



低功率射頻電機測試報告

申請廠商	: 光寶科技股份有限公司
地址	: 臺北市內湖區瑞光路 392 號 22 樓
製造廠商	: LITE-ON TECHNOLOGY(Changzhou) CO., LTD
地址	: A9 Building, No.88 Yanghu Road, Wujin Hi-Tech Industrial Development Zone, Changzhou City, Jiangsu Province 213166 China
產品名稱	: 802.11 b/g/n, 1T1R 2.4GHz WLAN Module
產品型號	: WN4649L
廠牌	: LITE-ON
受理日期	: 109 年 03 月 26 日
完成日期	: 109 年 06 月 15 日

實驗室名稱：世騰電子科技股份有限公司測試實驗室

實驗室地址：桃園市蘆竹區聯福街 2 巷 10 號

實驗室認可證書有效期限：109 年 07 月 08 日

實驗室認可編號及範圍：1439 (9 kHz to 40 GHz)

實驗室認證資格





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修訂記錄

報告號碼.	發行日期	描述
TENC2003289	Jun. 15, 2020	Original



證 明 書

申請廠商	:	光寶科技股份有限公司
地址	:	臺北市內湖區瑞光路 392 號 22 樓
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地址	:	A9 Building, No.88 Yanghu Road, Wujin Hi-Tech Industrial Development Zone, Changzhou City, Jiangsu Province 213166 China
產品名稱	:	802.11 b/g/n, 1T1R 2.4GHz WLAN Module
產品型號	:	WN4649L
廠牌	:	LITE-ON
該產品樣品試驗 依據之試驗標準	:	國家通訊傳播委員會低功率射頻電機技術規範(LP0002)。 規範修訂日期 107 年 1 月 10 日。
發射功率 (電場強度)	:	26.37 dBm

茲在此鄭重聲明：

本試驗報告所列之待測設備樣品於民國 109 年 06 月 09 日在本公司的標準測試場地完成詳細及完整之量測。本試驗報告所列之量測皆依據低功率射頻電機技術規範之規定來執行。並判斷此待測設備樣品確實符合低功率射頻電機技術規範規定。

備註：本測試報告僅對受測之樣品負責。非經本公司同意，測試報告不得摘錄複印使用。(全部複製除外)。

項次	測試項目	低功率射頻電機技術 規範	量測設備	測試結果	結果判定
1	天線增益之要求	3.10.1.3 節	---	請參閱 2.2 節	---
2	電源線傳導干擾之要求	2.3 節	請參閱 2 章	請參閱 4.4 節	合格
3	場強輻射之要求	3.10.1.5 節	請參閱 2 章	請參閱 5.4 節 及 5.5 節	合格
4	發射頻寬之要求	3.10.1.6 節(2).(A)	請參閱 2 章	請參閱 6.4 節	合格
5	峰值輸出功率之要求	3.10.1.2 節(1)(C)	請參閱 2 章	請參閱 7.4 節	合格
6	混附波發射限制之要求	3.10.1.5 節	請參閱 2 章	請參閱 8.4 節	合格
7	功率密度之要求	3.10.1.6 節(2)(B)	請參閱 2 章	請參閱 9.4 節	合格

本實驗室已依據合約內的標準，降低儀器、環境、人員等不確定因素。因此測試結果將直接依照標準要求判定之。

報告簽署人：



1. 一般描述

1.1. 產品規格

Frequency Range	802.11b/g/n: 2412-2462MHz
Modulation Type	802.11b: CCK, DQPSK, DBPSK 802.11g/n: BPSK, QPSK, 16QAM, 64QAM
Modulation Technology	DSSS, OFDM
Data Rate	802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS7, HT20
Antenna Type	PCB Antenna
Antenna Gain	1.8dBi,

Note: For more details, please refer to the User's manual of the EUT.

1.2. 差異說明

無。



1.3. 無線界面規格及頻道對應頻率

802.11b, 802.11g, 802.11n HT20

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*01	2412	07	2442
02	2417	08	2447
03	2422	09	2452
04	2427	10	2457
05	2432	*11	2462
*06	2437	---	---

*為量測之頻率

1.4. 測試模式之描述

- 電源傳導及輻射測試之測試軟體如下:
 1. 將量測系統之全部電源打開。
 2. 於測試進行的同時，在 Windows OS system 作業系統下，待測物執行” AmebaZ2_mptool ver.1V3”傳送及接收訊號。
- 執行以下測試模式如下：

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	802.11b (11Mbps) , Transmitter Mode
2	802.11g (6Mbps) , Transmitter Mode
3	802.11n HT20 (6.5Mbps) , Transmitter Mode
4	802.11b (11Mbps) , Receiver Mode
5	802.11g (6Mbps) , Receiver Mode
6	802.11n HT20 (6.5Mbps) , Receiver Mode
caused “Test Mode 2, 5” generated the worst case, it was reported as the final data.	
Radiation Emissions (30MHz ~ 1GHz)	
Test Mode	Operating Description
1	802.11b (11Mbps) , Transmitter Mode
2	802.11g (6Mbps) , Transmitter Mode
3	802.11n HT20 (6.5Mbps) , Transmitter Mode
4	802.11b (11Mbps) , Receiver Mode
5	802.11g (6Mbps) , Receiver Mode
6	802.11n HT20 (6.5Mbps) , Receiver Mode
caused “Test Mode 2, 5” generated the worst case, it was reported as the final data.	
Radiation Emissions (1GHz ~ 25GHz)	
Test Mode	Operating Description
1	802.11b (11Mbps) , Transmitter Mode
2	802.11g (6Mbps) , Transmitter Mode
3	802.11n HT20 (6.5Mbps) , Transmitter Mode
4	802.11b (11Mbps) , Receiver Mode
5	802.11g (6Mbps) , Receiver Mode
6	802.11n HT20 (6.5Mbps) , Receiver Mode
caused “Test Mode 1~3, 5” generated the worst case, they were reported as the final data.	



1.5. 受測裝置之系統說明

「本案經申請者切結器材不提供隨貨配件，配件由實驗室提供併同檢驗」，及其廠牌型號資訊如下：

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5470	N/A	Adapter / 1.8m / NS
AC Power Line Conducted Emission				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5470	N/A	Adapter / 1.8m / NS



1.6. 測試場地

測試場地：	世騰電子科技股份有限公司測試實驗室 338 桃園市蘆竹區聯福街 2 巷 10 號
測試電壓：	AC 110V / 60Hz
適用規範：	本測試報告之所有項目皆依據國家通訊傳播委員會低功率射頻電機技術規範以及參考 ANSI、FCC/47CFR/2.1046、2.1047、2.1049、2.1051、2.1053 及 2.1055 之檢驗法。
測試頻率：	電源傳導：從 150 kHz 到 30 MHz。 場強輻射：從 30 MHz 到 25000 MHz。
測試天線的距離：	場強輻射之測試距離為 3 M。

Test Item	Test Site	Finish Date	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2020/06/09	22°C / 61%	Nick Guan
Radiated Emissions	3M02-NK	2020/06/03	23°C / 48%	Vic Yeh
AC Power Line Conducted Emission	CON01-NK	2020/05/19	25°C / 48%	Leon Huang

1.7. 量測不確定度

Measurement Item	Uncertainty
Radiated Spurious Emission(9KHz~30MHz)	±3.404dB
Radiated Spurious Emission(30MHz~1GHz)	±5.686dB
Radiated Spurious Emission(1GHz~25GHz)	±6.597dB
Conducted Spurious Emission	±2.022dB
6dB Bandwidth	±4.482%
20dB Bandwidth	±4.40%
Occupied Bandwidth	±4.40%
Peak Output Power(Conducted Power Meter)	±1.02dB
Dwell Time	±3.49%
Power Spectral Density	±1.963dB
Duty Cycle	±3.47%



2. 測試儀器

Test Item	Radiated Emissions				
Test Site	Semi Anechoic Room(3M02-NK)				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Bilog Antenna	Schwarzbeck	VULB9168	275	2019/09/24	2020/09/23
Active Loop Antenna	EMCO	6507	40855	2020/05/21	2021/05/20
Horn Antenna	EMCO	3115	31589	2020/03/26	2021/03/25
Horn Antenna	EMCO	3116	31974	2019/09/17	2020/09/16
EMI Receiver	ROHDE & SCHWARZ	ESCI	100821	2019/09/16	2020/09/15
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2019/08/02	2020/08/01
Preamplifier	EM Electronics corp.	EM330	60660	2020/03/16	2021/03/15
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2019/09/20	2020/09/19
Preamplifier	Agilent	8449B	3008A01954	2020/03/16	2021/03/15
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2019/11/07	2020/11/06
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2020/04/07	2021/04/06
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1316	2019/09/20	2020/09/19
Cable-0.5m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805443/4	2020/05/27	2021/05/26
Cable-3m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805796/4	2020/05/27	2021/05/26
Cable-8m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805795/4	2020/05/27	2021/05/26
Cable-0.5m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	28420/2	2020/04/01	2021/03/31
Cable-3m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	MY2608/2	2020/04/01	2021/03/31
Cable-0.5m(1G-40G)	Rapidtek	40GHZ 50CM	38MS-38MS50314	2020/04/09	2021/04/08
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA

Test Item	RF Conducted				
Test Site	RFCON01-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Spectrum Analyzer	ROHDE & SCHWARZ	FSP 40	100219	2019/07/22	2020/07/21
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2019/08/02	2020/08/01
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2020/04/07	2021/04/06
CAX Signal Analyzer	KEYSIGHT	N9000B	MY57100339	2019/11/25	2020/11/24
Attenuator	KEYSIGHT	8491B	MY39250703	2020/04/17	2021/04/16
TEMP & HUMIDITY CHAMBER	T-MACHINE	TMJ-9712	T-12-040111	2019/08/28	2020/08/27
Power Meter	Anritsu	ML2495A	1224005	2020/04/17	2021/04/16
Power Sensor	Anritsu	MA2411B	1207295	2020/04/17	2021/04/16



Test Item	AC Power Line Conducted Emission				
Test Site	CON01-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
EMI Receiver	ROHDE & SCHWARZ	ESCI	100821	2019/09/16	2020/09/15
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127-516	2019/09/19	2020/09/18
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	101933	2019/09/11	2020/09/10
Cable-6m(9k~300M)	NA	EMC5D-BM-BM-6	130605	2019/09/11	2020/09/10
E3	AUDIX	v8.2014-8-6	RK-000531	NA	NA



3. 天線增益之要求

天線規格不受國家通訊傳播委員會低功率射頻電機技術規範(2.2)節規定之限制，其發射天線之方向性增益超過 6dBi 時，應依其所超過之 dB 數等量降低峰值輸出功率。如用於固定式點對點操作時，應符合下列情形之一：

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

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

3.1. 天線型式及其增益

1.1 Brand :	LITE-ON
1.2 Model :	WN4649L
1.3 Antenna type :	PCB Antenna
1.4 Frequency Rang :	2412-2462MHz
1.5 Gain(peak) :	1.8dBi
(參照天線規格資料)	

3.2. 結果判定

其發射天線之方向性增益低於 6dBi，因此無需降低峰值輸出功率。

4. 電源線傳導干擾之量測規定

4.1. 適用標準

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

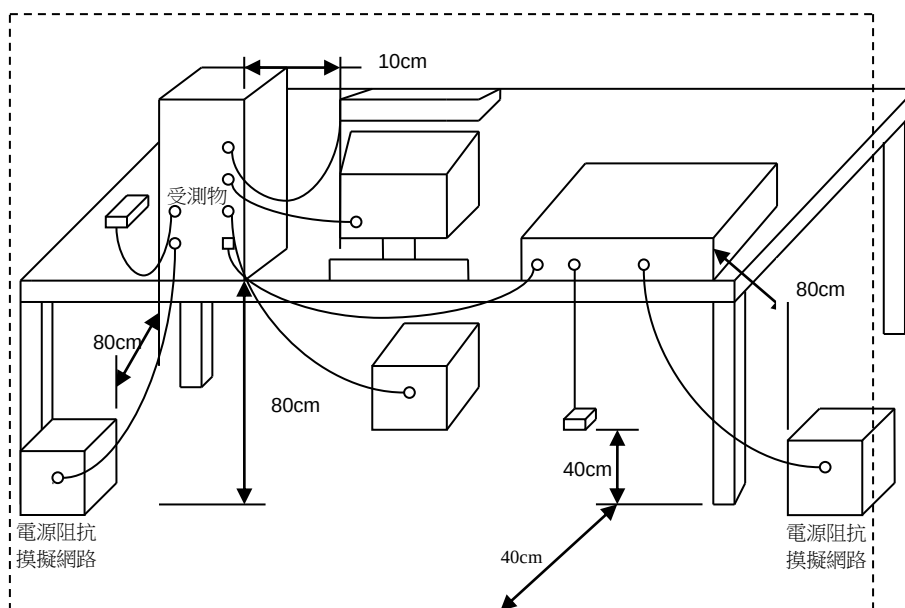
頻率範圍(MHz)	傳導限制值 (dB μ V)	
	準峰值(Quasi-peak)	平均值(Average)
0.15 ~ 0.5	66-56 (註)	56-46 (註)
0.5 ~ 5	56	46
5 ~ 30	60	50

註：隨頻率之對數遞減

4.2. 測試方法

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接至電源阻抗穩定網路上，從測試接收機記錄頻率由 0.15MHz 至 30MHz 之間之電源線導放射強度。

