

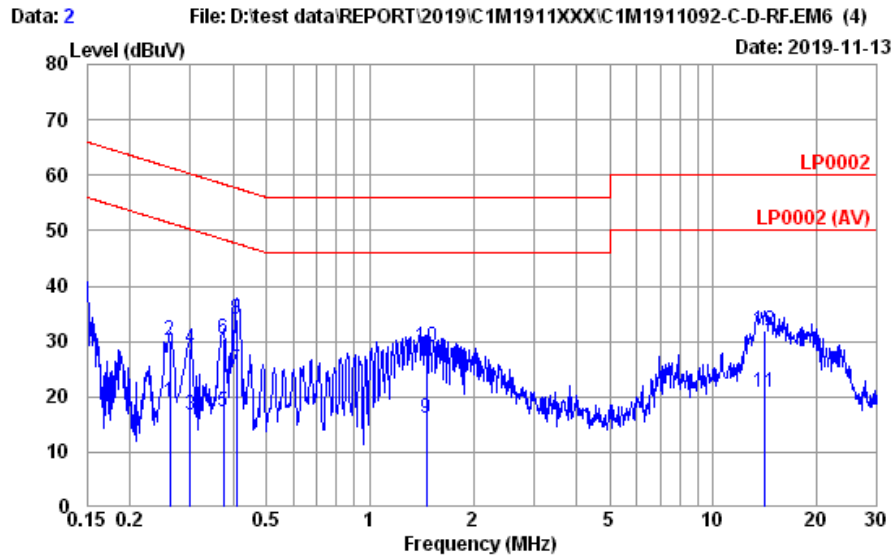
附錄一

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	2019/11/13	環境溫/濕度	25°C/50%
測試電壓	DC 5V (經 USB 充電電源)	搭配鋰電池	VARTA, 型號: CP1454 A3

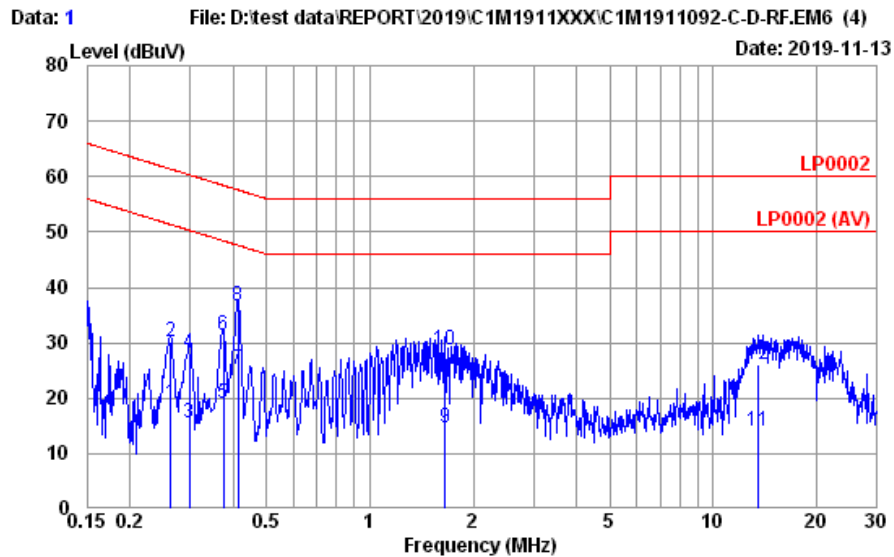


Site no. : No.8 Shielded Room Data no. : 2
 Condition : ESH3-Z5 861189/008 LISN Phase : NEUTRAL
 Limit : LP0002
 Env. / Ins. : 25°C / 50% ESR3 (1774) Engineer : Chucky Chiu
 EUT : WF-SP800N(Black)
 Power Rating : DC 5V
 Test Mode : Charge Mode

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.262	0.02	0.04	9.86	9.11	19.03	51.38	32.35	Average
2	0.262	0.02	0.04	9.86	20.17	30.09	61.38	31.29	QP
3	0.300	0.03	0.04	9.86	6.89	16.82	50.24	33.42	Average
4	0.300	0.03	0.04	9.86	18.67	28.60	60.24	31.64	QP
5	0.375	0.03	0.04	9.86	7.43	17.36	48.39	31.03	Average
6	0.375	0.03	0.04	9.86	20.58	30.51	58.39	27.88	QP
7	0.408	0.03	0.04	9.86	15.02	24.95	47.68	22.73	Average
8	0.408	0.03	0.04	9.86	24.17	34.10	57.68	23.58	QP
9	1.464	0.06	0.06	9.86	6.26	16.24	46.00	29.76	Average
10	1.464	0.06	0.06	9.86	19.08	29.06	56.00	26.94	QP
11	14.063	0.52	0.16	9.92	10.14	20.74	50.00	29.26	Average
12	14.063	0.52	0.16	9.92	21.37	31.97	60.00	28.03	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	2019/11/13	環境溫/濕度	25°C/50%
測試電壓	DC 5V (經 USB 充電電源)	搭配鋰電池	VARTA, 型號: CP1454 A3



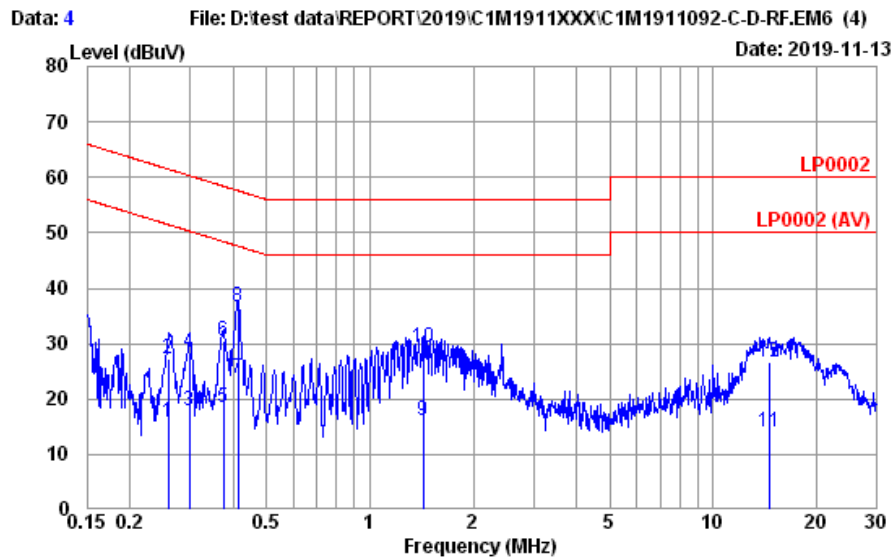
Site no. : No.8 Shielded Room
 Condition : ESH3-Z5 861189/008
 Limit : LP0002
 Env. / Ins. : 25°C / 50% ESR3 (1774)
 EUT : WF-SP800N(Black)
 Power Rating : DC 5V
 Test Mode : Charge Mode

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	0.263	0.03	0.04	9.86	9.03	18.96	51.34	32.38	Average
2	0.263	0.03	0.04	9.86	20.30	30.23	61.34	31.11	QP
3	0.299	0.04	0.04	9.86	5.69	15.63	50.28	34.65	Average
4	0.299	0.04	0.04	9.86	18.13	28.07	60.28	32.21	QP
5	0.375	0.04	0.04	9.86	9.23	19.17	48.39	29.22	Average
6	0.375	0.04	0.04	9.86	21.46	31.40	58.39	26.99	QP
7	0.413	0.04	0.04	9.86	15.41	25.35	47.59	22.24	Average
8	0.413	0.04	0.04	9.86	26.70	36.64	57.59	20.95	QP
9	1.654	0.07	0.06	9.86	4.64	14.63	46.00	31.37	Average
10	1.654	0.07	0.06	9.86	18.69	28.68	56.00	27.32	QP
11	13.551	0.61	0.16	9.91	3.49	14.17	50.00	35.83	Average
12	13.551	0.61	0.16	9.91	15.42	26.10	60.00	33.90	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	2019/11/13	環境溫/濕度	25°C/50%
測試電壓	DC 5V (經 USB 充電電源)	搭配鋰電池	ZeniPower, 型號: Z75

