

低功率射頻電機技術規範測試報告

報告編號

RT180402C01 R1

申請者

汎德股份有限公司

產品名稱

中文：車用影音系統
英文：HU Car headunit

型號

MGU

製造廠商

Alpine Electronics Inc. / JAPAN

商標或廠牌

BMW

該產品樣品試驗

國家通訊傳播委員會低功率射頻電機技術規範

依據之試驗標準

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 107 年 06 月 26 日

報告簽署人簽章：

陳志偉



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報告發行紀錄

Issue No.	Description	Date Issued
RT180402C01	Original release.	107 年 04 月 26 日
RT180402C01 R1	Revising brand name, applicant and reducing output power.	107 年 06 月 26 日

證 明 書

發行日期：107 年 06 月 26 日

產 品 名 稱：中文：車用影音系統
英文：HU Car headunit
商 標：BMW
型 號：MGU
申 請 者：汎德股份有限公司
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：MGU)，收件日期 107 年 04 月 02 日，於 107 年 04 月 13 日至 107 年 06 月 22 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：


何依珉 / 專員

， 日 期： 107 年 06 月 26 日

審 核 者：


陳志偉 / 專案工程師

， 日 期： 107 年 06 月 26 日

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： 汎德股份有限公司

製造廠商： Alpine Electronics Inc. / JAPAN

申請廠商地址： 台北市內湖區行愛路 100 號 7 樓

廠牌： BMW

產品名稱： 中文：車用影音系統
英文：HU Car headunit

型號： MGU

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
KDB 558074

WLAN 2.4GHz 頻段概要

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：	中文：車用影音系統 英文：HU Car headunit
型號：	MGU
額定電源：	9-16Vdc
調變技術：	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
傳輸速率：	802.11b: 11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 150Mbps
載波頻率：	2412 ~ 2462MHz
頻道數：	802.11b, 802.11g, 802.11n (HT20): 11 802.11n (HT40): 7
發射功率：	802.11b: 13.57dBm 802.11g: 13.50dBm 802.11n (HT20): 13.51dBm 802.11n (HT40): 13.52dBm
天線種類：	見註2
電源線類別：	NA
信號線類別：	NA
配件：	NA

註1：待測設備之技術的種類為1Tx / 1Rx之組合。

Modulation Mode	TX Function
802.11b	1TX
802.11g	1TX
802.11n (HT20)	1TX
802.11n (HT40)	1TX

註2：待測設備搭配測試的天線，其資料如下：

Manufacturer	Model Name	Model No.	Antenna Type	Connector	Gain (dBi)
AREUS	I&k 2018 MGU Bluetooth/ WLN Antenna cable	100659	Simple cable	FAKRA, Koax 360 Turnable	-6.2

註3：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
2412 ~ 2462MHz		
場強輻射量測	1GHz 以上量測	802.11b: Ch 1, 6, 11 802.11g: Ch 1, 6, 11 802.11n (HT20): Ch 1, 6, 11 802.11n (HT40): Ch 3, 6, 9
	其它不必要之訊號	802.11n (HT20): Ch 6
電源線傳導干擾		802.11n (HT20): Ch 6

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.

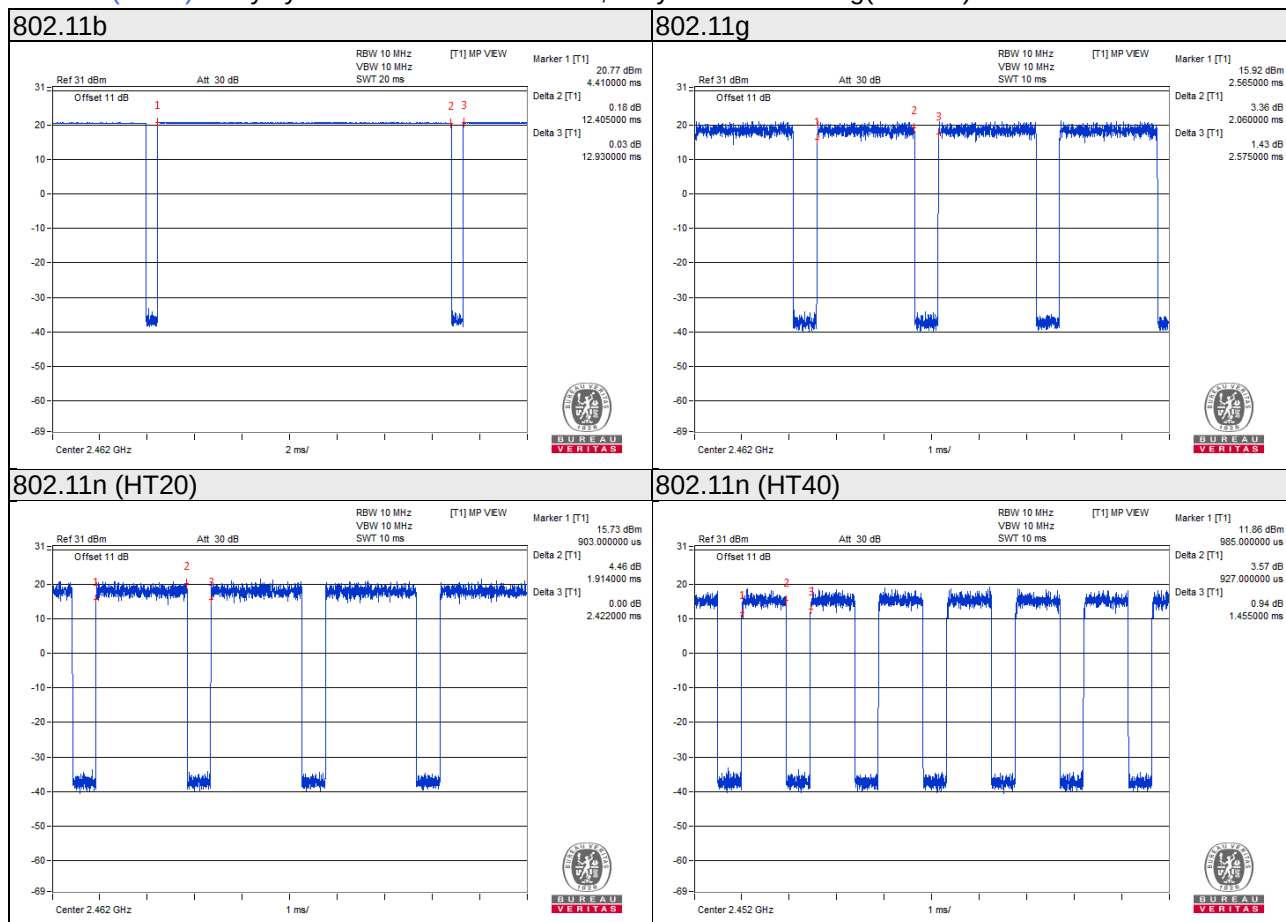
Duty cycle of test signal is < 98%, duty factor shall be considered.

802.11b: Duty cycle = $12.405/12.93 = 0.959$, Duty factor = $10 * \log(1/0.959) = 0.18$

802.11g: Duty cycle = $2.06/2.575 = 0.8$, Duty factor = $10 * \log(1/0.8) = 0.97$

802.11n (HT20): Duty cycle = $1.914/2.422 = 0.79$, Duty factor = $10 * \log(1/0.79) = 1.02$

802.11n (HT40): Duty cycle = $0.927/1.455 = 0.637$, Duty factor = $10 * \log(1/0.637) = 1.96$



此裝置各頻道的中心頻率如下：

802.11b, 802.11g, 802.11n (HT20):

頻道	對應頻率 (MHz)	頻道	對應頻率 (MHz)
01	2412	07	2442
02	2417	08	2447
03	2422	09	2452
04	2427	10	2457
05	2432	11	2462
06	2437		

802.11n (HT40):

頻道	對應頻率 (MHz)	頻道	對應頻率 (MHz)
03	2422	07	2442
04	2427	08	2447
05	2432	09	2452
06	2437		

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: 180402C01。

2.2 輔助測試之週邊設備描述

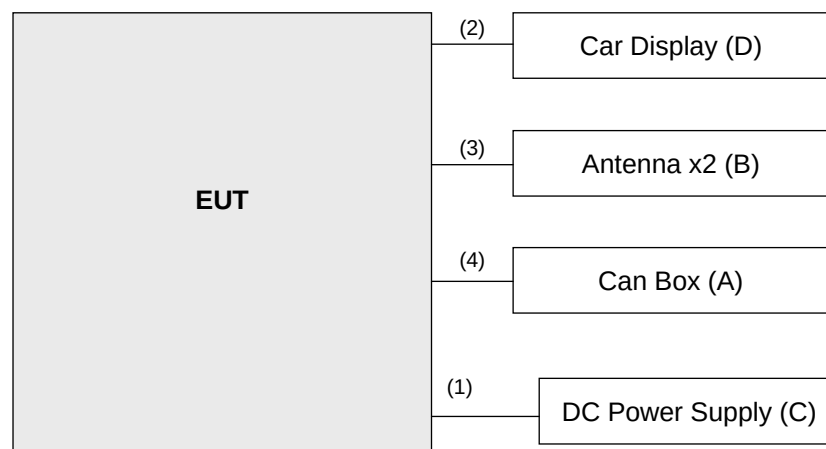
待測設備於受測時均接上其所屬的配件或一般用途之相關設備；下列輔助設備或配件測試中所使用的配備，以形成一個代表待測物實際運作的受測系統。

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Can box	Harman/Becker	G0033704	NA	NA	Provided by client
B.	Antenna x2	AREUS	100659	NA	NA	Provided by client
C.	DC Power Supply	Keysight	U8002A	MY56330015	NA	-
D.	Car Display	Alpine	6820386-02	NA	NA	Provided by client

Note: All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Power cable	1	1.5	N	0	-
2.	Display cable	1	1	N	0	Provided by client
3.	Antenna cable	2	2	Y	0	Provided by client
4.	Control cable	1	1.5	Y	0	Provided by client

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

(I) 操作於 2.4000~2.4835 GHz band:

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。

在 1 GHz 以下不必要之發射，應符合 2.8 之規定。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 節及 4.7.3 節之規定如下：

(I) 操作於 2400 MHz~2483.5 MHz 頻段：

(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= 10log(天線陣列之單元數目)+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

(I) 操作於 2400 MHz~2483.5 MHz 頻段：

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

(I) 操作於 2.4000~2.4835 GHz band:

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

(I) 操作於 2.4000~2.4835 GHz band:

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(I)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。

