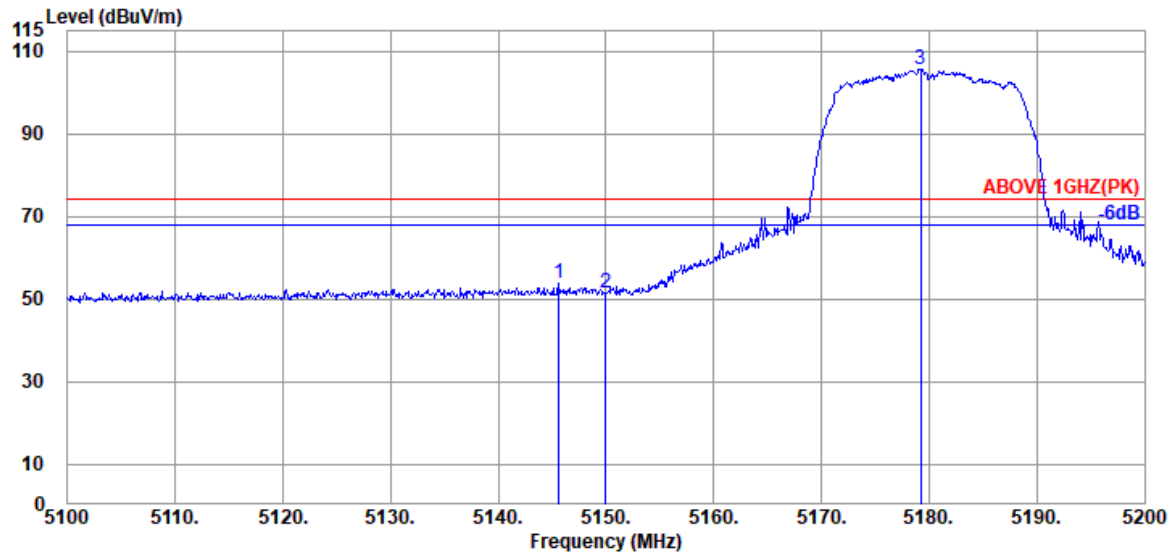


Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5147.20	34.70	10.36	34.38	27.95	38.63	54.00	15.37	Average
5150.00	34.70	10.36	34.38	27.88	38.56	54.00	15.44	Average
@ 5180.80	34.57	10.38	34.37	78.16	88.74	---	---	Average

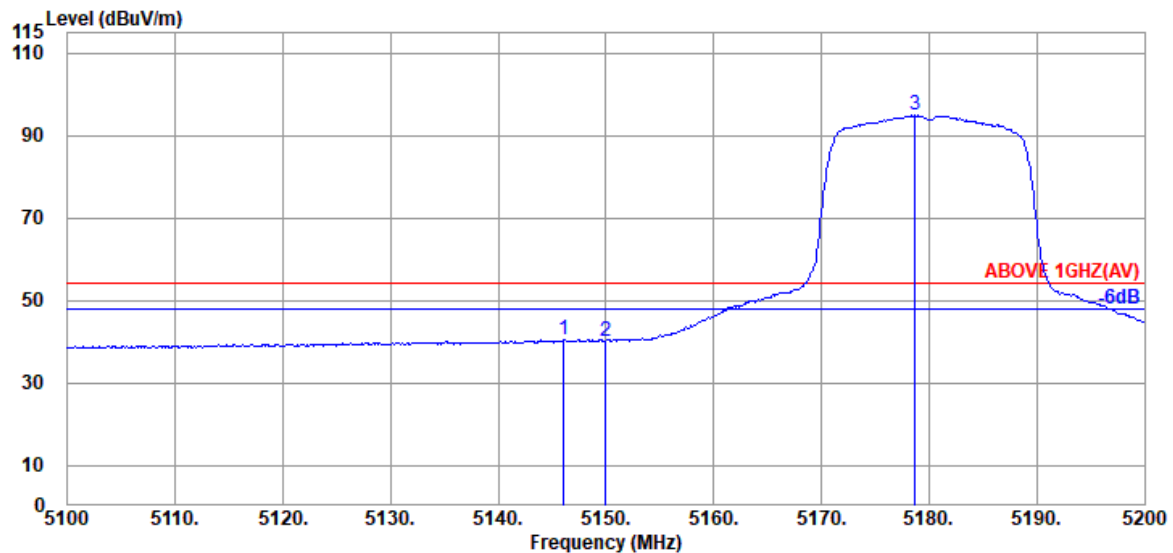
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11n-HT20	Frequency	TX 5180MHz
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Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5145.60	34.70	10.36	34.38	42.97	53.65	74.00	20.35	Peak
5150.00	34.70	10.36	34.38	40.91	51.59	74.00	22.41	Peak
@ 5179.20	34.57	10.38	34.37	95.14	105.72	---	---	Peak

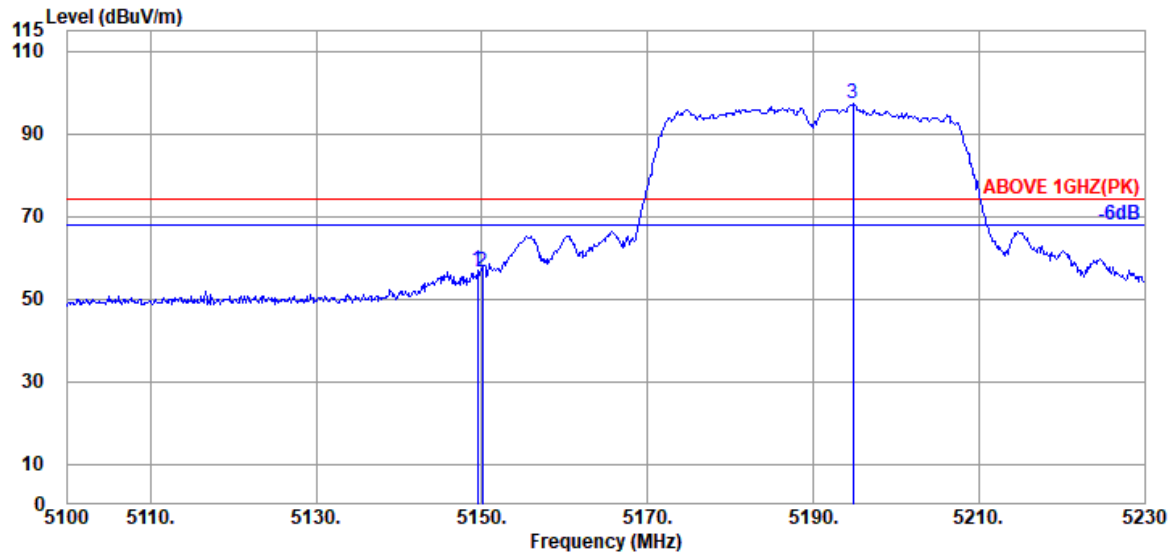


Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5146.10	34.70	10.36	34.38	29.79	40.47	54.00	13.53	Average
5150.00	34.70	10.36	34.38	29.41	40.09	54.00	13.91	Average
@ 5178.70	34.57	10.38	34.37	84.24	94.82	---	---	Average

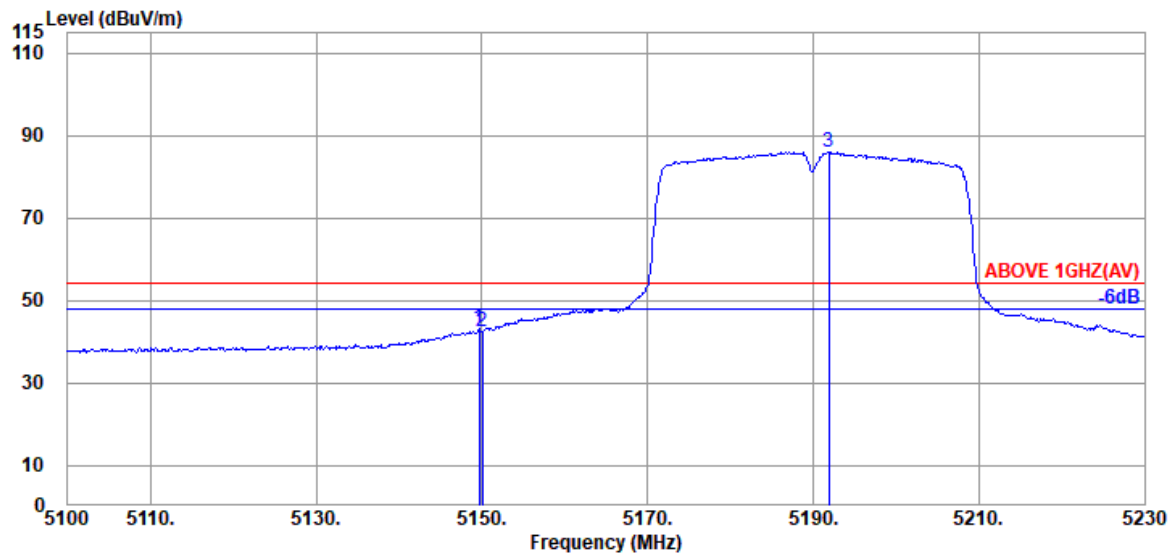
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11n-HT40	Frequency	TX 5190MHz
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5149.53	34.40	10.36	34.38	46.57	56.95	74.00	17.05	Peak
5150.05	34.40	10.36	34.38	45.95	56.33	74.00	17.67	Peak
@ 5194.77	34.50	10.39	34.36	86.88	97.41	---	---	Peak

