附錄一

受測裝置之測試結果

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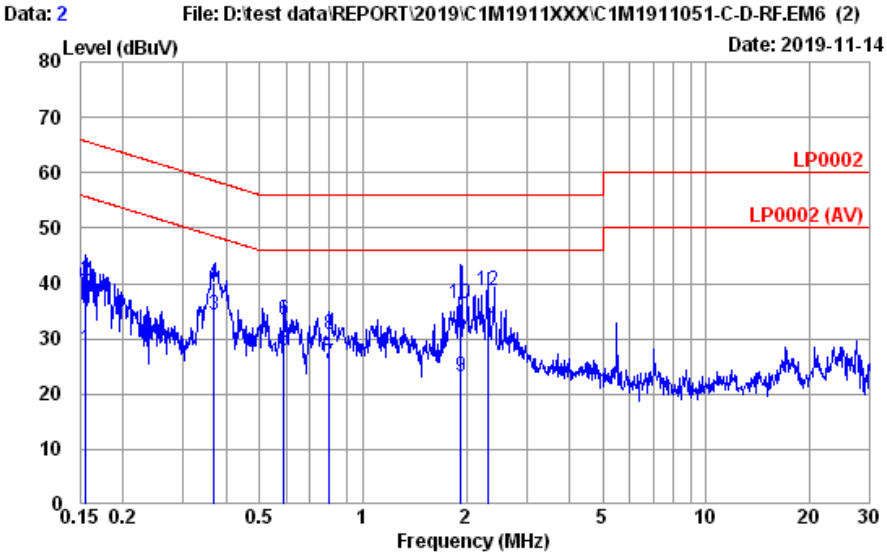
1. 電源線傳導干擾之量測

測試日期	2019/11/14	環境溫/濕度	25℃/47%
測試電壓	AC 110V, 60Hz (經電源供應器供電)	測試人員	Chucky Chiu

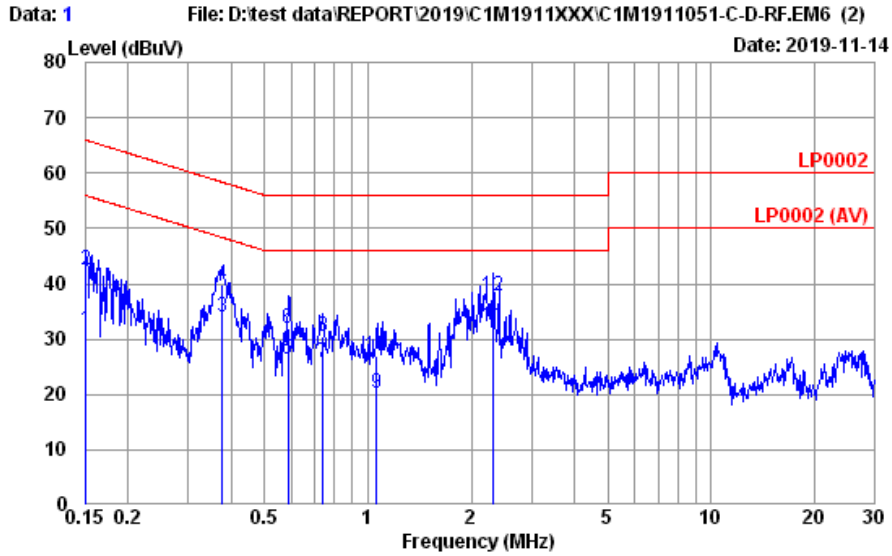


Site no. : No.8 Shielded Room
Data no. : 2
Condition : ESH3-Z5 861189/008
LISN Phase : NEUTRAL
Limit : LP0002
Env. / Ins. : 25°C / 47% ESR3 (1774)
Engineer : Chucky Chiu
EUT : SHP-HB700W/TW
Power Rating : AC 110V/60Hz
Test Mode : NORMAL

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.156	0.02	0.04	9.86	18.22	28.14	55.69	27.55	Average
2	0.156	0.02	0.04	9.86	30.53	40.45	65.69	25.24	QP
3	0.369	0.03	0.04	9.86	24.22	34.15	48.52	14.37	Average
4	0.369	0.03	0.04	9.86	30.08	40.01	58.52	18.51	QP
5	0.590	0.04	0.04	9.86	18.04	27.98	46.00	18.02	Average
6	0.590	0.04	0.04	9.86	23.42	33.36	56.00	22.64	QP
7	0.800	0.05	0.05	9.86	15.43	25.39	46.00	20.61	Average
8	0.800	0.05	0.05	9.86	20.85	30.81	56.00	25.19	QP
9	1.928	0.07	0.07	9.86	13.04	23.04	46.00	22.96	Average
10	1.928	0.07	0.07	9.86	26.21	36.21	56.00	19.79	QP
11	2.309	0.08	0.07	9.86	21.70	31.71	46.00	14.29	Average
12	2.309	0.08	0.07	9.86	28.65	38.66	56.00	17.34	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.

測試日期	2019/11/14	環境溫/濕度	25℃/47%
測試電壓	AC 110V, 60Hz (經電源供應器供電)	測試人員	Chucky Chiu



Site no. : No.8 Shielded Room Data no. : 1
Condition : ESH3-Z5 861189/008 LISN Phase : LINE
Limit : LP0002
Env. / Ins. : 25°C / 47% ESR3 (1774) Engineer : Chucky Chiu
EUT : SHP-HB700W/TW
Power Rating : AC 110V/60Hz
Test Mode : NORMAL

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.151	0.03	0.04	9.86	21.75	31.68	55.96	24.28	Average
2	0.151	0.03	0.04	9.86	32.48	42.41	65.96	23.55	QP
3	0.377	0.04	0.04	9.86	24.04	33.98	48.34	14.36	Average
4	0.377	0.04	0.04	9.86	29.81	39.75	58.34	18.59	QP
5	0.587	0.04	0.04	9.86	16.57	26.51	46.00	19.49	Average
6	0.587	0.04	0.04	9.86	22.05	31.99	56.00	24.01	QP
7	0.739	0.05	0.05	9.86	15.93	25.89	46.00	20.11	Average
8	0.739	0.05	0.05	9.86	20.38	30.34	56.00	25.66	QP
9	1.059	0.05	0.05	9.86	10.40	20.36	46.00	25.64	Average
10	1.059	0.05	0.05	9.86	17.14	27.10	56.00	28.90	QP
11	2.309	0.09	0.07	9.86	22.16	32.18	46.00	13.82	Average
12	2.309	0.09	0.07	9.86	27.73	37.75	56.00	18.25	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.

2. 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 2.1 ~2.2：

Normal 模式

模式	供電	動作狀態	基本頻率	量測頻率範圍
Normal	經電源供應器供電 (AC 110V/60Hz)	Operating	---	30-1000MHz
				1000-25000MHz
	經 UPS 供電 (DC 24V)	Operating	---	30-1000MHz
				1000-25000MHz

Wireless LAN 模式

支援 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。

模式	動作狀態	基本頻率	量測頻率範圍
802.11b	發射	2462MHz*	30-1000MHz
			1000-25000MHz
802.11g		2462MHz	1000-25000MHz
802.11n-HT20		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。

Zigbee 測試模式

模式	動作狀態	基本頻率	量測頻率範圍
Zigbee	發射	2405MHz*	30-1000MHz
			1000-25000MHz
		2440MHz	1000-25000MHz
		2480MHz	1000-25000MHz
	接收	2440MHz	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 2.3。

模式	動作狀態	基本頻率	量測頻率範圍
802.11b	發射	2412MHz	2310-2420MHz
		2462MHz	2430-2900MHz
802.11g	發射	2412MHz	2310-2430MHz
		2462MHz	2430-2900MHz
802.11n-HT20	發射	2412MHz	2310-2430MHz
		2462MHz	2430-2900MHz
Zigbee	發射	2405MHz	2310-2410MHz
		2480MHz	2430-2900MHz

測試日期	2019/11/14	環境溫/濕度	24℃/51~57%
測試電壓	(1) AC 110V, 60Hz (經電源供應器供電) (2) DC 24V (經 UPS 供電)	測試人員	Kuper Hsu

2.1. 30-1000MHz 頻率範圍，其他不必要發射量測

- Normal 模式

Mode	Operating (經電源供應器供電)	Frequency	---

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
33.88	23.04	1.27	3.73	28.04	40.00	11.96	Peak
205.57	16.59	3.48	8.11	28.18	43.50	15.32	Peak
411.21	22.57	5.98	14.94	43.49	46.00	2.51	Peak
514.03	23.86	6.77	5.54	36.17	46.00	9.83	Peak
771.08	26.21	7.75	4.76	38.72	46.00	7.28	Peak
986.42	27.97	8.96	1.10	38.03	54.00	15.97	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
31.94	24.34	1.23	12.47	38.04	40.00	1.96	Peak
205.57	16.59	3.48	9.65	29.72	43.50	13.78	Peak
411.21	22.57	5.98	10.16	38.71	46.00	7.29	Peak
514.03	23.86	6.77	9.51	40.14	46.00	5.86	Peak
616.85	24.88	6.97	6.05	37.90	46.00	8.10	Peak
971.87	27.87	8.88	1.72	38.47	54.00	15.53	Peak

Mode	Operating (經 UPS 供電)	Frequency	---

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
32.91	23.73	1.25	1.58	26.56	40.00	13.44	Peak
205.57	16.59	3.48	9.21	29.28	43.50	14.22	Peak
411.21	22.57	5.98	12.65	41.20	46.00	4.80	Peak
757.50	26.07	7.68	2.18	35.93	46.00	10.07	Peak
933.07	27.56	8.65	1.39	37.60	46.00	8.40	Peak
978.66	27.92	8.92	1.16	38.00	54.00	16.00	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
33.88	23.04	1.27	9.62	33.93	40.00	6.07	Peak
205.57	16.59	3.48	9.03	29.10	43.50	14.40	Peak
411.21	22.57	5.98	10.27	38.82	46.00	7.18	Peak
514.03	23.86	6.77	14.24	44.87	46.00	1.13	Peak
616.85	24.88	6.97	4.63	36.48	46.00	9.52	Peak

970.90	27.87	8.87	2.14	38.88	54.00	15.12	Peak

- Wireless LAN 模式

Mode	802.11b	Frequency	TX 2462MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
167.74	16.05	3.10	11.84	30.99	43.50	12.51	Peak
239.52	18.30	3.84	16.38	38.52	46.00	7.48	Peak
411.21	22.57	5.98	13.02	41.57	46.00	4.43	Peak
514.03	23.86	6.77	12.79	43.42	46.00	2.58	Peak
703.18	25.49	7.38	6.19	39.06	46.00	6.94	Peak
982.54	27.94	8.94	3.13	40.01	54.00	13.99	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
79.47	13.44	2.03	23.40	38.87	40.00	1.13	Peak
240.49	18.38	3.85	7.96	30.19	46.00	15.81	Peak
411.21	22.57	5.98	10.76	39.31	46.00	6.69	Peak
514.03	23.86	6.77	9.79	40.42	46.00	5.58	Peak
664.38	25.21	7.20	7.14	39.55	46.00	6.45	Peak
979.63	27.92	8.92	2.11	38.95	54.00	15.05	Peak

Mode	Wireless LAN	Frequency	RX 2437MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
205.57	16.59	3.48	13.01	33.08	43.50	10.42	Peak
240.49	18.38	3.85	16.57	38.80	46.00	7.20	Peak
411.21	22.57	5.98	12.85	41.40	46.00	4.60	Peak
514.03	23.86	6.77	12.67	43.30	46.00	2.70	Peak
701.24	25.47	7.37	6.32	39.16	46.00	6.84	Peak
997.09	28.04	9.02	2.67	39.73	54.00	14.27	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
79.47	13.44	2.03	23.40	38.87	40.00	1.13	Peak
411.21	22.57	5.98	8.51	37.06	46.00	8.94	Peak
514.03	23.86	6.77	9.75	40.38	46.00	5.62	Peak
673.11	25.27	7.24	7.39	39.90	46.00	6.10	Peak
911.73	27.41	8.52	2.23	38.16	46.00	7.84	Peak
980.60	27.92	8.93	1.70	38.55	54.00	15.45	Peak

- Zigbee 測試模式

Mode	Zigbee	Frequency	TX 2405MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
167.74	16.05	3.10	8.97	28.12	43.50	15.38	Peak
328.76	20.56	4.89	12.84	38.29	46.00	7.71	Peak
411.21	22.57	5.98	12.62	41.17	46.00	4.83	Peak
514.03	23.86	6.77	12.25	42.88	46.00	3.12	Peak
682.81	25.33	7.28	6.39	39.00	46.00	7.00	Peak
978.66	27.92	8.92	2.82	39.66	54.00	14.34	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
78.50	13.33	2.02	23.35	38.70	40.00	1.30	Peak
240.49	18.38	3.85	8.44	30.67	46.00	15.33	Peak
411.21	22.57	5.98	9.78	38.33	46.00	7.67	Peak
514.03	23.86	6.77	7.30	37.93	46.00	8.07	Peak
675.05	25.29	7.25	8.45	40.99	46.00	5.01	Peak
984.48	27.97	8.95	2.97	39.89	54.00	14.11	Peak

Mode	Zigbee	Frequency	RX 2440MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
205.57	16.59	3.48	13.45	33.52	43.50	9.98	Peak
240.49	18.38	3.85	15.27	37.50	46.00	8.50	Peak
411.21	22.57	5.98	12.38	40.93	46.00	5.07	Peak
514.03	23.86	6.77	13.05	43.68	46.00	2.32	Peak
667.29	25.24	7.21	7.39	39.84	46.00	6.16	Peak
972.84	27.87	8.89	3.26	40.02	54.00	13.98	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
77.53	13.25	2.00	23.44	38.69	40.00	1.31	Peak
240.49	18.38	3.85	8.85	31.08	46.00	14.92	Peak
411.21	22.57	5.98	10.51	39.06	46.00	6.94	Peak
514.03	23.86	6.77	8.89	39.52	46.00	6.48	Peak
672.14	25.27	7.23	8.59	41.09	46.00	4.91	Peak
961.20	27.79	8.82	2.42	39.03	54.00	14.97	Peak

2.2. 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	Operating (經電源供應器供電)			Frequency	---		
Antenna at Horizontal Polarization							
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4838.00	34.10	10.23	1.50	45.83	54.00	8.17	Peak
Antenna at Vertical Polarization							
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4838.00	34.10	10.23	-2.63	41.70	54.00	12.30	Peak

Mode	Operating (經 UPS 供電)			Frequency	---		
Antenna at Horizontal Polarization							
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4880.00	34.37	10.24	-1.13	43.48	54.00	10.52	Peak
Antenna at Vertical Polarization							
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4830.00	34.00	10.22	-0.39	43.83	54.00	10.17	Peak

- Wireless LAN 模式

Mode	802.11b	Frequency	TX 2462MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4924.00	34.43	10.26	2.09	46.78	54.00	7.22	Peak
7385.00	35.90	12.15	4.60	52.65	54.00	1.35	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4924.00	34.43	10.26	-3.64	41.05	54.00	12.95	Peak
7385.00	35.90	12.15	0.40	48.45	54.00	5.55	Peak

Mode	802.11g	Frequency	TX 2462MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4924.00	34.43	10.26	0.18	44.87	54.00	9.13	Peak
7385.00	35.90	12.15	5.39	53.44	54.00	0.56	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4924.00	34.43	10.26	-2.86	41.83	54.00	12.17	Peak
7385.00	35.90	12.15	0.35	48.40	54.00	5.60	Peak

Mode	802.11n-HT20	Frequency	TX 2462MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4924.00	34.43	10.26	-1.41	43.28	54.00	10.72	Peak
7385.00	35.90	12.15	4.46	52.51	54.00	1.49	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4924.00	34.43	10.26	-3.05	41.64	54.00	12.36	Peak
7385.00	35.90	12.15	-2.47	45.58	54.00	8.42	Peak

Mode	Wireless LAN	Frequency	RX 2437MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4874.00	34.37	10.24	-2.15	42.46	54.00	11.54	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4874.00	34.37	10.24	-3.34	41.27	54.00	12.73	Peak

- Zigbee 測試模式

Mode	Zigbee	Frequency	TX 2405MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4810.00	33.90	10.22	2.71	46.83	74.00	27.17	Peak
7217.00	35.70	12.06	0.06	47.82	74.00	26.18	Peak

Emission Frequency (MHz)	Peak Emission Level (dBμV/m)	DCCF (dB)	Average Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
4810.00	46.83	-29.94	16.89	54.00	37.11	Average
7217.00	47.82	-29.94	17.88	54.00	36.12	Average

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4810.00	33.90	10.22	1.80	45.92	74.00	28.08	Peak
7217.00	35.70	12.06	0.22	47.98	74.00	26.02	Peak

Emission Frequency (MHz)	Peak Emission Level (dBμV/m)	DCCF (dB)	Average Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
4810.00	45.92	-29.94	15.98	54.00	38.02	Average
7217.00	47.98	-29.94	18.04	54.00	35.96	Average

Mode	Zigbee	Frequency	TX 2440MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4880.00	34.37	10.24	4.07	48.68	74.00	25.32	Peak

Emission Frequency (MHz)	Peak Emission Level (dBμV/m)	DCCF (dB)	Average Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
4880.00	48.68	-29.94	18.74	54.00	35.26	Average

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4880.00	34.37	10.24	0.26	44.87	74.00	29.13	Peak

Emission Frequency (MHz)	Peak Emission Level (dBμV/m)	DCCF (dB)	Average Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
4880.00	44.87	-29.94	14.93	54.00	39.07	Average

Mode	Zigbee	Frequency	TX 2480MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4960.00	34.27	10.27	3.71	48.25	74.00	25.75	Peak

Emission Frequency (MHz)	Peak Emission Level (dBμV/m)	DCCF (dB)	Average Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
4960.00	48.25	-29.94	18.31	54.00	35.69	Average

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4960.00	34.27	10.27	-1.10	43.44	74.00	30.56	Peak

Emission Frequency (MHz)	Peak Emission Level (dBμV/m)	DCCF (dB)	Average Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
4960.00	43.44	-29.94	13.50	54.00	40.50	Average

Mode	Zigbee	Frequency	RX 2440MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4880.00	34.37	10.24	-3.16	41.45	54.00	12.55	Peak

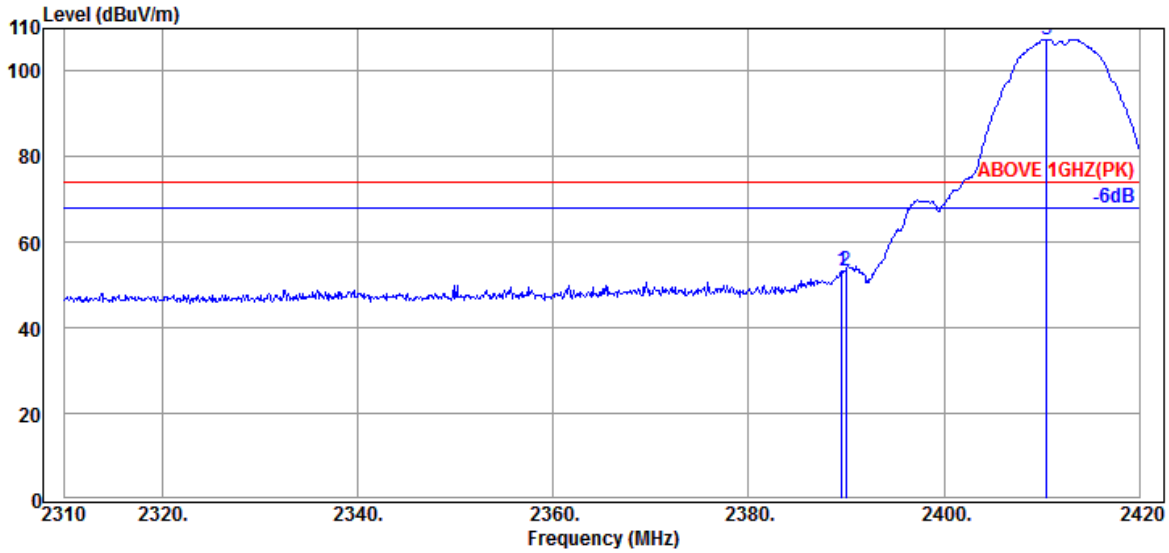
Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4880.00	34.37	10.24	-3.25	41.36	54.00	12.64	Peak

