



晶復科技股份有限公司

A Test Lab Techno Corp.

低功率射頻器材試驗報告

報告編號 2108DR35

版本(Rev.) 01

產品名稱 智慧手錶

申請廠商 安徽華米信息科技有限公司

廠牌 AMAZFIT

型式 (號) A2040

產品試驗依據之標準 低功率射頻器材技術規範(LP0002) 109 年 7 月 1 日

報告發行日期 110 年 08 月 26 日

填發本型式認可報告之試驗機構 (認可代號)

晶復科技股份有限公司
33465 桃園市八德區長安街 140-1 號
Tel : 03-2710188 / Fax : 03-2710190



財團法人全國認證基金會
認證編號 : 1330
認證有效期間 : 108.09.06 ~ 111.09.05
認可能量範圍 : 低功率射頻器材技術規範(LP0002) (頻率範圍:9 kHz to 40 GHz)

免責聲明

- 1.本測試報告所敘述之測試結果，僅對顧客所提供之測試樣品，在此測試報告所述及之測試條件下，所實施之量測有效。
- 2.本測試報告未經晶復科技股份有限公司書面同意，不得部分複製本報告內容。
- 3.本測試報告內容之相關資訊皆由顧客提供，針對顧客所提供資訊之正確性、適當性或完整性，若有疑義或錯誤，並因此影響本測試報告結果有效性時，本實驗室不負其相關責任。

報告修訂紀錄

版本 (Rev.)	發行日期	修訂內容	修訂者
00	110 年 08 月 20 日	初版發行	鄭安蓁
01	110 年 08 月 26 日	更新 2.3 章節(P.8) 更新 Annex C(P.91)	鄭安蓁

低功率射頻器材測試證明書

產品名稱：智慧手錶

廠牌：AMAZFIT

型號：A2040

申請廠商：安徽華米信息科技有限公司

申請者地址：中國（安徽）自由貿易試驗區合肥市高新區望江西路900號華米全球創新中心B2棟7層

製造廠商：安徽華米信息科技有限公司

製造商地址：中國（安徽）自由貿易試驗區合肥市高新區望江西路900號華米全球創新中心B2棟7層

待測物電壓：DC 5 V, 500 mA

量測規範：低功率射頻器材技術規範(LP0002) 109年7月1日

試驗實驗室：晶復科技股份有限公司(桃園市八德區長安街140-1號)

樣品接受日期：110 年 07 月 16 日

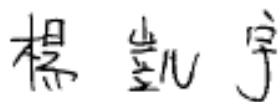
試驗日期：110 年 07 月 23 日 ~ 110 年 08 月 10 日

報告中所描述之測試結果與待測設備之架構組合，均根據實際量測情況作詳實的記錄。

由測試結果顯示，上述待測設備樣機確實已符合低功率射頻器材技術規範(LP0002)所規定的各項限制值。

特此證明！

審核者：



(楊 凱 宇)

目 錄

名 稱	頁 次
低功率射頻器材測試證明書.....	3
1. 一般敘述	5
1.1 待測設備一般敘述.....	5
1.2 其他相關聲明	6
2. 量測儀器及測試配置說明	6
2.1 量測設備	6
2.2 檢驗系統示意圖	7
2.3 輔助測試之週邊設備描述	8
2.4 測試軟體版本	9
2.5 測試模式	9
2.6 量測不確定度	13
2.7 試驗環境	13
3. 測試項目與結果判定總表	14
4. 測試項目表列	15
4.1 電源線傳導干擾之量測	15
4.2 場強輻射之量測	16
4.3 峰值傳導輸出功率之量測	19
4.4 天線規格之要求	19
4.5 非必要頻帶之量測	20
4.6 6 dB 頻寬之要求	20
4.7 峰值發射功率頻譜密度之要求	21
4.8 電波暴露量之評估	22
5. Test Results	23
Annex A. Conducted Emission	23
Annex B. Radiated Emission Measurement	25
Annex C. Conducted Test Results	73

1. 一般敘述

1.1 待測設備一般敘述

本敘述僅針對產品簡單說明之，其他詳細之規格請參考使用說明書。

產 品 名 稱	智慧手錶		
廠 牌	AMAZFIT		
型 號	A2040		
額 定 電 源	DC 5 V, 500 mA		
待 測 物 電 源 類 別	Power Adapter / Battery		
調 變 方 式	IEEE 802.11b: DSSS		
	IEEE 802.11g: OFDM		
	IEEE 802.11n 2.4 GHz 20 MHz: OFDM		
頻 率 使 用 範 圍	Mode	Frequency Range (MHz)	
	IEEE 802.11b / IEEE 802.11g / IEEE 802.11n 2.4 GHz 20 MHz		2412 – 2462
天 線 廠 牌	AMAZFIT		
天 線 型 號	Madrid antenna		
天 線 型 態	slot Antenna		
天 線 增 益 值	-5.58 dBi		
RF 最大輸出功率	Mode	Power	
	IEEE 802.11b	17.68 dBm	0.059 W
	IEEE 802.11g	22.46 dBm	0.176 W
	IEEE 802.11n 2.4 GHz 20 MHz	22.61 dBm	0.182 W

輸出/輸入埠說明：

輸 出 / 入 埠		數量	介面內容說明
1	DC Power Port	1	連接至充電底座

附屬裝置表：

裝置名稱	廠牌	型號	備註
內建固定式電池(1)	ATL	PL582624	DC 3.87 V, 440 mAh
內建固定式電池(2)	EVE	PL582624	DC 3.87 V, 440 mAh
充電底座	AMAZFIT	A2040	STD-A → DC Power Port INPUT : 5 VDC, 500 mA OUTPUT : 5 VDC, 500 mA Non-Shielded : 0.8 m

1.2 其他相關聲明

本測試報告屬(以下選擇一種打■)

☒	申請新的型式檢驗認可的測試。
☐	已取得型式檢驗認可之商品,因設計變更而重新測試。 登錄號碼: XXXXXXXX

2. 量測儀器及測試配置說明

2.1 量測設備

For Conducted

Test Period: Jul. 28 ~ Aug. 10, 2021

測試者: 林佳禾

名 稱	廠 牌	型 號	序 號	本次校驗日期	校驗年限
Power Sensor	Agilent	N1921A	MY45241957	12/09/2020	1 year
Power Meter	Agilent	N1911A	MY45101619	12/09/2020	1 year
Spectrum Analyzer (20 Hz~26.5 GHz)	Agilent	N9020A	US47520902	09/24/2020	1 year

For Conducted Emission

Test Period: Jul. 23, 2021

測試者: 呂迪曄

名 稱	廠 牌	型 號	序 號	本次校驗日期	校驗年限
Test Receiver	R&S	ESCI	100367	05/21/2021	1 year
LISN	R&S	ENV216	101040	03/29/2021	1 year
LISN	R&S	ENV216	101041	04/08/2021	1 year

For Radiated Emissions

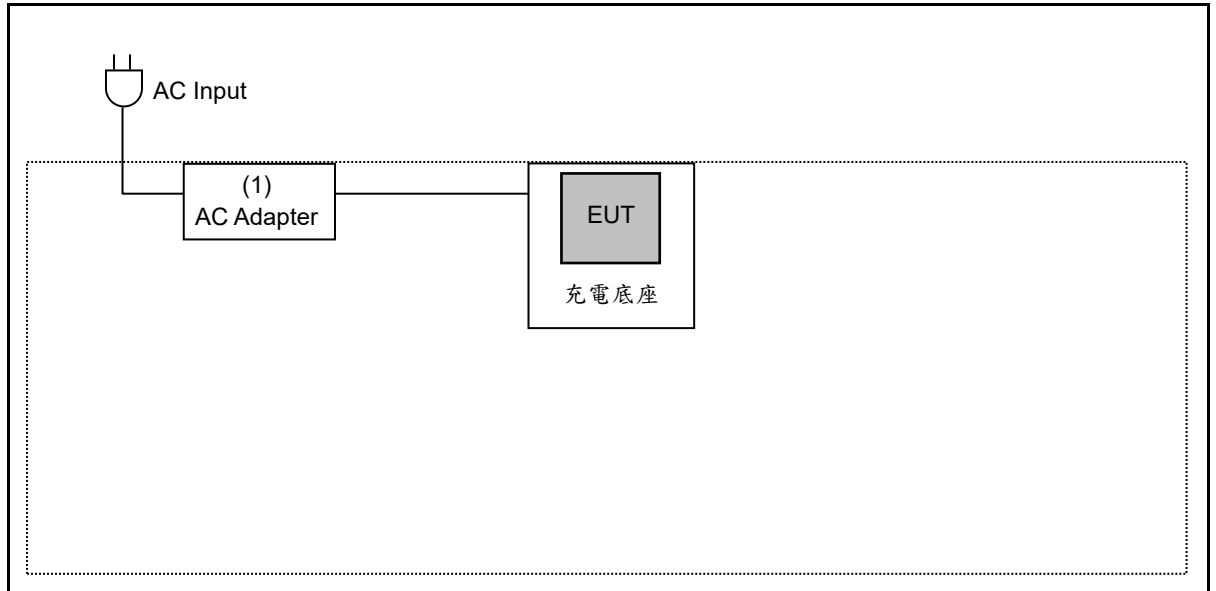
Test Period: Jul. 27 ~ Jul. 28, 2021

測試者: 莊婉玄, 葉佳原, 廖經雄

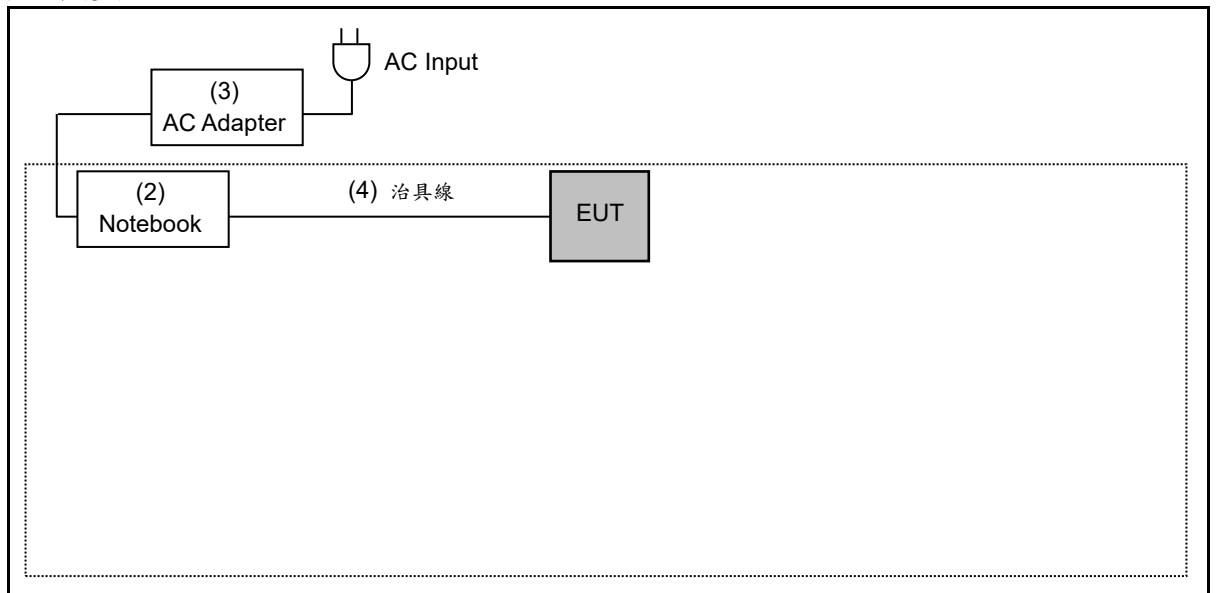
名 稱	廠 牌	型 號	序 號	本次校驗日期	校驗年限
Spectrum Analyzer	Keysight	N9030B	MY57143537	04/19/2021	1 year
Amplifier	Agilent	8447D	2944A11119	01/15/2021	1 year
Amplifier	Agilent	8449B	3008A02237	10/21/2020	1 year
天線	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	416	11/11/2020	1 year
天線(1~18 GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	02207	07/09/2021	1 year
天線(18~40 GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	08/18/2020	1 year

2.2 檢驗系統示意圖

電源傳導干擾測試配置



輻射干擾測試配置



2.3 輔助測試之週邊設備描述

下列輔助設備或配件為測試中所使用，以形成一個代表性的受測系統。

週邊名稱	廠牌	型號	序號	電源線	備註
(1) AC Adapter	HUAWEI	HW-050100U01	---	---	INPUT : 100-240 VAC, 50/60 Hz, 0.2 A OUTPUT : 5 VDC, 1 A (實驗室提供)
(2) Notebook	Acer	N19C1	---	---	(實驗室提供)
(3) AC Adapter	chiicony	A18-045N2A	---	---	INPUT : 100-240 VAC, 50-60 Hz, 1.4 A OUTPUT : 19.0 VDC, 2.37 A (實驗室提供)
(4) 治具線	AMAZFIT	A2040	---	---	(申請者提供)

測試組合：

EUT Configure Mode	CE	RE<1G	RE ≥ 1G	備註
內建固定式電池(1)	V	V	V	
內建固定式電池(2)				
充電底座	V			
AC Adapter	V			測試週邊(1)
Notebook	---	V	V	測試週邊(2) Test Mode使用
AC Adapter	---	V	V	測試週邊(3) Test Mode使用
治具線	---	V	V	測試週邊(4) Test Mode使用

RE ≥ 1 GHz : Radiated Emission above 1 GHz & Bandedge Measurement

RE < 1 GHz : Radiated Emission below 1 GHz

CE : Conducted Emission

V : Final mode

X : Non support

--- : No evaluation required

Blank Space : Pre-test mode

2.4 測試軟體版本

Measurement Software			
No.	Description	Software	Version
1	Conducted Emission	EZ EMC	1.1.4.3
2	Radiated Emission	EZ EMC	1.1.4.4

2.5 測試模式

使用定頻模式量測

Test Mode
Mode 1: Transmit Mode
Mode 2: IEEE 802.11b Continuous TX Mode
Mode 3: IEEE 802.11g Continuous TX Mode
Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX Mode
Mode 5: Receiver Mode

Test Mode	Frequency (MHz)	RF Power setting in Test Software	Test Software Version
		ANT-0	
Mode 2	2412.0	18.0	SSCOM 5.13.1
	2437.0	17.0	
	2462.0	17.0	
Mode 3	2412.0	17.0	
	2437.0	17.0	
	2462.0	17.0	
Mode 4	2412.0	17.0	
	2437.0	17.0	
	2462.0	17.0	

Test Mode	ANT-0
Mode 2	V
Mode 3	V
Mode 4	V

Test Mode	Antenna Delivery	Data Rate (Mbps)	Test Channel
Mode 2	1TX / 1RX	1	1, 6, 11
Mode 3	1TX / 1RX	6	1, 6, 11
Mode 4	1TX / 1RX	6.5	1, 6, 11

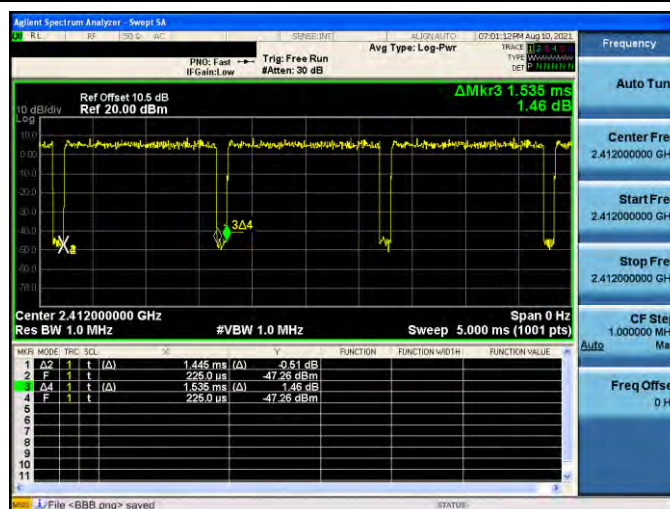
Duty cycle

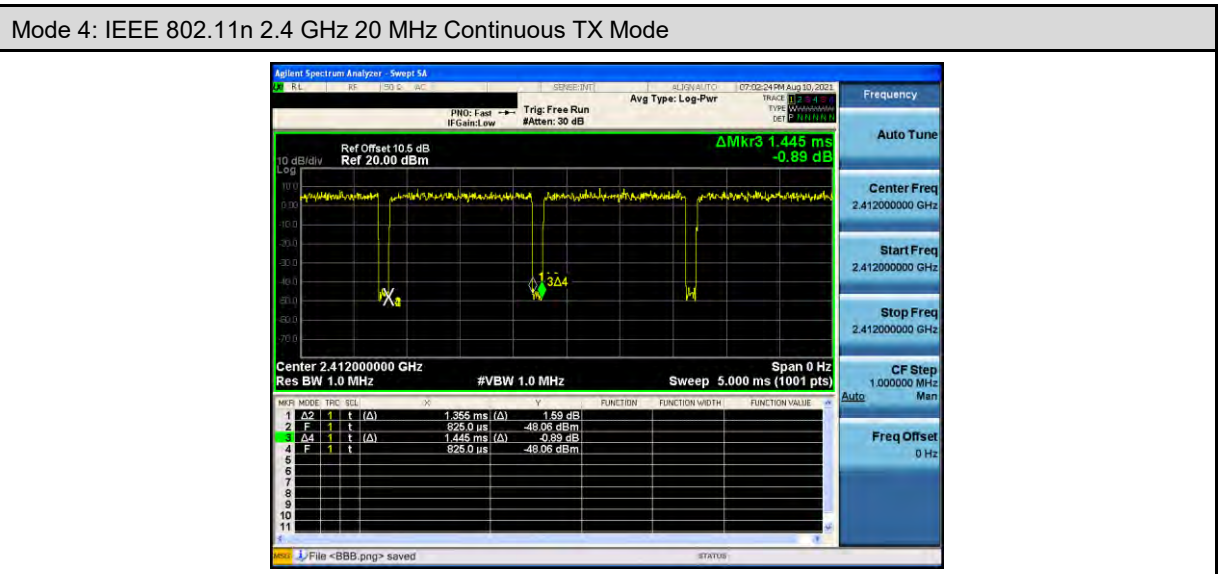
Test Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle	Duty Factor (dB)	1/T Minimun VBW (kHz)
Mode 2	2412.0	8.640	8.700	0.993	0.030	0.010
Mode 3	2412.0	1.445	1.535	0.941	0.262	0.692
Mode 4	2412.0	1.355	1.445	0.938	0.279	0.738

Mode 2: IEEE 802.11b Continuous TX Mode



Mode 3: IEEE 802.11g Continuous TX Mode





2.6 量測不確定度

下列量測不確定水準是參照量測儀器 CISPR 16-4-2 所規定之不確定度。

Test Item	Frequency Range	Uncertainty
Conducted Emission	150 kHz ~ 30 MHz	2.7 dB
Radiated Emission	9 kHz ~ 30 MHz	2.2 dB
	30 MHz ~ 1000 MHz	5.1 dB
	1000 MHz ~ 18000 MHz	5.1 dB
	18000 MHz ~ 26500 MHz	4.4 dB
	26500 MHz ~ 40000 MHz	4.6 dB
Conducted Output Power	1.1 dB	
RF Bandwidth	4.7 %	
Power Spectral Density	1.1 dB	

2.7 試驗環境

產品測試時之實驗室環境條件如下：

項 目	測 試 項 目	需 求	實 際
溫度 Temperature (°C)	LP0002	10 - 40	20 - 30
濕度 Humidity (%RH)		10 - 90	45 - 75

3. 測試項目與結果判定總表

本測試報告之所有項目皆依據 NCC 低功率射頻器材技術規範(LP0002)之檢驗法。

2.4 GHz 頻段適用下列表格

項次	測試項目	適用規範	測試結果	量測設備	結果判定
1	電源線傳導干擾	低功率射頻器材技術規範 3.3 節	Annex A.	請參閱 2.1 節	符合
2	場強輻射	低功率射頻器材技術規範 3.5 節、3.6 節、4.10.1.5 節	Annex B.	請參閱 2.1 節	符合
3	頻帶邊緣外之輻射發射	低功率射頻器材技術規範 4.10.1.5 節	Annex B.	請參閱 2.1 節	符合
4	峰值傳導輸出功率	低功率射頻器材技術規範 4.10.1.2(1)(C)節	Annex C.	請參閱 2.1 節	符合
5	天線規格	低功率射頻器材技術規範 4.10.1.3(3)、4.10.1.4 節	請參閱 4.4 節	-----	符合
6	非必要頻帶	低功率射頻器材技術規範 4.10.1.5(1)節	Annex C.	請參閱 2.1 節	符合
7	6 dB 頻寬	低功率射頻器材技術規範 4.10.1.6(2)(A)節	Annex C.	請參閱 2.1 節	符合
8	峰值發射功率頻譜密度	低功率射頻器材技術規範 4.10.1.6(2)(B)節	Annex C.	請參閱 2.1 節	符合
9	電波暴露量之評估	低功率射頻器材技術規範 6.20.2 節	Annex C.	請參閱 2.1 節	符合

本產品透過預測試場強輻射確認 X、Y 和 Z 個軸中最差之結果軸向為 Y 軸，因此場強輻射完整測試 Y 軸並將其結果記錄於報告中。

Decision Rule

☒ Uncertainty is not included.

☐ Uncertainty is included.

4. 測試項目表列

4.1 電源線傳導干擾之量測

合格標準：

依據 NCC 低功率射頻器材技術規範(LP0002)之 3.3 節，以市電為電源之低功率射頻器材，其傳導回電源線上頻率自 150 kHz 至 30 MHz 之射頻電壓（在電源端子每一電源線對接地點）不得超過下表所列之限值。測量時應經過 50 Ω /50 μ H 之電源線阻抗模擬網路 (LISN)。頻率重疊處，以較低限值為準。

Frequency (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。

測試方法：

測試場地為標準傳導測試場地。將待測物置於 0.8 米高的非金屬桌面，使其在工作狀態，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 30 MHz 之間之電源線傳導放射強度。

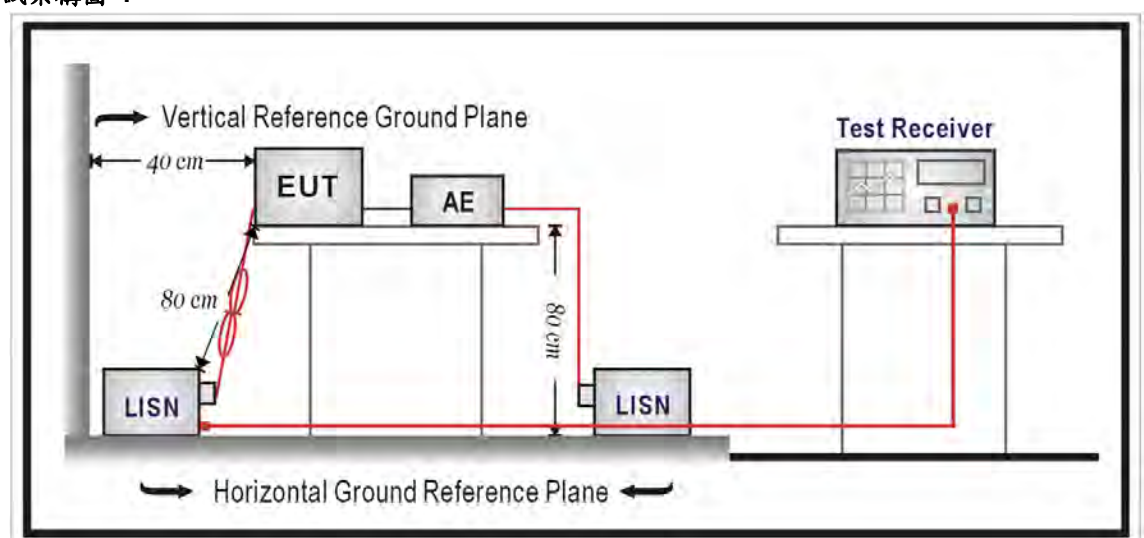
干擾值之計算

電源傳導干擾電壓之計算公式如下

結果值 = 儀器讀值(QP/AV) + 校正因子

其中校正因子為：饋線損失 + 電源阻抗模擬網路損失

測試架構圖：



4.2 場強輻射之量測

合格標準：

依據 NCC 低功率射頻器材技術規範(LP0002)之使用頻帶範圍外之任意 100 千赫 (kHz)內，發射機所產生的射頻功率相較於使用頻帶範圍中包含最高所需功率之 100 千赫(kHz)內的射頻功率，至少須衰減 20 dB，以射頻傳導或輻射方式測量。如發射機以依據 NCC 低功率射頻器材技術規範(LP0002)之 4.10.1.2(1)(C)節之峰值傳導輸出功率量測方式者，至少須衰減 30 dB。此外，落於第 3.5 節禁用頻段之輻射發射，應符合第 3.6 節之規定。

依據 NCC 低功率射頻器材技術規範第 3.5 節之規定,禁用頻段如下：

頻率(MHz)	頻率(MHz)	頻率(MHz)	頻率(MHz)
0.090~0.110	108.00~138.00	1660.0~1785.0	8025.0~8500.0
0.490~0.510	149.90~150.05	1805.0~1888.0	9000.0~9200.0
2.172~2.198	156.70~156.90	1885.0~1900.0	9300.0~9500.0
3.013~3.033	162.01~167.17	1905.0~1985.0	10600~12700
4.115~4.198	167.72~173.20	2010.0~2025.0	13250~13400
5.670~5.690	240.00~285.00	2110.0~2170.0	14470~14500
6.200~6.300	322.00~335.40	2200.0~2300.0	15350~16200
8.230~8.400	399.90~410.00	2310.0~2390.0	17700~21400
12.265~12.600	485.00~510.00	2483.5~2900.0	22010~23120
13.340~13.430	608.00~614.00	3260.0~3267.0	23600~24000
14.965~15.020	703.00~748.00	3332.0~3339.0	31200~31800
16.700~16.755	758.00~803.00	3345.8~3358.0	36430~36500
19.965~20.020	825.00~915.00	3500.0~4400.0	38600 以上
25.500~25.700	930.00~1240.0	4500.0~5250.0	
37.475~38.275	1300.0~1427.0	5350.0~5460.0	
73.500~75.400	1435.0~1626.5	7250.0~7750.0	

依據 NCC 低功率射頻器材技術規範第 3.6 節之規定,除本規範各章節另有放寬規定者外，其電場強度不得超過下表之限值，且其不必要之發射皆不得大於主波發射強度。

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

測試方法：

測試場地為開放測試場,將待測物置於 0.8 米高的非金屬桌面，使其在工作狀態，接收天線置於 3 米外相同的高度。待測物分別要垂直或水平放置，而且桌面要 360 度旋轉，另外接收天線也要從 1.0 米至 4.0 米升降變化，以找出最大的輻射電場強度，接收天線置於水平、垂直極向各執行測試一次。

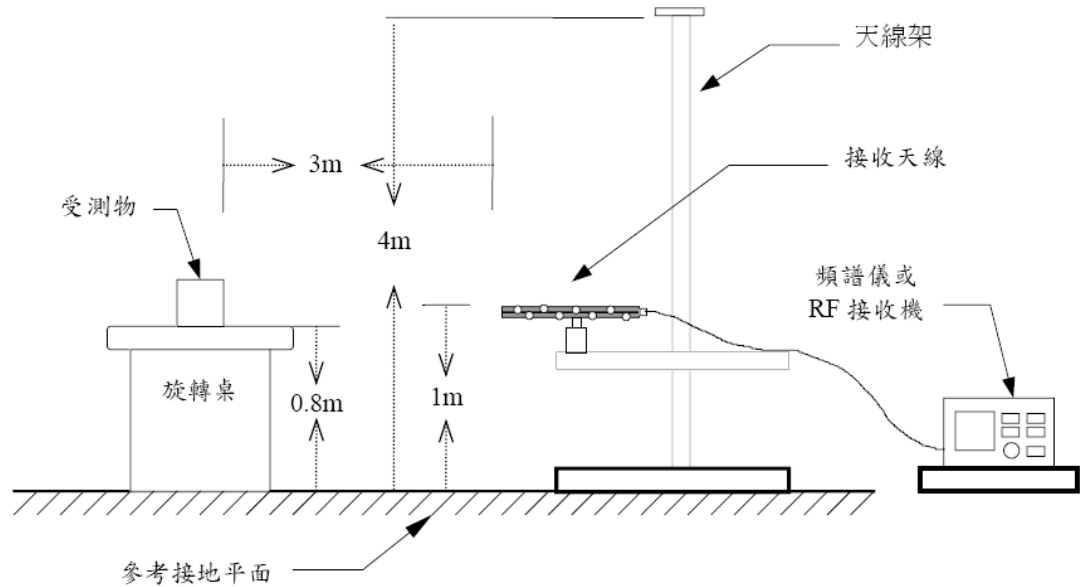
場強度之計算

場強之計算公式為：結果值 = 讀值 + 校正因子

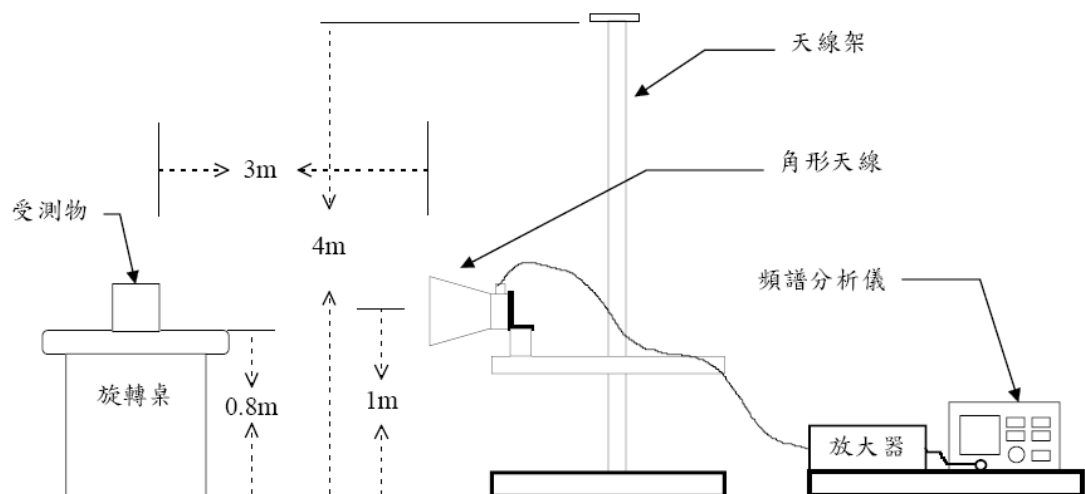
其中校正因子為：天線因子+ 饋線損失 + 濾波器損失（若有使用） - 放大器增益（若有使用）

