

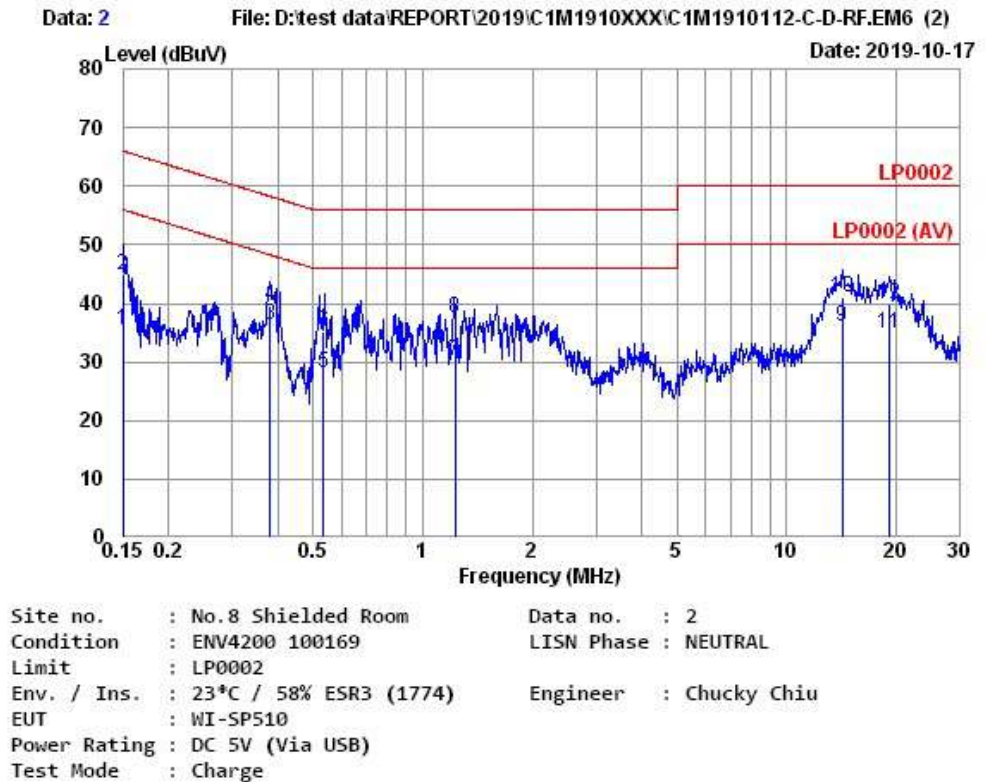
附錄一

受測裝置之測試結果

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1. 電源線傳導干擾之量測

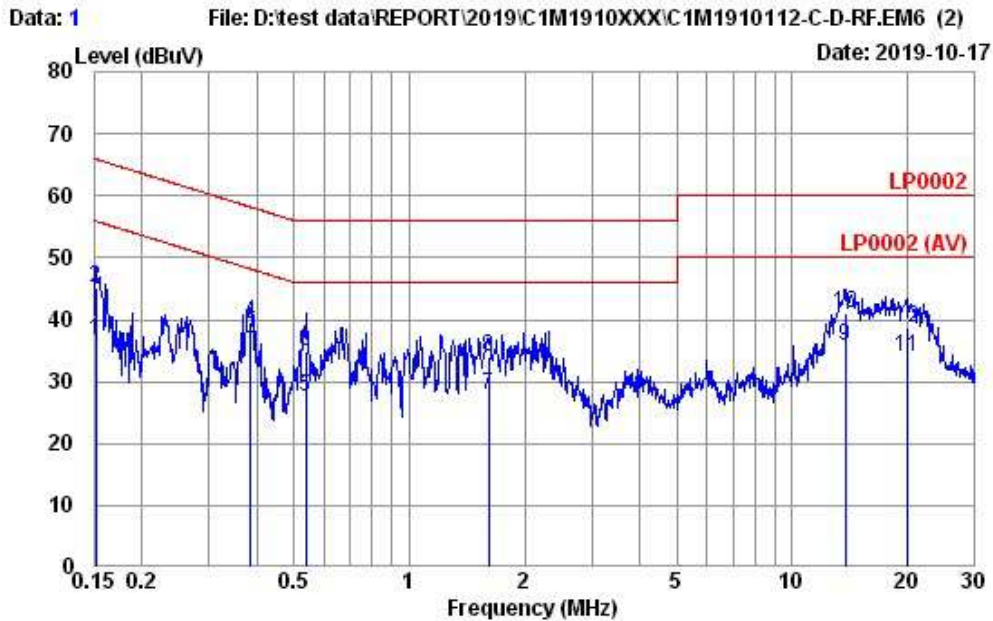
測試日期	2019/10/17	環境溫/濕度	23°C/58%
測試電壓	DC 5V (透過 USB 由筆記型電腦供電)	測試人員	Chucky Chiu
Tested SKU	SKU #1		



	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.150	10.70	0.04	9.86	14.81	35.41	56.00	20.59	Average
2	0.150	10.70	0.04	9.86	24.15	44.75	66.00	21.25	QP
3	0.381	10.50	0.04	9.86	16.03	36.43	48.25	11.82	Average
4	0.381	10.50	0.04	9.86	19.23	39.63	58.25	18.62	QP
5	0.535	10.48	0.04	9.86	7.78	28.16	46.00	17.84	Average
6	0.535	10.48	0.04	9.86	14.70	35.08	56.00	20.92	QP
7	1.226	10.48	0.05	9.86	9.76	30.15	46.00	15.85	Average
8	1.226	10.48	0.05	9.86	17.16	37.55	56.00	18.45	QP
9	14.213	12.48	0.16	9.92	13.50	36.06	50.00	13.94	Average
10	14.213	12.48	0.16	9.92	18.53	41.09	60.00	18.91	QP
11	19.224	13.44	0.19	9.95	11.18	34.76	50.00	15.24	Average
12	19.224	13.44	0.19	9.95	16.27	39.85	60.00	20.15	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	2019/10/17	環境溫/濕度	23°C/58%
測試電壓	DC 5V (透過 USB 由筆記型電腦供電)	測試人員	Chucky Chiu
Tested SKU	SKU #1		

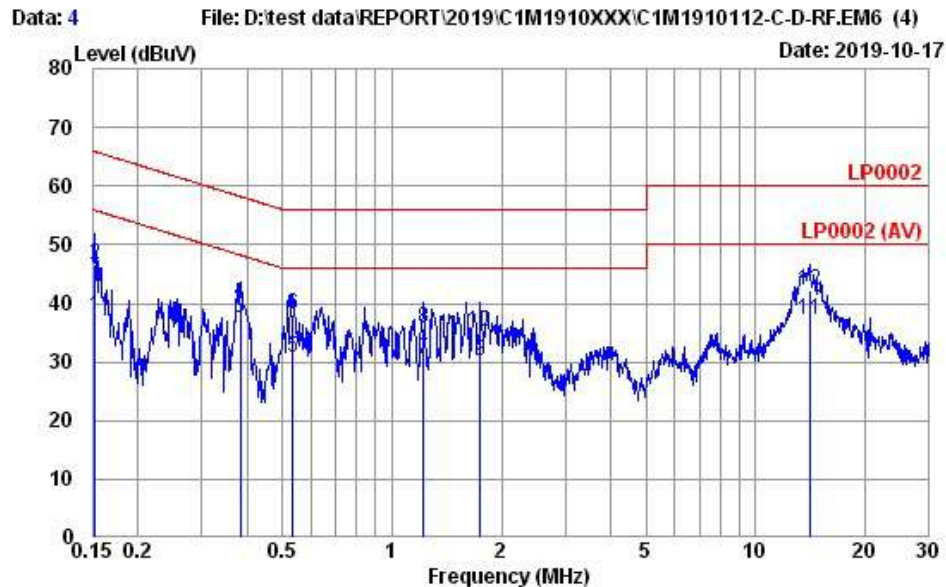


Site no. : No.8 Shielded Room
 Condition : ENV4200 100169
 Limit : LP0002
 Env. / Ins. : 23°C / 58% ESR3 (1774)
 EUT : WI-SP510
 Power Rating : DC 5V (Via USB)
 Test Mode : Charge
 Data no. : 1
 LISN Phase : LINE
 Engineer : Chucky Chiu

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.152	10.62	0.04	9.86	16.18	36.70	55.91	19.21	Average
2	0.152	10.62	0.04	9.86	24.58	45.10	65.91	20.81	QP
3	0.385	10.45	0.04	9.86	16.71	37.06	48.17	11.11	Average
4	0.385	10.45	0.04	9.86	19.21	39.56	58.17	18.61	QP
5	0.538	10.44	0.04	9.86	7.22	27.56	46.00	18.44	Average
6	0.538	10.44	0.04	9.86	14.63	34.97	56.00	21.03	QP
7	1.610	10.44	0.06	9.86	7.52	27.88	46.00	18.12	Average
8	1.610	10.44	0.06	9.86	13.72	34.08	56.00	21.92	QP
9	13.768	12.06	0.16	9.91	13.71	35.84	50.00	14.16	Average
10	13.768	12.06	0.16	9.91	18.88	41.01	60.00	18.99	QP
11	19.950	13.11	0.19	9.95	10.68	33.93	50.00	16.07	Average
12	19.950	13.11	0.19	9.95	15.29	38.54	60.00	21.46	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	2019/10/17	環境溫/濕度	23°C/58%
測試電壓	DC 5V (透過 USB 由筆記型電腦供電)	測試人員	Chucky Chiu
Tested SKU	SKU #2		

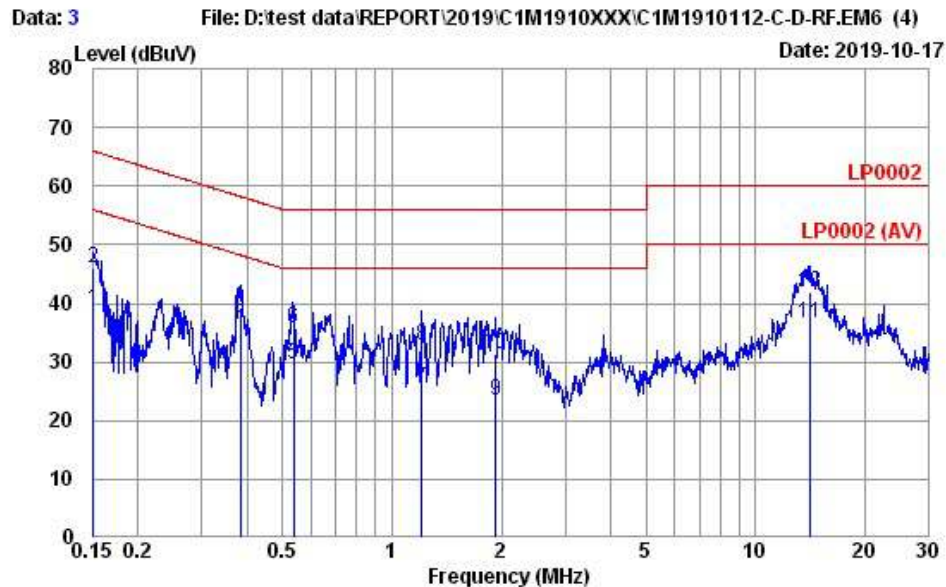


Site no. : No.8 Shielded Room
 Condition : ENV4200 100169
 Limit : LP0002
 Env. / Ins. : 23°C / 58% ESR3 (1774)
 EUT : WI-SP510
 Power Rating : DC 5V
 Test Mode : Charge
 Data no. : 4
 LISN Phase : NEUTRAL
 Engineer : Chucky Chiu