2.3. 禁用頻帶量測結果 (其他不必要發射)

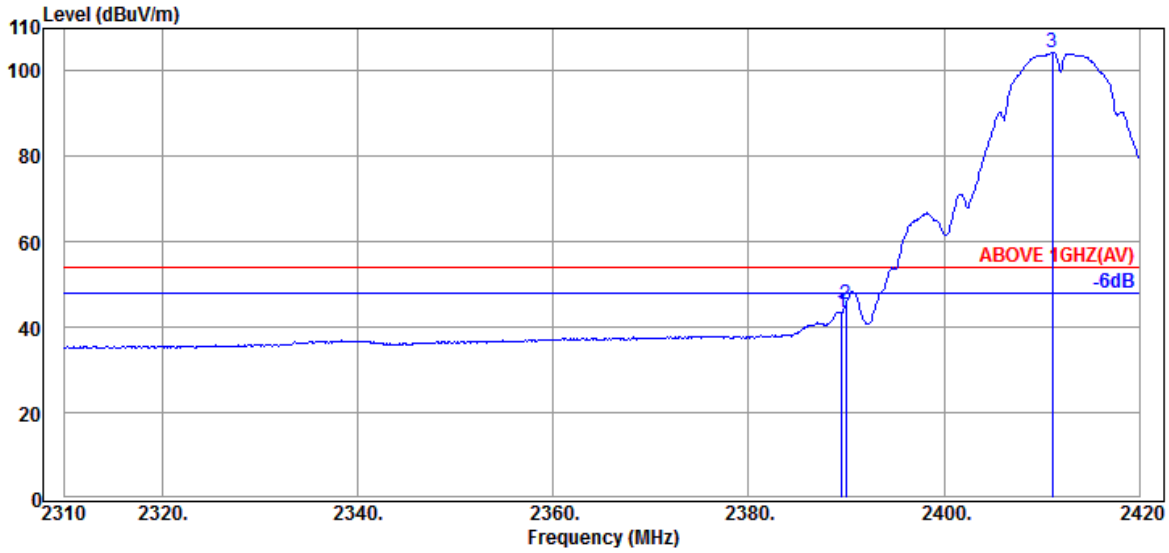
- Wireless LAN 模式

Mode	802.11b	Frequency	TX 2412MHz



Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
	2389.53	32.00	8.52	12.65	53.17	74.00	20.83	Peak
	2389.97	32.00	8.52	12.90	53.42	74.00	20.58	Peak
@	2410.54	32.15	8.53	66.86	107.54	---	---	Peak

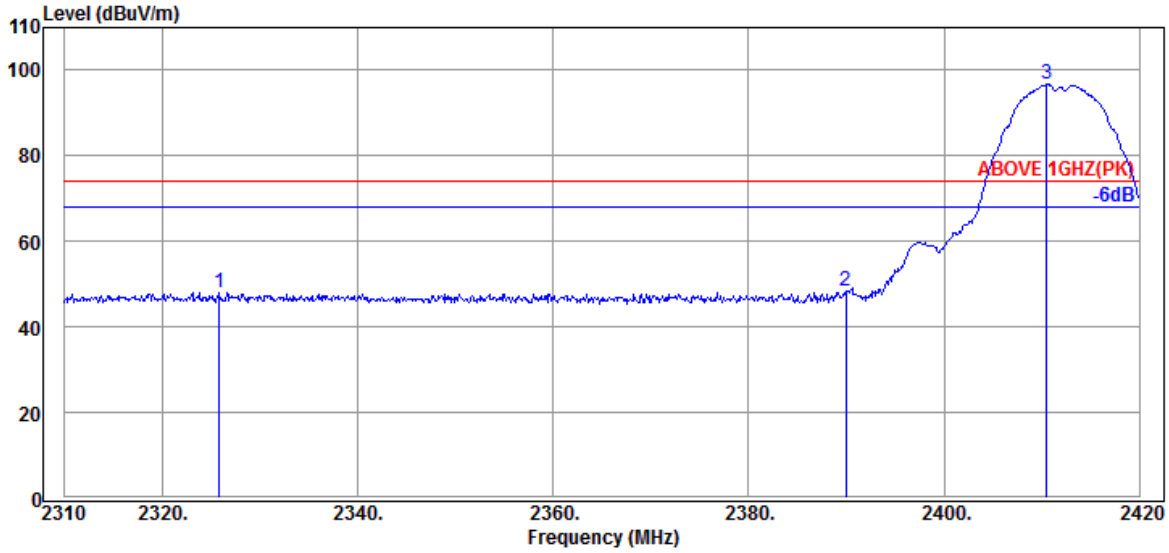


Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
	2389.53	32.00	8.52	3.07	43.59	54.00	10.41	Average
	2389.97	32.00	8.52	4.76	45.28	54.00	8.72	Average
@	2411.09	32.16	8.53	63.61	104.30	---	---	Average

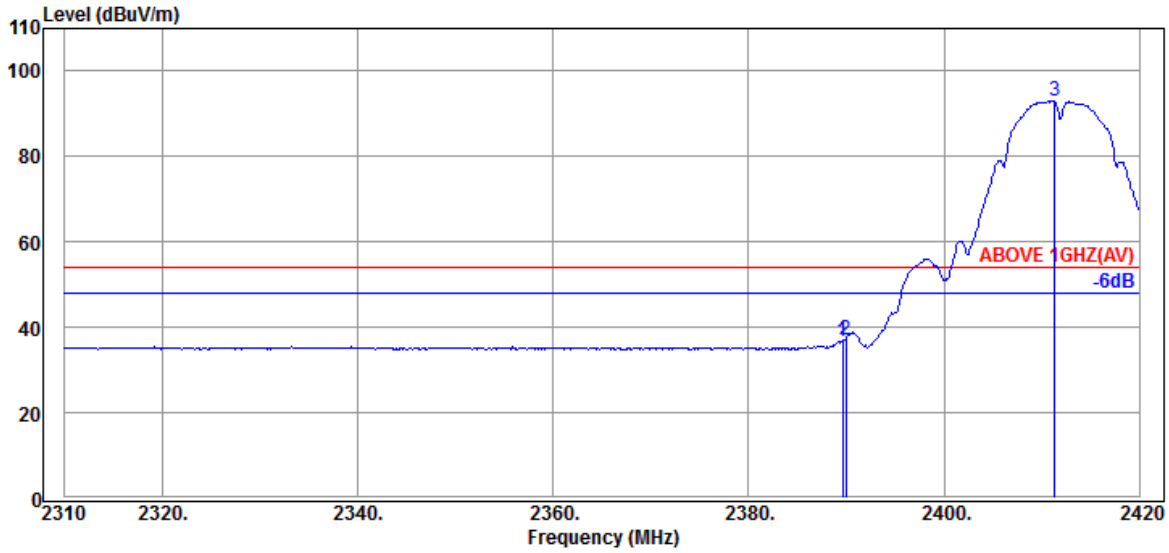
備註:“@”為主波，在此章節是不予以判定。

Mode	802.11b	Frequency	TX 2412MHz



Antenna at Vertical Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
	2325.84	32.00	8.47	7.69	48.16	74.00	25.84	Peak
	2389.97	32.00	8.52	7.88	48.40	74.00	25.60	Peak
@	2410.54	32.15	8.53	55.95	96.63	---	---	Peak

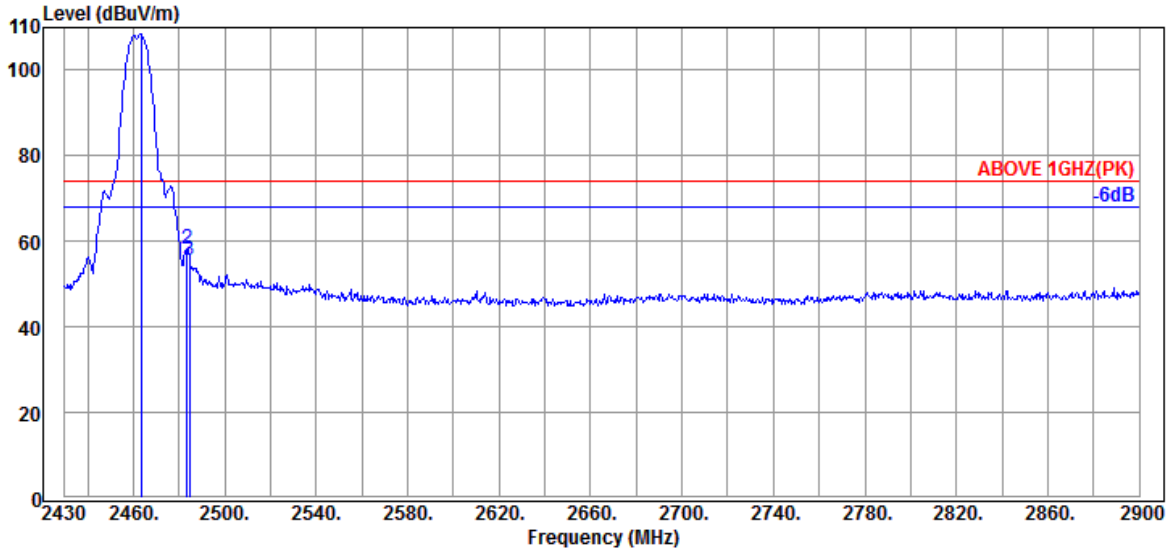


Antenna at Vertical Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
	2389.64	32.00	8.52	-3.78	36.74	54.00	17.26	Average
	2389.97	32.00	8.52	-3.34	37.18	54.00	16.82	Average
@	2411.31	32.16	8.53	52.49	93.18	---	---	Average

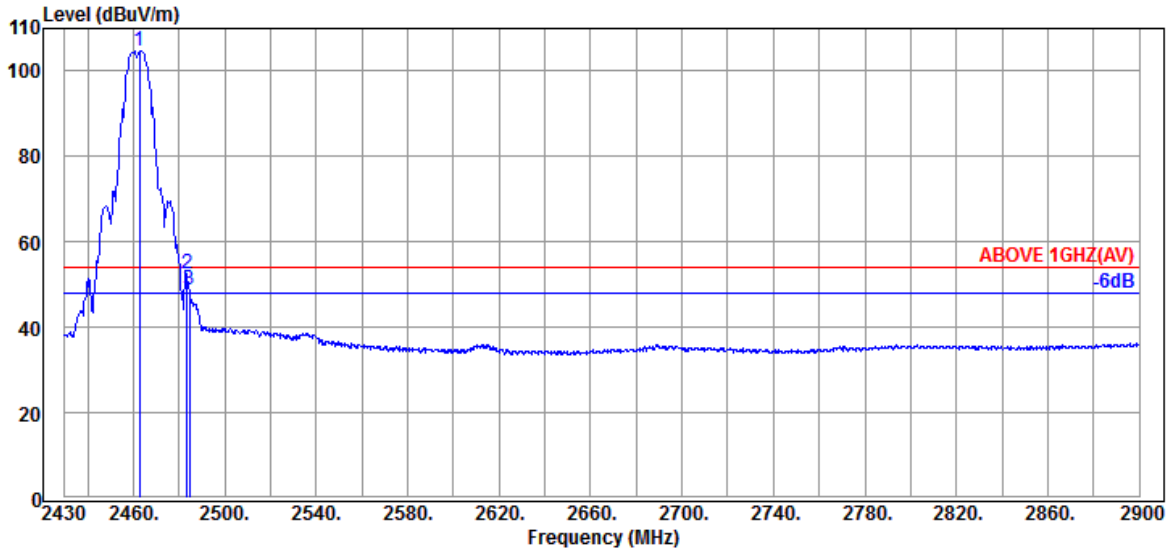
備註:“@”為主波，在此章節是不予以判定。

Mode	802.11b	Frequency	TX 2462MHz



Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2463.37	32.65	8.57	67.19	108.41	---	---	Peak
	2483.58	32.57	8.58	17.03	58.18	74.00	15.82	Peak
	2484.52	32.56	8.58	14.59	55.73	74.00	18.27	Peak

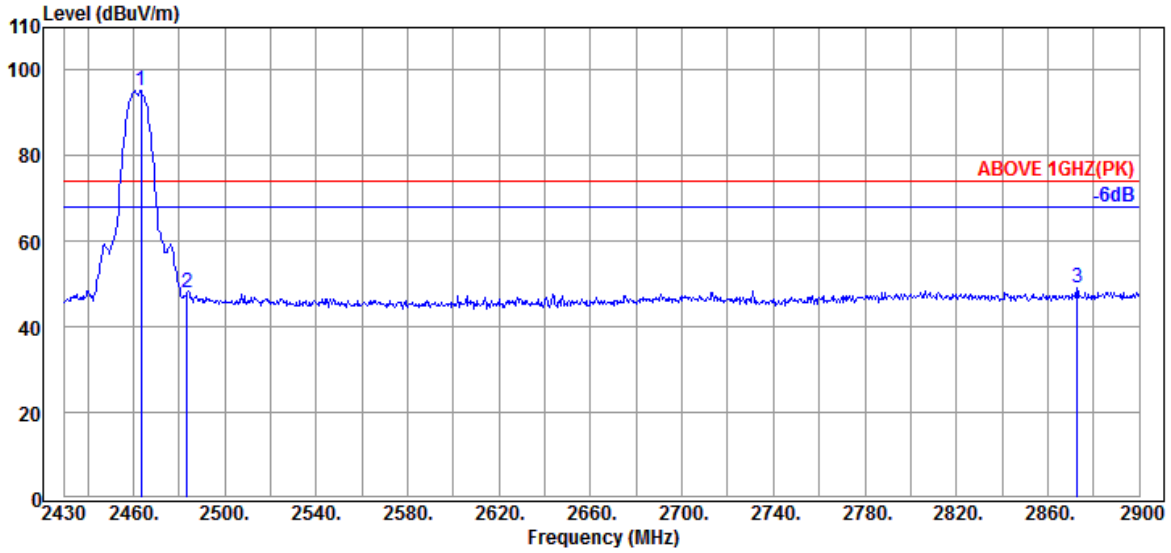


Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2462.90	32.65	8.57	63.64	104.86	---	---	Average
	2483.58	32.57	8.58	11.44	52.59	54.00	1.41	Average
	2484.52	32.56	8.58	7.59	48.73	54.00	5.27	Average

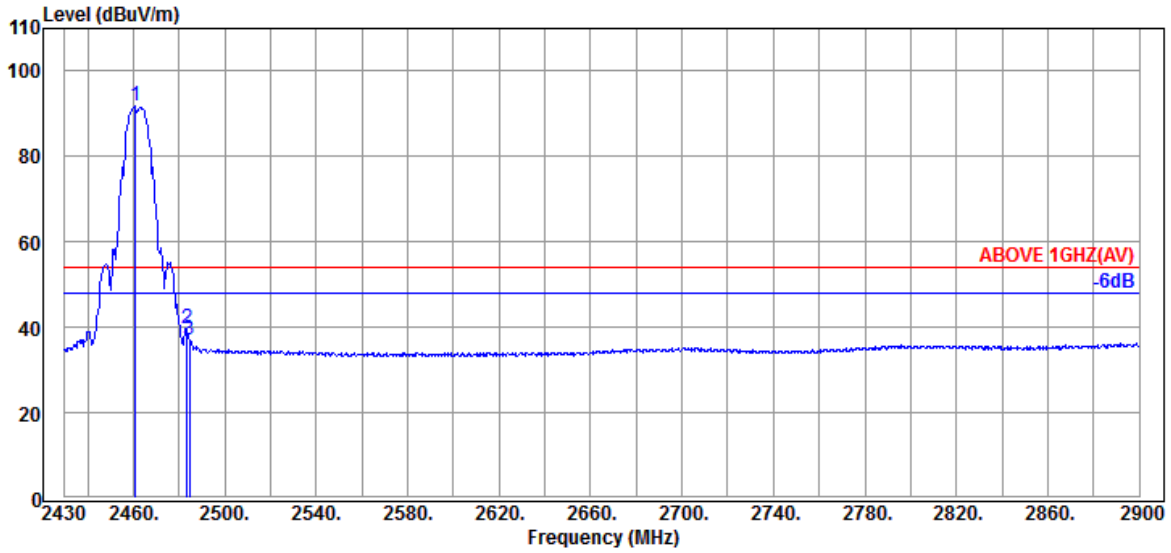
備註:“@”為主波，在此章節是不予以判定。

Mode	802.11b	Frequency	TX 2462MHz



Antenna at Vertical Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2463.37	32.65	8.57	53.97	95.19	---	---	Peak
	2483.58	32.57	8.58	6.80	47.95	74.00	26.05	Peak
	2872.74	32.84	8.68	7.45	48.97	74.00	25.03	Peak

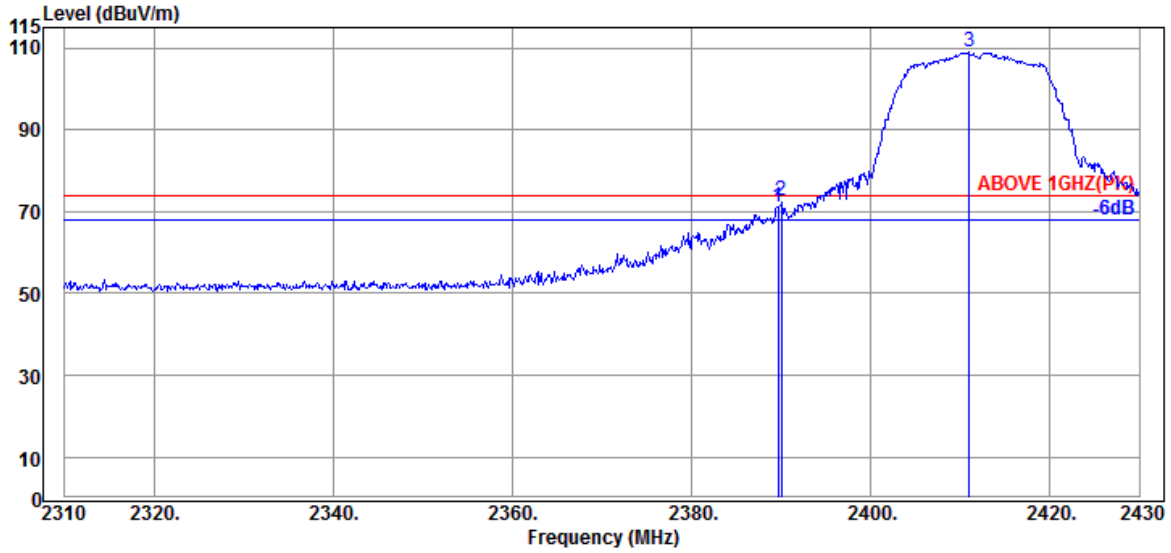


Antenna at Vertical Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2461.02	32.66	8.57	50.50	91.73	---	---	Average
	2483.58	32.57	8.58	-1.50	39.65	54.00	14.35	Average
	2484.52	32.56	8.58	-3.94	37.20	54.00	16.80	Average

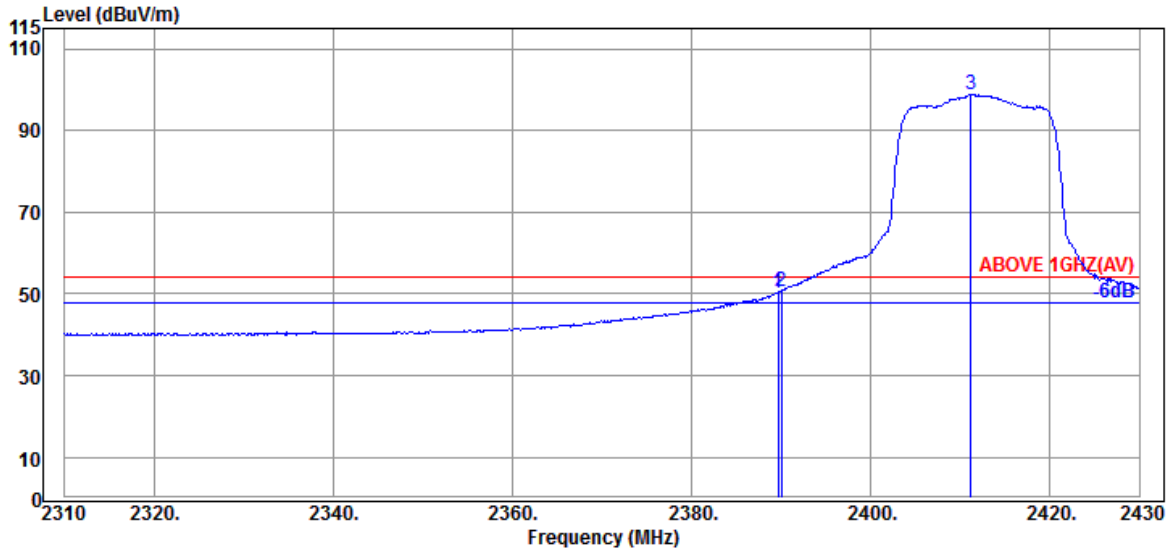
備註:“@”為主波，在此章節是不予以判定。

Mode	802.11g	Frequency	TX 2412MHz



Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
	2389.68	32.00	8.52	30.79	71.31	74.00	2.69	Peak
	2390.04	32.00	8.52	32.36	72.88	74.00	1.12	Peak
@	2411.04	32.15	8.53	68.44	109.12	---	---	Peak

