

2. 最大輸出功率及 26dB/6dB 頻寬之量測

測試日期	2020/04/29	環境溫/濕度	24°C/56%
電纜損失	1.5dB	測試人員	Kuper Hsu
測試電壓	DC 5V (經 USB 連接筆記型電腦供電)	Duty Cycle	1

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	16.582	20.17	14.09	14.17	N/A	14.17	24	N/A
	5200	16.587	20.29	14.04	14.26		14.26		
	5240	16.594	20.38	13.91	14.13		14.13		
UNII Band II	5260	16.578	19.97	13.87	14.07		14.07	24	23.20
	5300	16.576	20.04	13.69	13.83		13.83		23.19
	5320	16.592	20.14	13.54	13.92		13.92		23.20
UNII Band III	5500	16.542	20.23	14.41	14.61		14.61		23.19
	5580	16.564	19.48	13.63	14.46		14.46		23.19
	5700	16.523	20.06	13.51	14.31		14.31		23.18
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				
UNII Band IV	5745	16.460	16.57	14.52	14.04	N/A	14.52	30	N/A
	5785	16.466	16.57	13.89	14.63		14.63		
	5825	16.437	16.51	14.13	14.50		14.50		

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)

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)	26dB	99%	Chain 0	Chain 1				
UNII Band I	5180	17.689	21.07	12.21	12.41	N/A	15.32	24	N/A
	5200	17.685	21.00	12.25	12.50		15.39		
	5240	17.668	20.84	12.19	12.37		15.29		
UNII Band II	5260	17.667	20.77	12.07	12.44		15.27		23.47
	5300	17.677	20.51	12.88	12.53		15.72		23.47
	5320	17.667	20.80	12.76	12.63		15.71		23.47
UNII Band III	5500	17.687	20.90	13.82	13.36		16.61		23.48
	5580	17.674	20.96	13.77	13.58		16.69		23.47
	5700	17.671	20.74	13.72	13.36		16.55		23.47
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				
UNII Band IV	5745	17.615	17.67	13.56	13.25	N/A	16.42	30	N/A
	5785	17.617	17.67	13.38	13.09		16.25		
	5825	17.606	17.72	13.48	13.48		16.49		

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)	26dB	99%	Chain 0	Chain 1				
UNII Band I	5190	36.459	42.46	11.77	12.09	N/A	14.94	24	N/A
	5230	36.392	42.68	11.52	11.99		14.77		
UNII Band II	5270	36.371	41.99	11.37	11.96		14.69		26.61
	5310	36.433	42.41	11.37	11.57		14.48		26.61
UNII Band III	5510	36.340	41.75	12.57	12.62		15.61		26.60
	5550	36.404	42.62	12.37	12.76		15.58		26.61
	5670	36.397	41.81	11.82	12.23		15.04		26.61
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				
UNII Band IV	5755	36.210	36.55	11.67	12.01	N/A	14.85	30	N/A
	5795	36.228	36.55	11.56	11.83		14.71		

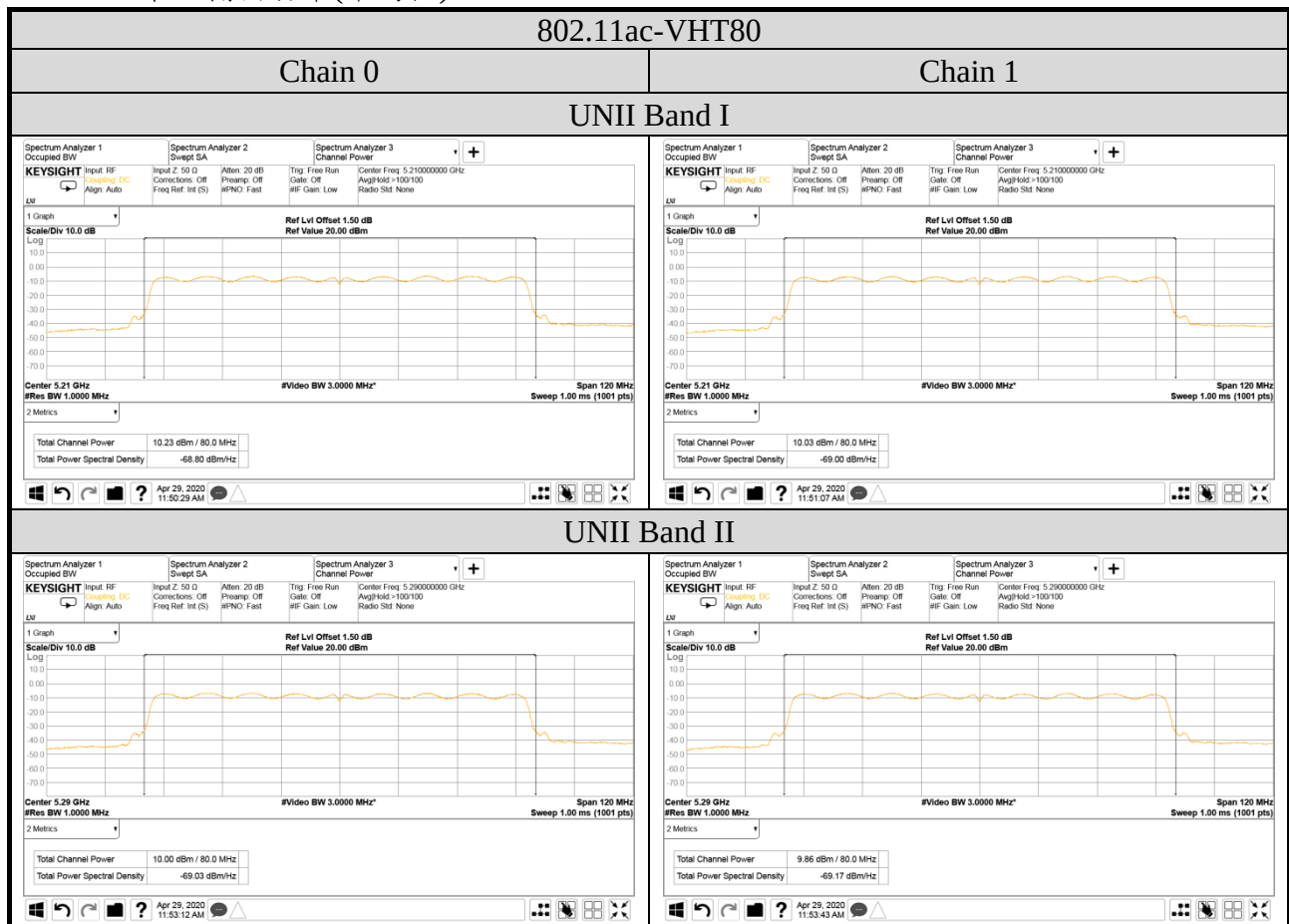
註：當 Duty cycle<98%，最大輸出功率必需要加上 duty cycle factor 10log(1/x)。
(x=duty cycle, B=26dB 發射頻寬)

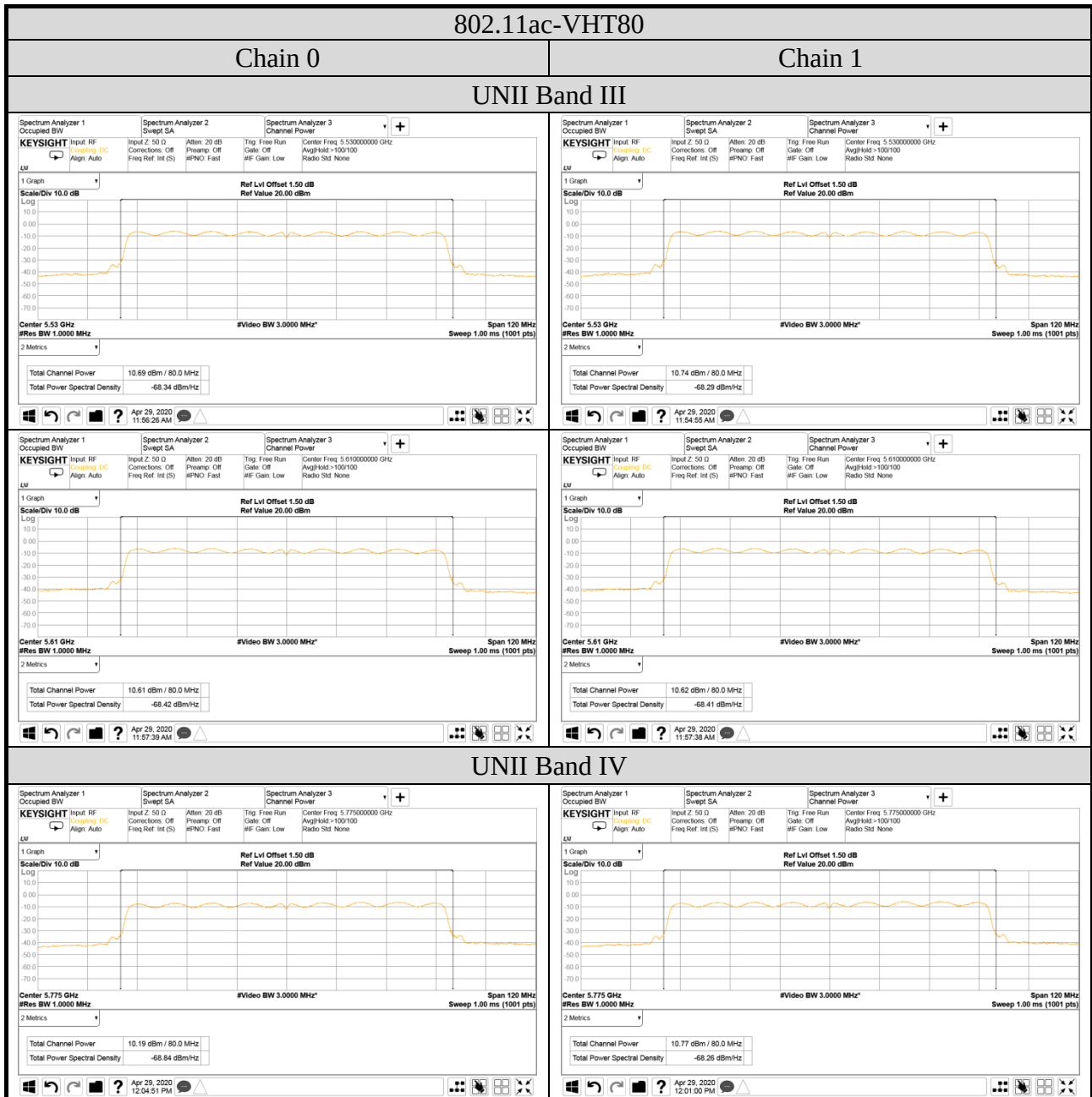
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	(MHz)	26dB	99%	Chain 0	Chain 1				
UNII Band I	5210	75.680	82.74	10.23	10.03	N/A	13.14	24	N/A
UNII Band II	5290	75.751	81.99	10.00	9.86		12.94		29.79
UNII Band III	5530	75.729	82.58	10.69	10.74		13.73		29.79
	5610	75.712	82.47	10.61	10.62		13.63		29.79
模式 802.11ax-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				
UNII Band IV	5775	75.556	76.48	10.19	10.77	N/A	13.50	30	N/A