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.152	10.70	0.04	9.86	17.33	37.93	55.87	17.94	Average
2	0.152	10.70	0.04	9.86	25.91	46.51	65.87	19.36	QP
3	0.383	10.50	0.04	9.86	17.11	37.51	48.21	10.70	Average
4	0.383	10.50	0.04	9.86	19.65	40.05	58.21	18.16	QP
5	0.532	10.48	0.04	9.86	10.50	30.88	46.00	15.12	Average
6	0.532	10.48	0.04	9.86	17.60	37.98	56.00	18.02	QP
7	1.223	10.48	0.05	9.86	10.13	30.52	46.00	15.48	Average
8	1.223	10.48	0.05	9.86	15.42	35.81	56.00	20.19	QP
9	1.753	10.50	0.07	9.86	9.64	30.07	46.00	15.93	Average
10	1.753	10.50	0.07	9.86	14.79	35.22	56.00	20.78	QP
11	14.063	12.45	0.16	9.92	14.64	37.17	50.00	12.83	Average
12	14.063	12.45	0.16	9.92	19.57	42.10	60.00	17.90	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	2019/10/17	環境溫/濕度	23°C/58%
測試電壓	DC 5V (透過 USB 由筆記型電腦供電)	測試人員	Chucky Chiu
Tested SKU	SKU #2		



Site no. : No.8 Shielded Room Data no. : 3
Condition : ENV4200 100169 LISN Phase : LINE
Limit : LP0002
Env. / Ins. : 23°C / 58% ESR3 (1774) Engineer : Chucky Chiu
EUT : WI-SP510
Power Rating : DC 5V
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	0.151	10.62	0.04	9.86	18.39	38.91	55.96	17.05	Average
2	0.151	10.62	0.04	9.86	25.46	45.98	65.96	19.98	QP
3	0.383	10.46	0.04	9.86	17.04	37.40	48.21	10.81	Average
4	0.383	10.46	0.04	9.86	19.02	39.38	58.21	18.83	QP
5	0.538	10.44	0.04	9.86	9.27	29.61	46.00	16.39	Average
6	0.538	10.44	0.04	9.86	15.47	35.81	56.00	20.19	QP
7	1.210	10.43	0.05	9.86	5.09	25.43	46.00	20.57	Average
8	1.210	10.43	0.05	9.86	12.46	32.80	56.00	23.20	QP
9	1.928	10.45	0.07	9.86	2.96	23.34	46.00	22.66	Average
10	1.928	10.45	0.07	9.86	10.90	31.28	56.00	24.72	QP
11	14.063	12.12	0.16	9.92	14.42	36.62	50.00	13.38	Average
12	14.063	12.12	0.16	9.92	19.81	42.01	60.00	17.99	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 8-DPSK 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)，當(USB, DC 5V)時只能充電不能開機，所以實驗室以單機(電池供電)進行量試評估，最後選取最大場強值的擺設方式(站立)電池供電以低、中、高頻率來進行量測，並將下列測試模式之掃頻圖隨案件所附。最後，選擇較差模式進行讀值之測量，所得讀值資料請見章節 2.1~2.2：

模式	動作狀態	基本頻率	量測頻率範圍
SKU #1	充電	---	30-1000MHz
SKU #2			30-1000MHz
BT (8-DPSK)	Normal	---	30-1000MHz
			1000-25000MHz
	發射	2402MHz (CH0)*	30-1000MHz
			1000-25000MHz
	發射	2441MHz (CH39)	1000-25000MHz
	發射	2480MHz (CH78)	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 (8-DPSK)	發射	2402MHz (CH0)	2310-2430MHz
		2480MHz (CH78)	2450-2530MHz

測試日期	2019/10/17	環境溫/濕度	24-25°C/49-51%
測試電壓	充電模式: DC 5V (透過 USB 由筆記型電腦供電)		
	Normal、發射及接收模式: DC 3.7V (透過內建鋰電池供電)		
測試人員	Sean Wang		

2.1. 30-1000MHz 頻率範圍，其他不必要發射量測

Mode	充電	Test SKU	SKU #1
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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
33.88	23.04	1.27	1.00	25.31	40.00	14.69	Peak
93.05	16.05	2.20	5.32	23.57	43.50	19.93	Peak
375.32	21.81	5.55	2.11	29.47	46.00	16.53	Peak
555.74	24.31	6.83	0.21	31.35	46.00	14.65	Peak
830.25	26.75	8.07	0.89	35.71	46.00	10.29	Peak
986.42	27.97	8.96	1.67	38.60	54.00	15.40	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	0.66	26.23	40.00	13.77	Peak
161.92	16.37	3.03	0.43	19.83	43.50	23.67	Peak
591.63	24.68	6.87	1.49	33.04	46.00	12.96	Peak
739.07	25.88	7.58	0.54	34.00	46.00	12.00	Peak
922.40	27.49	8.59	1.83	37.91	46.00	8.09	Peak
998.06	28.04	9.03	1.73	38.80	54.00	15.20	Peak

Mode	充電	Test SKU	SKU #2
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector
34.85	22.43	1.29	1.59	25.31	40.00	14.69	Peak
167.74	16.05	3.10	17.45	36.60	43.50	6.90	Peak
330.70	20.60	4.92	9.55	35.07	46.00	10.93	Peak
499.48	23.70	6.75	4.61	35.06	46.00	10.94	Peak
926.28	27.51	8.61	2.56	38.68	46.00	7.32	Peak
995.15	28.04	9.01	1.69	38.74	54.00	15.26	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector
38.73	20.32	1.37	1.93	23.62	40.00	16.38	Peak
167.74	16.05	3.10	12.92	32.07	43.50	11.43	Peak
365.62	21.55	5.42	2.66	29.63	46.00	16.37	Peak
486.87	23.56	6.65	2.64	32.85	46.00	13.15	Peak
827.34	26.72	8.06	2.23	37.01	46.00	8.99	Peak
969.93	27.84	8.87	2.69	39.40	54.00	14.60	Peak

Mode	Normal	Frequency	---
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector
32.91	23.73	1.25	1.68	26.66	40.00	13.34	Peak
199.75	16.27	3.42	12.54	32.23	43.50	11.27	Peak
443.22	23.00	6.25	3.58	32.83	46.00	13.17	Peak
663.41	25.21	7.18	3.44	35.83	46.00	10.17	Peak
766.23	26.15	7.72	5.46	39.33	46.00	6.67	Peak
970.90	27.87	8.87	1.94	38.68	54.00	15.32	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector
35.82	21.86	1.31	2.22	25.39	40.00	14.61	Peak
167.74	16.05	3.09	10.63	29.77	43.50	13.73	Peak
457.77	23.18	6.38	2.95	32.51	46.00	13.49	Peak
666.32	25.22	7.20	3.99	36.41	46.00	9.59	Peak
860.32	26.99	8.23	3.49	38.71	46.00	7.29	Peak
982.54	27.94	8.94	2.22	39.10	54.00	14.90	Peak

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 (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector
31.94	24.34	1.23	1.19	26.76	40.00	13.24	Peak
199.75	16.27	3.42	17.12	36.81	43.50	6.69	Peak
332.64	20.66	4.95	11.27	36.88	46.00	9.12	Peak
664.38	25.21	7.20	2.92	35.33	46.00	10.67	Peak
830.25	26.75	8.07	3.89	38.71	46.00	7.29	Peak
963.14	27.79	8.83	3.46	40.08	54.00	13.92	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector
31.94	24.34	1.23	1.14	26.71	40.00	13.29	Peak
167.74	16.05	3.10	13.37	32.52	43.50	10.98	Peak
471.35	23.37	6.52	2.58	32.47	46.00	13.53	Peak
673.11	25.27	7.24	3.32	35.83	46.00	10.17	Peak
890.39	27.24	8.40	3.48	39.12	46.00	6.88	Peak
980.60	27.92	8.93	2.26	39.11	54.00	14.89	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
33.88	23.04	1.27	0.98	25.29	40.00	14.71	Peak
216.24	17.15	3.60	14.79	35.54	46.00	10.46	Peak
399.57	22.37	5.86	5.04	33.27	46.00	12.73	Peak
665.35	25.22	7.20	3.48	35.90	46.00	10.10	Peak
950.53	27.72	8.76	1.93	38.41	46.00	7.59	Peak
990.30	27.99	8.99	2.74	39.72	54.00	14.28	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	23.73	1.25	1.42	26.40	40.00	13.60	Peak
216.24	17.15	3.60	7.42	28.17	46.00	17.83	Peak
654.68	25.15	7.15	3.32	35.62	46.00	10.38	Peak
745.86	25.93	7.62	2.38	35.93	46.00	10.07	Peak
868.08	27.07	8.28	1.95	37.30	46.00	8.70	Peak
975.75	27.89	8.90	2.24	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。

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
1502.00	28.21	7.38	8.01	43.60	54.00	10.40	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
3615.00	33.69	9.26	2.22	45.17	54.00	8.83	Peak

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
4804.00	33.92	10.31	-2.51	41.72	54.00	12.28	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
4804.00	33.92	10.31	-2.11	42.12	54.00	11.88	Peak

Mode	8-DPSK	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
4882.00	34.36	10.38	-1.77	42.97	54.00	11.03	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
4882.00	34.36	10.38	-3.16	41.58	54.00	12.42	Peak

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
4960.00	34.32	10.45	-2.58	42.19	54.00	11.81	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	34.32	10.45	-3.05	41.72	54.00	12.28	Peak

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

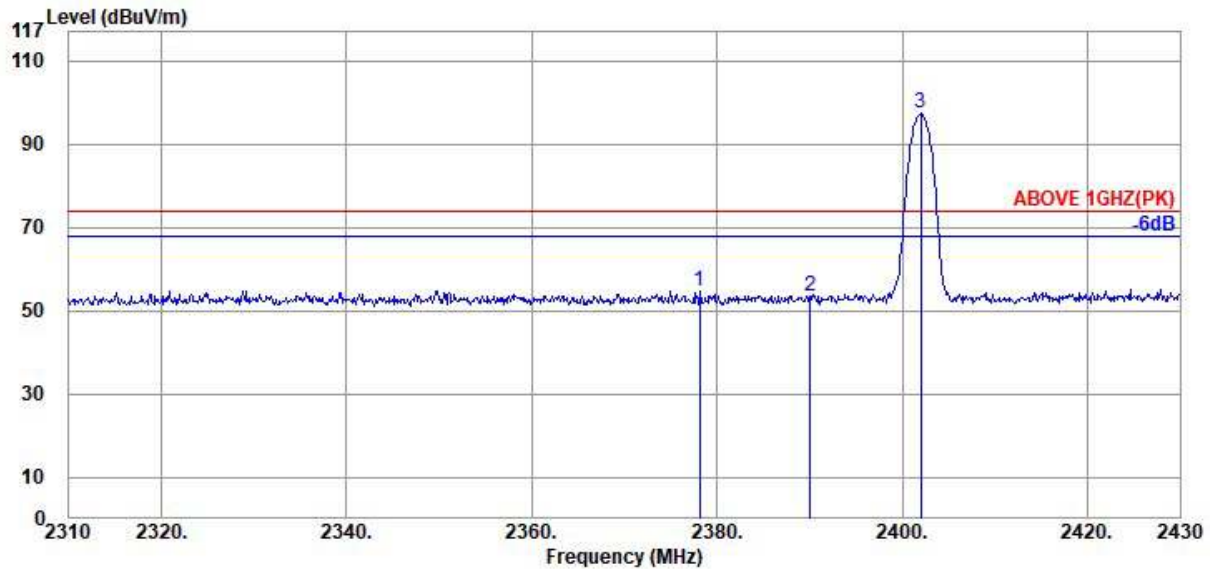
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4882.00	34.36	10.38	-2.63	42.11	54.00	11.89	Peak