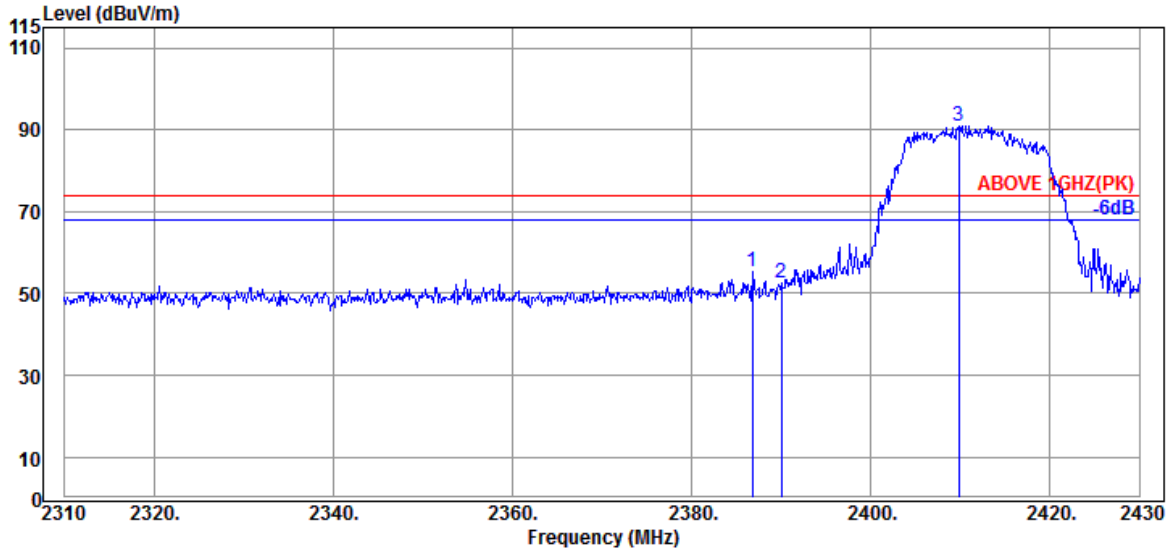


Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
	2389.68	32.00	8.52	9.82	50.34	54.00	3.66	Average
	2390.04	32.00	8.52	10.16	50.68	54.00	3.32	Average
@	2411.16	32.16	8.53	58.30	98.99	---	---	Average

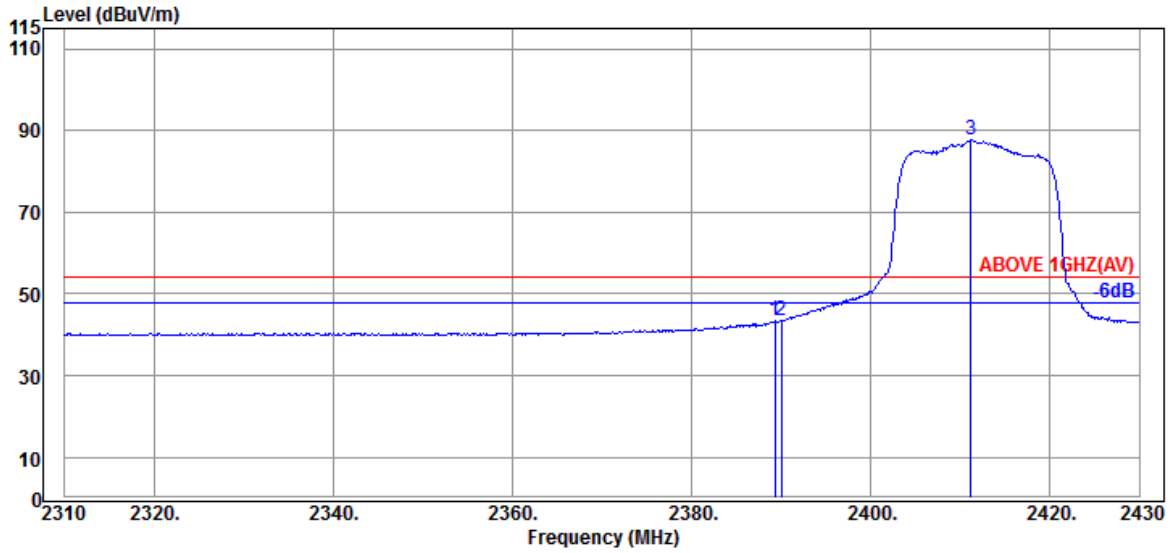
備註:“@”為主波，在此章節是不予以判定。

Mode	802.11g	Frequency	TX 2412MHz



Antenna at Vertical Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
	2386.80	32.00	8.52	14.99	55.51	74.00	18.49	Peak
	2390.04	32.00	8.52	12.05	52.57	74.00	21.43	Peak
@	2409.84	32.14	8.53	50.42	91.09	---	---	Peak

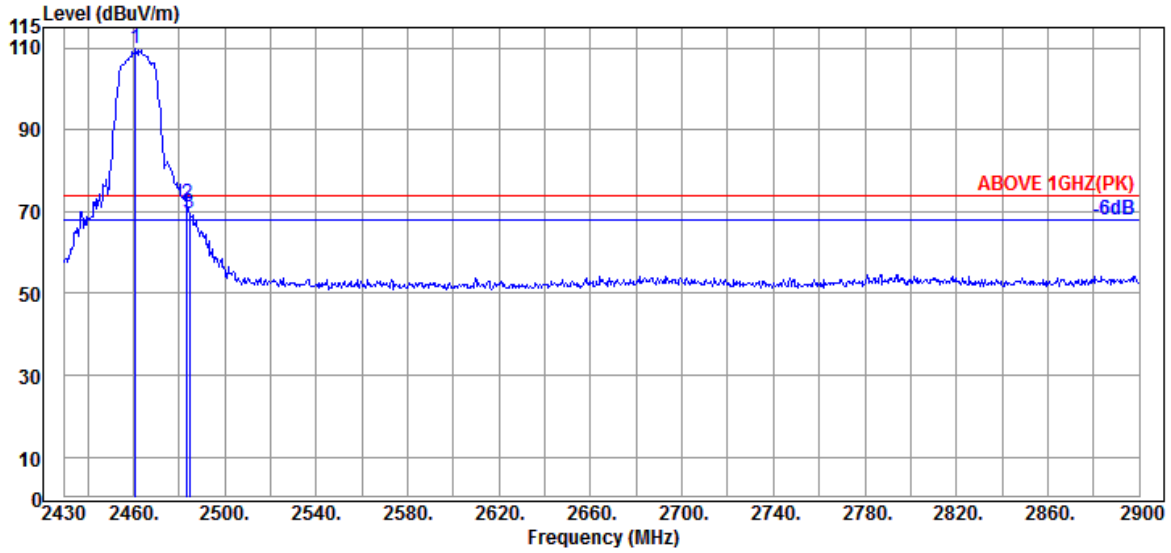


Antenna at Vertical Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
	2389.32	32.00	8.52	2.77	43.29	54.00	10.71	Average
	2390.04	32.00	8.52	2.88	43.40	54.00	10.60	Average
@	2411.16	32.16	8.53	47.01	87.70	---	---	Average

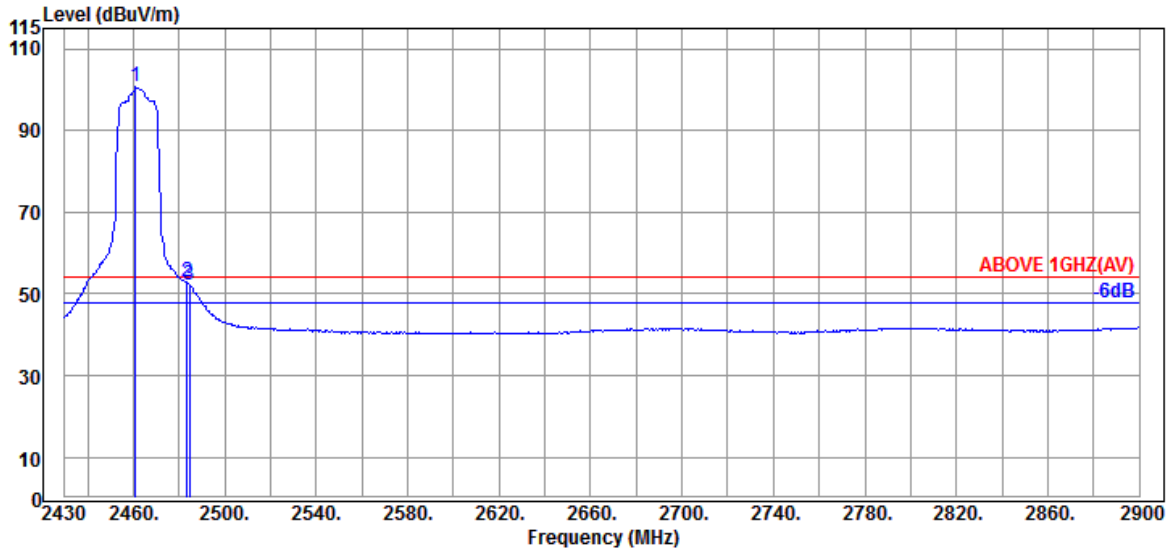
備註:“@”為主波，在此章節是不予以判定。

Mode	802.11g	Frequency	TX 2462MHz



Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2461.02	32.66	8.57	68.66	109.89	---	---	Peak
	2483.58	32.57	8.58	30.93	72.08	74.00	1.92	Peak
	2484.52	32.56	8.58	28.31	69.45	74.00	4.55	Peak

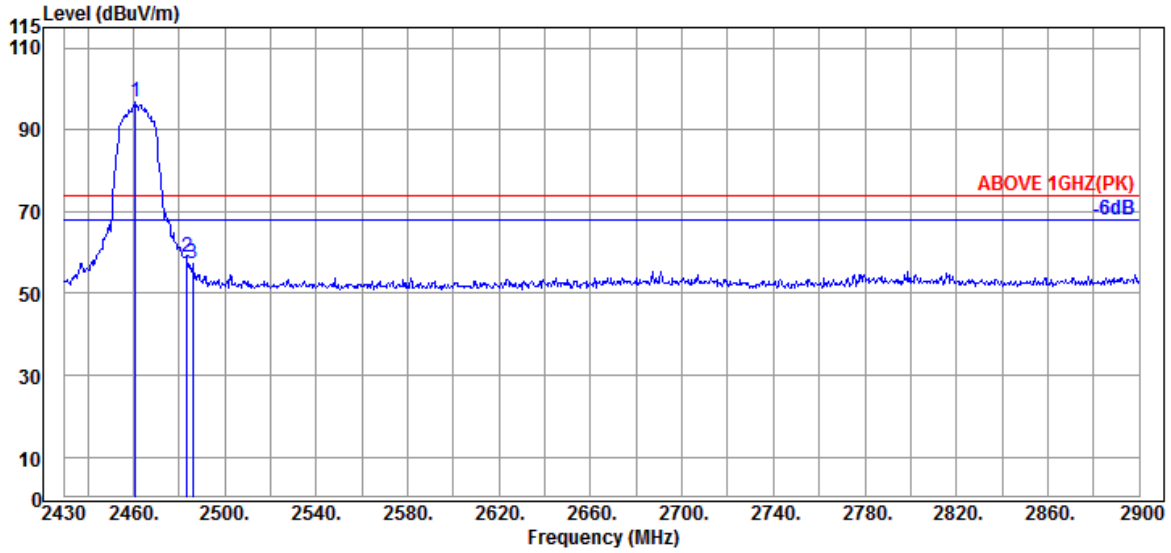


Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2461.02	32.66	8.57	59.41	100.64	---	---	Average
	2483.58	32.57	8.58	11.76	52.91	54.00	1.09	Average
	2484.52	32.56	8.58	11.16	52.30	54.00	1.70	Average

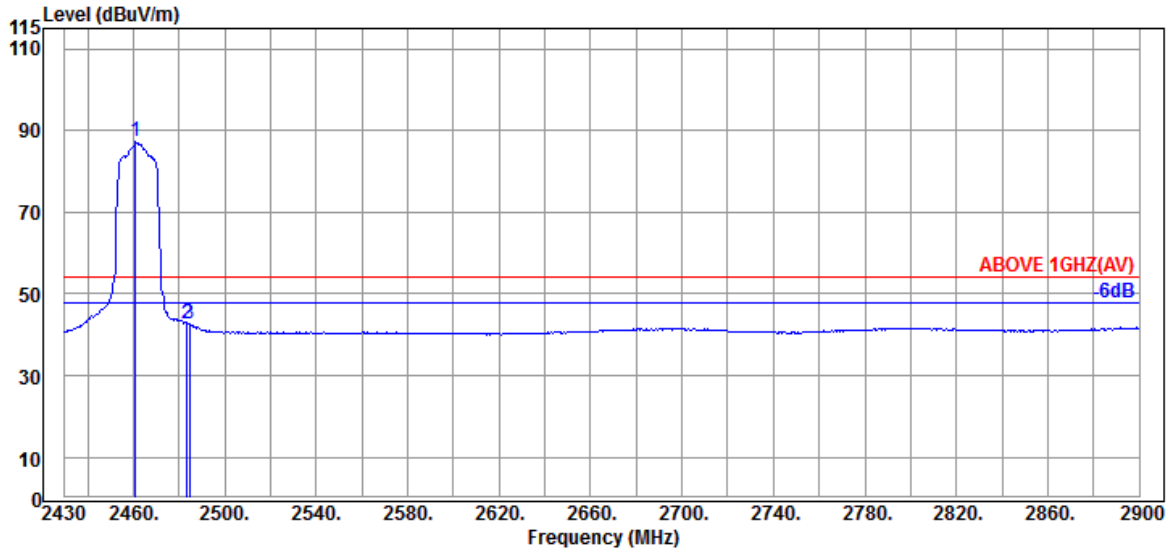
備註:“@”為主波，在此章節是不予以判定。

Mode	802.11g	Frequency	TX 2462MHz



Antenna at Vertical Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2461.02	32.66	8.57	55.51	96.74	---	---	Peak
	2483.58	32.57	8.58	17.67	58.82	74.00	15.18	Peak
	2485.93	32.56	8.58	16.00	57.14	74.00	16.86	Peak

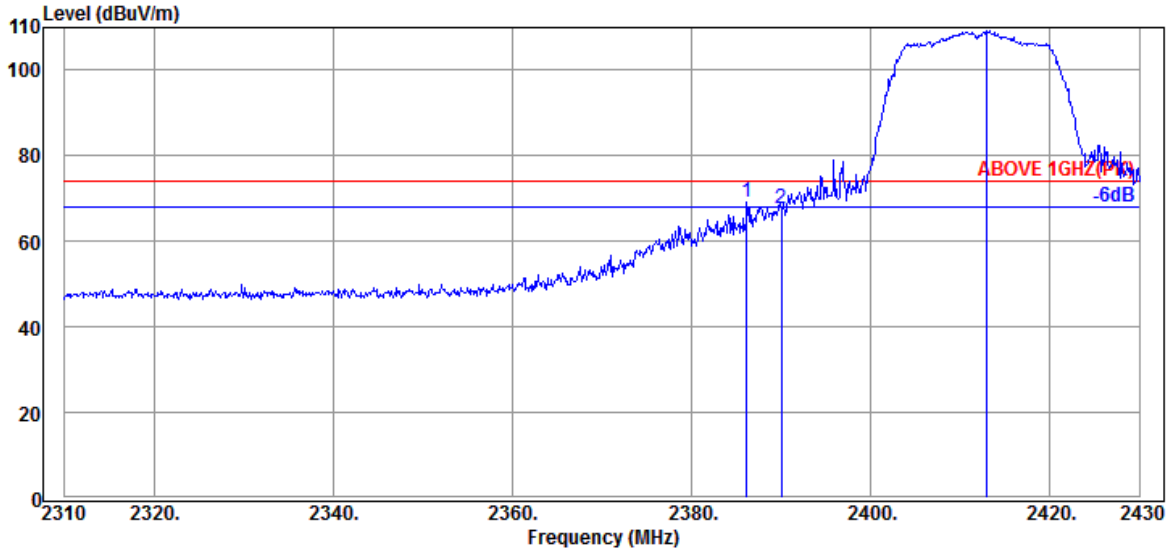


Antenna at Vertical Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2461.02	32.66	8.57	45.97	87.20	---	---	Average
	2483.58	32.57	8.58	1.65	42.80	54.00	11.20	Average
	2484.52	32.56	8.58	1.62	42.76	54.00	11.24	Average

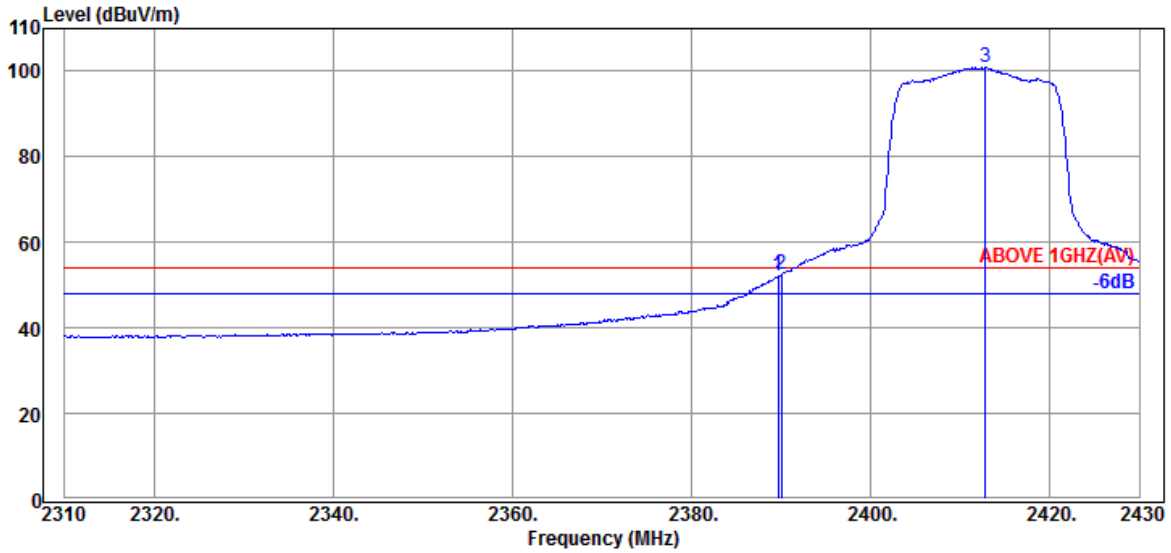
備註:“@”為主波，在此章節是不予以判定。

Mode	802.11n-HT20	Frequency	TX 2412MHz



Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
	2386.20	32.00	8.52	28.58	69.10	74.00	4.90	Peak
	2390.04	32.00	8.52	27.09	67.61	74.00	6.39	Peak
@	2412.96	32.18	8.53	68.53	109.24	---	---	Peak