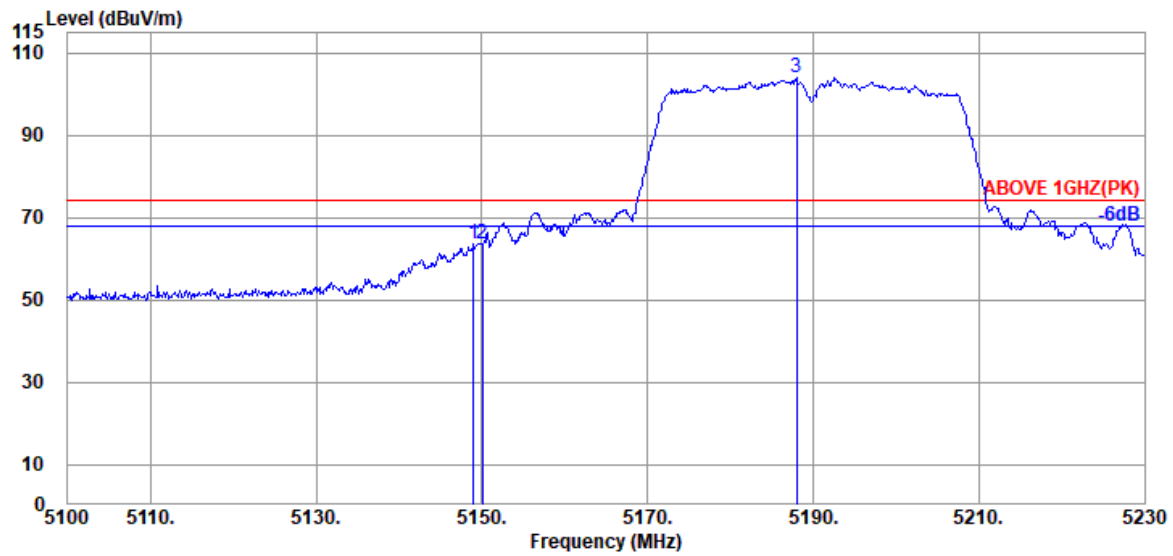


Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5149.66	34.40	10.36	34.38	32.65	43.03	54.00	10.97	Average
5150.05	34.40	10.36	34.38	31.93	42.31	54.00	11.69	Average
@ 5191.91	34.50	10.39	34.36	75.56	86.09	---	---	Average

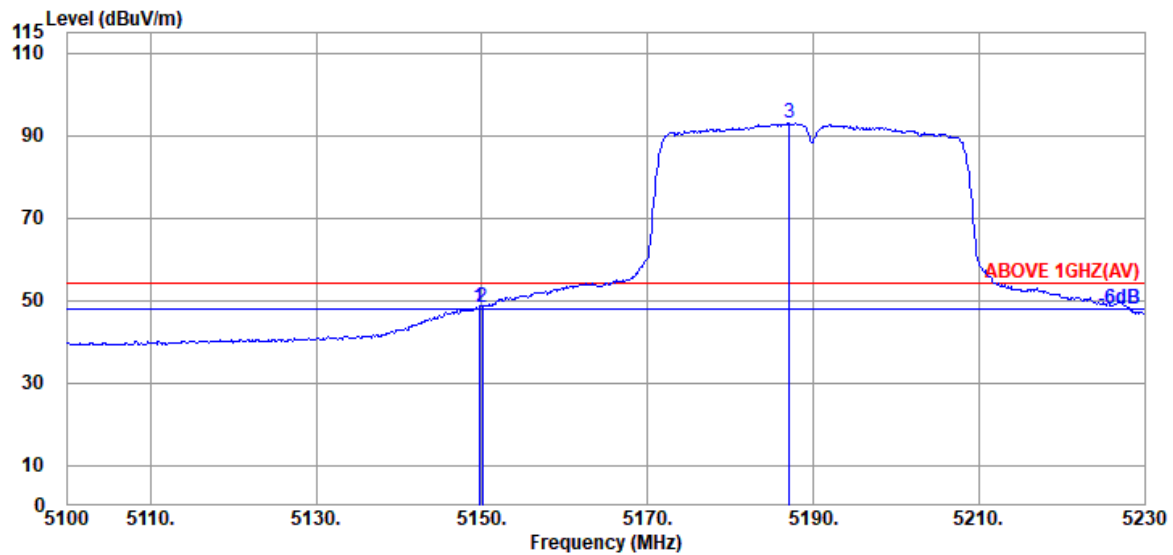
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11n-HT40	Frequency	TX 5190MHz
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Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5149.01	34.40	10.36	34.38	53.25	63.63	74.00	10.37	Peak
5150.05	34.40	10.36	34.38	53.20	63.58	74.00	10.42	Peak
@ 5188.01	34.50	10.38	34.37	93.65	104.16	---	---	Peak

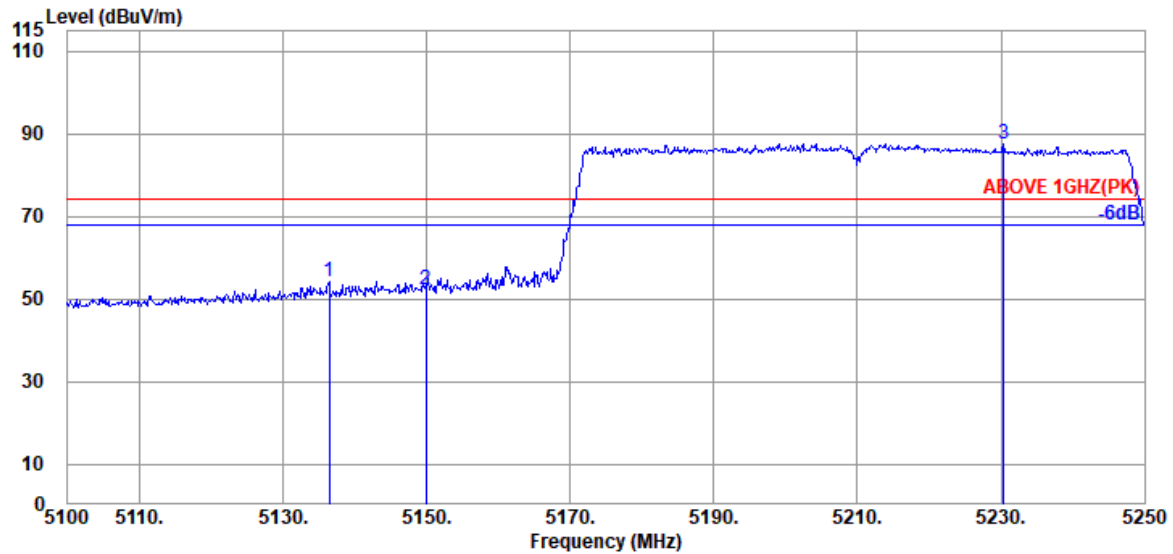


Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5149.66	34.40	10.36	34.38	37.89	48.27	54.00	5.73	Average
5150.05	34.40	10.36	34.38	37.71	48.09	54.00	5.91	Average
@ 5187.10	34.50	10.38	34.37	82.40	92.91	---	---	Average

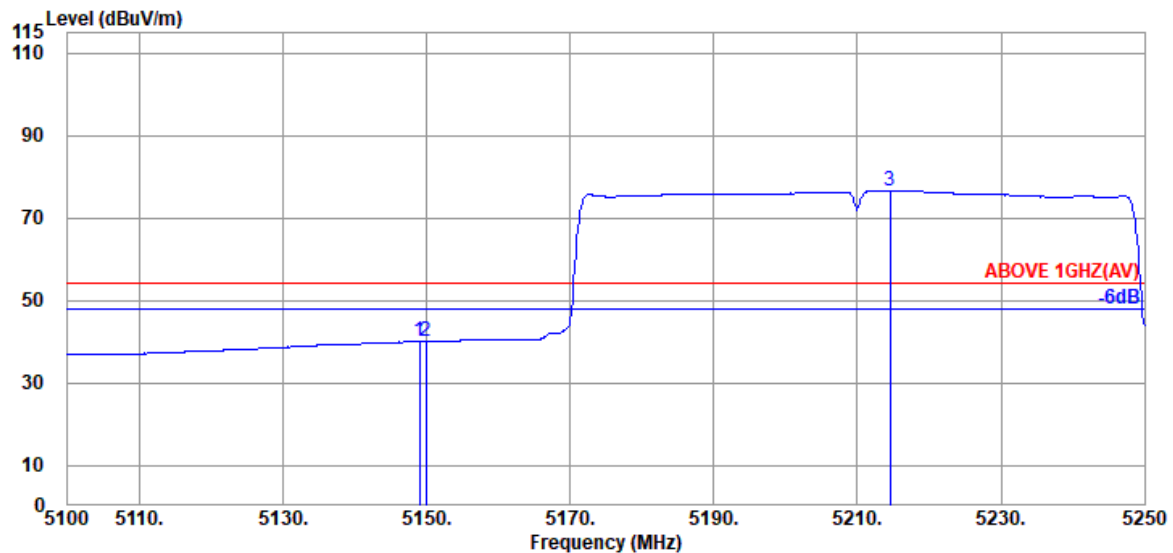
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11ac-VHT80	Frequency	TX 5210MHz
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5136.45	34.37	10.35	34.39	43.75	54.08	74.00	19.92	Peak
5149.95	34.40	10.36	34.38	41.83	52.21	74.00	21.79	Peak
@ 5230.35	34.50	10.41	34.35	77.14	87.70	---	---	Peak