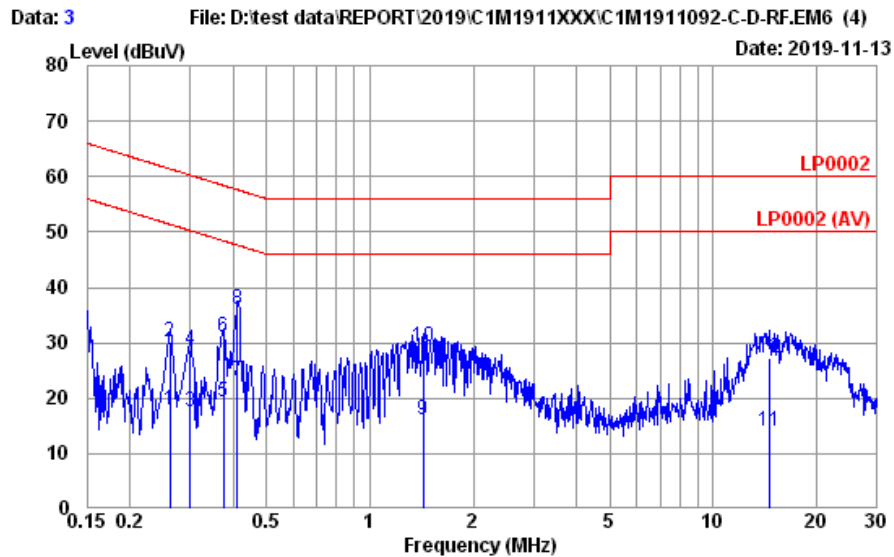


Site no. : No.8 Shielded Room Data no. : 4
Condition : ESH3-Z5 861189/008 LISN Phase : NEUTRAL
Limit : LP0002
Env. / Ins. : 25°C / 50% ESR3 (1774) Engineer : Chucky Chiu
EUT : WF-SP800N(White)
Power Rating : DC 5V
Test Mode : Charge Mode

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.259	0.02	0.04	9.86	5.80	15.72	51.47	35.75	Average
2	0.259	0.02	0.04	9.86	17.46	27.38	61.47	34.09	QP
3	0.299	0.03	0.04	9.86	8.01	17.94	50.28	32.34	Average
4	0.299	0.03	0.04	9.86	18.36	28.29	60.28	31.99	QP
5	0.375	0.03	0.04	9.86	8.41	18.34	48.39	30.05	Average
6	0.375	0.03	0.04	9.86	20.59	30.52	58.39	27.87	QP
7	0.413	0.03	0.04	9.86	13.68	23.61	47.59	23.98	Average
8	0.413	0.03	0.04	9.86	26.63	36.56	57.59	21.03	QP
9	1.426	0.06	0.06	9.86	6.26	16.24	46.00	29.76	Average
10	1.426	0.06	0.06	9.86	19.34	29.32	56.00	26.68	QP
11	14.517	0.53	0.16	9.92	3.33	13.94	50.00	36.06	Average
12	14.517	0.53	0.16	9.92	16.00	26.61	60.00	33.39	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	2019/11/13	環境溫/濕度	25°C/50%
測試電壓	DC 5V (經 USB 充電電源)	搭配鋰電池	ZeniPower, 型號: Z75



Site no. : No.8 Shielded Room
 Condition : ESH3-Z5 861189/008
 Limit : LP0002
 Env. / Ins. : 25°C / 50% ESR3 (1774)
 EUT : WF-SP800N(White)
 Power Rating : DC 5V
 Test Mode : Charge Mode

Data no. : 3
 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	0.262	0.03	0.04	9.86	8.07	18.00	51.38	33.38	Average
2	0.262	0.03	0.04	9.86	20.15	30.08	61.38	31.30	QP
3	0.300	0.04	0.04	9.86	7.54	17.48	50.24	32.76	Average
4	0.300	0.04	0.04	9.86	18.74	28.68	60.24	31.56	QP
5	0.375	0.04	0.04	9.86	9.35	19.29	48.39	29.10	Average
6	0.375	0.04	0.04	9.86	21.23	31.17	58.39	27.22	QP
7	0.410	0.04	0.04	9.86	13.13	23.07	47.64	24.57	Average
8	0.410	0.04	0.04	9.86	26.12	36.06	57.64	21.58	QP
9	1.426	0.07	0.06	9.86	6.13	16.12	46.00	29.88	Average
10	1.426	0.07	0.06	9.86	19.37	29.36	56.00	26.64	QP
11	14.517	0.66	0.16	9.92	3.31	14.05	50.00	35.95	Average
12	14.517	0.66	0.16	9.92	16.37	27.11	60.00	32.89	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，以最差之傳輸速率 1M 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)先行評估平放、站立、側立三軸，其中平放為最差模式，以低、中、高頻率來進行量測，並將所有模式之測試數據檢附於附錄中；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
---	充電 (搭配 VARTA, 鋰電池)	---	30-1000MHz
---	充電 (搭配 ZeniPower 鋰電池)	---	30-1000MHz

模式	動作狀態	基本頻率	量測頻率範圍
BLE	Normal	---	30-1000MHz
			1000-25000MHz
	發射	2402MHz(CH37)	1000-25000MHz
	發射	2440MHz (CH17)	1000-25000MHz
	發射	2480MHz(CH39)*	30-1000MHz
			1000-25000MHz
	接收	2440MHz (CH17)	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	傳輸速率	動作狀態	基本頻率	量測頻率範圍
BLE	1M	發射	2402MHz (CH37)	2310-2430MHz
			2480MHz (CH39)	2450-2900MHz
	2M	發射	2402MHz (CH37)	2310-2430MHz
			2480MHz (CH39)	2450-2900MHz

測試日期	2019/12/03 ~ 12/04	環境溫/濕度	21 ~ 23°C/47 ~ 51%
測試電壓	(1)DC 5V (經 USB 充電電源) (2)DC 3.7V (經內建鋰電池供電)	測試人員	Sean Wang

2.1. 30-1000MHz 頻率範圍，其他不必要發射量測

Mode	Charge	Frequency	---
搭配鋰電池	VARTA, 型號: CP1454 A3		

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
31.94	24.34	1.23	2.60	28.17	40.00	11.83	Peak
196.84	16.12	3.39	10.80	30.31	43.50	13.19	Peak
260.86	19.03	4.05	17.97	41.05	46.00	4.95	Peak
662.44	25.21	7.19	2.20	34.60	46.00	11.40	Peak
911.73	27.41	8.52	2.30	38.23	46.00	7.77	Peak
975.75	27.89	8.90	1.92	38.71	54.00	15.29	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	1.11	25.42	40.00	14.58	Peak
211.39	16.91	3.55	12.65	33.11	43.50	10.39	Peak
464.56	23.27	6.46	4.17	33.90	46.00	12.10	Peak
626.55	24.96	7.01	2.82	34.79	46.00	11.21	Peak
951.50	27.72	8.76	0.73	37.21	46.00	8.79	Peak
983.51	27.94	8.95	1.41	38.30	54.00	15.70	Peak

Mode	Charge	Frequency	---
搭配鋰電池	ZeniPower, 型號: Z75		

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
30.97	25.03	1.21	1.59	27.83	40.00	12.17	Peak
195.87	16.10	3.38	11.68	31.16	43.50	12.34	Peak
261.83	19.04	4.06	16.58	39.68	46.00	6.32	Peak
553.80	24.29	6.82	2.42	33.53	46.00	12.47	Peak
924.34	27.51	8.60	2.04	38.15	46.00	7.85	Peak
971.87	27.87	8.88	2.48	39.23	54.00	14.77	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	0.39	25.37	40.00	14.63	Peak
214.30	17.07	3.58	12.03	32.68	43.50	10.82	Peak
494.63	23.64	6.71	1.70	32.05	46.00	13.95	Peak
830.25	26.75	8.07	1.53	36.35	46.00	9.65	Peak
911.73	27.41	8.52	0.99	36.92	46.00	9.08	Peak
971.87	27.87	8.88	1.53	38.28	54.00	15.72	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
33.88	23.04	1.27	0.40	24.71	40.00	15.29	Peak
140.58	17.55	2.78	2.55	22.88	43.50	20.62	Peak
230.79	17.90	3.75	10.06	31.71	46.00	14.29	Peak
581.93	24.60	6.86	1.66	33.12	46.00	12.88	Peak
838.98	26.82	8.12	1.33	36.27	46.00	9.73	Peak
966.05	27.82	8.85	1.34	38.01	54.00	15.99	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
31.94	24.34	1.23	1.67	27.24	40.00	12.76	Peak
123.12	18.46	2.57	3.76	24.79	43.50	18.71	Peak
212.36	16.95	3.56	13.35	33.86	43.50	9.64	Peak
439.34	22.94	6.24	0.77	29.95	46.00	16.05	Peak
921.43	27.49	8.58	0.73	36.80	46.00	9.20	Peak
976.72	27.89	8.91	1.28	38.08	54.00	15.92	Peak