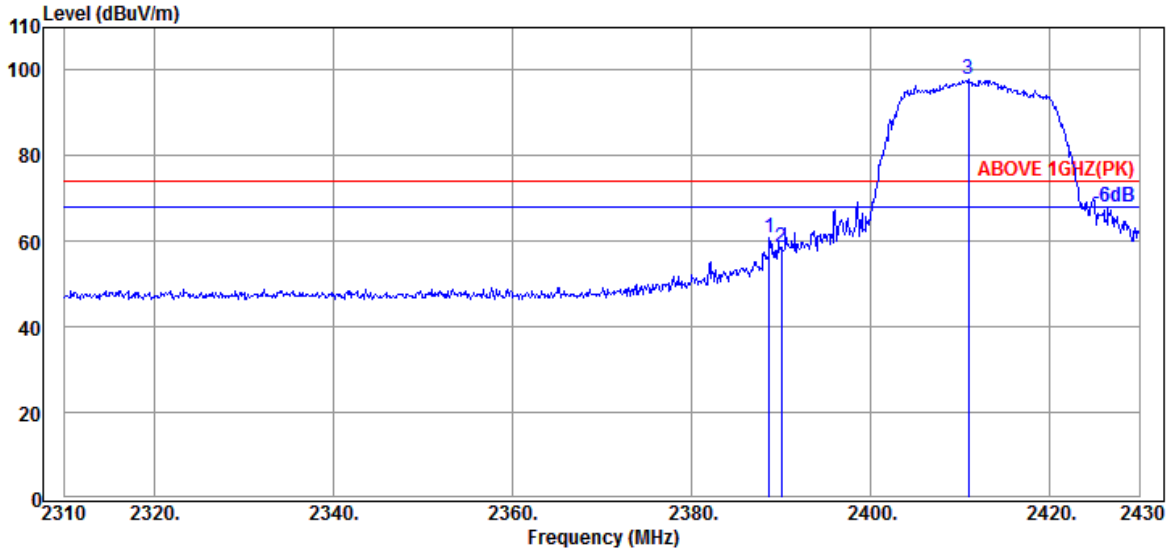


Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
	2389.68	32.00	8.52	11.53	52.05	54.00	1.95	Average
	2390.04	32.00	8.52	11.92	52.44	54.00	1.56	Average
@	2412.84	32.18	8.53	60.20	100.91	---	---	Average

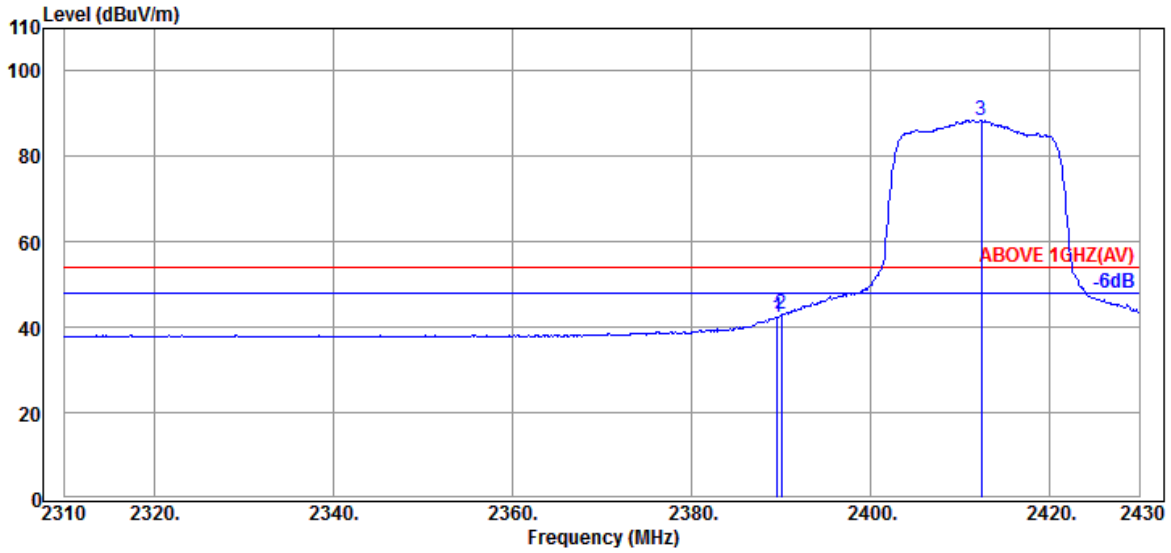
備註:“@”為主波，在此章節是不予以判定。

Mode	802.11n-HT20	Frequency	TX 2412MHz



Antenna at Vertical Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
	2388.72	32.00	8.52	20.24	60.76	74.00	13.24	Peak
	2390.04	32.00	8.52	18.16	58.68	74.00	15.32	Peak
@	2410.92	32.15	8.53	57.07	97.75	---	---	Peak

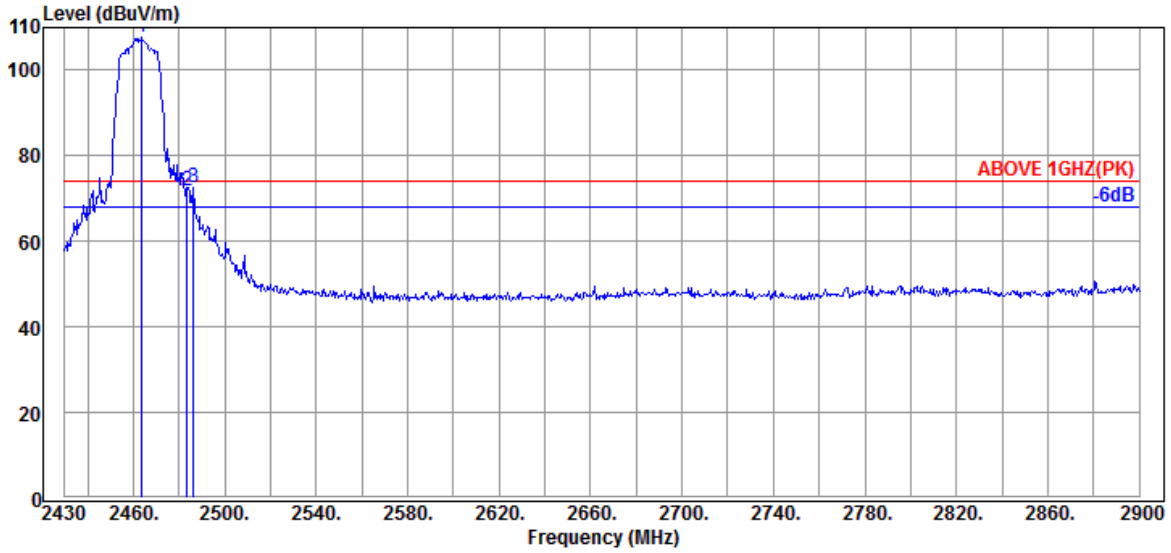


Antenna at Vertical Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
	2389.56	32.00	8.52	1.89	42.41	54.00	11.59	Average
	2390.04	32.00	8.52	2.42	42.94	54.00	11.06	Average
@	2412.36	32.17	8.53	47.70	88.40	---	---	Average

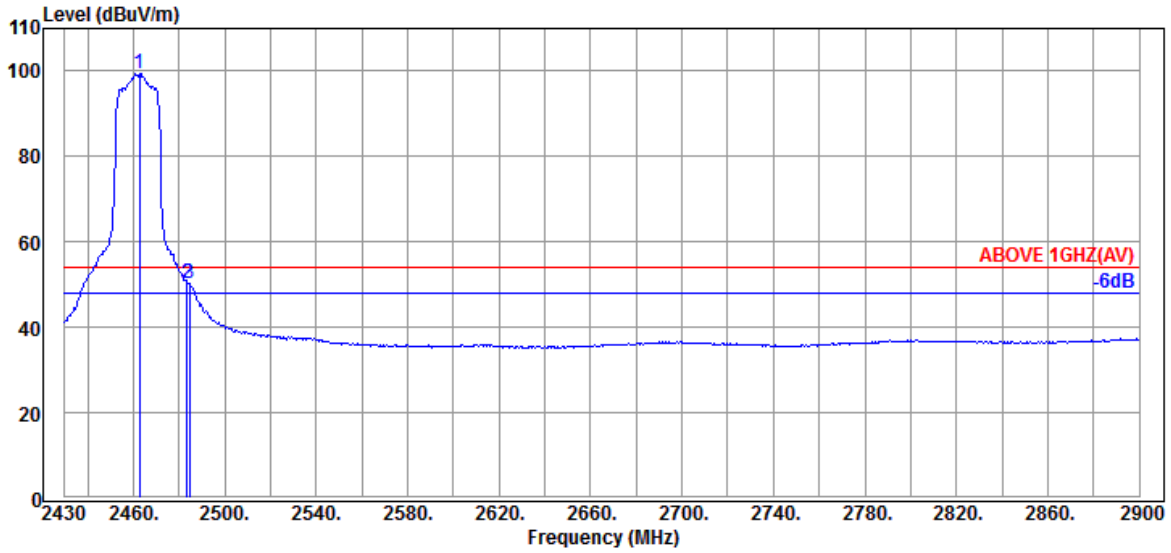
備註:“@”為主波，在此章節是不予以判定。

Mode	802.11n-HT20	Frequency	TX 2462MHz



Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2463.84	32.64	8.57	66.45	107.66	---	---	Peak
	2483.58	32.57	8.58	30.79	71.94	74.00	2.06	Peak
	2486.40	32.55	8.58	31.37	72.50	74.00	1.50	Peak

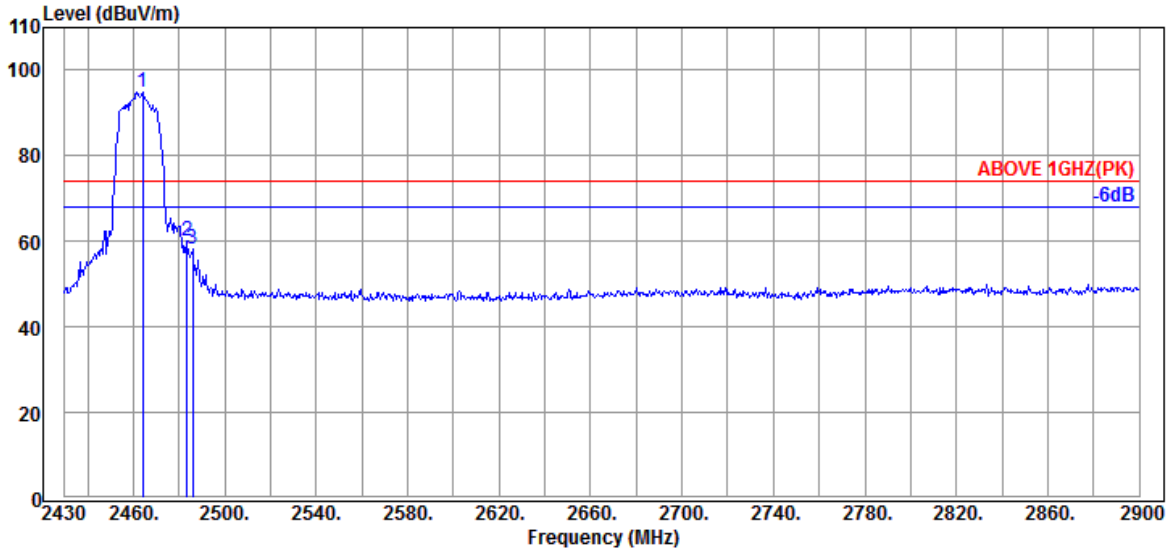


Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2462.90	32.65	8.57	58.19	99.41	---	---	Average
	2483.58	32.57	8.58	9.25	50.40	54.00	3.60	Average
	2484.52	32.56	8.58	9.03	50.17	54.00	3.83	Average

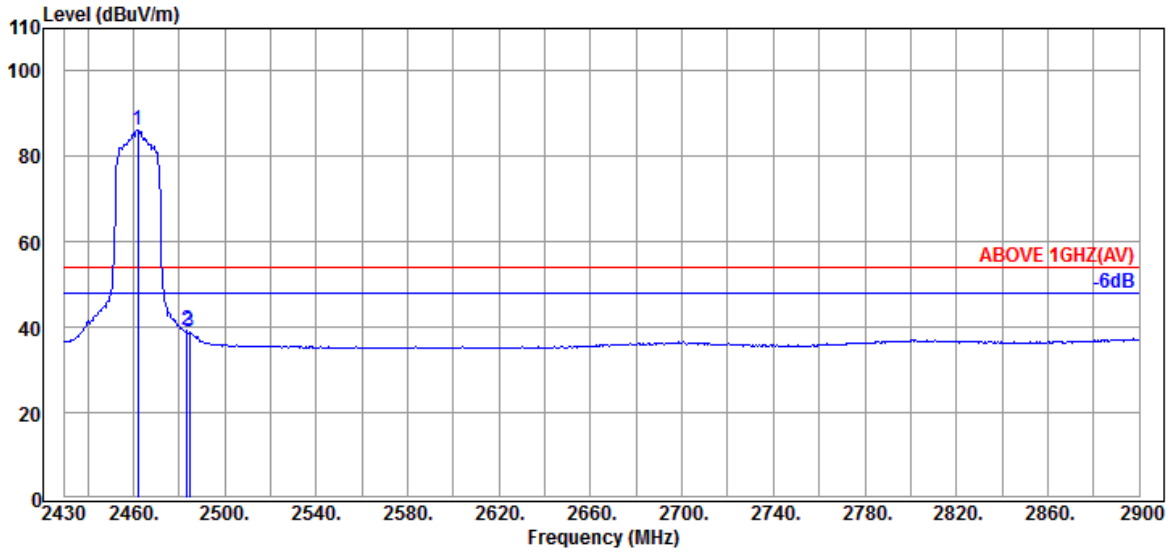
備註:“@”為主波，在此章節是不予以判定。

Mode	802.11n-HT20	Frequency	TX 2462MHz



Antenna at Vertical Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2464.31	32.64	8.57	53.51	94.72	---	---	Peak
	2483.58	32.57	8.58	18.88	60.03	74.00	13.97	Peak
	2485.93	32.56	8.58	17.22	58.36	74.00	15.64	Peak



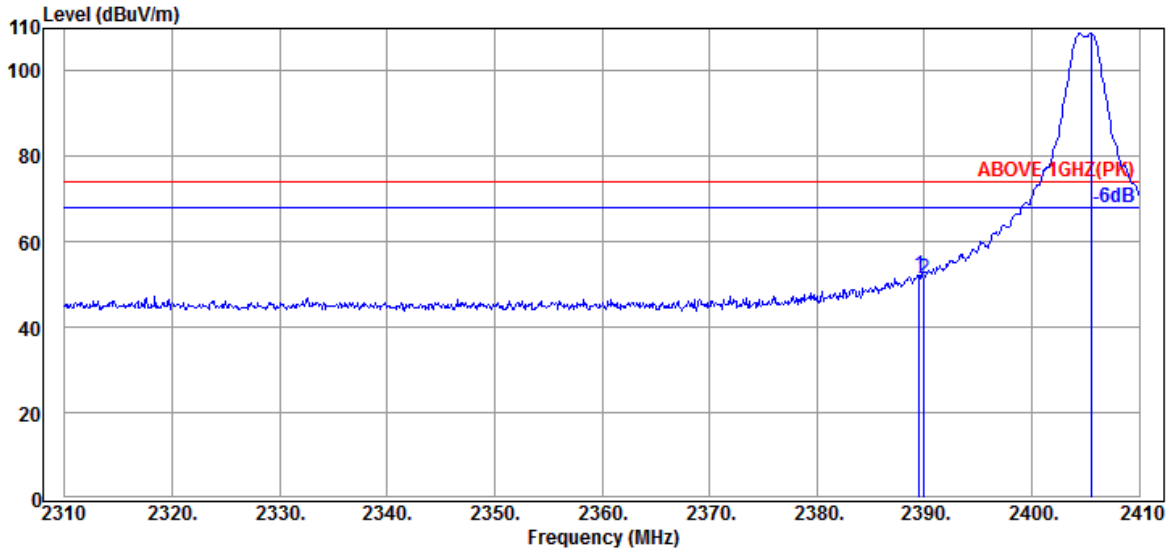
Antenna at Vertical Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2461.96	32.65	8.57	44.88	86.10	---	---	Average
	2483.58	32.57	8.58	-1.89	39.26	54.00	14.74	Average
	2484.52	32.56	8.58	-2.25	38.89	54.00	15.11	Average

備註:“@”為主波，在此章節是不予以判定。

- Zigbee 測試模式

Mode	Zigbee	Frequency	TX 2405MHz



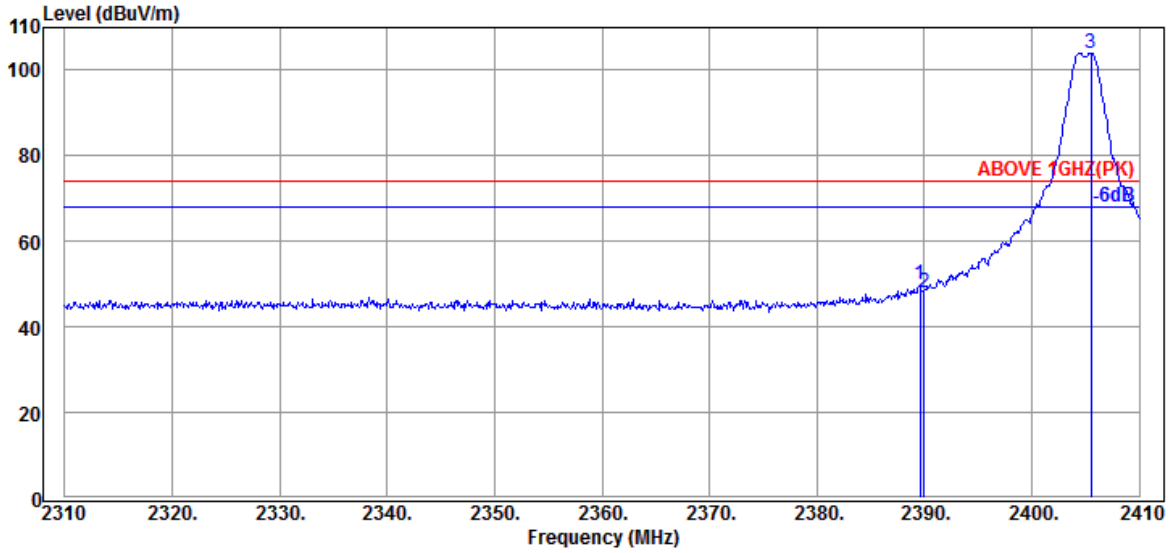
Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
	2389.50	32.00	8.52	11.66	52.18	74.00	21.82	Peak
	2390.00	32.00	8.52	10.74	51.26	74.00	22.74	Peak
@	2405.50	32.23	8.53	68.02	108.78	---	---	Peak

Emission Frequency (MHz)	Peak Emission Level (dBμV/m)	DCCF (dB)	Average Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
2389.50	52.18	-29.94	22.24	54.00	31.76	Average
2390.00	51.26	-29.94	21.32	54.00	32.68	Average

備註:“@”為主波，在此章節是不予以判定。

Mode	Zigbee	Frequency	TX 2405MHz



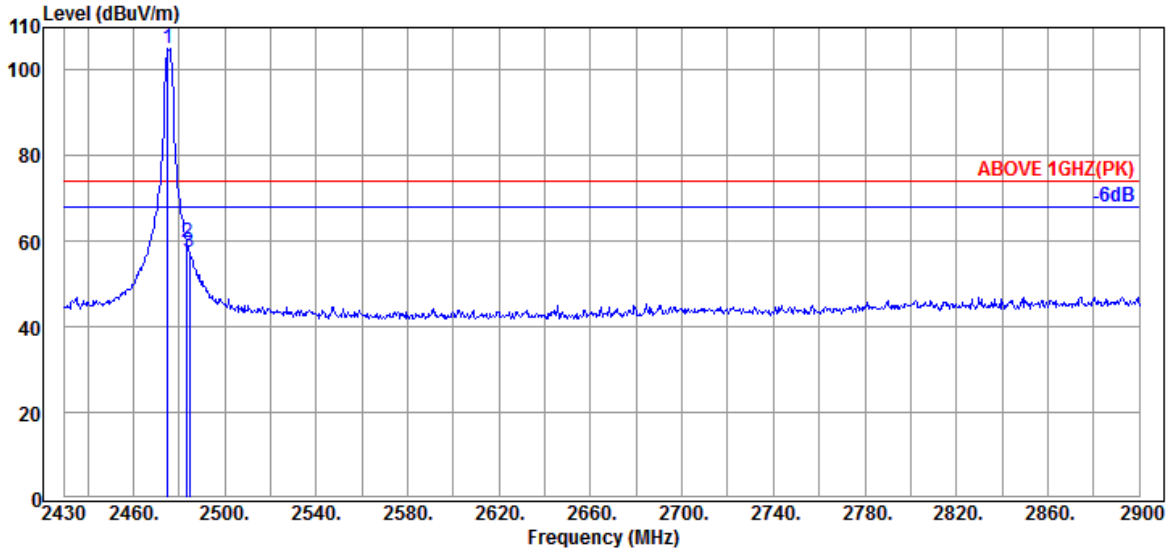
Antenna at Vertical Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
	2389.60	32.00	8.52	43.96	49.93	74.00	24.07	Peak
	2390.00	32.00	8.52	42.10	48.07	74.00	25.93	Peak
@	2405.50	32.23	8.53	97.79	104.00	---	---	Peak

