

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，實驗室先將發射機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 IEEE 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 (CH36)	1000-40000MHz
		UNII Band IV	5785MHz (CH157)	
802.11n-HT40	發射	UNII Band I	5230MHz (CH46)	1000-40000MHz
		UNII Band IV	5795MHz (CH159)	
802.11ac-VHT80	發射	UNII Band I	5210MHz (CH42)	1000-40000MHz
		UNII Band IV	5775MHz (CH155)*	30-1000MHz
				1000-40000MHz
---	接收	UNII Band I	5200MHz (CH40)	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)	5100-5210MHz
802.11ac-VHT80	發射	UNII Band I	5210MHz (CH42)	5100-5250MHz

測試日期	2020/04/06~08	環境溫/濕度	19~20°C/66~68%
測試電壓	DC 3.3V (經 JIG 供電)	測試人員	Kuper Hsu

1.1. 30-1000MHz 頻率範圍，其他不必要發射量測

Mode	802.11ac-VHT80	UNII Band	IV
		Frequency	TX 5775MHz

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
125.060	17.94	0.95	27.98	48.52	39.43	43.50	4.07	Peak
217.210	16.18	1.31	27.62	47.97	37.84	46.00	8.16	Peak
375.320	20.83	1.79	28.02	43.86	38.46	46.00	7.54	Peak
624.610	24.38	2.43	28.84	45.18	43.15	46.00	2.85	Peak
874.870	26.06	2.97	28.39	40.09	40.73	46.00	5.27	Peak
997.090	27.01	3.26	28.06	36.58	38.79	54.00	15.21	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
156.100	15.94	1.08	27.83	47.27	36.46	43.50	7.04	Peak
320.030	19.46	1.63	27.62	35.18	28.65	46.00	17.35	Peak
500.450	23.04	2.11	28.72	39.03	35.46	46.00	10.54	Peak
624.610	24.38	2.43	28.84	46.10	44.07	46.00	1.93	Peak
874.870	26.06	2.97	28.39	34.97	35.61	46.00	10.39	Peak
995.150	27.01	3.26	28.06	30.49	32.70	54.00	21.30	Peak

Mode	---	Frequency	RX 5200MHz
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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
115.360	17.96	0.91	28.03	46.90	37.74	43.50	5.76	Peak
204.600	15.30	1.27	27.65	50.33	39.25	43.50	4.25	Peak
500.450	23.04	2.11	28.72	43.19	39.62	46.00	6.38	Peak
624.610	24.38	2.43	28.84	41.80	39.77	46.00	6.23	Peak
874.870	26.06	2.97	28.39	38.88	39.52	46.00	6.48	Peak
997.090	27.01	3.26	28.06	34.72	36.93	54.00	17.07	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
154.160	16.05	1.08	27.84	47.68	36.97	43.50	6.53	Peak
324.880	19.58	1.64	27.66	33.53	27.09	46.00	18.91	Peak
500.450	23.04	2.11	28.72	38.49	34.92	46.00	11.08	Peak
624.610	24.38	2.43	28.84	43.50	41.47	46.00	4.53	Peak
874.870	26.06	2.97	28.39	34.36	35.00	46.00	11.00	Peak
996.120	27.01	3.26	28.06	30.58	32.79	54.00	21.21	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	34.82	31.16	48.81	54.00	5.19	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	34.82	32.05	49.70	54.00	4.30	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	38.43	15.53	34.61	30.94	50.29	54.00	3.71	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	38.43	15.53	34.61	30.54	49.89	54.00	4.11	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)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
10480.000	37.78	14.82	34.74	30.58	48.44	54.00	5.56	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
10480.000	37.78	14.82	34.74	30.88	48.74	54.00	5.26	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)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
11570.000	38.43	15.53	34.61	30.77	50.12	54.00	3.88	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	38.43	15.53	34.61	30.24	49.59	54.00	4.41	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	37.75	14.80	34.77	30.95	48.73	54.00	5.27	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	37.75	14.80	34.77	30.83	48.61	54.00	5.39	Peak

Mode	802.11n-HT40	Frequency	TX 5795MHz
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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
11590.000	38.47	15.55	34.61	31.00	50.41	54.00	3.59	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
11590.000	38.47	15.55	34.61	30.66	50.07	54.00	3.93	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	37.72	14.78	34.82	30.66	48.34	54.00	5.66	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	37.72	14.78	34.82	30.96	48.64	54.00	5.36	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	38.40	15.52	34.61	30.04	49.35	54.00	4.65	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	38.40	15.52	34.61	30.19	49.50	54.00	4.50	Peak

Mode	---	Frequency	RX 5200MHz
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Antenna at Horizontal Polarization

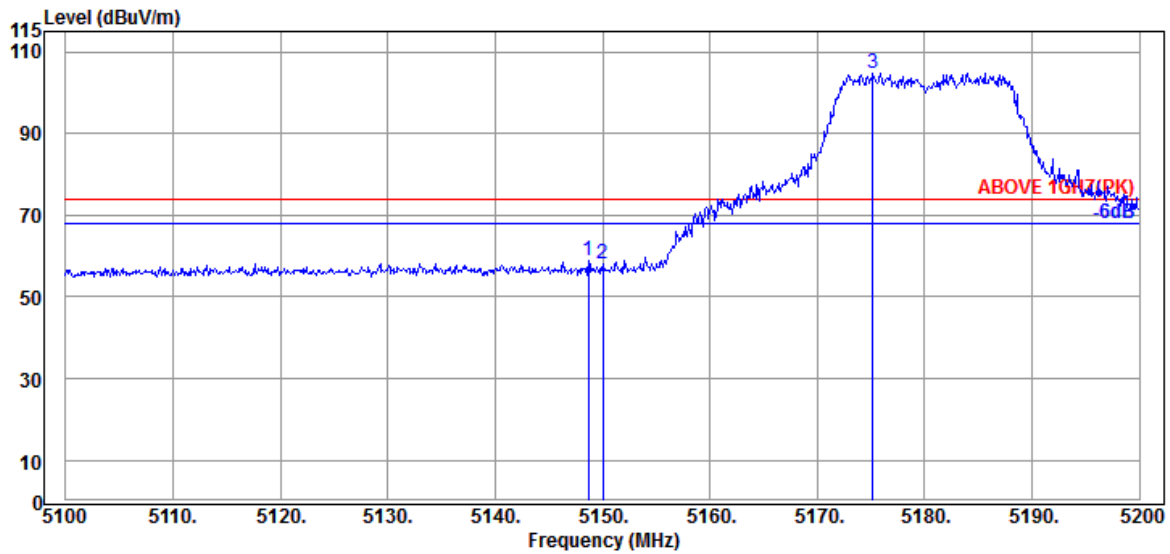
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
10400.000	37.70	14.77	34.82	31.77	49.42	54.00	4.58	Peak

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
10400.000	37.70	14.77	34.82	31.65	49.30	54.00	4.70	Peak

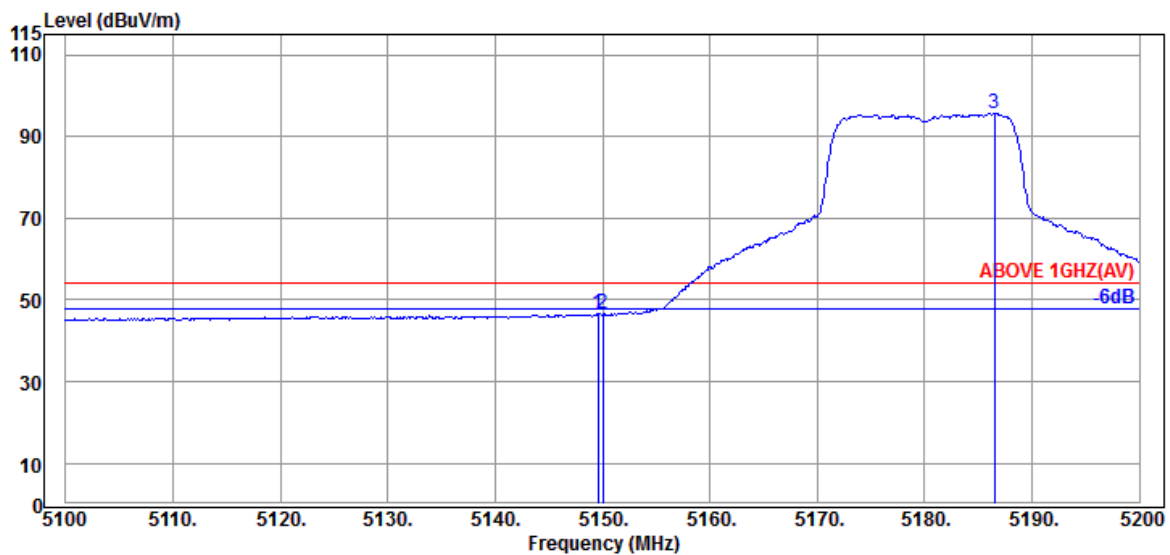
1.3. 禁用頻帶量測結果 (其他不必要發射)

Mode	802.11a	Frequency	TX 5180MHz
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
5148.700	34.70	10.36	34.38	48.04	58.72	74.00	15.28	Peak
5150.000	34.70	10.36	34.38	47.53	58.21	74.00	15.79	Peak
@ 5175.200	34.57	10.38	34.37	94.05	104.63	---	---	Peak

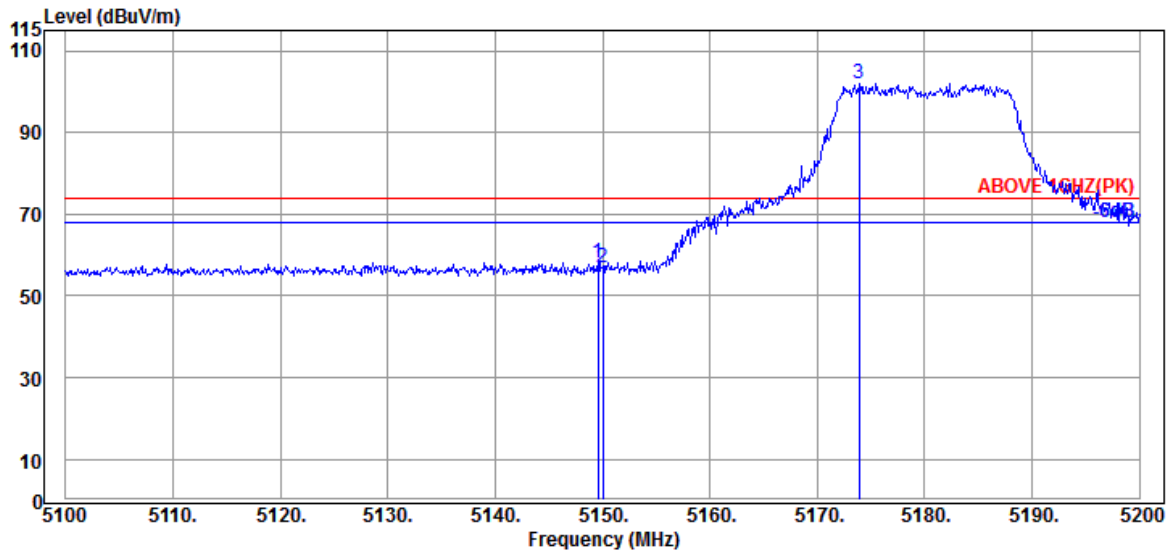


Antenna at Horizontal Polarization

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
5149.600	34.70	10.36	34.38	35.84	46.52	54.00	7.48	Average
5150.000	34.70	10.36	34.38	35.81	46.49	54.00	7.51	Average
@ 5186.500	34.57	10.38	34.37	85.07	95.65	---	---	Average

