



晶復科技股份有限公司

A Test Lab Techno Corp.

低功率射頻電機試驗報告

報告編號 1903DR53

版本(Rev.) 01

產品名稱 Multimedia device with Bluetooth and WLAN

申請廠商 Robert Bosch Car Multimedia GmbH

商標或廠牌 BOSCH

型式 (號) AIVIB12P0

產品試驗依據之標準 低功率射頻電機技術規範(LP0002) 107 年 1 月 10 日

報告發行日期 108 年 03 月 20 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
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財團法人全國認證基金會
認證編號 : 1330
認證有效期間 : 105.09.06 ~ 108.09.05
認可能量範圍 : 低功率射頻電機技術規範(LP0002)
2.4 GHz 射頻電信終端設備技術規範(RTTE01)

實驗室聲明

本測試報告內之測試結果可藉由測試儀器設備之校正報告與本報告內所評估量測不確定度追溯至國家或國際標準。

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低功率射頻電機測試證明書

發行日期：108年03月20日

產品名稱：Multimedia device with Bluetooth and WLAN
商標：BOSCH
型號：AIVIB12P0
申請廠商：Robert Bosch Car Multimedia GmbH
申請者地址：Robert-Bosch-Str. 200, 31139 Hildesheim, Germany
製造廠商(1)：Bosch Car Multimedia Portugal S.A.
製造商地址(1)：Rua Max Grundig, 35 - Lomar; 4705-820 Braga, Portugal
製造廠商(2)：Robert Bosch (Malaysia) Sdn.Bhd.
製造商地址(2)：Free Industrial Zone, Phase 1, Bayan Lepas, Penang, 11900, Malaysia
待測物電壓：DC 13.5 V, 3.5 A
DC 9.0 V to 16.0 V (Extended voltage range)
試驗電壓：DC 12 V
量測規範：低功率射頻電機技術規範(LP0002) 107年1月10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)
試驗受理日期：108 年 01 月 24 號
樣品接受日期：108 年 02 月 19 號
試驗完成日期：108 年 02 月 22 號

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電機技術規範(LP0002)所規定的各項限制值。

特此證明！

報告製作者：

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審 核 者：

呂宗霖
(呂 宗 霖)

本測試報告所敘述之測試結果，僅對客戶所提供之測試樣品，在此測試報告所述及之測試條件下所實施之量測有效。

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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	Multimedia device with Bluetooth and WLAN		
商 標 或 廠 牌	BOSCH		
型 號	AIVIB12P0		
額 定 電 源	DC 13.5 V, 3.5 A DC 9.0 V to 16.0 V (Extended voltage range)		
調 變 方 式	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n 2.4 GHz 20 MHz / 40 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	
	IEEE 802.11n 2.4 GHz 40 MHz	2422 – 2452	
天 線 廠 牌	TDK		
天 線 型 號	ANT162442DT-2001AM1		
天 線 型 態	SMD Antenna		
天 線 增 益 值	5.2 dBi		
RF 最大輸出功率	Mode	Power	
	IEEE 802.11b	14.72 dBm	0.030 W
	IEEE 802.11g	18.73 dBm	0.075 W
	IEEE 802.11n 2.4 GHz 20 MHz	18.69 dBm	0.074 W
	IEEE 802.11n 2.4 GHz 40 MHz	18.49 dBm	0.071 W

輸出/輸入埠說明：

輸 出 / 入 埠		數量	介面內容說明
1	FM/AM Port	1	連接至 N/A
2	DAB/SXM FAKRA Port	1	連接至 N/A
3	GNSS FAKRA Port	1	連接至 N/A
4	RVC HSD Port	1	連接至 N/A
5	RSE HSD Port	1	連接至 N/A
6	USB OTG/MCH USCAR30 Port	1	連接至 Notebook
7	TCU/Spare USB USCAR30 Port	1	連接至 N/A
8	TH18HW Main-connector Port	1	連接至車用電池
9	TH 40 Port	1	連接至 N/A
10	2 nd USB Port	1	連接至 N/A
11	Ethernet HSD Port	1	連接至 N/A

待測設備外圍說明：

電 源 線 類 別	本產品透過 TH18HW Main-connector cable 供電。
附 屬 裝 置	無。

1.2 其他相關聲明

本測試報告屬(以下選擇一種打■)

☒	新設計之機型,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: Feb. 19, 2019

名稱	廠牌	型號	序號	本次校驗日期	校驗年限
Spectrum Analyzer	Agilent	N9020A	US47520902	09/25/2018	1 year
Power Meter	Anritsu	ML2495A	1135009	08/29/2018	1 year
Power Sensor	Anritsu	MA2411B	1126022	08/29/2018	1 year

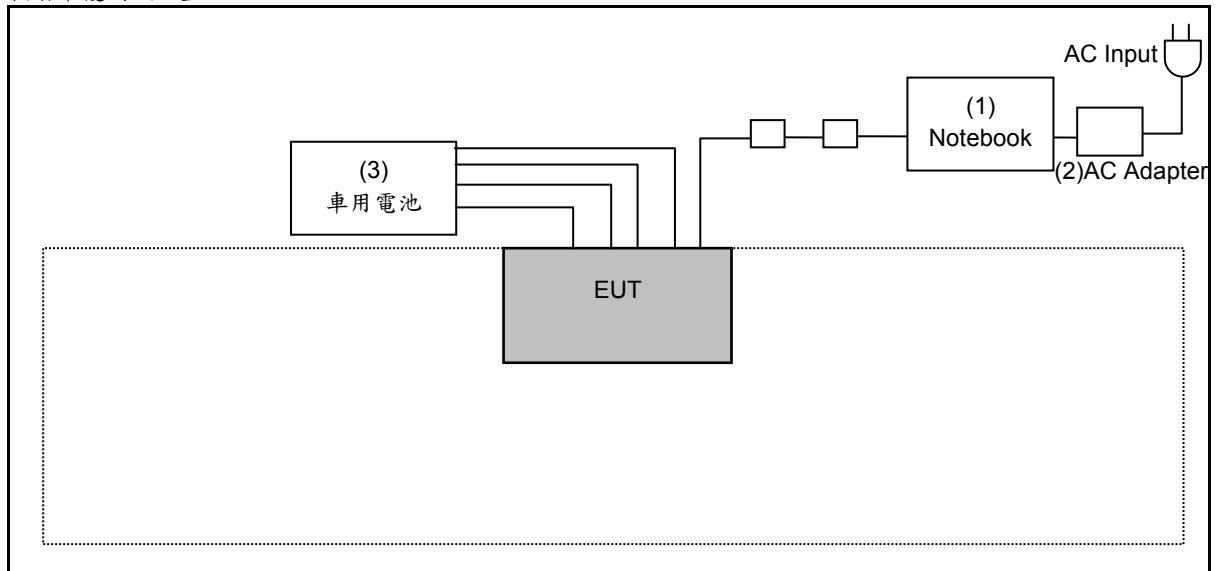
For Radiated Emissions

Test Period: Feb. 19 ~ Feb. 22, 2019

名稱	廠牌	型號	序號	本次校驗日期	校驗年限
EXA Signal Analyzer	Keysight	N9010A	MY52221312	01/14/2019	1 year
Amplifier	Agilent	8449B	3008A02237	10/16/2018	1 year
Amplifier	Agilent	8447D	2944A11119	01/14/2019	1 year
Trilog Broadband Antenna	Schwarzbeck Mess-Elektronik	VULB9168	416	10/23/2018	1 year
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	08/23/2018	1 year
Broadband Horn Antenna	SCHWARZBECK MESS-ELEKTRONIK	9170	9170-320	08/07/2018	1 year
Pre Amplifier (26.5~40 GHz)	EMCI	EMC2654045	980028	08/23/2018	1 year
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	03/13/2018	1 year

2.2 檢驗系統示意圖

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	商標	型 號	序 號	電 源 線	備 註
(1) Notebook	HP	PROBOOK 4421s	CNF1182X1G	---	---
(2) AC Adapter	HP	Series PPP012H-S	---	Non-Shielded, 1.7 m	INPUT : AC 100-240 V, 50/60 Hz, 1.7 A OUTPUT : DC 19.5 V ,3.34 A
(3) 車用電池	YUASA 湯淺	75D23L	---	---	---

2.4 測試軟體版本

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

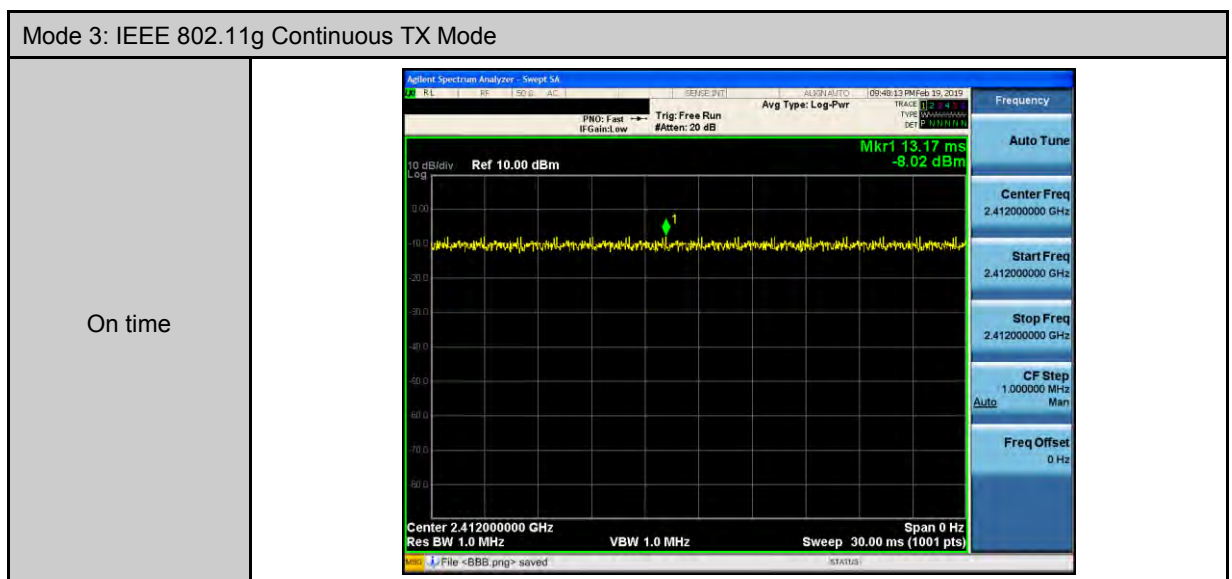
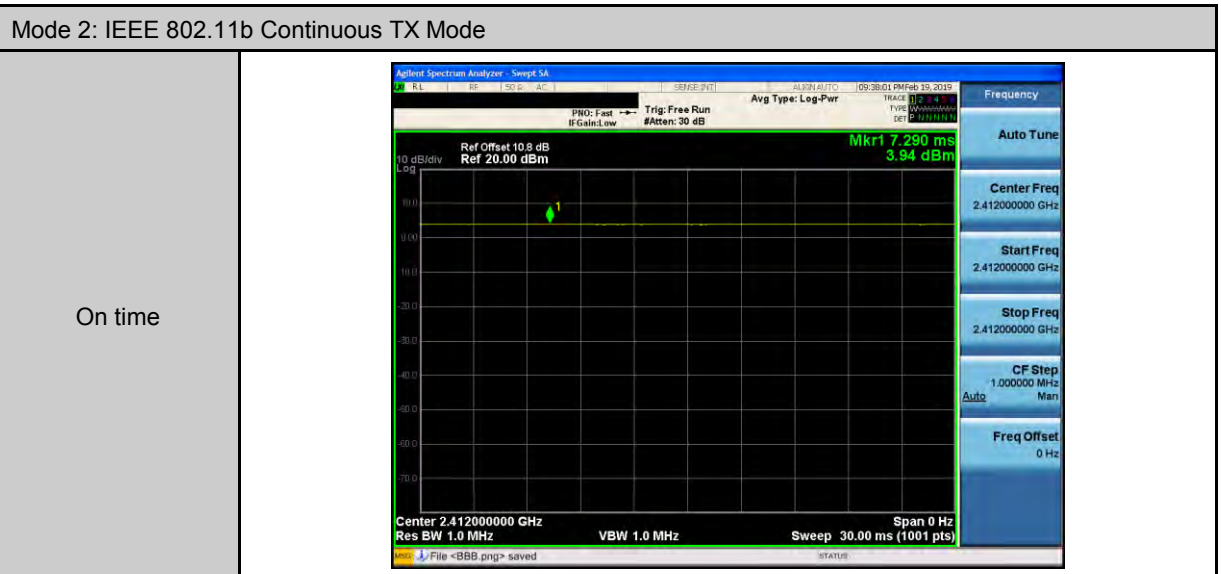
2.5 測試模式

Pre-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: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX Mode
Mode 6: Receiver Mode

Final-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: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX Mode
Mode 6: Receiver Mode

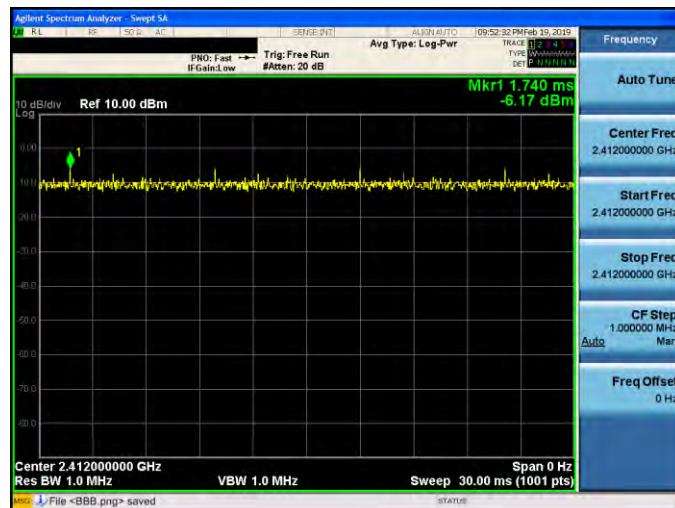
Duty cycle

Test Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle	Duty Factor (dB)	1/T Minimun VBW (kHz)
Mode 2: IEEE 802.11b Continuous TX Mode	2412.0	30.000	30.000	1.000	0.000	0.010
Mode 3: IEEE 802.11g Continuous TX Mode	2412.0	30.000	30.000	1.000	0.000	0.010
Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX Mode	2412.0	30.000	30.000	1.000	0.000	0.010
Mode 5: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX Mode	2422.0	30.000	30.000	1.000	0.000	0.010



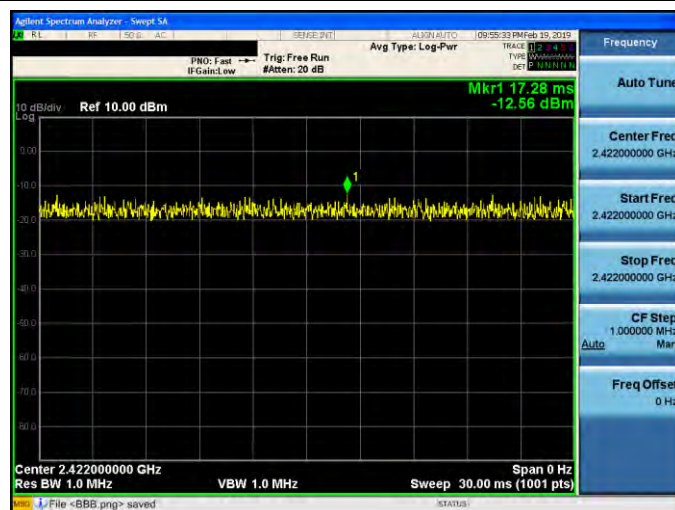
Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX Mode

On time



Mode 5: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX Mode

On time



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 (dB)
Conducted Emission	9 kHz ~ 150 kHz	2.7
	150 kHz ~ 30 MHz	2.7
Radiated Emission	9 kHz ~ 30 MHz	1.7
	30 MHz ~ 1000 MHz	5.7
	1000 MHz ~ 18000 MHz	5.5
	18000 MHz ~ 26500 MHz	4.8
	26500 MHz ~ 40000 MHz	4.8
Conducted Output Power	+0.27 dB / -0.28 dB	
RF Bandwidth	4.96 %	
Power Spectral Density	+0.71 dB / -0.77 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	26
濕度 Humidity (%RH)		10 - 90	60

中華民國實驗室認證體系

認可編號: 1330

測試實驗室名稱：晶復科技股份有限公司

TEL: 886-3-2710188 / FAX: 886-3-2710190

傳導干擾電壓量測地點：桃園市八德區長安街 140-1 號.

輻射干擾場強量測地點：桃園市八德區長安街 140-1 號.

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 低功率射頻電機技術規範(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	低功率射頻電機技術規範 2.3 節	請參閱 4.1 節	請參閱 2.1 節	不適用
2	場強輻射	低功率射頻電機技術規範 2.8 節、2.9 節、3.10.1.5.(1)節	請參閱 4.2.1 節	請參閱 2.1 節	合格
3	頻帶邊緣外之輻射發射	低功率射頻電機技術規範 3.10.1.5.(1)節	請參閱 4.2.1 節	請參閱 2.1 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(1)(C)節	請參閱 4.2.2 節	請參閱 2.1 節	合格
5	天線規格	低功率射頻電機技術規範 3.10.1.3(3)、3.10.1.4 節	請參閱 4.2.3 節	-----	合格
6	非必要頻帶	低功率射頻電機技術規範 3.10.1.5(1)節	請參閱 4.2.4 節	請參閱 2.1 節	合格
7	6 dB 頻寬	低功率射頻電機技術規範 3.10.1.6(2)(A)節	請參閱 4.2.5 節	請參閱 2.1 節	合格
8	峰值發射功率頻譜密度	低功率射頻電機技術規範 3.10.1.6(2)(B)節	請參閱 4.2.6 節	請參閱 2.1 節	合格
9	電波暴露量之評估	低功率射頻電機技術規範 5.20.2.1 節、5.20.2.2 節	請參閱 4.2.7 節	請參閱 2.1 節	合格

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 低功率射頻電機技術規範(LP0002)之 2.3 節，以市電為電源之低功率射頻電機，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 0.15 MHz 至 30 MHz 之間之電源線傳導放射強度。

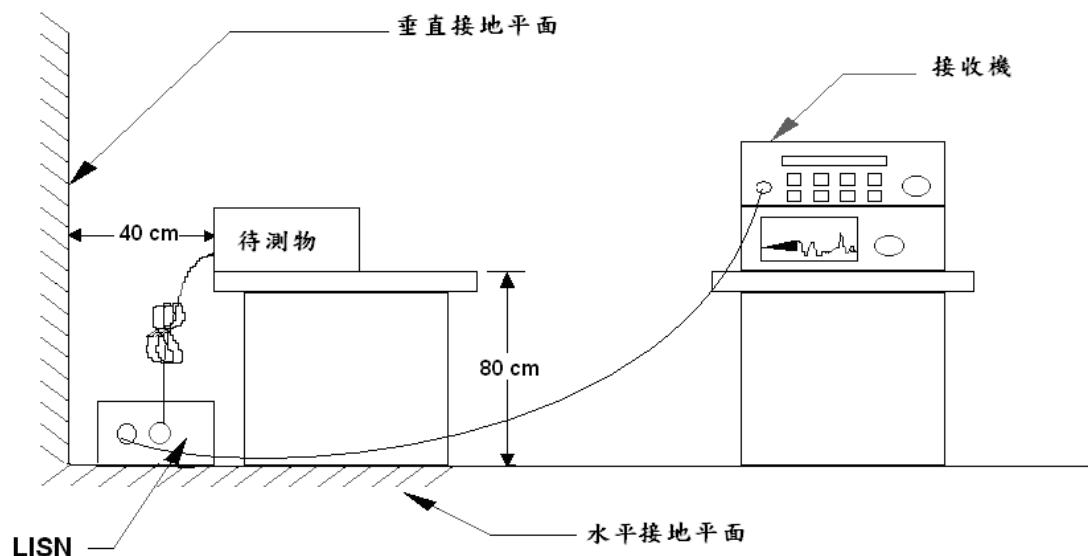
干擾值之計算

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：



測試結果：不適用，本產品透過車用電池供電。

4.2 2.4 GHz 檢驗項目

4.2.1 場強輻射之量測

合格標準:

依據 NCC 低功率射頻電機技術規範(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 低功率射頻電機技術規範(LP0002)之 3.10.1.2(1)(C)之峰值傳導輸出功率量測方式者，至少須衰減 30 dB。此外，落於第 2.7 節禁用頻段之輻射發射，應符合第 2.8 節之規定。

依據 NCC 低功率射頻電機技術規範第 2.7 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 低功率射頻電機技術規範第 2.8 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。各頻段重疊處,以較嚴格之限制值為準。

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。

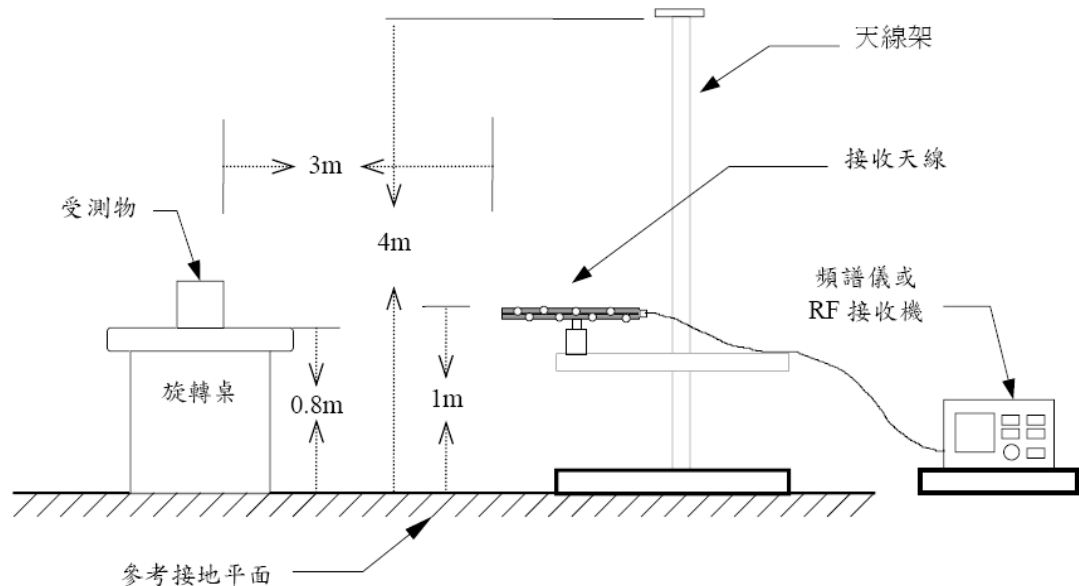
場強度之計算

場強之計算公式為：結果值 = 讀值 + 校正因子

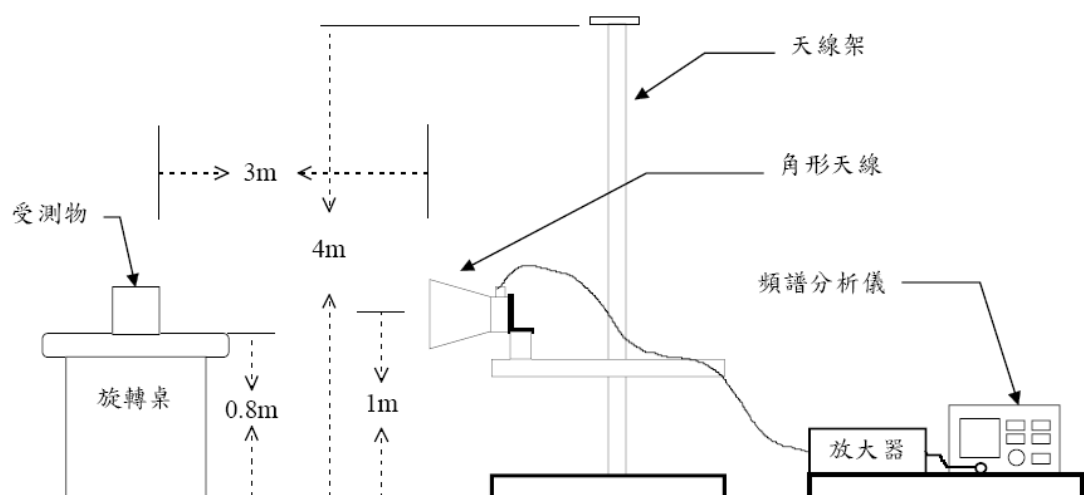
其中校正因子為：天線因子+ 饋線損失 + 濾波器損失（若有使用） - 放大器增益（若有使用）

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



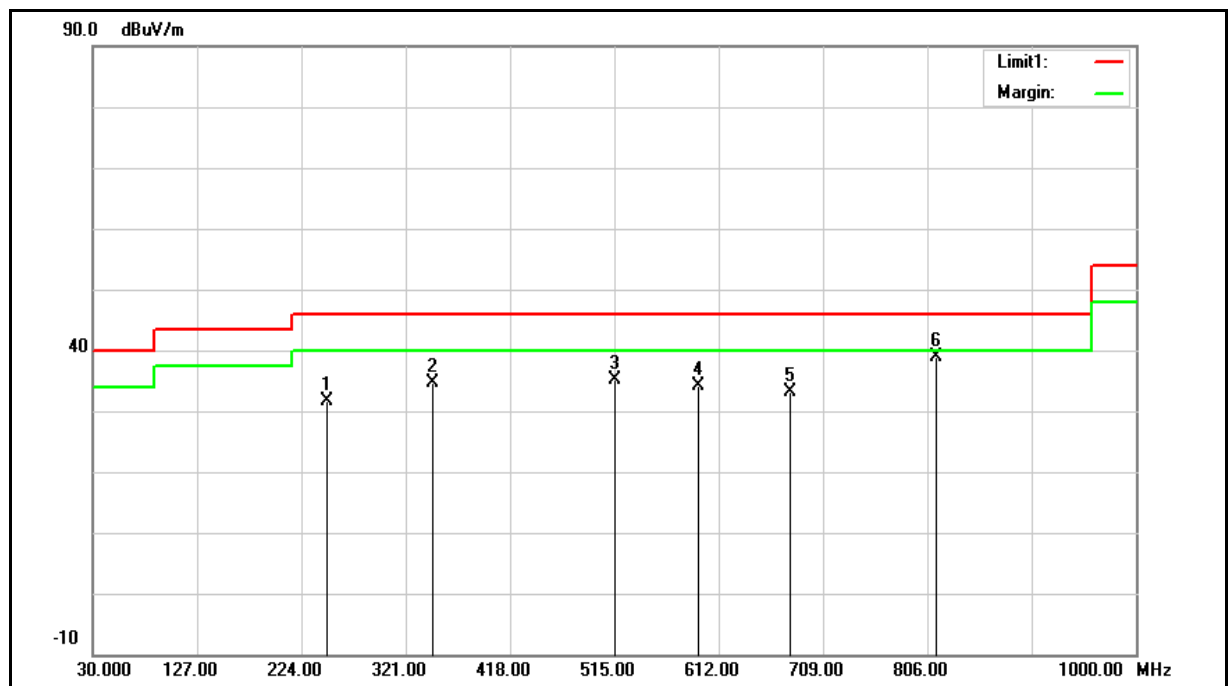
測試結果：

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

場強輻射之量測依據輸出峰值功率之量測結果取其最大值之操作模式為場強輻射測試模式。

其它不必要之訊號 (1 GHz 以下)

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 12 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Test 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	247.2800	37.47	-5.82	31.65	46.00	-14.35	QP
2	346.2200	37.65	-3.08	34.57	46.00	-11.43	QP
3	515.0000	34.63	0.45	35.08	46.00	-10.92	QP
4	592.6000	31.81	2.32	34.13	46.00	-11.87	QP
5	678.9300	29.38	3.78	33.16	46.00	-12.84	QP
6	814.7300	32.40	6.54	38.94	46.00	-7.06	QP