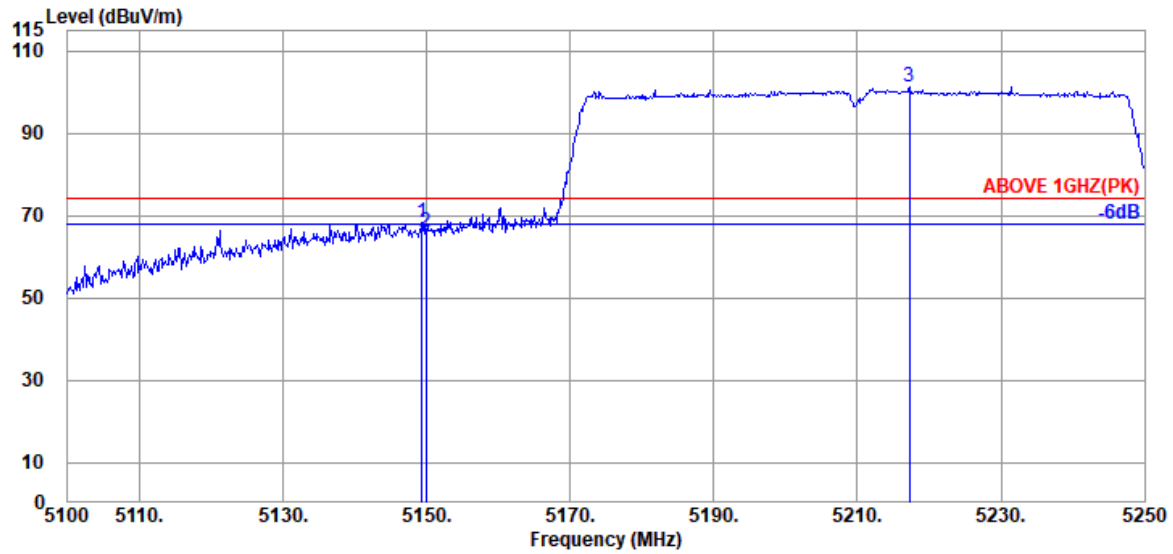


Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5149.05	34.40	10.36	34.38	29.56	39.94	54.00	14.06	Average
5149.95	34.40	10.36	34.38	29.59	39.97	54.00	14.03	Average
@ 5214.60	34.50	10.40	34.36	66.08	76.62	---	---	Average

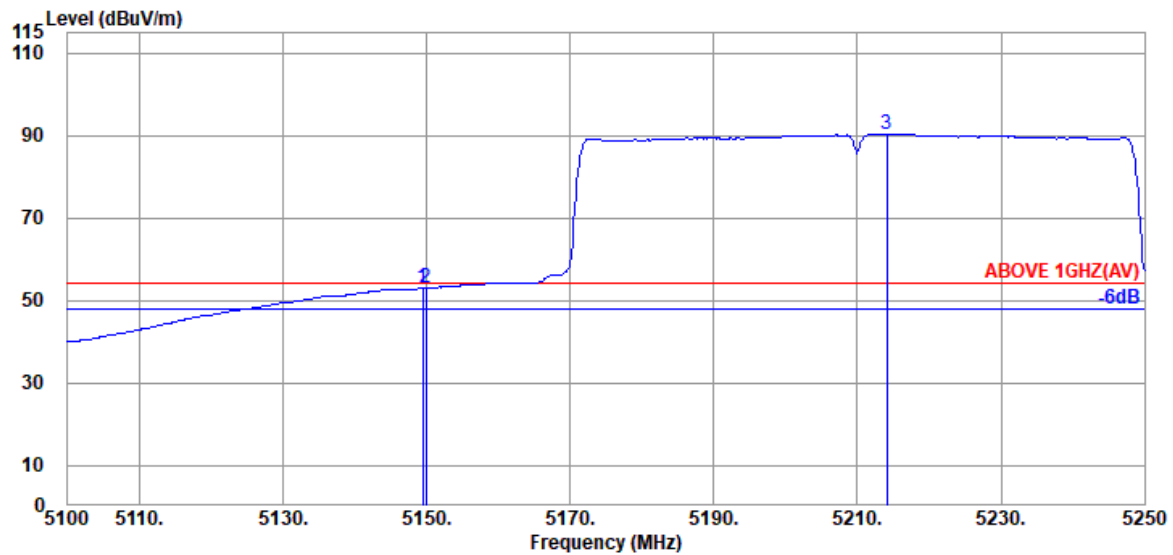
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11ac-VHT80	Frequency	TX 5210MHz
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Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5149.35	34.40	10.36	34.38	57.87	68.25	74.00	5.75	Peak
5149.95	34.40	10.36	34.38	55.70	66.08	74.00	7.92	Peak
@ 5217.30	34.50	10.40	34.36	90.69	101.23	---	---	Peak



Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5149.50	34.40	10.36	34.38	42.55	52.93	54.00	1.07	Average
5149.95	34.40	10.36	34.38	42.58	52.96	54.00	1.04	Average
@ 5214.15	34.50	10.40	34.36	79.71	90.25	---	---	Average

備註：“@”為主波，在此章節是不予以判定。

2. 最大輸出功率及 26dB/6dB 頻寬之量測

測試日期	2020/05/05 ~ 05/12	環境溫/濕度	22 ~ 24°C/52 ~ 58%
電纜損失	1.5dB	測試人員	Sean Wang
測試電壓	DC 5V (經 USB 連接筆記型電腦供電)	Duty Cycle	802.11a: 0.979 802.11n-HT20: 0.957 802.11n-HT40: 0.908 802.11ac-VHT80: 0.901

2.1. 最大輸出功率及 26dB/6dB 頻寬

模式 802.11a	測試頻率	發射頻寬(MHz)		Average輸出功率(dBm)		10 log (1/X)	最大 Average輸出功率 (dBm)	限制值 (dBm)	限制值 (11dBm+10 log B)
	(MHz)	26dB	99%	Chain 0	Chain 1				
UNII Band I	5180	19.70	16.480	13.88	13.94	0.09	14.03	24	N/A
	5200	19.54	16.502	14.12	14.16		14.25		
	5240	19.78	16.528	14.03	14.13		14.22		
模式 802.11a	測試頻率	發射頻寬(MHz)		Average輸出功率(dBm)		10 log (1/X)	最大 Average輸出功率 (dBm)	限制值 (dBm)	限制值 (11dBm+10 log B)
	(MHz)	6dB	99%	Chain 0	Chain 1				
UNII Band IV	5745	14.23	16.539	13.94	14.52	0.09	14.61	30	N/A
	5785	15.18	16.364	14.25	14.77		14.86		
	5825	14.20	16.343	13.78	14.62		14.71		

註: 當 Duty cycle<98%, 最大輸出功率必需要加上 duty cycle factor $10\log(1/x)$ 。
(x=duty cycle, B=26dB發射頻寬)

模式 802.11n-HT20	測試頻率	發射頻寬(MHz)		Average輸出功率(dBm)		10 log (1/X)	Total Average輸出功率 (dBm)	限制值 (dBm)	限制值 (11dBm+10 log B)
	(MHz)	26dB	99%	Chain 0	Chain 1				
UNII Band I	5180	19.82	17.558	12.58	12.39	0.19	15.69	23.9 ^{註2}	N/A
	5200	19.65	17.567	12.71	12.62		15.87		
	5240	19.90	17.571	12.44	12.47		15.66		
模式 802.11n-HT20	測試頻率	發射頻寬(MHz)		Average輸出功率(dBm)		10 log (1/X)	Total Average輸出功率 (dBm)	限制值 (dBm)	限制值 (11dBm+10 log B)
	(MHz)	6dB	99%	Chain 0	Chain 1				
UNII Band IV	5745	16.00	17.526	12.34	12.88	0.19	15.82	29.9 ^{註3}	N/A
	5785	16.30	17.527	12.55	12.95		15.95		
	5825	15.04	17.523	12.21	12.84		15.74		

註1: 當 Duty cycle<98%, 最大輸出功率必需要加上 duty cycle factor $10\log(1/x)$ 。
(x=duty cycle, B=26dB發射頻寬)

註2: 擇取較大的 Direction gain進行計算, 限制值為 $24-(6.10-6)=23.9\text{dBm}$ 。

註3: 擇取較大的 Direction gain進行計算, 限制值為 $30-(6.10-6)=29.9\text{dBm}$ 。

模式 802.11n-HT40	測試頻率	發射頻寬(MHz)		Average輸出功率(dBm)		10 log (1/X)	Total Average輸出功率 (dBm)	限制值 (dBm)	限制值 (11dBm+10 log B)
	(MHz)	26dB	99%	Chain 0	Chain 1				
UNII Band I	5190	40.04	36.292	12.56	12.13	0.42	15.78	23.9 ^{註2}	N/A
	5230	39.94	36.328	12.88	12.47		16.11		
模式 802.11n-HT40	測試頻率	發射頻寬(MHz)		Average輸出功率(dBm)		10 log (1/X)	Total Average輸出功率 (dBm)	限制值 (dBm)	限制值 (11dBm+10 log B)
	(MHz)	6dB	99%	Chain 0	Chain 1				
UNII Band IV	5755	32.68	35.972	12.50	12.65	0.42	16.01	29.9 ^{註3}	N/A
	5795	35.08	35.989	12.27	12.39		15.76		

註1: 當 Duty cycle<98%, 最大輸出功率必需要加上 duty cycle factor 10log(1/x)。

(x=duty cycle, B=26dB發射頻寬)