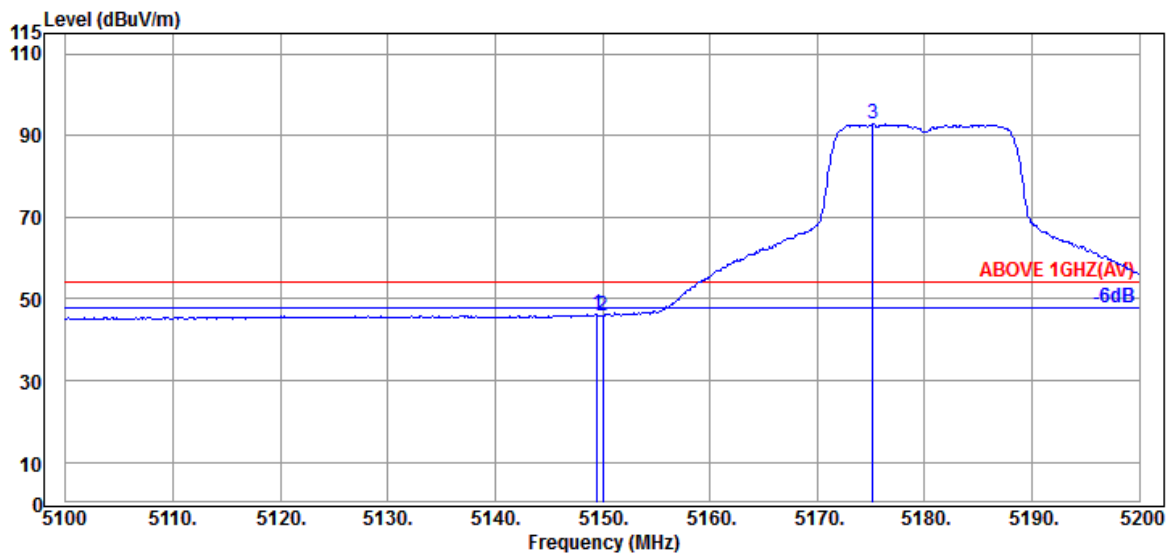
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11a	Frequency	TX 5180MHz
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Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Detector
5149.600	34.70	10.36	34.38	47.54	58.22	74.00	15.78	Peak
5150.000	34.70	10.36	34.38	46.40	57.08	74.00	16.92	Peak
@ 5173.900	34.57	10.38	34.37	91.27	101.85	---	---	Peak

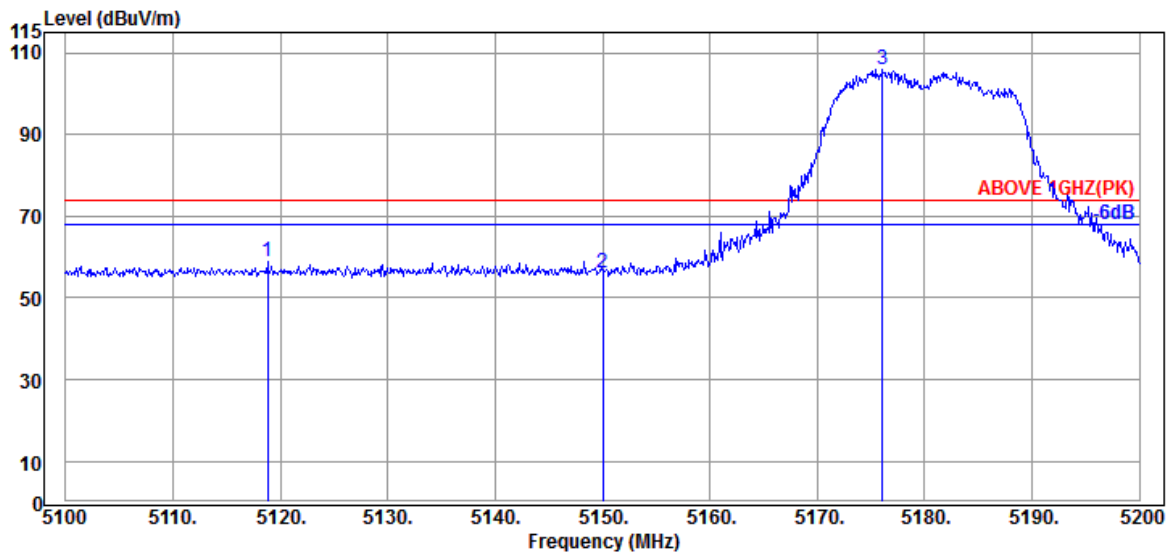


Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Detector
5149.500	34.70	10.36	34.38	35.39	46.07	54.00	7.93	Average
5150.000	34.70	10.36	34.38	35.30	45.98	54.00	8.02	Average
@ 5175.200	34.57	10.38	34.37	82.22	92.80	---	---	Average

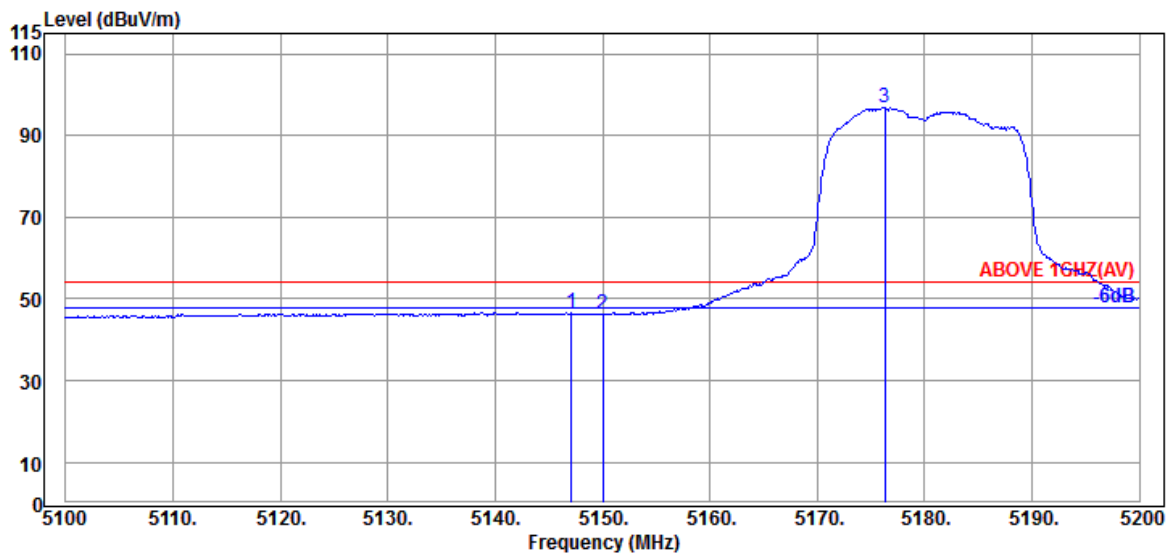
備註：“@”為主波，在此章節是不予以判定。

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
5118.800	34.57	10.35	34.39	48.44	58.97	74.00	15.03	Peak
5150.000	34.70	10.36	34.38	45.58	56.26	74.00	17.74	Peak
@ 5176.100	34.57	10.38	34.37	95.38	105.96	---	---	Peak

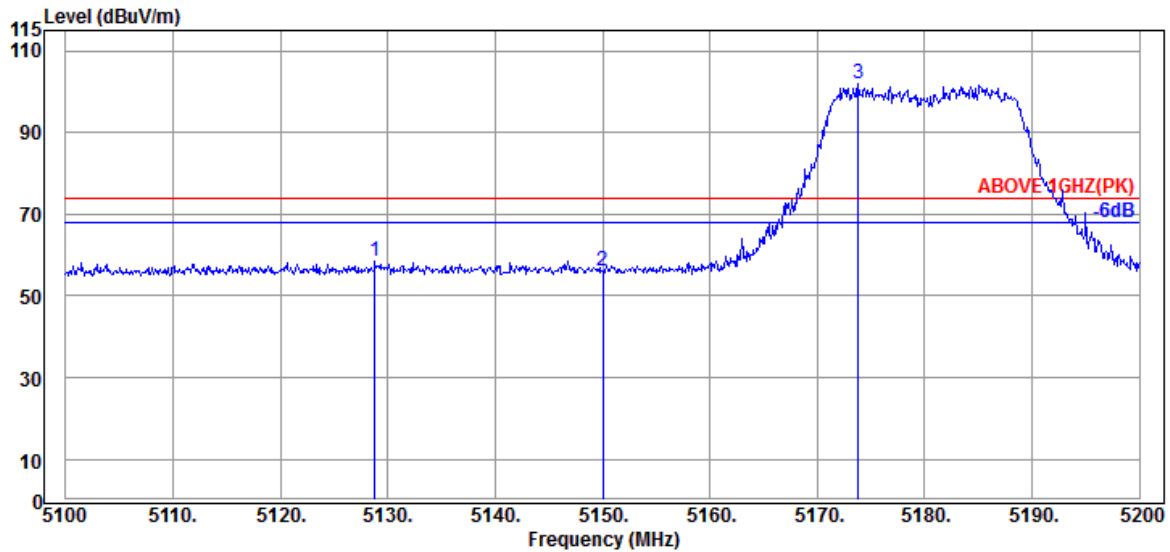


Antenna at Horizontal Polarization

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
5147.100	34.70	10.36	34.38	35.91	46.59	54.00	7.41	Average
5150.000	34.70	10.36	34.38	35.47	46.15	54.00	7.85	Average
@ 5176.300	34.57	10.38	34.37	86.17	96.75	---	---	Average

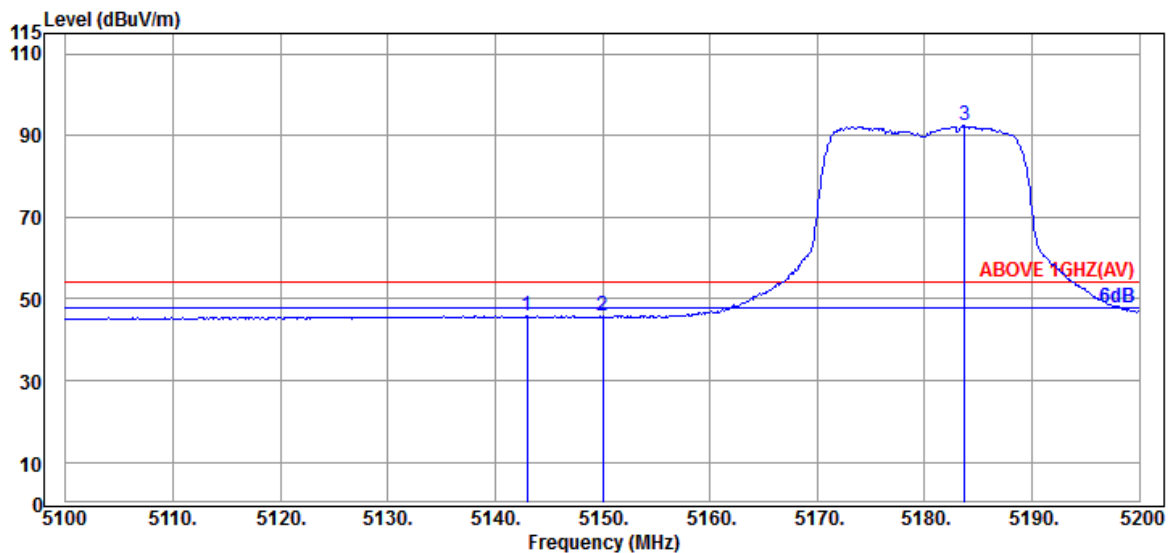
備註：“@”為主波，在此章節是不予以判定。

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 (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Detector
5128.800	34.63	10.35	34.39	48.09	58.68	74.00	15.32	Peak
5150.000	34.70	10.36	34.38	45.45	56.13	74.00	17.87	Peak
@ 5173.800	34.57	10.38	34.37	91.37	101.95	---	---	Peak