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	34.34	10.38	-2.51	42.21	54.00	11.79	Peak

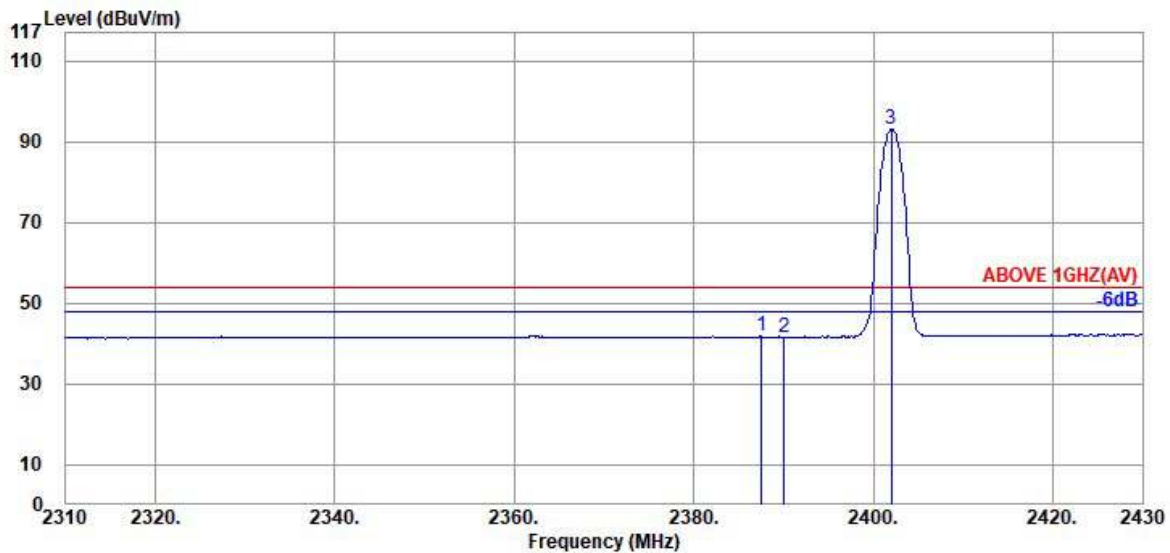
2.3. 禁用頻帶量測結果 (其他不必要發射)

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
2378.16	32.00	8.17	14.65	54.82	74.00	19.18	Peak
2390.04	32.00	8.17	13.16	53.33	74.00	20.67	Peak
@ 2402.04	32.03	8.18	57.06	97.27	---	---	Peak

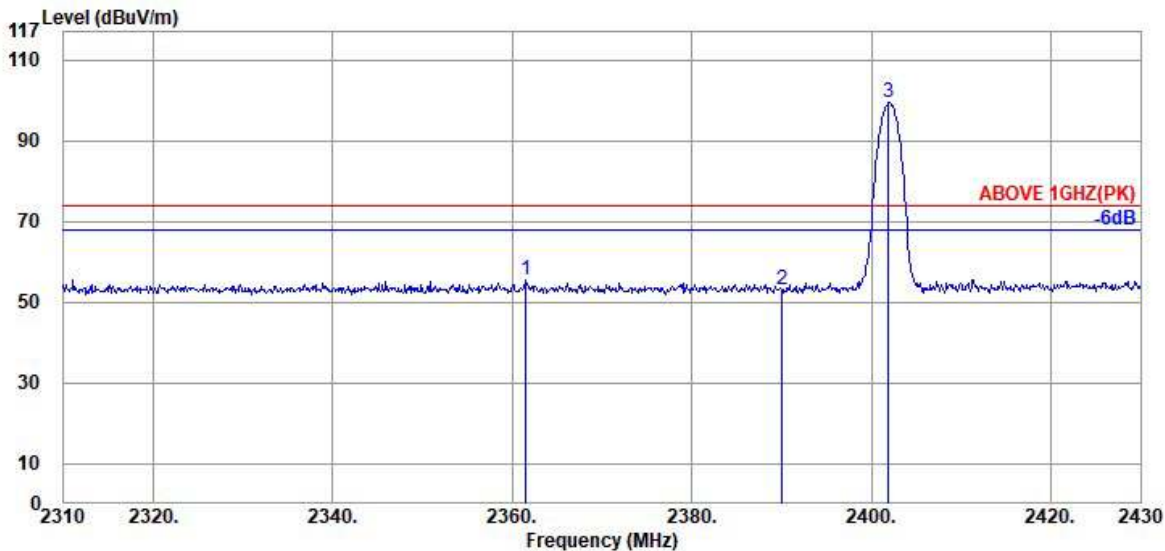


Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2387.52	32.00	8.17	1.70	41.87	54.00	12.13	Average
2390.04	32.00	8.17	1.41	41.58	54.00	12.42	Average
@ 2402.04	32.03	8.18	52.96	93.17	---	---	Average

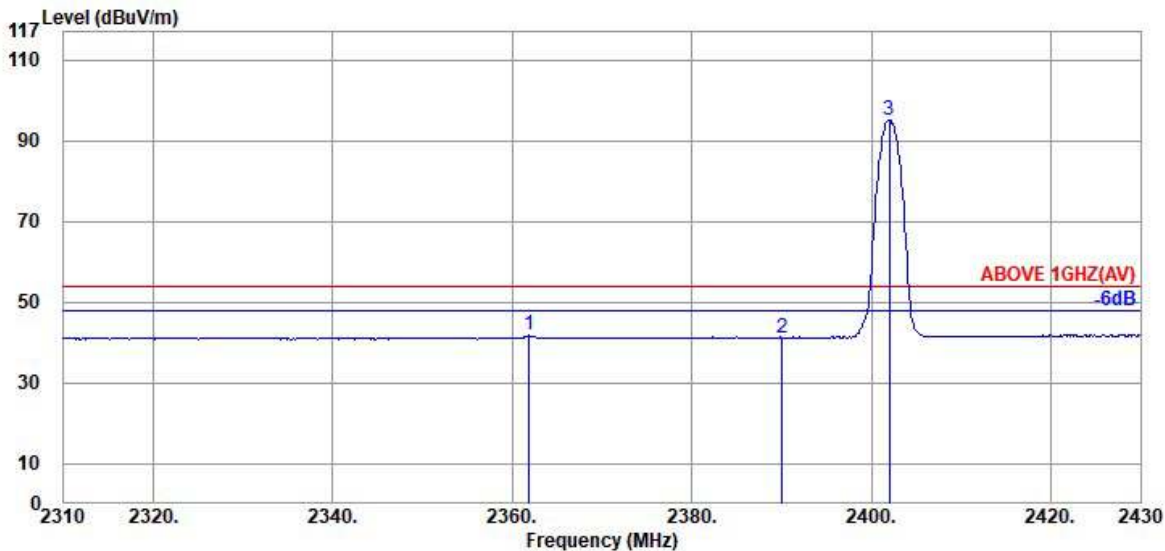
備註：“@”為主波，在此章節是不予以判定。

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
2361.48	32.00	8.16	15.28	55.44	74.00	18.56	Peak
2390.04	32.00	8.17	13.03	53.20	74.00	20.80	Peak
@ 2401.92	32.03	8.18	59.13	99.34	---	---	Peak

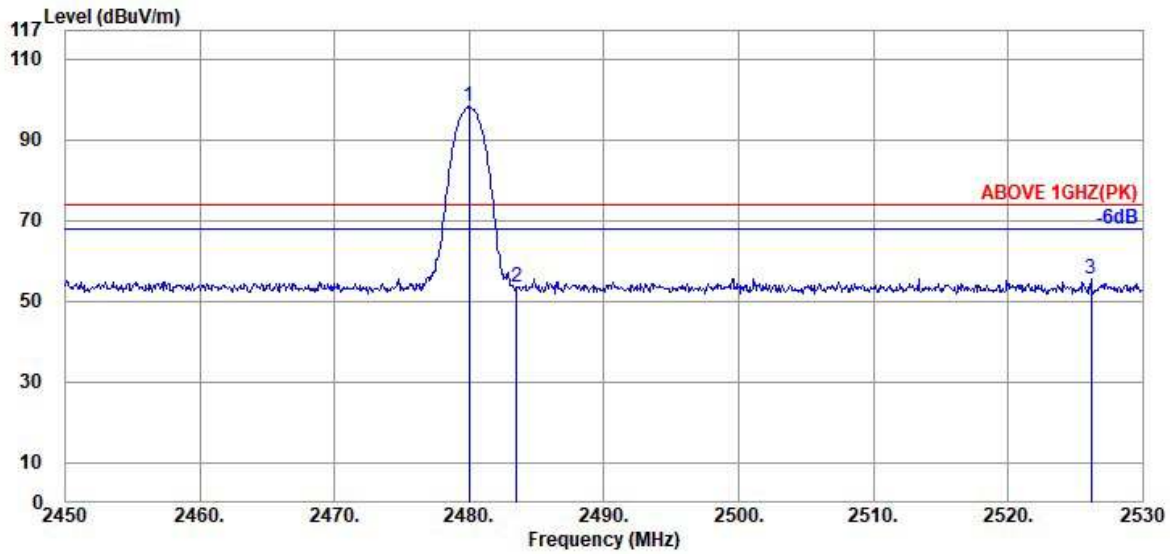


Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2361.84	32.00	8.16	1.61	41.77	54.00	12.23	Average
2390.04	32.00	8.17	1.05	41.22	54.00	12.78	Average
@ 2402.04	32.03	8.18	54.96	95.17	---	---	Average