Emission Frequency (MHz)	Peak Emission Level (dBμV/m)	DCCF (dB)	Average Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
2389.60	49.93	-29.94	19.99	54.00	34.01	Average
2390.00	48.07	-29.94	18.13	54.00	35.87	Average

備註:“@”為主波，在此章節是不予以判定。

Mode	Zigbee	Frequency	TX 2480MHz



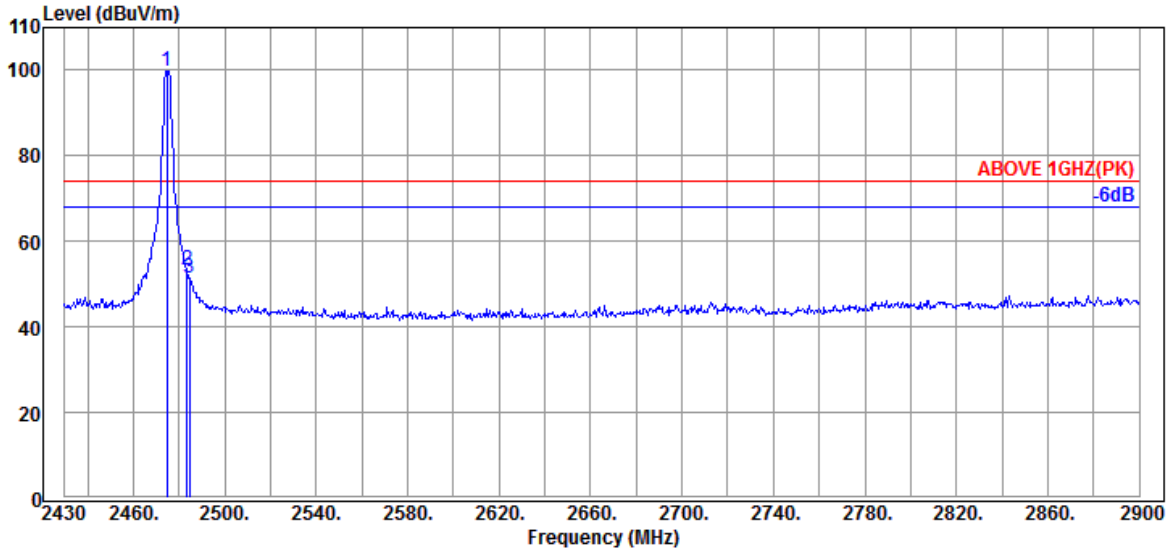
Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2475.12	32.57	8.58	64.01	105.16	---	---	Peak
	2483.58	32.57	8.58	18.39	59.54	74.00	14.46	Peak
	2484.52	32.57	8.58	16.15	57.30	74.00	16.70	Peak

Emission Frequency (MHz)	Peak Emission Level (dBμV/m)	DCCF (dB)	Average Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
2483.58	59.54	-29.94	29.60	54.00	24.40	Average
2484.52	57.30	-29.94	27.36	54.00	26.64	Average

備註:“@”為主波，在此章節是不予以判定。

Mode	Zigbee	Frequency	TX 2480MHz



Antenna at Vertical Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2474.65	32.57	8.58	58.52	99.67	---	---	Peak
	2483.58	32.57	8.58	11.98	53.13	74.00	20.87	Peak
	2484.52	32.57	8.58	10.23	51.38	74.00	22.62	Peak

Emission Frequency (MHz)	Peak Emission Level (dBμV/m)	DCCF (dB)	Average Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
2483.58	53.13	-29.94	23.19	54.00	30.81	Average
2484.52	51.38	-29.94	21.44	54.00	32.56	Average

備註:“@”為主波，在此章節是不予以判定。

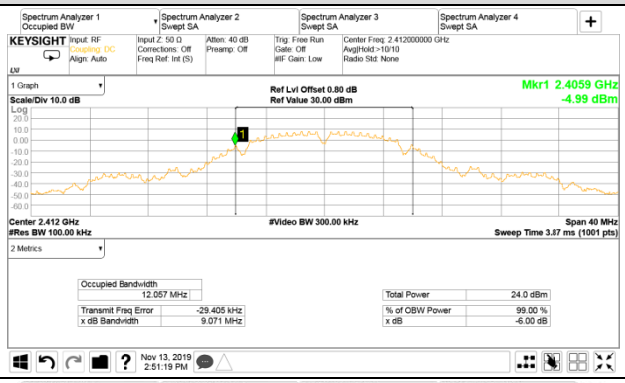
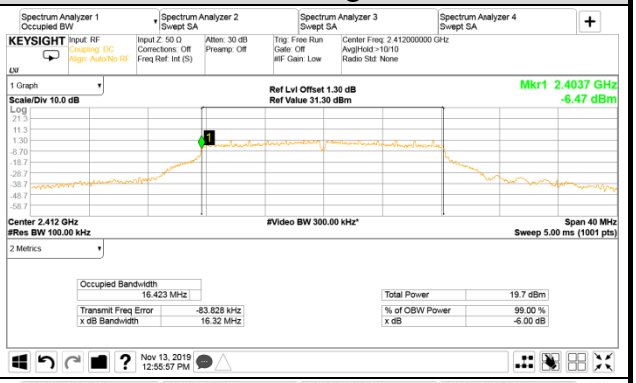
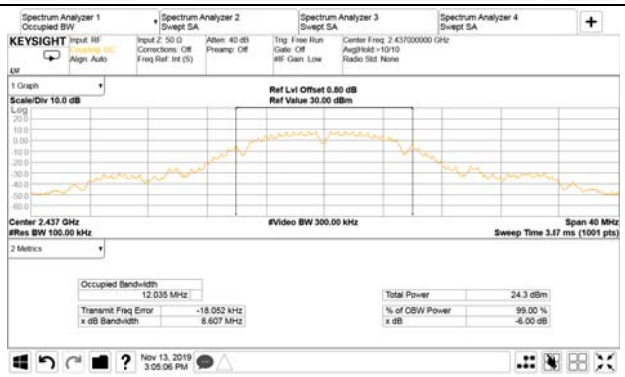
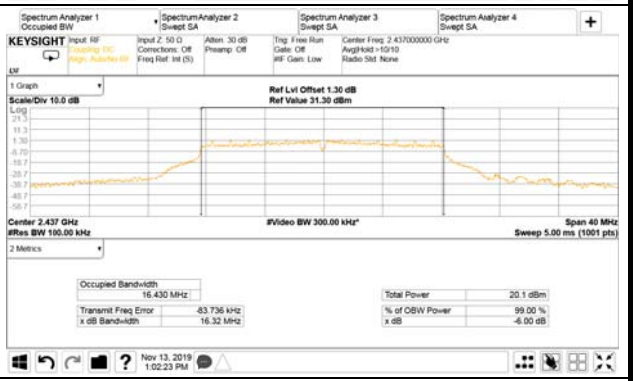
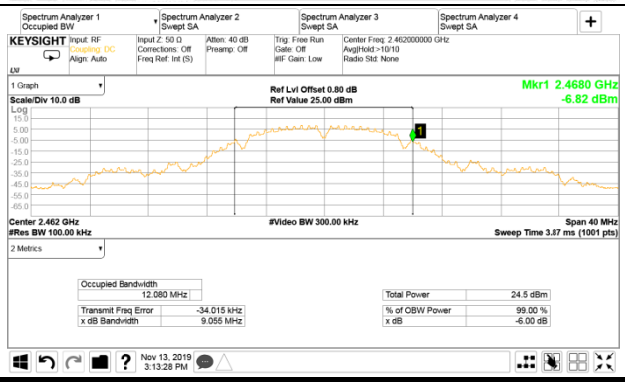
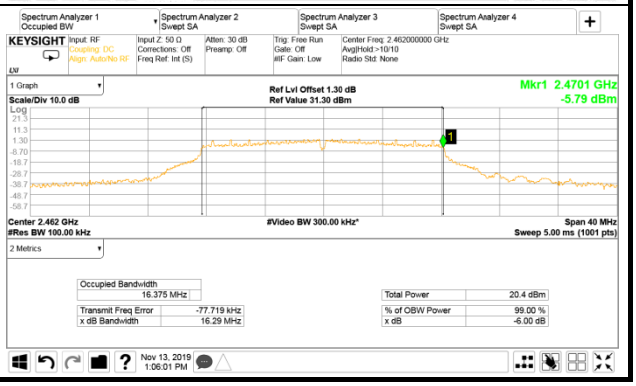
3. 發射頻寬之量測

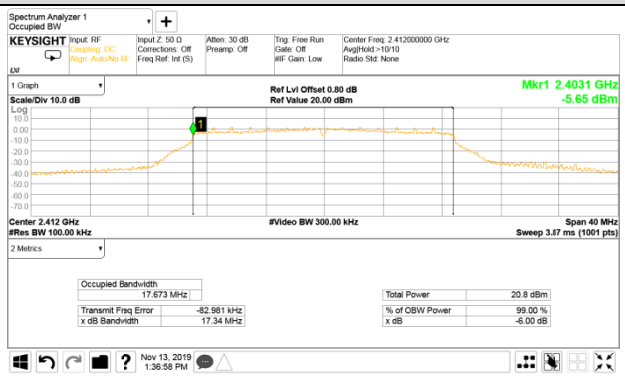
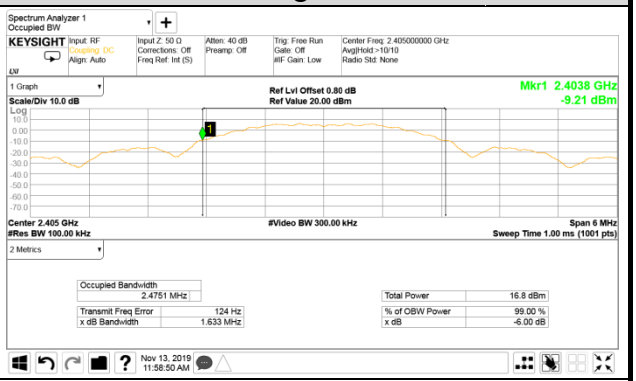
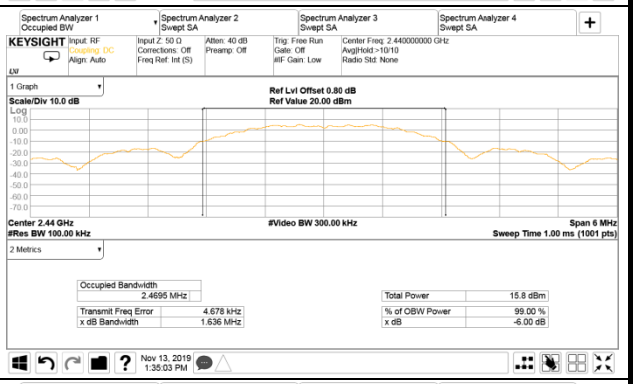
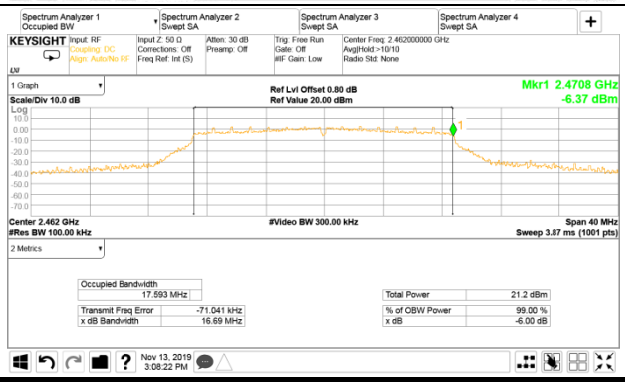
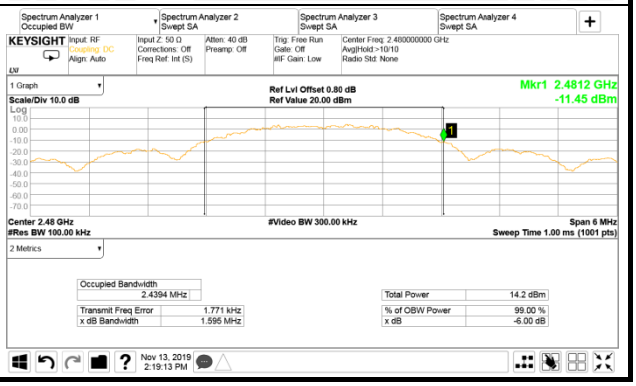
測試日期	2019/11/13	環境溫/濕度	24℃/50%
測試電壓	AC 110V, 60Hz (經電源供應器供電)	測試人員	Kuper Hsu
電纜損失	0.8dB		

3.1. 發射頻寬

模式	測試頻率 (MHz)	6dB 頻寬 (MHz)	限制值 (kHz)
802.11b	2412	9.071	>500
	2437	8.607	
	2462	9.055	
802.11g	2412	16.32	
	2437	16.32	
	2462	16.29	
802.11n-HT20	2412	17.34	
	2437	17.20	
	2462	16.69	
Zigbee	2405	1.633	
	2440	1.636	
	2480	1.595	

3.2. 發射頻寬之量測圖

802.11b	802.11g
	
	
	

802.11n-HT20	Zigbee
	
	
	

4. 峰值輸出功率之量測

測試日期	2019/11/13	環境溫/濕度	24℃/50%
測試電壓	AC 110V, 60Hz (經電源供應器供電)	測試人員	Kuper Hsu
電纜損失	0.8dB		

4.1. 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	18.78	30
	2437	19.01	
	2462	**19.08**	
802.11g	2412	22.53	
	2437	22.75	
	2462	**22.82**	
802.11n-HT20	2412	22.43	
	2437	22.71	
	2462	**22.76**	
Zigbee	2405	**9.54**	
	2440	8.99	
	2475	8.21	
	2480	5.92	

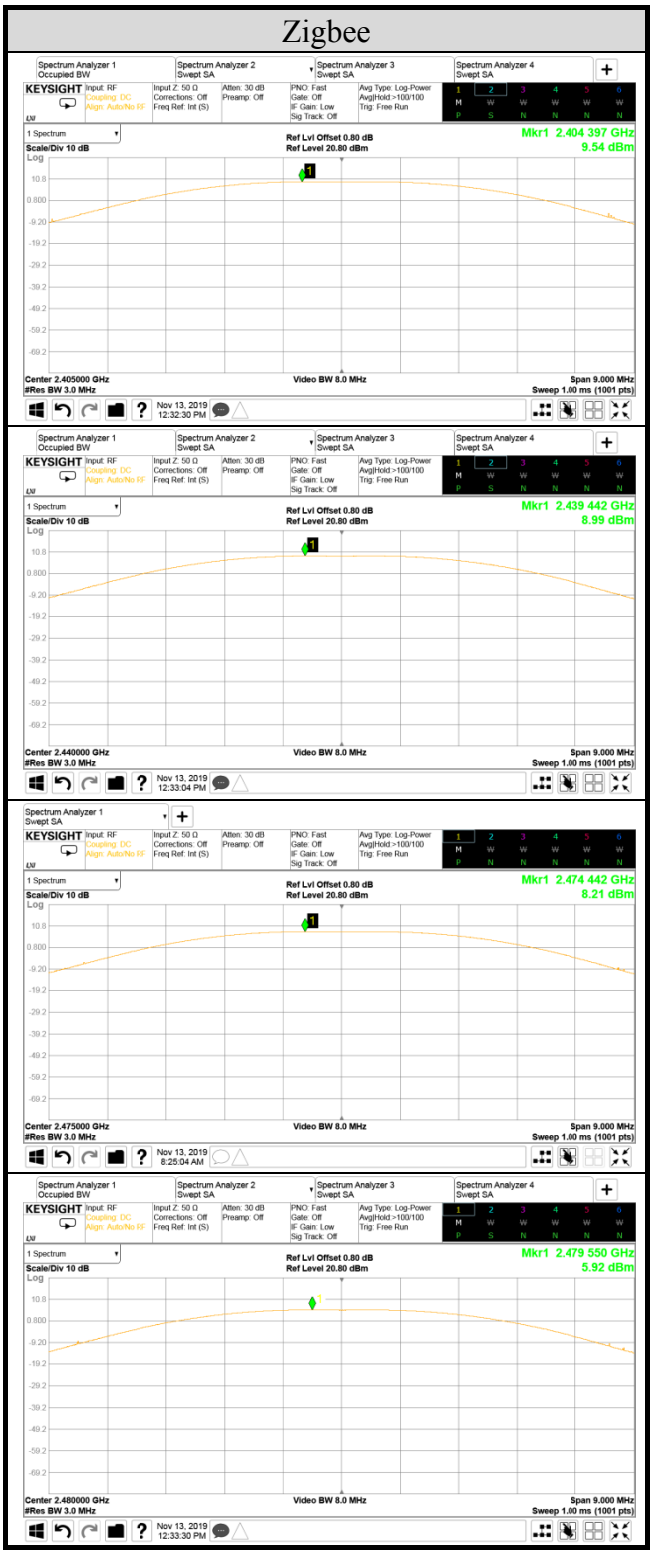
4.2. 平均輸出功率(參考用)

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	0.991	15.94	0	15.94	30
	2437		16.23		16.23	
	2462		16.24		**16.24**	
802.11g	2412	0.930	14.03	0.32	14.35	
	2437		14.36		14.68	
	2462		14.48		**14.80**	
802.11n-HT20	2412	0.926	13.78	0.34	14.12	
	2437		14.05		14.39	
	2462		14.13		**14.47**	

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)

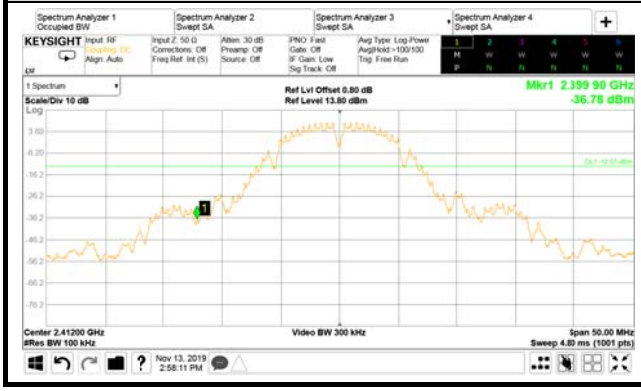
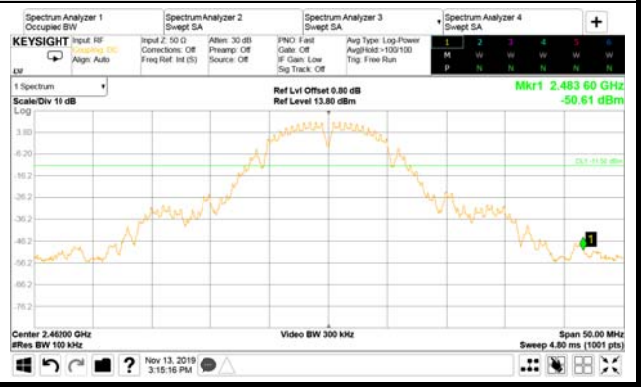
4.3. 峰值輸出功率之量測圖

Zigbee



5. 頻帶邊緣之 RF 傳導發射之量測

測試日期	2019/11/13	環境溫/濕度	24℃/50%
測試電壓	AC 110V, 60Hz (經電源供應器供電)	測試人員	Kuper Hsu
電纜損失	0.8dB		