註2: 擇取較大的 Direction gain進行計算，限制值為24-(6.10-6)=23.9dBm。

註3:擇取較大的 Direction gain進行計算，限制值為30-(6.10-6)=29.9dBm。

模式 802.11ax-VHT80	測試頻率	發射頻寬(MHz)		Average輸出功率(dBm)		10 log (1/X)	Total Average輸出功率 (dBm)	限制值 (dBm)	限制值 (11dBm+10 log B)
	(MHz)	26dB	99%	Chain 0	Chain 1				
UNII Band I	5210	79.70	75.720	11.38	9.83	0.45	14.13	23.9 ^{註2}	N/A
模式 802.11ax-VHT80	測試頻率	發射頻寬(MHz)		Average輸出功率(dBm)		10 log (1/X)	Total Average輸出功率 (dBm)	限制值 (dBm)	限制值 (11dBm+10 log B)
	(MHz)	6dB	99%	Chain 0	Chain 1				
UNII Band IV	5775	75.84	75.497	9.47	9.91	0.45	13.16	29.9 ^{註3}	N/A

註1: 當 Duty cycle<98%, 最大輸出功率必需要加上 duty cycle factor 10log(1/x)。

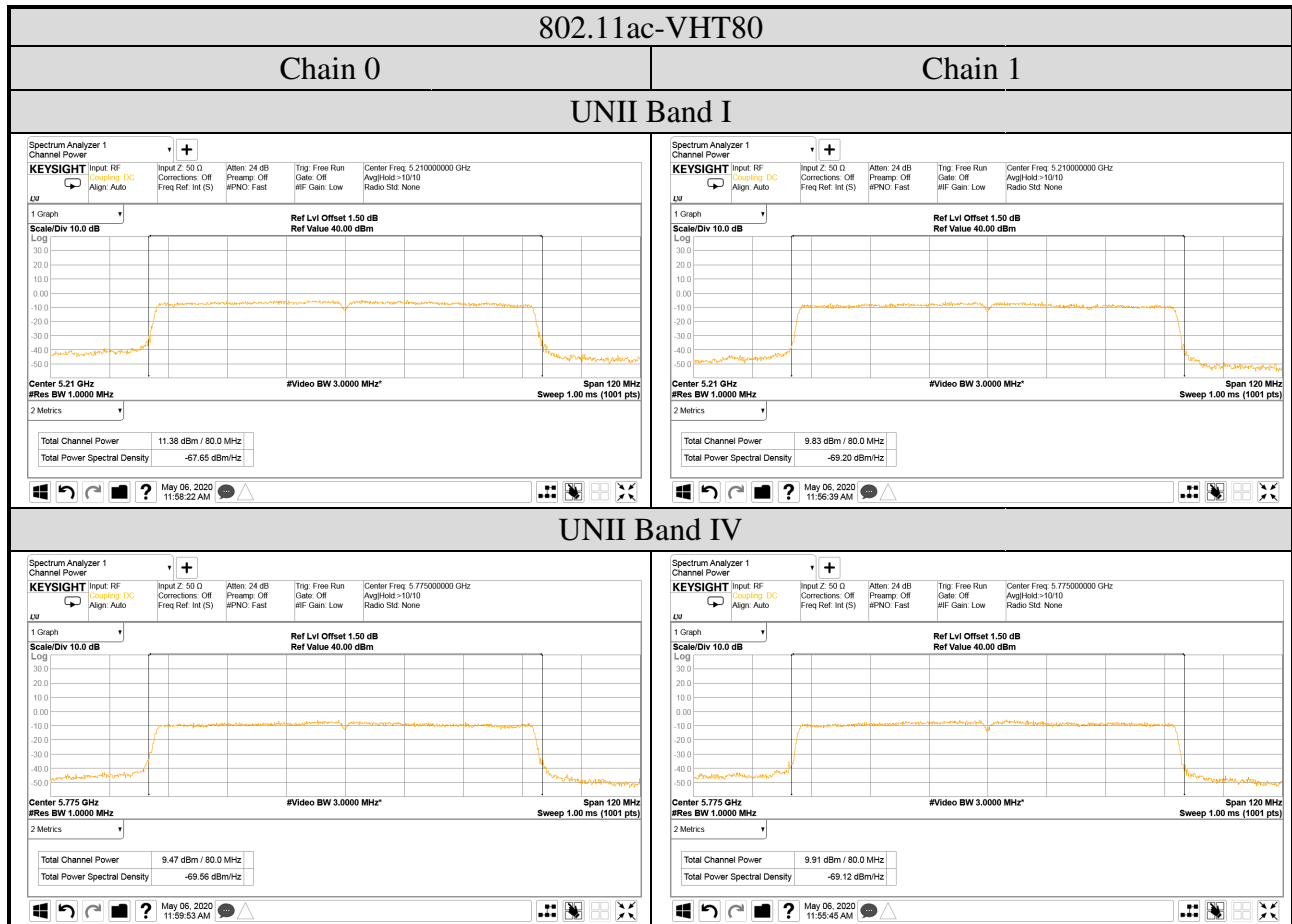
(x=duty cycle, B=26dB發射頻寬)

註2: 擇取較大的 Direction gain進行計算，限制值為24-(6.10-6)=23.9dBm。

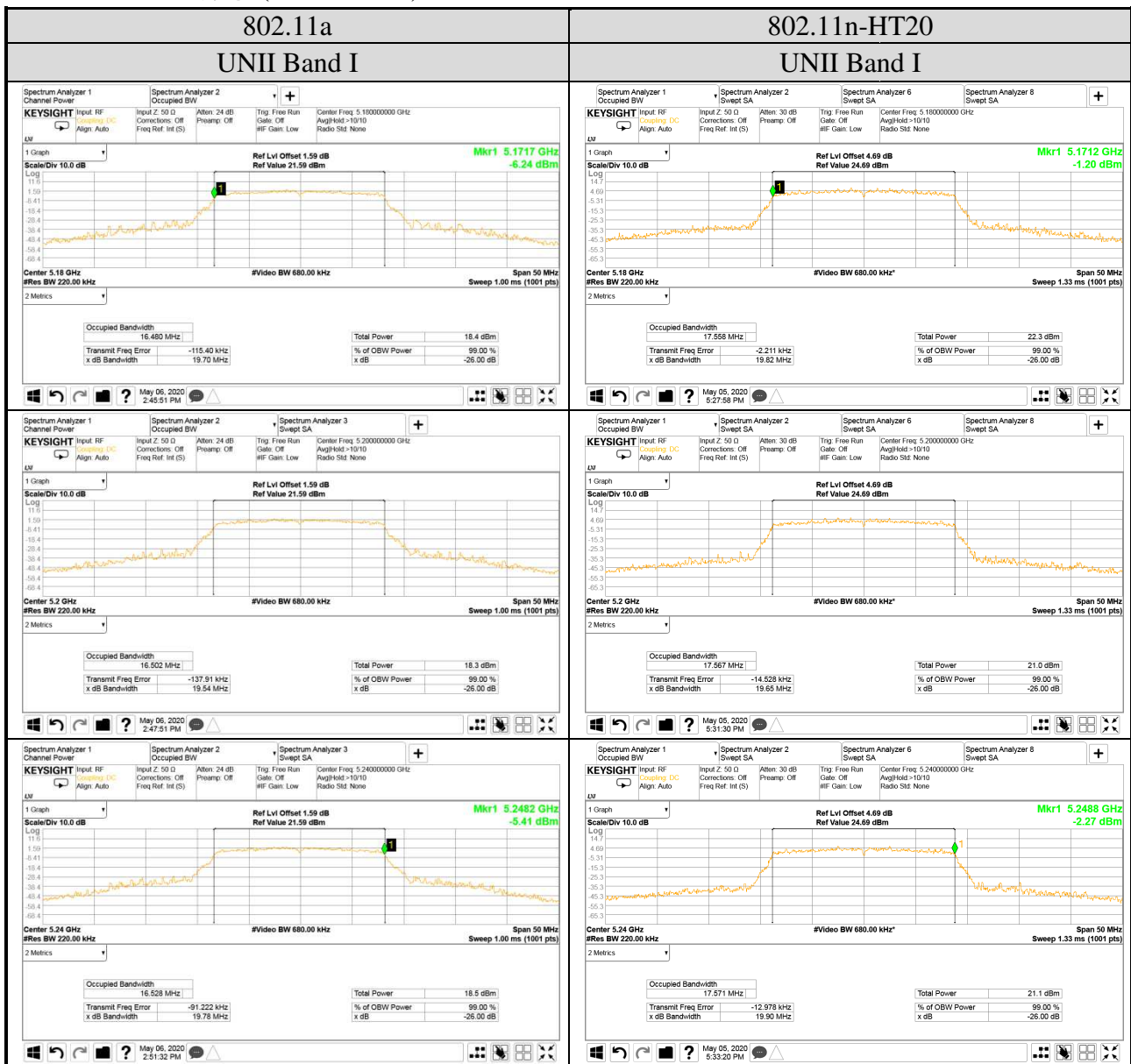
註3:擇取較大的 Direction gain進行計算，限制值為30-(6.10-6)=29.9dBm。