測試架構圖：

量測頻率低於 1 GHz 以下之測試配置



量測頻率高於 1 GHz 以上之測試配置

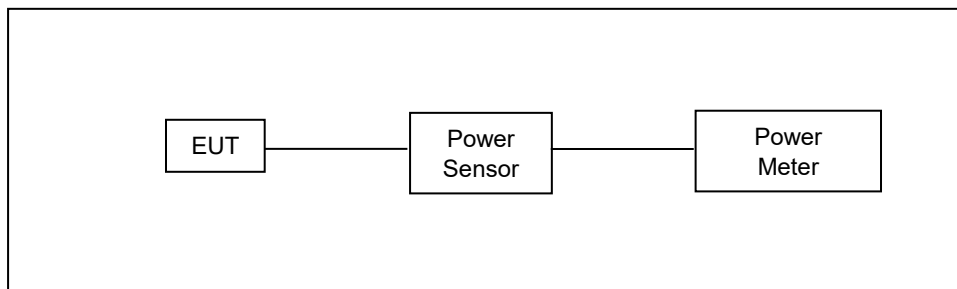


4.3 峰值傳導輸出功率之量測

合格標準：

依據 NCC 低功率射頻器材技術規範(LP0002)之 4.10.1.2(1)(C)節之要求，操作於 2400-2483.5 兆赫(MHz)數位調變技術系統：1 瓦(W)(含)以下

測試架構圖：



4.4 天線規格之要求

合格標準：

依據 NCC 低功率射頻器材技術規範(LP0002)之 4.10.1.3(3)節之要求，除 4.10.1.3(1)及 4.10.1.3(2)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。

依據 NCC 低功率射頻器材技術規範(LP0002)之 4.10.1.4 節之要求，天線之規格不受第 3.2 節規定之限制

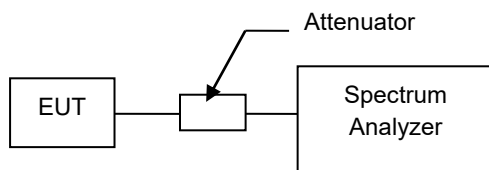
判定結果：符合。

4.5 非必要頻帶之量測

合格標準：

發射限制：使用頻帶範圍外之任意 100 千赫 (kHz)內，發射器所產生的射頻功率相較於使用頻帶範圍中包含最高所需功率之 100 千赫 (kHz)內的射頻功率，須衰減 20 分貝(dB)，以射頻傳導或輻射方式測量。

測試架構圖：



附註 1: 於使用頻帶範圍之任意 100 千赫 (kHz)內，發射器所產生的射頻功率相較於使用頻帶範圍中包含最高所需功率之 100 千赫 (kHz)內的射頻功率，衰減 20 分貝(dB)以上，符合規定。

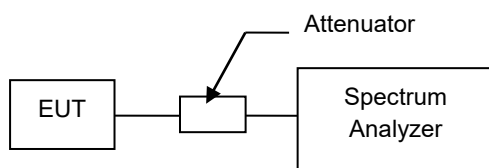
附註 2: 測試結果頻帶外之輻射雜訊皆小於主頻 TX 20 dB。

4.6 6 dB頻寬之要求

合格標準：

依據 NCC 低功率射頻器材技術規範 4.10.1.6(2)(A)節之要求，對使用數位調變技術(Digital Modulation Techniques)系統而言，6 dB 頻寬至少應有 500 千赫(kHz)。

測試架構圖：



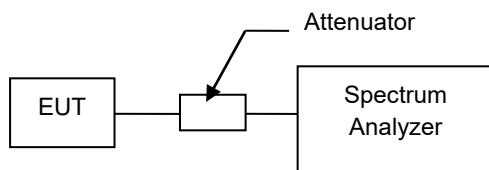
4.7 峰值發射功率頻譜密度之要求

合格標準：

依據 NCC 低功率射頻器材技術規範(LP0002)之 4.10.1.6(2)(B)節之要求，數位調變技術(Digital Modulation Techniques)系統之功率密度,再使用頻率範圍之任意 3 kHz 頻寬內,由發射機傳導至天線之峰值發射功率頻譜密度在任意期間內,皆不得大於 8 dBm(複合系統時, 關閉跳頻作業狀態檢驗)。

測試架構圖：

測試場地測試配置如圖所示。



4.8 電波暴露量之評估

合格標準：

若受測物於正常操作模式下，其發射機距離人體 20 公分以上者，可測試最大暴露允許值(Maximum Permissible Exposure, MPE)以證明其符合電波暴露量之要求。限制值如下：

6.20.2.1 職業性/可控制之暴露

頻率範圍 (MHz)	電場強度 (V/m)	磁場強度 (A/m)	功率密度 (mW/cm ²)	平均時間 (minutes)
0.3~3.0	614	1.63	*100	6
3~30	1842/f	4.89/f	*900/f ²	6
30~300	61.4	0.163	1.0	6
300~1,500	-----	-----	f/300	6
1,500~100,000	-----	-----	5.0	6

註 1：標記*表平面波等效功率密度。

註 2：f 表測試頻率，單位：MHz。

6.20.2.2 一般人/不可控制之暴露

頻率範圍 (MHz)	電場強度 (V/m)	磁場強度 (A/m)	功率密度 (mW/cm ²)	平均時間 (minutes)
0.3~1.34	614	1.63	*100	30
1.34~30	824/f	2.19/f	*180/f ²	30
30~300	27.5	0.073	0.2	30
300~1,500	-----	-----	f/1500	30
1,500~100,000	-----	-----	1.0	30

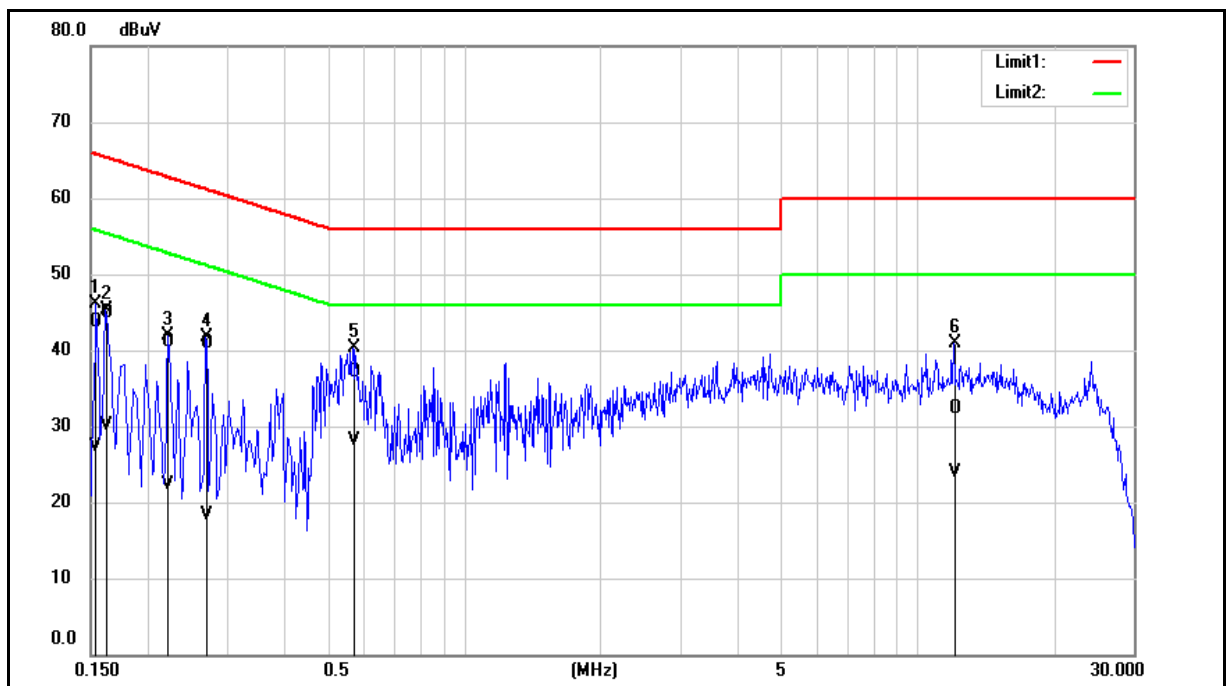
註 1：標記*表平面波等效功率密度。

註 2：f 表測試頻率，單位：MHz。

5. Test Results

Annex A. Conducted Emission

Standard:	LP0002	Line:	L1
Test item:	Conducted Emission	Power:	AC 110 V/60 Hz
Mode:	Mode 1		
Description:			

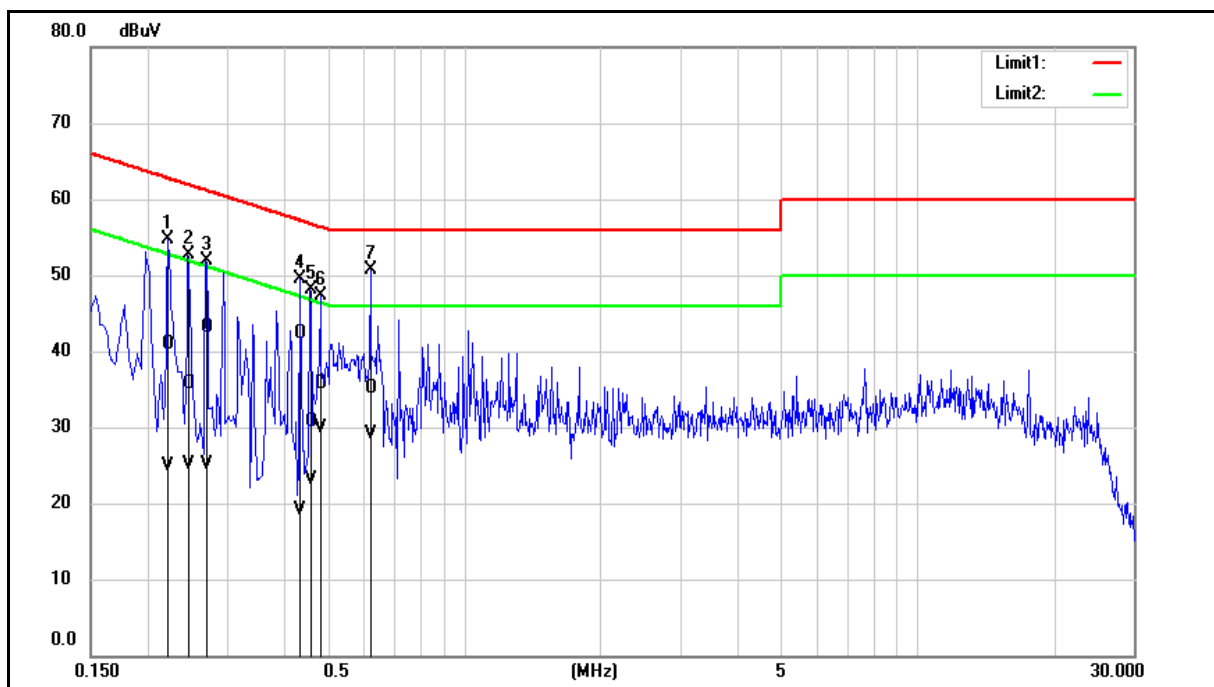


No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1540	33.88	17.48	9.74	43.62	27.22	65.78	55.78	-22.16	-28.56	Pass
2	0.1620	35.11	20.34	9.74	44.85	30.08	65.36	55.36	-20.51	-25.28	Pass
3	0.2220	31.29	12.53	9.74	41.03	22.27	62.74	52.74	-21.71	-30.47	Pass
4	0.2700	31.09	8.64	9.74	40.83	18.38	61.12	51.12	-20.29	-32.74	Pass
5	0.5700	27.27	18.30	9.74	37.01	28.04	56.00	46.00	-18.99	-17.96	Pass
6	12.0060	22.39	14.01	9.99	32.38	24.00	60.00	50.00	-27.62	-26.00	Pass

註：1. 干擾值(dBuV) = 校正係數(dB) + 讀值(dBuV)。

2. 校正係數(dB) = 量測信號線損失(dB) + 電源阻抗模擬網路係數(dB)。

Standard:	LP0002	Line:	N
Test item:	Conducted Emission	Power:	AC 110 V/60 Hz
Mode:	Mode 1		
Description:			



No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.2220	31.27	15.13	9.73	41.00	24.86	62.74	52.74	-21.74	-27.88	Pass
2	0.2460	26.06	15.28	9.73	35.79	25.01	61.89	51.89	-26.10	-26.88	Pass
3	0.2700	33.39	15.37	9.73	43.12	25.10	61.12	51.12	-18.00	-26.02	Pass
4	0.4340	32.55	9.33	9.73	42.28	19.06	57.18	47.18	-14.90	-28.12	Pass
5	0.4580	20.98	13.39	9.73	30.71	23.12	56.73	46.73	-26.02	-23.61	Pass
6	0.4820	26.03	20.12	9.73	35.76	29.85	56.30	46.30	-20.54	-16.45	Pass
7	0.6220	25.33	19.37	9.73	35.06	29.10	56.00	46.00	-20.94	-16.90	Pass

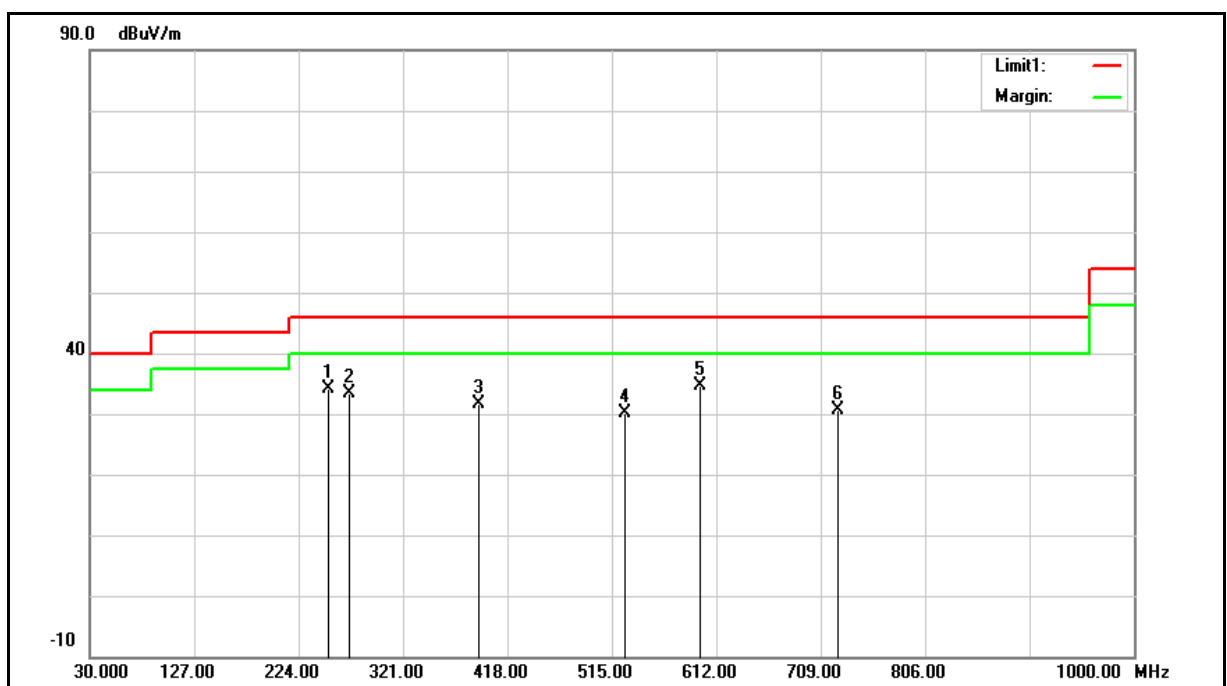
註：1. 干擾值(dBuV) = 校正係數(dB) + 讀值(dBuV)。

2. 校正係數(dB) = 量測信號線損失(dB) + 電源阻抗模擬網路係數(dB)。

Annex B. Radiated Emission Measurement

其它不必要之訊號 (1 GHz 以下)

Standard:	LP0002	Test Distance:	3 m
Test item:	Radiated Emission		
Frequency:	2412 MHz		
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	252.1300	41.39	-7.25	34.14	46.00	-11.86	QP
2	270.5600	39.90	-6.43	33.47	46.00	-12.53	QP
3	391.8100	35.60	-3.95	31.65	46.00	-14.35	QP
4	527.6100	31.73	-1.67	30.06	46.00	-15.94	QP
5	597.4500	34.59	-0.03	34.56	46.00	-11.44	QP
6	725.4900	29.00	1.58	30.58	46.00	-15.42	QP

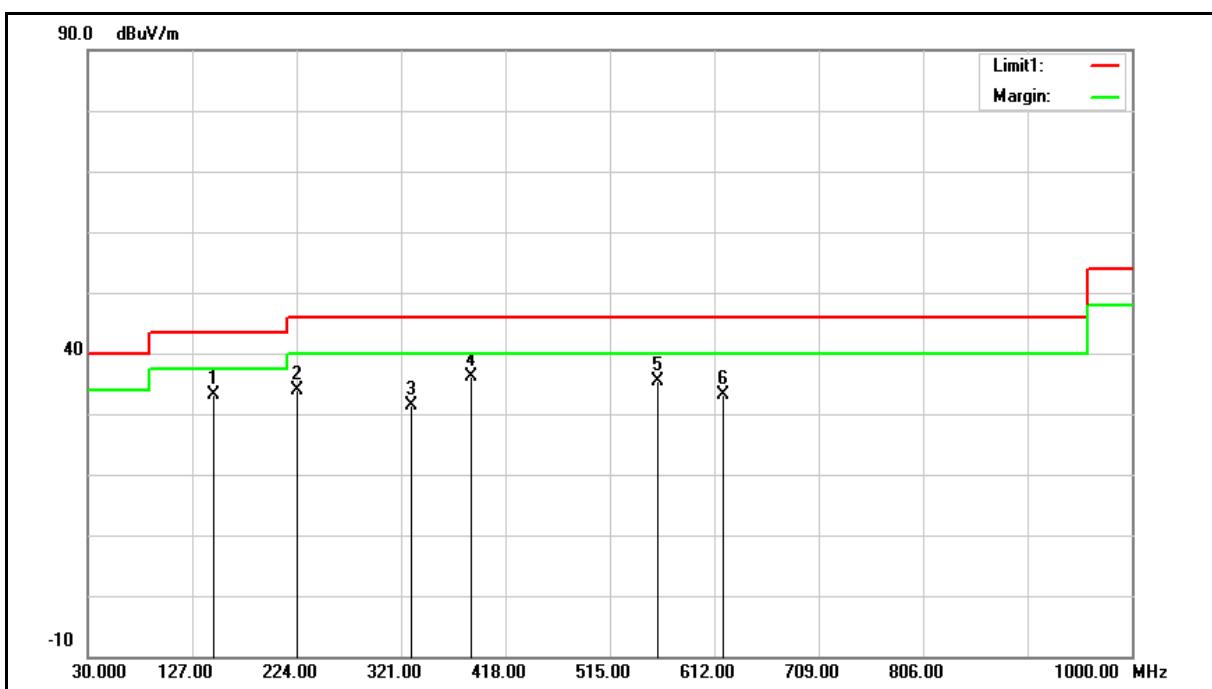
Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

Example: $34.14 = -7.25 + 41.39$

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Radiated Emission		
Frequency:	2412 MHz		
Mode:	Mode 2		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	147.3700	40.40	-7.16	33.24	43.50	-10.26	QP
2	224.0000	42.35	-8.41	33.94	46.00	-12.06	QP
3	330.7000	36.35	-5.02	31.33	46.00	-14.67	QP
4	385.9900	40.25	-4.06	36.19	46.00	-9.81	QP
5	559.6200	36.30	-0.99	35.31	46.00	-10.69	QP
6	620.7300	32.95	0.18	33.13	46.00	-12.87	QP

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

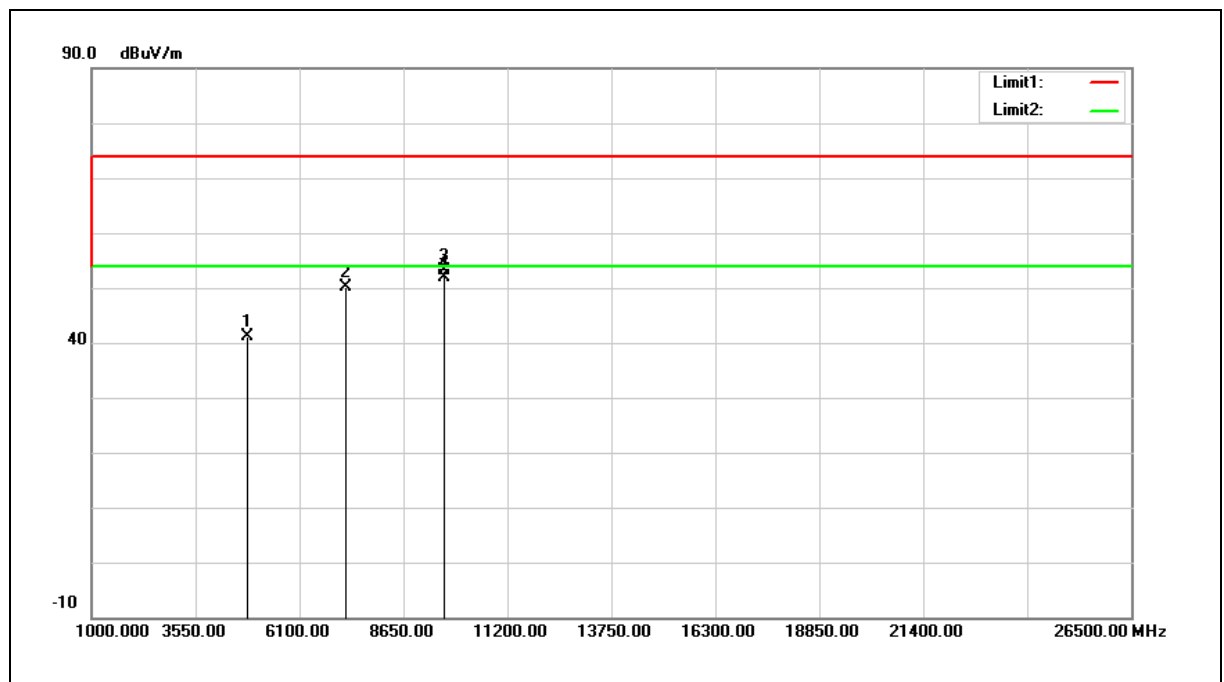
Example: $33.24 = -7.16 + 40.40$

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

場強輻射量測 (1 GHz 以上)

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2412 MHz		
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	38.41	2.72	41.13	74.00	-32.87	peak
2	7236.000	41.72	8.30	50.02	74.00	-23.98	peak
3	9648.000	41.27	11.95	53.22	74.00	-20.78	peak
4	9648.000	40.03	11.95	51.98	54.00	-2.02	AVG

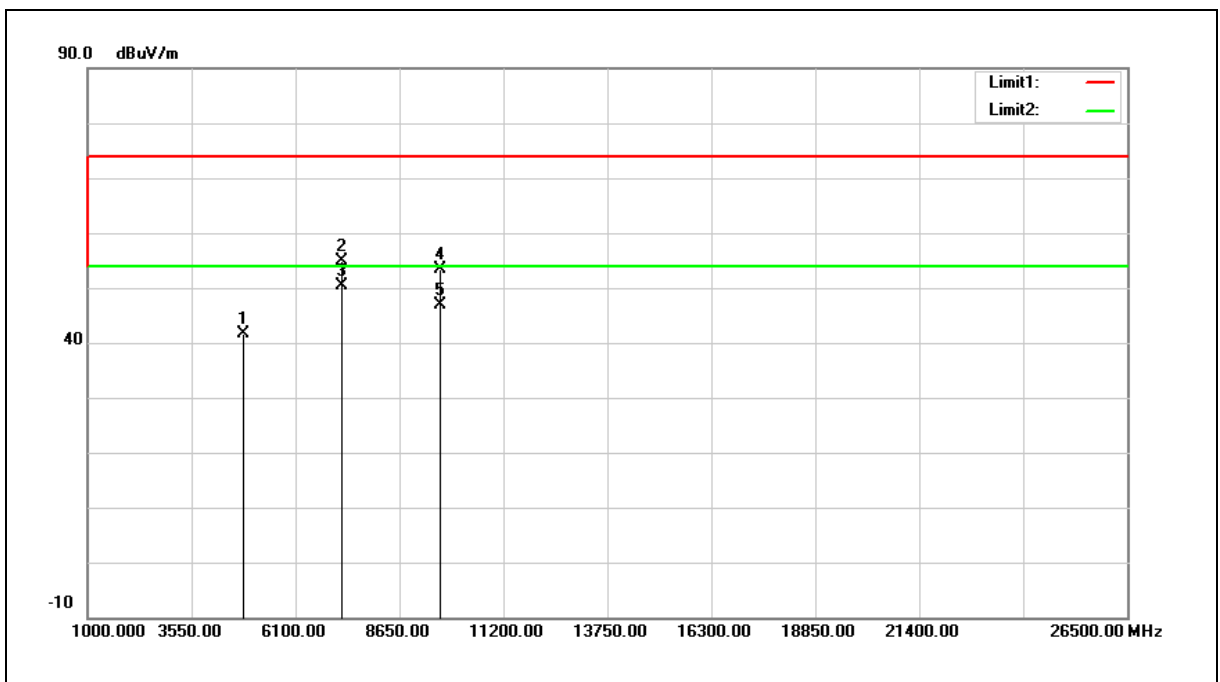
Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

Example: $41.13 = 2.72 + 38.41$

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2412 MHz		
Mode:	Mode 2		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	38.96	2.72	41.68	74.00	-32.32	peak
2	7236.000	46.61	8.30	54.91	74.00	-19.09	peak
3	7236.000	42.05	8.30	50.35	54.00	-3.65	AVG
4	9648.000	41.33	11.95	53.28	74.00	-20.72	peak
5	9648.000	35.05	11.95	47.00	54.00	-7.00	AVG

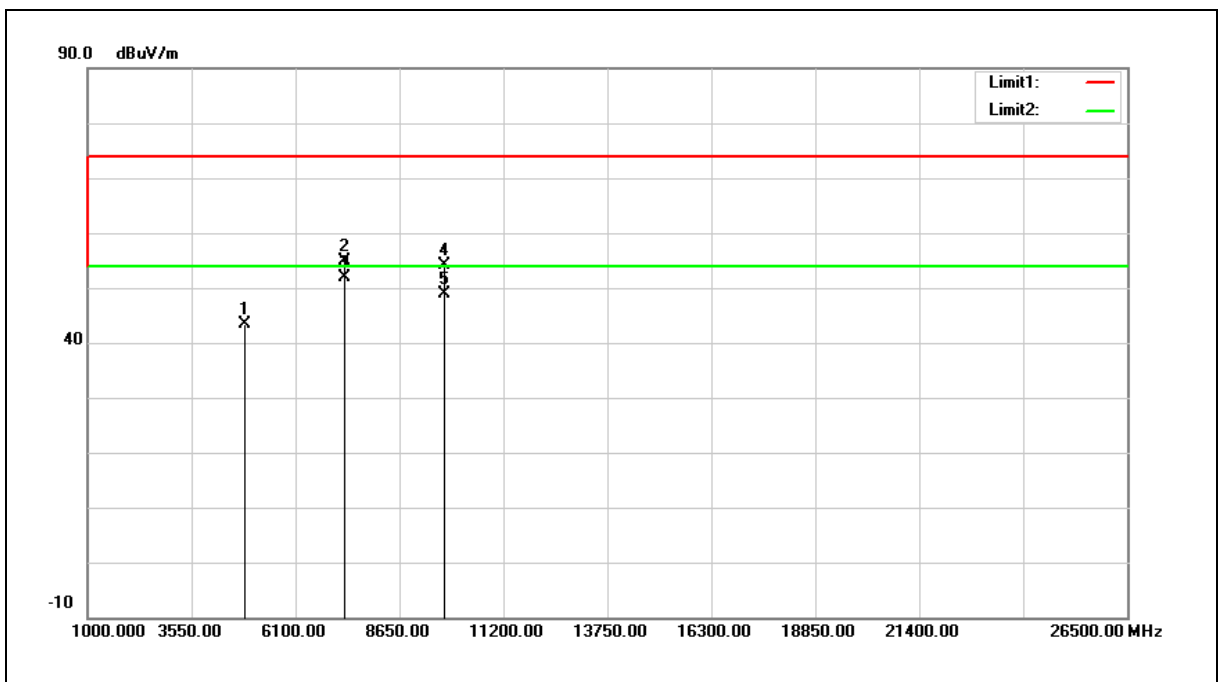
Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