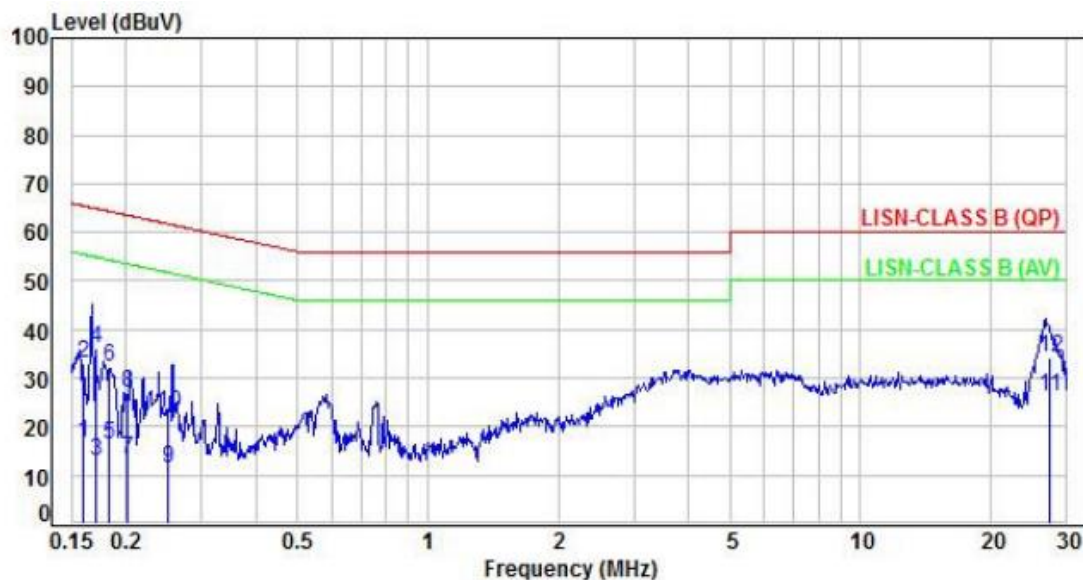
4.3. 傳導干擾之擺設





4.4. 傳導干擾之測試結果及數據

Power	: AC 110V / 60Hz	Pol/Phase	: LINE
Test Mode	: Mode 2		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.92	6.96	16.88	55.47	-38.59	Average	P
2	0.16	9.92	23.27	33.19	65.47	-32.28	QP	P
3	0.17	9.92	2.86	12.78	54.94	-42.16	Average	P
4	0.17	9.92	26.22	36.14	64.94	-28.80	QP	P
5	0.18	9.92	6.38	16.30	54.37	-38.07	Average	P
6	0.18	9.92	22.46	32.38	64.37	-31.99	QP	P
7	0.20	9.92	3.37	13.29	53.56	-40.27	Average	P
8	0.20	9.92	17.01	26.93	63.56	-36.63	QP	P
9	0.25	9.92	1.33	11.25	51.74	-40.49	Average	P
10	0.25	9.92	12.95	22.87	61.74	-38.87	QP	P
11	27.33	10.85	15.25	26.10	50.00	-23.90	Average	P
12	27.33	10.85	23.54	34.39	60.00	-25.61	QP	P

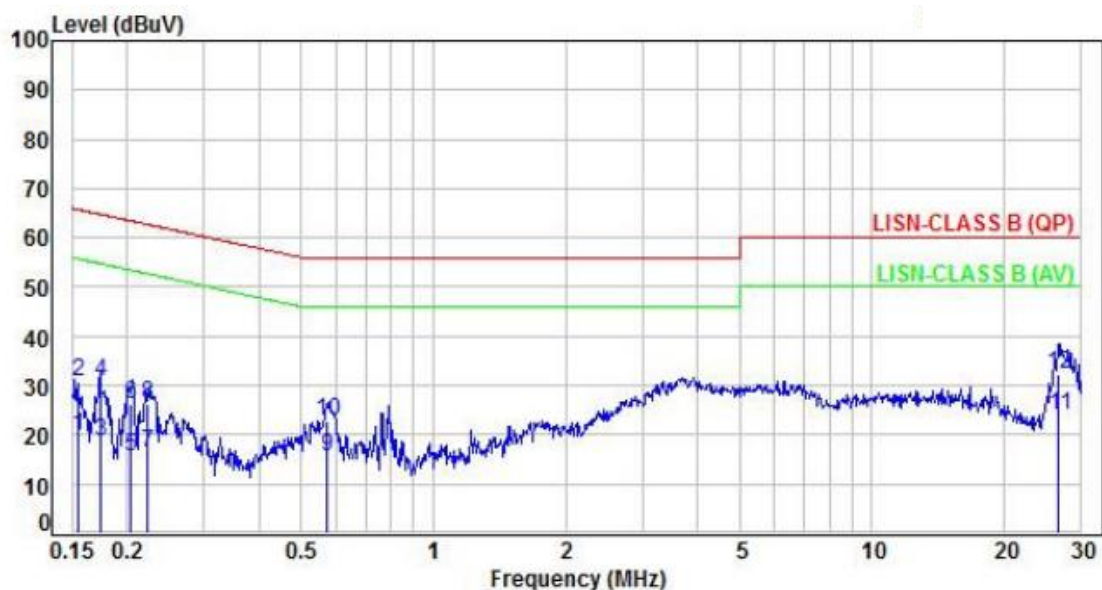
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=(LISN or ISN or Current Probe)Factor + Cable Loss



Power	: AC 110V / 60Hz	Pol/Phase	: NEUTRAL
Test Mode	: Mode 2		



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.95	9.88	19.83	55.72	-35.89	Average	P
2	0.16	9.95	20.73	30.68	65.72	-35.04	QP	P
3	0.17	9.95	8.75	18.70	54.78	-36.08	Average	P
4	0.17	9.95	20.86	30.81	64.78	-33.97	QP	P
5	0.20	9.95	5.74	15.69	53.42	-37.73	Average	P
6	0.20	9.95	16.37	26.32	63.42	-37.10	QP	P
7	0.22	9.95	6.39	16.34	52.72	-36.38	Average	P
8	0.22	9.95	16.31	26.26	62.72	-36.46	QP	P
9	0.57	9.96	5.71	15.67	46.00	-30.33	Average	P
10	0.57	9.96	12.75	22.71	56.00	-33.29	QP	P
11	26.71	10.85	13.16	24.01	50.00	-25.99	Average	P
12	26.71	10.85	21.32	32.17	60.00	-27.83	QP	P

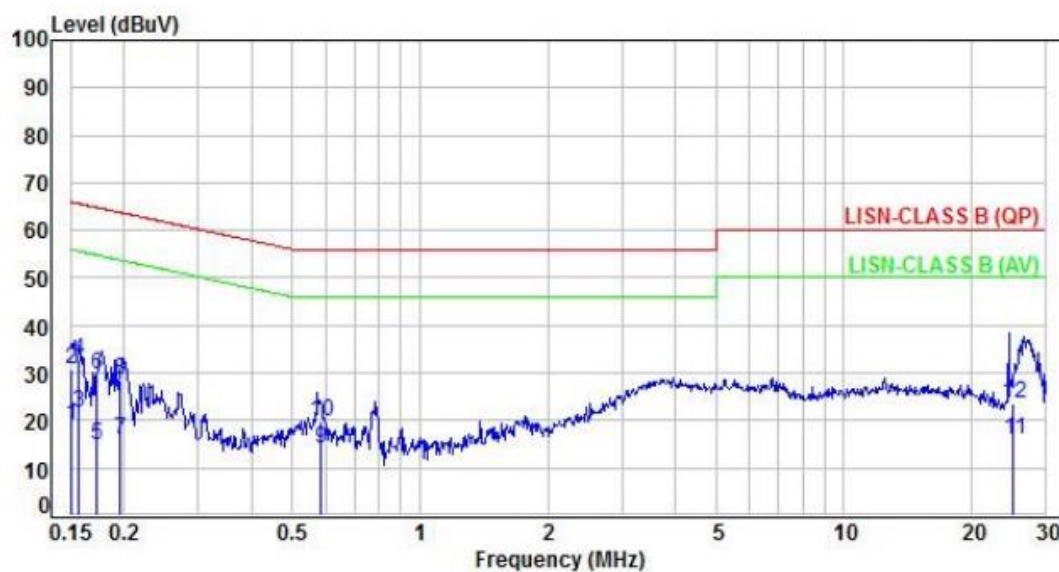
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=(LISN or ISN or Current Probe)Factor + Cable Loss



Power	: AC 110V / 60Hz	Pol/Phase	: LINE
Test Mode	: Mode 5		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.92	9.26	19.18	55.98	-36.80	Average	P
2	0.15	9.92	20.97	30.89	65.98	-35.09	QP	P
3	0.16	9.92	11.59	21.51	55.62	-34.11	Average	P
4	0.16	9.92	22.95	32.87	65.62	-32.75	QP	P
5	0.17	9.92	4.90	14.82	54.86	-40.04	Average	P
6	0.17	9.92	19.85	29.77	64.86	-35.09	QP	P
7	0.20	9.92	5.88	15.80	53.79	-37.99	Average	P
8	0.20	9.92	18.75	28.67	63.79	-35.12	QP	P
9	0.59	9.95	4.06	14.01	46.00	-31.99	Average	P
10	0.59	9.95	9.95	19.90	56.00	-36.10	QP	P
11	25.18	10.78	5.06	15.84	50.00	-34.16	Average	P
12	25.18	10.78	12.97	23.75	60.00	-36.25	QP	P

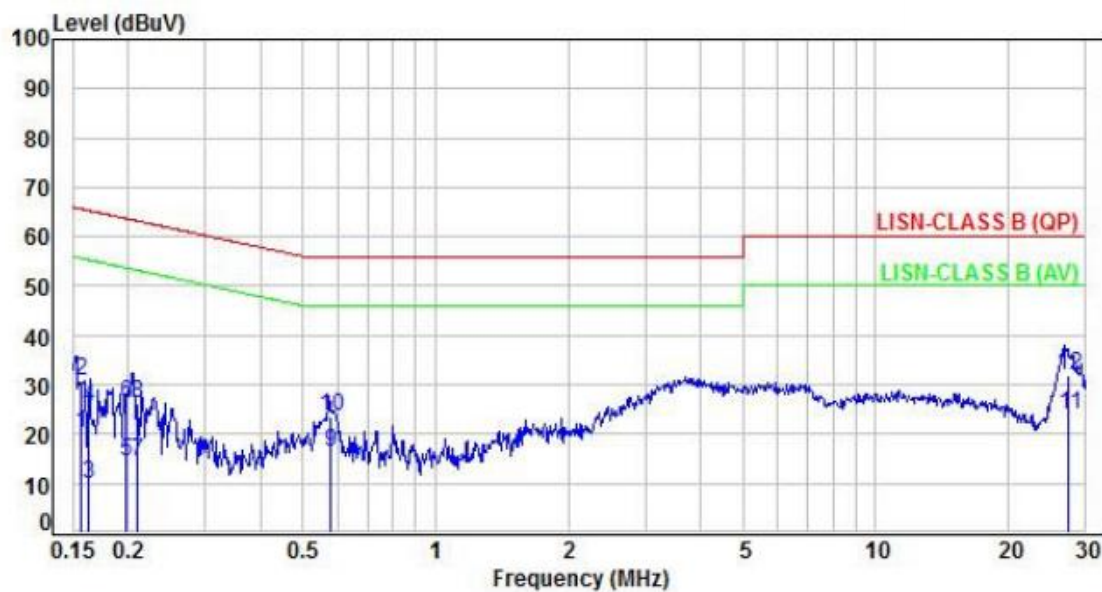
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=(LISN or ISN or Current Probe)Factor + Cable Loss



Power	: AC 110V / 60Hz	Pol/Phase	: NEUTRAL
Test Mode	: Mode 5		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.95	10.13	20.08	55.66	-35.58	Average	P
2	0.16	9.95	20.86	30.81	65.66	-34.85	QP	P
3	0.16	9.95	0.10	10.05	55.31	-45.26	Average	P
4	0.16	9.95	15.54	25.49	65.31	-39.82	QP	P
5	0.20	9.95	4.57	14.52	53.68	-39.16	Average	P
6	0.20	9.95	16.37	26.32	63.68	-37.36	QP	P
7	0.21	9.95	4.44	14.39	53.21	-38.82	Average	P
8	0.21	9.95	16.22	26.17	63.21	-37.04	QP	P
9	0.58	9.96	6.53	16.49	46.00	-29.51	Average	P
10	0.58	9.96	13.47	23.43	56.00	-32.57	QP	P
11	27.50	10.87	13.15	24.02	50.00	-25.98	Average	P
12	27.50	10.87	20.89	31.76	60.00	-28.24	QP	P

Note: Level=Reading+Factor

Margin=Level-Limit

Factor=(LISN or ISN or Current Probe)Factor + Cable Loss



5. 輻射之量測規定

5.1. 適用標準

依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.5 節之要求，落於 2.7 節禁用頻段之輻射干擾需符合 2.8 節之一般限制要求：

頻率(MHz)	測試距離(m)	限制值(dB μ V)	限制值(μ V/m)
0.009 – 0.490 (含)	300	67.6 / f(kHz)	2400 / f(kHz)
0.490 (不含) – 1.705 (含)	30	87.6 / f(kHz)	24000 / f(kHz)
1.705(不含) – 30(不含)	30	29.5	30
30 (含) – 88 (含)	3	40.0	100
88(不含) – 216 (含)	3	43.5	150
216(不含) – 960 (含)	3	46.0	200
960(不含)以上	3	54.0	500

5.2. 測試方法

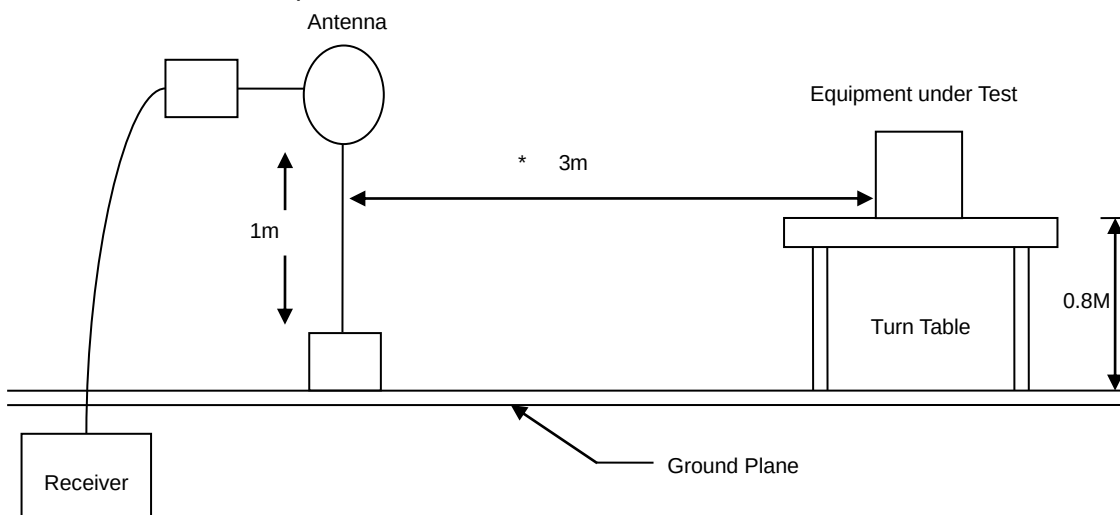
將待測物置於 0.8 米(Below 1G) & 1.5 米(Above 1G)高的非金屬桌面，使其在測試模式狀態，且設定為高、中、低各頻道產生最高峰值輸出功率的傳輸速率，接收天線置於 3 米外，且桌面要 360 度旋轉，另外接收天線也要從 1 米至 4 米升降變化，接收天線置於水平、垂直極向各執行測試一次。待測物若為手持式則分別要以三軸相放置，並分別測試以找出最大輻射電場強度。

