

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，選擇低、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。所得讀值資料請見章節 1.1 ~1.2：

Normal 模式

供應電源	模式	動作狀態	基本頻率	量測頻率範圍
DC 12V (經車用電池)	Normal	---	---	30-1000MHz
				1000-25000MHz

Wireless LAN 模式

支援 IEEE 802.11b/g/n，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。

供應電源	模式	動作狀態	基本頻率	量測頻率範圍
DC 12V (經電源供應器)	802.11b	發射	2462MHz	1000-25000MHz
	802.11g	發射	2462MHz*	30-1000MHz
				1000-25000MHz
	802.11n-HT20	發射	2462MHz	1000-25000MHz
	---	接收	2437MHz	30-1000MHz
				1000-25000MHz

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。

供應電源	模式	動作狀態	基本頻率	量測頻率範圍
DC 12V (經電源供應器)	802.11b	發射	2412MHz	2300-2450MHz
			2462MHz	2450-2900MHz
	802.11g	發射	2412MHz	2300-2450MHz
			2462MHz	2450-2900MHz
	802.11n-HT20	發射	2412MHz	2300-2450MHz
			2462MHz	2450-2900MHz

測試日期	2020/07/13 ~ 17	環境溫/濕度	26°C/47~49%
測試電壓	(1)DC 12V (經車用電池) (2)DC 12V (經電源供應器)	測試人員	Brian Hsieh

1.1. 30-1000MHz 頻率範圍，其他不必要發射量測

● Normal 模式

Mode	Normal	Frequency	---
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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
36.790	20.99	1.40	26.52	28.55	24.42	40.00	15.58	Peak
180.350	14.91	3.34	25.94	33.33	25.64	43.50	17.86	Peak
303.540	19.36	4.61	25.73	33.70	31.94	46.00	14.06	Peak
375.320	21.28	5.66	26.36	32.78	33.36	46.00	12.64	Peak
500.450	23.51	6.93	27.22	33.38	36.60	46.00	9.40	Peak
798.240	26.10	8.12	27.41	30.77	37.58	46.00	8.42	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
50.370	14.52	1.65	26.50	42.05	31.72	40.00	8.28	Peak
76.560	12.92	2.12	26.39	42.24	30.89	40.00	9.11	Peak
182.290	14.96	3.36	25.93	36.53	28.92	43.50	14.58	Peak
283.170	19.08	4.37	25.72	30.95	28.68	46.00	17.32	Peak
500.450	23.51	6.93	27.22	31.95	35.17	46.00	10.83	Peak
798.240	26.10	8.12	27.41	31.88	38.69	46.00	7.31	Peak

● Wireless LAN 模式

Mode	802.11g	Frequency	TX 2462MHz
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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
120.210	18.71	2.68	26.20	43.75	38.94	43.50	4.56	Peak
206.540	15.80	3.61	25.85	44.65	38.21	43.50	5.29	Peak
240.490	18.12	3.93	25.79	46.18	42.44	46.00	3.56	Peak
480.080	23.20	6.75	27.10	38.79	41.64	46.00	4.36	Peak
874.870	26.65	8.57	27.22	35.02	43.02	46.00	2.98	Peak
960.230	27.17	8.98	26.95	35.37	44.57	54.00	9.43	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	40.25	37.60	40.00	2.40	Peak
102.750	17.04	2.47	26.30	43.86	37.07	43.50	6.43	Peak
150.280	17.22	3.06	26.05	39.44	33.67	43.50	9.83	Peak
415.090	22.11	6.16	26.64	35.53	37.16	46.00	8.84	Peak
482.990	23.22	6.77	27.10	34.32	37.21	46.00	8.79	Peak
828.310	26.31	8.30	27.34	34.04	41.31	46.00	4.69	Peak

Mode	Wireless LAN	Frequency	RX 2437MHz
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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
80.440	13.18	2.18	26.38	39.90	28.88	40.00	11.12	Peak
97.900	16.31	2.40	26.32	38.98	31.37	43.50	12.13	Peak
191.990	15.16	3.47	25.89	36.71	29.45	43.50	14.05	Peak
303.540	19.36	4.61	25.73	37.44	35.68	46.00	10.32	Peak
799.210	26.10	8.13	27.41	33.05	39.87	46.00	6.13	Peak
874.870	26.65	8.57	27.22	32.82	40.82	46.00	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
43.580	17.06	1.56	26.51	39.24	31.35	40.00	8.65	Peak
78.500	13.04	2.15	26.38	43.67	32.48	40.00	7.52	Peak
107.600	17.53	2.53	26.27	42.15	35.94	43.50	7.56	Peak
192.960	15.19	3.48	25.89	35.25	28.03	43.50	15.47	Peak
323.910	19.96	4.91	25.92	33.63	32.58	46.00	13.42	Peak
799.210	26.10	8.13	27.41	30.77	37.59	46.00	8.41	Peak

1.2. 1000MHz 以上頻率範圍，其他不必要發射量測

頻率範圍量測至主波發射的 10 倍諧波，其他未列在報告上乃因訊號太小無法量測。

● Normal 模式

Mode	Normal				Frequency	---		
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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
4882.000	33.28	8.20	33.12	37.53	45.89	54.00	8.11	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
4882.000	33.28	8.20	33.12	37.47	45.83	54.00	8.17	Peak

Mode	802.11b				Frequency	TX 2462MHz		
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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
7313.000	36.40	10.08	33.86	38.41	51.03	54.00	2.97	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
7310.000	36.40	10.08	33.84	40.56	53.20	54.00	0.80	Peak

Mode	802.11g				Frequency	TX 2462MHz		
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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
4924.000	33.30	8.23	33.11	31.85	40.27	54.00	13.73	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
4924.000	33.30	8.23	33.11	32.24	40.66	54.00	13.34	Peak

Mode	802.11n-HT20				Frequency	TX 2462MHz		
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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
4924.000	33.30	8.23	33.11	32.99	41.41	54.00	12.59	Peak

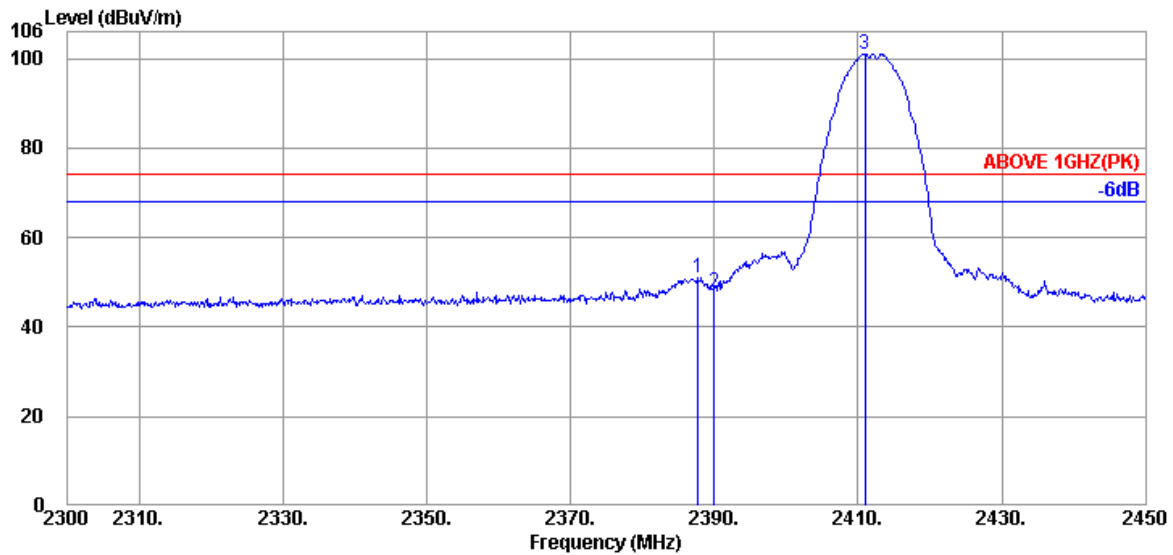
Antenna at Vertical Polarization

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
4924.000	33.30	8.23	33.11	31.91	40.33	54.00	13.67	Peak

Mode	Wireless LAN			Frequency	RX 2437MHz			
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 Peak
4874.000	33.25	8.20	33.12	32.42	40.75	54.00	13.25	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 Peak
4874.000	33.25	8.20	33.12	32.24	40.57	54.00	13.43	Peak

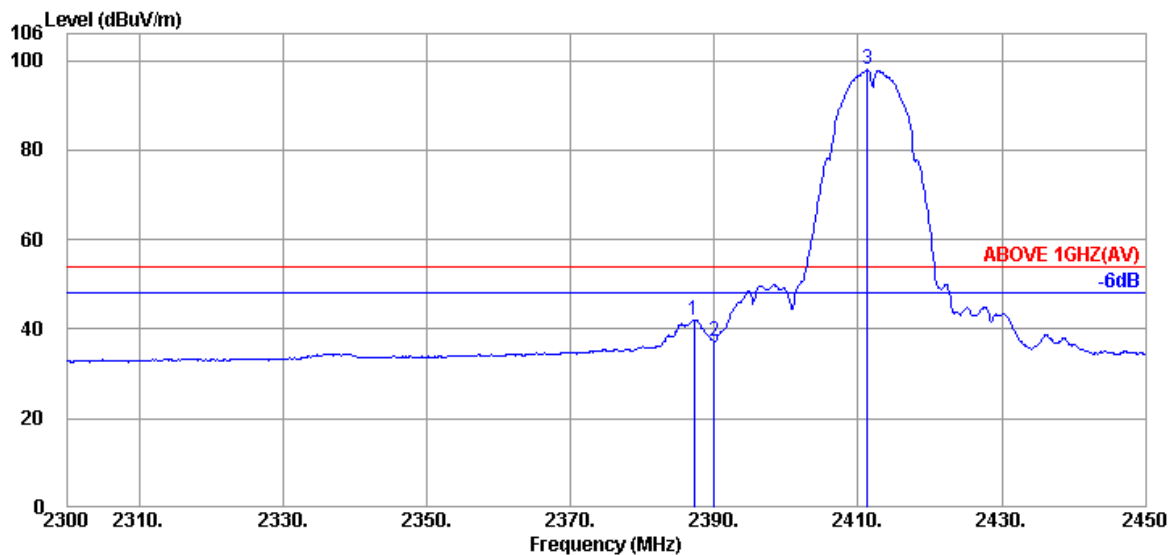
1.3. 禁用頻帶量測結果 (其他不必要發射)

Mode	802.11b	Frequency	TX 2412MHz
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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
2387.750	28.50	5.70	34.26	50.99	50.93	74.00	23.07	Peak
2390.000	28.50	5.70	34.25	47.93	47.88	74.00	26.12	Peak
@ 2411.000	28.51	5.73	34.25	100.94	100.93	---	---	Peak

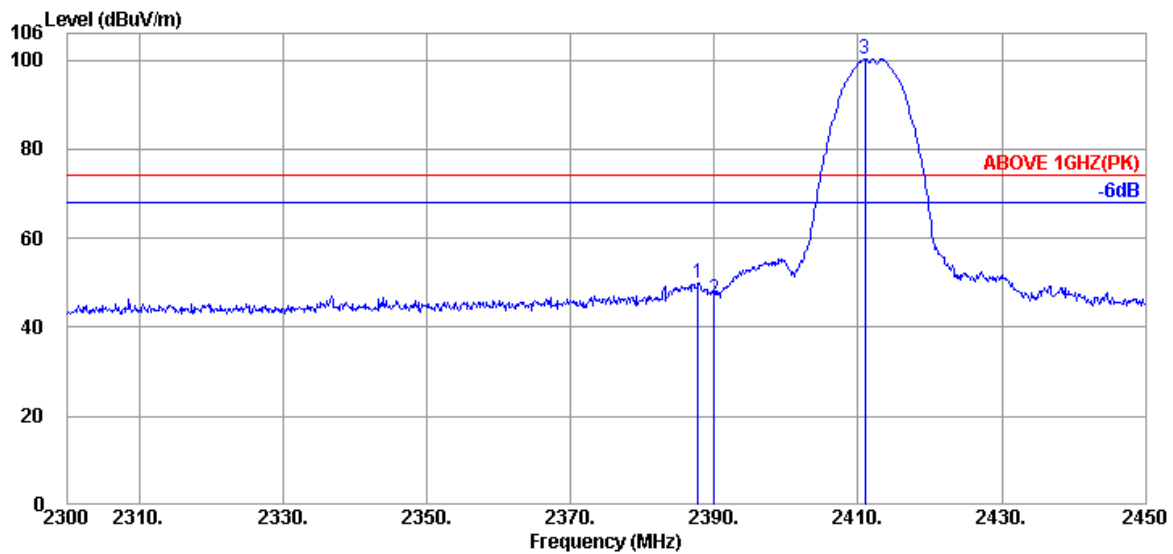


Antenna at Horizontal Polarization

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
2387.150	28.50	5.70	34.26	42.02	41.96	54.00	12.04	Average
2390.000	28.50	5.70	34.25	37.35	37.30	54.00	16.70	Average
@ 2411.300	28.53	5.73	34.25	97.96	97.97	---	---	Average

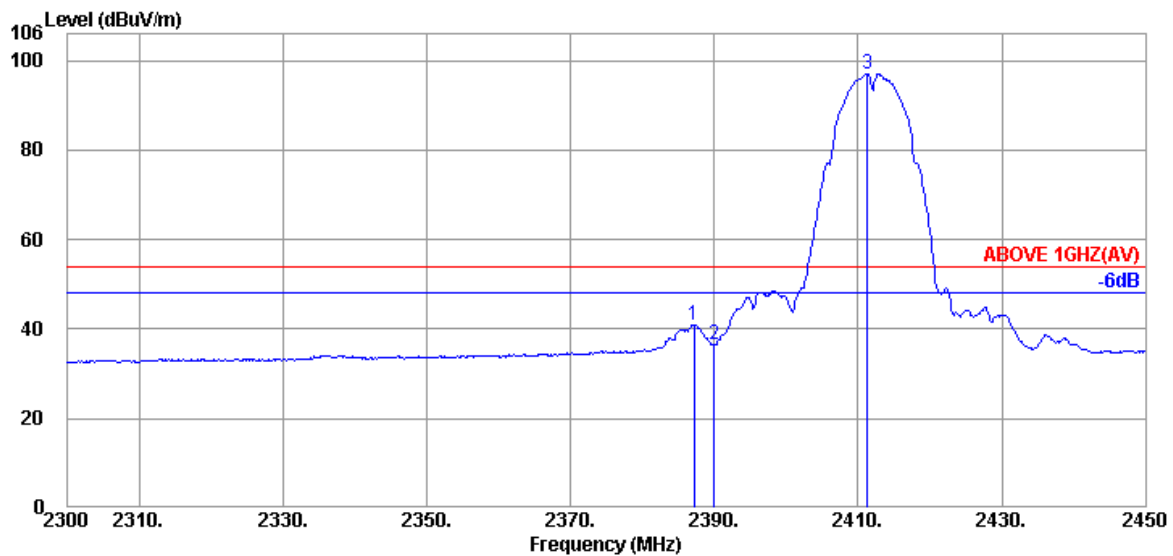
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11b	Frequency	TX 2412MHz
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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
2387.750	28.50	5.70	34.26	49.88	49.82	74.00	24.18	Peak
2390.000	28.50	5.70	34.25	46.31	46.26	74.00	27.74	Peak
@ 2411.000	28.51	5.73	34.25	100.16	100.15	---	---	Peak