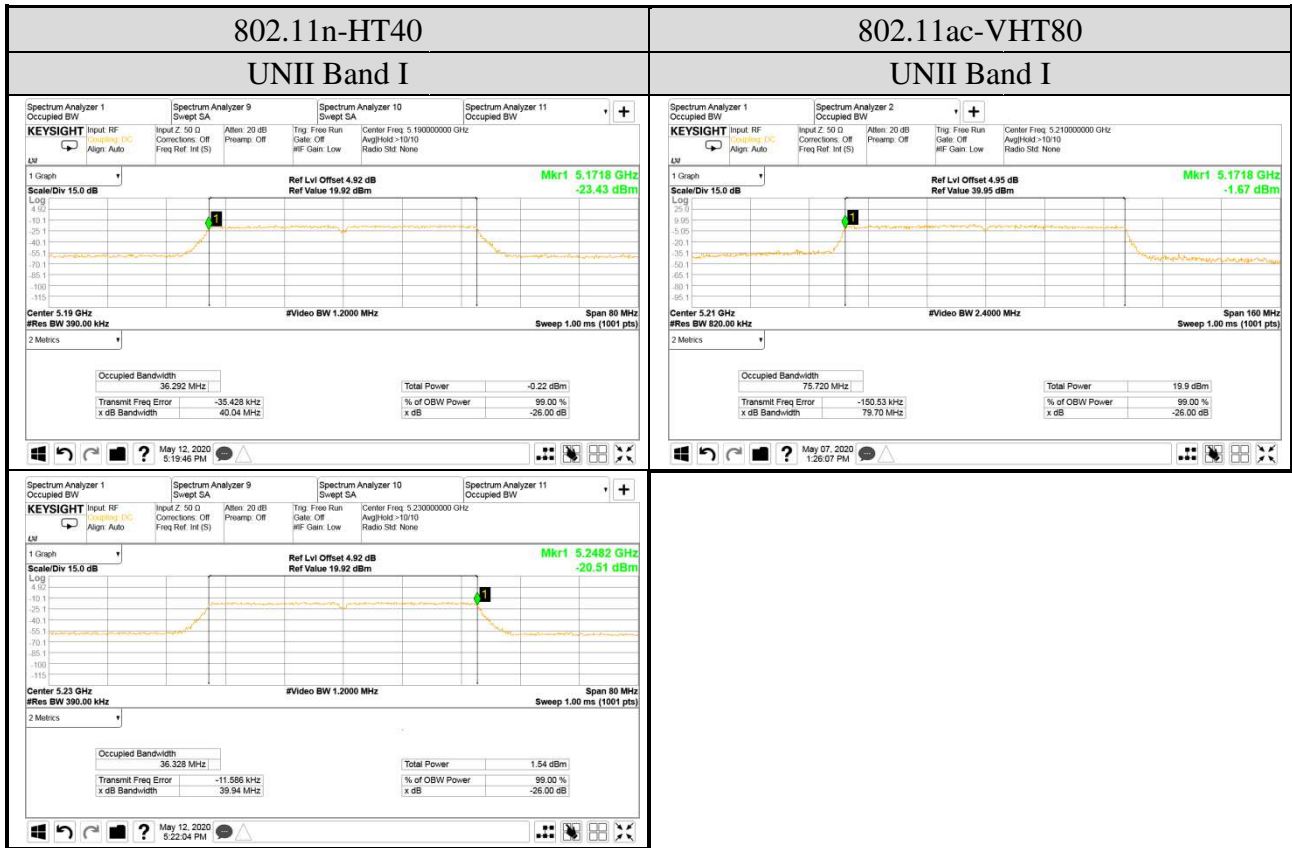
2.2. 最大輸出功率及 26dB/6dB 頻寬之量測圖

- 最大輸出功率(平均值)

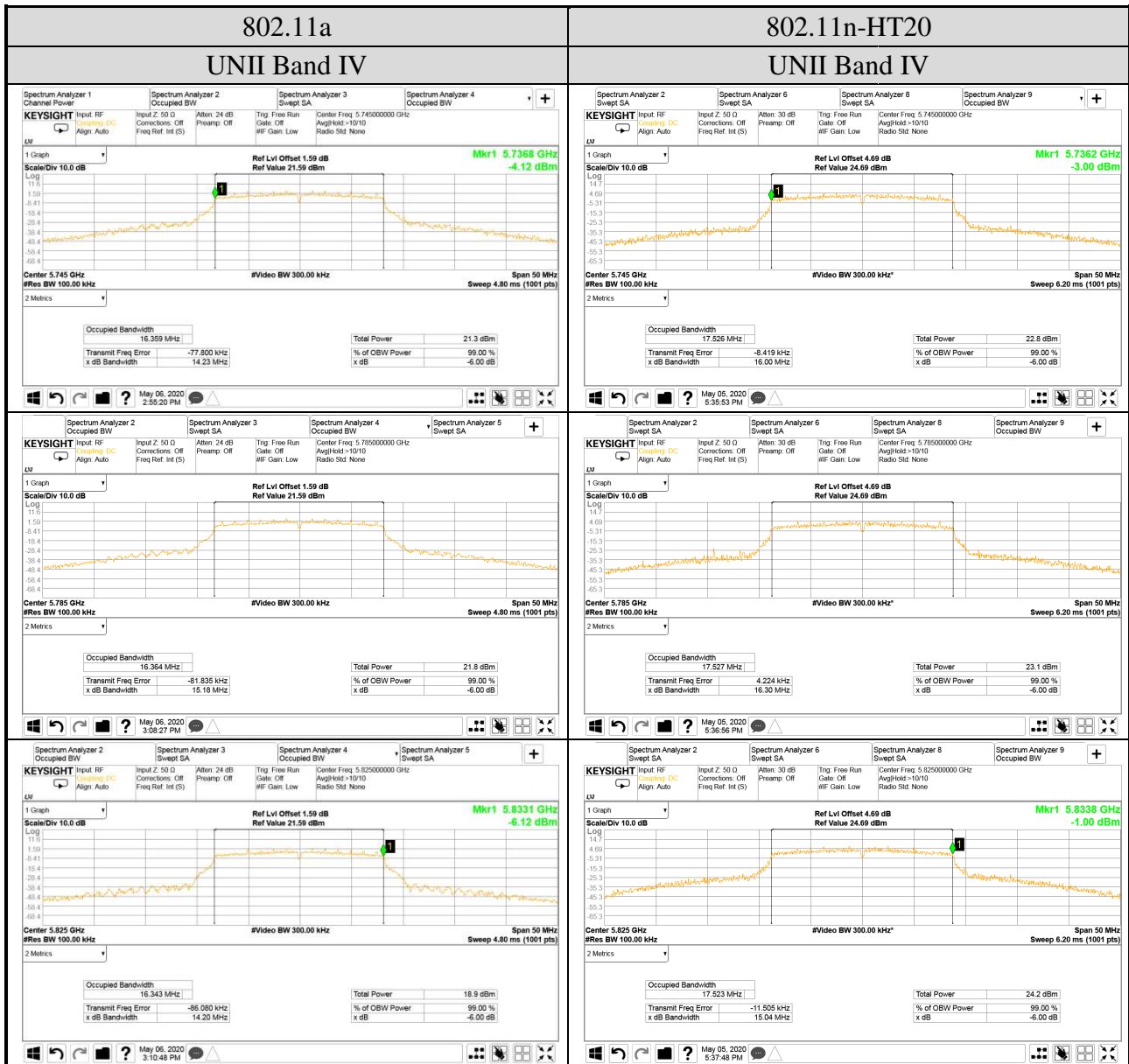


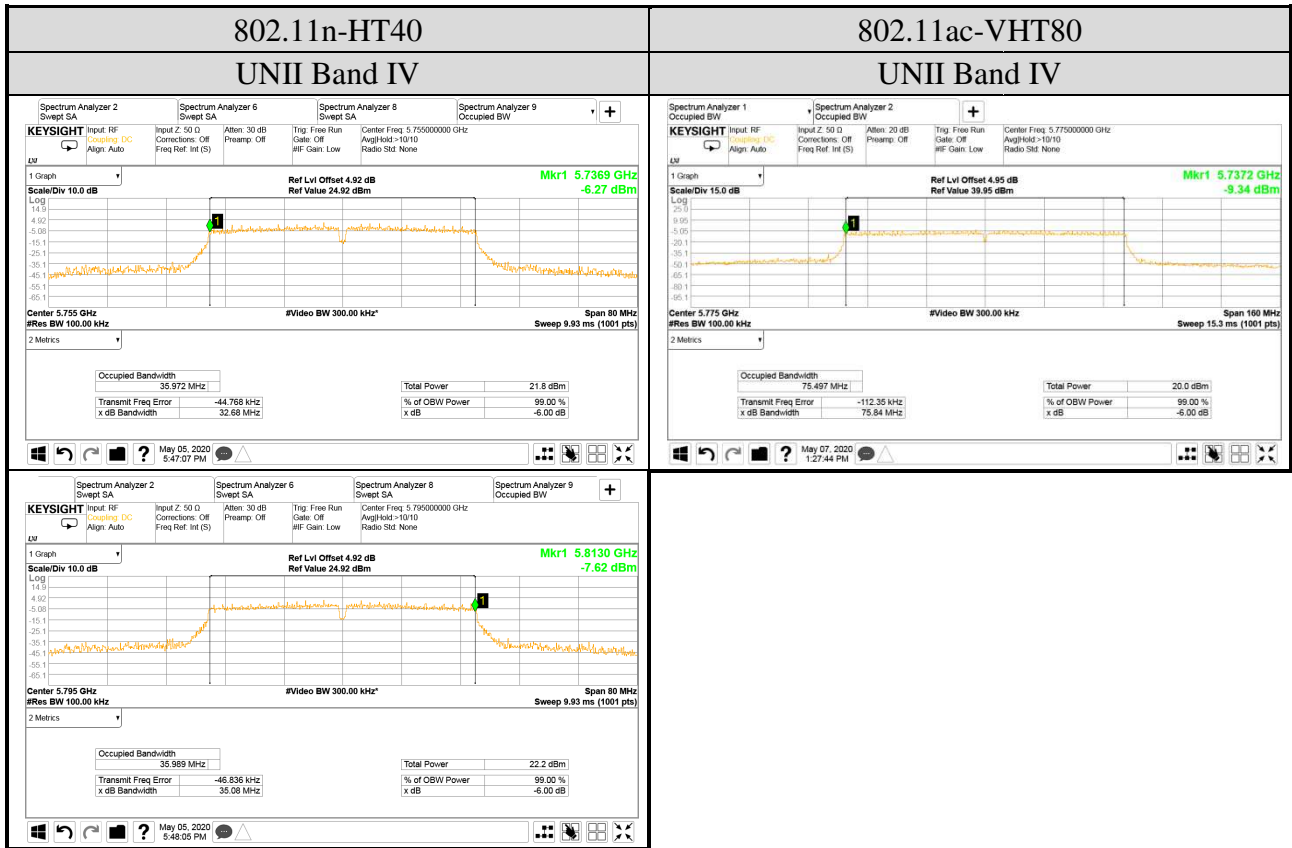
● 26dB 頻寬 (UNII Band I)





