

附錄一

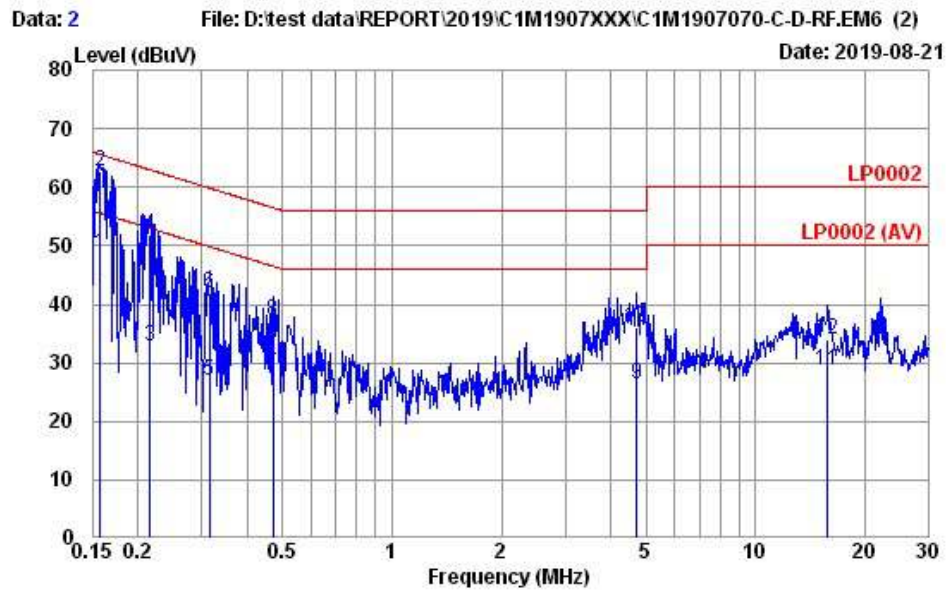
受測裝置之測試結果

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1. 電源線傳導干擾之量測

經實驗室行評估，擇取量測峰值輸出功率較差之電池 (廠家:Highpower)來進行本項之量測。

測試日期	2019/08/21	環境溫/濕度	26°C/50%
測試電壓	DC 5V (透過 USB 由筆記型電腦供電)	電池廠家	Highpower

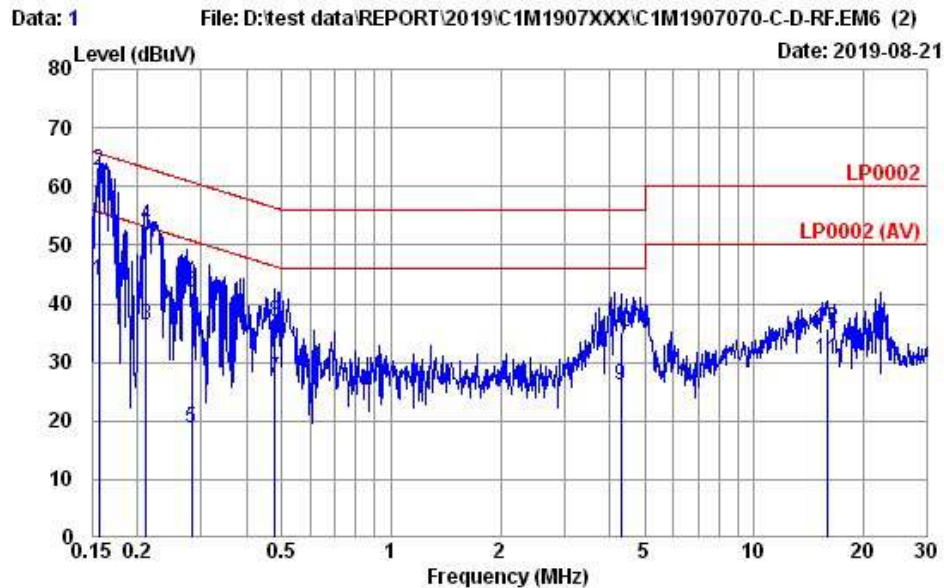


Site no. : No.8 Shielded Room Data no. : 2
 Condition : ENV4200 100169 LISN Phase : NEUTRAL
 Limit : LP0002
 Env. / Ins. : 26°C / 50% ESR3 (1774) Engineer : Chucky Chiu
 EUT : WH-H910N
 Power Rating : DC 5V(VIA USB)
 Test Mode : Charge

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.157	10.69	0.03	9.86	28.18	48.76	55.60	6.84	Average
2	0.157	10.69	0.03	9.86	42.03	62.61	65.60	2.99	QP
3	0.216	10.61	0.03	9.86	12.26	32.76	52.96	20.20	Average
4	0.216	10.61	0.03	9.86	31.32	51.82	62.96	11.14	QP
5	0.315	10.53	0.04	9.86	6.44	26.87	49.84	22.97	Average
6	0.315	10.53	0.04	9.86	21.56	41.99	59.84	17.85	QP
7	0.471	10.49	0.04	9.86	7.68	28.07	46.49	18.42	Average
8	0.471	10.49	0.04	9.86	16.94	37.33	56.49	19.16	QP
9	4.721	10.77	0.12	9.87	5.68	26.44	46.00	19.56	Average
10	4.721	10.77	0.12	9.87	15.21	35.97	56.00	20.03	QP
11	15.801	12.82	0.24	9.93	5.70	28.69	50.00	21.31	Average
12	15.801	12.82	0.24	9.93	10.91	33.90	60.00	26.10	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.
 2. If the average limit is met when using a quasi-peak detector,
 the EUT shall be deemed to meet both limits and measurement
 with average detector is unnecessary.

測試日期	2019/08/21	環境溫/濕度	26°C/50%
測試電壓	DC 5V (透過 USB 由筆記型電腦供電)	電池廠家	Highpower



Site no. : No.8 Shielded Room Data no. : 1
Condition : ENV4200 100169 LISN Phase : LINE
Limit : LP0002
Env. / Ins. : 26°C / 50% ESR3 (1774) Engineer : Chucky Chiu
EUT : WH-H910N
Power Rating : DC 5V(VIA USB)
Test Mode : Charge

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.156	10.61	0.03	9.86	23.53	44.03	55.65	11.62	Average
2	0.156	10.61	0.03	9.86	42.21	62.71	65.65	2.94	QP
3	0.212	10.53	0.03	9.86	15.94	36.36	53.14	16.78	Average
4	0.212	10.53	0.03	9.86	32.97	53.39	63.14	9.75	QP
5	0.282	10.50	0.03	9.86	-1.62	18.77	50.76	31.99	Average
6	0.282	10.50	0.03	9.86	21.62	42.01	60.76	18.75	QP
7	0.479	10.44	0.04	9.86	6.93	27.27	46.36	19.09	Average
8	0.479	10.44	0.04	9.86	16.58	36.92	56.36	19.44	QP
9	4.292	10.60	0.12	9.87	5.52	26.11	46.00	19.89	Average
10	4.292	10.60	0.12	9.87	14.55	35.14	56.00	20.86	QP
11	15.885	12.47	0.24	9.93	7.75	30.39	50.00	19.61	Average
12	15.885	12.47	0.24	9.93	13.06	35.70	60.00	24.30	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.
2. If the average limit is met when using a quasi-peak detector,
the EUT shall be deemed to meet both limits and measurement
with average detector is unnecessary.

2. 場強輻射之量測

【經實驗室評估量測後，以最差之調變方式 GFSK 進行本章節之測試】

本裝置有兩種電源供應模式分別為(1)電池(DC 3.7V)、(2)USB (DC 5V)僅供充電使用，故實驗室以單機(電池供電)低、中、高頻率來進行量測，並將下列測試模式之測試數據檢附於附錄中；最後，選擇較差模式進行讀值之測量，所得讀值資料請見章節 2.1 ~2.2：

【受測物裝置可分別搭配兩款電池，實驗室針對這兩款電池進行峰值輸出功率評估，擇取較差之電池 (廠家:Highpower)來進行本章節之測試。】

模式	動作狀態	基本頻率	量測頻率範圍
---	充電	---	30-1000MHz
BT (GFSK)	Normal	---	30-1000MHz
			1000-25000MHz
	發射	2402MHz (CH0)	1000-25000MHz
	發射	2441MHz (CH39)	1000-25000MHz
	發射	2480MHz (CH78)*	30-1000MHz
			1000-25000MHz
	接收	2441MHz(CH39)	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 章節的禁用頻率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
BT (GFSK)	發射	2402MHz (CH0)	2310-2430MHz
		2480MHz (CH78)	2450-2530MHz
BT (8-DPSK)	發射	2402MHz (CH0)	2310-2430MHz
		2480MHz (CH78)	2450-2530MHz

測試日期	2019/08/21	環境溫/濕度	23°C/47%
測試電壓	(1)DC 3.7V (透過內建鋰電池供電) (Normal 及 BT 模式) (2)DC 5V (透過 USB 由筆記型電腦供電) (充電模式)		

2.1. 30-1000MHz 頻率範圍，其他不必要發射量測

Mode	充電	Frequency	---
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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
36.79	21.29	0.50	7.43	29.22	40.00	10.78	Peak
94.99	16.11	0.83	12.43	29.37	43.50	14.13	Peak
199.75	16.20	1.25	14.74	32.19	43.50	11.31	Peak
483.96	23.43	2.07	5.62	31.12	46.00	14.88	Peak
828.31	26.63	2.88	7.63	37.14	46.00	8.86	Peak
987.39	27.79	3.24	8.89	39.92	54.00	14.08	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	24.03	0.47	9.59	34.09	40.00	5.91	Peak
140.58	17.58	1.02	14.13	32.73	43.50	10.77	Peak
665.35	25.30	2.52	12.35	40.17	46.00	5.83	Peak
829.28	26.65	2.89	4.80	34.34	46.00	11.66	Peak
886.51	27.10	2.99	4.38	34.47	46.00	11.53	Peak
997.09	27.86	3.26	2.40	33.52	54.00	20.48	Peak

Mode	Normal	Frequency	---
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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
35.82	21.79	0.49	10.09	32.37	40.00	7.63	Peak
167.74	15.93	1.13	15.10	32.16	43.50	11.34	Peak
482.99	23.41	2.07	5.63	31.11	46.00	14.89	Peak
828.31	26.63	2.88	8.25	37.76	46.00	8.24	Peak
940.83	27.49	3.12	6.91	37.52	46.00	8.48	Peak
997.09	27.86	3.26	6.93	38.05	54.00	15.95	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
32.91	23.50	0.47	8.59	32.56	40.00	7.44	Peak
141.55	17.51	1.03	16.40	34.94	40.00	5.06	Peak
665.35	25.30	2.52	8.79	36.61	43.50	6.89	Peak
827.34	26.63	2.88	6.09	35.60	46.00	10.40	Peak
931.13	27.42	3.10	4.41	34.93	46.00	11.07	Peak
985.45	27.79	3.23	4.74	35.76	46.00	10.24	Peak

Mode	GFSK	Frequency	TX 2480MHz
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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	23.50	0.47	3.83	27.80	40.00	12.20	Peak
132.82	17.91	0.99	0.48	19.38	43.50	24.12	Peak
377.26	21.77	1.79	0.23	23.79	46.00	22.21	Peak
730.34	25.83	2.66	0.57	29.06	46.00	16.94	Peak
896.21	27.17	3.01	1.43	31.61	46.00	14.39	Peak
983.51	27.76	3.23	0.17	31.16	54.00	22.84	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
32.91	23.50	0.47	8.73	32.70	40.00	7.30	Peak
141.55	17.51	1.03	16.24	34.78	43.50	8.72	Peak
466.50	23.23	2.03	0.31	25.57	46.00	20.43	Peak
656.62	25.22	2.50	0.41	28.13	46.00	17.87	Peak
833.16	26.67	2.89	1.03	30.59	46.00	15.41	Peak
992.24	27.83	3.25	1.01	32.09	54.00	21.91	Peak

Mode	---	Frequency	RX 2441MHz
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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
35.82	21.79	0.49	6.48	28.76	40.00	11.24	Peak
135.73	17.79	1.00	1.88	20.67	43.50	22.83	Peak
453.89	23.07	2.00	0.53	25.60	46.00	20.40	Peak
671.17	25.34	2.53	0.30	28.17	46.00	17.83	Peak
890.39	27.12	3.00	0.54	30.66	46.00	15.34	Peak
972.84	27.70	3.20	0.78	31.68	54.00	22.32	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
30.00	25.23	0.45	8.43	34.11	40.00	5.89	Peak
158.04	16.50	1.09	13.44	31.03	43.50	12.47	Peak
490.75	23.51	2.09	0.29	25.89	46.00	20.11	Peak
672.14	25.36	2.53	1.10	28.99	46.00	17.01	Peak
950.53	27.56	3.15	1.20	31.91	46.00	14.09	Peak
987.39	27.79	3.24	0.50	31.53	54.00	22.47	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。

Mode	Normal	Frequency	---
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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
2156.00	31.30	8.09	6.04	45.43	54.00	8.57	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
2260.00	32.20	8.13	5.34	45.67	54.00	8.33	Peak

Mode	GFSK	Frequency	TX 2402MHz
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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
4805.00	33.90	10.32	-1.13	43.09	54.00	10.91	Peak
7205.00	35.70	11.91	-2.95	44.66	54.00	9.34	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
4805.00	33.90	10.32	-0.97	43.25	54.00	10.75	Peak
7205.00	35.70	11.91	-2.78	44.83	54.00	9.17	Peak

Mode	GFSK	Frequency	TX 2441MHz
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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	10.38	-1.34	43.41	54.00	10.59	Peak
7325.00	35.90	12.02	-2.93	44.99	54.00	9.01	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	10.38	-0.91	43.84	54.00	10.16	Peak
7325.00	35.90	12.02	-2.01	45.91	54.00	8.09	Peak

Mode	GFSK	Frequency	TX 2480MHz
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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	10.46	-1.09	43.64	54.00	10.36	Peak
7440.00	35.90	12.12	-2.07	45.95	54.00	8.05	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
4960.00	34.27	10.46	-2.45	42.28	54.00	11.72	Peak
7440.00	35.90	12.12	-0.98	47.04	54.00	6.96	Peak