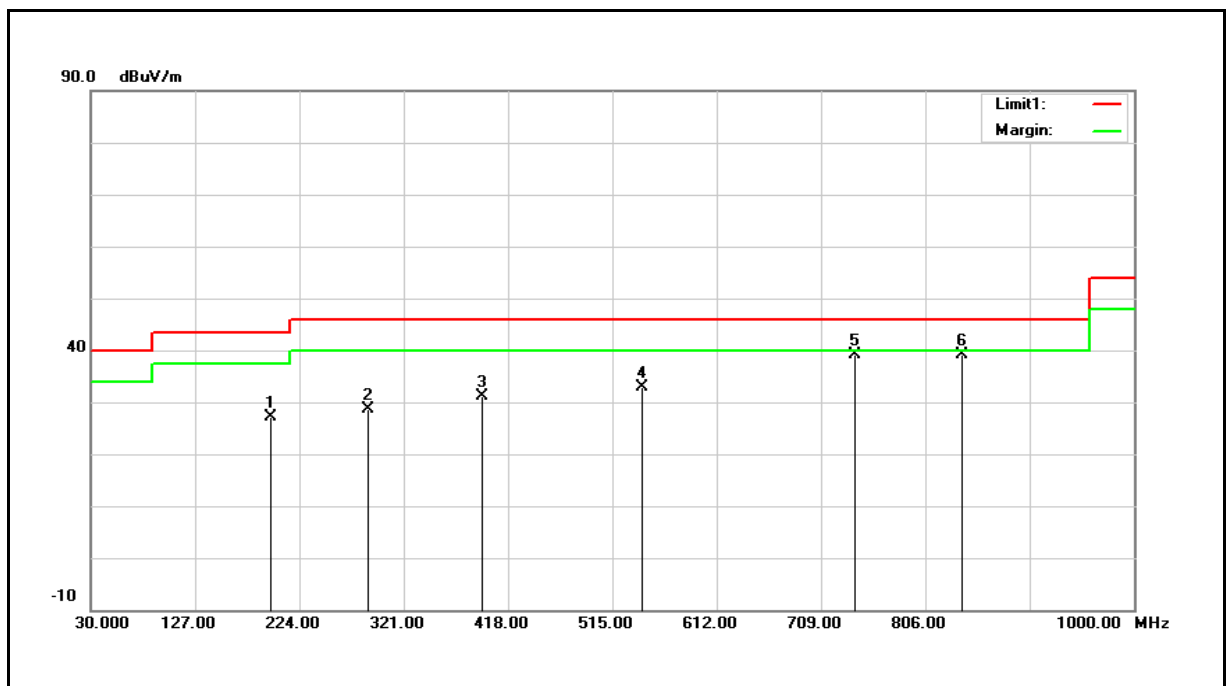
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

Example: 31.65=-5.82+37.47

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	Power:	DC 12 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Test 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	197.8100	34.74	-7.66	27.08	43.50	-16.42	QP
2	288.0200	32.73	-4.15	28.58	46.00	-17.42	QP
3	393.7500	33.10	-1.89	31.21	46.00	-14.79	QP
4	543.1300	31.84	0.97	32.81	46.00	-13.19	QP
5	741.0100	33.95	5.28	39.23	46.00	-6.77	QP
6	839.9500	32.33	6.86	39.19	46.00	-6.81	QP

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

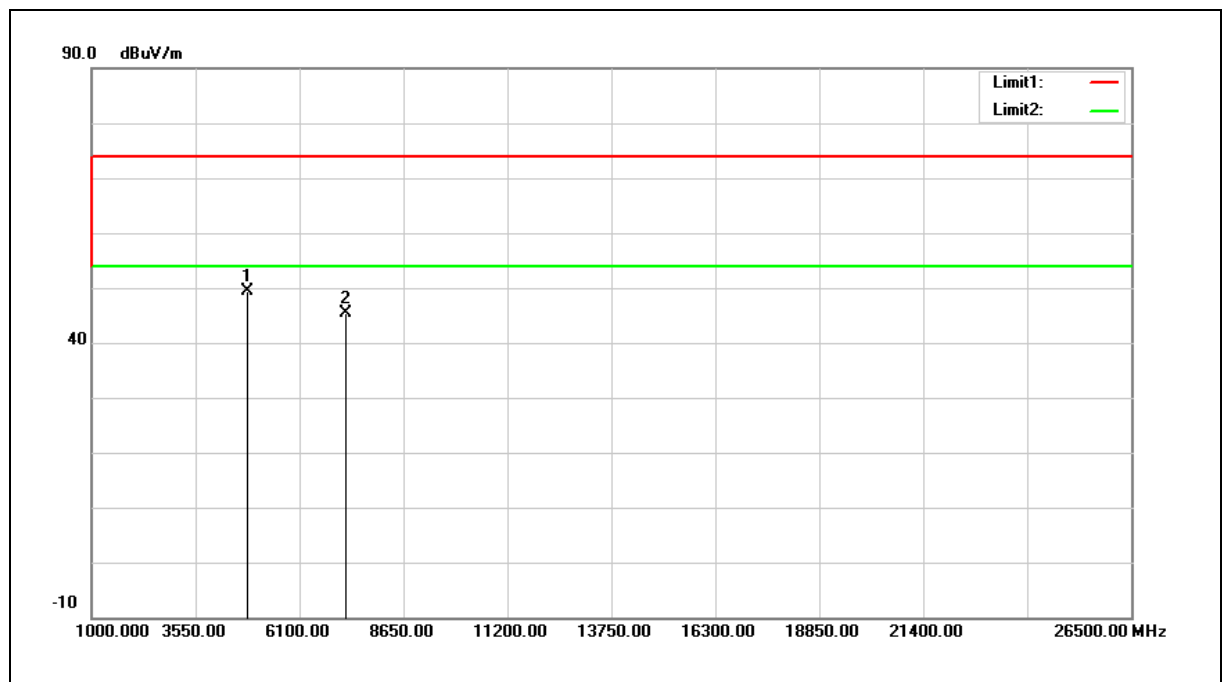
Example: $27.08 = -7.66 + 34.74$

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.

場強輻射量側 (1 GHz 以上)

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 12 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
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	43.94	5.37	49.31	74.00	-24.69	peak
2	7236.000	33.50	11.90	45.40	74.00	-28.60	peak

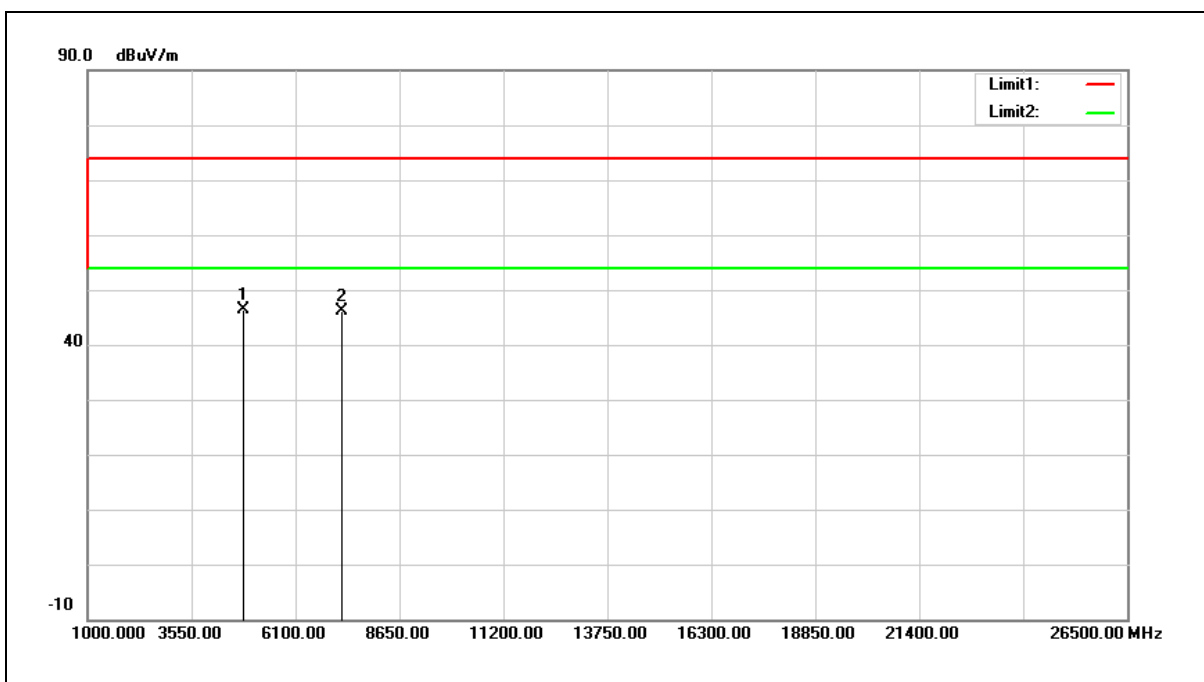
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

Example: 49.31=5.37+43.94

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	Power:	DC 12 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
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	41.10	5.37	46.47	74.00	-27.53	peak
2	7236.000	34.26	11.90	46.16	74.00	-27.84	peak

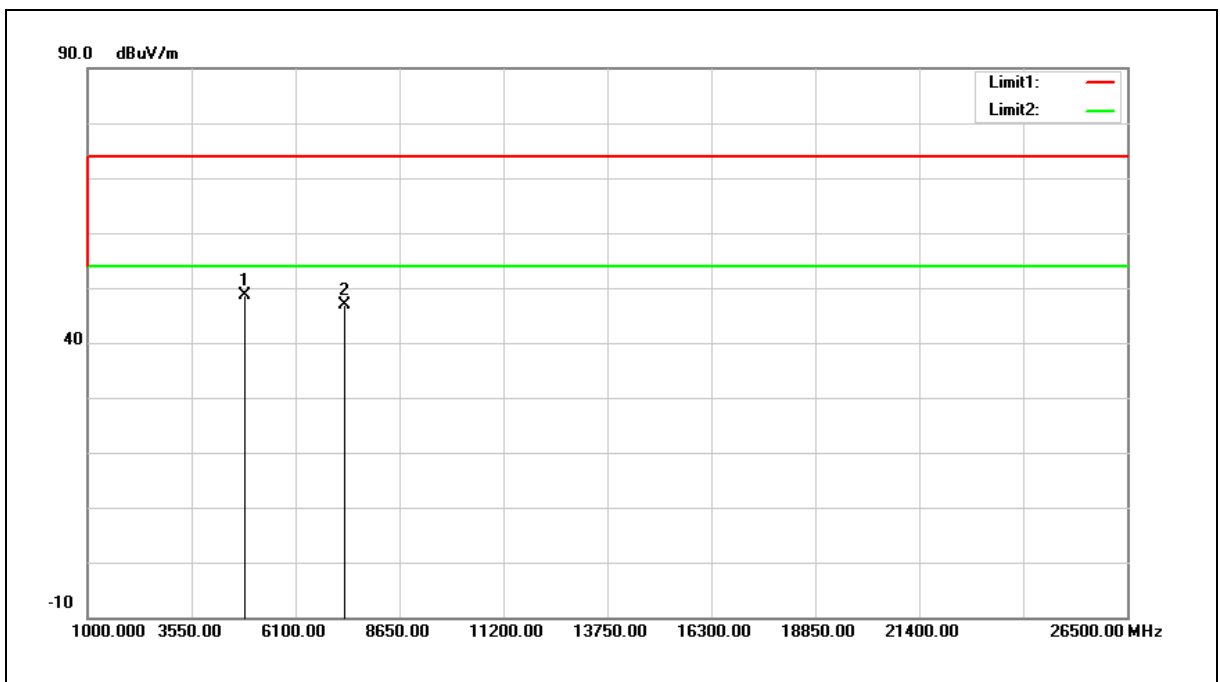
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

Example: 46.47=5.37+41.10

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	Power:	DC 12 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



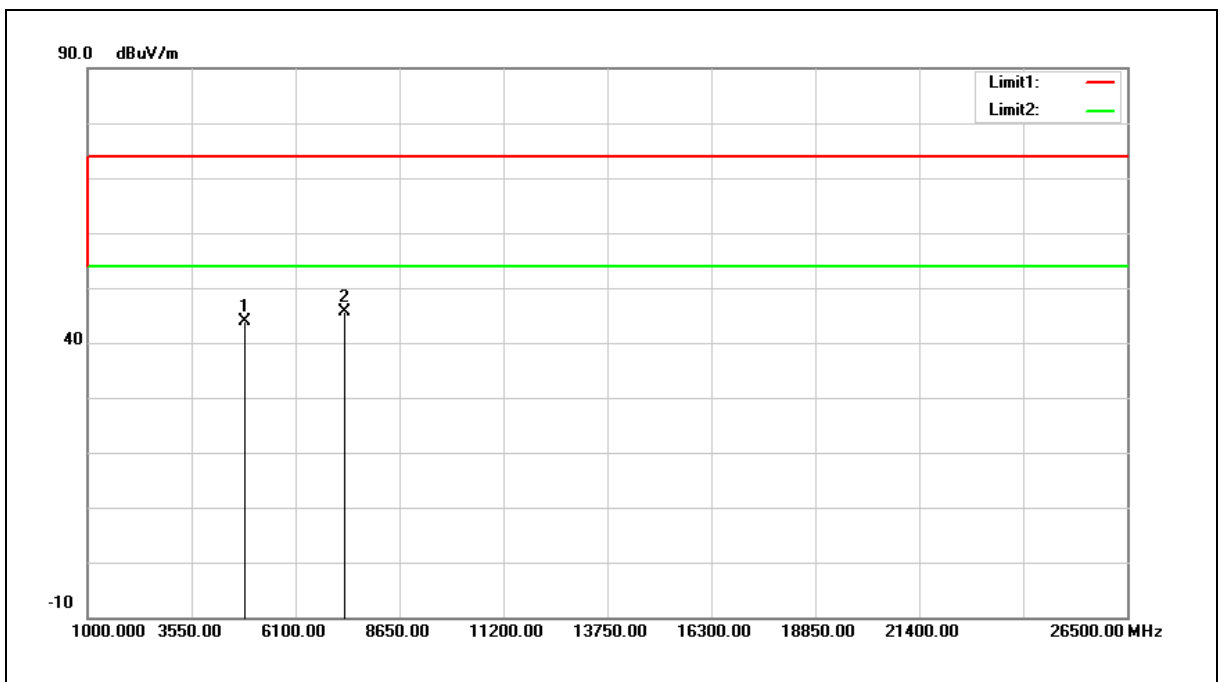
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	43.28	5.47	48.75	74.00	-25.25	peak
2	7311.000	34.65	12.13	46.78	74.00	-27.22	peak

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	Power:	DC 12 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



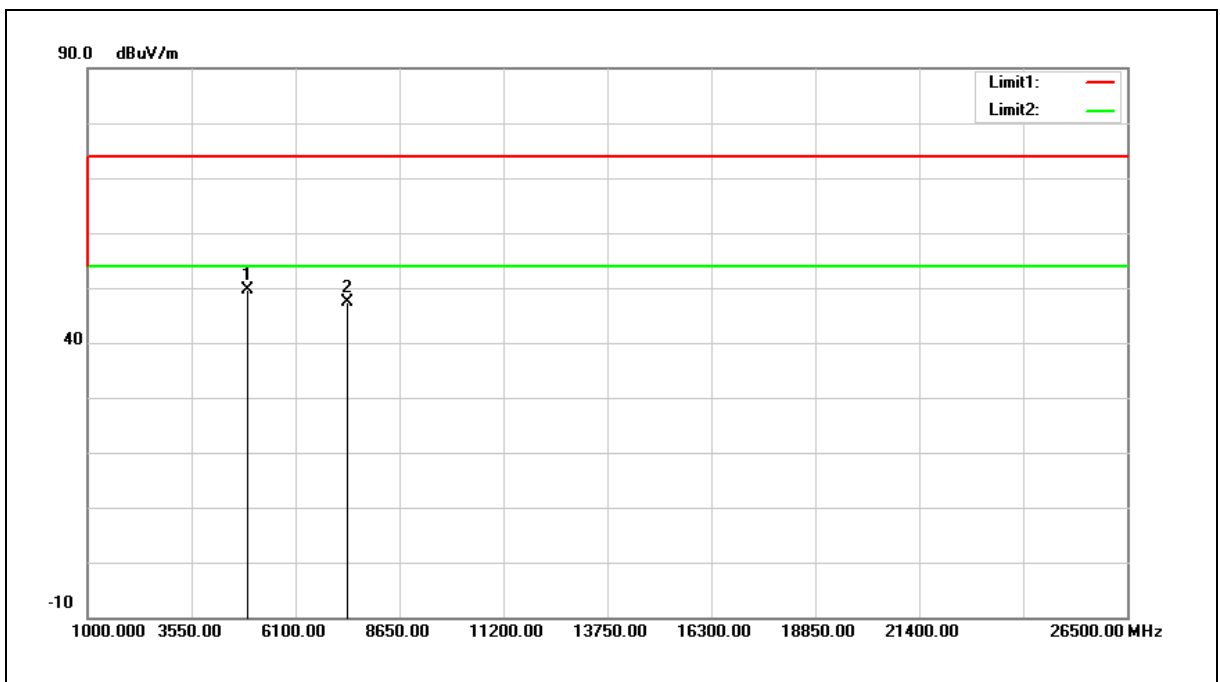
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	38.53	5.47	44.00	74.00	-30.00	peak
2	7311.000	33.57	12.13	45.70	74.00	-28.30	peak

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	Power:	DC 12 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



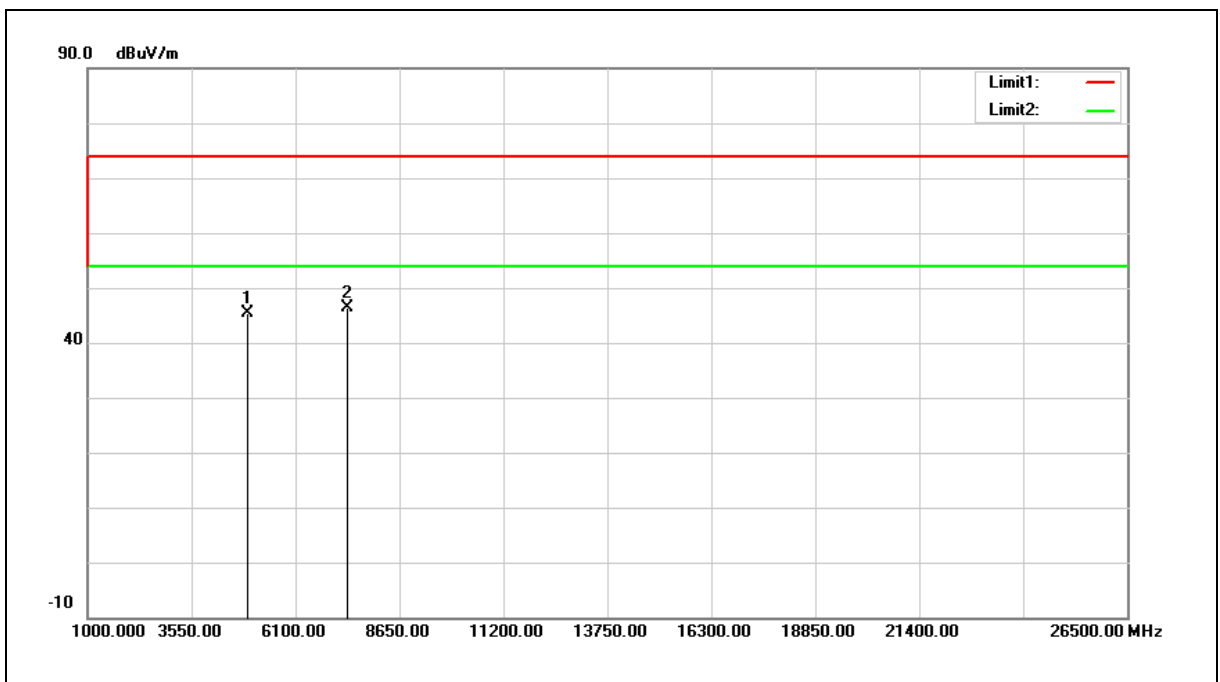
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	44.16	5.58	49.74	74.00	-24.26	peak
2	7386.000	35.03	12.36	47.39	74.00	-26.61	peak

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	Power:	DC 12 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



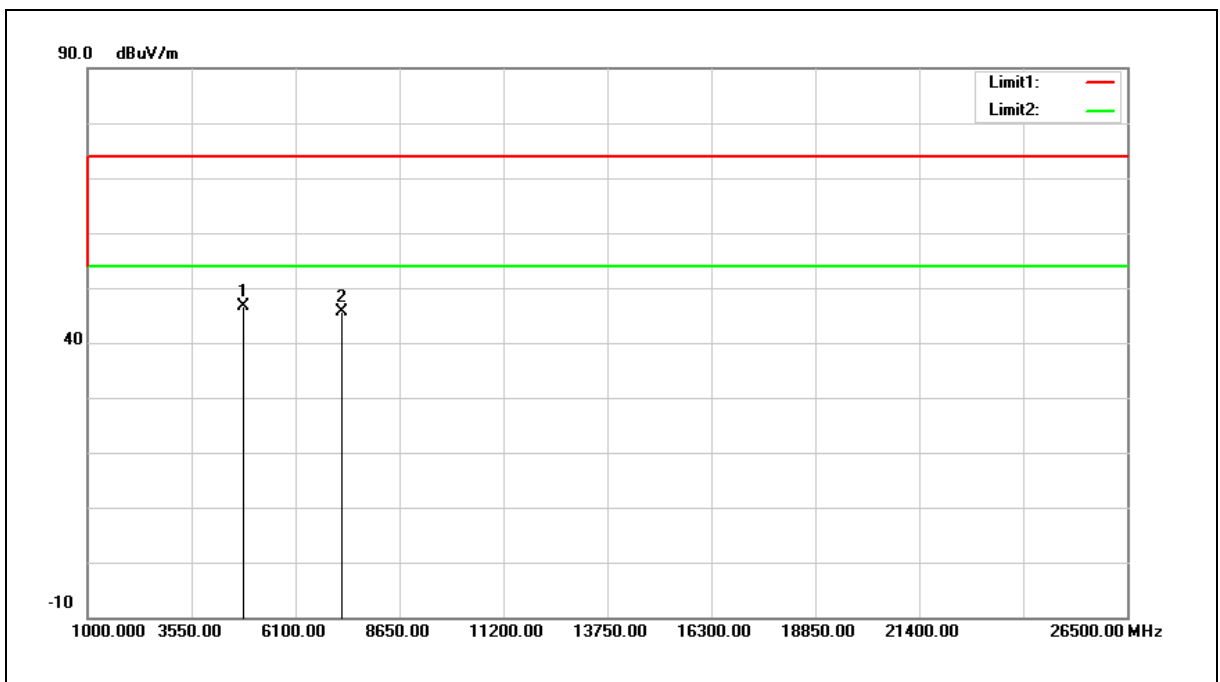
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	39.86	5.58	45.44	74.00	-28.56	peak
2	7386.000	33.99	12.36	46.35	74.00	-27.65	peak

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	Power:	DC 12 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



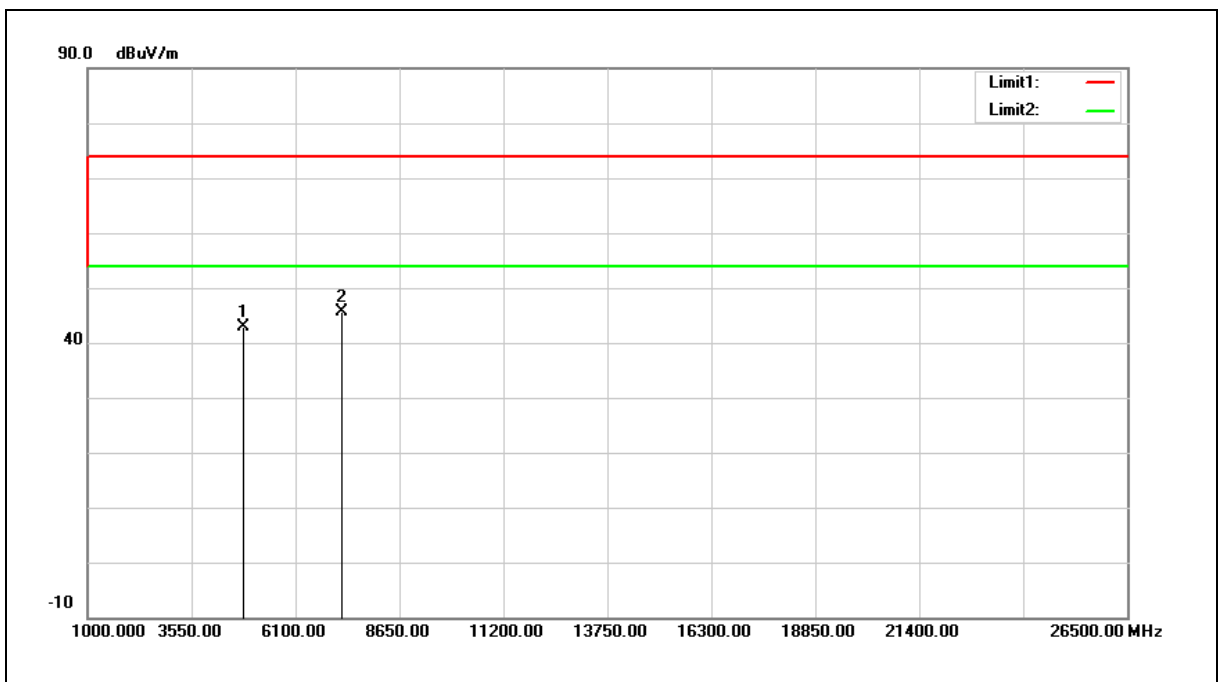
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	41.37	5.37	46.74	74.00	-27.26	peak
2	7236.000	33.68	11.90	45.58	74.00	-28.42	peak

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	Power:	DC 12 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



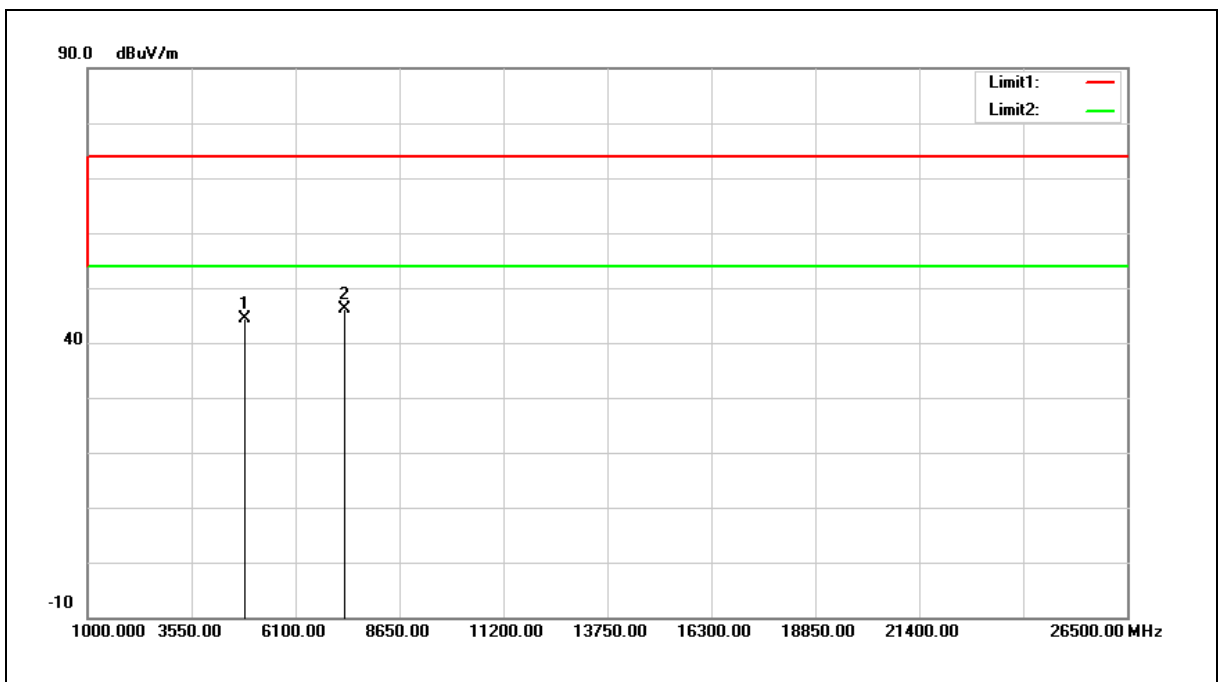
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	37.55	5.37	42.92	74.00	-31.08	peak
2	7236.000	33.78	11.90	45.68	74.00	-28.32	peak

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	Power:	DC 12 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



