

NCC 低功率射頻器材型式試驗報告

產品名稱(中文)	LED Lamp
型號	9290030999
廠牌	PHILIPS

申請者	台灣昕諾飛股份有限公司
地址	臺北市南港區園區街3之1號15樓之1

受理日期	110年10月12日
報告發行日期	110年12月21日
報告號碼	21A0293R-RFTWBT2V01-A
報告版本	V1.0



本測試報告只針對受測樣品有效。

本測試報告內之測試結果可藉由測試儀器設備之校正報告與本報告內所評估量測不確定度追溯至國家或國際標準不得使用本報告宣稱產品是由 TAF 或任何政府機構背書。

本測試報告非經德凱認證股份有限公司同意不可複製使用。

對各個測試系統與伴隨的連接設施，所執行的量測項目的量測不確定度，在此提供做為系統資訊的參考，符合性決定不考慮測試系統的不確定度而是基於符合性測試的結果決定。

低功率射頻器材量測報告

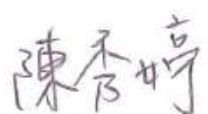
報告發行日期: 110 年 12 月 21 日

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申請者	台灣昕諾飛股份有限公司
地 址	臺北市南港區園區街 3 之 1 號 15 樓之 1
製造廠商	昕諾飛(中國)投資有限公司
待測物額定電壓	AC 110V / 60Hz
待測物測試電壓	AC 110V / 60Hz
商標或廠牌	PHILIPS
型式號	9290030999
試驗標準	低功率射頻器材技術規範(109 年 07 月)
試驗結果	符 合

項次	量 測 項 目	標 稱 規 格	測試結果	量測設備	量測不確定度
1	電源線傳導干擾	低功率射頻器材技術規範 3.3 節	PASS	請參閱 2.2 節	請參閱 2.3 節
2	峰值輸出功率	低功率射頻器材技術規範 4.10.1.2	PASS		
3	天線之要求	低功率射頻器材技術規範 4.10.1.3、4 節	PASS		
4	輻射干擾測試	低功率射頻器材技術規範 4.10.1.5 及 3.6 節	PASS		
5	混附發射之 RF 傳導干擾	低功率射頻器材技術規範 4.10.1.5	PASS		
6	使用頻率範圍外之 100 千赫雜訊	低功率射頻器材技術規範 4.10.1.5 及 3.6 節	PASS		
7	佔用頻道寬度	低功率射頻器材技術規範 4.10.1.6	PASS		
8	發射電功率密度	低功率射頻器材技術規範 4.10.1.6	PASS	請參閱 2.2 節	請參閱 2.3 節
9	Duty Cycle	--	--		
10	以 下 空 白	--	--		

報告製作者	
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附件 2: 產品內部照片-請參考檔案: 21A0293R-Product Photos-NCC

Revision History

Report No.	Version	Description	Issued Date
21A0293R-RFTWBT2V01-A	V1.0	Initial issue of report.	2021-12-21

1. 基本資料

1.1. 待測物裝置資料

申請者(或公司)	台灣昕諾飛股份有限公司
地址	臺北市南港區園區街 3 之 1 號 15 樓之 1
製造廠商	昕諾飛(中國)投資有限公司
產品名稱	LED Lamp
產品型號	9290030999
頻率範圍	2402-2480MHz
工作頻道	共 40 個
調變方式	GFSK(1Mbps) 、 GFSK(2Mbps) 、 GFSK(125kbps) 、 GFSK(500kbps)
天線樣式	PCB Antenna
天線增益	Refer to the table “Antenna List”
頻道控制	Auto

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Slot antenna	Slot antenna	PCB Antenna	-0.7dBi for 2.4GHz

1.2. 裝置驗證說明

1. 待測裝置規格說明:

<1> 待測物 LED Lamp，包含了 Bluetooth 5.0 和 Zigbee 功能，此報告為 Bluetooth 5.0 的測試報告；其天線為 PCB Antenna，悉採 2.4GHz 為載波，利用 GFSK 調變方式來傳送訊號，頻率 00、19、39 為測試頻道，結果顯示於此份報告中。

本案經申請者切結器材不提供隨貨配件，配件由實驗室(或申請者)提供併同檢驗，及其廠牌型號資訊描述於 1.3 章。

(1) 發射體主要功能特性有：

<1> 待測裝置為同一體。

<2> 待測裝置傳送訊號，使用 2.4GHz 為載波頻率，利用 GFSK 調變方式來傳送訊號。且其天線為 PCB Antenna。

<3> 藍芽類型：Bluetooth 5.0。

<4> 基本發射工作頻率範圍 2402-2480MHz。

<5> 共計 40 個工作頻道，工作頻道頻率為：

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 00:	2402 MHz	Channel 01:	2404 MHz	Channel 02:	2406 MHz	Channel 03:	2408 MHz
Channel 04:	2410 MHz	Channel 05:	2412 MHz	Channel 06:	2414 MHz	Channel 07:	2416 MHz
Channel 08:	2418 MHz	Channel 09:	2420 MHz	Channel 10:	2422 MHz	Channel 11:	2424 MHz
Channel 12:	2426 MHz	Channel 13:	2428 MHz	Channel 14:	2430 MHz	Channel 15:	2432 MHz
Channel 16:	2434 MHz	Channel 17:	2436 MHz	Channel 18:	2438 MHz	Channel 19:	2440 MHz
Channel 20:	2442 MHz	Channel 21:	2444 MHz	Channel 22:	2446 MHz	Channel 23:	2448 MHz
Channel 24:	2450 MHz	Channel 25:	2452 MHz	Channel 26:	2454 MHz	Channel 27:	2456 MHz
Channel 28:	2458 MHz	Channel 29:	2460 MHz	Channel 30:	2462 MHz	Channel 31:	2464 MHz
Channel 32:	2466 MHz	Channel 33:	2468 MHz	Channel 34:	2470 MHz	Channel 35:	2472 MHz
Channel 36:	2474 MHz	Channel 37:	2476 MHz	Channel 38:	2478 MHz	Channel 39:	2480 MHz

<6> 測試軟體：Hue Approbation Tool V 1.5.3.0。

Parameters of test software setting

Frequency	2402MHz	2440MHz	2480MHz
BLE (1Mbps)	10	9	10
BLE (2Mbps)	10	10	10
BLE (125K)	10	10	10
BLE (500K)	10	10	10

<7> 頻道切換方式：採自動切換控制方式。

<8> 調變方式：採 GFSK 調變。

<9> 測試電壓：AC 110V / 60Hz。

2. 待測裝置測試之試驗條件

待測裝置依功能特性，執行測試。

測試模式：	Mode 1: 發射器-1Mbps Mode 2: 發射器-2Mbps Mode 3: 發射器-125k Mode 4: 發射器-500k Mode 3: 接收器-2Mbps
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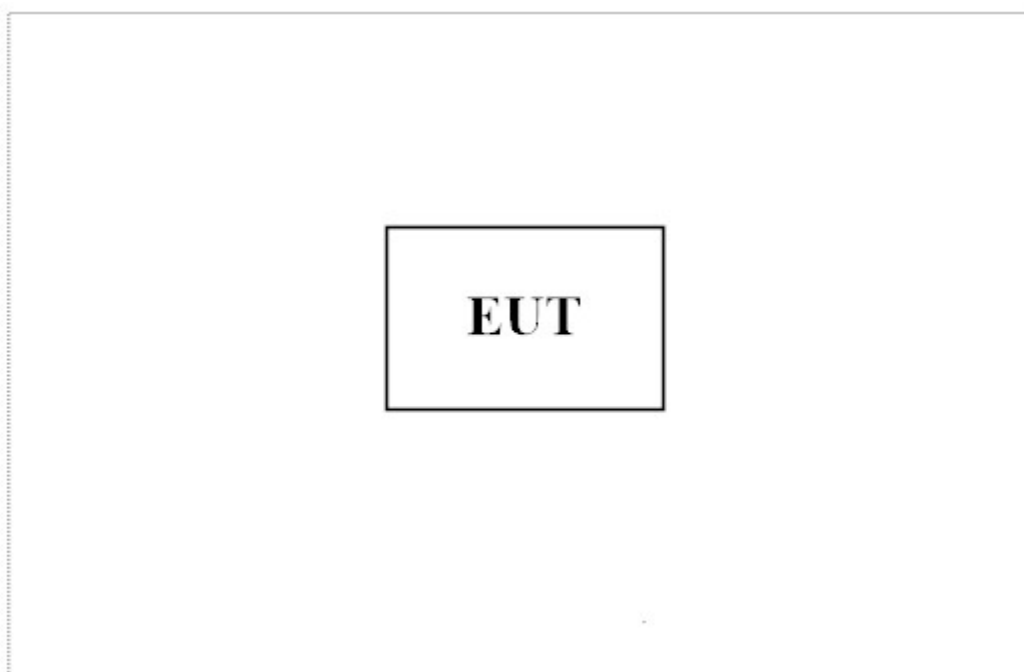
1.3. 系統測試時之週邊裝置

待測裝置測試時，其搭配系統測試時之週邊裝置包括下列：

Product	Manufacturer	Model No.	Serial No.	Power Cord
N/A				

Signal Cable Type	Manufacturer	Model No.	Signal cable Description
N/A			

1.4. 測試系統組合圖



1.5. 測試系統操作程序

1.	配置如上圖 1.4 所示。
2.	筆電開啟強制發射程式 Hue Approbation Tool V 1.5.3.0。
3.	確認頻率及訊號正確。
4.	移除筆電
5.	開始測試。

2. 測試環境與測試實驗室資訊

2.1. 試驗單位與週遭環境

實驗室環境條件:

Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	10~40 °C	20.8 °C
	Temperature (°C)	10~40 °C	65.6 °C
Radiated Emission	Temperature (°C)	10~40 °C	26.0 °C
	Humidity (%RH)	10~90 %	61.0 %
Conductive	Temperature (°C)	10~40 °C	22 °C
	Humidity (%RH)	10~90 %	55 %

財團法人全國認證基金會 認證

特定服務計畫 : 通訊傳播設備測試實驗室認證服務計畫

初次認證日期 : 一百零三年十月二十四日

認證有效期間 : 一百零九年十二月十三日起至一百一十二年十二月十二日止

認可測試領域 : 低功率射頻器材(工作頻率9kHz to 325GHz)

認可編號 : 3023

:

測試實驗室 : 德凱認證股份有限公司

實驗室地址 : 新北市林口區瑞平里瑞樹坑5-22號

測試實驗室地址 : 桃園市龜山區華亞一路26號

電話號碼 : +886-3-275-7255

傳真號碼 : +866-3-327-5505

電子郵件信箱 : info.tw@dekra.com

公司網站 : <http://www.dekra.com.tw>

2.2. 測試設備明細

For Conduction measurements /SH1

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	EMI Test Receiver	R&S	ESR7	101601	2021.06.19	2022.06.18
X	Two-Line V-Network	R&S	ENV216	101306	2021.04.08	2022.04.07
X	Two-Line V-Network	R&S	ENV216	101307	2021.05.04	2022.05.03
X	Coaxial Cable	DEKRA	RG400 BNC	RF001	2021.05.24	2022.05.23

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version : AUDIX e3 V9

For Conducted measurements /SH2

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Spectrum Analyzer	R&S	FSV30	103466	2020.12.28	2021.12.27
X	Peak Power Analyzer	KEYSIGHT	8900B	MY51000539	2021.06.07	2022.06.06
X	Power Sensor	KEYSIGHT	N1923A	MY59240002	2021.05.17	2022.05.16
X	Power Sensor	KEYSIGHT	N1923A	MY59240003	2021.05.17	2022.05.16

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version : DEKRA Conduction Test System V9.0.5.

For Radiated measurements /966-1

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Loop Antenna	AMETEK	HLA6121	56736	2021.04.14	2022.04.13
X	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-0675	2021.08.11	2022.08.10
X	Horn Antenna	ETS-Lindgren	3117	00203761	2020.11.23	2021.11.22
X	Horn Antenna	Com-Power	AH-840	101087	2021.06.18	2022.06.17
X	Pre-Amplifier	EMCI	EMC001330	980254	2021.01.20	2022.01.19
X	Pre-Amplifier	EMCI	EMC051835SE	980312	2021.02.24	2022.02.23
X	Pre-Amplifier	EMCI	EMC05820SE	980362	2021.08.24	2022.08.23
X	Pre-Amplifier	EMCI	EMC184045SE	980369	2021.04.27	2022.04.26
X	Filter	MICRO TRONICS	BRM50702	G251	2021.09.16	2022.09.15
	Filter	MICRO TRONICS	BRM50716	G188	2021.09.16	2022.09.15
X	EMI Test Receiver	R&S	ESR	102792	2021.12.15	2022.12.14
X	Spectrum Analyzer	R&S	FSV3044	101113	2021.02.04	2022.02.03
X	Mircoflex Cable	HUBER SUHNER	SUCOFLEX 102	MY3380/2	2021.08.30	2022.08.29
X	Coaxial Cable	SGH, EMCI, SUHNER	HA800 , SGH18, SUCOFLEX 106, EMC106	HY2108-003C	2021.03.03	2022.03.02

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version : AUDIX e3 V9.

2.3. 量測不確定度

不確定度已根據 DEKRA 內部文件進行了計算，並在本報告的每個測試章節中進行了描述。報告的擴展不確定性是基於標準不確定性乘以 $k=2$ 的覆蓋因子得出的，置信度約為 95%。對各個測試系統與伴隨的連接設施，所執行的量測項目的量測不確定度，在此提供做為系統資訊的參考，符合性決定不考慮測試系統的不確定度而是基於符合性測試的結果。

Test item	Uncertainty	
電源端點干擾測試	± 3.42 dB	
峰值輸出功率	± 0.91 dB	
輻射干擾測試	Under 1GHz ± 4.06 dB	Above 1GHz ± 3.73 dB
混附發射之 RF 傳導發射	± 2.53 dB	
使用頻率範圍外之任意 100 千赫雜訊	Under 1GHz ± 4.06 dB	Above 1GHz ± 3.73 dB
佔用頻道寬度	± 682.83 Hz	
發射電功率密度	± 2.53 dB	
Duty Cycle	± 2.31 ms	

3. 電源端點干擾測試

3.1. 適用標準

依據國家通訊傳播委員會低功率射頻器材技術規範之第 3.3 節，以市電為電源之低功率射頻器材，其傳導回電源線上頻率自 150 kHz~30 百萬赫(MHz)之射頻電壓(在電源端子每一電源線對接地點)應小於或等於下表所列之限制值。測量時應經過 50 微亨利(uH)及 50 歐姆(Ω)之電源線阻抗穩定網路(Line Impedance Stabilization Network；LISN)。頻率重疊處，以較低限制值為準。

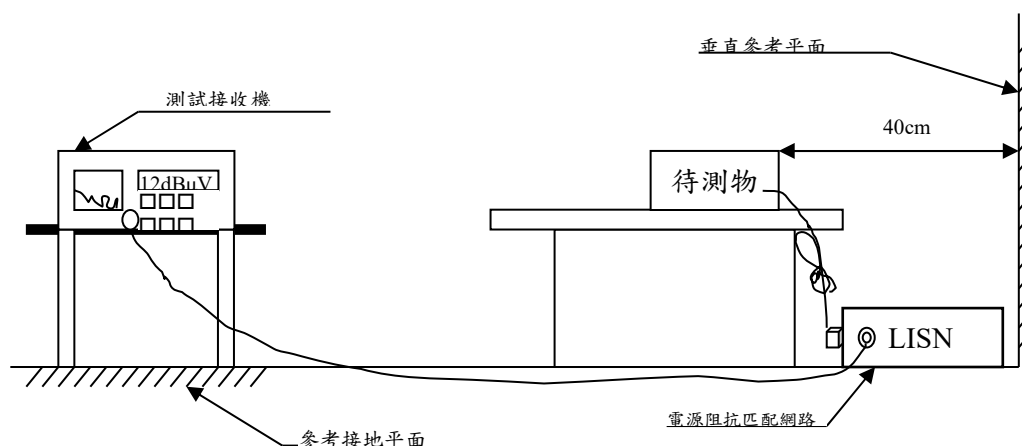
Frequency 頻率範圍 MHz	傳導限制值(dB μ V)	
	準峰值	平均值
0.15 - 0.50	66-56 _(註)	56-46 _(註)
0.50-5.0	56	46
5.0 - 30	60	50

註:隨頻率之對數遞減

3.2. 量測方法

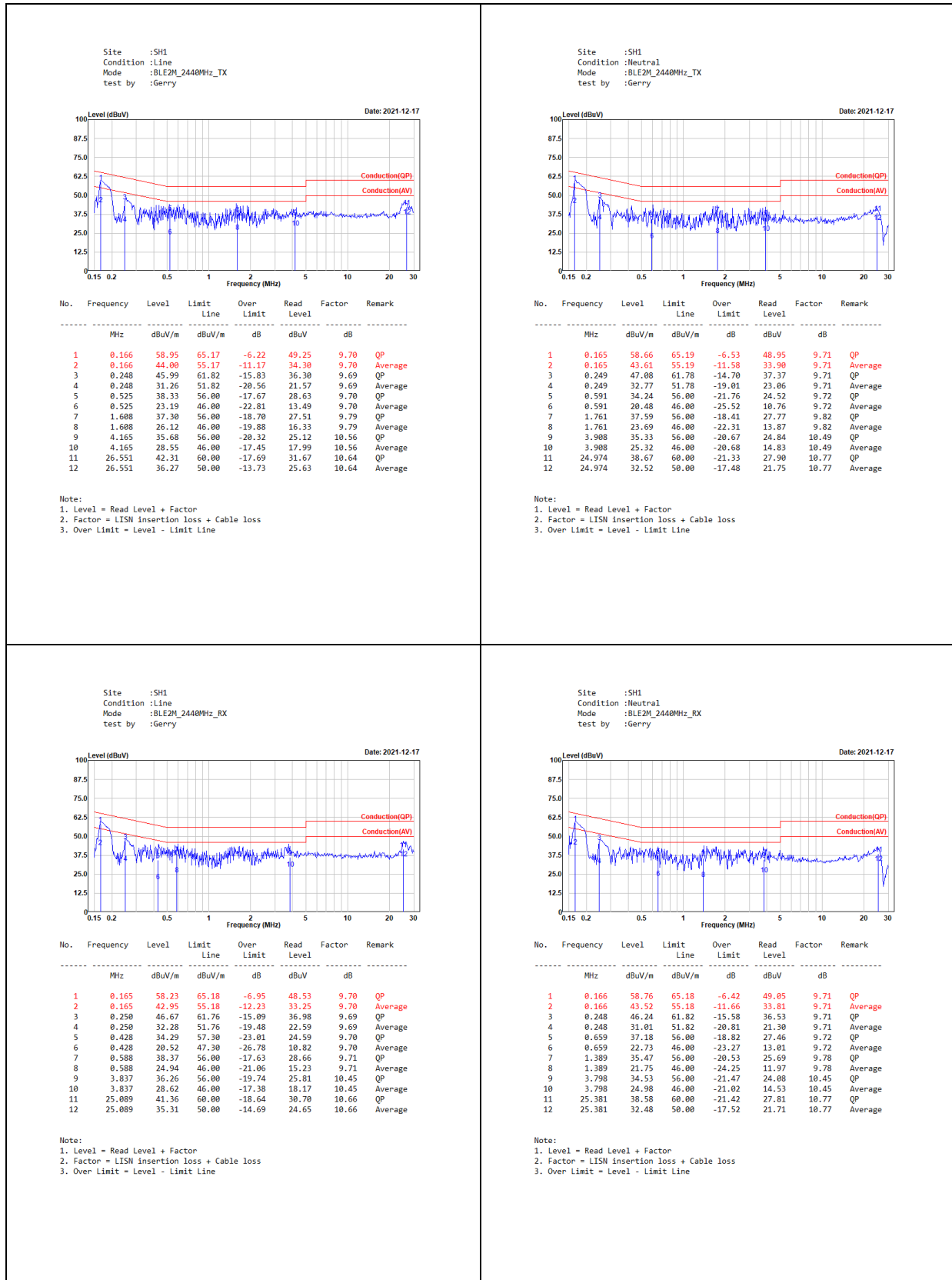
待測物置於高 80 公分之非導體桌面（落地型產品置於地上），將待測物之電源線接至電源阻抗網路器(LISN)，同時保持待測物至 LISN 距 80 公分，並將電源線多餘部份以 30 至 40 公分之八字形捆綁於電源線中央，於在正常工作狀態下，執行待測物之火線及地線各一次量測。電源端點場強之測量範圍由 0.15MHz – 30MHz，所量測之讀值皆為準尖峰值(Quasi-Peak Value)及平均值(Average Value)。場強接收機之解析頻寬為 10kHz。