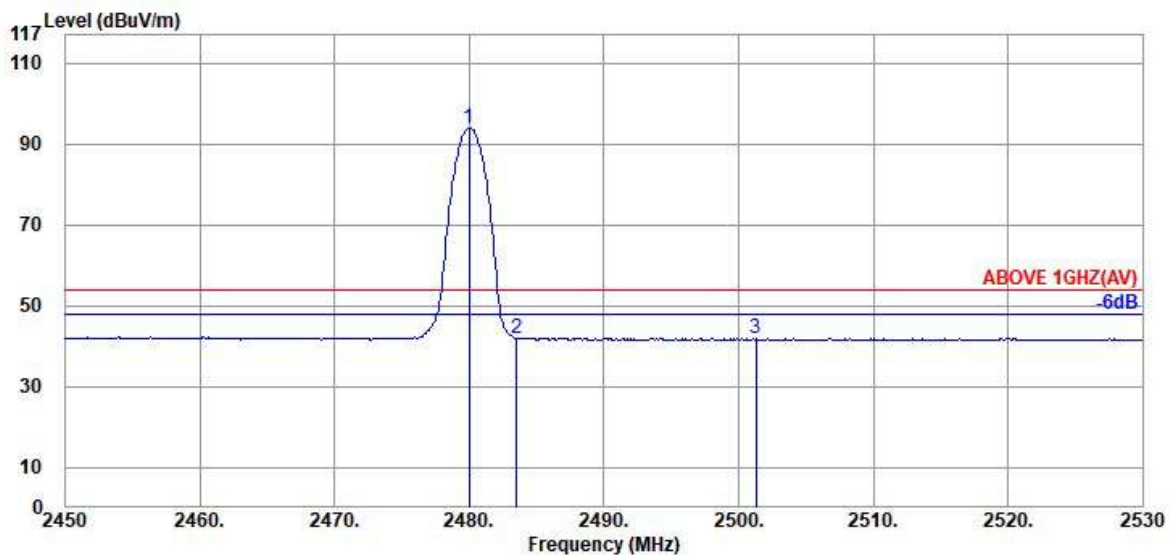
備註：“@”為主波，在此章節是不予以判定。

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	32.58	8.20	57.33	98.11	---	---	Peak
	2483.52	32.57	8.20	12.58	53.35	74.00	20.65	Peak
	2526.16	32.19	8.23	15.27	55.69	74.00	18.31	Peak

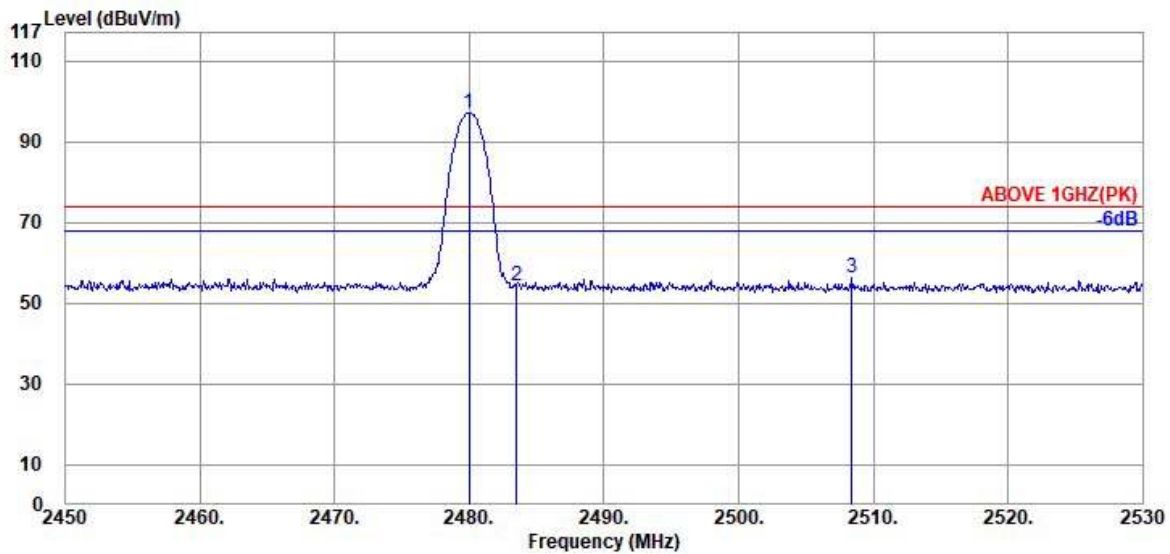


Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2480.00	32.58	8.20	53.10	93.88	---	---	Average
	2483.52	32.57	8.20	1.09	41.86	54.00	12.14	Average
	2501.28	32.48	8.21	1.37	42.06	54.00	11.94	Average

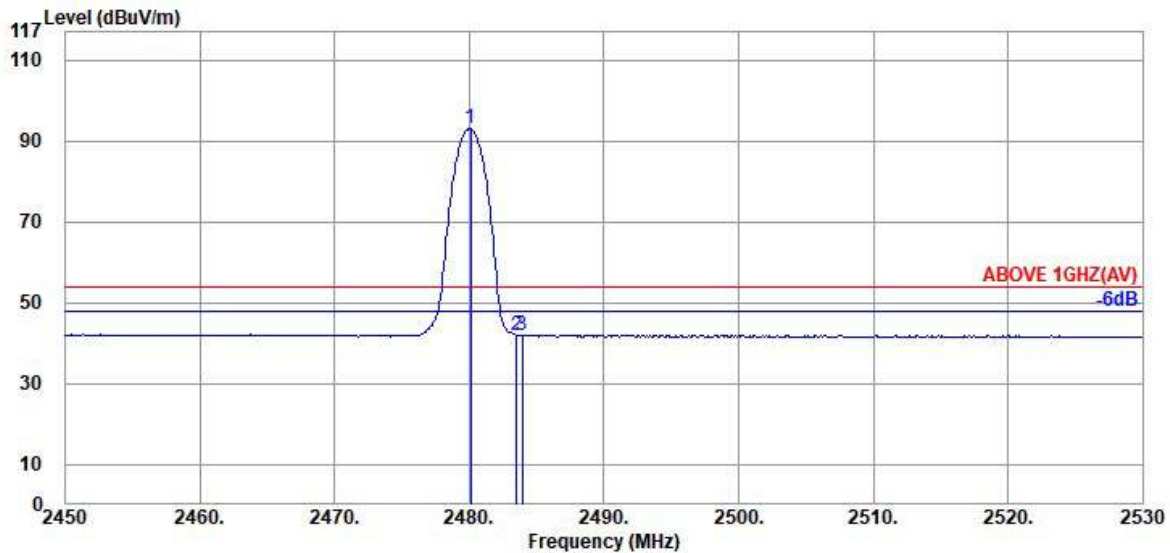
備註：“@”為主波，在此章節是不予以判定。

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	32.58	8.20	56.44	97.22	---	---	Peak
	2483.52	32.57	8.20	13.40	54.17	74.00	19.83	Peak
	2508.40	32.40	8.22	15.49	56.11	74.00	17.89	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	32.58	8.20	52.14	92.92	---	---	Average
	2483.52	32.57	8.20	1.21	41.98	54.00	12.02	Average
	2483.92	32.56	8.20	1.23	41.99	54.00	12.01	Average

備註：“@”為主波，在此章節是不予以判定。

3. 20dB 頻寬之量測

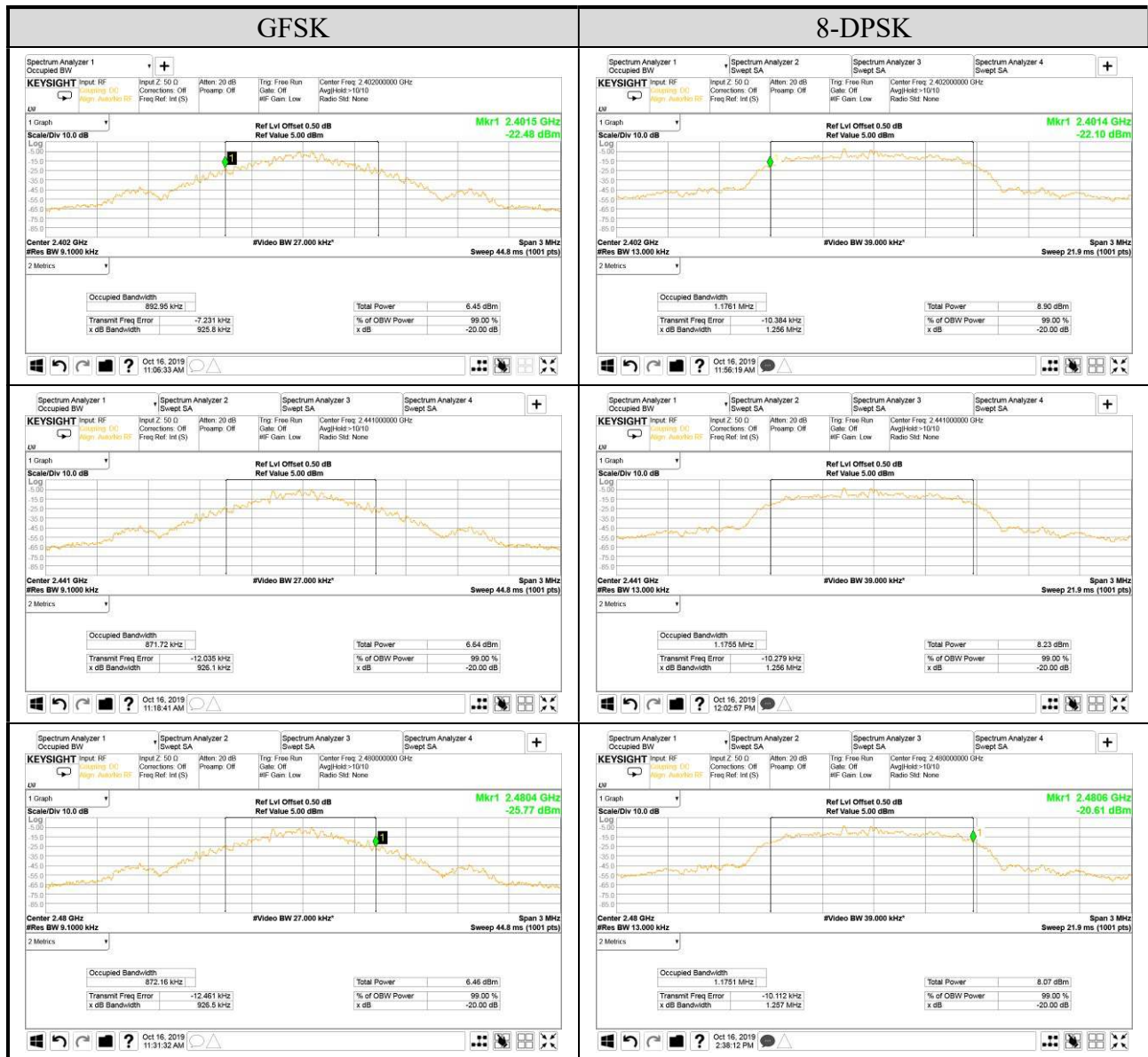
測試日期	2019/10/16	環境溫/濕度	22°C/51%
電纜損失	0.50dB	測試人員	Sean Wang
測試電壓	DC 3.7V (透過內建鋰電池供電)		

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	0.9258	0.617
	2441	0.9261	0.617
	2480	0.9265	0.618

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	1.256	0.837
	2441	1.256	0.837
	2480	1.257	0.838