802.11b	
下邊緣頻帶	上邊緣頻帶
	

802.11g	
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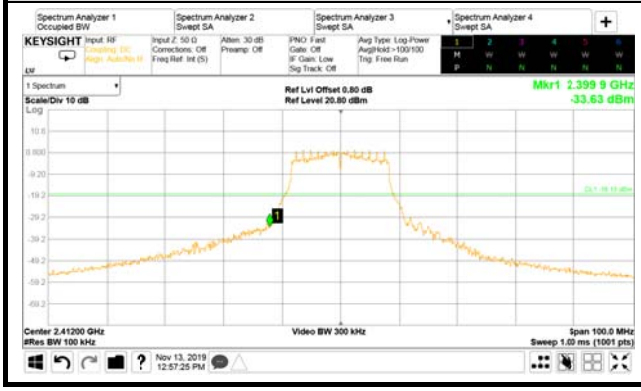	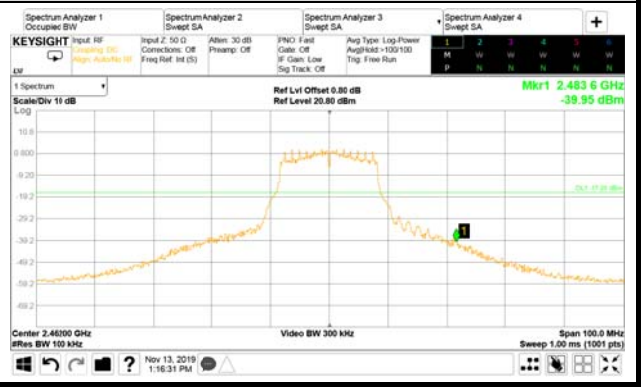

802.11n-HT20	
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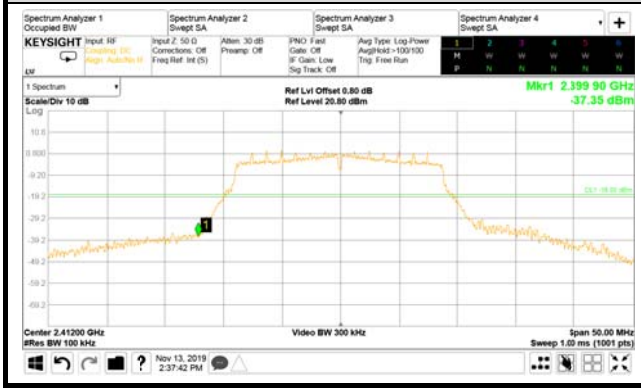	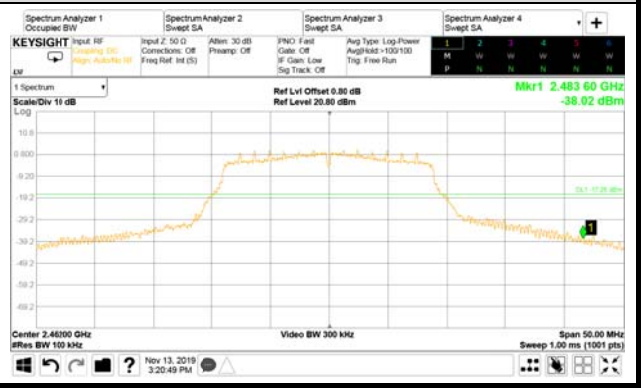

Zigbee	
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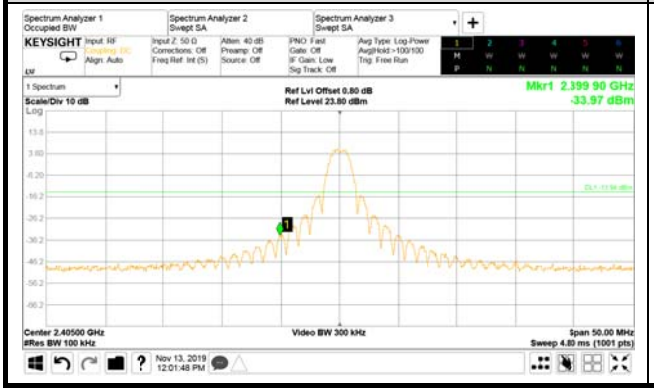
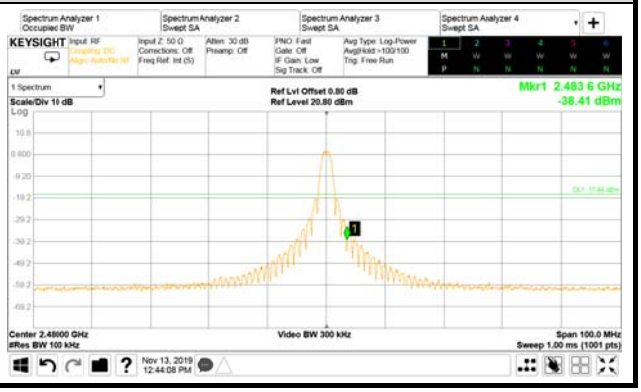
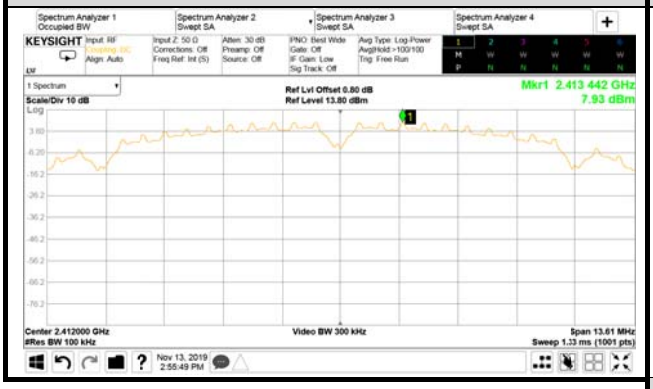
	

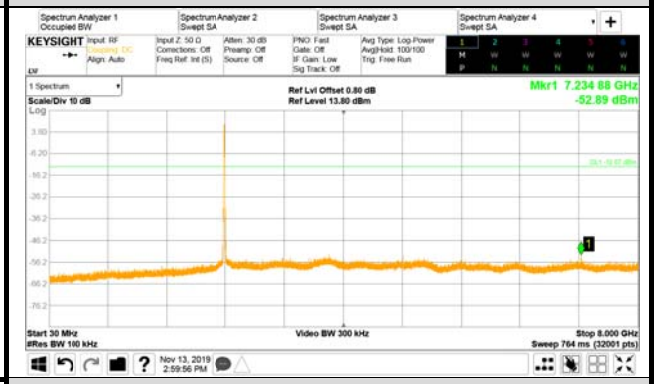
6. 混附發射之 RF 傳導發射之量測

測試日期	2019/11/13	環境溫/濕度	24℃/50%
電纜損失	0.80dB	測試電壓	AC 110V, 60Hz (經電源供應器供電)
模式	802.11b	測試人員	Kuper Hsu
測試頻率	TX 2412MHz		
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			0

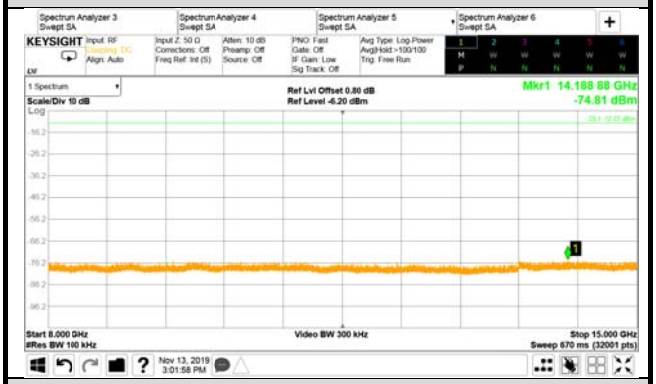
Reference Level



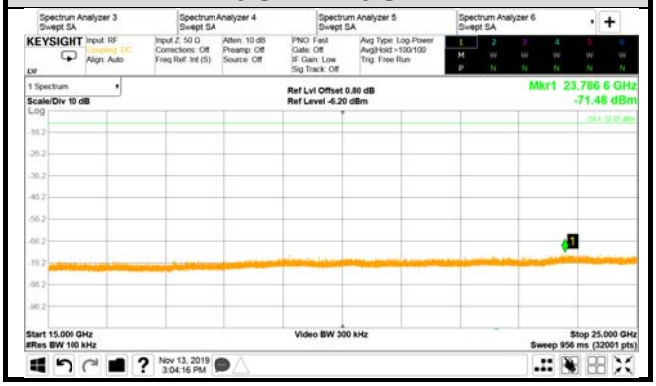
30MHz – 8GHz



8GHz – 15GHz

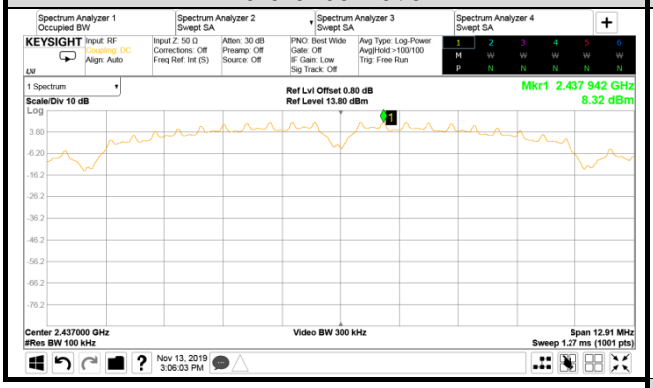


15GHz – 25GHz

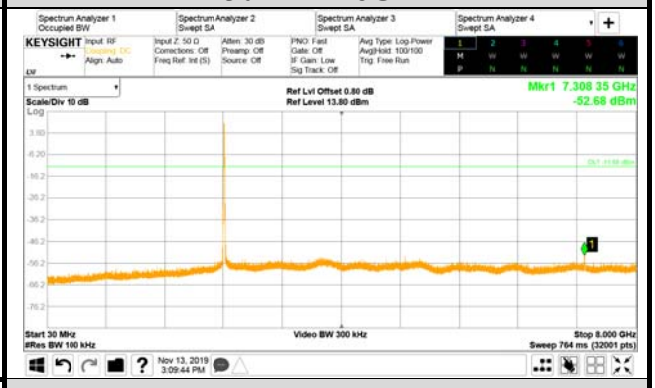


測試日期	2019/11/13	環境溫/濕度	24℃/50%
電纜損失	0.80dB	測試電壓	AC 110V, 60Hz (經電源供應器供電)
模式	802.11b	測試人員	Kuper Hsu
測試頻率	TX 2437MHz		
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			0

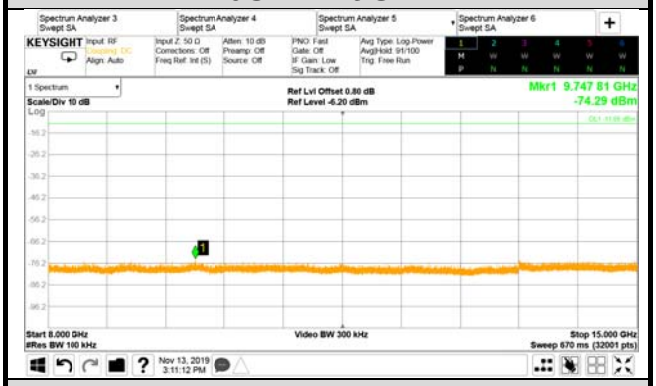
Reference Level



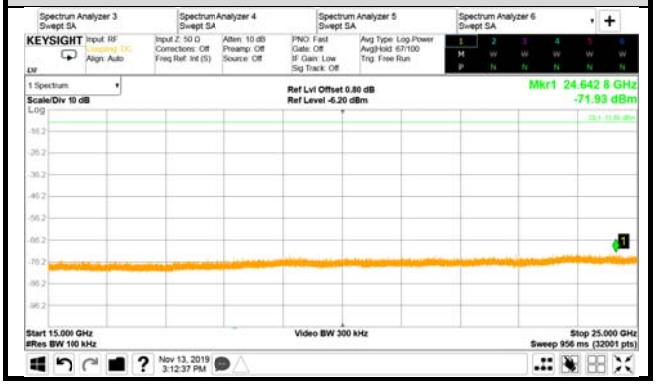
30MHz – 8GHz



8GHz – 15GHz

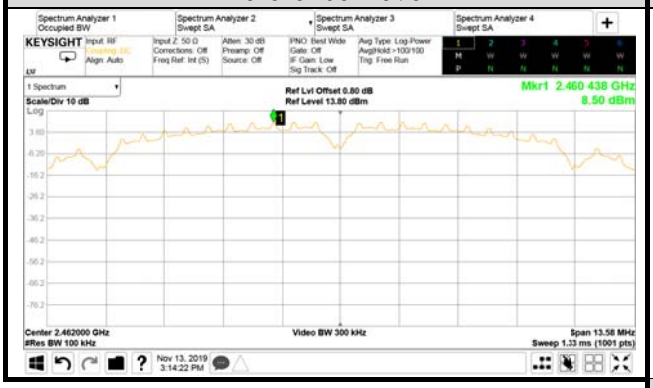


15GHz – 25GHz

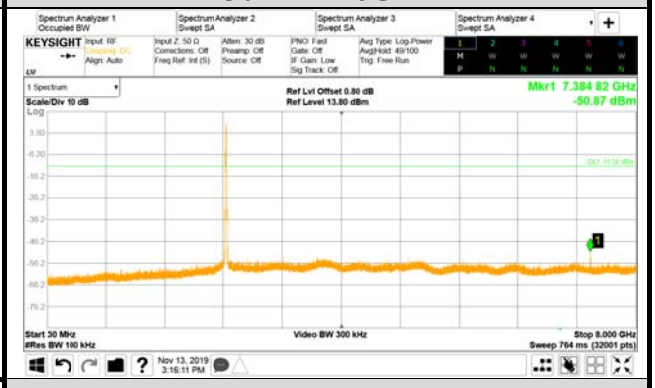


測試日期	2019/11/13	環境溫/濕度	24℃/50%
電纜損失	0.80dB	測試電壓	AC 110V, 60Hz (經電源供應器供電)
模式	802.11b	測試人員	Kuper Hsu
測試頻率	TX 2462MHz		
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			0

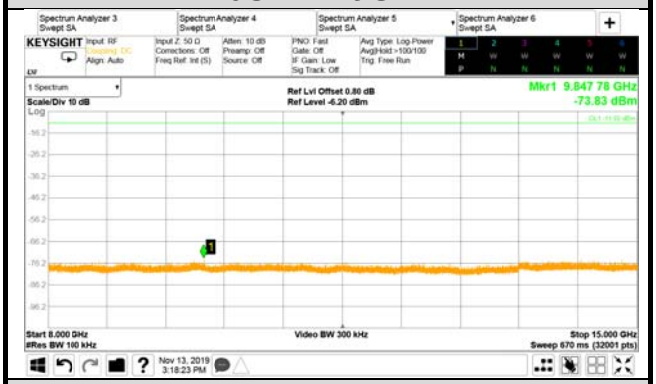
Reference Level



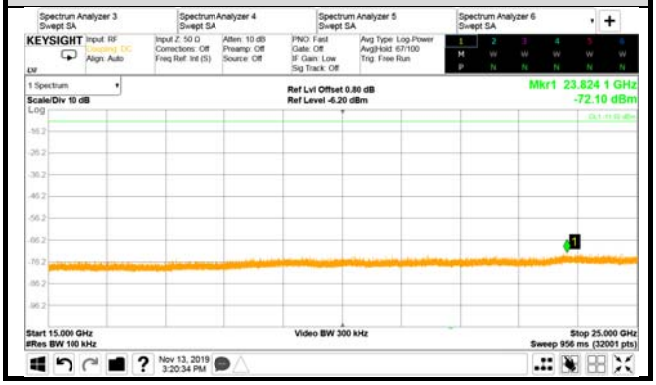
30MHz – 8GHz



8GHz – 15GHz

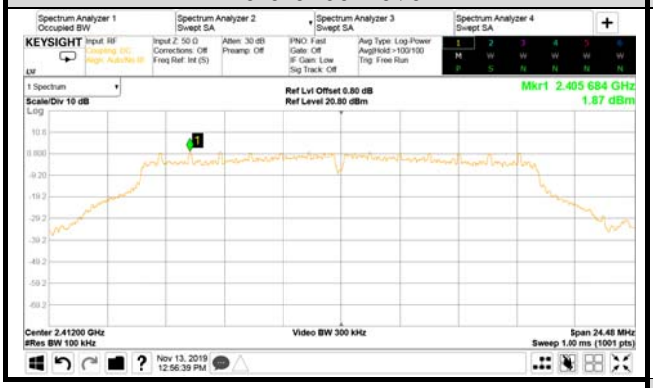


15GHz – 25GHz

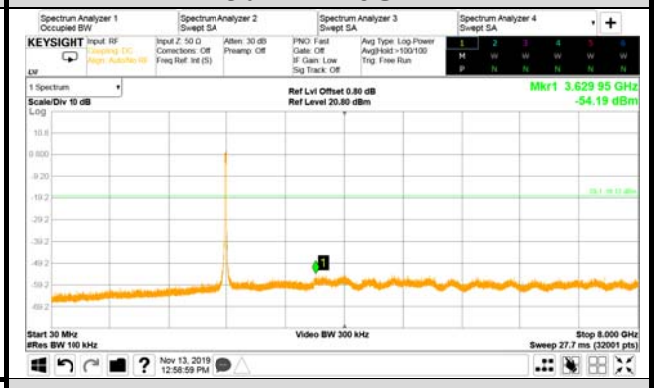


測試日期	2019/11/13	環境溫/濕度	24℃/50%
電纜損失	0.80dB	測試電壓	AC 110V, 60Hz (經電源供應器供電)
模式	802.11g	測試人員	Kuper Hsu
測試頻率	TX 2412MHz		
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			0

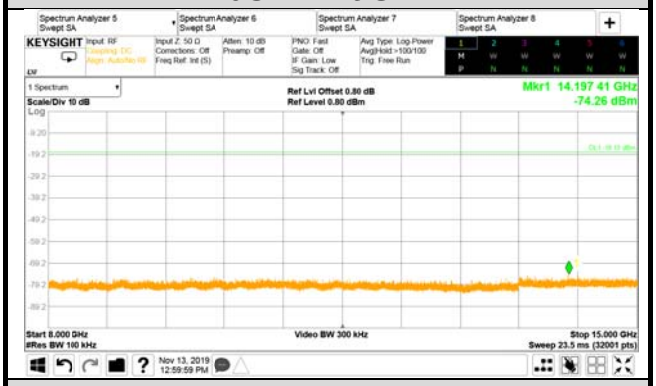
Reference Level



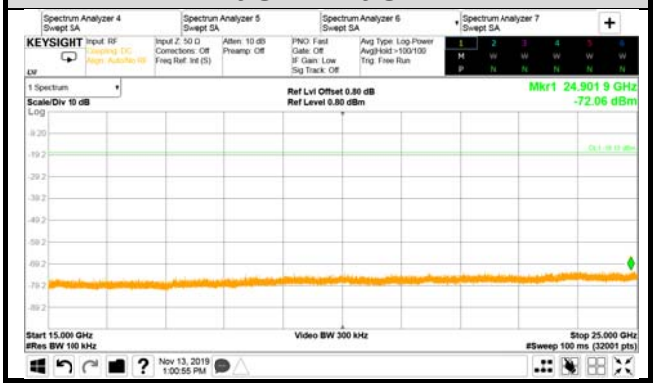
30MHz – 8GHz



8GHz – 15GHz

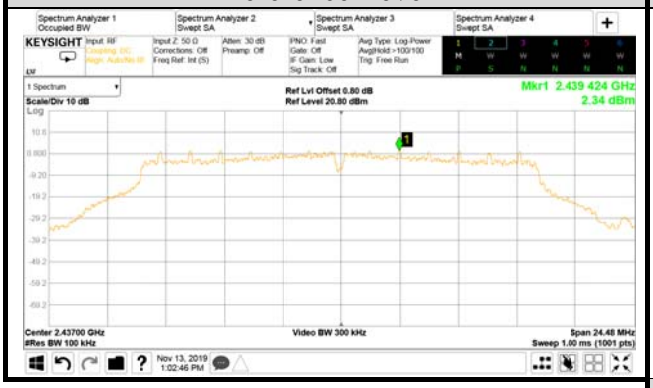


15GHz – 25GHz

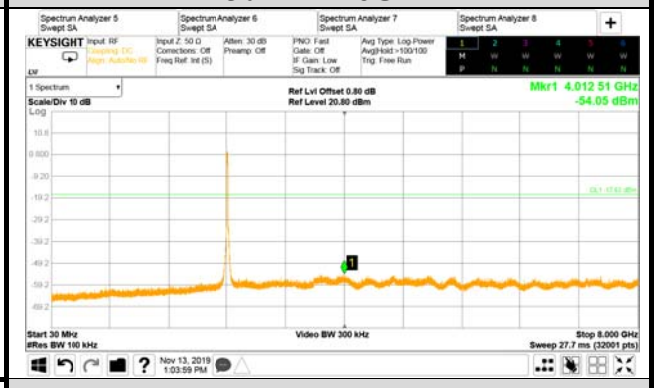


測試日期	2019/11/13	環境溫/濕度	24℃/50%
電纜損失	0.80dB	測試電壓	AC 110V, 60Hz (經電源供應器供電)
模式	802.11g	測試人員	Kuper Hsu
測試頻率	TX 2437MHz		
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			0