Mode	---	Frequency	RX 2441MHz
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Antenna at Horizontal Polarization

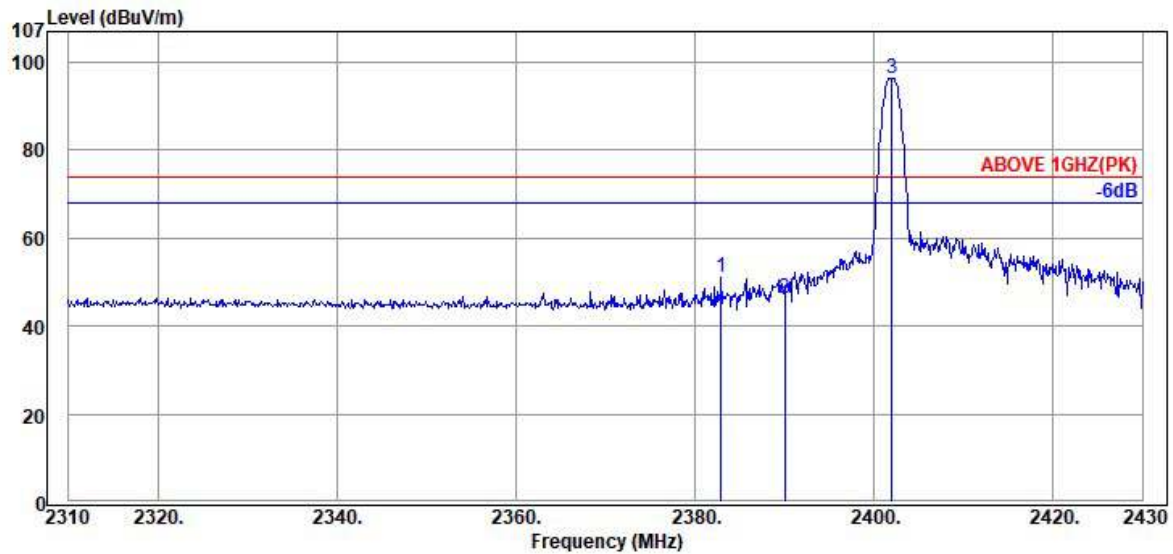
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2890.00	32.90	8.55	4.34	45.79	54.00	8.21	Peak

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
2268.00	32.10	8.13	6.26	46.49	54.00	7.51	Peak

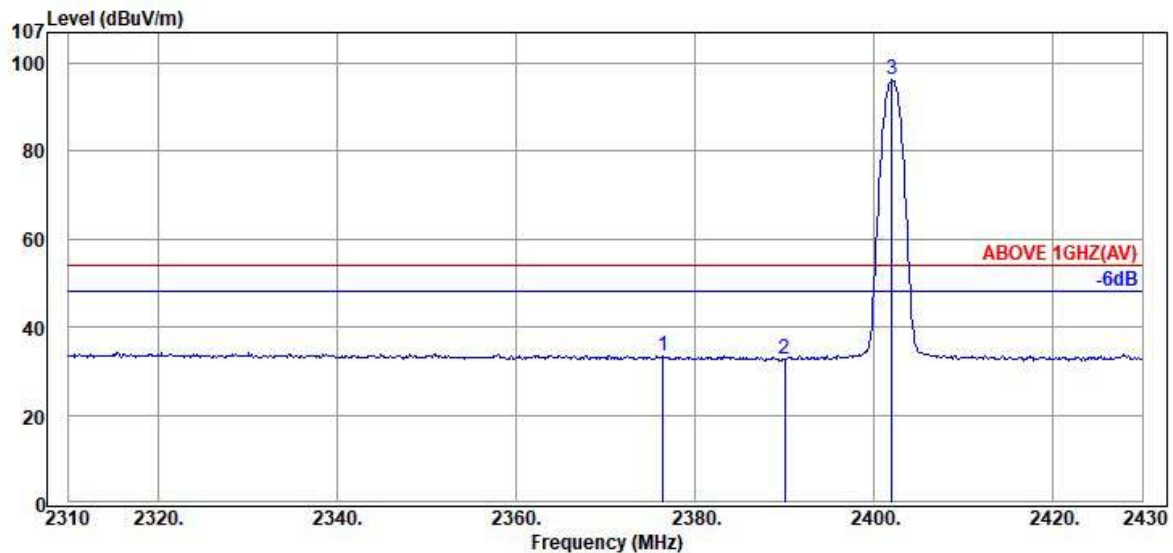
2.3. 禁用頻帶量測結果 (其他不必要發射)

Mode	GFSK	Frequency	TX 2402MHz
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Detector
2382.96	32.00	8.17	10.84	51.01	74.00	22.99	Peak
2390.04	32.00	8.17	6.10	46.27	74.00	27.73	Peak
@ 2402.04	32.00	8.17	56.23	96.40	---	---	Peak

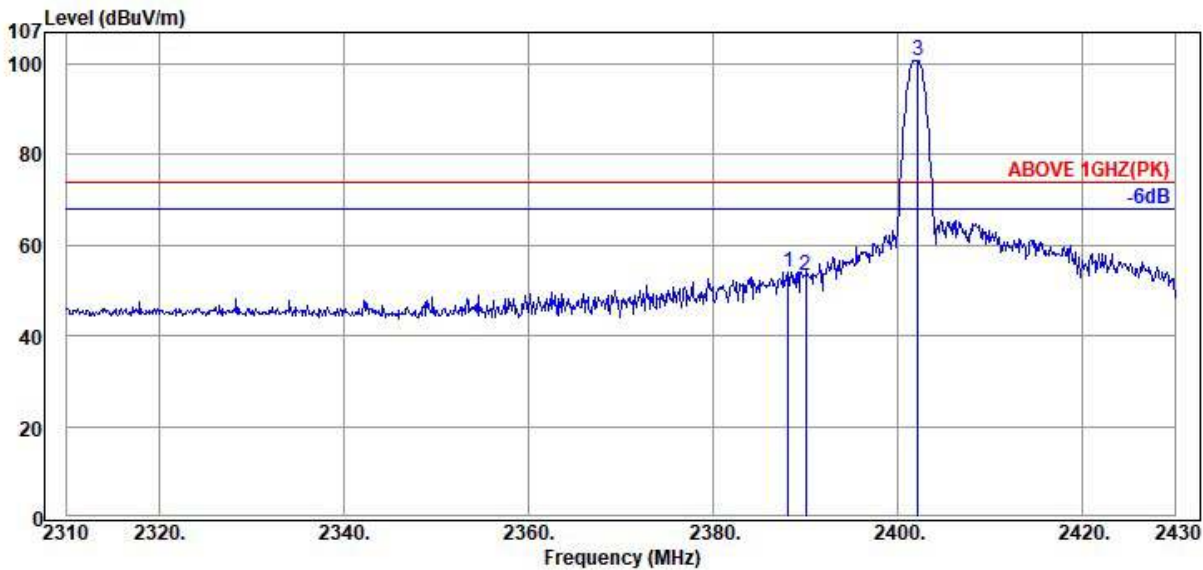


Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Detector
2376.48	32.00	8.17	-6.59	33.58	54.00	20.42	Average
2390.04	32.00	8.17	-7.49	32.68	54.00	21.32	Average
@ 2402.04	32.00	8.17	56.02	96.19	---	---	Average

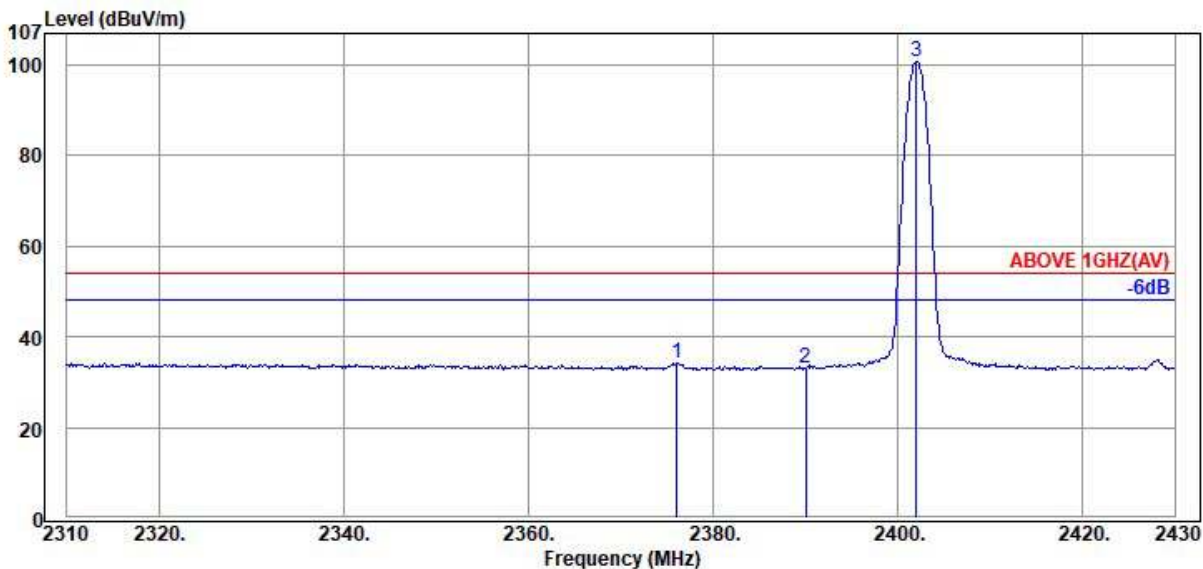
備註：“@”為主波，在此章節是不予以判定。

Mode	GFSK	Frequency	TX 2402MHz
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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
2388.12	32.00	8.17	13.95	54.12	74.00	19.88	Peak
2390.04	32.00	8.17	13.25	53.42	74.00	20.58	Peak
@ 2402.16	32.00	8.17	60.70	100.87	---	---	Peak

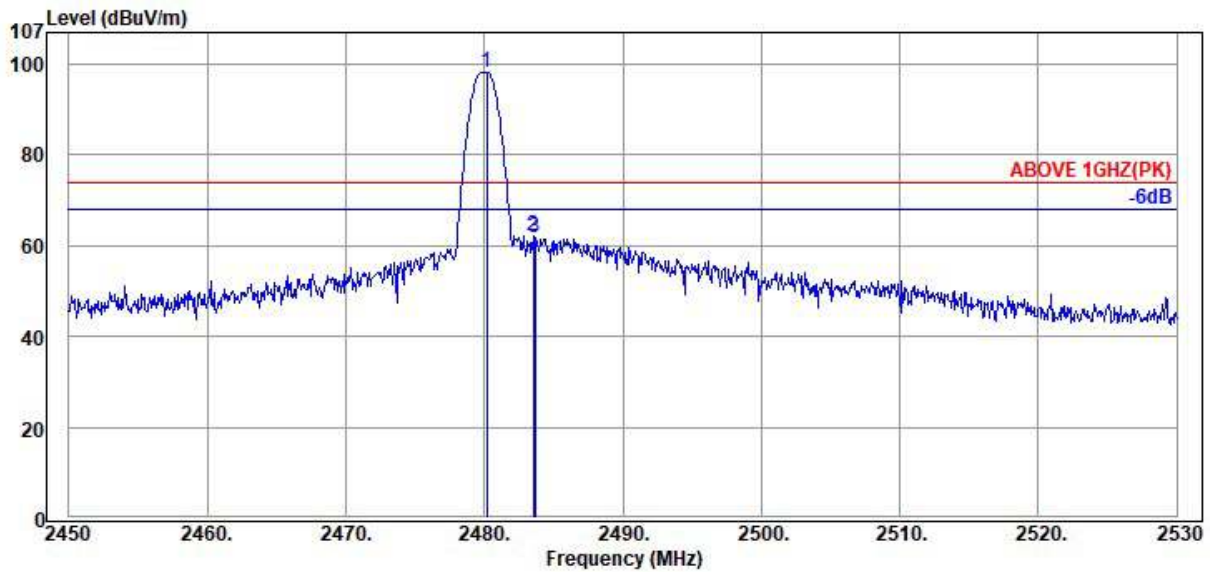


Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2376.12	32.00	8.17	-6.10	34.07	54.00	19.93	Average
2390.04	32.00	8.17	-7.15	33.02	54.00	20.98	Average
@ 2402.04	32.00	8.17	60.49	100.66	---	---	Average

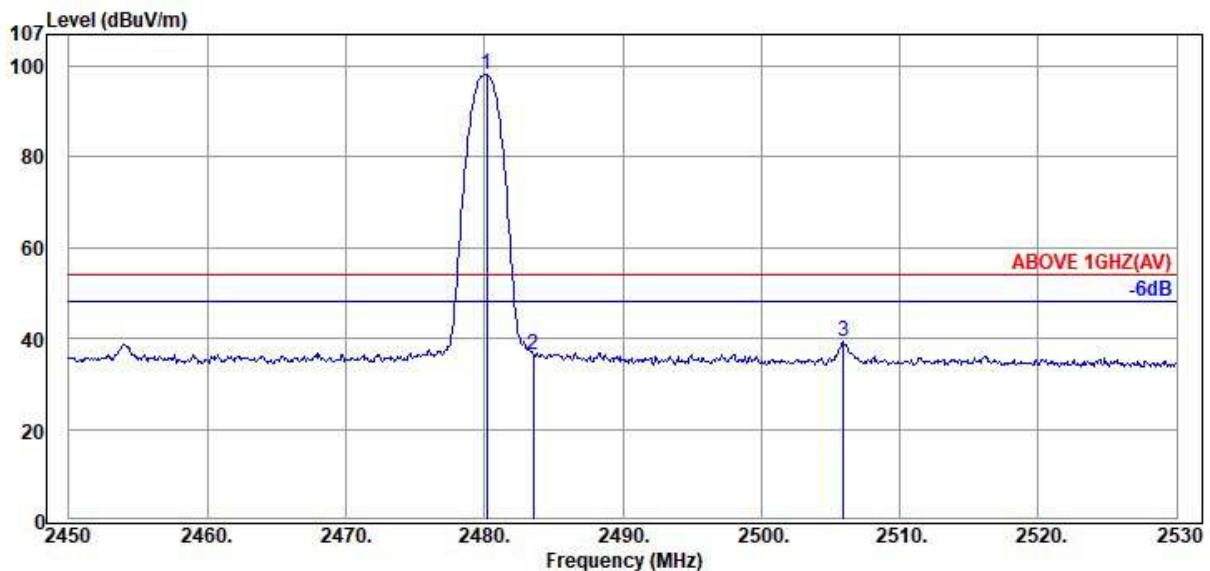
備註：“@”為主波，在此章節是不予以判定。

Mode	GFSK	Frequency	TX 2480MHz
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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
@	2480.16	32.57	8.20	57.53	98.30	---	---	Peak
	2483.52	32.57	8.20	21.49	62.26	74.00	11.74	Peak
	2483.68	32.57	8.20	20.92	61.69	74.00	12.31	Peak