Mode	BLE	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
55.22	13.54	1.65	0.99	16.18	40.00	23.82	Peak
145.43	17.27	2.84	1.06	21.17	43.50	22.33	Peak
531.49	24.07	6.79	-0.04	30.82	46.00	15.18	Peak
816.67	26.63	8.00	0.59	35.22	46.00	10.78	Peak
938.89	27.61	8.69	-0.21	36.09	46.00	9.91	Peak
971.87	27.87	8.88	0.44	37.19	54.00	16.81	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
68.80	12.48	1.86	1.36	15.70	40.00	24.30	Peak
184.23	15.60	3.27	3.52	22.39	43.50	21.11	Peak
249.22	18.78	3.93	2.47	25.18	46.00	20.82	Peak
419.94	22.69	6.06	0.01	28.76	46.00	17.24	Peak
639.16	25.04	7.08	0.13	32.25	46.00	13.75	Peak
998.06	28.04	9.03	-0.54	36.53	54.00	17.47	Peak

Mode	BLE	Frequency	RX 2440MHz
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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
38.73	20.32	1.37	1.05	22.74	40.00	17.26	Peak
144.46	17.32	2.83	1.60	21.75	43.50	21.75	Peak
615.88	24.88	6.96	0.04	31.88	46.00	14.12	Peak
706.09	25.52	7.40	-0.33	32.59	46.00	13.41	Peak
921.43	27.49	8.58	0.08	36.15	46.00	9.85	Peak
988.36	27.99	8.97	-0.37	36.59	54.00	17.41	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
41.64	18.75	1.42	0.44	20.61	40.00	19.39	Peak
178.41	15.50	3.21	1.81	20.52	43.50	22.98	Peak
325.85	20.46	4.84	-0.47	24.83	46.00	21.17	Peak
535.37	24.11	6.80	-0.13	30.78	46.00	15.22	Peak
706.09	25.52	7.40	-0.03	32.89	46.00	13.11	Peak
977.69	27.92	8.91	0.31	37.14	54.00	16.86	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
1478.00	28.42	7.32	5.92	41.66	54.00	12.34	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
1758.00	30.40	7.82	7.62	45.84	54.00	8.16	Peak

Mode	BLE	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	10.22	-2.69	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
4804.00	33.92	10.22	-3.10	41.04	54.00	12.96	Peak

Mode	BLE	Frequency	TX 2440MHz
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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	34.34	10.24	-3.88	40.70	54.00	13.30	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	10.24	-4.25	40.33	54.00	13.67	Peak

Mode	BLE	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	10.27	-4.89	39.70	54.00	14.30	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	10.27	-3.71	40.88	54.00	13.12	Peak

Mode	---	Frequency	RX2440MHz
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Antenna at Horizontal Polarization

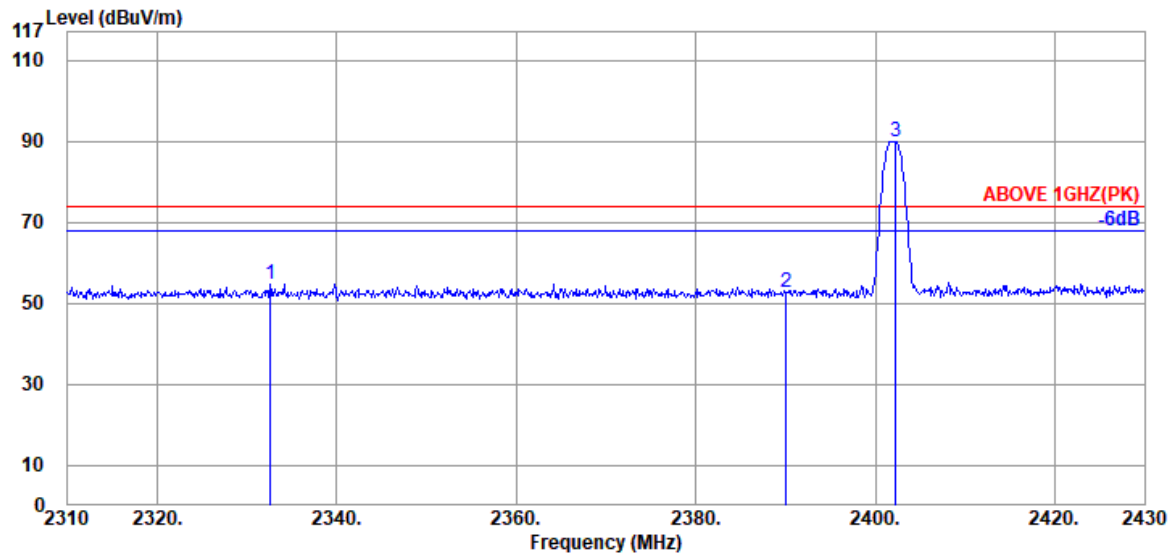
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
1476.00	28.44	7.32	6.16	41.92	54.00	12.08	Peak

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
1262.00	28.71	6.91	5.27	40.89	54.00	13.11	Peak

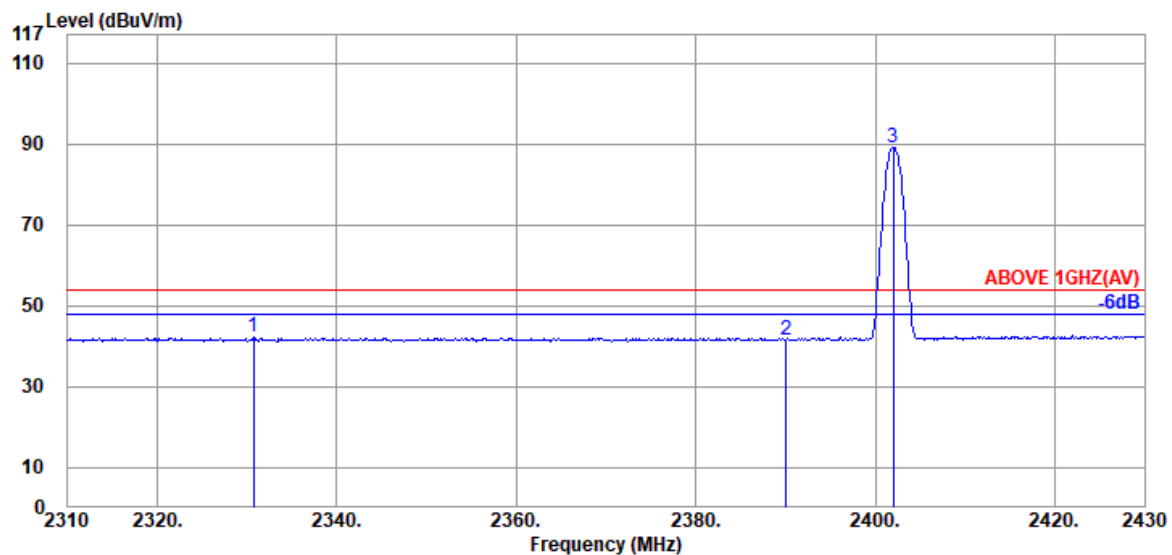
2.4. 禁用頻帶量測結果 (其他不必要發射)

Mode	BLE (1M)	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
2332.56	32.00	8.47	14.28	54.75	74.00	19.25	Peak
2390.04	32.00	8.52	12.15	52.67	74.00	21.33	Peak
@ 2402.28	32.03	8.52	49.31	89.86	---	---	Peak

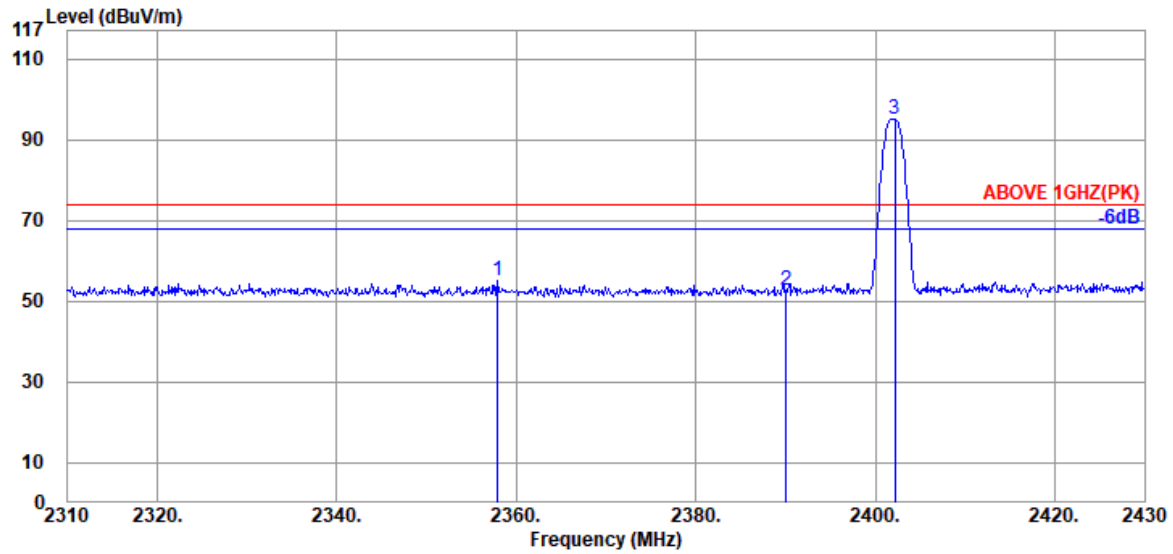


Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2330.76	32.00	8.47	1.74	42.21	54.00	11.79	Average
2390.04	32.00	8.52	0.99	41.51	54.00	12.49	Average
@ 2402.04	32.03	8.52	48.65	89.20	---	---	Average