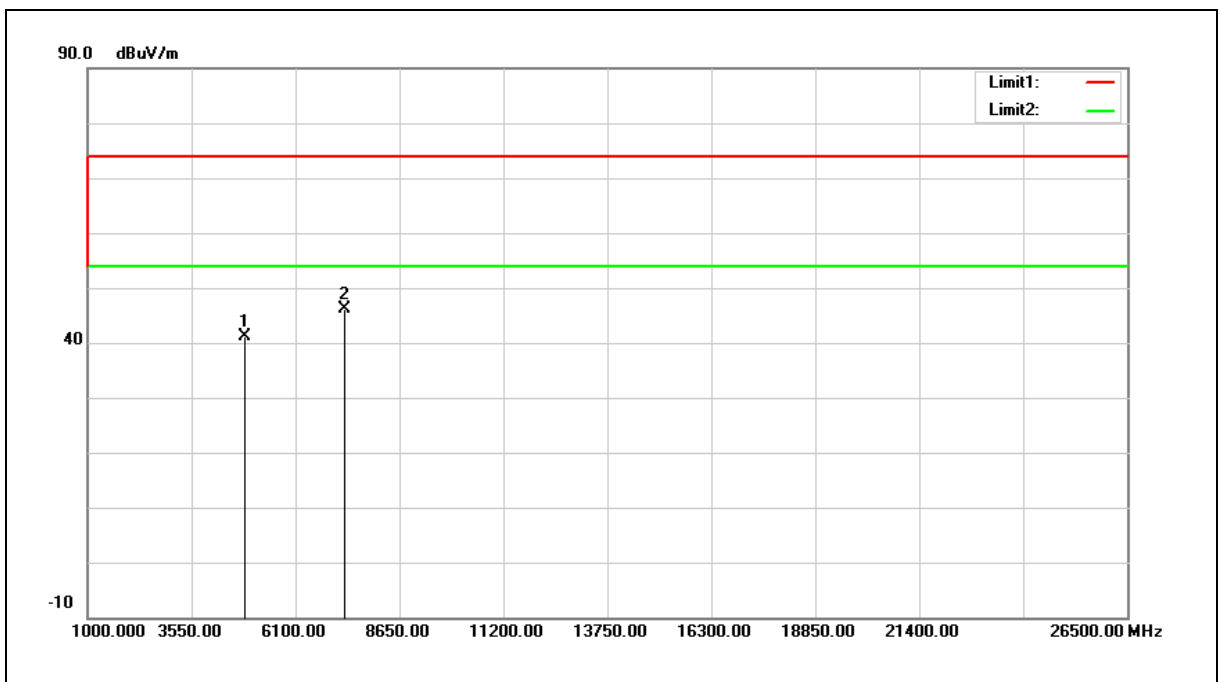
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	39.00	5.47	44.47	74.00	-29.53	peak
2	7311.000	34.07	12.13	46.20	74.00	-27.80	peak

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	Power:	DC 12 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



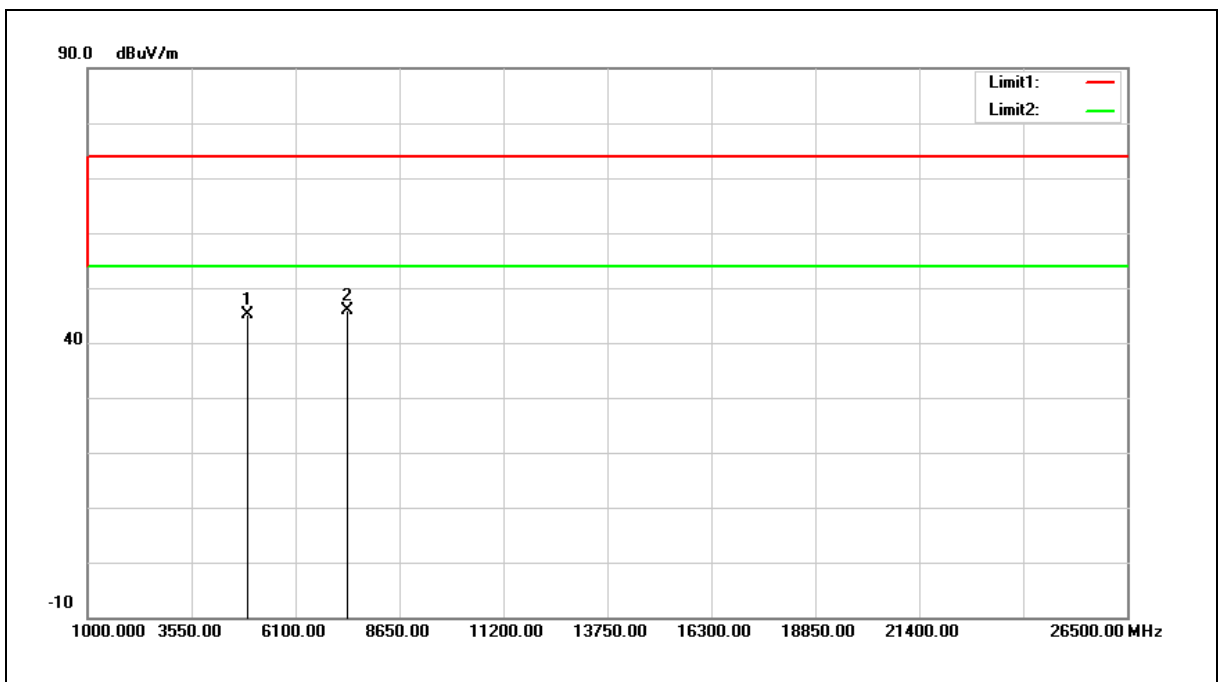
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	35.66	5.47	41.13	74.00	-32.87	peak
2	7311.000	34.11	12.13	46.24	74.00	-27.76	peak

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	Power:	DC 12 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



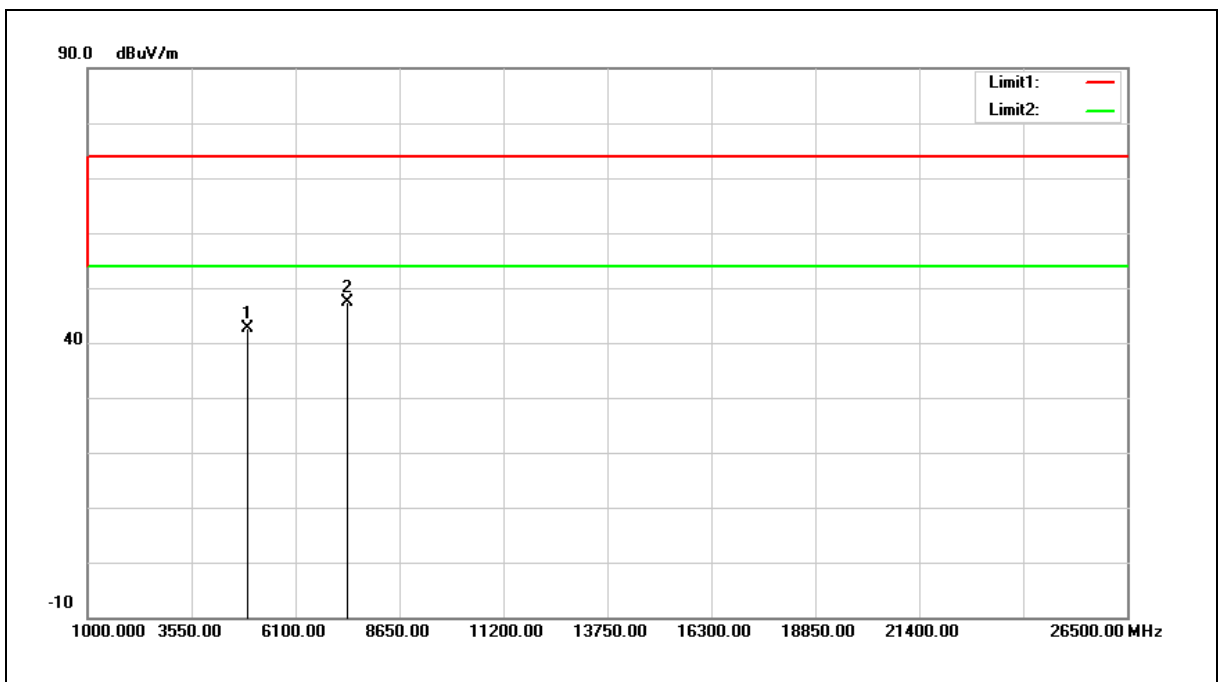
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	39.44	5.58	45.02	74.00	-28.98	peak
2	7386.000	33.53	12.36	45.89	74.00	-28.11	peak

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	Power:	DC 12 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



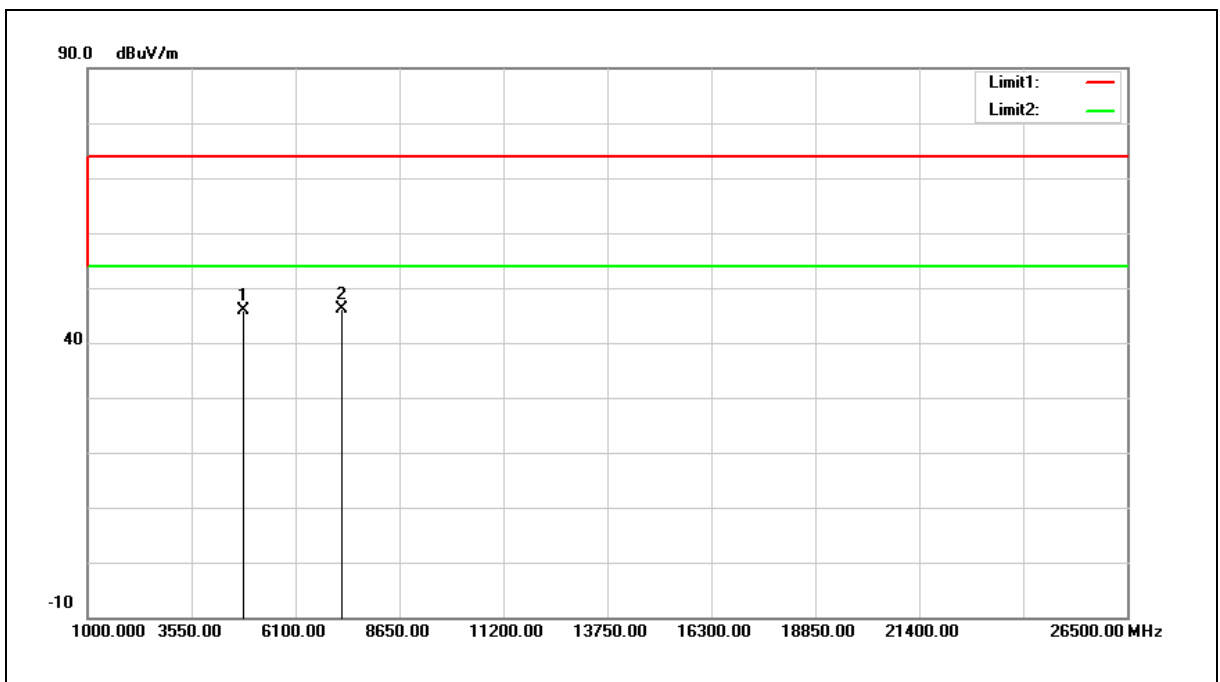
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	37.04	5.58	42.62	74.00	-31.38	peak
2	7386.000	35.08	12.36	47.44	74.00	-26.56	peak

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:	Harmonic	Power:	DC 12 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



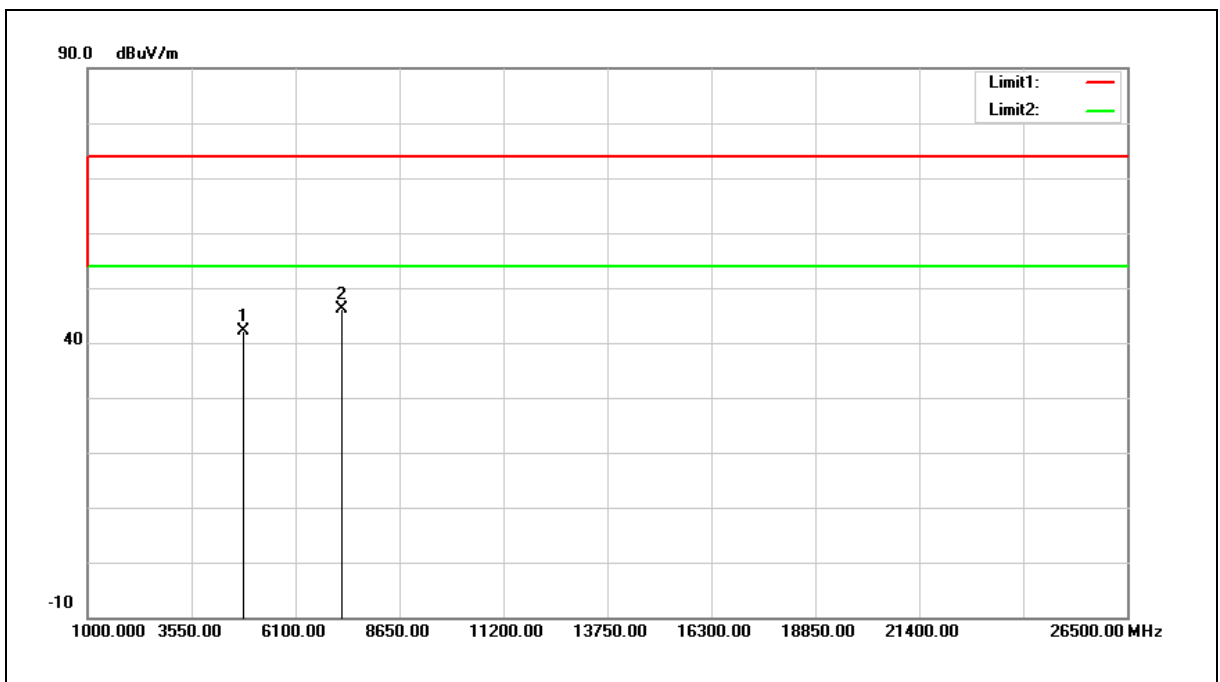
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	40.49	5.37	45.86	74.00	-28.14	peak
2	7236.000	34.23	11.90	46.13	74.00	-27.87	peak

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	Power:	DC 12 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



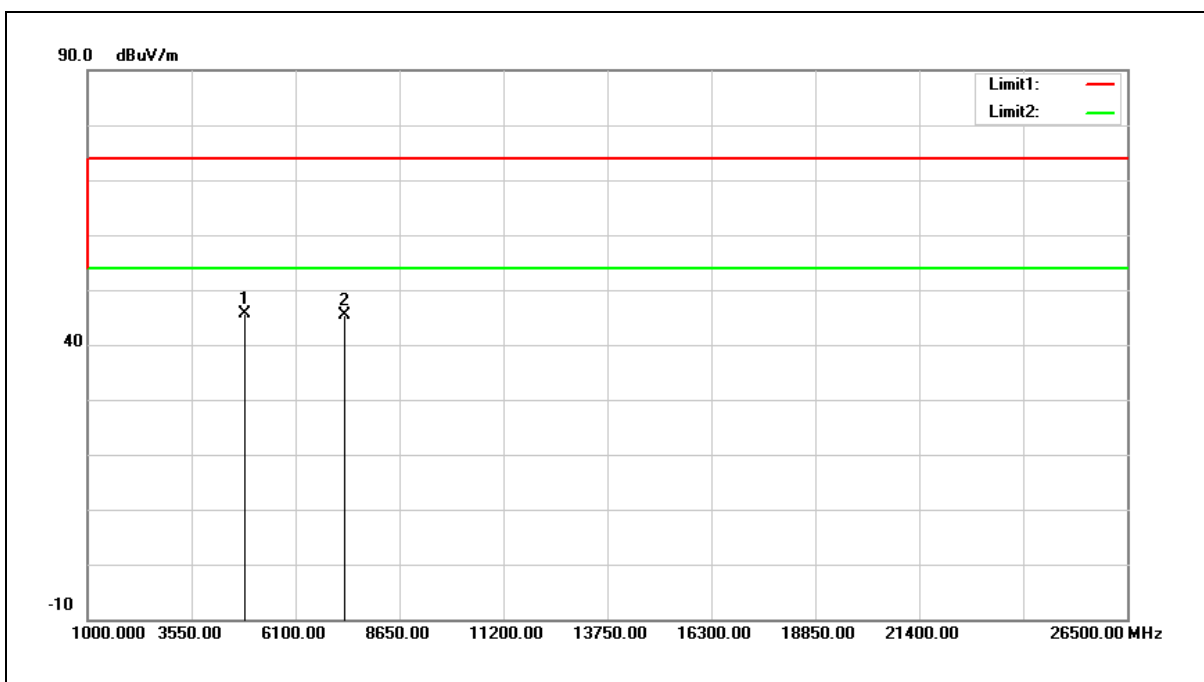
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	36.80	5.37	42.17	74.00	-31.83	peak
2	7236.000	34.33	11.90	46.23	74.00	-27.77	peak

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	Power:	DC 12 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



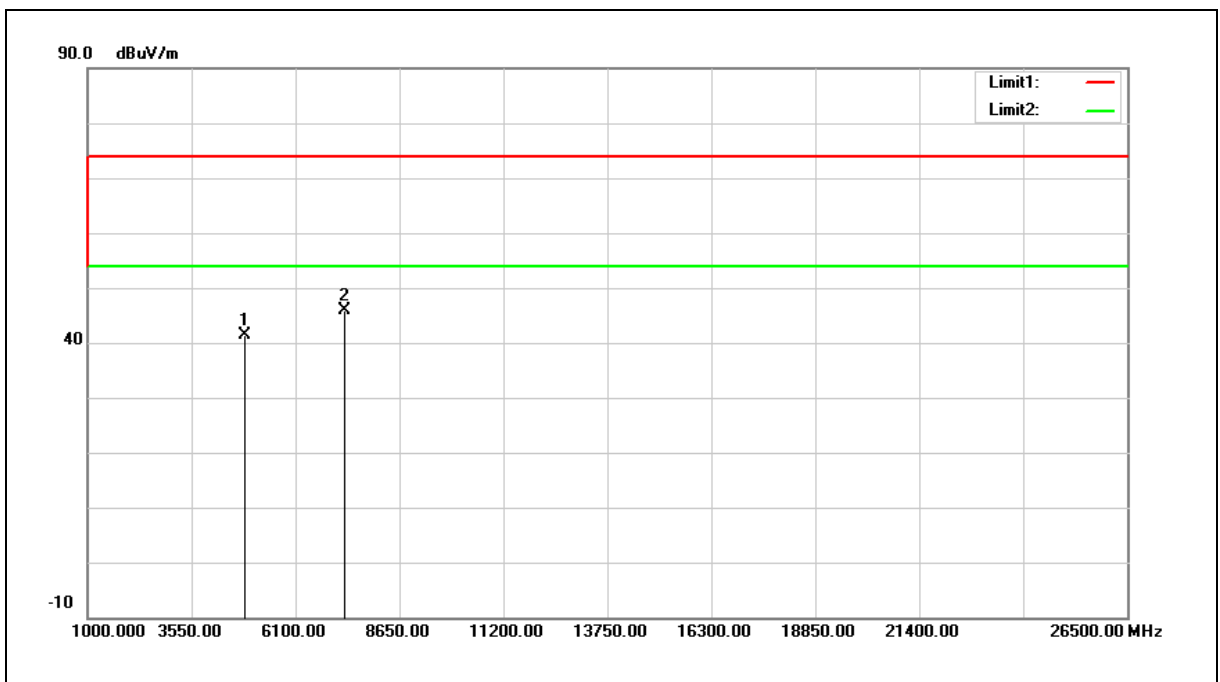
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	40.22	5.47	45.69	74.00	-28.31	peak
2	7311.000	33.15	12.13	45.28	74.00	-28.72	peak

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	Power:	DC 12 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



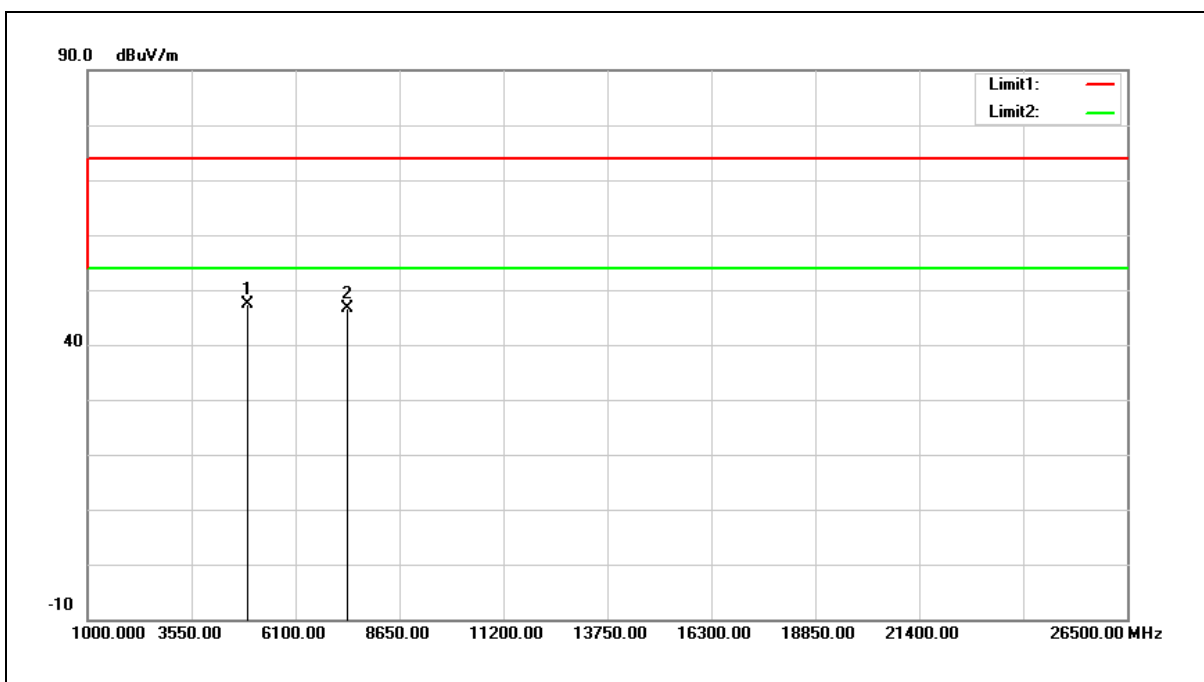
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	35.98	5.47	41.45	74.00	-32.55	peak
2	7311.000	33.85	12.13	45.98	74.00	-28.02	peak

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	Power:	DC 12 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



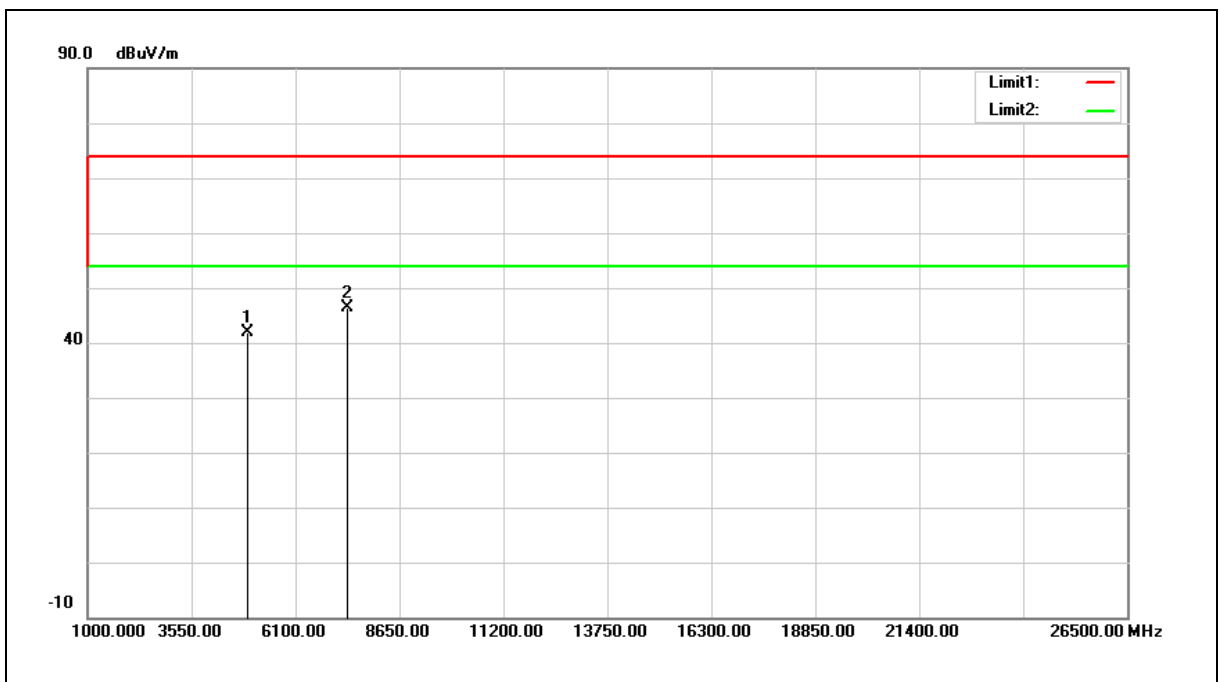
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	41.71	5.58	47.29	74.00	-26.71	peak
2	7386.000	34.30	12.36	46.66	74.00	-27.34	peak

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	Power:	DC 12 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



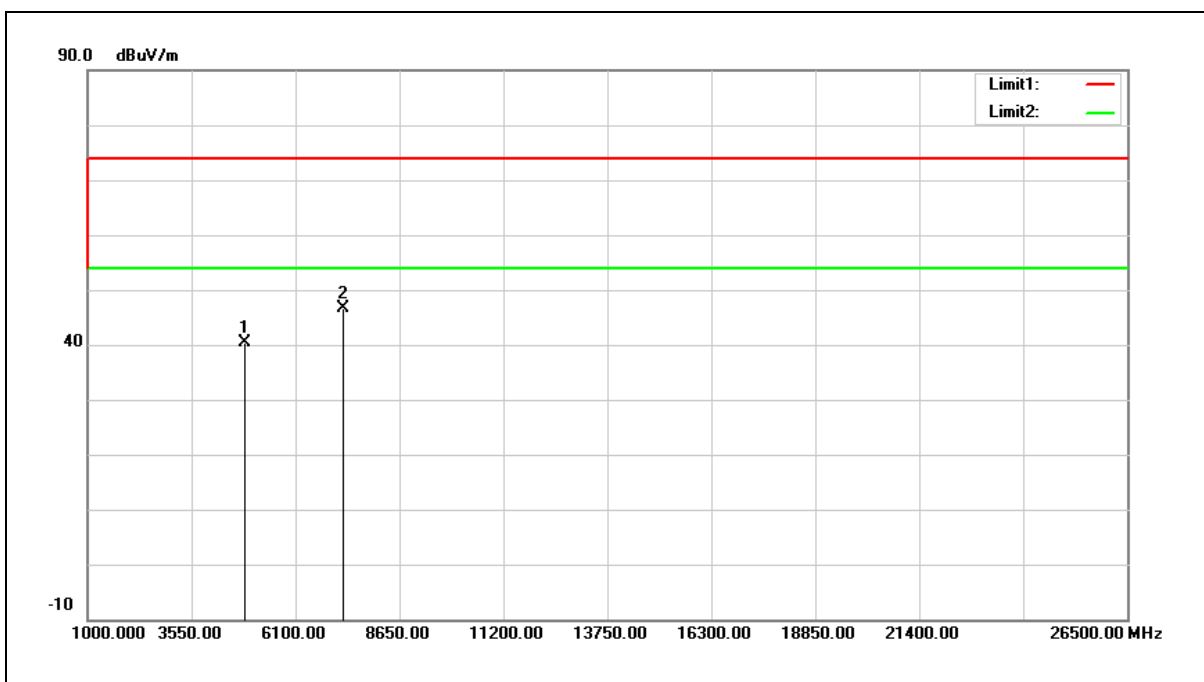
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	36.34	5.58	41.92	74.00	-32.08	peak
2	7386.000	34.08	12.36	46.44	74.00	-27.56	peak

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:	Harmonic	Power:	DC 12 V
Frequency:	2422 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		



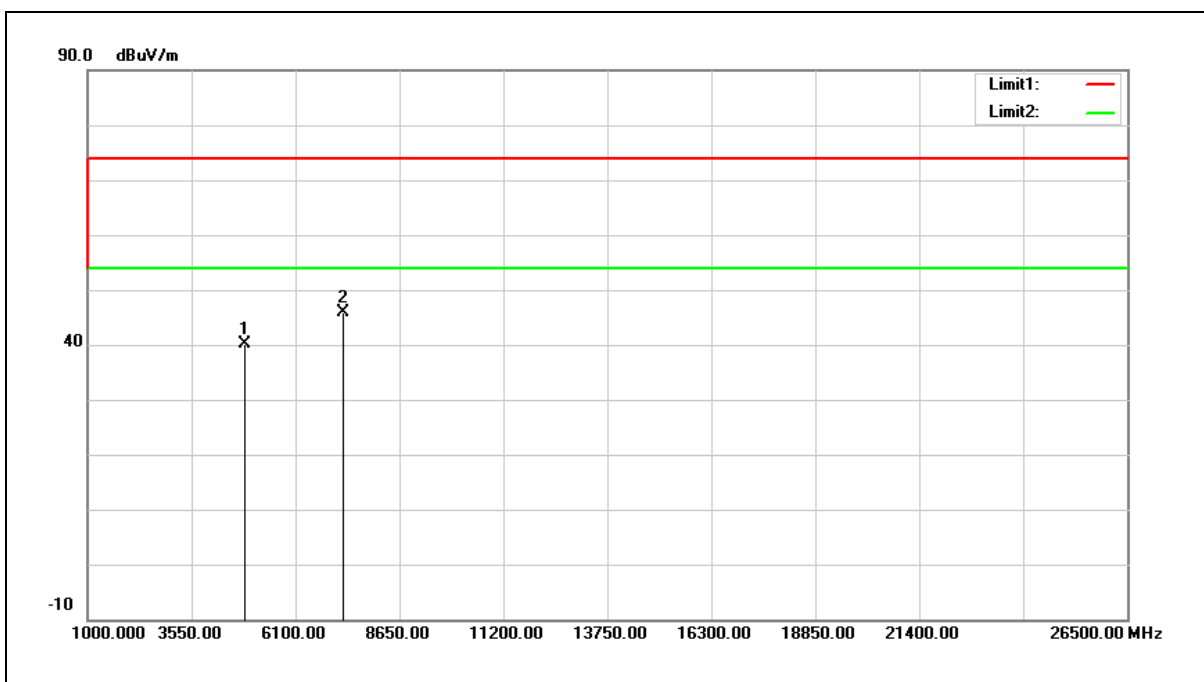
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4844.000	35.04	5.42	40.46	74.00	-33.54	peak
2	7266.000	34.61	11.98	46.59	74.00	-27.41	peak