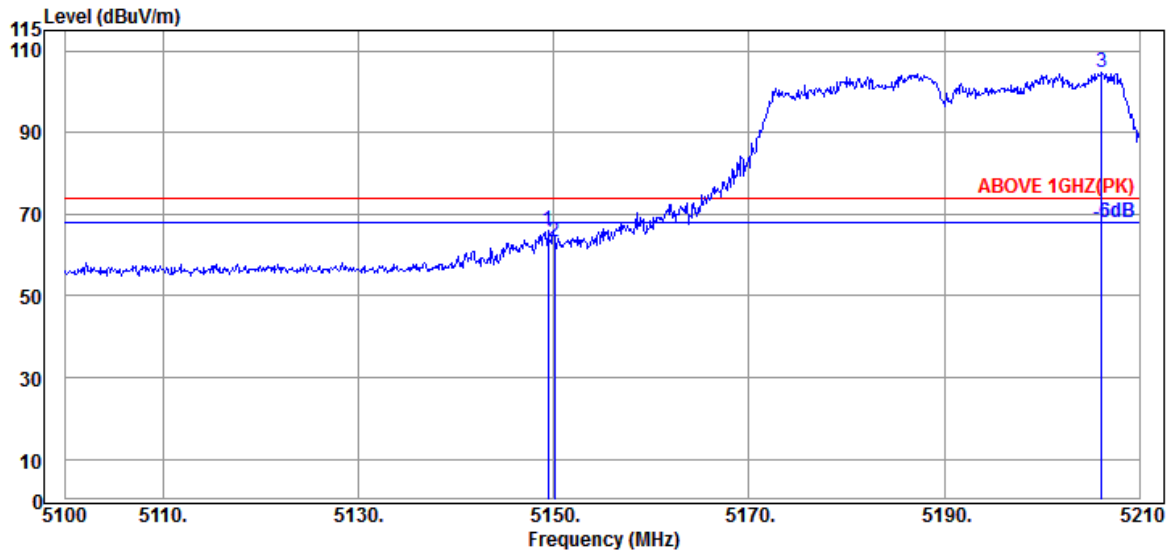


Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Detector
5143.000	34.70	10.36	34.38	35.08	45.76	54.00	8.24	Average
5150.000	34.70	10.36	34.38	34.98	45.66	54.00	8.34	Average
@ 5183.700	34.57	10.38	34.37	81.79	92.37	---	---	Average

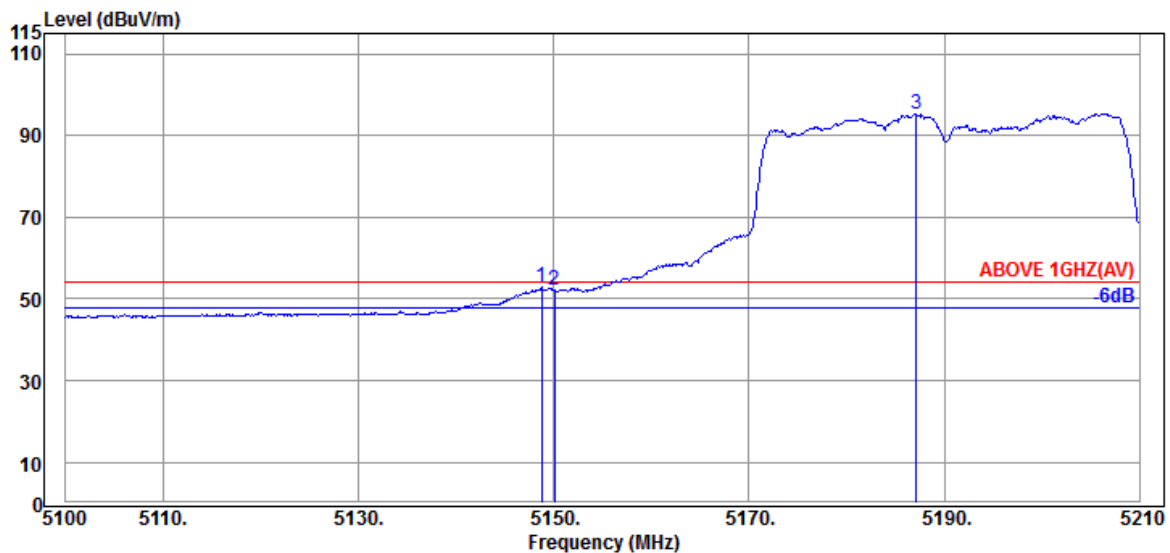
備註：“@”為主波，在此章節是不予以判定。

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
5149.390	34.70	10.36	34.38	55.42	66.10	74.00	7.90	Peak
5150.050	34.70	10.36	34.38	52.55	63.23	74.00	10.77	Peak
@ 5206.150	34.50	10.39	34.36	94.23	104.76	---	---	Peak

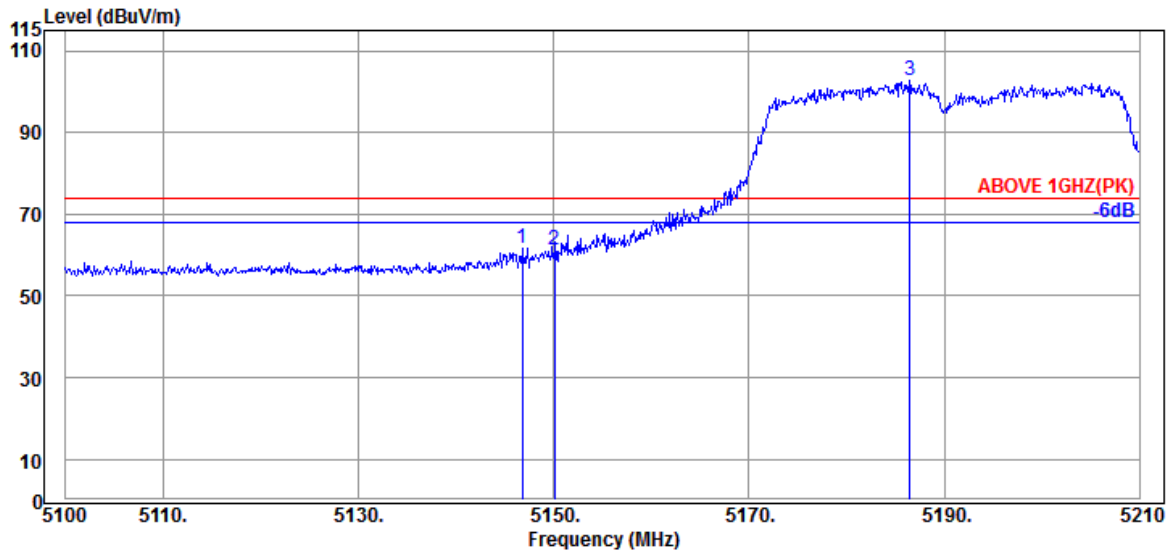


Antenna at Horizontal Polarization

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
5148.730	34.70	10.36	34.38	42.08	52.76	54.00	1.24	Average
5150.050	34.70	10.36	34.38	41.55	52.23	54.00	1.77	Average
@ 5187.120	34.57	10.38	34.37	84.72	95.30	---	---	Average

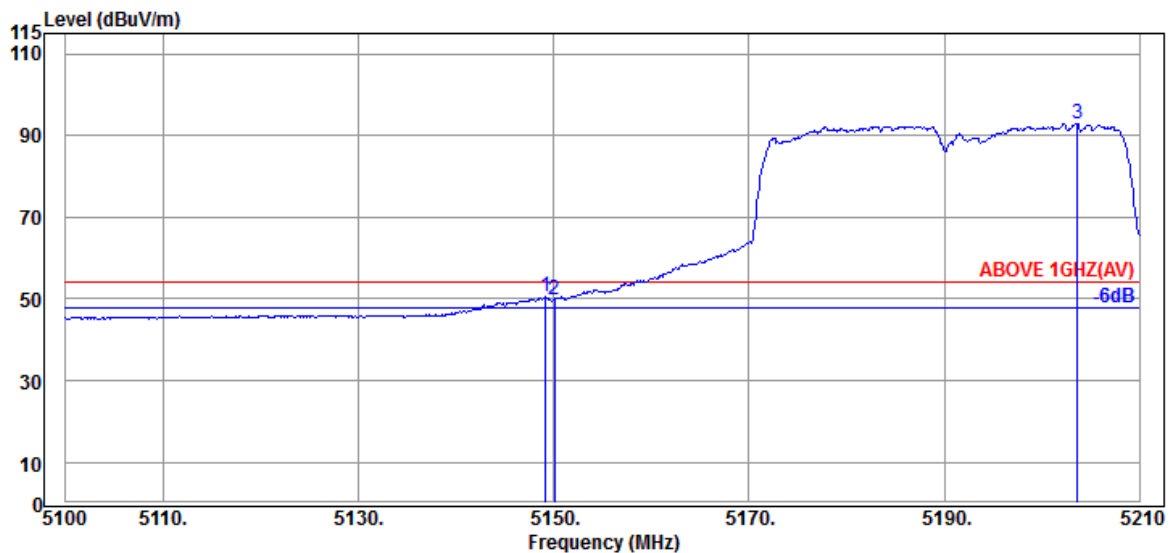
備註：“@”為主波，在此章節是不予以判定。

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
5146.750	34.70	10.36	34.38	50.91	61.59	74.00	12.41	Peak
5150.050	34.70	10.36	34.38	50.45	61.13	74.00	12.87	Peak
@ 5186.460	34.57	10.38	34.37	92.07	102.65	---	---	Peak

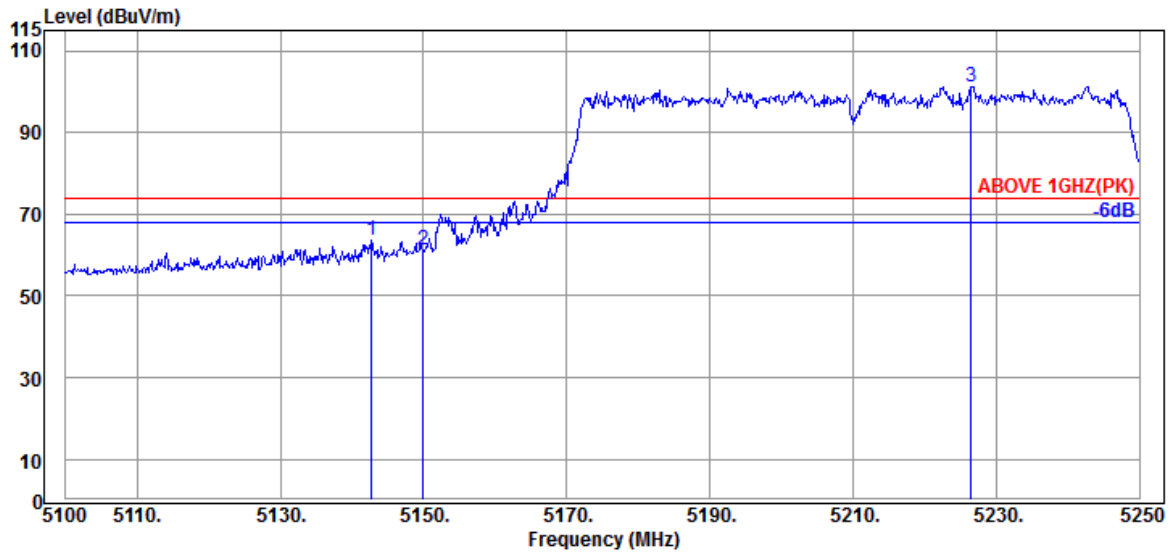


Antenna at Vertical Polarization

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
5149.170	34.70	10.36	34.38	39.75	50.43	54.00	3.57	Average
5150.050	34.70	10.36	34.38	39.29	49.97	54.00	4.03	Average
@ 5203.620	34.50	10.39	34.36	82.47	93.00	---	---	Average