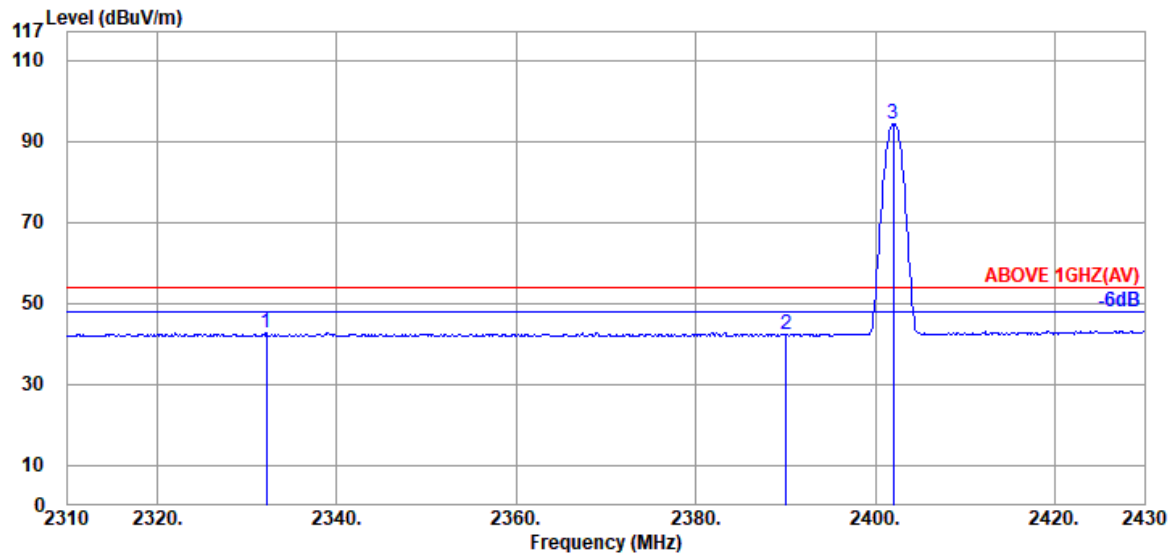
備註：“@”為主波，在此章節是不予以判定。

Mode	BLE (1M)	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
2357.88	32.00	8.49	14.50	54.99	74.00	19.01	Peak
2390.04	32.00	8.52	12.19	52.71	74.00	21.29	Peak
@ 2402.16	32.03	8.52	54.41	94.96	---	---	Peak

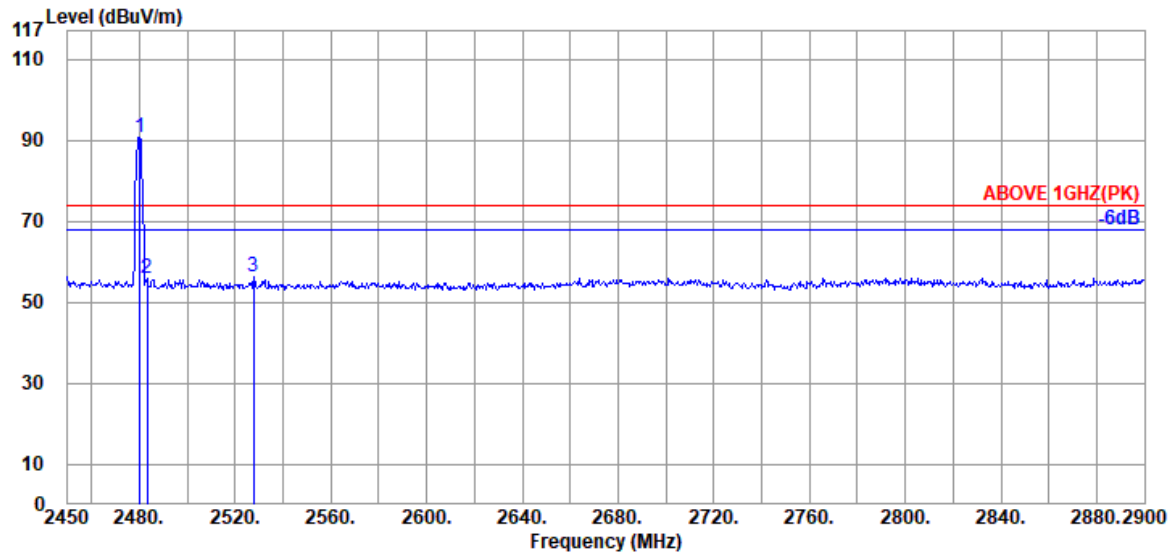


Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2332.20	32.00	8.47	2.28	42.75	54.00	11.25	Average
2390.04	32.00	8.52	1.90	42.42	54.00	11.58	Average
@ 2402.04	32.03	8.52	53.83	94.38	---	---	Average

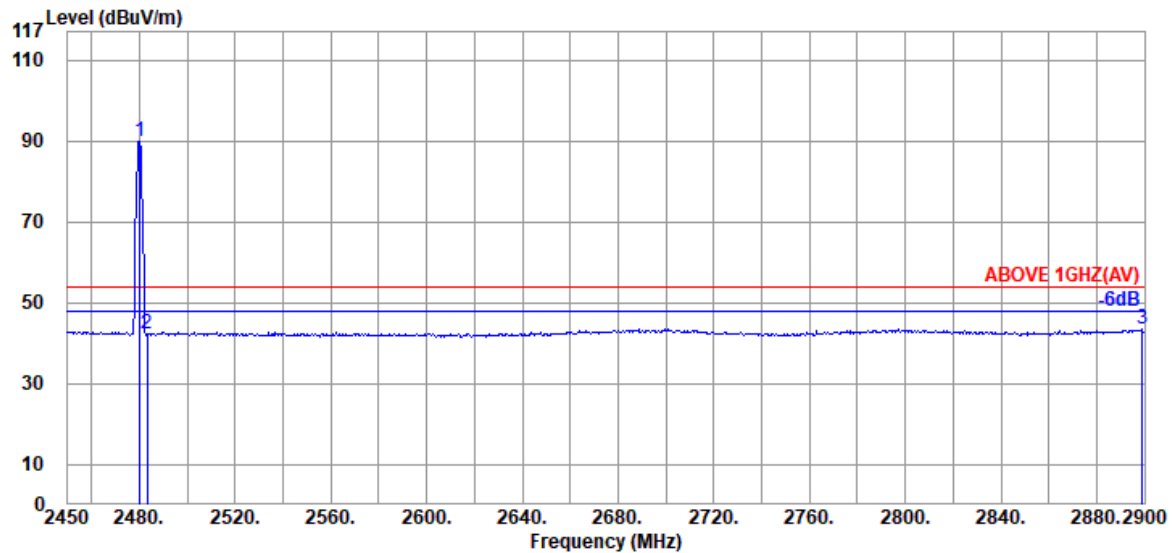
備註：“@”為主波，在此章節是不予以判定。

Mode	BLE (1M)	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
@	2480.15	32.58	8.58	49.40	90.56	---	---	Peak
	2483.30	32.57	8.58	14.94	56.09	74.00	17.91	Peak
	2527.85	32.17	8.60	15.39	56.16	74.00	17.84	Peak

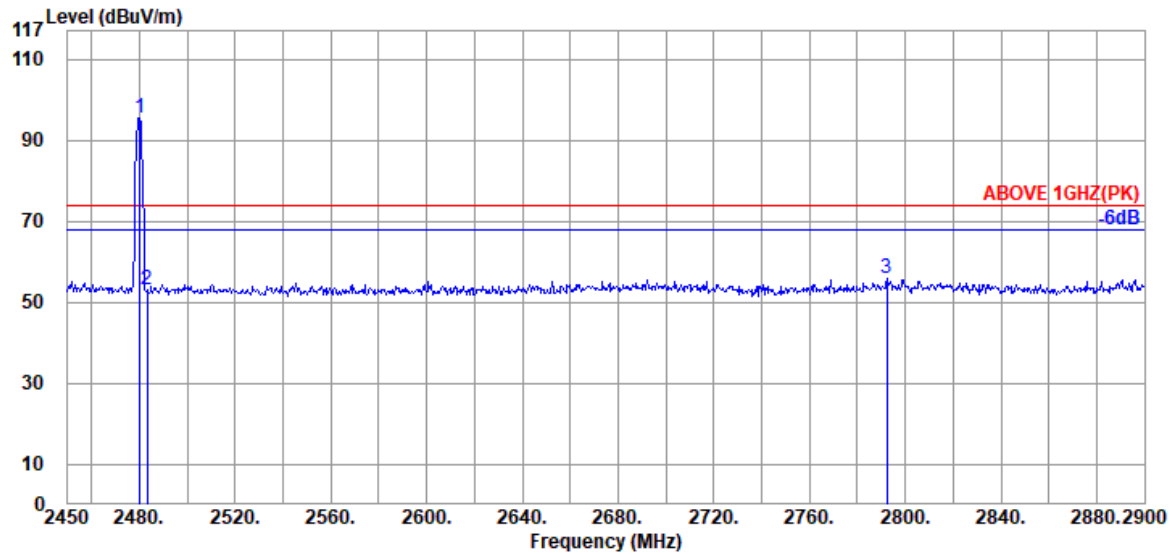


Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2480.15	32.58	8.58	48.73	89.89	---	---	Average
	2483.30	32.57	8.58	1.28	42.43	54.00	11.57	Average
	2899.10	32.99	8.69	1.94	43.62	54.00	10.38	Average