備註：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

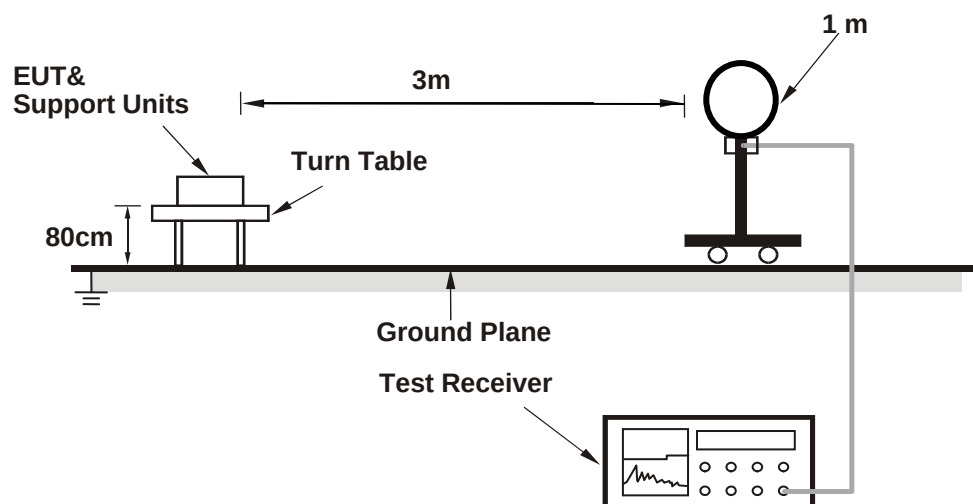
Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Oct. 17, 2017	Oct. 16, 2018
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Aug. 18, 2017	Aug. 17, 2018
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Dec. 11, 2017	Dec. 10, 2018
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Dec. 13, 2017	Dec. 12, 2018
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 01, 2017	Nov. 30, 2018
Loop Antenna EMCI	EM-6879	269	Aug. 11, 2017	Aug. 10, 2018
Preamplifier Agilent (Below 1GHz)	8447D	2944A10631	Aug. 08, 2017	Aug. 07, 2018
Preamplifier Agilent (Above 1GHz)	8449B	3008A01922	Sep. 15, 2017	Sep. 14, 2018
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Aug. 08, 2017	Aug. 07, 2018
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	Aug. 08, 2017	Aug. 07, 2018
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021703	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
High Speed Peak Power Meter	ML2495A	0824012	Aug. 18, 2017	Aug. 17, 2018
Power Sensor	MA2411B	0738171	Aug. 18, 2017	Aug. 17, 2018

- 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 4.
3. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
4. The IC Site Registration No. is IC 7450F-4.
5. 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.

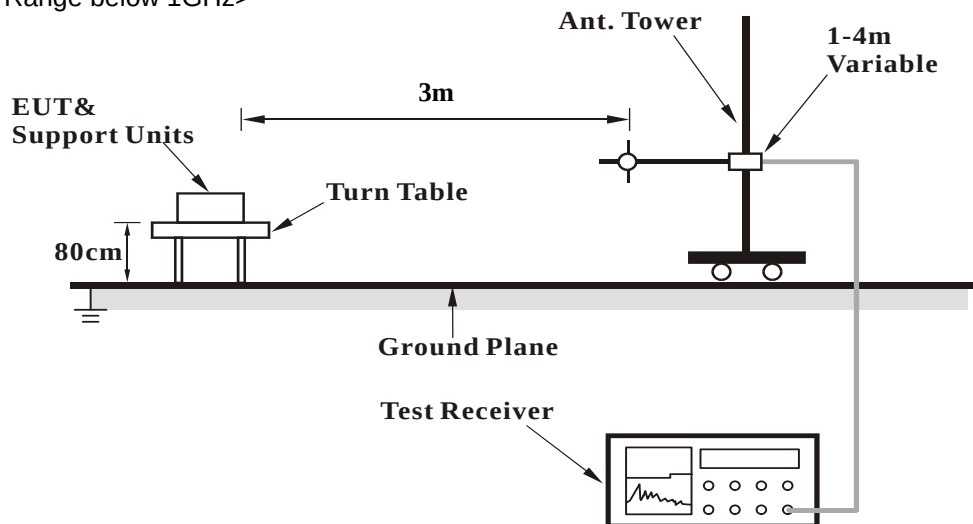
Measurement	Frequency	Uncertainty
Radiated emissions	30MHz ~ 200MHz	3.63 dB
	200MHz ~ 1000MHz	3.64 dB
	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

4.4 測試配置

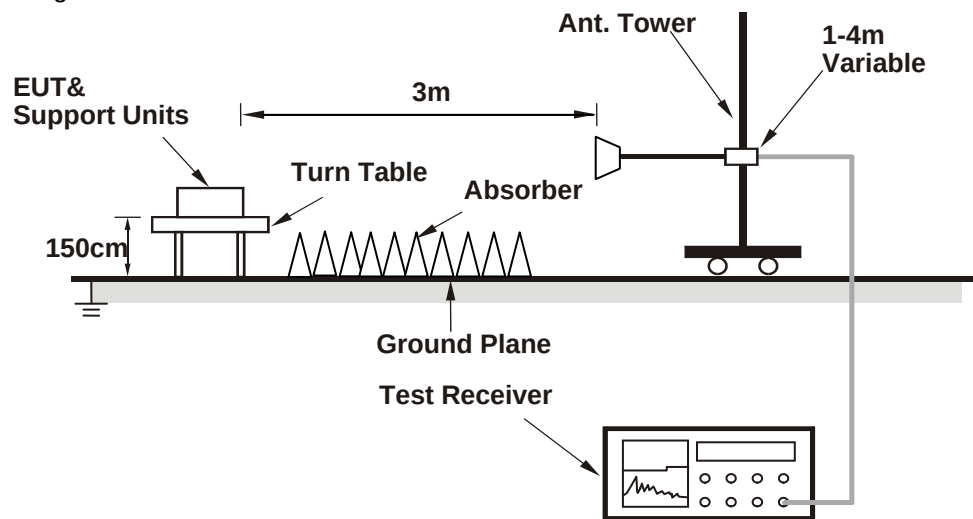
<Frequency Range below 30MHz>



<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

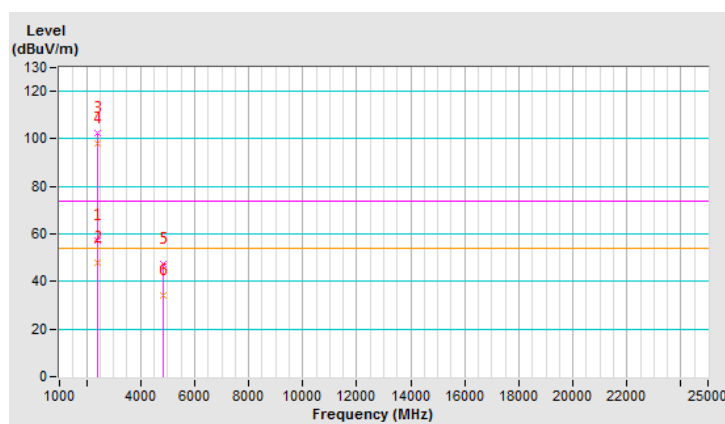
802.11b

操作模式：	發射	調變技術：	DSSS
基本波頻率：	CH 1 : 2412 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	57.1 PK	74.0	-16.9	1.02 H	83	23.7	33.4
2	2390.00	47.8 AV	54.0	-6.2	1.02 H	83	14.4	33.4
3	*2412.00	102.4 PK			1.00 H	77	69.0	33.4
4	*2412.00	98.1 AV			1.00 H	77	64.7	33.4
5	4824.00	47.1 PK	74.0	-26.9	1.69 H	240	43.5	3.6
6	4824.00	34.4 AV	54.0	-19.6	1.69 H	240	30.8	3.6
	7236.00	-	-	-	-	-	-	-
	9648.00	-	-	-	-	-	-	-
	12060.00	-	-	-	-	-	-	-
	14472.00	-	-	-	-	-	-	-
	16884.00	-	-	-	-	-	-	-
	19296.00	-	-	-	-	-	-	-
	21708.00	-	-	-	-	-	-	-
	24120.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

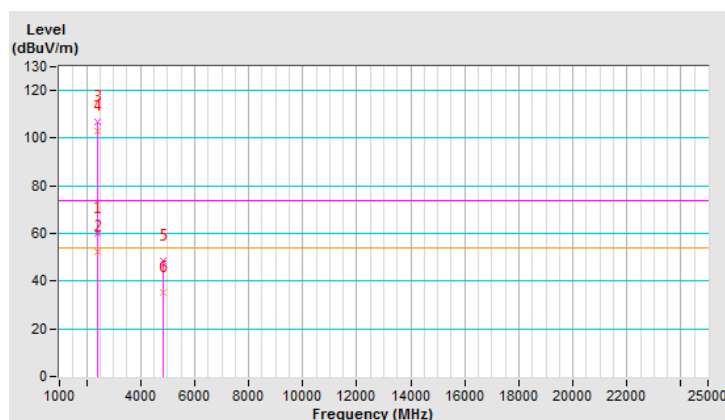


操作模式：	發射	調變技術：	DSSS
基本波頻率：	CH 1：2412 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	59.9 PK	74.0	-14.1	1.00 V	193	26.5	33.4
2	2390.00	52.4 AV	54.0	-1.6	1.00 V	193	19.0	33.4
3	*2412.00	106.6 PK			1.00 V	190	73.2	33.4
4	*2412.00	103.0 AV			1.00 V	190	69.6	33.4
5	4824.00	48.4 PK	74.0	-25.6	2.10 V	118	44.8	3.6
6	4824.00	35.3 AV	54.0	-18.7	2.10 V	118	31.7	3.6
	7236.00	-	-	-	-	-	-	-
	9648.00	-	-	-	-	-	-	-
	12060.00	-	-	-	-	-	-	-
	14472.00	-	-	-	-	-	-	-
	16884.00	-	-	-	-	-	-	-
	19296.00	-	-	-	-	-	-	-
	21708.00	-	-	-	-	-	-	-
	24120.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

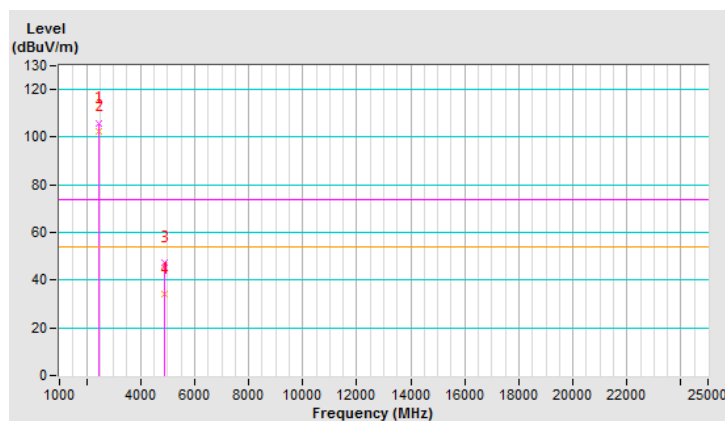


操作模式：	發射	調變技術：	DSSS
基本波頻率：	CH 6：2437 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	*2437.00	106.0 PK			1.00 H	80	72.6	33.4
2	*2437.00	102.2 AV			1.00 H	80	68.8	33.4
3	4874.00	47.5 PK	74.0	-26.5	1.52 H	239	44.2	3.3
4	4874.00	34.0 AV	54.0	-20.0	1.52 H	239	30.7	3.3
	7311.00	-	-	-	-	-	-	-
	9748.00	-	-	-	-	-	-	-
	14622.00	-	-	-	-	-	-	-
	17059.00	-	-	-	-	-	-	-
	19496.00	-	-	-	-	-	-	-
	21933.00	-	-	-	-	-	-	-
	24370.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)