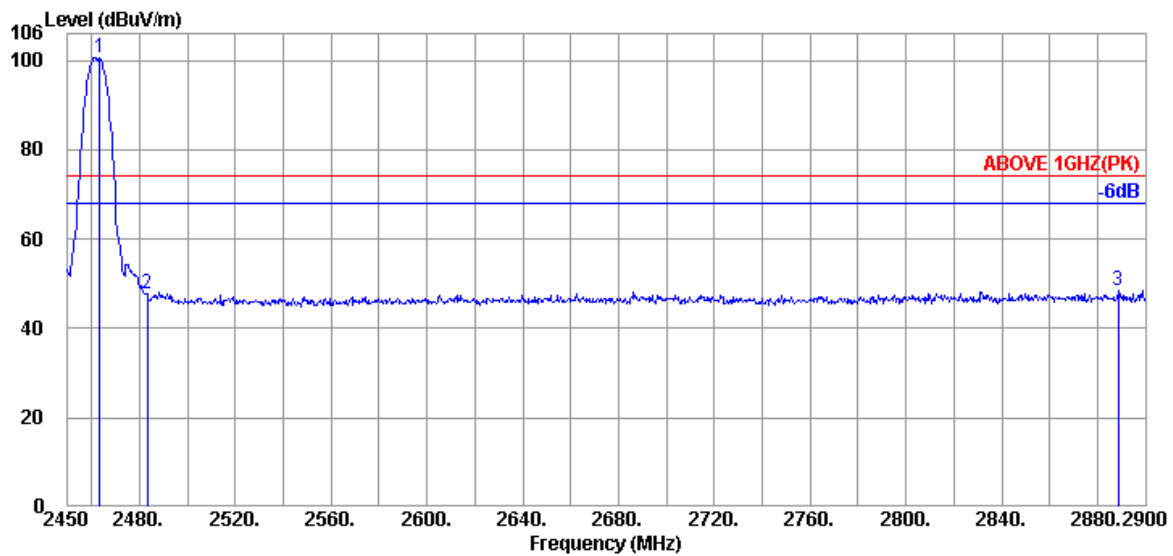


Antenna at Vertical Polarization

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
2387.150	28.50	5.70	34.26	40.98	40.92	54.00	13.08	Average
2390.000	28.50	5.70	34.25	36.55	36.50	54.00	17.50	Average
@ 2411.300	28.53	5.73	34.25	97.10	97.11	---	---	Average

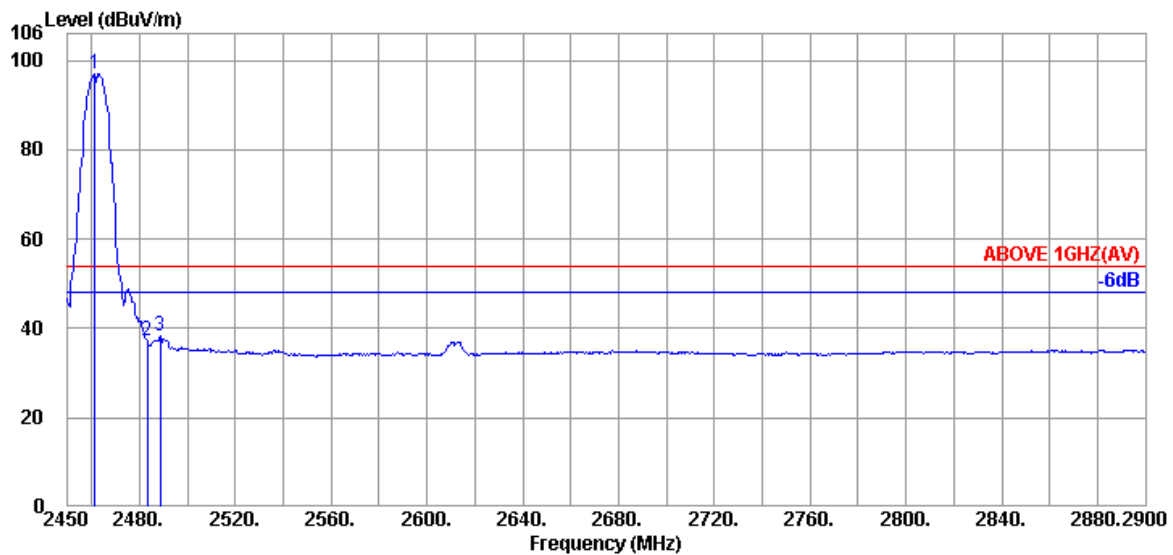
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11b	Frequency	TX 2462MHz
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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
@	2463.500	28.66	5.81	34.21	100.37	100.63	---	---	Peak
	2483.300	28.74	5.83	34.19	47.27	47.65	74.00	26.35	Peak
	2888.750	29.57	6.34	33.99	46.60	48.52	74.00	25.48	Peak

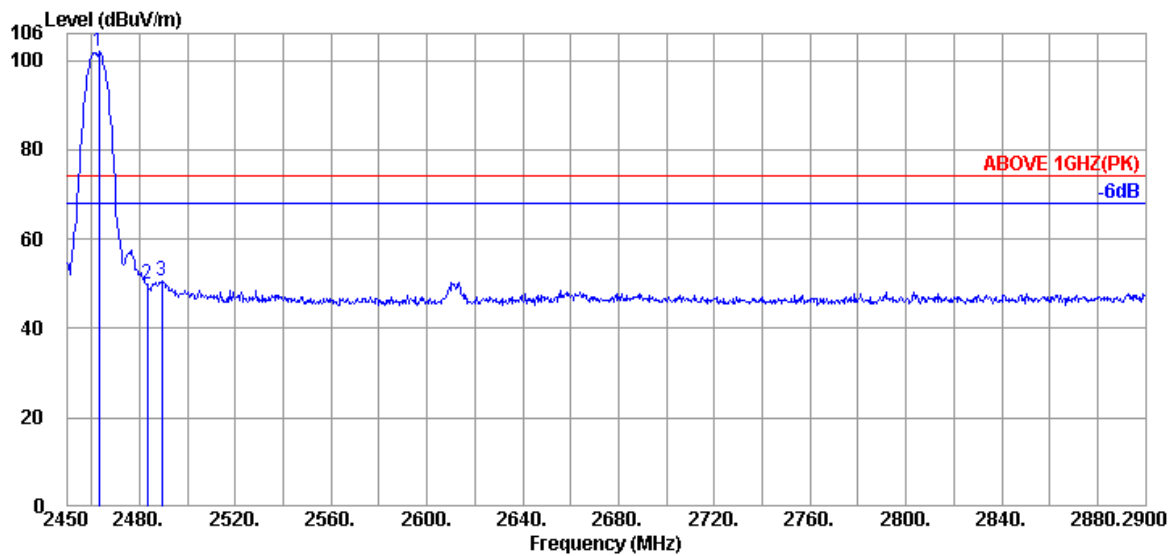


Antenna at Horizontal Polarization

	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
@	2461.250	28.66	5.81	34.21	96.80	97.06	---	---	Average
	2483.300	28.74	5.83	34.19	36.74	37.12	54.00	16.88	Average
	2488.700	28.74	5.86	34.19	37.98	38.39	54.00	15.61	Average

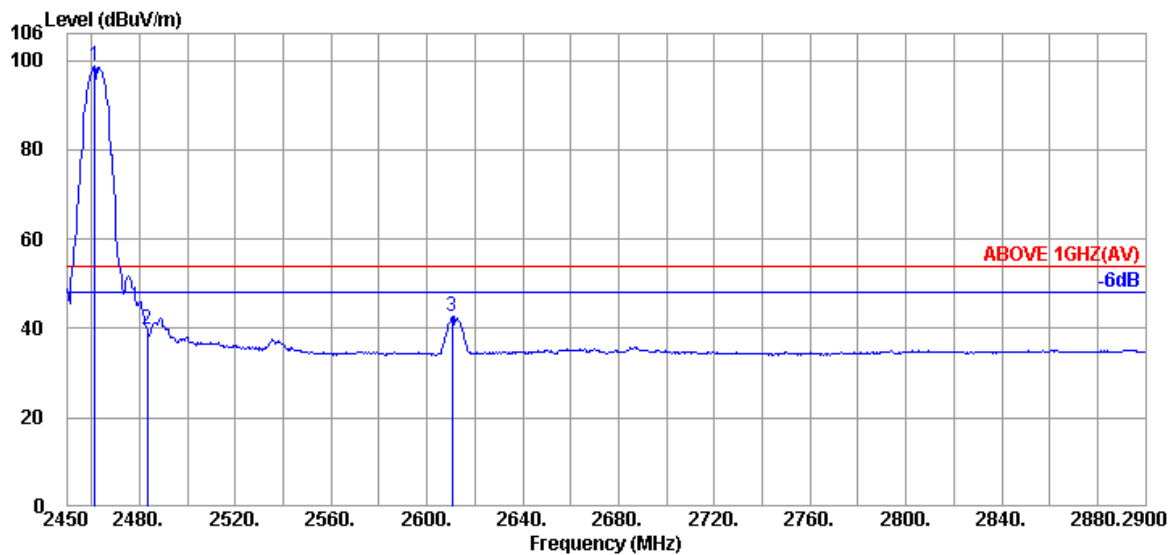
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11b	Frequency	TX 2462MHz
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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
@	2463.050	28.66	5.81	34.21	101.64	101.90	---	---	Peak
	2483.300	28.74	5.83	34.19	49.44	49.82	74.00	24.18	Peak
	2489.150	28.77	5.86	34.19	50.05	50.49	74.00	23.51	Peak

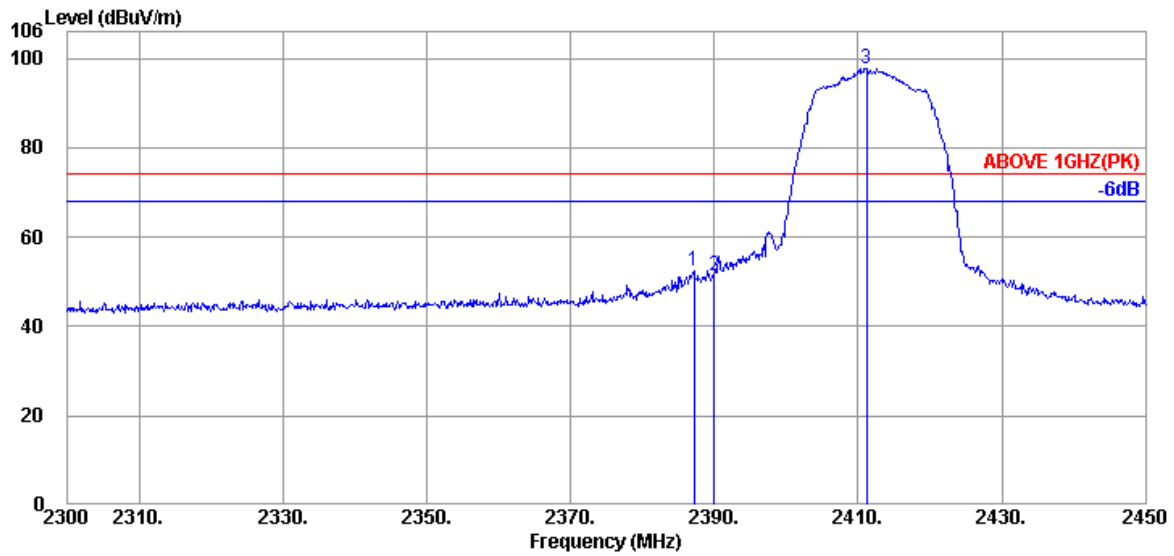


Antenna at Vertical Polarization

	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
@	2461.250	28.66	5.81	34.21	98.33	98.59	---	---	Average
	2483.300	28.74	5.83	34.19	39.28	39.66	54.00	14.34	Average
	2610.650	28.82	6.01	34.12	41.98	42.69	54.00	11.31	Average

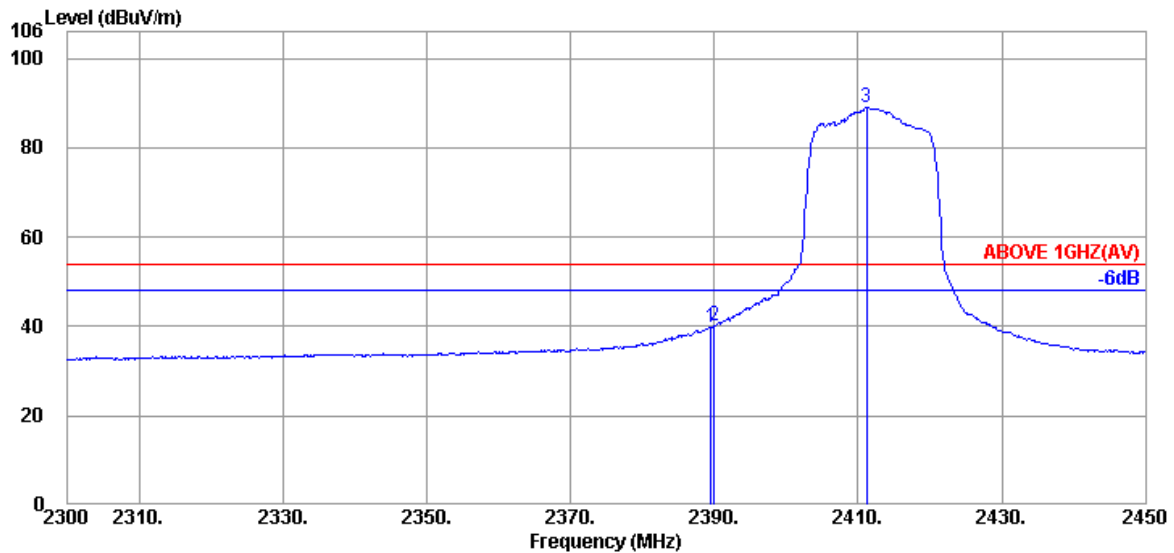
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11g	Frequency	TX 2412MHz
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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
2387.150	28.50	5.70	34.26	52.63	52.57	74.00	21.43	Peak
2390.000	28.50	5.70	34.25	51.42	51.37	74.00	22.63	Peak
@ 2411.150	28.51	5.73	34.25	97.85	97.84	---	---	Peak

