

低功率射頻電機技術規範測試報告

報告編號

RT190408C10

申請者

Sennheiser electronic GmbH & Co.KG

產品名稱

XS Wireless Digital

型號

TX 63

系列型號

TX 35, TX XLR, RX 63, RX 35, RX XLR

製造廠商

Sennheiser electronic GmbH & Co.KG

商標或廠牌

SENNHEISER

該產品樣品試驗
依據之試驗標準

國家通訊傳播委員會低功率射頻電機技術規範
107 年 1 月修訂

試驗結果

合格

香港商立德國際商品試驗有限公司桃園分公司 林口實驗室

日期 108 年 04 月 18 日

報告簽署人簽章:

陳志偉



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證 明 書

發行日期：108 年 04 月 18 日

產 品 名 稱：XS Wireless Digital
廠 牌：SENNHEISER
型 號：TX 63
系 列 型 號：TX 35, TX XLR, RX 63, RX 35, RX XLR
申 請 者：Sennheiser electronic GmbH & Co.KG
量 測 規 範：低功率射頻電機技術規範 LP0002
ANSI C63.10-2013

香港商立德國際商品試驗有限公司桃園分公司在此證明上述待測設備樣品一組(型號：TX 63)，收件日期 108 年 04 月 08 日，於 108 年 04 月 12 日至 108 年 04 月 15 日已在本公司的標準測試場地完成量測。報告中所描述之測試結果和待測設備的架構組合，均根據樣品實際的量測情況作詳實的記錄。

立德桃園分公司依“低功率射頻電機技術規範”、“低功率電波輻射性電機管理辦法”及“電信管制射頻器材審驗辦法”製作測試結果報告。

特 此 證 明 ！

報告製作者： 陳佩珊，日期： 108 年 04 月 18 日
陳佩珊/高級專員

審 核 者： 陳志偉，日期： 108 年 04 月 18 日
陳志偉/專案工程師

香港商立德國際商品試驗有限公司桃園分公司

實驗室地址：新北市林口區嘉寶里 14 鄰 47-2 號

此份報告不得摘錄複製，除全份
複製外，需經實驗室書面同意。



1 低功率射頻電機量測記錄表

申請廠商: Sennheiser electronic GmbH & Co.KG

製造廠商: Sennheiser electronic GmbH & Co.KG

申請廠商地址: Am Labor 1, D-30900 Wedemark, Germany

廠牌: SENNHEISER

產品名稱: XS Wireless Digital

型號: TX 63

系列型號: TX 35, TX XLR, RX 63, RX 35, RX XLR

量測單位名稱: 香港商立德國際商品試驗有限公司桃園分公司
林口實驗室華亞檢測部

量測單位地址: 桃園市龜山區文化里華亞二路 19 號

量測單位認可編號: TAF 2021 (9kHz~40GHz)

量測規範: 低功率射頻電機技術規範 LP0002
ANSI C63.10-2013

項次	量測項目	規 範	量測結果判定
1	帶外發射	低功率射頻電機技術規範 3.10.1.5 節	合格
2	電源線傳導干擾	低功率射頻電機技術規範 2.3 節	合格
3	6 dB 頻寬	低功率射頻電機技術規範 3.10.1.6 節	合格
4	峰值傳導輸出功率	低功率射頻電機技術規範 3.10.1.2 節	合格
5	功率頻譜密度	低功率射頻電機技術規範 3.10.1.6 節	合格

2 一般敘述

2.1 待測設備

產品名稱：	XS Wireless Digital
型號：	TX 63
系列型號：	TX 35, TX XLR, RX 63, RX 35, RX XLR
額定電源：	3.7Vdc (Li-ion battery) 5Vdc (Host)
調變方式：	GFSK
傳輸速率：	1Mbps
載波頻率：	2403~2481MHz
頻道數：	40
發射功率：	6.60dBm
天線種類：	2 integrated ceramic antenna with 0.8dBi gain
電源線類別：	NA
信號線類別：	NA
配件：	NA

註1：待測設備所有型號如下，其詳細差異內容，請詳見差異聲明書。

Model	Software	Hardware	
TX 63, TX 35, TX XLR	0.0.29	audio transmitter (transceiver with 50% duty cycle) audio receiver (transceiver with 3% duty cycle) Both hardware versions have the identical RF part integrated. Transmitter and receiver identification	
RX 63, RX 35, RX XLR		Transmitters (TX) XSW Digital TX 63  XSW Digital TX 35  XSW Digital TX XLR 	Receivers (RX) XSW Digital RX 63  XSW Digital RX 35  XSW Digital RX XLR 

註2：待測設備經過評估後以下列測試模式進行最終量測。

量測項目	發射	接收
2403~2481MHz		
場強輻射	1GHz 以上量測	Ch 0, 20, 39
	其它不必要之訊號	Ch 0
電源線傳導干擾	Ch 0	

註3: 此待測物有六種測試模式如下：

測試模式	描述
A	待測物型號: TX 63
B	待測物型號: TX 35
C	待測物型號: TX XLR
D	待測物型號: RX 63
E	待測物型號: RX 35
F	待測物型號: RX XLR

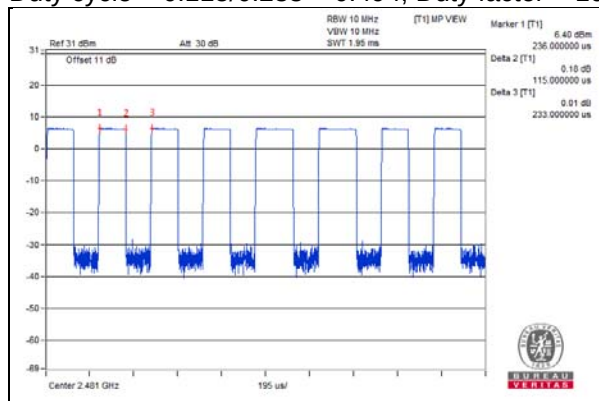
* 1GHz 以下的場強輻射量測與電源線傳導干擾量測以上述六種測試模式進行測試, 1GHz 以上的場強輻射量測及其餘測驗項目以測試模式 A 進行最終量測, 並將測試結果紀錄。

註4: 待測設備經評估三個正交軸方位評估測試擺設方式: 平躺、側放、垂直, 其中以平躺擺放擁有最大干擾值, 故以此進行最終量測並記錄於報告中。

註5: Duty cycle of test signal.

Duty cycle of test signal is < 98 %

Duty cycle = $0.115/0.233 = 0.494$, Duty factor = $10 * \log(1/0.494) = 3.07$



此裝置各頻道的中心頻率如下：

頻道	對應頻率 (MHz)	頻道	對應頻率 (MHz)	頻道	對應頻率 (MHz)	頻道	對應頻率 (MHz)
0	2403	10	2423	20	2443	30	2463
1	2405	11	2425	21	2445	31	2465
2	2407	12	2427	22	2447	32	2467
3	2409	13	2429	23	2449	33	2469
4	2411	14	2431	24	2451	34	2471
5	2413	15	2433	25	2453	35	2473
6	2415	16	2435	26	2455	36	2475
7	2417	17	2437	27	2457	37	2477
8	2419	18	2439	28	2459	38	2479
9	2421	19	2441	29	2461	39	2481

詳細之規格請參考使用說明書，產品的照片請參照 BV CPS 報告編號詳列如下：

型號: TX 63, 產品照檔名: 190408C10

型號: TX 35, 產品照檔名: 190408C10-1

型號: TX XLR, 產品照檔名: 190408C10-2

型號: RX 63, 產品照檔名: 190408C10-3

型號: RX 35, 產品照檔名: 190408C10-4

型號: RX XLR, 產品照檔名: 190408C10-5

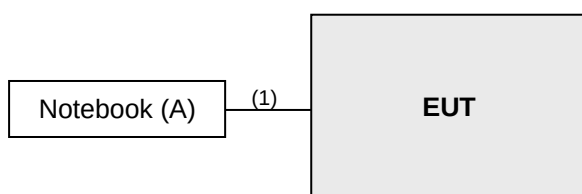
2.2 輔助測試之週邊設備描述

待測設備於受測時均接上其所屬的配件或一般用途之相關設備；下列輔助設備或配件測試中所使用的配備，以形成一個代表待測物實際運作的受測系統。

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	Lenovo	X201	NA	FCC DoC Approved	Provided by client

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB	1	1.8	Y	0	Provided by client Brand: SENNHEISER, Model: 575387

2.3 測試架構圖



3 適用規範

3.1 規範要求

(1) 傳導之規定

依據國家通訊傳播委員會低功率射頻電機技術規範之 2.3 節，電源傳導干擾之限制要求如下：

頻率(MHz)	傳導限制值 (dBuV)	
	準峰值(Quasi-peak)	平均值(Average)
0.15-0.5	66-56(註)	56-46(註)
0.5-5	56	46
5-30	60	50

(註)：隨頻率之對數遞減。

(2) 帶外發射之規定

依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.5 節之要求，操作頻帶範圍外之任意 100 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 kHz 內的射頻功率，其衰減值限制如下：(1) 輸出功率以附件二之峰值輸出功率方式測量者，至少須衰減 20 dB，可使用射頻傳導或輻射方式測量。(2) 輸出功率以 3.10.1.2(1)(C)之最大傳導輸出功率測量方式者，至少須衰減 30 dB。此外，落於 2.7 禁用頻段之輻射發射，應符合 2.8 之規定。

頻率(MHz)	電場強度(微伏特/公尺, uV/m)	測距(公尺)
0.009 - 0.490(含)	2,400/f(kHz)	300
0.490 (不含) - 1.705 (含)	24,000/f(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

(3) 天線之規定

天線規格不受第 2.2 節規定之限制。

(4) 天線增益之要求

低功率發射機，依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.3 節之規定如下：

- (A) 進行固定式點對點操作時，其發射天線之方向性增益超過6 dBi，每超過3 dBi，最大傳導輸出功率限制值應降低1 dB。
- (B) 天線以多向波束發射方式(含同時發射或循序發射)將訊號導向多個接收機或接收機群組時，應符合下列規定：
- (a) 非同時發射多向波束者，所有載波或頻道傳輸至所有天線陣列或陣列群之總和傳導輸出功率應符合3.10.1.2 之功率限制值。如天線/天線陣列群之方向性增益超過6 dBi，每超過3 dBi，總和傳導輸出功率限制值應降低1 dB。方向性增益值應計算如下：
 - (i) 方向性增益值= $10\log(\text{天線陣列之單元數目}) + \text{各單元中最高之方向性增益值}$ 。
 - (ii) 天線陣列間之遮蔽效應或波束干涉損失能充分佐證時，方向性增益得低於(i)計算數值。
 - (b) 同時發射多向波束於相同或不同頻道者，其每一波束功率應符合(a)之功率限制值。如發射波束有重疊現象，功率應降低，以確保總和傳導輸出功率符合(a)之限制值。同時發射的所有波束總和傳導輸出功率不大於(a) 總和傳導輸出功率限制值加8 dB。方向性增益值計算同(a)。
 - (c) 發射機之天線具備單向波束功能者，應符合(1)(A)及(3)後段之規定。
- 除(A)及(B)外，使用超過6 dBi 方向增益之發射天線時，應依超過6 dBi 天線方向增益的dBi 總量，等量減少最大傳導輸出功率限制值。

(5) 6dB 頻寬之要求

對使用數位調變技術(digital modulation techniques)系統之低功率發射機，依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.6 節之規定，6dB 頻寬至少應有 500kHz。

(6) 傳導輸出功率之要求

依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.2 節之規定：

數位調變技術系統：1 W(含)以下。

(7) 功率頻譜密度之要求

依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.6 節之規定，在使用頻率範圍之任一 3 kHz 頻寬內，由發射機傳導至天線之功率頻譜密度在任意傳輸期間內，皆小於或等於 8 毫分貝(dBm)，且應依 3.10.1.3 之方式降低功率頻譜密度限制值

3.2 限制使用之頻帶

除本規範另有規定外，任何低功率射頻電機之主波皆不得使用下表所列各頻段之頻率；低功率射頻電機落於下表所列頻段之混附發射，其電場強度必須符合 2.8 之限制規定。

頻率(兆赫)	頻率(兆赫)	頻率(兆赫)
0.090~0.110	240.00~285.00	3332.0~3339.0
0.490~0.510	322.00~335.40	3345.8~3358.0
2.172~2.198	399.90~410.00	3500.0~4400.0
3.013~3.033	485.00~510.00	4500.0~5250.0
4.115~4.198	608.00~614.00	5350.0~5460.0
5.670~5.690	703.00~748.00	7250.0~7750.0
6.200~6.300	758.00~803.00	8025.0~8500.0
8.230~8.400	825.00~915.00	9000.0~9200.0
12.265~12.600	930.00~1240.0	9300.0~9500.0
13.340~13.430	1300.0~1427.0	10600~12700
14.965~15.020	1435.0~1626.5	13250~13400
16.700~16.755	1660.0~1785.0	14470~14500
19.965~20.020	1805.0~1880.0	15350~16200
25.500~25.700	1885.0~1900.0	17700~21400
37.475~38.275	1905.0~1985.0	22010~23120
73.500~75.400	2010.0~2025.0	23600~24000
108.00~138.00	2110.0~2170.0	31200~31800
149.90~150.05	2200.0~2300.0	36430~36500
156.70~156.90	2310.0~2390.0	38600 以上
162.01~167.17	2483.5~2900.0	
167.72~173.20	3260.0~3267.0	