3.3. 測試架構圖



Note: 經初測驗證過，電源端點干擾測試對測試頻道數並無差異，因此檢附其中一個測試頻道之測試數據。

3.4. 電源端點測試結果



4. 峰值輸出功率

4.1. 適用標準

依據國家通訊傳播委員會低功率射頻器材技術規範之第 4.10.1.2 節，操作於 2400-2483.5 兆赫(MHz)之至少使用 75 個跳頻頻道之跳頻系統、數位調變技術系統與 5725-5850 兆赫(MHz)之所有跳頻系統：1 瓦(W)(含)以下。

依據國家通訊傳播委員會低功率射頻器材技術規範之第 4.10.1.3 節，用於非固定式點對點操作時，若其發射天線之方向性增益超過 6dBi，應依所超過之 dB 數等量降低峰值輸出功率。如用於固定式點對點^(註)操作時，應符合下列情形之一：

操作於 2400-2483.5 兆赫(MHz)者，其發射天線之方向性增益超過 6dBi，應於每超過 3dB 降低 1dB 之峰值輸出功率。

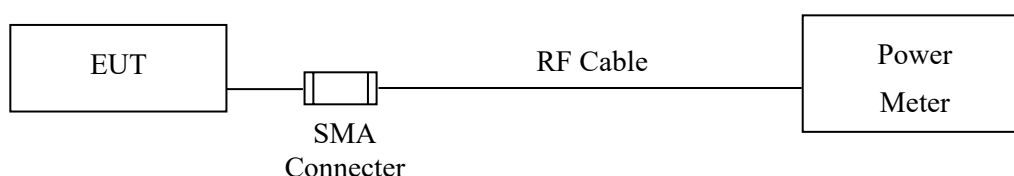
操作於 5725-5850 兆赫(MHz)者，其發射天線之方向性增益超過 6dBi，不需降低峰值輸出功率。

註：固定式點對點操作使用方式，並不包括使用點對多點之系統、全向性之應用以及發射相同資訊之共同安裝的多重發射機。展頻或數位調變之發射器需要專業安裝，該設備操作者或安裝者有責任確認該系統是限用於固定式、點對點之操作，隨機所附之使用手冊必須包含此訊息以告知使用者或安裝者須負之責任。

4.2. 量測方法

待測物之天線埠經由適當之衰減直接連至 Power Meter RF 輸入端量測 Maximum peak conducted output power，若量測 Maximum conducted (average) output power 時將使用 Power Meter 內建 gate 功能。

4.3. 測試架構圖



4.4. 峰值輸出功率測試結果

待測物名稱：LED Lamp

待測物型號：9290030999

測試頻道：CH 00, CH19, CH39

測試日期：110 年 12 月 16 日

測試項目：峰值輸出功率

測試模式：Mode 1: 發射器-1Mbps

檢測器：峰值

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit	Result
00	2402.00	10.19	1 Watt= 30 dBm	Pass
19	2440.00	9.40	1 Watt= 30 dBm	Pass
39	2480.00	10.17	1 Watt= 30 dBm	Pass

待測物名稱：LED Lamp

待測物型號：9290030999

測 試 項 目：峰值輸出功率

測 試 頻 道：CH 00, CH19, CH39

測 試 模 式：Mode 2: 發射器-2Mbps

測 試 日 期：110 年 12 月 16 日

檢 測 器：峰值

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit	Result
00	2402.00	10.36	1 Watt= 30 dBm	Pass
19	2440.00	10.33	1 Watt= 30 dBm	Pass
39	2480.00	10.35	1 Watt= 30 dBm	Pass

待測物名稱：LED Lamp

待測物型號：9290030999

測 試 項 目：峰值輸出功率

測 試 頻 道：CH 00, CH19, CH39

測 試 模 式：Mode 3: 發射器-125k

測 試 日 期：110 年 12 月 20 日

檢 測 器：峰值

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit	Result
00	2402.00	10.38	1 Watt= 30 dBm	Pass
19	2440.00	10.36	1 Watt= 30 dBm	Pass
39	2480.00	10.35	1 Watt= 30 dBm	Pass

待測物名稱：LED Lamp

待測物型號：9290030999

測 試 項 目：峰值輸出功率

測 試 頻 道：CH 00, CH19, CH39

測 試 模 式：Mode 4: 發射器-500k

測 試 日 期：110 年 12 月 20 日

檢 測 器：峰值

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit	Result
00	2402.00	10.40	1 Watt= 30 dBm	Pass
19	2440.00	10.36	1 Watt= 30 dBm	Pass
39	2480.00	10.35	1 Watt= 30 dBm	Pass

峰值輸出功率測試結果:

PASS

5. 天線之要求

5.1. 適用標準

依據國家通訊傳播委員會低功率射頻器材技術規範之第 4.10.1.3 節，用於非固定式點對點操作時，若其發射天線之方向性增益超過 6dBi，應依所超過之 dB 數等量降低峰值輸出功率。如用於固定式點對點^(註)操作時，應符合下列情形之一：

操作於 2400-2483.5 兆赫(MHz)者，其發射天線之方向性增益超過 6dBi，應於每超過 3dB 降低 1dB 之峰值輸出功率。

操作於 5725-5850 兆赫(MHz)者，其發射天線之方向性增益超過 6dBi，不需降低峰值輸出功率。

註：固定式點對點操作使用方式，並不包括使用點對多點之系統、全向性之應用以及發射相同資訊之共同安裝的多重發射機。展頻或數位調變之發射器需要專業安裝，該設備操作者或安裝者有責任確認該系統是限用於固定式、點對點之操作，隨機所附之使用手冊必須包含此訊息以告知使用者或安裝者須負之責任。

依據國家通訊傳播委員會低功率射頻器材技術規範之第 4.10.1.4 節規定，天線之規格不受 3.2 節規定之限制。

5.2. 天線樣式

此 LED Lamp 其天線為全固定式 PCB Antenna (檢附天線規格書)

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Slot antenna	Slot antenna	PCB Antenna	-0.7dBi for 2.4GHz

天線之要求判別結果:	PASS
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6. 輻射干擾測試

6.1. 適用標準

依據國家通訊傳播委員會低功率射頻器材技術規範之第 4.10.1.5 節，使用頻帶範圍外之任意 100 千赫 (kHz) 內，發射器所產生的射頻功率相較於使用頻帶範圍中包含最高所需功率之 100 千赫 (kHz) 內的射頻功率，須衰減 20 分貝 (dB)，以射頻傳導或輻射方式測量。此外，落於第 3.5 節禁用頻段之輻射發射，應符合第 3.6 節之規定。

依據國家通訊傳播委員會低功率射頻器材技術規範之第 3.6 節，低功率射頻器材，除本規範各章節另有放寬規定者外，其電場強度不得超過下表之限值，且其不必要之發射皆不得大於主波發射強度。各頻段重疊處，以較嚴格之限制值為準。

頻 率 (兆赫)	電場強度 (微伏 / 公尺)	測距 (公尺)
0.009 - 0.490 (含)	$2400/f(\text{kHz})$	300
0.490 (不含) ~ 1.705 (含)	$24000/f(\text{kHz})$	30
1.705 (不含) - 30 (不含)	30	30
30 (含) - 88 (含)	100	3
88 (不含) - 216 (含)	150	3
216 (不含) - 960 (含)	200	3
960 (不含) 以上	500	3

上表規定之電場強度，頻率在 9-90kHz 千赫 (kHz)、110-490 千赫 (kHz) 以及 1000 兆赫 (MHz) 以上之發射，其量測以平均值檢波器為基準，且須符合第 6.15.2 節之規定；其他頻率之發射，應以 CISPR 準峰值 (quasi-peak) 檢波器測量；非以上表所指定之距離測量時須符合第 6.5 節之規定，而輻射發射之量測頻率範圍須符合第 6.14 節之規定。

6.2. 量測方法

待測物置於高 80 公分(測試範圍低於 1GHz)或高 150 公分(測試範圍高於 1GHz)之非導體桌面 (落地型產品置於地上)，桌面可 360 度旋轉，接收天線置於距待測物 3m 距離，高度可在 1 至 4 公尺間變動，以量測待測物之最大輻射電場強度。接收天線並應於水平及垂直極化方向各量測一次。

待測物應在正常發射狀態下量測。

RBW and VBW Parameter setting:

According to KDB 558074 Peak power measurement procedure

RBW = as specified in Table 1.

VBW $\geq 3 \times$ RBW.

Table 1 —RBW as a function of frequency

Frequency	RBW
9-150 kHz	200-300 Hz
0.15-30 MHz	9-10 kHz
30-1000 MHz	100-120 kHz
> 1000 MHz	1 MHz

According to KDB 558074 Average power measurement procedure

RBW = 1MHz.

VBW = 10Hz, when duty cycle $\geq 98 \%$

VBW $\geq 1/T$, when duty cycle $< 98 \%$

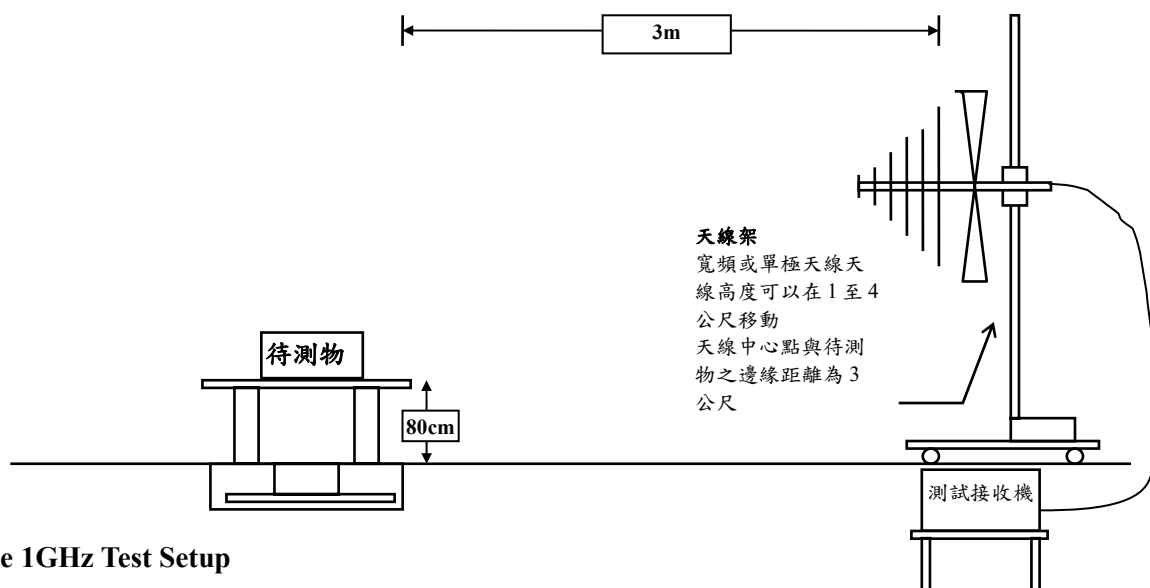
(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
BLE (1Mbps)	100.00	1.0000	1000	10
BLE (2Mbps)	100.00	1.0000	1000	10
BLE (125k)	100.00	1.0000	1000	10
BLE (500k)	100.00	1.0000	1000	10

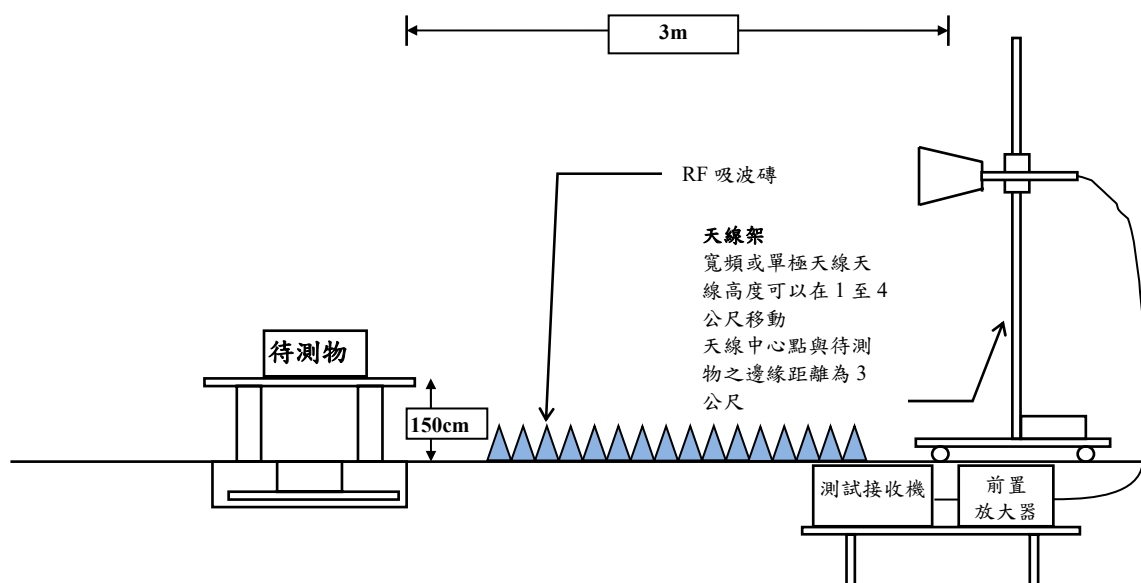
Note: Duty Cycle Refer to Section 11

6.3. 測試架構圖

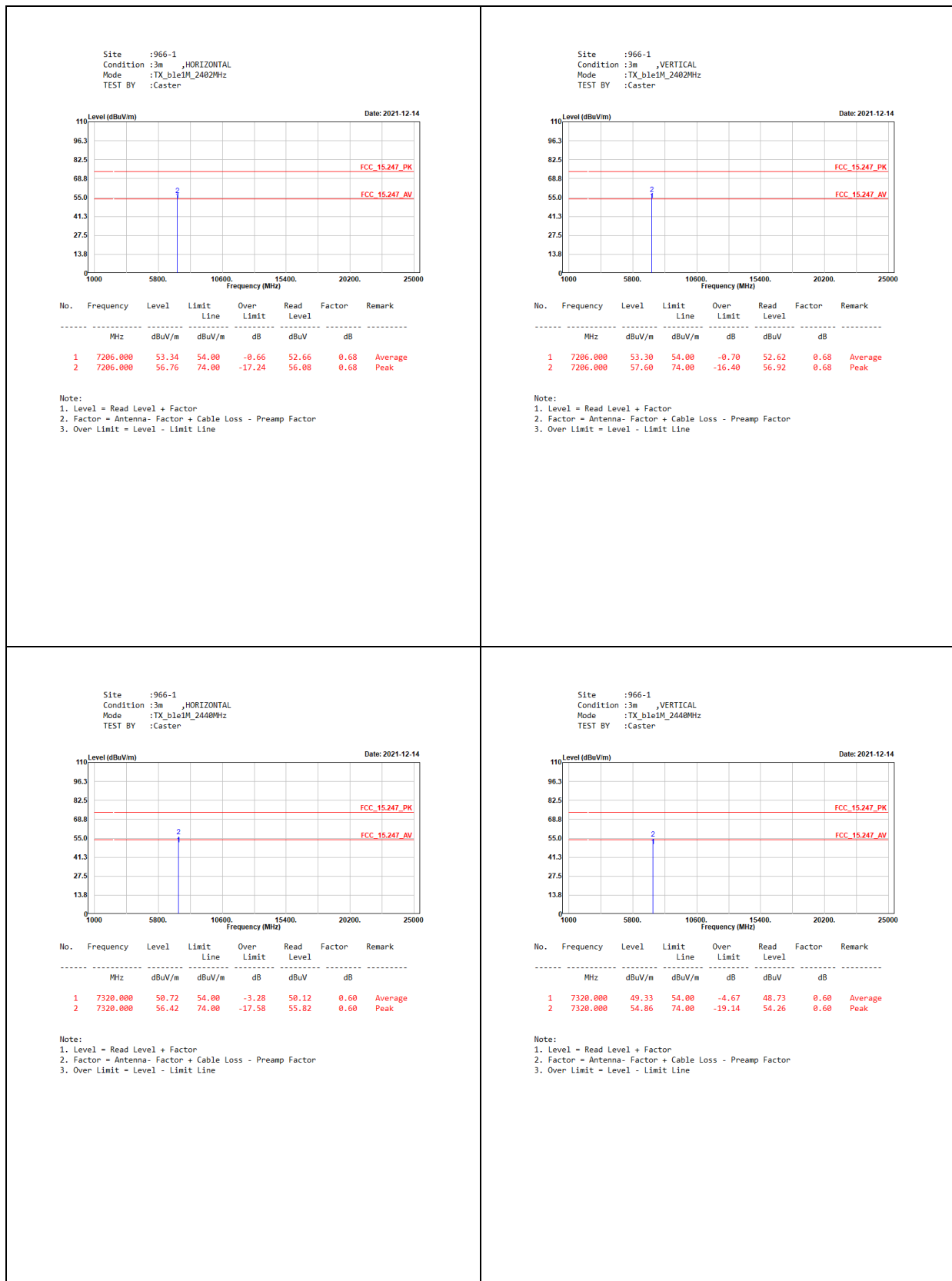
Under 1GHz Test Setup



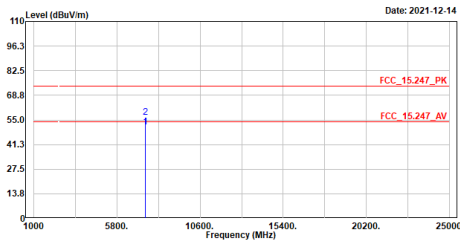
Above 1GHz Test Setup



6.4. 輻射干擾測試結果



Site :966-1
Condition :3m ,HORIZONTAL
Mode :TX_btle1M_2480MHz
TEST BY :Caster

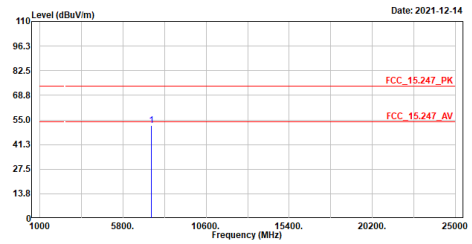


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	7448.000	51.02	54.00	-2.98	50.32	0.70	Average
2	7448.000	56.61	74.00	-17.39	55.91	0.70	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :3m ,VERTICAL
Mode :TX_btle1M_2480MHz
TEST BY :Caster