3.2. 20dB 頻寬之量測圖



4. 載波頻率間隔之量測

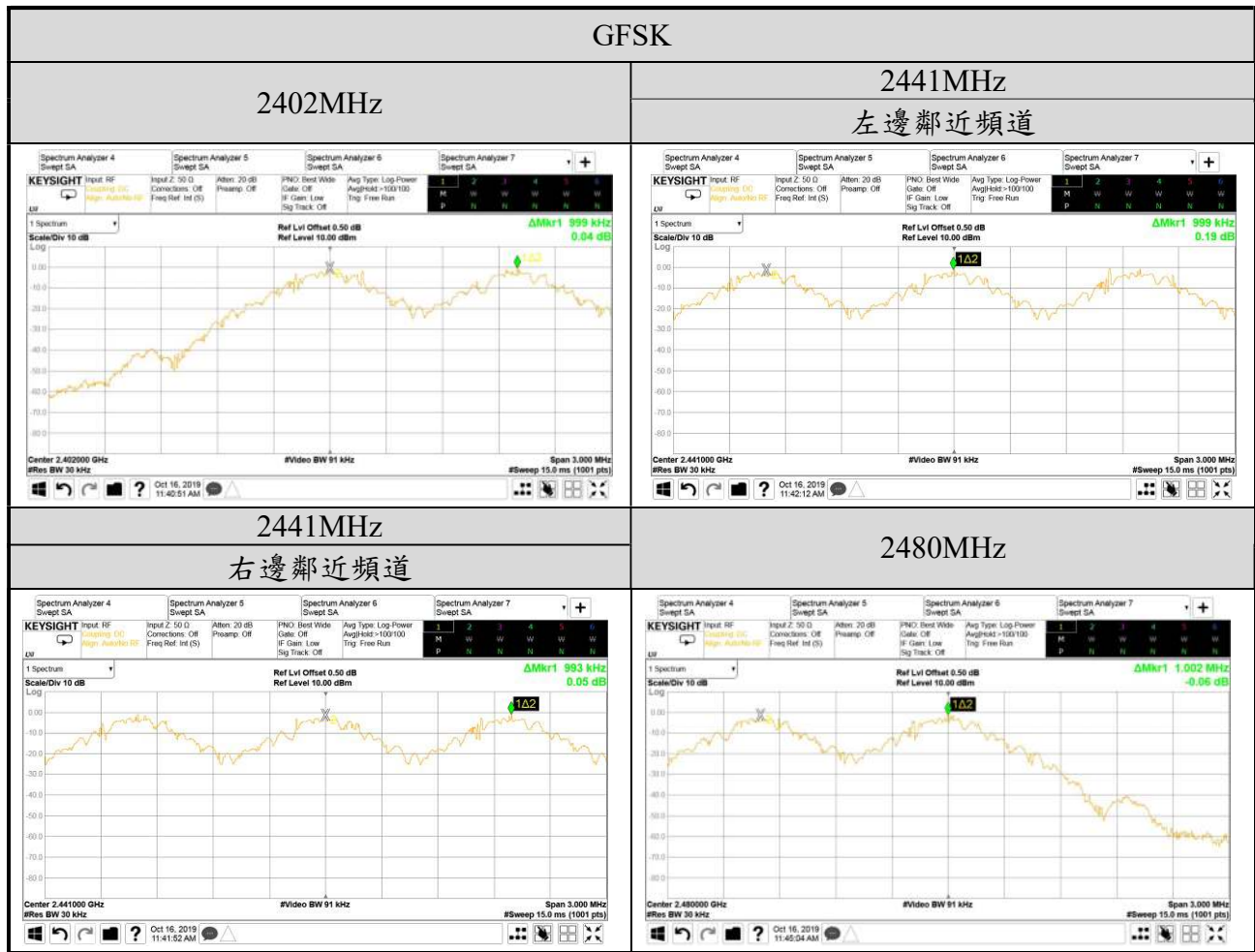
測試日期	2019/10/16	環境溫/濕度	22°C/51%
電纜損失	0.50dB	測試人員	Sean Wang
測試電壓	DC 3.7V (透過內建鋰電池供電)		

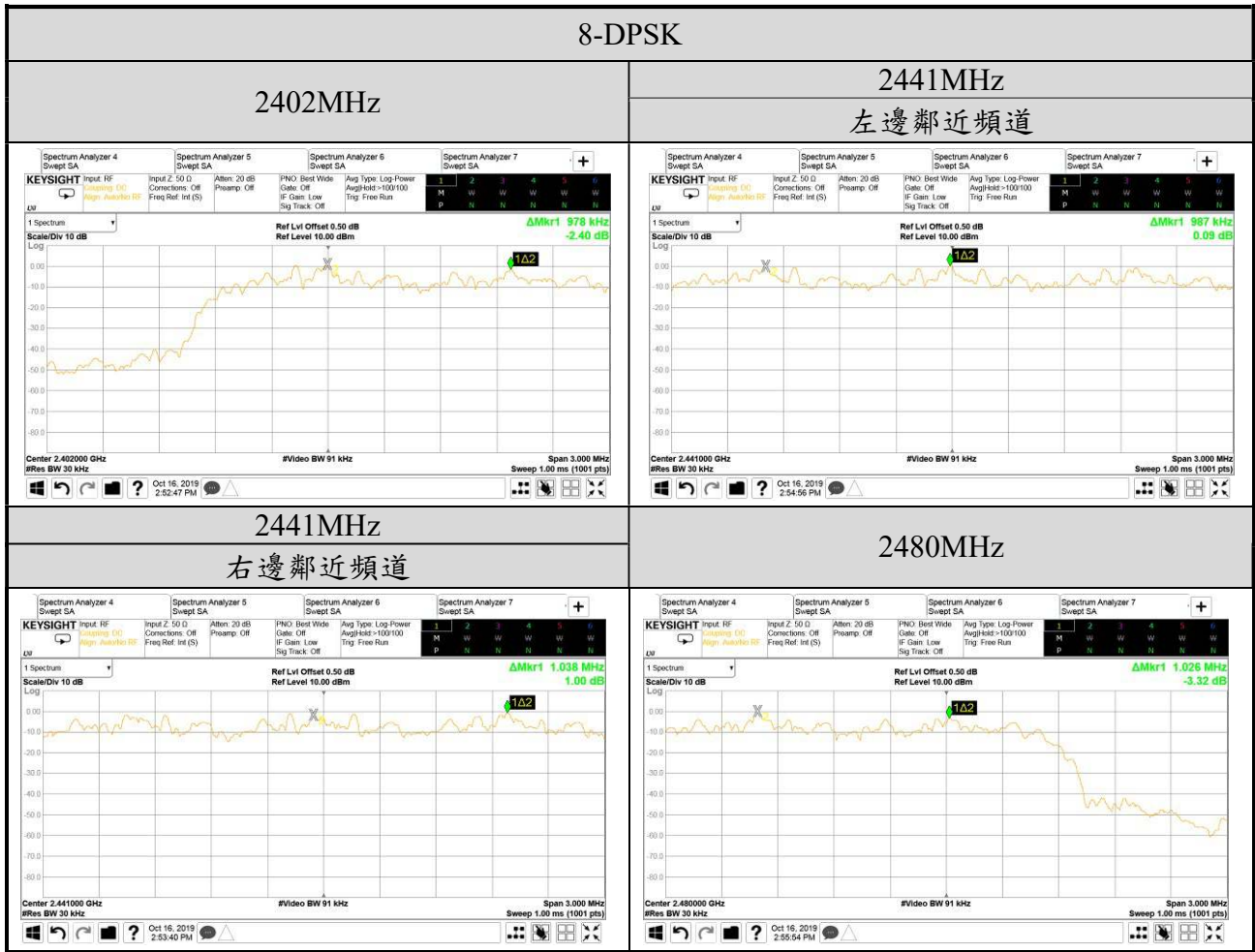
4.1. 載波頻率間隔

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	>0.618
	2441 (左邊鄰近頻道)	0.999	
	2441 (右邊鄰近頻道)	0.993	
	2480	1.002	

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	0.978	>0.838
	2441 (左邊鄰近頻道)	0.987	
	2441 (右邊鄰近頻道)	1.038	
	2480	1.026	

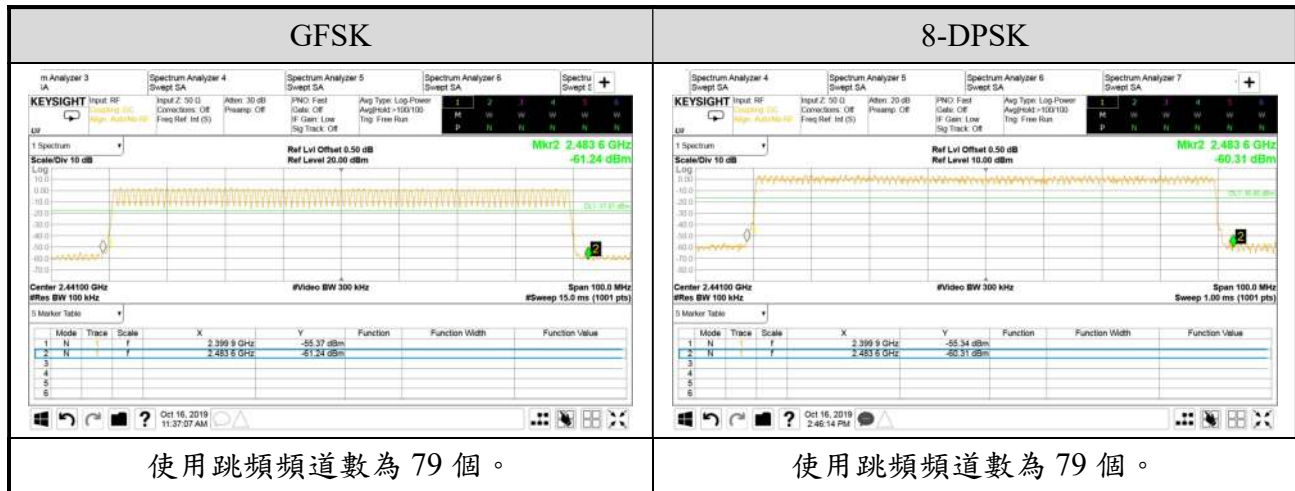
4.2. 載波頻率間隔之量測圖





5. 跳頻頻率數目之量測

測試日期	2019/10/16	環境溫/濕度	22°C/51%
電纜損失	0.50dB	測試人員	Sean Wang
測試電壓	DC 3.7V (透過內建鋰電池供電)		



6. 佔用時間(停留時間)之量測

測試日期	2019/10/16	環境溫/濕度	22°C/51%
電纜損失	0.50dB	測試人員	Sean Wang
測試電壓	DC 3.7V (透過內建鋰電池供電)		

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	0.38	120.080	<400
		DH3	5	1.63	257.540	<400
		DH5	2	2.89	182.648	<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 * 0.380 ms = 120.080 ms (<400ms)

封包模式: DH3

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:

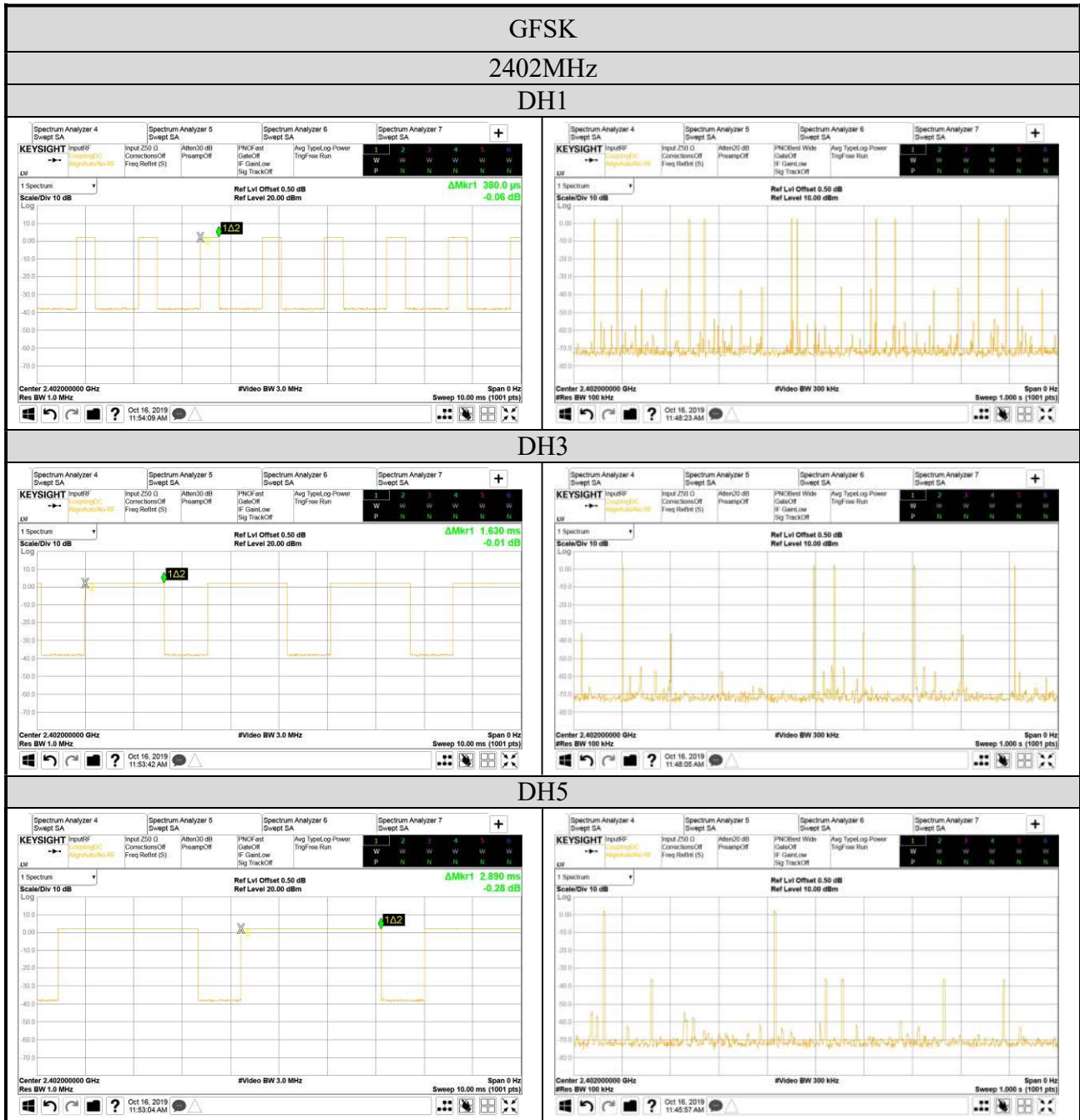
5 頻道數 31.6 秒 * 1.630 ms = 257.540 ms (<400ms)

封包模式: DH5

以每1秒出現 2 個頻道數為例, 每31.6 秒內之最長佔用時間為:

2 頻道數 31.6 秒 * 2.890 ms = 182.648 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	0.38	120.080	<400
		DH3	5	1.63	257.540	<400
		DH5	3	2.88	273.024	<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 頻道數 $31.6 \text{ 秒} * 0.380 \text{ ms} = 120.080 \text{ ms} (<400\text{ms})$

封包模式: DH3

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:

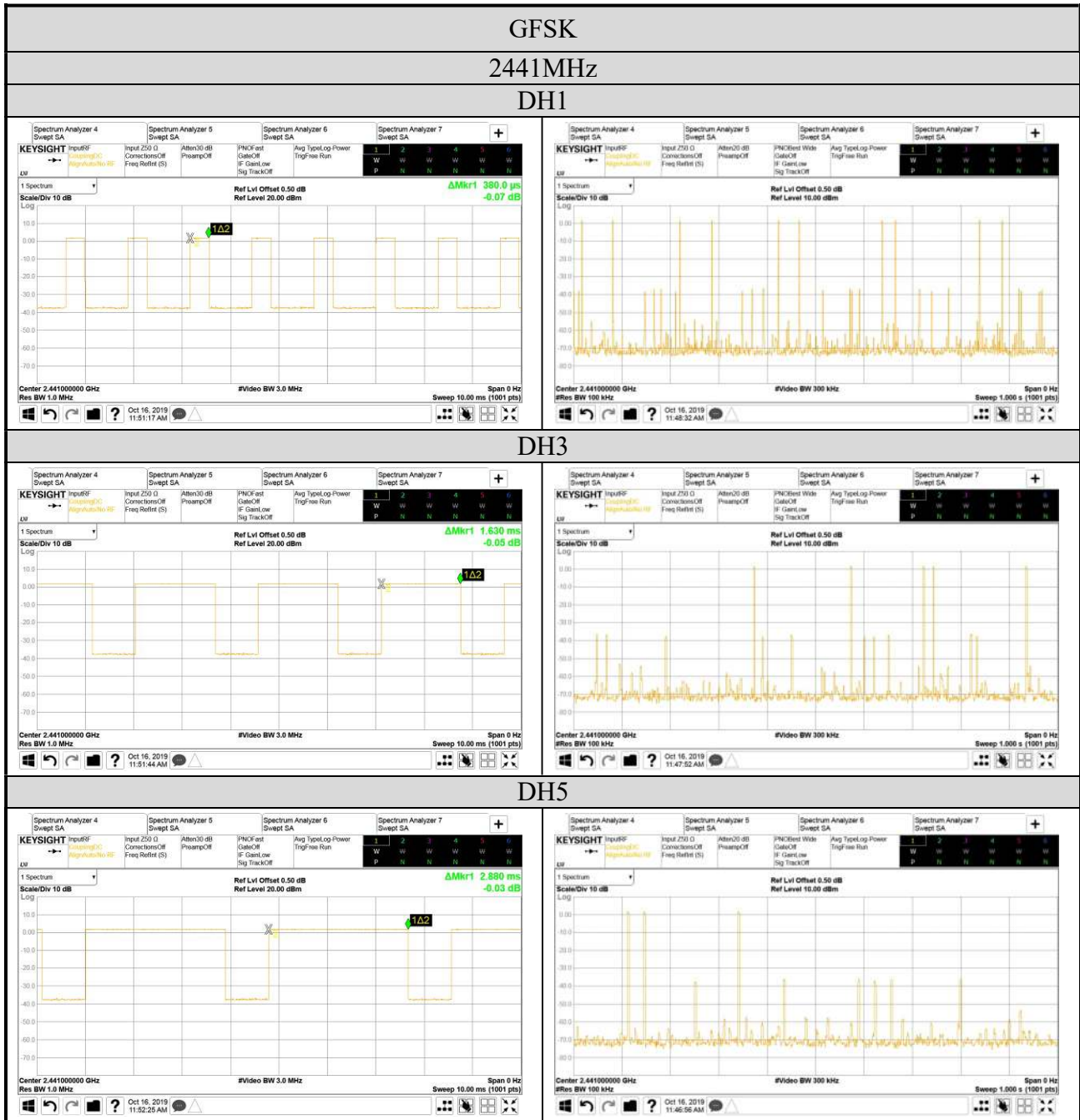
5 頻道數 $31.6 \text{ 秒} * 1.630 \text{ ms} = 257.540 \text{ ms} (<400\text{ms})$

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 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



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	0.38	120.080	<400
		DH3	5	1.64	259.120	<400
		DH5	3	2.88	273.024	<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 頻道數 $31.6 \text{ 秒} * 0.380 \text{ ms} = 120.080 \text{ ms} (<400\text{ms})$

封包模式: DH3

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:

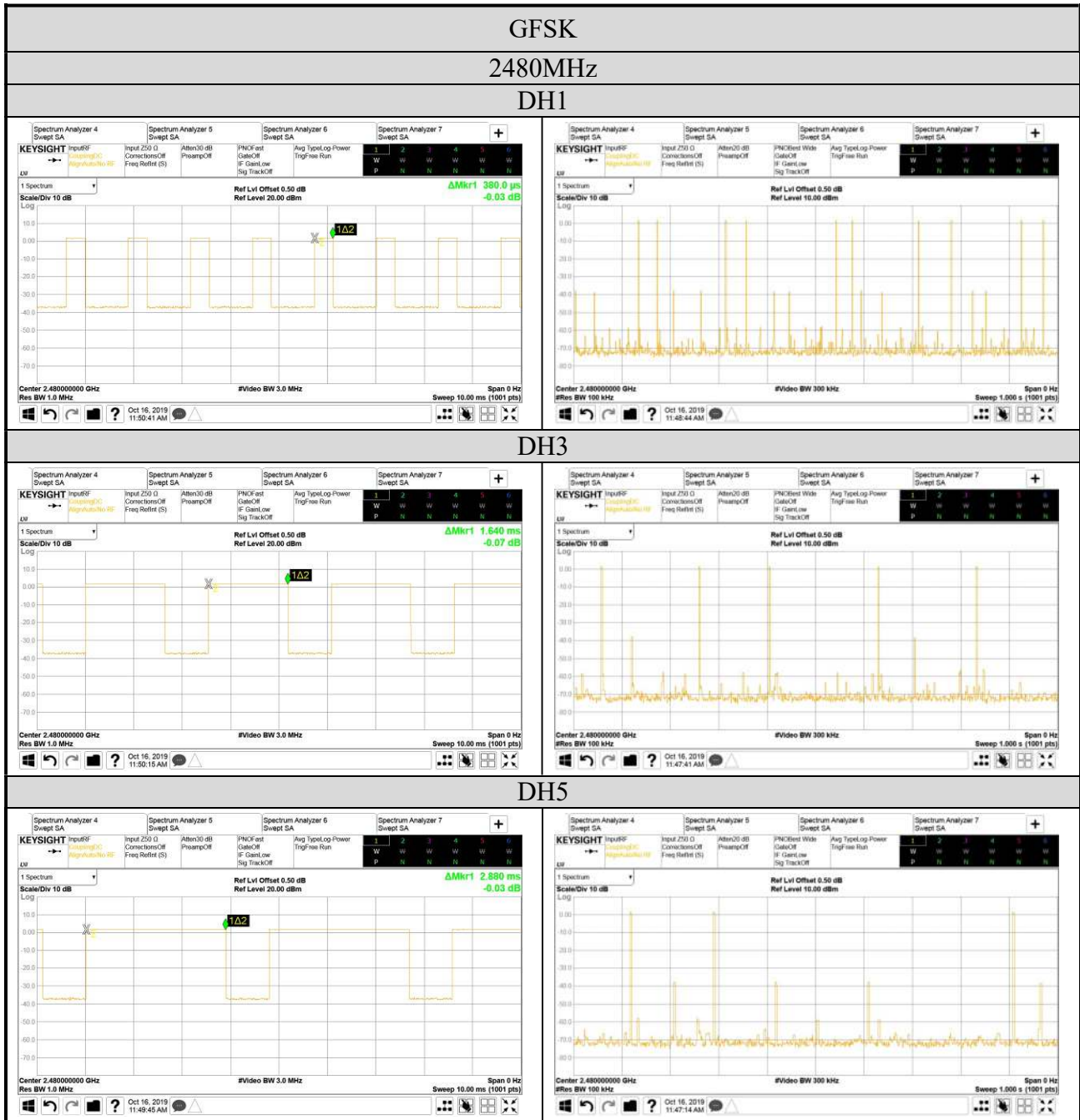
5 頻道數 $31.6 \text{ 秒} * 1.640 \text{ ms} = 259.120 \text{ ms} (<400\text{ms})$