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	Power:	DC 12 V
Frequency:	2422 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		



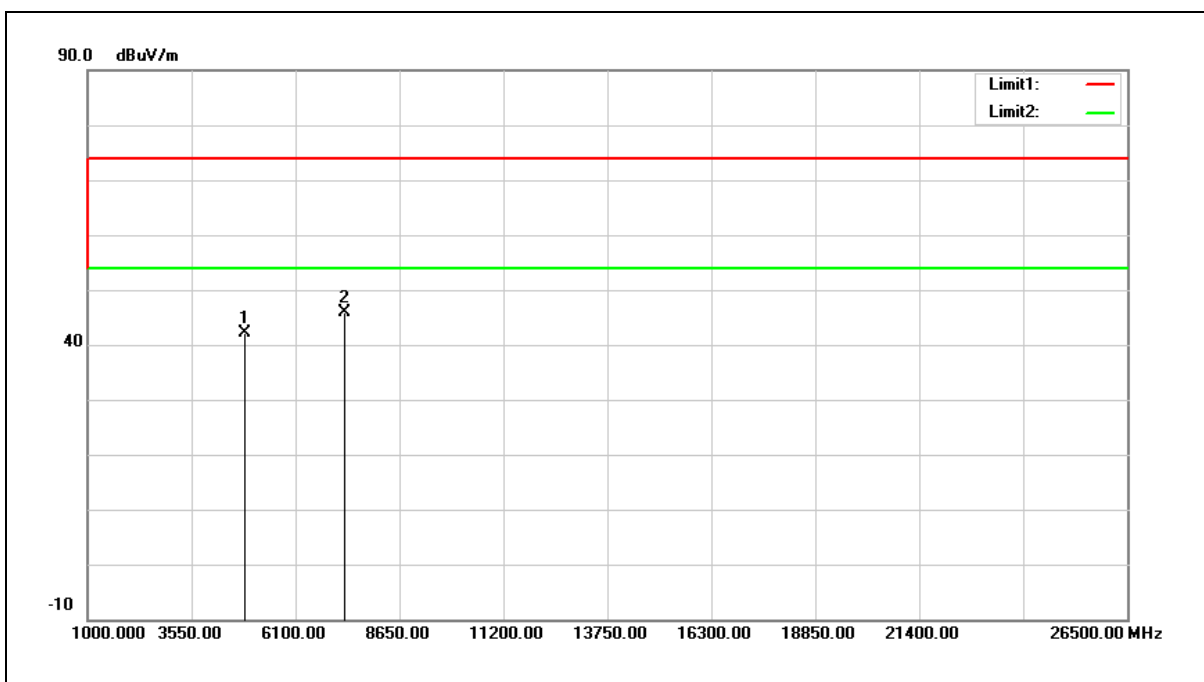
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4844.000	34.83	5.42	40.25	74.00	-33.75	peak
2	7266.000	33.81	11.98	45.79	74.00	-28.21	peak

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	Power:	DC 12 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		



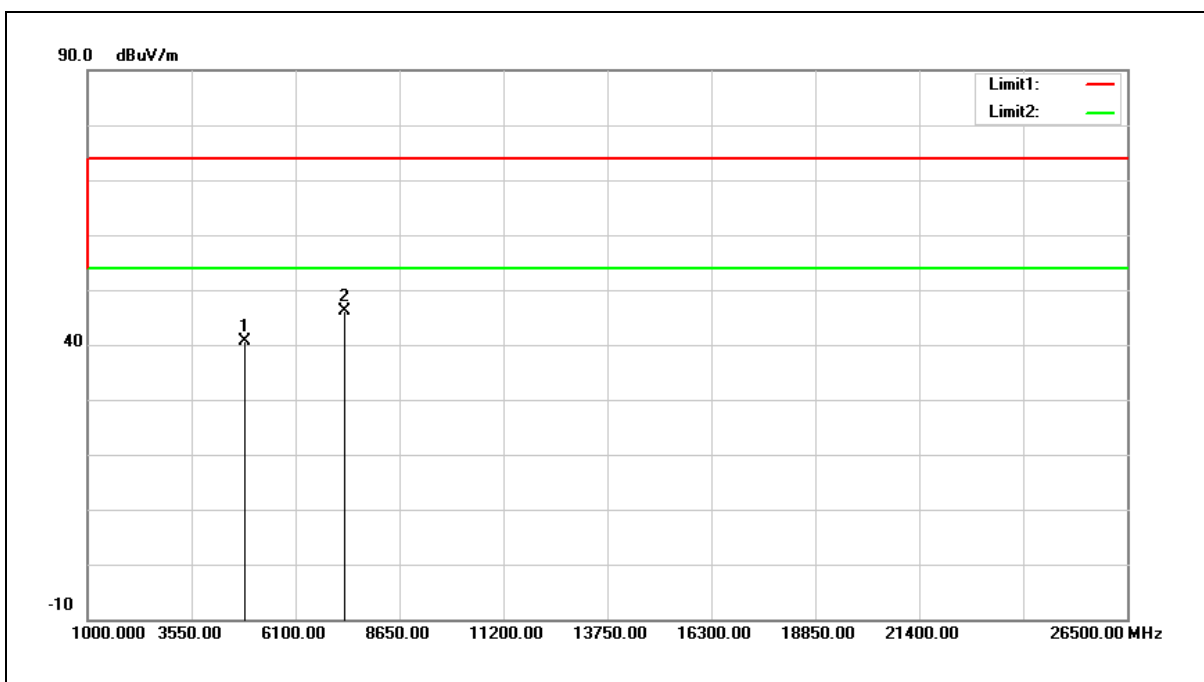
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	36.59	5.47	42.06	74.00	-31.94	peak
2	7311.000	33.68	12.13	45.81	74.00	-28.19	peak

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.

Standard:	LP0002	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 12 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		



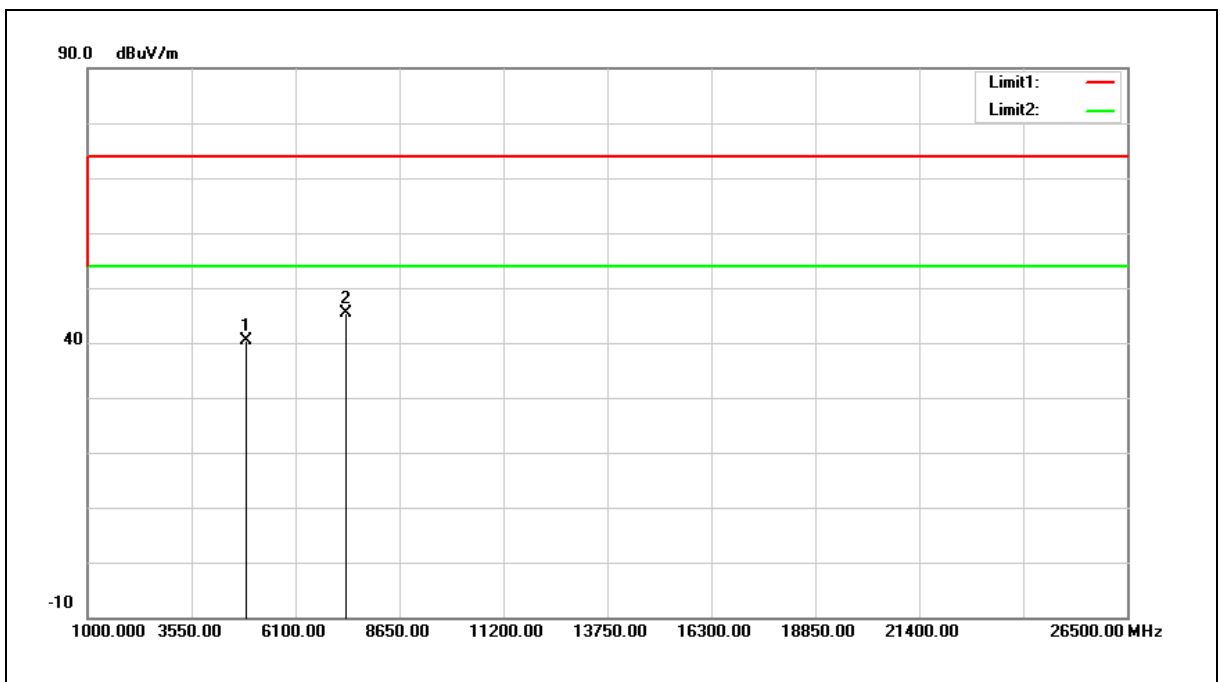
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	35.10	5.47	40.57	74.00	-33.43	peak
2	7311.000	33.97	12.13	46.10	74.00	-27.90	peak

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	Power:	DC 12 V
Frequency:	2452 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		



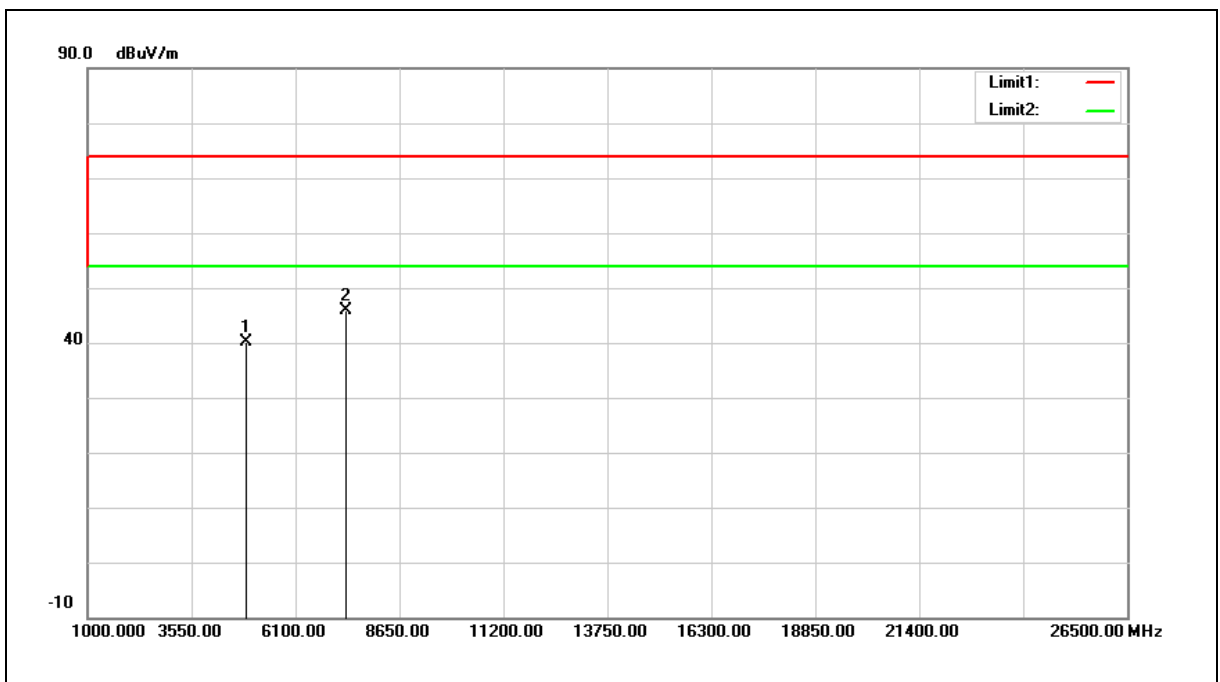
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4904.000	34.94	5.54	40.48	74.00	-33.52	peak
2	7356.000	33.22	12.25	45.47	74.00	-28.53	peak

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	Power:	DC 12 V
Frequency:	2452 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		



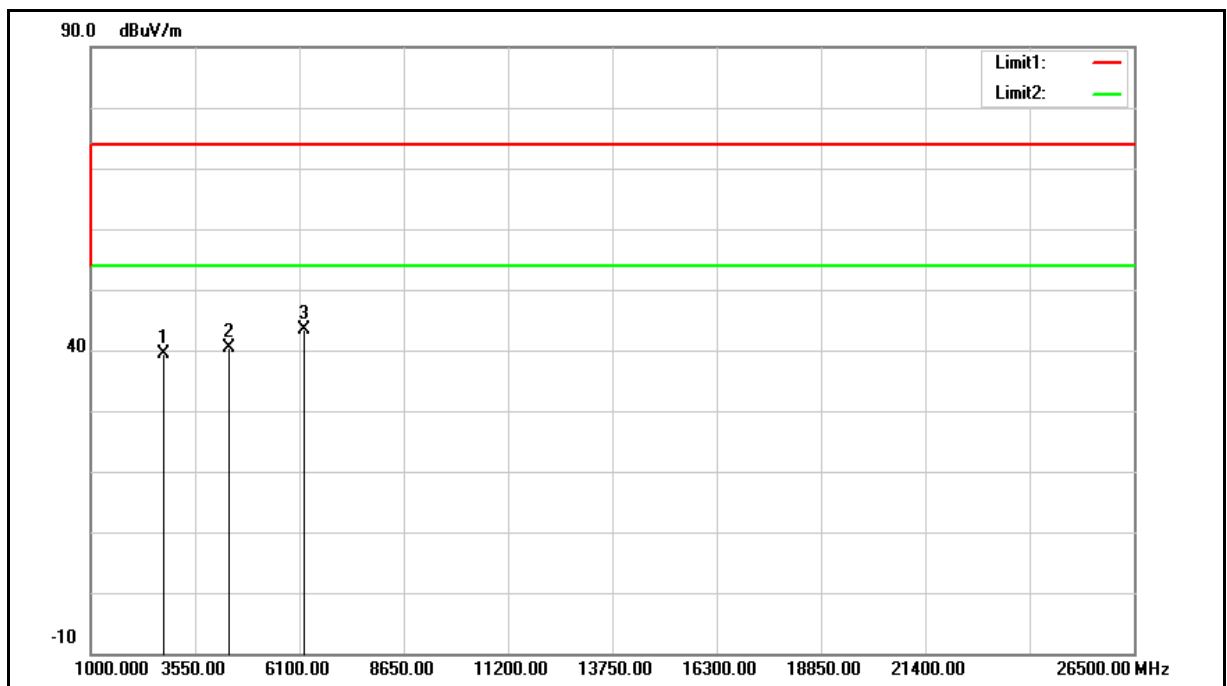
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4904.000	34.54	5.54	40.08	74.00	-33.92	peak
2	7356.000	33.52	12.25	45.77	74.00	-28.23	peak

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	Power:	DC 12 V
Mode:	Simultaneous Transmitting (2.4 G WLAN+BT)	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Ant.Polar.:	Horizontal		



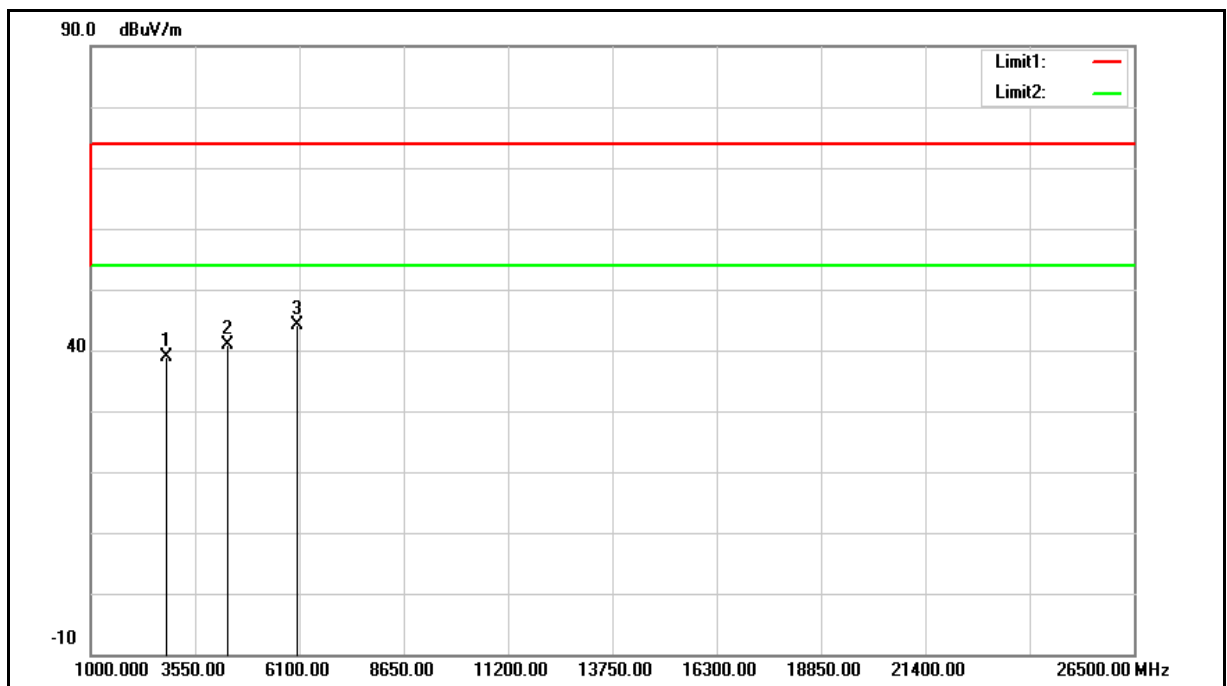
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2785.000	39.27	0.07	39.34	74.00	-34.66	peak
2	4383.000	36.07	4.31	40.38	74.00	-33.62	peak
3	6185.000	34.71	8.66	43.37	74.00	-30.63	peak

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	Power:	DC 12 V
Mode:	Simultaneous Transmitting (2.4 G WLAN+BT)	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Ant.Polar.:	Vertical		



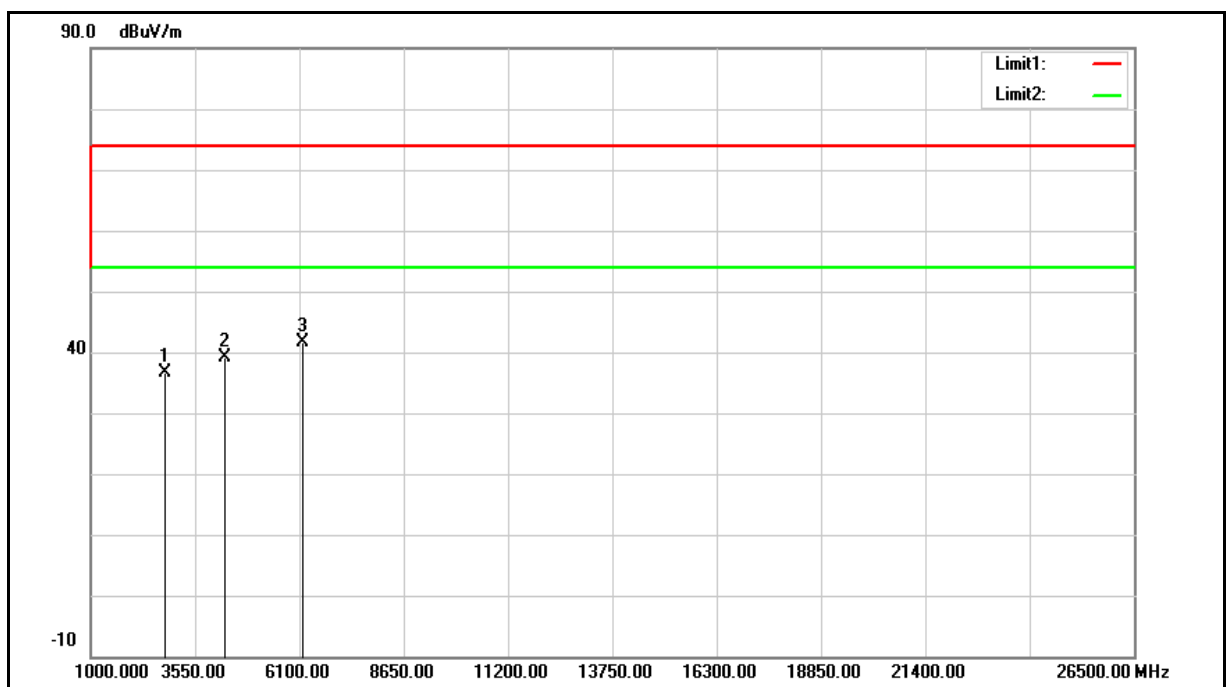
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2819.000	38.70	0.17	38.87	74.00	-35.13	peak
2	4332.000	36.68	4.14	40.82	74.00	-33.18	peak
3	6032.000	36.09	8.03	44.12	74.00	-29.88	peak

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	Power:	DC 12 V
Test Mode:	Mode 6	Temp.(°C)/Hum. (%RH):	26(°C)/60 %RH
Ant.Polar.:	Horizontal		



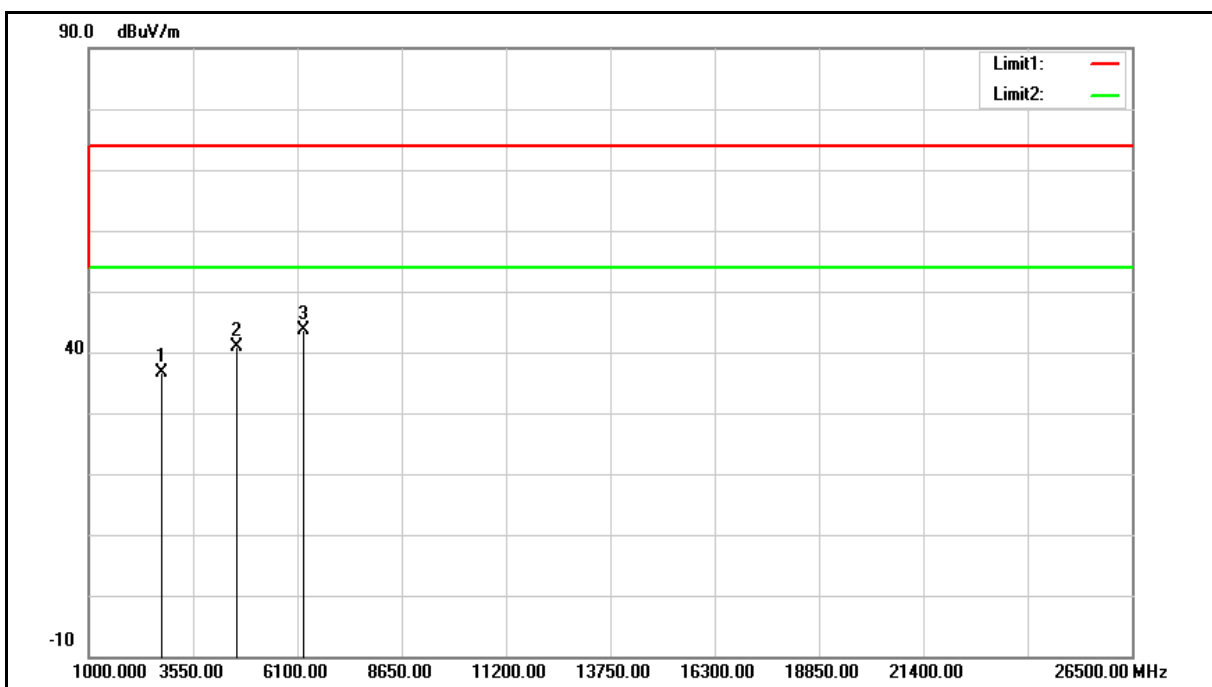
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2802.000	36.48	0.11	36.59	74.00	-37.41	peak
2	4247.000	35.20	3.85	39.05	74.00	-34.95	peak
3	6168.000	32.99	8.59	41.58	74.00	-32.42	peak

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	Power:	DC 12 V
Test Mode:	Mode 6	Temp.(°C)/Hum. (%RH):	26(°C)/60 %RH
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2785.000	36.62	0.07	36.69	74.00	-37.31	peak
2	4621.000	35.98	4.95	40.93	74.00	-33.07	peak
3	6253.000	34.71	8.94	43.65	74.00	-30.35	peak

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

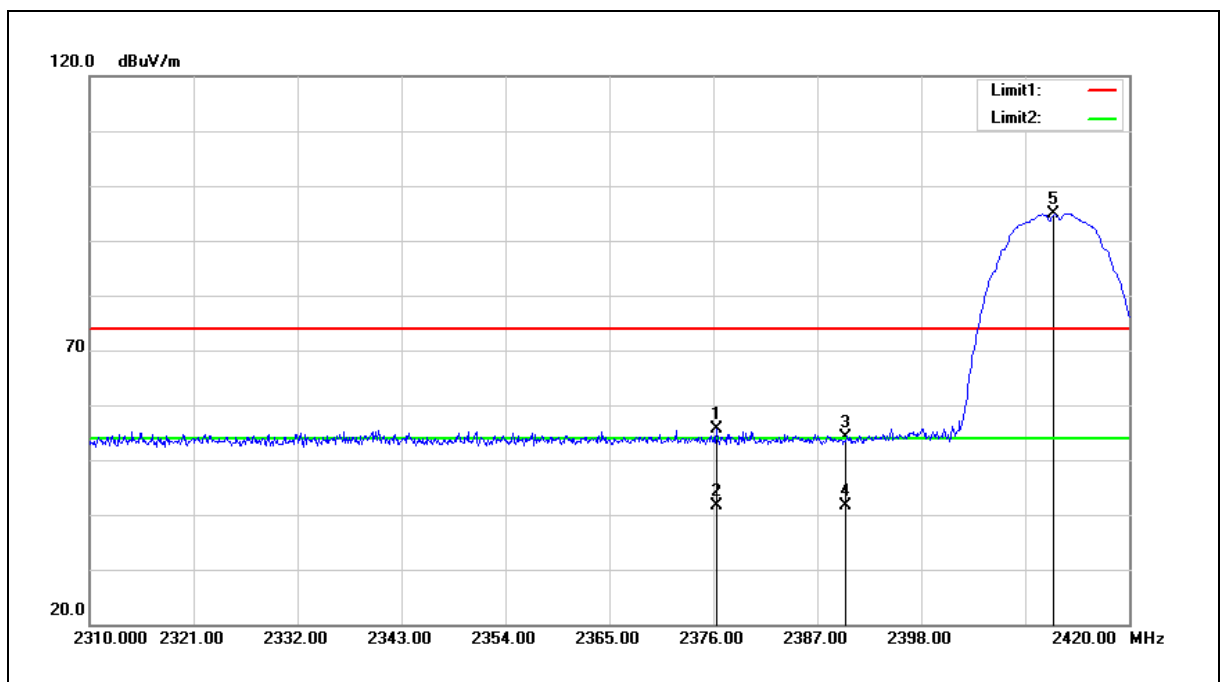
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

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

頻帶邊緣

附註：其上下邊緣落於低功率射頻電機第 2.7 節所列頻帶內之混附發射，其電場強度必須符合第 2.8 節的限制規定。

Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge	Power:	DC 12 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



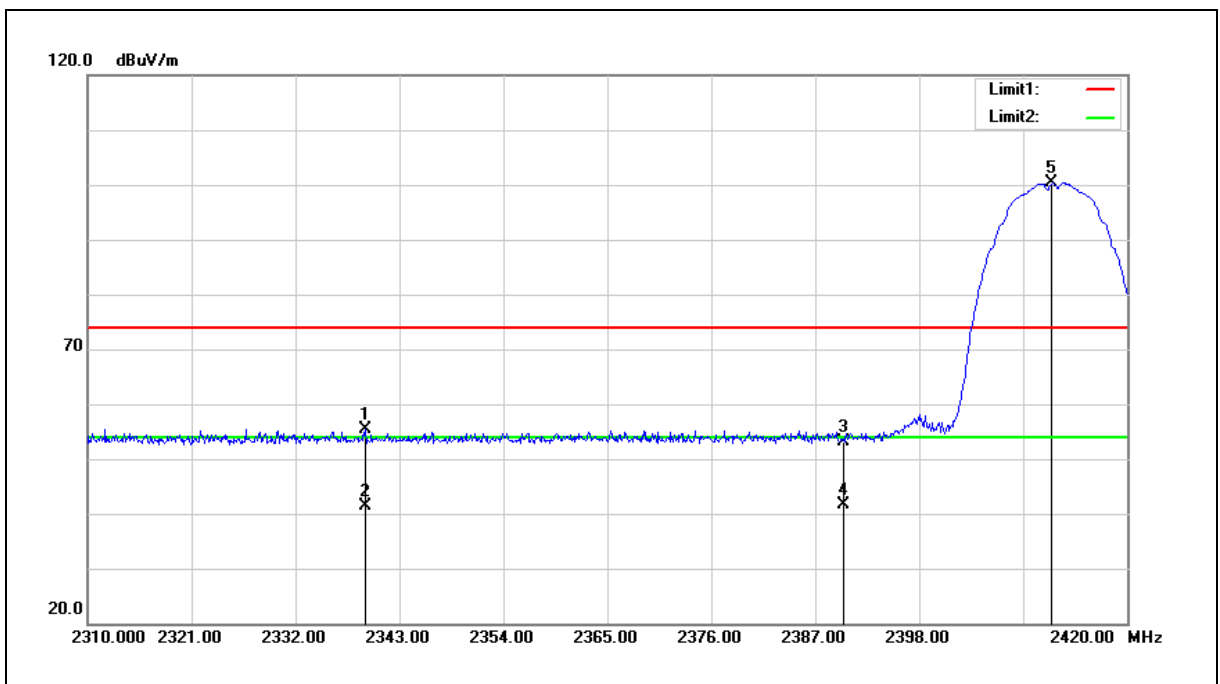
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2376.330	56.78	-1.22	55.56	74.00	-18.44	peak
2	2376.330	42.84	-1.22	41.62	54.00	-12.38	AVG
3	2390.000	55.34	-1.17	54.17	74.00	-19.83	peak
4	2390.000	42.75	-1.17	41.58	54.00	-12.42	AVG
5	2412.000	95.85	-1.08	94.77	--	--	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	Power:	DC 12 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