4 帶外發射之量測

4.1 適用標準

請見本報告3.1節第2項的規定。

4.2 量測方法

在電波暗室，將待測物置於0.8米高的非金屬桌面，使其操作在工作狀態。接收天線置於3米距離。桌面要360度旋轉，另外接收天線從離地1米至4米升降變化，以找出最大的輻射電場強度，接收天線分別置於水平、垂直極化各執行測試一次。

Note: 對於1GHz以上場強輻射的測試，待測物則置於1.5米高的非金屬桌面。

4.3 量測儀器

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	May 29, 2018	May 28, 2019
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Nov. 22, 2018	Nov. 21, 2019
HORN Antenna SCHWARZBECK	9120D	209	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Loop Antenna EMCI	EM-6879	269	Sep. 07, 2018	Sep. 06, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 21, 2018	Aug. 20, 2019
Preamplifier Agilent (Above 1GHz)	8449B	3008A01976	Aug. 21, 2018	Aug. 20, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 21, 2018	Aug. 20, 2019
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM- SM-8000	Cable-CH3-03 (309224+170907)	Aug. 21, 2018	Aug. 20, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190 004/MY55190007/MY55 210005	Jul. 17, 2018	Jul. 16, 2019

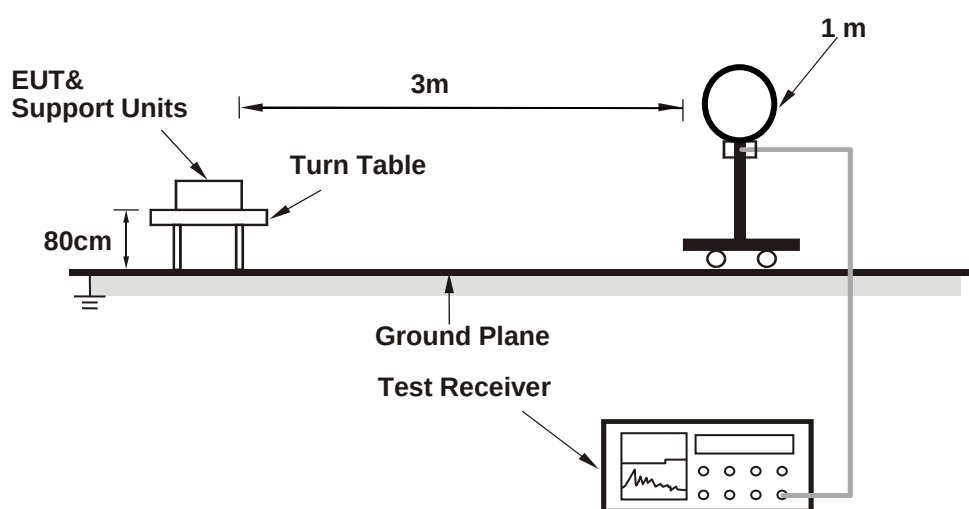
- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 3.
3. The horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
5. The IC Site Registration No. is 7450F-3.

6. The following table is for the measurement uncertainty, which is calculated as per the document CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

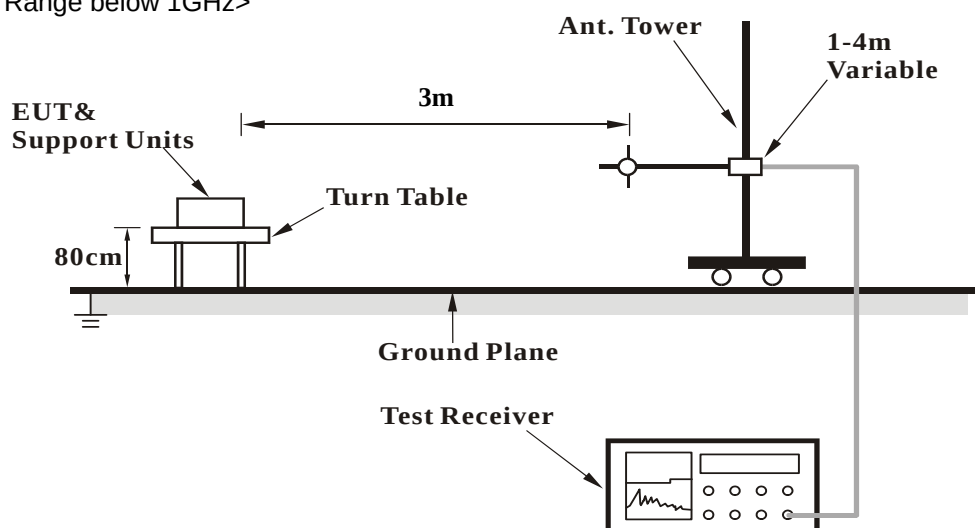
Measurement	Frequency	Uncertainty
Radiated emissions	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.86 dB
	200MHz ~ 1000MHz	3.87 dB
	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

4.4 測試配置

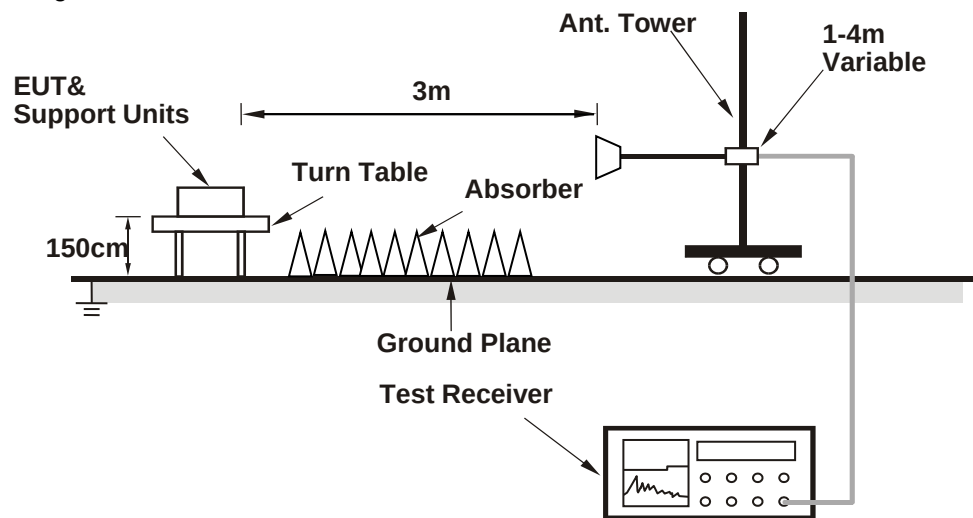
<Frequency Range below 30MHz>



<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



4.5 場強度之計算

場強之計算公式如下：

結果值Emission level (dBuV/m)=機器讀值 Raw Value (dBuV) +校正因子Correction Factor (dB/m)

餘裕度Margin(dB)= 結果值Emission level (dBuV/m)-限制值Limit value (dBuV/m)

量測結果請見下頁。

4.6 量測結果

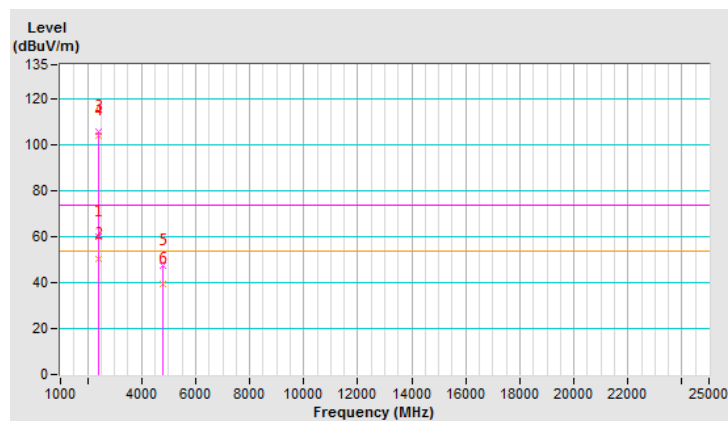
4.6.1 發射諧波

操作模式：	發射	調變技術：	GFSK
基本波頻率：	CH 0：2403 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=3kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	60.2 PK	74.0	-13.8	1.31 H	149	27.3	32.9
2	2390.00	50.1 AV	54.0	-3.9	1.31 H	149	17.2	32.9
3	*2403.00	105.8 PK			1.23 H	142	72.9	32.9
4	*2403.00	104.2 AV			1.23 H	142	71.3	32.9
5	4806.00	47.4 PK	74.0	-26.6	1.15 H	48	43.6	3.8
6	4806.00	39.2 AV	54.0	-14.8	1.15 H	48	35.4	3.8
	7209.00	-	-	-	-	-	-	-
	9612.00	-	-	-	-	-	-	-
	12015.00	-	-	-	-	-	-	-
	14418.00	-	-	-	-	-	-	-
	16821.00	-	-	-	-	-	-	-
	19224.00	-	-	-	-	-	-	-
	21627.00	-	-	-	-	-	-	-
	24030.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. “* ”: Fundamental Frequency (主頻)
5. “- ”: The emission levels were too low to be detected.
6. The other emission levels were very low against the limit.
7. “# ”: The radiated frequency is out of the restricted band.
8. The blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

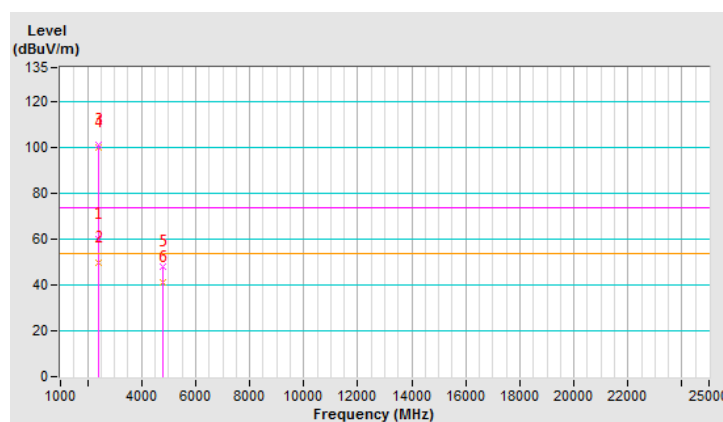


操作模式：	發射	調變技術：	GFSK
基本波頻率：	CH 0：2403 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=3kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	60.1 PK	74.0	-13.9	2.65 V	203	27.2	32.9
2	2390.00	49.8 AV	54.0	-4.2	2.65 V	203	16.9	32.9
3	*2403.00	101.5 PK			2.76 V	193	68.6	32.9
4	*2403.00	99.9 AV			2.76 V	193	67.0	32.9
5	4806.00	48.3 PK	74.0	-25.7	2.38 V	273	44.5	3.8
6	4806.00	41.1 AV	54.0	-12.9	2.38 V	273	37.3	3.8
	7209.00	-	-	-	-	-	-	-
	9612.00	-	-	-	-	-	-	-
	12015.00	-	-	-	-	-	-	-
	14418.00	-	-	-	-	-	-	-
	16821.00	-	-	-	-	-	-	-
	19224.00	-	-	-	-	-	-	-
	21627.00	-	-	-	-	-	-	-
	24030.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. “*” : Fundamental Frequency (主頻)
5. “-” : The emission levels were too low to be detected.
6. The other emission levels were very low against the limit.
7. “#” : The radiated frequency is out of the restricted band.
8. The blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