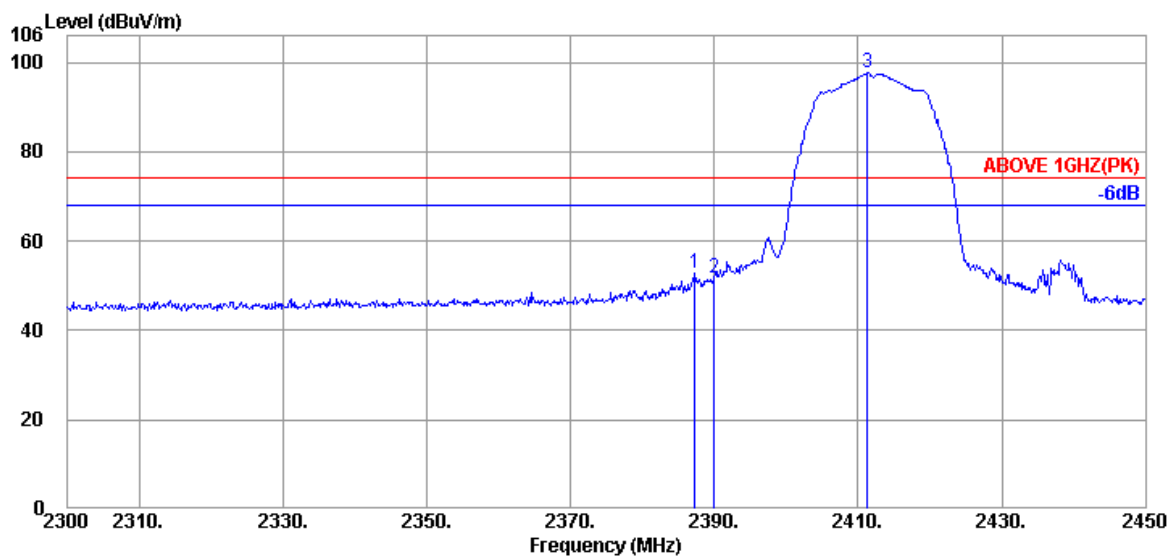


Antenna at Horizontal Polarization

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
2389.550	28.50	5.70	34.26	39.99	39.93	54.00	14.07	Average
2390.000	28.50	5.70	34.25	40.04	39.99	54.00	14.01	Average
@ 2411.150	28.51	5.73	34.25	89.13	89.12	---	---	Average

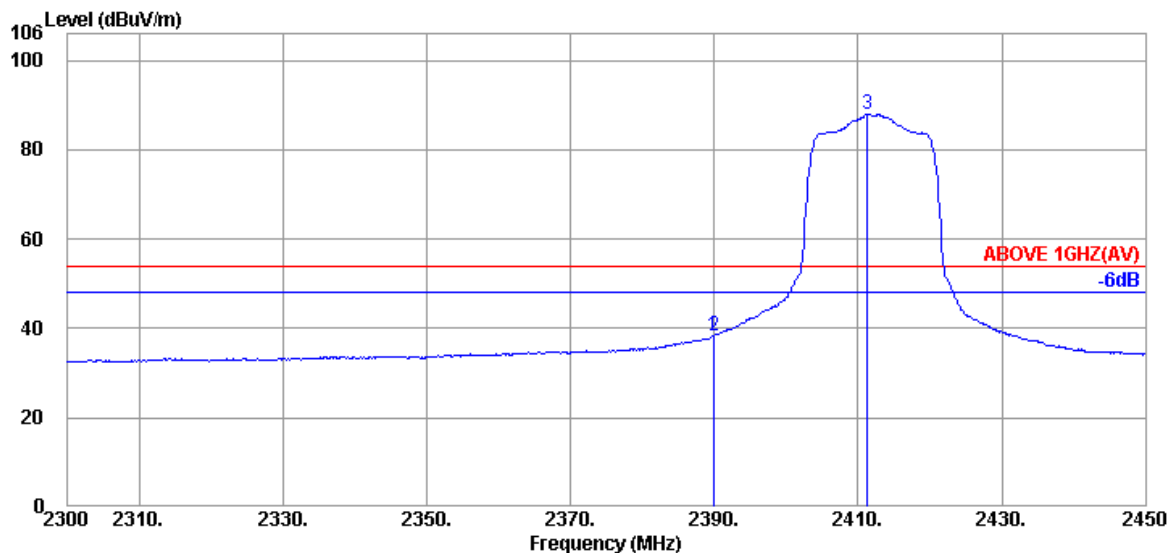
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11g	Frequency	TX 2412MHz
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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
2387.300	28.50	5.70	34.26	52.91	52.85	74.00	21.15	Peak
2390.000	28.50	5.70	34.25	51.85	51.80	74.00	22.20	Peak
@ 2411.300	28.53	5.73	34.25	97.63	97.64	---	---	Peak

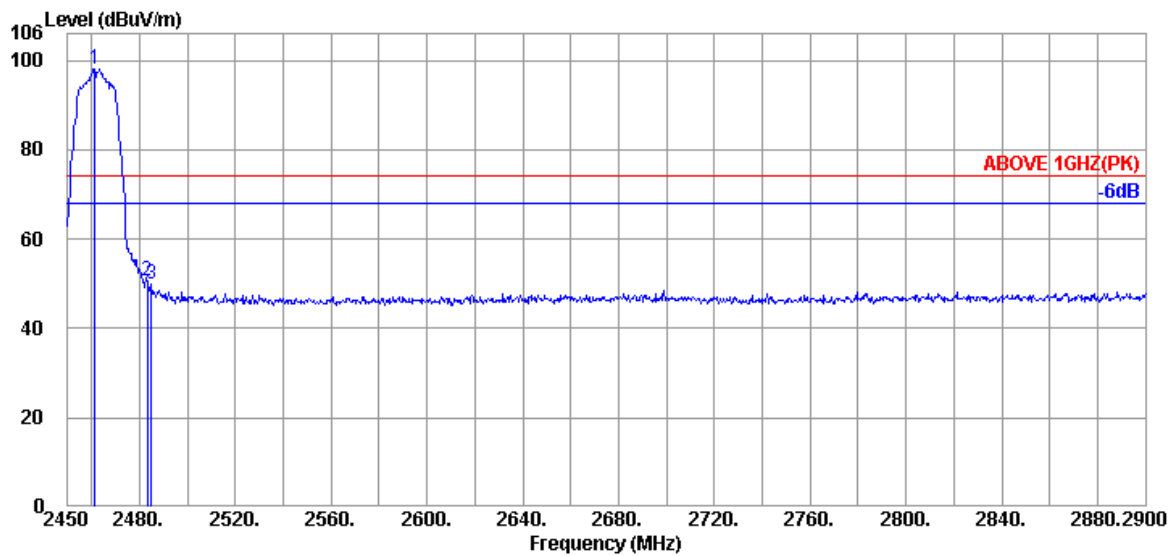


Antenna at Vertical Polarization

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
2389.850	28.50	5.70	34.25	38.52	38.47	54.00	15.53	Average
2390.000	28.50	5.70	34.25	38.44	38.39	54.00	15.61	Average
@ 2411.300	28.53	5.73	34.25	87.99	88.00	---	---	Average

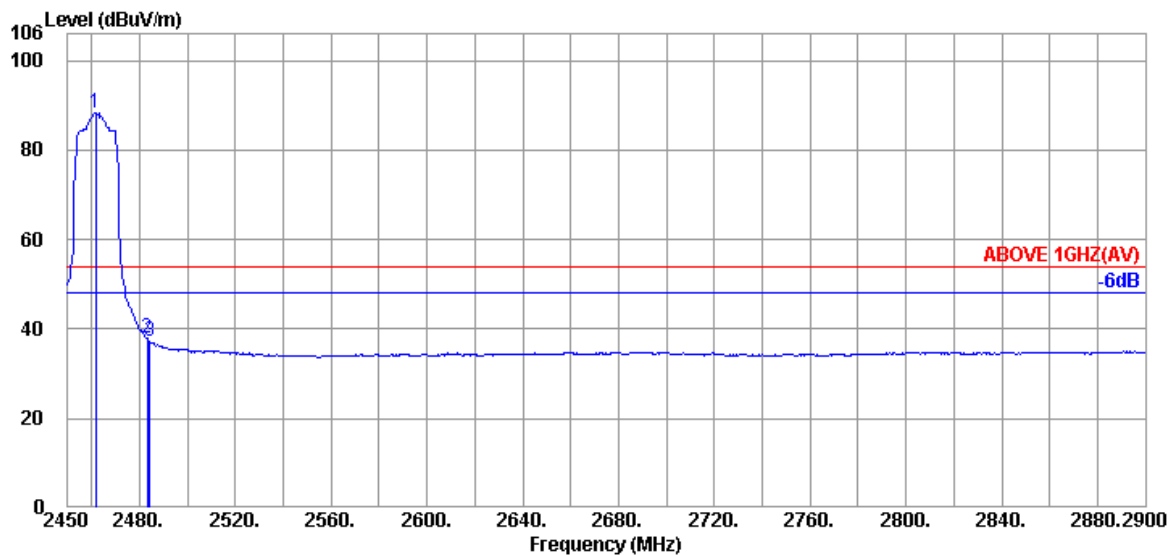
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11g	Frequency	TX 2462MHz
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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
@	2461.250	28.66	5.81	34.21	97.74	98.00	---	---	Peak
	2483.300	28.74	5.83	34.19	50.37	50.75	74.00	23.25	Peak
	2485.100	28.74	5.83	34.19	49.41	49.79	74.00	24.21	Peak

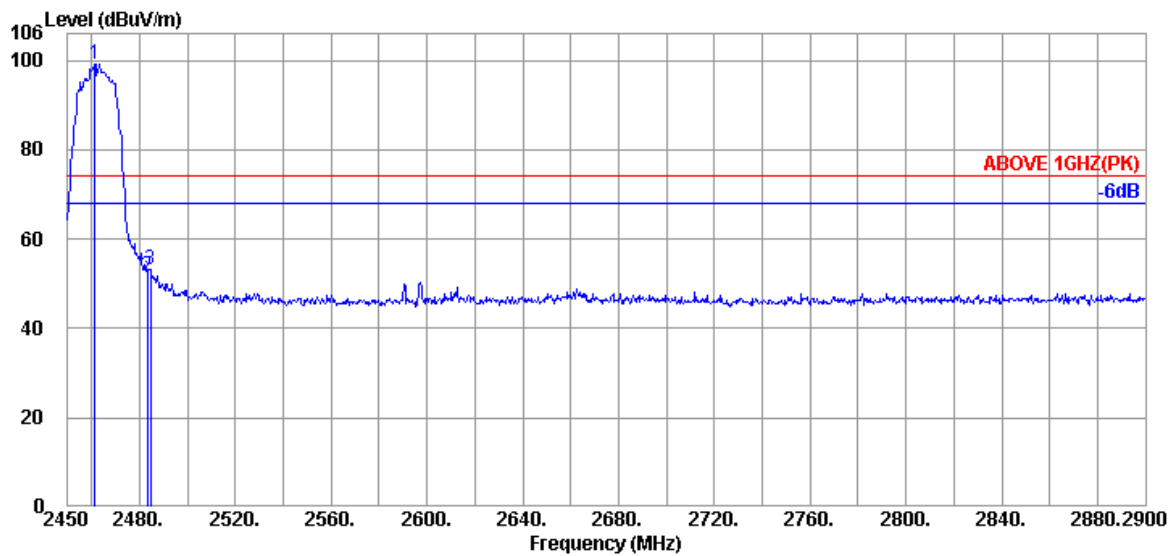


Antenna at Horizontal Polarization

	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
@	2461.700	28.66	5.81	34.21	88.09	88.35	---	---	Average
	2483.300	28.74	5.83	34.19	37.57	37.95	54.00	16.05	Average
	2484.200	28.74	5.83	34.19	36.87	37.25	54.00	16.75	Average

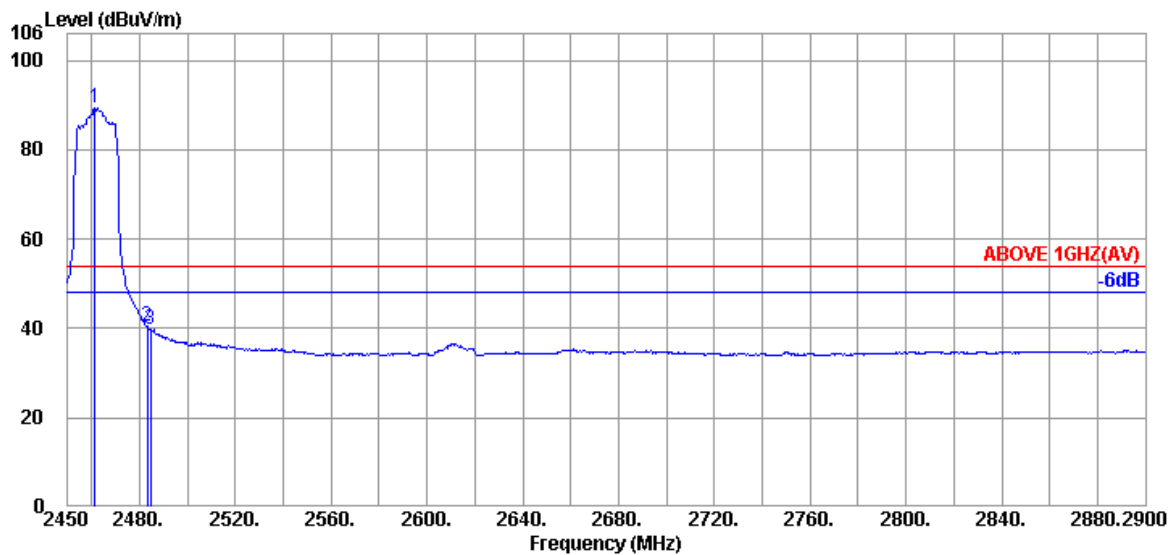
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11g	Frequency	TX 2462MHz
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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
@	2461.250	28.66	5.81	34.21	98.91	99.17	---	---	Peak
	2483.300	28.74	5.83	34.19	51.45	51.83	74.00	22.17	Peak
	2484.650	28.74	5.83	34.19	52.87	53.25	74.00	20.75	Peak