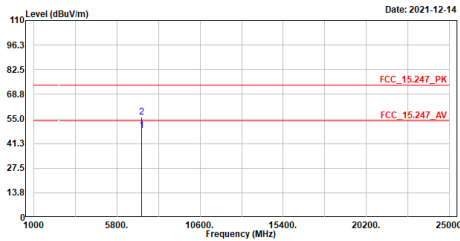


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	7448.000	51.75	74.00	-22.25	51.05	0.70	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :3m ,HORIZONTAL
Mode :TX_btle2M_2402MHz
TEST BY :Caster

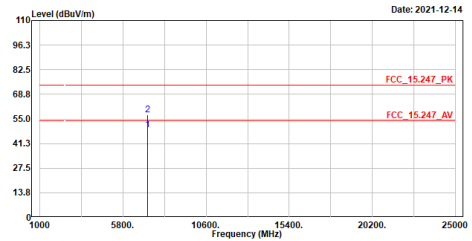


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	7206.000	48.58	54.00	-5.42	47.90	0.68	Average
2	7206.000	55.94	74.00	-18.06	55.26	0.68	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :3m ,VERTICAL
Mode :TX_btle2M_2402MHz
TEST BY :Caster

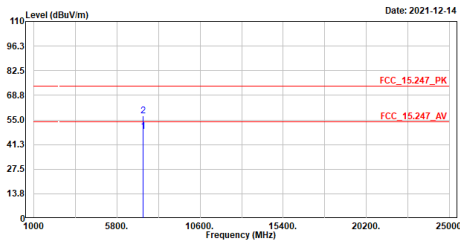


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	7206.000	49.04	54.00	-4.96	48.36	0.68	Average
2	7206.000	57.31	74.00	-16.69	56.63	0.68	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :3m ,HORIZONTAL
Mode :TX_b1e2M_2448MHz
TEST BY :Caster

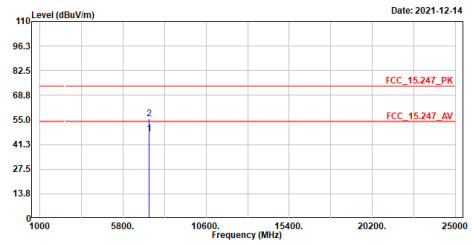


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level		
			dBuV/m	dB	dBuV	dB	
1	7320.000	48.41	54.00	-5.59	47.81	0.60	Average
2	7320.000	57.13	74.00	-16.87	56.53	0.60	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :3m ,VERTICAL
Mode :TX_b1e2M_2448MHz
TEST BY :Caster

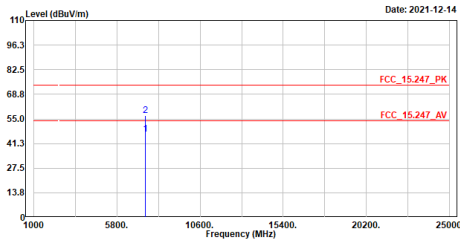


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level		
			dBuV/m	dB	dBuV	dB	
1	7320.000	47.34	54.00	-6.66	46.74	0.60	Average
2	7320.000	55.65	74.00	-18.35	55.05	0.60	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :3m ,HORIZONTAL
Mode :TX_b1e2M_2480MHz
TEST BY :Caster

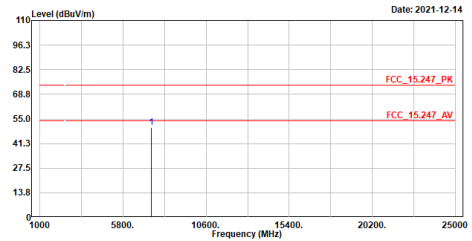


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level		
			dBuV/m	dB	dBuV	dB	
1	7440.000	46.28	54.00	-7.72	45.58	0.70	Average
2	7440.000	57.05	74.00	-16.95	56.35	0.70	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :3m ,VERTICAL
Mode :TX_b1e2M_2480MHz
TEST BY :Caster

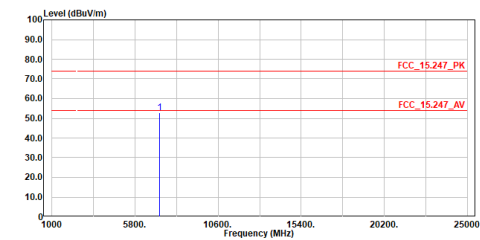


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level		
			dBuV/m	dB	dBuV	dB	
1	7440.000	50.10	74.00	-23.90	49.40	0.70	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

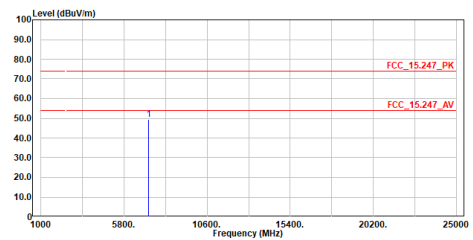
Site :966-1
Condition :HORIZONTAL
Mode :TX_ble_125KHz_2402MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	7206.000	52.70	74.00	-21.30	52.02	0.68	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

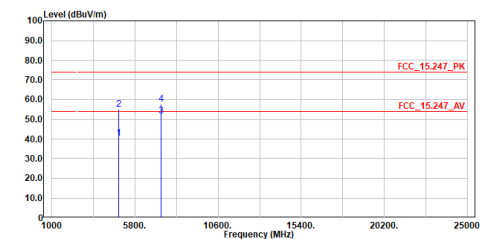
Site :966-1
Condition :VERTICAL
Mode :TX_ble_125KHz_2402MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	7206.000	49.41	74.00	-24.59	48.73	0.68	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

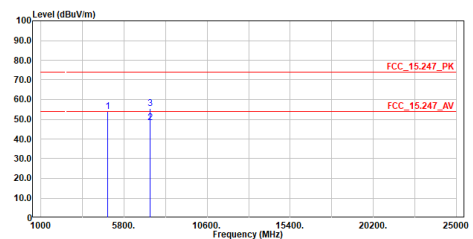
Site :966-1
Condition :HORIZONTAL
Mode :TX_ble_125KHz_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	4880.000	40.28	54.00	-13.72	43.80	-3.52	Average
2	4880.000	54.91	74.00	-19.09	58.43	-3.52	Peak
3	7320.000	51.61	54.00	-2.39	51.01	0.60	Average
4	7320.000	57.78	74.00	-16.22	57.18	0.60	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

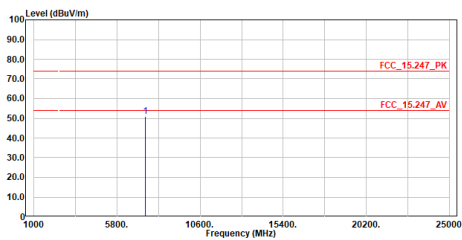
Site :966-1
Condition :VERTICAL
Mode :TX_ble_125KHz_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	4880.250	53.79	74.00	-20.21	57.31	-3.52	Peak
2	7320.000	48.42	54.00	-5.58	47.82	0.60	Average
3	7320.000	55.49	74.00	-18.51	54.89	0.60	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

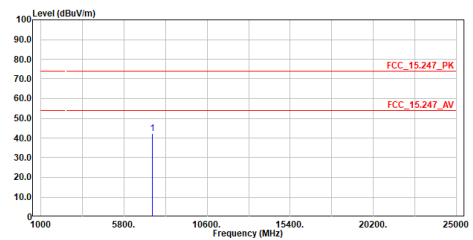
Site :966-1
Condition :HORIZONTAL
Mode :TX_b1e_125KHz_2480MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	7440.000	50.80	74.00	-23.20	50.10	0.70	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

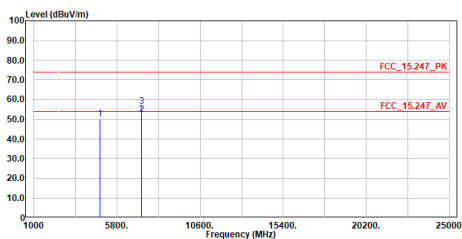
Site :966-1
Condition :VERTICAL
Mode :TX_b1e_125KHz_2480MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	7440.000	42.35	74.00	-31.65	41.65	0.70	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

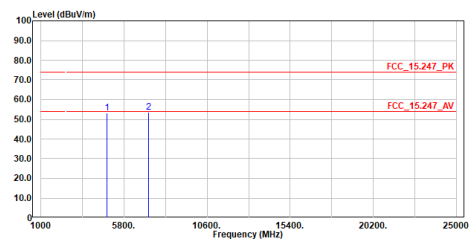
Site :966-1
Condition :HORIZONTAL
Mode :TX_b1e_500KHz_2402MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	4804.000	50.26	74.00	-23.74	53.75	-3.49	Peak
2	7206.000	52.61	54.00	-1.39	51.93	0.68	Average
3	7206.000	56.55	74.00	-17.45	55.87	0.68	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

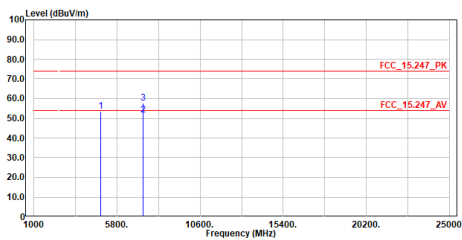
Site :966-1
Condition :VERTICAL
Mode :TX_b1e_500KHz_2402MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	4804.000	53.24	74.00	-20.76	56.73	-3.49	Peak
2	7206.000	53.56	74.00	-20.44	52.88	0.68	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

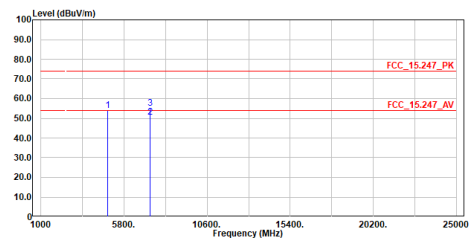
Site :966-1
Condition :HORIZONTAL
Mode :TX_ble_500KHz_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	4880.000	53.74	74.00	-20.26	57.26	-3.52	Peak
2	7320.000	51.51	54.00	-2.49	50.91	0.60	Average
3	7320.000	57.72	74.00	-16.28	57.12	0.60	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

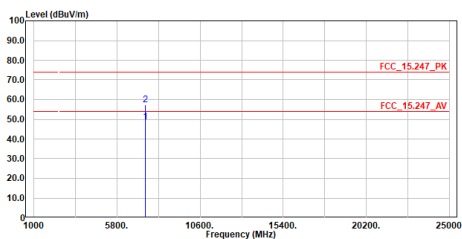
Site :966-1
Condition :VERTICAL
Mode :TX_ble_500KHz_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	4880.000	53.88	74.00	-20.12	57.40	-3.52	Peak
2	7320.000	50.75	54.00	-3.25	50.15	0.60	Average
3	7320.000	54.98	74.00	-19.02	54.38	0.60	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

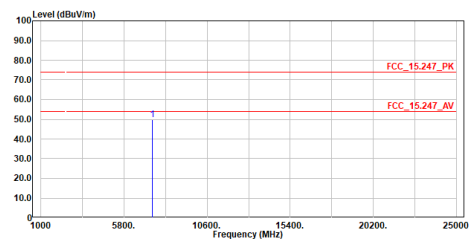
Site :966-1
Condition :HORIZONTAL
Mode :TX_ble_500KHz_2480MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	7440.000	48.52	54.00	-5.48	47.82	0.70	Average
2	7440.000	57.39	74.00	-16.61	56.69	0.70	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

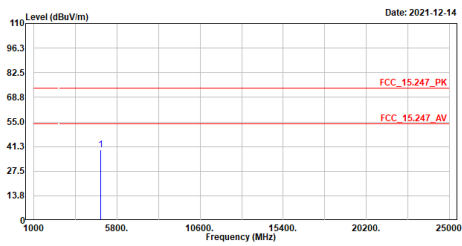
Site :966-1
Condition :VERTICAL
Mode :TX_ble_500KHz_2480MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	7440.000	49.63	74.00	-24.37	48.93	0.70	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

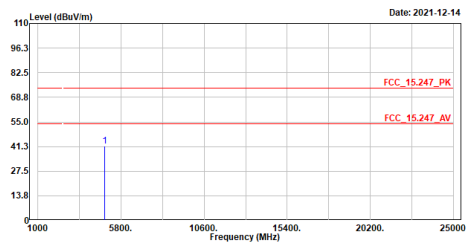
Site :966-1
Condition :3m ,HORIZONTAL
Mode :RX_ble2M_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	4880.000	39.45	74.00	-34.55	42.97	-3.52	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

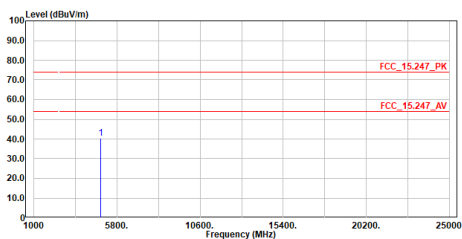
Site :966-1
Condition :3m ,VERTICAL
Mode :RX_ble2M_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	4880.000	41.52	74.00	-32.48	45.04	-3.52	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

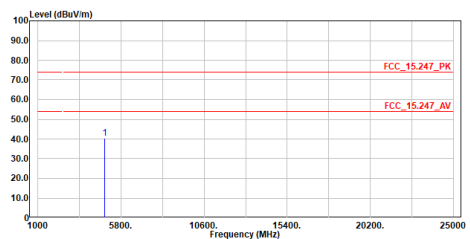
Site :966-1
Condition :HORIZONTAL
Mode :RX_ble_125KHz_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	4880.000	40.46	74.00	-33.54	43.98	-3.52	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

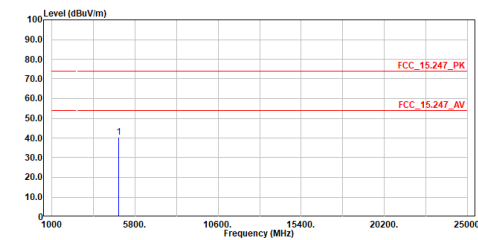
Site :966-1
Condition :VERTICAL
Mode :RX_ble_125KHz_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	4880.000	40.25	74.00	-33.75	43.77	-3.52	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

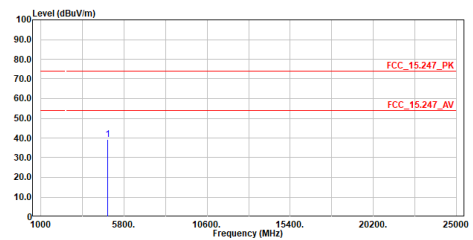
Site :966-1
Condition :HORIZONTAL
Mode :RX_ble_500KHz_2440MHz
TEST BY :Caster



No.	Frequency MHz	Level dBuV/m	Limit dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	4880.000	40.28	74.00	-33.72	43.80	-3.52	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

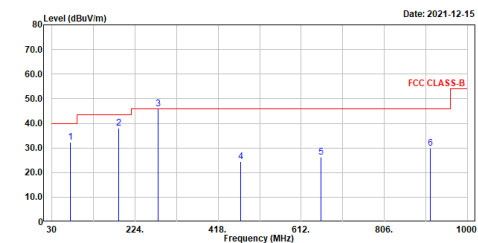
Site :966-1
Condition :VERTICAL
Mode :RX_ble_500KHz_2440MHz
TEST BY :Caster



No.	Frequency MHz	Level dBuV/m	Limit dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	4880.000	39.09	74.00	-34.91	42.61	-3.52	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

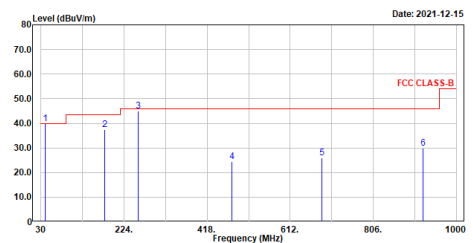
Site :966-1
Condition :3m ,HORIZONTAL
Mode :TX_ble2M_2440MHz
TEST BY :Caster



No.	Frequency MHz	Level dBuV/m	Limit dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	73.650	32.31	40.00	-7.69	47.29	-14.98	QP
2	186.170	38.17	43.50	-5.33	51.84	-13.67	QP
3	277.350	45.78	46.00	-0.22	57.53	-11.75	QP
4	478.380	24.42	46.00	-21.58	31.42	-7.00	QP
5	658.560	26.34	46.00	-19.66	29.90	-3.56	QP
6	913.670	29.98	46.00	-16.02	38.42	-0.44	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

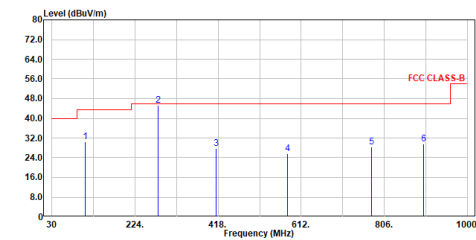
Site :966-1
Condition :3m ,VERTICAL
Mode :TX_ble2M_2440MHz
TEST BY :Caster



No.	Frequency MHz	Level dBuV/m	Limit dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	40.670	39.74	40.00	-0.26	51.90	-12.16	QP
2	179.380	37.49	43.50	-6.01	50.33	-12.84	QP
3	257.950	45.09	46.00	-0.91	57.80	-12.71	QP
4	475.230	24.36	46.00	-21.64	31.34	-6.98	QP
5	686.690	26.11	46.00	-19.89	29.35	-3.24	QP
6	921.430	29.90	46.00	-16.10	38.32	-0.42	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

Site :966-1
Condition :HORIZONTAL
Mode :TX_b1e_125KHz_2440MHz
TEST BY :Caster

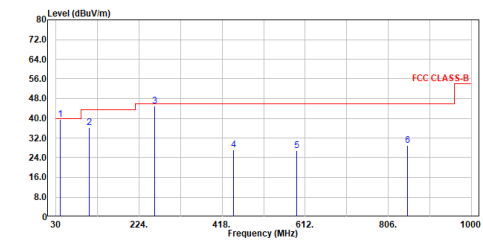


No.	Frequency MHz	Level dBuV/m	Limit dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	107.600	30.51	43.50	-12.99	45.82	-15.31	QP
2	277.417	45.28	46.00	-0.72	57.02	-11.74	QP
3	413.150	27.80	46.00	-18.20	36.42	-8.62	QP
4	580.960	25.68	46.00	-20.32	30.55	-4.87	QP
5	775.930	28.25	46.00	-17.75	30.15	-1.90	QP
6	898.150	29.66	46.00	-16.34	30.44	-0.78	QP

Note:

1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :VERTICAL
Mode :TX_b1e_125KHz_2440MHz
TEST BY :Caster