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)

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)

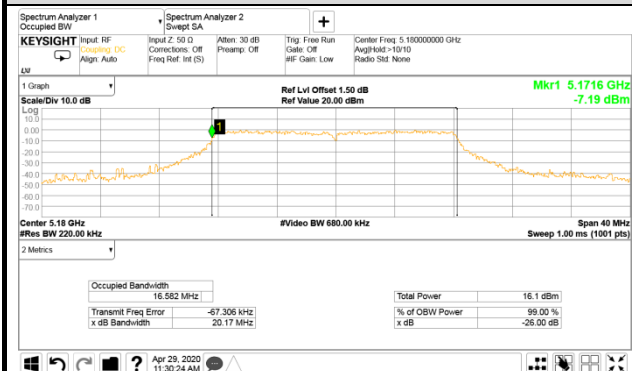




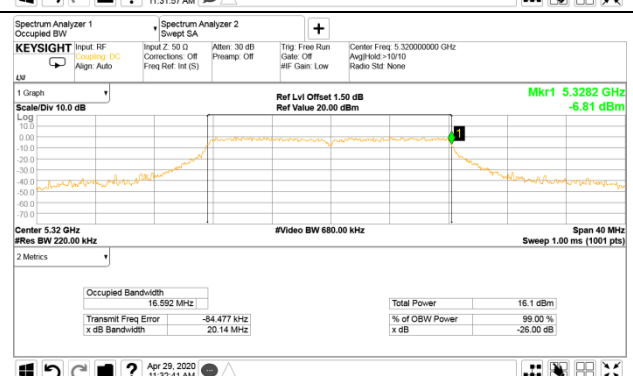
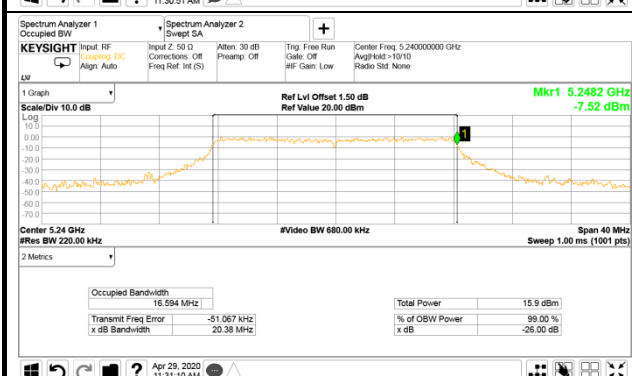
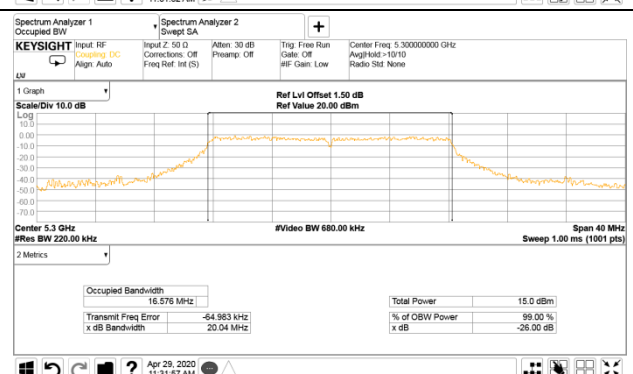
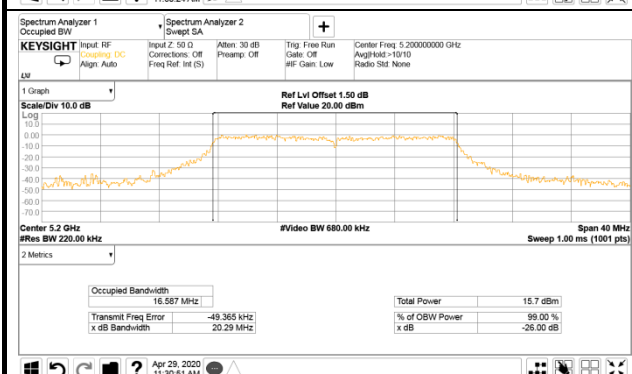
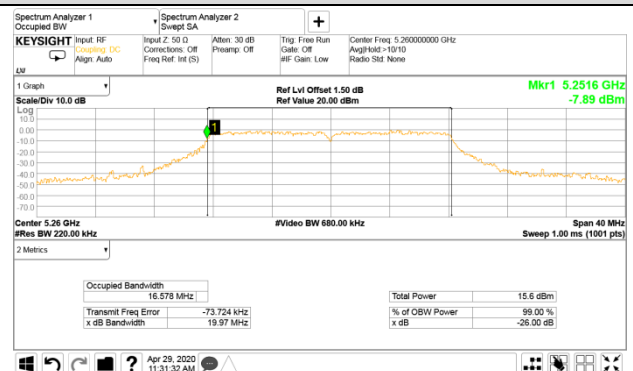
● 26dB 頻寬 (UNII Band I~III)