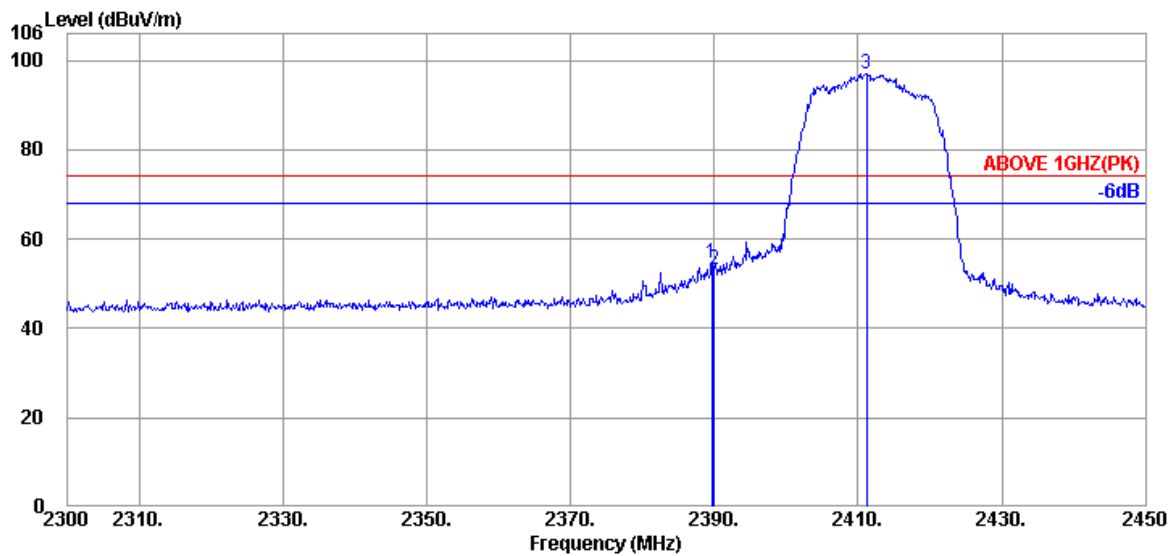


Antenna at Vertical Polarization

	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
@	2461.250	28.66	5.81	34.21	89.10	89.36	---	---	Average
	2483.300	28.74	5.83	34.19	40.17	40.55	54.00	13.45	Average
	2484.650	28.74	5.83	34.19	39.56	39.94	54.00	14.06	Average

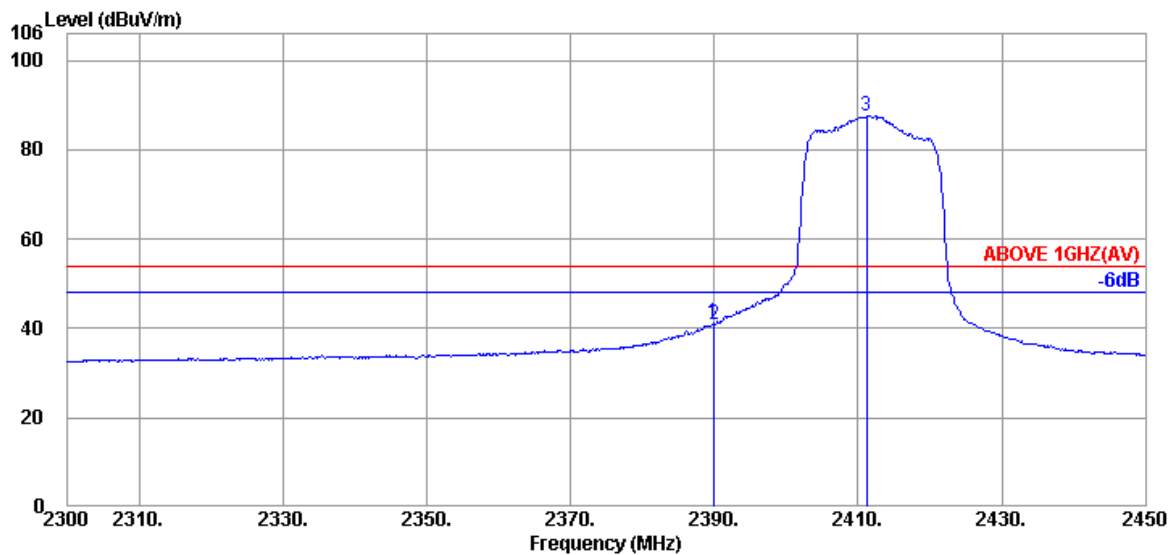
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11n-HT20	Frequency	TX 2412MHz
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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
2389.700	28.50	5.70	34.26	54.83	54.77	74.00	19.23	Peak
2390.000	28.50	5.70	34.25	53.20	53.15	74.00	20.85	Peak
@ 2411.150	28.51	5.73	34.25	96.94	96.93	---	---	Peak

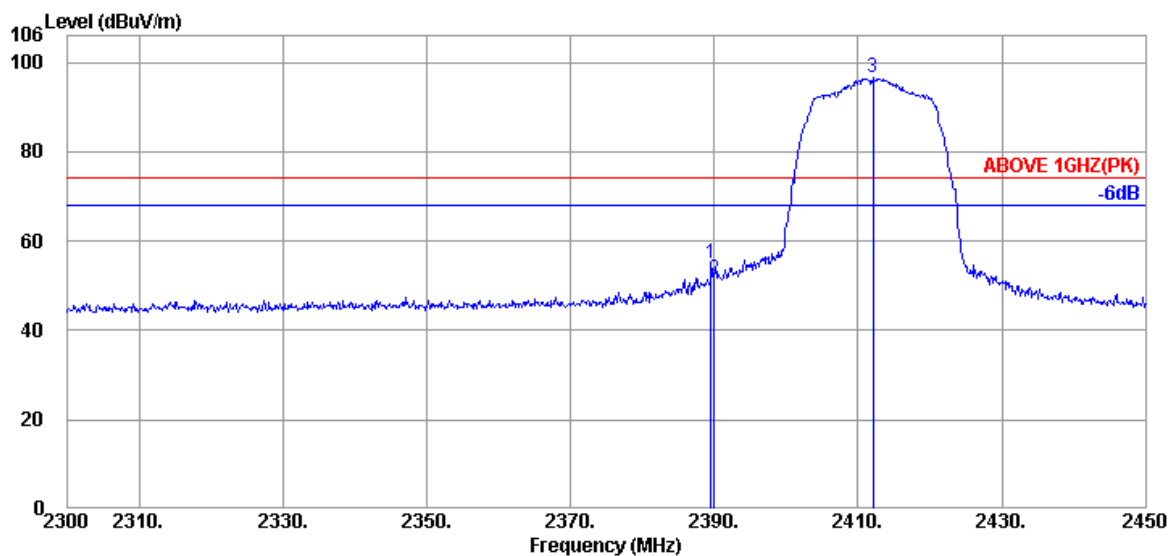


Antenna at Horizontal Polarization

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
2389.850	28.50	5.70	34.25	41.16	41.11	54.00	12.89	Average
2390.000	28.50	5.70	34.25	40.94	40.89	54.00	13.11	Average
@ 2411.150	28.51	5.73	34.25	87.66	87.65	---	---	Average

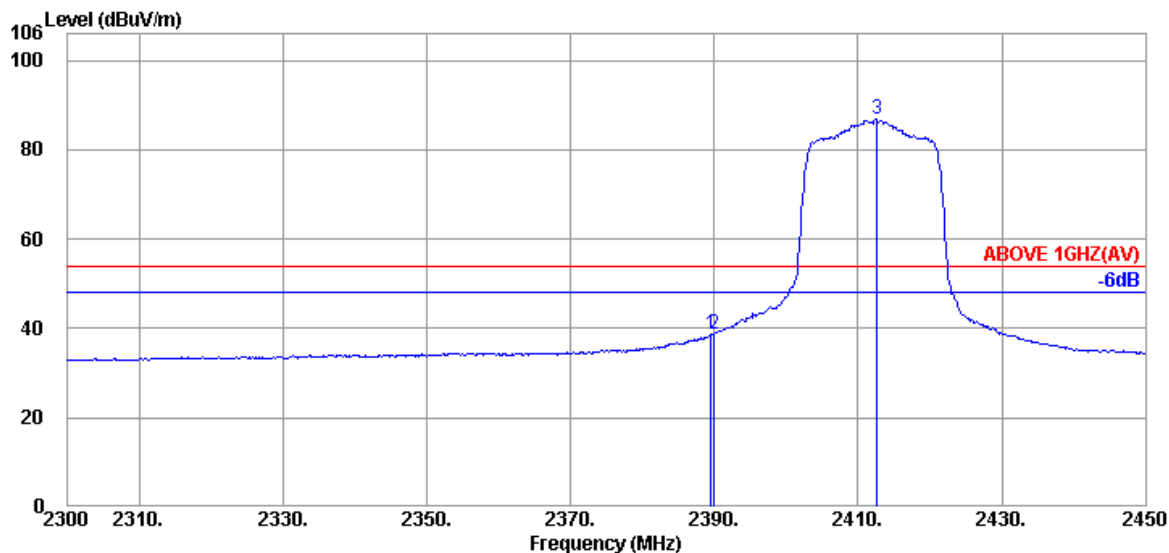
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11n-HT20	Frequency	TX 2412MHz
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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
2389.550	28.50	5.70	34.26	55.01	54.95	74.00	19.05	Peak
2390.000	28.50	5.70	34.25	51.53	51.48	74.00	22.52	Peak
@ 2412.050	28.53	5.73	34.25	96.65	96.66	---	---	Peak

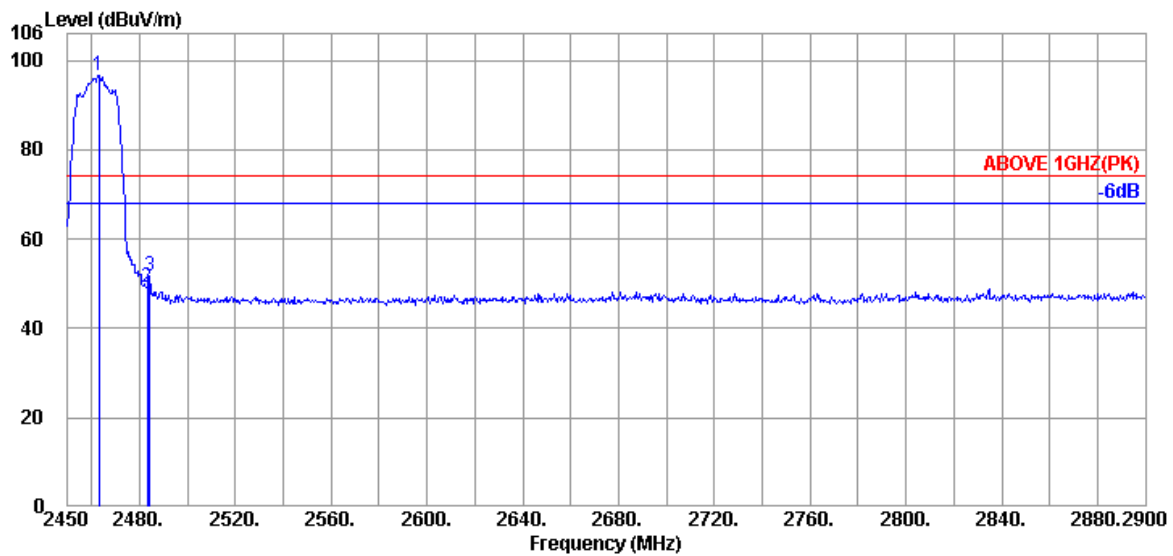


Antenna at Vertical Polarization

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
2389.550	28.50	5.70	34.26	38.80	38.74	54.00	15.26	Average
2390.000	28.50	5.70	34.25	38.72	38.67	54.00	15.33	Average
@ 2412.650	28.53	5.73	34.25	86.85	86.86	---	---	Average

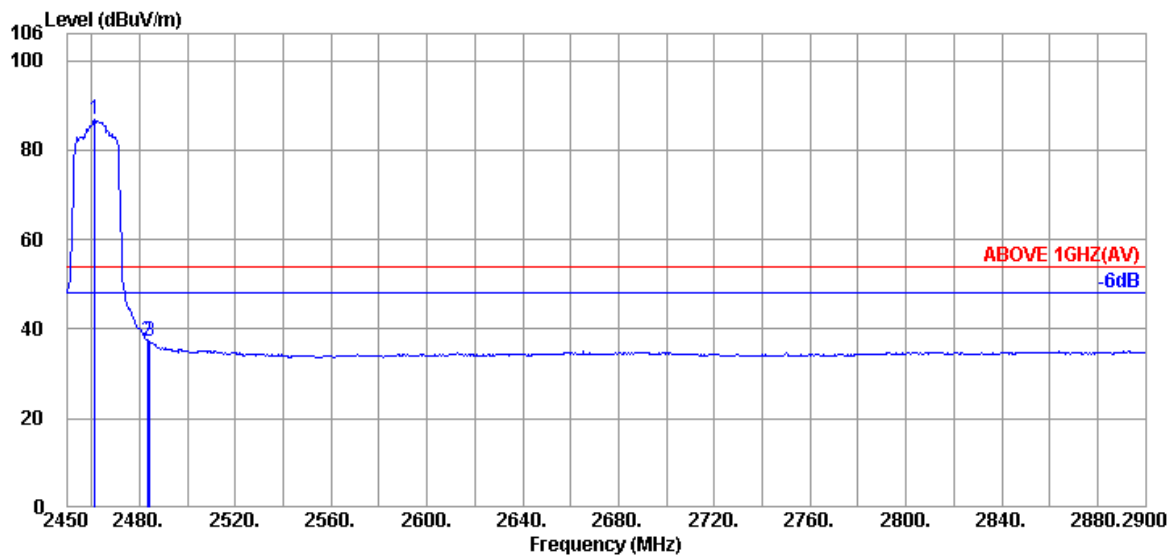
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11n-HT20	Frequency	TX 2462MHz
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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
@	2463.050	28.66	5.81	34.21	96.44	96.70	---	---	Peak
	2483.300	28.74	5.83	34.19	48.81	49.19	74.00	24.81	Peak
	2484.200	28.74	5.83	34.19	51.38	51.76	74.00	22.24	Peak