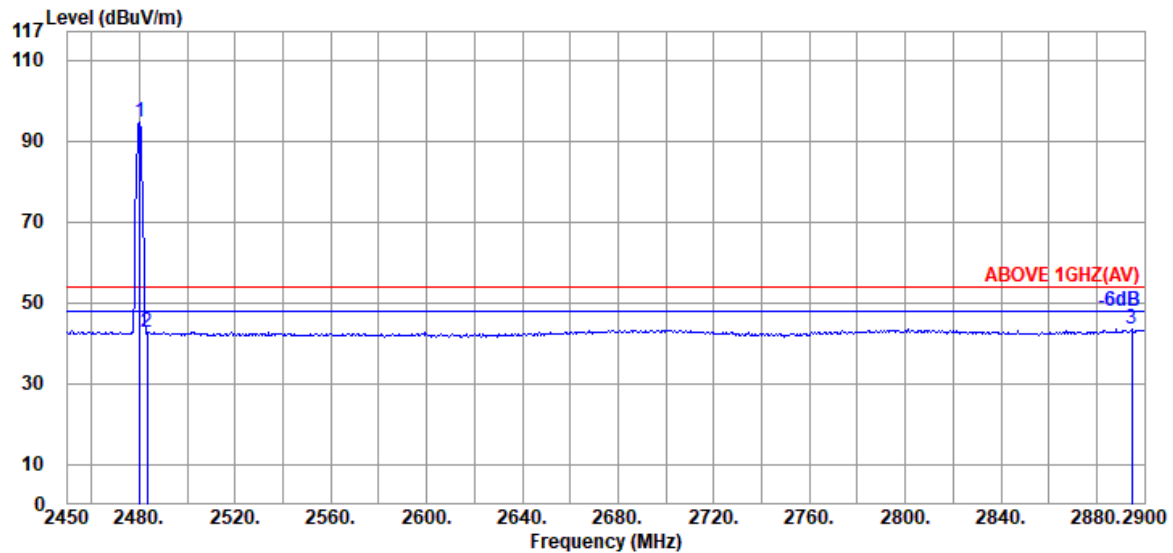
備註：“@”為主波，在此章節是不予以判定。

Mode	BLE (1M)	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
@	2480.15	32.58	8.58	54.10	95.26	---	---	Peak
	2483.30	32.57	8.58	12.11	53.26	74.00	20.74	Peak
	2792.45	32.79	8.66	14.48	55.93	74.00	18.07	Peak

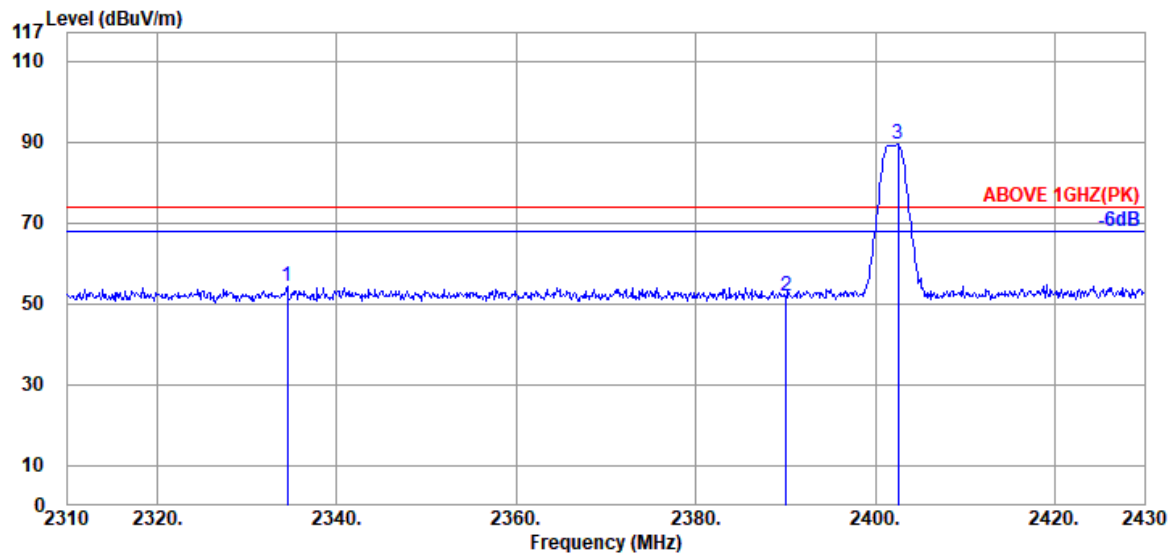


Antenna at Vertical Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2480.15	32.58	8.58	53.46	94.62	---	---	Average
	2483.30	32.57	8.58	1.43	42.58	54.00	11.42	Average
	2894.60	32.97	8.68	1.93	43.58	54.00	10.42	Average

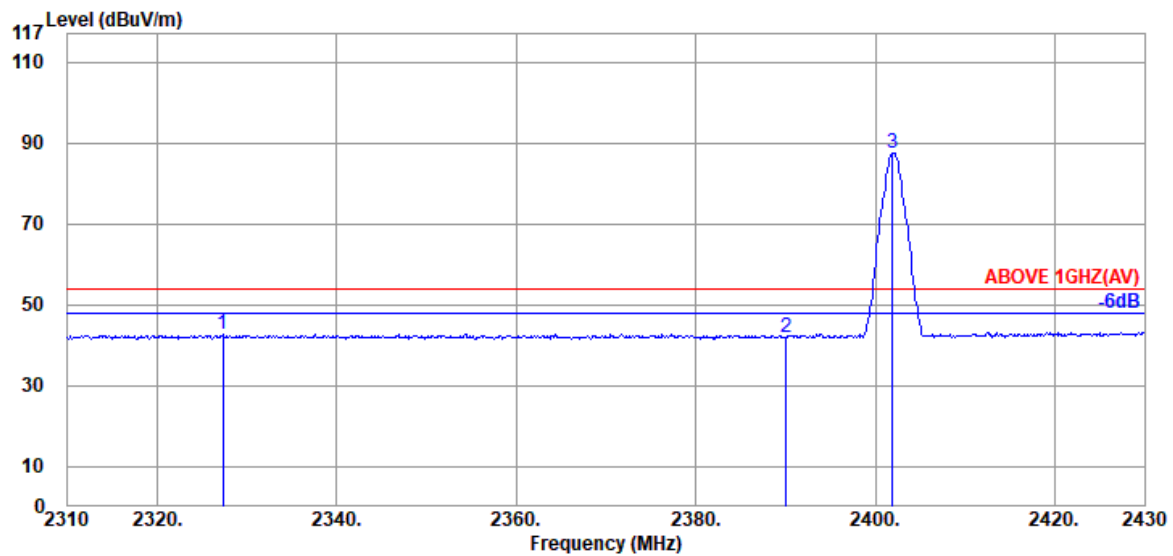
備註：“@”為主波，在此章節是不予以判定。

Mode	BLE (2M)	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
2334.48	32.00	8.47	13.75	54.22	74.00	19.78	Peak
2390.04	32.00	8.52	11.56	52.08	74.00	21.92	Peak
@ 2402.52	32.04	8.53	48.79	89.36	---	---	Peak