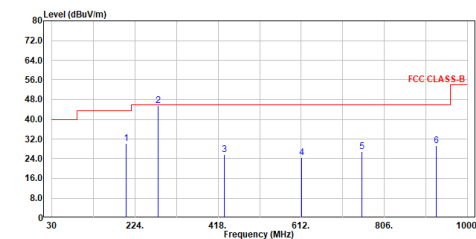


No.	Frequency MHz	Level dBuV/m	Limit dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	40.880	39.44	40.00	-0.56	51.62	-12.18	QP
2	108.570	36.08	43.50	-7.42	51.25	-15.17	QP
3	260.212	45.09	46.00	-0.91	57.78	-12.69	QP
4	444.190	27.07	46.00	-18.93	34.65	-7.58	QP
5	591.630	26.98	46.00	-19.02	31.52	-4.54	QP
6	850.620	29.12	46.00	-16.88	30.44	-1.32	QP

Note:

1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :HORIZONTAL
Mode :TX_b1e_500KHz_2440MHz
TEST BY :Caster

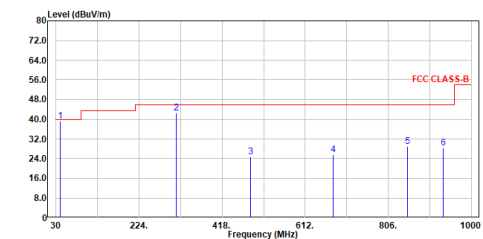


No.	Frequency MHz	Level dBuV/m	Limit dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	202.660	30.15	43.50	-13.35	44.67	-14.52	QP
2	277.522	45.49	46.00	-0.51	57.23	-11.74	QP
3	432.550	25.56	46.00	-20.44	33.47	-7.91	QP
4	613.940	24.39	46.00	-21.61	28.84	-4.45	QP
5	753.620	26.97	46.00	-19.03	29.13	-2.16	QP
6	927.250	29.18	46.00	-16.82	29.59	-0.41	QP

Note:

1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :VERTICAL
Mode :TX_b1e_500KHz_2440MHz
TEST BY :Caster

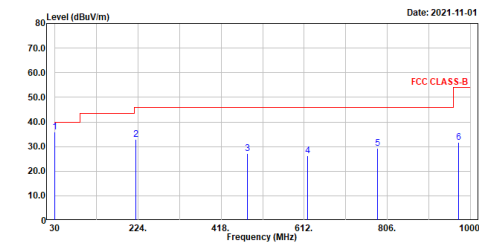


No.	Frequency MHz	Level dBuV/m	Limit dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	40.550	39.27	40.00	-0.73	51.41	-12.14	QP
2	310.330	42.61	46.00	-3.39	53.46	-10.85	QP
3	484.930	24.70	46.00	-21.30	31.56	-6.86	QP
4	677.960	25.70	46.00	-20.30	29.26	-3.56	QP
5	850.620	29.12	46.00	-16.88	30.44	-1.32	QP
6	935.010	28.52	46.00	-17.48	28.92	-0.40	QP

Note:

1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

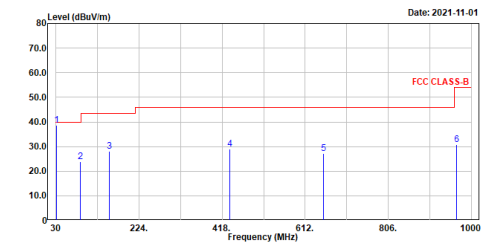
Site :966-3
Condition :3m ,HORIZONTAL
Mode :RX_BLE2M_2440MHz
TEST BY :Bob Chiu



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level		
				dB	dBuV	dB	
1	30.000	35.97	40.00	-4.03	49.20	-13.23	QP
2	218.180	32.96	46.00	-13.04	46.70	-13.74	QP
3	480.080	27.13	46.00	-18.87	33.42	-6.29	QP
4	620.730	26.38	46.00	-19.62	29.87	-3.49	QP
5	783.690	29.13	46.00	-16.87	30.10	-0.97	QP
6	972.840	31.58	54.00	-22.42	30.44	1.14	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

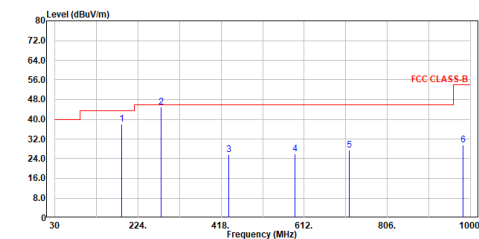
Site :966-3
Condition :3m ,VERTICAL
Mode :RX_BLE2M_2440MHz
TEST BY :Bob Chiu



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level		
				dB	dBuV	dB	
1	31.940	38.61	40.00	-1.39	51.55	-12.94	QP
2	87.230	23.92	40.00	-16.08	41.37	-17.45	QP
3	154.160	28.10	43.50	-15.40	39.43	-11.33	QP
4	435.460	28.94	46.00	-17.06	36.07	-7.13	QP
5	654.680	27.13	46.00	-18.87	29.93	-2.80	QP
6	966.050	30.82	54.00	-23.18	29.78	1.04	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

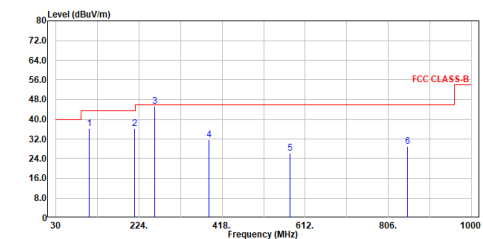
Site :966-1
Condition :HORIZONTAL
Mode :RX_ble_125KHz_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level		
				dB	dBuV	dB	
1	186.170	38.17	43.50	-5.33	51.84	-13.67	QP
2	277.582	44.99	46.00	-1.01	56.73	-11.74	QP
3	436.430	25.61	46.00	-20.39	33.34	-7.73	QP
4	590.660	25.85	46.00	-20.15	30.43	-4.58	QP
5	717.730	27.44	46.00	-18.56	30.32	-2.88	QP
6	982.540	29.71	54.00	-24.29	29.50	0.21	QP

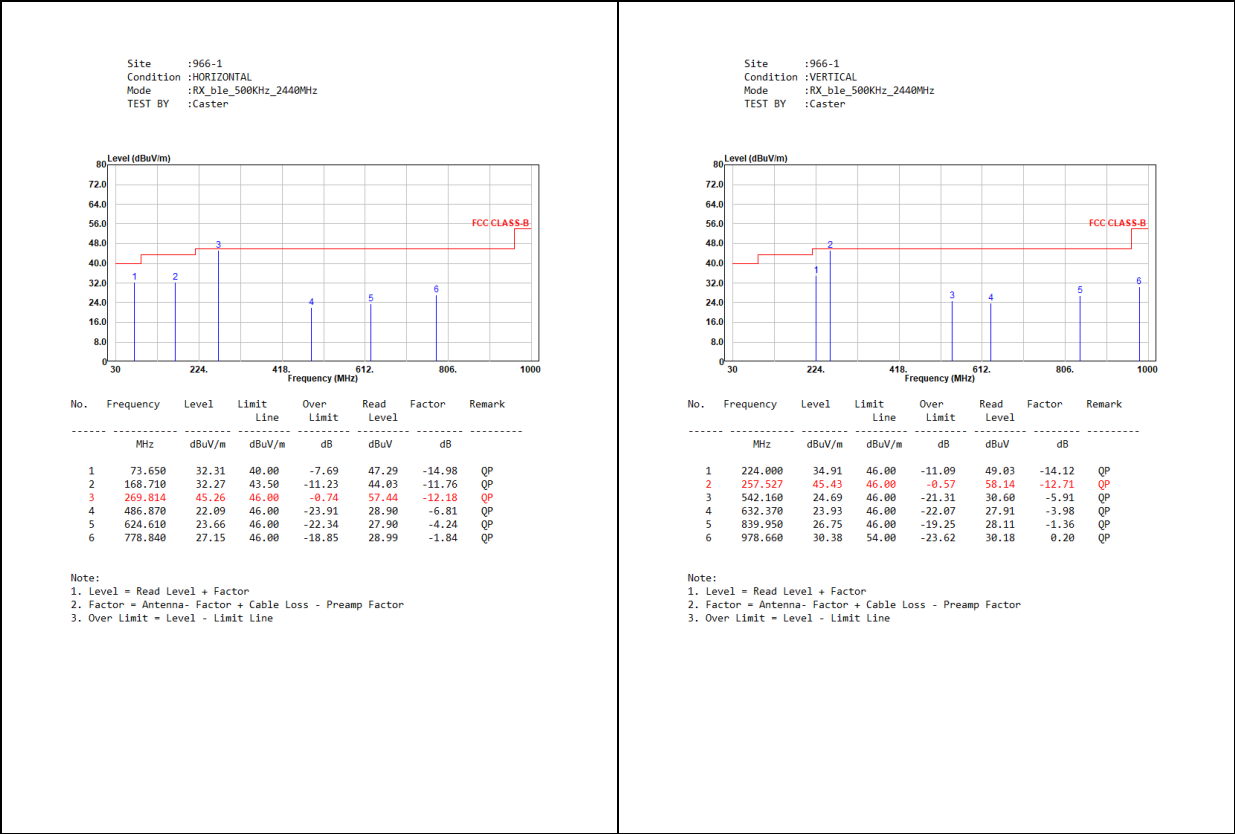
Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :VERTICAL
Mode :RX_ble_125KHz_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level		
				dB	dBuV	dB	
1	108.570	36.08	43.50	-7.42	51.25	-15.17	QP
2	214.300	36.30	43.50	-7.20	50.54	-14.24	QP
3	260.587	45.32	46.00	-0.68	57.99	-12.67	QP
4	387.930	31.63	46.00	-14.37	40.78	-9.15	QP
5	577.000	26.12	46.00	-19.88	31.14	-5.02	QP
6	850.620	29.12	46.00	-16.88	30.44	-1.32	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line



7. 混附發射之 RF 傳導發射

7.1. 適用標準

依據國家通訊傳播委員會低功率射頻器材技術規範之第 4.10.1.5 節，使用頻帶範圍外之任意 100 千赫 (kHz) 內，發射機所產生的射頻功率相較於使用頻帶範圍中包含最高所需功率之 100 千赫(kHz) 內的射頻功率，至少須衰減 20 dB，以射頻傳導或輻射方式測量。如發射機以本節 4.10.1.2(1)(C) 之峰值傳導輸出功率量測方式者，至少須衰減 30 dB。此外，落於第 3.5 節禁用頻段之輻射發射，應符合第 3.6 節之規定。

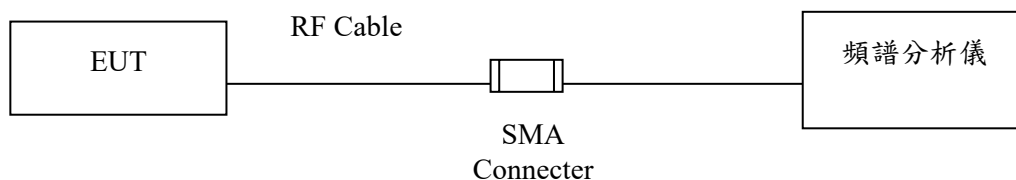
7.2. 量測方法

依據國家通訊傳播委員會低功率射頻器材技術規範之附件三，頻率跳頻展頻系統檢測之參考程序(七) 混附發射之 RF 傳導發射:

(一) 頻譜分析儀設定如下：

1. 頻率掃描範圍足以檢測頻帶內的發射波峰位準以及由受測物產生之最低頻率到第 10 次諧波的所有混附發射，通常需要分幾段以涵蓋全部頻率範圍。
2. 解析頻寬為 100kHz，視訊頻寬不小於解析頻寬。
3. 掃描時間為自動，檢波功能為峰值，訊號軌跡為最大保留(Max Hold)。
4. 將標記設定於任何欲紀錄之波峰上，所顯示之位準值必須符合指定之限制值。

7.3. 測試架構圖



7.4. 混附發射之 RF 傳導發射測試結果

待測物名稱：LED Lamp

待測物型號：9290030999

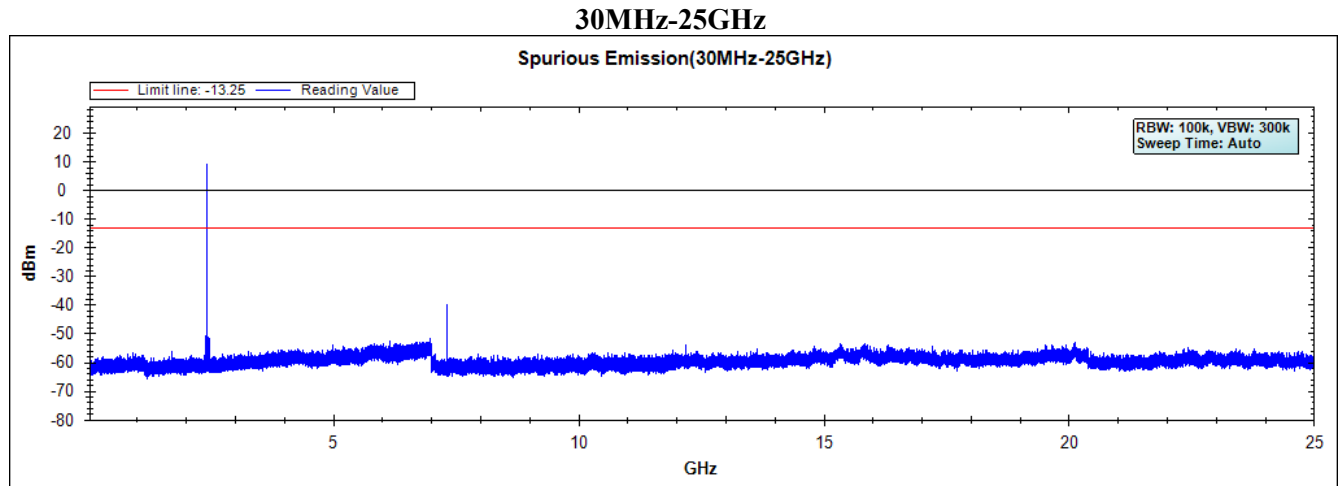
測試頻道：CH 19 (2440MHz)

測試日期：110 年 12 月 16 日

測試項目：混附發射之 RF 傳導發射

測試模式：Mode 1: 發射器-1Mbps

檢測器：峰值



待測物名稱：LED Lamp

待測物型號：9290030999

測試頻道：CH 00 (2402MHz)

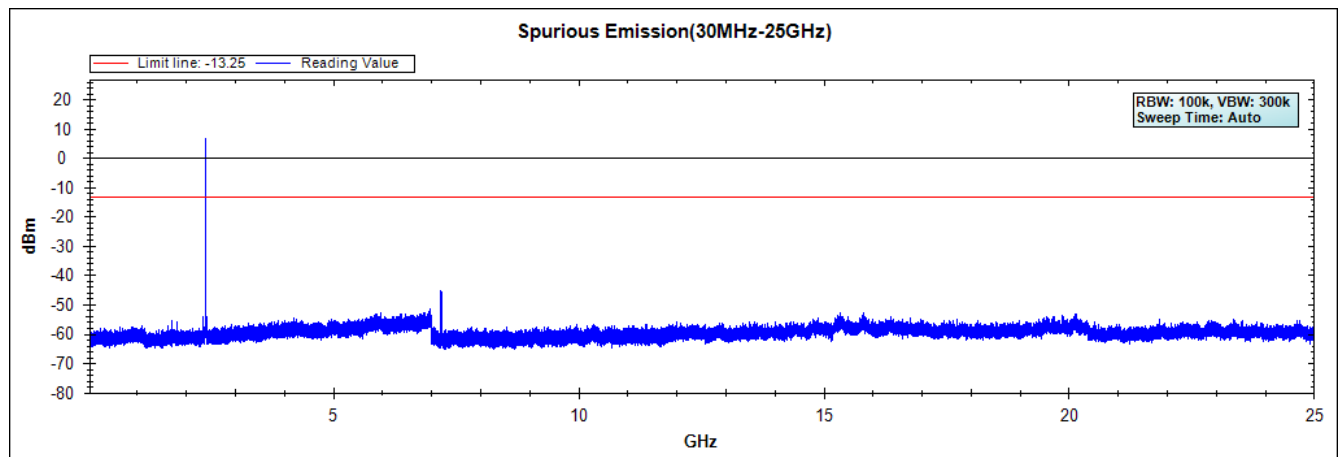
測試日期：110 年 12 月 16 日

測試項目：混附發射之 RF 傳導發射

測試模式：Mode 2: 發射器-2Mbps

檢測器：峰值

30MHz-25GHz



待測物名稱：LED Lamp

待測物型號：9290030999

測試頻道：CH 00 (2402MHz)

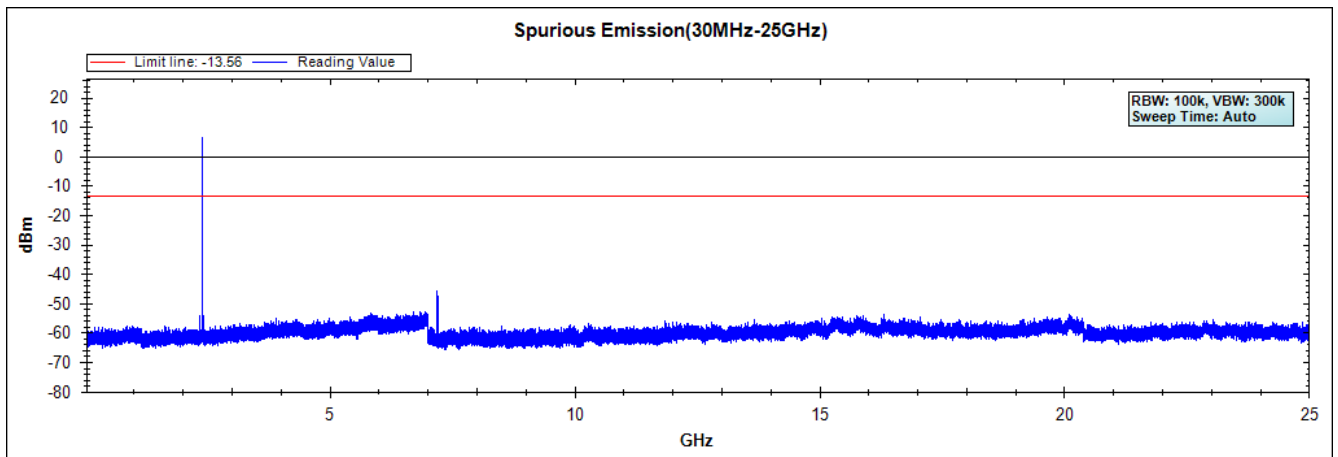
測試日期：110 年 12 月 20 日

測試項目：混附發射之 RF 傳導發射

測試模式：Mode 3: 發射器-125k

檢測器：峰值

30MHz-25GHz



待測物名稱：LED Lamp

待測物型號：9290030999

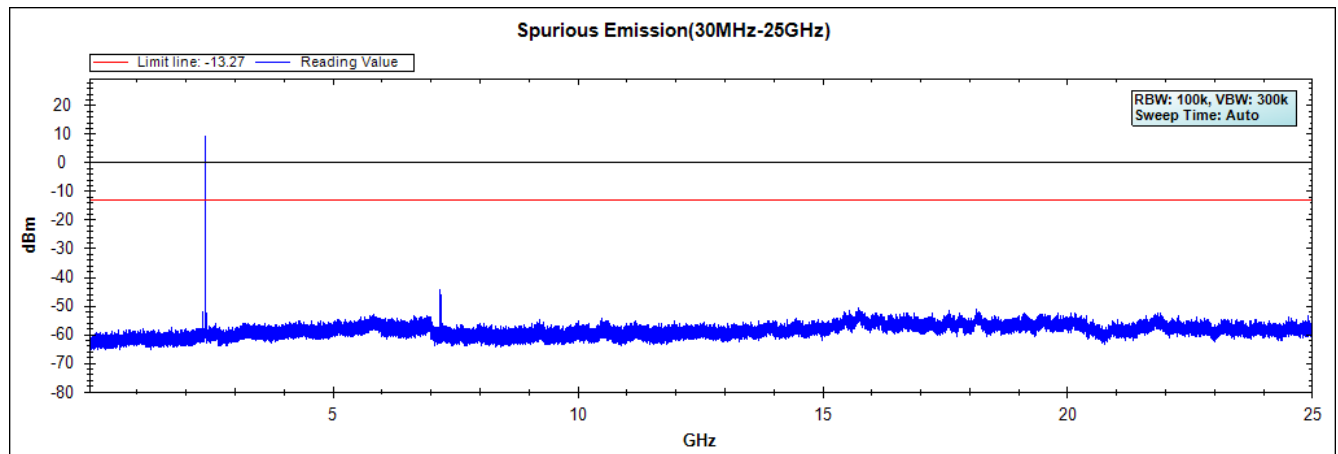
測試頻道：CH 00 (2402MHz)