備註：

For Below 1G 若待測物之輻射峰值低於限制值 3dB 以上，則將終止測試，並以峰值之讀值作為報告之記錄；反之，若無 3dB 餘裕範圍之輻射，則每一訊號皆以準峰值之測試方法量測，並記錄於報告之中

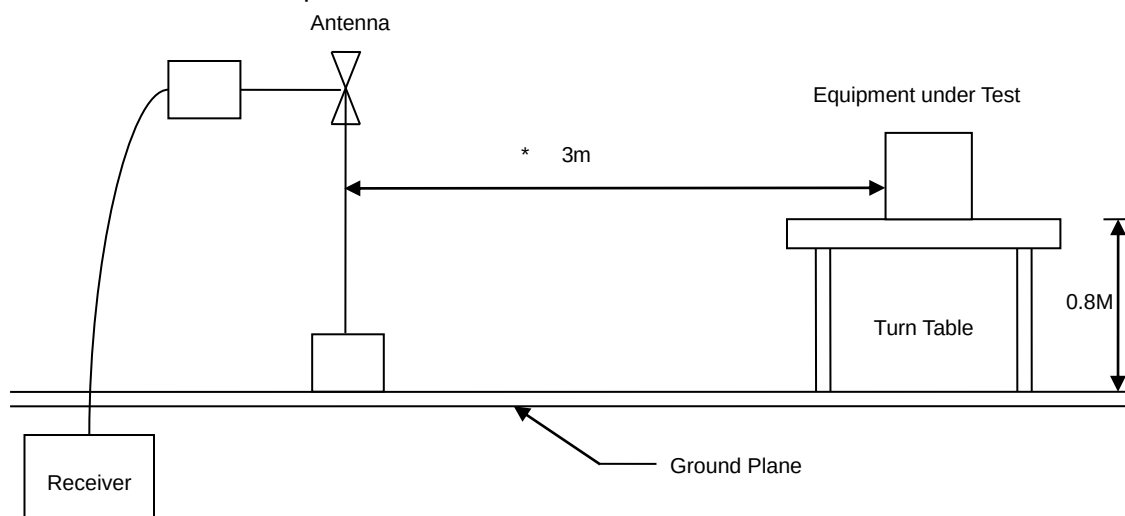
5.3. 輻射場地之擺設

Below 30MHz test setup

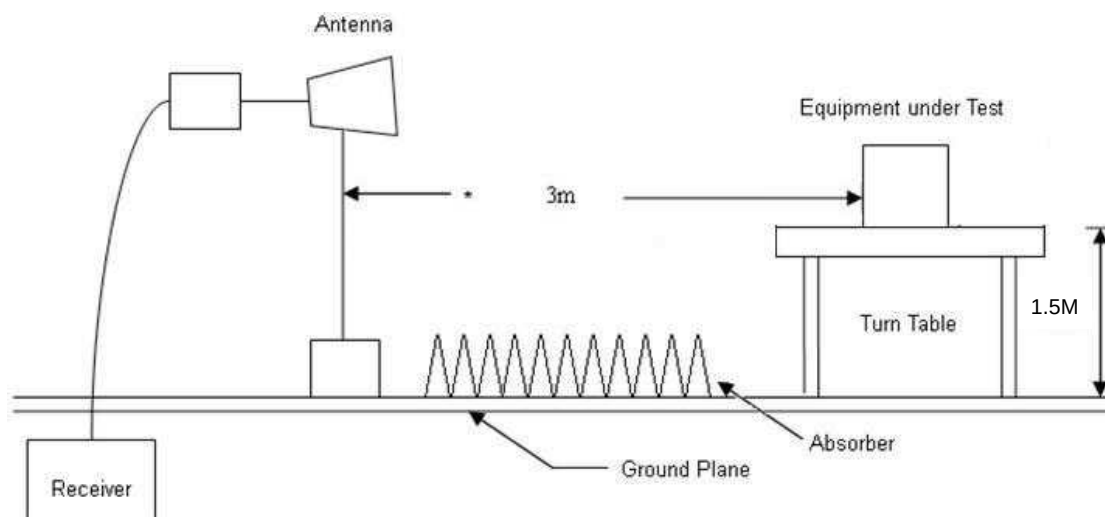




30MHz- 1GHz Test Setup



Above 1GHz Test Setup



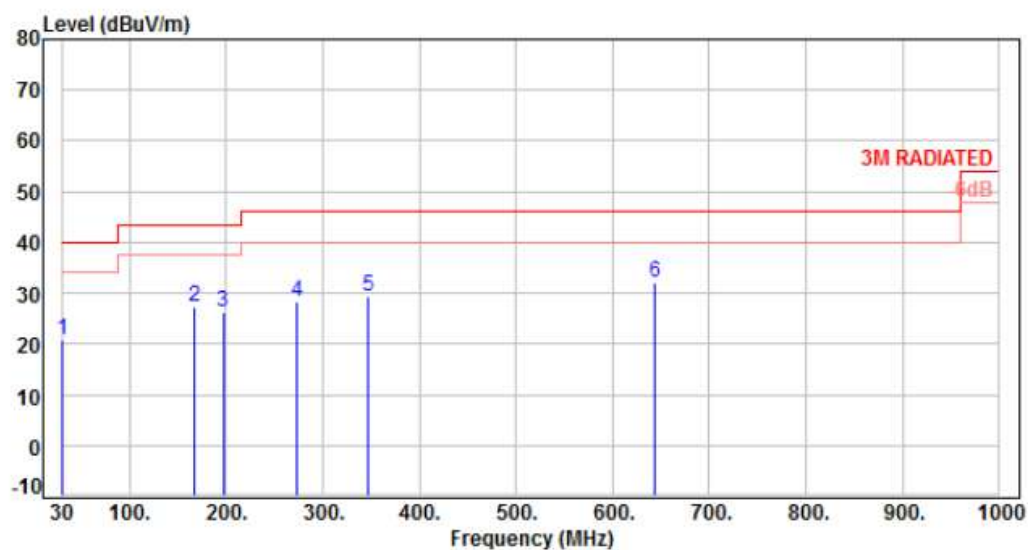


5.4. 輻射之測試結果及數據 (9kHz ~ 30MHz)

The 9kHz - 30MHz spurious emission is under limit 20dB more.

5.5. 輻射之測試結果及數據 (30MHz ~ 1GHz)

Power	: AC 110V / 60Hz	Pol/Phase	: VERTICAL
Test Mode	: Mode 2		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.00	-10.34	31.15	20.81	40.00	-19.19	Peak	100	0	P
2	167.68	-9.65	36.83	27.18	43.50	-16.32	Peak	100	0	P
3	196.76	-12.01	38.31	26.30	43.50	-17.20	Peak	100	0	P
4	272.48	-9.43	37.59	28.16	46.00	-17.84	Peak	100	0	P
5	346.29	-7.42	36.66	29.24	46.00	-16.76	Peak	100	0	P
6	643.15	-1.07	33.33	32.26	46.00	-13.74	Peak	100	0	P

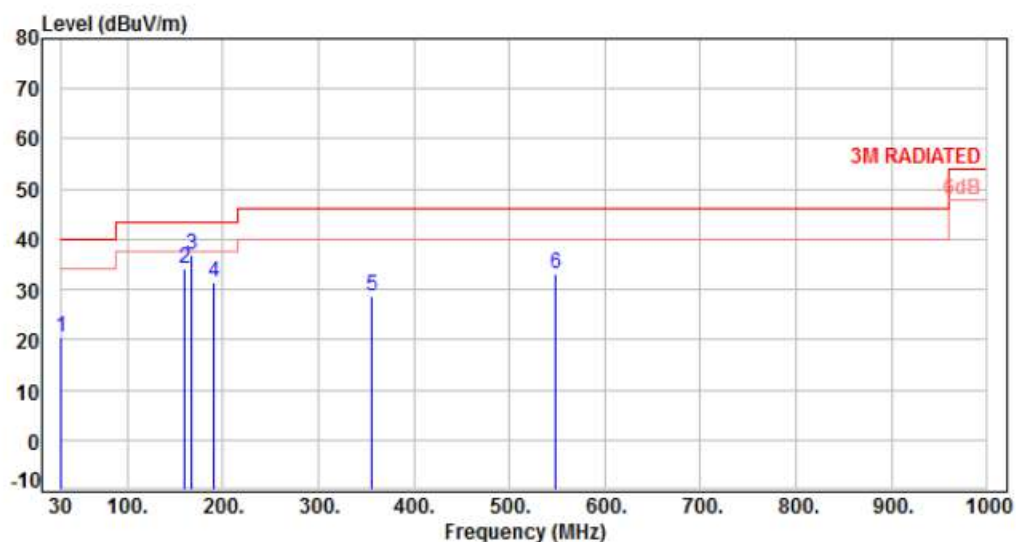
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60Hz	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2		



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.00	-10.34	30.83	20.49	40.00	-19.51	Peak	100	0	P
2	159.92	-9.58	43.83	34.25	43.50	-9.25	Peak	100	0	P
3	167.67	-9.65	46.42	36.77	43.50	-6.73	Peak	100	0	P
4	191.18	-11.87	43.23	31.36	43.50	-12.14	Peak	100	0	P
5	355.89	-7.17	35.99	28.82	46.00	-17.18	Peak	100	0	P
6	547.92	-3.04	36.28	33.24	46.00	-12.76	Peak	100	0	P

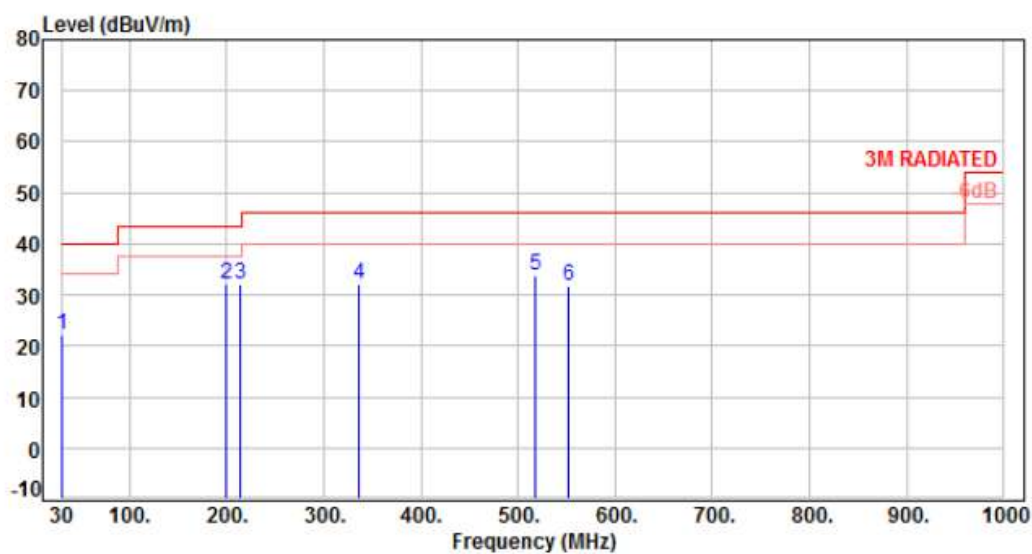
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60Hz	Pol/Phase	: VERTICAL
Test Mode	: Mode 5		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.00	-10.34	32.64	22.30	40.00	-17.70	Peak	100	0	P
2	198.78	-12.07	44.14	32.07	43.50	-11.43	Peak	100	0	P
3	214.30	-11.74	44.00	32.26	43.50	-11.24	Peak	100	0	P
4	336.52	-7.64	39.64	32.00	46.00	-14.00	Peak	100	0	P
5	516.94	-3.46	37.22	33.76	46.00	-12.24	Peak	100	0	P
6	551.86	-2.96	34.72	31.76	46.00	-14.24	Peak	100	0	P

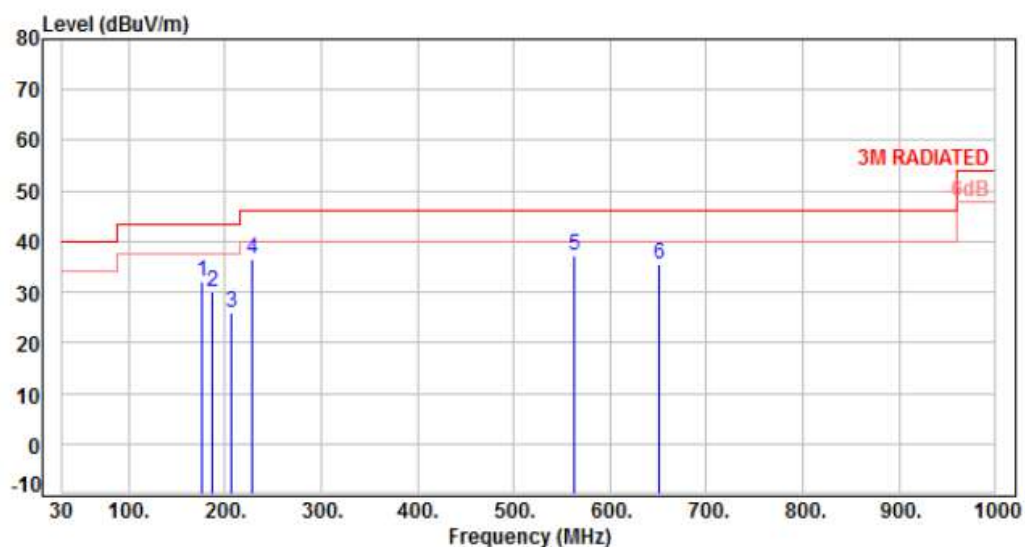
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60Hz	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 5		



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	175.50	-10.37	42.40	32.03	43.50	-11.47	QP	150	25	P
2	187.14	-11.58	41.50	29.92	43.50	-13.58	QP	150	22	P
3	206.54	-11.94	38.01	26.07	43.50	-17.43	QP	150	40	P
4	227.88	-11.65	48.14	36.49	46.00	-9.51	Peak	100	0	P
5	563.50	-2.54	39.71	37.17	46.00	-8.83	Peak	100	0	P
6	650.80	-1.01	36.47	35.46	46.00	-10.54	Peak	100	0	P