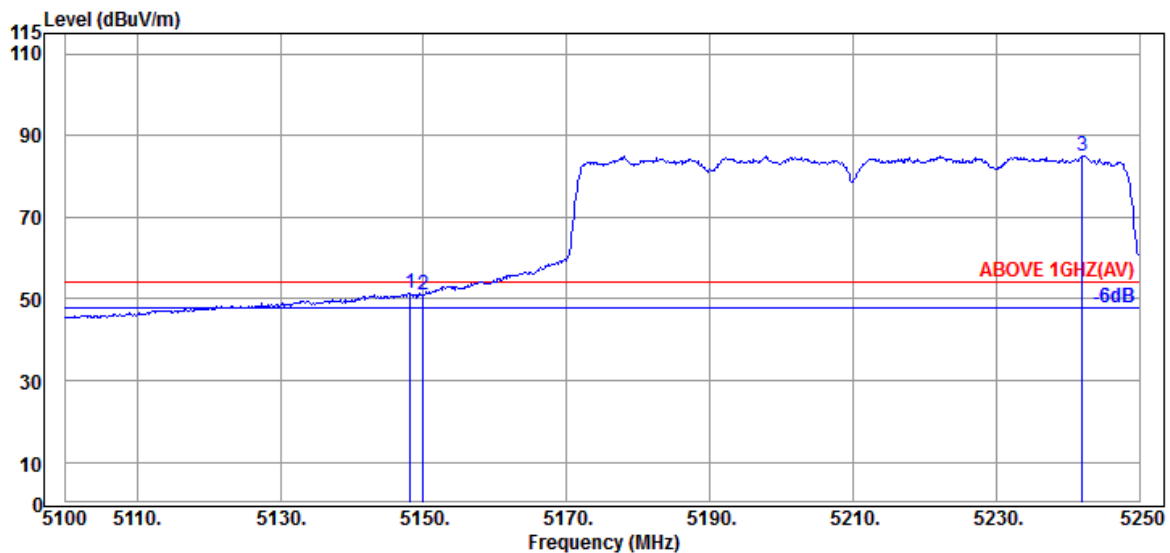
備註：“@”為主波，在此章節是不予以判定。

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
5142.750	34.70	10.36	34.38	52.86	63.54	74.00	10.46	Peak
5149.950	34.70	10.36	34.38	50.50	61.18	74.00	12.82	Peak
@ 5226.450	34.50	10.41	34.35	90.77	101.33	---	---	Peak

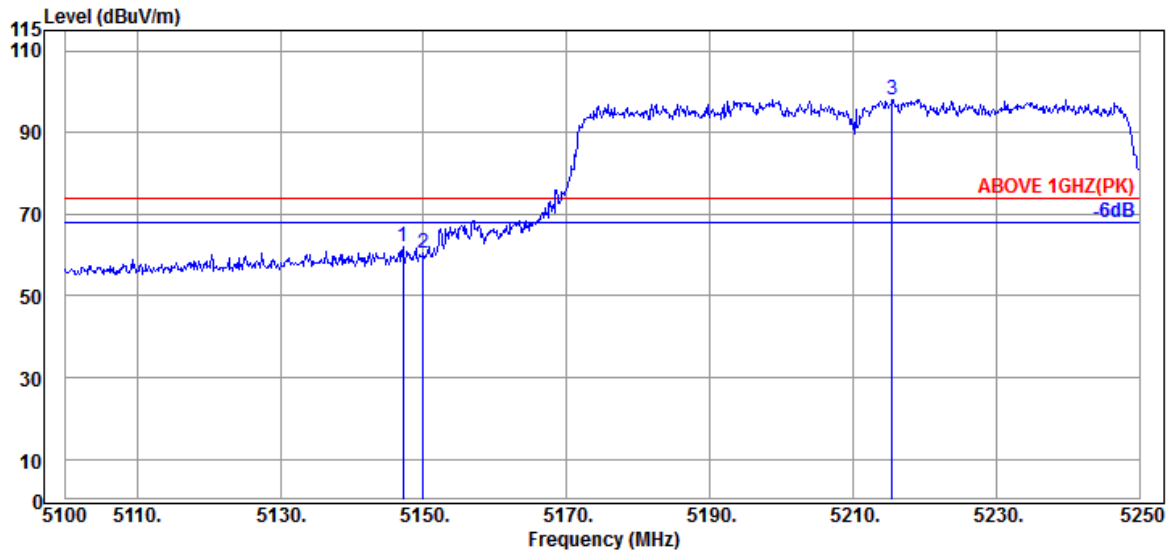


Antenna at Horizontal Polarization

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
5148.150	34.70	10.36	34.38	40.60	51.28	54.00	2.72	Average
5149.950	34.70	10.36	34.38	40.48	51.16	54.00	2.84	Average
@ 5242.050	34.50	10.42	34.35	74.37	84.94	---	---	Average

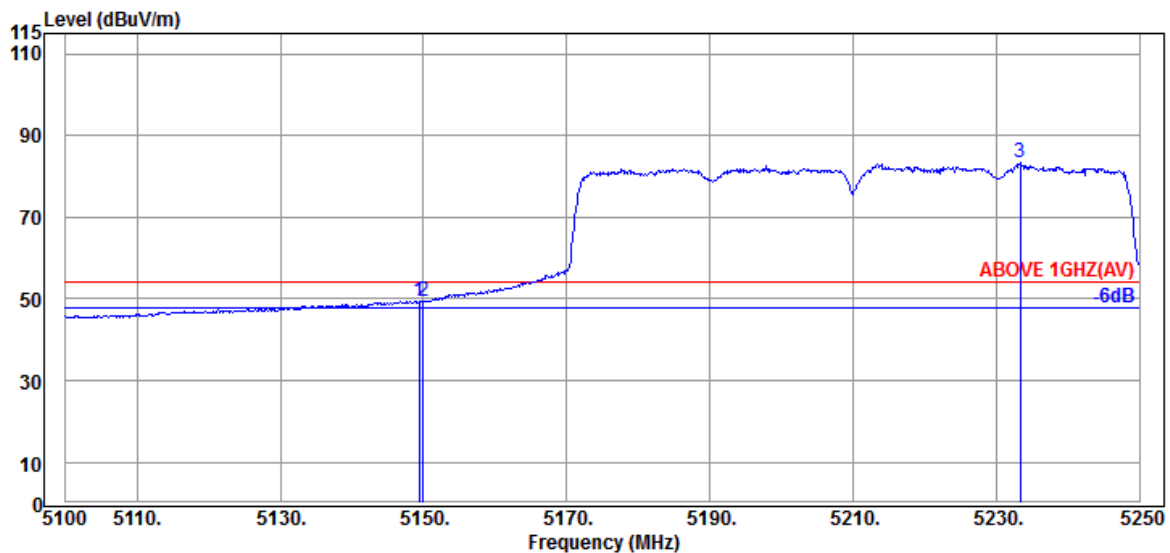
備註：“@”為主波，在此章節是不予以判定。

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
5147.100	34.70	10.36	34.38	51.38	62.06	74.00	11.94	Peak
5149.950	34.70	10.36	34.38	49.86	60.54	74.00	13.46	Peak
@ 5215.500	34.50	10.40	34.36	87.57	98.11	---	---	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
5149.350	34.70	10.36	34.38	38.85	49.53	54.00	4.47	Average
5149.950	34.70	10.36	34.38	38.81	49.49	54.00	4.51	Average
@ 5233.350	34.50	10.41	34.35	72.83	83.39	---	---	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	2020/04/01~07	環境溫/濕度	20~21°C/52~55%
電纜損失	1.5dB	測試人員	Kuper Hsu
測試電壓	DC 3.3V (經 Jig 供電)	Duty Cycle	802.1a: 0.969 802.11n-HT20: 0.947 802.11n-HT40: 0.942 802.11ac-VHT80: 0.881

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	Chain 2				
UNII Band I	5180	25.42	17.113	17.51	17.72	15.41	0.14	17.86	23.791 ^{註2}	N/A
	5200	25.37	17.054	17.81	17.93	15.72		18.07		
	5240	24.48	17.147	17.18	17.91	16.23		18.05		
模式 802.11a	測試頻率	發射頻寬(MHz)		Average輸出功率(dBm)			10 log (1/X)	Average 輸出功 率 (dBm)	限制值 (dBm)	限制值 (11dBm+10 log B)
	(MHz)	6dB	99%	Chain 0	Chain 1	Chain 2				
UNII Band IV	5745	16.39	16.606	18.74	18.96	19.32	0.14	19.46	29.234 ^{註3}	N/A
	5785	16.32	17.909	19.03	18.74	19.18		19.32		
	5825	16.39	16.520	18.45	18.46	19.06		19.20		

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)

2. 此產品 UNII Band I 最大 Antenna Gain=6.209dBi 大於 6dBi。限制值為 $24-(6.209-6)=23.791$ 。

3. 此產品 UNII Band IV 最大 Antenna Gain=6.766dBi 大於 6dBi。限制值為 $30-(6.766-6)=29.234$ 。

模式 802.11n-HT20	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	Chain 2				
UNII Band I	5180	23.09	18.073	11.09	11.64	11.41	0.23	16.39	23.791 ^{註2}	N/A
	5200	22.09	18.009	11.50	11.86	10.74		16.39		
	5240	22.86	18.022	11.57	11.63	11.38		16.53		
模式 802.11n-HT20	測試頻率	發射頻寬(MHz)		Average輸出功率(dBm)			10 log (1/X)	Average 輸出功 率 (dBm)	限制值 (dBm)	限制值 (11dBm+10 log B)
	(MHz)	6dB	99%	Chain 0	Chain 1	Chain 2				
UNII Band IV	5745	17.54	17.812	18.43	18.69	18.70	0.23	23.61	29.234 ^{註3}	N/A
	5785	16.93	17.767	18.68	18.71	18.73		23.71		
	5825	17.63	17.972	18.13	18.12	18.83		23.37		

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)

2. 此受測物是屬 Cyclic Delay Diversity (CDD)裝置，Direction gain= $G_{ANT} + \text{Array Gain}$

依據 FCC KDB 662911, 當天線數量小於 4 時，則 Array Gain=0, 故此產品 UNII Band I 最大 Direction gain=6.209dBi 大於 6dBi。限制值為 $24-(6.209-6)=23.791$ 。

3. 此受測物是屬 Cyclic Delay Diversity (CDD)裝置，Direction gain= $G_{ANT} + \text{Array Gain}$

依據 FCC KDB 662911, 當天線數量小於 4 時，則 Array Gain=0, 故此產品 UNII Band IV 最大 Direction gain=6.766dBi 大於 6dBi。即限制值為 $30-(6.766-6)=29.234$ 。

模式 802.11n-HT40	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	Chain 2				
UNII Band I	5190	45.00	36.760	12.86	12.84	12.58	0.26	17.79	23.791 ^{註2}	N/A
	5230	46.50	36.598	14.03	14.00	14.42		19.19		
模式 802.11n-HT40	測試頻率	發射頻寬(MHz)		Average輸出功率(dBm)			10 log (1/X)	Average 輸出功 率 (dBm)	限制值 (dBm)	限制值 (11dBm+10 log B)
	(MHz)	6dB	99%	Chain 0	Chain 1	Chain 2				
UNII Band IV	5775	35.77	36.202	18.26	18.25	18.76	0.26	23.46	29.234 ^{註3}	N/A
	5795	36.12	36.449	18.47	19.22	18.72		23.85		

模式 802.11ac- VHT80	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	Chain 2				
UNII Band I	5210	88.69	76.452	12.34	12.56	12.04	0.55	17.64	23.791 ^{註2}	N/A
模式 802.11ac- VHT80	測試頻率	發射頻寬(MHz)		Average輸出功率(dBm)			10 log (1/X)	Average 輸出功 率 (dBm)	限制值 (dBm)	限制值 (11dBm+10 log B)
	(MHz)	6dB	99%	Chain 0	Chain 1	Chain 2				
UNII Band IV	5775	71.93	75.520	18.92	18.87	18.41	0.55	24.06	29.237 ^{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)

2. 此受測物是屬 Cyclic Delay Diversity (CDD)裝置，Direction gain= $G_{ANT} + \text{Array Gain}$