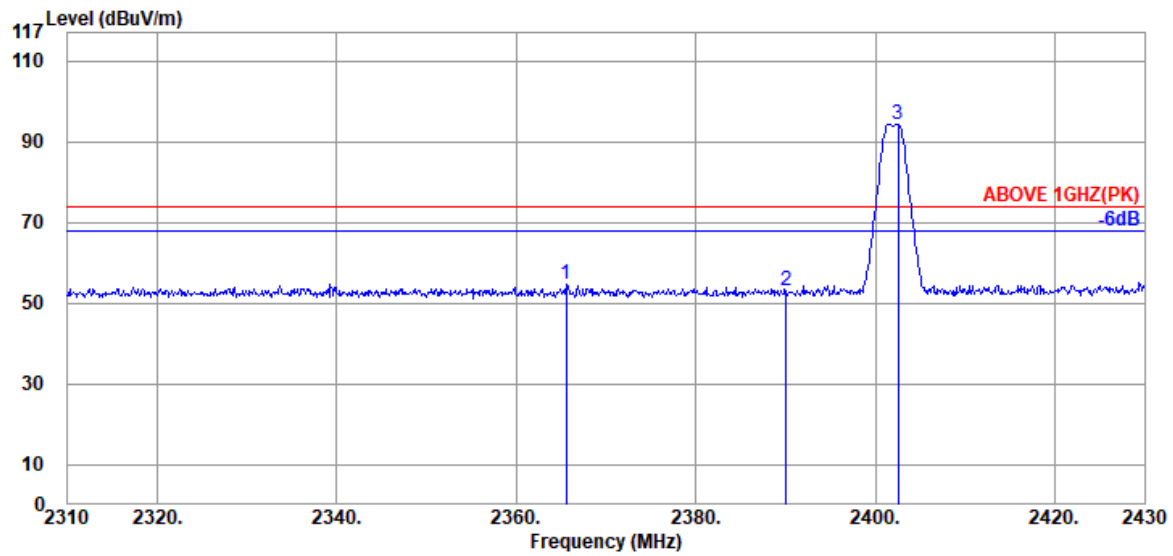


Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2327.28	32.00	8.47	2.32	42.79	54.00	11.21	Average
2390.04	32.00	8.52	1.29	41.81	54.00	12.19	Average
@ 2401.92	32.03	8.52	47.01	87.56	---	---	Average

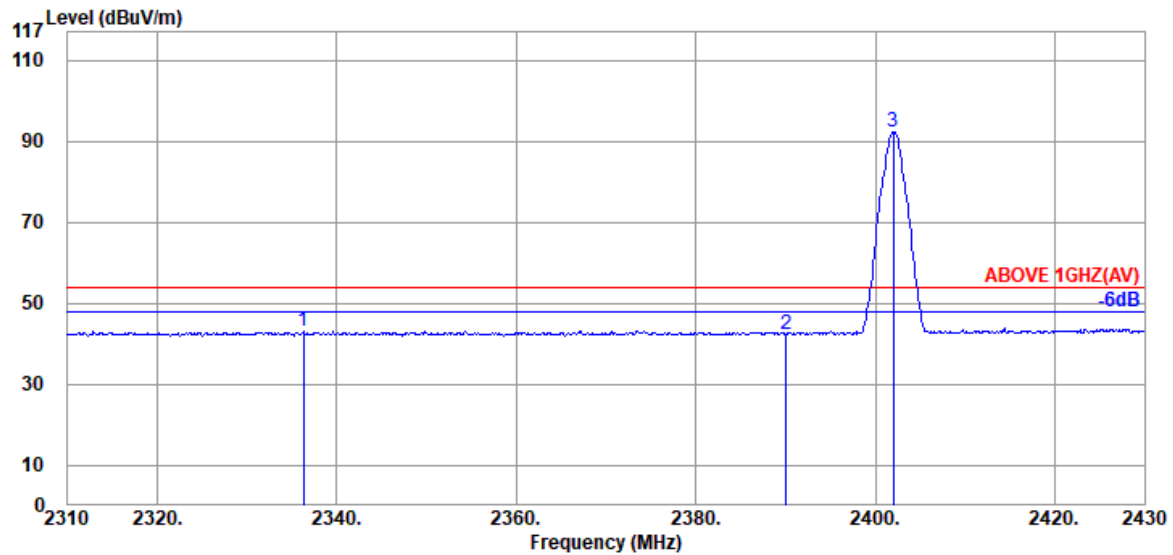
備註：“@”為主波，在此章節是不予以判定。

Mode	BLE (2M)	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
2365.56	32.00	8.49	14.10	54.59	74.00	19.41	Peak
2390.04	32.00	8.52	12.78	53.30	74.00	20.70	Peak
@ 2402.52	32.04	8.53	53.76	94.33	---	---	Peak

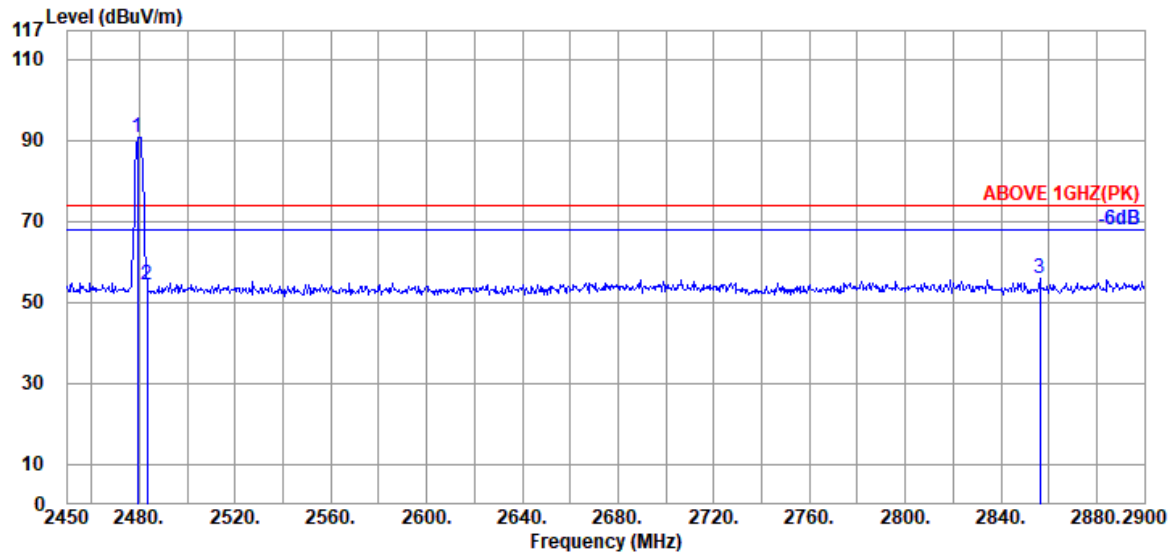


Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2336.28	32.00	8.48	2.82	43.30	54.00	10.70	Average
2390.04	32.00	8.52	1.99	42.51	54.00	11.49	Average
@ 2402.04	32.03	8.52	51.88	92.43	---	---	Average

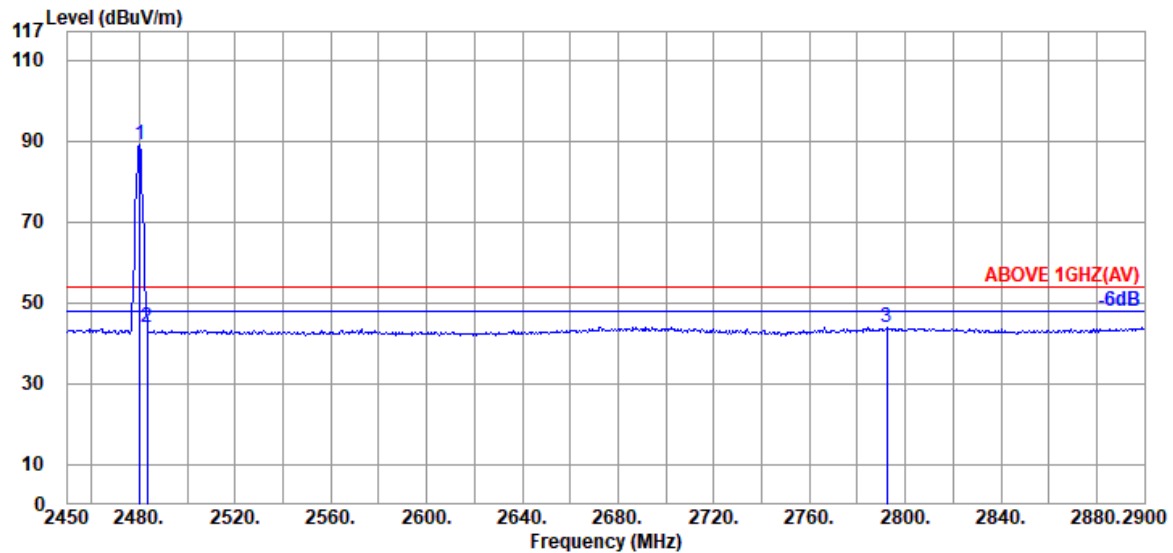
備註：“@”為主波，在此章節是不予以判定。

Mode	BLE (2M)	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
@	2479.25	32.58	8.58	49.52	90.68	---	---	Peak
	2483.30	32.57	8.58	13.01	54.16	74.00	19.84	Peak
	2856.35	32.74	8.67	14.42	55.83	74.00	18.17	Peak