Note: Level=Reading+Factor

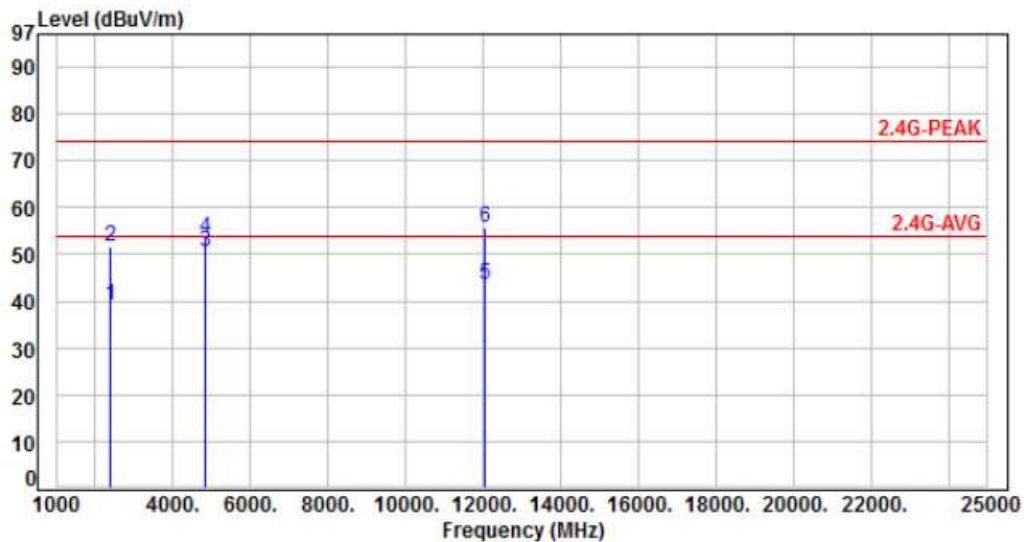
Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



5.6. 輻射之測試結果及數據 (1GHz ~ 25GHz)

Power	: AC 110V / 60Hz	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH01		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	41.83	38.94	54.00	-15.06	Average	188	82	P
2	2390.00	-2.89	54.36	51.47	74.00	-22.53	Peak	188	82	P
3	4824.00	4.88	45.52	50.40	54.00	-3.60	Average	233	137	P
4	4824.00	4.88	48.60	53.48	74.00	-20.52	Peak	233	137	P
5	12060.00	14.80	28.65	43.45	54.00	-10.55	Average	100	174	P
6	12060.00	14.80	40.80	55.60	74.00	-18.40	Peak	100	174	P

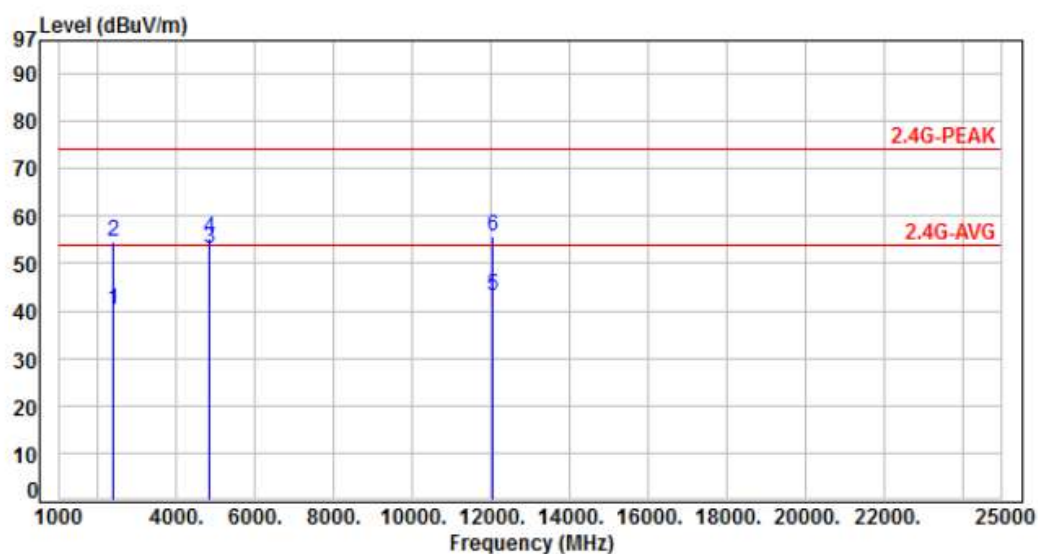
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH01		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	42.96	40.07	54.00	-13.93	Average	108	228	P
2	2390.00	-2.89	57.29	54.40	74.00	-19.60	Peak	108	228	P
3	4824.00	4.88	48.10	52.98	54.00	-1.02	Average	100	305	P
4	4824.00	4.88	50.35	55.23	74.00	-18.77	Peak	100	305	P
5	12060.00	14.80	28.50	43.30	54.00	-10.70	Average	100	226	P
6	12060.00	14.80	40.73	55.53	74.00	-18.47	Peak	100	226	P

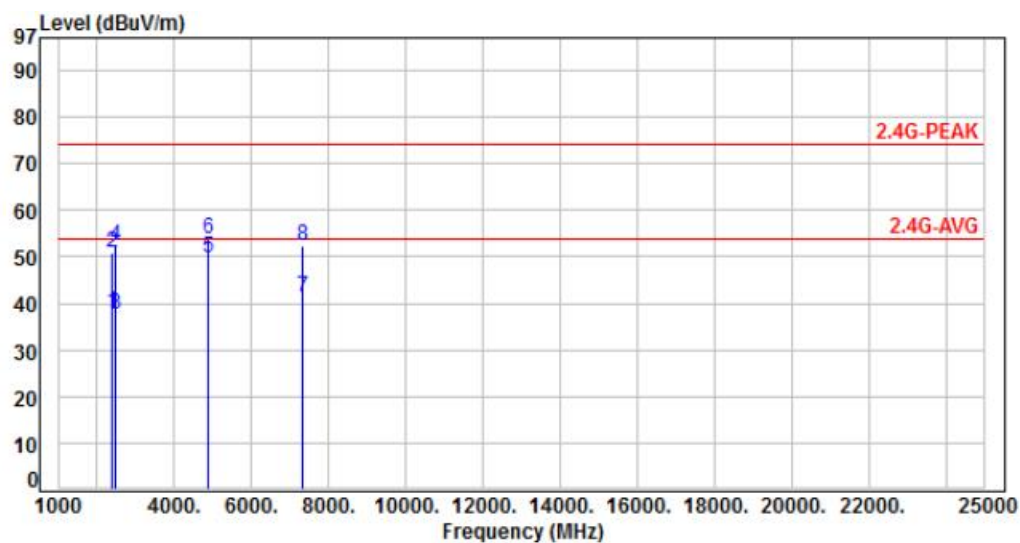
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH06		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	40.83	37.94	54.00	-16.06	Average	182	88	P
2	2390.00	-2.89	53.89	51.00	74.00	-23.00	Peak	182	88	P
3	2483.50	-2.69	40.48	37.79	54.00	-16.21	Average	182	88	P
4	2483.50	-2.69	54.96	52.27	74.00	-21.73	Peak	182	88	P
5	4874.00	5.09	44.80	49.89	54.00	-4.11	Average	239	128	P
6	4874.00	5.09	48.70	53.79	74.00	-20.21	Peak	239	128	P
7	7311.00	10.01	31.38	41.39	54.00	-12.61	Average	100	83	P
8	7311.00	10.01	42.20	52.21	74.00	-21.79	Peak	100	83	P

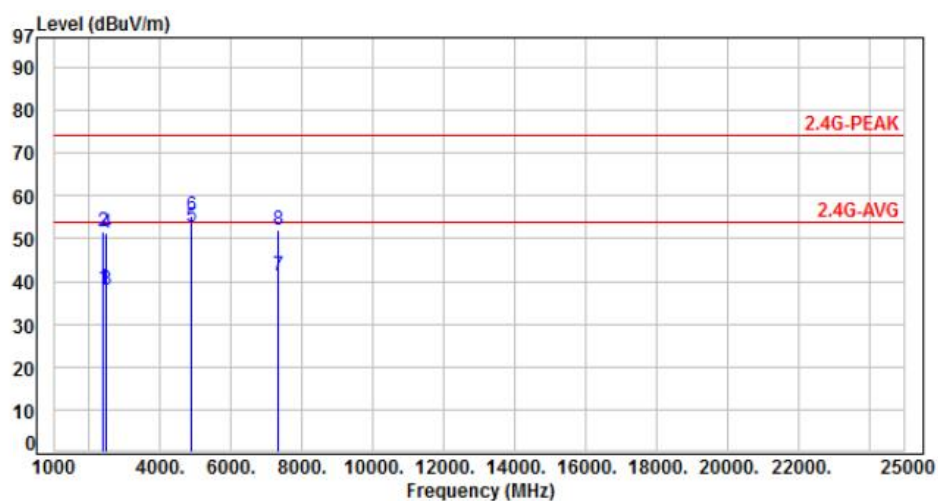
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH06		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	41.25	38.36	54.00	-15.64	Average	100	225	P
2	2390.00	-2.89	54.45	51.56	74.00	-22.44	Peak	100	225	P
3	2483.50	-2.69	40.73	38.04	54.00	-15.96	Average	100	225	P
4	2483.50	-2.69	54.02	51.33	74.00	-22.67	Peak	100	225	P
5	4874.00	5.09	47.65	52.74	54.00	-1.26	Average	100	299	P
6	4874.00	5.09	50.13	55.22	74.00	-18.78	Peak	100	299	P
7	7311.00	10.01	31.28	41.29	54.00	-12.71	Average	240	72	P
8	7311.00	10.01	42.11	52.12	74.00	-21.88	Peak	240	72	P

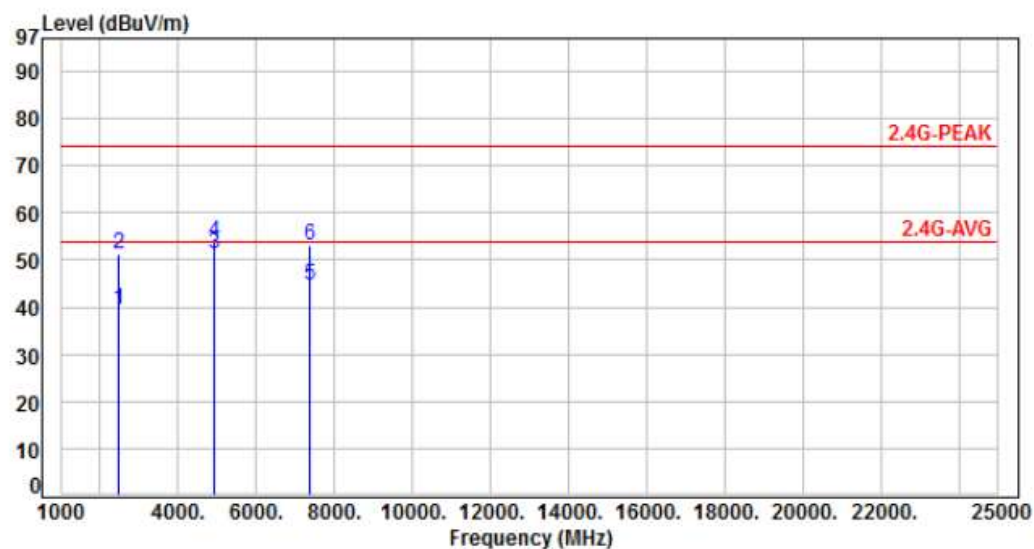
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH11		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-2.69	42.19	39.50	54.00	-14.50	Average	192	151	P
2	2483.50	-2.69	54.02	51.33	74.00	-22.67	Peak	192	151	P
3	4924.00	5.30	45.85	51.15	54.00	-2.85	Average	237	134	P
4	4924.00	5.30	48.59	53.89	74.00	-20.11	Peak	237	134	P
5	7386.00	10.14	34.34	44.48	54.00	-9.52	Average	100	57	P
6	7386.00	10.14	43.07	53.21	74.00	-20.79	Peak	100	57	P

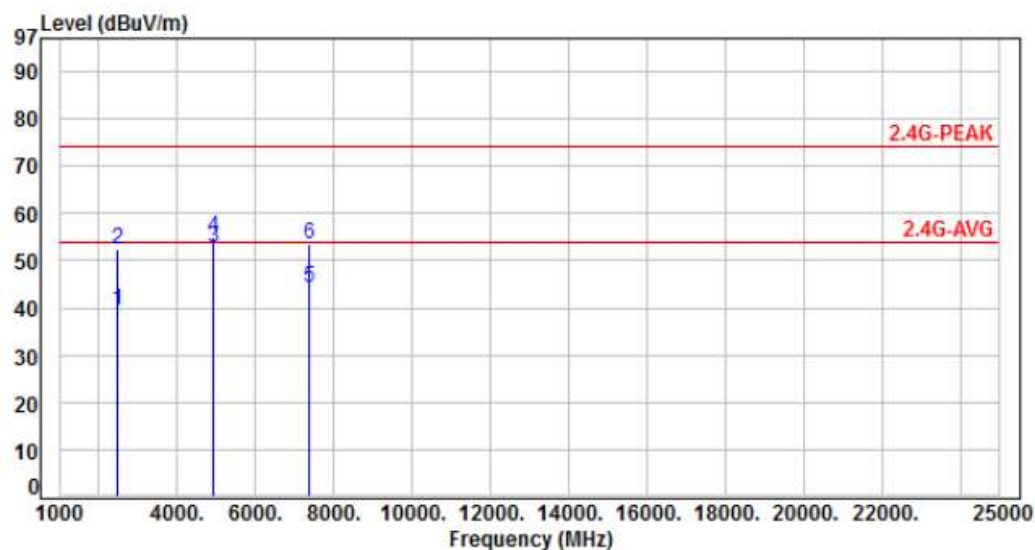
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH11		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-2.69	42.30	39.61	54.00	-14.39	Average	100	203	P
2	2483.50	-2.69	55.00	52.31	74.00	-21.69	Peak	100	203	P
3	4924.00	5.30	47.34	52.64	54.00	-1.36	Average	100	300	P
4	4924.00	5.30	49.64	54.94	74.00	-19.06	Peak	100	300	P
5	7386.00	10.14	33.99	44.13	54.00	-9.87	Average	248	53	P
6	7386.00	10.14	43.19	53.33	74.00	-20.67	Peak	248	53	P