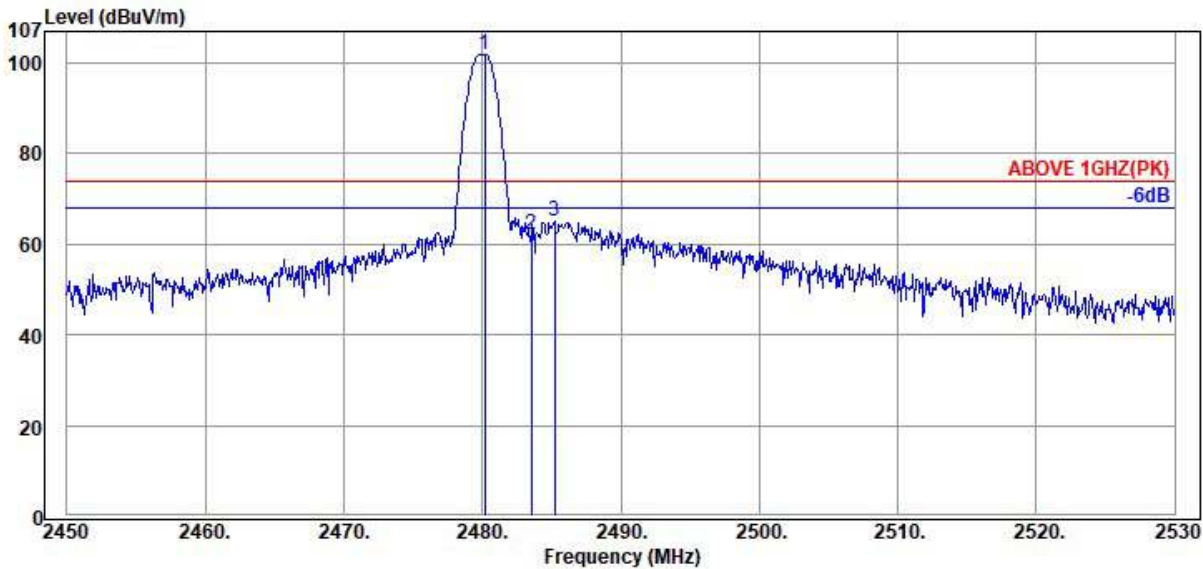


Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2480.16	32.57	8.20	57.35	98.12	---	---	Average
	2483.52	32.57	8.20	-4.32	36.45	54.00	17.55	Average
	2505.92	32.30	8.22	-1.23	39.29	54.00	14.71	Average

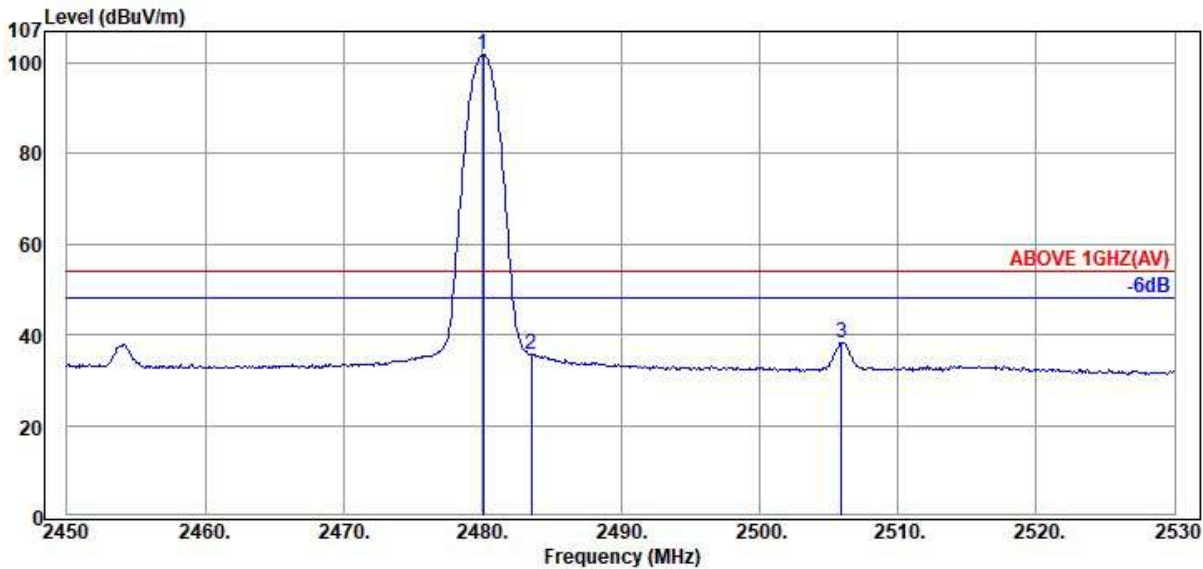
備註：“@”為主波，在此章節是不予以判定。

Mode	GFSK	Frequency	TX 2480MHz
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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
@	2480.16	32.57	8.20	61.21	101.98	---	---	Peak
	2483.52	32.57	8.20	21.52	62.29	74.00	11.71	Peak
	2485.20	32.57	8.20	24.38	65.15	74.00	8.85	Peak

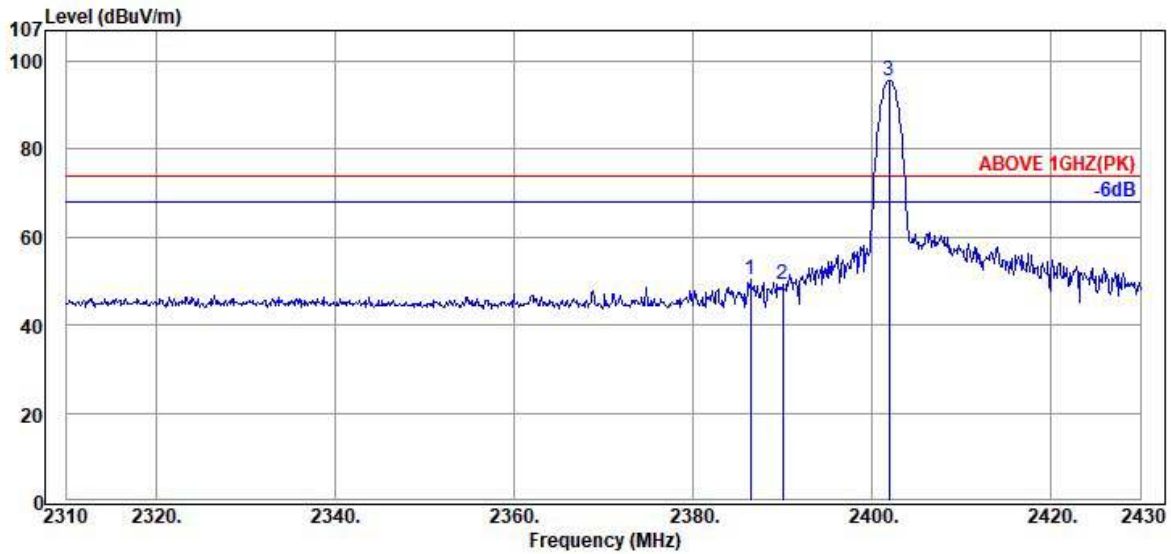


Antenna at Vertical Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2480.08	32.57	8.20	60.95	101.72	---	---	Average
	2483.52	32.57	8.20	-5.06	35.71	54.00	18.29	Average
	2505.92	32.30	8.22	-2.21	38.31	54.00	15.69	Average

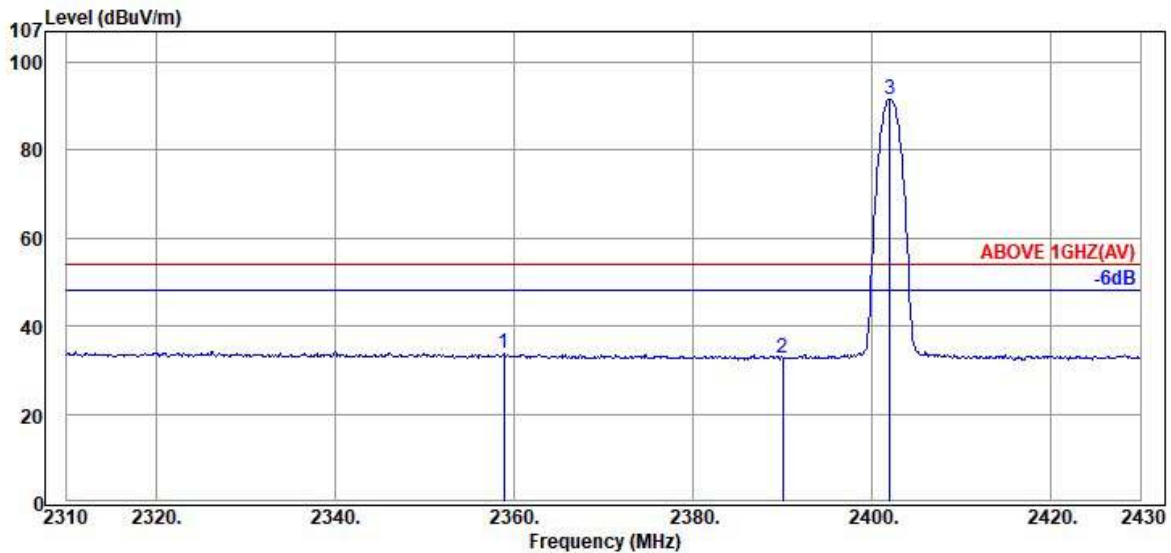
備註：“@”為主波，在此章節是不予以判定。

Mode	8-DPSK	Frequency	TX 2402MHz
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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
2386.44	32.00	8.17	10.16	50.33	74.00	23.67	Peak
2390.04	32.00	8.17	9.10	49.27	74.00	24.73	Peak
@ 2401.92	32.00	8.17	55.45	95.62	---	---	Peak

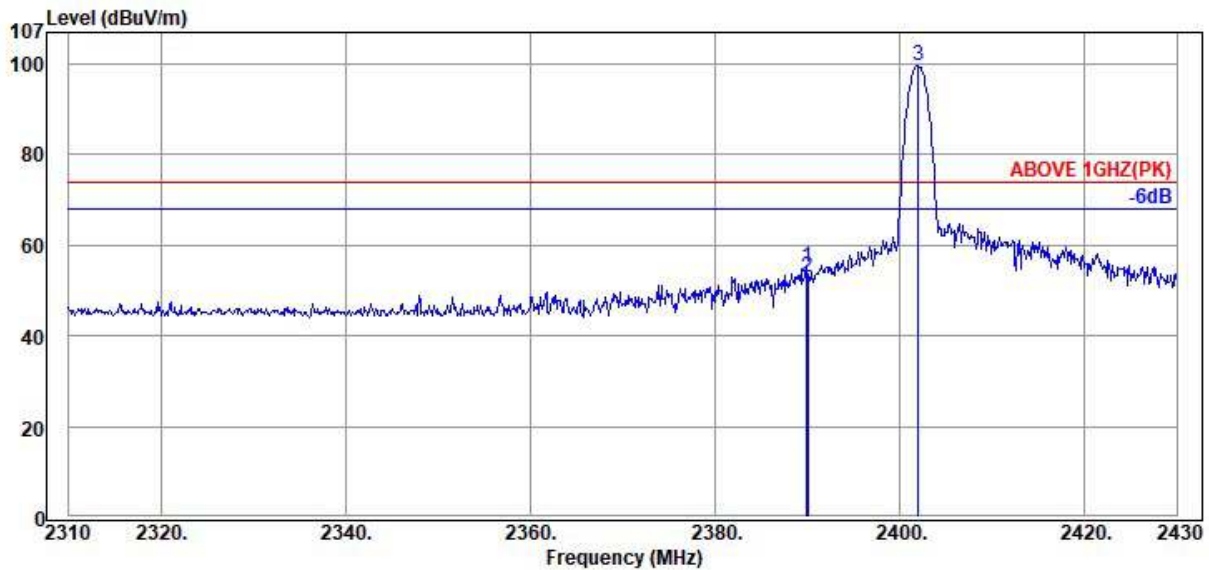


Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2358.84	32.00	8.16	-6.46	33.70	54.00	20.30	Average
2390.04	32.00	8.17	-7.32	32.85	54.00	21.15	Average
@ 2402.04	32.00	8.17	51.44	91.61	---	---	Average