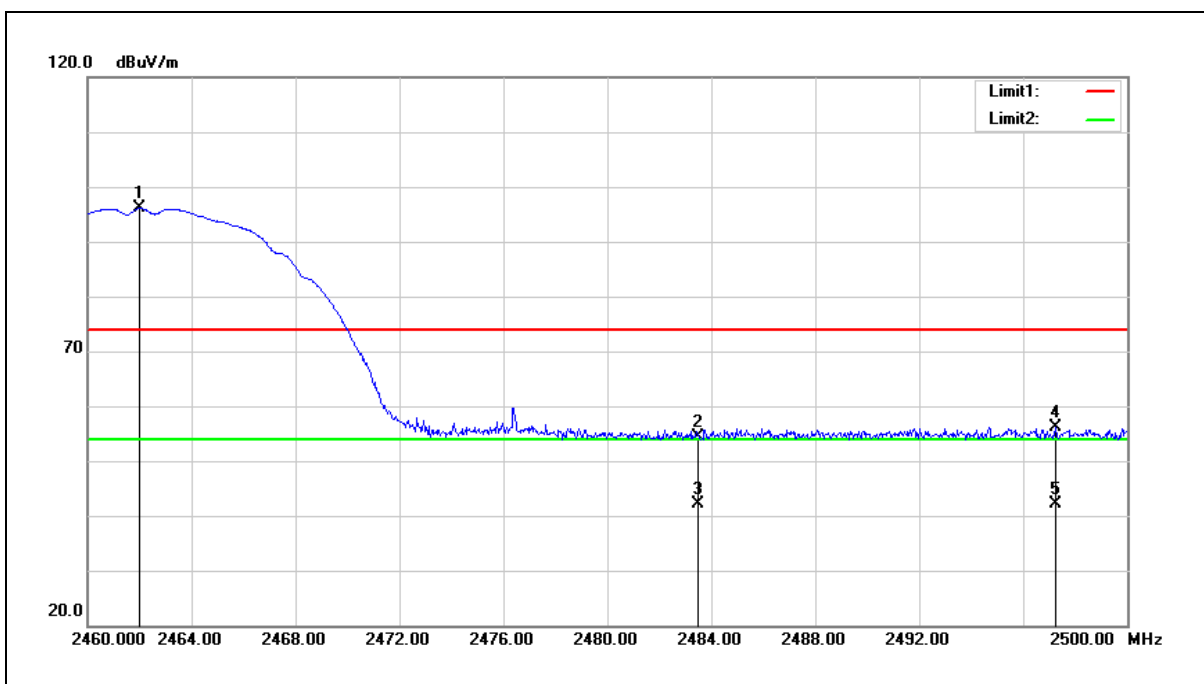
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2339.370	56.84	-1.35	55.49	74.00	-18.51	peak
2	2339.370	42.84	-1.35	41.49	54.00	-12.51	AVG
3	2390.000	54.31	-1.17	53.14	74.00	-20.86	peak
4	2390.000	42.84	-1.17	41.67	54.00	-12.33	AVG
5	2412.000	101.35	-1.08	100.27	--	--	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:	Band edge	Power:	DC 12 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



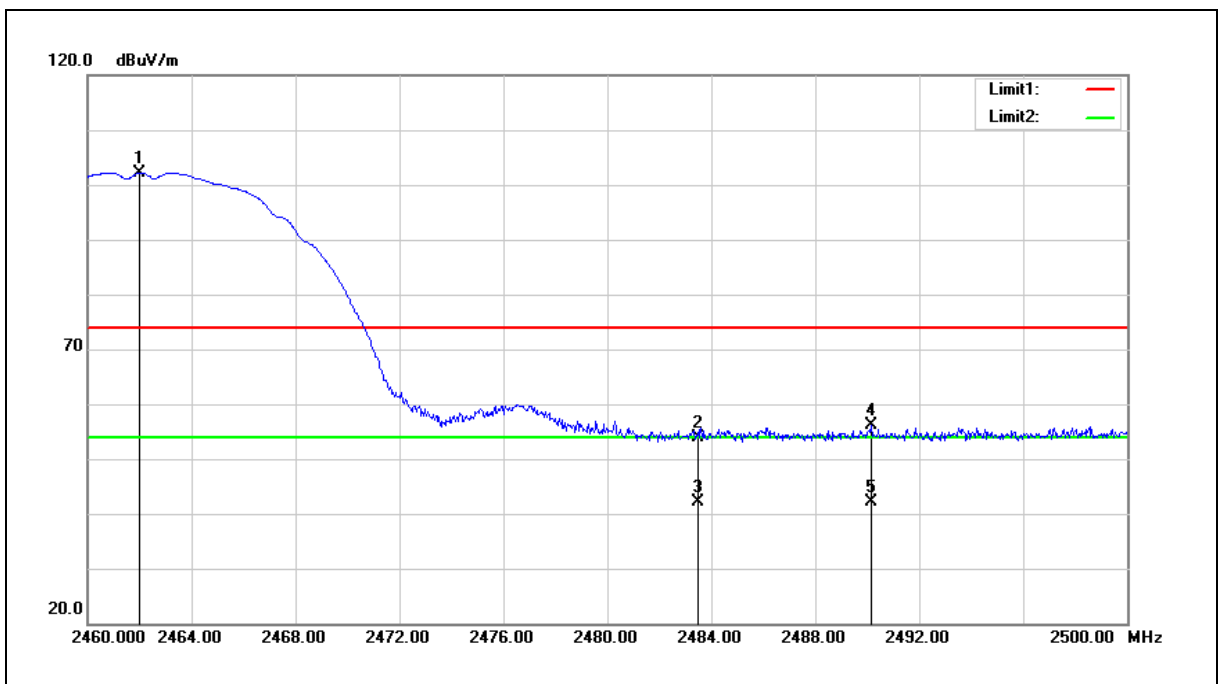
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2462.000	97.00	-0.90	96.10	--	--	peak
2	2483.500	55.24	-0.82	54.42	74.00	-19.58	peak
3	2483.500	42.99	-0.82	42.17	54.00	-11.83	AVG
4	2497.240	56.96	-0.77	56.19	74.00	-17.81	peak
5	2497.240	42.87	-0.77	42.10	54.00	-11.90	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	Power:	DC 12 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



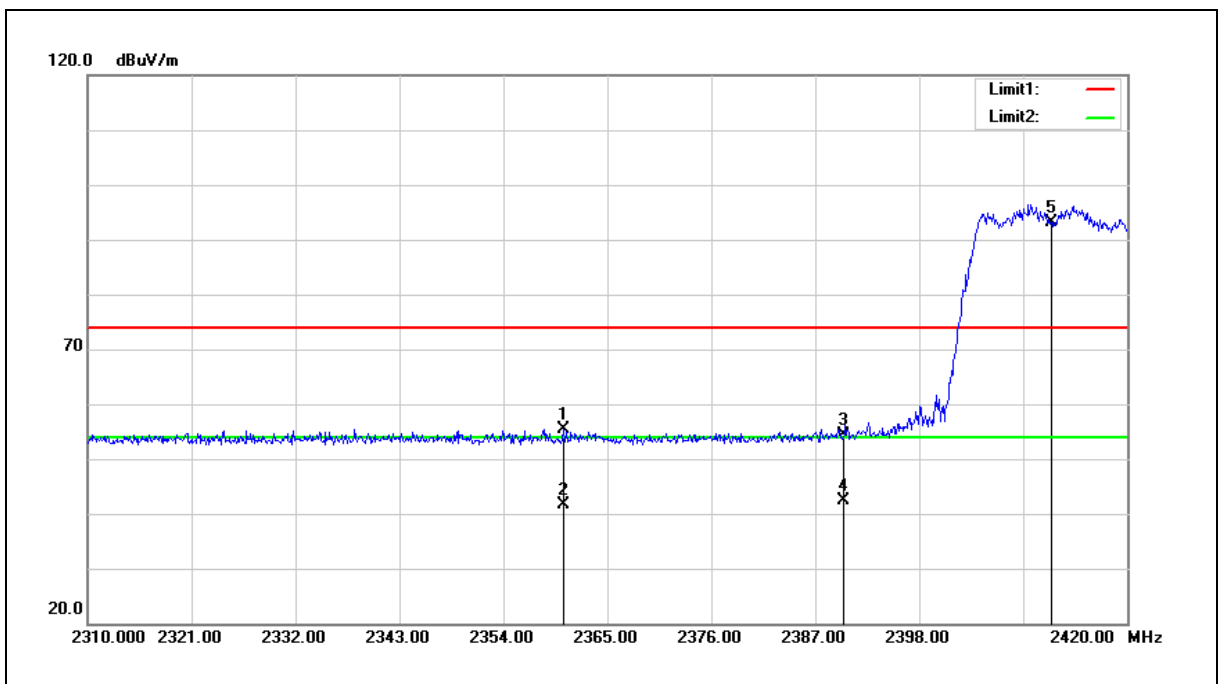
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2462.000	103.13	-0.90	102.23	--	--	peak
2	2483.500	54.80	-0.82	53.98	74.00	-20.02	peak
3	2483.500	43.01	-0.82	42.19	54.00	-11.81	AVG
4	2490.160	56.83	-0.80	56.03	74.00	-17.97	peak
5	2490.160	43.02	-0.80	42.22	54.00	-11.78	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	Power:	DC 12 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



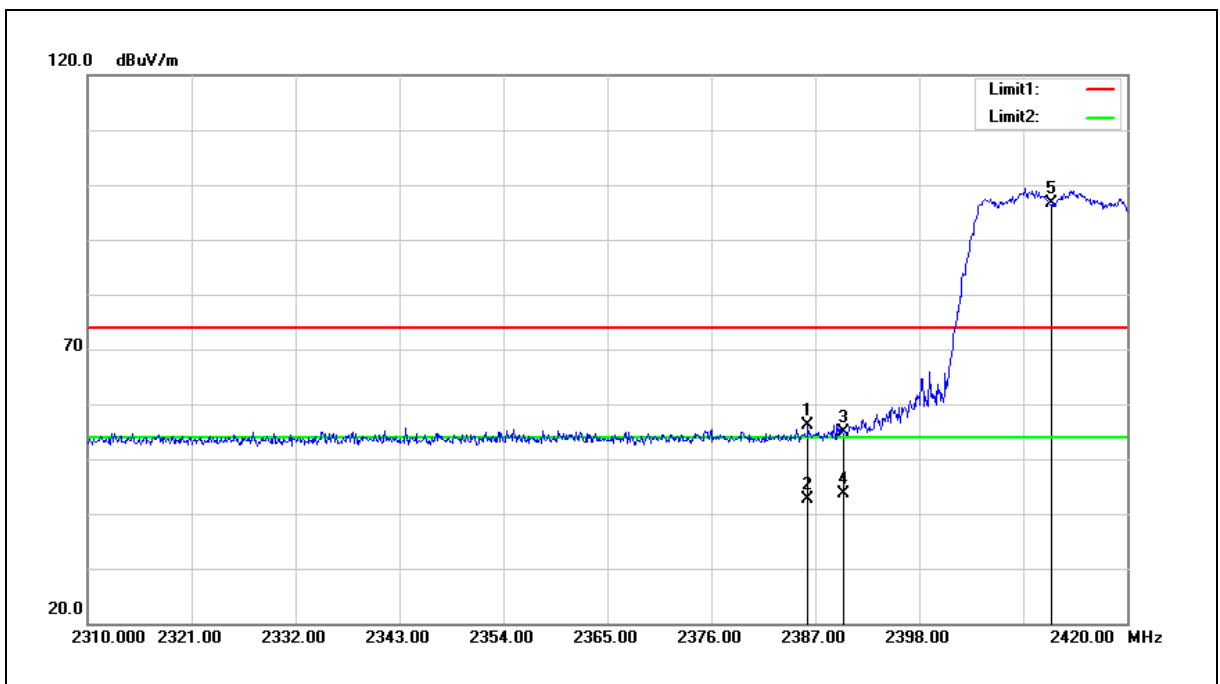
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2360.380	56.68	-1.26	55.42	74.00	-18.58	peak
2	2360.380	42.78	-1.26	41.52	54.00	-12.48	AVG
3	2390.000	55.66	-1.17	54.49	74.00	-19.51	peak
4	2390.000	43.63	-1.17	42.46	54.00	-11.54	AVG
5	2412.000	94.31	-1.08	93.23	--	--	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	Power:	DC 12 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



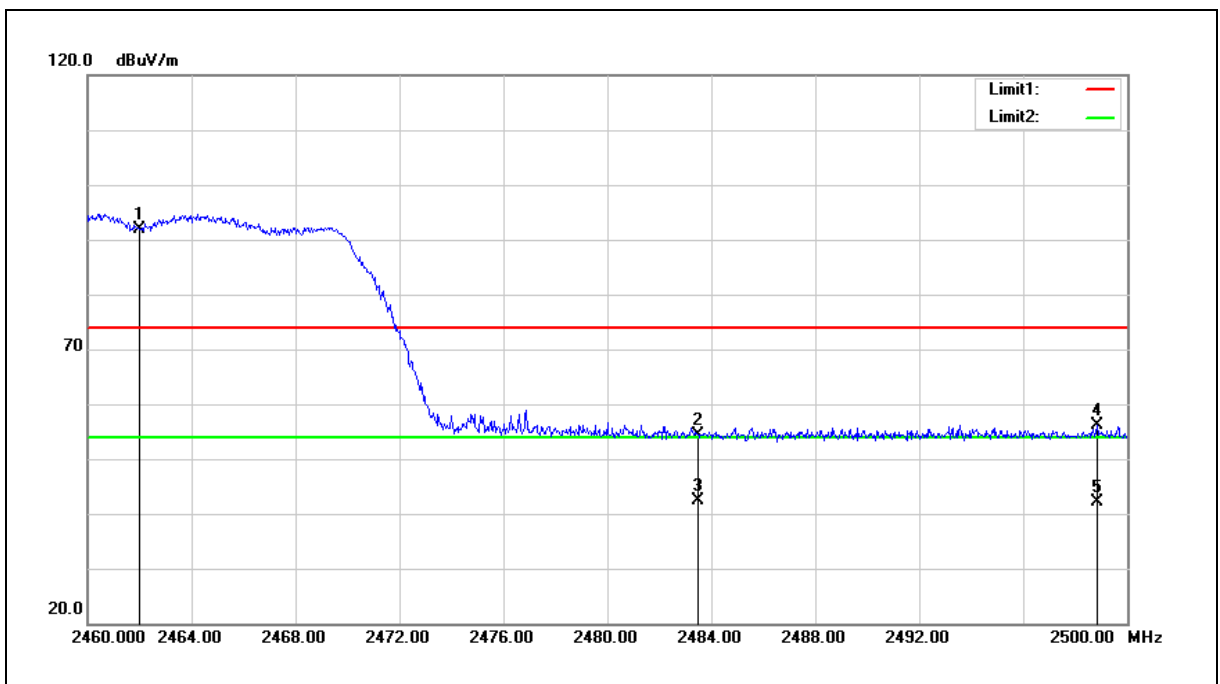
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.230	57.29	-1.18	56.11	74.00	-17.89	peak
2	2386.230	43.93	-1.18	42.75	54.00	-11.25	AVG
3	2390.000	56.16	-1.17	54.99	74.00	-19.01	peak
4	2390.000	44.71	-1.17	43.54	54.00	-10.46	AVG
5	2412.000	97.59	-1.08	96.51	--	--	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	Power:	DC 12 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



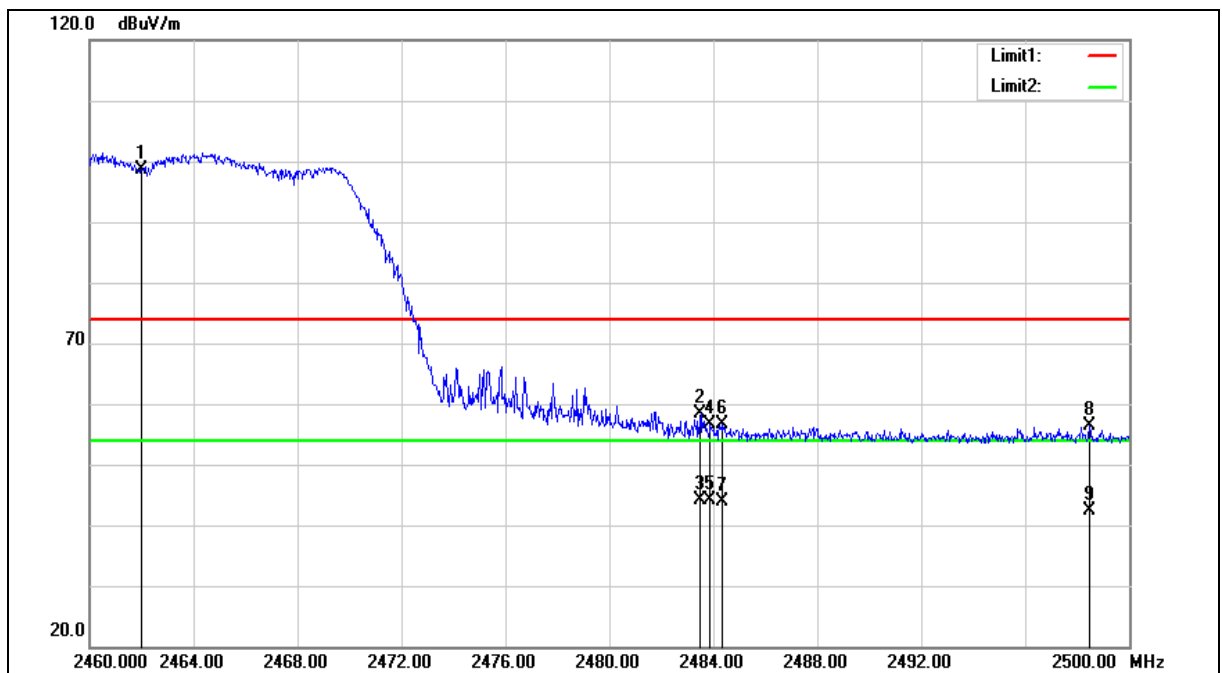
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2462.000	92.69	-0.90	91.79	--	--	peak
2	2483.500	55.19	-0.82	54.37	74.00	-19.63	peak
3	2483.500	43.27	-0.82	42.45	54.00	-11.55	AVG
4	2498.840	56.99	-0.76	56.23	74.00	-17.77	peak
5	2498.840	42.99	-0.76	42.23	54.00	-11.77	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	Power:	DC 12 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge	Power:	DC 12 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		

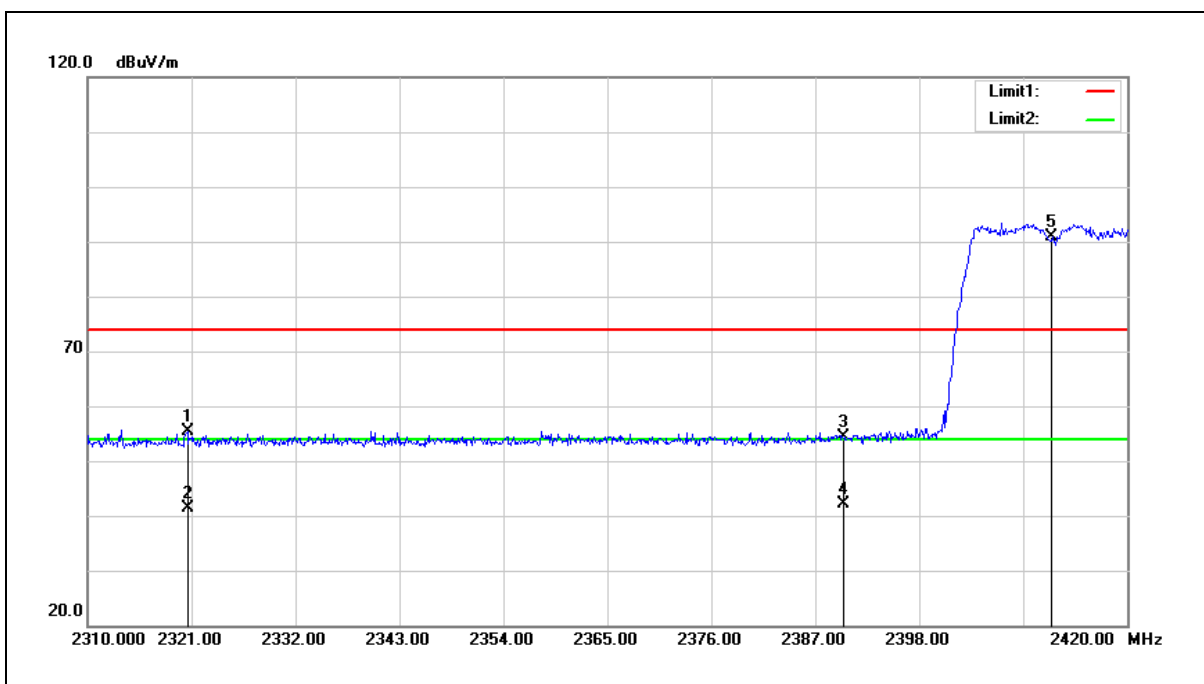
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2462.000	99.59	-0.90	98.69	--	--	peak
2	2483.500	59.11	-0.82	58.29	74.00	-15.71	peak
3	2483.500	44.90	-0.82	44.08	54.00	-9.92	AVG
4	2483.880	57.54	-0.82	56.72	74.00	-17.28	peak
5	2483.880	44.99	-0.82	44.17	54.00	-9.83	AVG
6	2484.360	57.47	-0.82	56.65	74.00	-17.35	peak
7	2484.360	44.67	-0.82	43.85	54.00	-10.15	AVG
8	2498.480	57.20	-0.76	56.44	74.00	-17.56	peak
9	2498.480	43.26	-0.76	42.50	54.00	-11.50	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	Power:	DC 12 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



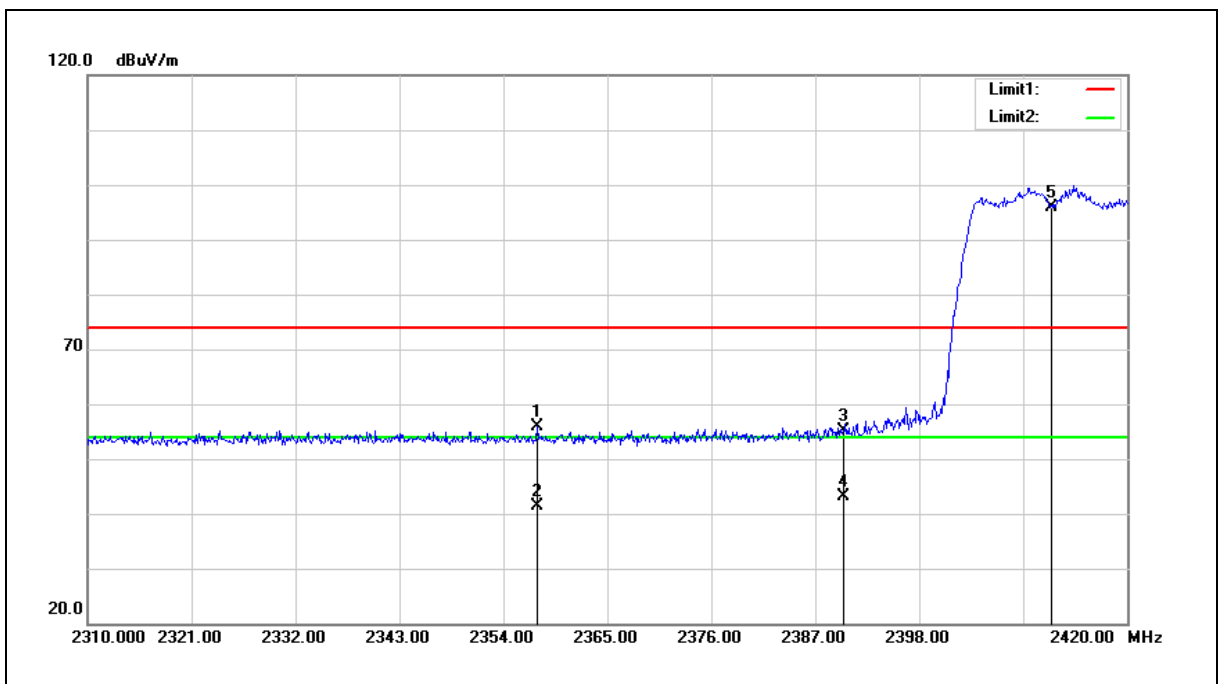
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2320.560	56.89	-1.42	55.47	74.00	-18.53	peak
2	2320.560	42.73	-1.42	41.31	54.00	-12.69	AVG
3	2390.000	55.52	-1.17	54.35	74.00	-19.65	peak
4	2390.000	43.40	-1.17	42.23	54.00	-11.77	AVG
5	2412.000	92.06	-1.08	90.98	--	--	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	Power:	DC 12 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



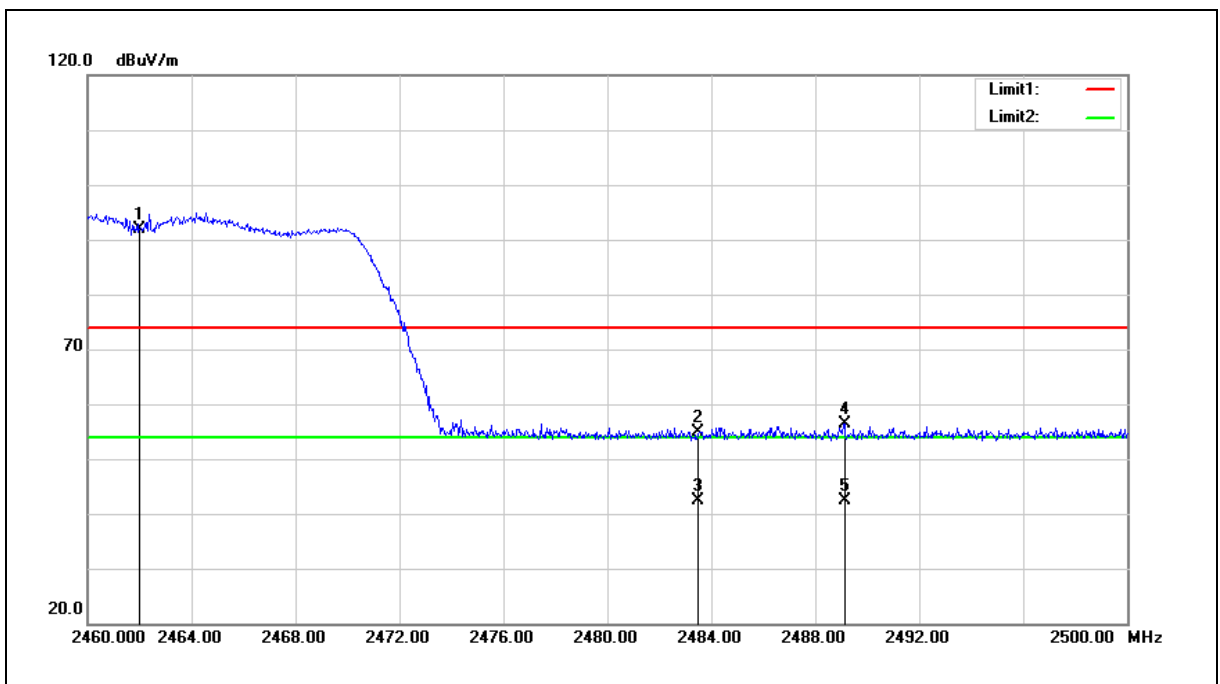
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2357.520	57.23	-1.28	55.95	74.00	-18.05	peak
2	2357.520	42.76	-1.28	41.48	54.00	-12.52	AVG
3	2390.000	56.34	-1.17	55.17	74.00	-18.83	peak
4	2390.000	44.26	-1.17	43.09	54.00	-10.91	AVG
5	2412.000	96.97	-1.08	95.89	--	--	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	Power:	DC 12 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