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 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



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	0.39	123.24	<400
		3DH3	5	1.64	259.12	<400
		3DH5	2	2.89	182.648	<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 * **0.390** ms = **123.240** 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:

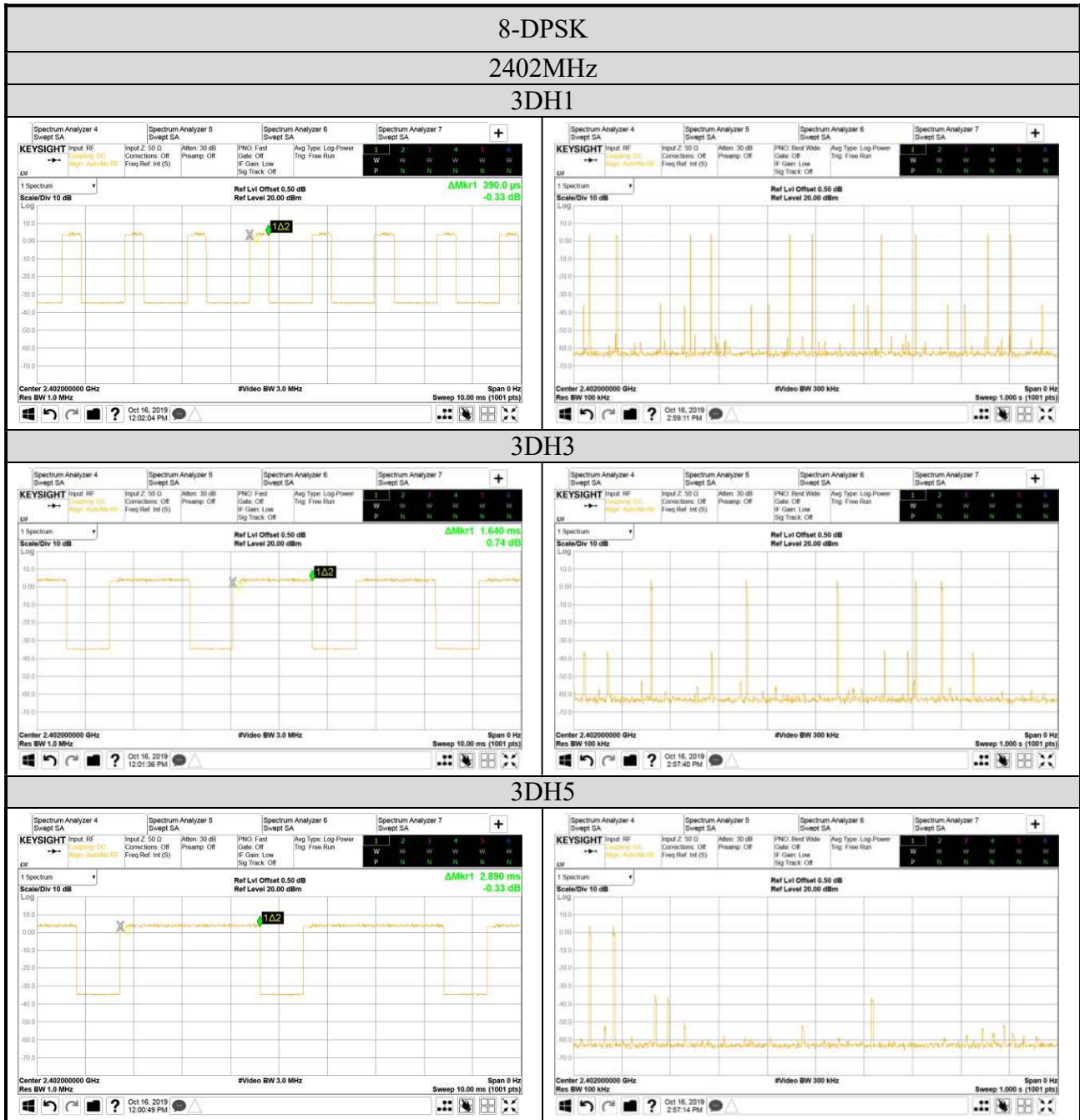
5 頻道數 **31.6** 秒 * **1.640** ms = **259.120** ms (<400ms)

封包模式: 3DH5

以每**1**秒出現 **2** 個頻道數為例, 每**31.6** 秒內之最長佔用時間為:

2 頻道數 **31.6** 秒 * **2.890** ms = **182.648** 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	0.38	120.080	<400
		3DH3	5	1.64	259.120	<400
		3DH5	3	2.89	273.972	<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:

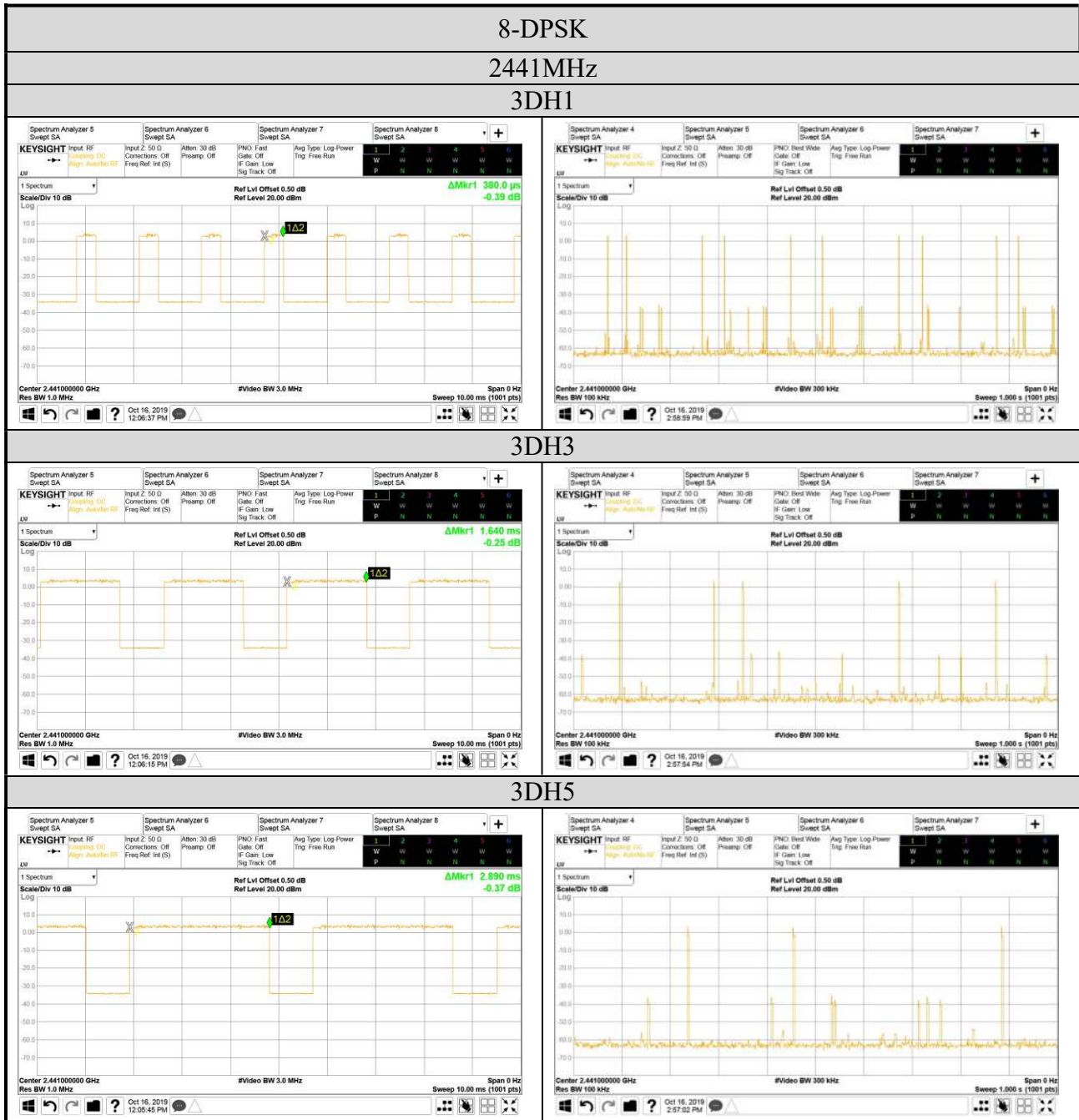
5 頻道數 **31.6** 秒* **1.640** ms= **259.120** ms (<400ms)

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* **2.890** ms= **273.972** 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	2480	3DH1	10	0.38	120.080	<400
		3DH3	5	1.64	259.120	<400
		3DH5	2	2.88	182.016	<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:

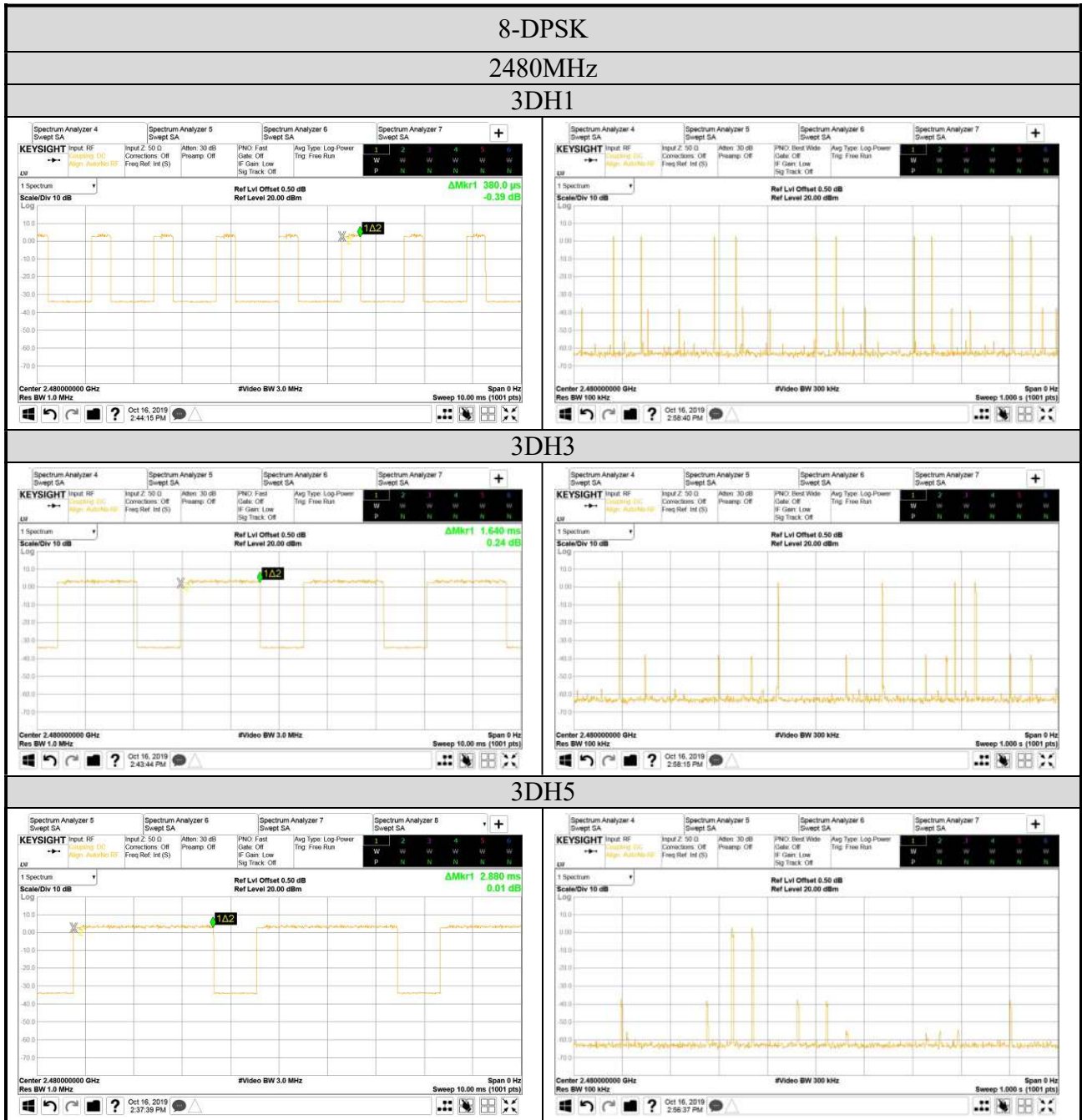
5 頻道數 **31.6** 秒* **1.640** ms= **259.120** ms (<400ms)