Example: $41.68 = 2.72 + 38.96$

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2437 MHz		
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



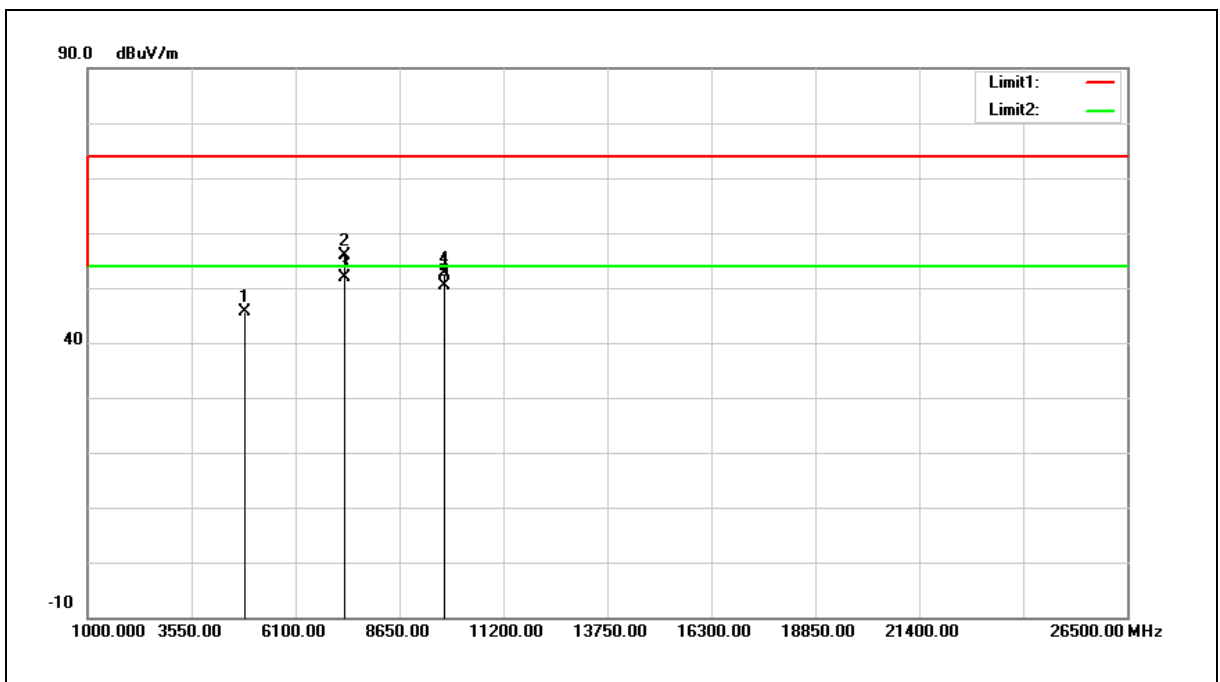
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	40.42	2.84	43.26	74.00	-30.74	peak
2	7311.000	46.44	8.53	54.97	74.00	-19.03	peak
3	7311.000	43.45	8.53	51.98	54.00	-2.02	AVG
4	9748.000	42.21	12.02	54.23	74.00	-19.77	peak
5	9748.000	36.82	12.02	48.84	54.00	-5.16	AVG

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2437 MHz		
Mode:	Mode 2		
Ant.Polar.:	Vertical		



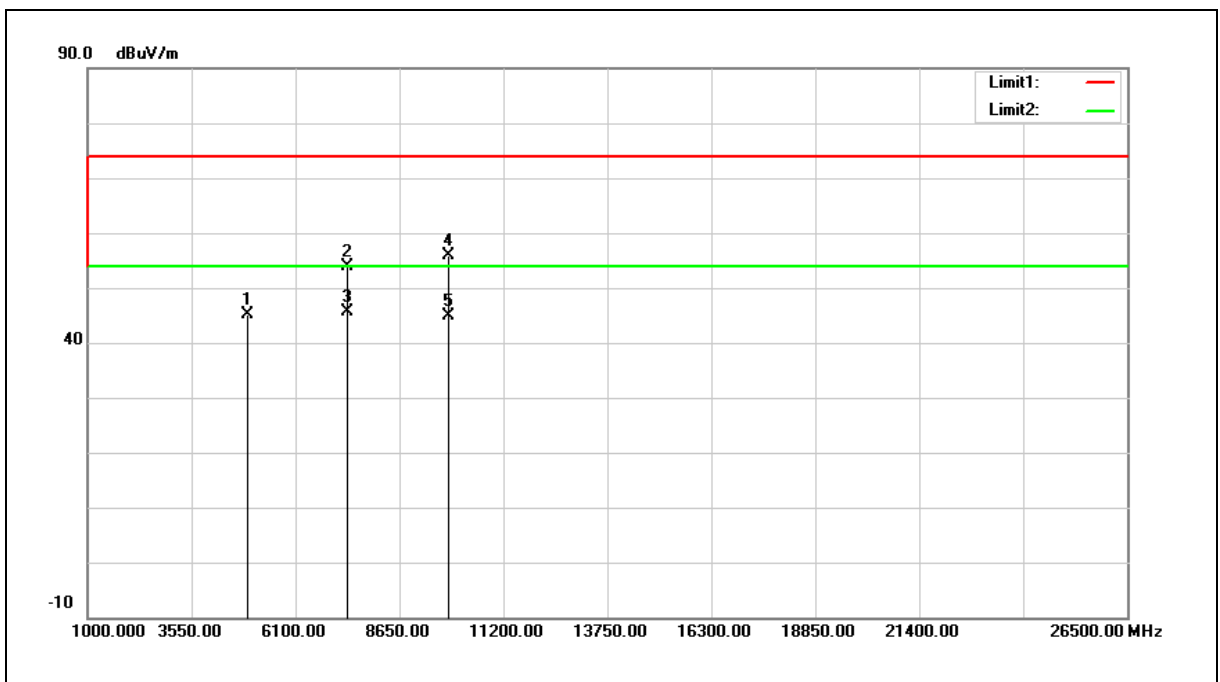
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	42.77	2.84	45.61	74.00	-28.39	peak
2	7311.000	47.34	8.53	55.87	74.00	-18.13	peak
3	7311.000	43.37	8.53	51.90	54.00	-2.10	AVG
4	9748.000	40.72	12.02	52.74	74.00	-21.26	peak
5	9748.000	38.35	12.02	50.37	54.00	-3.63	AVG

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2462 MHz		
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



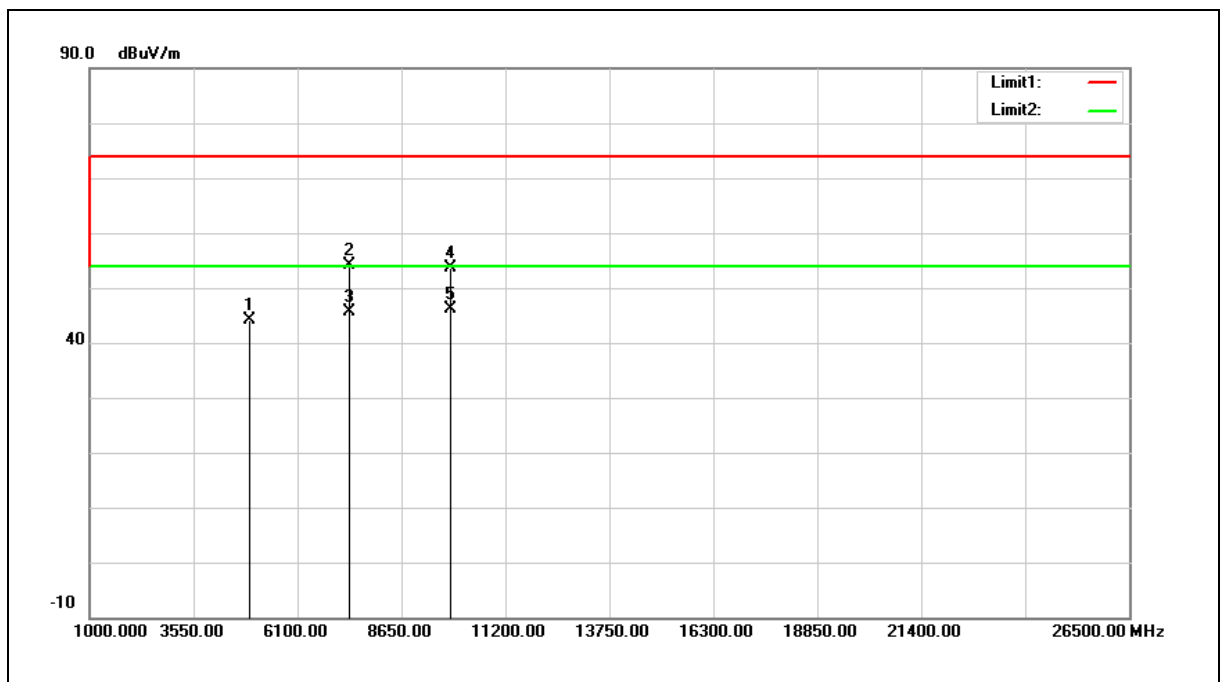
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	42.27	2.96	45.23	74.00	-28.77	peak
2	7386.000	45.09	8.77	53.86	74.00	-20.14	peak
3	7386.000	36.75	8.77	45.52	54.00	-8.48	AVG
4	9848.000	43.77	12.10	55.87	74.00	-18.13	peak
5	9848.000	32.90	12.10	45.00	54.00	-9.00	AVG

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2462 MHz		
Mode:	Mode 2		
Ant.Polar.:	Vertical		



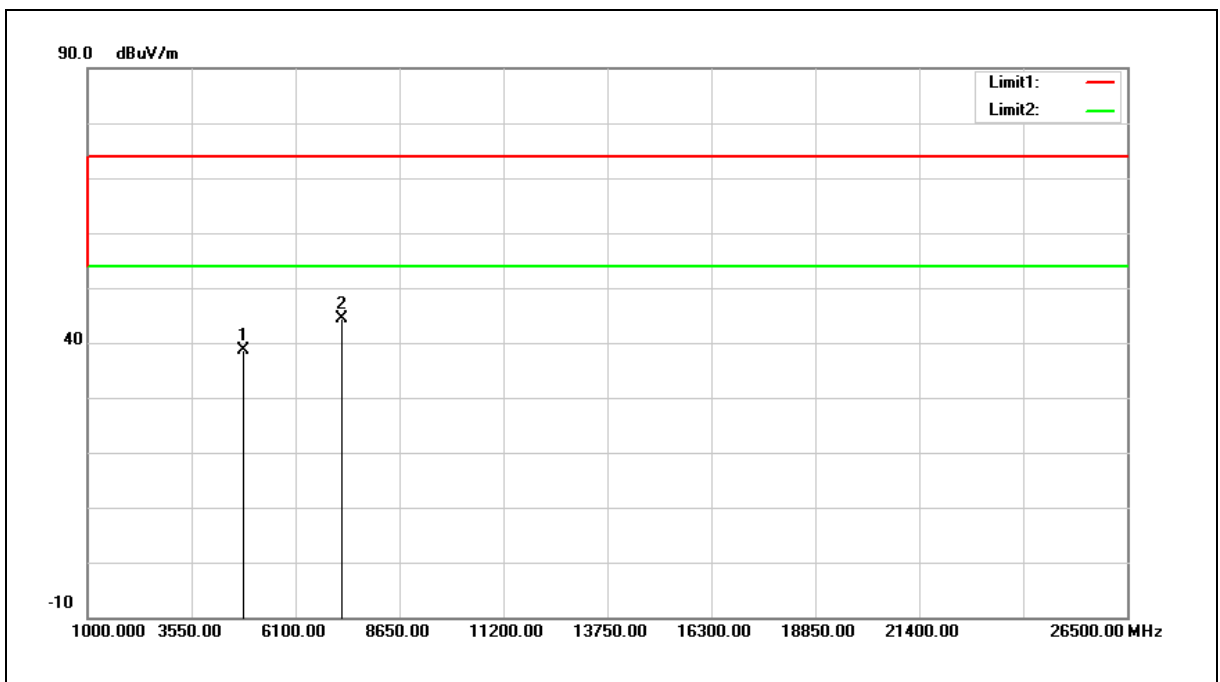
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	41.19	2.96	44.15	74.00	-29.85	peak
2	7386.000	45.34	8.77	54.11	74.00	-19.89	peak
3	7386.000	36.97	8.77	45.74	54.00	-8.26	AVG
4	9848.000	41.57	12.10	53.67	74.00	-20.33	peak
5	9848.000	33.92	12.10	46.02	54.00	-7.98	AVG

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2412 MHz		
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



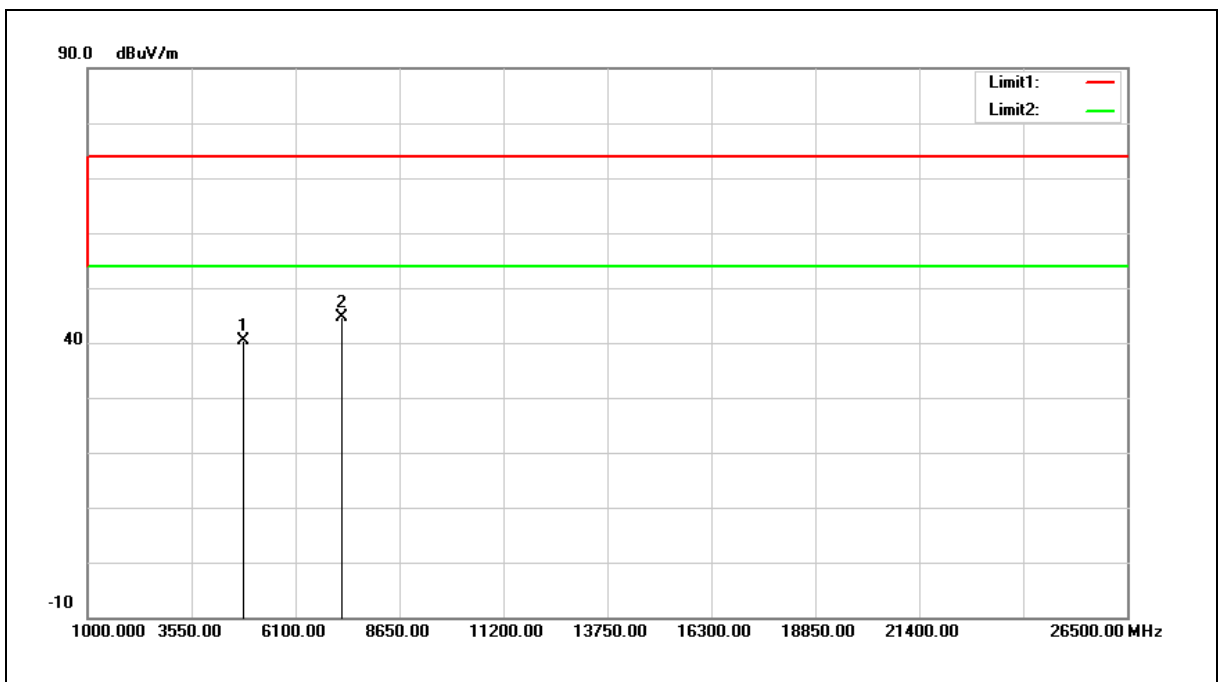
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	35.95	2.72	38.67	74.00	-35.33	peak
2	7236.000	36.11	8.30	44.41	74.00	-29.59	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2412 MHz		
Mode:	Mode 3		
Ant.Polar.:	Vertical		



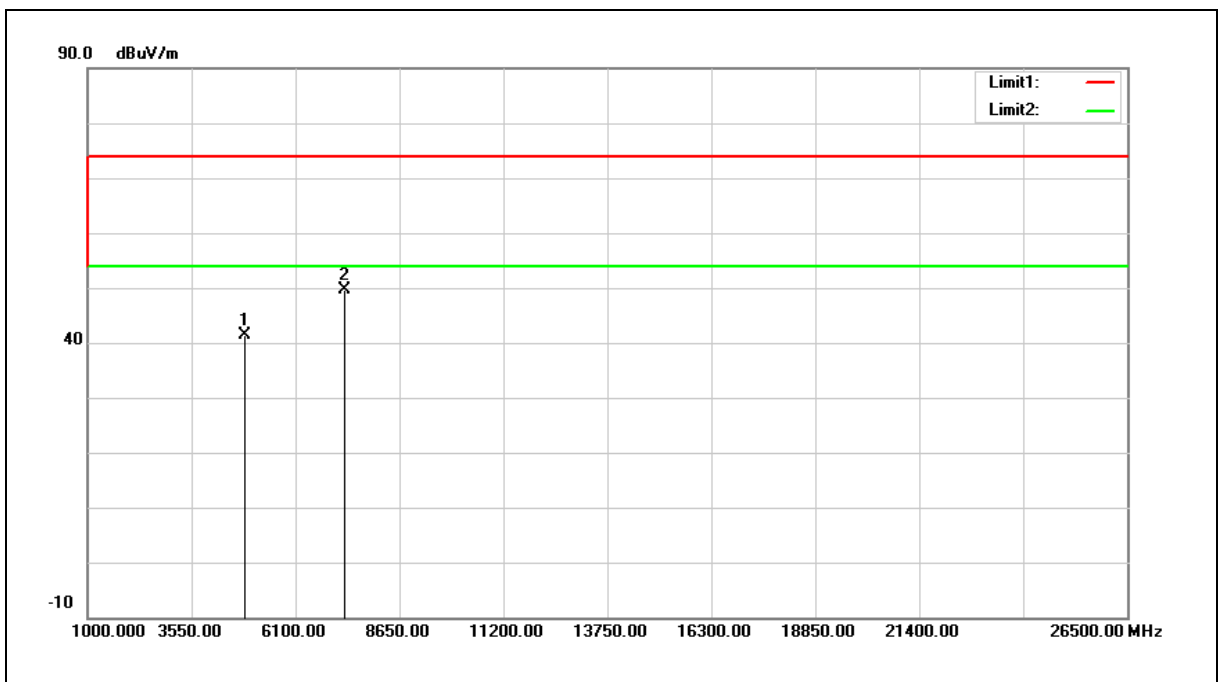
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	37.72	2.72	40.44	74.00	-33.56	peak
2	7236.000	36.26	8.30	44.56	74.00	-29.44	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2437 MHz		
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



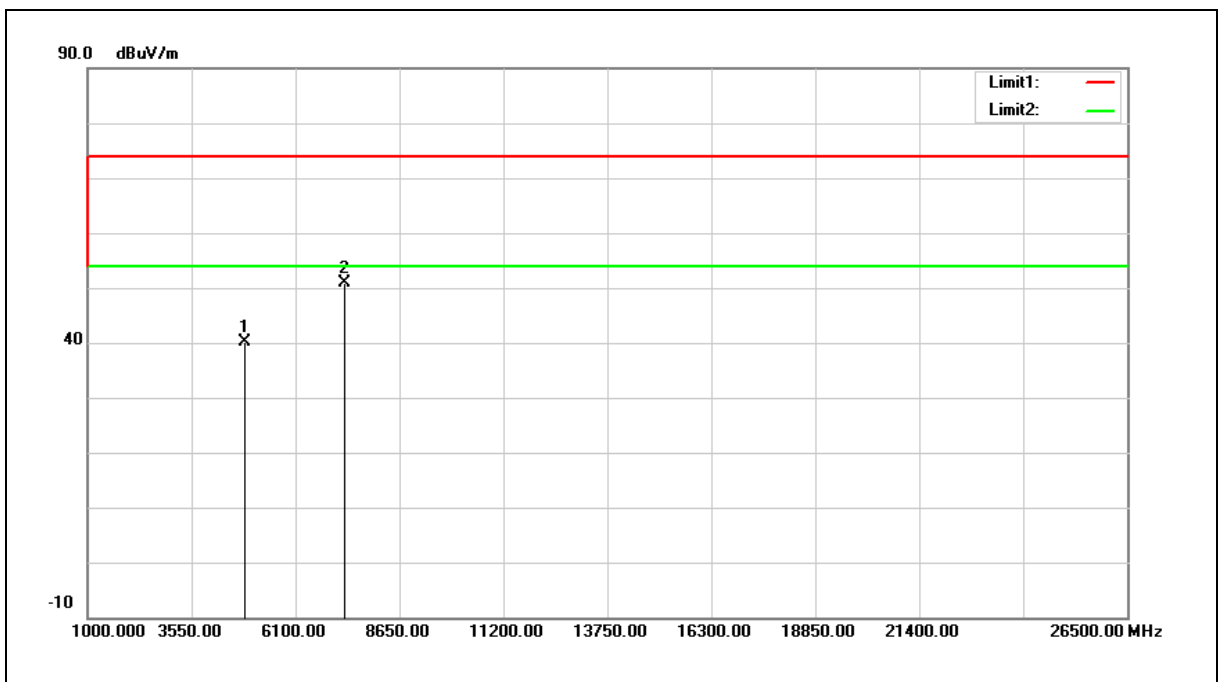
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	38.47	2.84	41.31	74.00	-32.69	peak
2	7311.000	41.11	8.53	49.64	74.00	-24.36	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2437 MHz		
Mode:	Mode 3		
Ant.Polar.:	Vertical		



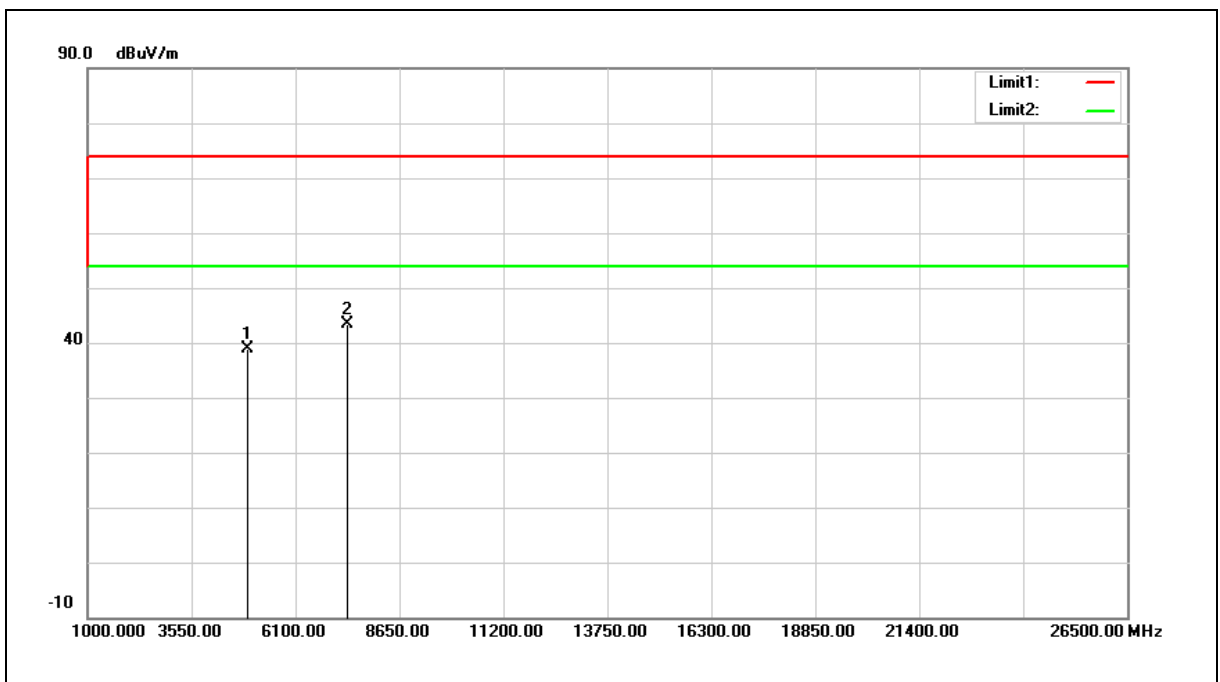
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	37.35	2.84	40.19	74.00	-33.81	peak
2	7311.000	42.45	8.53	50.98	74.00	-23.02	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2462 MHz		
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



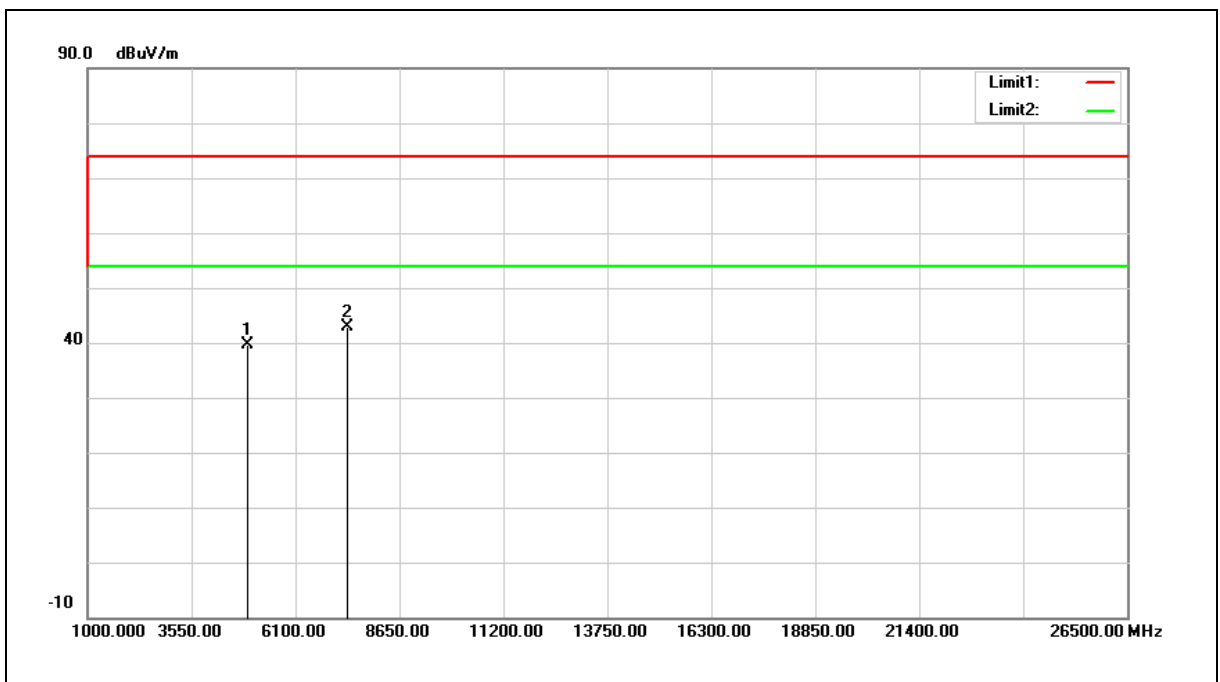
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	35.99	2.96	38.95	74.00	-35.05	peak
2	7386.000	34.49	8.77	43.26	74.00	-30.74	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2462 MHz		
Mode:	Mode 3		
Ant.Polar.:	Vertical		