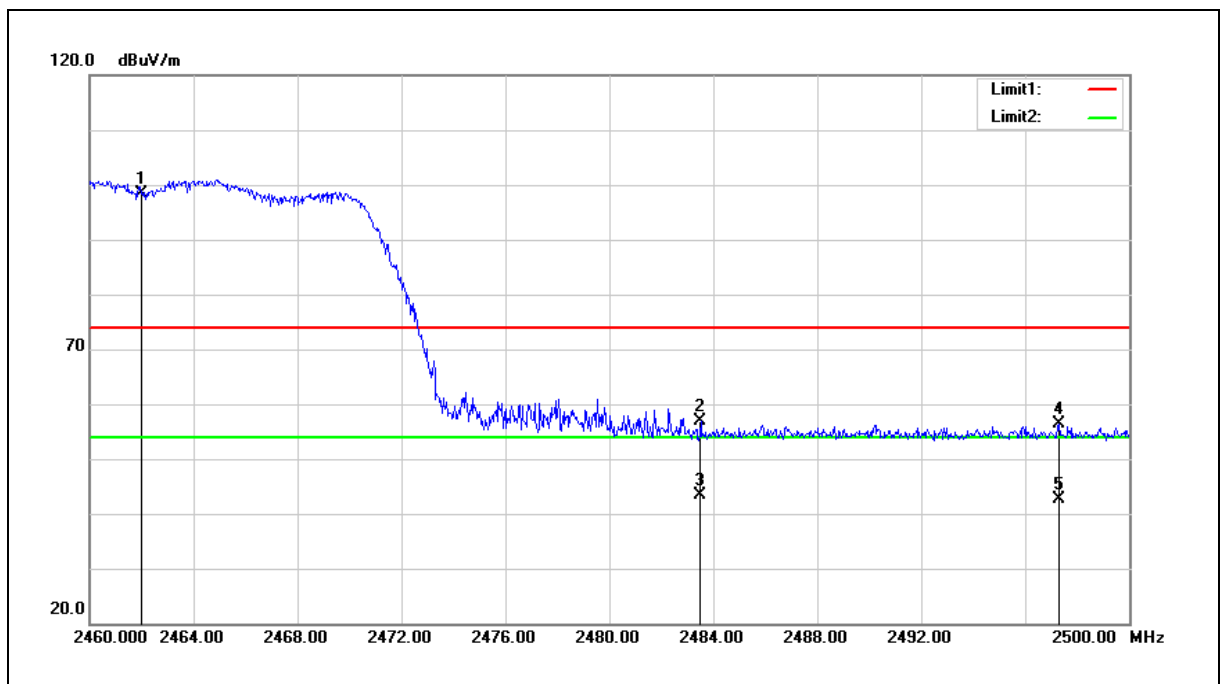
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2462.000	92.87	-0.90	91.97	--	--	peak
2	2483.500	55.67	-0.82	54.85	74.00	-19.15	peak
3	2483.500	43.17	-0.82	42.35	54.00	-11.65	AVG
4	2489.120	57.18	-0.80	56.38	74.00	-17.62	peak
5	2489.120	43.06	-0.80	42.26	54.00	-11.74	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	Power:	DC 12 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



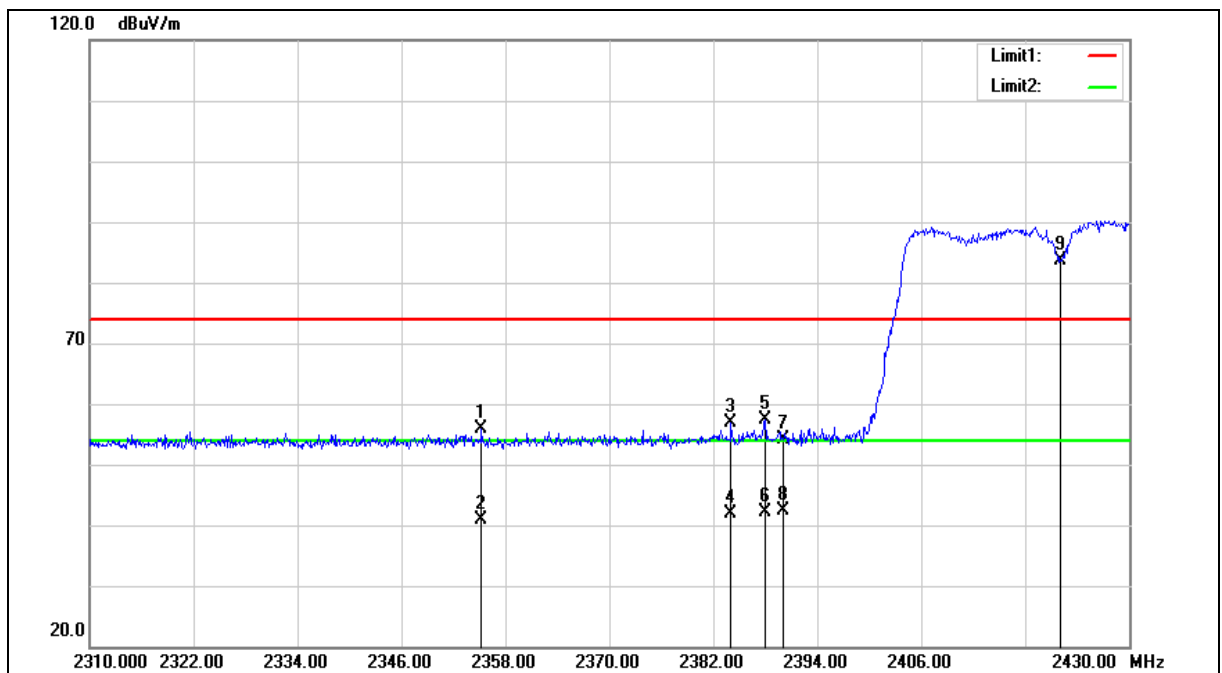
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2462.000	99.17	-0.90	98.27	--	--	peak
2	2483.500	57.81	-0.82	56.99	74.00	-17.01	peak
3	2483.500	44.21	-0.82	43.39	54.00	-10.61	AVG
4	2497.280	57.18	-0.77	56.41	74.00	-17.59	peak
5	2497.280	43.37	-0.77	42.60	54.00	-11.40	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	Power:	DC 12 V
Frequency:	2422 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		



Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge	Power:	DC 12 V
Frequency:	2422 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		

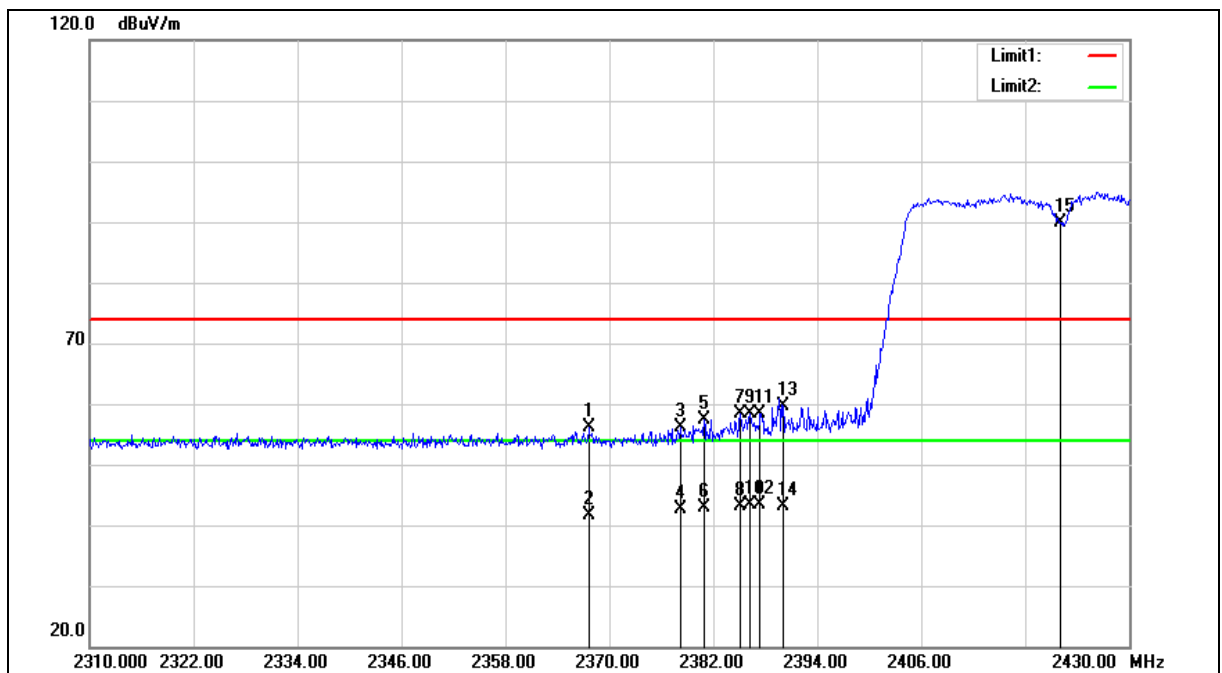
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2355.240	57.12	-1.29	55.83	74.00	-18.17	peak
2	2355.240	42.23	-1.29	40.94	54.00	-13.06	AVG
3	2384.040	58.07	-1.19	56.88	74.00	-17.12	peak
4	2384.040	43.10	-1.19	41.91	54.00	-12.09	AVG
5	2388.000	58.46	-1.17	57.29	74.00	-16.71	peak
6	2388.000	43.22	-1.17	42.05	54.00	-11.95	AVG
7	2390.000	55.30	-1.17	54.13	74.00	-19.87	peak
8	2390.000	43.63	-1.17	42.46	54.00	-11.54	AVG
9	2422.000	84.78	-1.04	83.74	--	--	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:	Band edge	Power:	DC 12 V
Frequency:	2422 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		



Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge	Power:	DC 12 V
Frequency:	2422 MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		

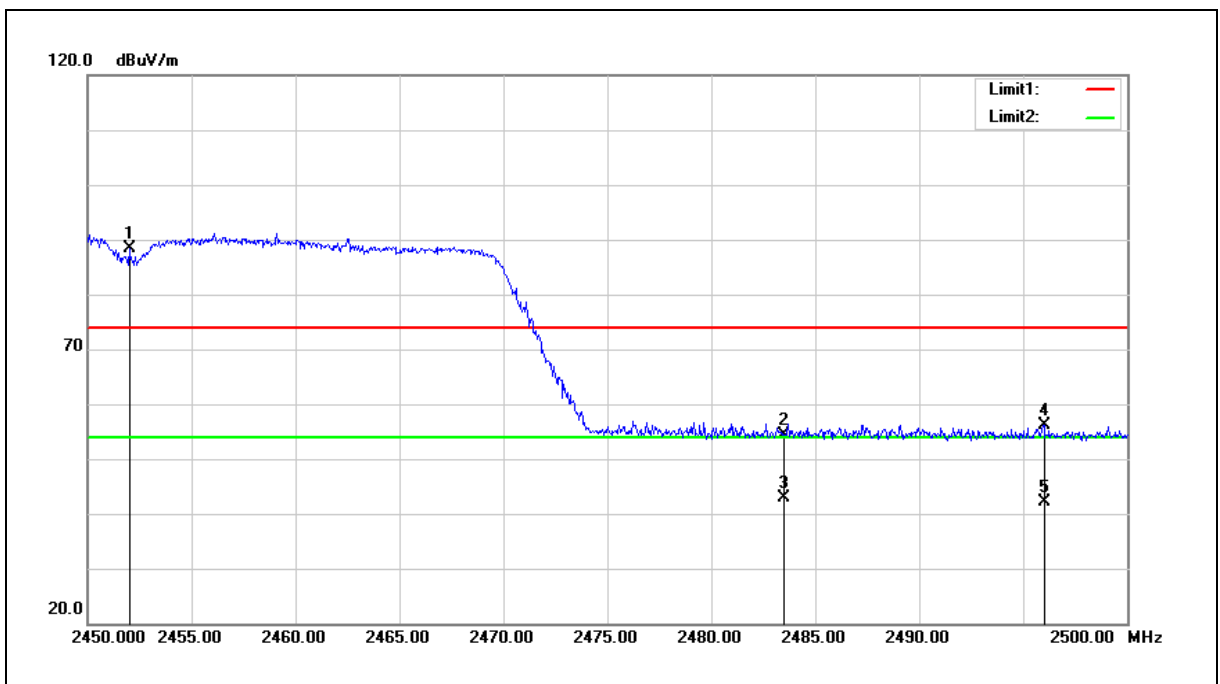
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2367.600	57.32	-1.24	56.08	74.00	-17.92	peak
2	2367.600	42.98	-1.24	41.74	54.00	-12.26	AVG
3	2378.160	57.37	-1.21	56.16	74.00	-17.84	peak
4	2378.160	43.83	-1.21	42.62	54.00	-11.38	AVG
5	2380.920	58.62	-1.20	57.42	74.00	-16.58	peak
6	2380.920	43.99	-1.20	42.79	54.00	-11.21	AVG
7	2385.120	59.64	-1.19	58.45	74.00	-15.55	peak
8	2385.120	44.44	-1.19	43.25	54.00	-10.75	AVG
9	2386.200	59.44	-1.18	58.26	74.00	-15.74	peak
10	2386.200	44.47	-1.18	43.29	54.00	-10.71	AVG
11	2387.400	59.65	-1.17	58.48	74.00	-15.52	peak
12	2387.400	44.58	-1.17	43.41	54.00	-10.59	AVG
13	2390.000	60.68	-1.17	59.51	74.00	-14.49	peak
14	2390.000	44.37	-1.17	43.20	54.00	-10.80	AVG
15	2422.000	90.83	-1.04	89.79	--	--	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	Power:	DC 12 V
Frequency:	2452 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		



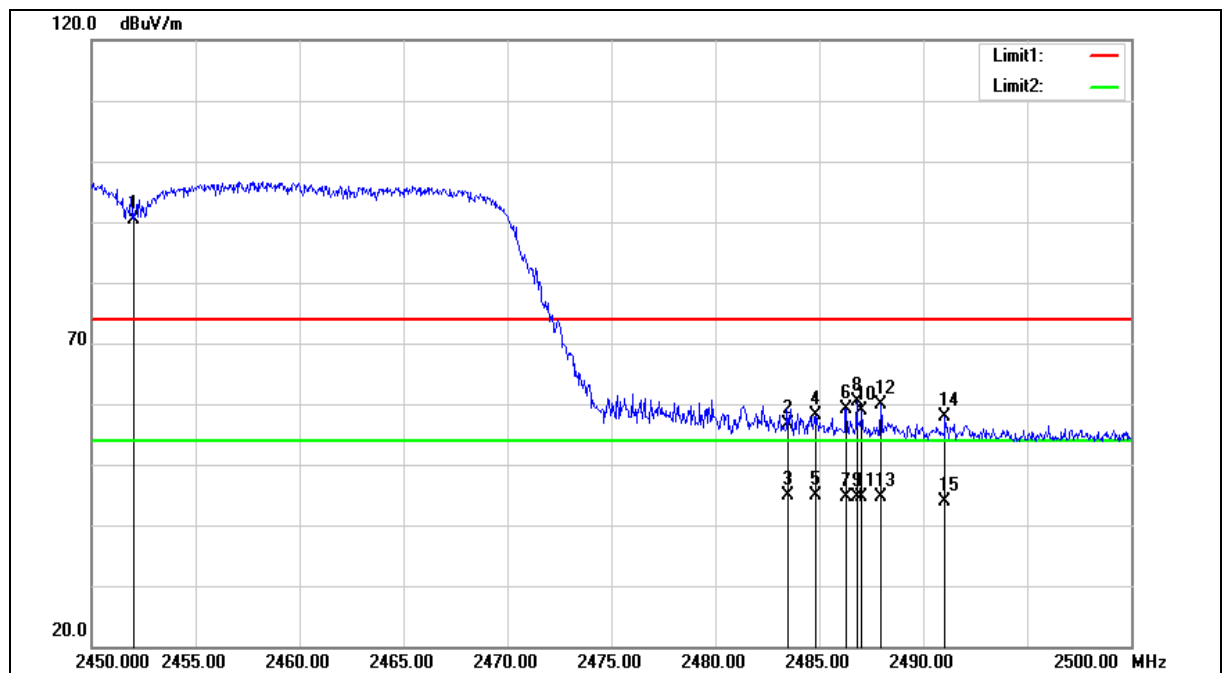
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2452.000	89.27	-0.93	88.34	--	--	peak
2	2483.500	55.12	-0.82	54.30	74.00	-19.70	peak
3	2483.500	43.63	-0.82	42.81	54.00	-11.19	AVG
4	2496.000	56.95	-0.77	56.18	74.00	-17.82	peak
5	2496.000	42.97	-0.77	42.20	54.00	-11.80	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	Power:	DC 12 V
Frequency:	2452 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		



Standard:	LP0002	Test Distance:	3 m
Test item:	Band edge	Power:	DC 12 V
Frequency:	2452 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2452.000	91.32	-0.93	90.39	--	--	peak
2	2483.500	57.52	-0.82	56.70	74.00	-17.30	peak
3	2483.500	45.79	-0.82	44.97	54.00	-9.03	AVG
4	2484.800	58.94	-0.82	58.12	74.00	-15.88	peak
5	2484.800	45.66	-0.82	44.84	54.00	-9.16	AVG
6	2486.300	59.98	-0.82	59.16	74.00	-14.84	peak
7	2486.300	45.50	-0.82	44.68	54.00	-9.32	AVG
8	2486.800	61.18	-0.81	60.37	74.00	-13.63	peak
9	2486.800	45.46	-0.81	44.65	54.00	-9.35	AVG
10	2487.050	59.62	-0.81	58.81	74.00	-15.19	peak
11	2487.050	45.41	-0.81	44.60	54.00	-9.40	AVG
12	2487.950	60.66	-0.80	59.86	74.00	-14.14	peak
13	2487.950	45.37	-0.80	44.57	54.00	-9.43	AVG
14	2491.050	58.64	-0.79	57.85	74.00	-16.15	peak
15	2491.050	44.61	-0.79	43.82	54.00	-10.18	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).

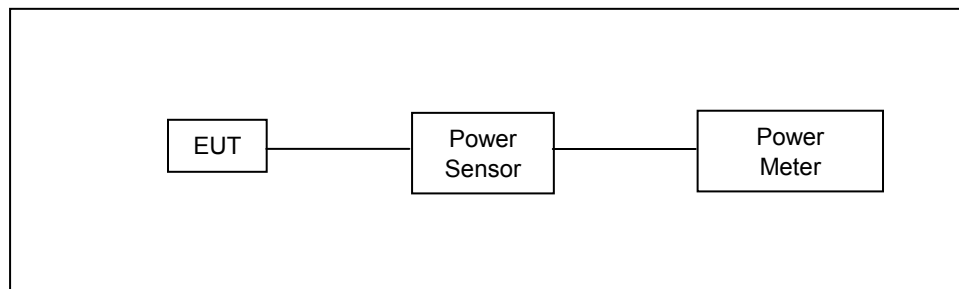
3.When the peak results are less than average limit, so not need to evaluate the average.

4.2.2 峰值傳導輸出功率之量測

合格標準:

依據 NCC 低功率射頻電機技術規範(LP0002)之 3.10.1.2(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：



測試結果:

操作模式：Mode 2 / Mode 3 / Mode 4 / Mode 5							
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	11.79	0.015	14.72	0.030	30.00
		06	11.23	0.013	14.21	0.026	30.00
		11	10.32	0.011	13.40	0.022	30.00
Mode 3	6	01	9.02	0.008	18.73	0.075	30.00
		06	8.57	0.007	18.18	0.066	30.00
		11	7.50	0.006	18.09	0.064	30.00
Mode 4	6.5	01	9.19	0.008	18.69	0.074	30.00
		06	8.76	0.008	18.34	0.068	30.00
		11	7.61	0.006	18.08	0.064	30.00
Mode 5	13.5	03	8.32	0.007	18.49	0.071	30.00
		06	7.95	0.006	18.21	0.066	30.00
		09	7.38	0.005	17.98	0.063	30.00

4.2.3 天線規格之要求

合格標準:

依據 NCC 低功率射頻電機技術規範(LP0002)之 3.10.1.3(3)節之要求,除 3.10.1.3(1)及 3.10.1.3(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 低功率射頻電機技術規範(LP0002)之 3.10.1.4 節之要求,天線之規格不受第 2.2 節規定之限制

判定結果:

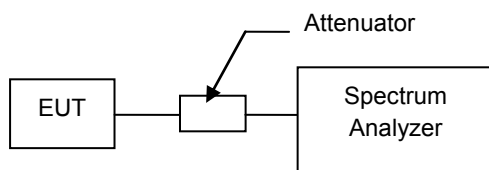
符合,本產品 2.4 GHz 使用 SMD Antenna (廠牌: TDK, 型號: ANT162442DT-2001AM1), 最大增益值 5.2 dBi。

4.2.4 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：



測試結果：

操作模式	: Mode 2 / Mode 3 / Mode 4 / Mode 5
測試結果	: 合格
量測之結果掃圖如下頁所示	

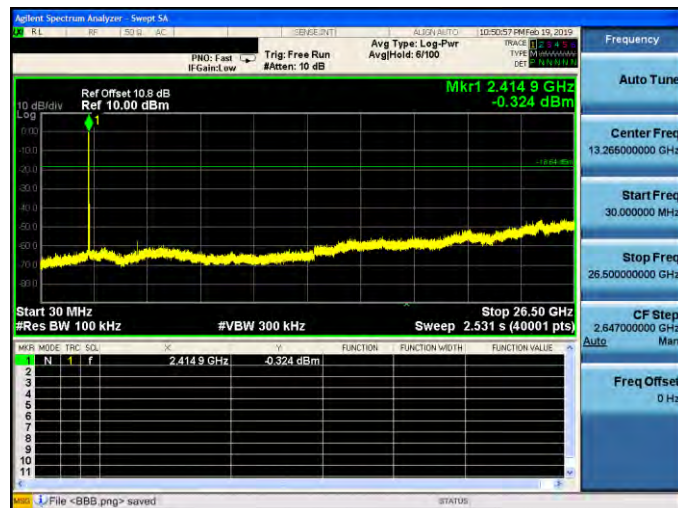
附註 1: 於使用頻帶範圍之任意 100 千赫 (kHz)內，發射器所產生的射頻功率相較於使用頻帶範圍中包含最高所需功率之 100 千赫 (kHz)內的射頻功率，衰減 20 分貝(dB)以上，符合規定。