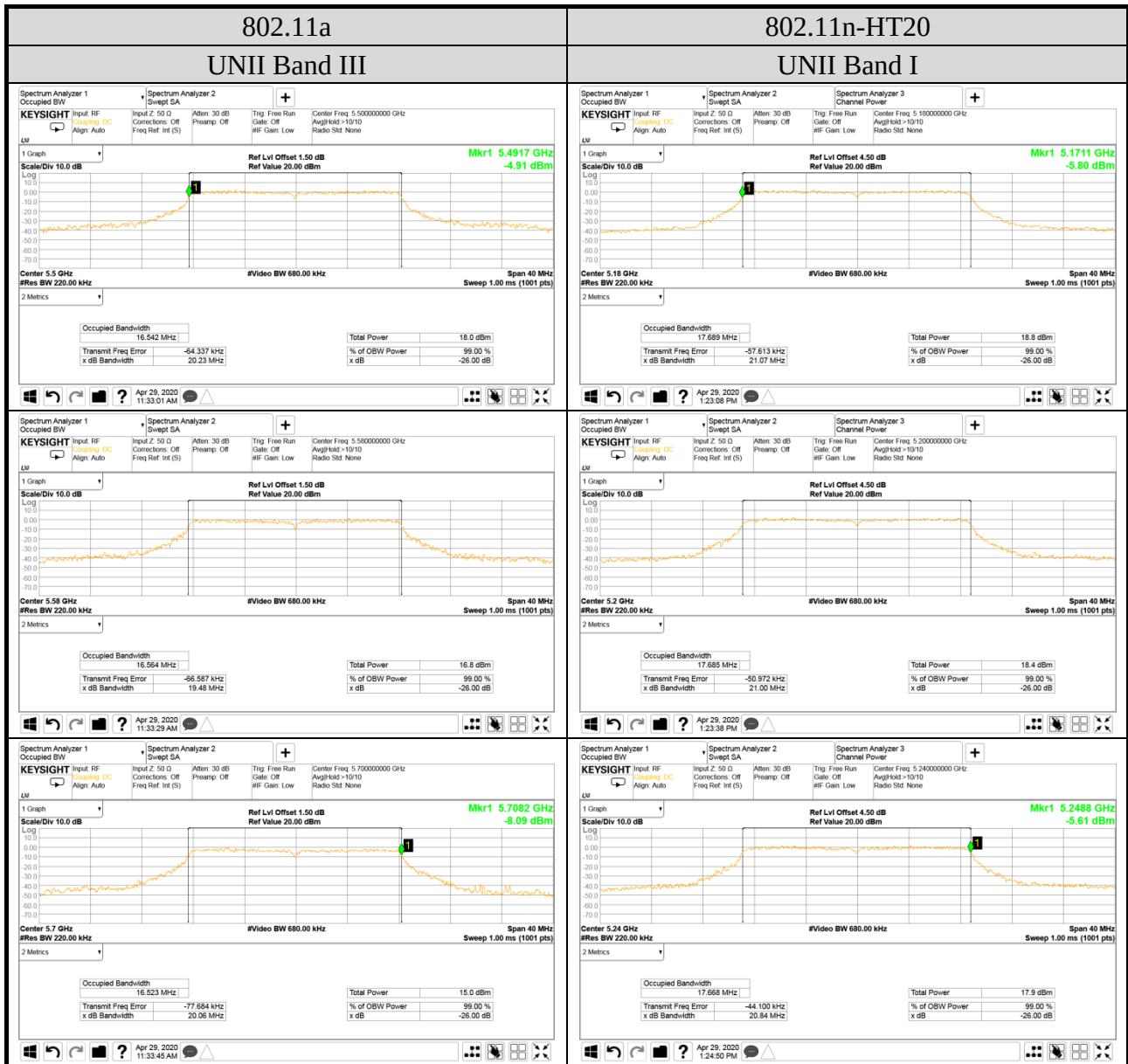
802.11a

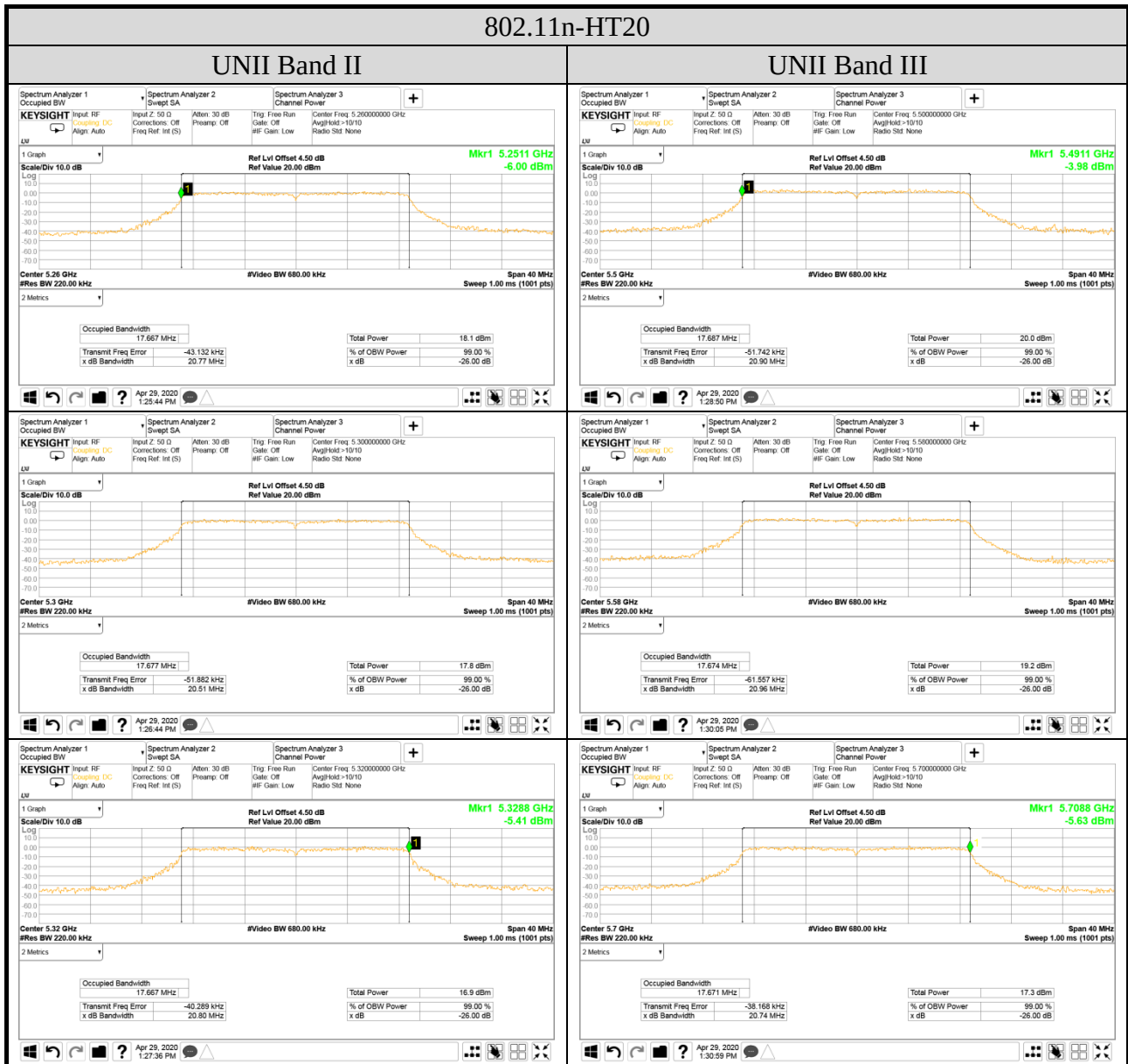
UNII Band I



UNII Band II

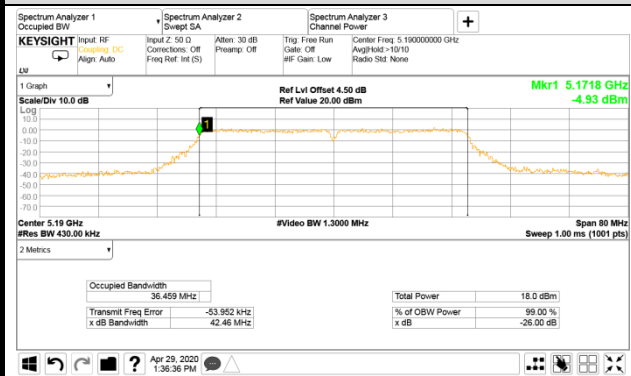




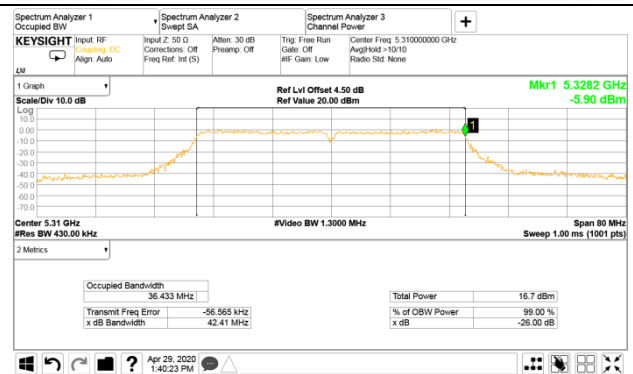
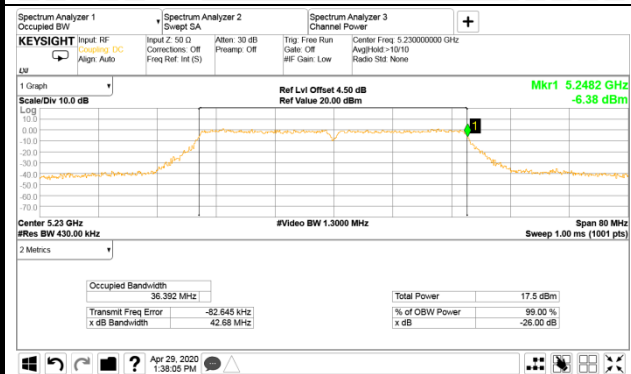
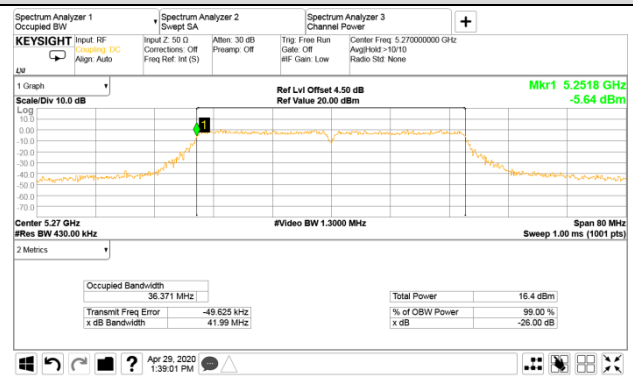


802.11n-HT40

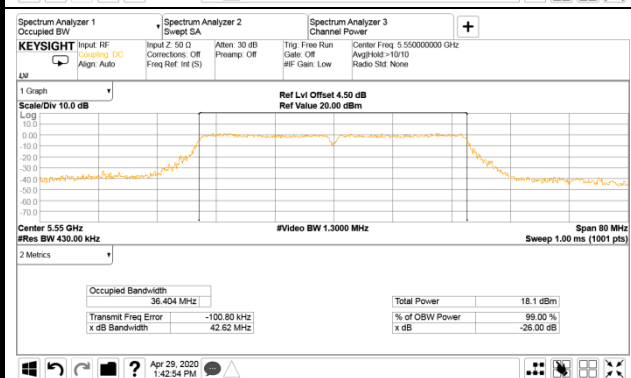
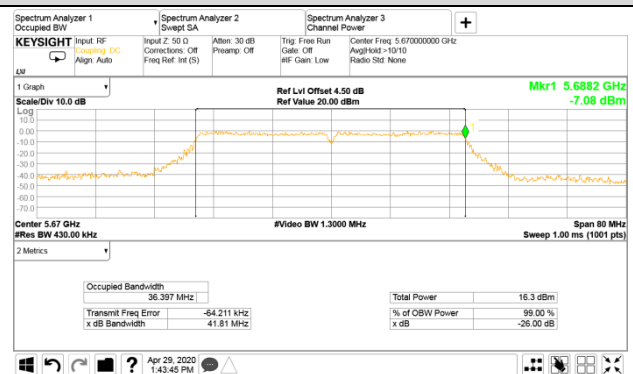
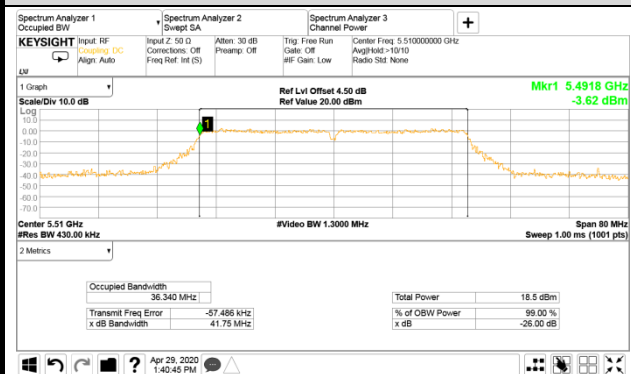
UNII Band I