測試日期：110 年 12 月 20 日

測試項目：混附發射之 RF 傳導發射

測試模式：Mode 4: 發射器-500k

檢測器：峰值

30MHz-25GHz

混附發射之 RF 傳導發射測試結果:

PASS

8. 使用頻率範圍外之任意 100 千赫雜訊

8.1. 適用標準

依據國家通訊傳播委員會低功率射頻器材技術規範之第 4.10.1.5 節，使用頻帶範圍外之任意 100 千赫 (kHz) 內，發射機所產生的射頻功率相較於使用頻帶範圍中包含最高所需功率之 100 千赫(kHz)內的射頻功率，至少須衰減 20 dB，以射頻傳導或輻射方式測量。如發射機以本節 4.10.1.2(1)(C)之峰值傳導輸出功率量測方式者，至少須衰減 30 dB。此外，落於第 3.5 節禁用頻段之輻射發射，應符合第 3.6 節之規定。

依據國家通訊傳播委員會低功率射頻器材技術規範之第 3.6 節輻射電場強度之限制要求如下：

發射依據國家通訊傳播委員會低功率射頻器材技術規範之第 3.6 節，低功率射頻器材，除本規範各章節另有放寬規定者外，其電場強度不得超過下表之限值，且其不必要之發射皆不得大於主波發射強度。各頻段重疊處，以較嚴格之限制值為準。

頻 率(兆赫)	電場強度(微伏/公尺)	測距(公尺)
0.009 - 0.490(含)	2,400/頻率(千赫)	300
0.490 (不含) – 1.705 (含)	24,000/頻率(千赫)	30
1.705(不含) – 30 (不含)	30	30
30 (含) – 88 (含)	100	3
88 (不含)- 216 (含)	150	3
216 (不含)- 960 (含)	200	3
960 (不含)以上	500	3

上表規定之電場強度，頻率在 9-90kHz 千赫(kHz)、110-490 千赫(kHz)以及 1000 兆赫(MHz)以上之發射，其量測以平均值檢波器為基準，且須符合第 6.15.2 節之規定；其他頻率之發射，應以 CISPR 準峰值(quasi-peak) 檢波器測量；非以上表所指定之距離測量時須符合第 6.5 節之規定，而輻射發射之量測頻率範圍須符合第 6.14 節之規定。

8.2. 量測方法

RF Conducted Measurement:

待測物之天線埠經由適當之衰減直接連至頻譜分析儀 RF 輸入端，設定頻譜分析儀之解析度頻寬為 100kHz，視訊頻寬大於解析度頻寬。

待測物應在正常發射狀態下量測。

RF Radiated Measurement:

待測物置於高 150 公分之非導體桌面（落地型產品置於地上），桌面可 360 度旋轉，接收天線置於距待測物 3m 距離，高度可在 1 至 4 公尺間變動，以量測待測物之最大輻射電場強度。接收天線並應於水平及垂直極化方向各量測一次。

待測物應在正常發射狀態下量測。

RBW and VBW Parameter setting:

According to KDB 558074 Peak power measurement procedure

RBW = as specified in Table 1.

VBW $\geq 3 \times$ RBW.

Table 1 —RBW as a function of frequency

Frequency	RBW
9-150 kHz	200-300 Hz
0.15-30 MHz	9-10 kHz
30-1000 MHz	100-120 kHz
> 1000 MHz	1 MHz

According to KDB 558074 Average power measurement procedure

RBW = 1MHz.

VBW = 10Hz, when duty cycle $\geq 98 \%$

VBW $\geq 1/T$, when duty cycle $< 98 \%$

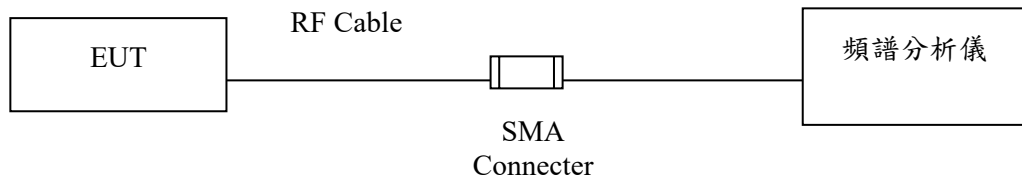
(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
BLE (1Mbps)	100.00	1.0000	1000	10
BLE (2Mbps)	100.00	1.0000	1000	10
BLE (125k)	100.00	1.0000	1000	10
BLE (500k)	100.00	1.0000	1000	10

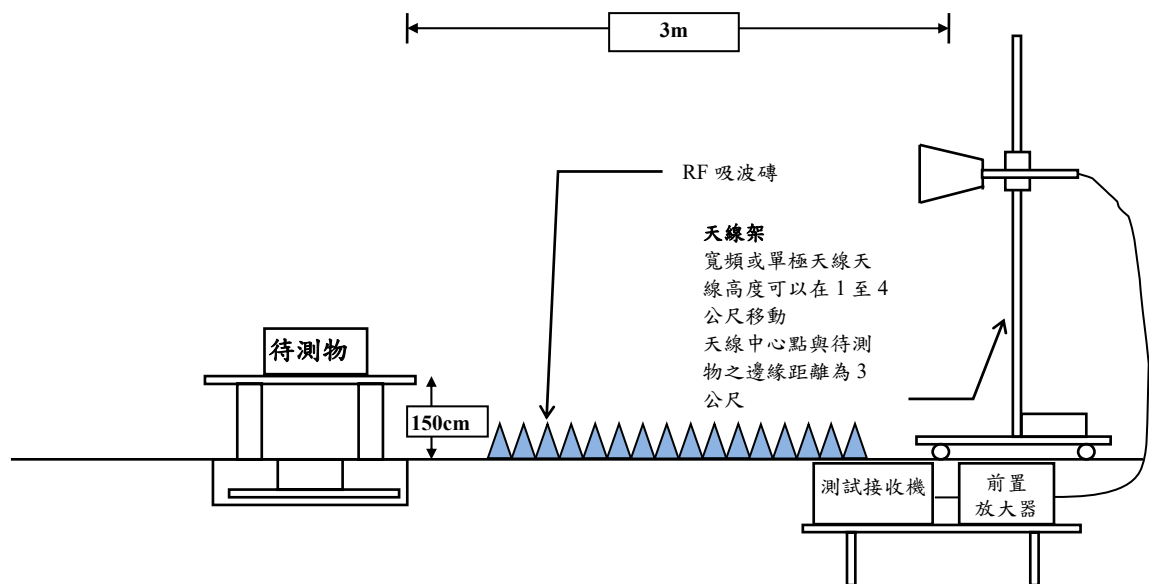
Note: Duty Cycle Refer to Section 11

8.3. 測試架構圖

RF Conducted Measurement:

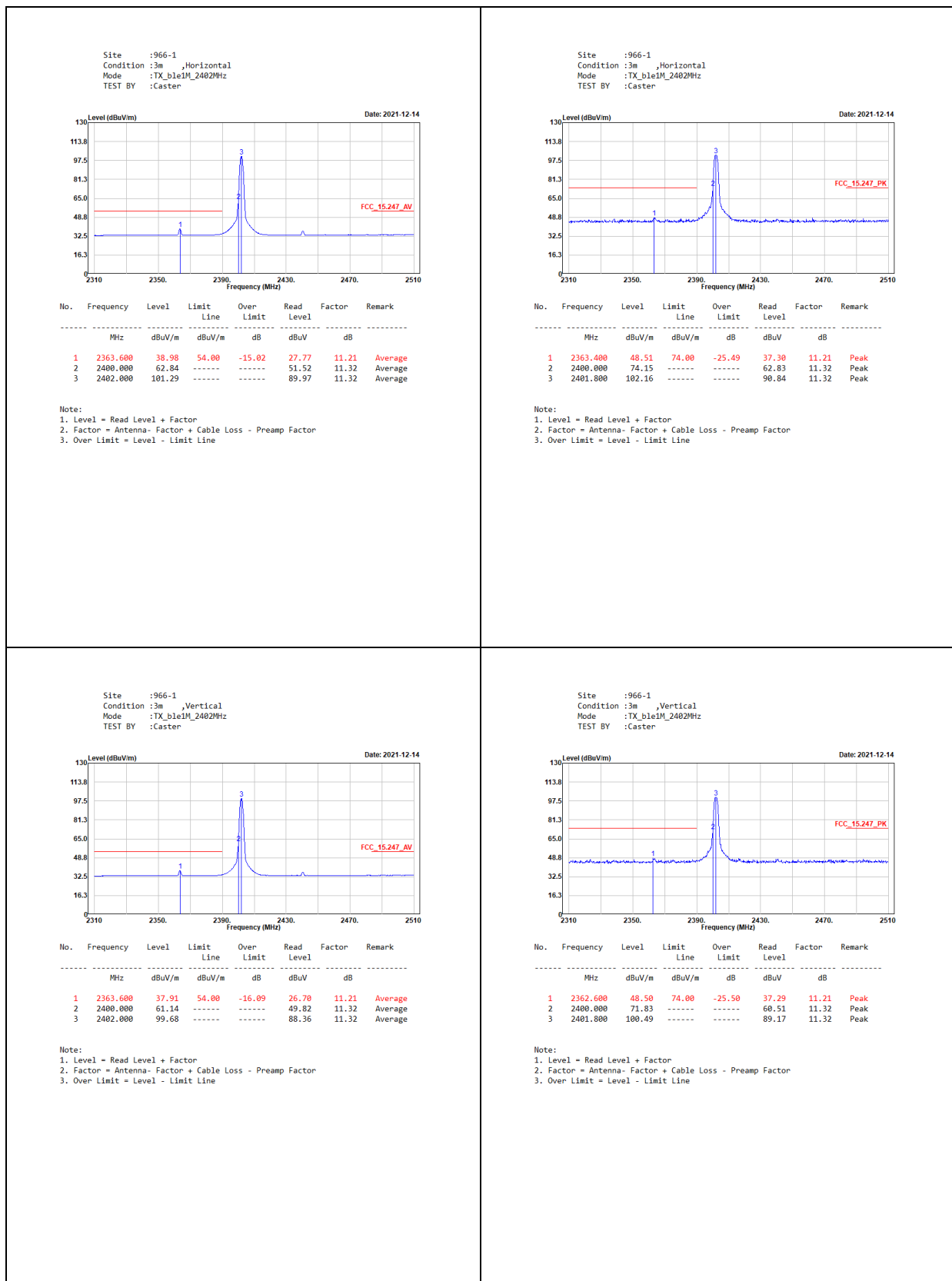


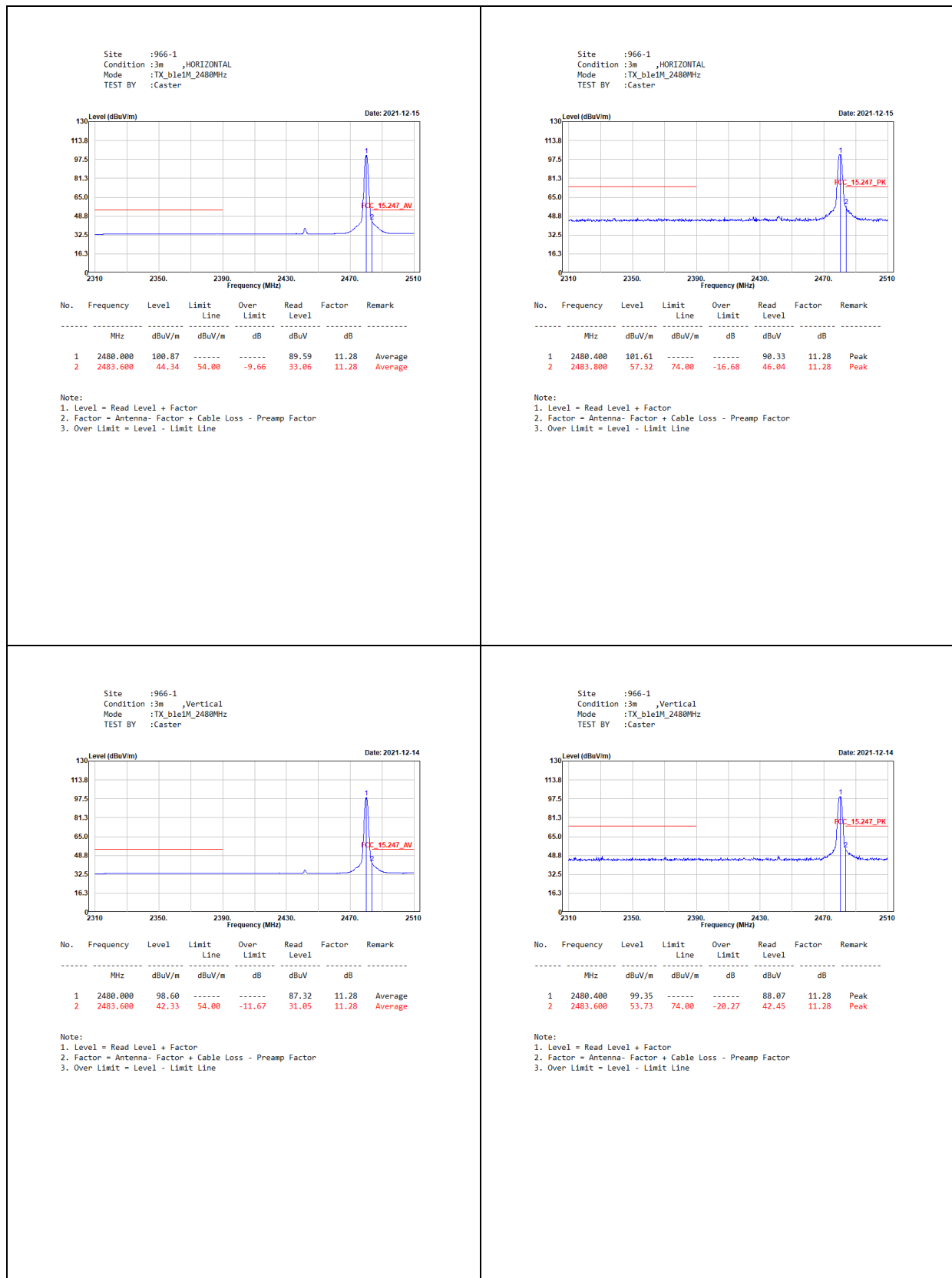
RF Radiated Measurement:



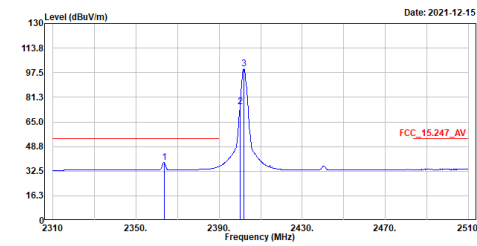
Note: 使用頻率範圍外之任意 100 千赫雜訊，使用輻射方式測量，6 dB 頻寬使用 1MHz 遠大於 100kHz 仍可 PASS，檢附其測試數據。

8.4. 使用頻率範圍外之任意 100 千赫雜訊測試結果





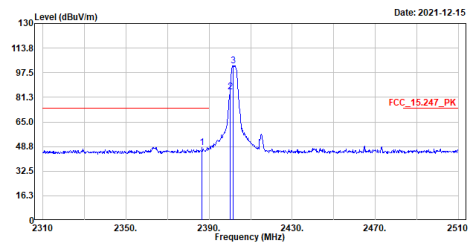
Site :966-1
Condition :3m ,HORIZONTAL
Mode :TX_ble2M_2402MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2363.600	38.41	54.00	-15.59	27.20	11.21	Average
2	2400.000	75.02	-----	-----	63.70	11.32	Average
3	2402.000	100.03	-----	-----	88.71	11.32	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

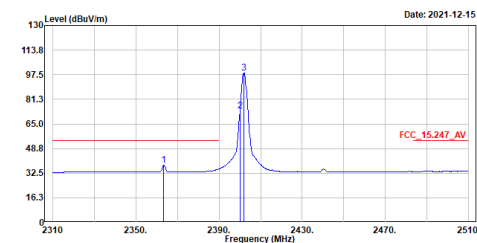
Site :966-1
Condition :3m ,HORIZONTAL
Mode :TX_ble2M_2402MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2386.600	48.31	74.00	-25.69	37.03	11.28	Peak
2	2400.000	84.75	-----	-----	73.43	11.32	Peak
3	2401.600	102.09	-----	-----	90.77	11.32	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

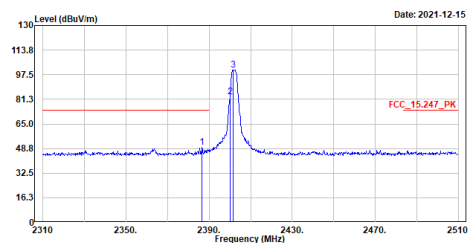
Site :966-1
Condition :3m ,VERTICAL
Mode :TX_ble2M_2402MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2363.400	37.90	54.00	-16.10	26.69	11.21	Average
2	2400.000	73.70	-----	-----	62.38	11.32	Average
3	2402.000	98.69	-----	-----	87.37	11.32	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

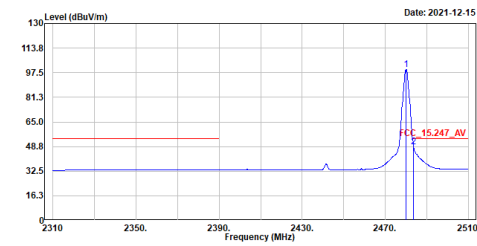
Site :966-1
Condition :3m ,VERTICAL
Mode :TX_ble2M_2402MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2386.600	49.31	74.00	-24.69	38.03	11.28	Peak
2	2400.000	83.02	-----	-----	71.70	11.32	Peak
3	2401.600	100.80	-----	-----	89.48	11.32	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