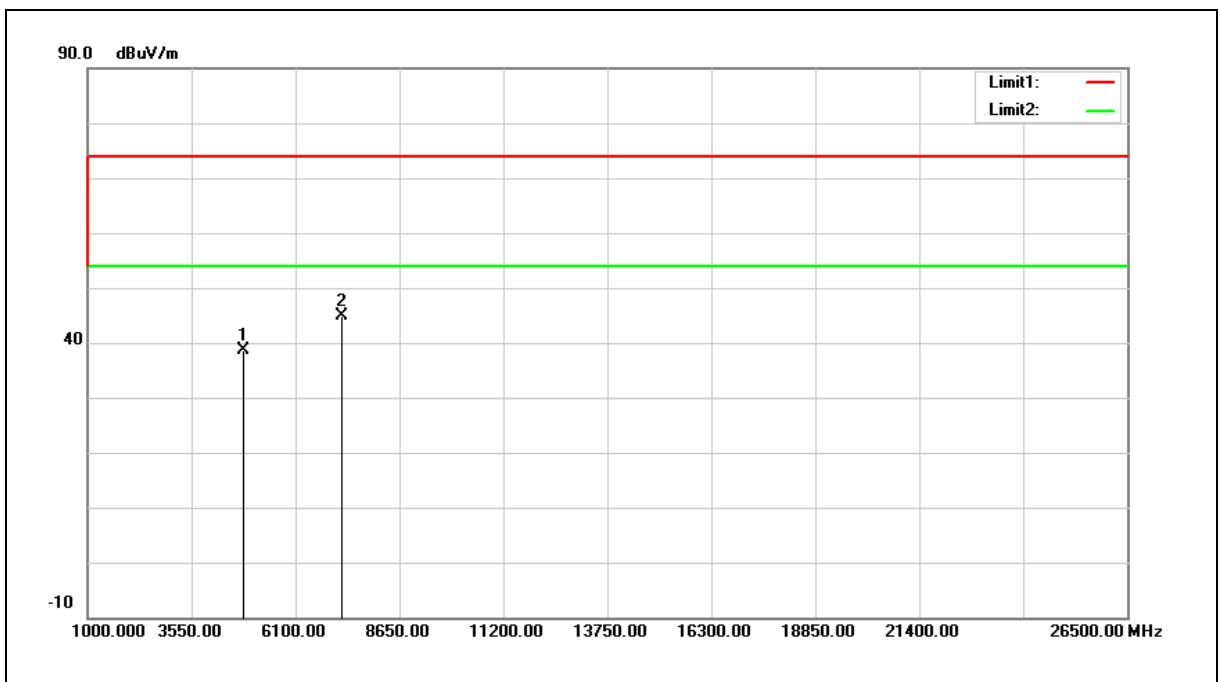
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	36.67	2.96	39.63	74.00	-34.37	peak
2	7386.000	34.14	8.77	42.91	74.00	-31.09	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2412 MHz		
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



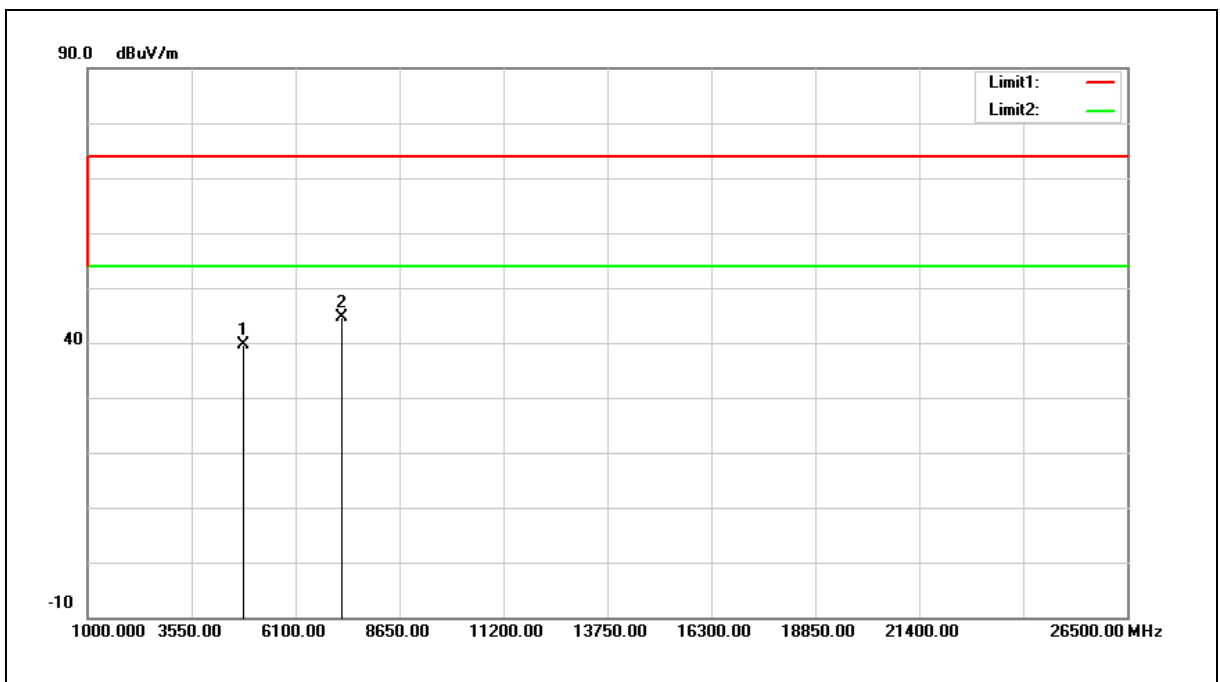
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	35.97	2.72	38.69	74.00	-35.31	peak
2	7236.000	36.62	8.30	44.92	74.00	-29.08	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2412 MHz		
Mode:	Mode 4		
Ant.Polar.:	Vertical		



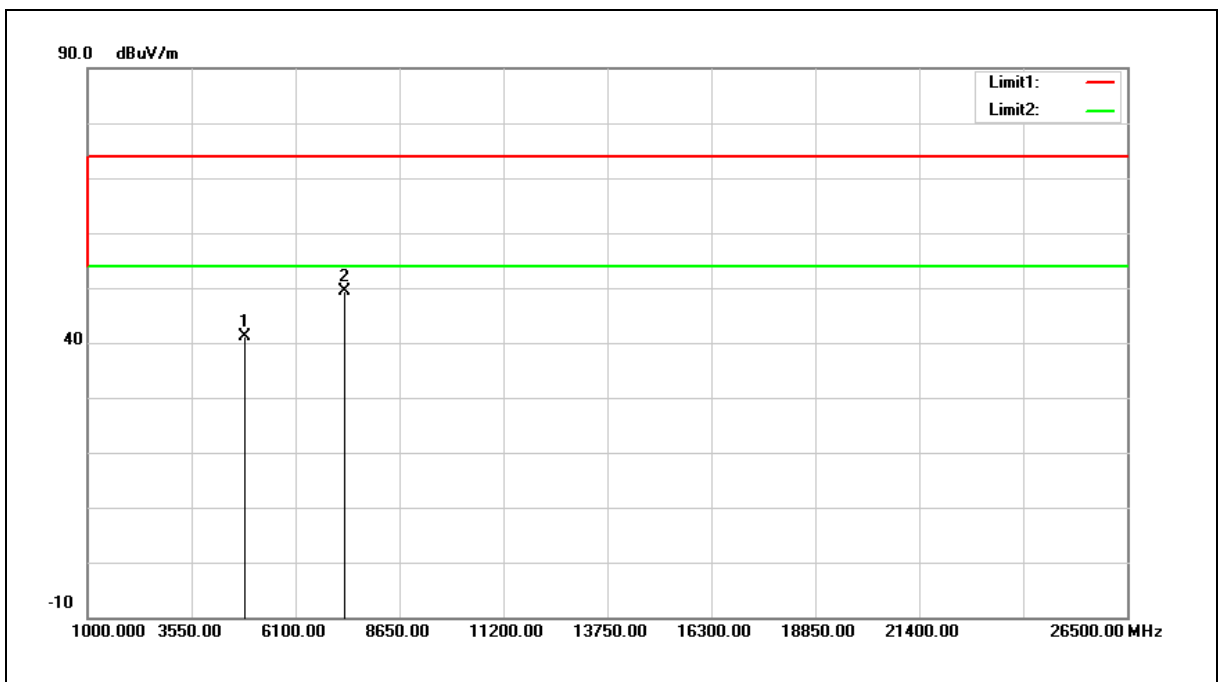
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	37.00	2.72	39.72	74.00	-34.28	peak
2	7236.000	36.22	8.30	44.52	74.00	-29.48	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2437 MHz		
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



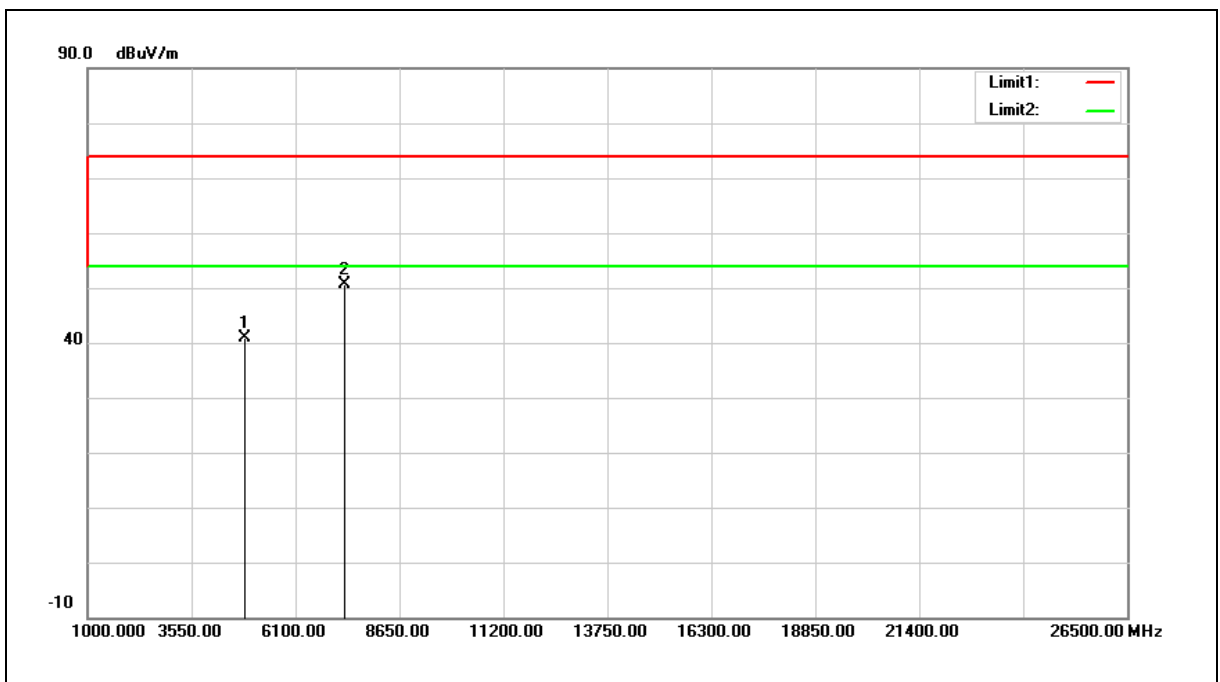
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	38.18	2.84	41.02	74.00	-32.98	peak
2	7311.000	40.89	8.53	49.42	74.00	-24.58	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2437 MHz		
Mode:	Mode 4		
Ant.Polar.:	Vertical		



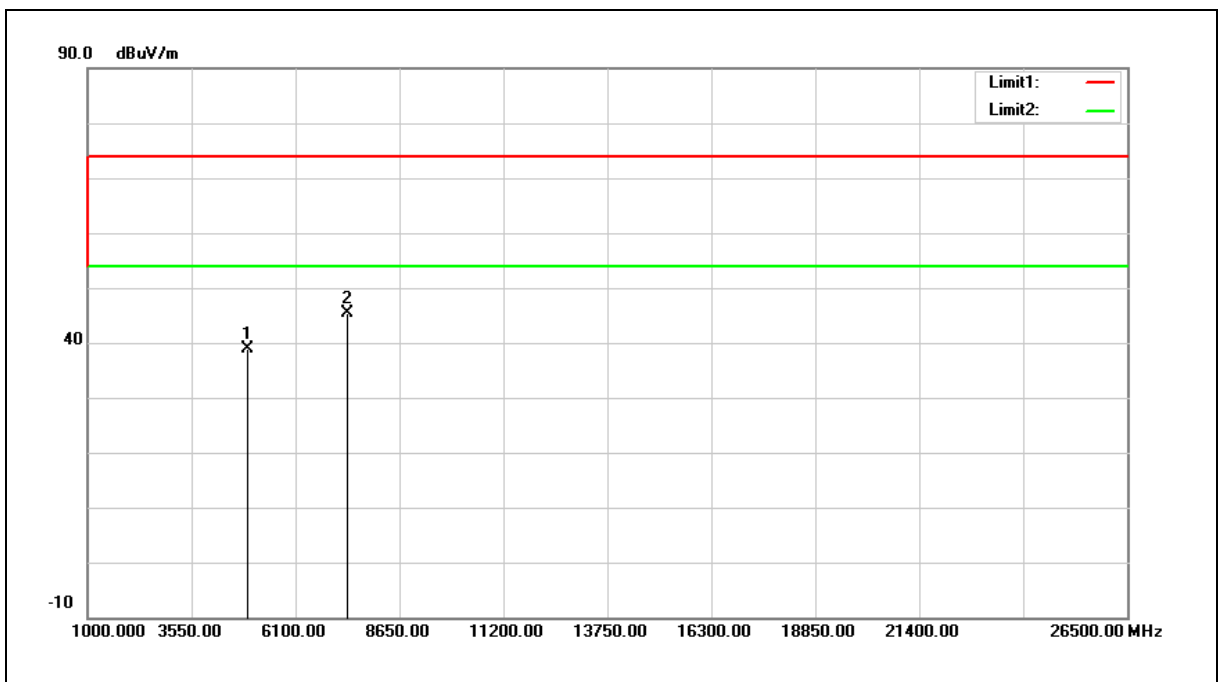
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	38.15	2.84	40.99	74.00	-33.01	peak
2	7311.000	42.21	8.53	50.74	74.00	-23.26	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2462 MHz		
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



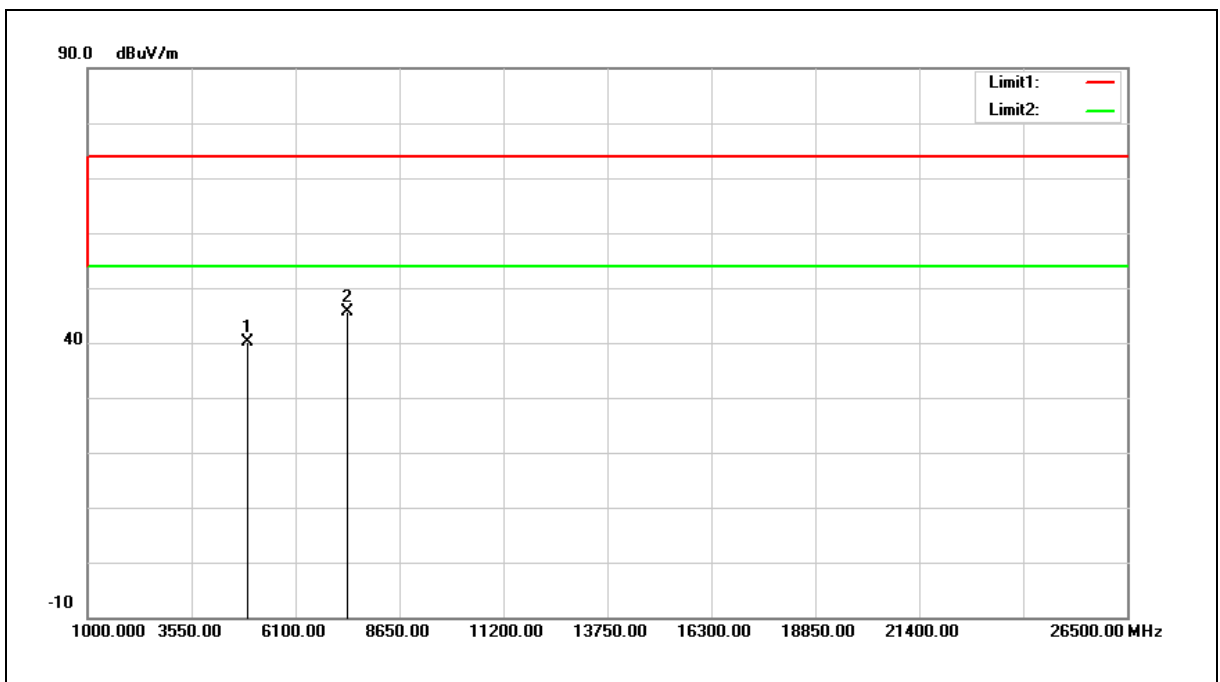
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	36.03	2.96	38.99	74.00	-35.01	peak
2	7386.000	36.65	8.77	45.42	74.00	-28.58	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Frequency:	2462 MHz		
Mode:	Mode 4		
Ant.Polar.:	Vertical		



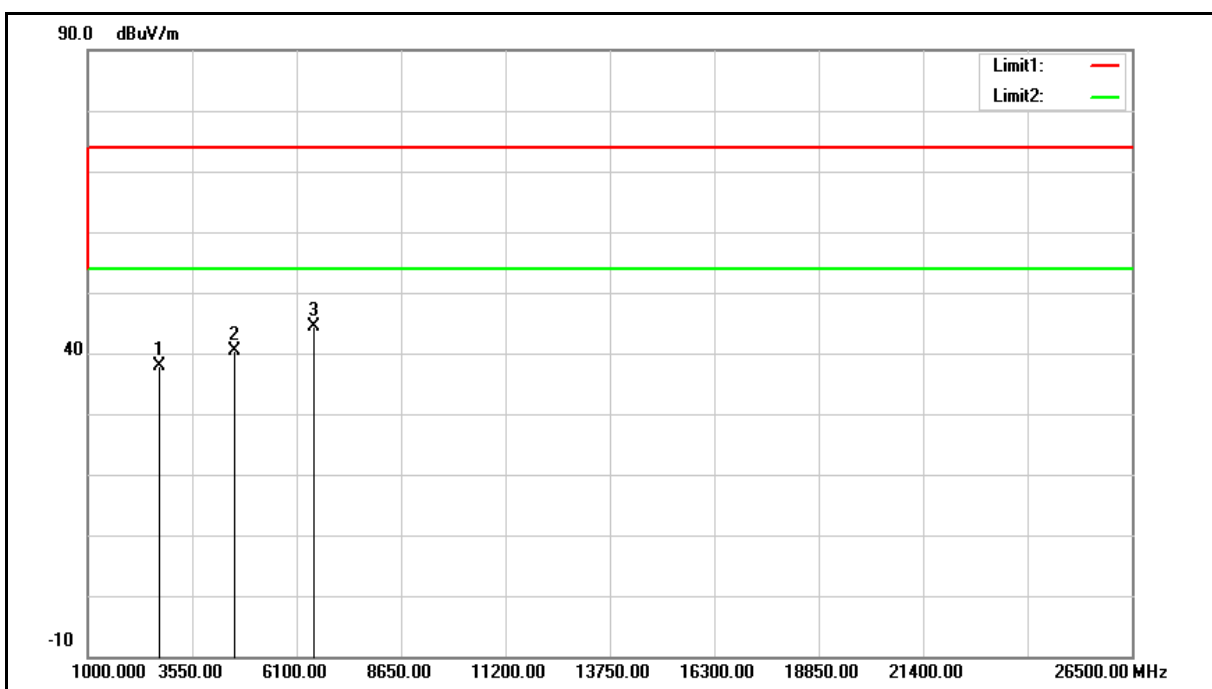
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	37.12	2.96	40.08	74.00	-33.92	peak
2	7386.000	36.96	8.77	45.73	74.00	-28.27	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Simultaneous Transmitting		
	(WLAN 2.4 GHz + Bluetooth)		
Ant.Polar.:	Horizontal		



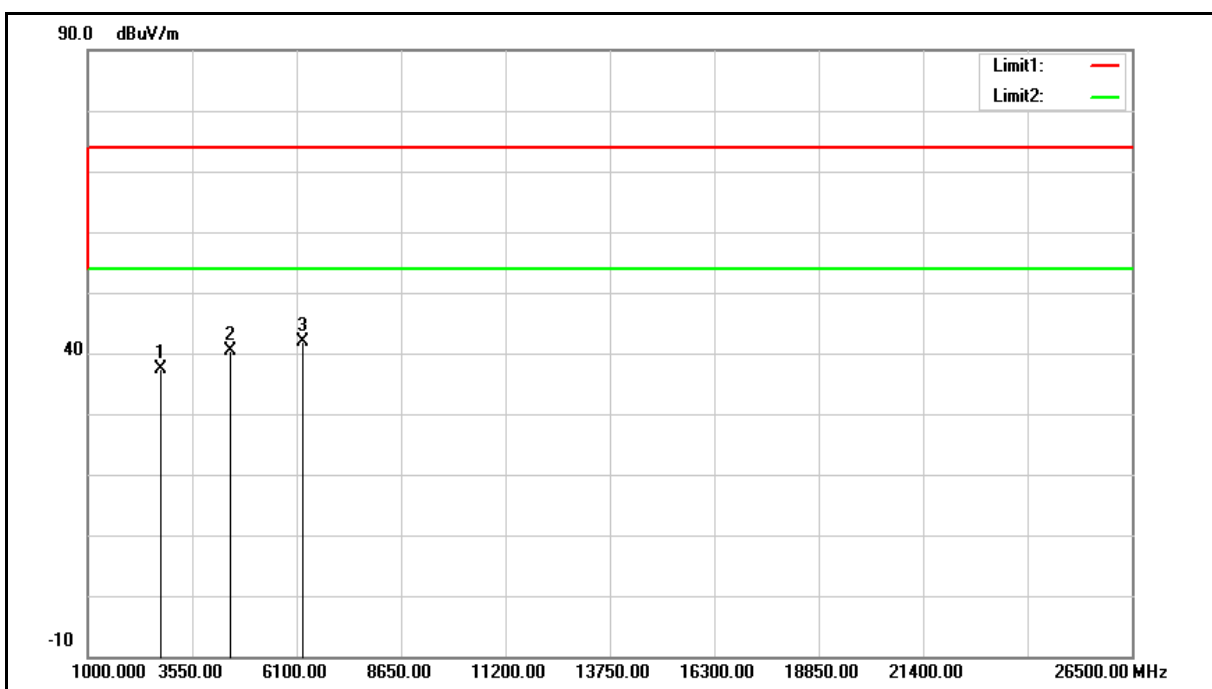
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2717.000	40.11	-2.19	37.92	74.00	-36.08	peak
2	4553.000	38.29	2.07	40.36	74.00	-33.64	peak
3	6491.000	37.99	6.27	44.26	74.00	-29.74	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Simultaneous Transmitting		
	(WLAN 2.4 GHz + Bluetooth)		
Ant.Polar.:	Vertical		



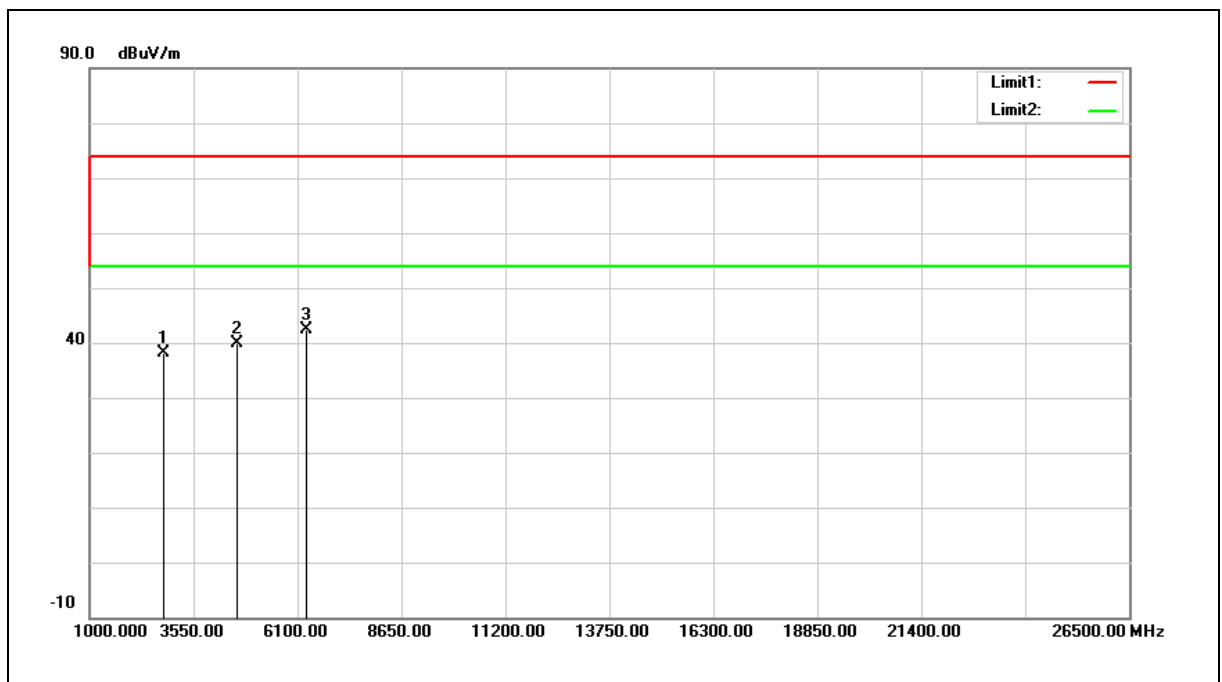
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2785.000	39.40	-1.99	37.41	74.00	-36.59	peak
2	4451.000	38.69	1.79	40.48	74.00	-33.52	peak
3	6236.000	36.53	5.43	41.96	74.00	-32.04	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Mode 5		
Ant.Polar.:	Horizontal		
Description:			



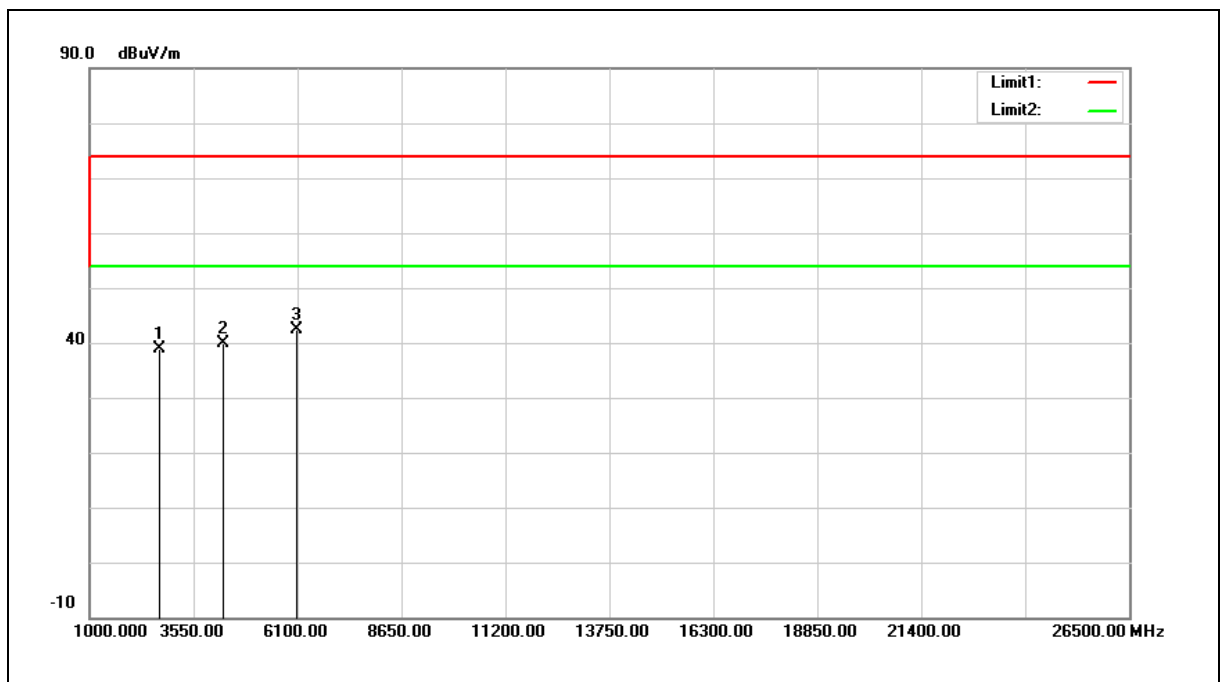
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2802.000	39.99	-1.95	38.04	74.00	-35.96	peak
2	4621.000	37.57	2.23	39.80	74.00	-34.20	peak
3	6304.000	36.72	5.66	42.38	74.00	-31.62	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Mode 5		
Ant.Polar.:	Vertical		
Description:			



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2700.000	41.11	-2.24	38.87	74.00	-35.13	peak
2	4281.000	38.57	1.31	39.88	74.00	-34.12	peak
3	6066.000	37.39	4.87	42.26	74.00	-31.74	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