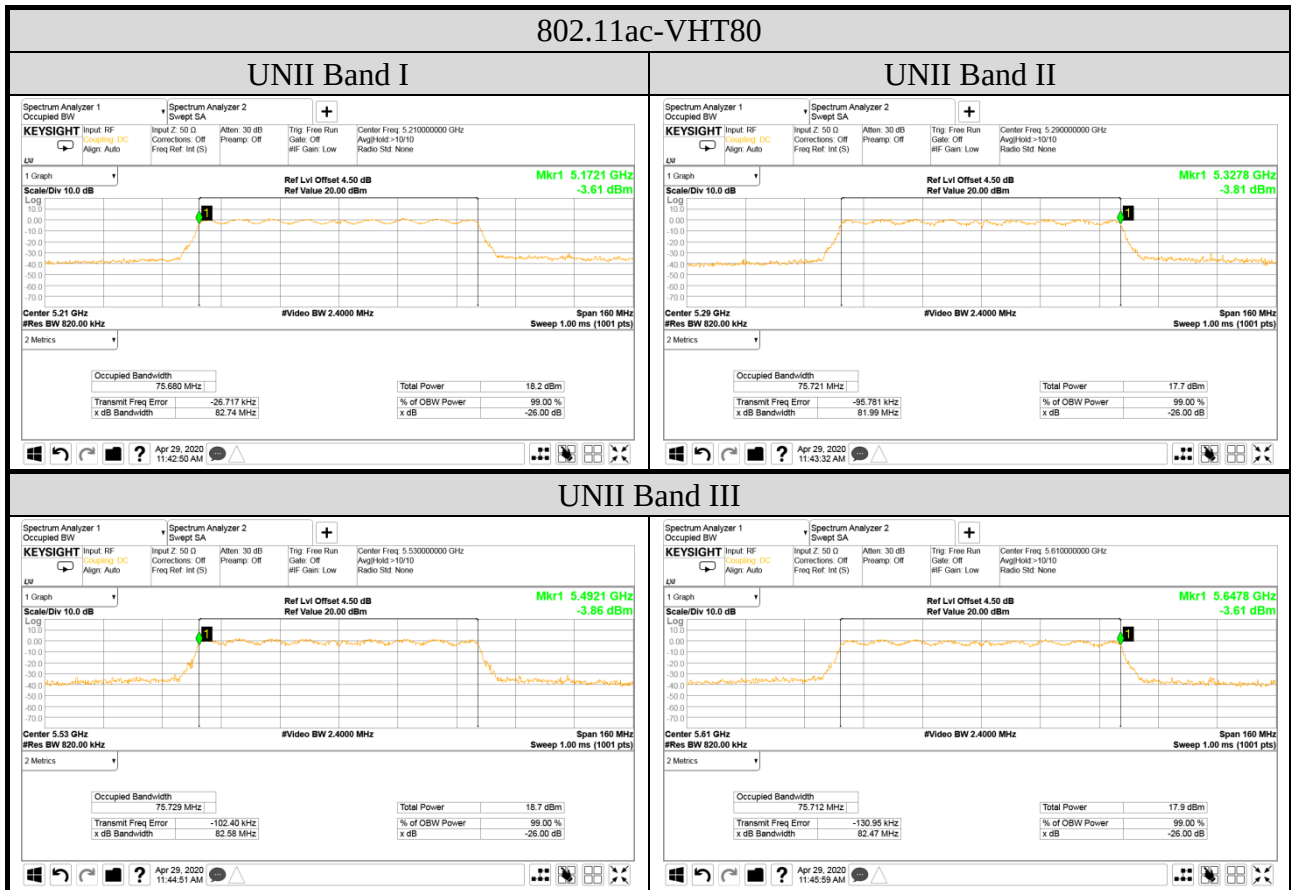


UNII Band II

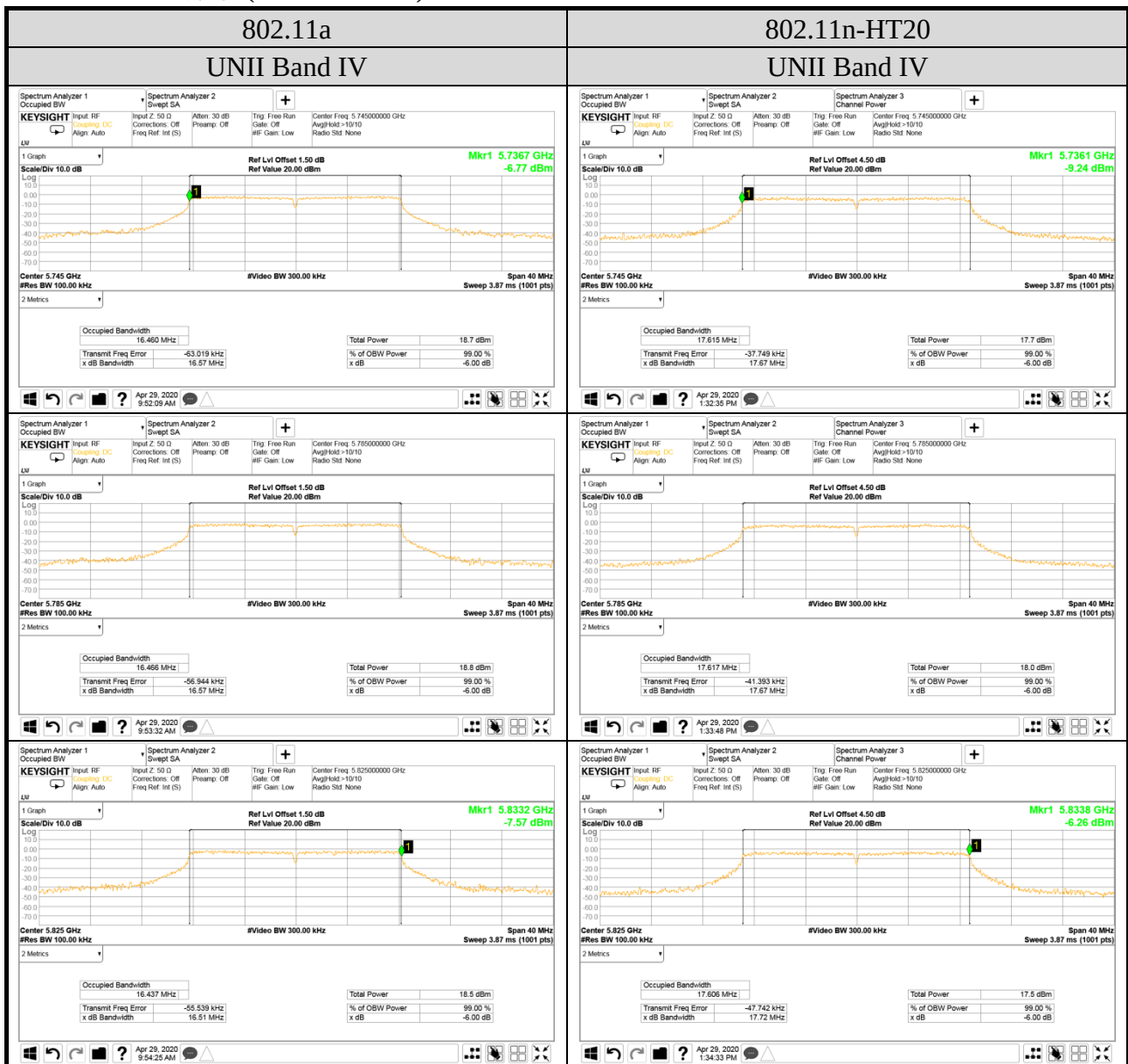


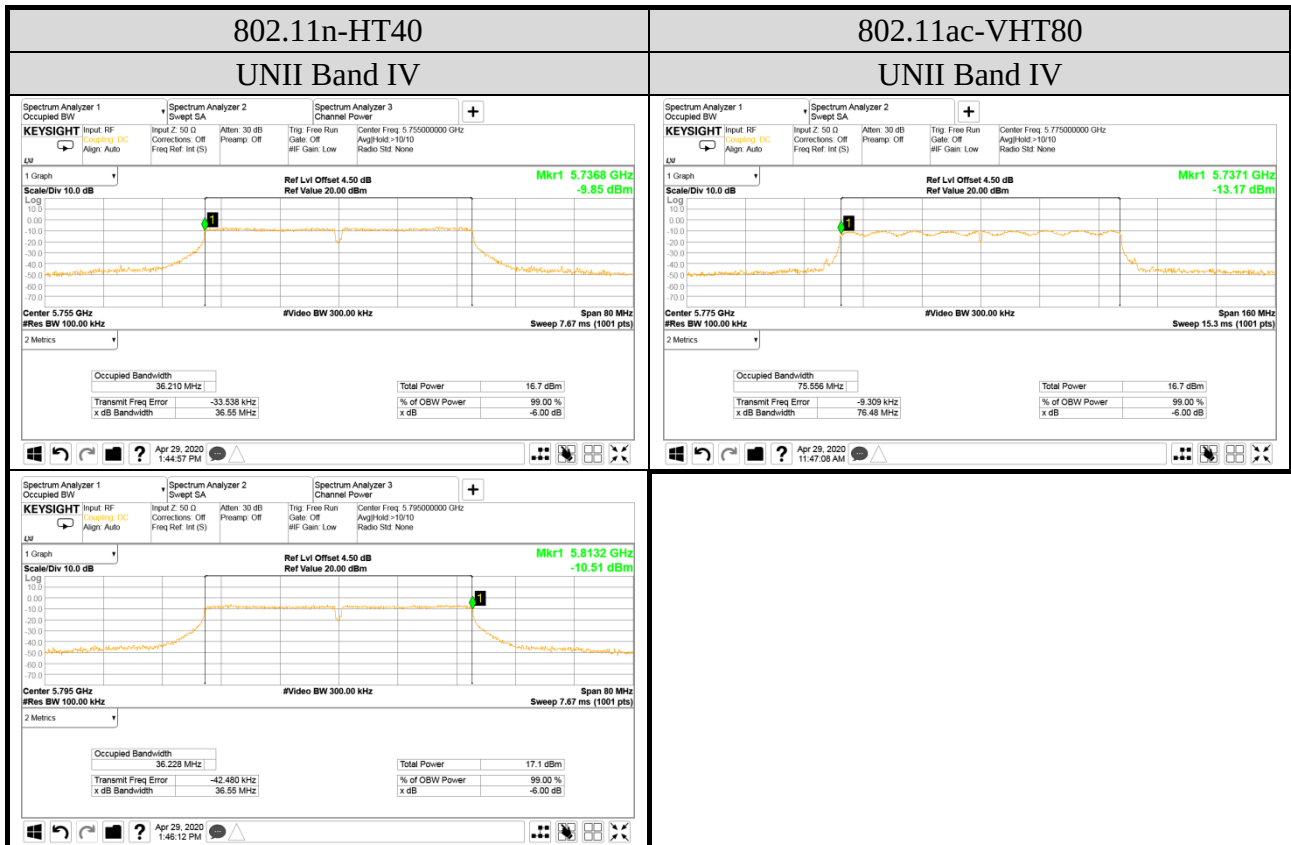
UNII Band III





● 6dB 頻寬 (UNII Band IV)





3. 峰值功率頻譜密度之量測

測試日期	2020/04/29	環境溫/濕度	24°C/56%
電纜損失	1.5dB	測試人員	Kuper Hsu
測試電壓	DC 5V (經 USB 連接筆記型電腦供電)	Duty Cycle	1
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