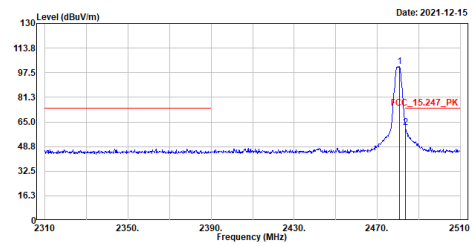
Site :966-1
Condition :3m ,HORIZONTAL
Mode :TX_b1e2M_2480MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2480.000	99.42	-----	-----	88.14	11.28	Average
2	2483.600	48.76	54.00	-5.24	37.48	11.28	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

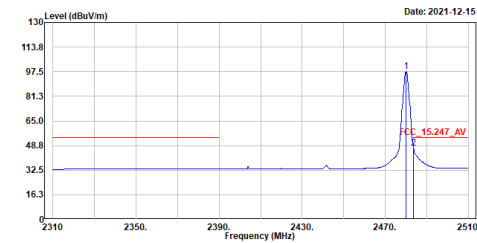
Site :966-1
Condition :3m ,HORIZONTAL
Mode :TX_b1e2M_2480MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2480.000	101.39	-----	-----	90.11	11.28	Peak
2	2483.600	61.27	74.00	-12.73	49.99	11.28	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

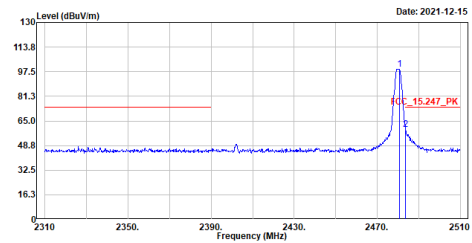
Site :966-1
Condition :3m ,VERTICAL
Mode :TX_b1e2M_2480MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2480.000	97.38	-----	-----	86.10	11.28	Average
2	2483.600	46.99	54.00	-7.01	35.71	11.28	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

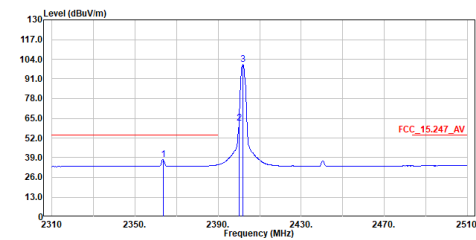
Site :966-1
Condition :3m ,VERTICAL
Mode :TX_b1e2M_2480MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2480.000	99.33	-----	-----	88.05	11.28	Peak
2	2483.600	59.50	74.00	-14.50	48.22	11.28	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

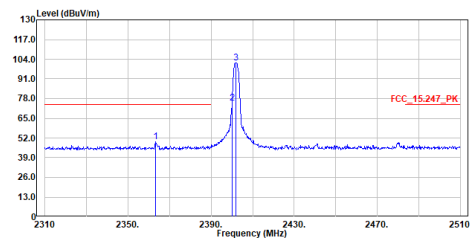
Site :966-1
Condition :HORIZONTAL
Mode :TX_ble_125KHz_2402MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2363.600	37.98	54.00	-16.02	26.77	11.21	Average
2	2400.000	61.70	-----	-----	50.38	11.32	Average
3	2402.000	100.37	-----	-----	89.05	11.32	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

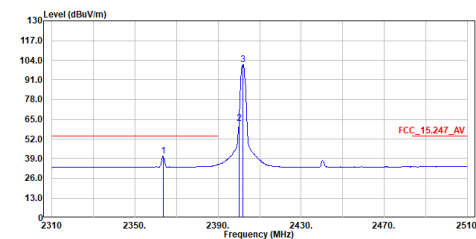
Site :966-1
Condition :HORIZONTAL
Mode :TX_ble_125KHz_2402MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2363.400	49.48	74.00	-24.52	38.27	11.21	Peak
2	2400.000	74.85	-----	-----	63.53	11.32	Peak
3	2401.800	101.40	-----	-----	90.08	11.32	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

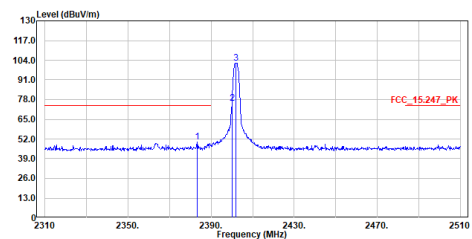
Site :966-1
Condition :VERTICAL
Mode :TX_ble_125KHz_2402MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2363.600	40.61	54.00	-13.39	29.40	11.21	Average
2	2400.000	62.45	-----	-----	51.13	11.32	Average
3	2402.000	101.13	-----	-----	89.81	11.32	Average

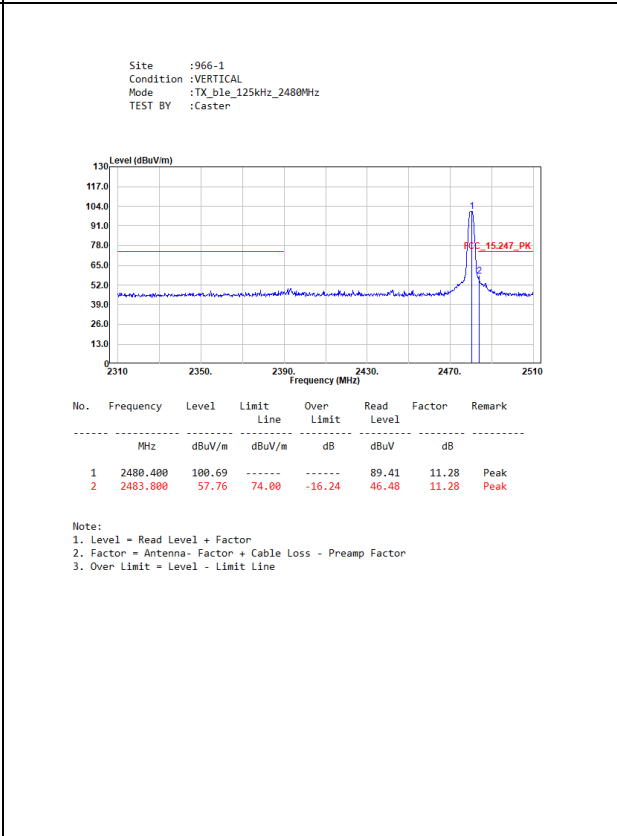
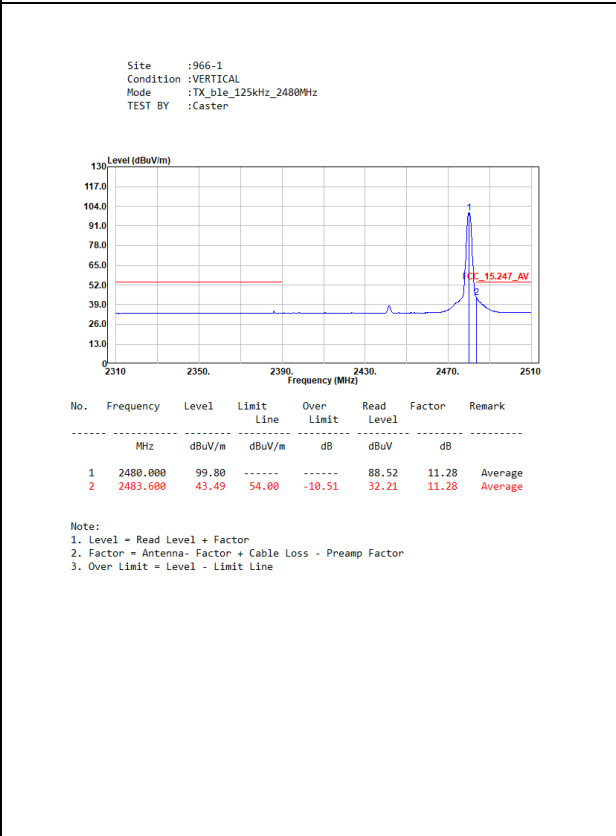
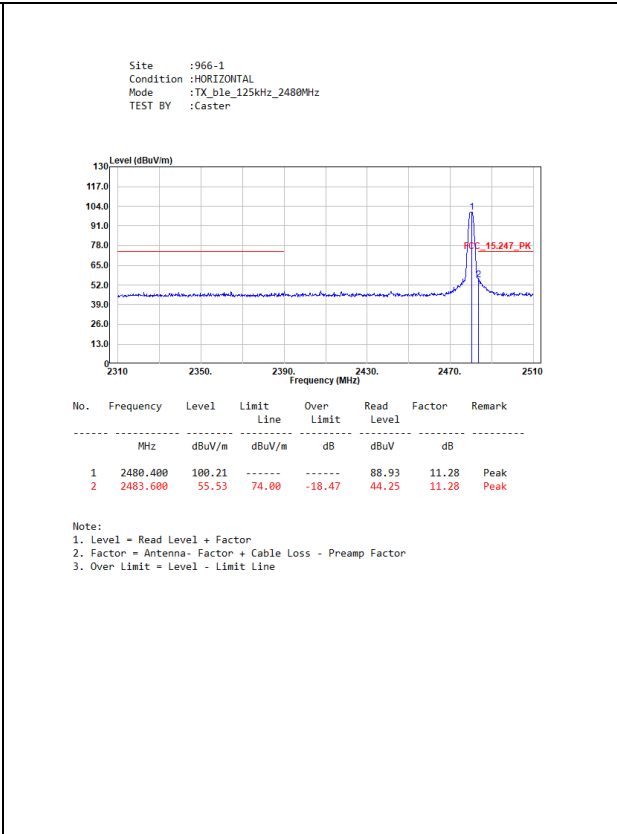
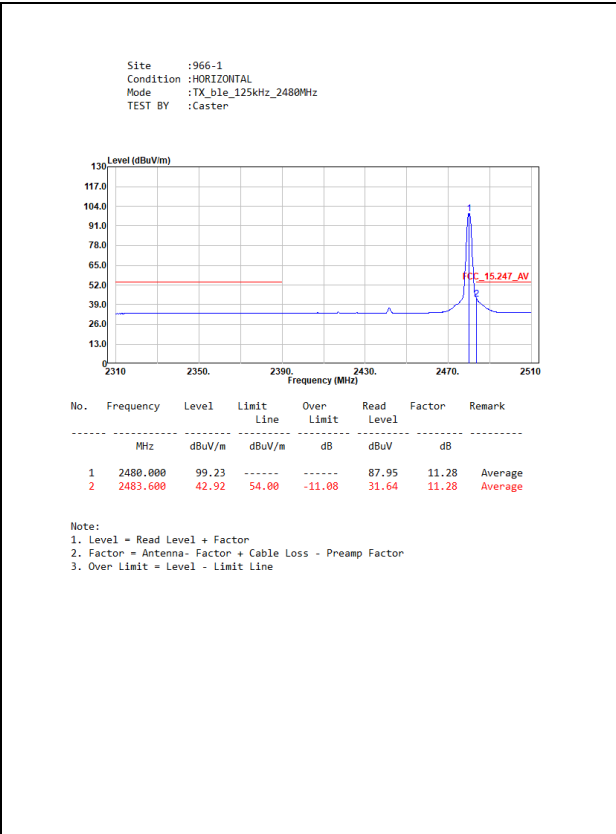
Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :VERTICAL
Mode :TX_ble_125KHz_2402MHz
TEST BY :Caster

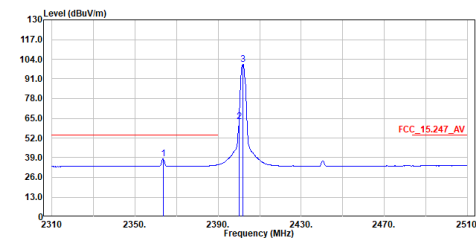


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2383.200	49.86	74.00	-24.14	38.59	11.27	Peak
2	2400.000	75.47	-----	-----	64.15	11.32	Peak
3	2401.800	102.15	-----	-----	90.83	11.32	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line



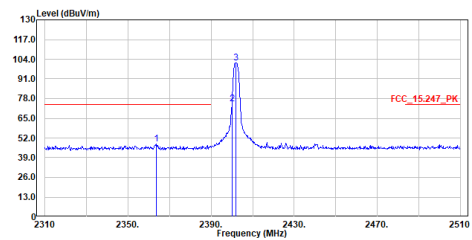
Site :966-1
Condition :HORIZONTAL
Mode :TX_ble_500KHz_2402MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2363.600	38.08	54.00	-15.92	26.87	11.21	Average
2	2400.000	62.56	-----	-----	51.24	11.32	Average
3	2402.000	100.57	-----	-----	89.25	11.32	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

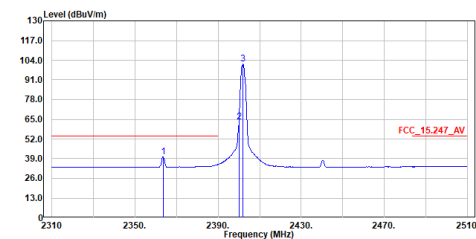
Site :966-1
Condition :HORIZONTAL
Mode :TX_ble_500KHz_2402MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2363.600	48.24	74.00	-25.76	37.03	11.21	Peak
2	2400.000	74.38	-----	-----	63.06	11.32	Peak
3	2401.800	101.55	-----	-----	90.23	11.32	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

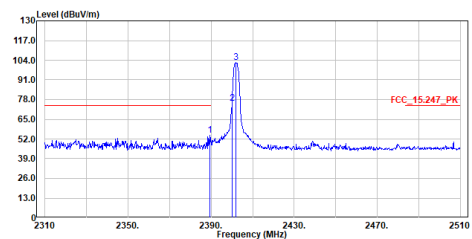
Site :966-1
Condition :Vertical
Mode :TX_ble_500KHz_2402MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2363.600	40.36	54.00	-13.64	29.15	11.21	Average
2	2400.000	63.33	-----	-----	52.01	11.32	Average
3	2402.000	101.31	-----	-----	89.99	11.32	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :Vertical
Mode :TX_ble_500KHz_2402MHz
TEST BY :Caster



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2389.400	54.37	74.00	-19.63	43.08	11.29	Peak
2	2400.000	75.44	-----	-----	64.12	11.32	Peak
3	2401.800	102.30	-----	-----	90.98	11.32	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :HORIZONTAL
Mode :TX_ble_500KHz_2480MHz
TEST BY :Caster

The spectrum plot shows the signal level in dBuV/m versus frequency in MHz. The x-axis ranges from 2310 to 2510 MHz, and the y-axis ranges from 13.0 to 130 dBuV/m. A red horizontal line at 52.00 dBuV/m represents the limit. A blue trace shows the signal, with a prominent peak at 2480.400 MHz labeled 'FCC_15.247_AV'.

No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2480.000	99.25	-----	-----	87.97	11.28	Average
2	2483.600	42.89	54.00	-11.11	31.61	11.28	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :HORIZONTAL
Mode :TX_ble_500KHz_2480MHz
TEST BY :Caster

The spectrum plot shows the signal level in dBuV/m versus frequency in MHz. The x-axis ranges from 2310 to 2510 MHz, and the y-axis ranges from 13.0 to 130 dBuV/m. A red horizontal line at 78.00 dBuV/m represents the limit. A blue trace shows the signal, with a prominent peak at 2480.400 MHz labeled 'FCC_15.247_PK'.

No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2480.400	100.20	-----	-----	88.92	11.28	Peak
2	2483.600	55.31	74.00	-18.69	44.03	11.28	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :Vertical
Mode :TX_ble_500KHz_2480MHz
TEST BY :Caster

The spectrum plot shows the signal level in dBuV/m versus frequency in MHz. The x-axis ranges from 2310 to 2510 MHz, and the y-axis ranges from 13.0 to 130 dBuV/m. A red horizontal line at 52.00 dBuV/m represents the limit. A blue trace shows the signal, with a prominent peak at 2480.400 MHz labeled 'FCC_15.247_AV'.

No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2480.000	99.91	-----	-----	88.63	11.28	Average
2	2483.600	43.56	54.00	-10.44	32.28	11.28	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-1
Condition :Vertical
Mode :TX_ble_500KHz_2480MHz
TEST BY :Caster

The spectrum plot shows the signal level in dBuV/m versus frequency in MHz. The x-axis ranges from 2310 to 2510 MHz, and the y-axis ranges from 13.0 to 130 dBuV/m. A red horizontal line at 78.00 dBuV/m represents the limit. A blue trace shows the signal, with a prominent peak at 2480.400 MHz labeled 'FCC_15.247_PK'.