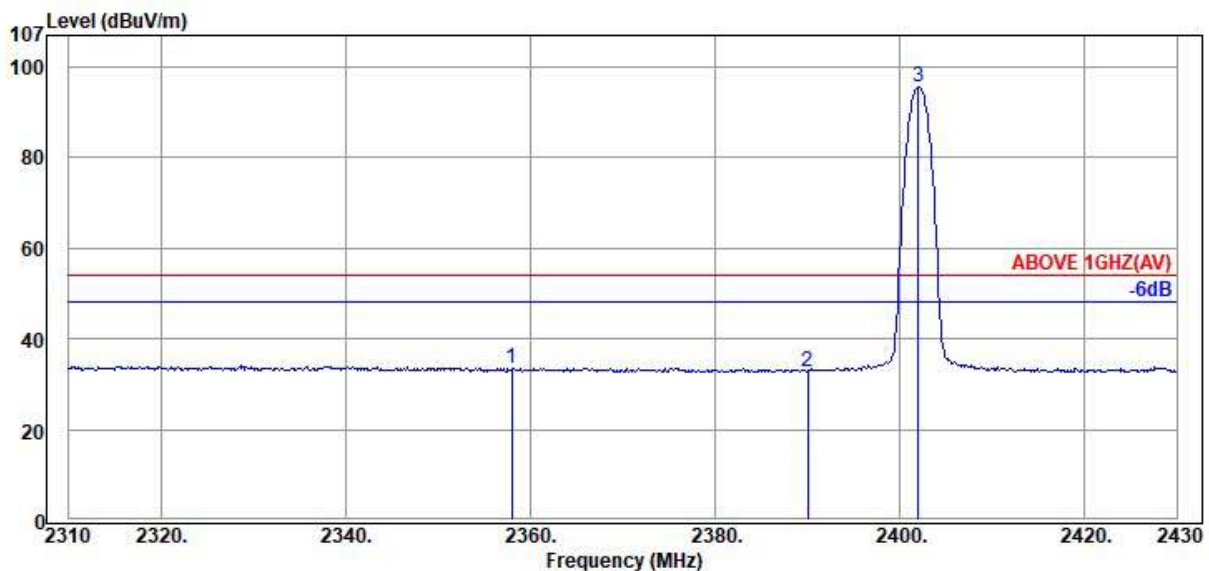
備註：“@”為主波，在此章節是不予以判定。

Mode	8-DPSK	Frequency	TX 2402MHz
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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
2389.92	32.00	8.17	15.17	55.34	74.00	18.66	Peak
2390.04	32.00	8.17	12.76	52.93	74.00	21.07	Peak
@ 2402.04	32.00	8.17	59.47	99.64	---	---	Peak

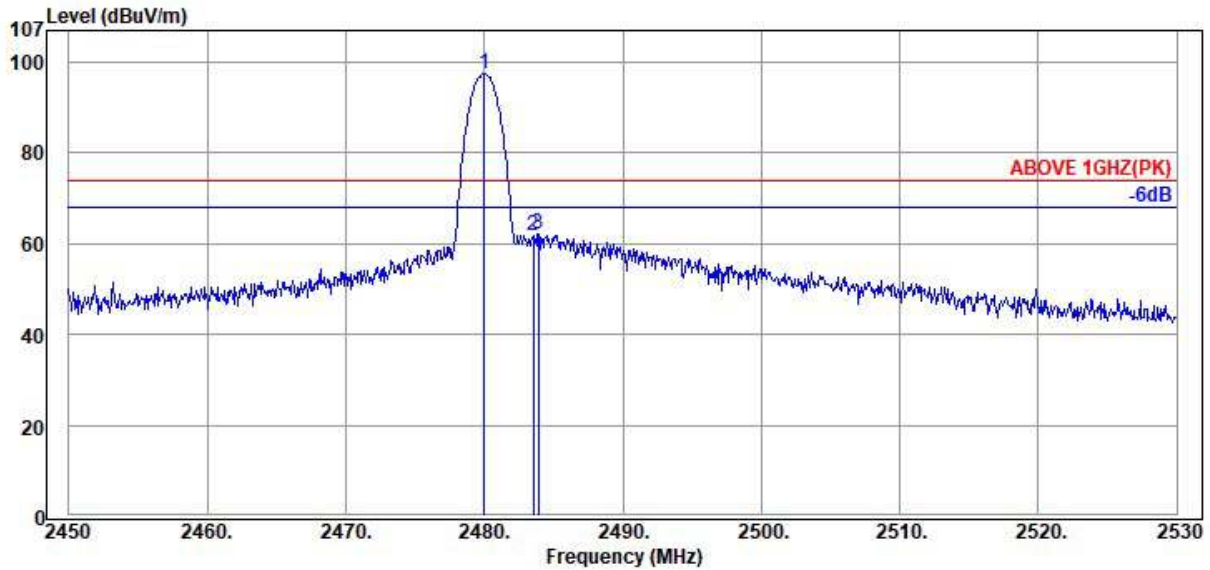


Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2358.00	32.00	8.16	-6.54	33.62	54.00	20.38	Average
2390.04	32.00	8.17	-7.34	32.83	54.00	21.17	Average
@ 2402.04	32.00	8.17	55.42	95.59	---	---	Average

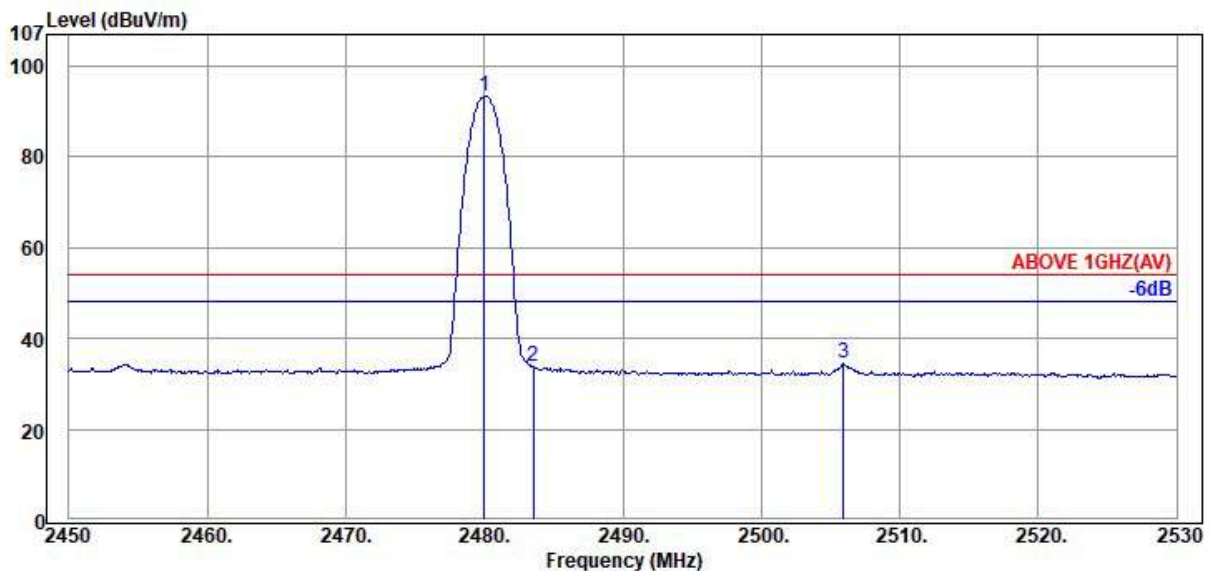
備註：“@”為主波，在此章節是不予以判定。

Mode	8-DPSK	Frequency	TX 2480MHz
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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
@	2480.00	32.57	8.20	56.60	97.37	---	---	Peak
	2483.52	32.57	8.20	21.07	61.84	74.00	12.16	Peak
	2483.92	32.57	8.20	21.33	62.10	74.00	11.90	Peak

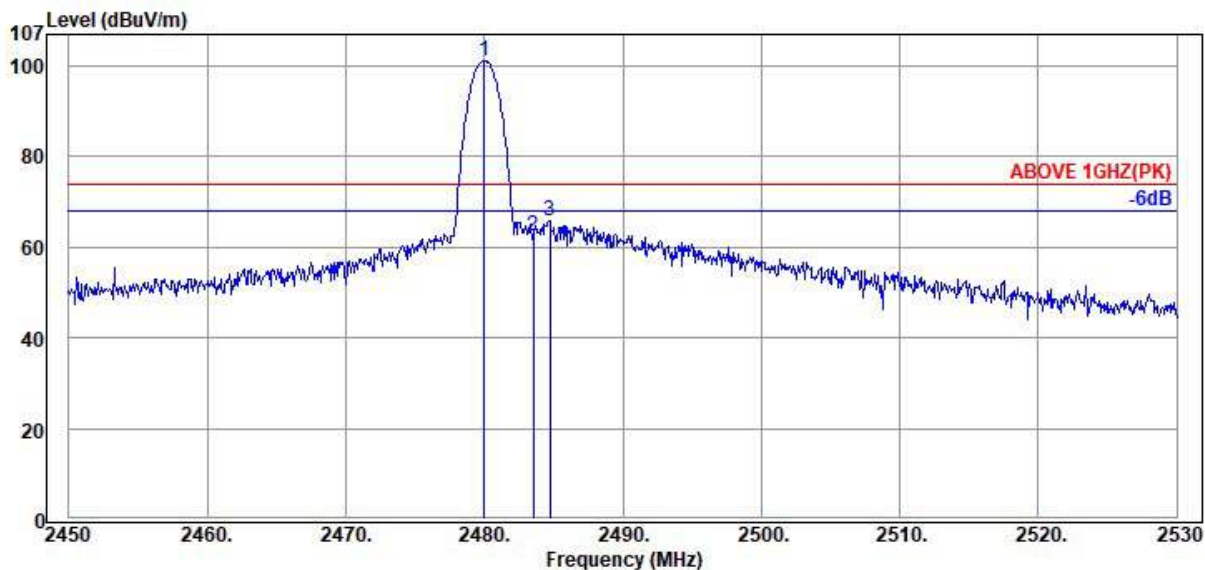


Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2480.00	32.57	8.20	52.66	93.43	---	---	Average
	2483.52	32.57	8.20	-6.95	33.82	54.00	20.18	Average
	2505.92	32.30	8.22	-6.13	34.39	54.00	19.61	Average

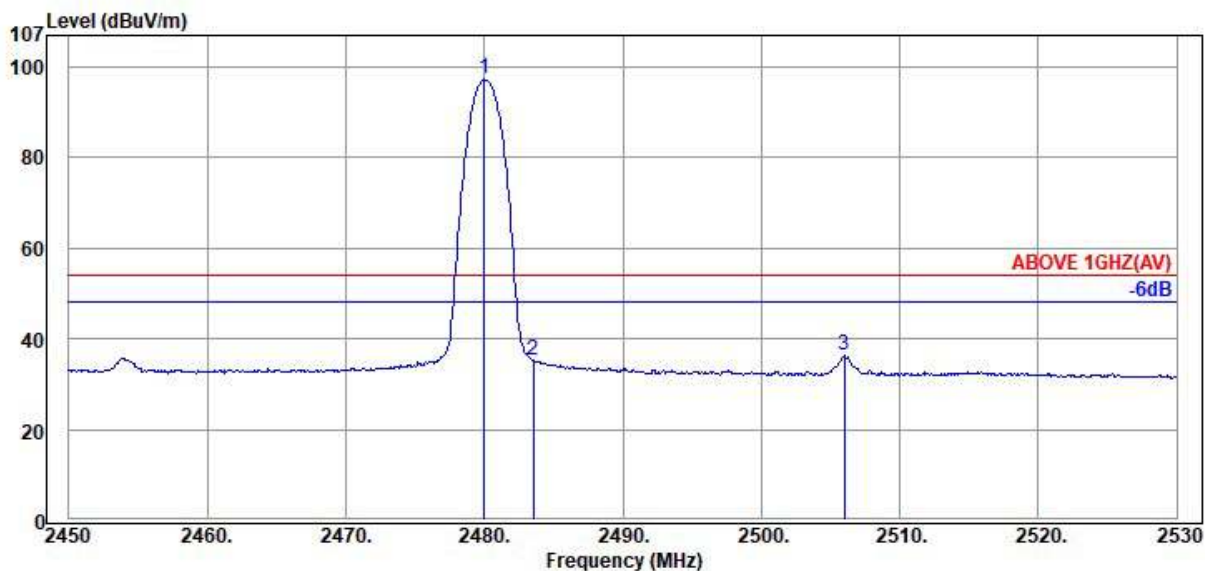
備註：“@”為主波，在此章節是不予以判定。

Mode	8-DPSK	Frequency	TX 2480MHz
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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
@	2480.00	32.57	8.20	60.41	101.18	---	---	Peak
	2483.52	32.57	8.20	21.70	62.47	74.00	11.53	Peak
	2484.72	32.57	8.20	25.02	65.79	74.00	8.21	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
@	2480.00	32.57	8.20	56.49	97.26	---	---	Average
	2483.52	32.57	8.20	-5.42	35.35	54.00	18.65	Average
	2506.00	32.30	8.22	-4.18	36.34	54.00	17.66	Average

備註：“@”為主波，在此章節是不予以判定。

3. 20dB 頻寬之量測

測試日期	2019/08/19	環境溫/濕度	26°C/58%
電纜損失	0.20dB	測試電壓	DC 3.7V (透過內建鋰電池供電)