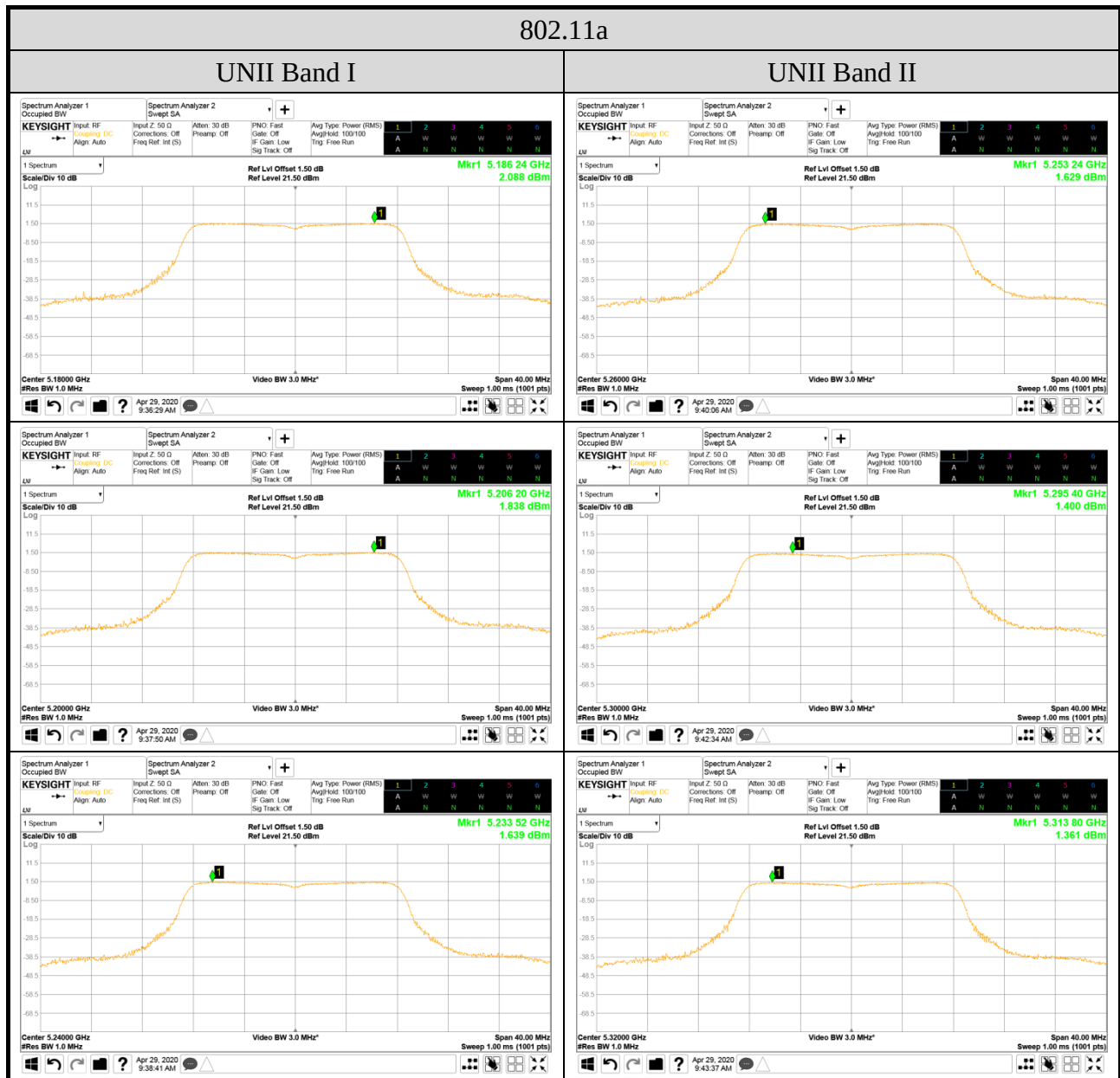
模式	UNII Band	測試頻率(MHz)	峰值功率頻譜密度		限制值
			(dBm/1MHz)	(dBm/500kHz)	
802.11a	I	5180	2.088	--	11dBm/MHz
		5200	1.838	--	
		5240	1.639	--	
	II	5260	1.629	--	
		5300	1.400	--	
		5320	1.361	--	
	III	5500	3.761	--	
		5580	3.046	--	
		5700	1.840	--	
	IV ^{Note2}	5745	--	-0.388	30dBm/500 kHz
		5785	--	0.010	
		5825	--	0.409	
802.11n- HT20	I	5180	1.635	--	11dBm/MHz
		5200	1.555	--	
		5240	1.664	--	
	II	5260	1.542	--	
		5300	1.217	--	
		5320	1.024	--	
	III	5500	3.076	--	
		5580	2.138	--	
		5700	1.006	--	
	IV ^{Note}	5745	--	-1.291	30dBm/500 kHz
		5785	--	-1.108	
		5825	--	-0.925	

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

模式	UNII Band	測試頻率(MHz)	峰值功率頻譜密度		限制值
			(dBm/1MHz)	(dBm/500kHz)	
802.11n- HT40	I	5190	-2.617	--	11dBm/MHz
		5230	-2.616	--	
	II	5270	-3.443	--	
		5310	-3.367	--	
	III	5510	-1.561	--	
		5550	-2.070	--	
		5670	-3.343	--	
	IV ^{Note}	5755	--	-5.627	30dBm/500 kHz
		5795	--	-5.760	
802.11ac- VHT80	I	5210	-5.883	--	11dBm/MHz
	II	5290	-5.697	--	
	III	5530	-4.275	--	
		5610	-5.028	--	
	IV ^{Note}	5775	--	-9.065	30dBm/500 kHz

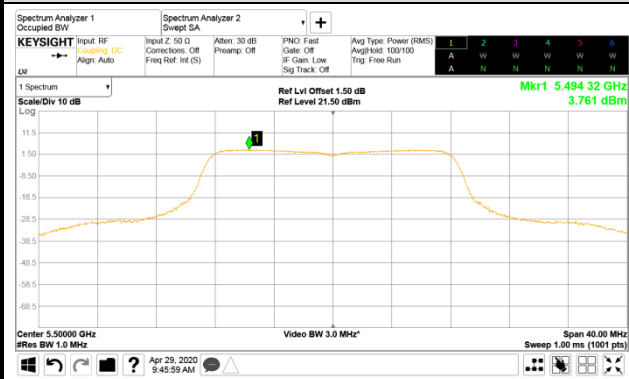
註: BWCF 6.99dB (100kHz converted to 500kHz) has been included in the test result.

3.2. 峰值功率頻譜密度之量測圖

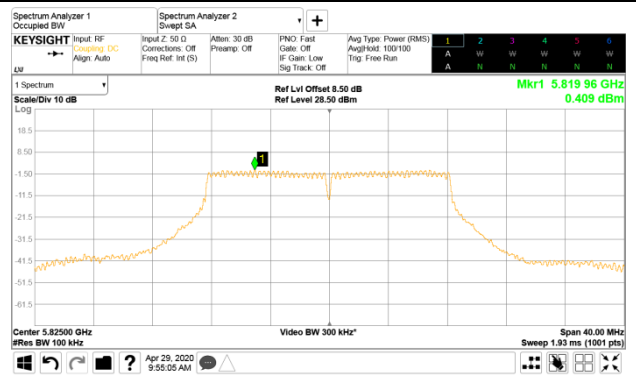
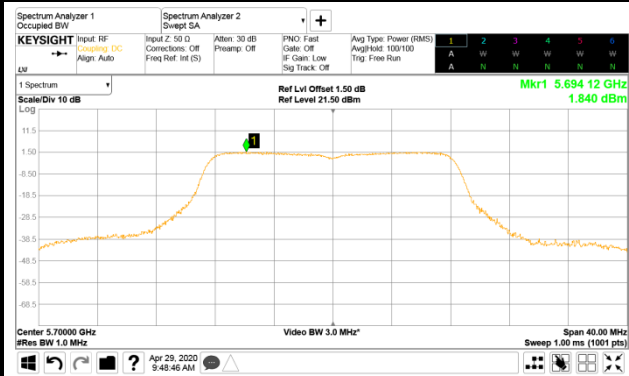
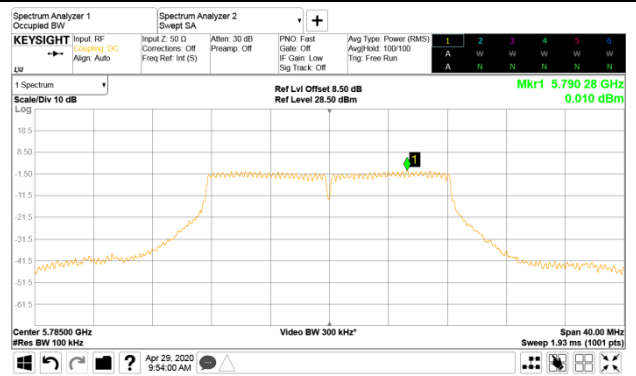
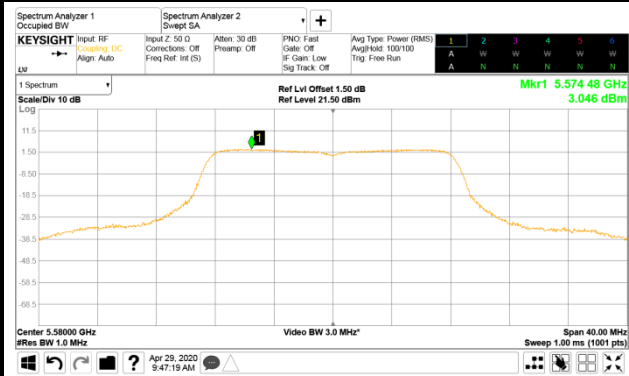
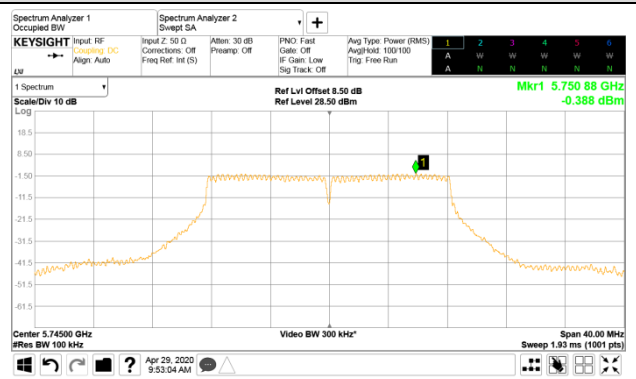