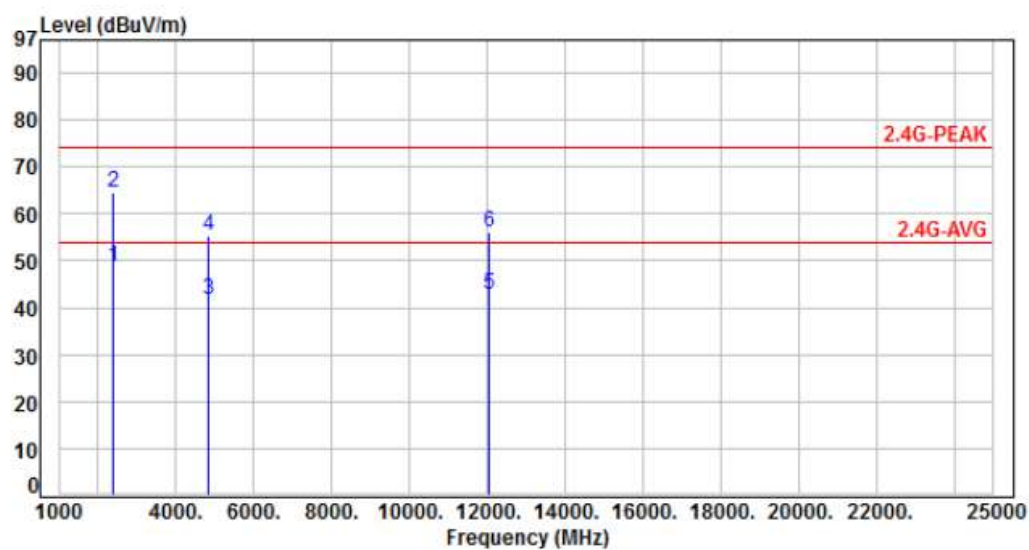
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH01		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	51.61	48.72	54.00	-5.28	Average	210	201	P
2	2390.00	-2.89	67.58	64.69	74.00	-9.31	Peak	210	201	P
3	4824.00	4.88	36.68	41.56	54.00	-12.44	Average	100	280	P
4	4824.00	4.88	50.57	55.45	74.00	-18.55	Peak	100	280	P
5	12060.00	14.80	27.93	42.73	54.00	-11.27	Average	100	88	P
6	12060.00	14.80	41.35	56.15	74.00	-17.85	Peak	100	88	P

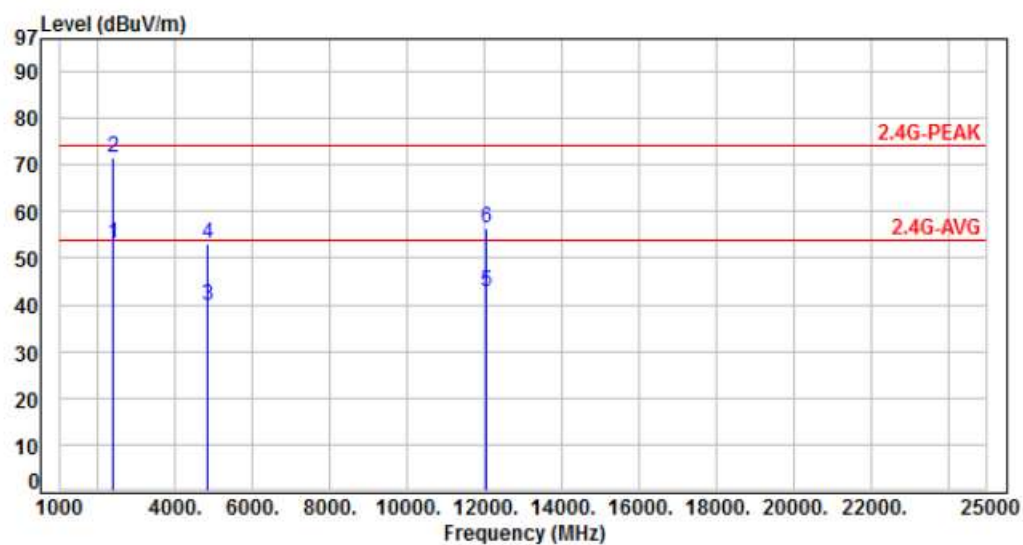
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH01		



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	55.89	53.00	54.00	-1.00	Average	180	200	P
2	2390.00	-2.89	74.34	71.45	74.00	-2.55	Peak	180	200	P
3	4824.00	4.88	35.03	39.91	54.00	-14.09	Average	315	356	P
4	4824.00	4.88	48.23	53.11	74.00	-20.89	Peak	315	356	P
5	12060.00	14.80	28.03	42.83	54.00	-11.17	Average	100	115	P
6	12060.00	14.80	41.48	56.28	74.00	-17.72	Peak	100	115	P

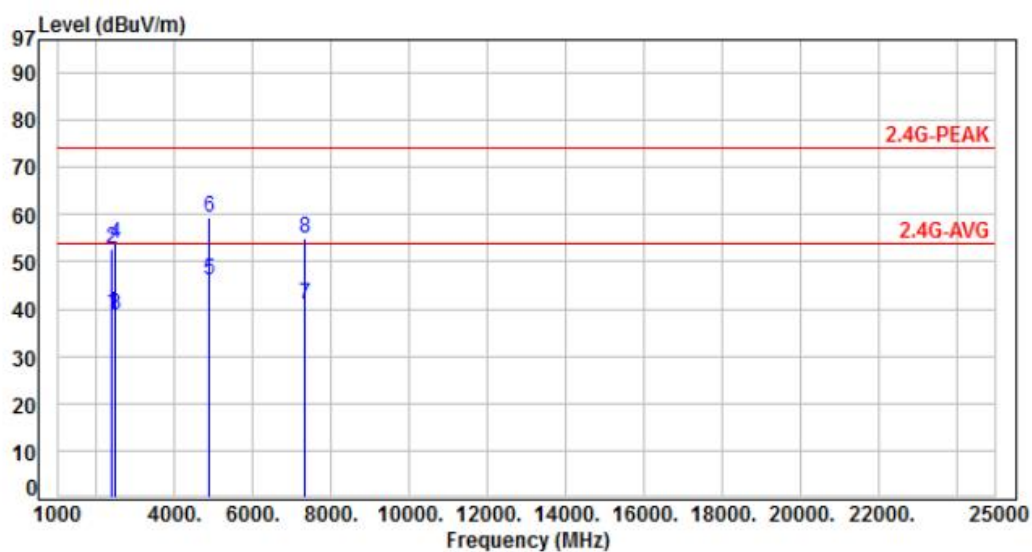
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH06		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	41.90	39.01	54.00	-14.99	Average	201	203	P
2	2390.00	-2.89	55.76	52.87	74.00	-21.13	Peak	201	203	P
3	2483.50	-2.69	41.47	38.78	54.00	-15.22	Average	201	203	P
4	2483.50	-2.69	56.40	53.71	74.00	-20.29	Peak	201	203	P
5	4874.00	5.09	40.90	45.99	54.00	-8.01	Average	100	278	P
6	4874.00	5.09	54.35	59.44	74.00	-14.56	Peak	100	278	P
7	7311.00	10.01	31.05	41.06	54.00	-12.94	Average	100	174	P
8	7311.00	10.01	44.90	54.91	74.00	-19.09	Peak	100	174	P

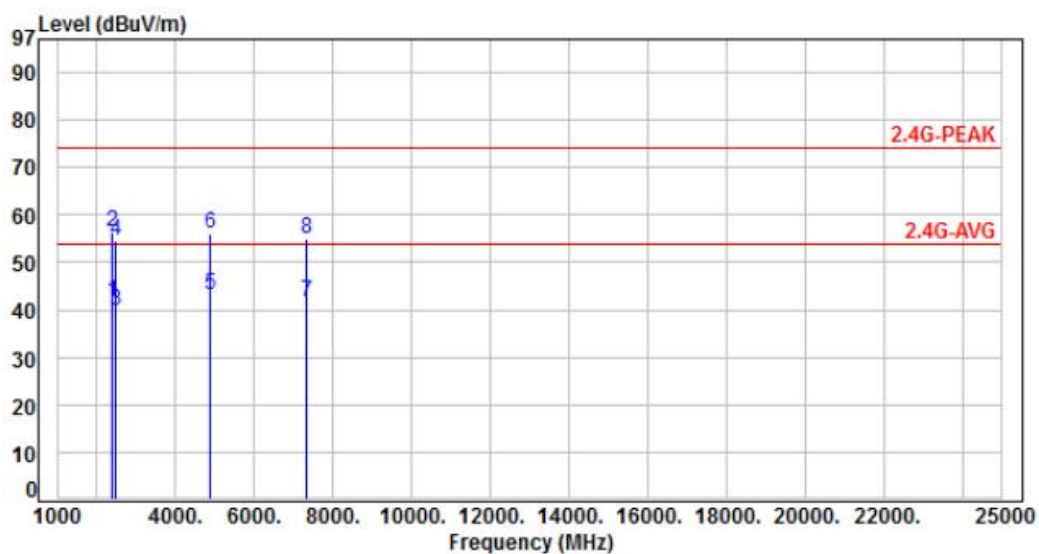
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH06		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	44.62	41.73	54.00	-12.27	Average	106	198	P
2	2390.00	-2.89	59.22	56.33	74.00	-17.67	Peak	106	198	P
3	2483.50	-2.69	42.65	39.96	54.00	-14.04	Average	106	198	P
4	2483.50	-2.69	57.20	54.51	74.00	-19.49	Peak	106	198	P
5	4874.00	5.09	38.13	43.22	54.00	-10.78	Average	320	358	P
6	4874.00	5.09	50.98	56.07	74.00	-17.93	Peak	320	358	P
7	7311.00	10.01	31.58	41.59	54.00	-12.41	Average	100	50	P
8	7311.00	10.01	44.99	55.00	74.00	-19.00	Peak	100	50	P

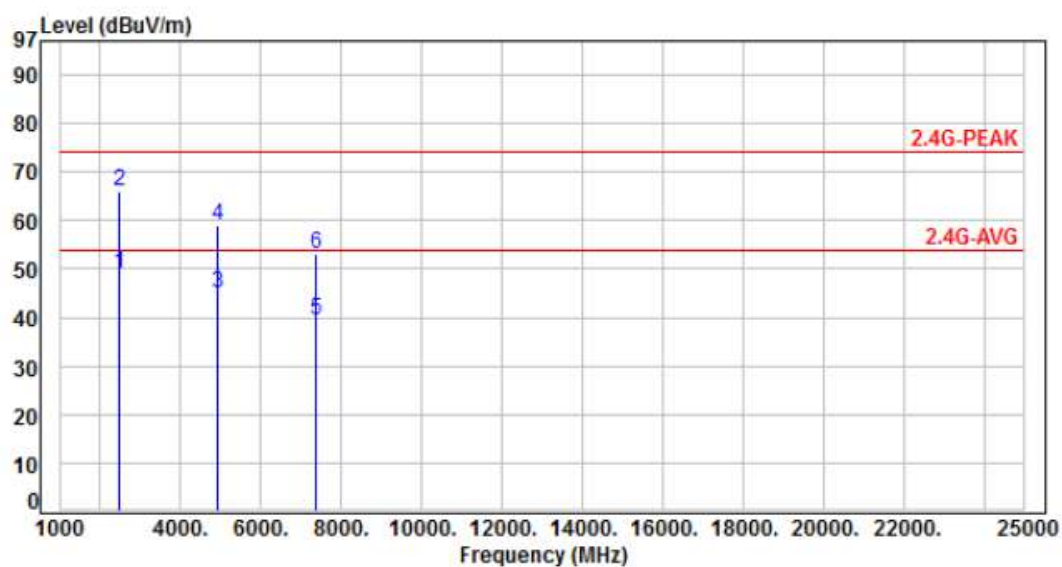
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH11		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-2.69	51.61	48.92	54.00	-5.08	Average	218	193	P
2	2483.50	-2.69	68.77	66.08	74.00	-7.92	Peak	218	193	P
3	4924.00	5.30	39.74	45.04	54.00	-8.96	Average	100	278	P
4	4924.00	5.30	53.74	59.04	74.00	-14.96	Peak	100	278	P
5	7386.00	10.14	29.19	39.33	54.00	-14.67	Average	100	182	P
6	7386.00	10.14	42.79	52.93	74.00	-21.07	Peak	100	182	P

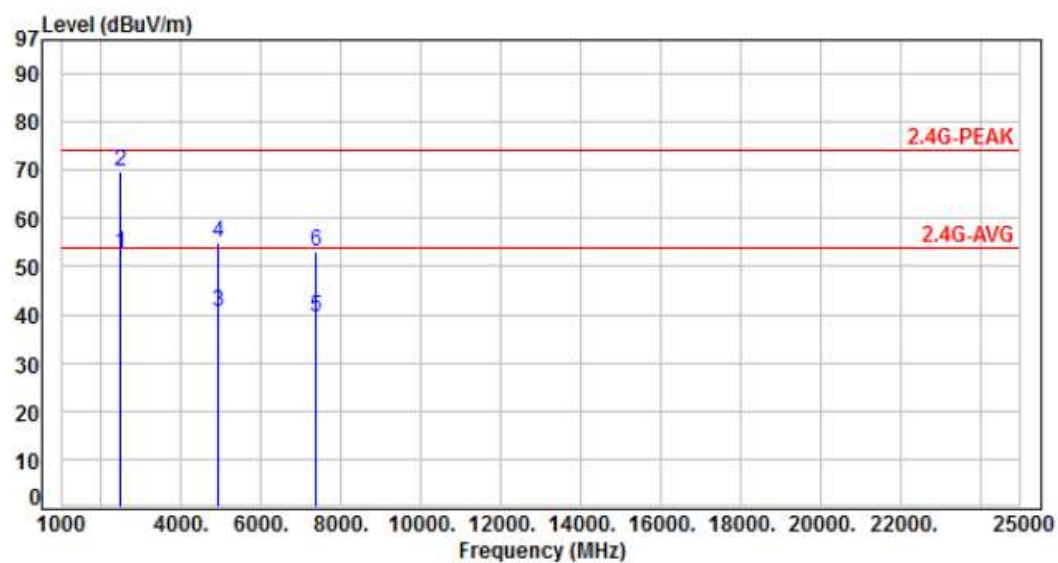
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH11		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-2.69	55.40	52.71	54.00	-1.29	Average	255	186	P
2	2483.50	-2.69	72.55	69.86	74.00	-4.14	Peak	255	186	P
3	4924.00	5.30	35.39	40.69	54.00	-13.31	Average	318	356	P
4	4924.00	5.30	49.51	54.81	74.00	-19.19	Peak	318	356	P
5	7386.00	10.14	29.20	39.34	54.00	-14.66	Average	100	49	P
6	7386.00	10.14	43.02	53.16	74.00	-20.84	Peak	100	49	P