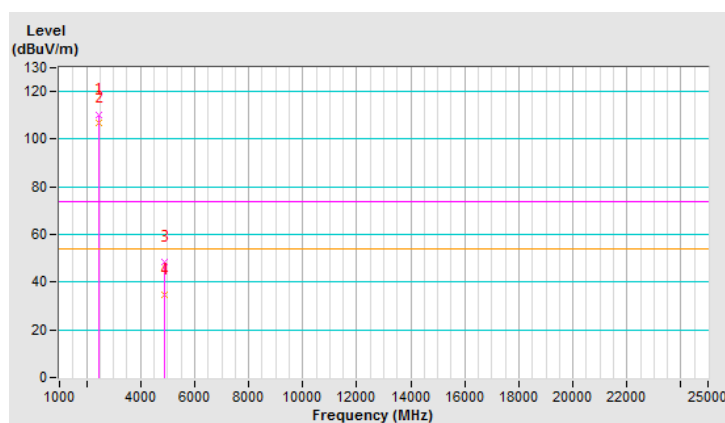
操作模式：	發射	調變技術：	DSSS
基本波頻率：	CH 6：2437 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	*2437.00	110.2 PK			1.00 V	189	76.8	33.4
2	*2437.00	106.7 AV			1.00 V	189	73.3	33.4
3	4874.00	48.5 PK	74.0	-25.5	2.10 V	142	45.2	3.3
4	4874.00	34.9 AV	54.0	-19.1	2.10 V	142	31.6	3.3
	7311.00	-	-	-	-	-	-	-
	9748.00	-	-	-	-	-	-	-
	14622.00	-	-	-	-	-	-	-
	17059.00	-	-	-	-	-	-	-
	19496.00	-	-	-	-	-	-	-
	21933.00	-	-	-	-	-	-	-
	24370.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

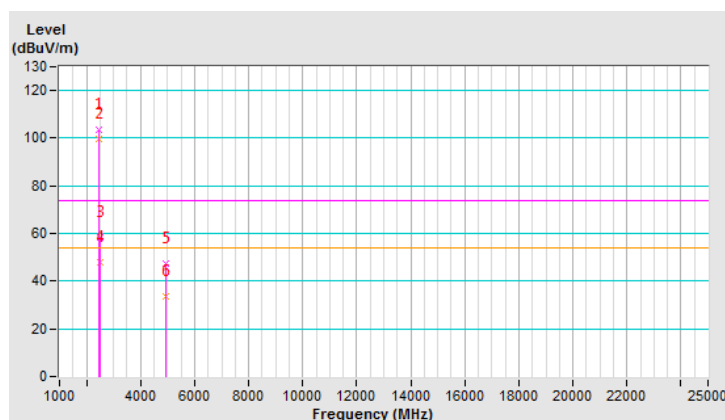


操作模式：	發射	調變技術：	DSSS
基本波頻率：	CH 11 : 2462 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	*2462.00	103.5 PK			1.00 H	86	70.0	33.5
2	*2462.00	99.9 AV			1.00 H	86	66.4	33.5
3	2483.50	58.6 PK	74.0	-15.4	1.00 H	89	25.1	33.5
4	2483.50	48.1 AV	54.0	-5.9	1.00 H	89	14.6	33.5
5	4924.00	47.1 PK	74.0	-26.9	2.39 H	117	43.8	3.3
6	4924.00	33.8 AV	54.0	-20.2	2.39 H	117	30.5	3.3
	7386.00	-	-	-	-	-	-	-
	9848.00	-	-	-	-	-	-	-
	12310.00	-	-	-	-	-	-	-
	14772.00	-	-	-	-	-	-	-
	17234.00	-	-	-	-	-	-	-
	19696.00	-	-	-	-	-	-	-
	22158.00	-	-	-	-	-	-	-
	24620.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)



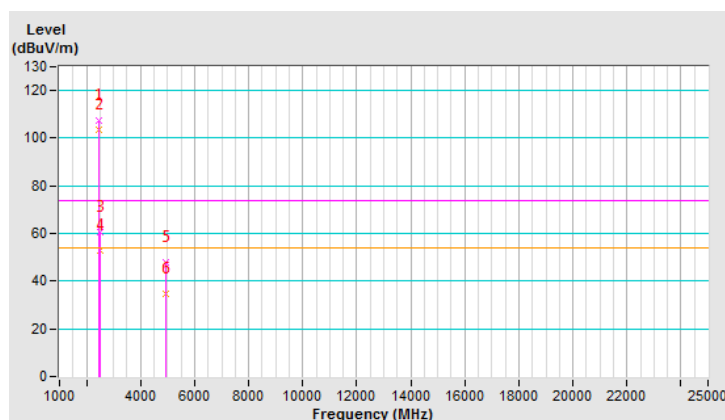
操作模式：	發射	調變技術：	DSSS
基本波頻率：	CH 11 : 2462 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	*2462.00	107.4 PK			1.00 V	189	73.9	33.5
2	*2462.00	103.6 AV			1.00 V	189	70.1	33.5
3	2483.50	60.4 PK	74.0	-13.6	1.00 V	187	26.9	33.5
4	2483.50	52.9 AV	54.0	-1.1	1.00 V	187	19.4	33.5
5	4924.00	48.1 PK	74.0	-25.9	2.30 V	149	44.8	3.3
6	4924.00	34.9 AV	54.0	-19.1	2.30 V	149	31.6	3.3
	7386.00	-	-	-	-	-	-	-
	9848.00	-	-	-	-	-	-	-
	12310.00	-	-	-	-	-	-	-
	14772.00	-	-	-	-	-	-	-
	17234.00	-	-	-	-	-	-	-
	19696.00	-	-	-	-	-	-	-
	22158.00	-	-	-	-	-	-	-
	24620.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)



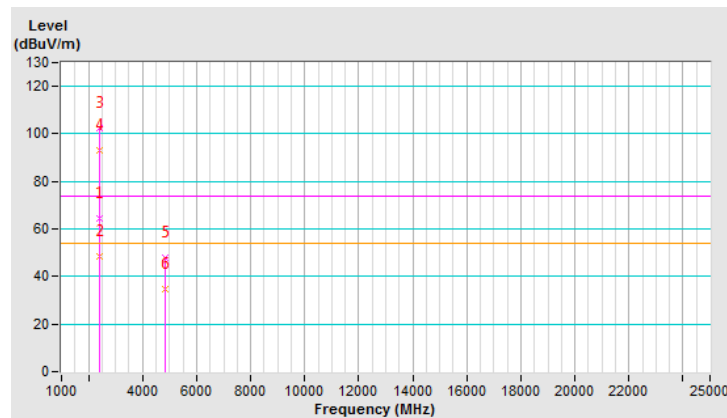
802.11g

操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 1：2412 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	64.3 PK	74.0	-9.7	1.02 H	90	30.9	33.4
2	2390.00	48.4 AV	54.0	-5.6	1.02 H	90	15.0	33.4
3	*2412.00	102.6 PK			1.00 H	80	69.2	33.4
4	*2412.00	93.3 AV			1.00 H	80	59.9	33.4
5	4824.00	47.8 PK	74.0	-26.2	2.41 H	118	44.2	3.6
6	4824.00	34.5 AV	54.0	-19.5	2.41 H	118	30.9	3.6
	7236.00	-	-	-	-	-	-	-
	9648.00	-	-	-	-	-	-	-
	12060.00	-	-	-	-	-	-	-
	14472.00	-	-	-	-	-	-	-
	16884.00	-	-	-	-	-	-	-
	19296.00	-	-	-	-	-	-	-
	21708.00	-	-	-	-	-	-	-
	24120.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

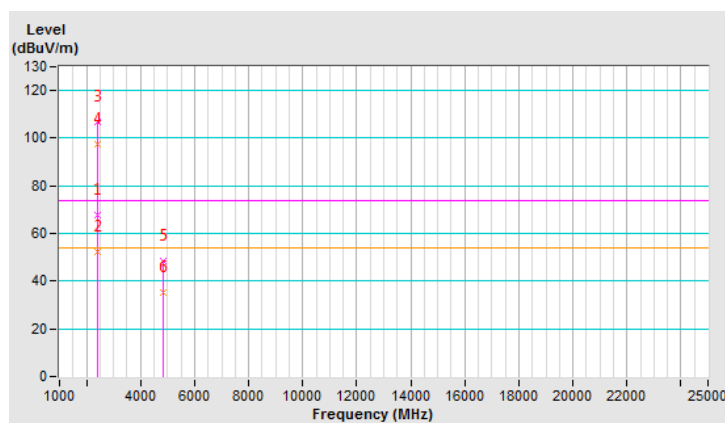


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 1：2412 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	67.7 PK	74.0	-6.3	1.00 V	189	34.3	33.4
2	2390.00	52.6 AV	54.0	-1.4	1.00 V	189	19.2	33.4
3	*2412.00	106.9 PK			1.00 V	191	73.5	33.4
4	*2412.00	97.6 AV			1.00 V	191	64.2	33.4
5	4824.00	48.7 PK	74.0	-25.3	2.68 V	154	45.1	3.6
6	4824.00	35.4 AV	54.0	-18.6	2.68 V	154	31.8	3.6
	7236.00	-	-	-	-	-	-	-
	9648.00	-	-	-	-	-	-	-
	12060.00	-	-	-	-	-	-	-
	14472.00	-	-	-	-	-	-	-
	16884.00	-	-	-	-	-	-	-
	19296.00	-	-	-	-	-	-	-
	21708.00	-	-	-	-	-	-	-
	24120.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

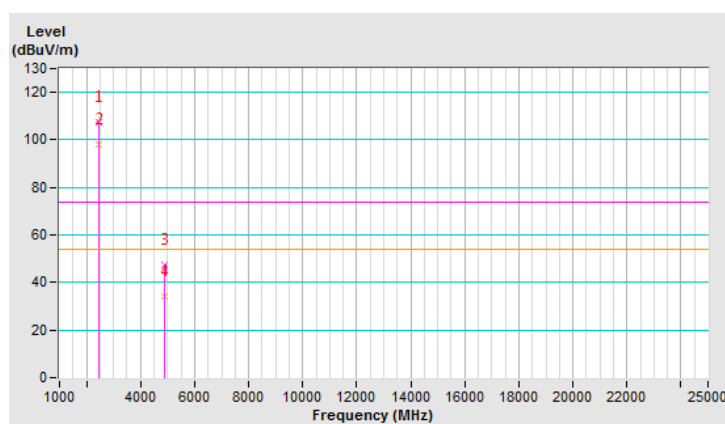


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 6：2437 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	*2437.00	107.4 PK			1.00 H	82	74.0	33.4
2	*2437.00	98.1 AV			1.00 H	82	64.7	33.4
3	4874.00	47.4 PK	74.0	-26.6	1.85 H	227	44.1	3.3
4	4874.00	34.2 AV	54.0	-19.8	1.85 H	227	30.9	3.3
	7311.00	-	-	-	-	-	-	-
	9748.00	-	-	-	-	-	-	-
	12185.00	-	-	-	-	-	-	-
	14622.00	-	-	-	-	-	-	-
	17059.00	-	-	-	-	-	-	-
	19496.00	-	-	-	-	-	-	-
	21933.00	-	-	-	-	-	-	-
	24370.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)