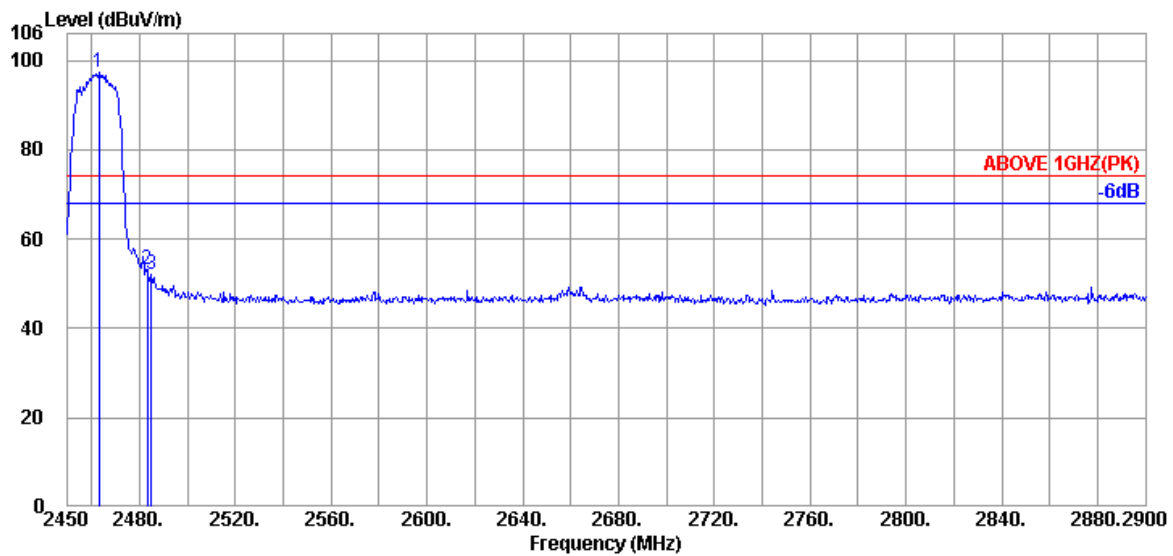


Antenna at Horizontal Polarization

	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
@	2461.250	28.66	5.81	34.21	86.58	86.84	---	---	Average
	2483.300	28.74	5.83	34.19	36.98	37.36	54.00	16.64	Average
	2484.200	28.74	5.83	34.19	36.80	37.18	54.00	16.82	Average

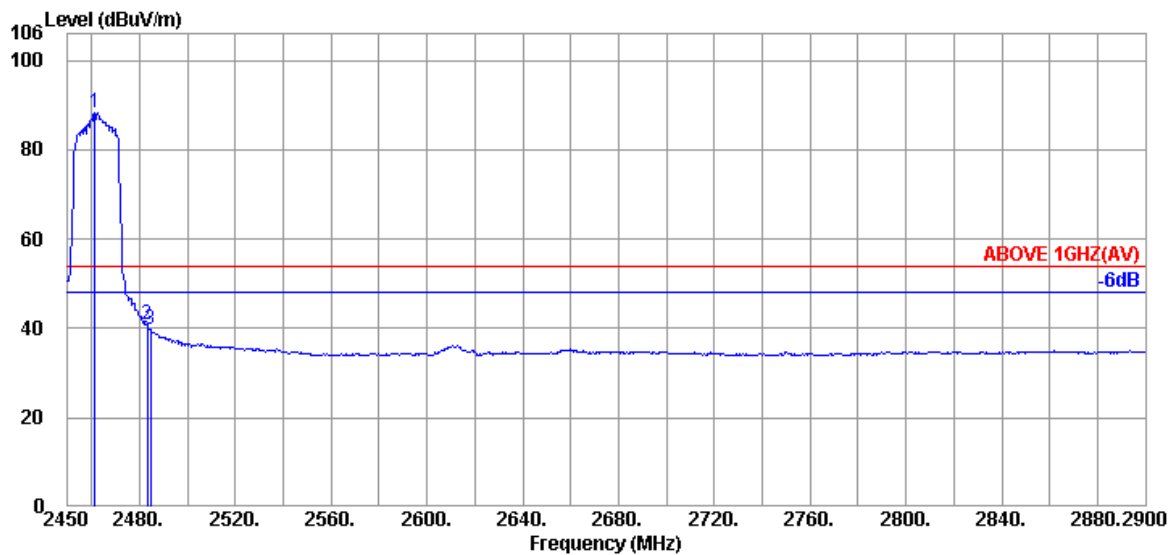
備註：“@”為主波，在此章節是不予以判定。

Mode	802.11n-HT20	Frequency	TX 2462MHz
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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
@	2463.050	28.66	5.81	34.21	97.08	97.34	---	---	Peak
	2483.300	28.74	5.83	34.19	52.69	53.07	74.00	20.93	Peak
	2485.100	28.74	5.83	34.19	51.60	51.98	74.00	22.02	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
@	2461.250	28.66	5.81	34.21	87.89	88.15	---	---	Average
	2483.300	28.74	5.83	34.19	40.46	40.84	54.00	13.16	Average
	2484.650	28.74	5.83	34.19	39.56	39.94	54.00	14.06	Average

備註：“@”為主波，在此章節是不予以判定。

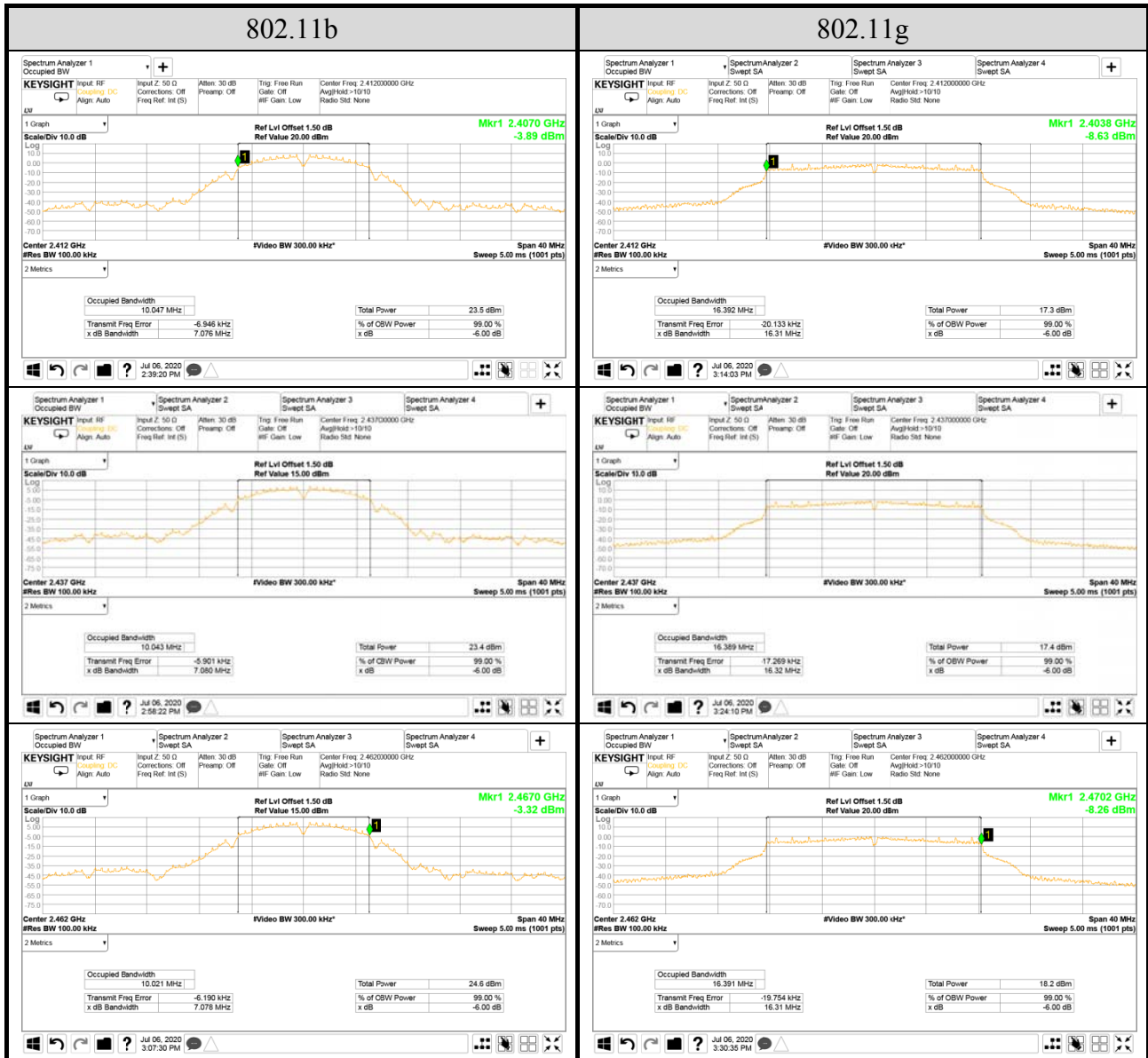
2. 發射頻寬之量測

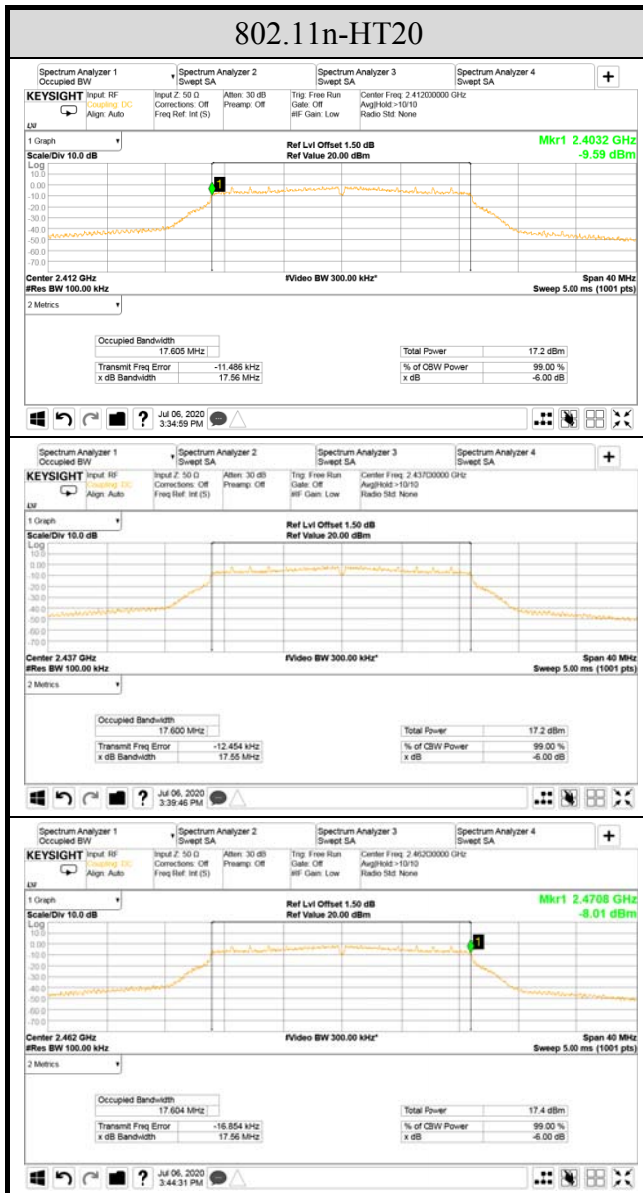
測試日期	2020/07/06	環境溫/濕度	26℃/45%
測試電壓	DC 12V (經電源供應器)	電纜損失	1.50dB
		測試人員	Brian Hsieh
Simultaneous Factor10 log(n)(Note: “n” is antenna number)		0	

2.1. 發射頻寬

模式	測試頻率 (MHz)	6dB 頻寬 (MHz)	限制值 (kHz)
802.11b	2412	7.076	>500
	2437	7.080	
	2462	7.078	
802.11g	2412	16.31	
	2437	16.32	
	2462	16.31	
802.11n-HT20	2412	17.56	
	2437	17.55	
	2462	17.56	

2.2. 發射頻寬之量測圖





3. 峰值輸出功率之量測

測試日期	2020/07/06	環境溫/濕度	26℃/45%
測試電壓	DC 12V (經電源供應器)	電纜損失	1.50dB
		測試人員	Brian Hsieh
Simultaneous Factor10 log(n)(Note: “n” is antenna number)		0	

3.1. 峰值輸出功率

模式	測試頻率 (MHz)	輸出功率(dBm)	限制值 (dBm)
802.11b	2412	20.42	30
	2437	20.66	
	2462	21.57	
802.11g	2412	22.44	
	2437	22.51	
	2462	23.32	
802.11n-HT20	2412	22.16	
	2437	22.99	
	2462	23.04	