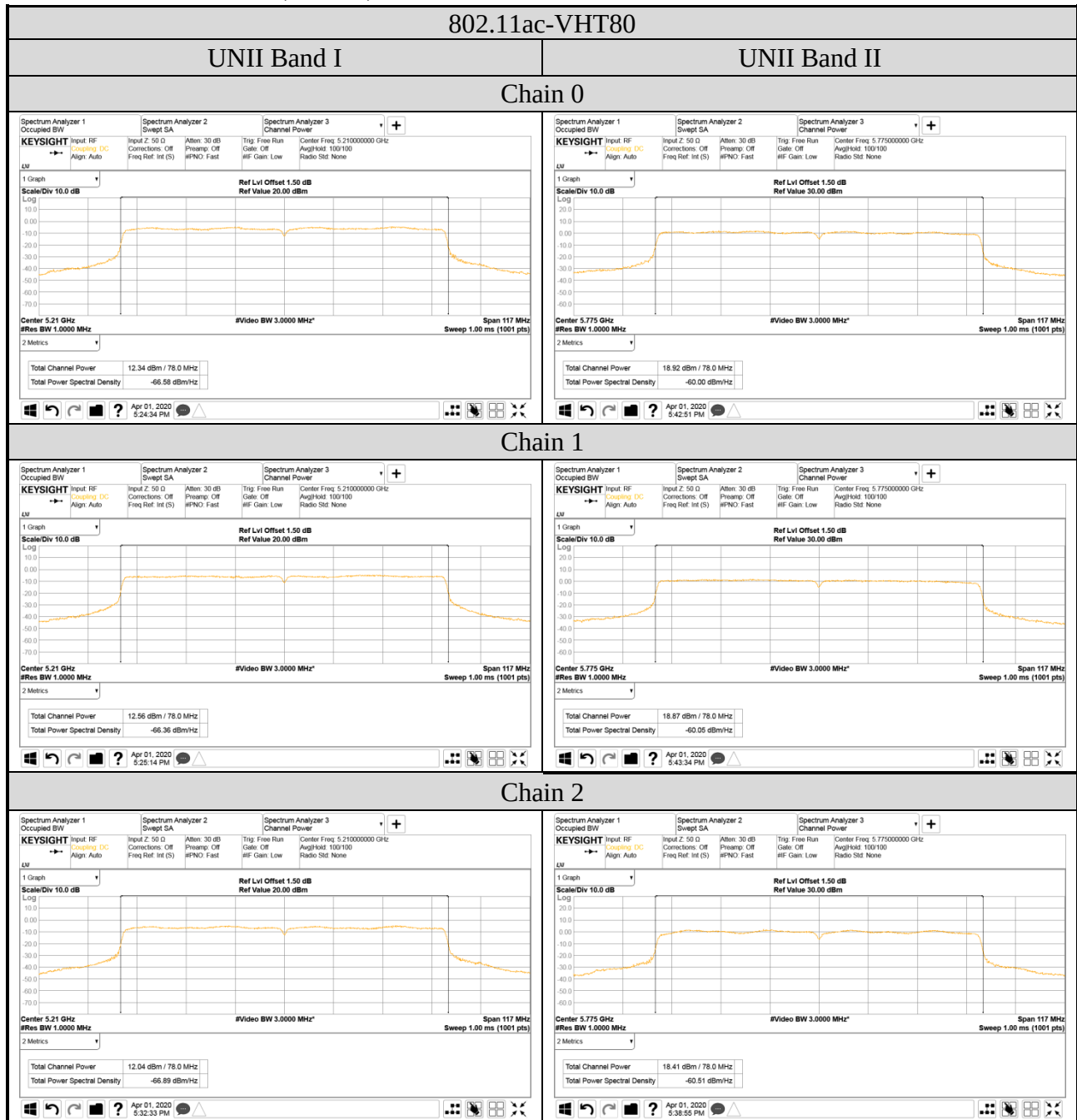
依據 FCC KDB 662911, 當天線數量小於 4 時, 則 Array Gain=0, 故此產品 UNII Band I 最大 Direction gain=6.209dBi 大於 6dBi。即限制值為 24-(6.209-6)=23.791。

3. 此受測物是屬 Cyclic Delay Diversity (CDD)裝置，Direction gain= $G_{ANT} + \text{Array Gain}$

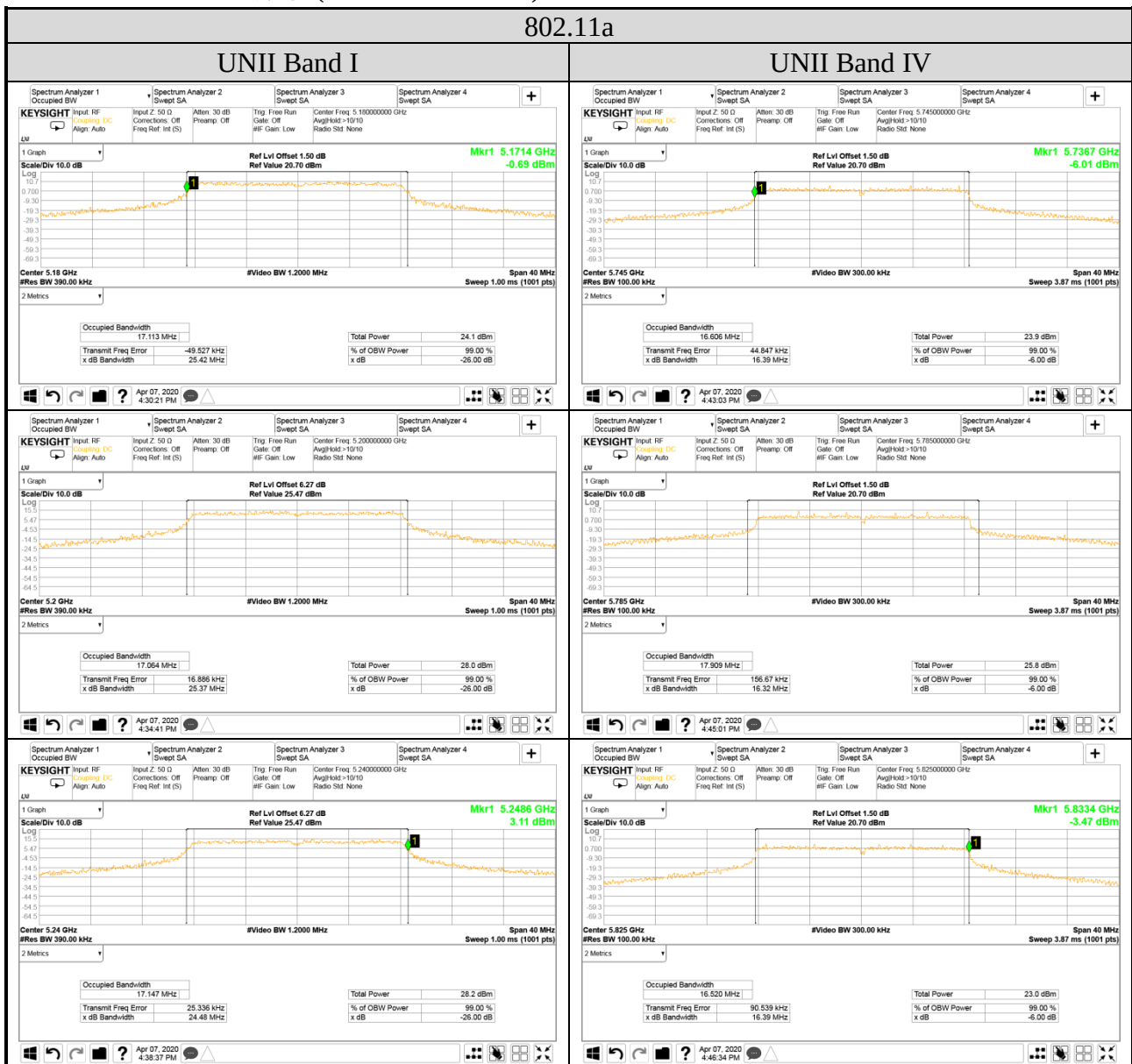
依據 FCC KDB 662911, 當天線數量小於 4 時, 則 Array Gain=0, 故此產品 UNII Band IV 最大 Direction gain=6.766dBi 大於 6dBi。即限制值為 30-(6.766-6)=29.234。