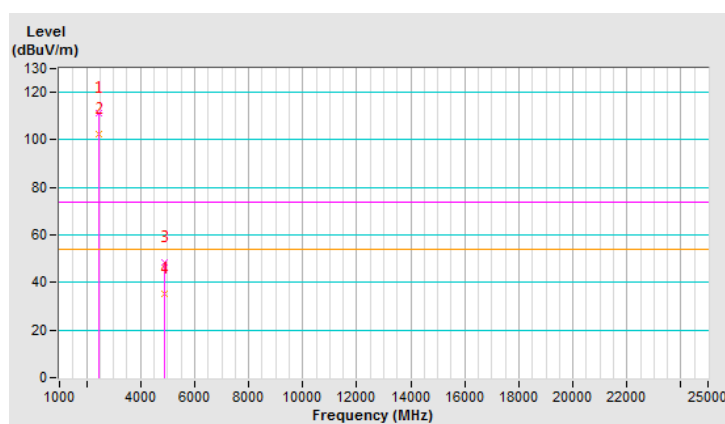
操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 6：2437 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	*2437.00	111.3 PK			1.00 V	185	77.9	33.4
2	*2437.00	102.2 AV			1.00 V	185	68.8	33.4
3	4874.00	48.5 PK	74.0	-25.5	2.40 V	174	45.2	3.3
4	4874.00	35.2 AV	54.0	-18.8	2.40 V	174	31.9	3.3
	7311.00	-	-	-	-	-	-	-
	9748.00	-	-	-	-	-	-	-
	12185.00	-	-	-	-	-	-	-
	14622.00	-	-	-	-	-	-	-
	17059.00	-	-	-	-	-	-	-
	19496.00	-	-	-	-	-	-	-
	21933.00	-	-	-	-	-	-	-
	24370.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

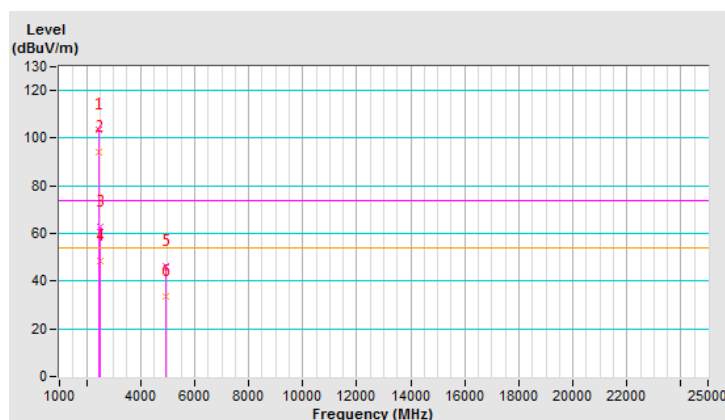


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 11 : 2462 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	*2462.00	103.6 PK			1.00 H	87	70.1	33.5
2	*2462.00	94.1 AV			1.00 H	87	60.6	33.5
3	2483.50	63.0 PK	74.0	-11.0	1.04 H	90	29.5	33.5
4	2483.50	48.6 AV	54.0	-5.4	1.04 H	90	15.1	33.5
5	4924.00	46.3 PK	74.0	-27.7	1.74 H	230	43.0	3.3
6	4924.00	33.7 AV	54.0	-20.3	1.74 H	230	30.4	3.3
	7386.00	-	-	-	-	-	-	-
	9848.00	-	-	-	-	-	-	-
	12310.00	-	-	-	-	-	-	-
	14772.00	-	-	-	-	-	-	-
	17234.00	-	-	-	-	-	-	-
	19696.00	-	-	-	-	-	-	-
	22158.00	-	-	-	-	-	-	-
	24620.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)



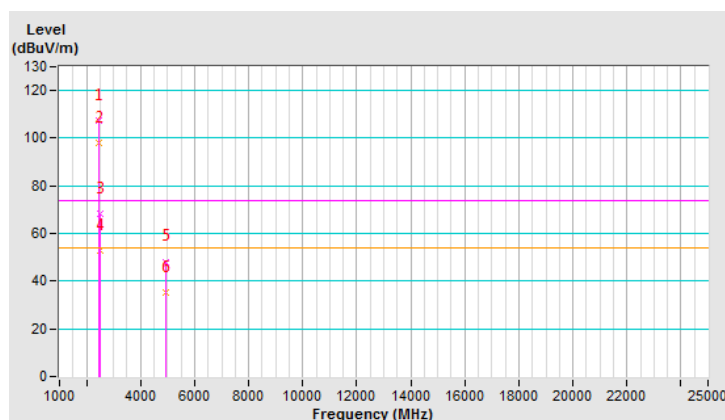
操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 11 : 2462 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	*2462.00	107.6 PK			1.00 V	188	74.1	33.5
2	*2462.00	98.0 AV			1.00 V	188	64.5	33.5
3	2483.50	68.2 PK	74.0	-5.8	1.01 V	186	34.7	33.5
4	2483.50	52.9 AV	54.0	-1.1	1.01 V	186	19.4	33.5
5	4924.00	48.2 PK	74.0	-25.8	2.33 V	129	44.9	3.3
6	4924.00	35.0 AV	54.0	-19.0	2.33 V	129	31.7	3.3
	7386.00	-	-	-	-	-	-	-
	9848.00	-	-	-	-	-	-	-
	12310.00	-	-	-	-	-	-	-
	14772.00	-	-	-	-	-	-	-
	17234.00	-	-	-	-	-	-	-
	19696.00	-	-	-	-	-	-	-
	22158.00	-	-	-	-	-	-	-
	24620.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)



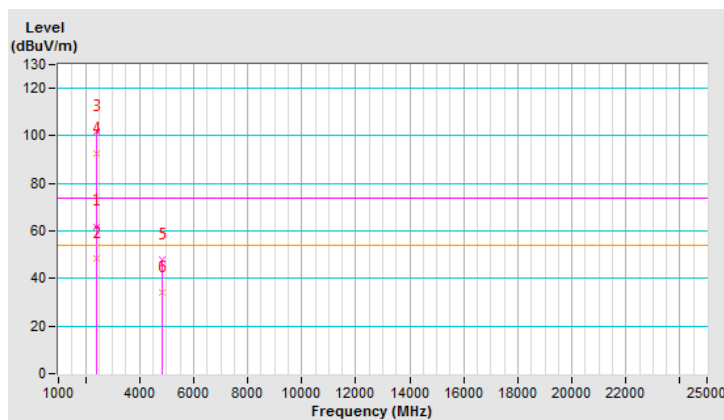
802.11n (HT20)

操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 1：2412 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	62.0 PK	74.0	-12.0	1.03 H	88	28.6	33.4
2	2390.00	48.4 AV	54.0	-5.6	1.03 H	88	15.0	33.4
3	*2412.00	101.8 PK			1.00 H	79	68.4	33.4
4	*2412.00	92.5 AV			1.00 H	79	59.1	33.4
5	4824.00	47.7 PK	74.0	-26.3	2.69 H	183	44.1	3.6
6	4824.00	34.3 AV	54.0	-19.7	2.69 H	183	30.7	3.6
	7236.00	-	-	-	-	-	-	-
	9648.00	-	-	-	-	-	-	-
	12060.00	-	-	-	-	-	-	-
	14472.00	-	-	-	-	-	-	-
	16884.00	-	-	-	-	-	-	-
	19296.00	-	-	-	-	-	-	-
	21708.00	-	-	-	-	-	-	-
	24120.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)



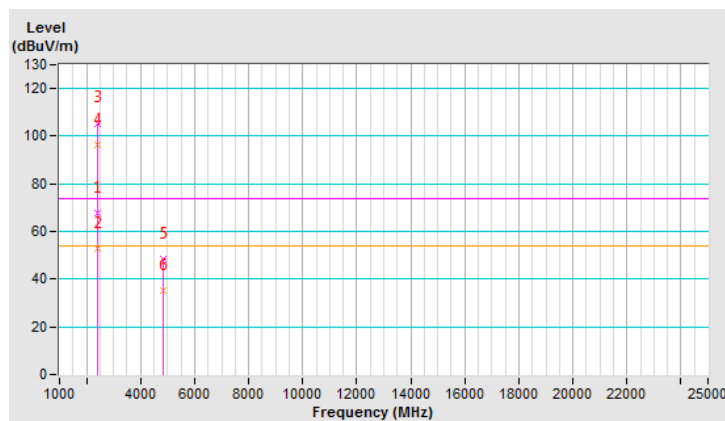
操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 1：2412 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	67.8 PK	74.0	-6.2	1.00 V	189	34.4	33.4
2	2390.00	53.0 AV	54.0	-1.0	1.00 V	189	19.6	33.4
3	*2412.00	105.5 PK			1.00 V	191	72.1	33.4
4	*2412.00	96.3 AV			1.00 V	191	62.9	33.4
5	4824.00	48.5 PK	74.0	-25.5	2.19 V	157	44.9	3.6
6	4824.00	35.1 AV	54.0	-18.9	2.19 V	157	31.5	3.6
	7236.00	-	-	-	-	-	-	-
	9648.00	-	-	-	-	-	-	-
	12060.00	-	-	-	-	-	-	-
	14472.00	-	-	-	-	-	-	-
	16884.00	-	-	-	-	-	-	-
	19296.00	-	-	-	-	-	-	-
	21708.00	-	-	-	-	-	-	-
	24120.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

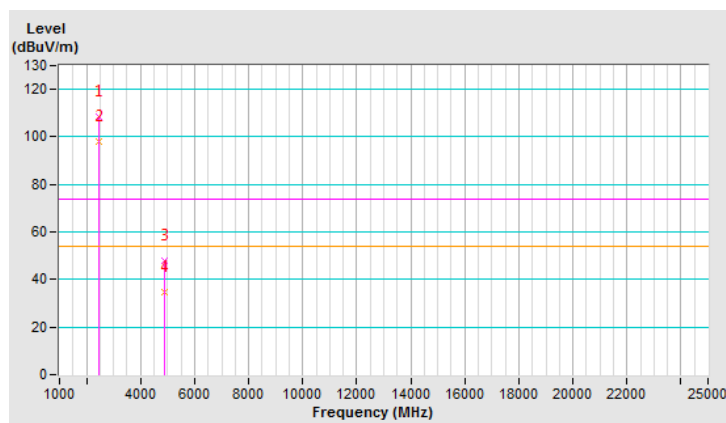


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 6：2437 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	*2437.00	108.3 PK			1.00 H	83	74.9	33.4
2	*2437.00	97.9 AV			1.00 H	83	64.5	33.4
3	4874.00	48.1 PK	74.0	-25.9	1.98 H	230	44.8	3.3
4	4874.00	34.5 AV	54.0	-19.5	1.98 H	230	31.2	3.3
	7311.00	-	-	-	-	-	-	-
	9748.00	-	-	-	-	-	-	-
	12185.00	-	-	-	-	-	-	-
	14622.00	-	-	-	-	-	-	-
	17059.00	-	-	-	-	-	-	-
	19496.00	-	-	-	-	-	-	-
	21933.00	-	-	-	-	-	-	-
	24370.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)