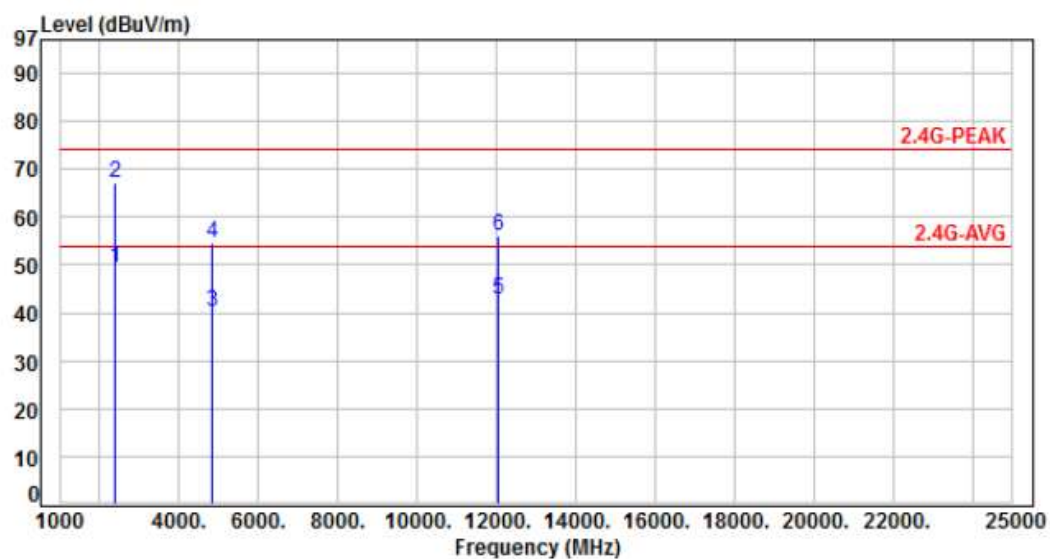
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60Hz	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH01		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	52.15	49.26	54.00	-4.74	Average	298	216	P
2	2390.00	-2.89	70.06	67.17	74.00	-6.83	Peak	298	216	P
3	4824.00	4.88	35.20	40.08	54.00	-13.92	Average	100	279	P
4	4824.00	4.88	49.63	54.51	74.00	-19.49	Peak	100	279	P
5	12060.00	14.80	27.85	42.65	54.00	-11.35	Average	100	90	P
6	12060.00	14.80	41.16	55.96	74.00	-18.04	Peak	100	90	P

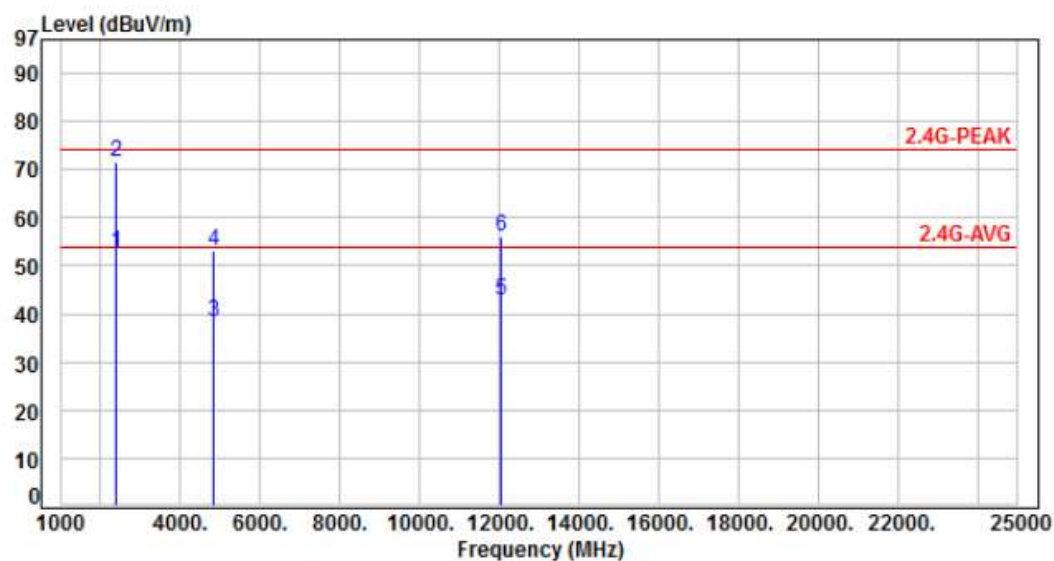
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH01		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	55.67	52.78	54.00	-1.22	Average	132	205	P
2	2390.00	-2.89	74.34	71.45	74.00	-2.55	Peak	132	205	P
3	4824.00	4.88	33.36	38.24	54.00	-15.76	Average	330	359	P
4	4824.00	4.88	48.10	52.98	74.00	-21.02	Peak	330	359	P
5	12060.00	14.80	27.86	42.66	54.00	-11.34	Average	100	119	P
6	12060.00	14.80	41.32	56.12	74.00	-17.88	Peak	100	119	P

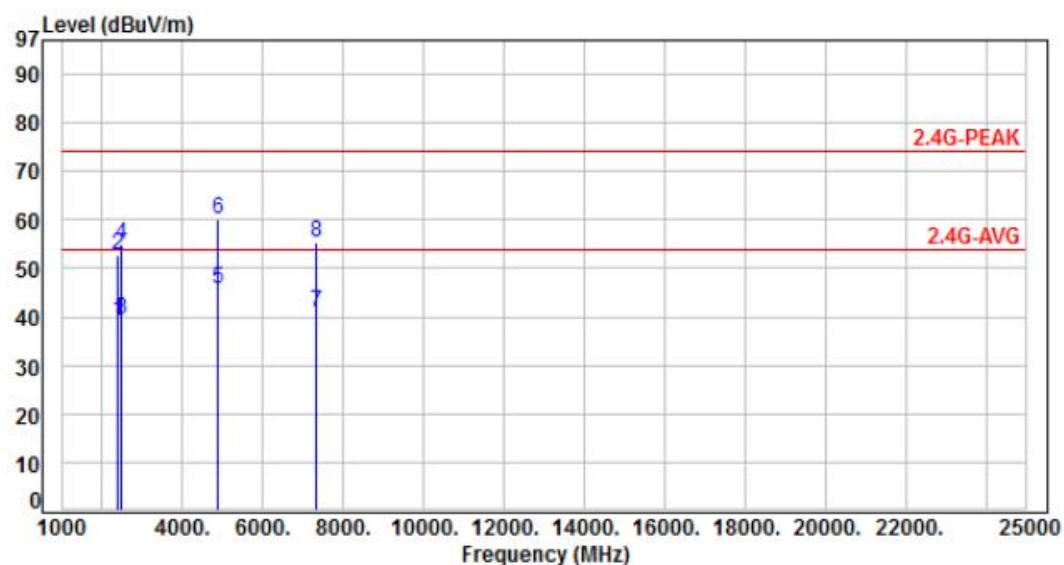
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH06		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	41.87	38.98	54.00	-15.02	Average	199	195	P
2	2390.00	-2.89	55.61	52.72	74.00	-21.28	Peak	199	195	P
3	2483.50	-2.69	42.03	39.34	54.00	-14.66	Average	199	195	P
4	2483.50	-2.69	57.59	54.90	74.00	-19.10	Peak	199	195	P
5	4874.00	5.09	40.60	45.69	54.00	-8.31	Average	100	279	P
6	4874.00	5.09	55.08	60.17	74.00	-13.83	Peak	100	279	P
7	7311.00	10.01	31.00	41.01	54.00	-12.99	Average	100	176	P
8	7311.00	10.01	45.20	55.21	74.00	-18.79	Peak	100	176	P

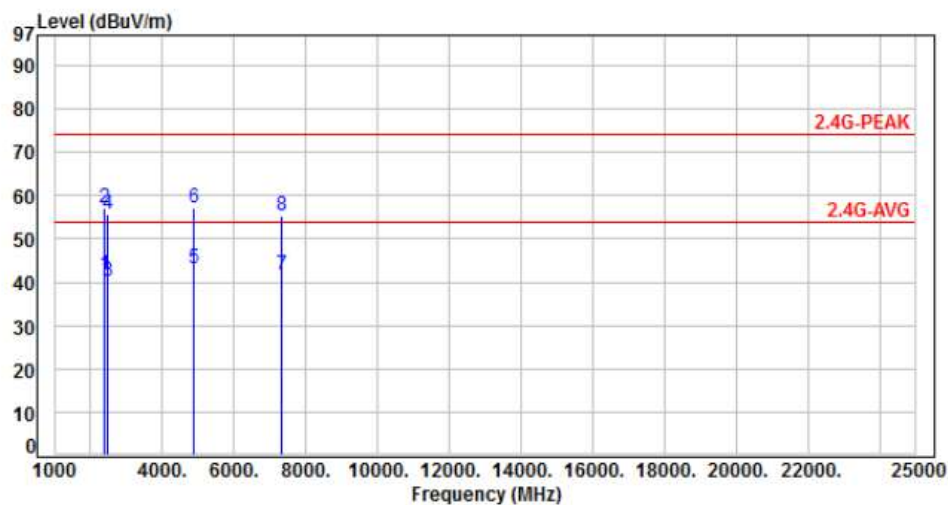
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH06		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	44.61	41.72	54.00	-12.28	Average	103	203	P
2	2390.00	-2.89	59.99	57.10	74.00	-16.90	Peak	103	203	P
3	2483.50	-2.69	43.02	40.33	54.00	-13.67	Average	103	203	P
4	2483.50	-2.69	58.46	55.77	74.00	-18.23	Peak	103	203	P
5	4874.00	5.09	37.97	43.06	54.00	-10.94	Average	324	356	P
6	4874.00	5.09	52.17	57.26	74.00	-16.74	Peak	324	356	P
7	7311.00	10.01	31.55	41.56	54.00	-12.44	Average	100	52	P
8	7311.00	10.01	45.30	55.31	74.00	-18.69	Peak	100	52	P

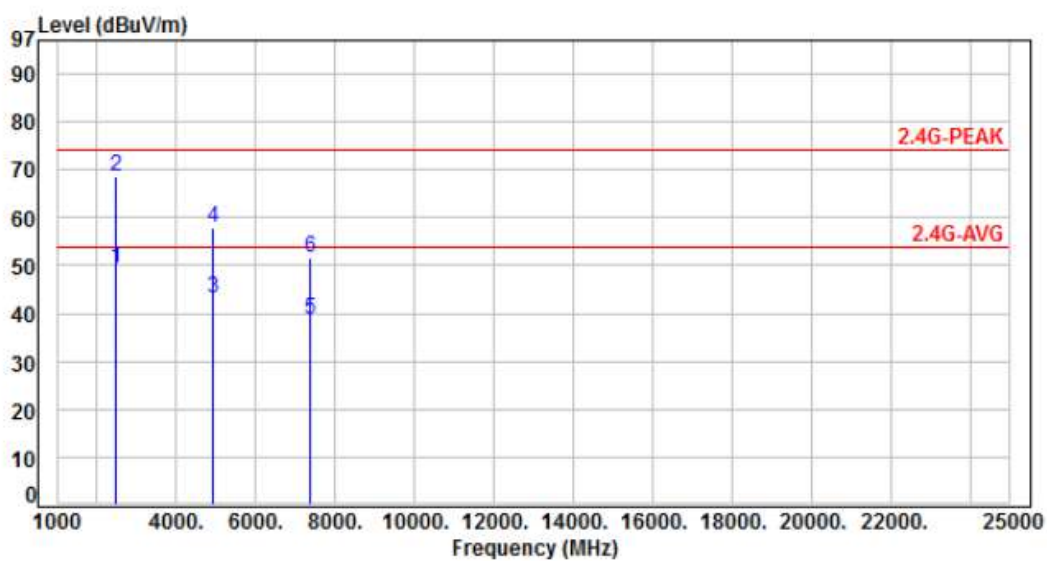
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 110V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH11		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-2.69	52.13	49.44	54.00	-4.56	Average	268	195	P
2	2483.50	-2.69	71.26	68.57	74.00	-5.43	Peak	268	195	P
3	4924.00	5.30	37.77	43.07	54.00	-10.93	Average	100	280	P
4	4924.00	5.30	52.47	57.77	74.00	-16.23	Peak	100	280	P
5	7386.00	10.14	28.51	38.65	54.00	-15.35	Average	100	176	P
6	7386.00	10.14	41.59	51.73	74.00	-22.27	Peak	100	176	P

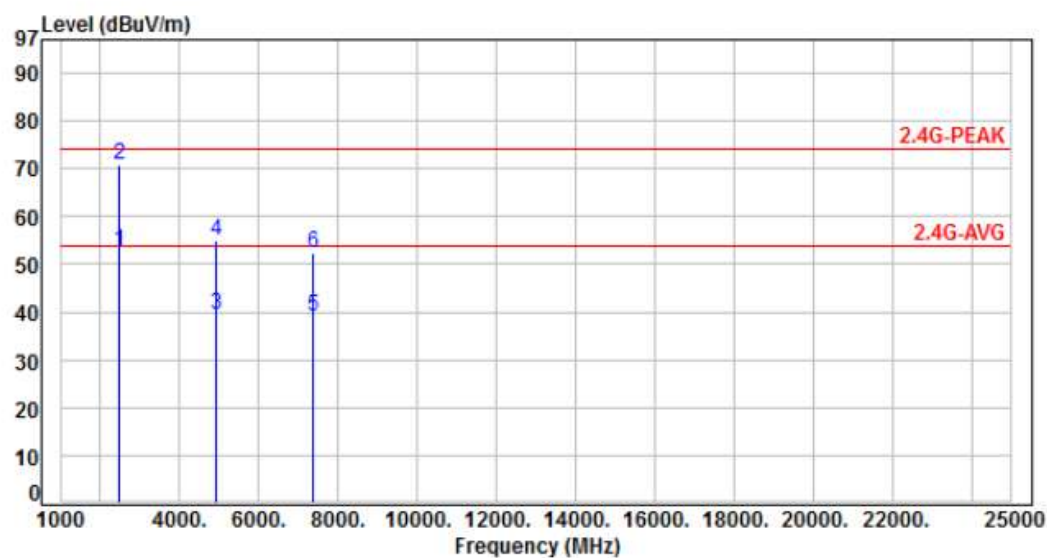
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH11		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-2.69	55.42	52.73	54.00	-1.27	Average	176	191	P
2	2483.50	-2.69	73.65	70.96	74.00	-3.04	Peak	176	191	P
3	4924.00	5.30	34.18	39.48	54.00	-14.52	Average	357	355	P
4	4924.00	5.30	49.79	55.09	74.00	-18.91	Peak	357	355	P
5	7386.00	10.14	28.88	39.02	54.00	-14.98	Average	100	51	P
6	7386.00	10.14	42.36	52.50	74.00	-21.50	Peak	100	51	P