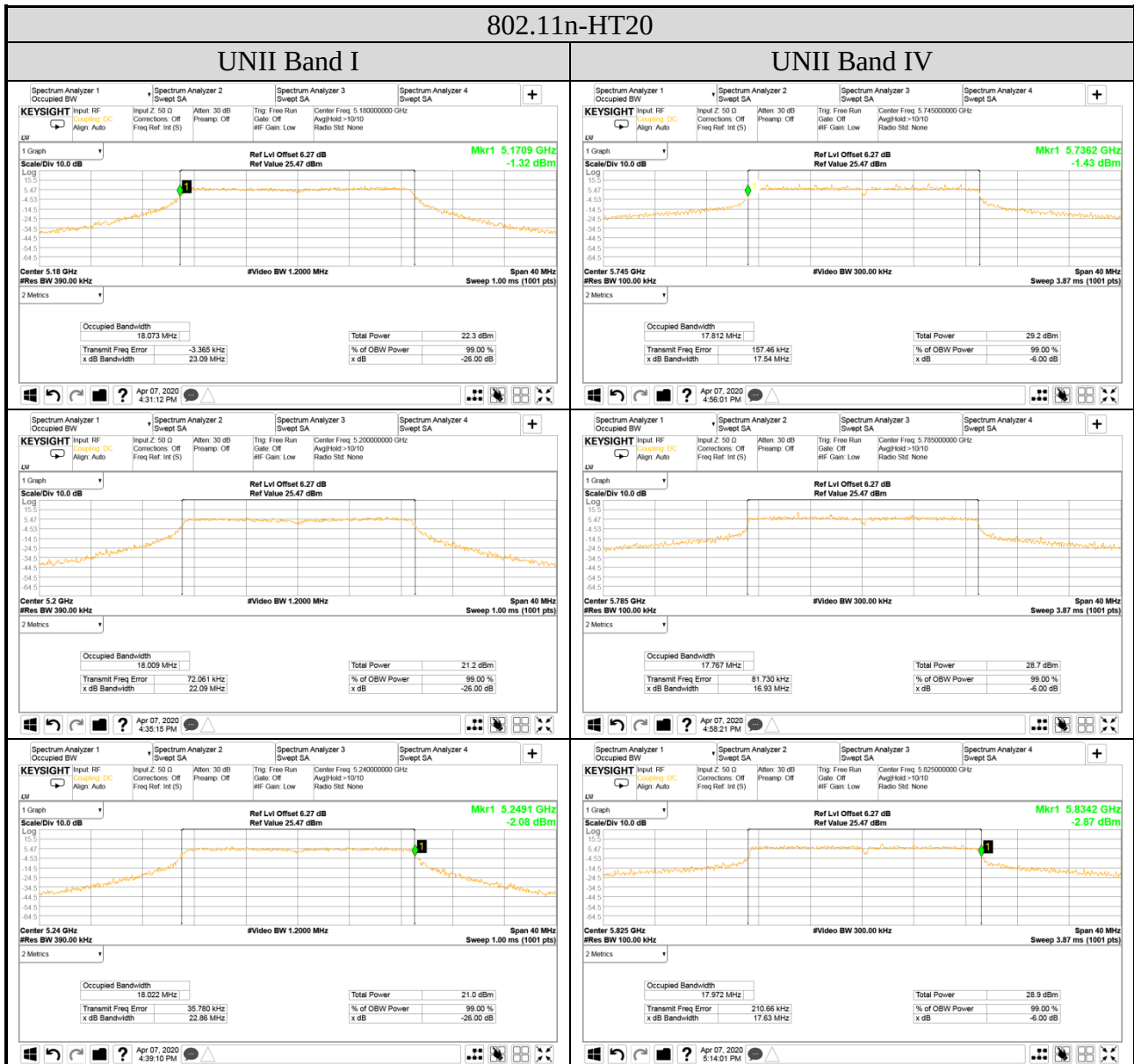
2.2. 最大輸出功率及 26dB/6dB 頻寬之量測圖

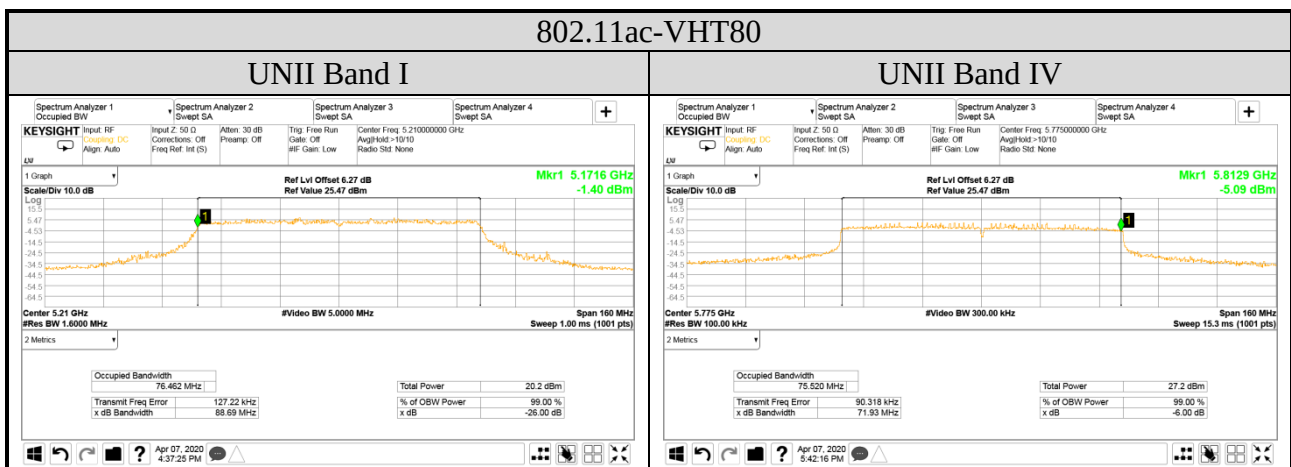
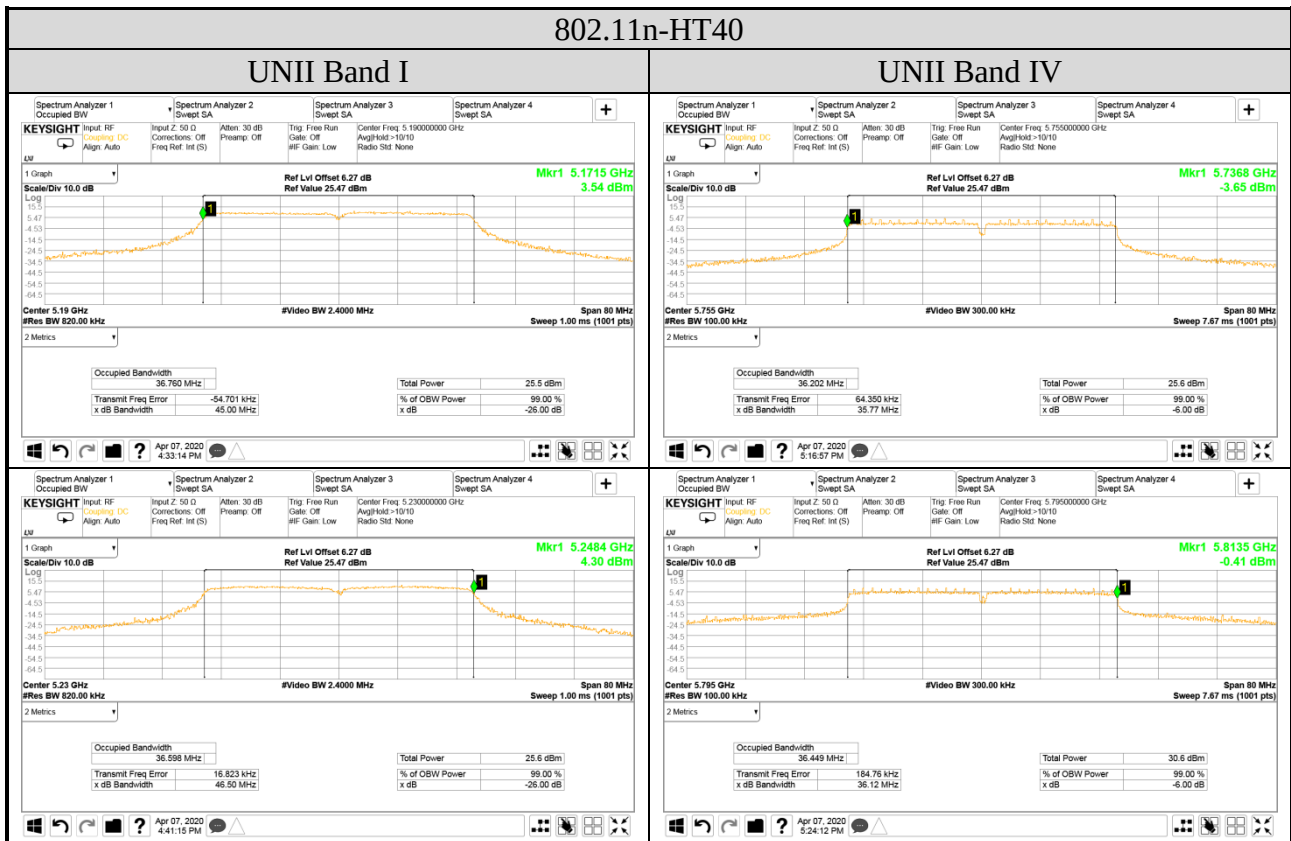
- 最大輸出功率(平均值)



● 26dB/6dB 頻寬 (UNII Band I & IV)







3. 峰值功率頻譜密度之量測

測試日期	2020/04/01~09	環境溫/濕度	20~21℃/52~64%
電纜損失	1.5dB	測試人員	Kuper Hsu
測試電壓	DC 3.3V (經 Jig 供電)	Duty Cycle	802.11a: 0.969 802.11n-HT20: 0.947 802.11n-HT40: 0.942 802.11ac-VHT80: 0.881
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			802.11a: 0 802.11n/ac: 4.77

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	6.693	--	10.791 dBm/MHz ^{註 2}
		5200	6.999	--	
		5240	6.855	--	
	IV ^{Note2}	5745	--	4.124	29.234dBm/500 kHz ^{註 3}
		5785	--	6.187	
		5825	--	4.247	
802.11n-HT20	I	5180	4.845	--	6.021 dBm/MHz ^{註 4}
		5200	4.723	--	
		5240	4.653	--	
	IV ^{Note}	5745	--	9.188	24.464dBm/500 kHz ^{註 5}
		5785	--	9.934	
		5825	--	10.883	
802.11n-HT40	I	5190	4.899	--	6.021 dBm/MHz ^{註 4}
		5230	4.785	--	
	IV ^{Note}	5755	--	6.835	24.464dBm/500 kHz ^{註 5}
		5795	--	7.295	
802.11ac-VHT80	I	5210	1.859	--	6.021 dBm/MHz ^{註 4}
	IV ^{Note}	5775	--	7.334	24.464dBm/500 kHz ^{註 5}

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

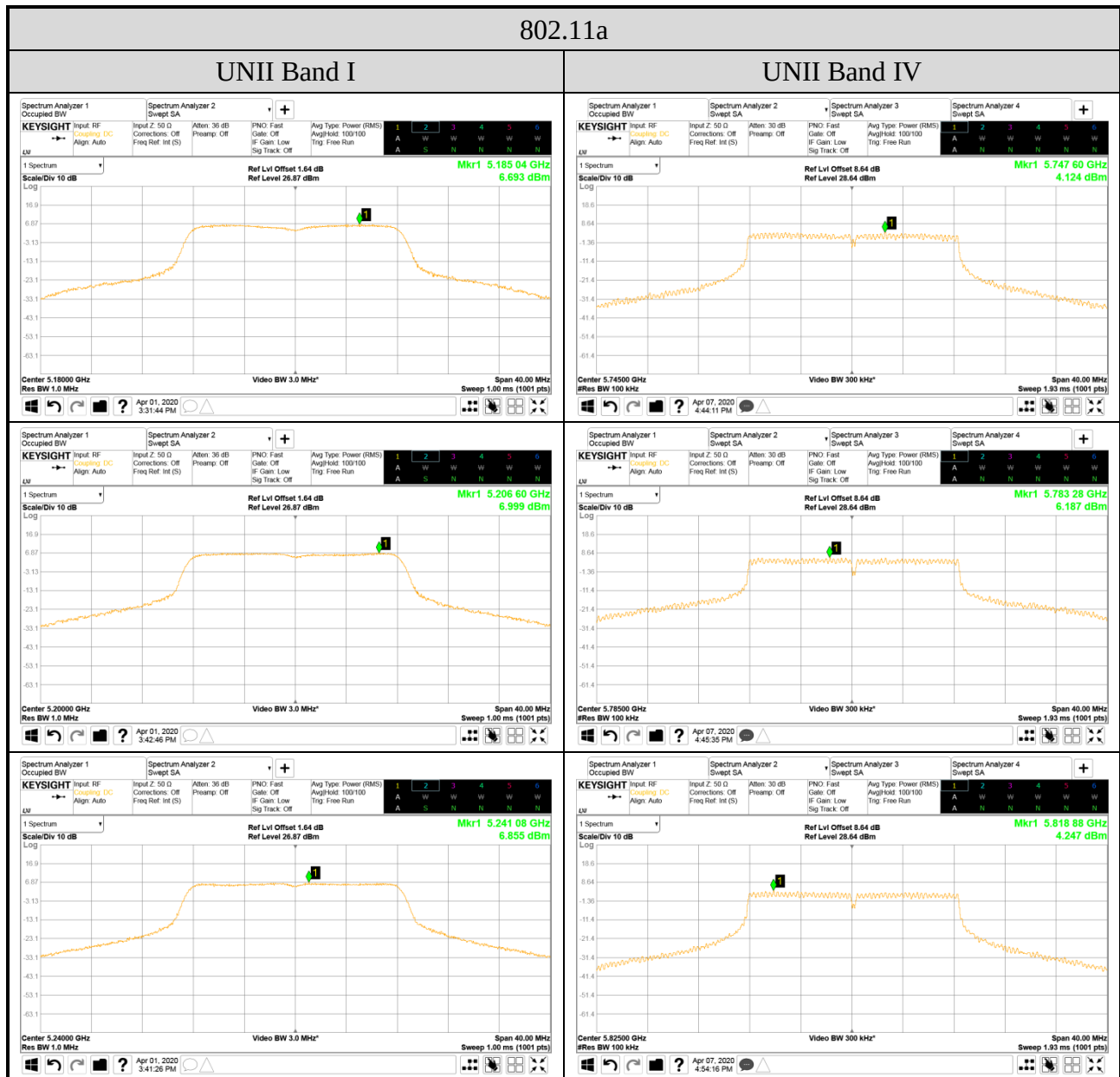
2. 此產品 UNII Band I 最大 Antenna Gain=6.209dBi 大於 6dBi。限制值為 11-(6.209-6)=10.791。

3. 此產品 UNII Band IV 最大 Antenna Gain=6.766dBi 大於 6dBi。限制值為 30-(6.766dBi-6dBi)=29.234。

4. 此受測物是屬 Cyclic Delay Diversity (CDD)裝置，Direction gain=G_{ANT}+Array Gain
依據 FCC KDB 662911, Array Gain=10 log (N_{ATN}/N_{SS})dB，此產品天線數量為 3，Array Gain=10 log (3/1)=4.77，最大 Direction gain=4.77+6.209dBi=10.979dBi 大於 6dBi。即限制值為 11-(10.979-6)=6.021。