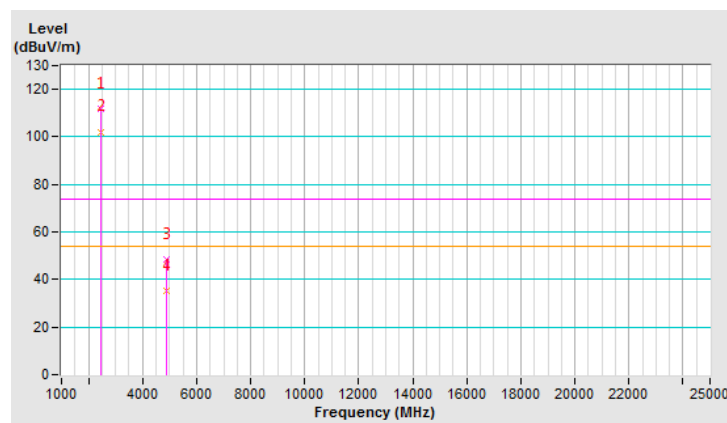
操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 6：2437 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	*2437.00	112.0 PK			1.00 V	187	78.6	33.4
2	*2437.00	102.2 AV			1.00 V	187	68.8	33.4
3	4874.00	48.5 PK	74.0	-25.5	2.64 V	118	45.2	3.3
4	4874.00	35.4 AV	54.0	-18.6	2.64 V	118	32.1	3.3
	7311.00	-	-	-	-	-	-	-
	9748.00	-	-	-	-	-	-	-
	12185.00	-	-	-	-	-	-	-
	14622.00	-	-	-	-	-	-	-
	17059.00	-	-	-	-	-	-	-
	19496.00	-	-	-	-	-	-	-
	21933.00	-	-	-	-	-	-	-
	24370.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

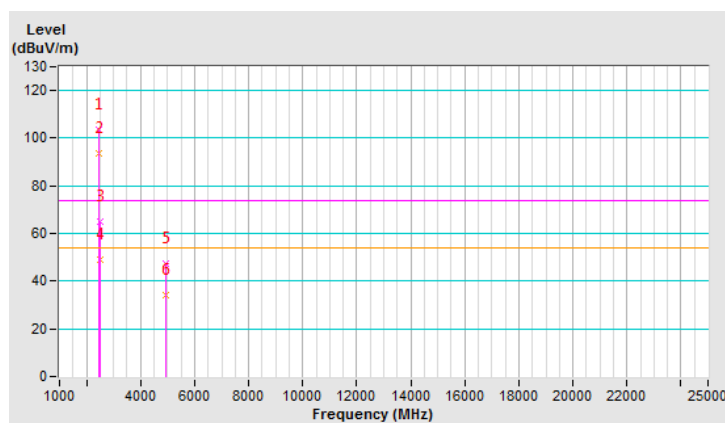


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 11 : 2462 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	*2462.00	103.5 PK			1.00 H	86	70.0	33.5
2	*2462.00	93.9 AV			1.00 H	86	60.4	33.5
3	2483.50	65.2 PK	74.0	-8.8	1.00 H	93	31.7	33.5
4	2483.50	48.8 AV	54.0	-5.2	1.00 H	93	15.3	33.5
5	4924.00	47.5 PK	74.0	-26.5	1.59 H	274	44.2	3.3
6	4924.00	34.2 AV	54.0	-19.8	1.59 H	274	30.9	3.3
	7386.00	-	-	-	-	-	-	-
	9848.00	-	-	-	-	-	-	-
	12310.00	-	-	-	-	-	-	-
	14772.00	-	-	-	-	-	-	-
	17234.00	-	-	-	-	-	-	-
	19696.00	-	-	-	-	-	-	-
	22158.00	-	-	-	-	-	-	-
	24620.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)



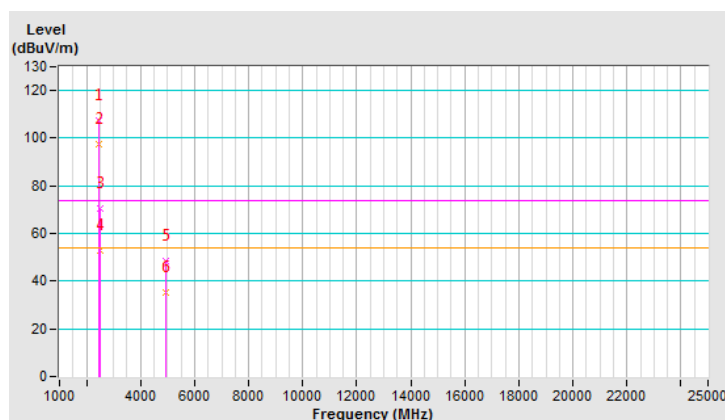
操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 11 : 2462 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=1kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	*2462.00	107.2 PK			1.00 V	184	73.7	33.5
2	*2462.00	97.5 AV			1.00 V	184	64.0	33.5
3	2483.50	70.3 PK	74.0	-3.7	1.00 V	183	36.8	33.5
4	2483.50	53.0 AV	54.0	-1.0	1.00 V	183	19.5	33.5
5	4924.00	48.3 PK	74.0	-25.7	2.19 V	152	45.0	3.3
6	4924.00	35.0 AV	54.0	-19.0	2.19 V	152	31.7	3.3
	7386.00	-	-	-	-	-	-	-
	9848.00	-	-	-	-	-	-	-
	12310.00	-	-	-	-	-	-	-
	14772.00	-	-	-	-	-	-	-
	17234.00	-	-	-	-	-	-	-
	19696.00	-	-	-	-	-	-	-
	22158.00	-	-	-	-	-	-	-
	24620.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)



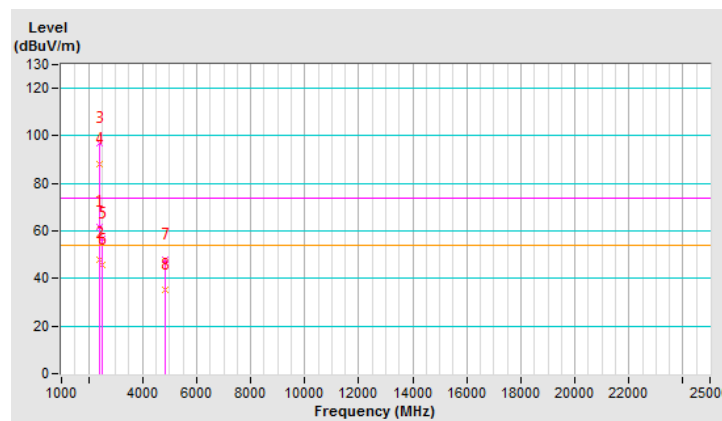
802.11n (HT40)

操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 3：2422 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=3kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	61.8 PK	74.0	-12.2	1.02 H	88	28.4	33.4
2	2390.00	48.2 AV	54.0	-5.8	1.02 H	88	14.8	33.4
3	*2422.00	97.1 PK			1.00 H	82	63.7	33.4
4	*2422.00	88.1 AV			1.00 H	82	54.7	33.4
5	2483.50	57.0 PK	74.0	-17.0	1.01 H	85	23.5	33.5
6	2483.50	45.6 AV	54.0	-8.4	1.01 H	85	12.1	33.5
7	4844.00	48.0 PK	74.0	-26.0	1.42 H	281	44.5	3.5
8	4844.00	35.2 AV	54.0	-18.8	1.42 H	281	31.7	3.5
	7266.00	-	-	-	-	-	-	-
	9688.00	-	-	-	-	-	-	-
	12110.00	-	-	-	-	-	-	-
	14532.00	-	-	-	-	-	-	-
	16954.00	-	-	-	-	-	-	-
	19376.00	-	-	-	-	-	-	-
	21798.00	-	-	-	-	-	-	-
	24220.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

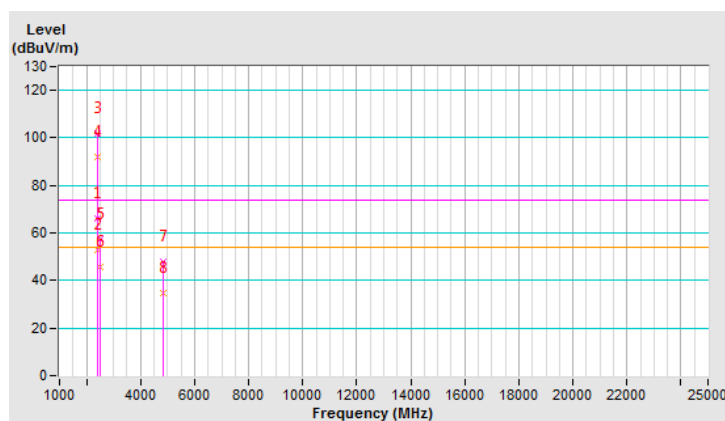


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 3：2422 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=3kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	65.9 PK	74.0	-8.1	1.03 V	188	32.5	33.4
2	2390.00	53.0 AV	54.0	-1.0	1.03 V	188	19.6	33.4
3	*2422.00	101.7 PK			1.00 V	184	68.3	33.4
4	*2422.00	92.0 AV			1.00 V	184	58.6	33.4
5	2483.50	57.3 PK	74.0	-16.7	1.04 V	181	23.8	33.5
6	2483.50	45.6 AV	54.0	-8.4	1.04 V	181	12.1	33.5
7	4844.00	48.0 PK	74.0	-26.0	2.39 V	170	44.5	3.5
8	4844.00	34.9 AV	54.0	-19.1	2.39 V	170	31.4	3.5
	7266.00	-	-	-	-	-	-	-
	9688.00	-	-	-	-	-	-	-
	12110.00	-	-	-	-	-	-	-
	14532.00	-	-	-	-	-	-	-
	16954.00	-	-	-	-	-	-	-
	19376.00	-	-	-	-	-	-	-
	21798.00	-	-	-	-	-	-	-
	24220.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