● 6dB 頻寬 (UNII Band IV)





3. 峰值功率頻譜密度之量測

測試日期	2020/05/05 ~ 07	環境溫/濕度	22 ~ 24°C/52 ~ 58%
電纜損失	1.5dB	測試人員	Sean Wang
測試電壓	DC 5V (經 USB 連接筆記型電腦供電)	Duty Cycle	802.11a: 0.979 802.11n-HT20: 0.957 802.11n-HT40: 0.908 802.11ac-VHT80: 0.901
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			802.11a: 0 802.11n/ac: 3

3.1. 峰值功率頻譜密度

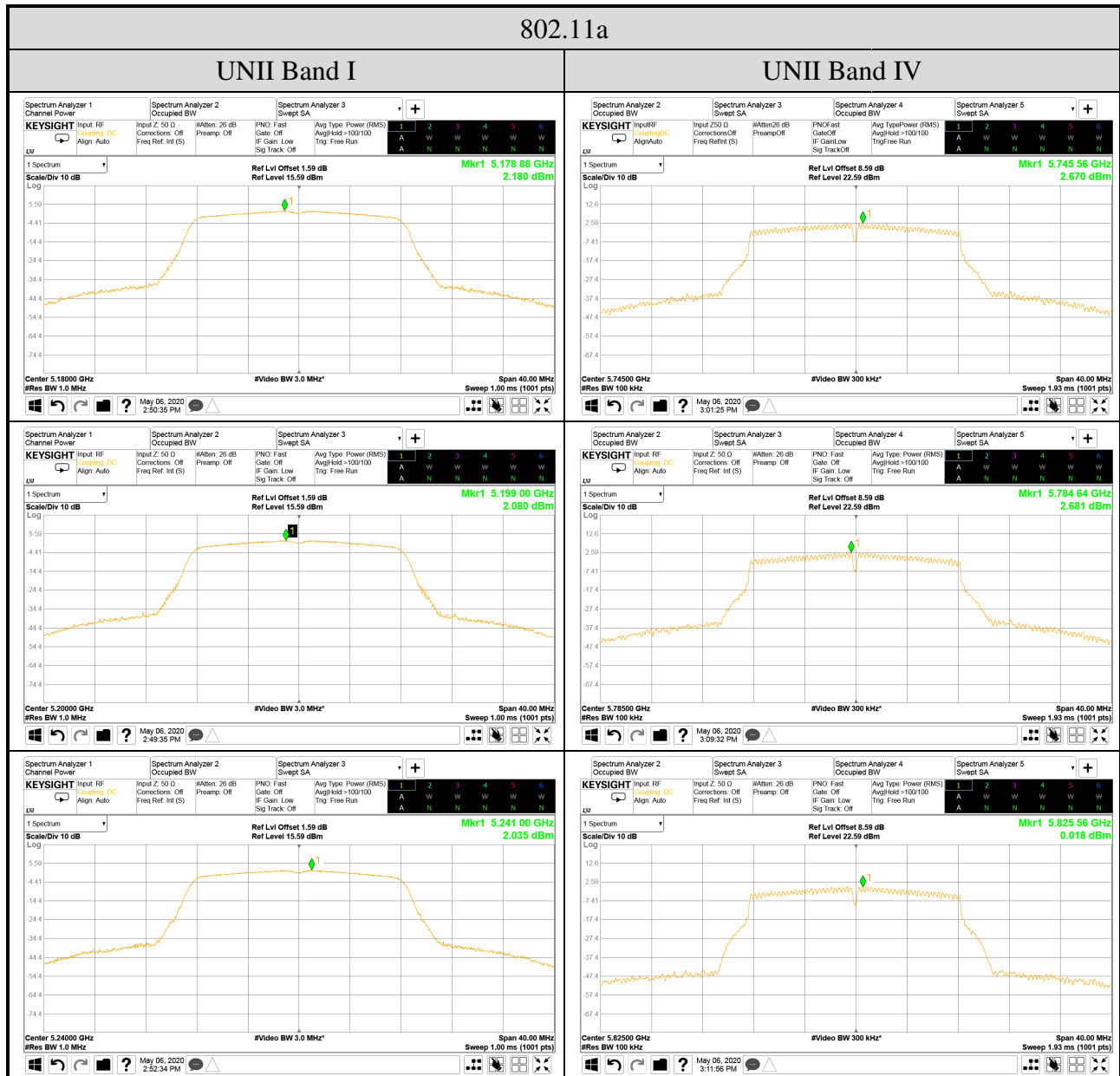
模式	UNII Band	測試頻率(MHz)	峰值功率頻譜密度		限制值
			(dBm/1MHz)	(dBm/500kHz)	
802.11a	I	5180	2.180	--	10.9dBm/MHz 註 2
		5200	2.080	--	
		5240	2.035	--	
	IV ^{Note2}	5745	--	2.670	29.9dBm/500kHz 註 3
		5785	--	2.681	
		5825	--	0.018	
802.11n-HT20	I	5180	6.643	--	10.9dBm/MHz 註 2
		5200	6.626	--	
		5240	6.694	--	
	IV ^{Note}	5745	--	5.426	29.9dBm/500kHz 註 3
		5785	--	6.644	
		5825	--	5.866	
802.11n-HT40	I	5190	4.246	--	10.9dBm/MHz 註 2
		5230	3.879	--	
	IV ^{Note}	5755	--	1.853	29.9dBm/500kHz 註 3
		5795	--	2.153	
802.11ac-VHT80	I	5210	-4.176	--	10.9dBm/MHz 註 2
	IV ^{Note}	5775	--	-2.364	29.9dBm/500kHz 註 3

註 1. BWCF 6.99dB (100kHz converted to 500kHz) has been included in the test result.

註 2: 擇取較大的 Direction gain 進行計算，限制值為 11-(6.10-6)=10.9dBm。

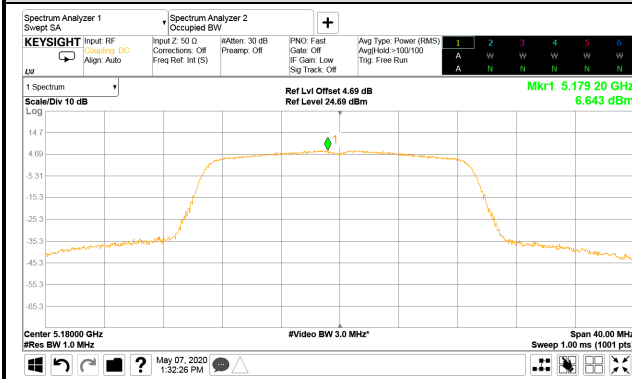
註 3: 擇取較大的 Direction gain 進行計算，限制值為 30-(6.10-6)=29.9dBm。

3.2. 峰值功率頻譜密度之量測圖

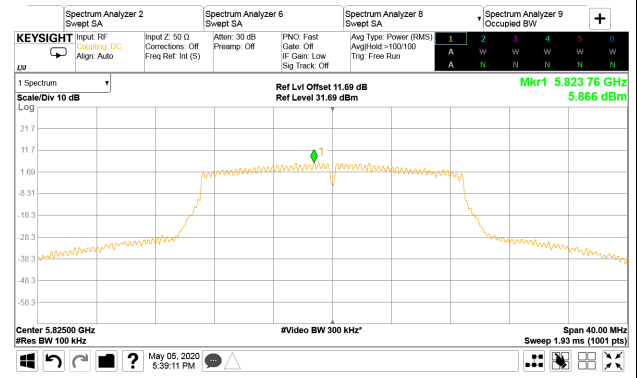
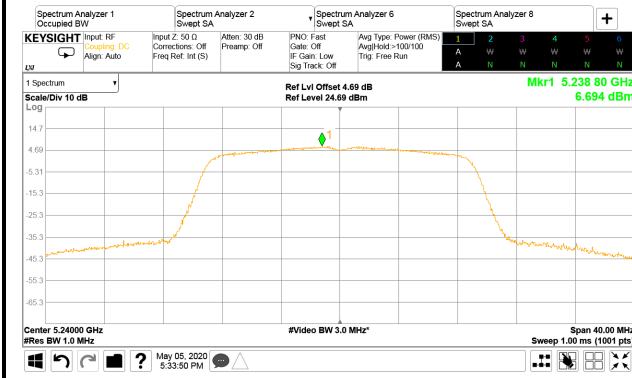
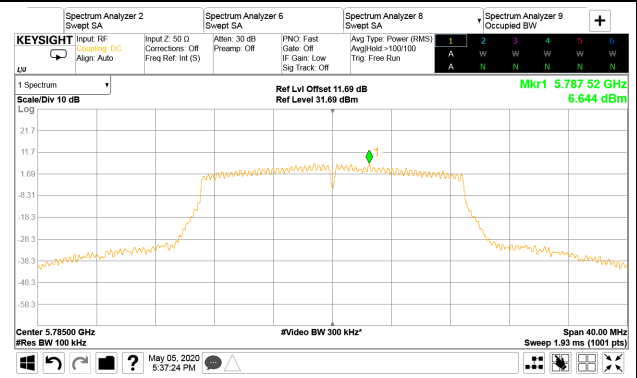
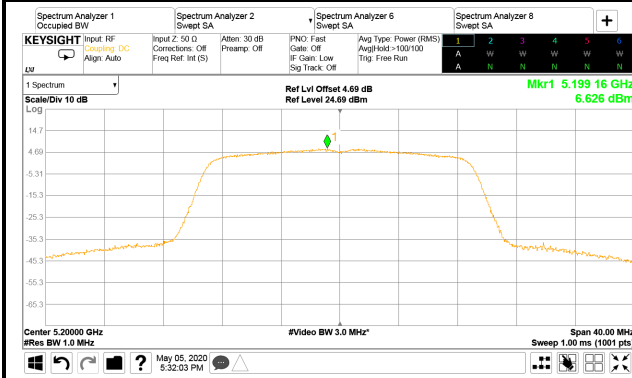
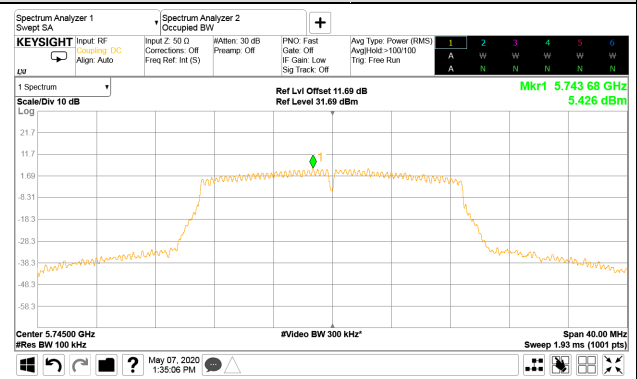