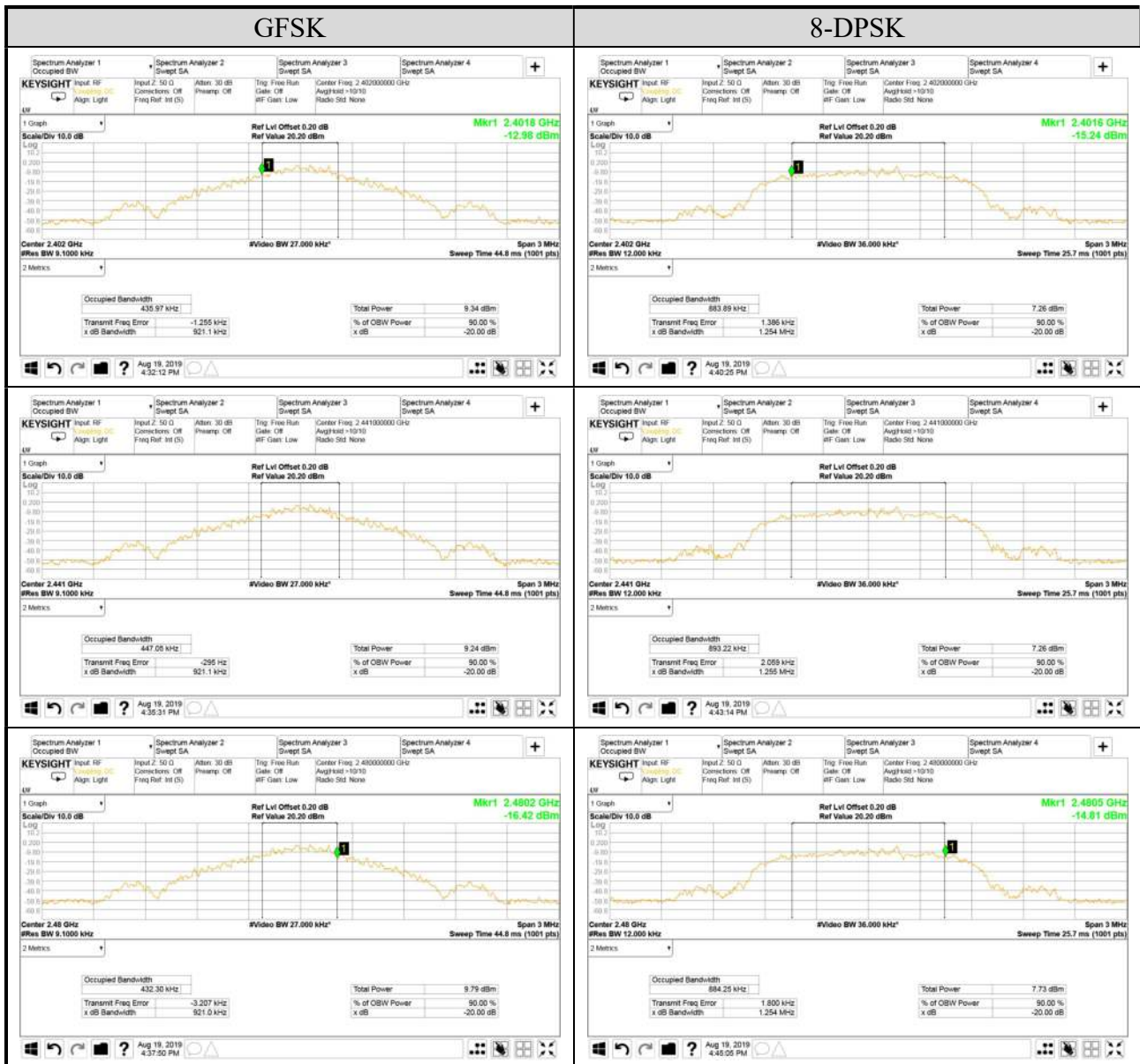
經實驗室行評估，擇取量測峰值輸出功率較差之電池 (廠家:Highpower)來進行本項之量測。

3.1. 20dB 頻寬

模式	測試頻率 (MHz)	20dB 頻寬 (MHz)	頻道間隔參考限制值 2/3 (20dB 頻寬) (MHz)
GFSK	2402	0.9211	0.614
	2441	0.9211	0.614
	2480	0.9210	0.614

模式	測試頻率 (MHz)	20dB 頻寬 (MHz)	頻道間隔參考限制值 2/3 (20dB 頻寬) (MHz)
8-DPSK	2402	1.254	0.836
	2441	1.255	0.837
	2480	1.254	0.836

3.2. 20dB 頻寬之量測圖



4. 載波頻率間隔之量測

測試日期	2019/08/19	環境溫/濕度	26°C/58%
電纜損失	0.20dB	測試電壓	DC 3.7V (透過內建鋰電池供電)

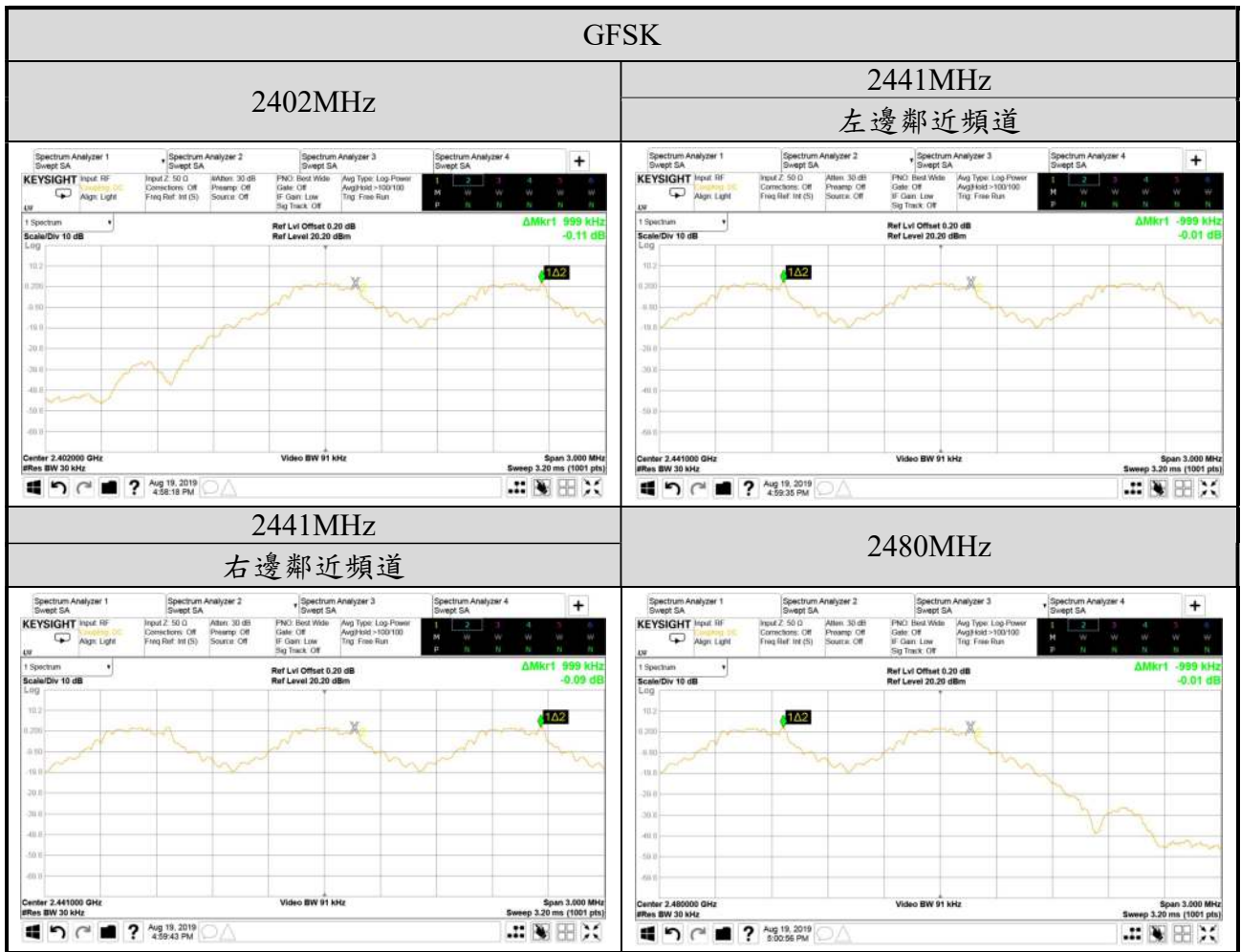
經實驗室行評估，擇取量測峰值輸出功率較差之電池 (廠家:Highpower)來進行本項之量測。

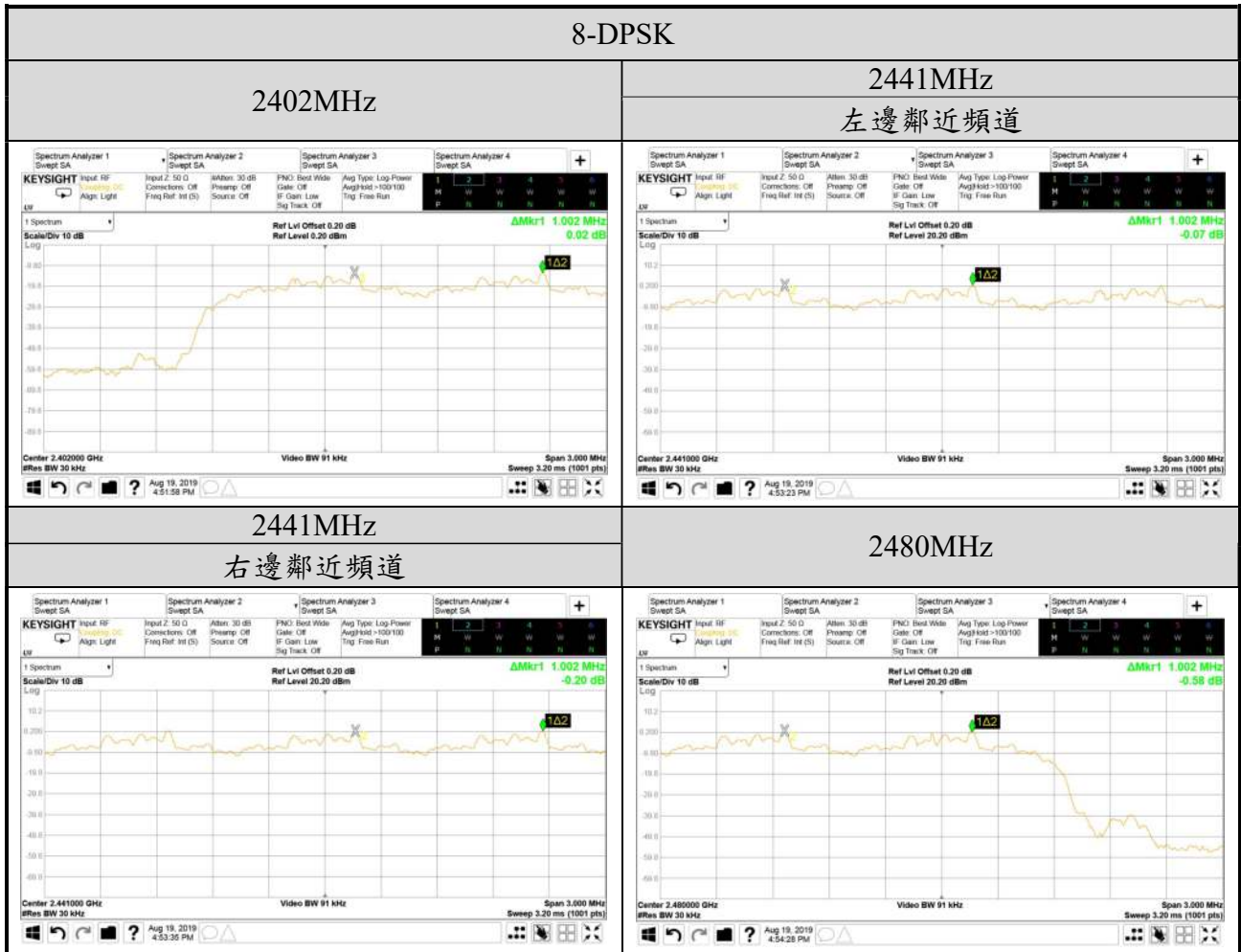
4.1. 載波頻率間隔

模式 (Mode)	測試頻率 (MHz)	頻道間隔(MHz)	頻道間隔參考限制值 2/3 (20dB 頻寬) (MHz)
GFSK	2402	0.999	>0.614
	2441 (左邊鄰近頻道)	0.999	
	2441 (右邊鄰近頻道)	0.999	
	2480	0.999	

模式 (Mode)	測試頻率 (MHz)	頻道間隔(MHz)	頻道間隔參考限制值 2/3 (20dB 頻寬) (MHz)
8-DPSK	2402	1.002	>0.837
	2441 (左邊鄰近頻道)	1.002	
	2441 (右邊鄰近頻道)	1.002	
	2480	1.002	

4.2. 載波頻率間隔之量測圖

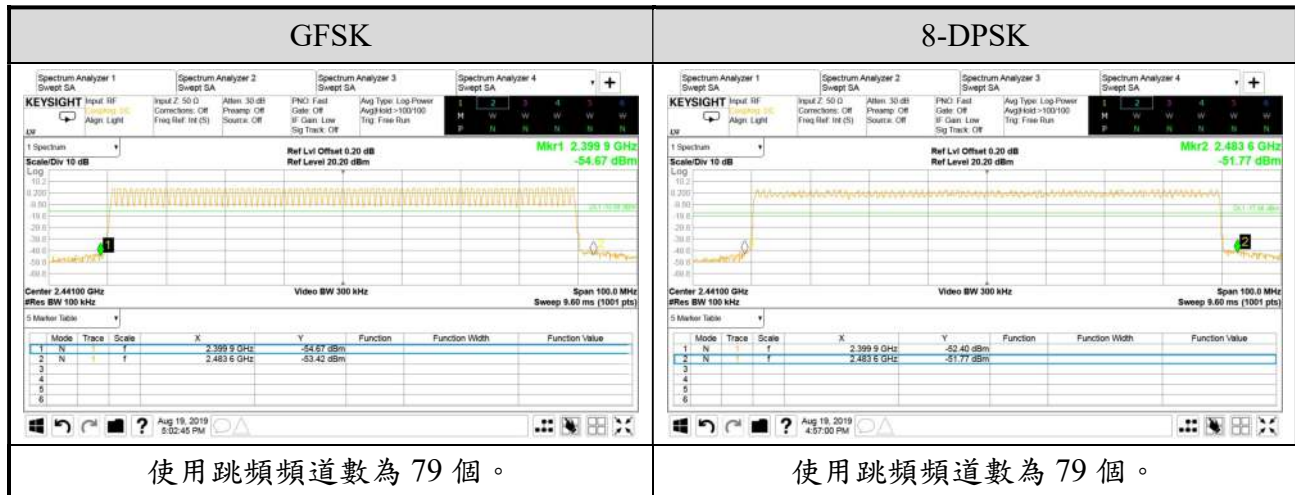




5. 跳頻頻率數目之量測

測試日期	2019/08/19	環境溫/濕度	26°C/58%
電纜損失	0.20dB	測試電壓	DC 3.7V (透過內建鋰電池供電)