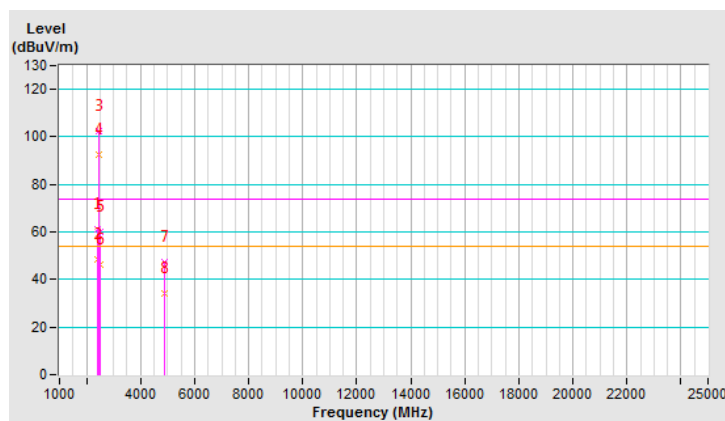


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 6：2437 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=3kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	61.3 PK	74.0	-12.7	1.05 H	82	27.9	33.4
2	2390.00	48.5 AV	54.0	-5.5	1.05 H	82	15.1	33.4
3	*2437.00	102.2 PK			1.00 H	81	68.8	33.4
4	*2437.00	92.7 AV			1.00 H	81	59.3	33.4
5	2483.50	60.0 PK	74.0	-14.0	1.08 H	77	26.5	33.5
6	2483.50	46.5 AV	54.0	-7.5	1.08 H	77	13.0	33.5
7	4874.00	47.5 PK	74.0	-26.5	2.90 H	175	44.2	3.3
8	4874.00	34.4 AV	54.0	-19.6	2.90 H	175	31.1	3.3
	7311.00	-	-	-	-	-	-	-
	9748.00	-	-	-	-	-	-	-
	12185.00	-	-	-	-	-	-	-
	14622.00	-	-	-	-	-	-	-
	17059.00	-	-	-	-	-	-	-
	19496.00	-	-	-	-	-	-	-
	21933.00	-	-	-	-	-	-	-
	24370.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

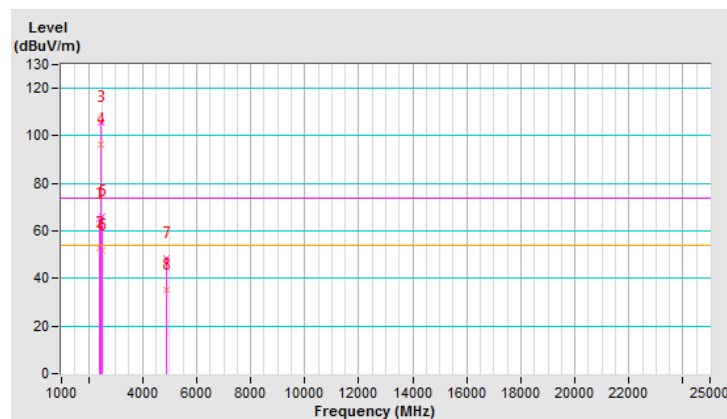


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 6：2437 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=3kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	65.0 PK	74.0	-9.0	1.00 V	184	31.6	33.4
2	2390.00	53.0 AV	54.0	-1.0	1.00 V	184	19.6	33.4
3	*2437.00	106.0 PK			1.02 V	187	72.6	33.4
4	*2437.00	96.5 AV			1.02 V	187	63.1	33.4
5	2483.50	65.9 PK	74.0	-8.1	1.00 V	188	32.4	33.5
6	2483.50	51.8 AV	54.0	-2.2	1.00 V	188	18.3	33.5
7	4874.00	48.5 PK	74.0	-25.5	2.80 V	147	45.2	3.3
8	4874.00	35.2 AV	54.0	-18.8	2.80 V	147	31.9	3.3
	7311.00	-	-	-	-	-	-	-
	9748.00	-	-	-	-	-	-	-
	12185.00	-	-	-	-	-	-	-
	14622.00	-	-	-	-	-	-	-
	17059.00	-	-	-	-	-	-	-
	19496.00	-	-	-	-	-	-	-
	21933.00	-	-	-	-	-	-	-
	24370.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

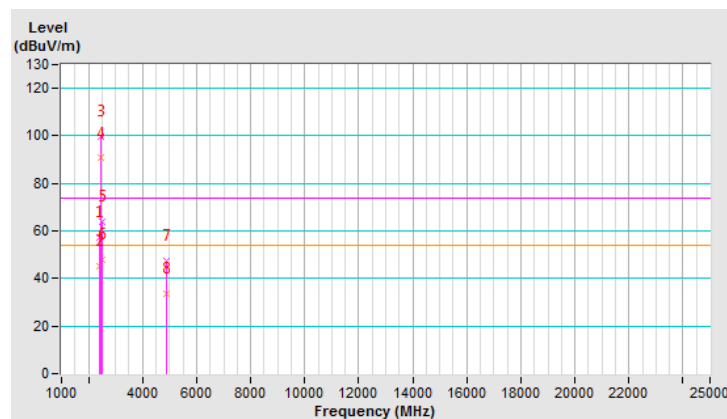


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 9：2452 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=3kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	57.5 PK	74.0	-16.5	1.11 H	80	24.1	33.4
2	2390.00	45.4 AV	54.0	-8.6	1.11 H	80	12.0	33.4
3	*2452.00	99.9 PK			1.00 H	81	66.4	33.5
4	*2452.00	90.6 AV			1.00 H	81	57.1	33.5
5	2483.50	63.7 PK	74.0	-10.3	1.02 H	88	30.2	33.5
6	2483.50	47.8 AV	54.0	-6.2	1.02 H	88	14.3	33.5
7	4904.00	47.1 PK	74.0	-26.9	1.74 H	241	43.8	3.3
8	4904.00	33.4 AV	54.0	-20.6	1.74 H	241	30.1	3.3
	7356.00	-	-	-	-	-	-	-
	9808.00	-	-	-	-	-	-	-
	12260.00	-	-	-	-	-	-	-
	14712.00	-	-	-	-	-	-	-
	17164.00	-	-	-	-	-	-	-
	19616.00	-	-	-	-	-	-	-
	22068.00	-	-	-	-	-	-	-
	24520.00	-	-	-	-	-	-	-

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 blank is not available, the limit of fundamental frequency was restricted at the peak output power (see LP0002 3.10.1.2)

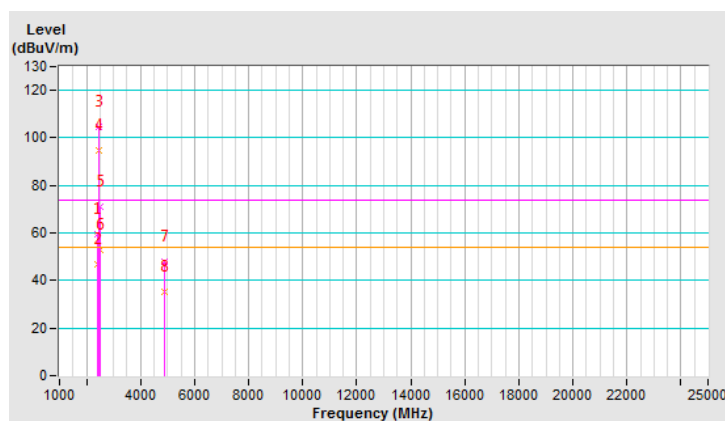


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 9：2452 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=3kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	李哲銘

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	59.3 PK	74.0	-14.7	1.00 V	186	25.9	33.4
2	2390.00	47.0 AV	54.0	-7.0	1.00 V	186	13.6	33.4
3	*2452.00	104.8 PK			1.00 V	183	71.3	33.5
4	*2452.00	94.9 AV			1.00 V	183	61.4	33.5
5	2483.50	70.8 PK	74.0	-3.2	1.01 V	184	37.3	33.5
6	2483.50	53.0 AV	54.0	-1.0	1.01 V	184	19.5	33.5
7	4904.00	48.0 PK	74.0	-26.0	2.69 V	188	44.7	3.3
8	4904.00	35.1 AV	54.0	-18.9	2.69 V	188	31.8	3.3
	7356.00	-	-	-	-	-	-	-
	9808.00	-	-	-	-	-	-	-
	12260.00	-	-	-	-	-	-	-
	14712.00	-	-	-	-	-	-	-
	17164.00	-	-	-	-	-	-	-
	19616.00	-	-	-	-	-	-	-
	22068.00	-	-	-	-	-	-	-
	24520.00	-	-	-	-	-	-	-

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 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

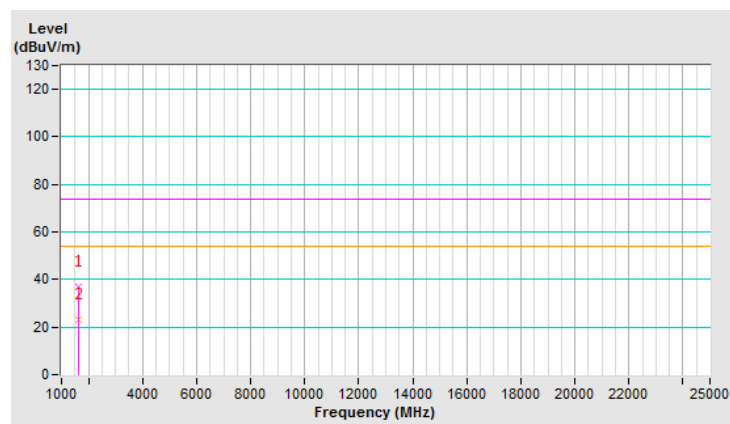
802.11n (HT20)

操作模式：	接收	調變技術：	OFDM
基本波頻率：	CH 6：2437 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	張家誠

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	1625.00	36.9 PK	74.0	-37.1	1.53 H	112	44.6	-7.7
2	1625.00	23.4 AV	54.0	-30.6	1.53 H	112	31.1	-7.7

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



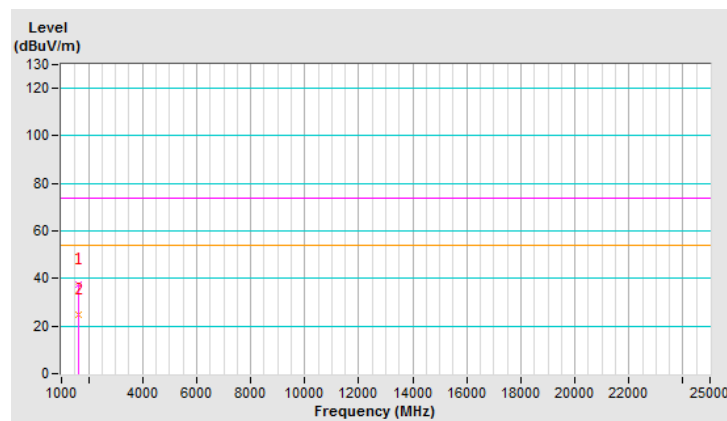
操作模式：	接收	調變技術：	OFDM
基本波頻率：	CH 6：2437 MHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 13 日	測試者：	張家誠

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	1625.00	37.5 PK	74.0	-36.5	1.99 V	225	45.2	-7.7
2	1625.00	24.6 AV	54.0	-29.4	1.99 V	225	32.3	-7.7

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

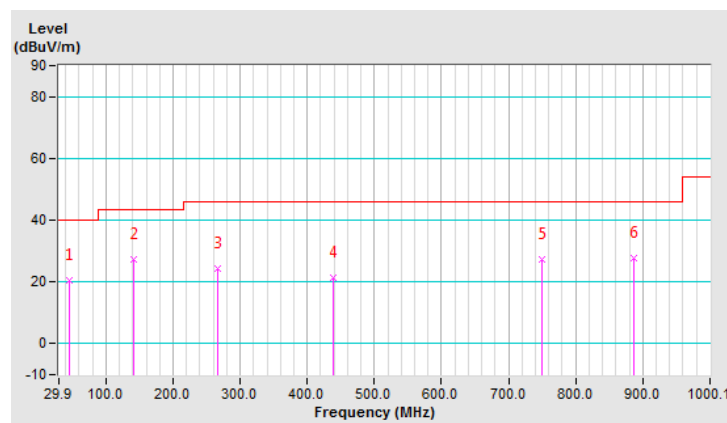
802.11n (HT20)

操作模式：	發射/接收	調變技術：	OFDM
基本波頻率：	CH 6：2437 MHz	測試儀器：	(QP) RB=VB=120kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 18 日	測試者：	張家誠

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	45.42	20.5 QP	40.0	-19.5	1.50 H	194	34.7	-14.2
2	140.50	27.2 QP	43.5	-16.3	1.00 H	149	41.3	-14.1
3	266.63	24.3 QP	46.0	-21.7	2.00 H	301	37.6	-13.3
4	439.32	21.3 QP	46.0	-24.7	1.50 H	151	30.7	-9.4
5	749.79	27.3 QP	46.0	-18.7	1.50 H	13	30.0	-2.7
6	887.56	27.8 QP	46.0	-18.2	1.00 H	236	28.3	-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 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.