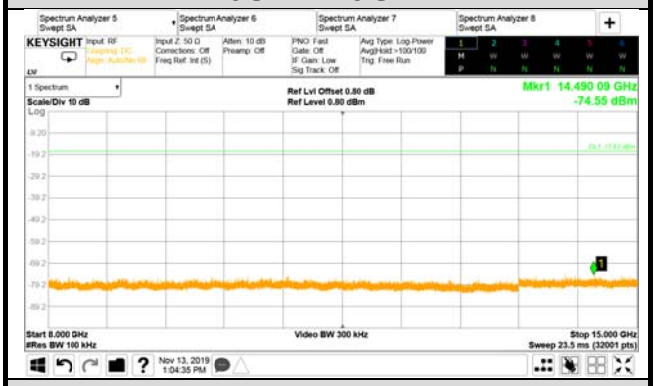
Reference Level



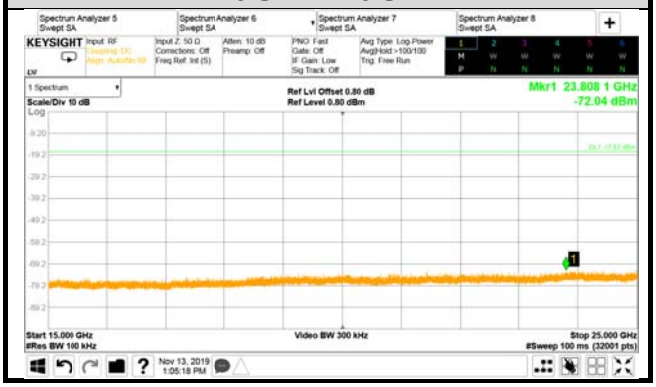
30MHz – 8GHz



8GHz – 15GHz

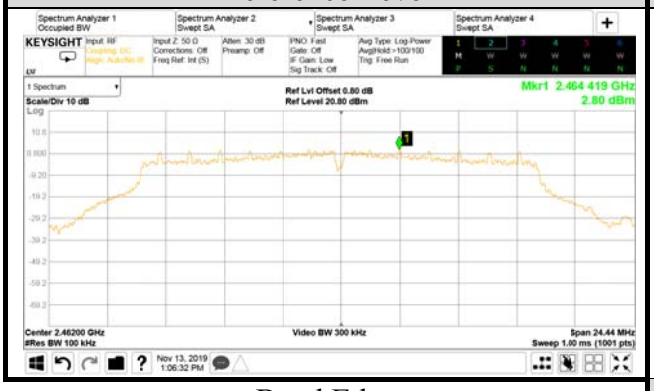


15GHz – 25GHz



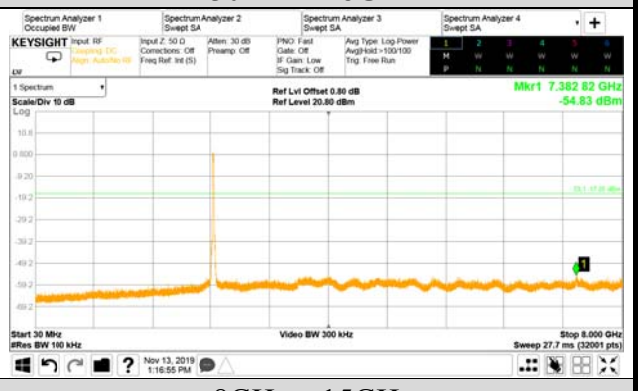
測試日期	2019/11/13	環境溫/濕度	24℃/50%
電纜損失	0.80dB	測試電壓	AC 110V, 60Hz (經電源供應器供電)
模式	802.11g	測試人員	Kuper Hsu
測試頻率	TX 2462MHz		
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			0

Reference Level

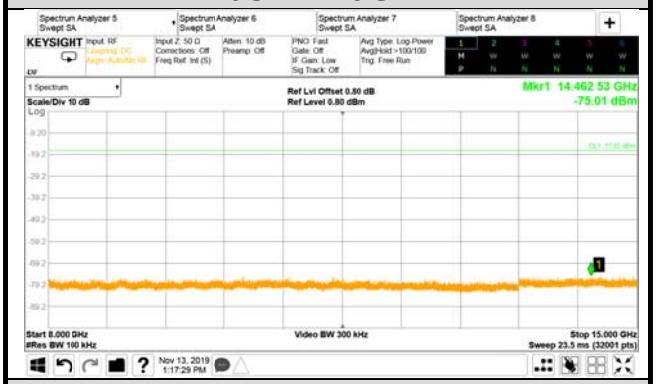


Band Edge

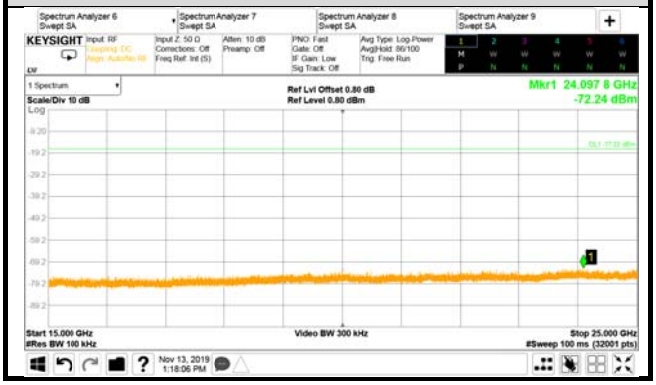
30MHz – 8GHz



8GHz – 15GHz

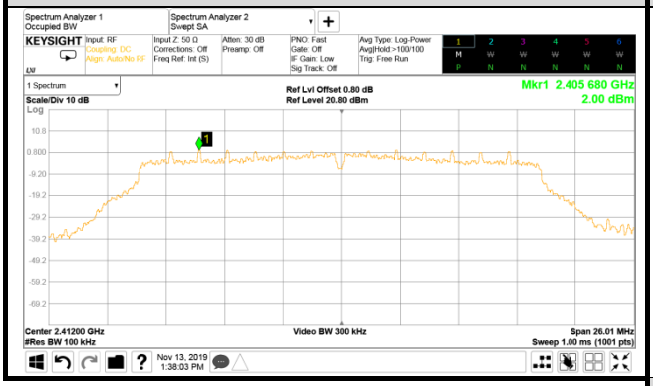


15GHz – 25GHz

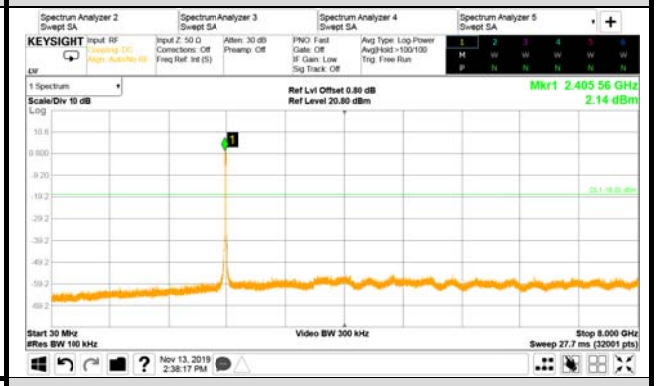


測試日期	2019/11/13	環境溫/濕度	24℃/50%
電纜損失	0.80dB	測試電壓	AC 110V, 60Hz (經電源供應器供電)
模式	802.11n-HT20	測試人員	Kuper Hsu
測試頻率	TX 2412MHz		
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			0

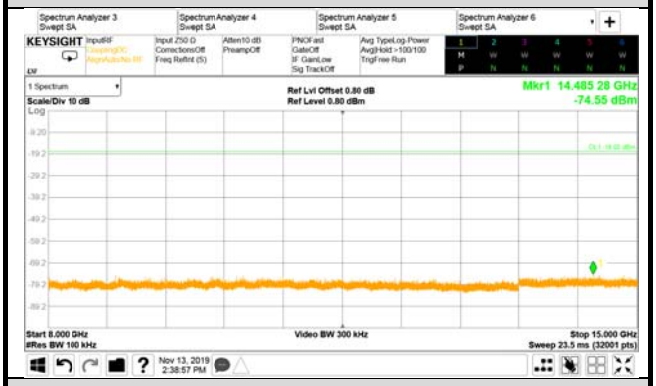
Reference Level



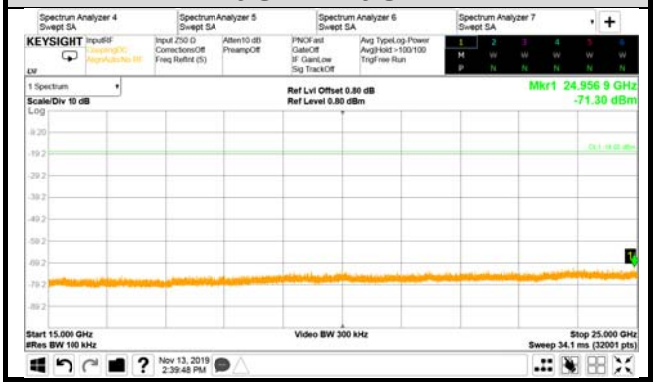
30MHz – 8GHz



8GHz – 15GHz

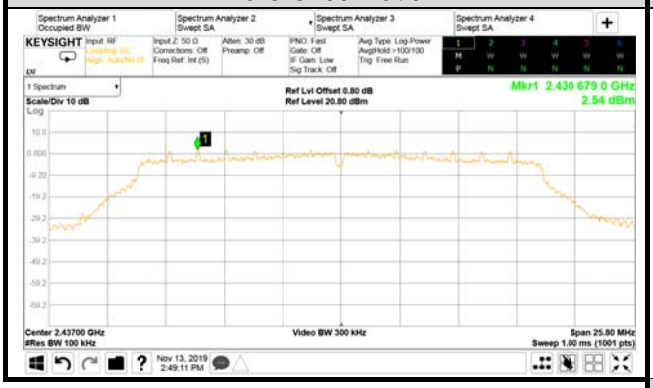


15GHz – 25GHz

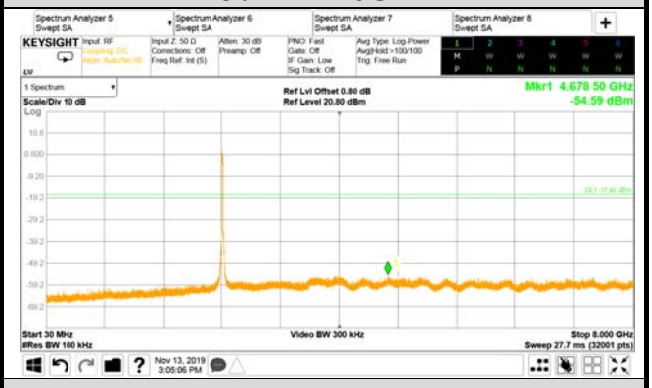


測試日期	2019/11/13	環境溫/濕度	24℃/50%
電纜損失	0.80dB	測試電壓	AC 110V, 60Hz (經電源供應器供電)
模式	802.11n-HT20	測試人員	Kuper Hsu
測試頻率	TX 2437MHz		
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			0

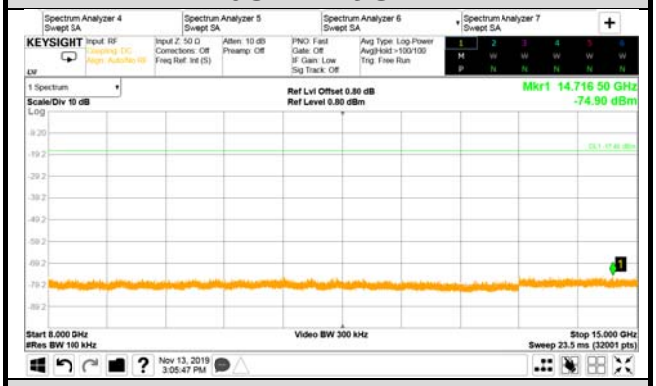
Reference Level



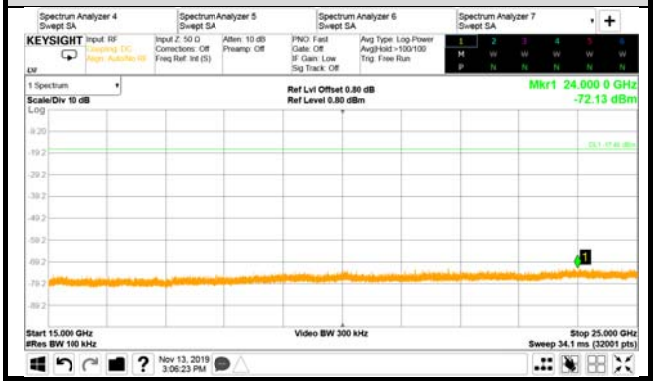
30MHz – 8GHz



8GHz – 15GHz

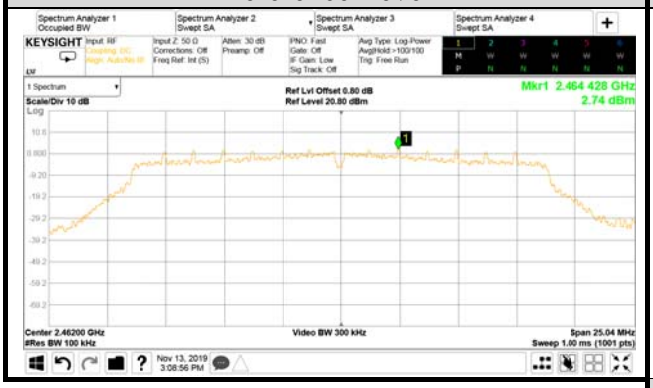


15GHz – 25GHz

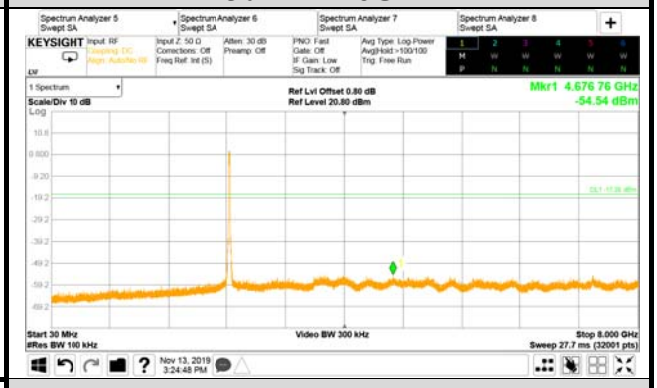


測試日期	2019/11/13	環境溫/濕度	24℃/50%
電纜損失	0.80dB	測試電壓	AC 110V, 60Hz (經電源供應器供電)
模式	802.11n-HT20	測試人員	Kuper Hsu
測試頻率	TX 2462MHz		
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			0

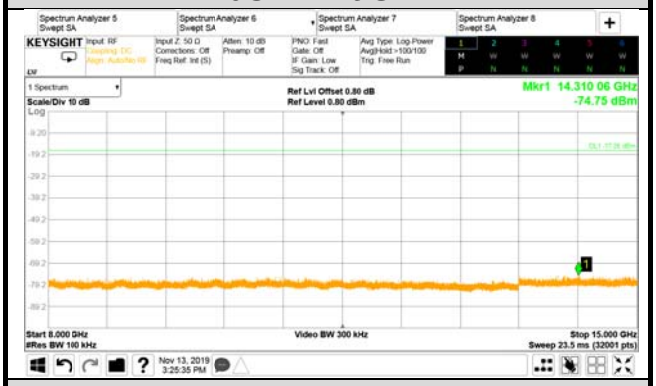
Reference Level



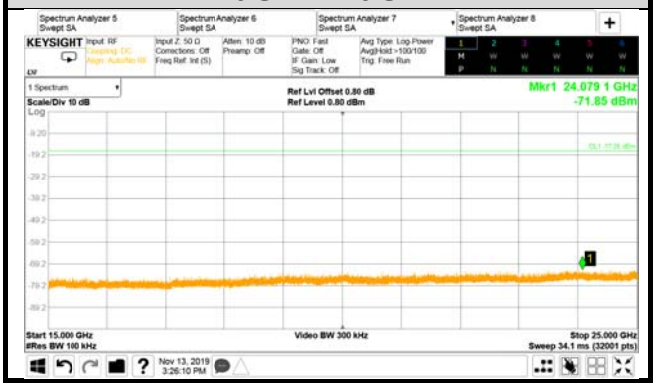
30MHz – 8GHz



8GHz – 15GHz

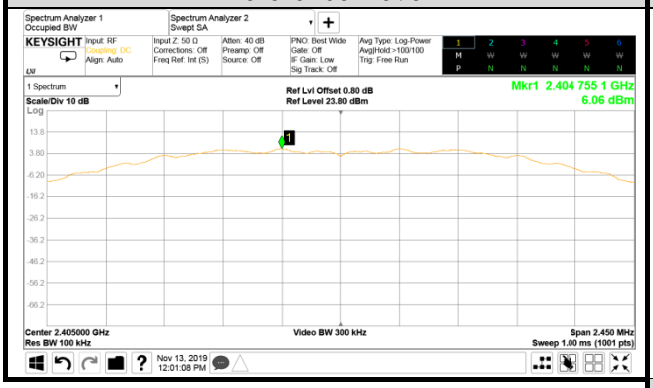


15GHz – 25GHz

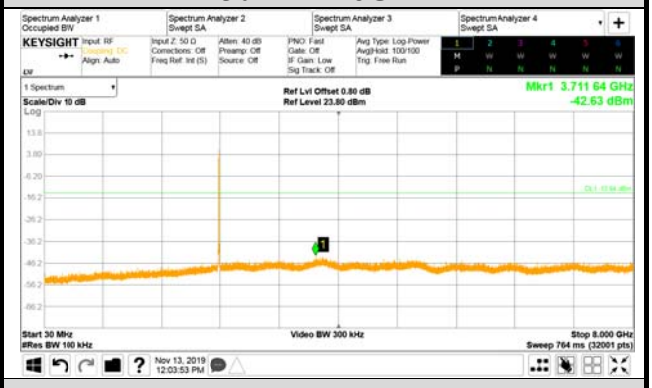


測試日期	2019/11/13	環境溫/濕度	24℃/50%
電纜損失	0.80dB	測試電壓	AC 110V, 60Hz (經電源供應器供電)
模式	Zigbee	測試人員	Kuper Hsu
測試頻率	TX 2405MHz		
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			0