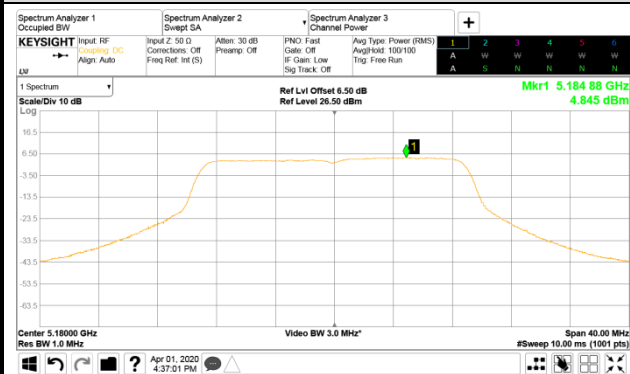
5. 此受測物是屬 Cyclic Delay Diversity (CDD)裝置，Direction gain=G_{ANT}+Array Gain
依據 FCC KDB 662911, Array Gain=10 log (N_{ATN}/N_{SS})dB，此產品天線數量為 3，Array Gain=10 log (3/1)=4.77，最大 Direction gain=4.77+6.766dBi=11.536dBi 大於 6dBi。即限制值為 30-(11.536-6)=24.464。

3.2. 峰值功率頻譜密度之量測圖

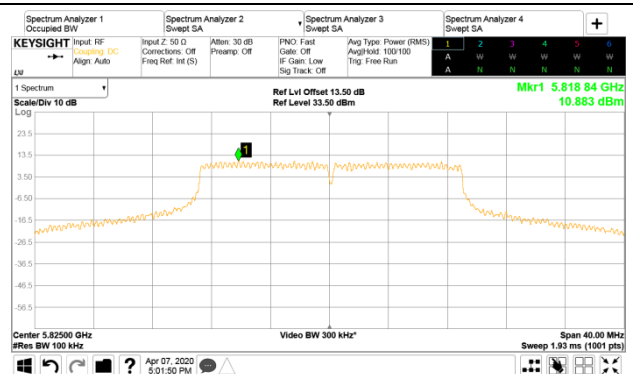
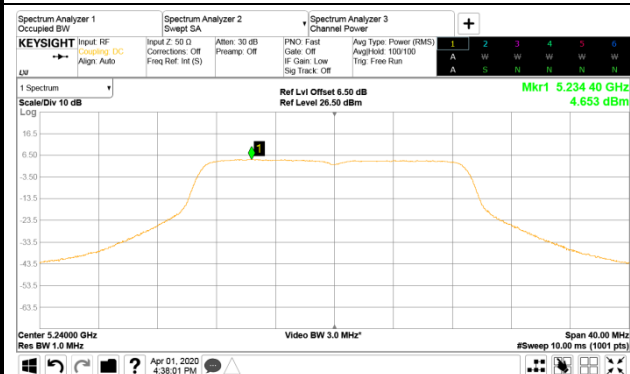
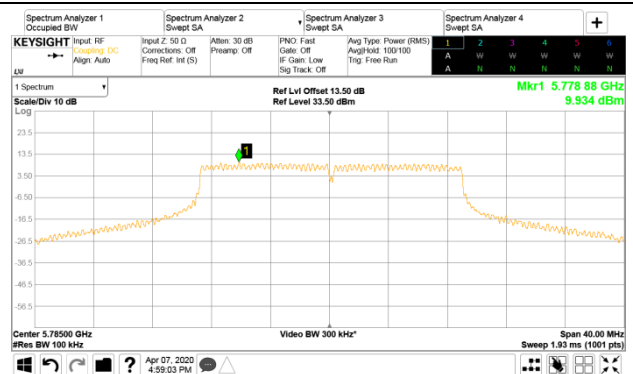
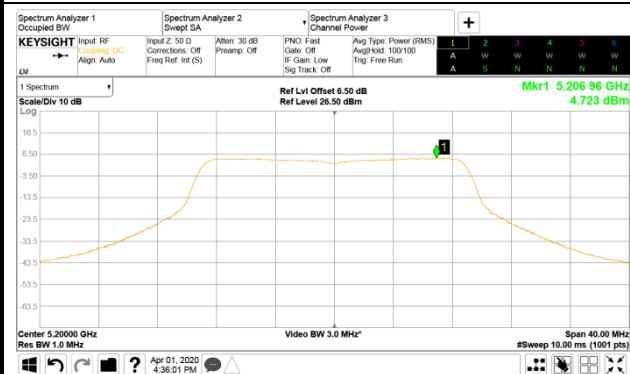
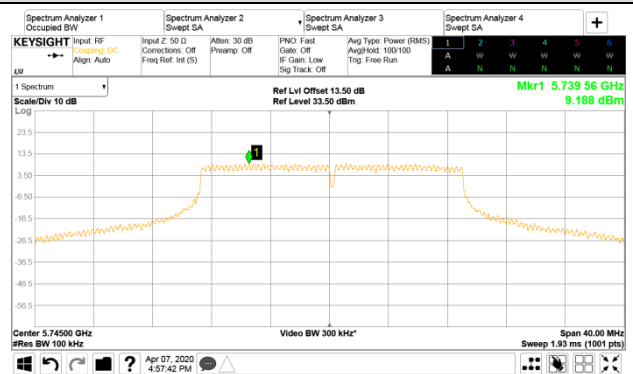


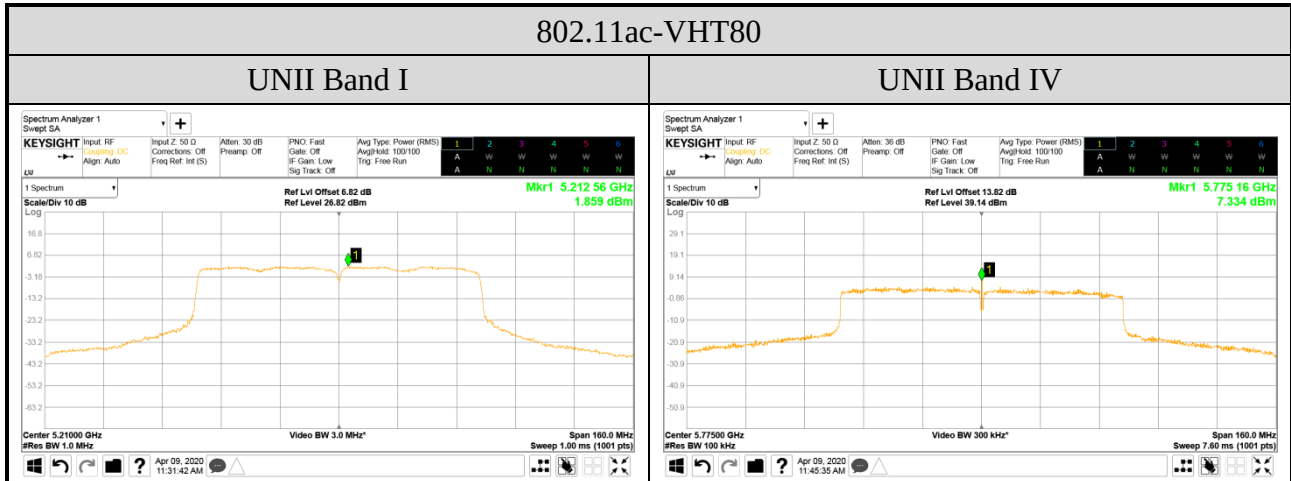
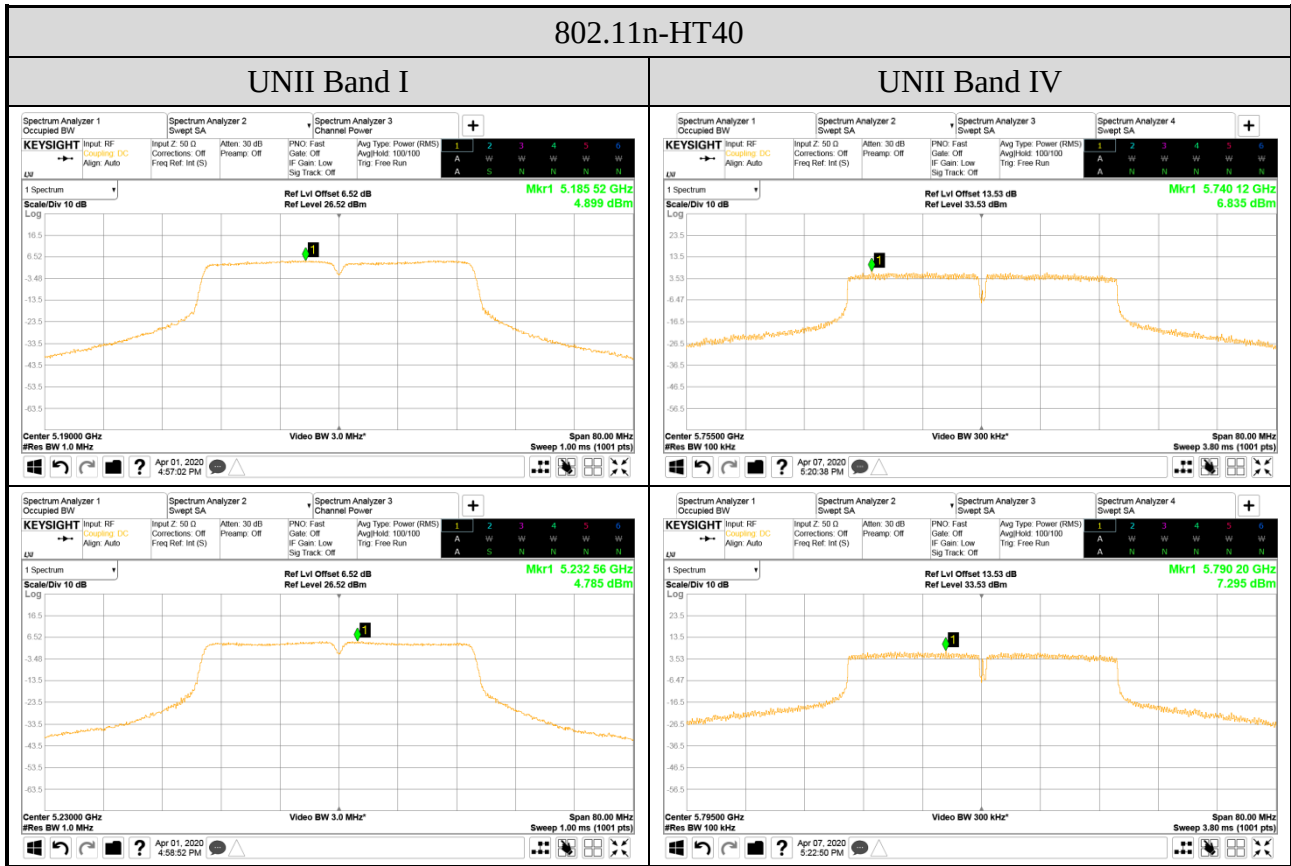
802.11n-HT20