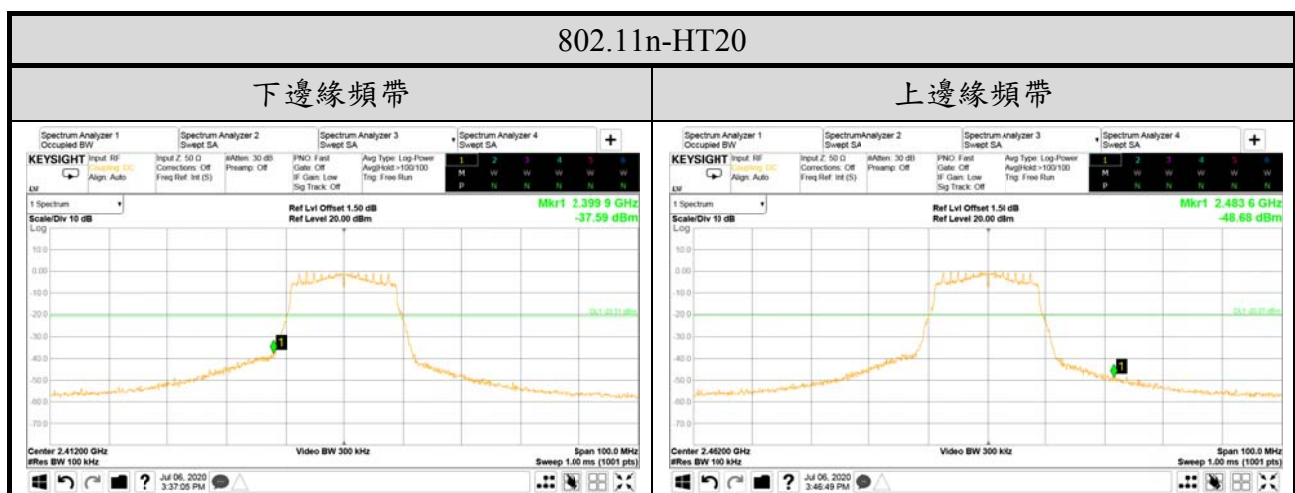
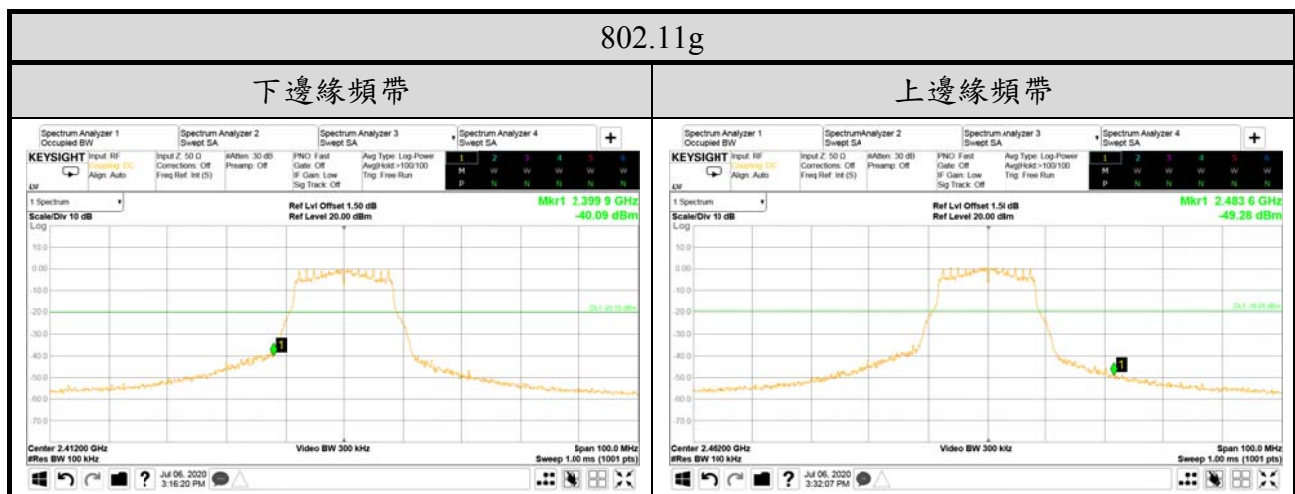
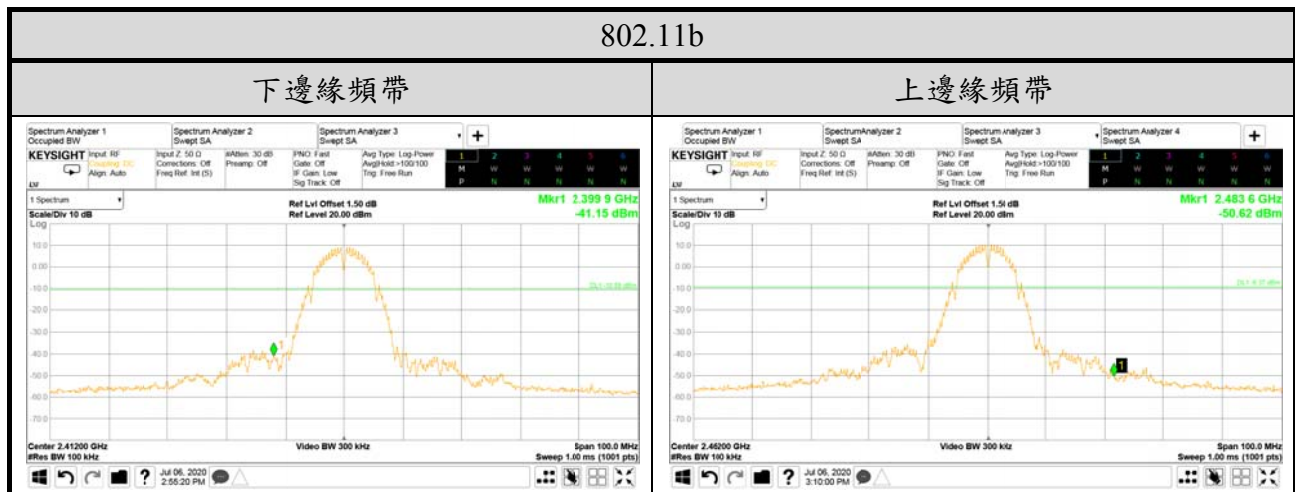
3.2. 平均輸出功率(參考用)

模式	測試頻率 (MHz)	Duty Cycle (X)	輸出功率			限制值 (dBm)
			輸出功率 (dBm)	10log(1/X)	Total 輸出功率(dBm)	
802.11b	2412	0.993	17.47	N/A	17.47	30
	2437		17.64		17.64	
	2462		18.56		18.56	
802.11g	2412	0.937	12.45	0.28	12.73	
	2437		12.54		12.82	
	2462		13.47		13.75	
802.11n-HT20	2412	0.933	11.90	0.30	12.20	
	2437		12.24		12.54	
	2462		12.60		12.90	

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)

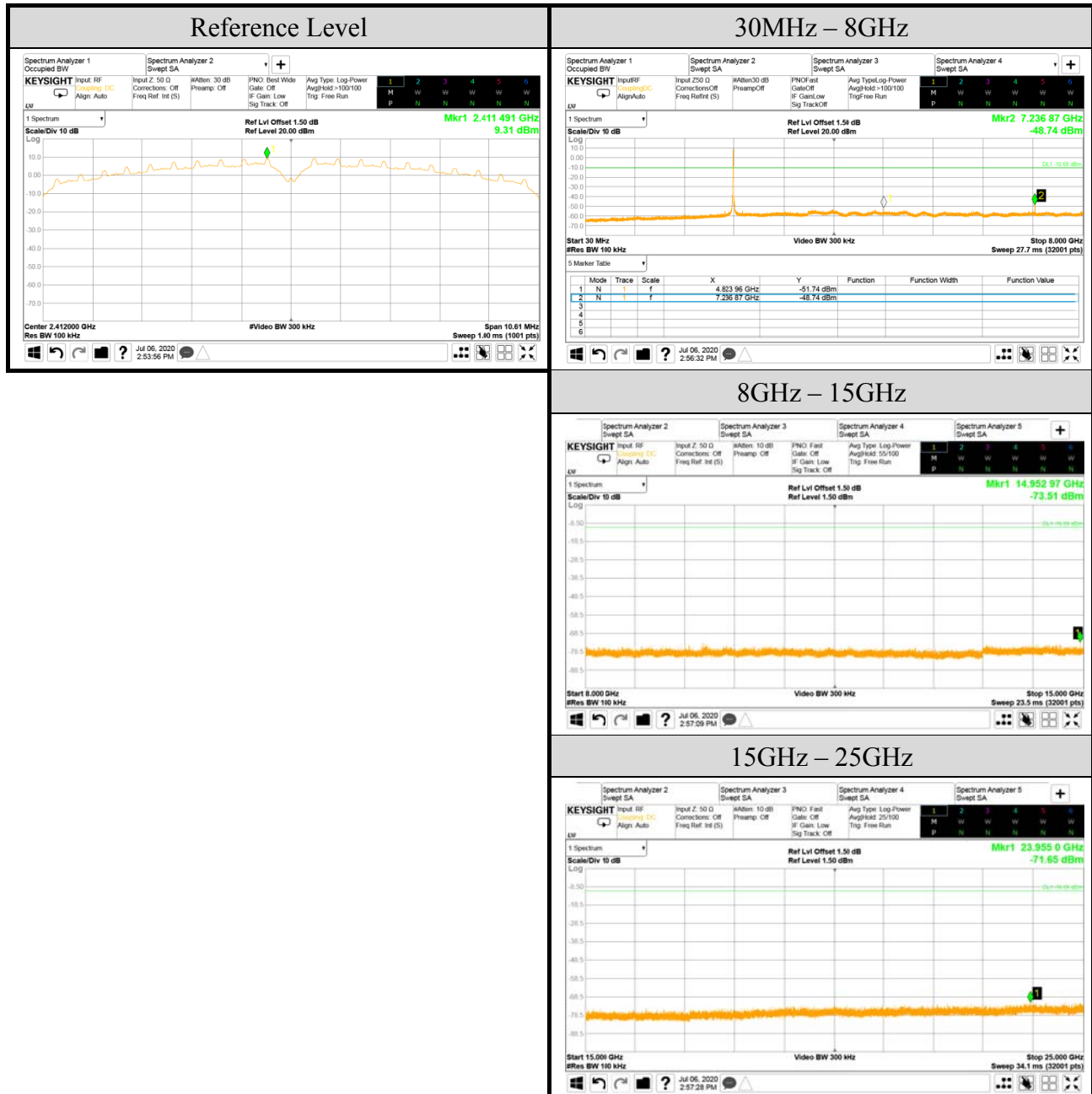
4. 頻帶邊緣之 RF 傳導發射之量測

測試日期	2020/07/06	環境溫/濕度	26°C/45%
測試電壓	DC 12V (經電源供應器)	電纜損失	1.50dB
Simultaneous Factor10 log(n)(Note: “n” is antenna number)		測試人員	Brian Hsieh
			0

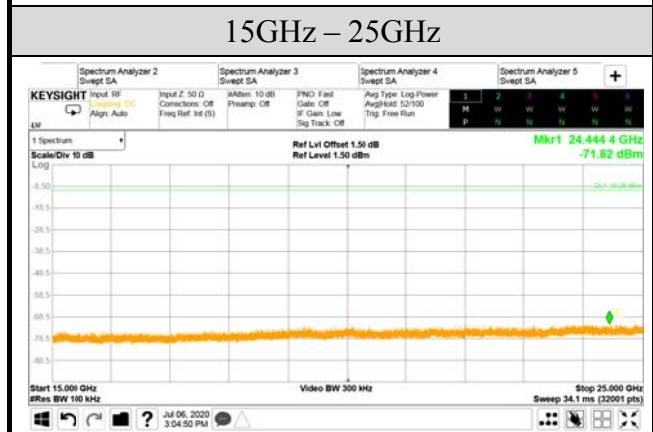
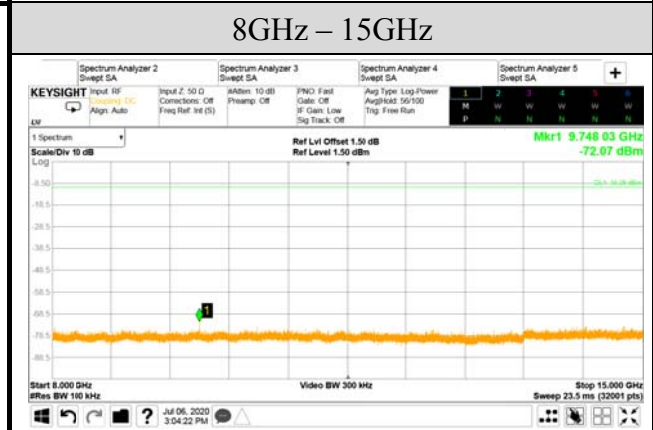
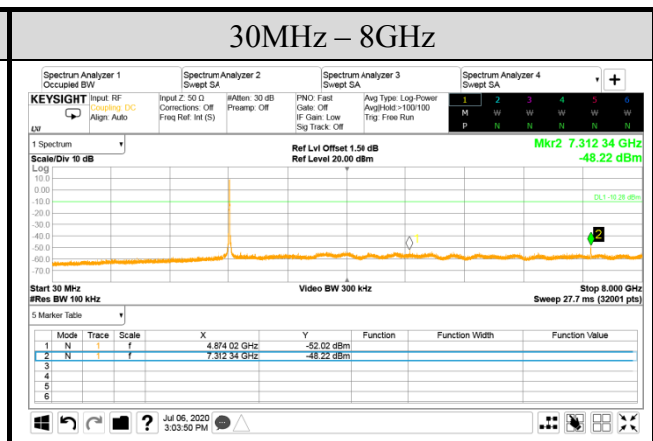
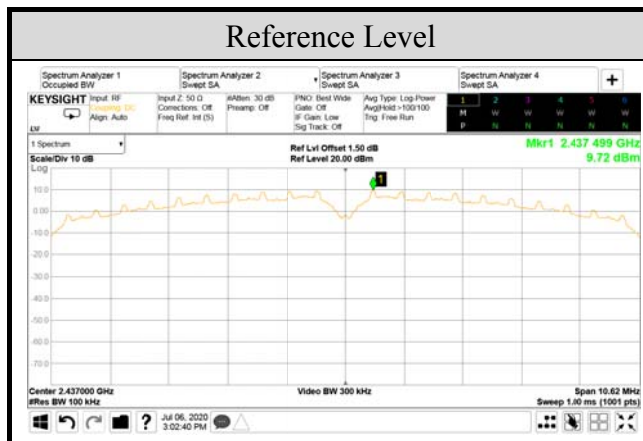


5. 混附發射之 RF 傳導發射之量測

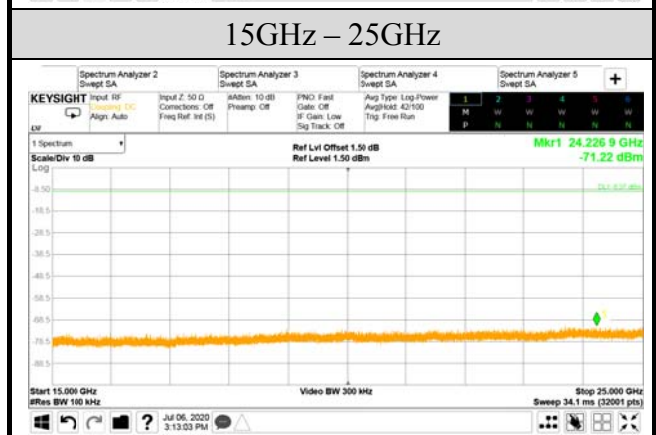
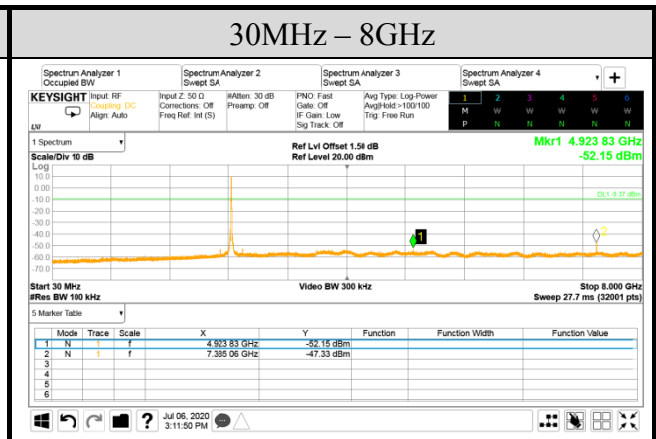
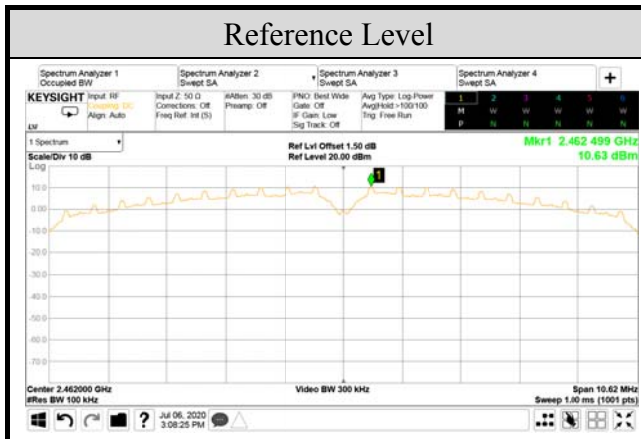
測試日期	2020/07/06	環境溫/濕度	26°C/45%
電纜損失	1.5dB	測試人員	Brian Hsieh
測試電壓	DC 12V (經電源供應器)	模式	802.11b
		測試頻率	2412MHz
Simultaneous Factor10 log(n) (Note: “n” is antenna number)		0	