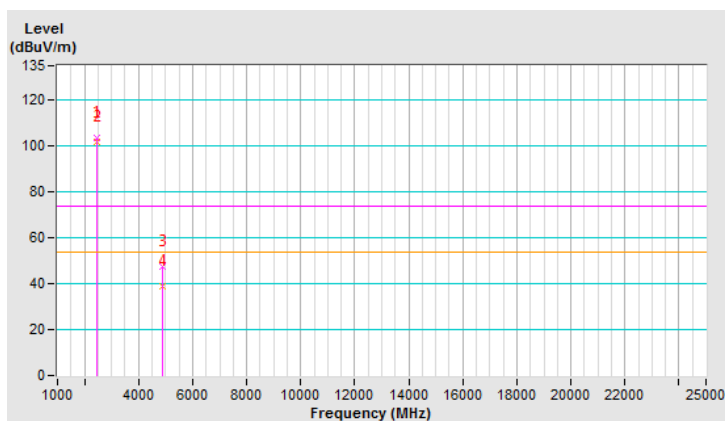


操作模式：	發射	調變技術：	GFSK
基本波頻率：	CH 20 : 2443 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=3kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2443.00	103.5 PK			1.59 H	120	70.6	32.9
2	*2443.00	102.0 AV			1.59 H	120	69.1	32.9
3	4886.00	47.4 PK	74.0	-26.6	1.34 H	48	43.9	3.5
4	4886.00	38.7 AV	54.0	-15.3	1.34 H	48	35.2	3.5
	7329.00	-	-	-	-	-	-	-
	9772.00	-	-	-	-	-	-	-
	12215.00	-	-	-	-	-	-	-
	14658.00	-	-	-	-	-	-	-
	17101.00	-	-	-	-	-	-	-
	19544.00	-	-	-	-	-	-	-
	21987.00	-	-	-	-	-	-	-
	24430.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. “ * ” : Fundamental Frequency (主頻)
5. “ - ” : The emission levels were too low to be detected.
6. The other emission levels were very low against the limit.
7. “ # ” : The radiated frequency is out of the restricted band.
8. The blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

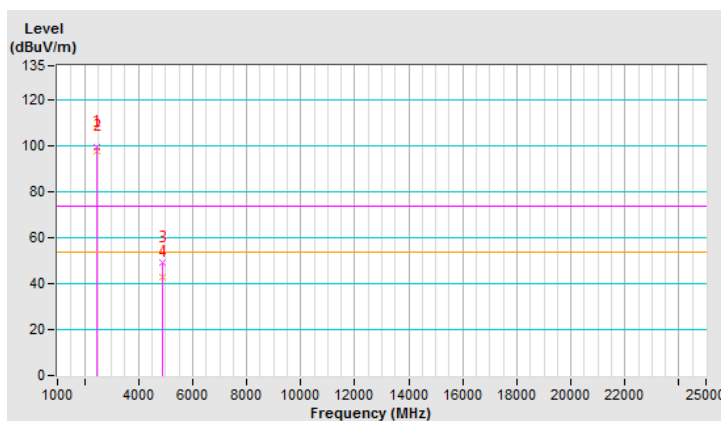


操作模式：	發射	調變技術：	GFSK
基本波頻率：	CH 20 : 2443 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=3kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2443.00	99.3 PK			2.70 V	204	66.4	32.9
2	*2443.00	97.8 AV			2.70 V	204	64.9	32.9
3	4886.00	49.0 PK	74.0	-25.0	2.27 V	273	45.5	3.5
4	4886.00	42.8 AV	54.0	-11.2	2.27 V	273	39.3	3.5
	7329.00	-	-	-	-	-	-	-
	9772.00	-	-	-	-	-	-	-
	12215.00	-	-	-	-	-	-	-
	14658.00	-	-	-	-	-	-	-
	17101.00	-	-	-	-	-	-	-
	19544.00	-	-	-	-	-	-	-
	21987.00	-	-	-	-	-	-	-
	24430.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. “ * ” : Fundamental Frequency (主頻)
5. “ - ” : The emission levels were too low to be detected.
6. The other emission levels were very low against the limit.
7. “ # ” : The radiated frequency is out of the restricted band.
8. The blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

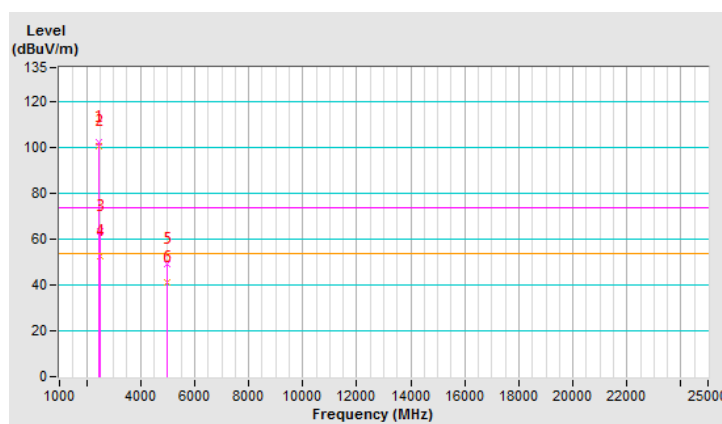


操作模式：	發射	調變技術：	GFSK
基本波頻率：	CH 39 : 2481 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=3kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2481.00	102.2 PK			1.57 H	122	69.2	33.0
2	*2481.00	100.7 AV			1.57 H	122	67.7	33.0
3	2483.50	63.5 PK	74.0	-10.5	1.60 H	133	30.5	33.0
4	2483.50	52.9 AV	54.0	-1.1	1.60 H	133	19.9	33.0
5	4962.00	49.4 PK	74.0	-24.6	1.40 H	46	45.5	3.9
6	4962.00	41.4 AV	54.0	-12.6	1.40 H	46	37.5	3.9
	7443.00	-	-	-	-	-	-	-
	9924.00	-	-	-	-	-	-	-
	12405.00	-	-	-	-	-	-	-
	14886.00	-	-	-	-	-	-	-
	17367.00	-	-	-	-	-	-	-
	19848.00	-	-	-	-	-	-	-
	22329.00	-	-	-	-	-	-	-
	24810.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. " * " : Fundamental Frequency (主頻)
5. " – " : The emission levels were too low to be detected.
6. The other emission levels were very low against the limit.
7. " # " : The radiated frequency is out of the restricted band.
8. The blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

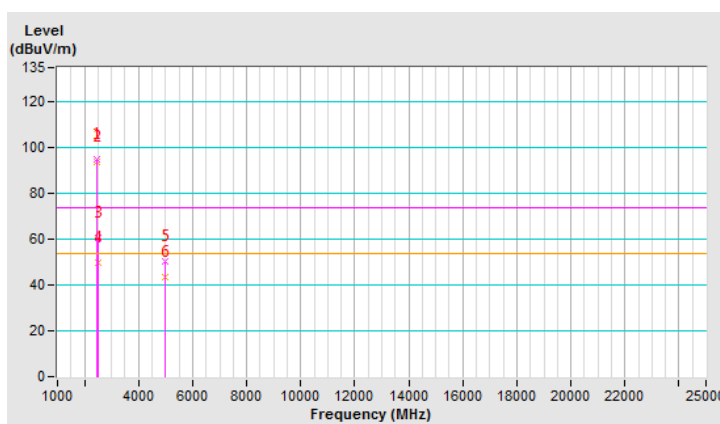


操作模式：	發射	調變技術：	GFSK
基本波頻率：	CH 39 : 2481 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=3kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2481.00	95.2 PK			2.63 V	199	62.2	33.0
2	*2481.00	93.7 AV			2.63 V	199	60.7	33.0
3	2483.50	60.5 PK	74.0	-13.5	2.71 V	191	27.5	33.0
4	2483.50	50.0 AV	54.0	-4.0	2.71 V	191	17.0	33.0
5	4962.00	50.5 PK	74.0	-23.5	2.37 V	274	46.6	3.9
6	4962.00	43.7 AV	54.0	-10.3	2.37 V	274	39.8	3.9
	7443.00	-	-	-	-	-	-	-
	9924.00	-	-	-	-	-	-	-
	12405.00	-	-	-	-	-	-	-
	14886.00	-	-	-	-	-	-	-
	17367.00	-	-	-	-	-	-	-
	19848.00	-	-	-	-	-	-	-
	22329.00	-	-	-	-	-	-	-
	24810.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. " * " : Fundamental Frequency (主頻)
5. " - " : The emission levels were too low to be detected.
6. The other emission levels were very low against the limit.
7. " # " : The radiated frequency is out of the restricted band.
8. The blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)



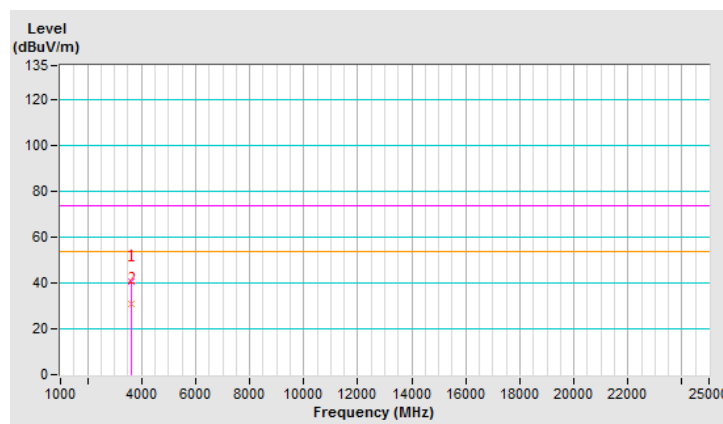
4.6.2 接收諧波

操作模式：	接收	調變技術：	GFSK
基本波頻率：	CH 0：2403 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3604.50	40.9 PK	74.0	-33.1	2.09 H	301	41.4	-0.5
2	3604.50	31.1 AV	54.0	-22.9	2.09 H	301	31.6	-0.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



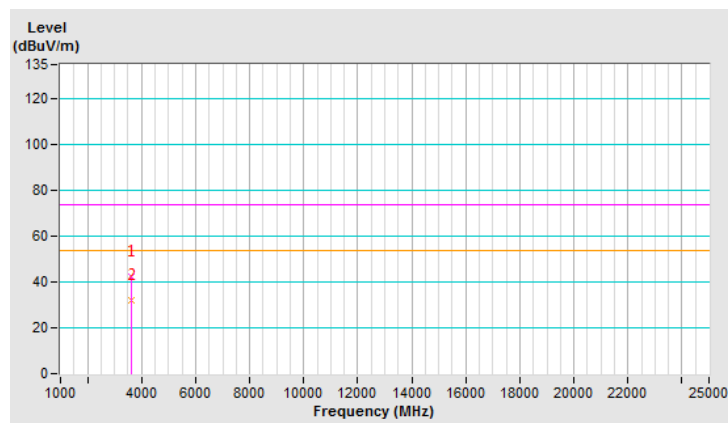
操作模式：	接收	調變技術：	GFSK
基本波頻率：	CH 0：2403 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3604.50	42.5 PK	74.0	-31.5	1.69 V	133	43.0	-0.5
2	3604.50	32.3 AV	54.0	-21.7	1.69 V	133	32.8	-0.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



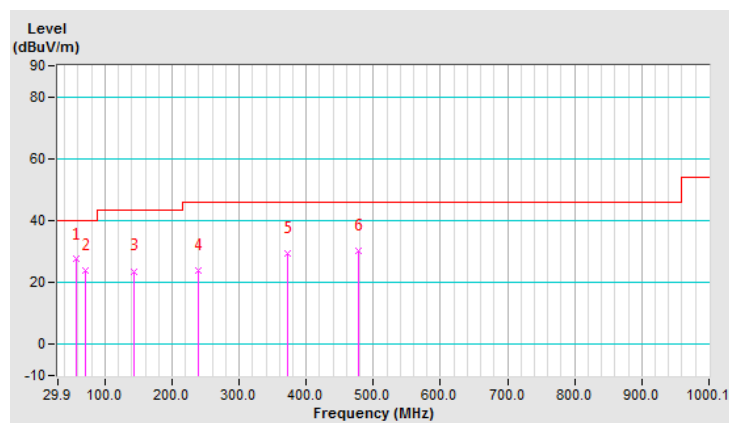
4.6.3 其它不必要之訊號

操作模式：	發射/接收	調變技術：	GFSK
基本波頻率：	CH 0：2403 MHz	測試儀器：	(QP) RB=VB=120kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達
測試模式：	A		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	57.12	27.5 QP	40.0	-12.5	2.00 H	44	37.6	-10.1
2	70.73	24.0 QP	40.0	-16.0	2.00 H	178	36.0	-12.0
3	142.67	23.7 QP	43.5	-19.8	2.00 H	6	33.1	-9.4
4	239.88	23.9 QP	46.0	-22.1	1.50 H	163	33.5	-9.6
5	372.09	29.4 QP	46.0	-16.6	2.00 H	169	35.5	-6.1
6	477.09	30.2 QP	46.0	-15.8	2.00 H	247	34.3	-4.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz.