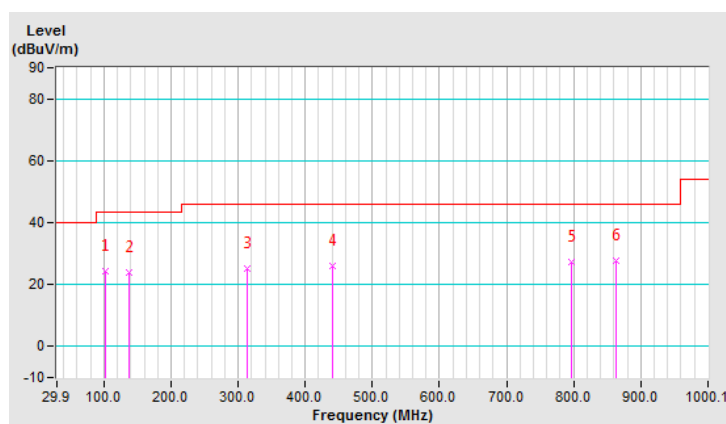


操作模式：	發射/接收	調變技術：	OFDM
基本波頻率：	CH 6：2437 MHz	測試儀器：	(QP) RB=VB=120kHz
量測場地溫度：	25°C	量測場地濕度：	70%RH
測試日期：	107 年 04 月 18 日	測試者：	張家誠

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	101.69	24.2 QP	43.5	-19.3	1.50 V	112	42.3	-18.1
2	136.62	23.8 QP	43.5	-19.7	2.00 V	350	38.3	-14.5
3	313.20	25.3 QP	46.0	-20.7	1.00 V	79	37.0	-11.7
4	441.26	26.2 QP	46.0	-19.8	1.50 V	154	35.5	-9.3
5	796.36	27.4 QP	46.0	-18.6	2.00 V	241	29.2	-1.8
6	862.33	27.7 QP	46.0	-18.3	1.00 V	20	28.4	-0.7

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

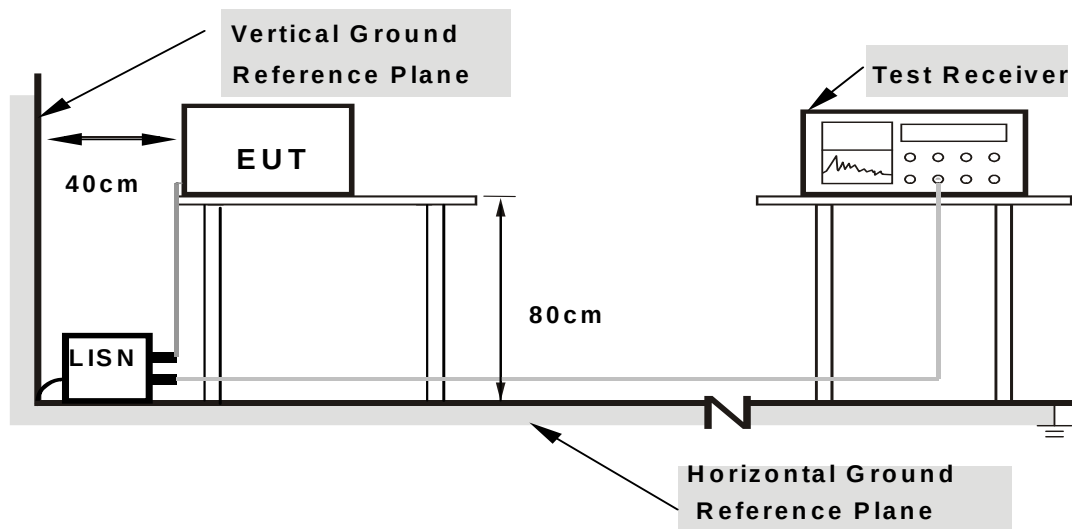
將待測物置於0.8米高的非金屬桌面，使其操作在工作狀態，待測物電源線接至電源線阻抗穩定網路上，從測試接收機記錄頻率由0.15MHz至30MHz之間之電源線傳導放射強度。

5.3 量測儀器

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 23, 2017	Nov. 22, 2018
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Sep. 05, 2017	Sep. 04, 2018
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 06, 2018	Mar. 05, 2019
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 15, 2017	Aug. 14, 2018
Software ADT	BV ADT_Conf_ V7.3.7.3	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-2040.
 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

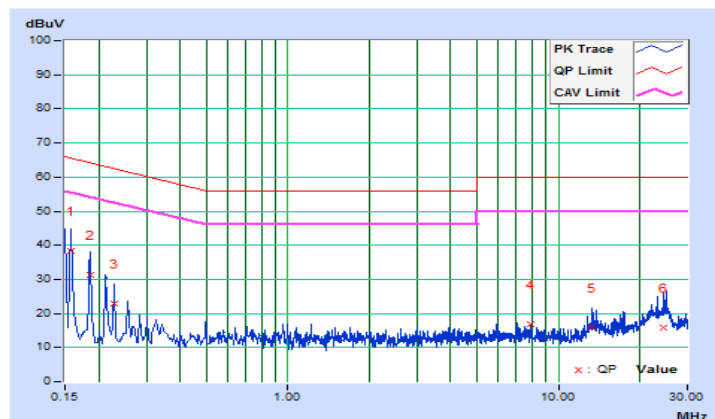
802.11n (HT20)

操作模式	發射/接收	測試日期	107 年 04 月 19 日
基本波頻率	CH 6 : 2437 MHz	量測場地溫度	25°C
調變技術	OFDM	量測場地濕度	75%RH
測試者	張家誠		

		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.
0.15782	10.16	28.27	3.18	38.43	13.34	65.58	55.58	-27.15	-42.24
0.18519	10.16	21.24	0.09	31.40	10.25	64.25	54.25	-32.85	-44.00
0.22820	10.16	12.78	1.23	22.94	11.39	62.51	52.51	-39.57	-41.12
7.93872	10.54	6.32	4.83	16.86	15.37	60.00	50.00	-43.14	-34.63
13.35806	10.85	5.02	0.27	15.87	11.12	60.00	50.00	-44.13	-38.88
24.47802	11.34	4.58	0.19	15.92	11.53	60.00	50.00	-44.08	-38.47

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.

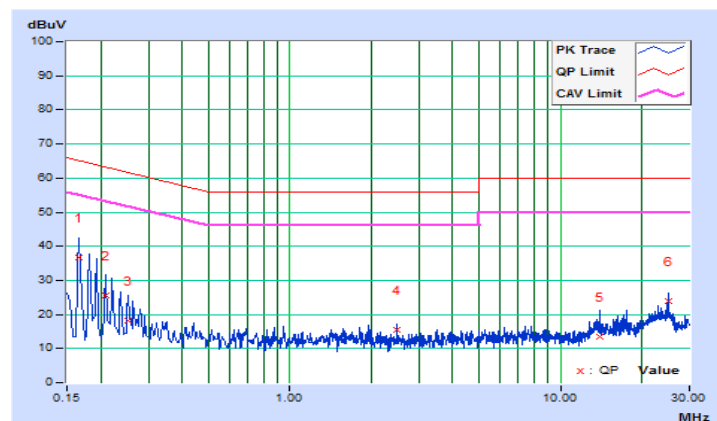


操作模式	發射/接收	測試日期	107 年 04 月 19 日
基本波頻率	CH 6 : 2437 MHz	量測場地溫度	25°C
調變技術	OFDM	量測場地濕度	75%RH
測試者	張家誠		

		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.
0.16569	10.15	26.61	2.37	36.76	12.52	65.17	55.17	-28.41	-42.65
0.20865	10.17	15.31	1.52	25.48	11.69	63.26	53.26	-37.78	-41.57
0.25166	10.17	7.94	2.85	18.11	13.02	61.70	51.70	-43.59	-38.68
2.49209	10.25	5.33	0.46	15.58	10.71	56.00	46.00	-40.42	-35.29
13.99922	10.75	2.59	0.26	13.34	11.01	60.00	50.00	-46.66	-38.99
24.99805	11.08	12.72	10.60	23.80	21.68	60.00	50.00	-36.20	-28.32

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(I)的規定。

6.2 量測方法

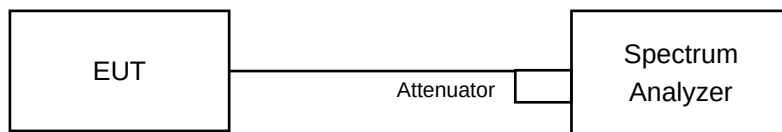
- a) 將待測物輸出經由衰減器接到頻譜分析儀上。
- b) 設定待測物處於連續發射狀態。
- c) 計算由最大輸出功率峰值減6dB的最大頻率範圍。

6.3 量測儀器

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Spectrum Analyzer R&S	FSP40	100041	Dec. 12, 2017	Dec. 11, 2018

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	107 年 04 月 20 日
量測場地溫度	25°C	量測場地濕度	60%RH
測試者	張明逸		

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	8.13	0.5	Pass
6	2437	8.13	0.5	Pass
11	2462	8.14	0.5	Pass

802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.35	0.5	Pass
6	2437	16.34	0.5	Pass
11	2462	16.33	0.5	Pass