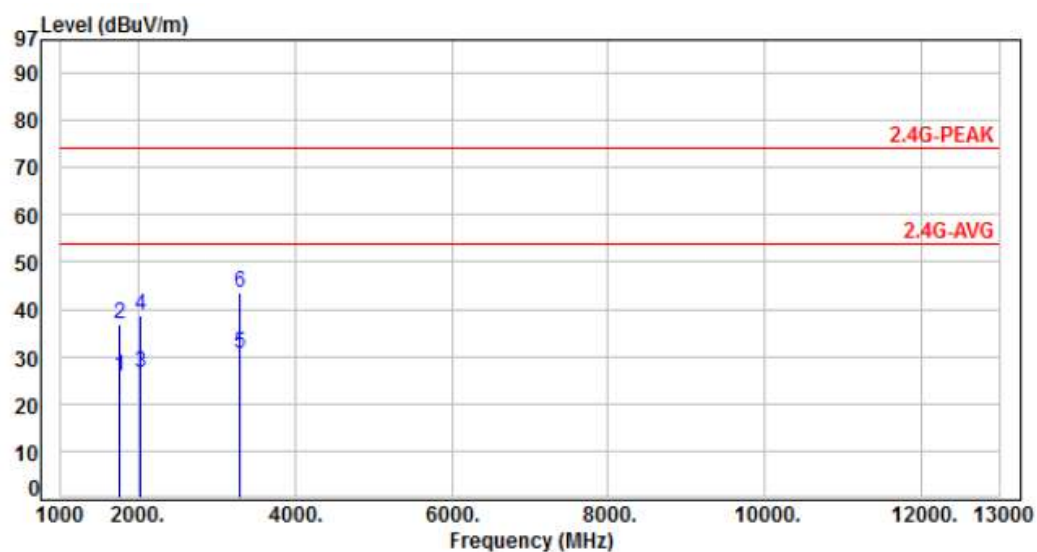
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60Hz	Pol/Phase	: VERTICAL
Test Mode	: Mode 5, CH01		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1770.00	-5.49	31.49	26.00	54.00	-28.00	Average	100	139	P
2	1770.00	-5.49	42.37	36.88	74.00	-37.12	Peak	100	139	P
3	2023.00	-3.76	30.49	26.73	54.00	-27.27	Average	100	212	P
4	2023.00	-3.76	42.40	38.64	74.00	-35.36	Peak	100	212	P
5	3300.00	1.18	29.35	30.53	54.00	-23.47	Average	100	267	P
6	3300.00	1.18	42.49	43.67	74.00	-30.33	Peak	100	267	P

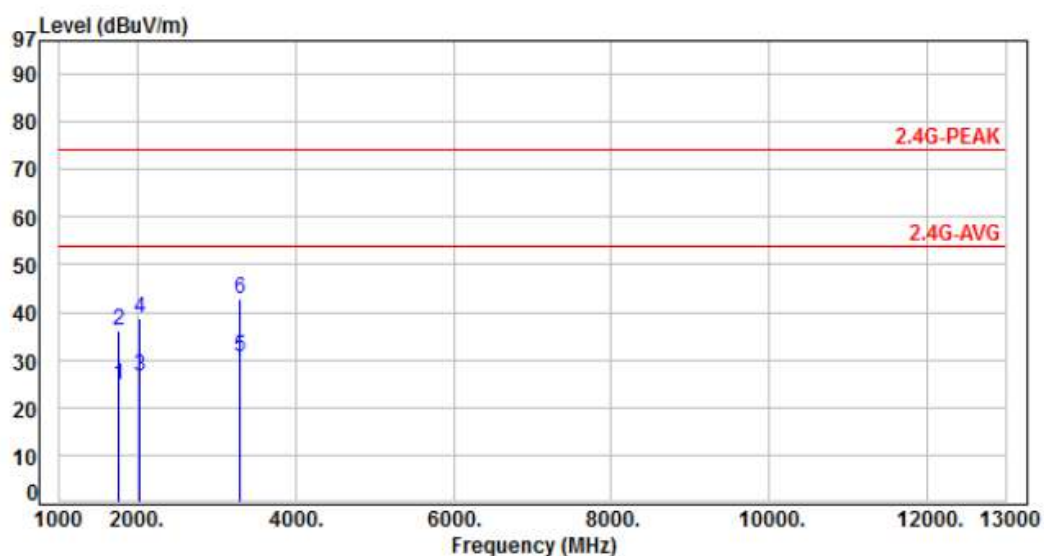
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 5, CH01		



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1770.00	-5.49	30.32	24.83	54.00	-29.17	Average	100	108	P
2	1770.00	-5.49	41.49	36.00	74.00	-38.00	Peak	100	108	P
3	2023.00	-3.76	30.19	26.43	54.00	-27.57	Average	100	120	P
4	2023.00	-3.76	42.32	38.56	74.00	-35.44	Peak	100	120	P
5	3300.00	1.18	29.39	30.57	54.00	-23.43	Average	100	208	P
6	3300.00	1.18	41.59	42.77	74.00	-31.23	Peak	100	208	P

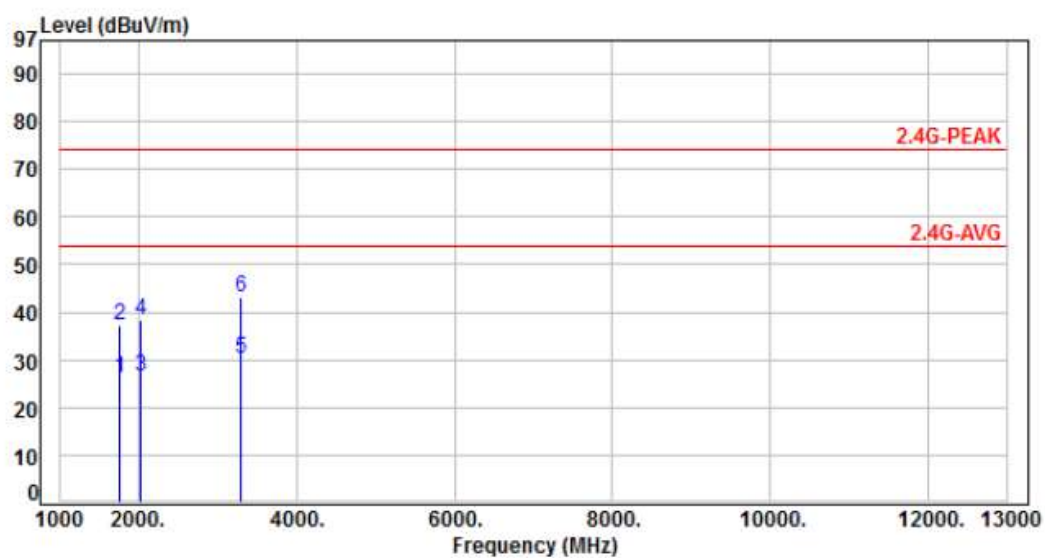
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 5, CH06		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1770.00	-5.49	31.67	26.18	54.00	-27.82	Average	100	135	P
2	1770.00	-5.49	42.73	37.24	74.00	-36.76	Peak	100	135	P
3	2023.00	-3.76	30.32	26.56	54.00	-27.44	Average	100	215	P
4	2023.00	-3.76	42.05	38.29	74.00	-35.71	Peak	100	215	P
5	3300.00	1.18	29.12	30.30	54.00	-23.70	Average	100	263	P
6	3300.00	1.18	42.00	43.18	74.00	-30.82	Peak	100	263	P

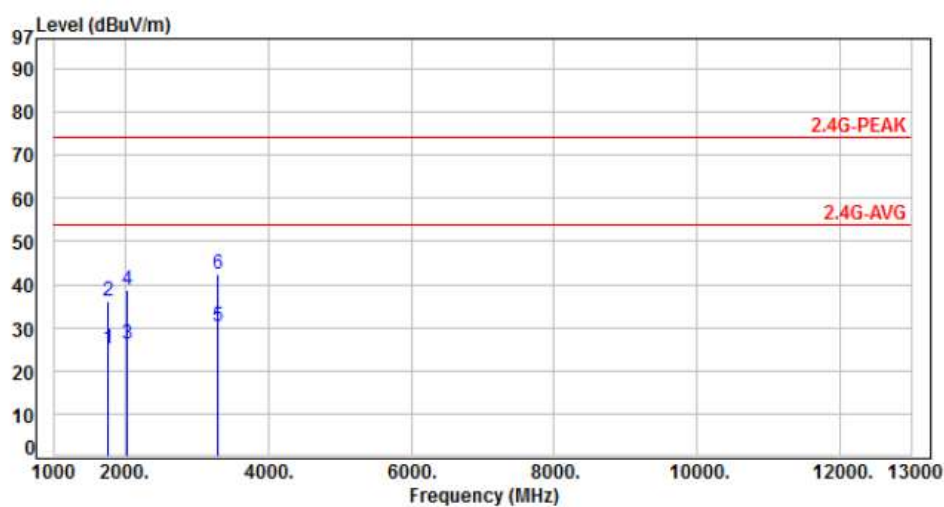
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 5, CH06		



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1770.00	-5.49	30.53	25.04	54.00	-28.96	Average	100	110	P
2	1770.00	-5.49	41.76	36.27	74.00	-37.73	Peak	100	110	P
3	2023.00	-3.76	30.05	26.29	54.00	-27.71	Average	100	122	P
4	2023.00	-3.76	42.49	38.73	74.00	-35.27	Peak	100	122	P
5	3300.00	1.18	29.23	30.41	54.00	-23.59	Average	100	206	P
6	3300.00	1.18	41.23	42.41	74.00	-31.59	Peak	100	206	P

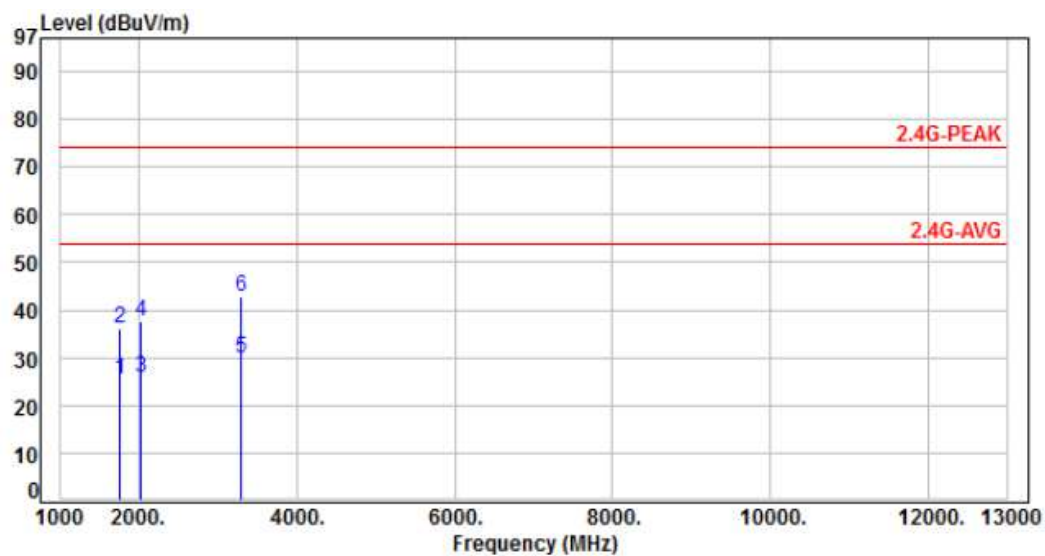
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 5, CH11		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1770.00	-5.49	30.90	25.41	54.00	-28.59	Average	100	138	P
2	1770.00	-5.49	41.74	36.25	74.00	-37.75	Peak	100	138	P
3	2023.00	-3.76	29.41	25.65	54.00	-28.35	Average	100	210	P
4	2023.00	-3.76	41.26	37.50	74.00	-36.50	Peak	100	210	P
5	3300.00	1.18	28.64	29.82	54.00	-24.18	Average	100	268	P
6	3300.00	1.18	41.78	42.96	74.00	-31.04	Peak	100	268	P

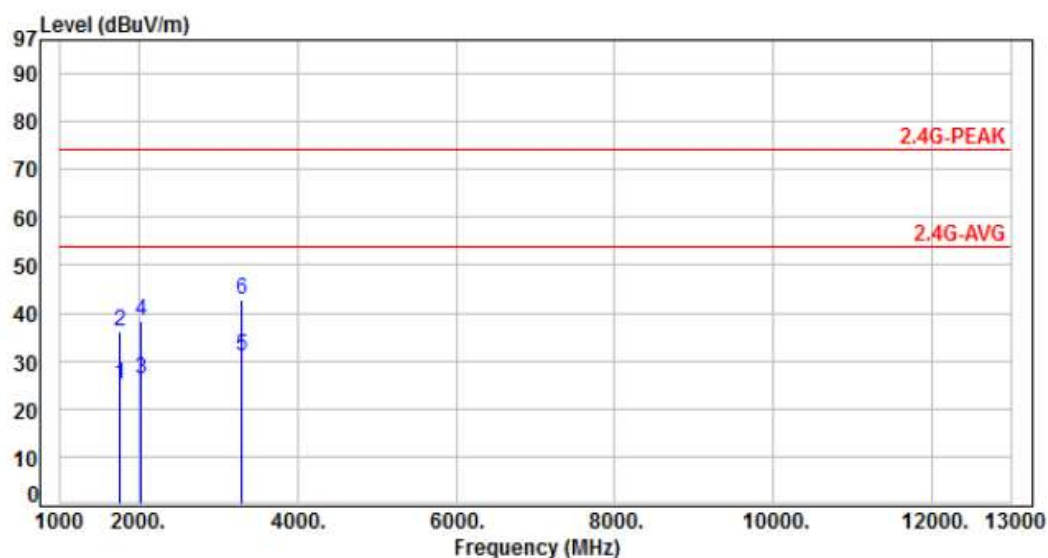
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 5, CH11		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	1770.00	-5.49	30.71	25.22	54.00	-28.78	Average	100	111	P
2	1770.00	-5.49	41.67	36.18	74.00	-37.82	Peak	100	111	P
3	2023.00	-3.76	30.08	26.32	54.00	-27.68	Average	100	122	P
4	2023.00	-3.76	42.07	38.31	74.00	-35.69	Peak	100	122	P
5	3300.00	1.18	29.64	30.82	54.00	-23.18	Average	100	207	P
6	3300.00	1.18	41.47	42.65	74.00	-31.35	Peak	100	207	P

Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



6. On Time, Duty Cycle and Measurement methods

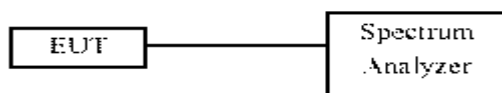
6.1. 適用標準

None; for reporting purposes only.