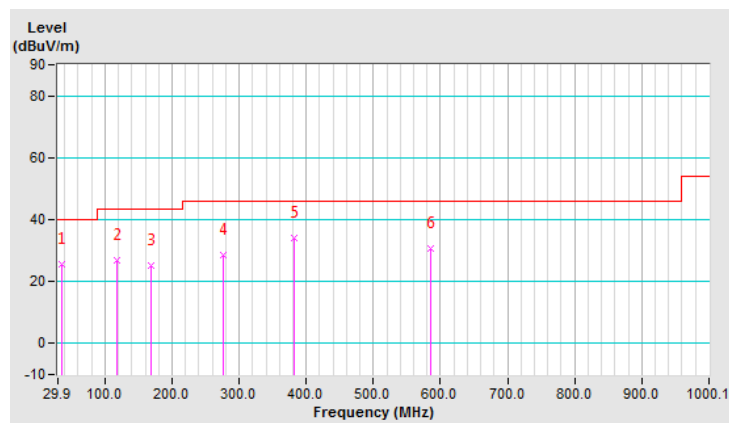


操作模式：	發射/接收	調變技術：	GFSK
基本波頻率：	CH 0：2403 MHz	測試儀器：	(QP) RB=VB=120kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達
測試模式：	A		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	35.73	25.5 QP	40.0	-14.5	1.00 V	182	36.6	-11.1
2	117.39	26.9 QP	43.5	-16.6	1.00 V	161	38.7	-11.8
3	167.94	25.2 QP	43.5	-18.3	1.00 V	258	34.5	-9.3
4	276.82	28.6 QP	46.0	-17.4	1.00 V	123	36.6	-8.0
5	381.82	34.1 QP	46.0	-11.9	1.00 V	324	40.0	-5.9
6	585.97	30.7 QP	46.0	-15.3	1.00 V	177	32.2	-1.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz.

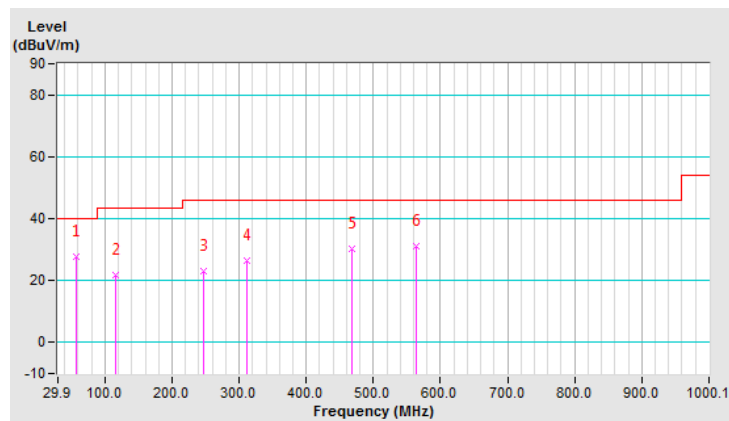


操作模式：	發射/接收	調變技術：	GFSK
基本波頻率：	CH 0：2403 MHz	測試儀器：	(QP) RB=VB=120kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達
測試模式：	B		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	57.12	27.6 QP	40.0	-12.4	1.99 H	16	37.7	-10.1
2	115.45	21.9 QP	43.5	-21.6	1.49 H	198	33.9	-12.0
3	247.66	23.2 QP	46.0	-22.8	1.49 H	281	32.4	-9.2
4	311.82	26.4 QP	46.0	-19.6	1.99 H	221	33.4	-7.0
5	467.36	30.3 QP	46.0	-15.7	1.49 H	173	34.4	-4.1
6	564.58	31.2 QP	46.0	-14.8	1.99 H	135	33.6	-2.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz.

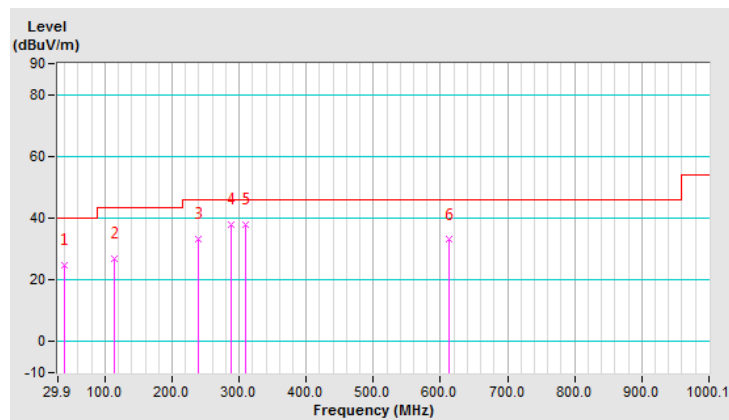


操作模式：	發射/接收	調變技術：	GFSK
基本波頻率：	CH 0：2403 MHz	測試儀器：	(QP) RB=VB=120kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達
測試模式：	B		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	39.62	24.6 QP	40.0	-15.4	1.00 V	351	35.0	-10.4
2	113.50	26.9 QP	43.5	-16.6	1.00 V	159	39.0	-12.1
3	239.88	33.3 QP	46.0	-12.7	1.00 V	312	42.9	-9.6
4	288.49	37.7 QP	46.0	-8.3	1.00 V	198	45.3	-7.6
5	309.88	37.9 QP	46.0	-8.1	1.00 V	181	45.0	-7.1
6	613.19	33.0 QP	46.0	-13.0	1.00 V	111	33.9	-0.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz.

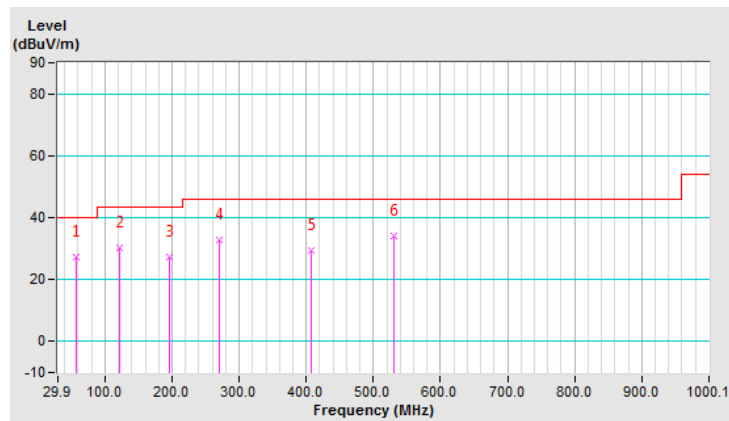


操作模式：	發射/接收	調變技術：	GFSK
基本波頻率：	CH 0：2403 MHz	測試儀器：	(QP) RB=VB=120kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達
測試模式：	C		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	57.12	27.3 QP	40.0	-12.7	1.99 H	250	37.4	-10.1
2	121.28	30.2 QP	43.5	-13.3	1.51 H	64	41.5	-11.3
3	197.11	27.5 QP	43.5	-16.0	1.01 H	200	38.7	-11.2
4	270.99	32.9 QP	46.0	-13.1	1.01 H	285	41.2	-8.3
5	407.09	29.6 QP	46.0	-16.4	1.99 H	235	35.1	-5.5
6	531.53	34.1 QP	46.0	-11.9	1.51 H	171	37.3	-3.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz.

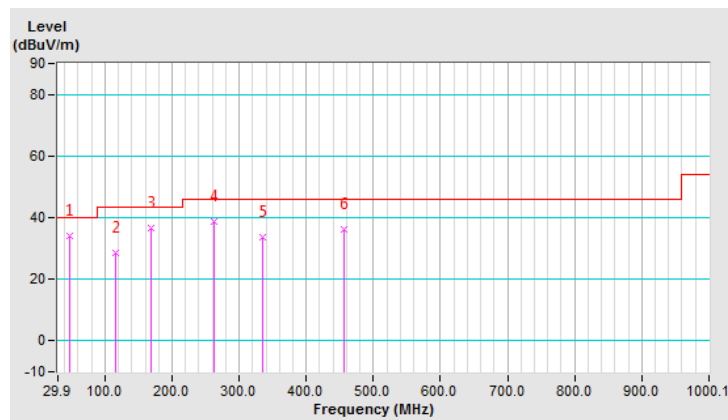


操作模式：	發射/接收	調變技術：	GFSK
基本波頻率：	CH 0：2403 MHz	測試儀器：	(QP) RB=VB=120kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達
測試模式：	C		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	47.40	34.2 QP	40.0	-5.8	1.00 V	48	43.9	-9.7
2	115.45	28.6 QP	43.5	-14.9	1.00 V	141	40.6	-12.0
3	167.94	36.6 QP	43.5	-6.9	1.00 V	208	45.9	-9.3
4	263.21	38.8 QP	46.0	-7.2	1.00 V	170	47.4	-8.6
5	335.15	33.7 QP	46.0	-12.3	1.00 V	194	40.4	-6.7
6	455.70	36.1 QP	46.0	-9.9	1.00 V	194	40.5	-4.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz.

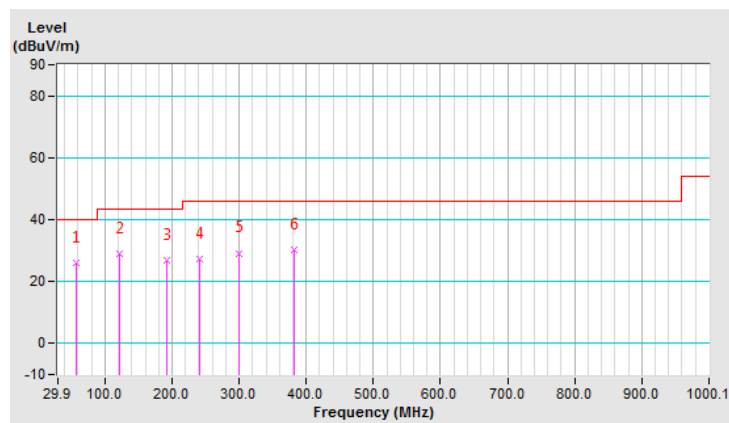


操作模式：	發射/接收	調變技術：	GFSK
基本波頻率：	CH 0：2403 MHz	測試儀器：	(QP) RB=VB=120kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達
測試模式：	D		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	57.12	26.0 QP	40.0	-14.0	1.49 H	10	36.1	-10.1
2	121.28	28.9 QP	43.5	-14.6	1.50 H	253	40.2	-11.3
3	191.28	26.8 QP	43.5	-16.7	1.50 H	226	37.9	-11.1
4	241.83	27.4 QP	46.0	-18.6	1.00 H	277	36.9	-9.5
5	300.16	29.2 QP	46.0	-16.8	1.00 H	248	36.6	-7.4
6	381.82	30.4 QP	46.0	-15.6	1.00 H	258	36.3	-5.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz.

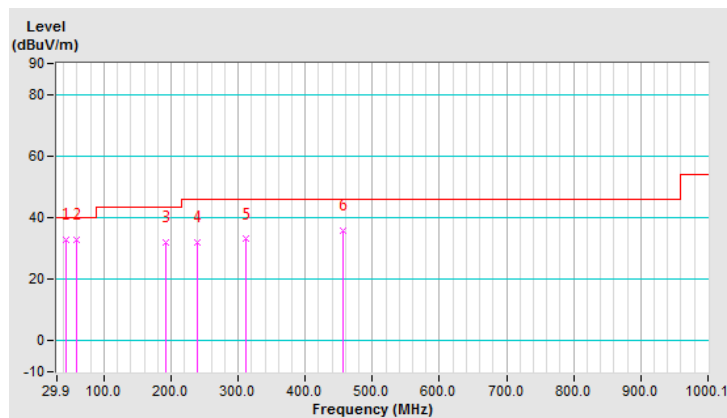


操作模式：	發射/接收	調變技術：	GFSK
基本波頻率：	CH 0：2403 MHz	測試儀器：	(QP) RB=VB=120kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達
測試模式：	D		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	43.51	32.7 QP	40.0	-7.3	1.00 V	36	42.7	-10.0
2	59.06	32.9 QP	40.0	-7.1	1.00 V	32	43.0	-10.1
3	191.28	32.1 QP	43.5	-11.4	1.00 V	99	43.2	-11.1
4	239.88	32.0 QP	46.0	-14.0	1.49 V	144	41.6	-9.6
5	311.82	33.0 QP	46.0	-13.0	1.00 V	202	40.0	-7.0
6	455.70	35.6 QP	46.0	-10.4	1.00 V	207	40.0	-4.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz.