802.11a

UNII Band III

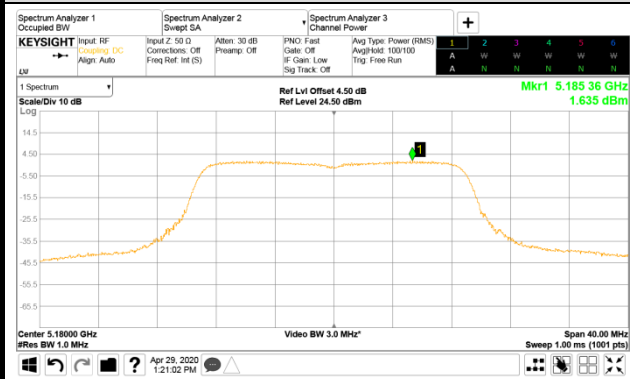


UNII Band IV

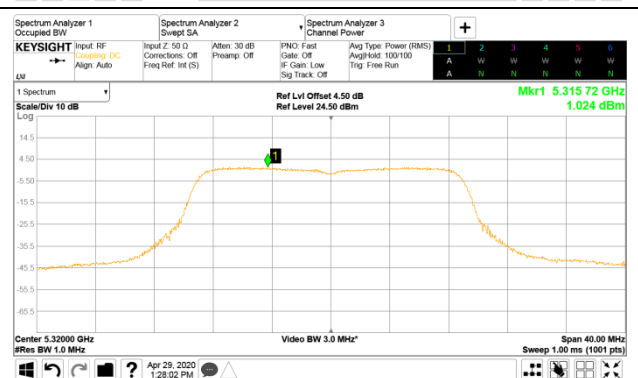
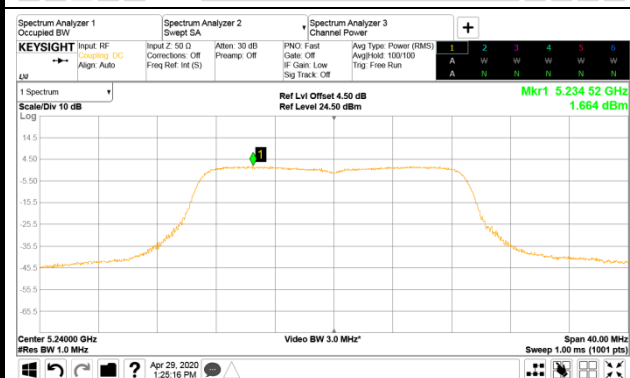
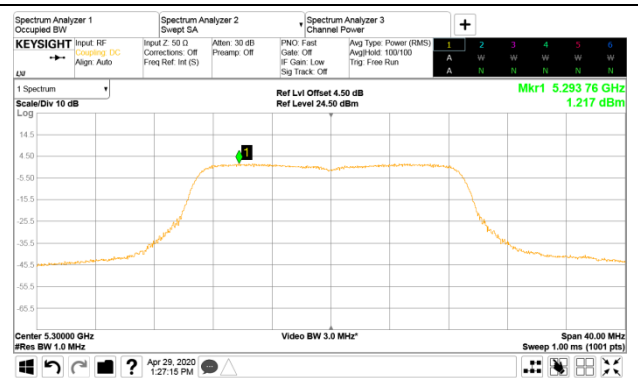
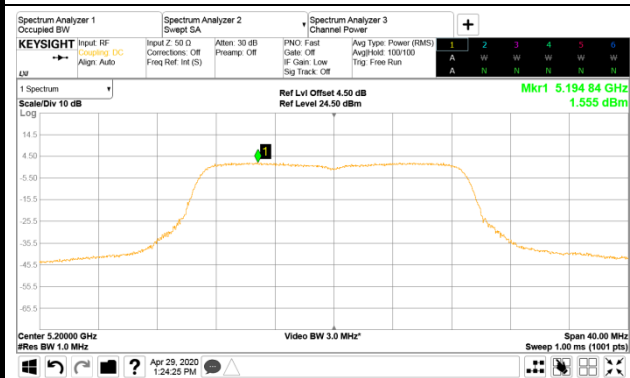
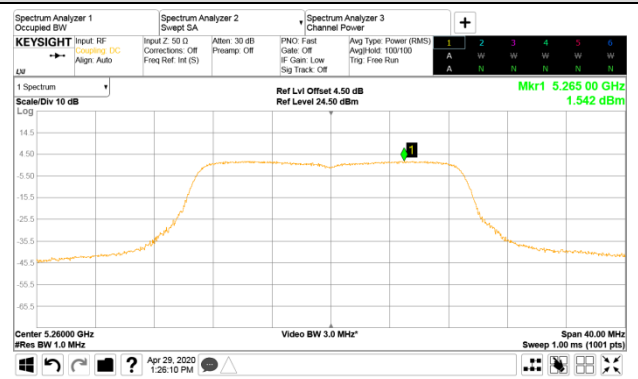


802.11n-HT20

UNII Band I

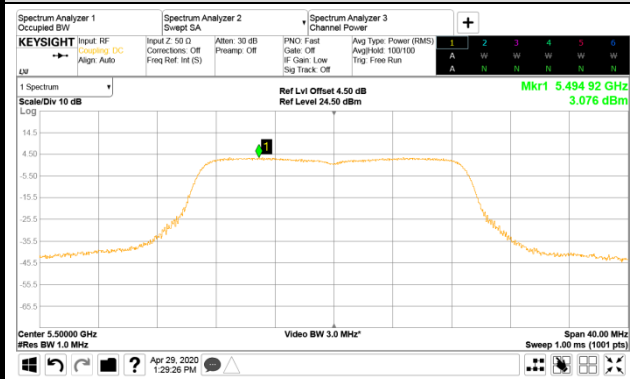


UNII Band II

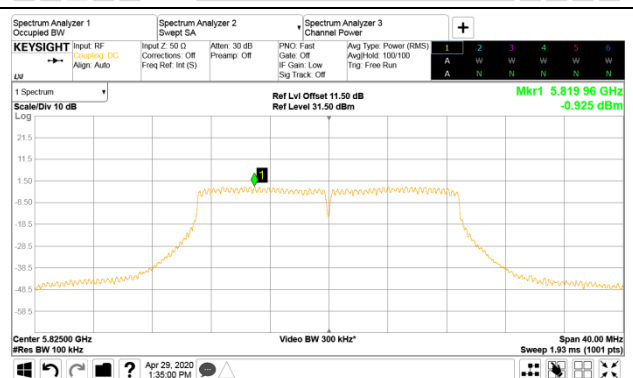
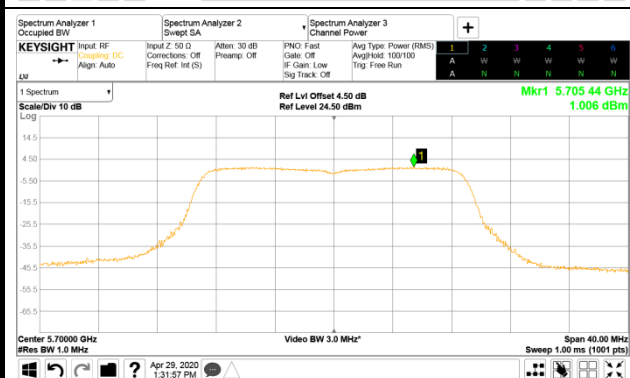
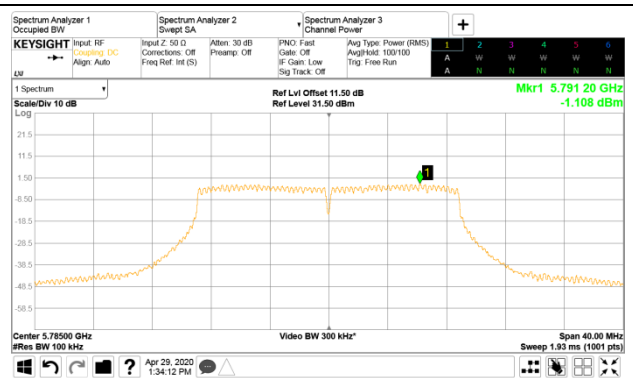
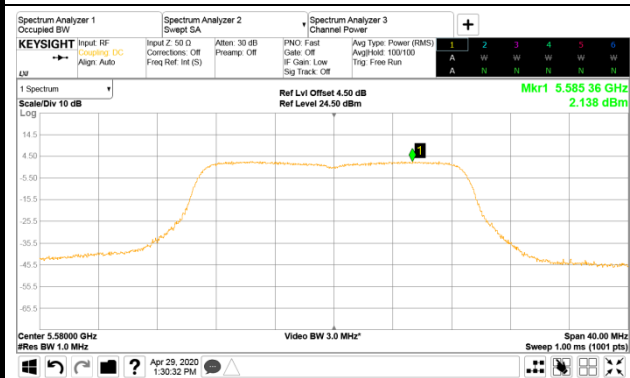
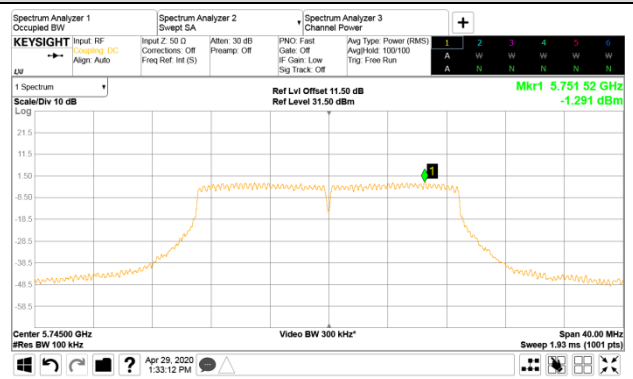