封包模式: 3DH5

以每**1**秒出現 **2** 個頻道數為例, 每**31.6** 秒內之最長佔用時間為:

2 頻道數 **31.6** 秒* **2.880** ms= **182.016** ms (<400ms)

●佔用時間(停留時間)之量測圖



7. 峰值輸出功率之量測

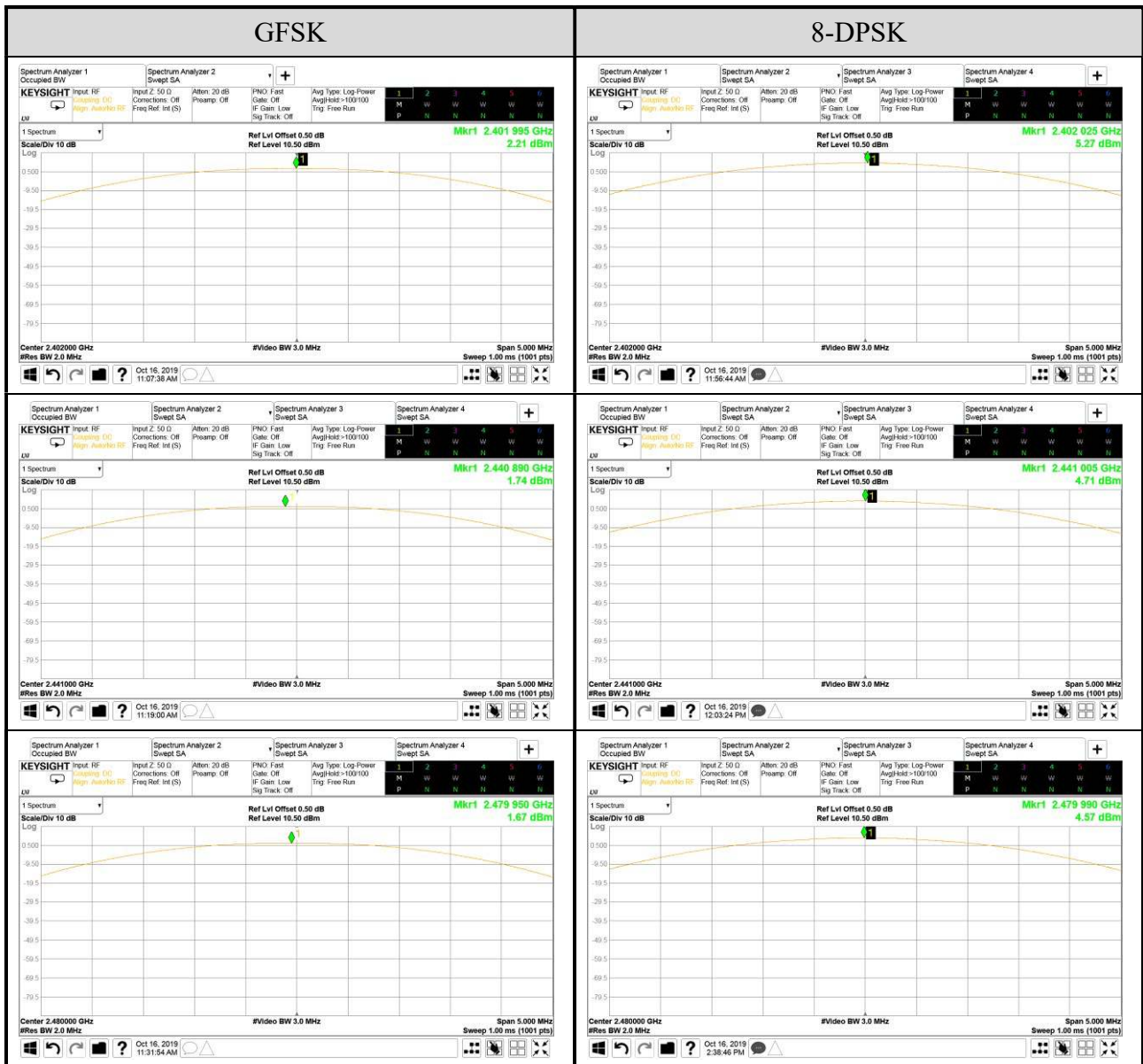
測試日期	2019/10/16	環境溫/濕度	22°C/51%
電纜損失	0.50dB	測試人員	Sean Wang
測試電壓	DC 3.7V (透過內建鋰電池供電)		

7.1. 峰值輸出功率

模式	測試頻率 (MHz)	峰值輸出功率(dBm)
GFSK	2402	2.21
	2441	1.74
	2480	1.67

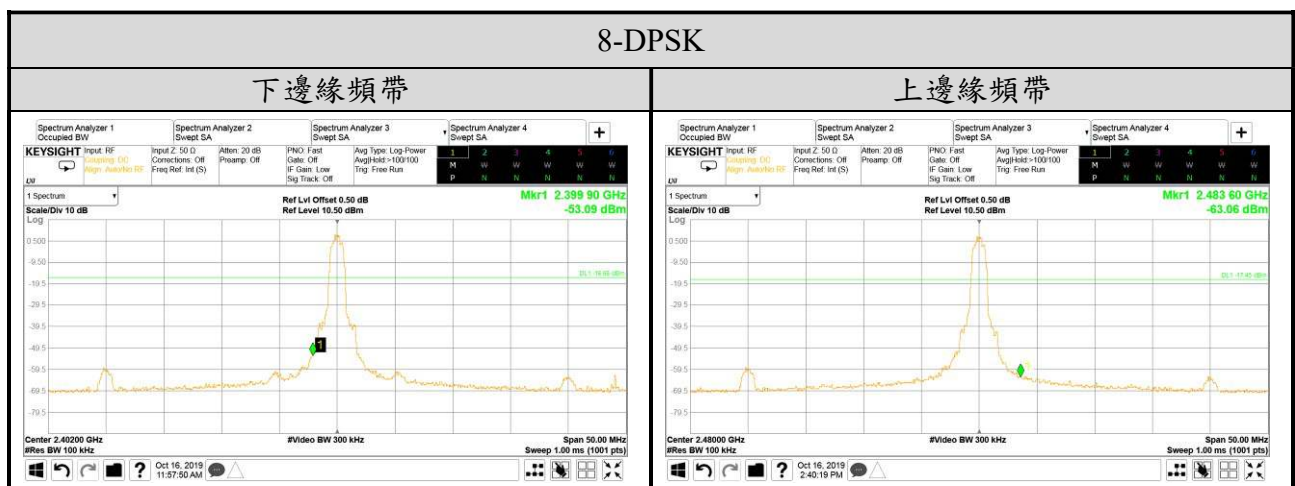
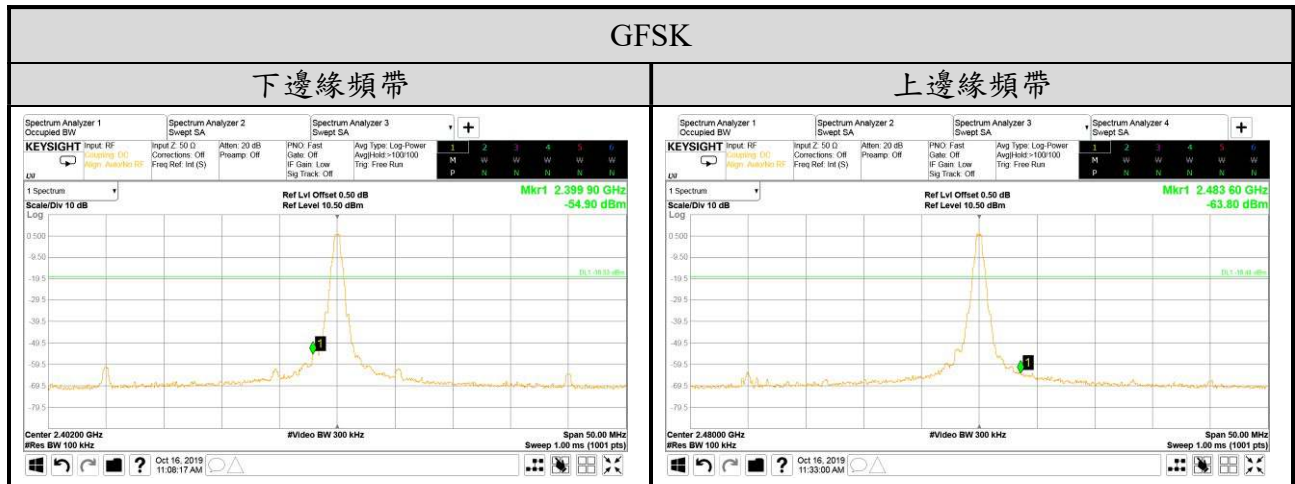
模式	測試頻率 (MHz)	峰值輸出功率(dBm)
8-DPSK	2402	5.27
	2441	4.71
	2480	4.57

7.2. 峰值輸出功率之量測圖



8. 頻帶邊緣之 RF 傳導發射之量測

測試日期	2019/10/16	環境溫/濕度	22°C/51%
電纜損失	0.50dB	測試人員	Sean Wang
測試電壓	DC 3.7V (透過內建鋰電池供電)		



9. 混附發射之 RF 傳導發射之量測

測試日期	2019/10/16	環境溫/濕度	22°C/51%
電纜損失	0.50dB	測試人員	Sean Wang
測試電壓	DC 3.7V (透過內建鋰電池供電)		