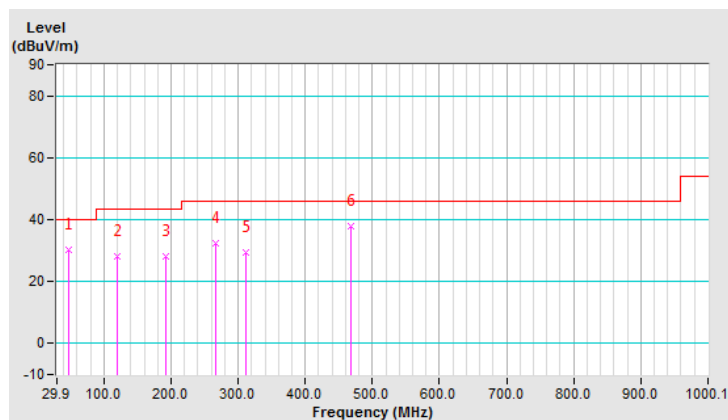


操作模式：	發射/接收	調變技術：	GFSK
基本波頻率：	CH 0：2403 MHz	測試儀器：	(QP) RB=VB=120kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達
測試模式：	E		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	47.40	30.2 QP	40.0	-9.8	1.99 H	134	39.9	-9.7
2	119.34	28.0 QP	43.5	-15.5	1.49 H	260	39.6	-11.6
3	191.28	28.1 QP	43.5	-15.4	1.00 H	325	39.2	-11.1
4	267.10	32.2 QP	46.0	-13.8	1.00 H	266	40.6	-8.4
5	311.82	29.3 QP	46.0	-16.7	1.99 H	166	36.3	-7.0
6	467.36	38.0 QP	46.0	-8.0	1.99 H	199	42.1	-4.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz.

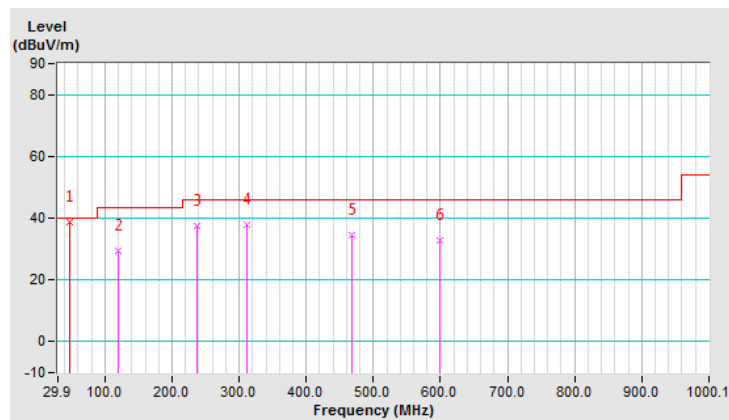


操作模式：	發射/接收	調變技術：	GFSK
基本波頻率：	CH 0：2403 MHz	測試儀器：	(QP) RB=VB=120kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達
測試模式：	E		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	47.81	38.8 QP	40.0	-1.2	1.00 V	322	48.5	-9.7
2	119.34	29.4 QP	43.5	-14.1	1.00 V	246	41.0	-11.6
3	237.94	37.3 QP	46.0	-8.7	1.00 V	190	47.1	-9.8
4	311.82	37.7 QP	46.0	-8.3	1.00 V	191	44.7	-7.0
5	467.36	34.5 QP	46.0	-11.5	1.00 V	254	38.6	-4.1
6	599.58	32.6 QP	46.0	-13.4	1.00 V	145	33.8	-1.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz.

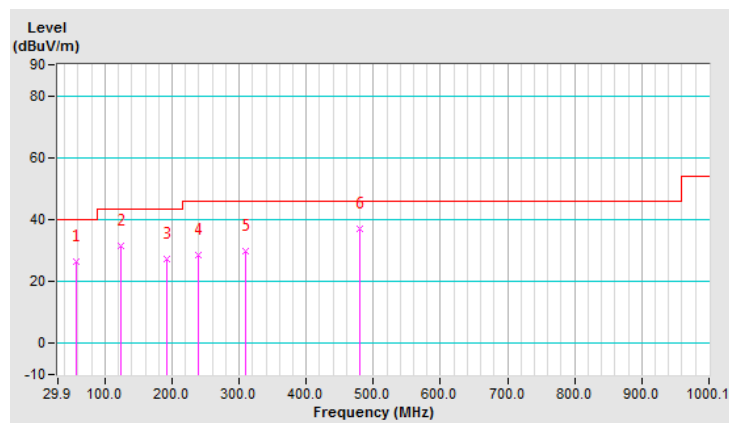


操作模式：	發射/接收	調變技術：	GFSK
基本波頻率：	CH 0：2403 MHz	測試儀器：	(QP) RB=VB=120kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達
測試模式：	F		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	57.12	26.3 QP	40.0	-13.7	1.50 H	229	36.4	-10.1
2	123.23	31.6 QP	43.5	-11.9	1.49 H	246	42.8	-11.2
3	191.28	27.4 QP	43.5	-16.1	1.49 H	5	38.5	-11.1
4	239.88	28.4 QP	46.0	-17.6	1.50 H	147	38.0	-9.6
5	309.88	29.9 QP	46.0	-16.1	1.00 H	262	37.0	-7.1
6	479.03	37.1 QP	46.0	-8.9	1.00 H	143	41.1	-4.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz.

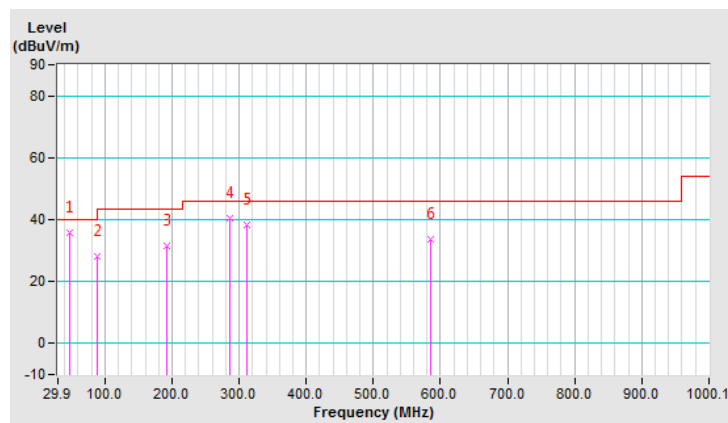


操作模式：	發射/接收	調變技術：	GFSK
基本波頻率：	CH 0：2403 MHz	測試儀器：	(QP) RB=VB=120kHz
量測場地溫度：	22°C	量測場地濕度：	66%RH
測試日期：	108 年 04 月 12 日	測試者：	彭民達
測試模式：	F		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	47.40	35.8 QP	40.0	-4.2	1.00 V	331	45.5	-9.7
2	88.23	28.3 QP	43.5	-15.2	1.50 V	163	42.9	-14.6
3	191.28	31.7 QP	43.5	-11.8	1.00 V	73	42.8	-11.1
4	286.55	40.3 QP	46.0	-5.7	1.00 V	181	47.9	-7.6
5	311.82	38.2 QP	46.0	-7.8	1.00 V	198	45.2	-7.0
6	585.97	33.6 QP	46.0	-12.4	1.00 V	137	35.1	-1.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz.



4.7 量測結果判定

依據測試數據結果，符合低功率射頻電機技術規範之要求。

4.8 配置照片

請參閱附件（測試設置照片）。

5 電源線傳導干擾之量測

5.1 適用標準

請見本報告3.1節第1項的規定。

5.2 量測方法

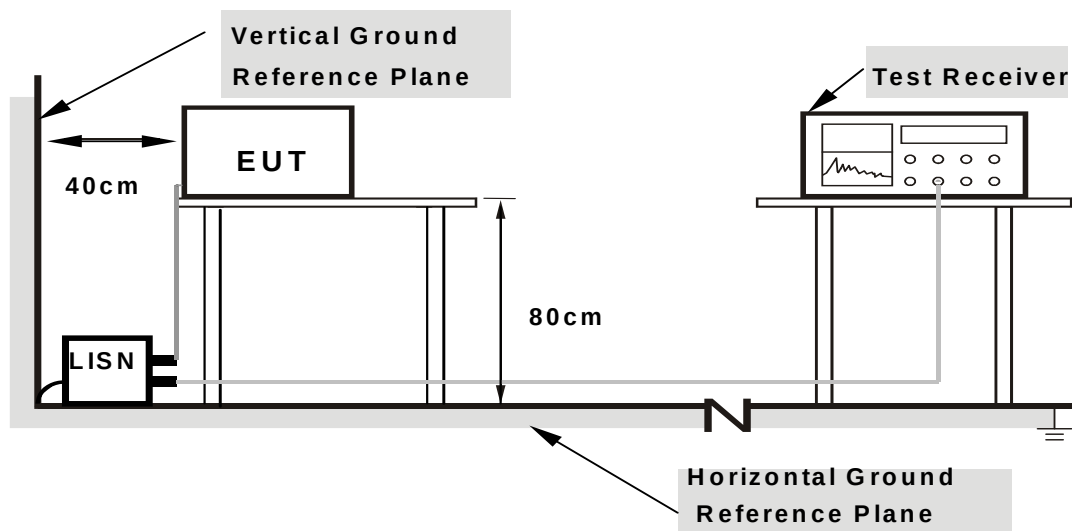
將待測物置於0.8米高的非金屬桌面，使其操作在工作狀態，待測物電源線接至電源線阻抗穩定網路上，從測試接收機記錄頻率由0.15MHz至30MHz之間之電源線傳導放射強度。

5.3 量測儀器

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCS 30	100288	Jan. 03, 2019	Jan. 02, 2020
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2018	Sep. 04, 2019
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 21, 2019	Feb. 20, 2020
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 19, 2018	Aug. 18, 2019
Software ADT	BV ADT_Conf_ V7.3.7.4	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Shielded Room 1.
 3. The VCCI Site Registration No. is C-12040.
 4. The measurement uncertainty is 2.94 dB, which is calculated as per the document CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

5.4 測試配置



- Note:**
- 1.Support units were connected to second LISN.
 - 2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

5.5 干擾值之計算

餘裕度Margin(dB)= 結果值Emission level (dBuV)-限制值Limit value (dBuV)

電源傳導干擾電壓之計算公式如下

結果值Emission level (dBuV)=校正因子Correction Factor (dB)+儀器讀值Reading value (dBuV)

其中校正因子Correction Factor (dB)為：

饋線損失+電源阻抗模擬網路損失

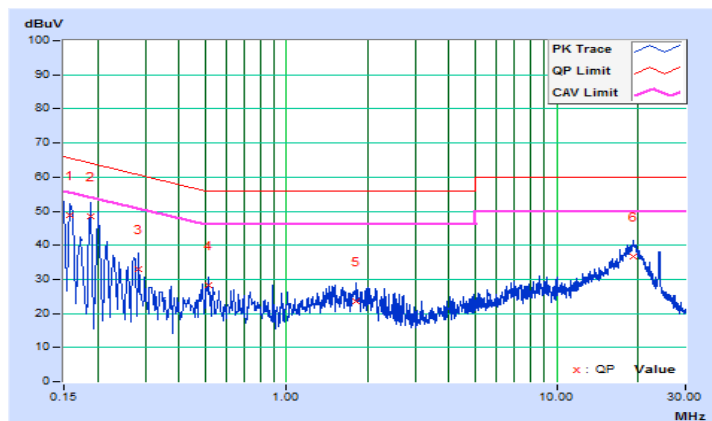
5.6 量測結果

操作模式	發射/接收	測試日期	108 年 04 月 12 日
基本波頻率	CH 0 : 2403 MHz	量測場地溫度	23°C
調變技術	GFSK	量測場地濕度	68%RH
測試者	彭民達	測試模式	A

		6 dB Bandwidth: 9kHz				PHASE: LINE (L)			
輻射頻率	校正因子	儀器讀值		結果值		限制值		餘裕度	
[MHz]	[dB]	[dB (uV)]		[dB (uV)]		[dB (uV)]		[dB]	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.15802	9.69	39.29	26.32	48.98	36.01	65.57	55.57	-16.59	-19.56
0.18853	9.68	38.85	23.30	48.53	32.98	64.10	54.10	-15.57	-21.12
0.28294	9.68	23.21	9.37	32.89	19.05	60.73	50.73	-27.84	-31.68
0.51363	9.68	18.48	8.91	28.16	18.59	56.00	46.00	-27.84	-27.41
1.80002	9.69	13.90	6.48	23.59	16.17	56.00	46.00	-32.41	-29.83
19.11350	9.93	26.84	21.74	36.77	31.67	60.00	50.00	-23.23	-18.33

Note:

- 1.Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2.The emission levels of other frequencies were very low against the limit.
- 3.Margin value = Emission level - Limit value
- 4.Correction factor = Insertion loss + Cable loss
- 5.Emission Level = Correction Factor + Reading Value.