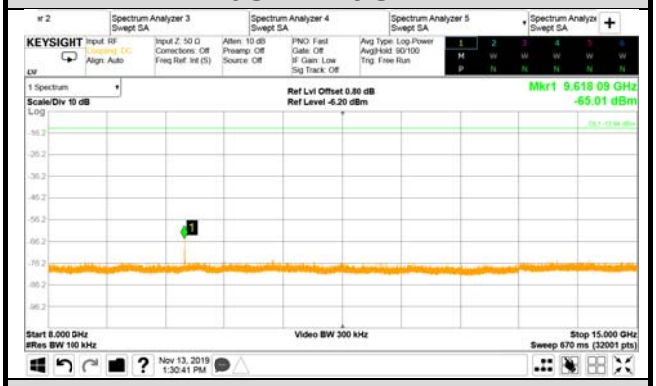
Reference Level



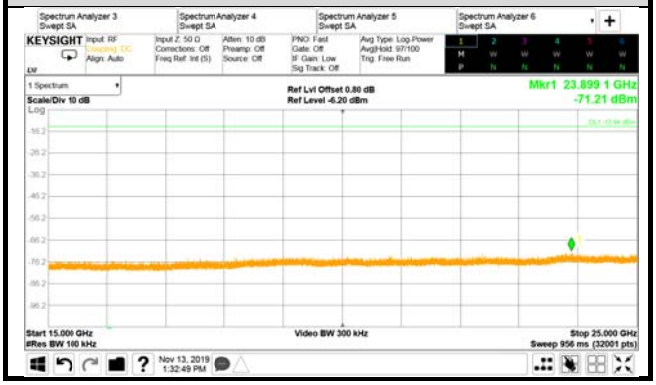
30MHz – 8GHz



8GHz – 15GHz

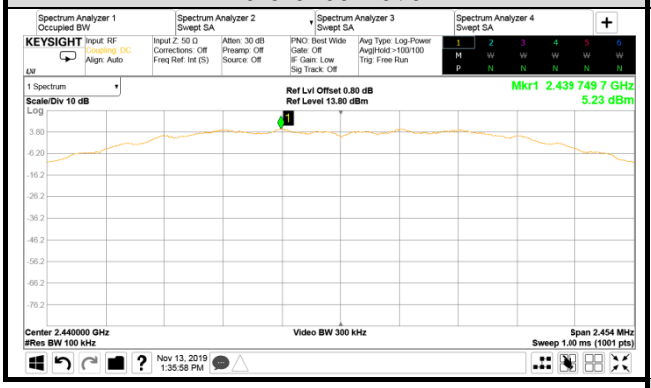


15GHz – 25GHz

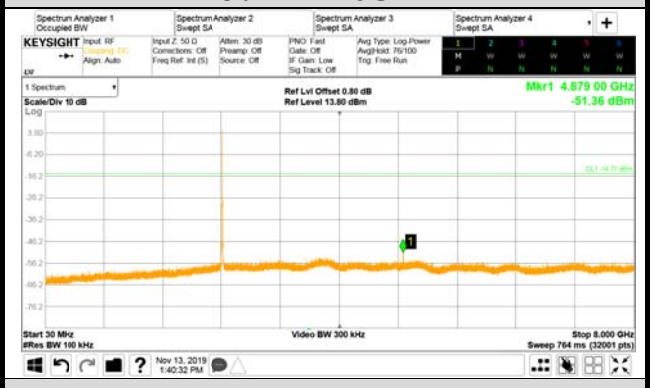


測試日期	2019/11/13	環境溫/濕度	24℃/50%
電纜損失	0.80dB	測試電壓	AC 110V, 60Hz (經電源供應器供電)
模式	Zigbee	測試人員	Kuper Hsu
測試頻率	TX 2440MHz		
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			0

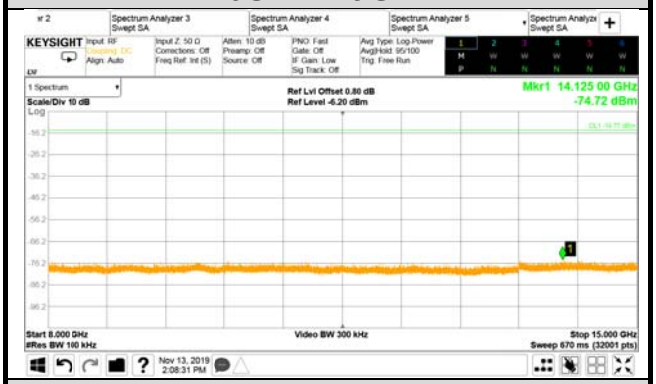
Reference Level



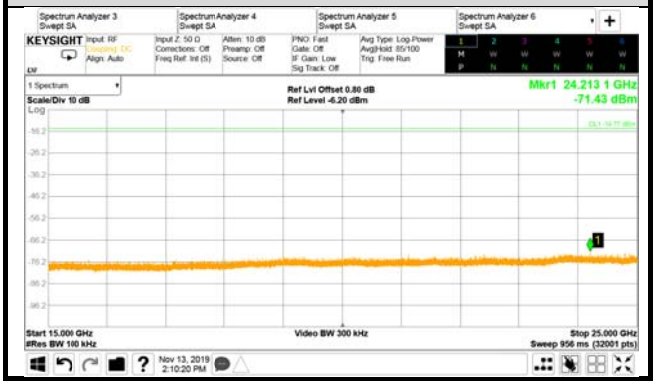
30MHz – 8GHz



8GHz – 15GHz

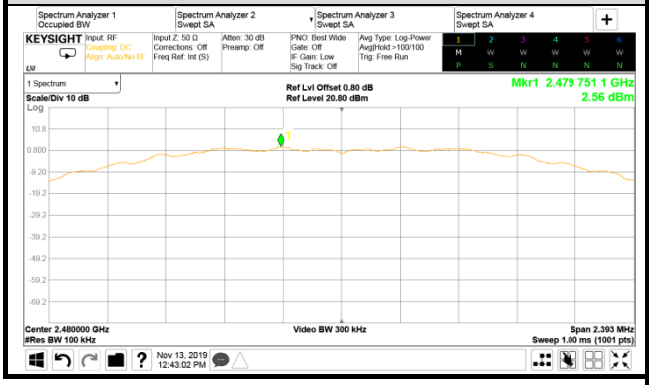


15GHz – 25GHz

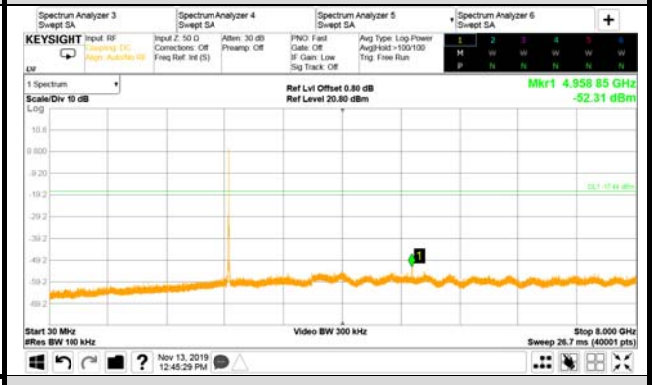


測試日期	2019/11/13	環境溫/濕度	24℃/50%
電纜損失	0.80dB	測試電壓	AC 110V, 60Hz (經電源供應器供電)
模式	Zigbee	測試人員	Kuper Hsu
測試頻率	TX 2480MHz		
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			0

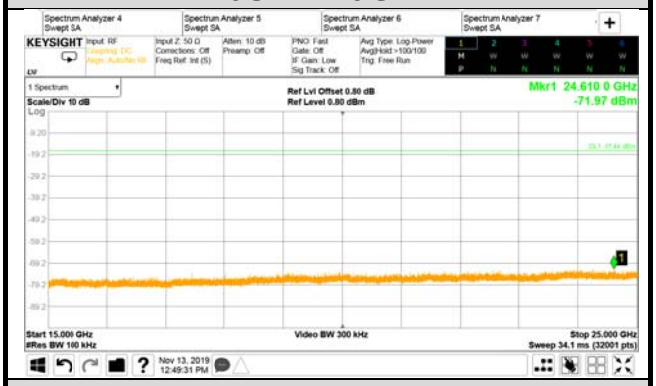
Reference Level



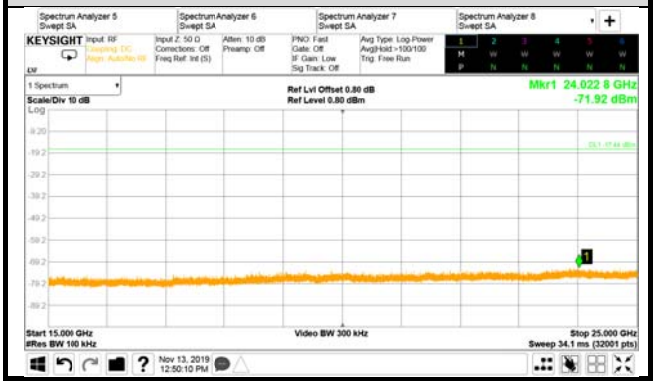
30MHz – 8GHz



8GHz – 15GHz



15GHz – 25GHz



7. 功率密度之量測

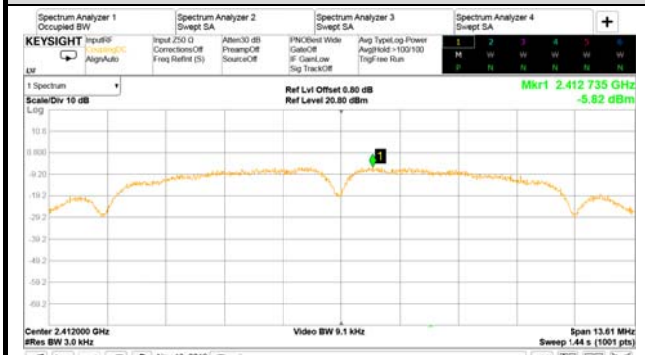
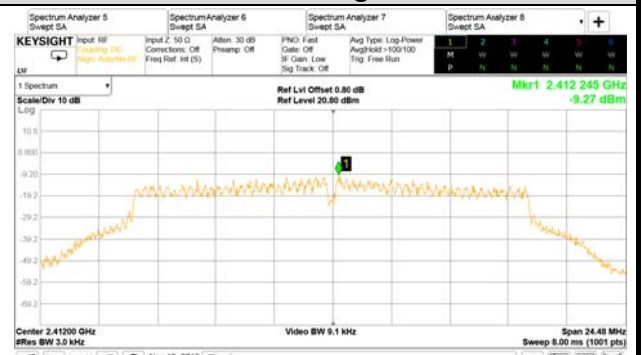
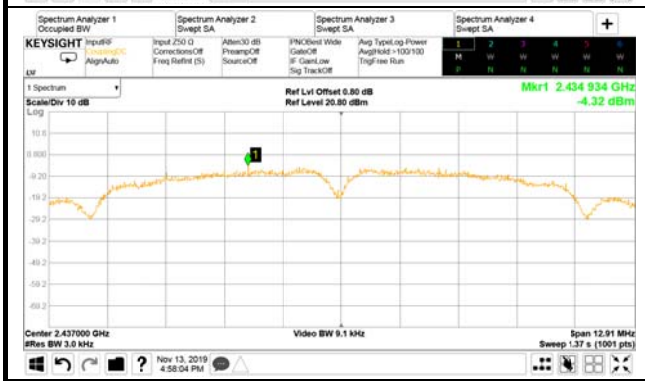
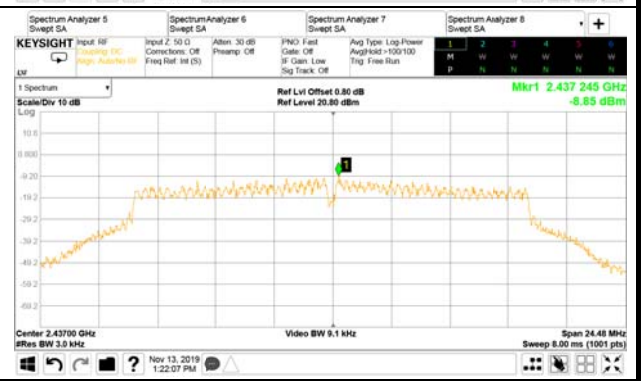
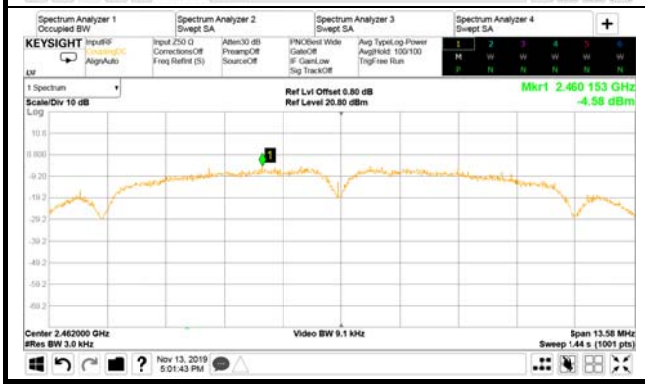
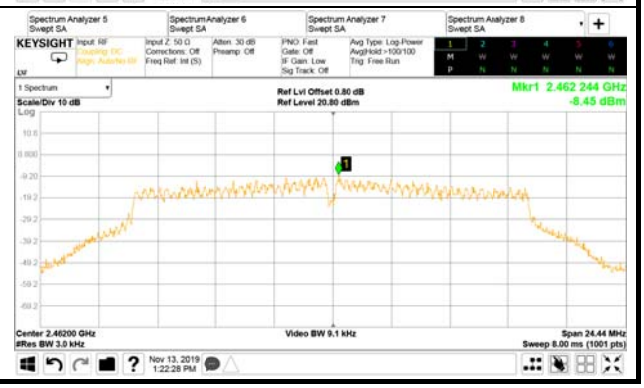
測試日期	2019/11/13	環境溫/濕度	24℃/50%
電纜損失	0.80dB	測試電壓	AC 110V, 60Hz (經電源供應器供電)
		測試人員	Kuper Hsu
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			0

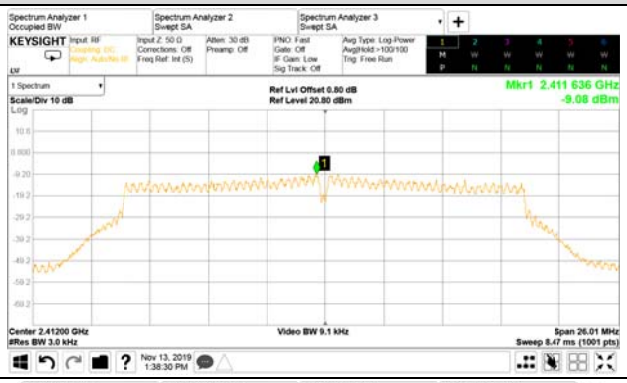
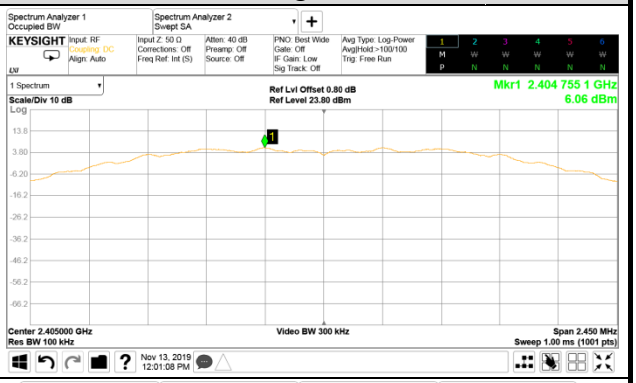
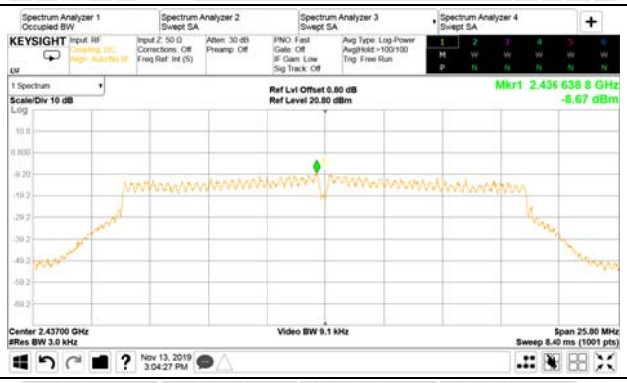
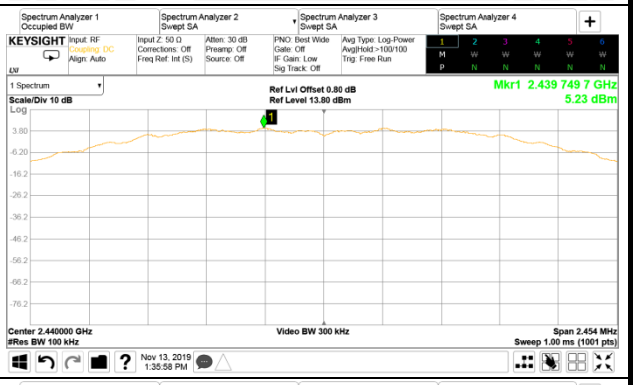
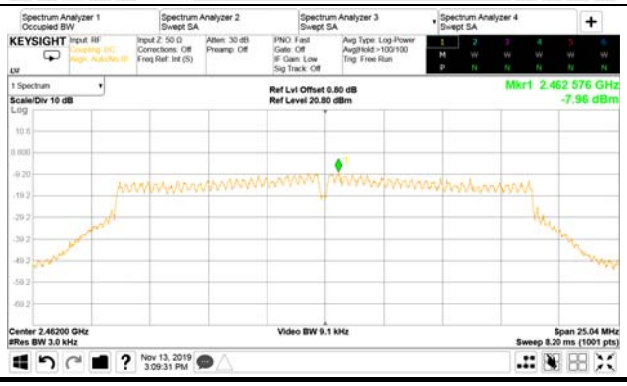
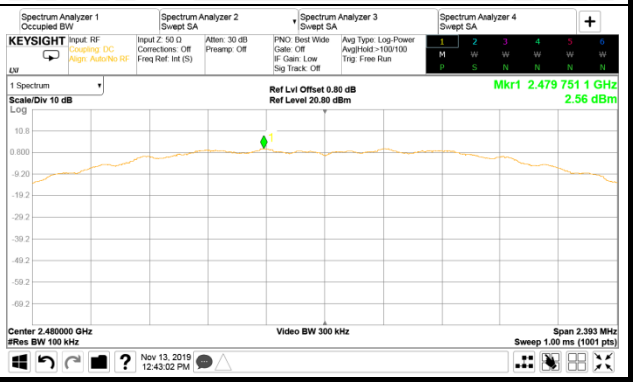
7.1. 功率密度

模式	測試頻率 (MHz)	功率密度 (dBm)	限制值 (dBm)
802.11b	2412	-5.82	8
	2437	-4.32	
	2462	-4.58	
802.11g	2412	-9.27	
	2437	-8.85	
	2462	-8.45	
802.11n-HT20	2412	-9.08	
	2437	-8.67	
	2462	-7.96	
Zigbee	2405	6.06	
	2440	5.23	
	2480	2.56	

Zigbee Mode: 測試結果係依照 FCC 公告之 KDB558074 D01V04，且解析頻寬以 100kHz 量測其測試結果較 3kHz 嚴格。

7.2. 功率密度之量測圖

802.11b	802.11g
	
	
	

802.11n-HT20	Zigbee
	
	
	

8. 電波暴露量之量測

測試日期	2019/11/13	環境溫/濕度	24℃/50%
測試電壓	AC 110V, 60Hz (經電源供應器供電)	測試人員	Kuper Hsu

- WLAN 2.4G 模式

距離人體(r):	20	cm			
最大發射功率(P):	22.82	dBm	=	191.426	mW
最大天線增益(G):	4.403	dBi	=	2.756	Numerical
MPE (S) = (P*G) / (4*π*r^2) =		**0.1050**			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：0.1050mW/cm^2					

- WLAN 5G 模式

距離人體(r):	20	cm			
最大發射功率(P):	16.44	dBm	=	44.055	mW
最大天線增益(G):	6.192	dBi	=	4.161	Numerical
MPE (S) = (P*G) / (4*π*r^2) =		**0.0365**			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：0.0365mW/cm^2					

- Zigbee 模式

距離人體(r):	20	cm			
最大發射功率(P):	9.54	dBm	=	8.995	mW
最大天線增益(G):	0.585	dBi	=	1.144	Numerical
MPE (S) = (P*G) / (4*π*r^2) =		**0.0020**			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：0.0020mW/cm^2					

- 同時發射模式

WLAN 2.4G (mW/cm^2)	Zigbee (mW/cm^2)	Total (mW/cm^2)	Limit (mW/cm^2)
0.1050	0.0020	0.1070	≤1
註：電磁波曝露量MPE標準值1mW/cm^2，送測產品實測值為：0.1070mW/cm^2			

WLAN 5G (mW/cm^2)	Zigbee (mW/cm^2)	Total (mW/cm^2)	Limit (mW/cm^2)
0.0365	0.0020	0.0385	≤1
註：電磁波曝露量MPE標準值1mW/cm^2，送測產品實測值為：0.0385mW/cm^2			