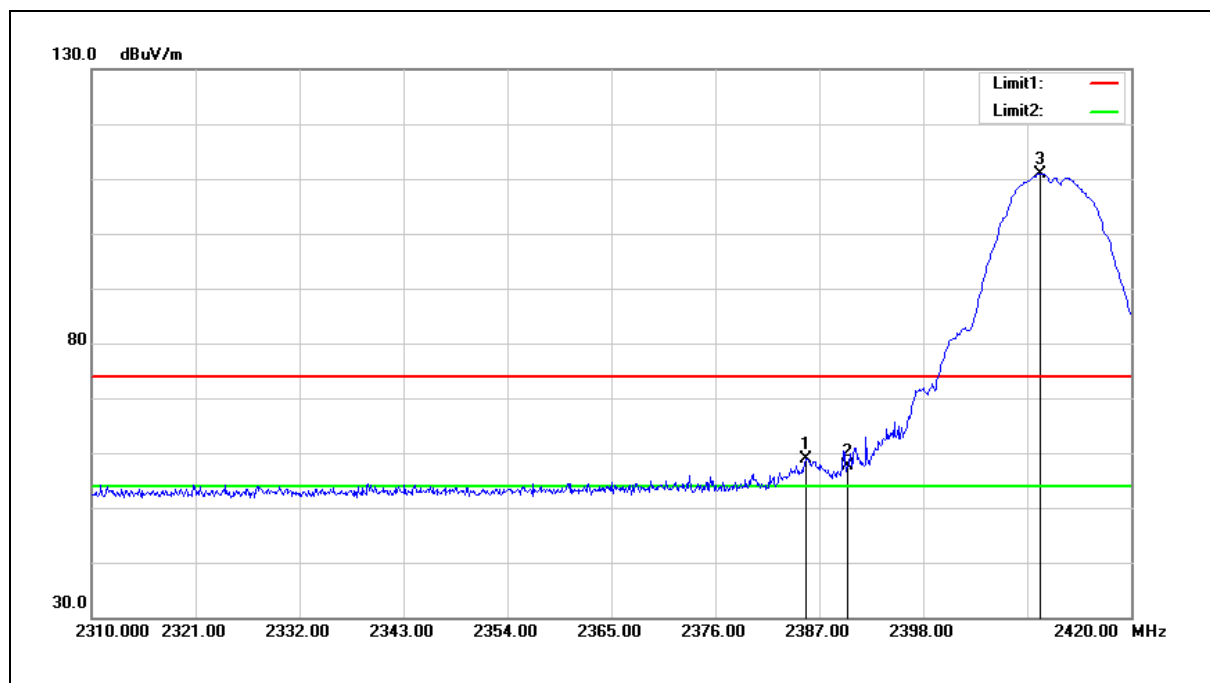
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

頻帶邊緣

Peak

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2412 MHz		
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



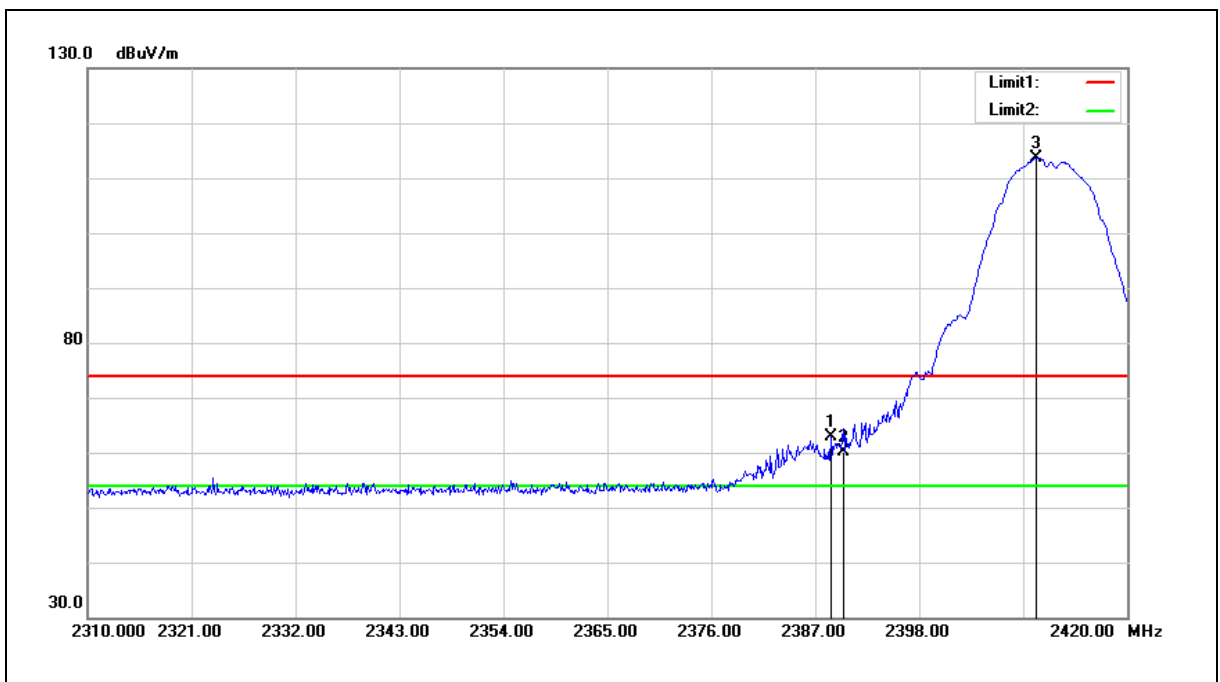
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.570	62.06	-3.20	58.86	74.00	-15.14	peak
2	2390.000	60.94	-3.19	57.75	74.00	-16.25	peak
3	2410.320	114.09	-3.12	110.97	--	--	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2412 MHz		
Mode:	Mode 2		
Ant.Polar.:	Vertical		



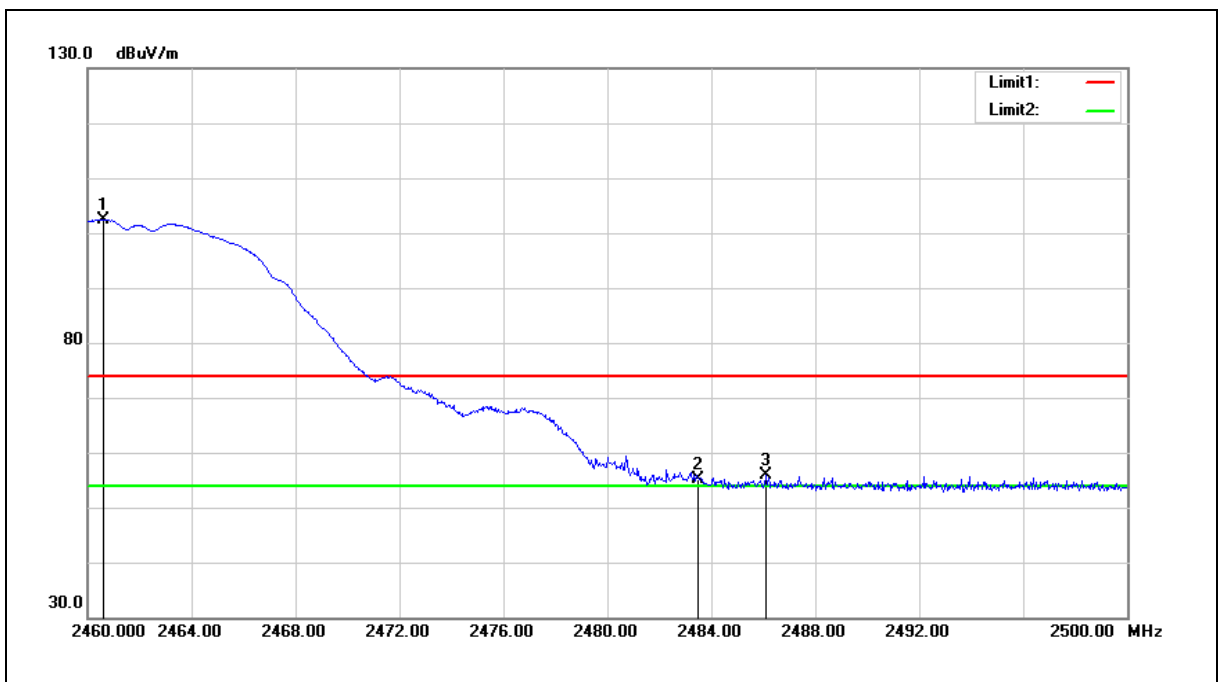
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.650	66.00	-3.19	62.81	74.00	-11.19	peak
2	2390.000	63.42	-3.19	60.23	74.00	-13.77	peak
3	2410.430	116.78	-3.12	113.66	--	--	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2462 MHz		
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



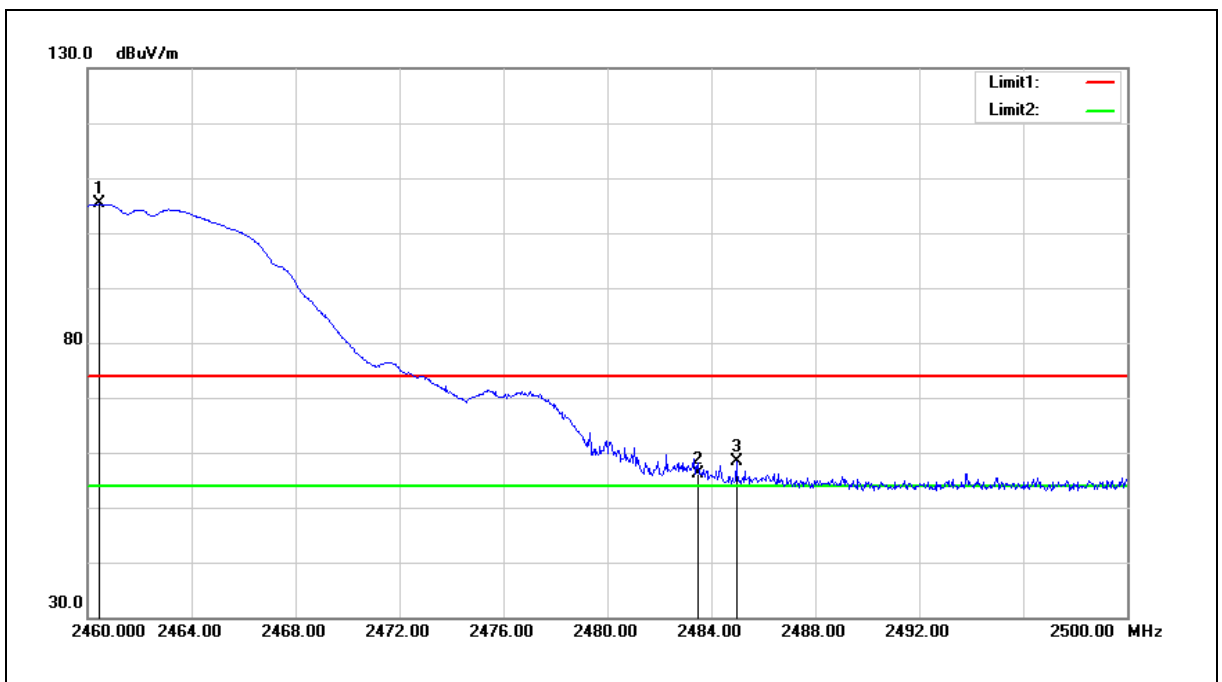
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.600	105.40	-2.94	102.46	--	--	peak
2	2483.500	57.96	-2.86	55.10	74.00	-18.90	peak
3	2486.080	58.65	-2.85	55.80	74.00	-18.20	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) - Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2462 MHz		
Mode:	Mode 2		
Ant.Polar.:	Vertical		



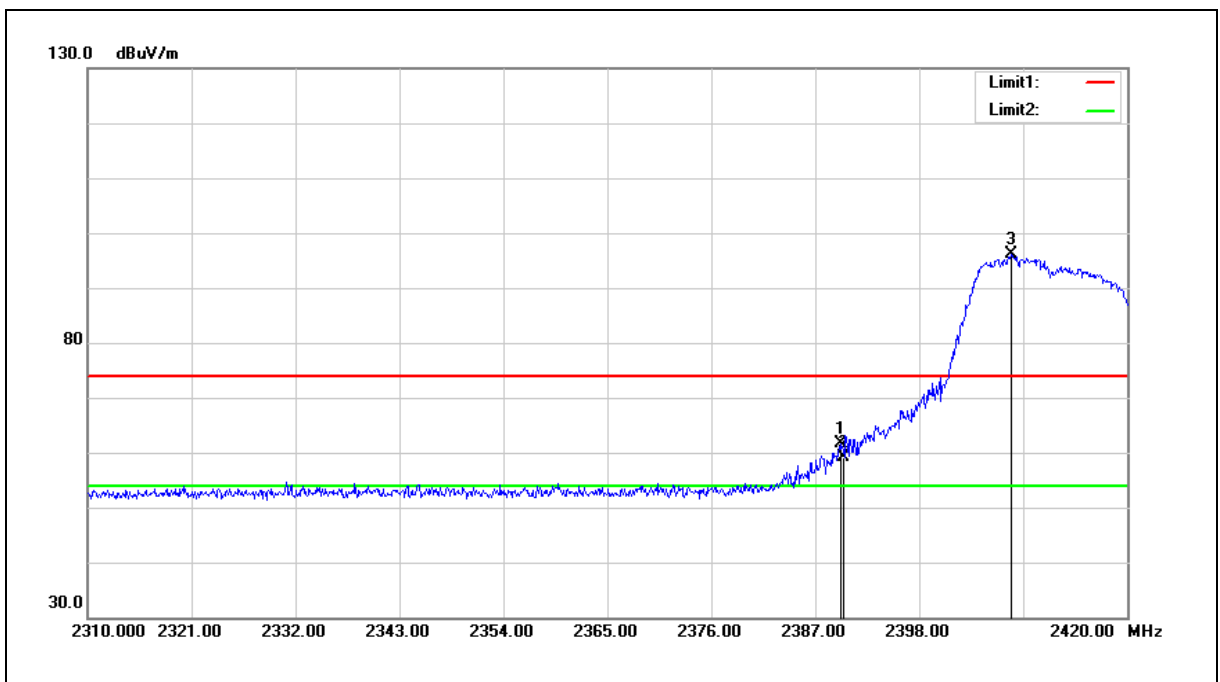
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.440	108.22	-2.94	105.28	--	--	peak
2	2483.500	58.95	-2.86	56.09	74.00	-17.91	peak
3	2484.960	61.14	-2.85	58.29	74.00	-15.71	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2412 MHz		
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



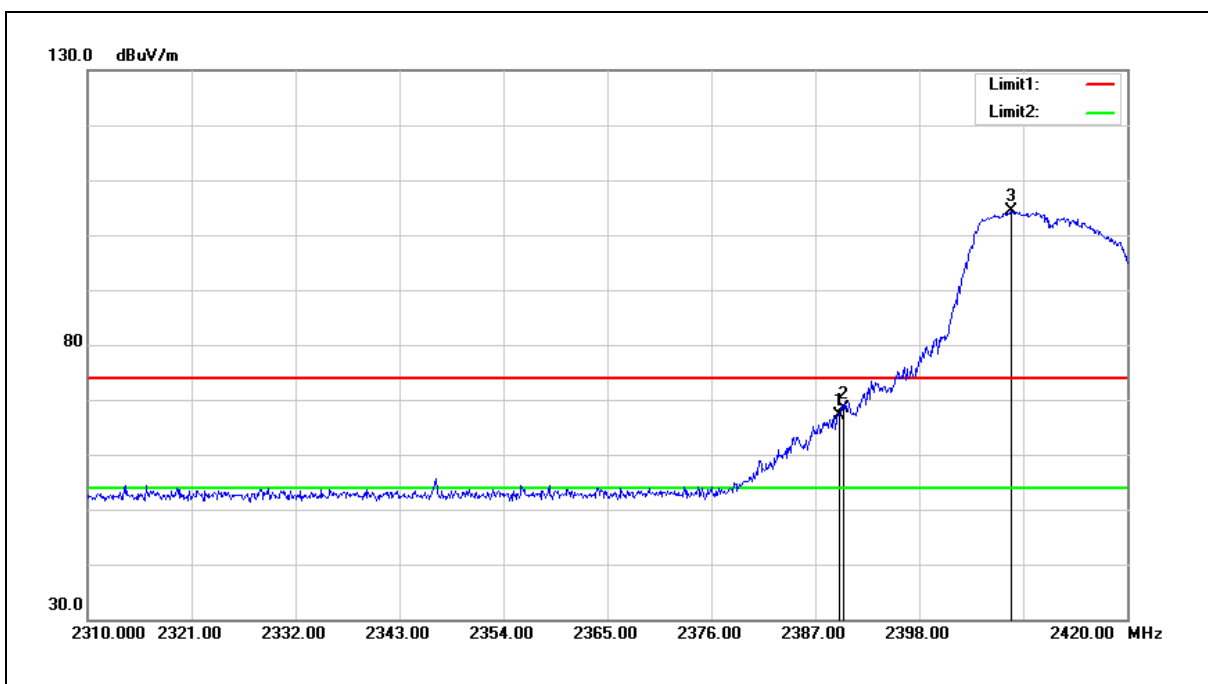
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.750	64.86	-3.19	61.67	74.00	-12.33	peak
2	2390.000	62.25	-3.19	59.06	74.00	-14.94	peak
3	2407.680	99.30	-3.13	96.17	--	--	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2412 MHz		
Mode:	Mode 3		
Ant.Polar.:	Vertical		



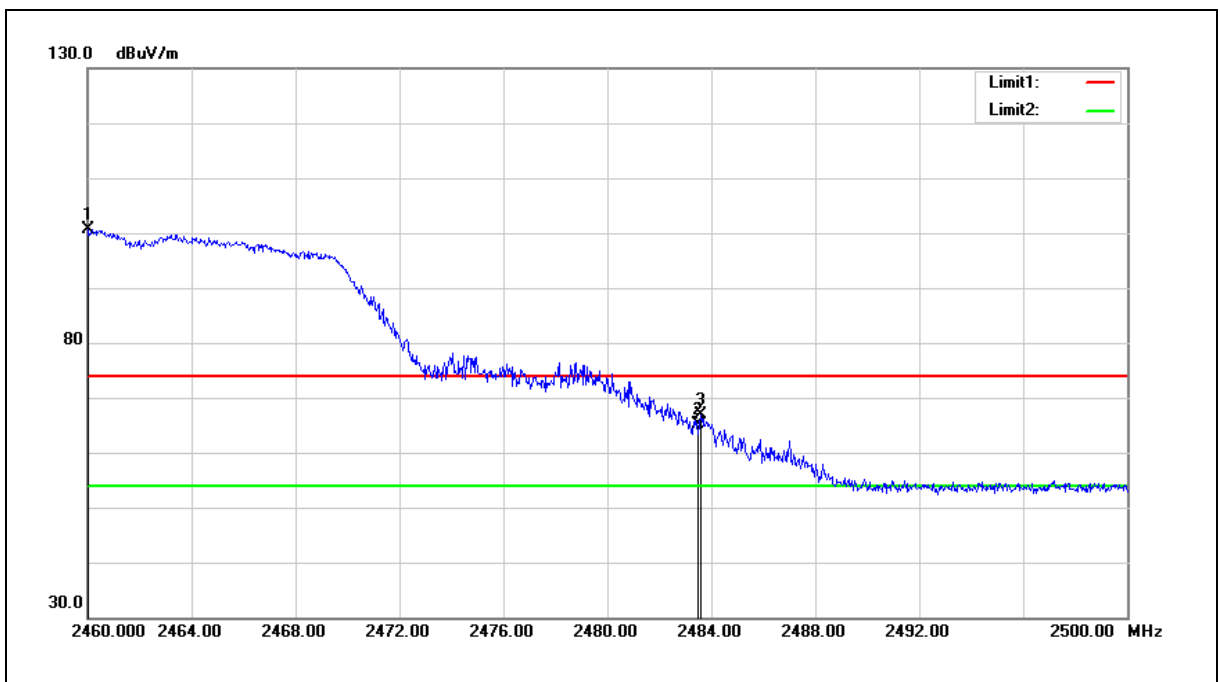
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.530	70.42	-3.19	67.23	74.00	-6.77	peak
2	2390.000	71.68	-3.19	68.49	74.00	-5.51	peak
3	2407.680	107.41	-3.13	104.28	--	--	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2462 MHz		
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



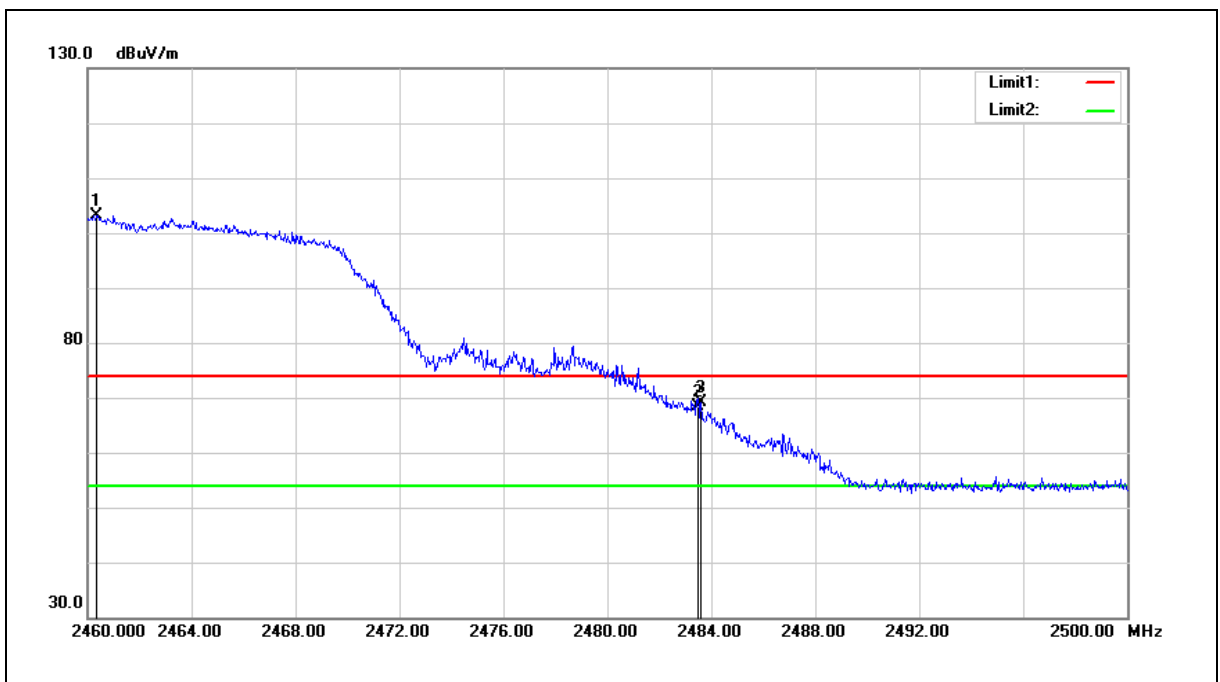
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.040	103.66	-2.94	100.72	--	--	peak
2	2483.500	67.94	-2.86	65.08	74.00	-8.92	peak
3	2483.600	69.71	-2.86	66.85	74.00	-7.15	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2462 MHz		
Mode:	Mode 3		
Ant.Polar.:	Vertical		



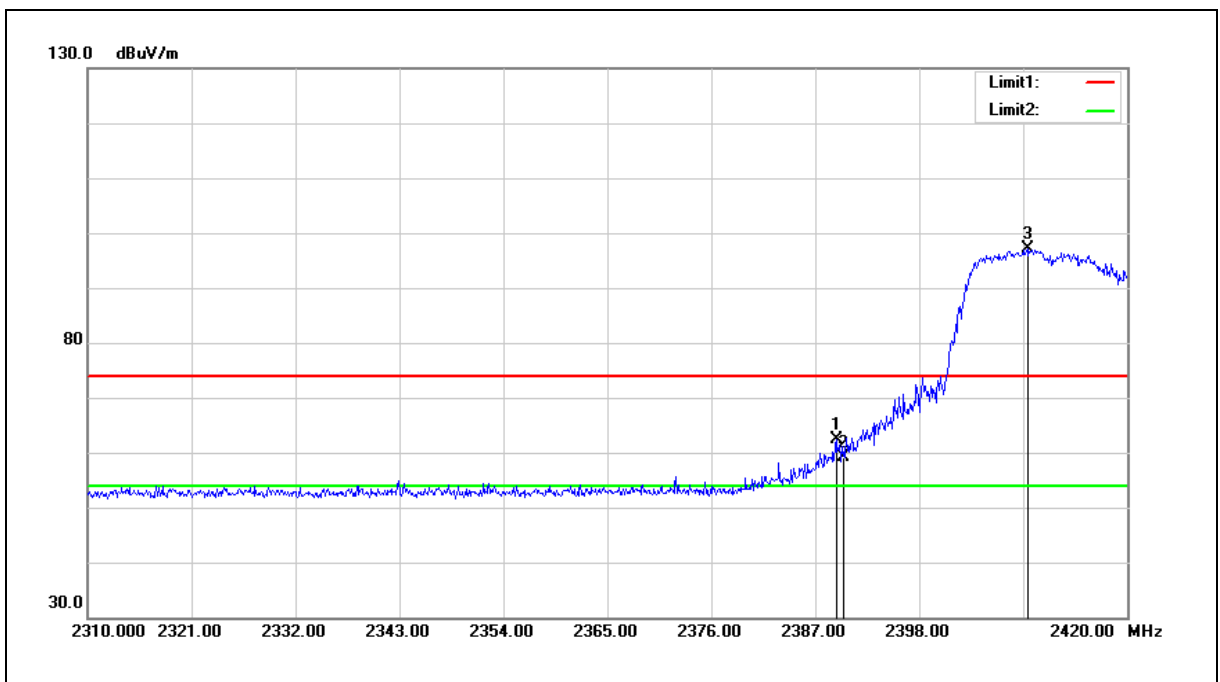
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.360	106.11	-2.94	103.17	--	--	peak
2	2483.500	71.26	-2.86	68.40	74.00	-5.60	peak
3	2483.600	71.90	-2.86	69.04	74.00	-4.96	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2412 MHz		
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



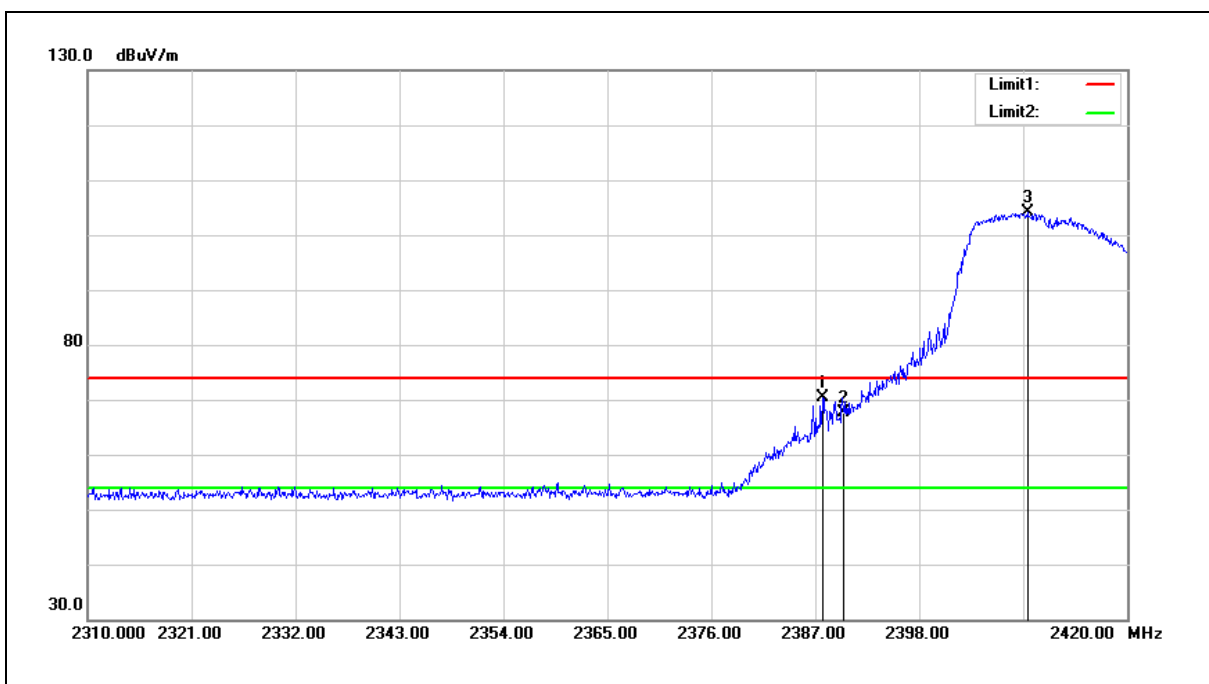
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.200	65.50	-3.19	62.31	74.00	-11.69	peak
2	2390.000	62.25	-3.19	59.06	74.00	-14.94	peak
3	2409.440	100.16	-3.12	97.04	--	--	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2412 MHz		
Mode:	Mode 4		
Ant.Polar.:	Vertical		