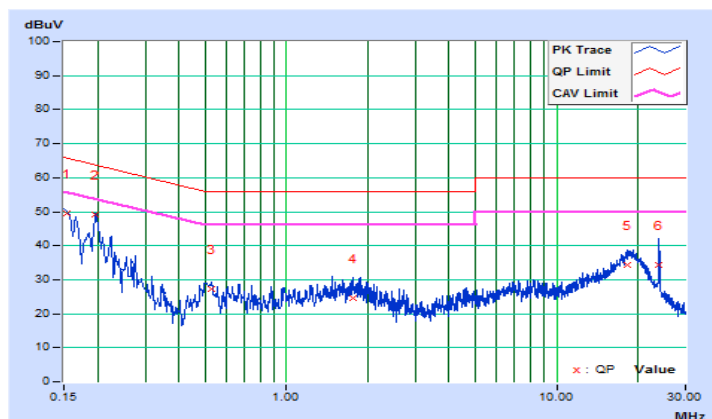


操作模式	發射/接收	測試日期	108 年 04 月 12 日
基本波頻率	CH 0 : 2403 MHz	量測場地溫度	23°C
調變技術	GFSK	量測場地濕度	68%RH
測試者	彭民達	測試模式	A

		6 dB Bandwidth: 9kHz				PHASE: NEUTRAL (N)			
輻射頻率	校正因子	儀器讀值		結果值		限制值		餘裕度	
[MHz]	[dB]	[dB (uV)]		[dB (uV)]		[dB (uV)]		[dB]	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.15391	9.66	39.97	26.33	49.63	35.99	65.79	55.79	-16.16	-19.80
0.19692	9.66	39.61	27.13	49.27	36.79	63.74	53.74	-14.47	-16.95
0.52927	9.65	17.55	9.02	27.20	18.67	56.00	46.00	-28.80	-27.33
1.77265	9.66	15.00	7.78	24.66	17.44	56.00	46.00	-31.34	-28.56
18.20638	9.97	24.31	19.46	34.28	29.43	60.00	50.00	-25.72	-20.57
24.00100	10.02	24.40	17.27	34.42	27.29	60.00	50.00	-25.58	-22.71

Note:

- 1.Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2.The emission levels of other frequencies were very low against the limit.
- 3.Margin value = Emission level - Limit value
- 4.Correction factor = Insertion loss + Cable loss
- 5.Emission Level = Correction Factor + Reading Value.

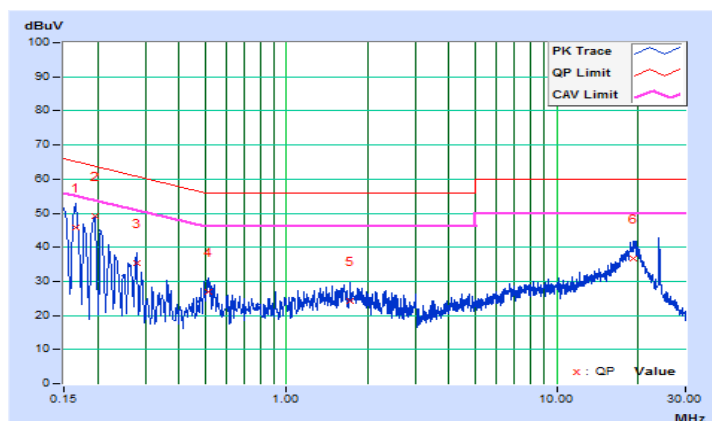


操作模式	發射/接收	測試日期	108 年 04 月 12 日
基本波頻率	CH 0 : 2403 MHz	量測場地溫度	23°C
調變技術	GFSK	量測場地濕度	68%RH
測試者	彭民達	測試模式	B

		6 dB Bandwidth: 9kHz				PHASE: LINE (L)			
輻射頻率	校正因子	儀器讀值		結果值		限制值		餘裕度	
[MHz]	[dB]	[dB (uV)]		[dB (uV)]		[dB (uV)]		[dB]	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.16564	9.69	36.22	21.44	45.91	31.13	65.18	55.18	-19.27	-24.05
0.19665	9.68	39.63	27.20	49.31	36.88	63.75	53.75	-14.44	-16.87
0.27903	9.68	25.51	11.88	35.19	21.56	60.84	50.84	-25.65	-29.28
0.51363	9.68	17.41	7.91	27.09	17.59	56.00	46.00	-28.91	-28.41
1.72182	9.69	14.53	7.11	24.22	16.80	56.00	46.00	-31.78	-29.20
19.25035	9.93	26.87	21.84	36.80	31.77	60.00	50.00	-23.20	-18.23

Note:

- 1.Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2.The emission levels of other frequencies were very low against the limit.
- 3.Margin value = Emission level - Limit value
- 4.Correction factor = Insertion loss + Cable loss
- 5.Emission Level = Correction Factor + Reading Value.

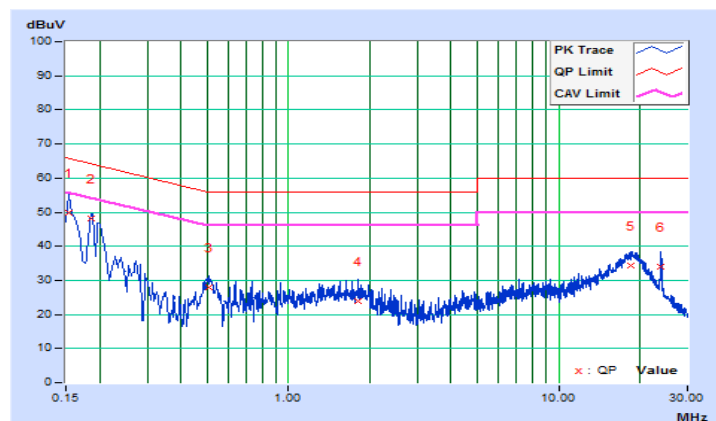


操作模式	發射/接收	測試日期	108 年 04 月 12 日
基本波頻率	CH 0 : 2403 MHz	量測場地溫度	23°C
調變技術	GFSK	量測場地濕度	68%RH
測試者	彭民達	測試模式	B

		6 dB Bandwidth: 9kHz				PHASE: NEUTRAL (N)			
輻射頻率	校正因子	儀器讀值		結果值		限制值		餘裕度	
[MHz]	[dB]	[dB (uV)]		[dB (uV)]		[dB (uV)]		[dB]	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.15391	9.66	40.02	26.47	49.68	36.13	65.79	55.79	-16.11	-19.66
0.18704	9.66	38.47	21.23	48.13	30.89	64.17	54.17	-16.04	-23.28
0.50972	9.65	18.18	9.18	27.83	18.83	56.00	46.00	-28.17	-27.17
1.80393	9.66	14.24	7.24	23.90	16.90	56.00	46.00	-32.10	-29.10
18.51527	9.98	24.49	19.60	34.47	29.58	60.00	50.00	-25.53	-20.42
23.97754	10.02	24.05	17.03	34.07	27.05	60.00	50.00	-25.93	-22.95

Note:

- 1.Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2.The emission levels of other frequencies were very low against the limit.
- 3.Margin value = Emission level - Limit value
- 4.Correction factor = Insertion loss + Cable loss
- 5.Emission Level = Correction Factor + Reading Value.

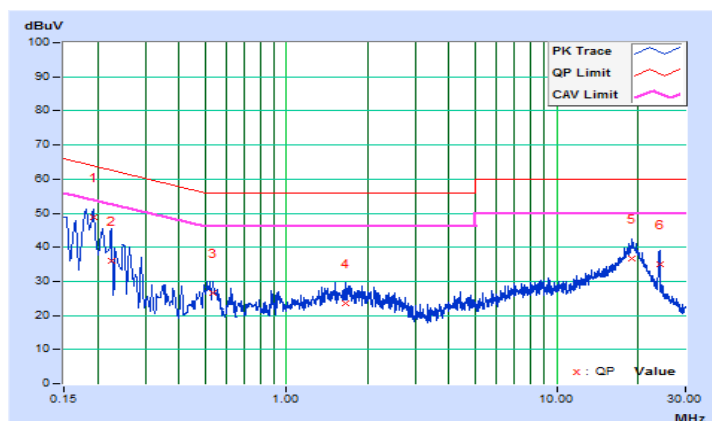


操作模式	發射/接收	測試日期	108 年 04 月 12 日
基本波頻率	CH 0 : 2403 MHz	量測場地溫度	23°C
調變技術	GFSK	量測場地濕度	68%RH
測試者	彭民達	測試模式	C

		6 dB Bandwidth: 9kHz				PHASE: LINE (L)			
輻射頻率	校正因子	儀器讀值		結果值		限制值		餘裕度	
[MHz]	[dB]	[dB (uV)]		[dB (uV)]		[dB (uV)]		[dB]	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.19305	9.68	39.16	27.46	48.84	37.14	63.90	53.90	-15.06	-16.76
0.22429	9.68	26.46	11.38	36.14	21.06	62.66	52.66	-26.52	-31.60
0.53318	9.68	17.02	6.57	26.70	16.25	56.00	46.00	-29.30	-29.75
1.65144	9.69	14.02	7.08	23.71	16.77	56.00	46.00	-32.29	-29.23
19.09395	9.93	26.72	21.68	36.65	31.61	60.00	50.00	-23.35	-18.39
24.02055	9.94	25.15	18.66	35.09	28.60	60.00	50.00	-24.91	-21.40

Note:

- 1.Q.P. and AV. are abbreviations of quasi-peak and average individually.
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- 3.Margin value = Emission level - Limit value
- 4.Correction factor = Insertion loss + Cable loss
- 5.Emission Level = Correction Factor + Reading Value.

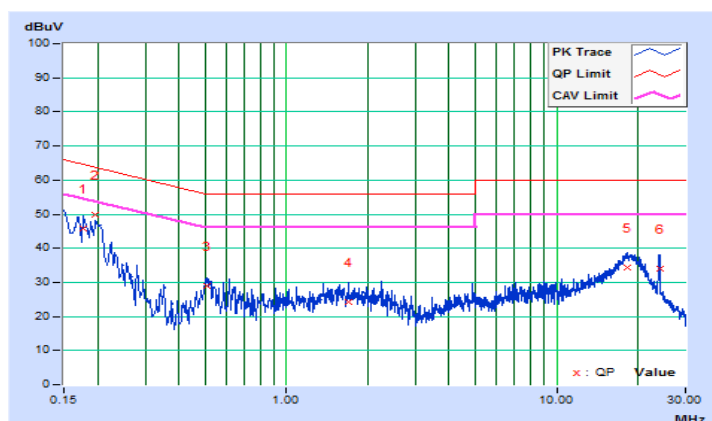


操作模式	發射/接收	測試日期	108 年 04 月 12 日
基本波頻率	CH 0 : 2403 MHz	量測場地溫度	23°C
調變技術	GFSK	量測場地濕度	68%RH
測試者	彭民達	測試模式	C

		6 dB Bandwidth: 9kHz				PHASE: NEUTRAL (N)			
輻射頻率	校正因子	儀器讀值		結果值		限制值		餘裕度	
[MHz]	[dB]	[dB (uV)]		[dB (uV)]		[dB (uV)]		[dB]	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.17744	9.66	36.15	17.82	45.81	27.48	64.60	54.60	-18.79	-27.12
0.19692	9.66	40.10	27.04	49.76	36.70	63.74	53.74	-13.98	-17.04
0.50972	9.65	19.20	9.93	28.85	19.58	56.00	46.00	-27.15	-26.42
1.69445	9.66	14.58	7.47	24.24	17.13	56.00	46.00	-31.76	-28.87
18.21420	9.97	24.31	19.43	34.28	29.40	60.00	50.00	-25.72	-20.60
24.03619	10.02	23.84	16.68	33.86	26.70	60.00	50.00	-26.14	-23.30

Note:

- 1.Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2.The emission levels of other frequencies were very low against the limit.
- 3.Margin value = Emission level - Limit value
- 4.Corrected factor = Insertion loss + Cable loss
- 5.Emission Level = Correction Factor + Reading Value.