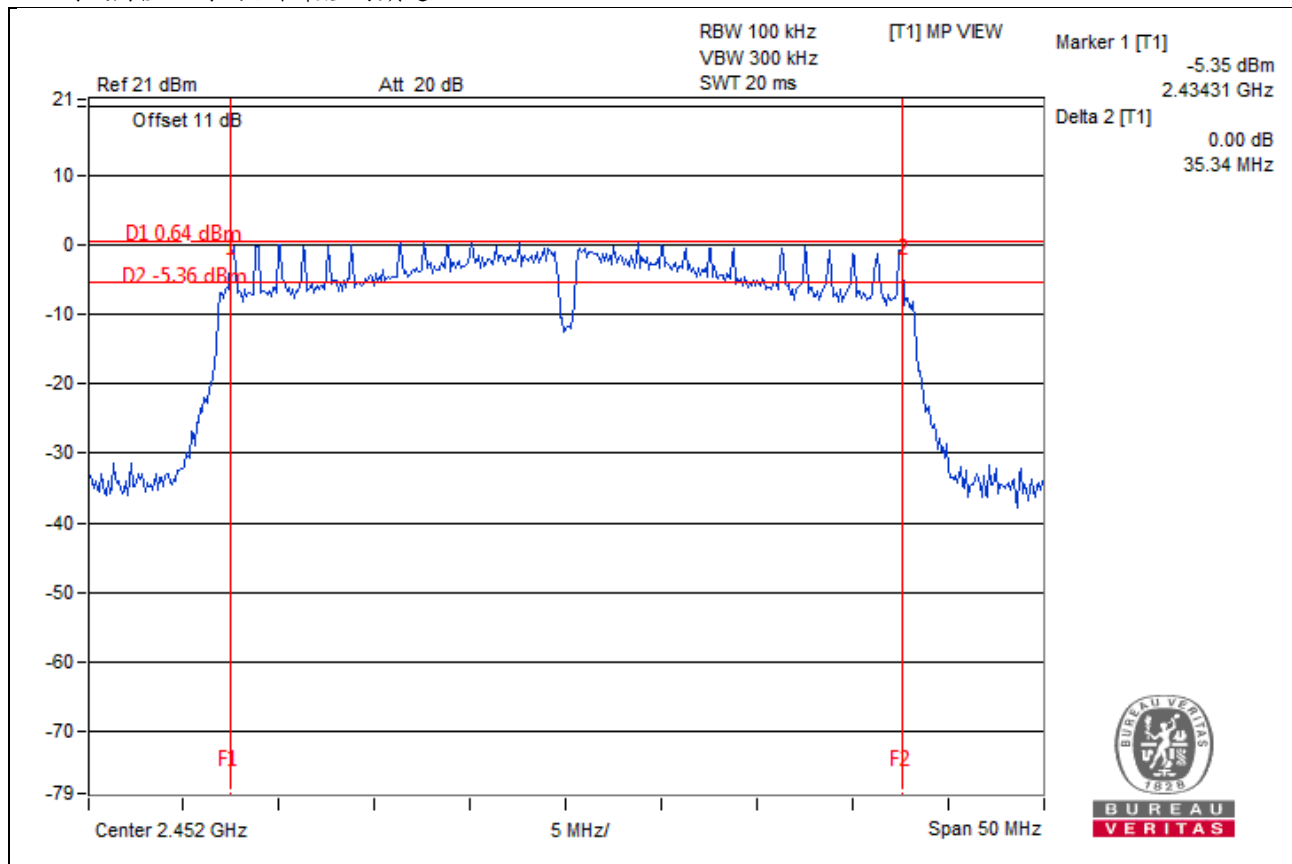
802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	17.34	0.5	Pass
6	2437	17.36	0.5	Pass
11	2462	17.32	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
3	2422	35.33	0.5	Pass
6	2437	35.32	0.5	Pass
9	2452	35.34	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(I)及4項(I)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。
- 設定待測物處於連續發射狀態。
- 計算其輸出功率值。

7.3 量測儀器

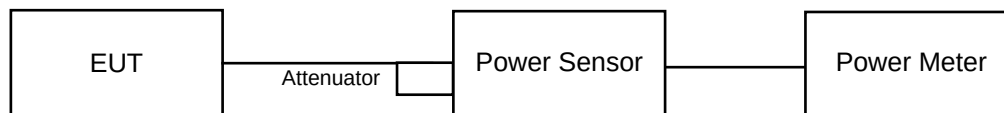
Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Power meter Anritsu	ML2495A	1014008	May 11, 2017	May 10, 2018
Power sensor Anritsu	MA2411B	0917122	May 11, 2017	May 10, 2018

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.

- Measurement Bandwidth of ML2495A is 65MHz greater than 6dB bandwidth of emission.

7.4 測試配置



7.5 量測結果

操作模式	發射	測試日期	107 年 04 月 20 日
量測場地溫度	25°C	量測場地濕度	60%RH
測試者	張明逸		

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	22.751	13.57	30	Pass
6	2437	22.542	13.53	30	Pass
11	2462	21.979	13.42	30	Pass

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	22.387	13.50	30	Pass
6	2437	21.878	13.40	30	Pass
11	2462	22.182	13.46	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	21.979	13.42	30	Pass
6	2437	22.439	13.51	30	Pass
11	2462	22.029	13.43	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
3	2422	17.022	12.31	30	Pass
6	2437	21.429	13.31	30	Pass
9	2452	22.491	13.52	30	Pass

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(I)的規定。

8.2 量測方法

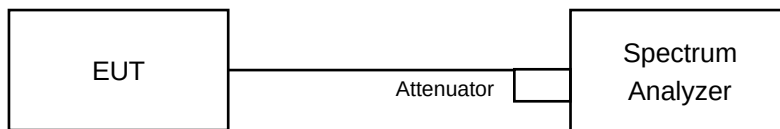
- 將待測物之天線埠經由適當之衰減直接連至測試儀器。
- 設定解析頻寬為10kHz，視訊頻寬為30kHz，掃描時間為auto。
- 掃描頻寬設於足夠觀察發射機所產生的主頻信號，並找到最大的峰值準位。
- 校正後的值，其峰值位準必須不大於+8dBm。

8.3 量測儀器

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Spectrum Analyzer R&S	FSP40	100041	Dec. 12, 2017	Dec. 11, 2018

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	107 年 04 月 20 日
量測場地溫度	25°C	量測場地濕度	60%RH
測試者	張明逸		

802.11b

Channel	Freq. (MHz)	PSD w/o Duty Factor (dBm/10kHz)	Duty Factor	PSD with Duty Factor (dBm/10kHz)	Limit (dBm/3kHz)	Pass/Fail
1	2412	-12.93	0.18	-12.75	8	Pass
6	2437	-13.08	0.18	-12.90	8	Pass
11	2462	-13.63	0.18	-13.45	8	Pass

Note: Refer to section 2.1 for duty cycle spectrum plot.

802.11g

Channel	Freq. (MHz)	PSD w/o Duty Factor (dBm/10kHz)	Duty Factor	PSD with Duty Factor (dBm/10kHz)	Limit (dBm/3kHz)	Pass/Fail
1	2412	-21.25	0.97	-20.28	8	Pass
6	2437	-21.01	0.97	-20.04	8	Pass
11	2462	-19.79	0.97	-18.82	8	Pass

Note: Refer to section 2.1 for duty cycle spectrum plot.

802.11n (HT20)

Channel	Freq. (MHz)	PSD w/o Duty Factor (dBm/10kHz)	Duty Factor	PSD with Duty Factor (dBm/10kHz)	Limit (dBm/3kHz)	Pass/Fail
1	2412	-20.59	1.02	-19.57	8	Pass
6	2437	-20.73	1.02	-19.71	8	Pass
11	2462	-20.88	1.02	-19.86	8	Pass

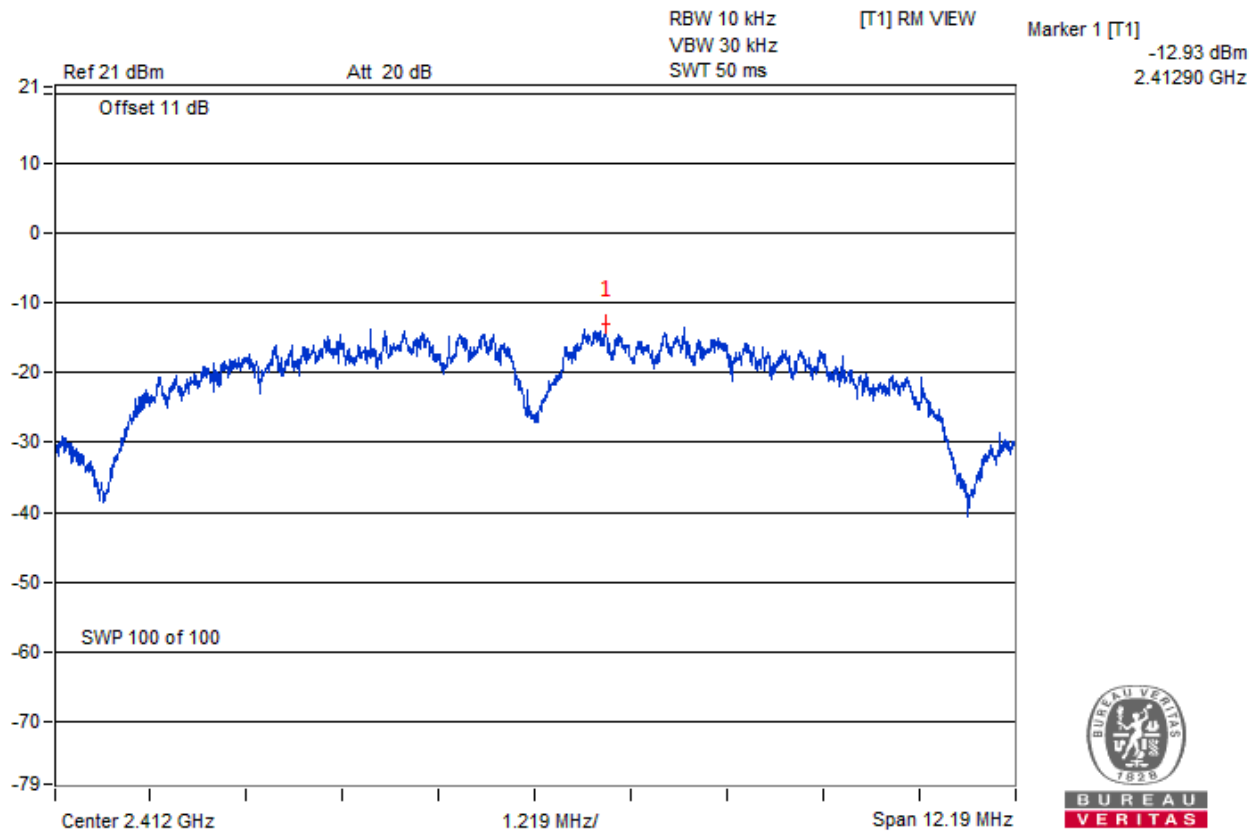
Note: Refer to section 2.1 for duty cycle spectrum plot.

802.11n (HT40)

Channel	Freq. (MHz)	PSD w/o Duty Factor (dBm/10kHz)	Duty Factor	PSD with Duty Factor (dBm/10kHz)	Limit (dBm/3kHz)	Pass/Fail
3	2422	-31.62	1.96	-29.66	8	Pass
6	2437	-30.57	1.96	-28.61	8	Pass
9	2452	-30.33	1.96	-28.37	8	Pass

Note: Refer to section 2.1 for duty cycle spectrum plot.

**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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