UNII Band I



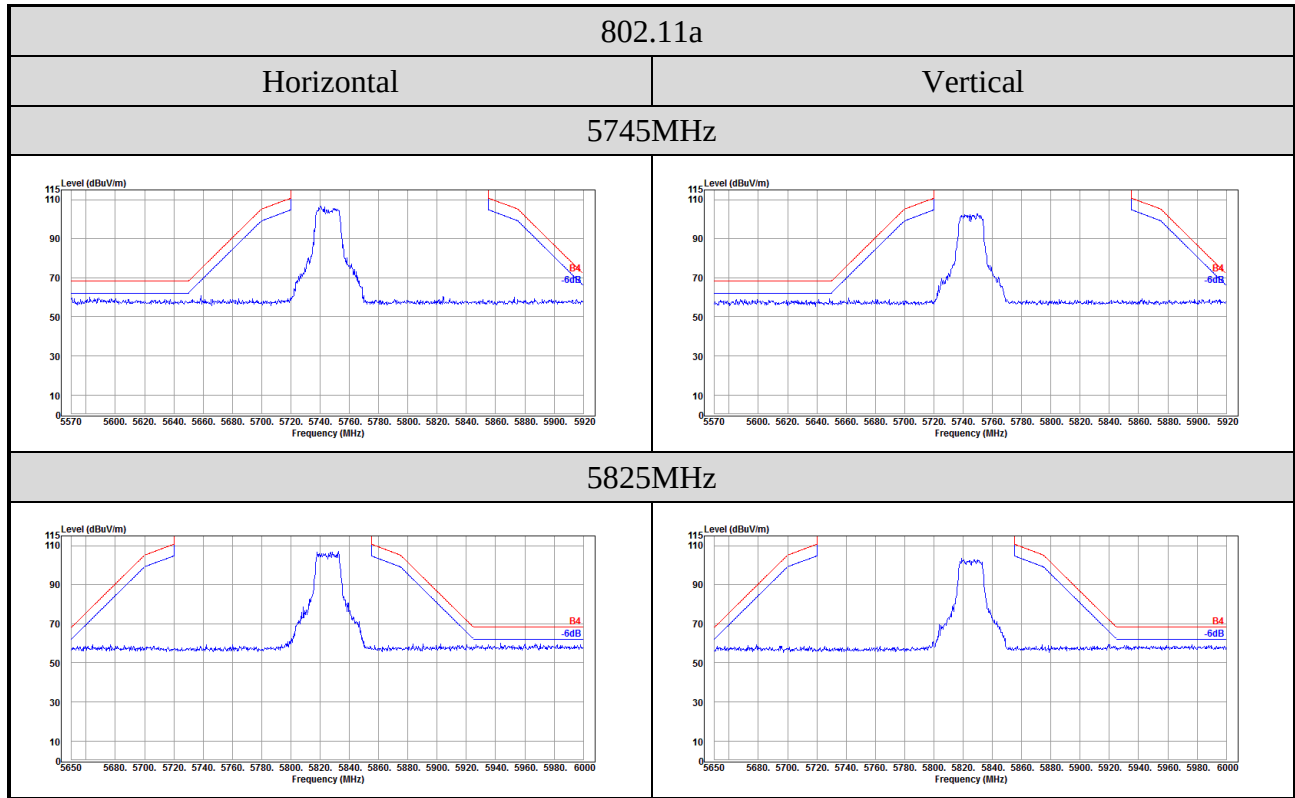
UNII Band IV

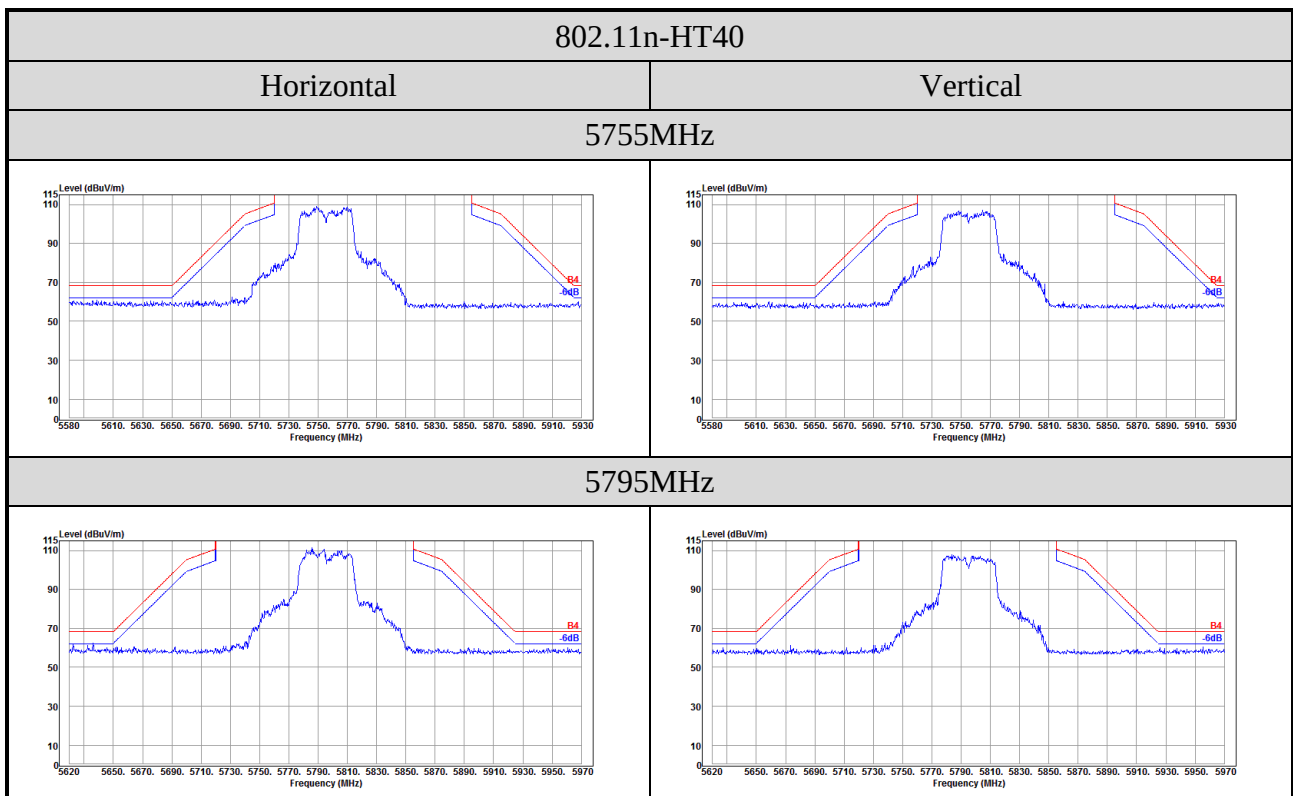
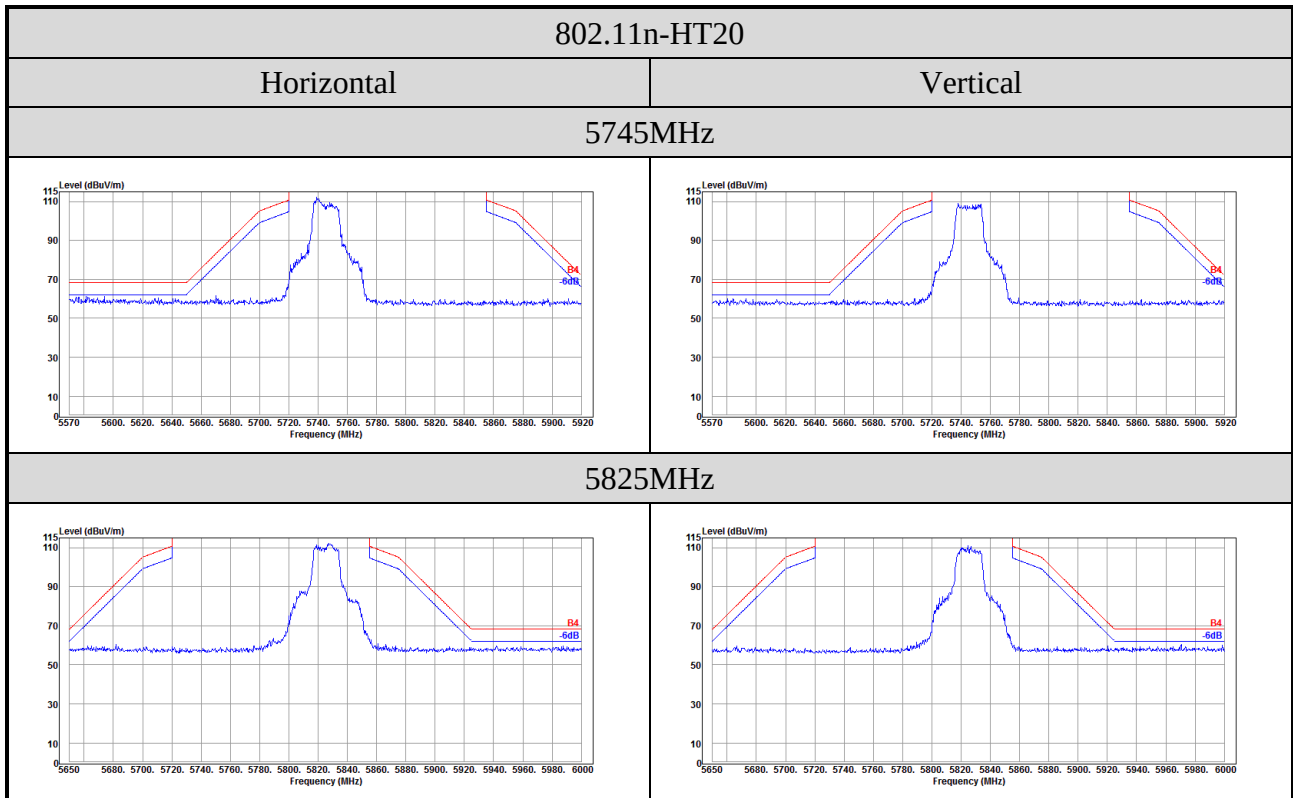


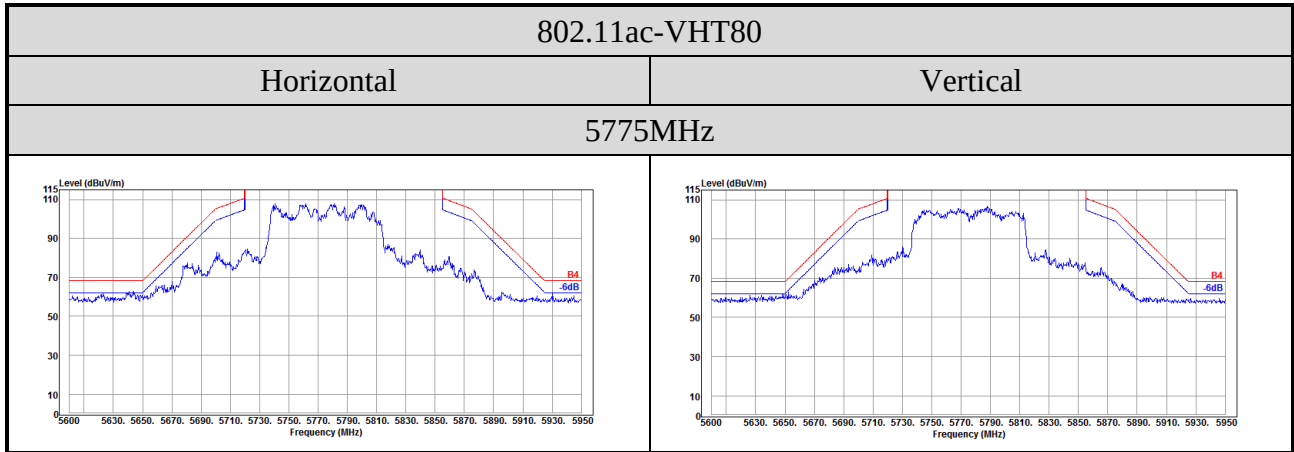


4. 頻帶邊緣之 RF 發射之量測

測試日期	2020/04/01~09	環境溫/濕度	20~21°C/52~64%
電纜損失	---	測試人員	Kuper Hsu
測試電壓	DC 3.3V (經 Jig 供電)		







5. 電波暴露量之量測

測試日期	2020/04/01	環境溫/濕度	20°C/52%
電纜損失	1.5dB	測試人員	Kuper Hsu
測試電壓	DC 3.3V (經 Jig 供電)		

距離人體(r):	20	cm	
最大發射功率(P):	24.06	dBm	= 254.683 mW
最大天線增益(G):	6.766	dB	= 4.749 Numerical
MPE (S) = (P*G) / (4* π *r ²) =	0.2406		mW/cm ²
註：1. 最大發射功率係指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：0.2406 mW/cm ²			

註:此受測物是屬 Cyclic Delay Diversity (CDD)裝置，Direction gain=G_{ANT}+Array Gain
 依據 FCC KDB 662911，當天線數量小於 4 時，則 Array Gain=0，故此產品 UNII Band IV 最大 Direction gain=6.766dBi。