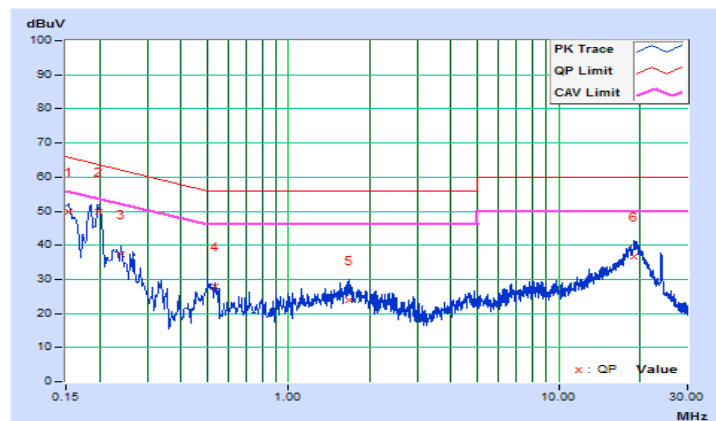


操作模式	發射/接收	測試日期	108 年 04 月 12 日
基本波頻率	CH 0 : 2403 MHz	量測場地溫度	23°C
調變技術	GFSK	量測場地濕度	68%RH
測試者	彭民達	測試模式	D

		6 dB Bandwidth: 9kHz				PHASE: LINE (L)			
輻射頻率	校正因子	儀器讀值		結果值		限制值		餘裕度	
[MHz]	[dB]	[dB (uV)]		[dB (uV)]		[dB (uV)]		[dB]	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.15391	9.69	39.98	26.87	49.67	36.56	65.79	55.79	-16.12	-19.23
0.19717	9.68	40.02	26.83	49.70	36.51	63.73	53.73	-14.03	-17.22
0.23993	9.68	27.81	14.00	37.49	23.68	62.10	52.10	-24.61	-28.42
0.53318	9.68	18.25	8.17	27.93	17.85	56.00	46.00	-28.07	-28.15
1.68272	9.69	14.12	6.86	23.81	16.55	56.00	46.00	-32.19	-29.45
19.07049	9.93	26.84	21.68	36.77	31.61	60.00	50.00	-23.23	-18.39

Note:

- 1.Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2.The emission levels of other frequencies were very low against the limit.
- 3.Margin value = Emission level - Limit value
- 4.Correction factor = Insertion loss + Cable loss
- 5.Emission Level = Correction Factor + Reading Value.

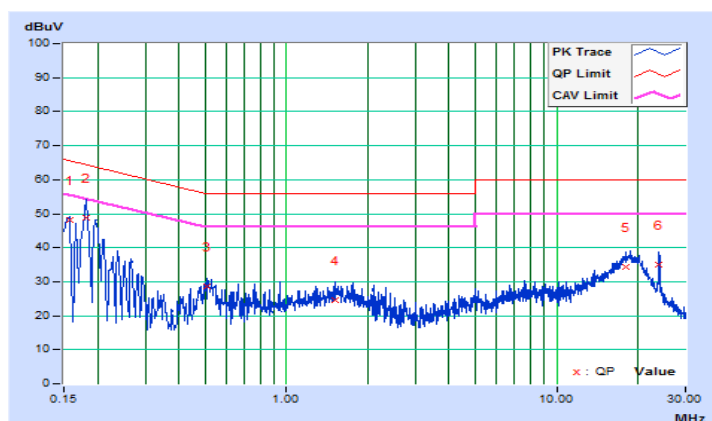


操作模式	發射/接收	測試日期	108 年 04 月 12 日
基本波頻率	CH 0 : 2403 MHz	量測場地溫度	23°C
調變技術	GFSK	量測場地濕度	68%RH
測試者	彭民達	測試模式	D

		6 dB Bandwidth: 9kHz				PHASE: NEUTRAL (N)			
輻射頻率	校正因子	儀器讀值		結果值		限制值		餘裕度	
[MHz]	[dB]	[dB (uV)]		[dB (uV)]		[dB (uV)]		[dB]	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.15719	9.66	38.55	25.42	48.21	35.08	65.61	55.61	-17.40	-20.53
0.18075	9.66	39.09	20.33	48.75	29.99	64.45	54.45	-15.70	-24.46
0.51043	9.65	18.97	9.39	28.62	19.04	56.00	46.00	-27.38	-26.96
1.50677	9.66	15.04	7.46	24.70	17.12	56.00	46.00	-31.30	-28.88
18.13991	9.97	24.36	19.42	34.33	29.39	60.00	50.00	-25.67	-20.61
23.95799	10.02	24.97	17.16	34.99	27.18	60.00	50.00	-25.01	-22.82

Note:

- 1.Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2.The emission levels of other frequencies were very low against the limit.
- 3.Margin value = Emission level - Limit value
- 4.Corrected factor = Insertion loss + Cable loss
- 5.Emission Level = Correction Factor + Reading Value.

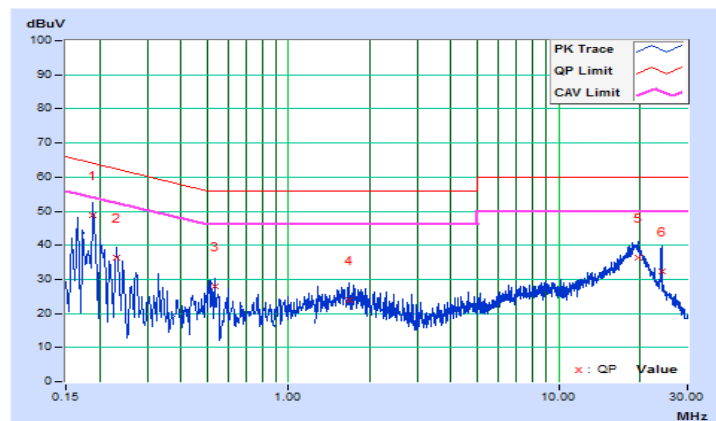


操作模式	發射/接收	測試日期	108 年 04 月 12 日
基本波頻率	CH 0 : 2403 MHz	量測場地溫度	23°C
調變技術	GFSK	量測場地濕度	68%RH
測試者	彭民達	測試模式	E

		6 dB Bandwidth: 9kHz				PHASE: LINE (L)			
輻射頻率	校正因子	儀器讀值		結果值		限制值		餘裕度	
[MHz]	[dB]	[dB (uV)]		[dB (uV)]		[dB (uV)]		[dB]	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.18910	9.68	39.22	26.96	48.90	36.64	64.08	54.08	-15.18	-17.44
0.23155	9.68	26.82	15.05	36.50	24.73	62.39	52.39	-25.89	-27.66
0.53318	9.68	18.14	7.87	27.82	17.55	56.00	46.00	-28.18	-28.45
1.66708	9.69	14.26	6.93	23.95	16.62	56.00	46.00	-32.05	-29.38
19.67263	9.93	26.39	21.33	36.32	31.26	60.00	50.00	-23.68	-18.74
24.07529	9.94	22.47	13.23	32.41	23.17	60.00	50.00	-27.59	-26.83

Note:

- 1.Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2.The emission levels of other frequencies were very low against the limit.
- 3.Margin value = Emission level - Limit value
- 4.Correction factor = Insertion loss + Cable loss
- 5.Emission Level = Correction Factor + Reading Value.

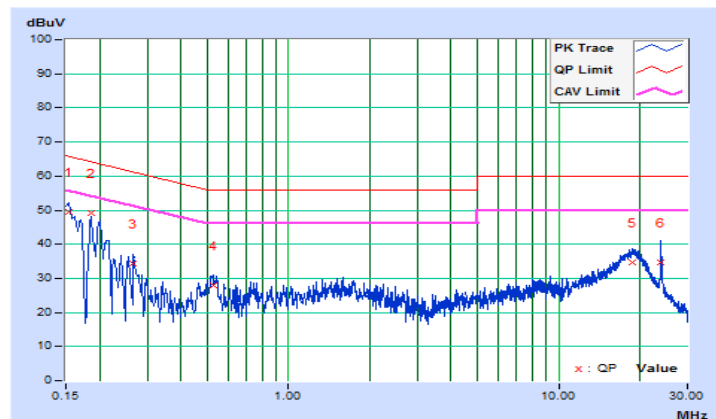


操作模式	發射/接收	測試日期	108 年 04 月 12 日
基本波頻率	CH 0 : 2403 MHz	量測場地溫度	23°C
調變技術	GFSK	量測場地濕度	68%RH
測試者	彭民達	測試模式	E

		6 dB Bandwidth: 9kHz				PHASE: NEUTRAL (N)			
輻射頻率	校正因子	儀器讀值		結果值		限制值		餘裕度	
[MHz]	[dB]	[dB (uV)]		[dB (uV)]		[dB (uV)]		[dB]	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.15391	9.66	39.81	25.80	49.47	35.46	65.79	55.79	-16.32	-20.33
0.18519	9.66	39.59	23.20	49.25	32.86	64.25	54.25	-15.00	-21.39
0.26730	9.66	24.80	11.41	34.46	21.07	61.20	51.20	-26.74	-30.13
0.52544	9.65	18.28	8.60	27.93	18.25	56.00	46.00	-28.07	-27.75
18.77333	9.98	24.77	19.61	34.75	29.59	60.00	50.00	-25.25	-20.41
23.96972	10.02	24.68	17.08	34.70	27.10	60.00	50.00	-25.30	-22.90

Note:

- 1.Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2.The emission levels of other frequencies were very low against the limit.
- 3.Margin value = Emission level - Limit value
- 4.Correction factor = Insertion loss + Cable loss
- 5.Emission Level = Correction Factor + Reading Value.

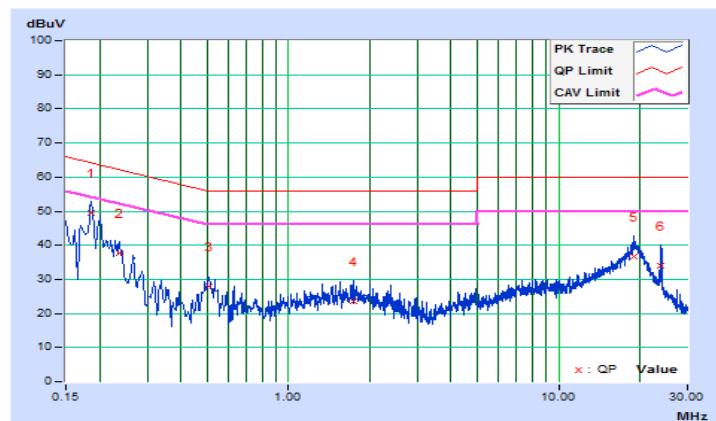


操作模式	發射/接收	測試日期	108 年 04 月 12 日
基本波頻率	CH 0 : 2403 MHz	量測場地溫度	23°C
調變技術	GFSK	量測場地濕度	68%RH
測試者	彭民達	測試模式	F

		6 dB Bandwidth: 9kHz				PHASE: LINE (L)			
輻射頻率	校正因子	儀器讀值		結果值		限制值		餘裕度	
[MHz]	[dB]	[dB (uV)]		[dB (uV)]		[dB (uV)]		[dB]	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.18519	9.68	39.85	23.87	49.53	33.55	64.25	54.25	-14.72	-20.70
0.23602	9.68	27.92	15.62	37.60	25.30	62.24	52.24	-24.64	-26.94
0.50908	9.68	18.31	8.14	27.99	17.82	56.00	46.00	-28.01	-28.18
1.74137	9.69	13.92	5.94	23.61	15.63	56.00	46.00	-32.39	-30.37
19.03921	9.93	26.84	21.66	36.77	31.59	60.00	50.00	-23.23	-18.41
23.97754	9.94	24.07	17.36	34.01	27.30	60.00	50.00	-25.99	-22.70

Note:

- 1.Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2.The emission levels of other frequencies were very low against the limit.
- 3.Margin value = Emission level - Limit value
- 4.Correction factor = Insertion loss + Cable loss
- 5.Emission Level = Correction Factor + Reading Value.

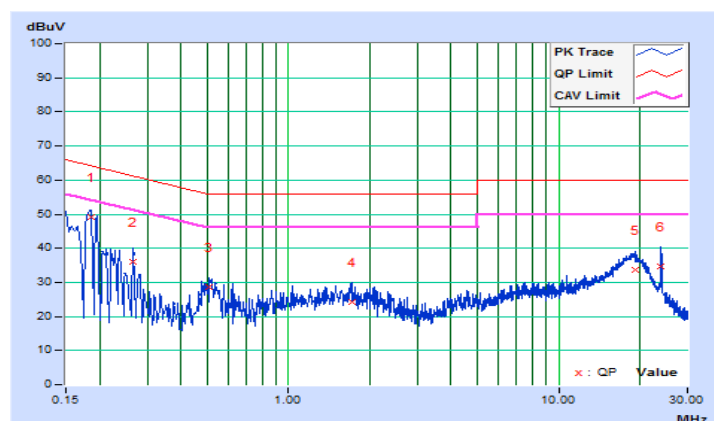


操作模式	發射/接收	測試日期	108 年 04 月 12 日
基本波頻率	CH 0 : 2403 MHz	量測場地溫度	23°C
調變技術	GFSK	量測場地濕度	68%RH
測試者	彭民達	測試模式	F

		6 dB Bandwidth: 9kHz				PHASE: NEUTRAL (N)			
輻射頻率	校正因子	儀器讀值		結果值		限制值		餘裕度	
[MHz]	[dB]	[dB (uV)]		[dB (uV)]		[dB (uV)]		[dB]	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.18508	9.66	39.43	23.69	49.09	33.35	64.25	54.25	-15.16	-20.90
0.26730	9.66	26.44	12.45	36.10	22.11	61.20	51.20	-25.10	-29.09
0.50972	9.65	18.91	8.91	28.56	18.56	56.00	46.00	-27.44	-27.44
1.71400	9.66	14.70	7.79	24.36	17.45	56.00	46.00	-31.64	-28.55
19.24644	9.99	23.81	18.42	33.80	28.41	60.00	50.00	-26.20	-21.59
23.92671	10.02	24.81	17.16	34.83	27.18	60.00	50.00	-25.17	-22.82

Note:

- 1.Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2.The emission levels of other frequencies were very low against the limit.
- 3.Margin value = Emission level - Limit value
- 4.Correction factor = Insertion loss + Cable loss
- 5.Emission Level = Correction Factor + Reading Value.