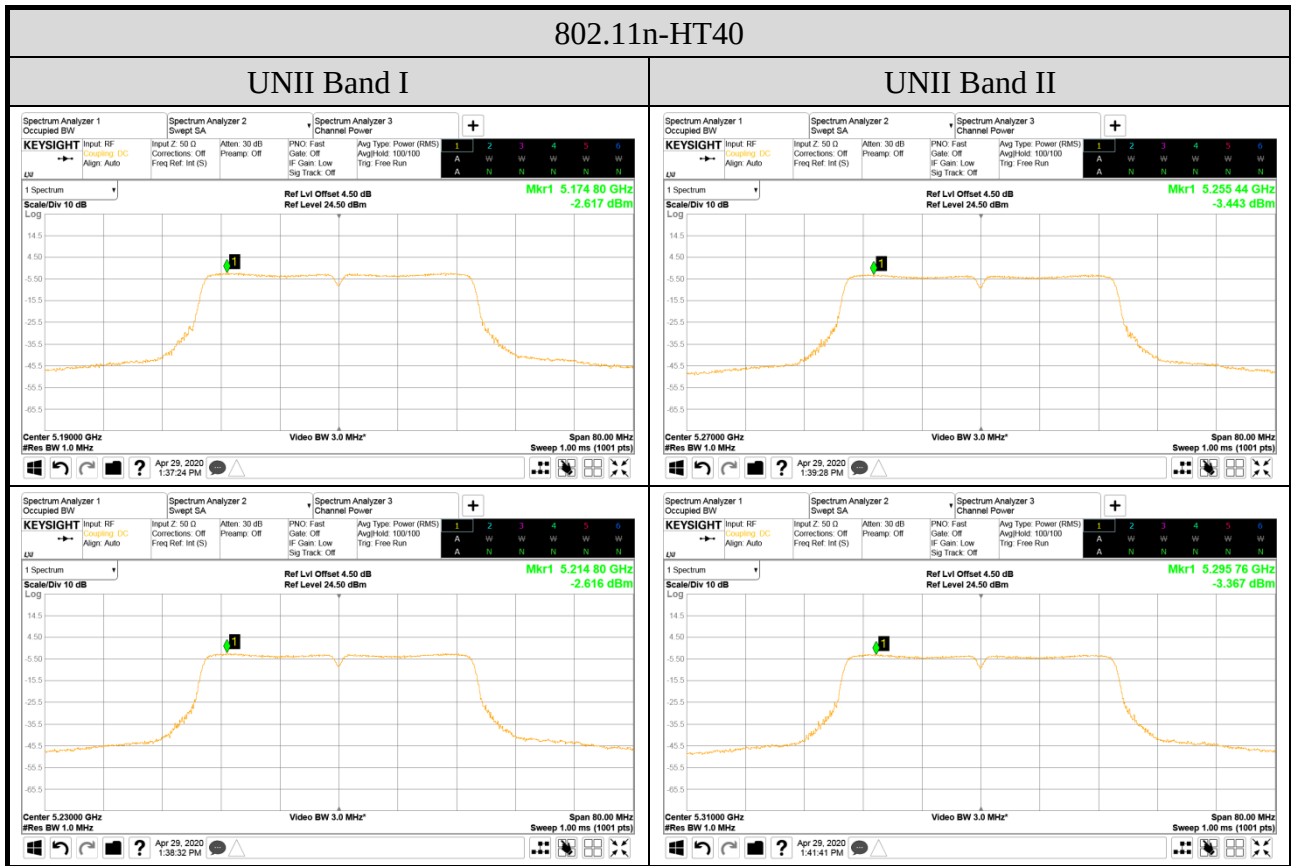
802.11n-HT20

UNII Band III



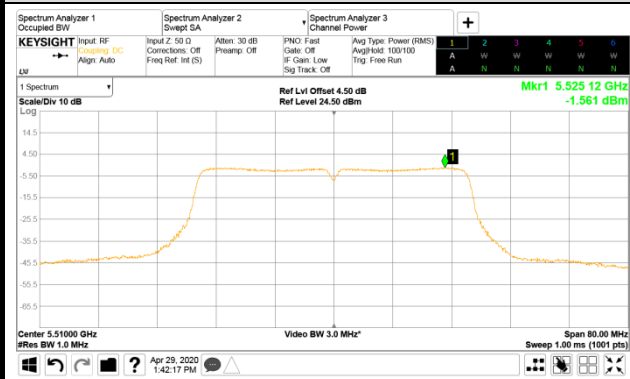
UNII Band IV



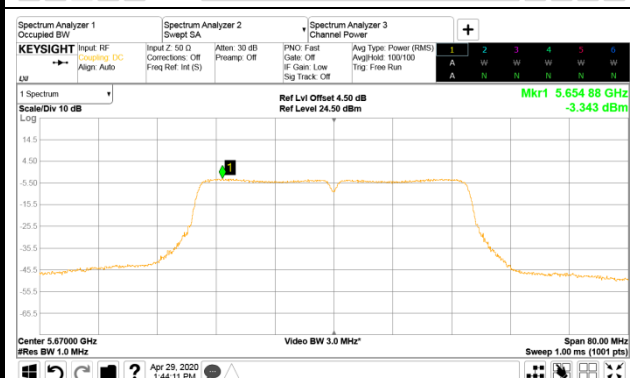
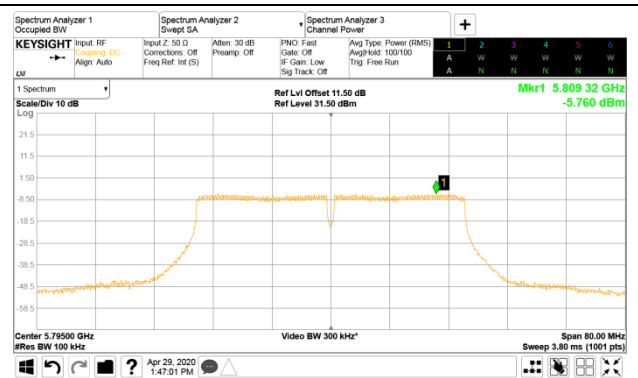
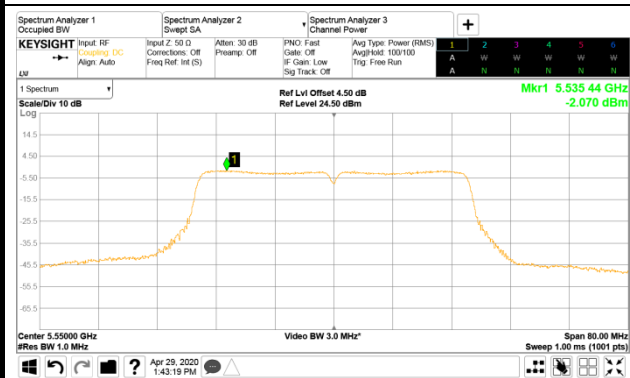
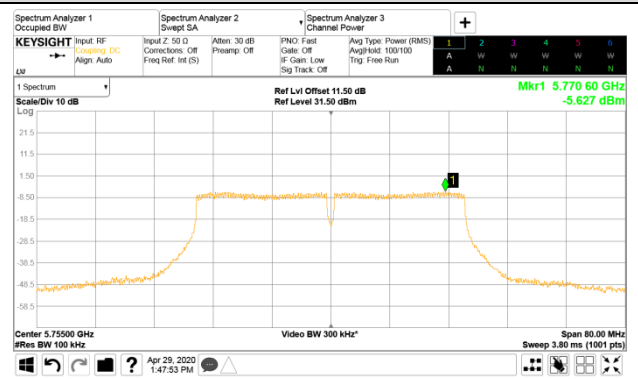


802.11n-HT40

UNII Band III

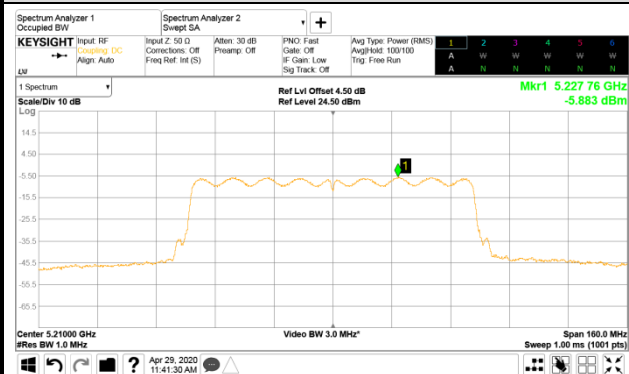


UNII Band IV

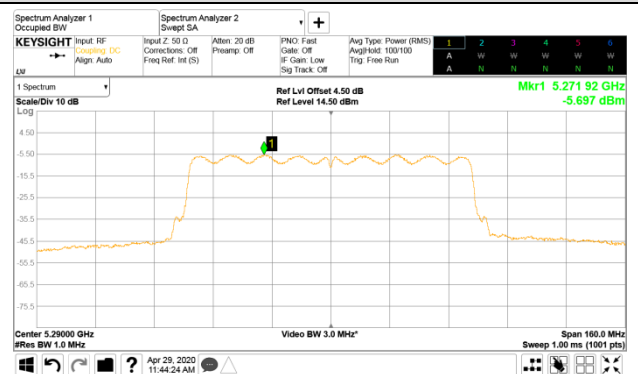


802.11ac-VHT80

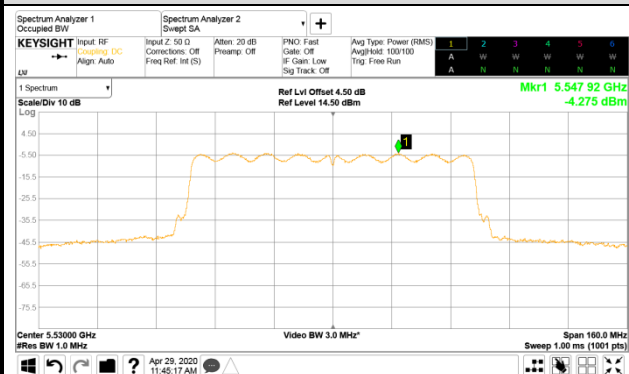
UNII Band I



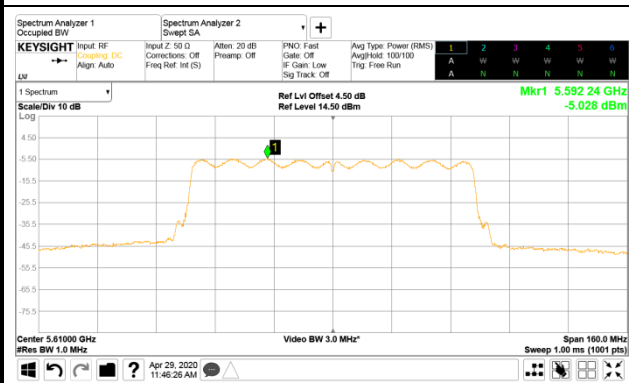
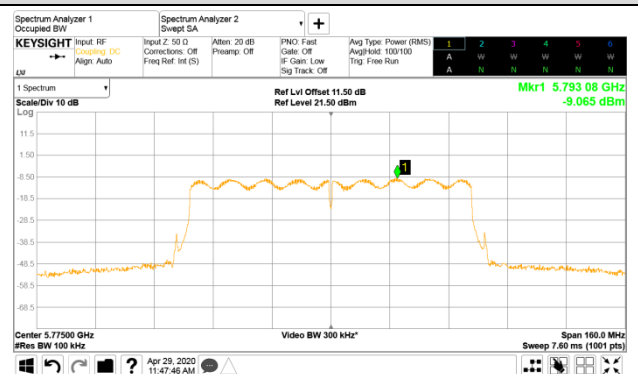
UNII Band II