經實驗室行評估，擇取量測峰值輸出功率較差之電池 (廠家:Highpower)來進行本項之量測。



6. 佔用時間(停留時間)之量測

測試日期	2019/08/19	環境溫/濕度	26°C/58%
電纜損失	0.20dB	測試電壓	DC 3.7V (透過內建鋰電池供電)

經實驗室行評估，擇取量測峰值輸出功率較差之電池 (廠家:Highpower)來進行本項之量測。

6.1. 佔用時間(停留時間)

模式	測試頻率 (MHz)	封包	每秒出現頻道數	佔用時間 (ms)	佔用時間加總 (ms)	限制值 (ms)
GFSK	2402	DH1	10	0.370	116.920	<400
		DH3	6	1.620	307.152	<400
		DH5	3	2.870	272.076	<400

週期之計算: 79 頻道數 0.4 秒 = 31.6 秒

封包模式: DH1

以每1秒出現 10 個頻道數為例, 每31.6 秒內之最長佔用時間為:

10 頻道數 31.6 秒 * 0.370 ms = 116.920 ms (<400ms)

封包模式: DH3

以每1秒出現 6 個頻道數為例, 每31.6 秒內之最長佔用時間為:

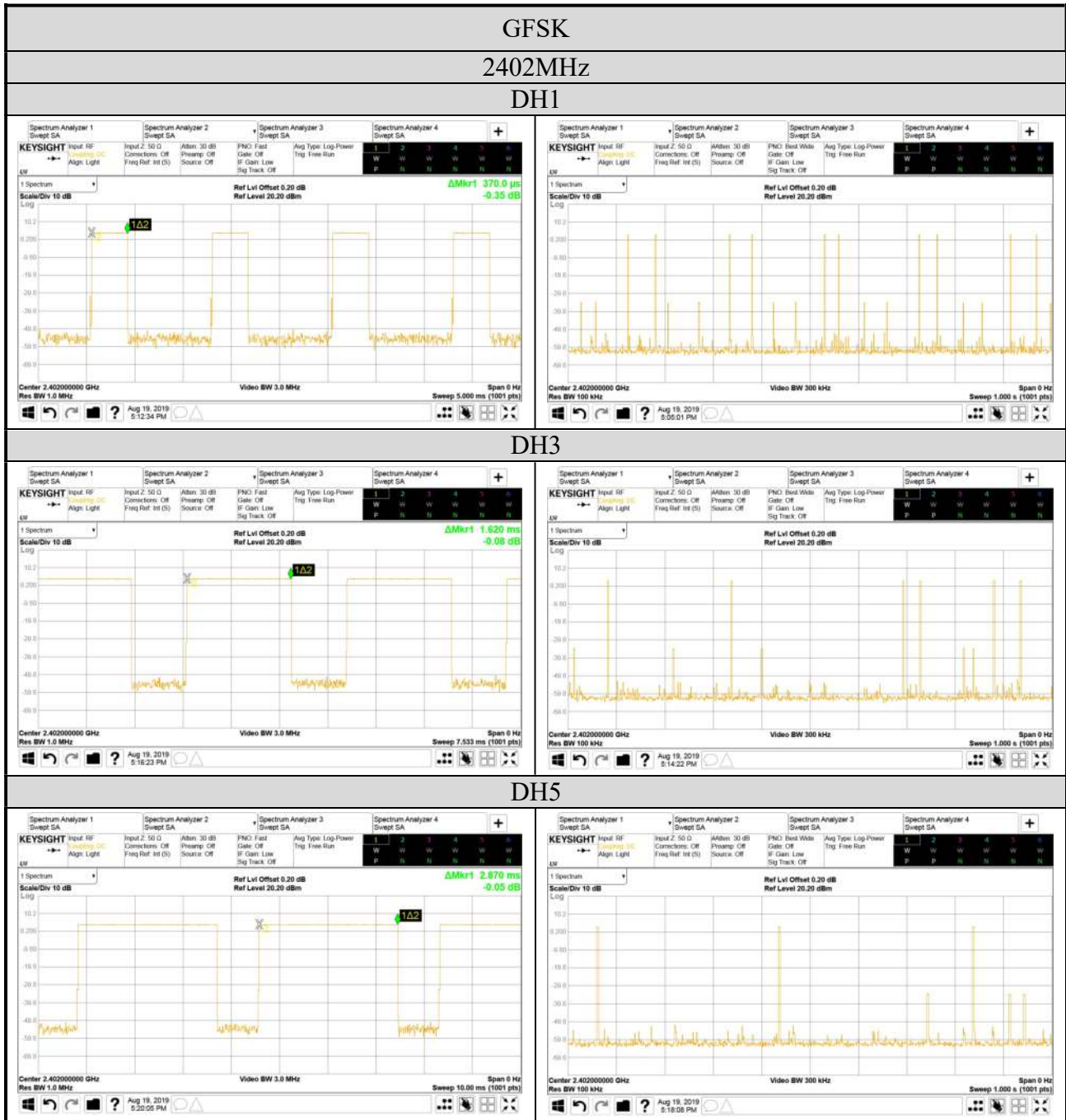
6 頻道數 31.6 秒 * 1.620 ms = 307.152 ms (<400ms)

封包模式: DH5

以每1秒出現 3 個頻道數為例, 每31.6 秒內之最長佔用時間為:

3 頻道數 31.6 秒 * 2.870 ms = 272.076 ms (<400ms)

●佔用時間(停留時間)之量測圖



模式	測試頻率 (MHz)	封包	每秒出現 頻道數	佔用時間 (ms)	佔用時間加總 (ms)	限制值 (ms)
GFSK	2441	DH1	10	0.370	116.920	<400
		DH3	6	1.627	308.479	<400
		DH5	3	2.870	272.076	<400

週期之計算: 79 頻道數 $0.4 \text{ 秒} = 31.6 \text{ 秒}$

封包模式: DH1

以每1秒出現 10 個頻道數為例, 每31.6 秒內之最長佔用時間為:

$$10 \text{ 頻道數} \times 31.6 \text{ 秒} \times 0.370 \text{ ms} = 116.920 \text{ ms} (<400\text{ms})$$

封包模式: DH3

以每1秒出現 6 個頻道數為例, 每31.6 秒內之最長佔用時間為:

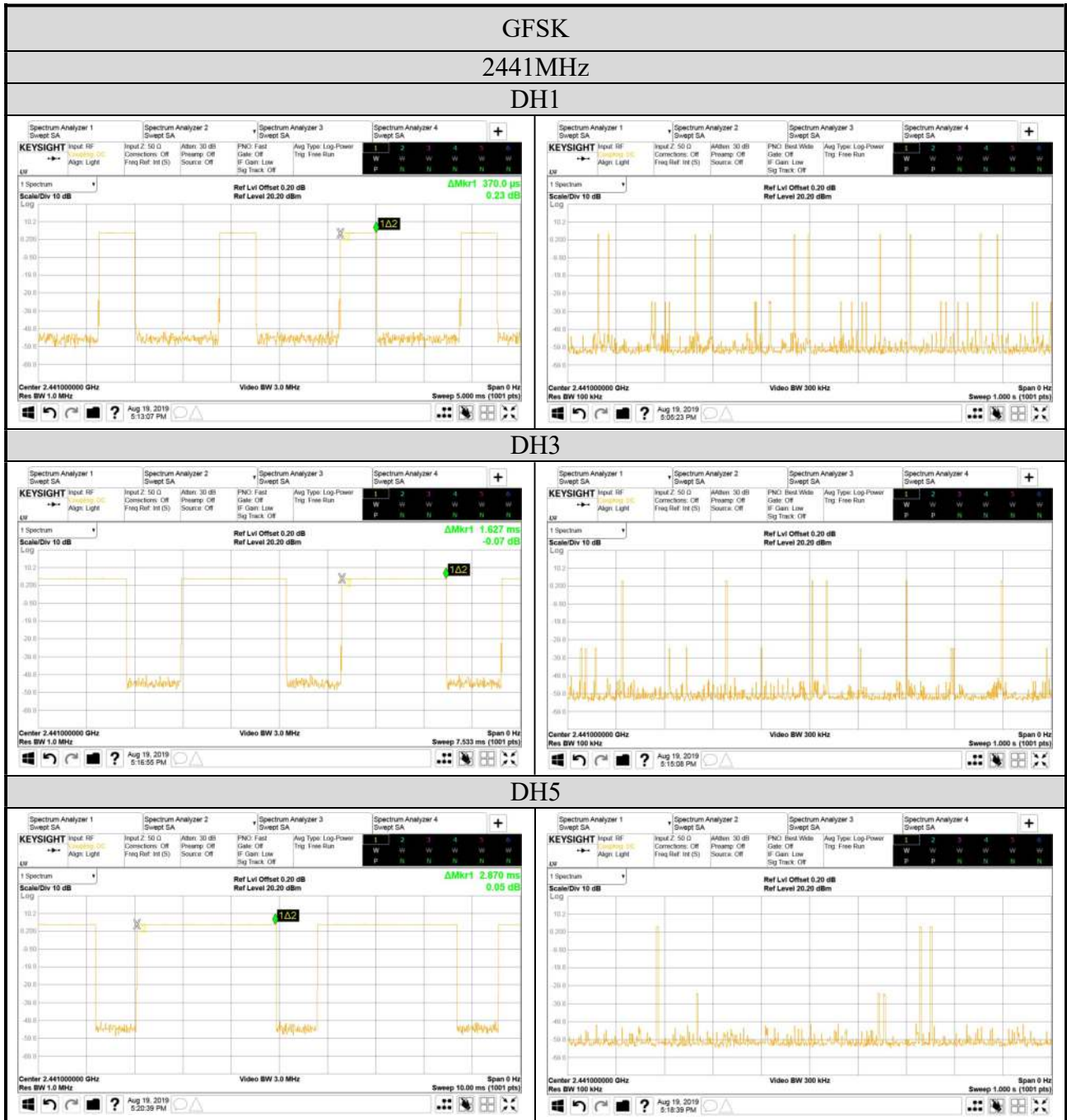
$$6 \text{ 頻道數} \times 31.6 \text{ 秒} \times 1.627 \text{ ms} = 308.479 \text{ ms} (<400\text{ms})$$

封包模式: DH5

以每1秒出現 3 個頻道數為例, 每31.6 秒內之最長佔用時間為:

$$3 \text{ 頻道數} \times 31.6 \text{ 秒} \times 2.870 \text{ ms} = 272.076 \text{ ms} (<400\text{ms})$$

●佔用時間(停留時間)之量測圖



模式	測試頻率 (MHz)	封包	每秒出現 頻道數	佔用時間 (ms)	佔用時間加總 (ms)	限制值 (ms)
GFSK	2480	DH1	10	0.370	116.920	<400
		DH3	6	1.627	308.479	<400
		DH5	3	2.870	272.076	<400

週期之計算: 79 頻道數 $0.4 \text{ 秒} = 31.6 \text{ 秒}$

封包模式: DH1

以每1秒出現 10 個頻道數為例, 每31.6 秒內之最長佔用時間為:

$$10 \text{ 頻道數} \times 31.6 \text{ 秒} \times 0.370 \text{ ms} = 116.920 \text{ ms} (<400\text{ms})$$

封包模式: DH3

以每1秒出現 6 個頻道數為例, 每31.6 秒內之最長佔用時間為:

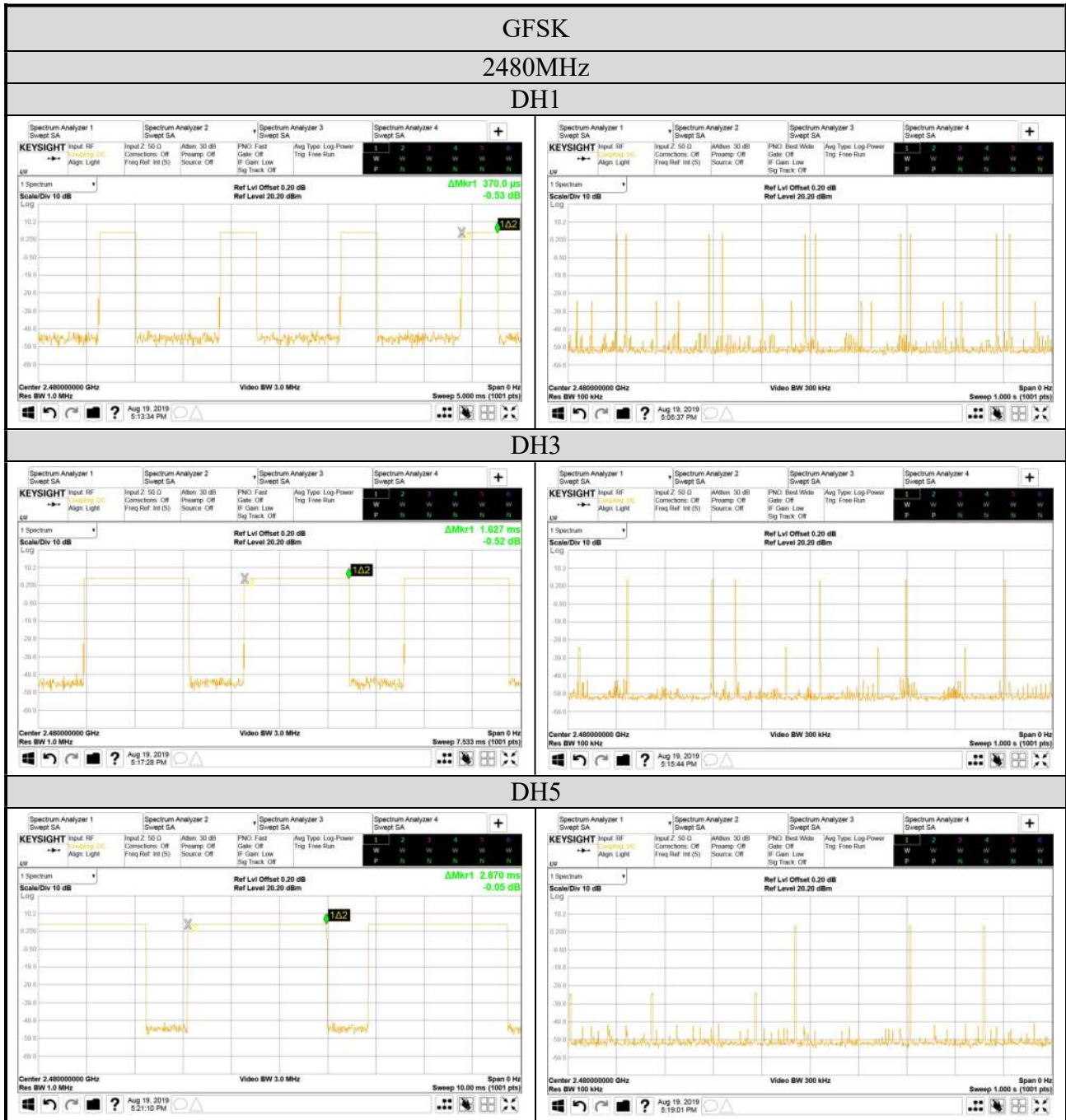
$$6 \text{ 頻道數} \times 31.6 \text{ 秒} \times 1.627 \text{ ms} = 308.479 \text{ ms} (<400\text{ms})$$