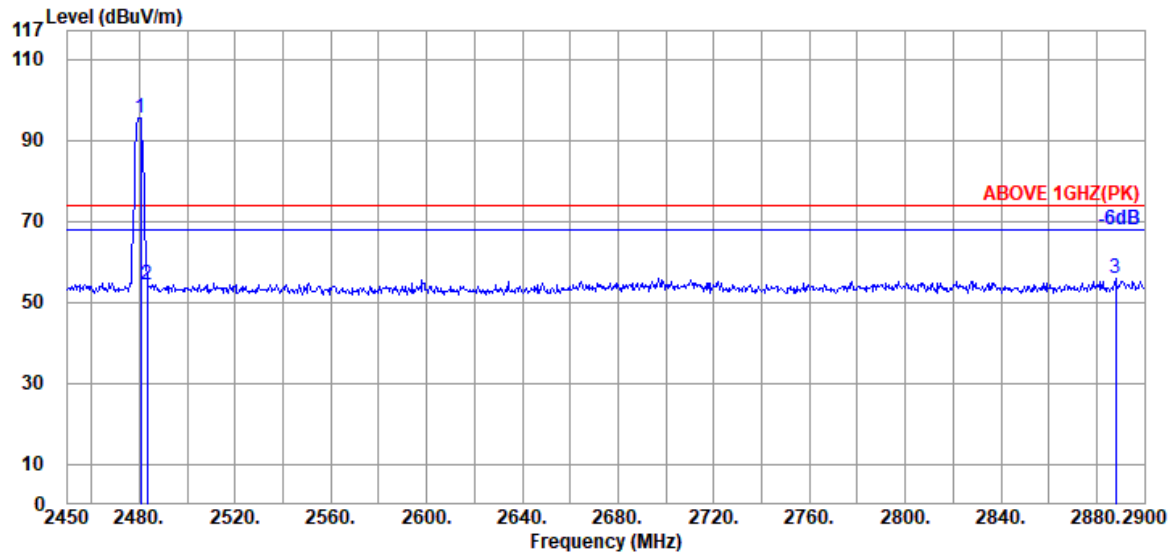


Antenna at Horizontal Polarization

	Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
@	2480.15	32.58	8.58	47.78	88.94	---	---	Average
	2483.30	32.57	8.58	2.86	44.01	54.00	9.99	Average
	2792.45	32.79	8.66	2.47	43.92	54.00	10.08	Average

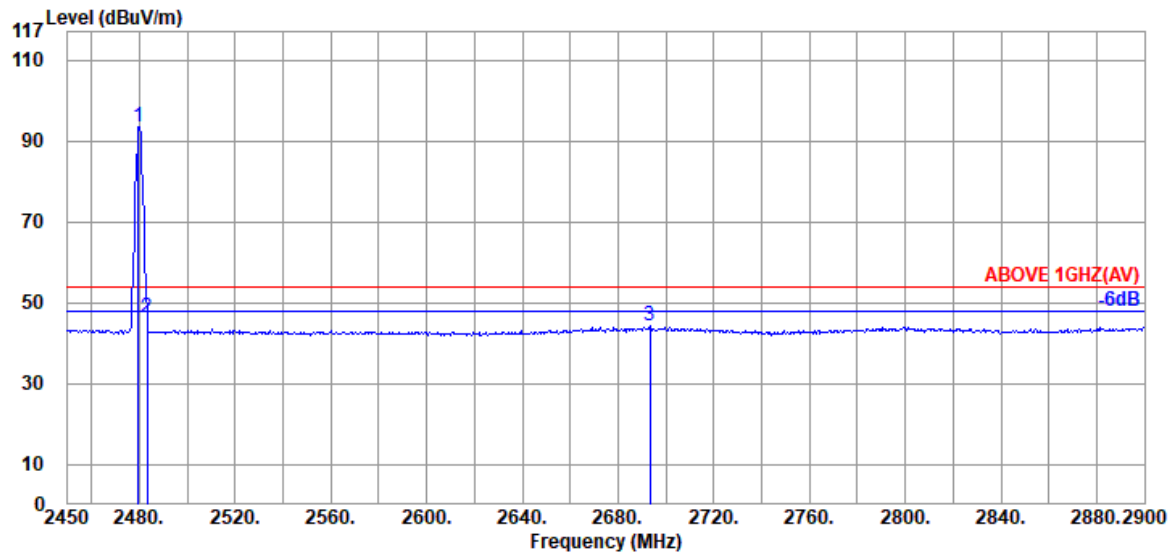
備註：“@”為主波，在此章節是不予以判定。

Mode	BLE (2M)	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
@	2480.60	32.58	8.58	54.16	95.32	---	---	Peak
	2483.30	32.57	8.58	13.10	54.25	74.00	19.75	Peak
	2887.85	32.93	8.68	14.30	55.91	74.00	18.09	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
@	2479.70	32.58	8.58	52.36	93.52	---	---	Average
	2483.30	32.57	8.58	5.08	46.23	54.00	7.77	Average
	2693.45	32.70	8.64	2.92	44.26	54.00	9.74	Average

備註：“@”為主波，在此章節是不予以判定。

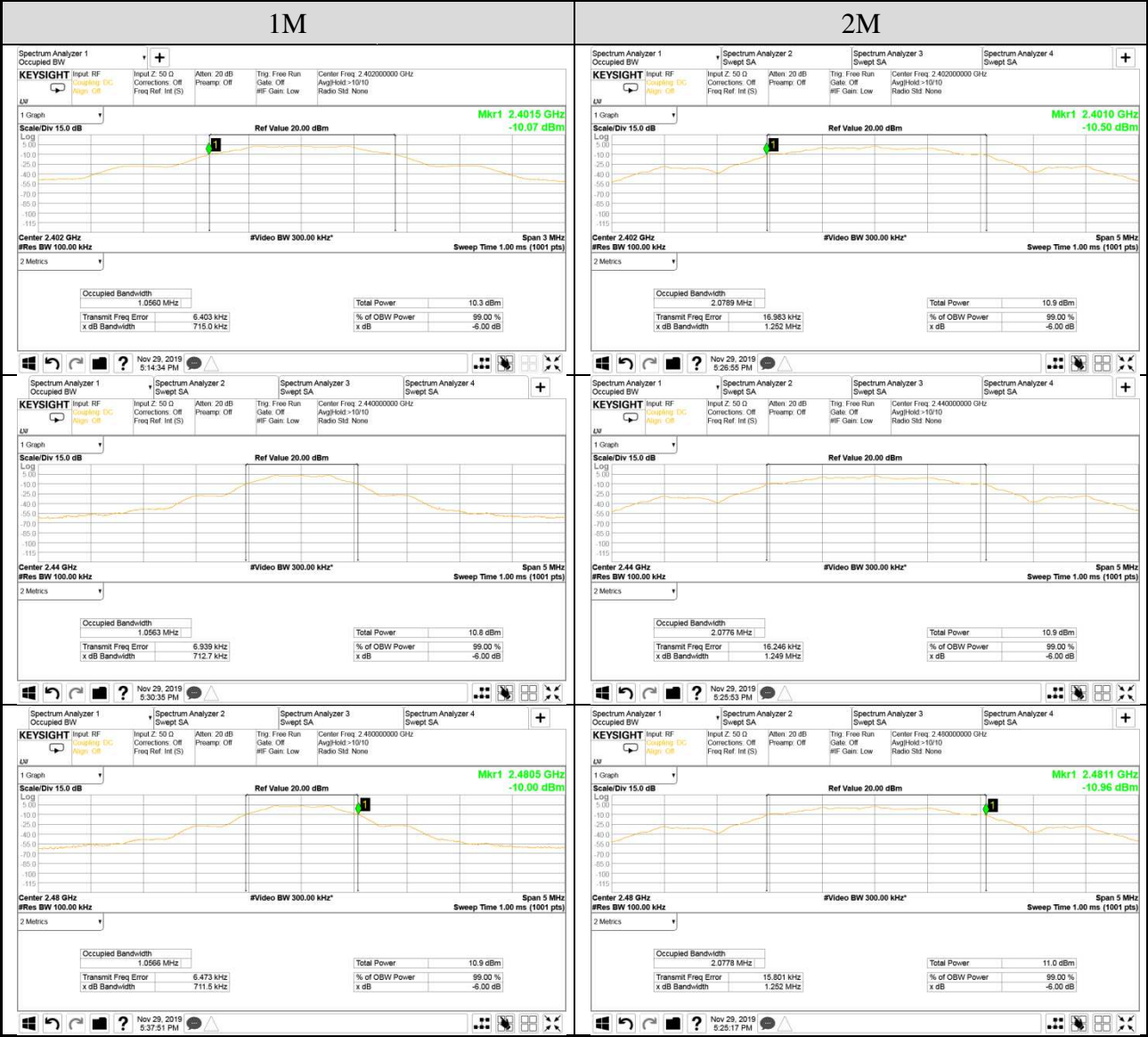
3. 發射頻寬之量測

測試日期	2019/11/29	環境溫/濕度	22°C/57%
電纜損失	0.5dB	測試人員	Sean Wang
測試電壓	DC 5V (經 USB 充電電源)		