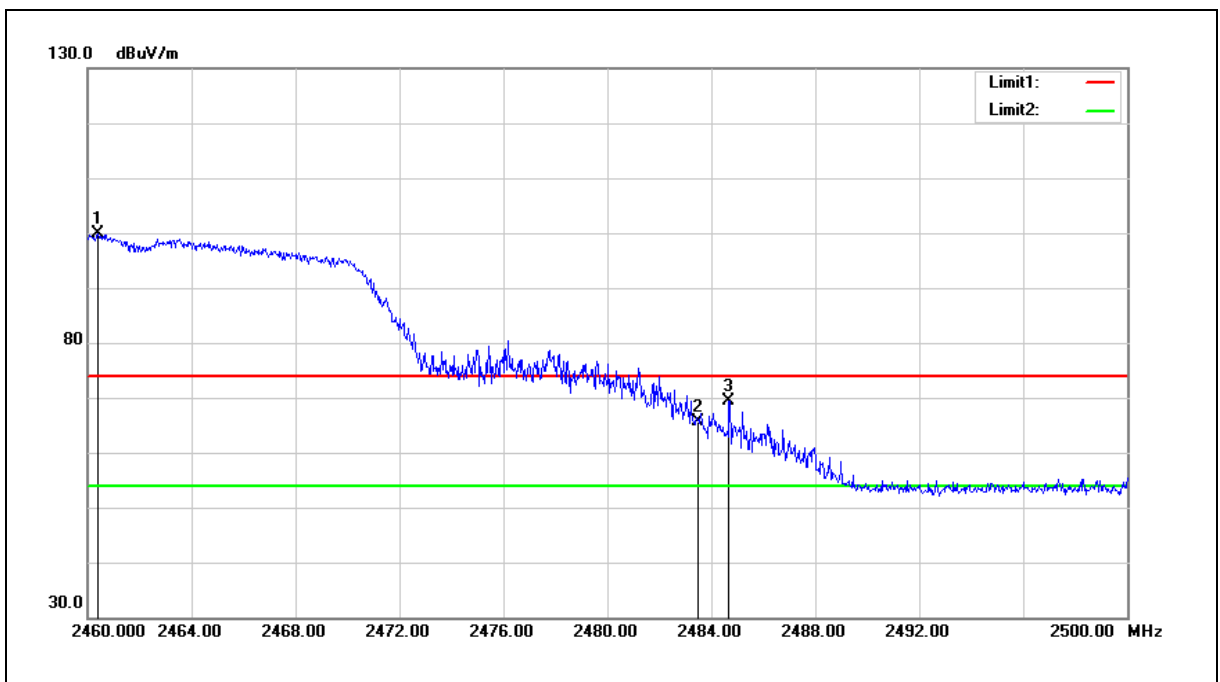
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2387.770	73.63	-3.19	70.44	74.00	-3.56	peak
2	2390.000	70.70	-3.19	67.51	74.00	-6.49	peak
3	2409.440	107.29	-3.12	104.17	--	--	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2462 MHz		
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



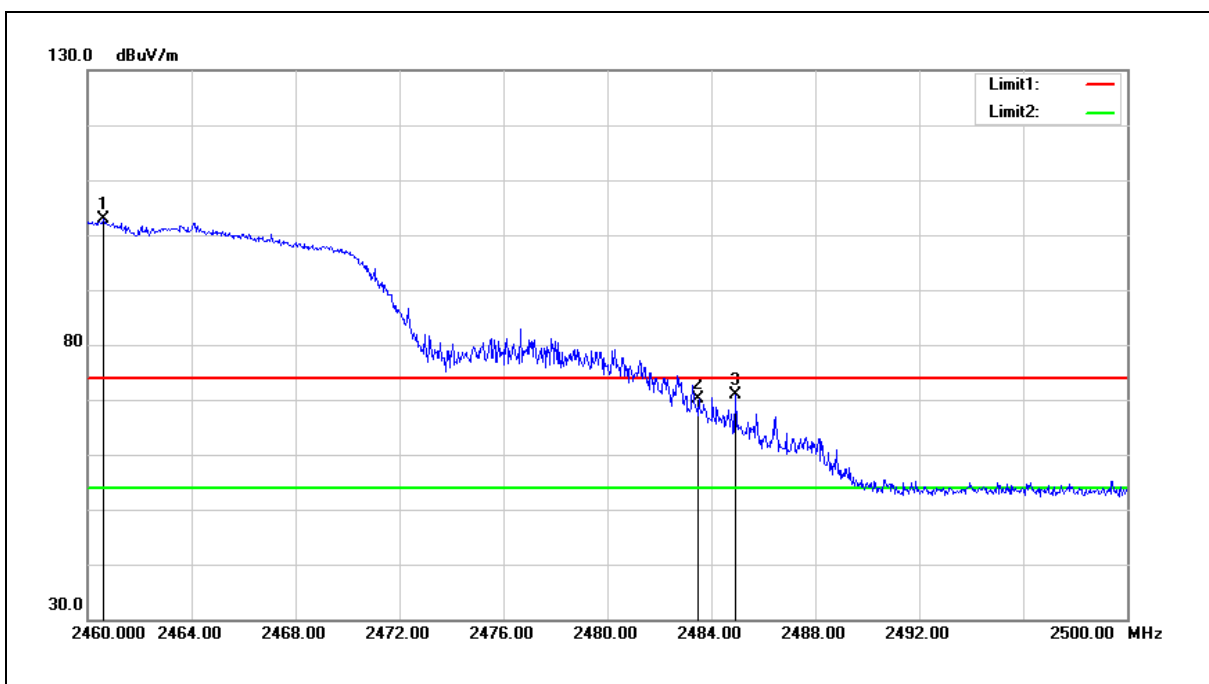
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.400	102.75	-2.94	99.81	--	--	peak
2	2483.500	68.48	-2.86	65.62	74.00	-8.38	peak
3	2484.680	72.29	-2.85	69.44	74.00	-4.56	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2462 MHz		
Mode:	Mode 4		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.600	105.83	-2.94	102.89	--	--	peak
2	2483.500	73.06	-2.86	70.20	74.00	-3.80	peak
3	2484.920	73.66	-2.85	70.81	74.00	-3.19	peak

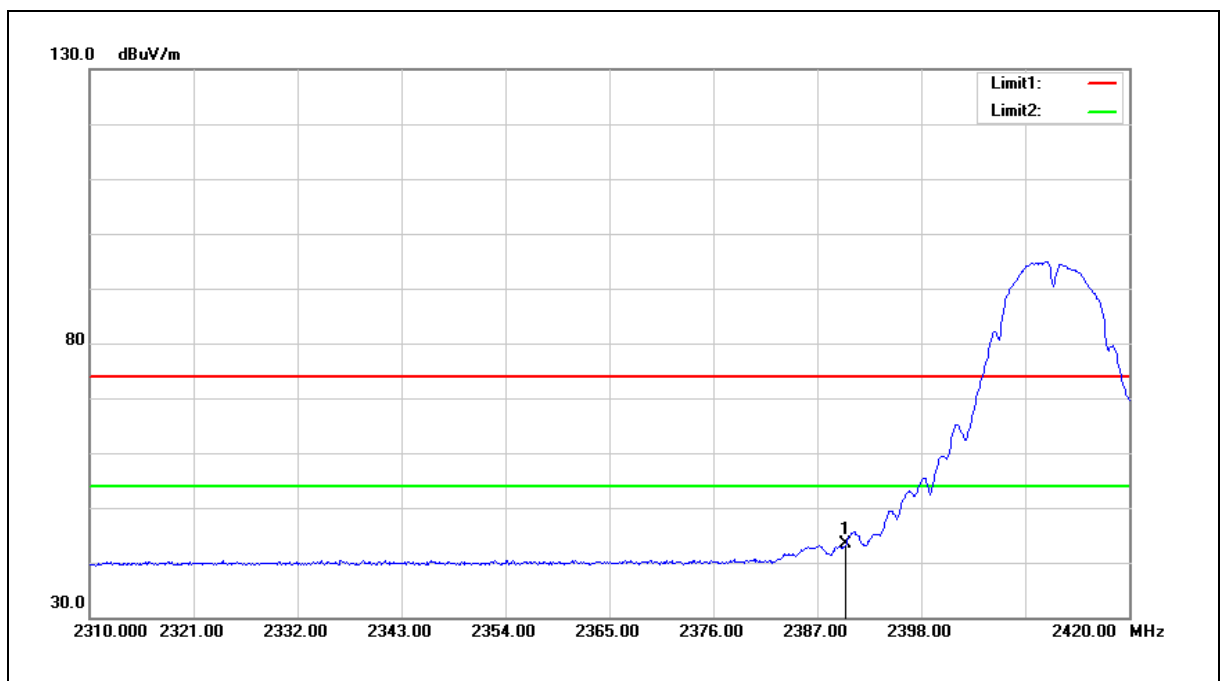
Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) - Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Average

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2412 MHz		
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



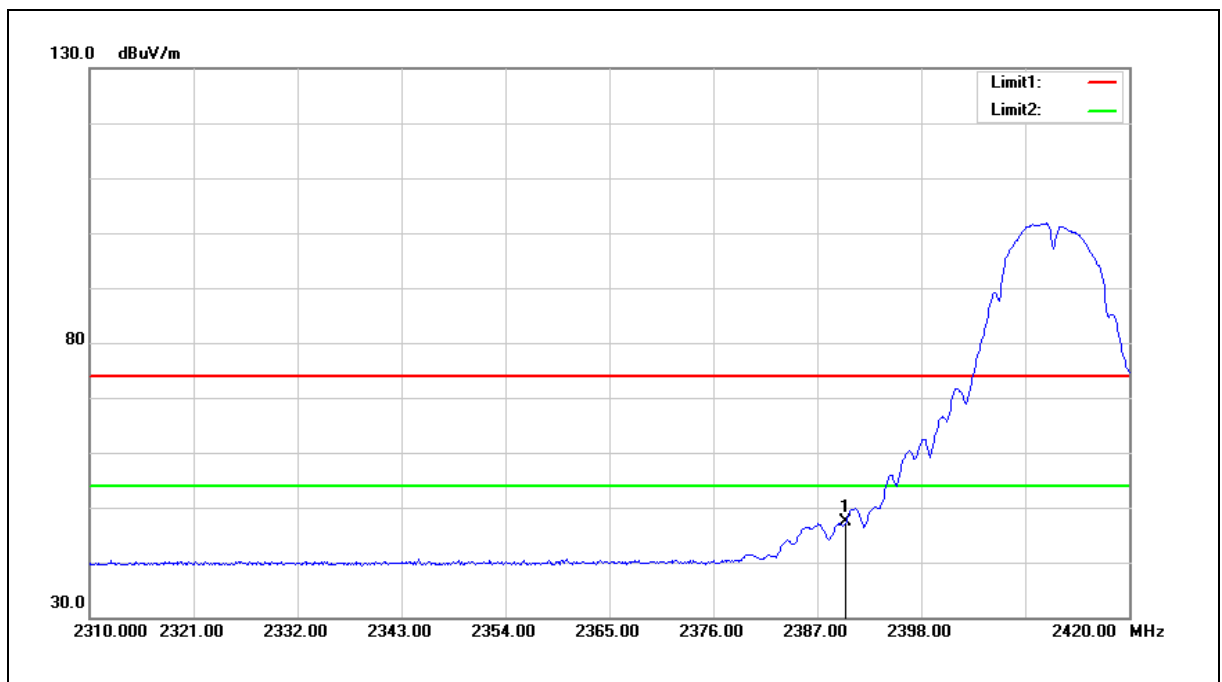
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	46.58	-3.19	43.39	54.00	-10.61	AVG

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2412 MHz		
Mode:	Mode 2		
Ant.Polar.:	Vertical		



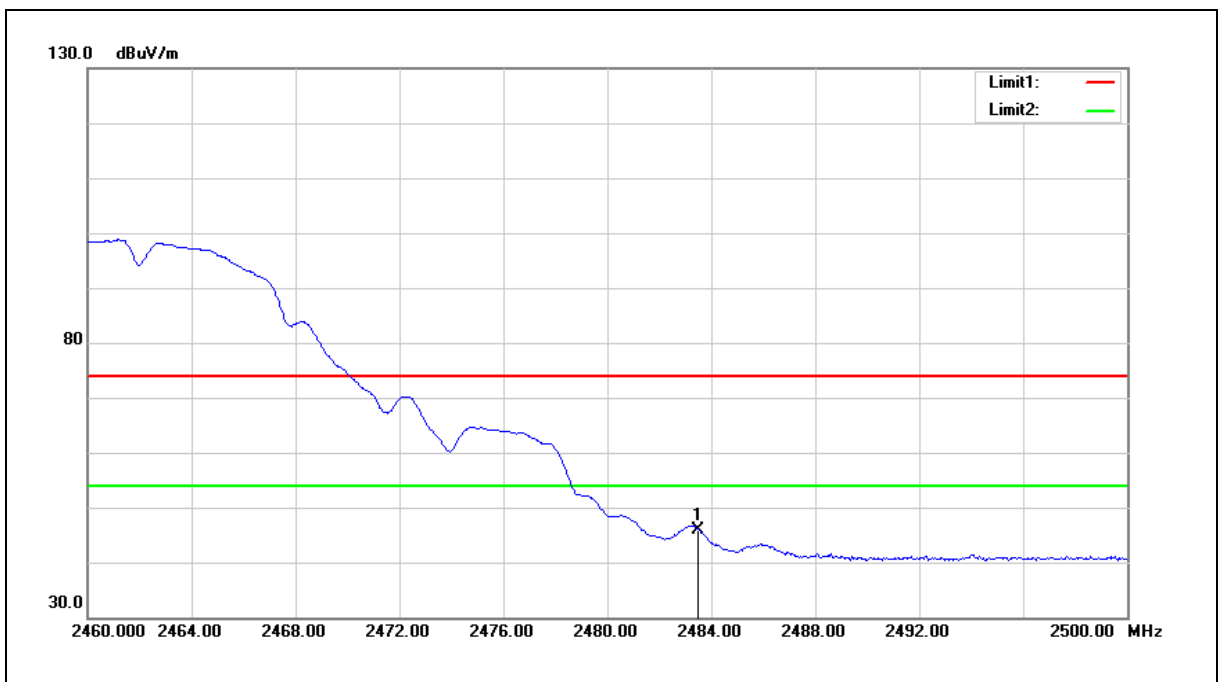
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	50.48	-3.19	47.29	54.00	-6.71	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2462 MHz		
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



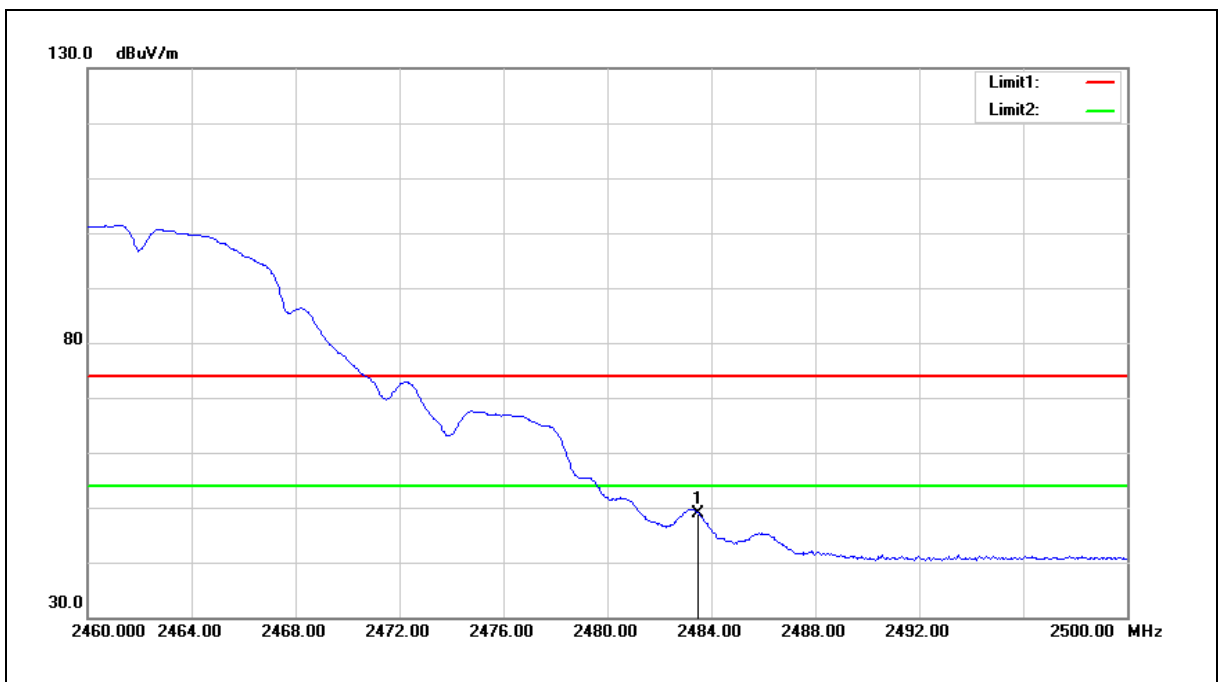
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	48.78	-2.86	45.92	54.00	-8.08	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2462 MHz		
Mode:	Mode 2		
Ant.Polar.:	Vertical		



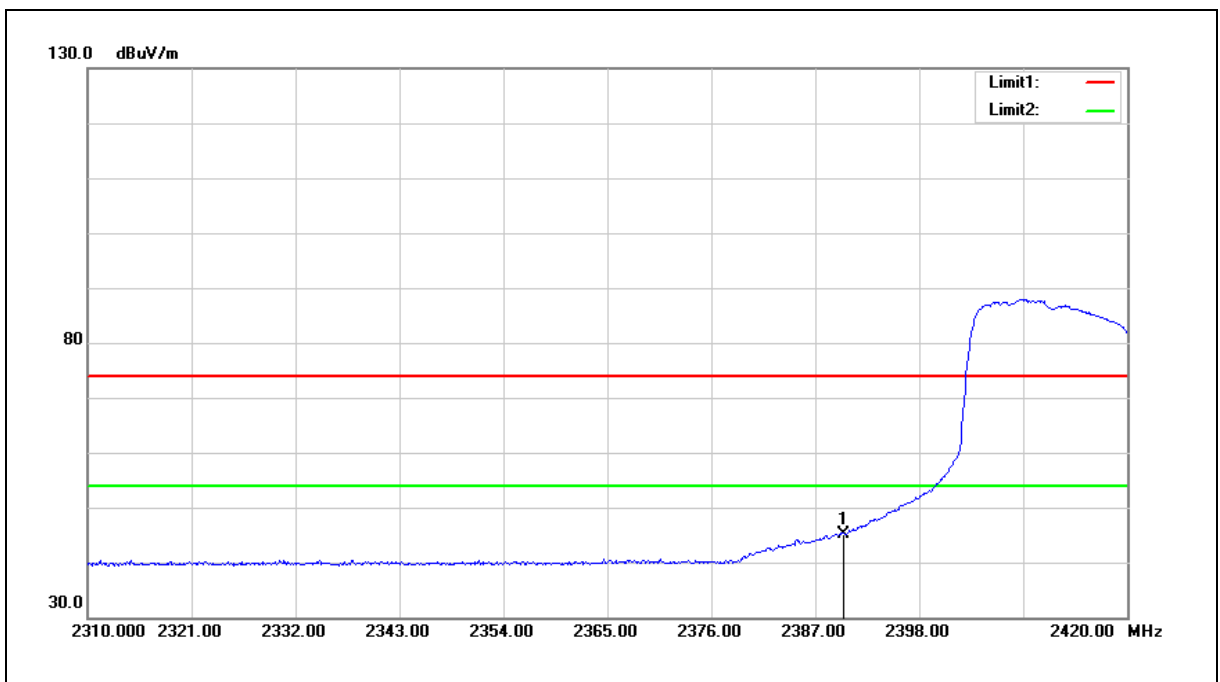
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	51.68	-2.86	48.82	54.00	-5.18	AVG

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2412 MHz		
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



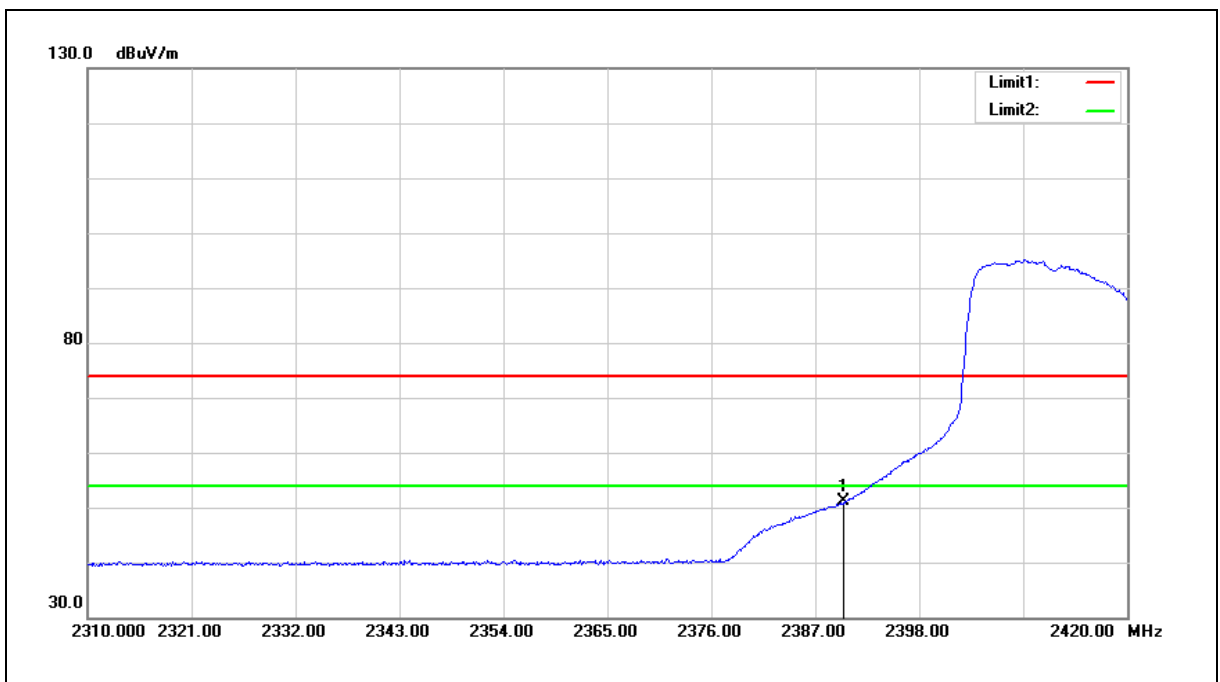
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	48.35	-3.19	45.16	54.00	-8.84	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2412 MHz		
Mode:	Mode 3		
Ant.Polar.:	Vertical		



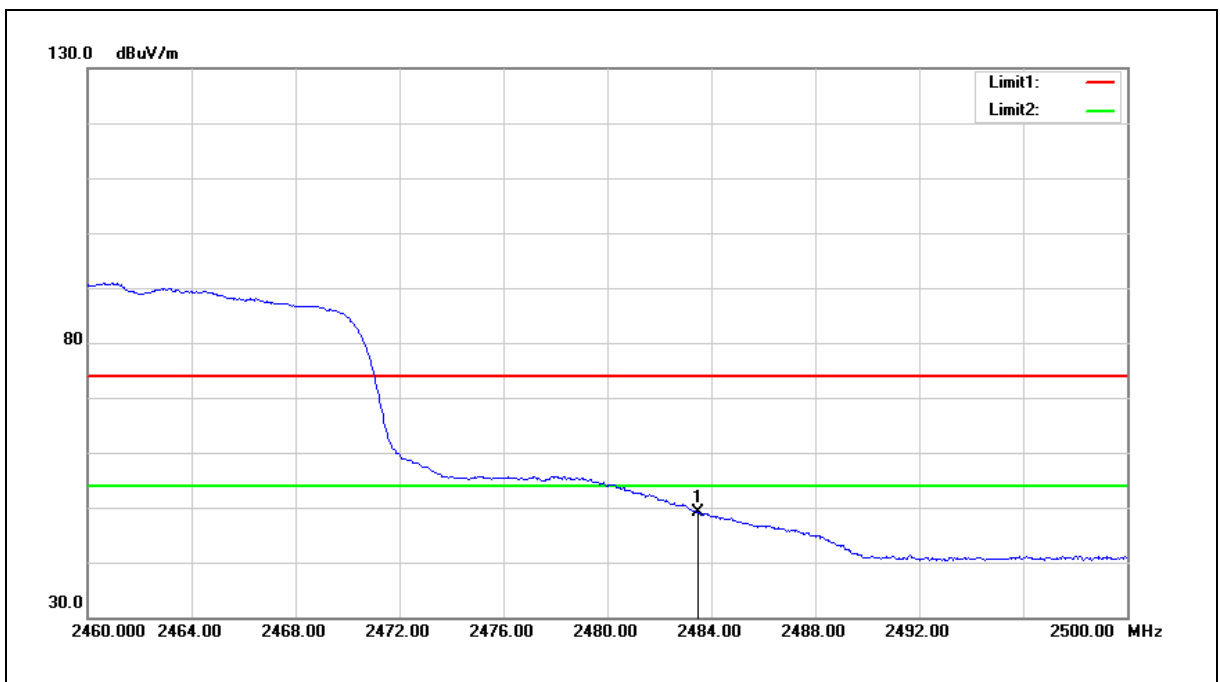
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	54.20	-3.19	51.01	54.00	-2.99	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2462 MHz		
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



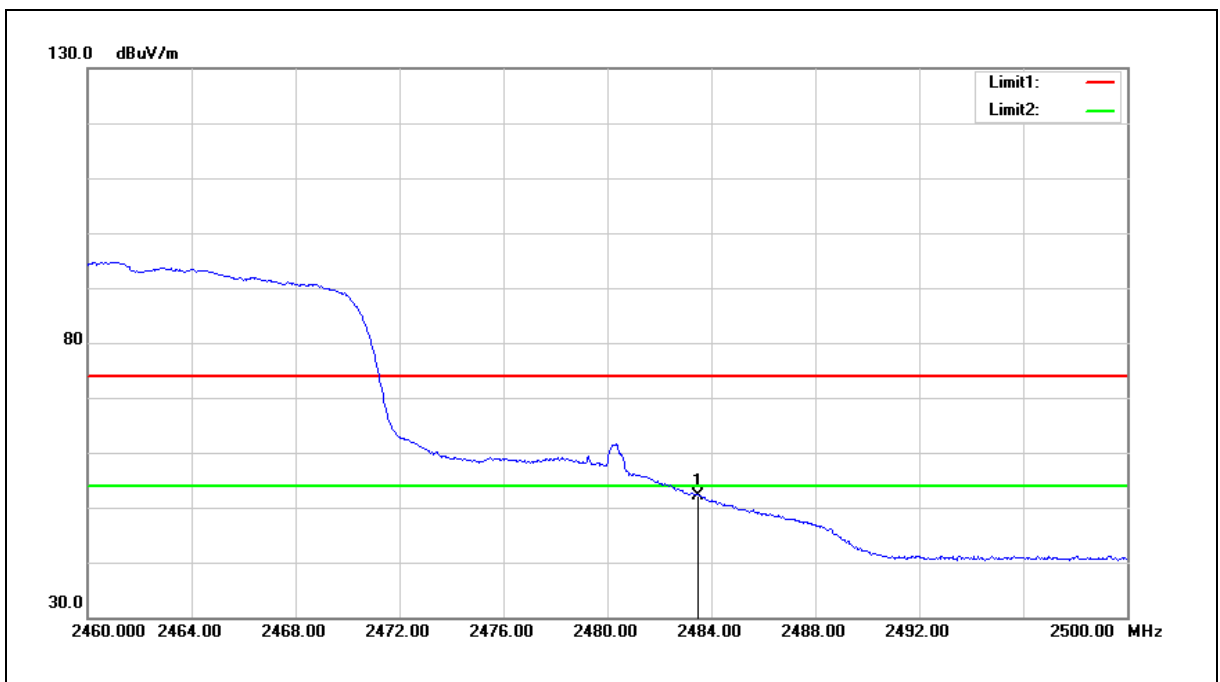
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	51.87	-2.86	49.01	54.00	-4.99	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2462 MHz		
Mode:	Mode 3		
Ant.Polar.:	Vertical		



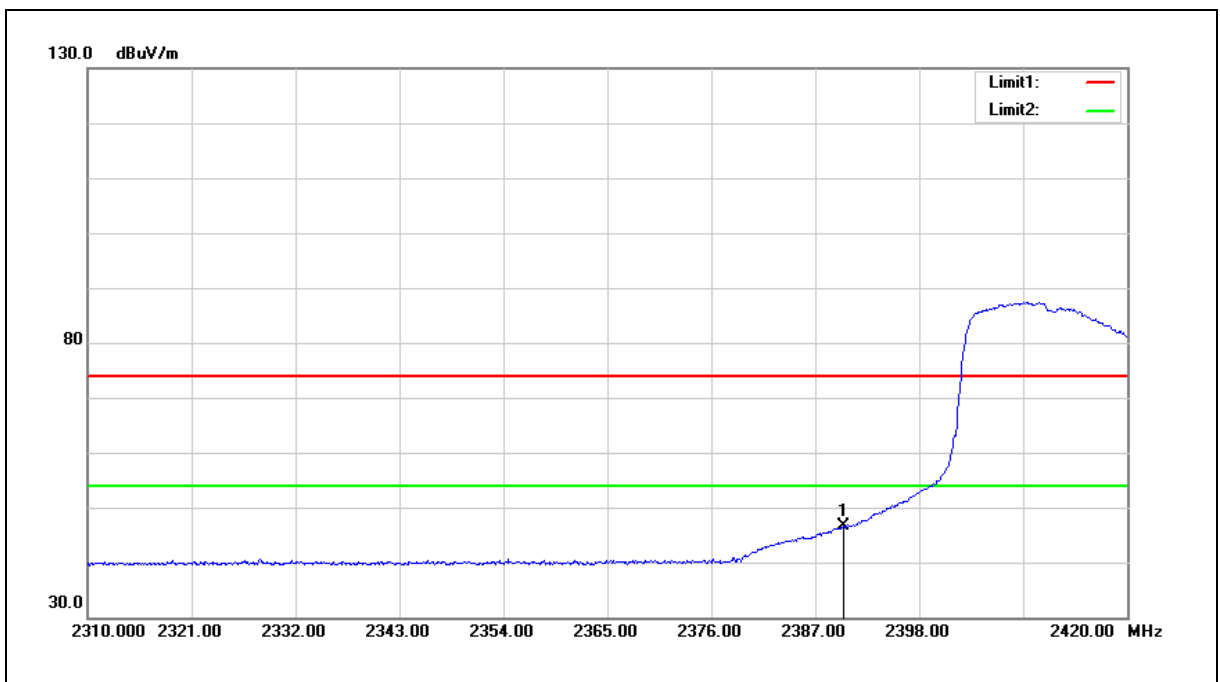
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	54.98	-2.86	52.12	54.00	-1.88	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2412 MHz		
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