封包模式: DH5

以每1秒出現 3 個頻道數為例, 每31.6 秒內之最長佔用時間為:

$$3 \text{ 頻道數} \times 31.6 \text{ 秒} \times 2.870 \text{ ms} = 272.076 \text{ ms} (<400\text{ms})$$

●佔用時間(停留時間)之量測圖



模式	測試頻率 (MHz)	封包	每秒出現 頻道數	佔用時間 (ms)	佔用時間加總 (ms)	限制值 (ms)
8-DPSK	2402	3DH1	10	0.380	120.080	<400
		3DH3	5	1.635	258.330	<400
		3DH5	3	2.880	273.024	<400

週期之計算: **79** 頻道數 **0.4** 秒 = **31.6** 秒

封包模式: 3DH1

以每**1**秒出現 **10** 個頻道數為例, 每**31.6** 秒內之最長佔用時間為:

10 頻道數 **31.6** 秒 * **0.380** ms = **120.080** ms (<400ms)

封包模式: 3DH3

以每**1**秒出現 **5** 個頻道數為例, 每**31.6** 秒內之最長佔用時間為:

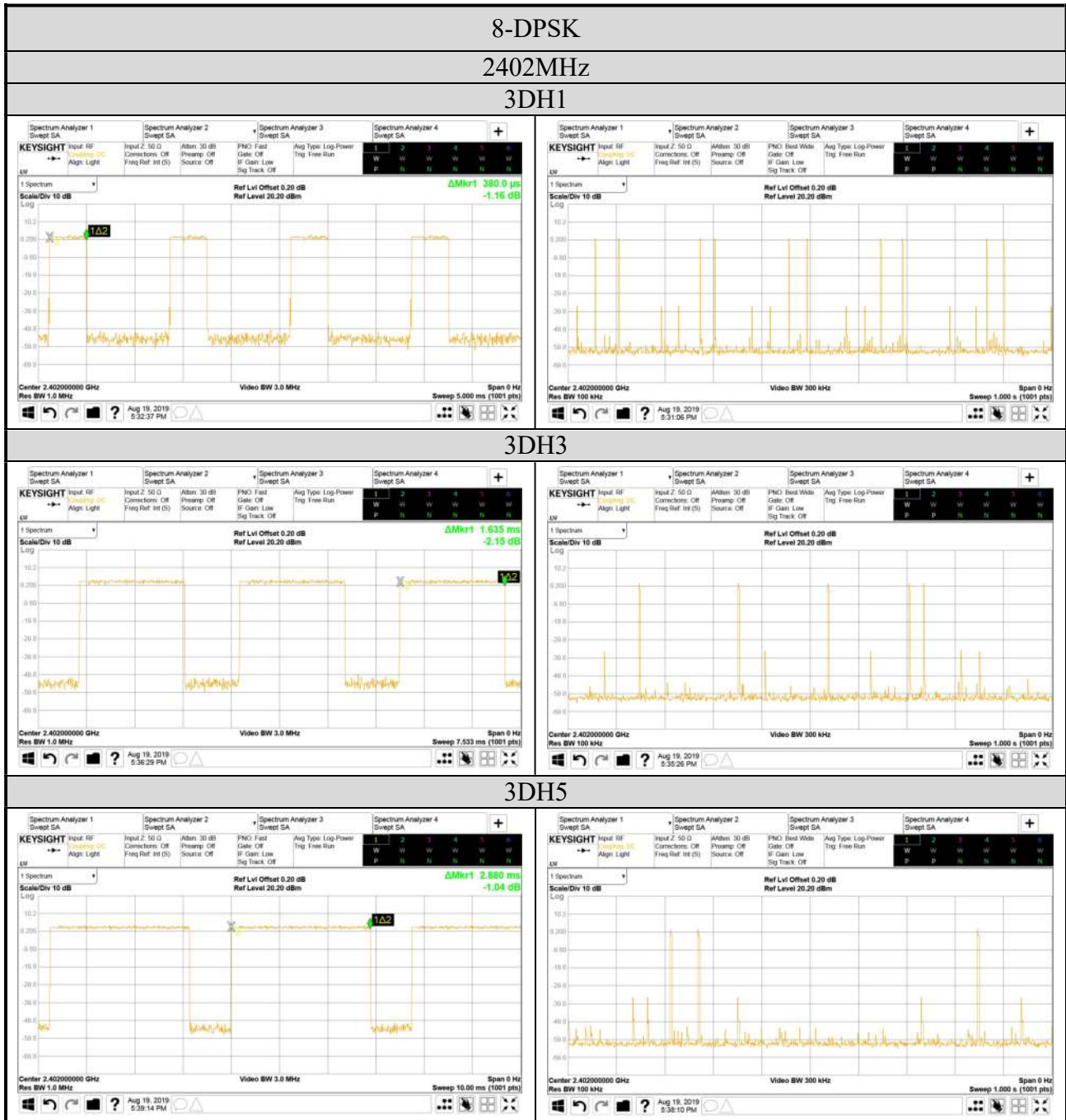
5 頻道數 **31.6** 秒 * **1.635** ms = **258.330** ms (<400ms)

封包模式: 3DH5

以每**1**秒出現 **3** 個頻道數為例, 每**31.6** 秒內之最長佔用時間為:

3 頻道數 **31.6** 秒 * **2.880** ms = **273.024** ms (<400ms)

●佔用時間(停留時間)之量測圖



模式	測試頻率 (MHz)	封包	每秒出現 頻道數	佔用時間 (ms)	佔用時間加總 (ms)	限制值 (ms)
8-DPSK	2441	3DH1	10	0.380	120.080	<400
		3DH3	5	1.627	257.066	<400
		3DH5	3	2.890	273.972	<400

週期之計算: 79 頻道數 $0.4 \text{ 秒} = 31.6 \text{ 秒}$

封包模式: 3DH1

以每1秒出現 10 個頻道數為例, 每31.6 秒內之最長佔用時間為:

10 頻道數 $31.6 \text{ 秒} * 0.380 \text{ ms} = 120.080 \text{ ms} (<400\text{ms})$

封包模式: 3DH3

以每1秒出現 5 個頻道數為例, 每31.6 秒內之最長佔用時間為:

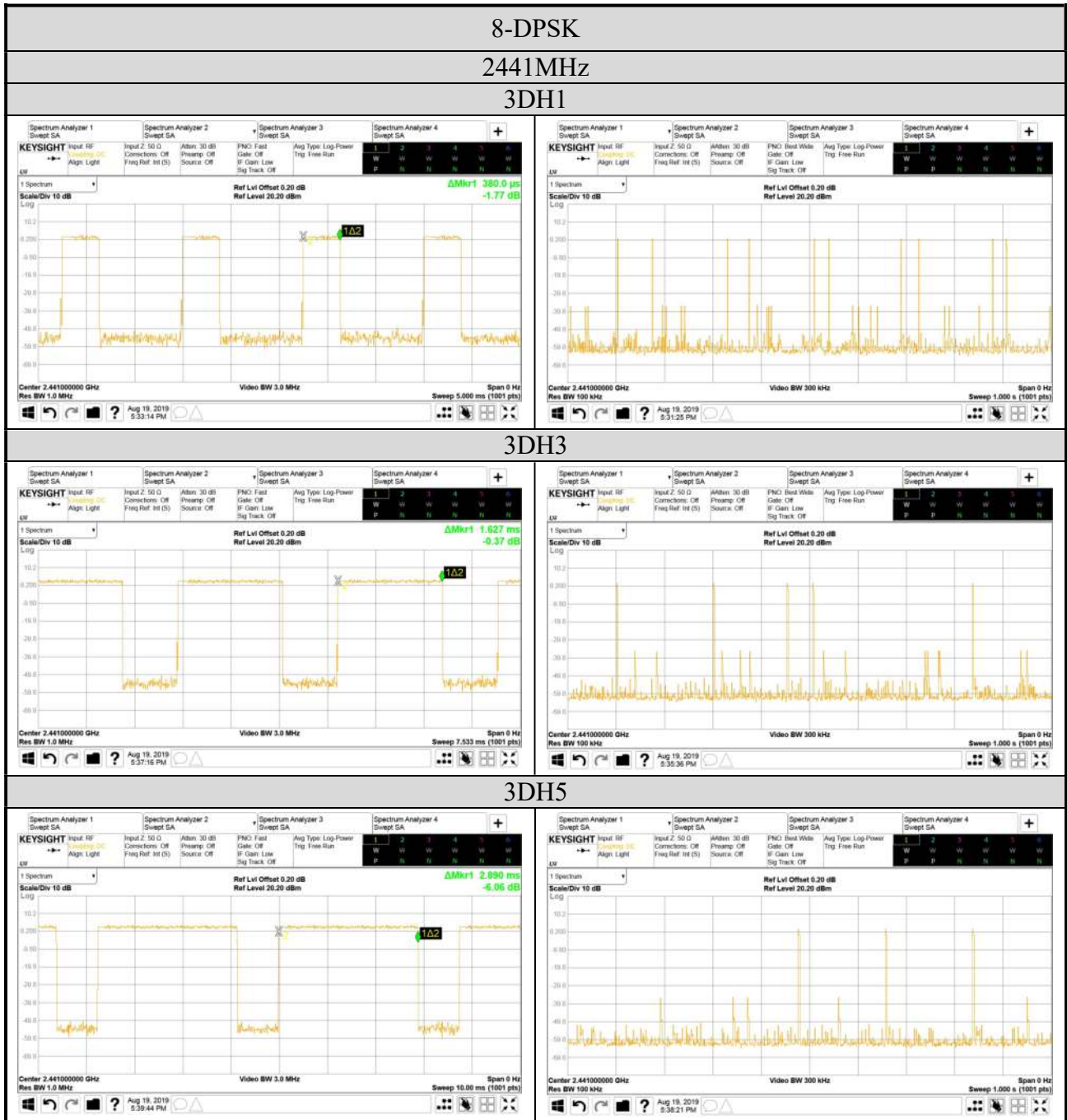
5 頻道數 $31.6 \text{ 秒} * 1.627 \text{ ms} = 257.066 \text{ ms} (<400\text{ms})$

封包模式: 3DH5

以每1秒出現 3 個頻道數為例, 每31.6 秒內之最長佔用時間為:

3 頻道數 $31.6 \text{ 秒} * 2.890 \text{ ms} = 273.972 \text{ ms} (<400\text{ms})$

●佔用時間(停留時間)之量測圖



模式	測試頻率 (MHz)	封包	每秒出現 頻道數	佔用時間 (ms)	佔用時間加總 (ms)	限制值 (ms)
8-DPSK	2480	3DH1	10	0.380	120.080	<400
		3DH3	5	1.627	257.066	<400
		3DH5	3	2.880	273.024	<400

週期之計算: 79 頻道數 $0.4 \text{ 秒} = 31.6 \text{ 秒}$

封包模式: 3DH1

以每1秒出現 10 個頻道數為例, 每31.6 秒內之最長佔用時間為:

10 頻道數 $31.6 \text{ 秒} * 0.380 \text{ ms} = 120.080 \text{ ms} (<400\text{ms})$

封包模式: 3DH3

以每1秒出現 5 個頻道數為例, 每31.6 秒內之最長佔用時間為:

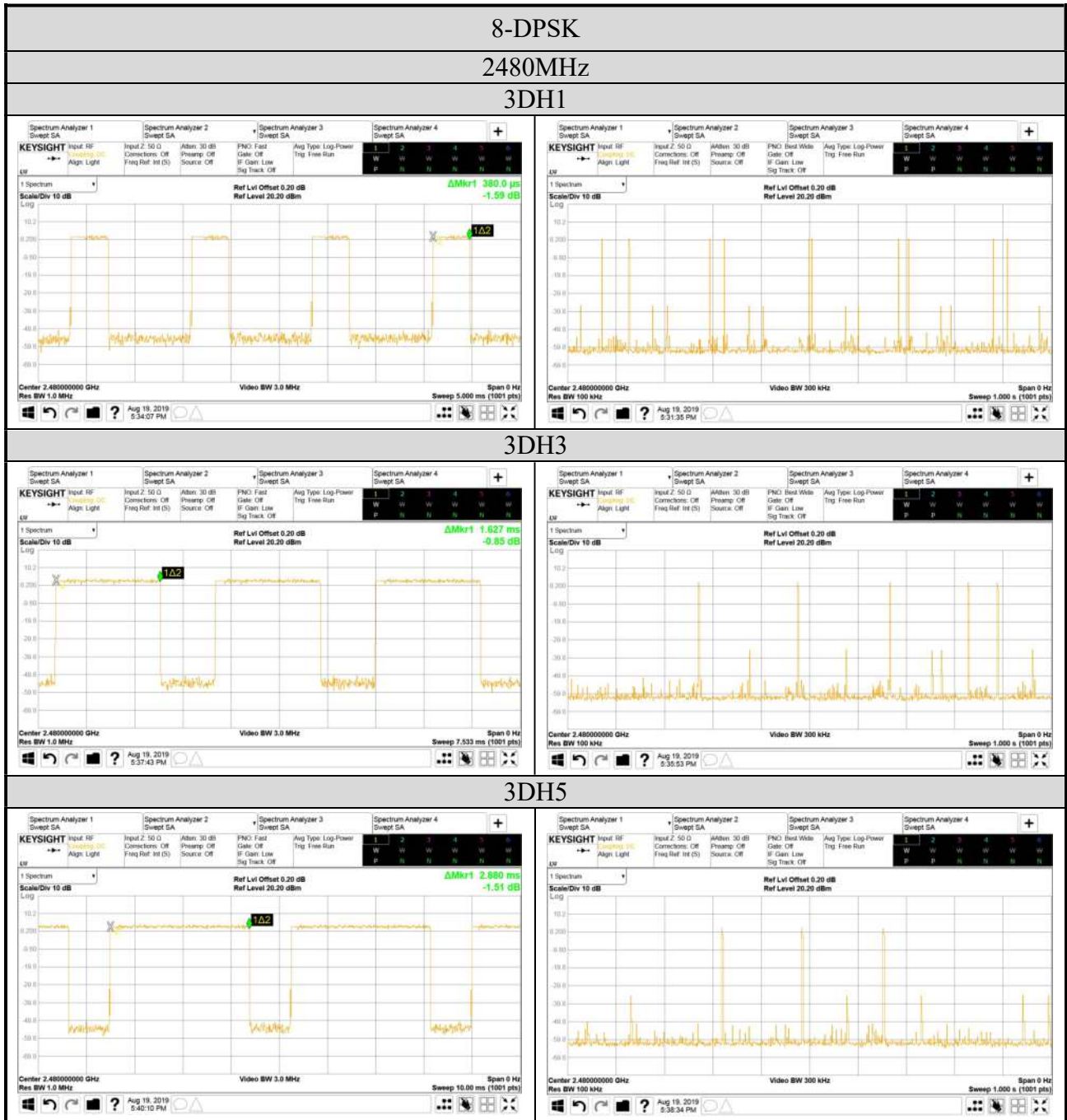
5 頻道數 $31.6 \text{ 秒} * 1.627 \text{ ms} = 257.066 \text{ ms} (<400\text{ms})$

封包模式: 3DH5

以每1秒出現 3 個頻道數為例, 每31.6 秒內之最長佔用時間為:

3 頻道數 $31.6 \text{ 秒} * 2.880 \text{ ms} = 273.024 \text{ ms} (<400\text{ms})$

●佔用時間(停留時間)之量測圖



7. 峰值輸出功率之量測

測試日期	2019/08/06	環境溫/濕度	23°C/48%
電纜損失	0.20dB	測試電壓	DC 3.7V (透過內建鋰電池供電)

經實驗室行評估，擇取量測峰值輸出功率較差之電池 (廠家:Highpower)來進行本項之量測。

7.1. 峰值輸出功率

搭配之電池機種: Highpower Battery

模式	測試頻率 (MHz)	峰值輸出功率(dBm)
GFSK	2402	4.29
	2441	4.55
	2480	4.75

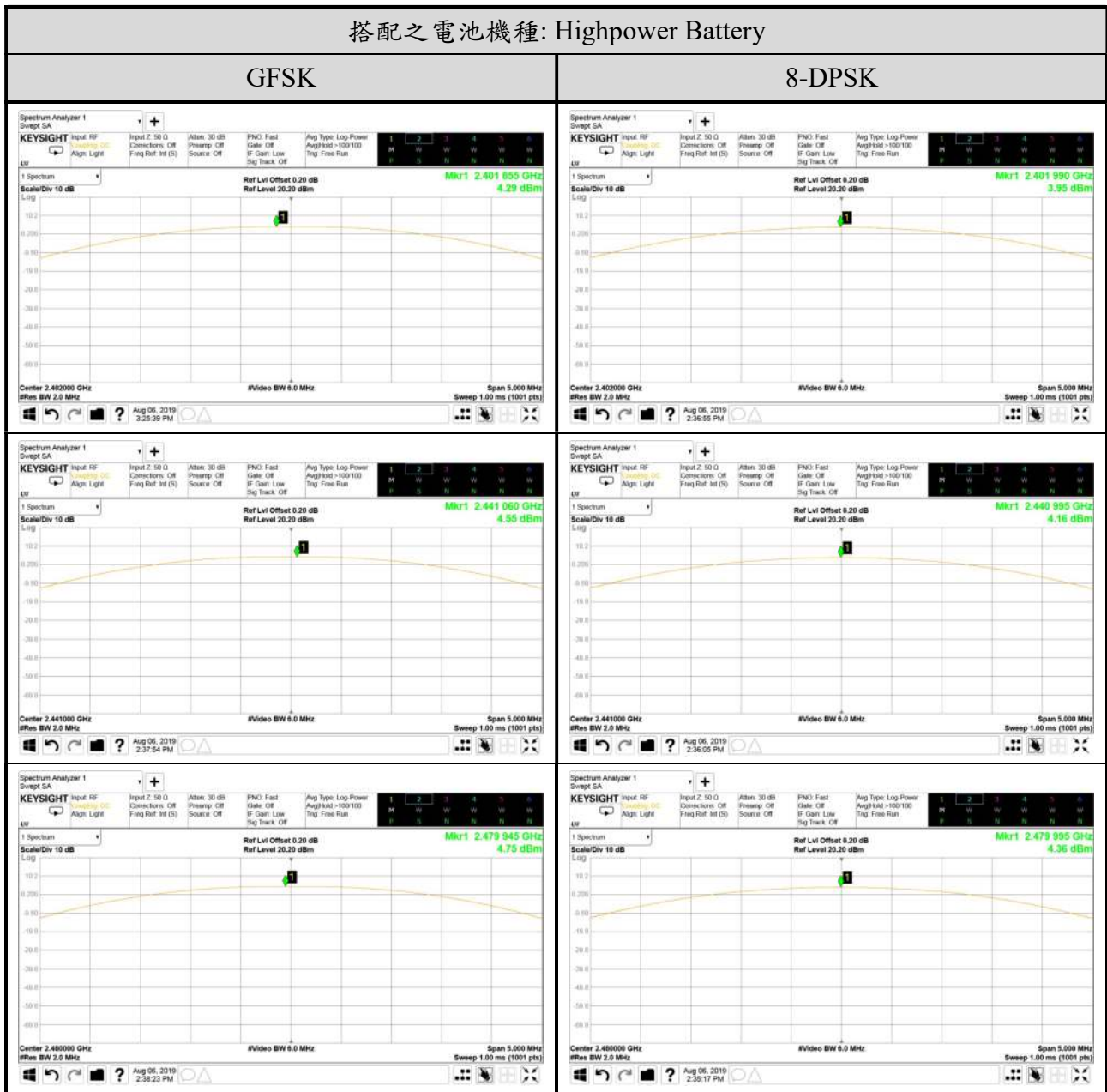
模式	測試頻率 (MHz)	峰值輸出功率(dBm)
8-DPSK	2402	3.95
	2441	4.16
	2480	4.36

搭配之電池機種: Murata Battery

模式	測試頻率 (MHz)	峰值輸出功率(dBm)
GFSK	2402	4.23
	2441	4.47
	2480	4.63

模式	測試頻率 (MHz)	峰值輸出功率(dBm)
8-DPSK	2402	3.90
	2441	4.10
	2480	4.23

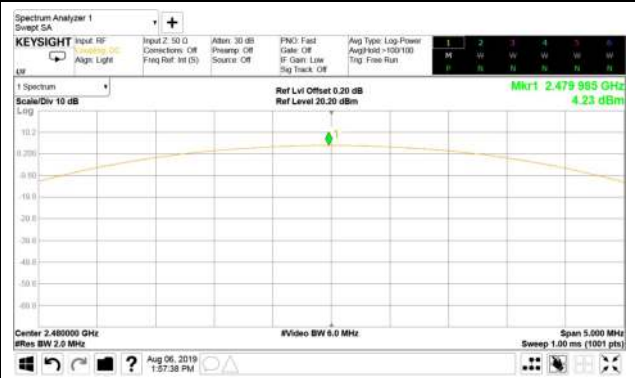
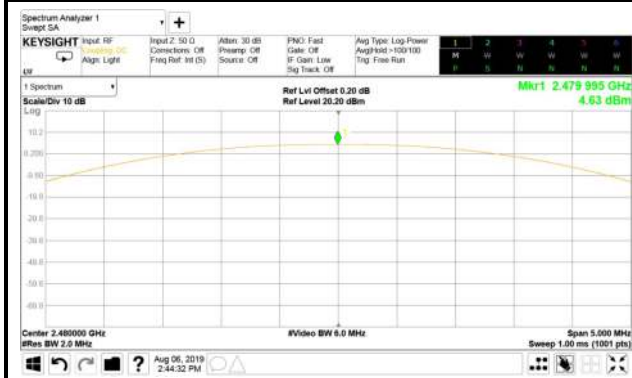
7.2. 峰值輸出功率之量測圖



搭配之電池機種: Murata Battery

GFSK

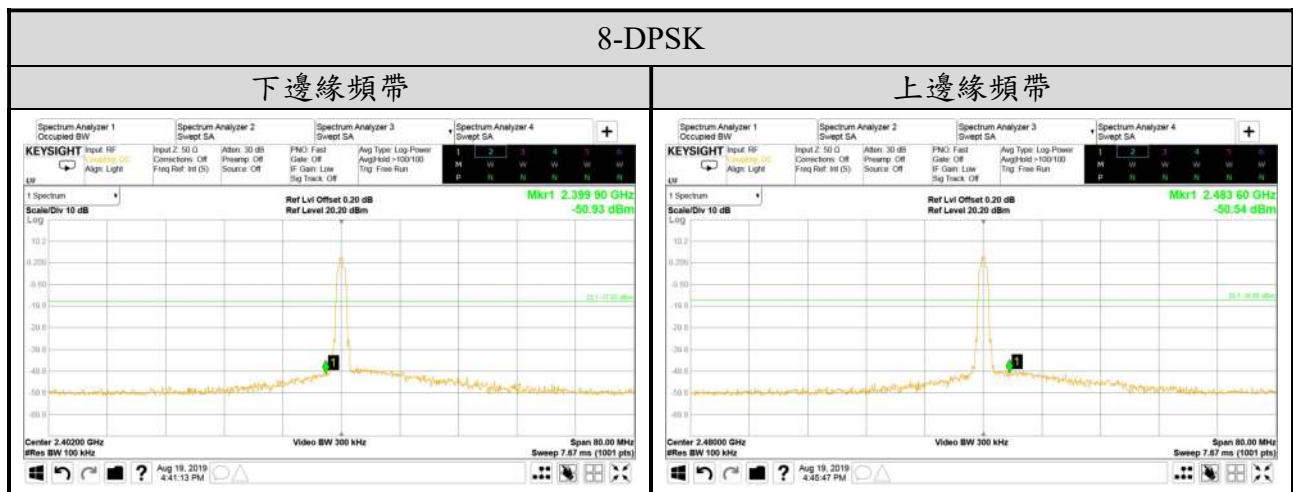
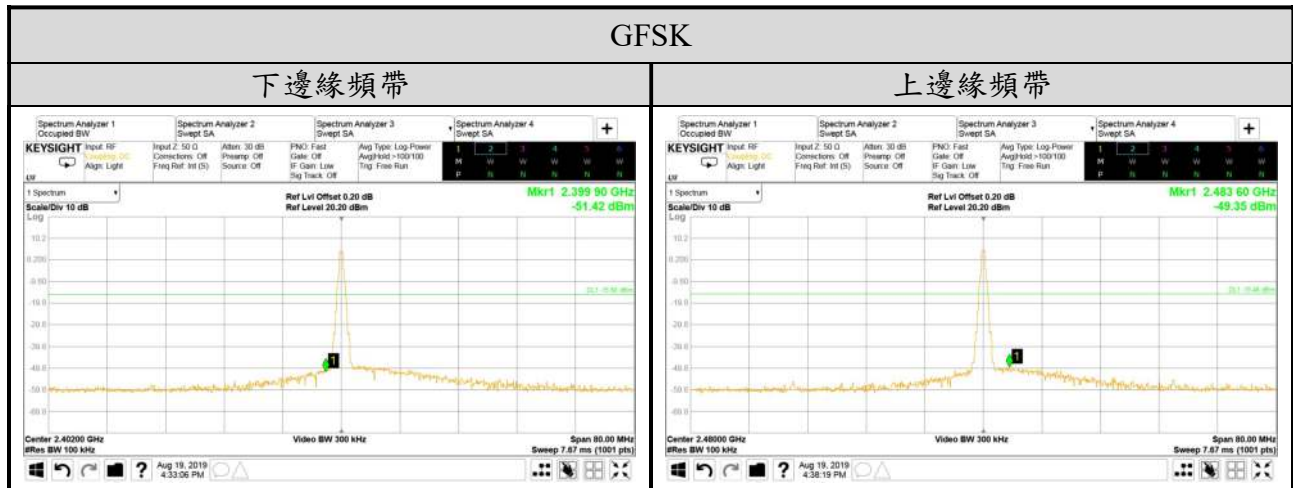
8-DPSK



8. 頻帶邊緣之 RF 傳導發射之量測

測試日期	2019/08/19	環境溫/濕度	26°C/58%
電纜損失	0.20dB	測試電壓	DC 3.7V (透過內建鋰電池供電)

經實驗室行評估，擇取量測峰值輸出功率較差之電池 (廠家:Highpower)來進行本項之量測。



9. 混附發射之 RF 傳導發射之量測

測試日期	2019/08/19	環境溫/濕度	26°C/58%
電纜損失	0.20dB	測試電壓	DC 3.7V (透過內建鋰電池供電)

經實驗室行評估，擇取量測峰值輸出功率較差之電池 (廠家:Highpower)來進行本項之量測。