802.11n-HT20

UNII Band I

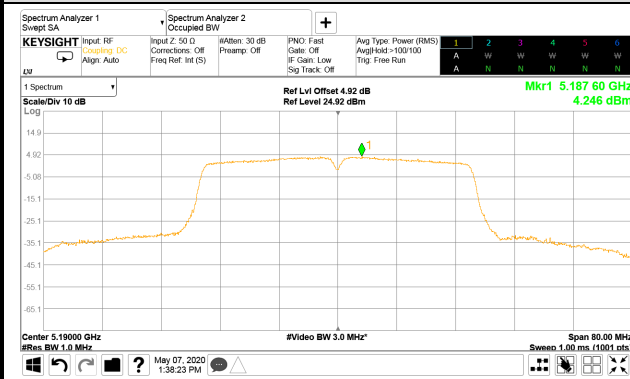


UNII Band IV

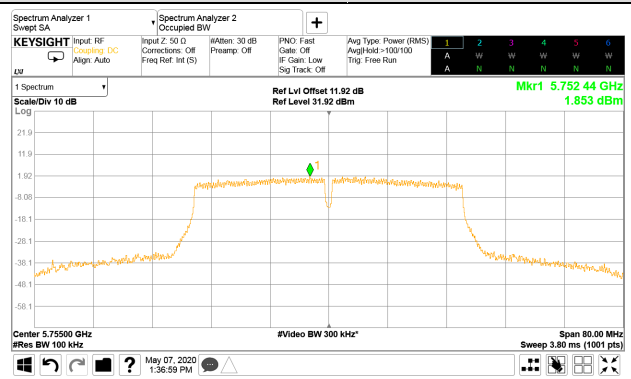


802.11n-HT40

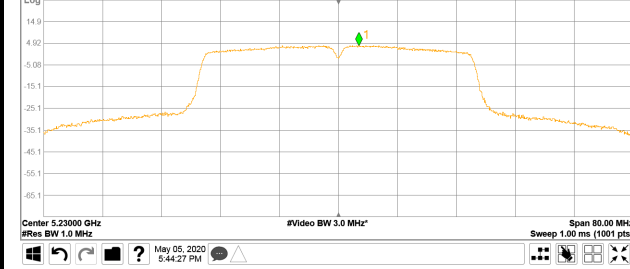
UNII Band I



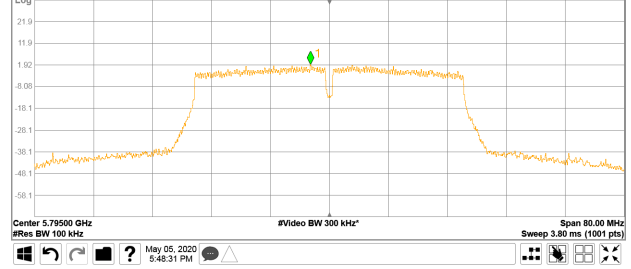
UNII Band IV



UNII Band I

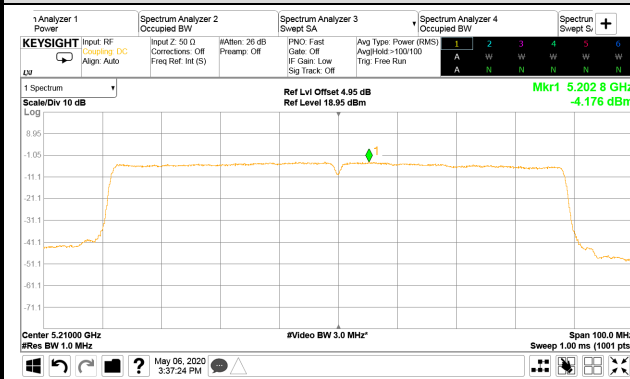


UNII Band IV

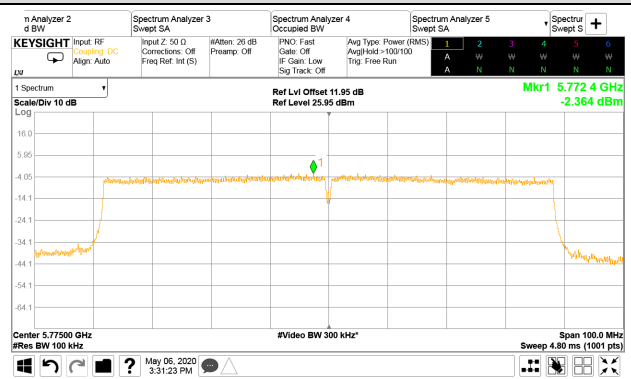


802.11ac-VHT80

UNII Band I

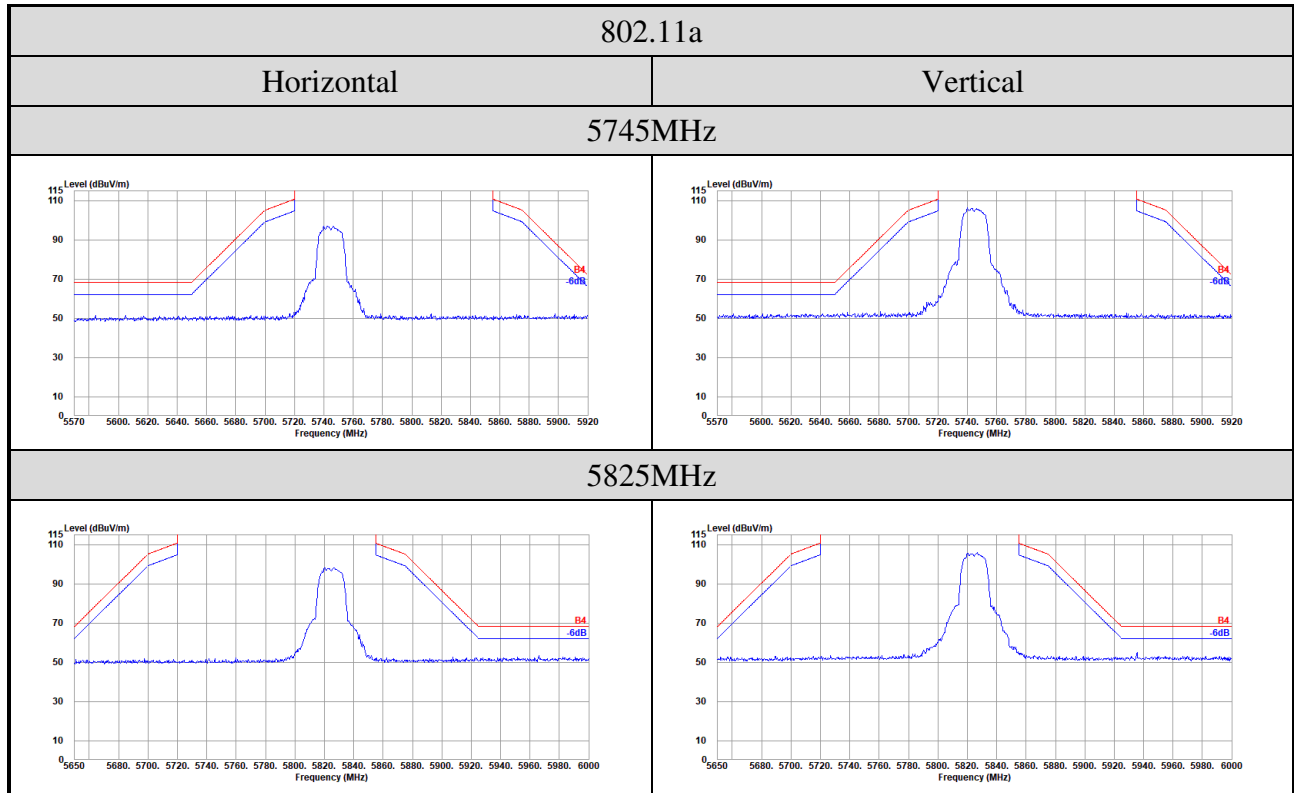


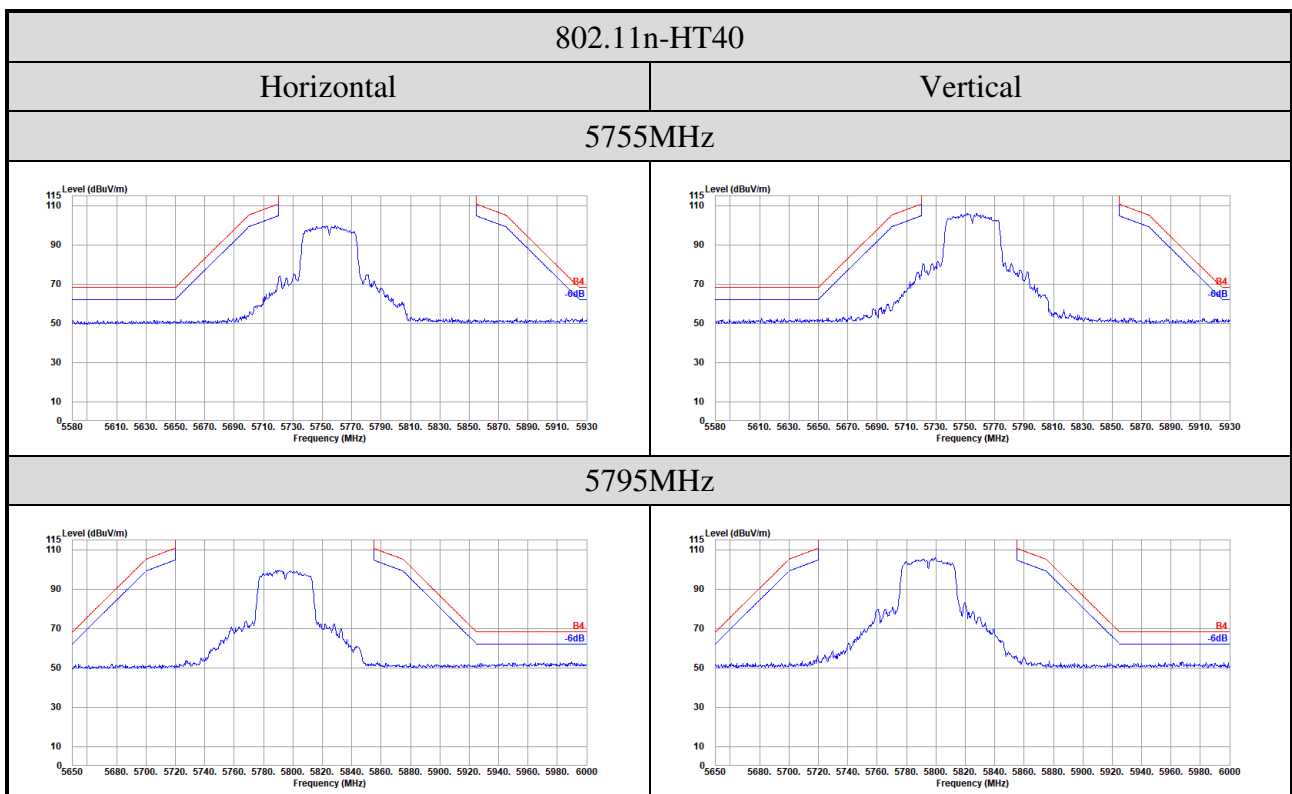
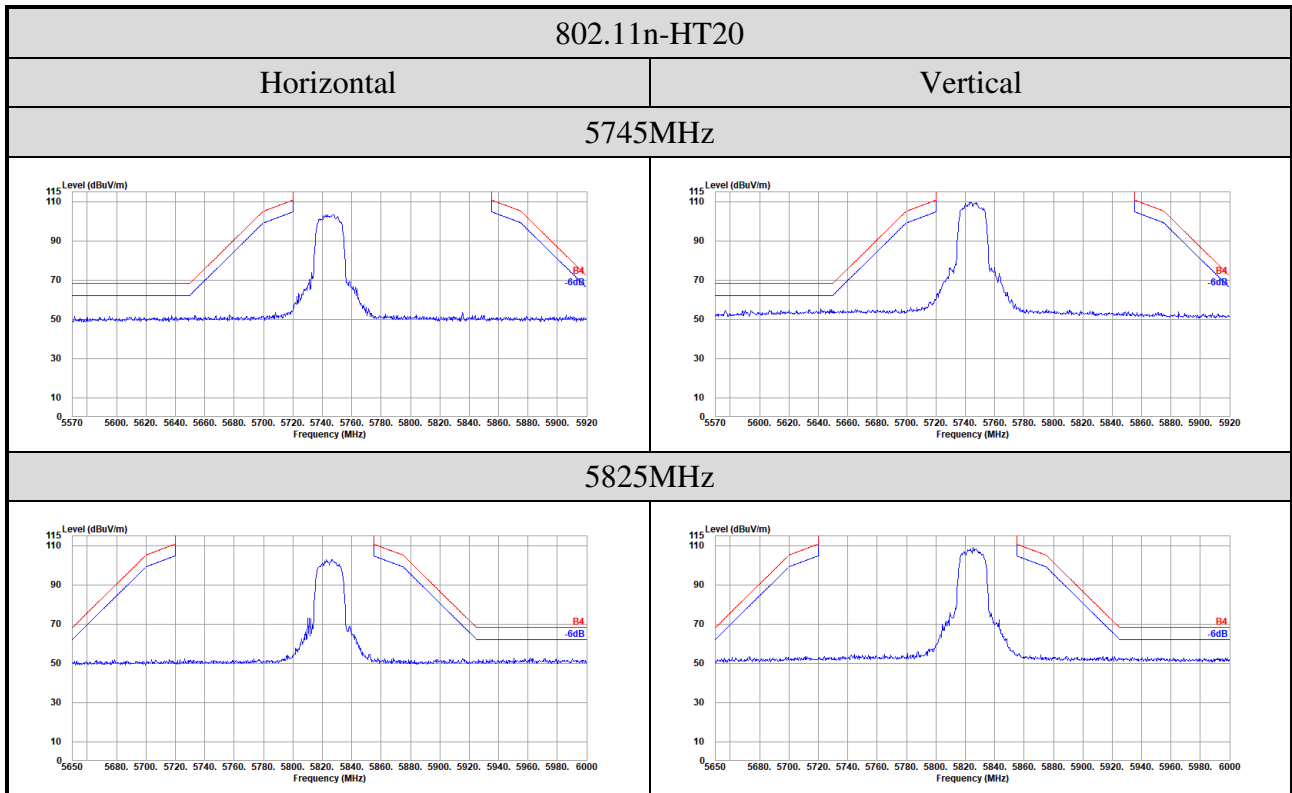