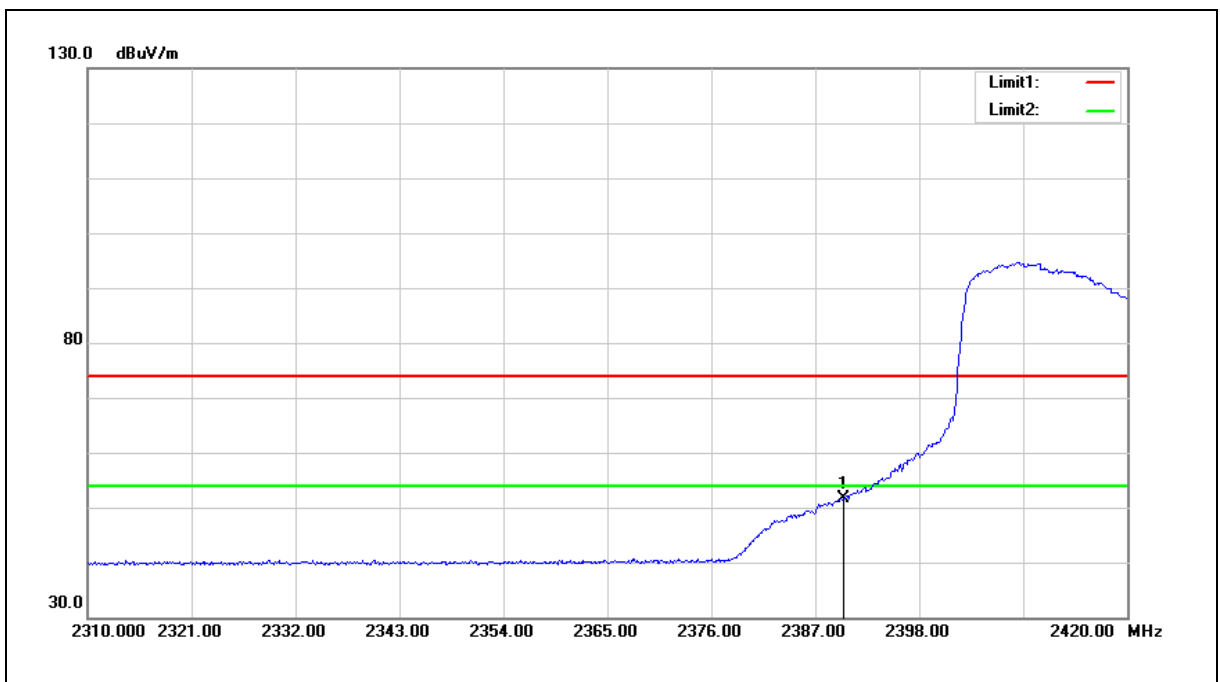
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	49.92	-3.19	46.73	54.00	-7.27	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2412 MHz		
Mode:	Mode 4		
Ant.Polar.:	Vertical		



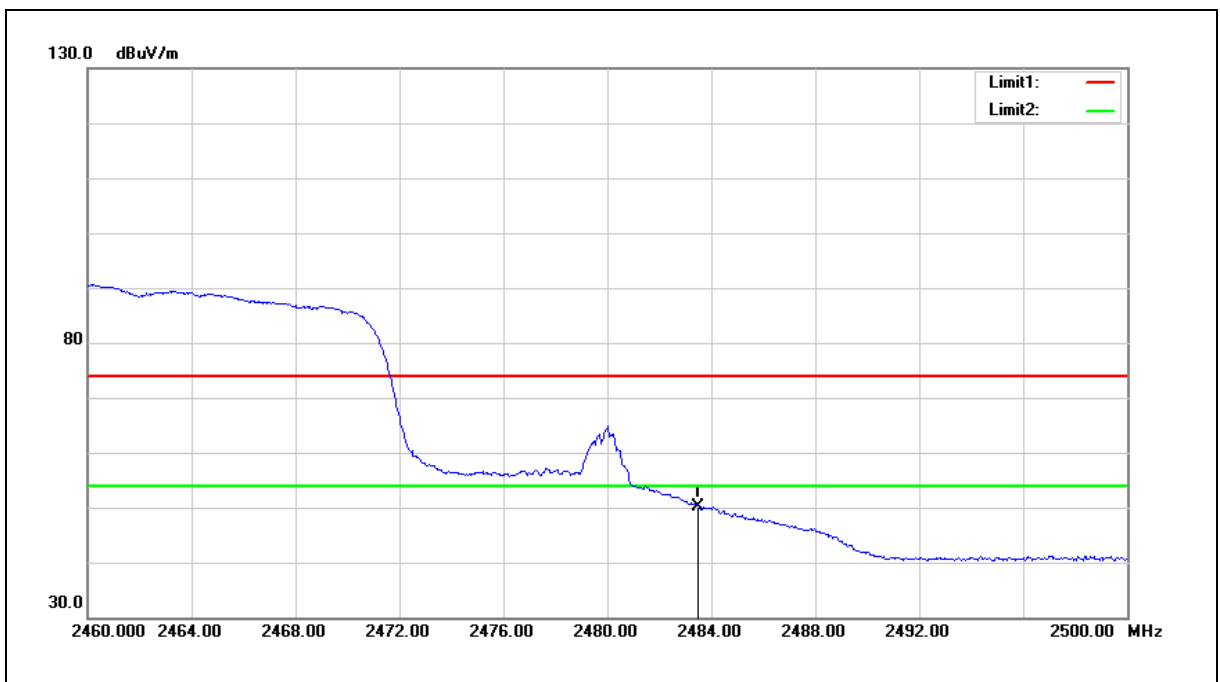
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	54.84	-3.19	51.65	54.00	-2.35	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2462 MHz		
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



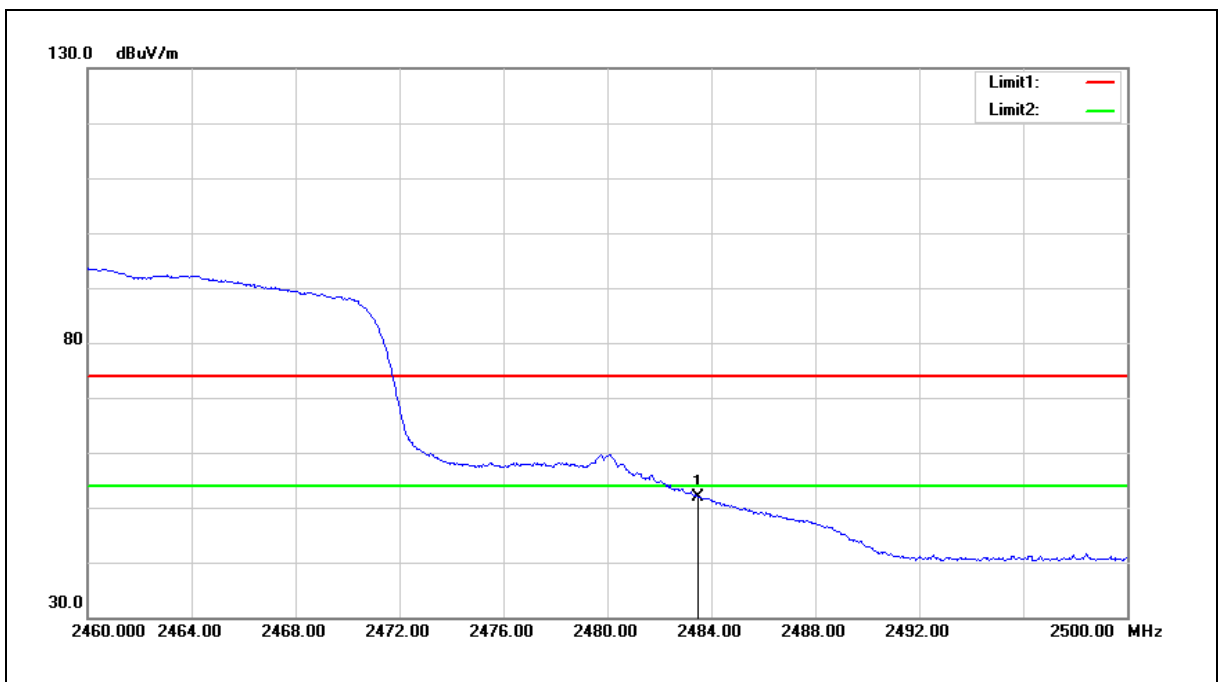
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	53.01	-2.86	50.15	54.00	-3.85	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge		
Frequency:	2462 MHz		
Mode:	Mode 4		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	54.69	-2.86	51.83	54.00	-2.17	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Annex C. Conducted Test Results

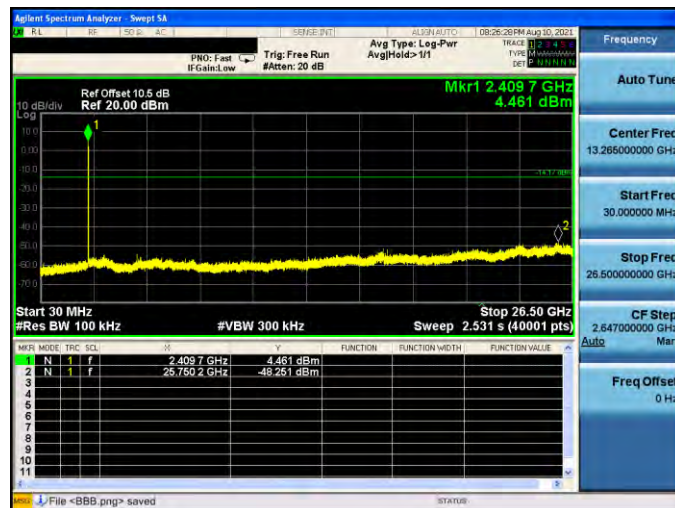
Maximum Conducted Output Power

操作模式	Data Rate (Mbps)	頻道 CH	輸出功率(Average)		輸出功率(Peak)		Limit (dBm)
			dBm	W	dBm	W	
Mode 2	1	01	14.41	0.028	17.68	0.059	≤ 30.00
		06	13.91	0.025	17.18	0.052	≤ 30.00
		11	13.95	0.025	17.12	0.052	≤ 30.00
Mode 3	6	01	14.11	0.026	22.29	0.169	≤ 30.00
		06	14.21	0.026	22.35	0.172	≤ 30.00
		11	14.26	0.027	22.46	0.176	≤ 30.00
Mode 4	6.5	01	14.19	0.026	22.36	0.172	≤ 30.00
		06	14.18	0.026	22.55	0.180	≤ 30.00
		11	14.29	0.027	22.61	0.182	≤ 30.00