No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	Line	Limit	Level	dB	
1	2480.400	100.72	-----	-----	89.44	11.28	Peak
2	2483.600	55.89	74.00	-18.11	44.61	11.28	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

使用頻率範圍外之任意 100 千赫雜訊測試結果:

PASS

9. 佔用頻道寬度

9.1. 適用標準

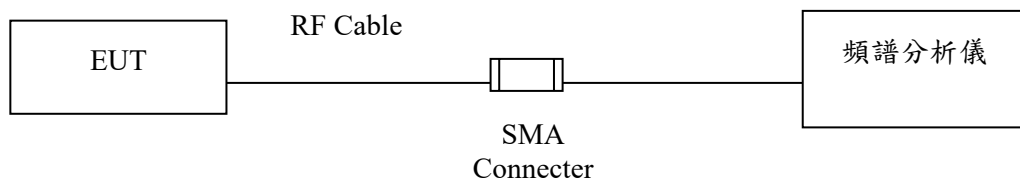
依據國家通訊傳播委員會低功率射頻器材技術規範之第4.10.1.6之要求，6dB頻寬至少應有500千赫(kHz)。

9.2. 量測方法

待測物之天線埠經由適當之衰減直接連至頻譜分析儀 RF 輸入端，設定頻譜分析儀之解析度頻寬為 100kHz，視訊頻寬不小於解析度頻寬，頻率掃瞄範圍(SPAN)遠大於解析度頻寬。

待測物應在正常發射狀態下量測。

9.3. 測試架構圖



9.4. 佔用頻帶寬度測試結果

待測物名稱：LED Lamp

待測物型號：9290030999

測試頻道：CH 00, 19, 39

測試日期：110 年 12 月 16 日

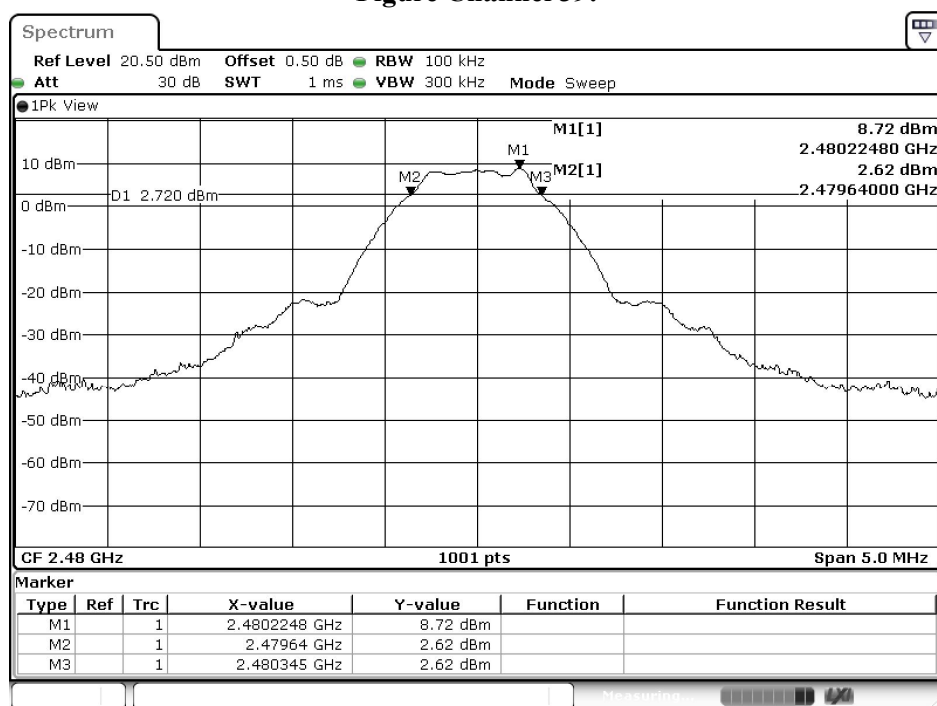
測試項目：佔用頻帶寬度

測試模式：Mode 1: 發射器-1Mbps

檢測器：峰值

Channel No.	Frequency (MHz)	Measure Level (kHz)	Limit (kHz)	Result
00	2402	705	>500	Pass
19	2440	705	>500	Pass
39	2480	705	>500	Pass

Figure Channel 39:



Date: 15.DEC.2021 17:34:38

待測物名稱：LED Lamp

待測物型號：9290030999

測試頻道：CH 00, 19, 39

測試日期：110 年 12 月 16 日

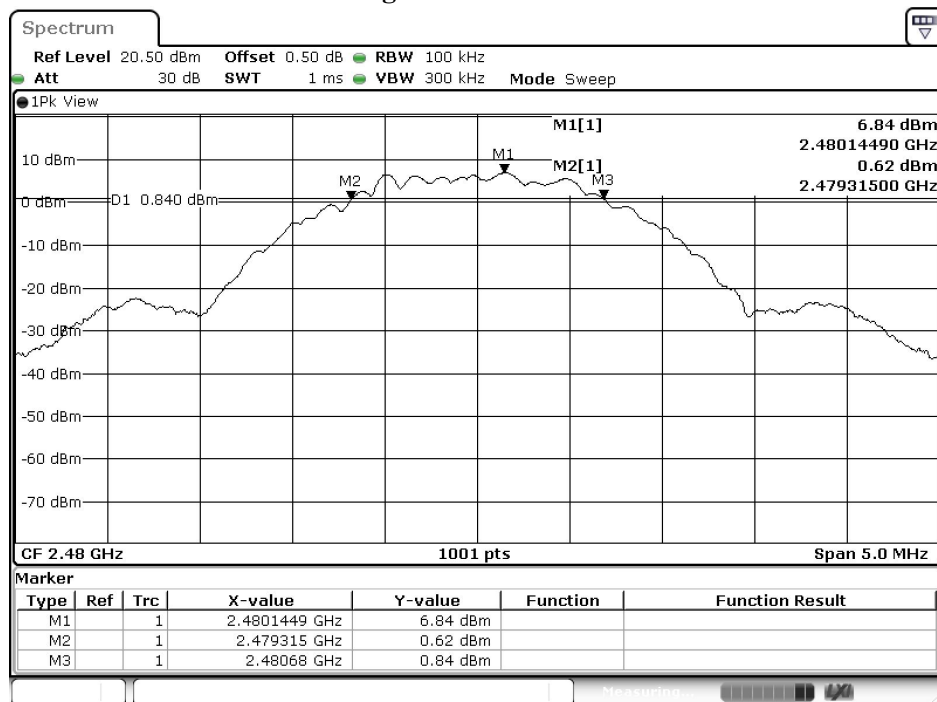
測試項目：佔用頻帶寬度

測試模式：Mode 2: 發射器-2Mbps

檢測器：峰值

Channel No.	Frequency (MHz)	Measure Level (kHz)	Limit (kHz)	Result
00	2402	1360	>500	Pass
19	2440	1360	>500	Pass
39	2480	1365	>500	Pass

Figure Channel 39:



Date: 15.DEC.2021 17:48:49

待測物名稱：LED Lamp

待測物型號：9290030999

測試頻道：CH 00, 19, 39

測試日期：110 年 12 月 20 日

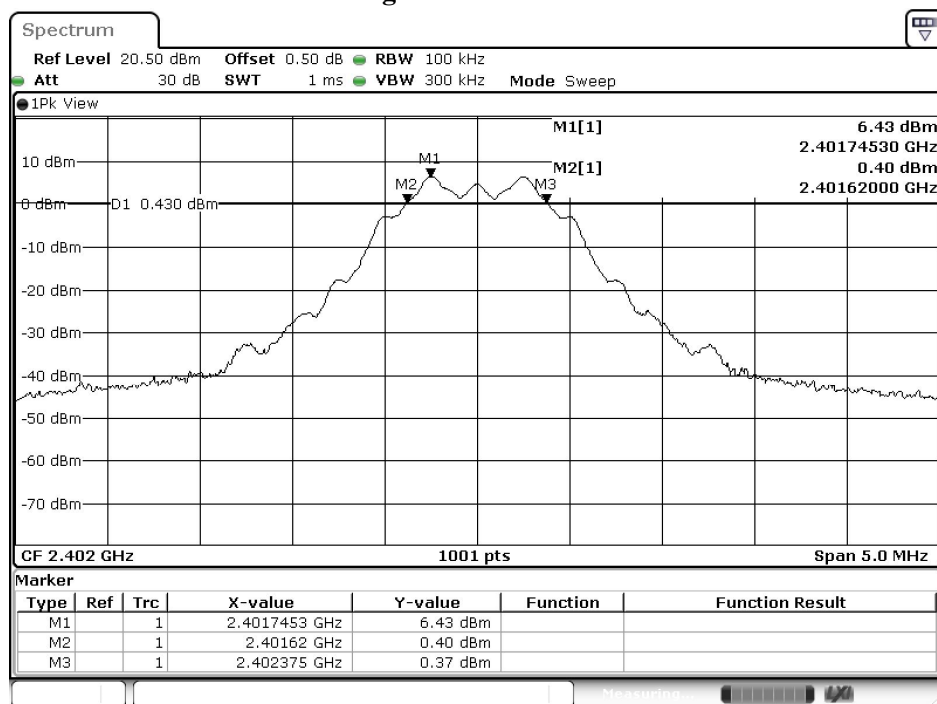
測試項目：佔用頻帶寬度

測試模式：Mode 3: 發射器-125k

檢測器：峰值

Channel No.	Frequency (MHz)	Measure Level (kHz)	Limit (kHz)	Result
00	2402	10.38	>500	Pass
19	2440	10.36	>500	Pass
39	2480	10.35	>500	Pass

Figure Channel 00:



Date: 20.DEC.2021 11:38:41

待測物名稱：LED Lamp

待測物型號：9290030999

測試頻道：CH 00, 19, 39

測試日期：110 年 12 月 20 日

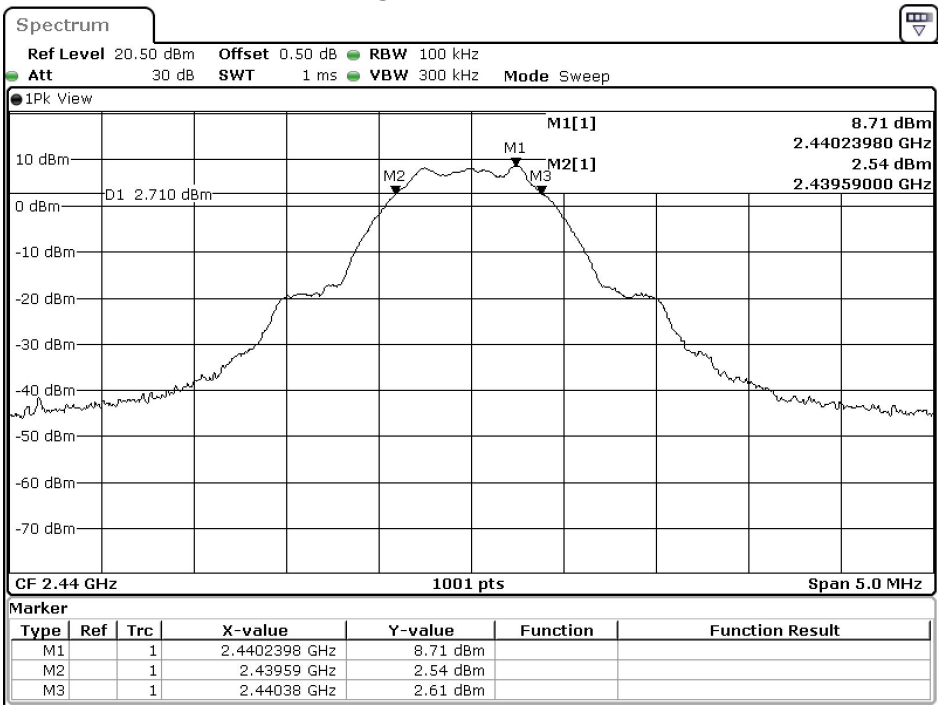
測試項目：佔用頻帶寬度

測試模式：Mode 4: 發射器-500k

檢測器：峰值

Channel No.	Frequency (MHz)	Measure Level (kHz)	Limit (kHz)	Result
00	2402	790	>500	Pass
19	2440	790	>500	Pass
39	2480	790	>500	Pass

Figure Channel 19:



佔用頻道寬度測試結果:

PASS

10. 發射電功率密度

10.1. 適用標準

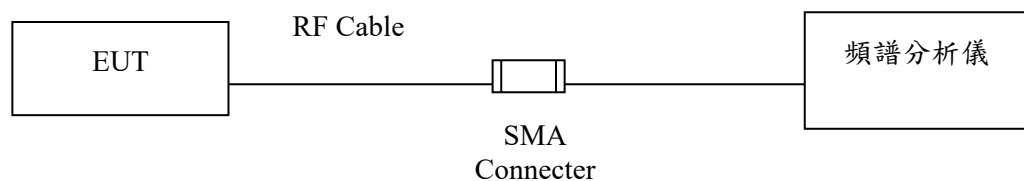
依據國家通訊傳播委員會低功率射頻器材技術規範之第 4.10.1.6 節，在使用頻率範圍之任意 3 千赫(kHz)頻寬內，由發射機傳導至天線之峰值發射電功率密度在任意期間內，皆不得大於 8dBm，且應依 4.10.1.3 之方式降低功率頻譜密度限制值。

10.2. 量測方法

待測物之天線埠經由適當之衰減直接連至頻譜分析儀 RF 輸入端。找出發射峰值並擴展於通帶內，設定頻譜分析儀之解析度頻寬為 3kHz，視訊頻寬大於解析度頻寬，掃瞄時間為頻率掃瞄範圍除以 100kHz。(SWEEP TIME=SPAN/3kHz)。

待測物應在正常發射狀態下量測。

10.3. 測試架構圖



10.4. 功率密度量測結果

待測物名稱：LED Lamp

待測物型號：9290030999

測試頻道：CH 00, 19, 39

測試日期：110年12月16日

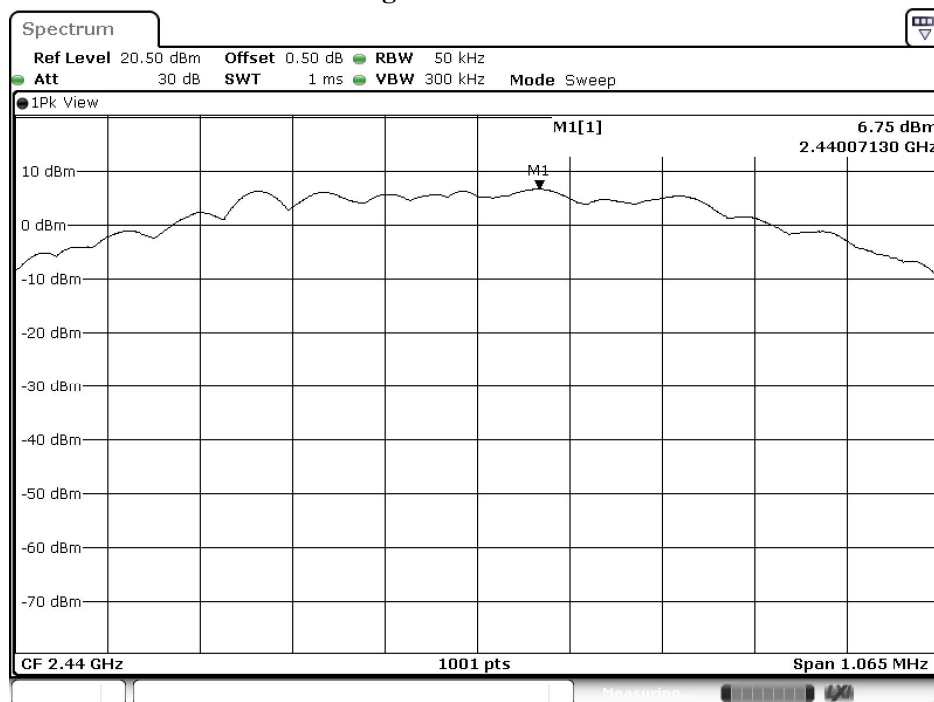
測試項目：功率密度

測試模式：Mode 1: 發射器-1Mbps

檢測器：峰值

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	6.71	≤8dBm	Pass
19	2440	6.75	≤8dBm	Pass
39	2480	6.68	≤8dBm	Pass

Figure Channel 19:



Date: 15.DEC.2021 17:30:41

待測物名稱：LED Lamp

待測物型號：9290030999

測試頻道：CH 00, 19, 39

測試日期：110 年 12 月 16 日

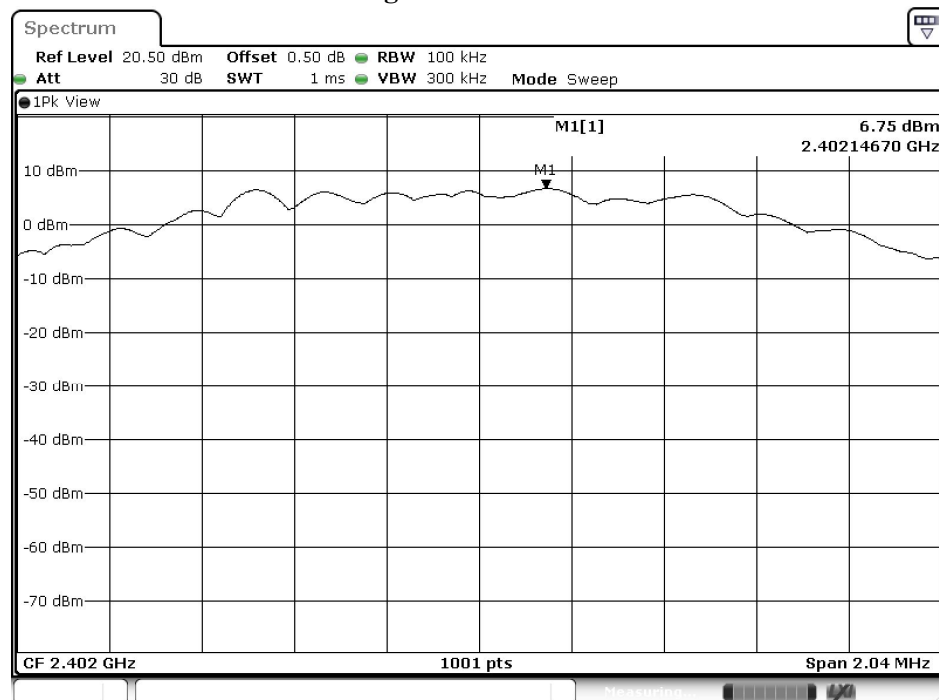
測試項目：功率密度

測試模式：Mode 2: 發射器-2Mbps

檢測器：峰值

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	6.75	≤8dBm	Pass
19	2440	6.69	≤8dBm	Pass
39	2480	6.69	≤8dBm	Pass

Figure Channel 00:



Date: 15.DEC.2021 17:39:38

待測物名稱：LED Lamp

待測物型號：9290030999

測試頻道：CH 00, 19, 39

測試日期：110 年 12 月 20 日

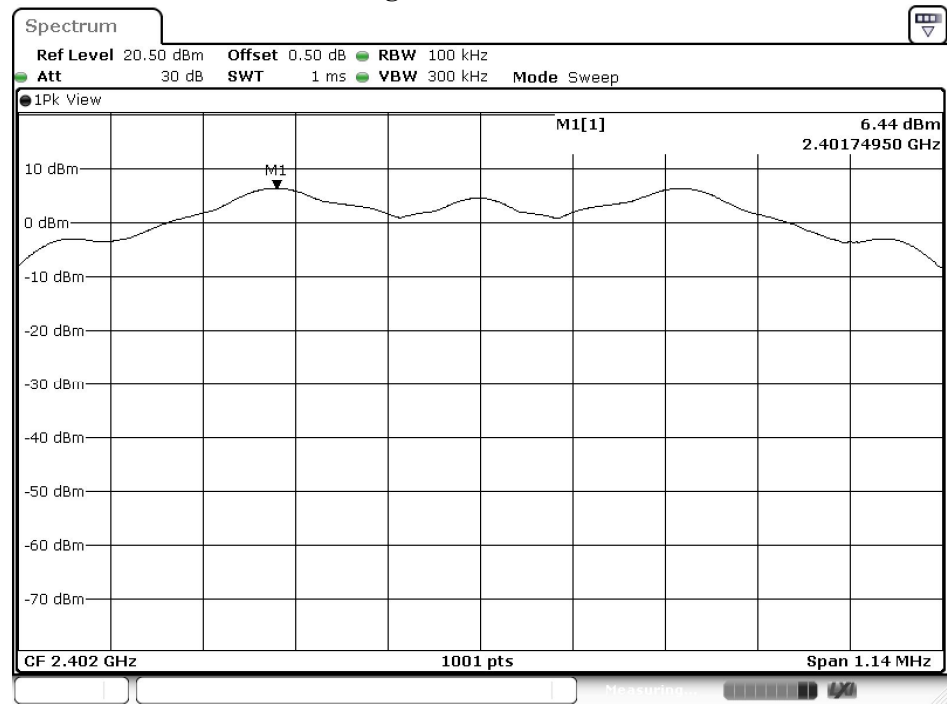
測試項目：功率密度

測試模式：Mode 3: 發射器-125k

檢測器：峰值

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	6.44	≤8dBm	Pass
19	2440	6.35	≤8dBm	Pass
39	2480	6.25	≤8dBm	Pass

Figure Channel 00:



Date: 20.DEC.2021 11:39:04

待測物名稱：LED Lamp

待測物型號：9290030999

測試頻道：CH 00, 19, 39

測試日期：110 年 12 月 20 日

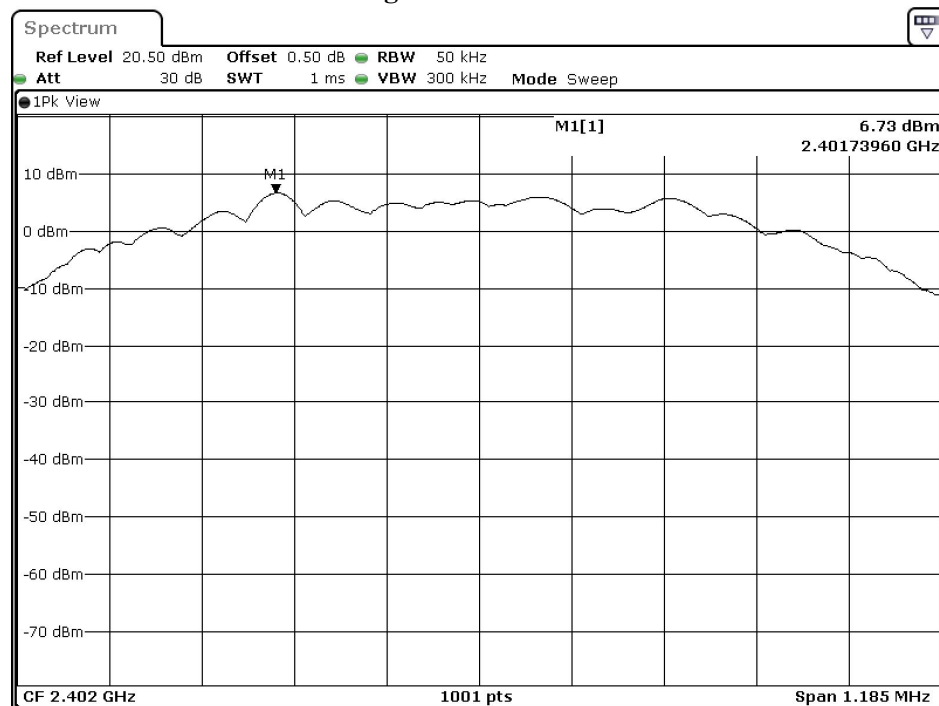
測試項目：功率密度

測試模式：Mode 4: 發射器-500k

檢測器：峰值

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	6.73	≤8dBm	Pass
19	2440	6.62	≤8dBm	Pass
39	2480	6.63	≤8dBm	Pass

Figure Channel 00:



Date: 20.DEC.2021 06:24:04

功率密度測試結果:

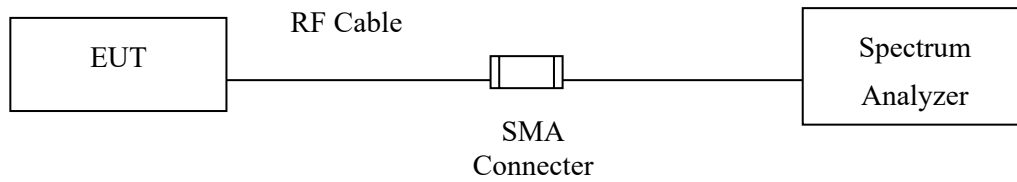
PASS

11. Duty Cycle

11.1. 量測方法

待測物之天線埠經由適當之衰減直接連至頻譜分析儀RF輸入端，
待測物應在正常發射狀態下量測。

11.2. 測試架構圖



11.3. Duty Cycle 測試結果

待測物名稱：LED Lamp

待測物型號：9290030999

測試項目：Duty Cycle

測試日期：110年12月21日

Duty Cycle Formula:

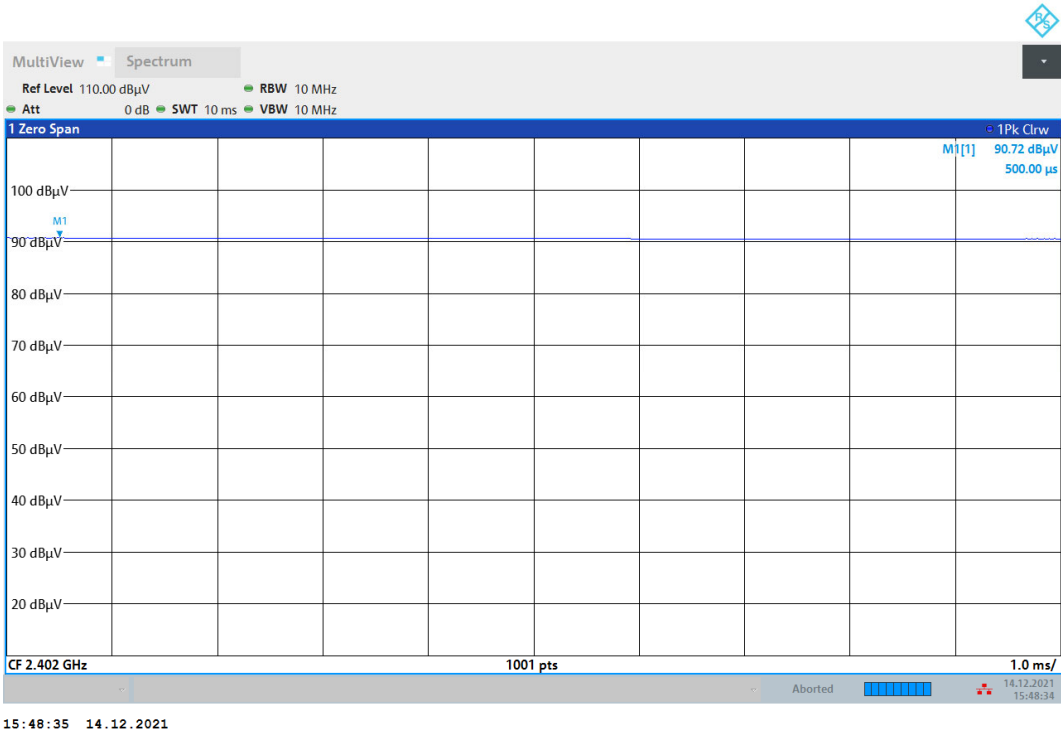
$\text{Duty Cycle} = \text{Ton} / (\text{Ton} + \text{Toff})$

$\text{Duty Factor} = 10 \text{ Log } (1/\text{Duty Cycle})$

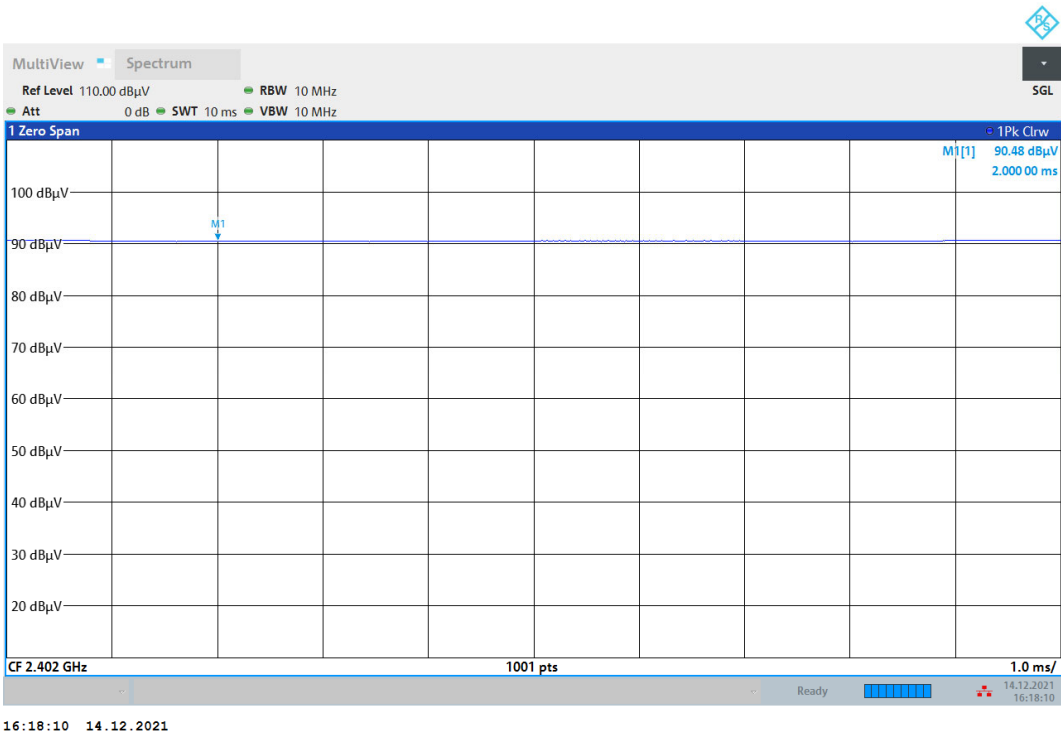
Results:

2.4GHz Band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
BLE (1Mbps)	1.0000	1.0000	100.00	0.00
BLE (2Mbps)	1.0000	1.0000	100.00	0.00
BLE (125k)	1.0000	1.0000	100.00	0.00
BLE (500k)	1.0000	1.0000	100.00	0.00

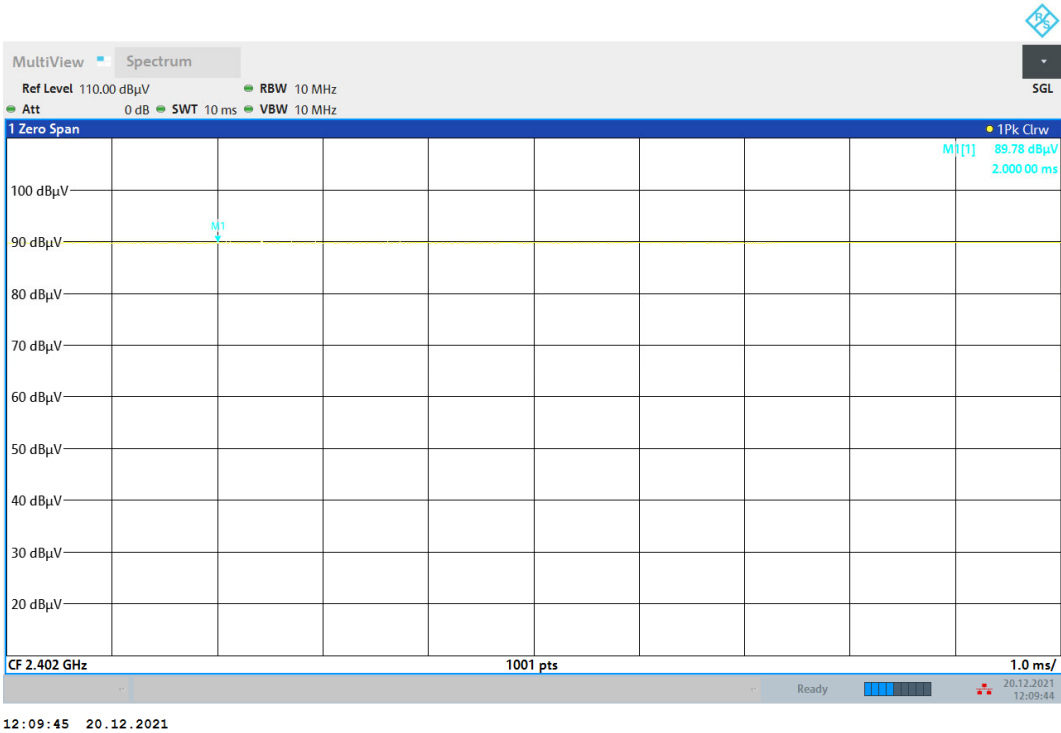
BLE (1Mbps)



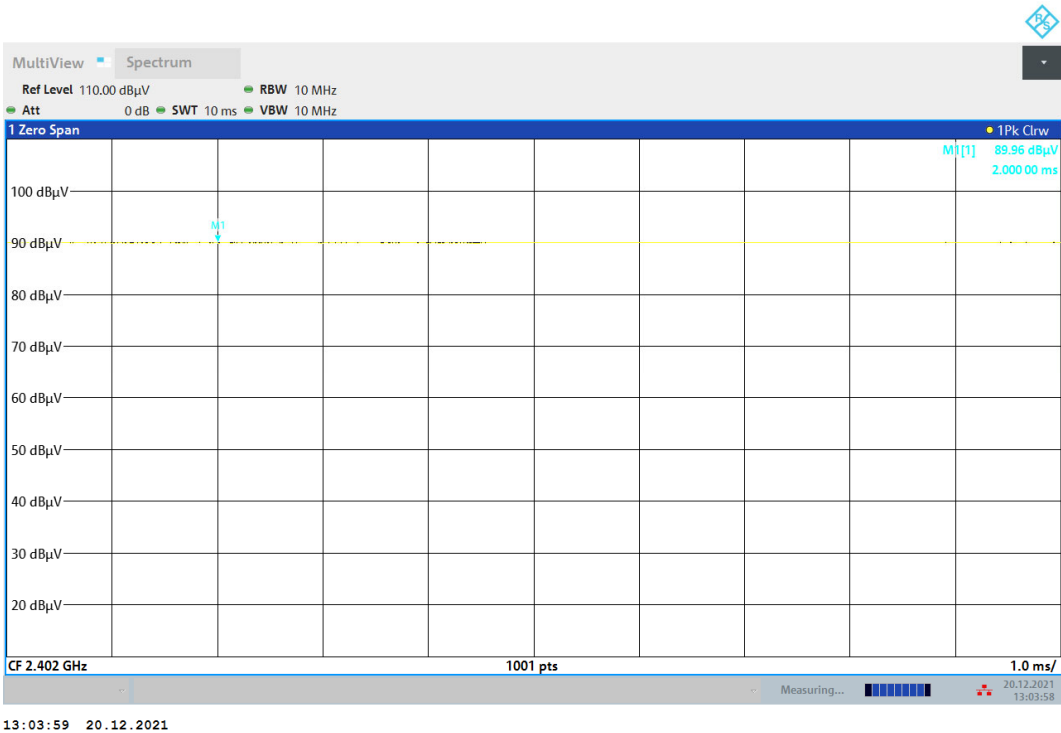
BLE (2Mbps)



BLE (125k)



BLE (500k)

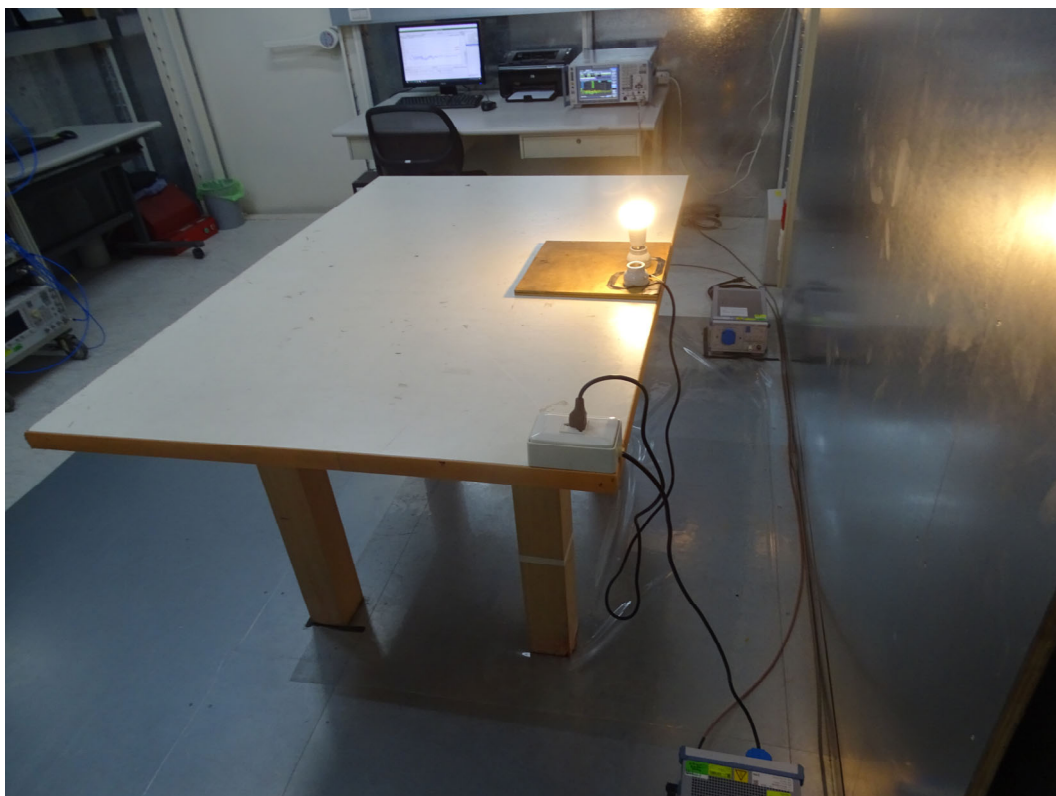


附件 1: 待測物測試擺設相片

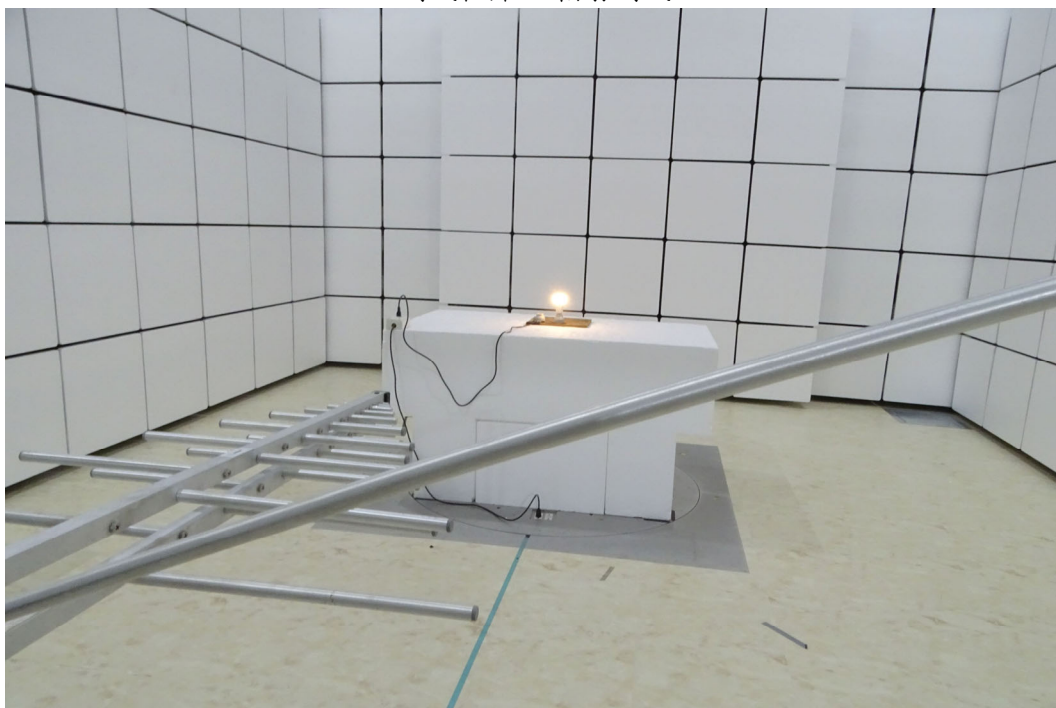
測試相片：電源端點測試 正面相片



測試相片：電源端點測試 背面相片



測試相片：輻射測試



測試相片：輻射測試 (Horn)