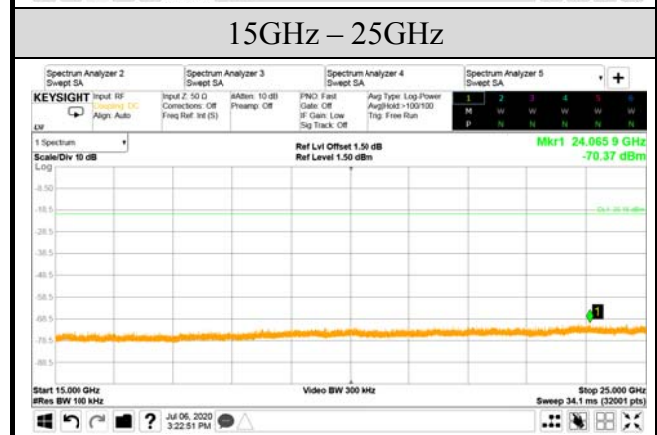
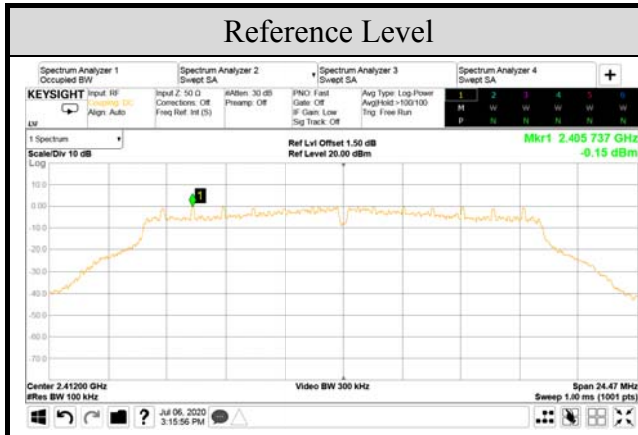
測試日期	2020/07/06	環境溫/濕度	26°C/45%
電纜損失	1.5dB	測試人員	Brian Hsieh
測試電壓	DC 12V (經電源供應器)	模式	802.11b
		測試頻率	2437MHz
Simultaneous Factor10 log(n) (Note: “n” is antenna number)		0	



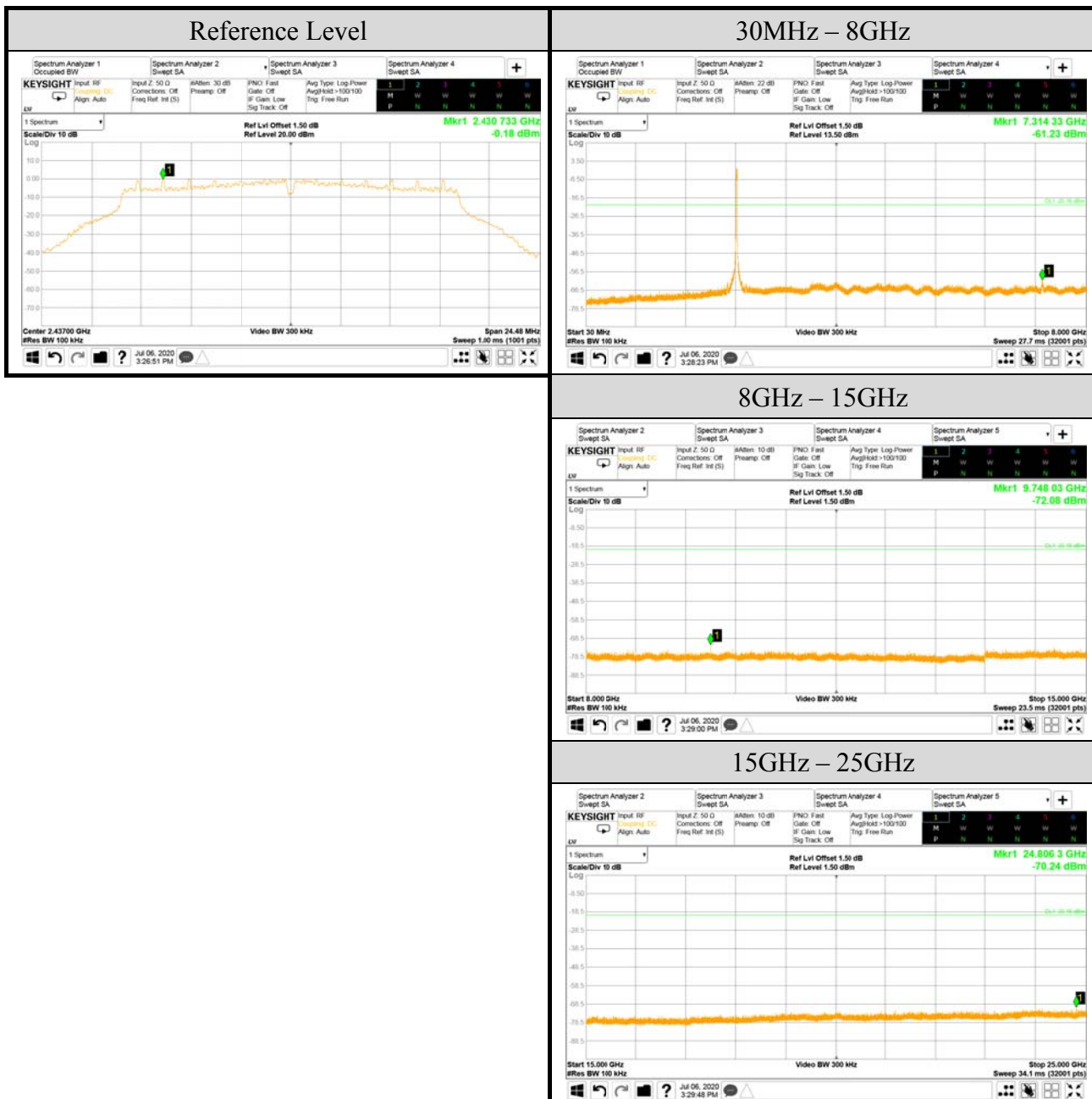
測試日期	2020/07/06	環境溫/濕度	26°C/45%
電纜損失	1.5dB	測試人員	Brian Hsieh
測試電壓	DC 12V (經電源供應器)	模式	802.11b
		測試頻率	2462MHz
Simultaneous Factor10 log(n) (Note: “n” is antenna number)		0	



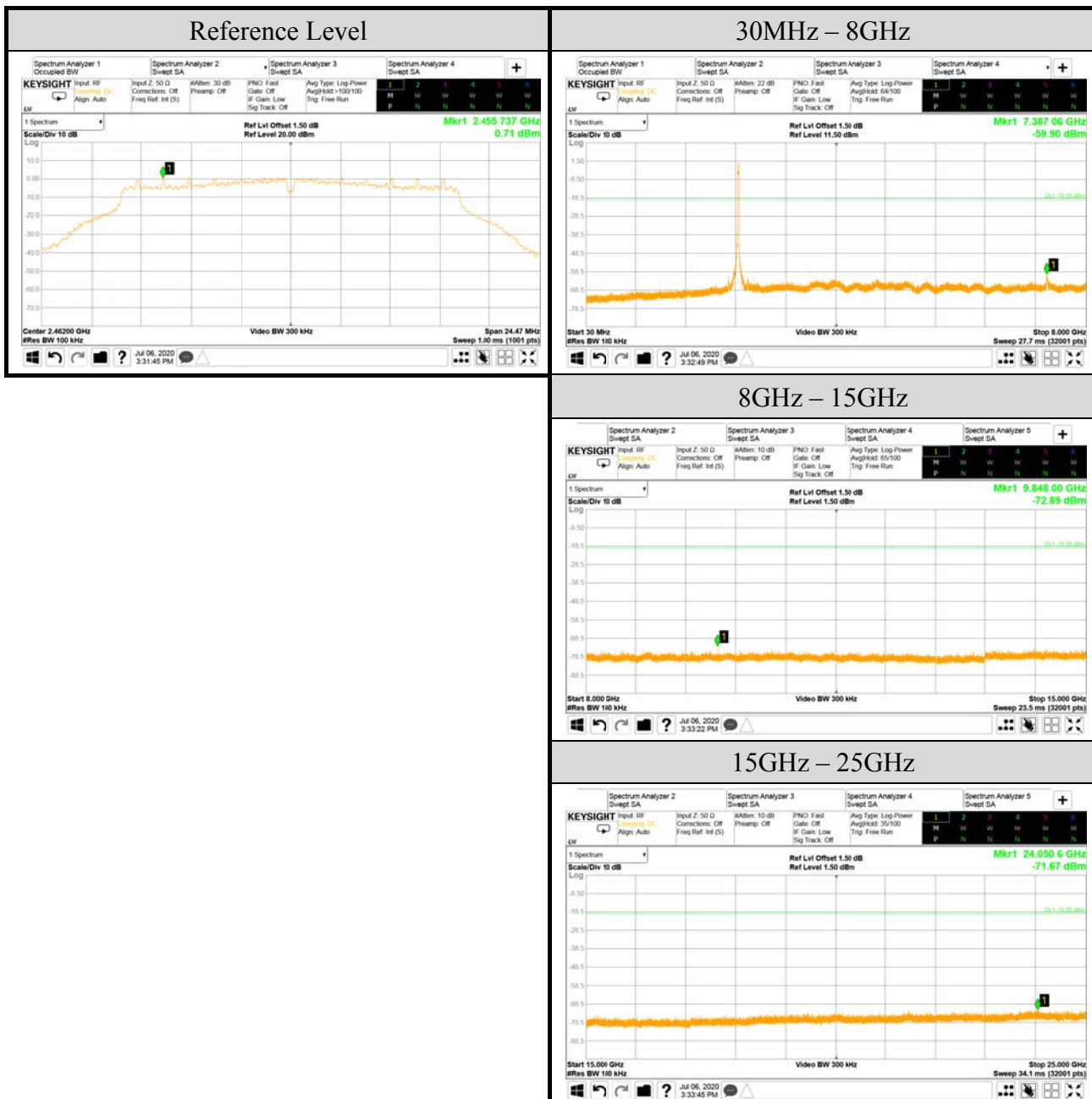
測試日期	2020/07/06	環境溫/濕度	26°C/45%
電纜損失	1.5dB	測試人員	Brian Hsieh
測試電壓	DC 12V (經電源供應器)	模式	802.11g
		測試頻率	2412MHz
Simultaneous Factor10 log(n) (Note: “n” is antenna number)		0	



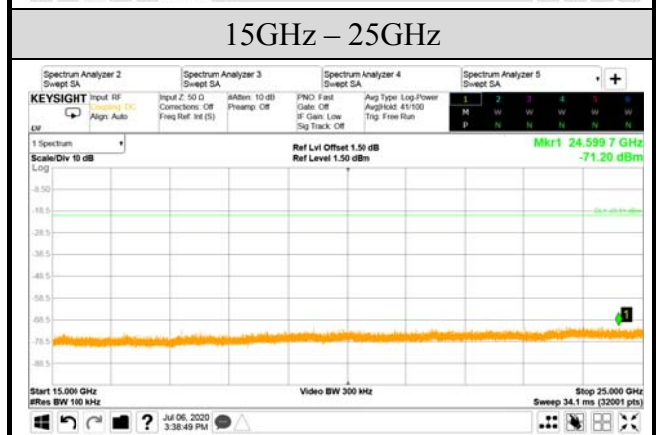
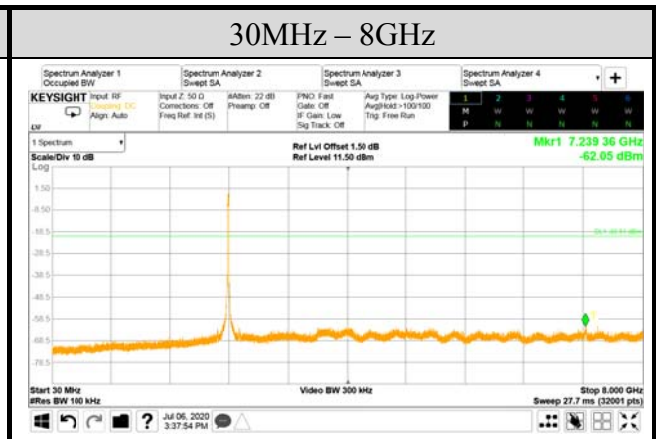
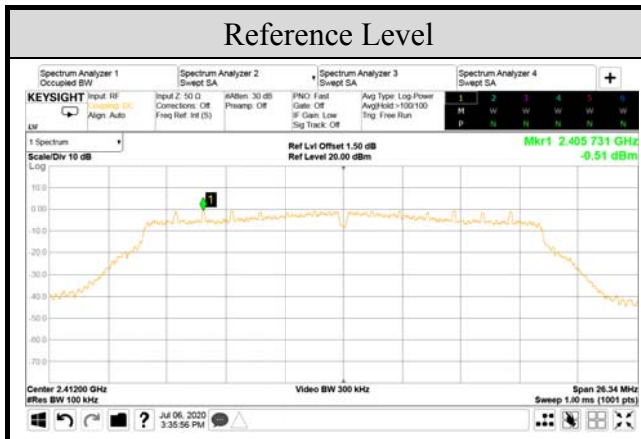
測試日期	2020/07/06	環境溫/濕度	26°C/45%
電纜損失	1.5dB	測試人員	Brian Hsieh
測試電壓	DC 12V (經電源供應器)	模式	802.11g
		測試頻率	2437MHz
Simultaneous Factor10 log(n) (Note: “n” is antenna number)		0	