附註 2: 測試結果頻帶外之輻射雜訊皆小於主頻 TX 20 dB。

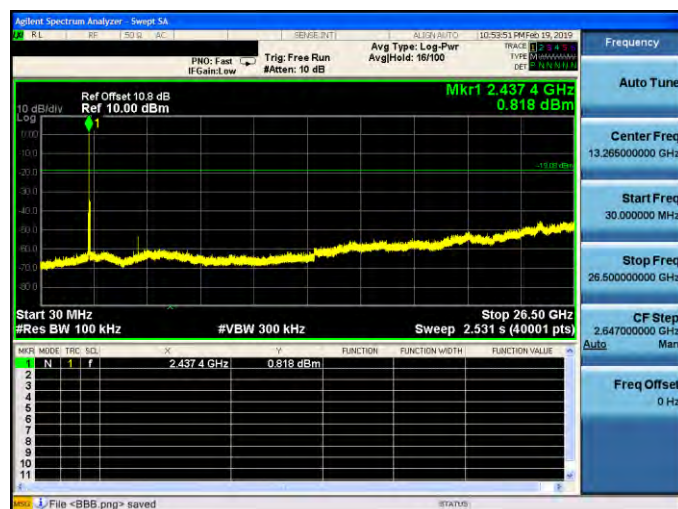
Out of Band Conducted Spurious Emission

Mode 2: IEEE 802.11b Continuous TX Mode

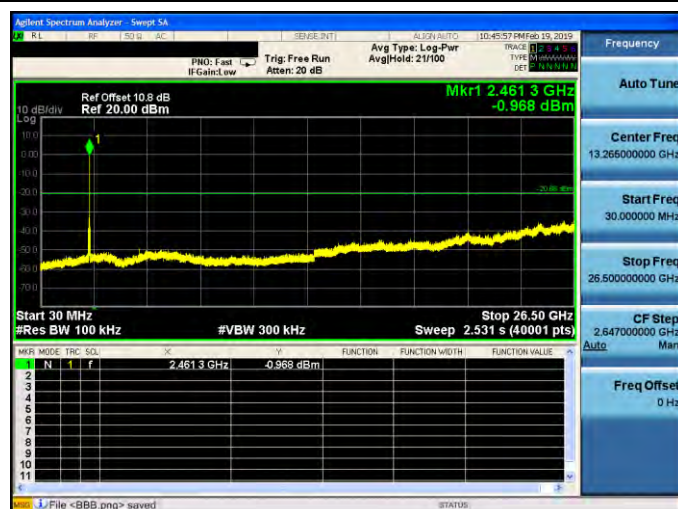
CH01

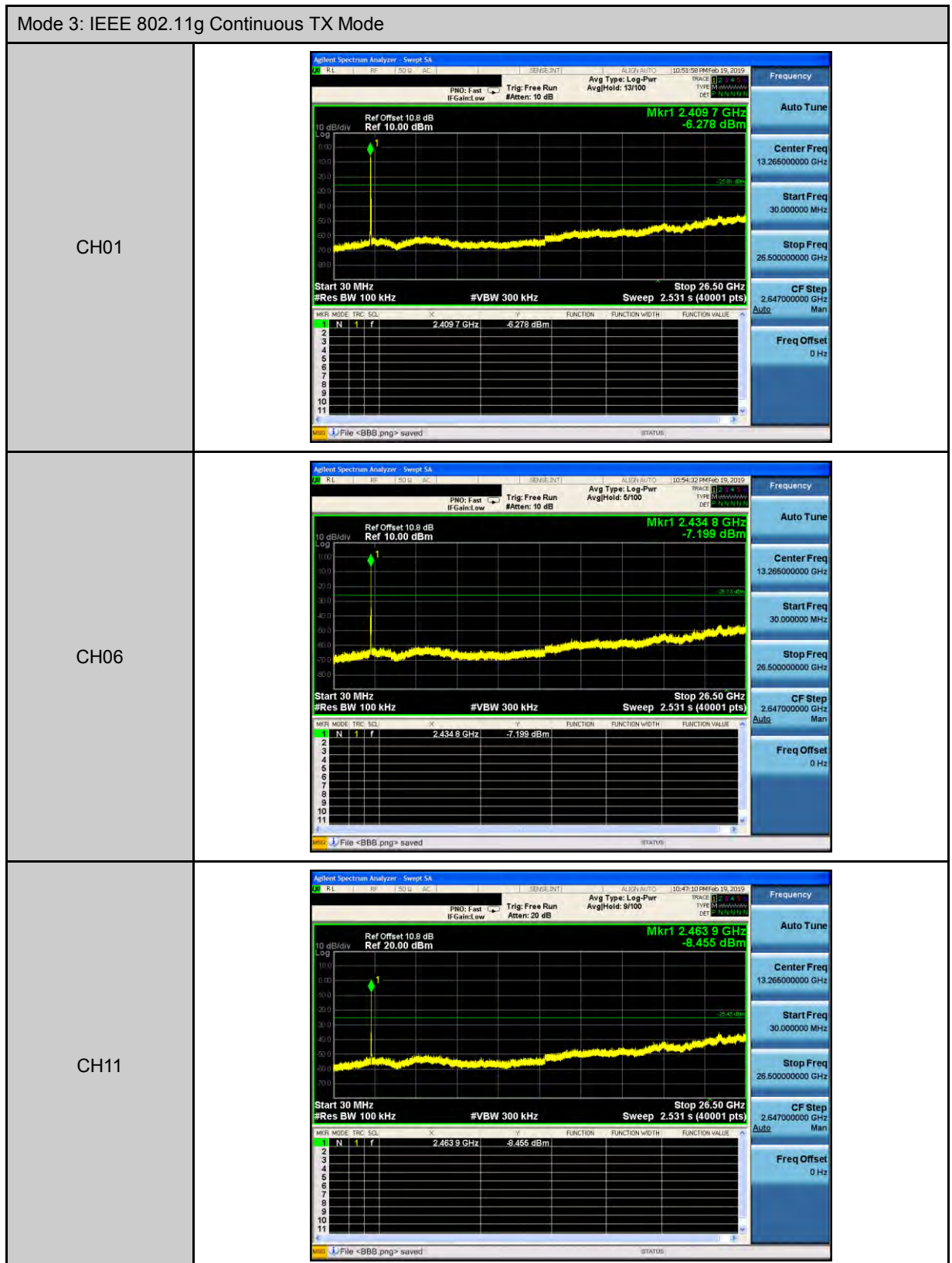


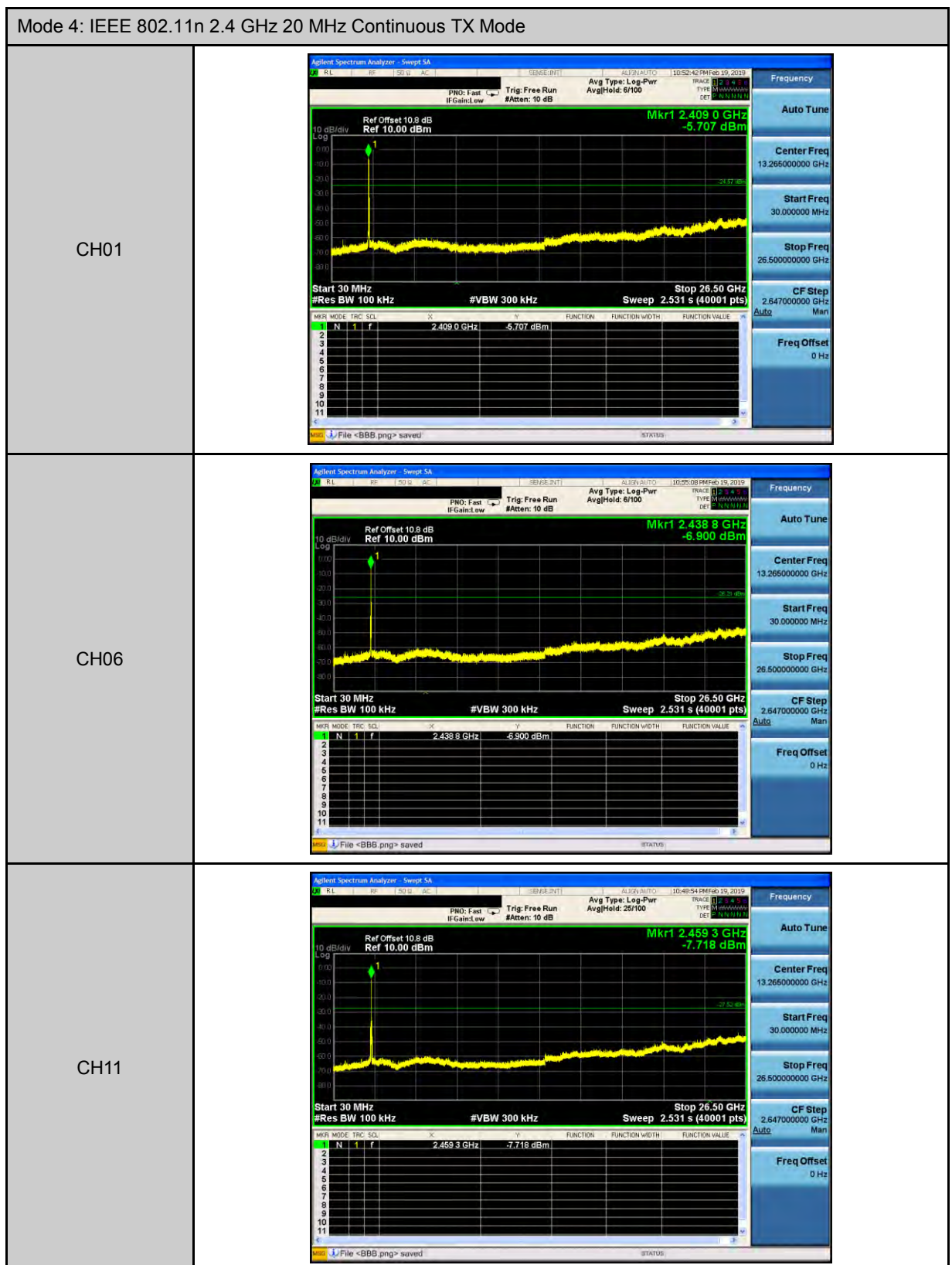
CH06

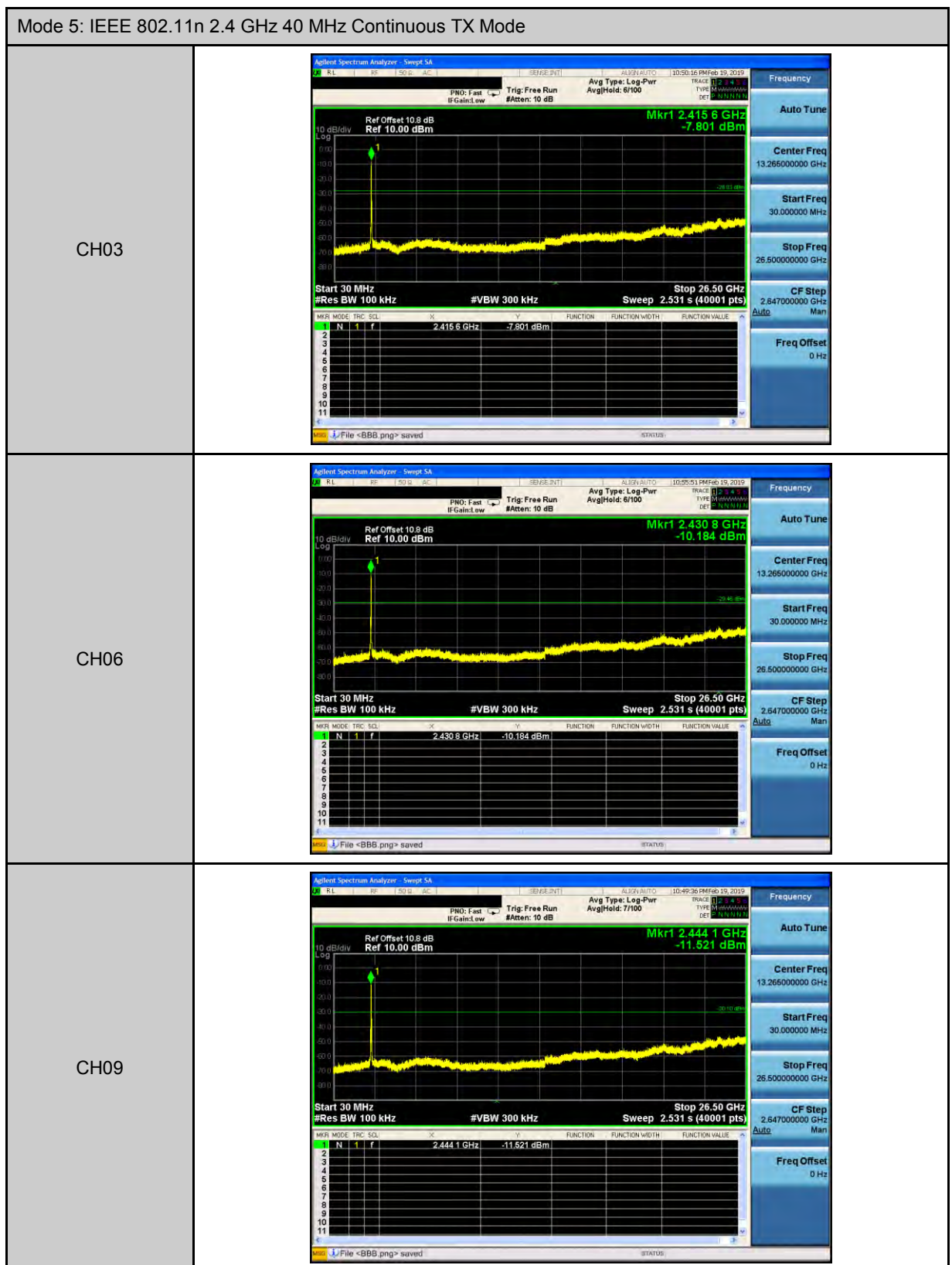


CH11

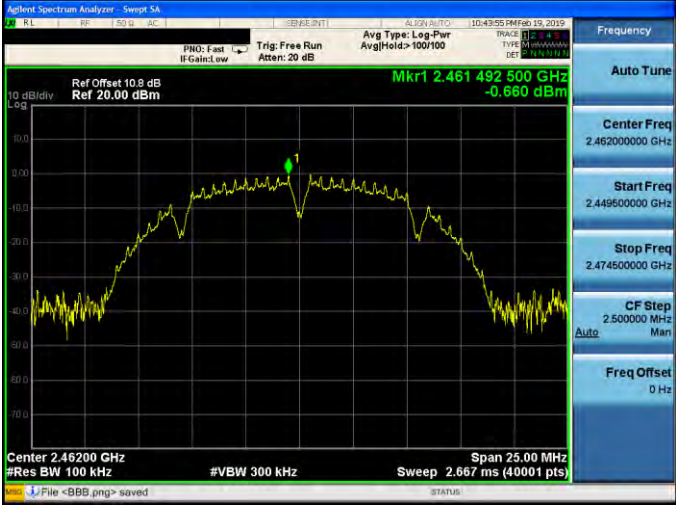


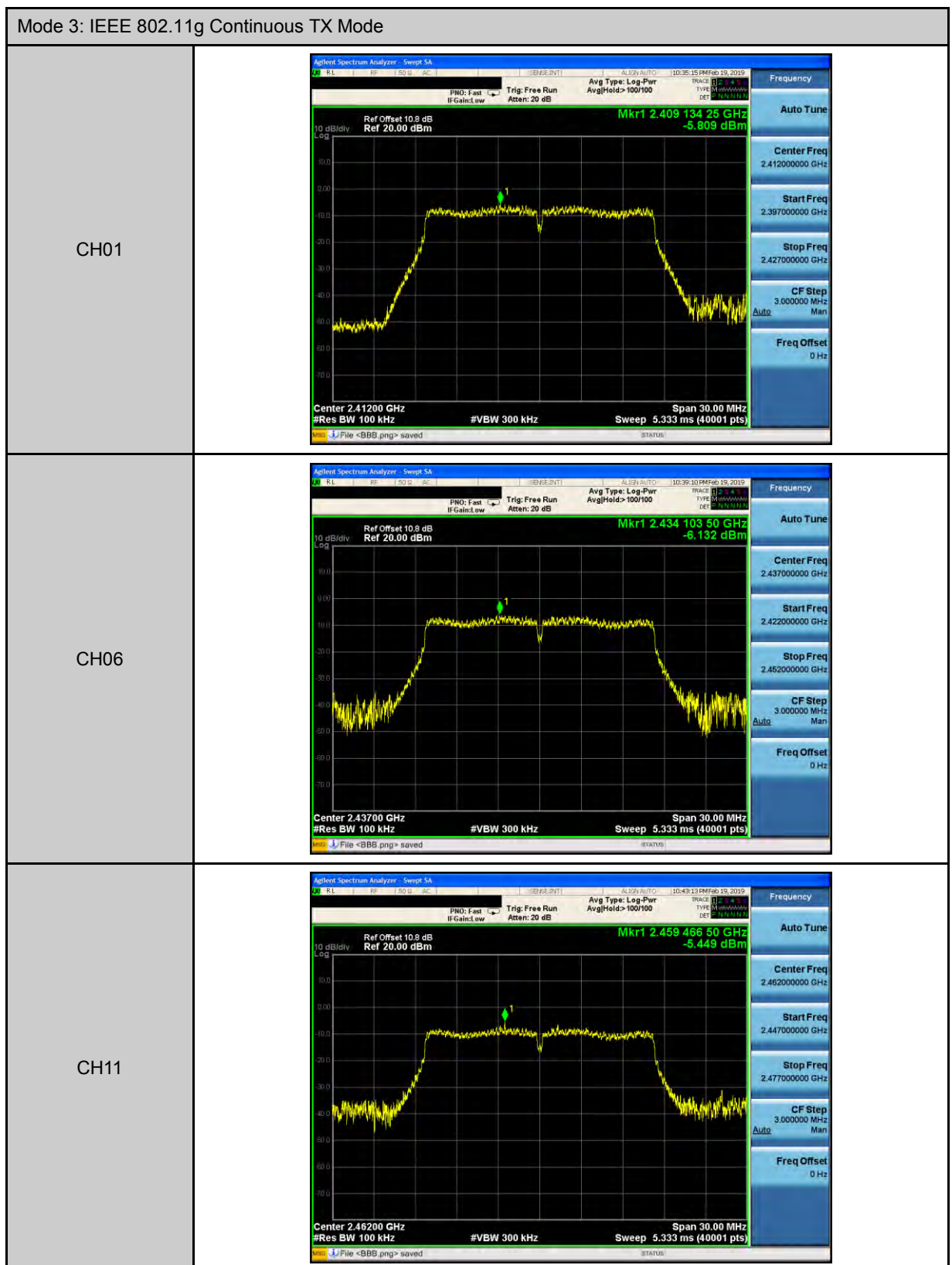


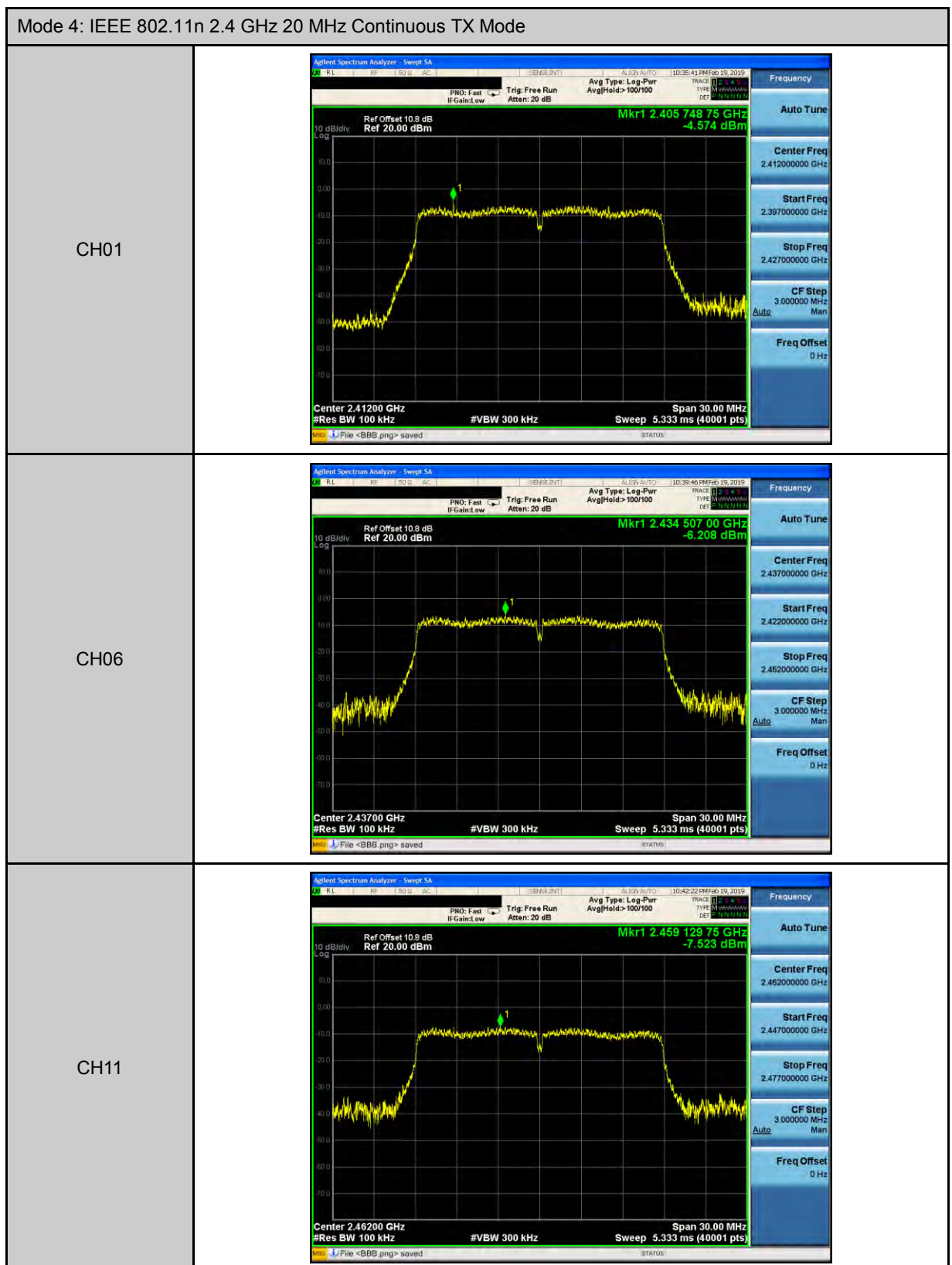




Reference level

Mode 2: IEEE 802.11b Continuous TX Mode	
CH01	 Agilent Spectrum Analyzer - Sweep SA Ref Offset 10.8 dB Ref 20.00 dBm Mkr1 2.412 504 375 GHz 1.363 dBm Center 2.41200 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.667 ms (40001 pts) Span 25.00 MHz
CH06	 Agilent Spectrum Analyzer - Sweep SA Ref Offset 10.8 dB Ref 20.00 dBm Mkr1 2.436 503 750 GHz 0.918 dBm Center 2.43700 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.667 ms (40001 pts) Span 25.00 MHz
CH11	 Agilent Spectrum Analyzer - Sweep SA Ref Offset 10.8 dB Ref 20.00 dBm Mkr1 2.461 492 500 GHz -0.660 dBm Center 2.46200 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.667 ms (40001 pts) Span 25.00 MHz



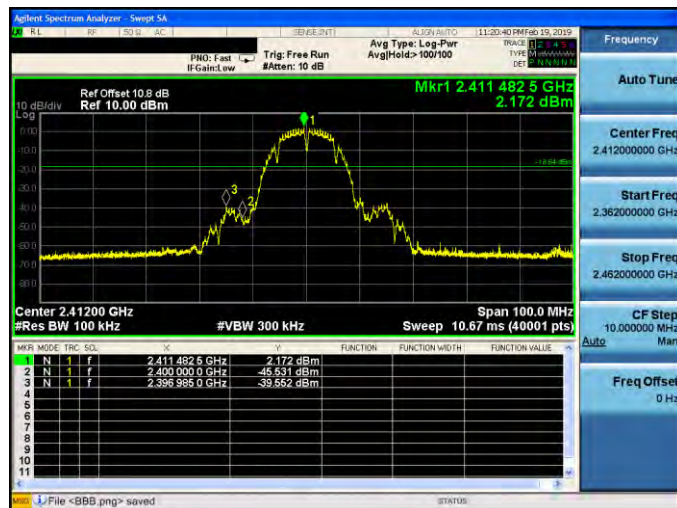




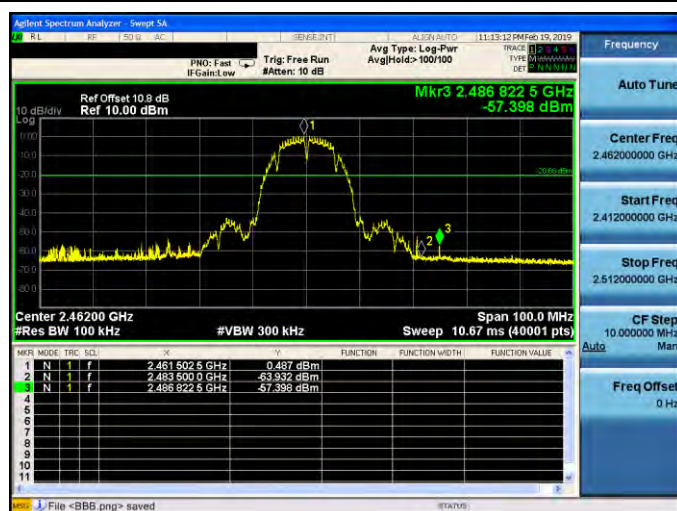
Conducted Band Edge

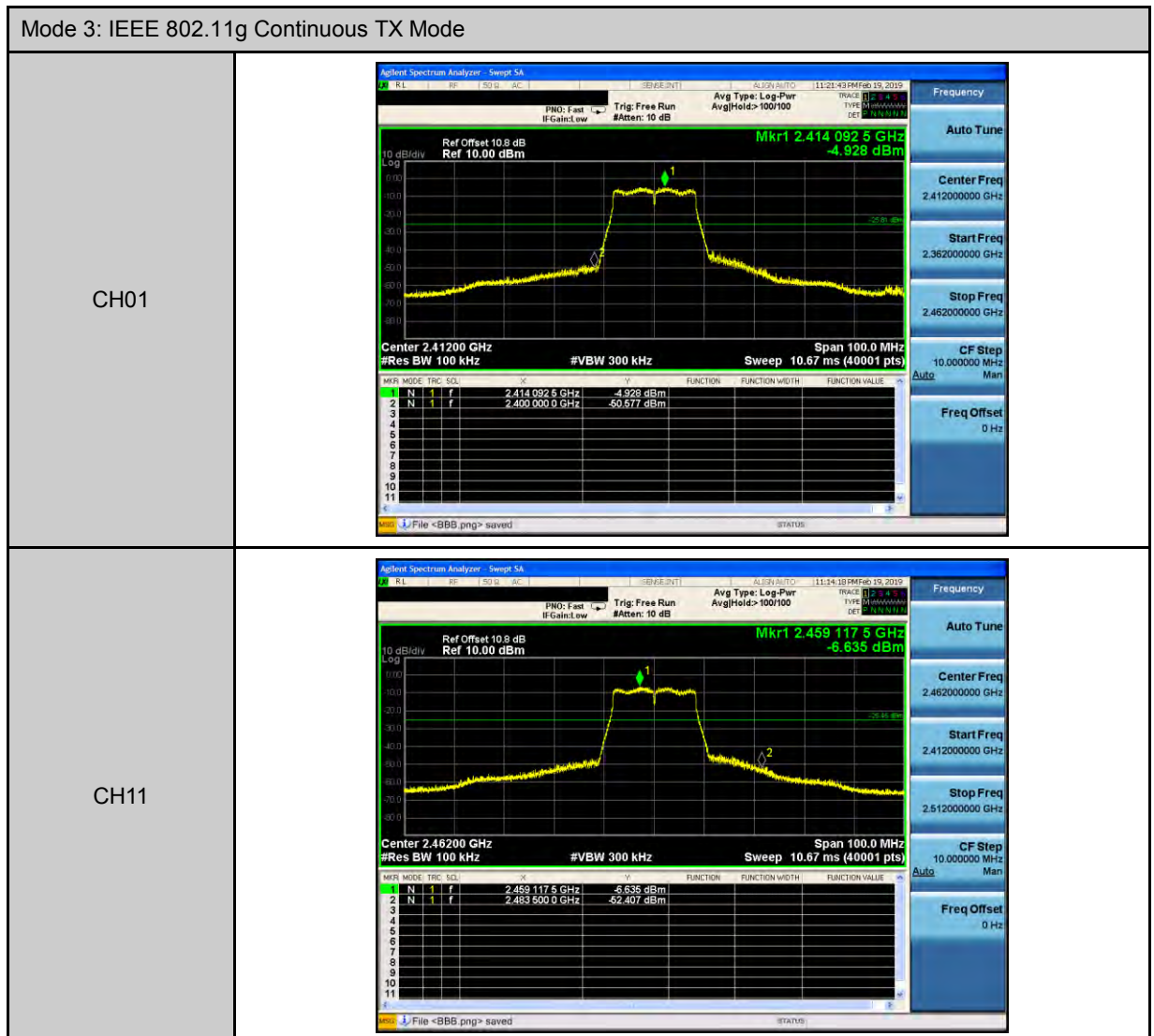
Mode 2: IEEE 802.11b Continuous TX Mode

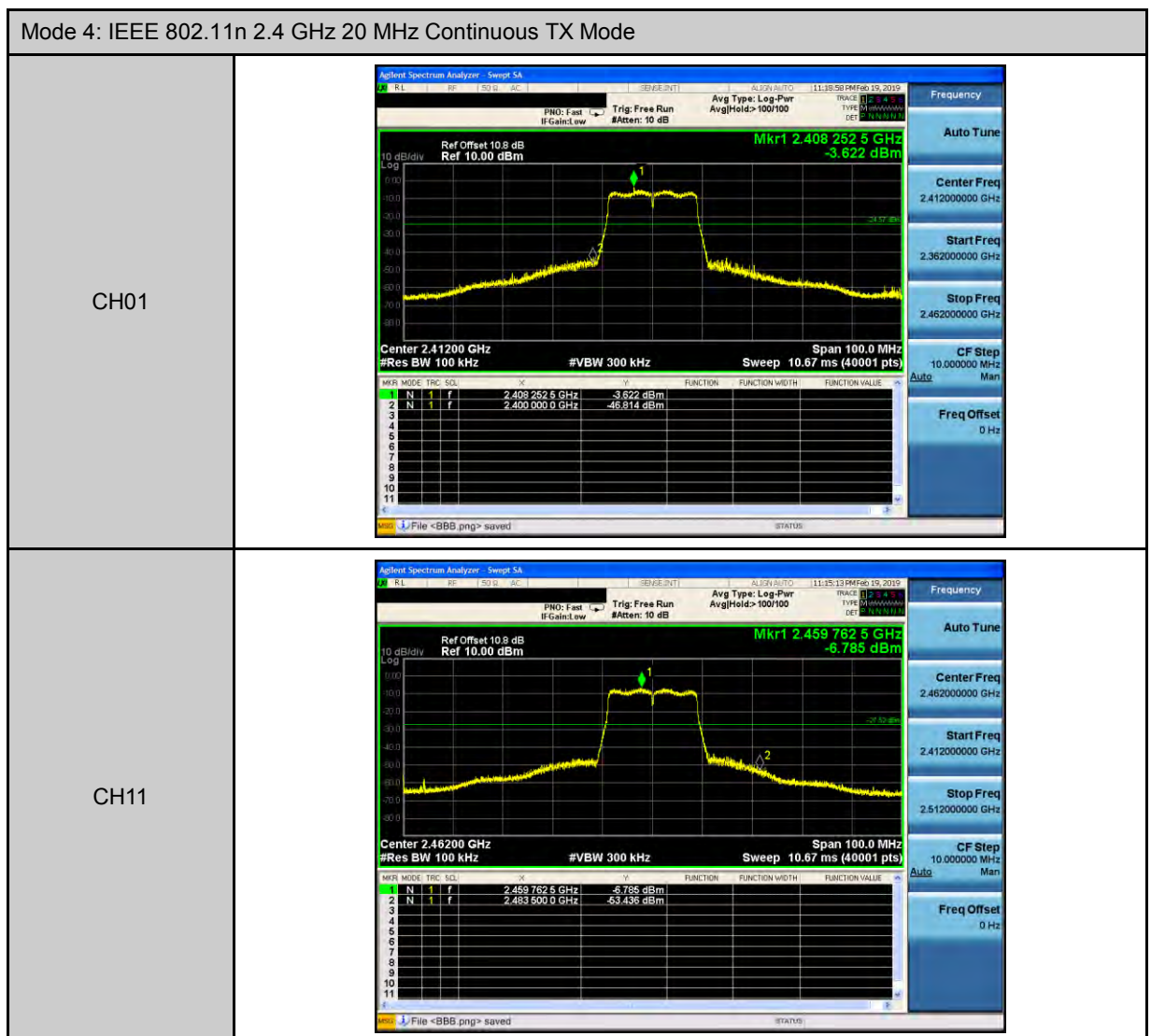
CH01

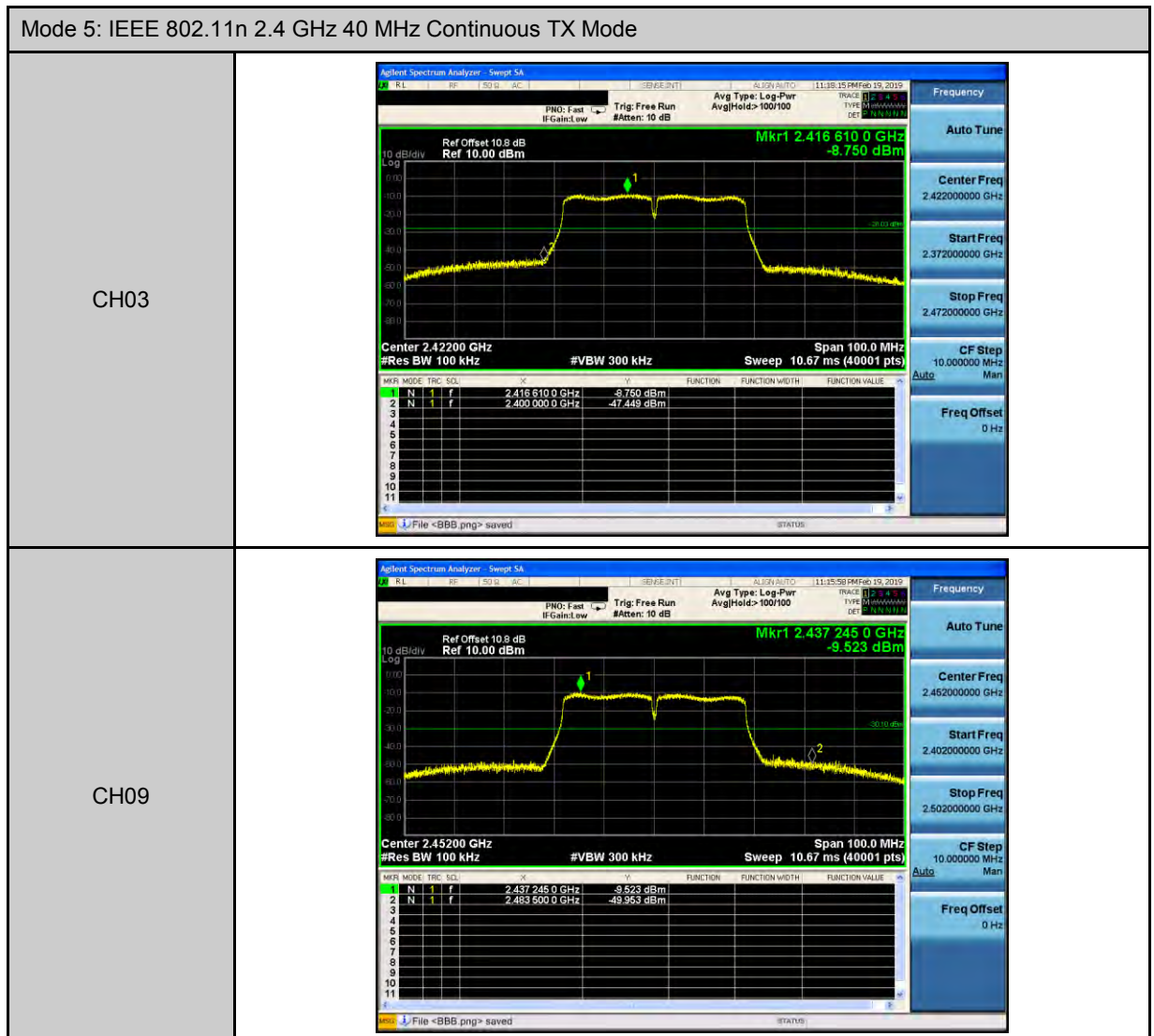


CH11







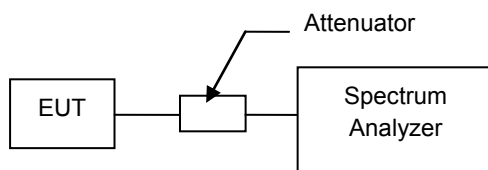


4.2.5 6 dB頻寬之要求

合格標準:

依據 NCC 低功率射頻電機技術規範 3.10.1.6(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)。

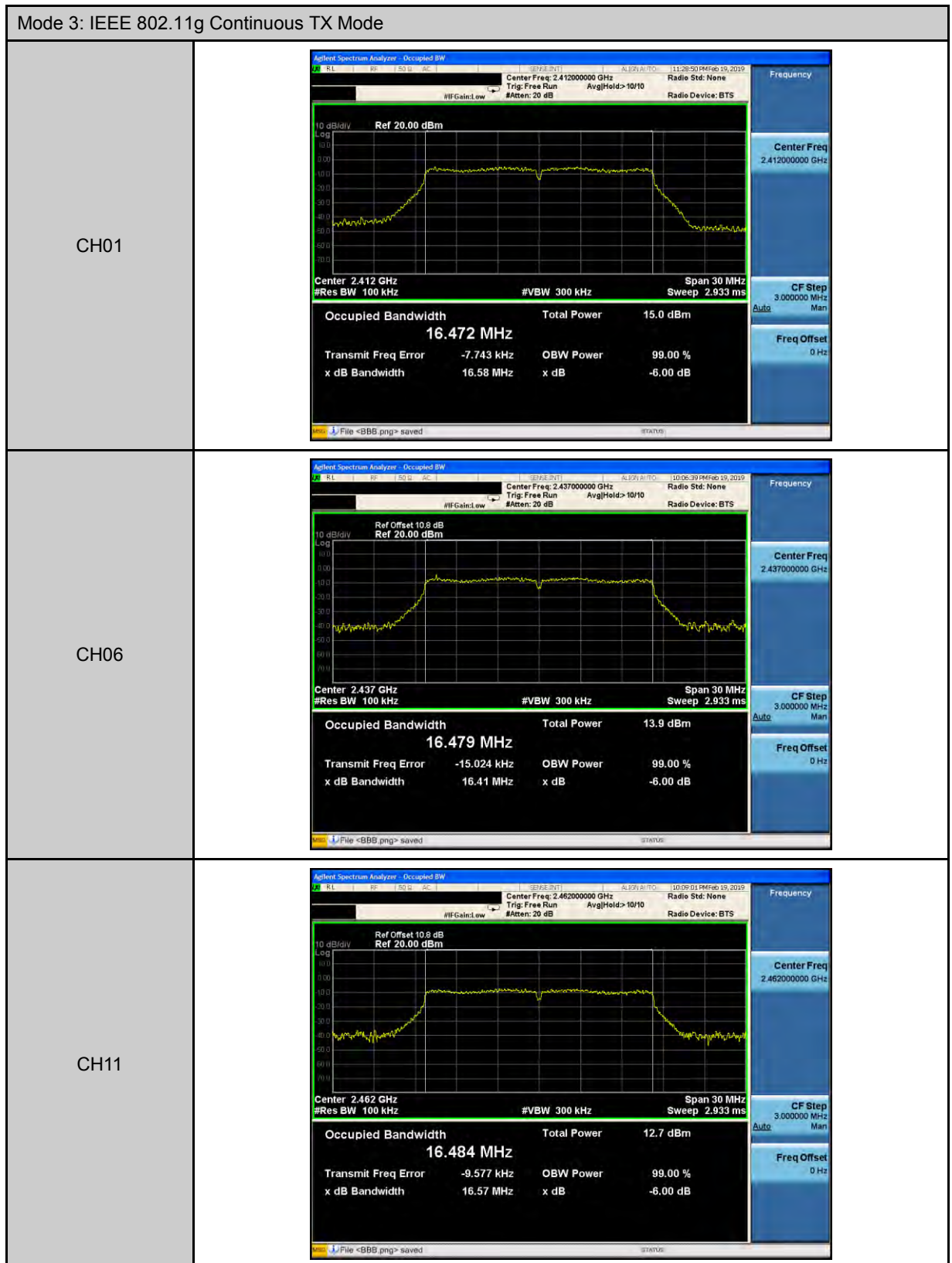
測試架構圖：

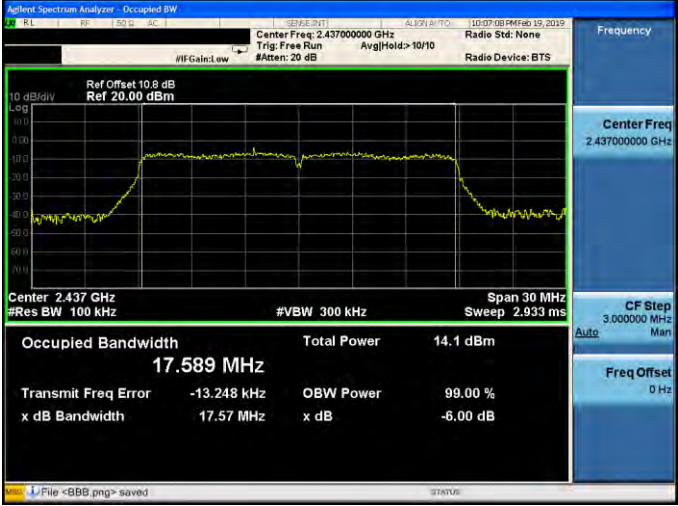


測試結果:

操作模式：Mode 2 / Mode 3 / Mode 4 / Mode 5			
操作模式	頻道	量測值 (kHz)	限制值 (kHz)
Mode 2	CH01	10100	≥ 500
	CH06	10100	≥ 500
	CH11	10090	≥ 500
Mode 3	CH01	16580	≥ 500
	CH06	16410	≥ 500
	CH11	16570	≥ 500
Mode 4	CH01	17720	≥ 500
	CH06	17570	≥ 500
	CH11	17730	≥ 500
Mode 5	CH03	36450	≥ 500
	CH06	36090	≥ 500
	CH09	35260	≥ 500
測試掃描圖請參考下頁。			

Mode 2: IEEE 802.11b Continuous TX Mode	
CH01	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.412000000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Ref 20.00 dBm Center 2.412 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 13.444 MHz Total Power 18.6 dBm Transmit Freq Error -105.66 kHz OBW Power 99.00 % x dB Bandwidth 10.10 MHz x dB -6.00 dB File <GBB.png> saved
CH06	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.437000000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Ref Offset 10.8 dB Ref 20.00 dBm Center 2.437 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 13.430 MHz Total Power 17.1 dBm Transmit Freq Error -118.22 kHz OBW Power 99.00 % x dB Bandwidth 10.10 MHz x dB -6.00 dB File <GBB.png> saved
CH11	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.462000000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Ref Offset 10.8 dB Ref 20.00 dBm Center 2.462 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 13.402 MHz Total Power 16.2 dBm Transmit Freq Error -91.521 kHz OBW Power 99.00 % x dB Bandwidth 10.09 MHz x dB -6.00 dB File <GBB.png> saved



Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX Mode	
CH01	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.412000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref: 20.00 dBm Center 2.412 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 17.586 MHz Total Power 15.3 dBm Transmit Freq Error -9.344 kHz OBW Power 99.00 % x dB Bandwidth 17.72 MHz x dB -6.00 dB File <GBB.png> saved
CH06	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.437000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref Offset 10.8 dB Ref: 20.00 dBm Center 2.437 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 17.589 MHz Total Power 14.1 dBm Transmit Freq Error -13.248 kHz OBW Power 99.00 % x dB Bandwidth 17.57 MHz x dB -6.00 dB File <GBB.png> saved
CH11	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.462000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref Offset 10.8 dB Ref: 20.00 dBm Center 2.462 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 17.600 MHz Total Power 12.9 dBm Transmit Freq Error -15.115 kHz OBW Power 99.00 % x dB Bandwidth 17.73 MHz x dB -6.00 dB File <GBB.png> saved

Mode 5: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX Mode	
CH03	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.42200000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Ref 20.00 dBm Center 2.422 GHz #Res BW 100 kHz #VBW 300 kHz Span 50 MHz Sweep 4.8 ms Occupied Bandwidth 36.005 MHz Total Power 14.5 dBm Transmit Freq Error -35.747 kHz OBW Power 99.00 % x dB Bandwidth 36.45 MHz x dB -6.00 dB File <GBB.png> saved
CH06	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.43700000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Ref Offset 10.8 dB Ref 20.00 dBm Center 2.437 GHz #Res BW 100 kHz #VBW 300 kHz Span 50 MHz Sweep 4.8 ms Occupied Bandwidth 36.018 MHz Total Power 13.4 dBm Transmit Freq Error -51.794 kHz OBW Power 99.00 % x dB Bandwidth 36.09 MHz x dB -6.00 dB File <GBB.png> saved
CH09	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.45200000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Ref Offset 10.8 dB Ref 20.00 dBm Center 2.452 GHz #Res BW 100 kHz #VBW 300 kHz Span 50 MHz Sweep 4.8 ms Occupied Bandwidth 36.029 MHz Total Power 12.9 dBm Transmit Freq Error -58.030 kHz OBW Power 99.00 % x dB Bandwidth 35.26 MHz x dB -6.00 dB File <GBB.png> saved

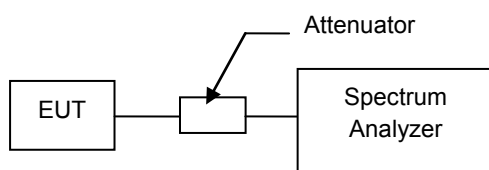
4.2.6 峰值發射功率頻譜密度之要求

合格標準：

依據 NCC 低功率射頻電機技術規範(LP0002)之 3.10.1.6(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)。

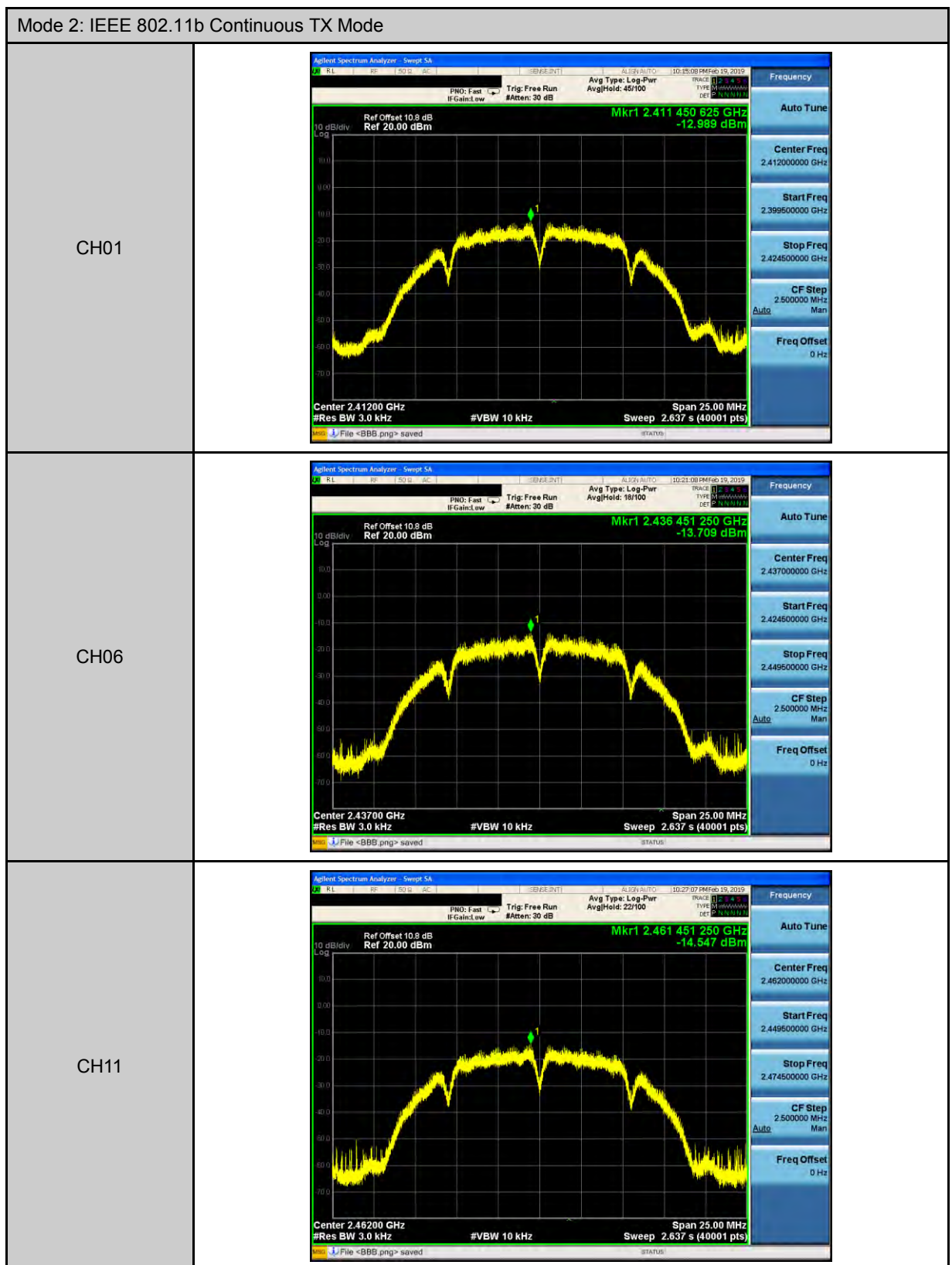
測試架構圖：

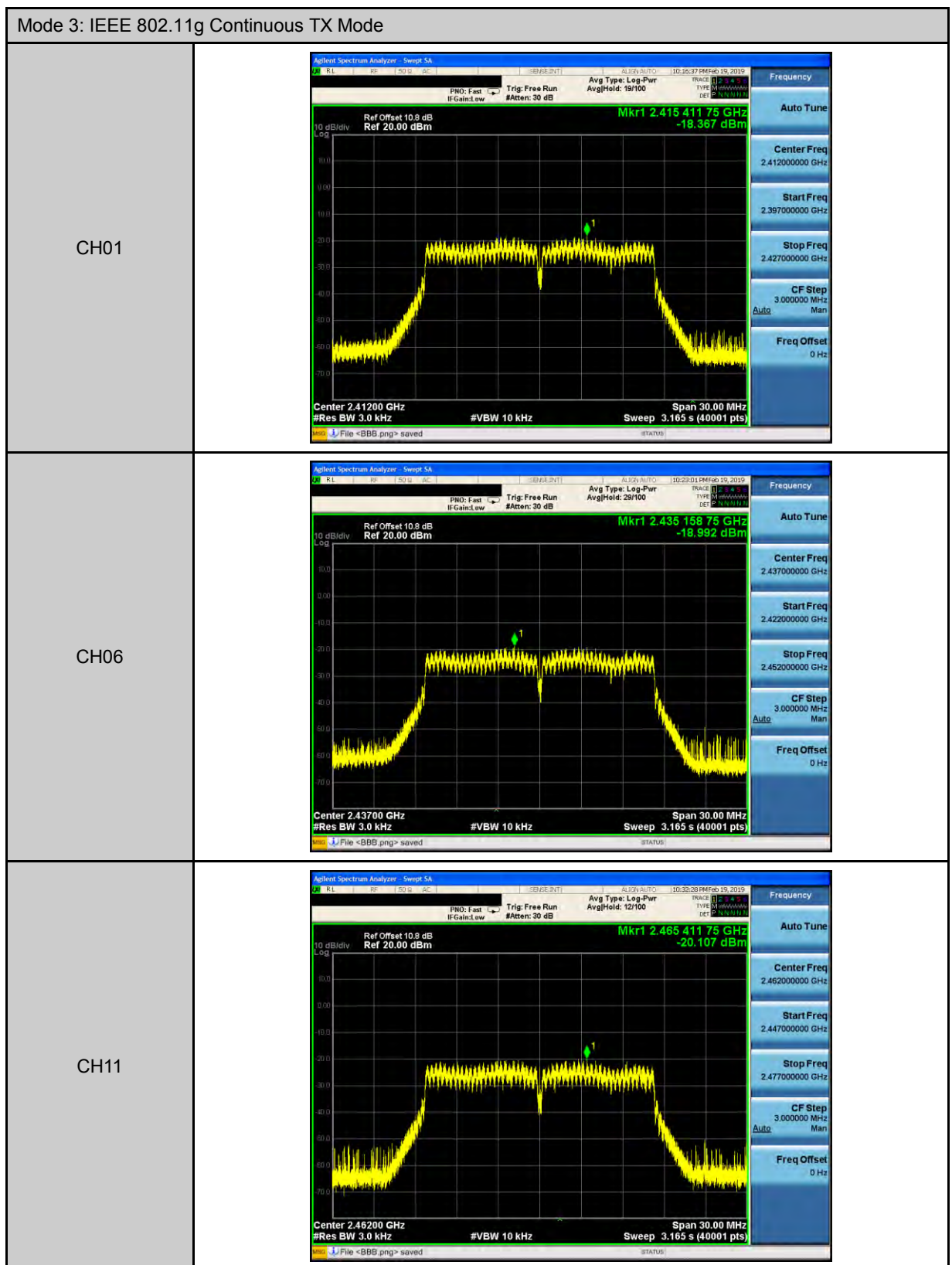
測試場地測試配置如圖所示。

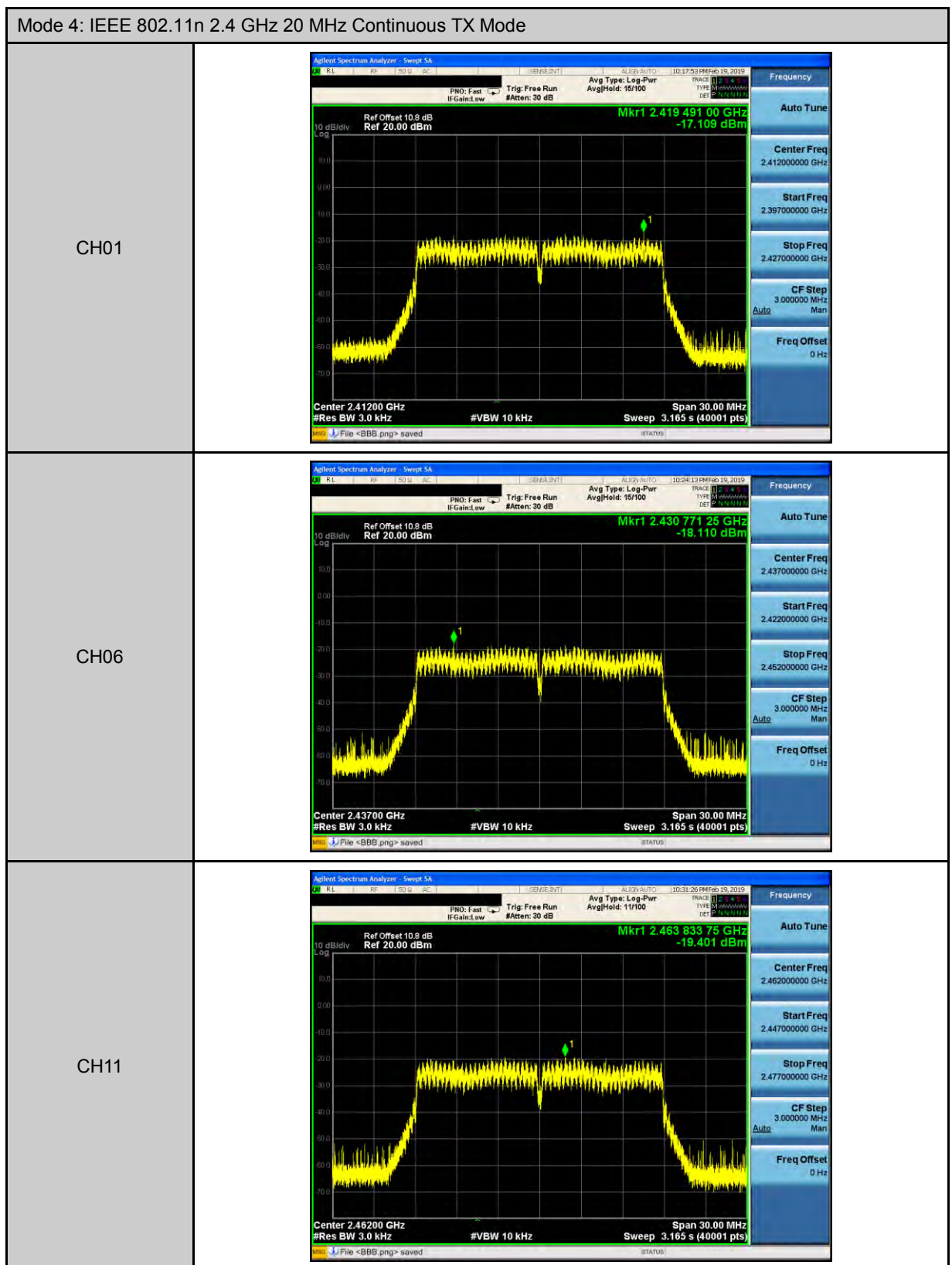


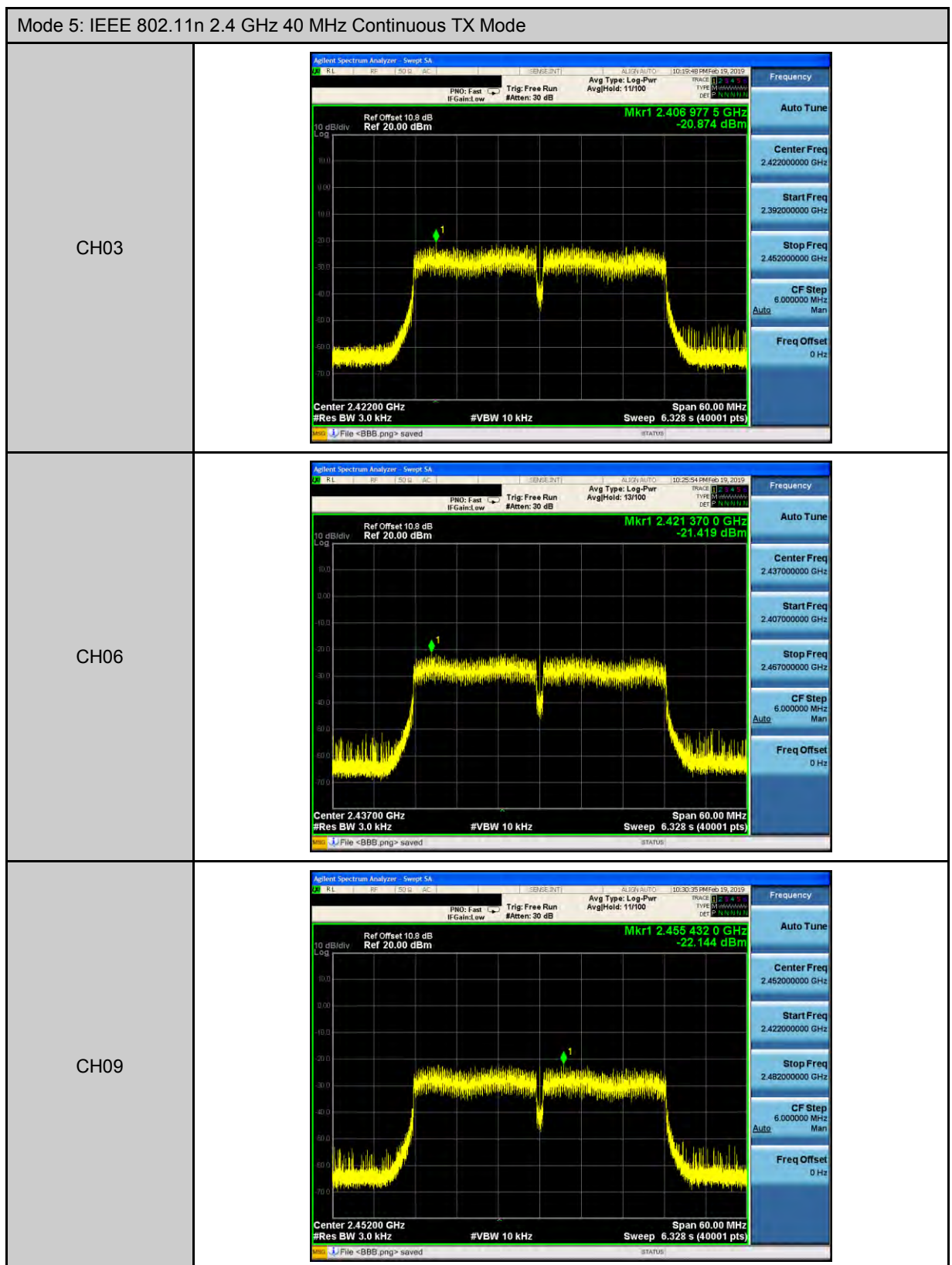
測試結果：

操作模式： Mode 2 / Mode 3 / Mode 4 / Mode 5			
測試結果： 合格			
操作模式	頻道	量測值 (dBm)	限制值 (dBm)
Mode 2	CH01	-12.989	≤ 8
	CH06	-13.709	≤ 8
	CH11	-14.547	≤ 8
Mode 3	CH01	-18.367	≤ 8
	CH06	-18.992	≤ 8
	CH11	-20.107	≤ 8
Mode 4	CH01	-17.109	≤ 8
	CH06	-18.110	≤ 8
	CH11	-19.401	≤ 8
Mode 5	CH03	-20.874	≤ 8
	CH06	-21.419	≤ 8
	CH09	-22.144	≤ 8









4.2.7 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：

5.20.2.1 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。

5.20.2.2 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。

判定結果:

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)
IEEE 802.11b	2412	1	20	11.79	5.2	3.31	1	49.984	0.0099
	2437	1	20	11.23	5.2	3.31	1	43.937	0.0087
	2462	1	20	10.32	5.2	3.31	1	35.631	0.0071
IEEE 802.11g	2412	1	20	9.02	5.2	3.31	1	26.414	0.0053
	2437	1	20	8.57	5.2	3.31	1	23.814	0.0047
	2462	1	20	7.50	5.2	3.31	1	18.613	0.0037
IEEE 802.11n 20 MHz	2412	1	20	9.19	5.2	3.31	1	27.468	0.0055
	2437	1	20	8.76	5.2	3.31	1	24.879	0.0049
	2462	1	20	7.61	5.2	3.31	1	19.091	0.0038
IEEE 802.11n 40 MHz	2422	1	20	8.32	5.2	3.31	1	22.482	0.0045
	2437	1	20	7.95	5.2	3.31	1	20.646	0.0041
	2452	1	20	7.38	5.2	3.31	1	18.106	0.0036

Simultaneous MPE = WLAN 2.4 G MPE + BT MPE = 0.0099 + 0.0009 = 0.0108 mW/cm²