UNII Band IV

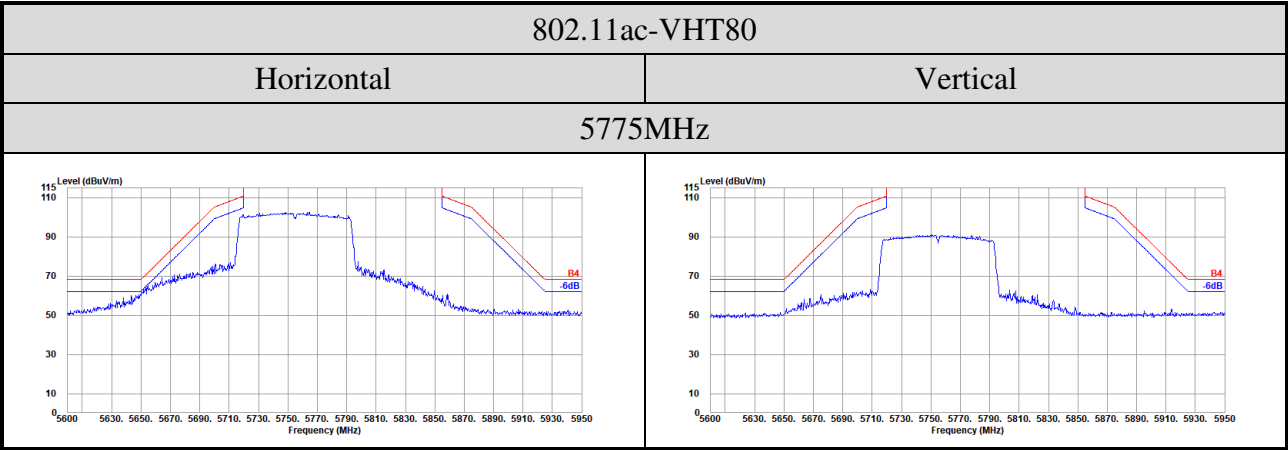


5. 頻帶邊緣之 RF 發射之量測

測試日期	2020/04/28	環境溫/濕度	22°C/61%
電纜損失	---	測試人員	Sean Wang
測試電壓	DC 5V (經 USB 連接筆記型電腦供電)		







6. 電波暴露量之量測

測試日期	2020/05/05	環境溫/濕度	23°C/52%
電纜損失	1.5dB	測試人員	Sean Wang
測試電壓	DC 5V (經 USB 連接筆記型電腦供電)		

距離人體(r):	20	cm	
最大發射功率(P):	16.11	dBm	= 40.832 mW
最大天線增益(G):	6.10	dB	= 4.074 Numerical
MPE (S) = (P*G) / (4* π *r ²) =	0.0331		mW/cm ²
註：1. 最大發射功率系指5GHz各模式/頻道中最大之發射功率功率。			
2. 電磁波曝露量MPE標準值1mW/cm ² ，送測產品實測值為：0.0331mW/cm ²			

註:擇取較大的 Direction gain=6.10dBi 進行計算。