3.1. 發射頻寬

模式 (Mode)	傳輸速率	測試頻率 (MHz)	6dB 頻寬 (MHz)	限制值 (kHz)
BLE	1M	2402	0.7150	>500
		2440	0.7127	
		2480	0.7115	
	2M	2402	1.252	>500
		2440	1.249	
		2480	1.252	

3.2. 發射頻寬之量測圖



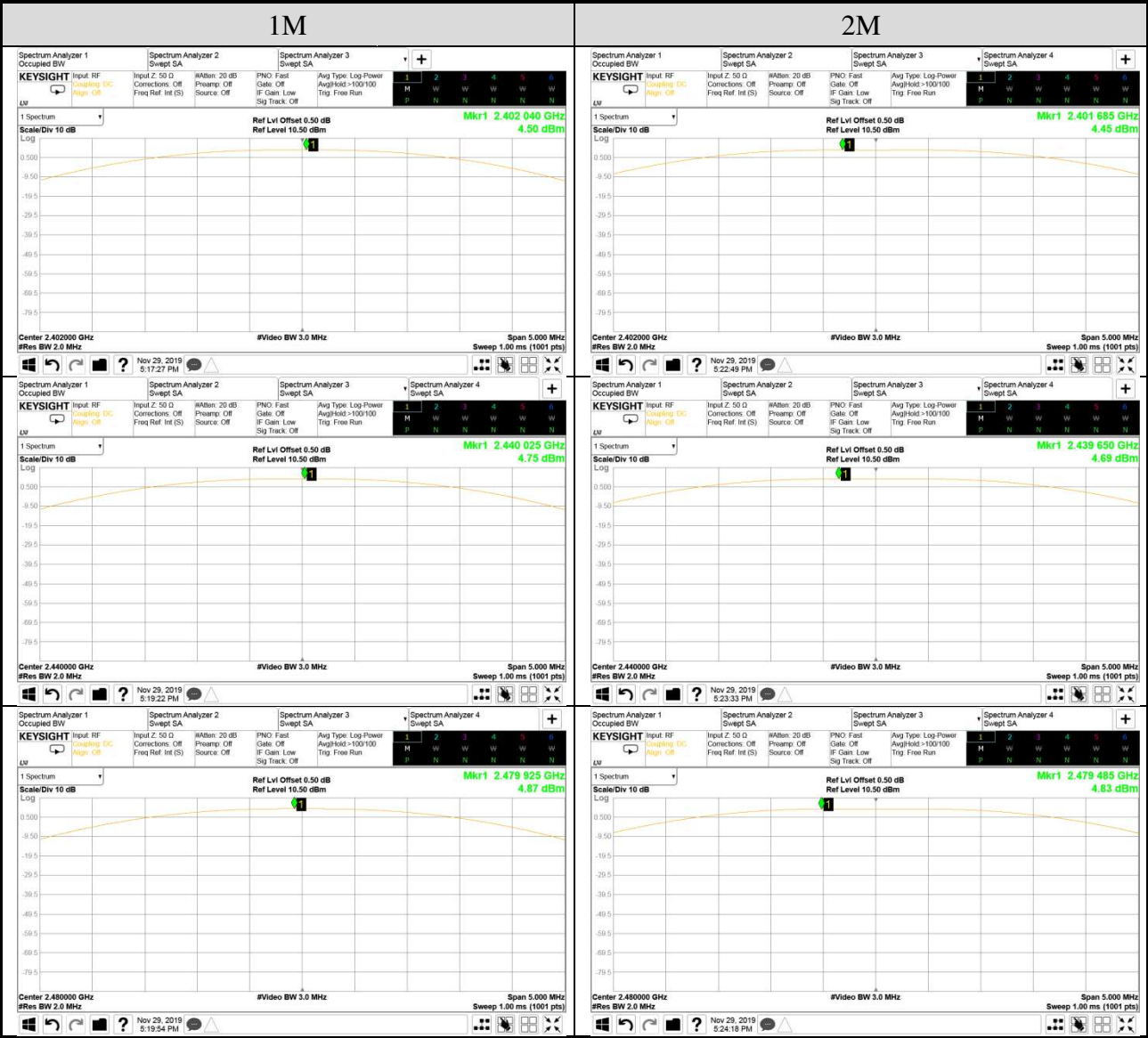
4. 峰值輸出功率之量測

測試日期	2019/11/29	環境溫/濕度	22°C/57%
電纜損失	0.5dB	測試人員	Sean Wang
測試電壓	DC 5V (經 USB 充電電源)		

4.1. 峰值輸出功率

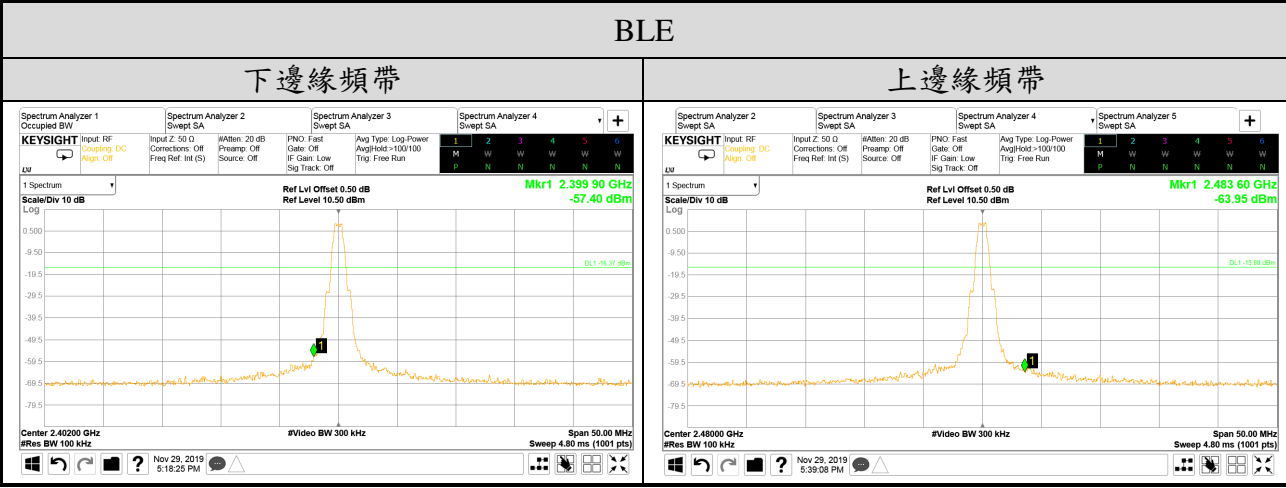
模式 (Mode)	傳輸速率	測試頻率 (MHz)	最大輸出功率 (dBm)	限制值 (dBm)
BLE	1M	2402	4.50	30
		2440	4.75	
		2480	4.87	
	2M	2402	4.45	30
		2440	4.69	
		2480	4.83	

4.2. 峰值輸出功率之量測圖



5. 頻帶邊緣之 RF 傳導發射之量測

測試日期	2019/11/29	環境溫/濕度	22°C/57%
電纜損失	0.5dB	測試人員	Sean Wamg
測試電壓	DC 5V (經 USB 充電電源)		



6. 混附發射之 RF 傳導發射之量測

測試日期	2019/11/29	環境溫/濕度	22°C/57%
電纜損失	0.5dB	測試人員	Sean Wang
測試電壓	DC 5V (經 USB 充電電源)	測試頻率	2402MHz



測試日期	2019/11/29	環境溫/濕度	22°C/57%
電纜損失	0.5dB	測試人員	Sean Wang
測試電壓	DC 5V (經 USB 充電電源)	測試頻率	2440MHz



測試日期	2019/11/29	環境溫/濕度	22°C/57%
電纜損失	0.5dB	測試人員	Sean Wang
測試電壓	DC 5V (經 USB 充電電源)	測試頻率	2480MHz



7. 功率密度之量測

測試日期	2019/11/29	環境溫/濕度	22°C/57%
電纜損失	0.5dB	測試人員	Sean Wang
測試電壓	DC 5V (經 USB 充電電源)		

7.1. 功率密度

模式 (Mode)	測試頻率 (MHz)	功率密度(dBm)	限制值 (dBm)
BLE	2402	3.63	8
	2440	3.99	
	2480	4.12	

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