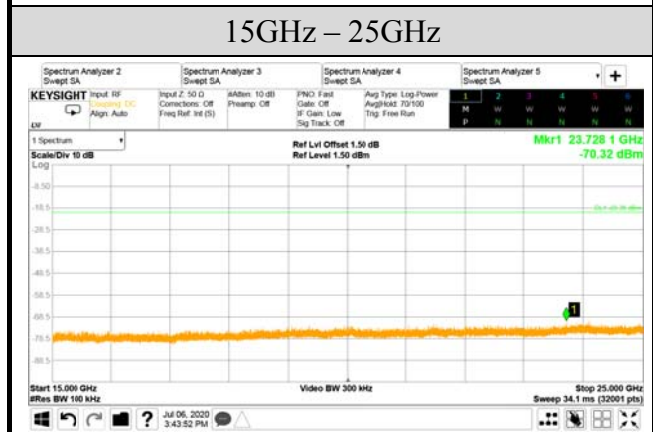
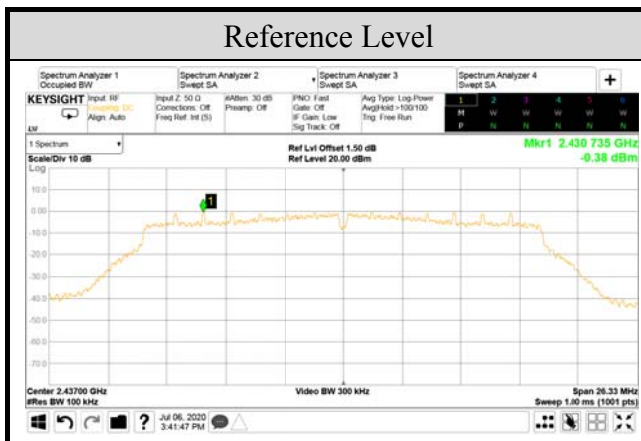
測試日期	2020/07/06	環境溫/濕度	26°C/45%
電纜損失	1.5dB	測試人員	Brian Hsieh
測試電壓	DC 12V (經電源供應器)	模式	802.11g
		測試頻率	2462MHz
Simultaneous Factor10 log(n) (Note: “n” is antenna number)		0	



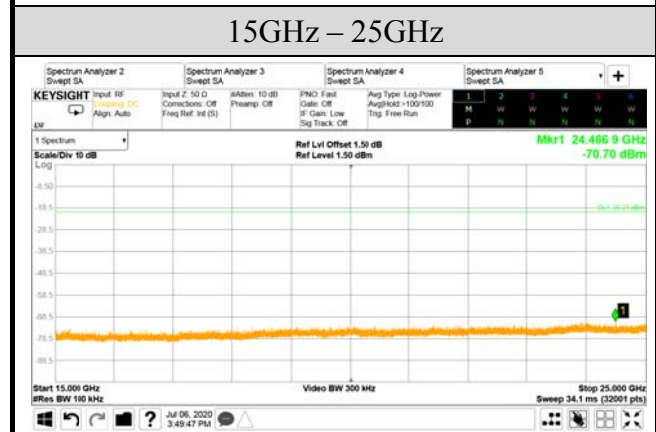
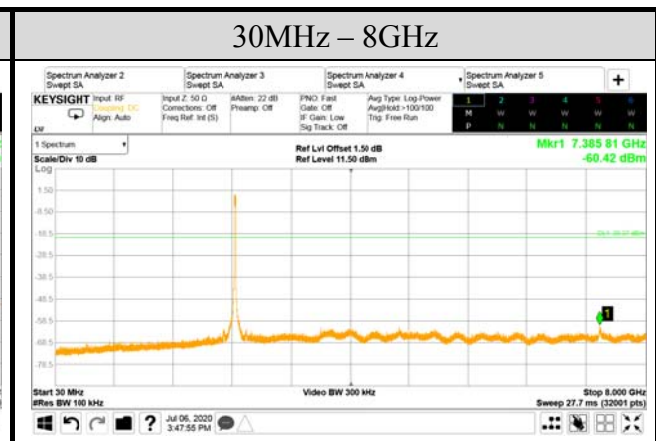
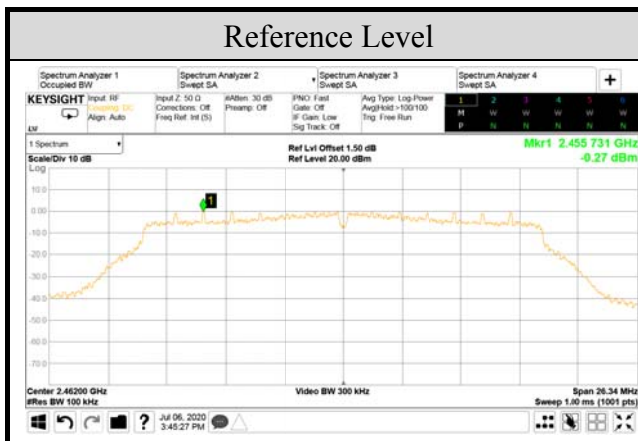
測試日期	2020/07/06	環境溫/濕度	26°C/45%
電纜損失	1.5dB	測試人員	Brian Hsieh
測試電壓	DC 12V (經電源供應器)	模式	802.11n-HT20
		測試頻率	2412MHz
Simultaneous Factor10 log(n) (Note: “n” is antenna number)		0	



測試日期	2020/07/06	環境溫/濕度	26°C/45%
電纜損失	1.5dB	測試人員	Brian Hsieh
測試電壓	DC 12V (經電源供應器)	模式	802.11n-HT20
		測試頻率	2437MHz
Simultaneous Factor10 log(n) (Note: “n” is antenna number)		0	



測試日期	2020/07/06	環境溫/濕度	26°C/45%
電纜損失	1.5dB	測試人員	Brian Hsieh
測試電壓	DC 12V (經電源供應器)	模式	802.11n-HT20
		測試頻率	2462MHz
Simultaneous Factor10 log(n) (Note: “n” is antenna number)		0	



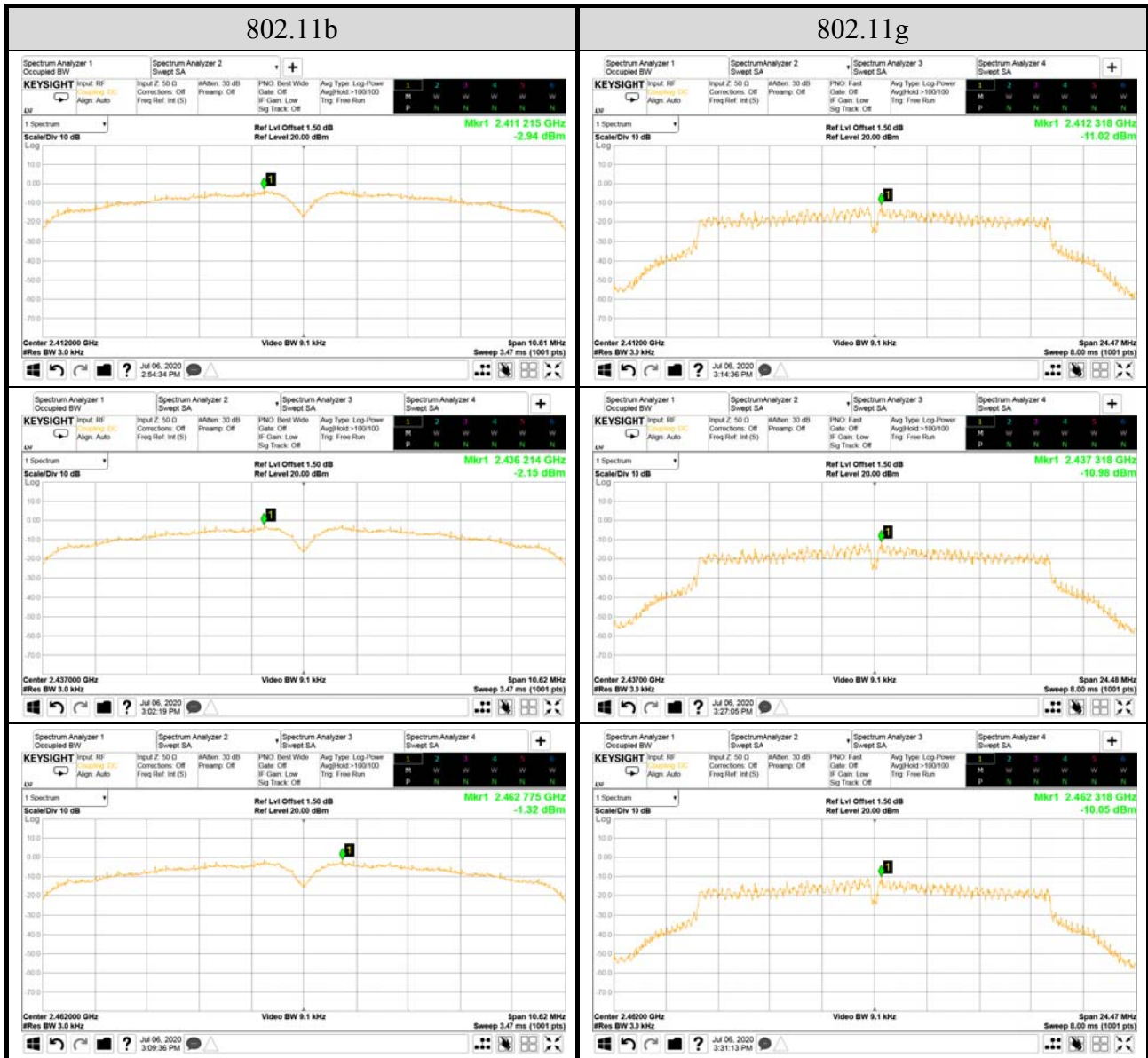
6. 功率密度之量測

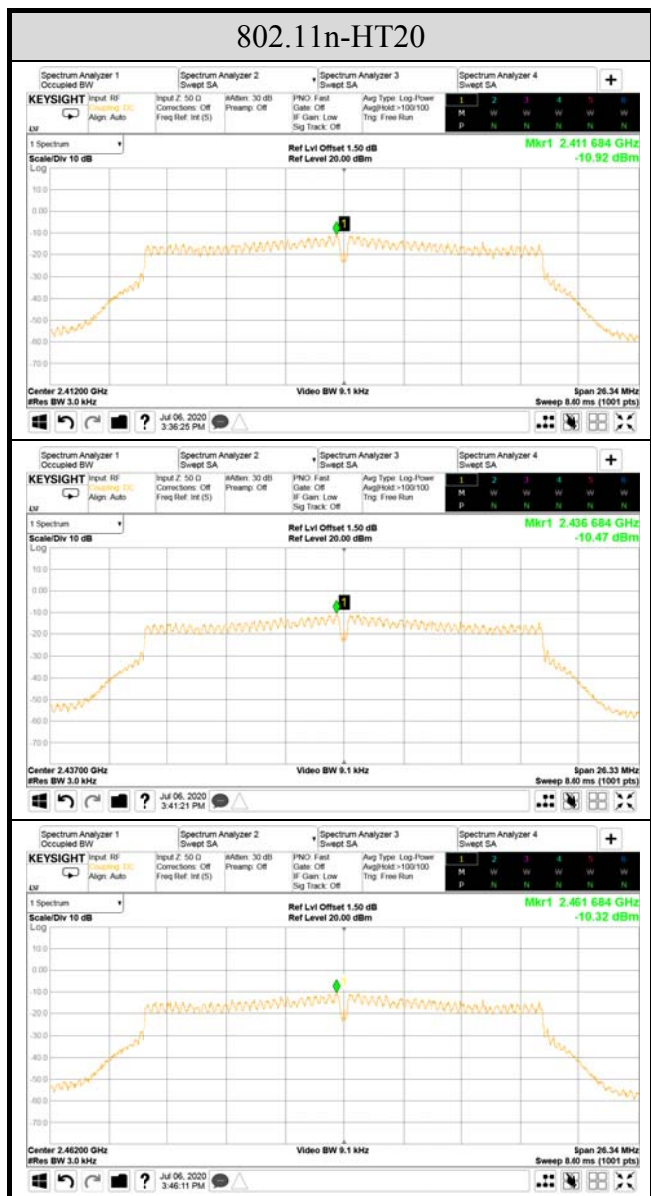
測試日期	2020/07/06	環境溫/濕度	26℃/45%
測試電壓	DC 12V (經電源供應器)	電纜損失	1.50dB
		測試人員	Brian Hsieh
Simultaneous Factor10 log(n)(Note: “n” is antenna number)		0	

6.1. 功率密度

模式	測試頻率 (MHz)	功率密度 (dBm)	限制值 (dBm)
802.11b	2412	-2.94	<8dBm/3kHz
	2437	-2.15	
	2462	-1.32	
802.11g	2412	-11.02	
	2437	-10.98	
	2462	-10.05	
802.11n-HT20	2412	-10.92	
	2437	-10.47	
	2462	-10.32	

6.2. 功率密度之量測圖





7. 電波暴露量之量測

測試日期	2020/07/06	環境溫/濕度	26°C/45%
測試電壓	DC 12V (經電源供應器)	電纜損失	1.50dB
		測試人員	Brian Hsieh
Simultaneous Factor10 log(n)(Note: “n” is antenna number)		0	

● WLAN 2.4G 模式

距離人體(r):	20	cm	
最大發射功率(P):	23.32	dBm	= 214.783 mW
最大天線增益(G):	1.65	dB	= 1.462 Numerical
$MPE(S) = (P * G) / (4 * \pi * r^2) =$ 0.0625 mW/cm ²			
註：1. 最大發射功率系指2.4GHz各模式/頻道中最大之發射功率。			
2. 電磁波曝露量MPE標準值1mW/cm ² ，送測產品實測值為：0.0625 mW/cm ²			

● WLAN 5G 模式

距離人體(r):	20	cm	
最大發射功率(P):	11.43	dBm	= 13.900 mW
最大天線增益(G):	2.45	dB	= 1.758 Numerical
$MPE(S) = (P * G) / (4 * \pi * r^2) =$ 0.0049 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。			
2. 電磁波曝露量MPE標準值1mW/cm ² ，送測產品實測值為：0.0049 mW/cm ²			

● BT 模式

距離人體(r):	20	cm	
最大發射功率(P):	2.35	dBm	= 1.718 mW
最大天線增益(G):	1.65	dB	= 1.462 Numerical
$MPE(S) = (P * G) / (4 * \pi * r^2) =$ 0.0005 mW/cm ²			
註：1. 最大發射功率系指BT & BLE頻道中最大之發射功率。			
2. 電磁波曝露量MPE標準值1mW/cm ² ，送測產品實測值為：0.0005 mW/cm ²			

- 同時發射模式：該產品 WLAN 與 BT 為個別切換使用，故無同時發射加總。