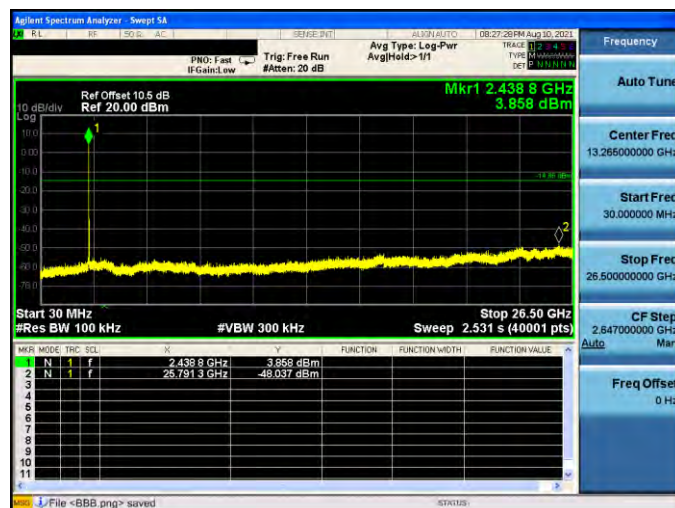
Out of Band Conducted Spurious Emission

Mode 2: IEEE 802.11b Continuous TX Mode

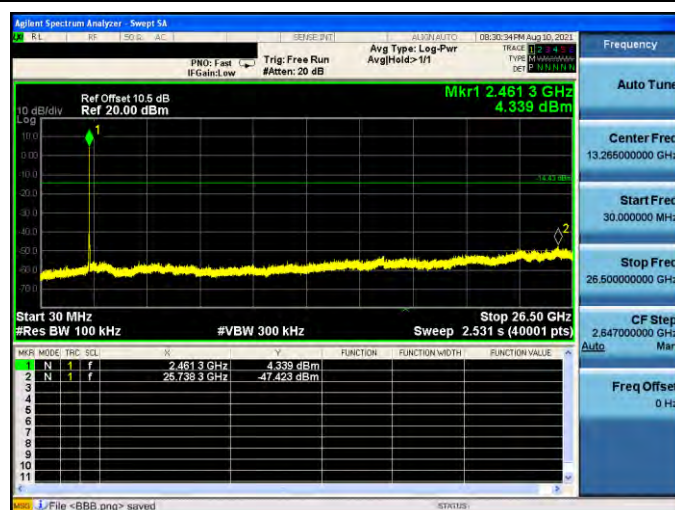
CH01

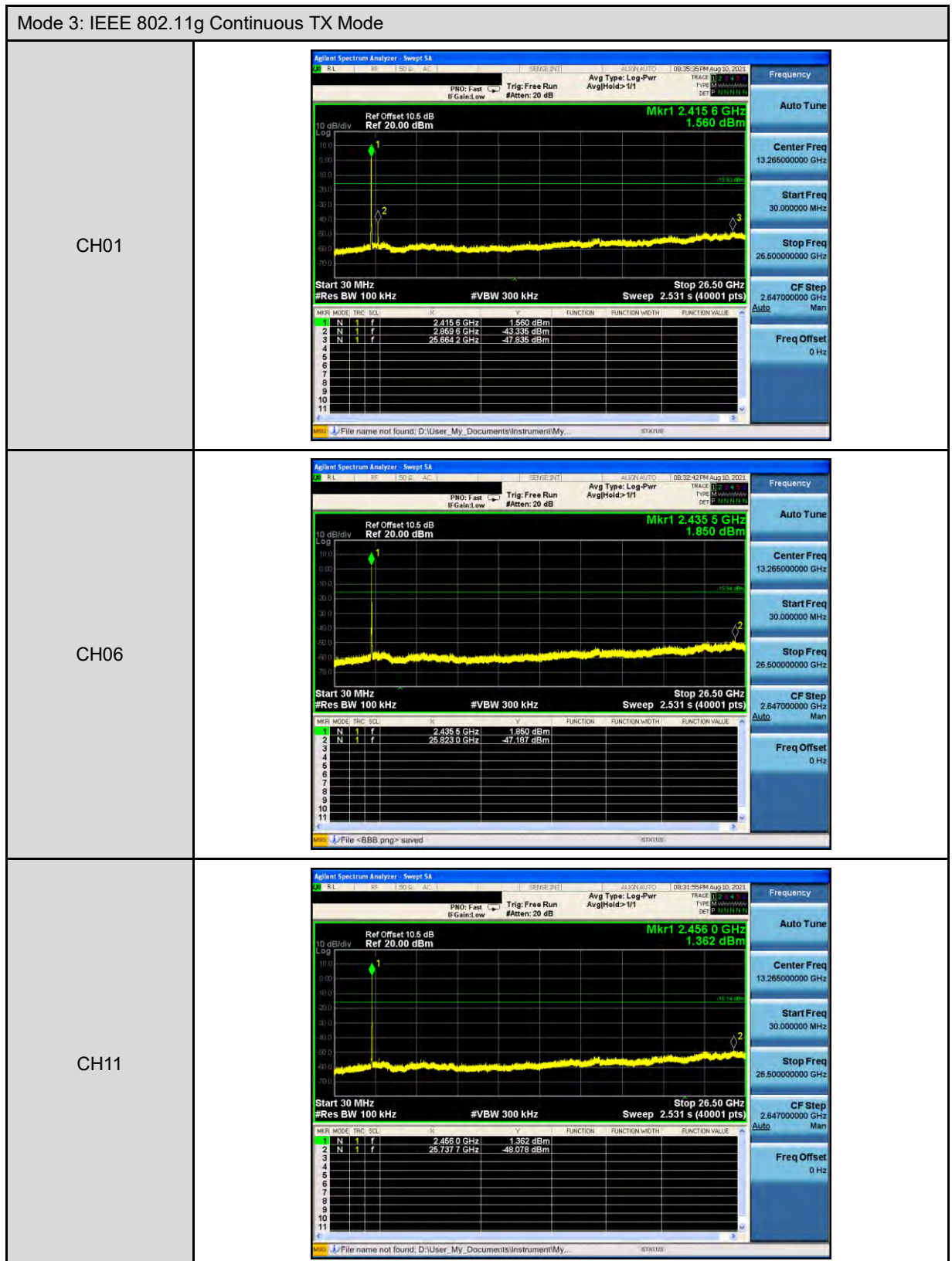


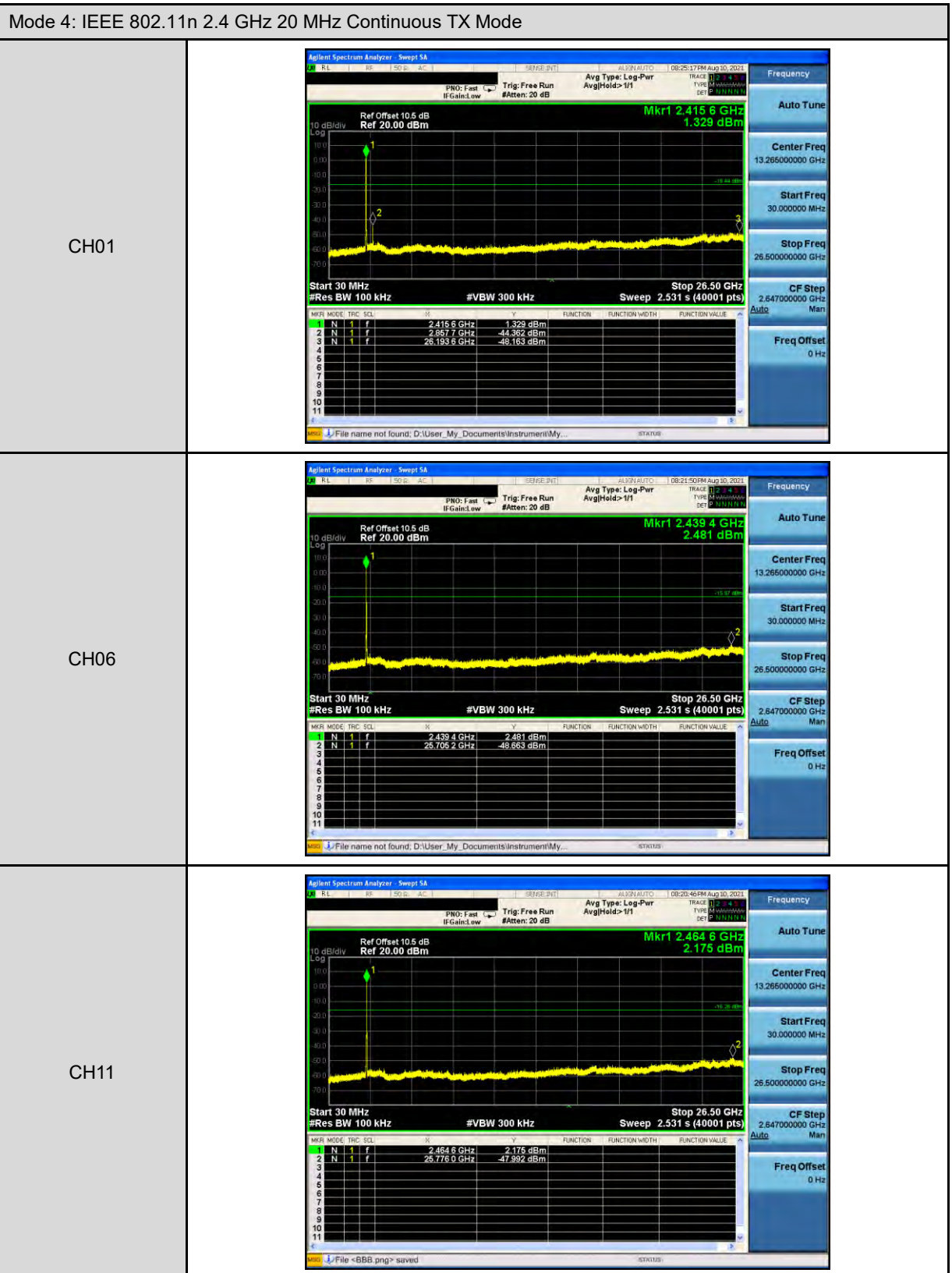
CH06



CH11

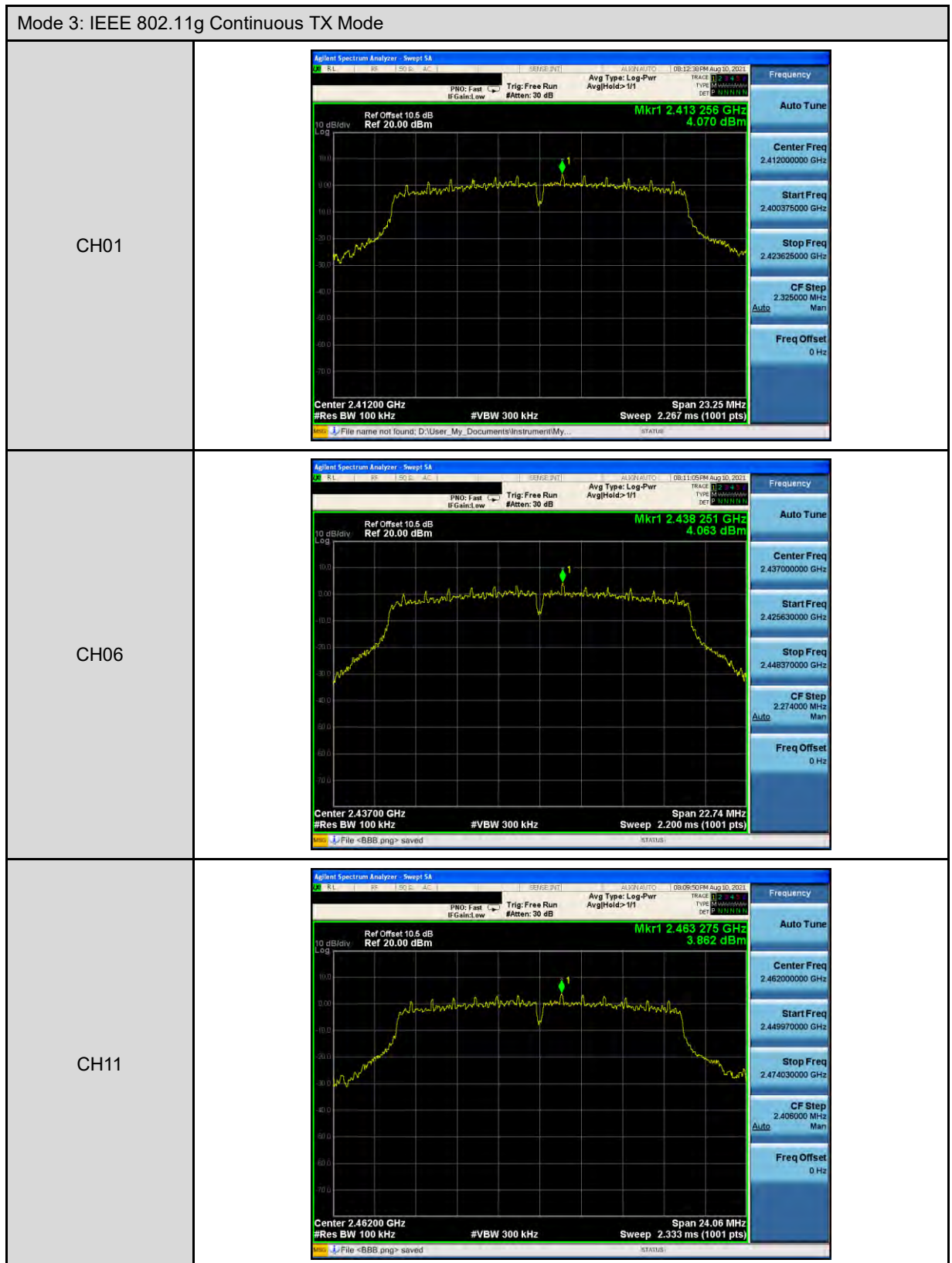


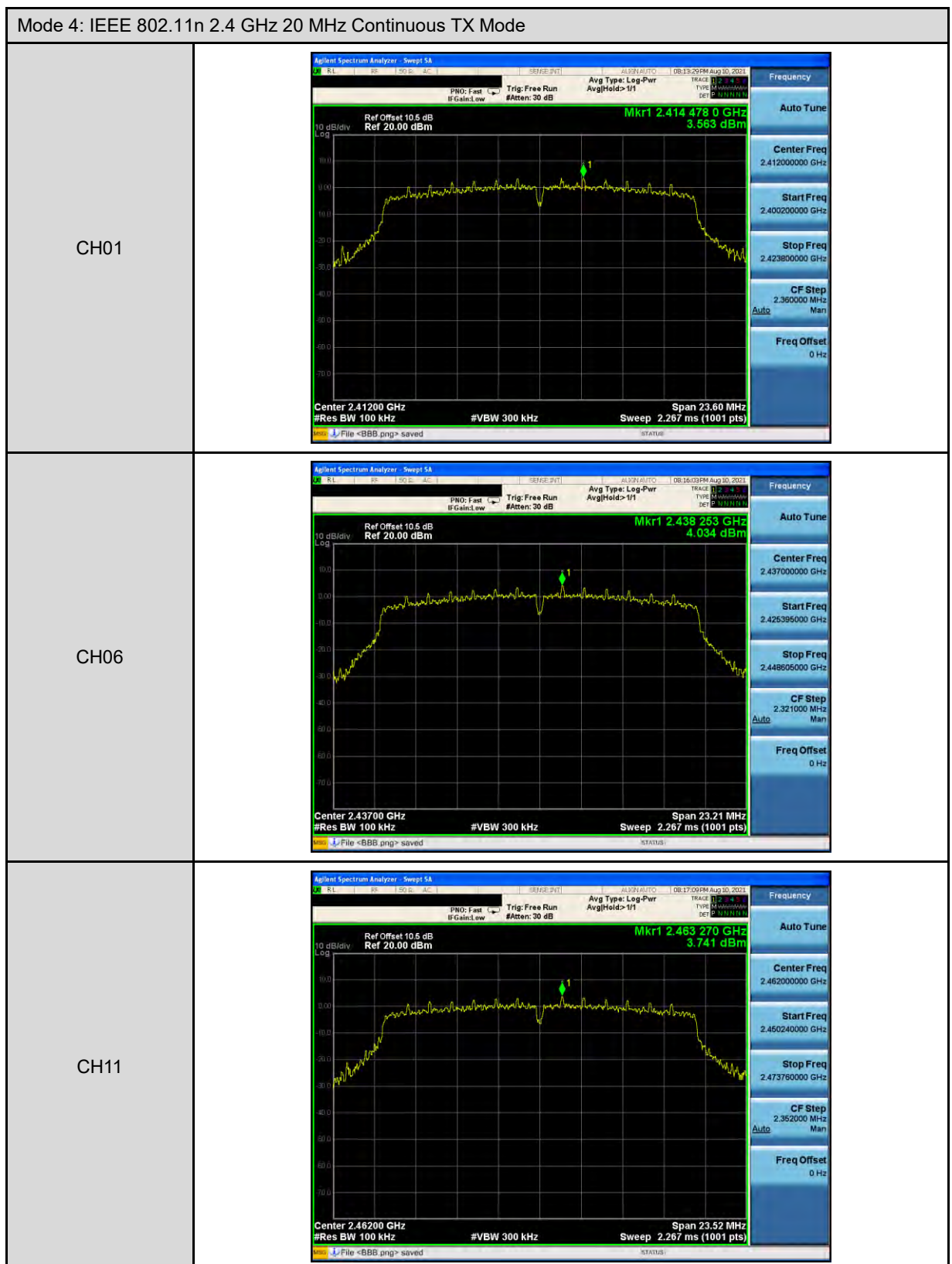




Reference level

Mode 2: IEEE 802.11b Continuous TX Mode	
CH01	
CH06	
CH11	

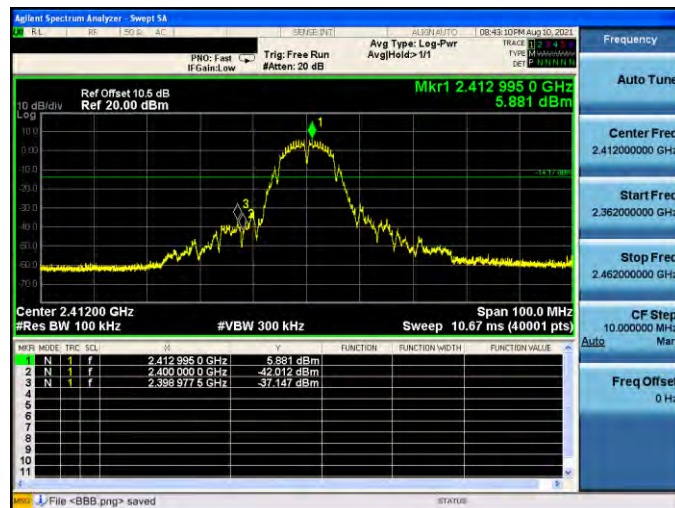




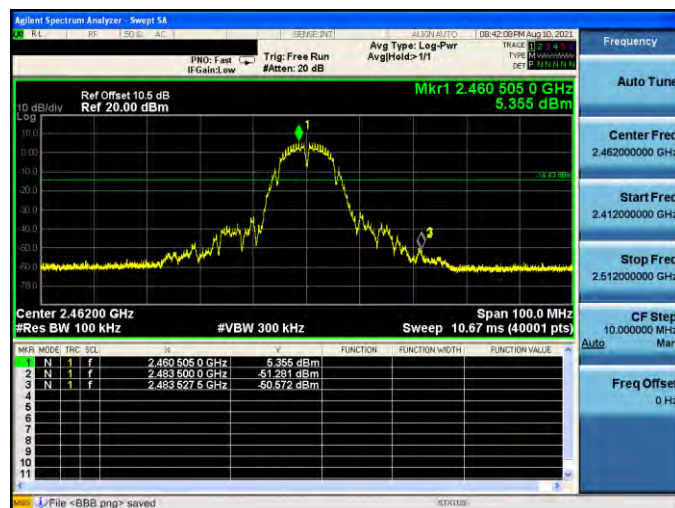
Conducted Band Edge

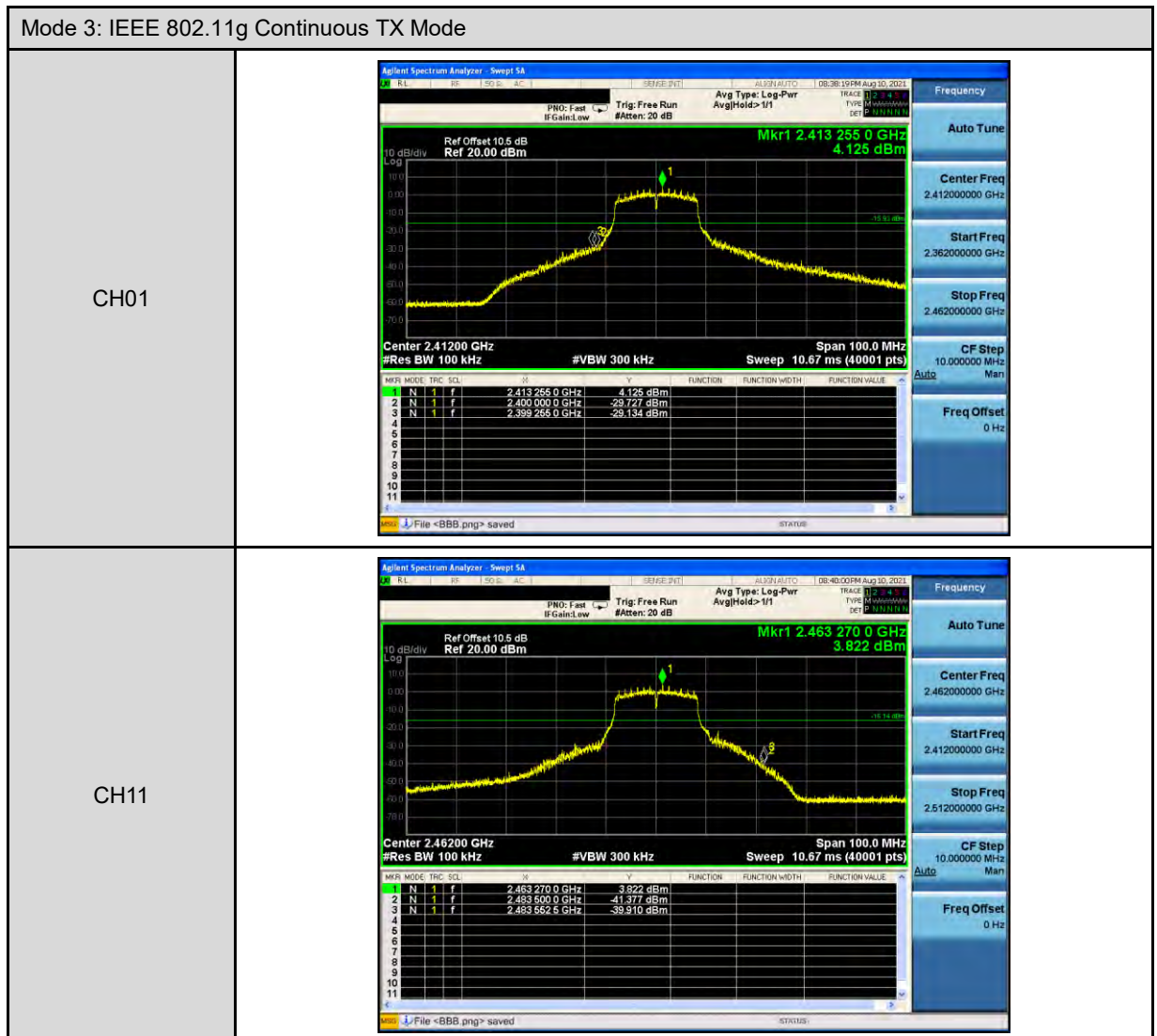
Mode 2: IEEE 802.11b Continuous TX Mode

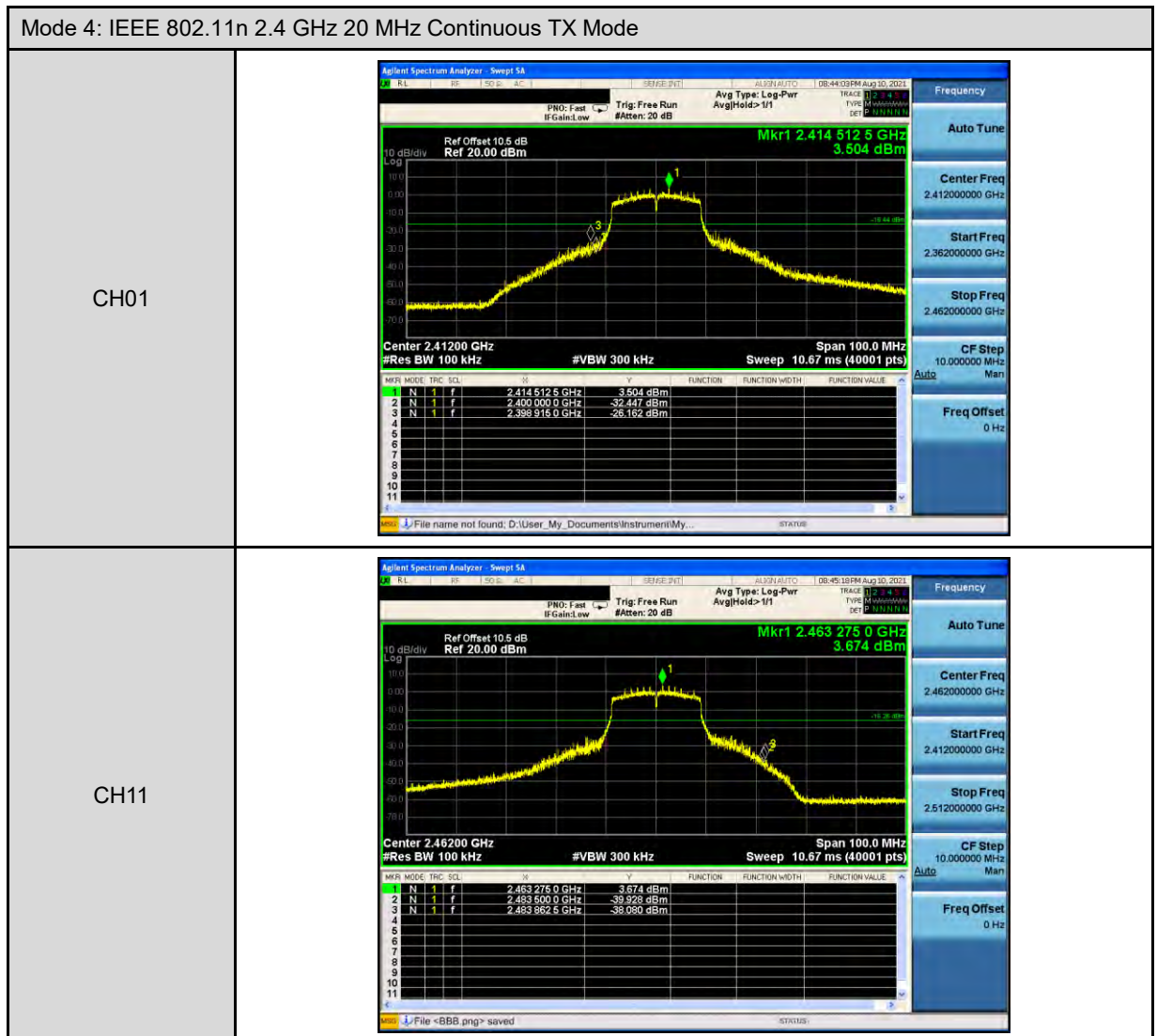
CH01



CH11



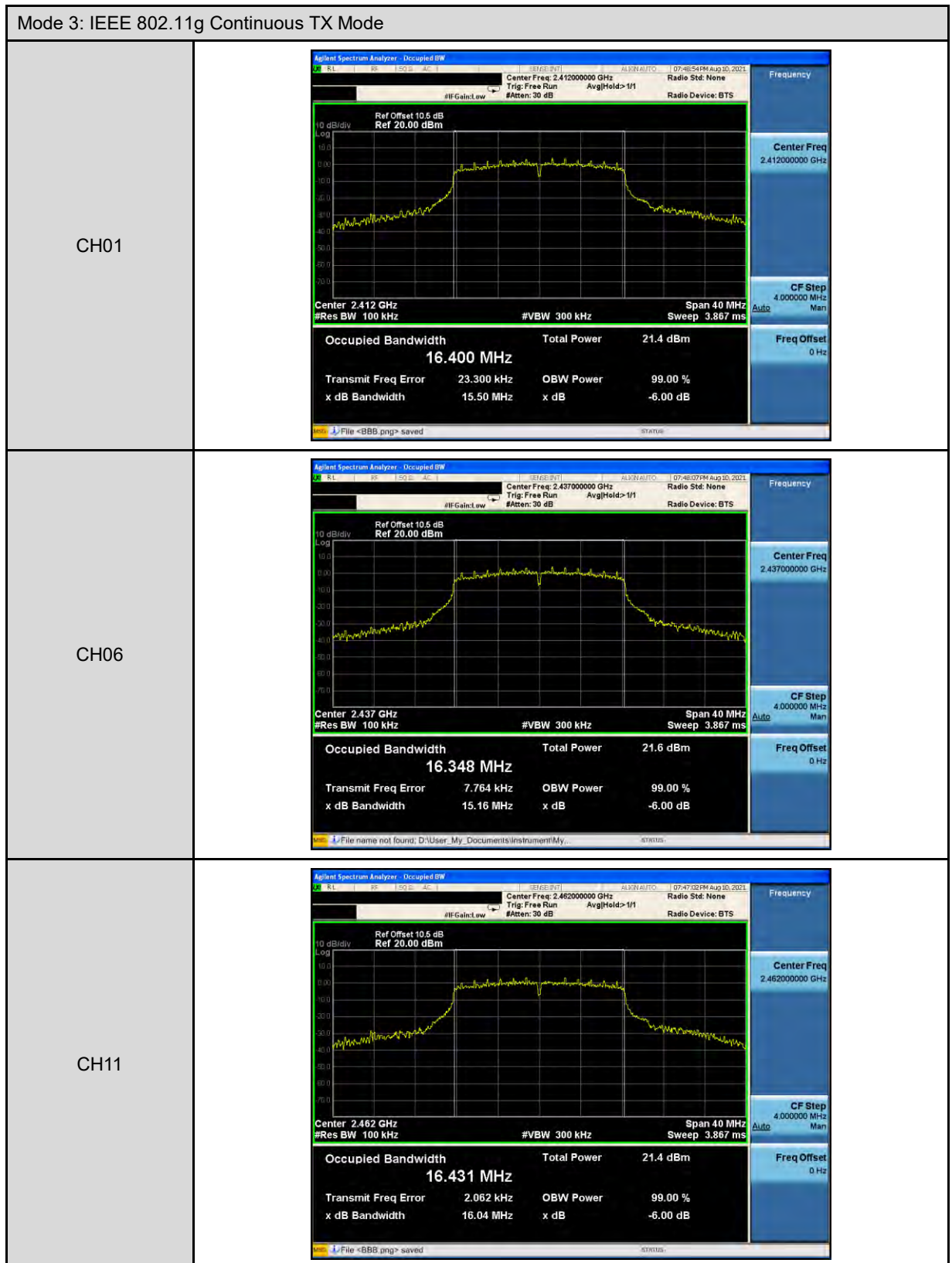




6 dB Bandwidth

操作模式	頻道	量測值 (kHz)	限制值 (kHz)
Mode 2	CH01	8616	≥ 500
	CH06	9061	≥ 500
	CH11	9059	≥ 500
Mode 3	CH01	15500	≥ 500
	CH06	15160	≥ 500
	CH11	16040	≥ 500
Mode 4	CH01	15730	≥ 500
	CH06	15470	≥ 500
	CH11	15680	≥ 500

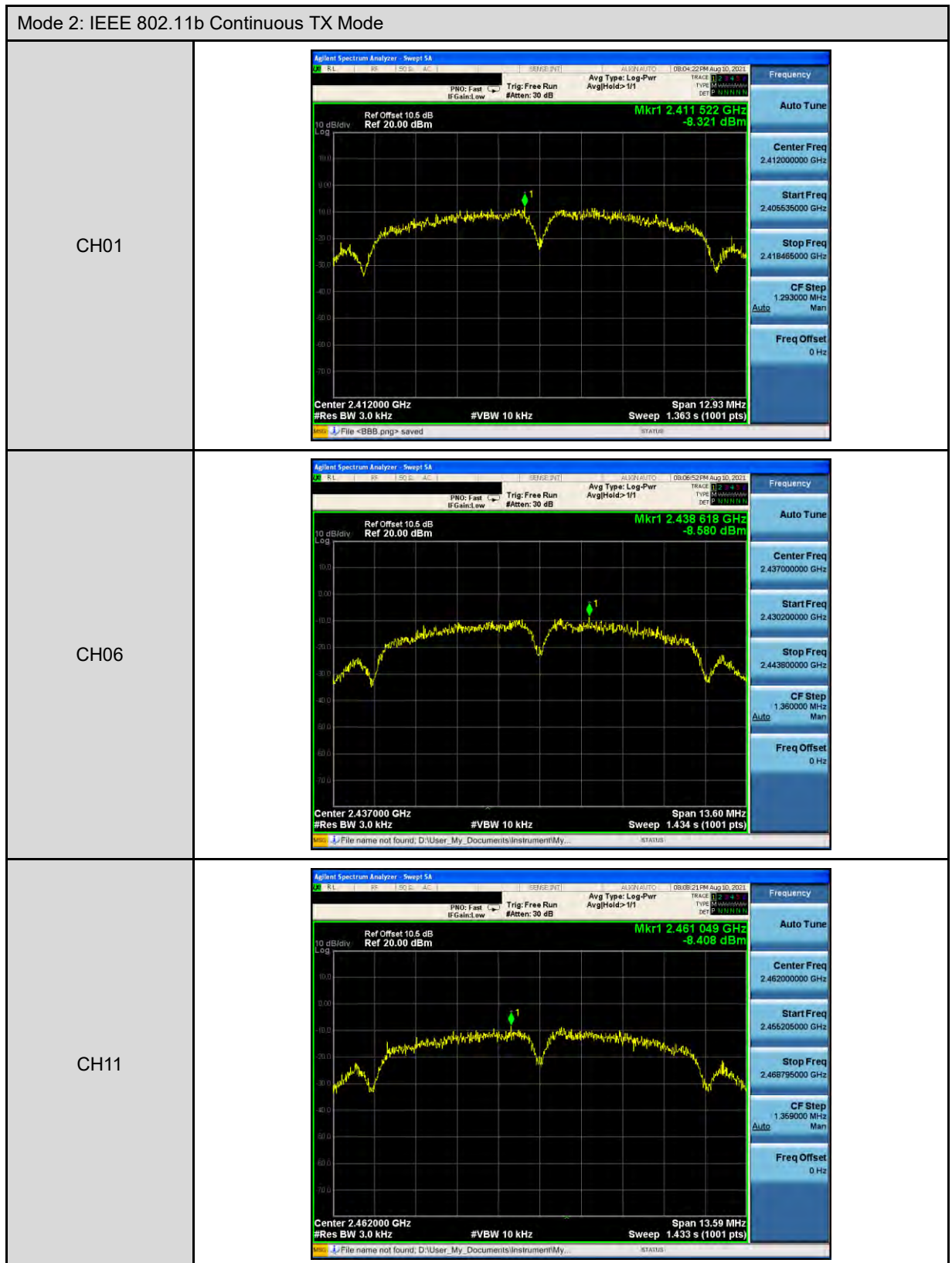
Mode 2: IEEE 802.11b Continuous TX Mode	
CH01	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.41200000 GHz Trig: Free Run Avg/Hold: 1/1 Radio Std: None Radio Device: BTS Ref Offset 10.5 dB Ref 20.00 dBm Center 2.412 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 3.867 ms Occupied Bandwidth 11.687 MHz Total Power 21.6 dBm Transmit Freq Error 107.15 kHz OBW Power 99.00 % x dB Bandwidth 8.616 MHz x dB -6.00 dB Frequency Center Freq 2.41200000 GHz CF Step 4.000000 MHz Freq Offset 0 Hz File <BBB.png> saved
CH06	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.43700000 GHz Trig: Free Run Avg/Hold: 1/1 Radio Std: None Radio Device: BTS Ref Offset 10.5 dB Ref 20.00 dBm Center 2.437 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 3.867 ms Occupied Bandwidth 11.322 MHz Total Power 21.3 dBm Transmit Freq Error 156.90 kHz OBW Power 99.00 % x dB Bandwidth 9.061 MHz x dB -6.00 dB Frequency Center Freq 2.43700000 GHz CF Step 4.000000 MHz Freq Offset 0 Hz File <BBB.png> saved
CH11	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.46200000 GHz Trig: Free Run Avg/Hold: 1/1 Radio Std: None Radio Device: BTS Ref Offset 10.5 dB Ref 20.00 dBm Center 2.462 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 3.867 ms Occupied Bandwidth 11.619 MHz Total Power 21.7 dBm Transmit Freq Error 3.463 kHz OBW Power 99.00 % x dB Bandwidth 9.059 MHz x dB -6.00 dB Frequency Center Freq 2.46200000 GHz CF Step 4.000000 MHz Freq Offset 0 Hz File name not found; D:\User_My_Documents\instrument\My...

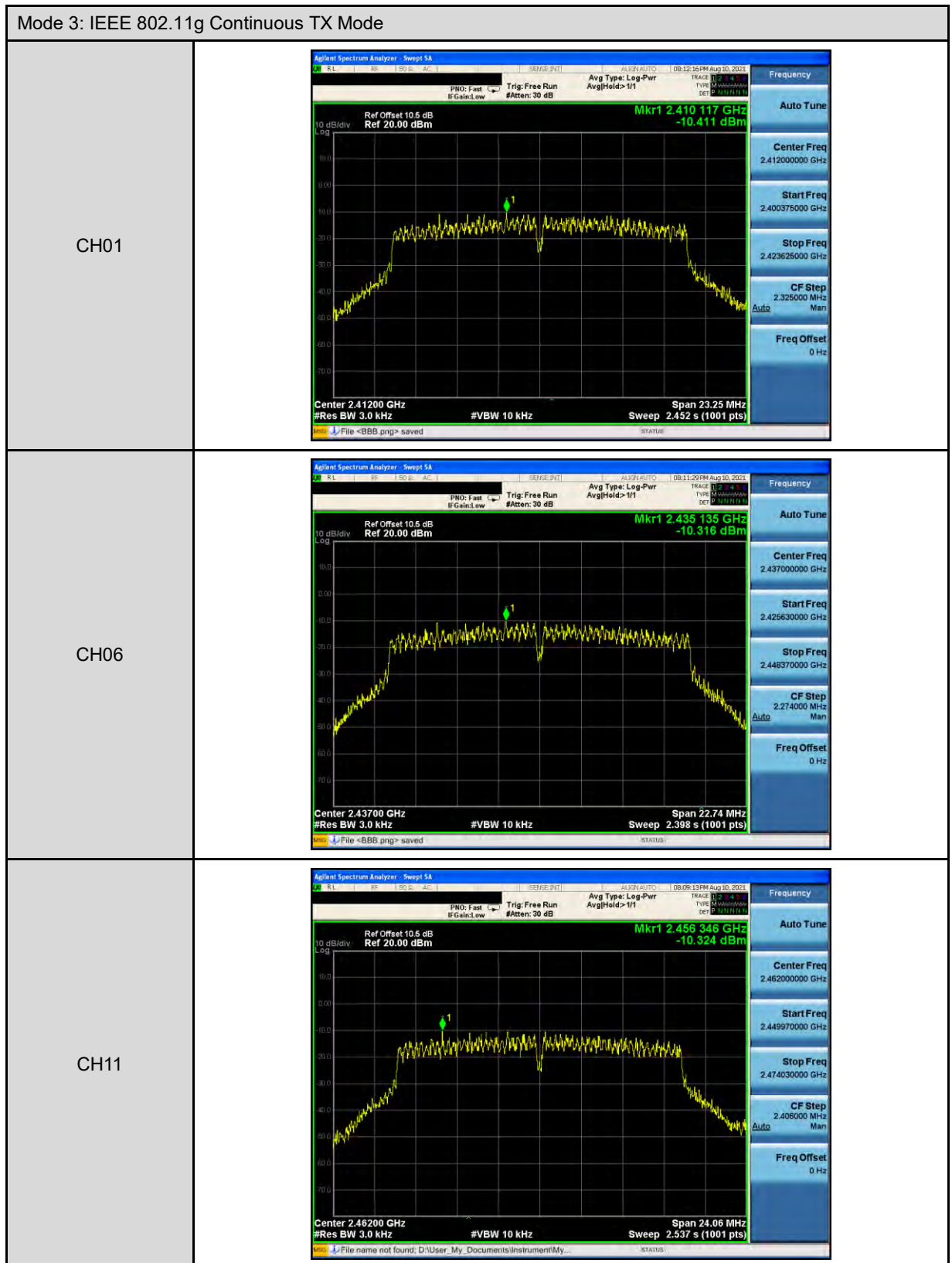


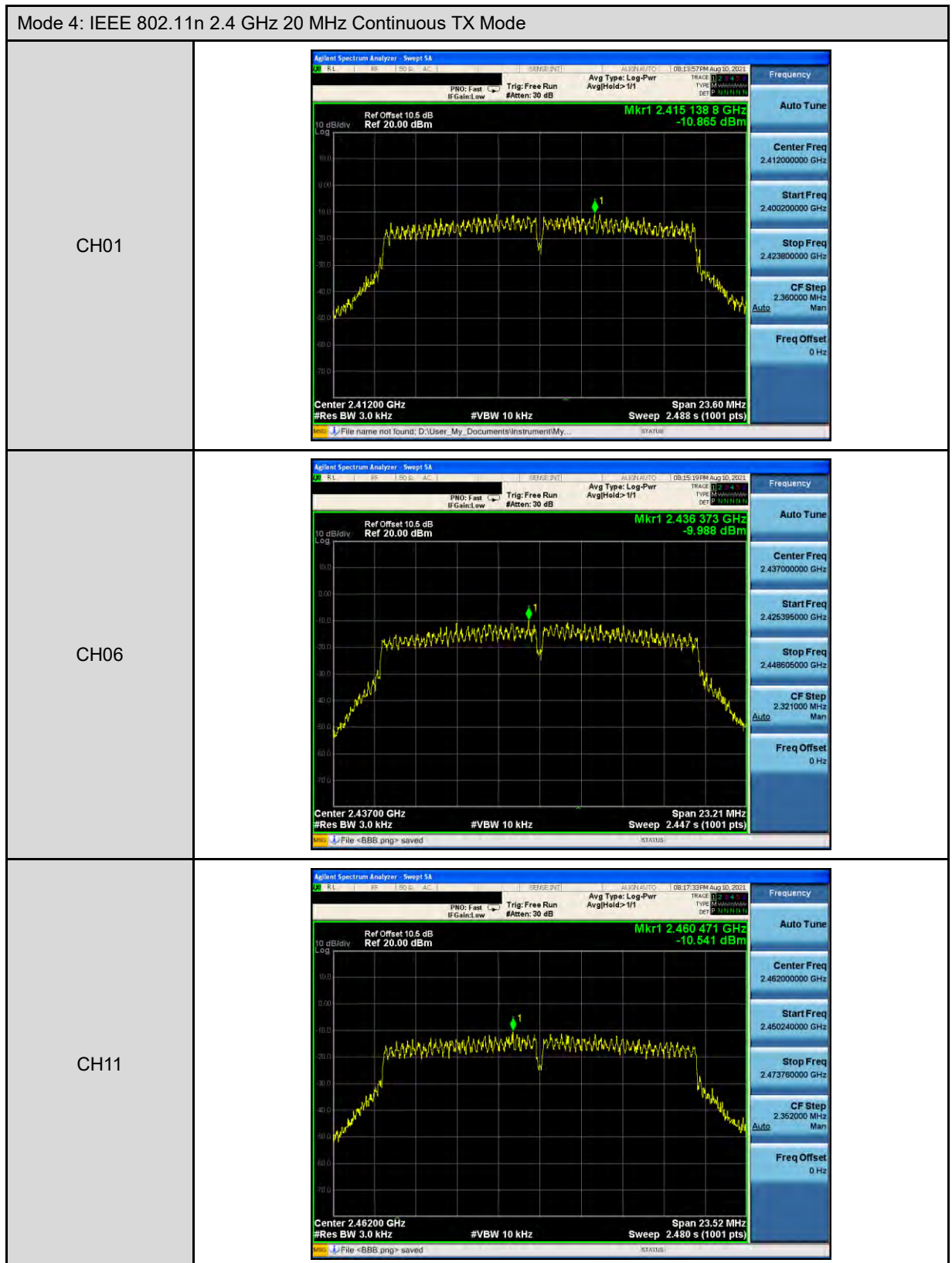
Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX Mode	
CH01	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.41200000 GHz Ref Offset: 10.5 dB Ref: 20.00 dBm Occupied Bandwidth: 17.629 MHz Total Power: 21.5 dBm Transmit Freq Error: 28.799 kHz OBW Power: 99.00 % x dB Bandwidth: 15.73 MHz x dB: -6.00 dB
CH06	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.437000000 GHz Ref Offset: 10.5 dB Ref: 20.00 dBm Occupied Bandwidth: 17.538 MHz Total Power: 21.5 dBm Transmit Freq Error: 11.072 kHz OBW Power: 99.00 % x dB Bandwidth: 15.47 MHz x dB: -6.00 dB
CH11	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.462000000 GHz Ref Offset: 10.5 dB Ref: 20.00 dBm Occupied Bandwidth: 17.657 MHz Total Power: 21.8 dBm Transmit Freq Error: 13.531 kHz OBW Power: 99.00 % x dB Bandwidth: 15.68 MHz x dB: -6.00 dB

Maximum Power Spectral Density

操作模式	頻道	量測值 (dBm)	限制值 (dBm)
Mode 2	CH01	-8.321	≤ 8
	CH06	-8.580	≤ 8
	CH11	-8.408	≤ 8
Mode 3	CH01	-10.411	≤ 8
	CH06	-10.316	≤ 8
	CH11	-10.324	≤ 8
Mode 4	CH01	-10.865	≤ 8
	CH06	-9.988	≤ 8
	CH11	-10.541	≤ 8







電波暴露量(MPE)

Band	Frequency (MHz)	Limit (mW/cm ²)	Distance [R] (cm)	Power [P] (dBm)	ANT Gain (dBi)	Numeric Gain [G] (dBi)	Duty Cycle	With Duty cycle [P] x [G] (mW)	Power Density [S] (mW/cm ²)
WLAN 2.4 GHz	2412~2462	1	20	14.41	-5.58	0.28	1	7.73	0.0015

---END---