5.7 量測結果判定

依據測試數據結果，符合低功率射頻電機技術規範之要求。

5.8 配置照片

請參閱附件（測試設置照片）。

6 發射頻寬之要求

6.1 適用標準

請見本報告3.1節第5項的規定。

6.2 量測方法

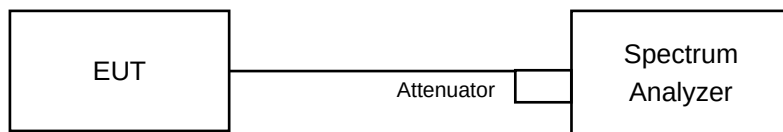
- 將待測物輸出經由衰减器接到頻譜分析儀上。
- 設定待測物處於連續發射狀態。
- 計算由最大輸出功率峰值減6dB的最大頻率範圍。

6.3 量測儀器

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Spectrum Analyzer R&S	FSP40	100040	Sep. 25, 2018	Sep. 24, 2019

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The measurement uncertainty is 207Hz, which is calculated as per the document ETSI TR 100 028. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

6.4 測試配置

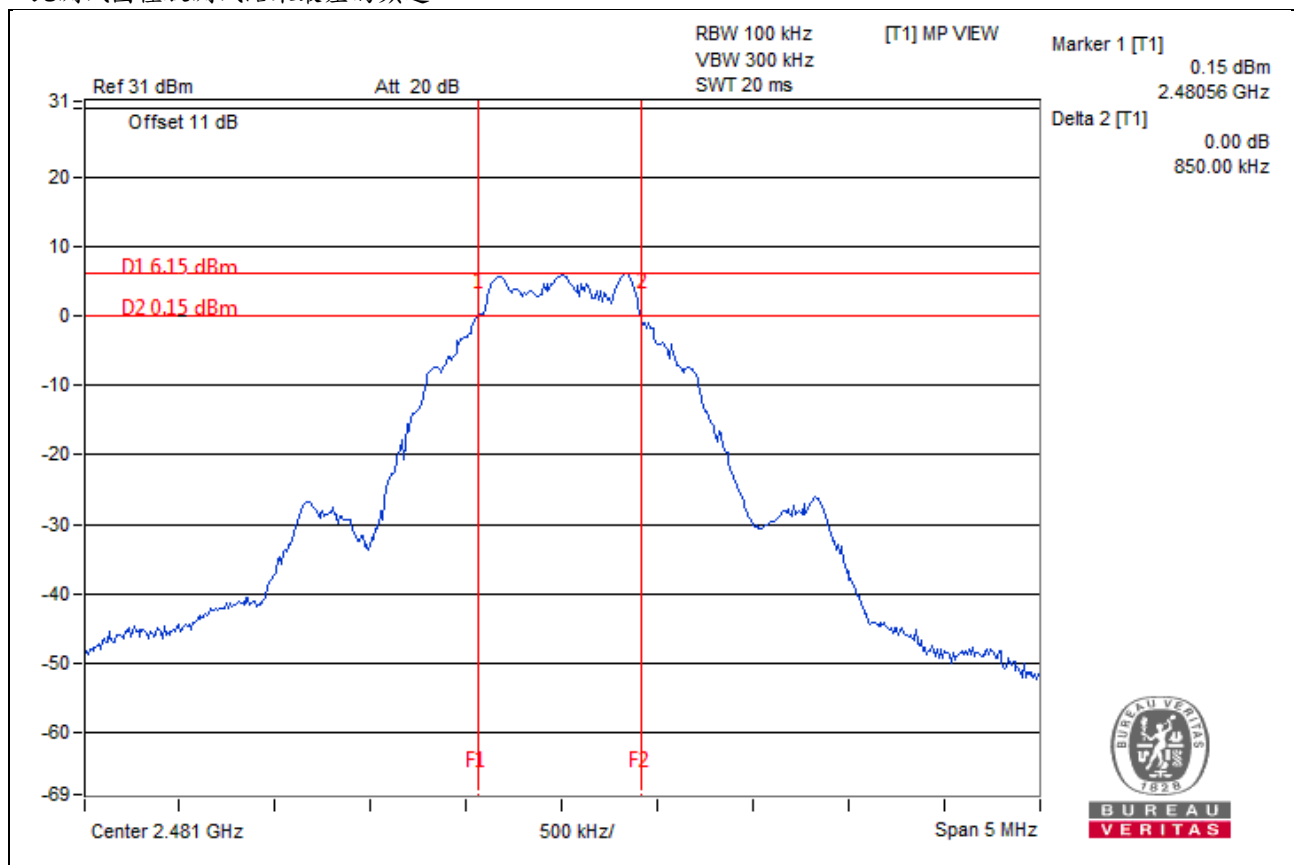


6.5 量測結果

操作模式	發射	測試日期	108 年 04 月 15 日
量測場地溫度	25°C	量測場地濕度	60%RH
測試者	林山銘		

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
0	2403	0.86	0.5	Pass
20	2443	0.86	0.5	Pass
39	2481	0.85	0.5	Pass

**此測試圖僅放測試結果最差的頻道。



6.6 量測結果判定

依據測試數據結果，符合低功率射頻電機技術規範之要求。

7 輸出峰值功率之量測

7.1 適用標準

請見本報告3.1節第6項的規定。

7.2 量測方法

- 將待測物輸出經由衰減器接到功率計Power Meter上。
- 設定待測物處於連續發射狀態。
- 計算其輸出功率峰值。

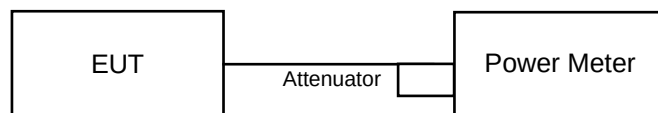
7.3 量測儀器

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190004/MY55210005	Jul. 17, 2018	Jul. 16, 2019

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

- The measurement uncertainty is 1.393dB, which is calculated as per the document ETSI TR 100 028. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

7.4 測試配置



7.5 量測結果

操作模式	發射	測試日期	108 年 04 月 15 日
量測場地溫度	25°C	量測場地濕度	60%RH
測試者	林山銘		

For Peak Power

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
0	2403	4.467	6.50	30	Pass
20	2443	4.571	6.60	30	Pass
39	2481	3.664	5.64	30	Pass

For Average Power

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
0	2403	4.355	6.39
20	2443	4.477	6.51
39	2481	3.606	5.57

7.6 量測結果判定

依據測試數據結果，符合低功率射頻電機技術規範之要求。

8 功率密度之量測

8.1 適用標準

請見本報告3.1節第7項的規定。

8.2 量測方法

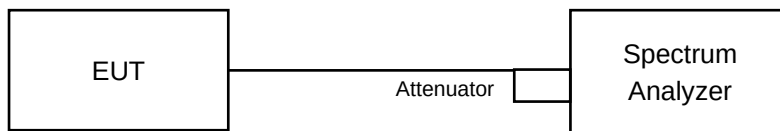
- 將待測物之天線埠連接至測試儀器。
- 設定解析頻寬為3 kHz，視訊頻寬為10kHz，掃描時間設為自動，直至掃描信號穩定。
- 使用峰值功能鍵,並找到最大的峰值準位。

8.3 量測儀器

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Spectrum Analyzer R&S	FSP40	100040	Sep. 25, 2018	Sep. 24, 2019

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The measurement uncertainty is 207Hz, which is calculated as per the document ETSI TR 100 028. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

8.4 測試配置

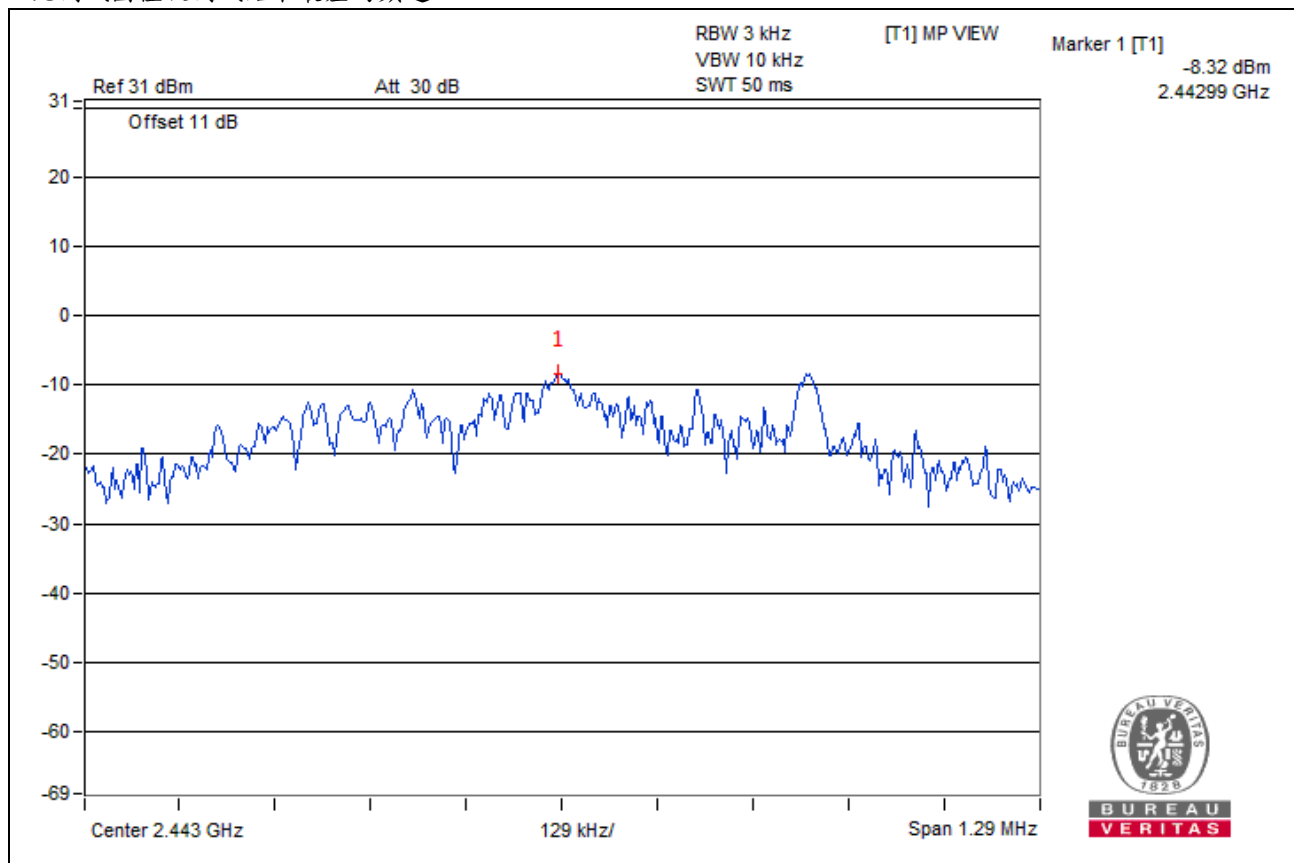


8.5 量測結果

操作模式	發射	測試日期	108 年 04 月 15 日
量測場地溫度	25°C	量測場地濕度	60%RH
測試者	林山銘		

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	2403	-9.47	8	Pass
20	2443	-8.32	8	Pass
39	2481	-9.15	8	Pass

**此測試圖僅放測試結果最差的頻道。



8.6 量測結果判定

依據測試數據結果，符合低功率射頻電機技術規範之要求。

9 檢測實驗室基本資料

立德國際商品試驗有限公司桃園分公司提供產業界最佳的檢測以及諮詢服務。
本公司為ISO/IEC 17025認可實驗室。

如您有任何問題或建議，請與下列實驗室聯絡：

林口 EMC / RF 實驗室：

Tel: 886-2-26052180

Fax: 886-2-26051924

新竹 EMC / RF / Telecom 實驗室：

Tel: 886-3-6668565

Fax: 886-3-6668323

華亞 EMC / RF / Safety 實驗室：

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

您也可以在我们的網站內找到各實驗室的地圖。

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