UNII Band III

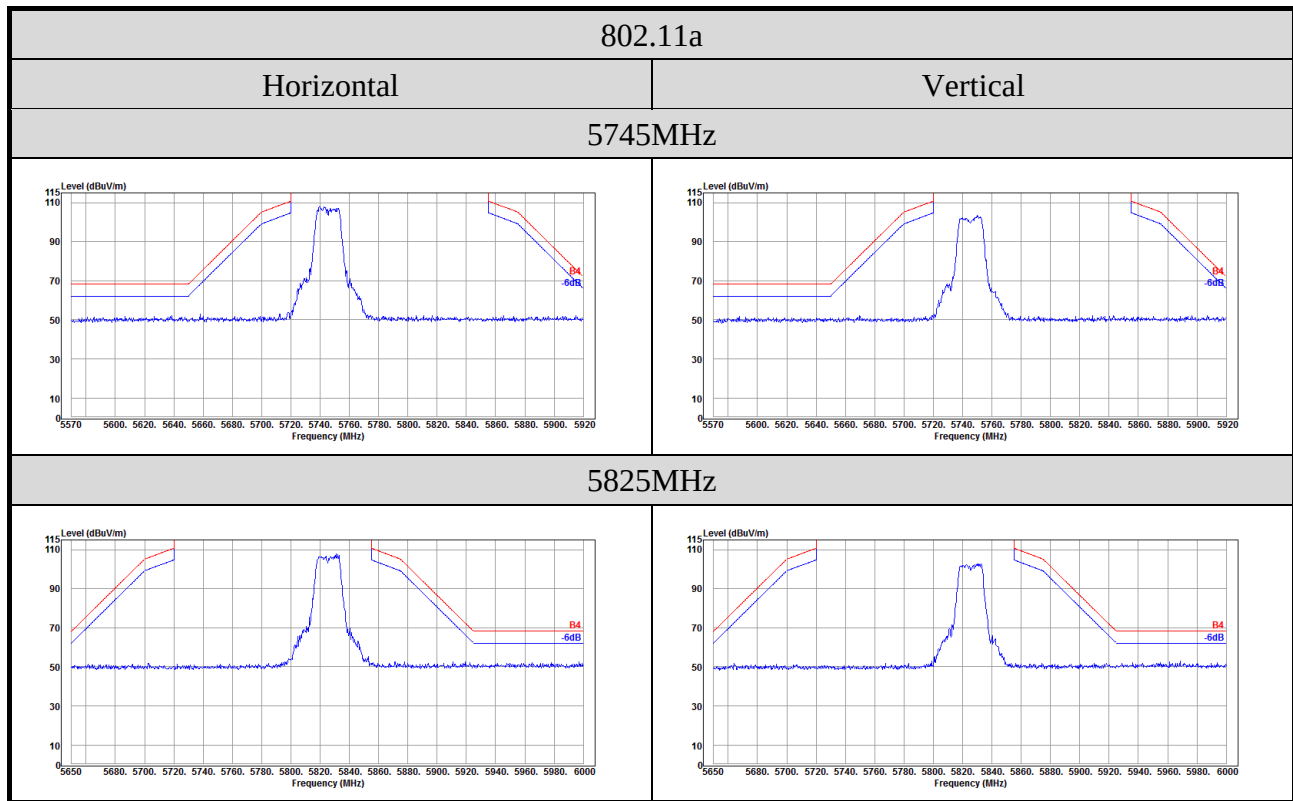


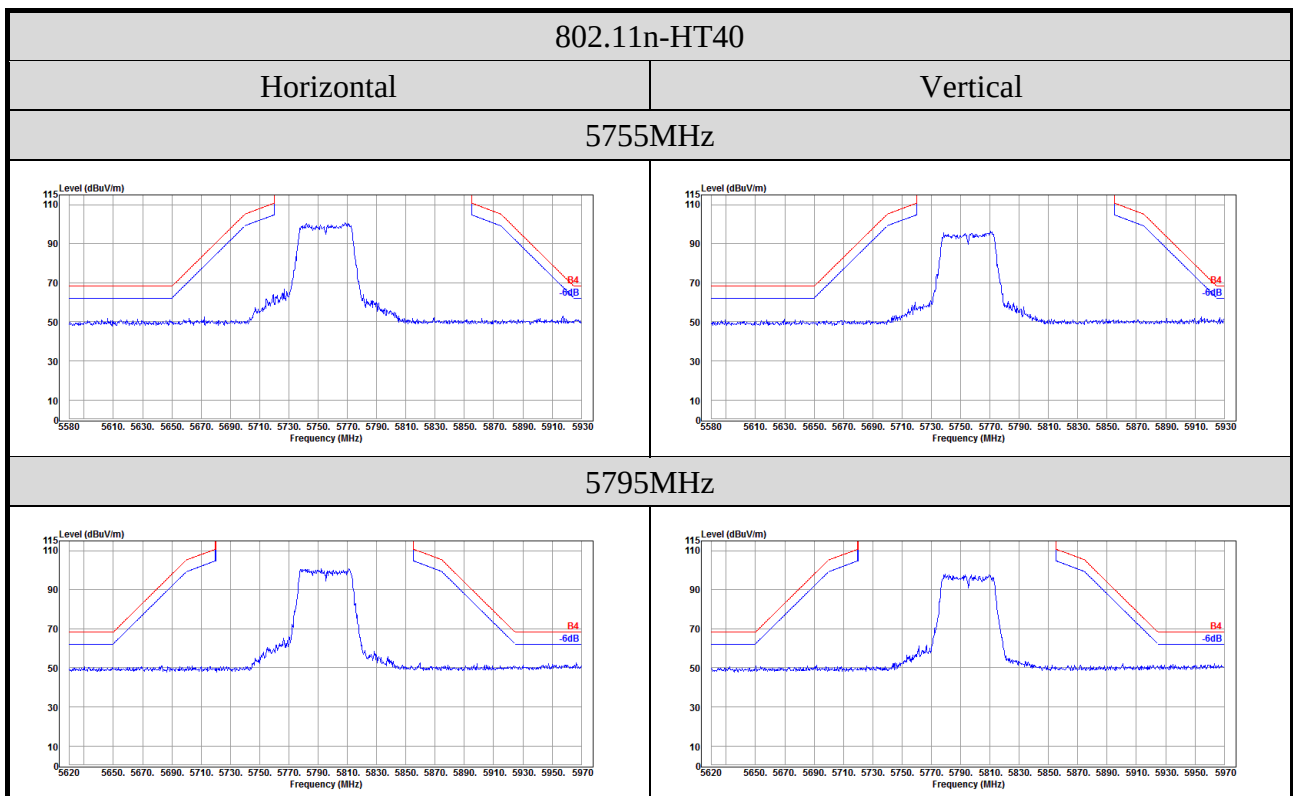
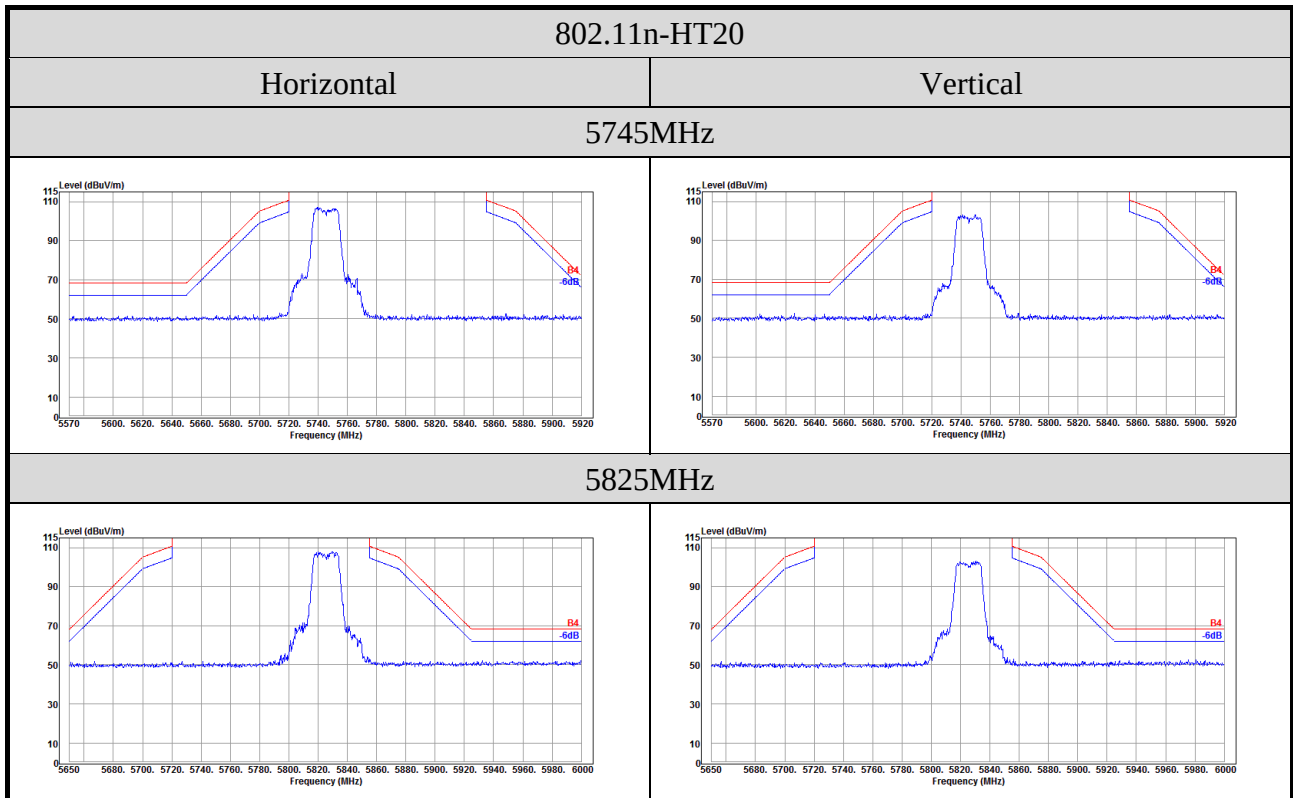
UNII Band IV

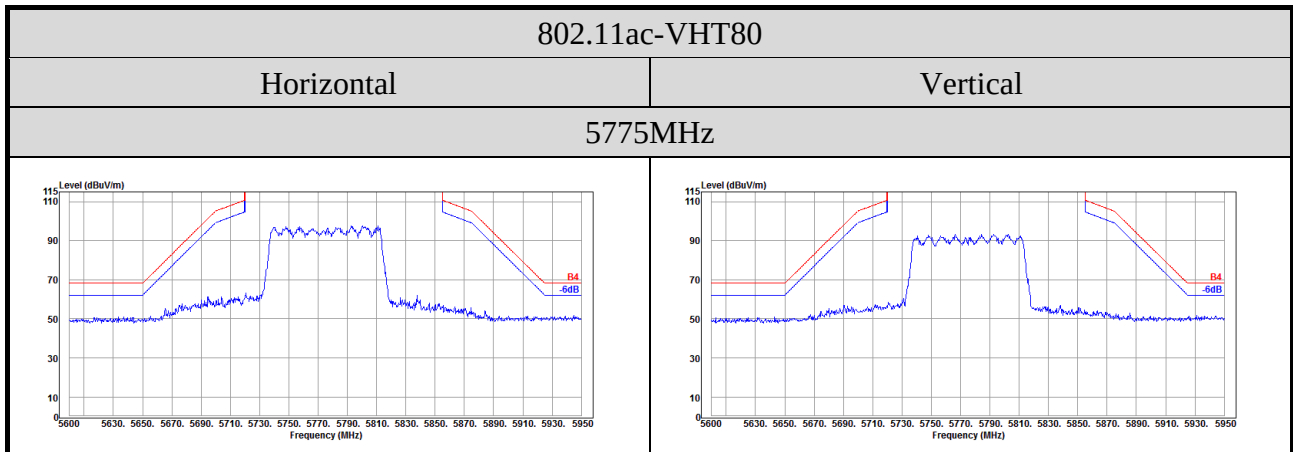


5. 頻帶邊緣之 RF 發射之量測

測試日期	2020/04/23	環境溫/濕度	22°C/58%
電纜損失	---	測試人員	Kuper Hsu
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	2020/04/29	環境溫/濕度	24°C/56%
電纜損失	1.5dB	測試人員	Kuper Hsu
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):	16.69	dBm	= 46.666 mW
最大天線增益(G):	3.096	dB	= 2.040 Numerical
MPE (S) = (P*G) / (4* π *r ²) =	0.0189		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：0.0189 mW/cm ²			