6.2. 測試方法

ANSI 63.10 第11.6節 Duty cycle zero-span mode Method.

6.3. 測試配置

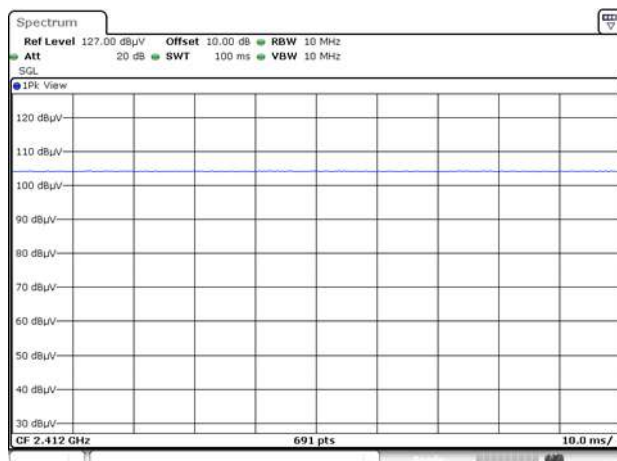


6.4. 測試結果及數據

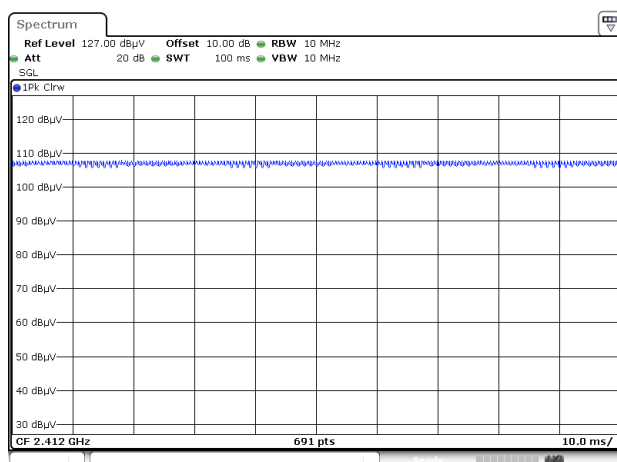
Modulation Type	On Time (ms)	Period Time (ms)	Duty Cycle (%)
11b,1M	100.00	100.00	100.00%
11g,6M	100.00	100.00	100.00%
11n HT20	100.00	100.00	100.00%



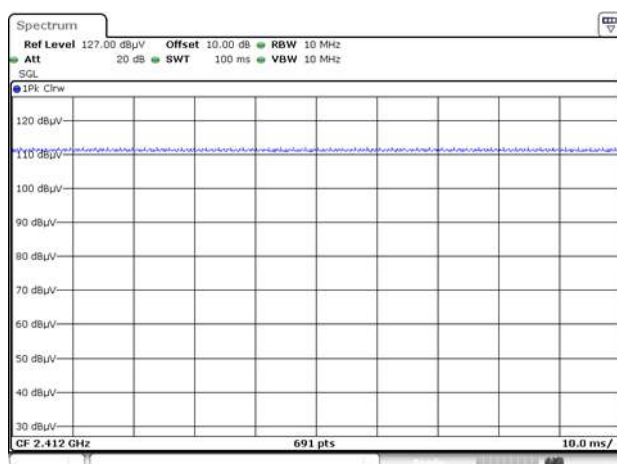
Modulation Type: 802.11b (1Mbps)



Modulation Type: 802.11g (6Mbps)



Modulation Type: 802.11n HT20 (6.5Mbps)





7. 6dB 頻寬之規定

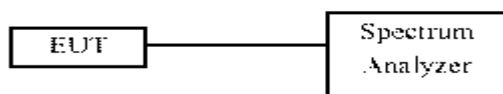
7.1. 適用標準

對使用數位調變技術之低功率發射機，依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.6 節之(2)(A)規定，6dB 頻寬至少應有 500 kHz。

7.2. 測試方法

- 將待測物和儀器相連接。
- 設定儀器解析頻寬 100KHz 和視訊頻寬為 300KHz。
- 量測峰值減去 6 dB 之頻寬並記錄於報告中。

7.3. 測試配置



7.4. 6dB 頻寬之測試結果及數據

Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
			ANT A	
11b	1	2412	9.09	0.5
	6	2437	9.09	0.5
	11	2462	9.09	0.5
11g	1	2412	16.53	0.5
	6	2437	16.50	0.5
	11	2462	16.53	0.5
11n HT20	1	2412	17.79	0.5
	6	2437	17.79	0.5
	11	2462	17.76	0.5

備註：繪圖資料請參考下頁。

7.5. 結果判定

高、中、低頻段的 6dB 頻寬皆大於 500 KHz，合乎標準規定。

Modulation Type: 802.11b
CH01Modulation Type: 802.11g
CH01

CH06



CH06



CH11



CH11





Modulation Type: 802.11n HT20 CH01



CH06



CH11





8. 峰值輸出功率之規定

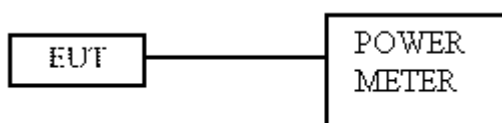
8.1. 適用標準

依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.2 節(1)(C)之規定，對使用數位調變技術之低功率發射機，其輸出峰值功率不得大於 1 Watt，且其所使用天線之增益不可大於 6dBi，若使用大於 6dBi 增益之天線，則其輸出峰值功率相對需衰減天線增益所增加之量(單位為 dB)。放寬之條件請參考天線增益之要求。

8.2. 測試方法

- a. 將待測物和儀器相連接。
- b. 量測輸出功率並記錄於報告中。

8.3. 測試配置





8.4. 峰值輸出功率之測試結果及數據

Setting	Modulation Mode	Channel	Frequency (MHz)	Conducted(peak) output power (dBm)	Total PK power (dBm)	Total PK power (mW)	Power Limit (dBm)
				ANT A			
92	11b	1	2412	20.87	20.87	122.180	30.00
94		6	2437	21.53	21.53	142.233	30.00
96		11	2462	22.18	22.18	165.196	30.00
114	11g	1	2412	26.07	26.07	404.576	30.00
120		6	2437	26.37	26.37	433.511	30.00
106		11	2462	25.79	25.79	379.315	30.00
111	11n HT20	1	2412	25.79	25.79	379.315	30.00
120		6	2437	26.27	26.27	423.643	30.00
103		11	2462	25.22	25.22	332.660	30.00

Setting	Modulation Mode	Channel	Frequency (MHz)	Conducted(average) output power (dBm)	Total AV power (dBm)	Total AV power (mW)	Power Limit (dBm)
				ANT A			
92	11b	1	2412	18.29	18.29	67.453	NA
94		6	2437	18.95	18.95	78.524	NA
96		11	2462	19.62	19.62	91.622	NA
114	11g	1	2412	19.62	19.62	91.622	NA
120		6	2437	20.90	20.90	123.027	NA
106		11	2462	18.43	18.43	69.663	NA
111	11n HT20	1	2412	19.11	19.11	81.470	NA
120		6	2437	20.81	20.81	120.504	NA
103		11	2462	17.67	17.67	58.479	NA

*Average power is for reference only.

8.5. 結果判定

高、中、低頻段的峰值輸出功率皆低於 30 dBm，合乎標準規定。



9. 混附波發射限制之規定

9.1. 適用方法

依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.5 節之規定，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，其衰減值限制如下：

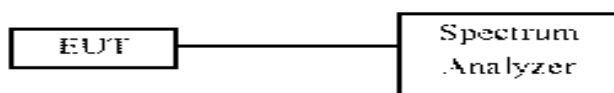
- (1) 輸出功率以峰值輸出功率方式量測者，至少需衰減 20dB，可使用射頻傳導或輻射方式測量。
- (2) 輸出功率以 3.10.1.2(1)(C)之最大傳導輸出功率測量方式者，至少需衰減 30dB，可使用射頻傳導或輻射方式測量。

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。

9.2. 測試方法

1. 將待測物和儀器相連接。
2. 設定儀器解析頻寬為 100 kHz 和視訊頻寬為 300 kHz。
3. 將頻寬展開至 100 MHz。
4. 量測並記錄於報告中。

9.3. 測試配置



9.4. 結果判定

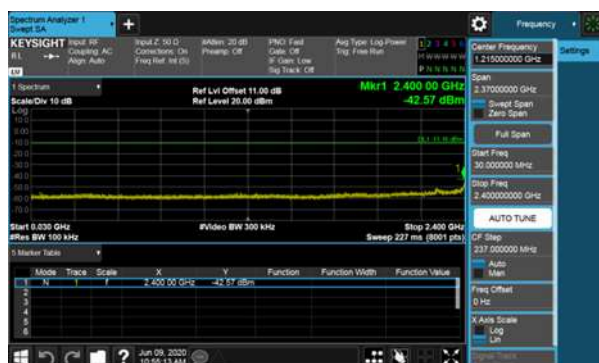
7.6.1 下邊緣頻帶：距下頻帶邊緣 40MHz 內最大混附波比主波低 20dB 以上，合乎標準規定。

7.6.2 上邊緣頻帶：距上頻帶邊緣 40MHz 內最大混附波比主波低 20dB 以上，合乎標準規定。

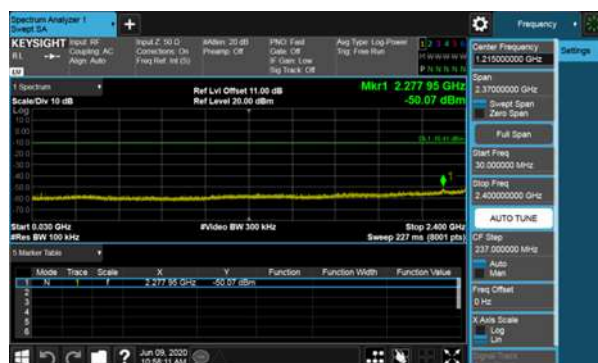
備註：繪圖資料請參考下頁。



Modulation Type: 802.11b, CH 01



Modulation Type: 802.11b, CH 06





Modulation Type: 802.11b, CH 11

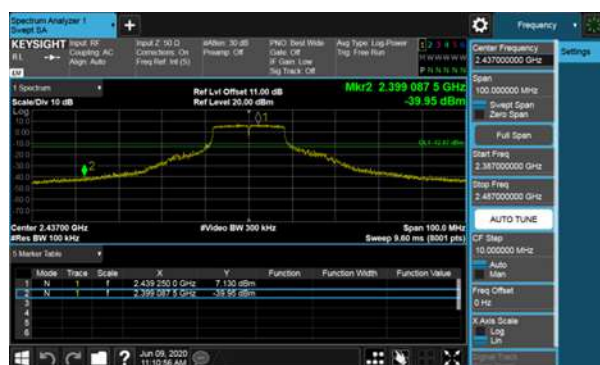
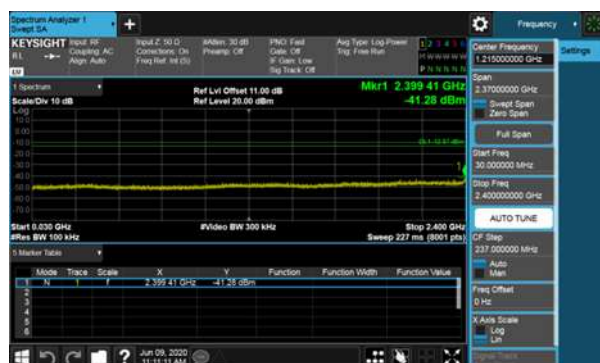




Modulation Type: 802.11g, CH 01

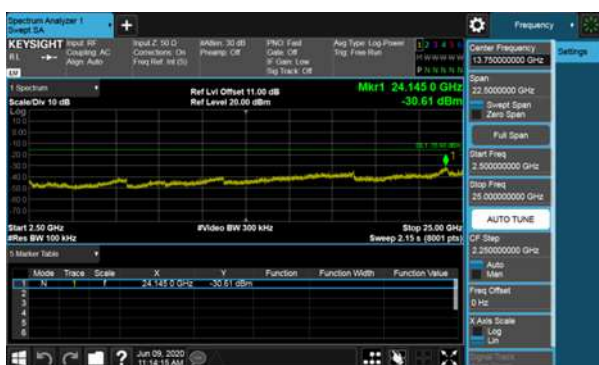
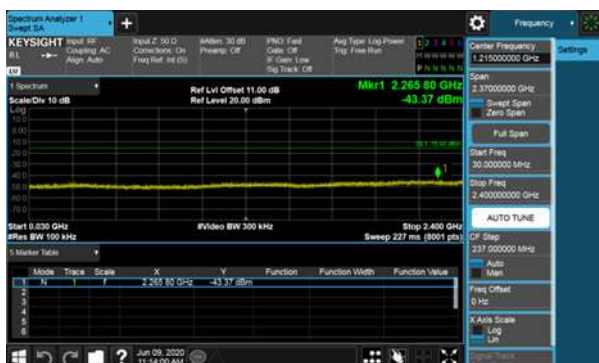


Modulation Type: 802.11g, CH 06



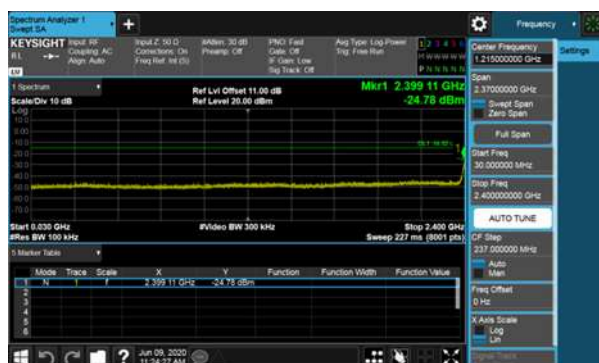


Modulation Type: 802.11g, CH 11

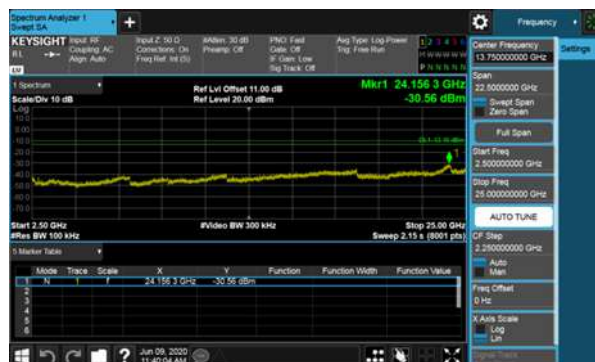
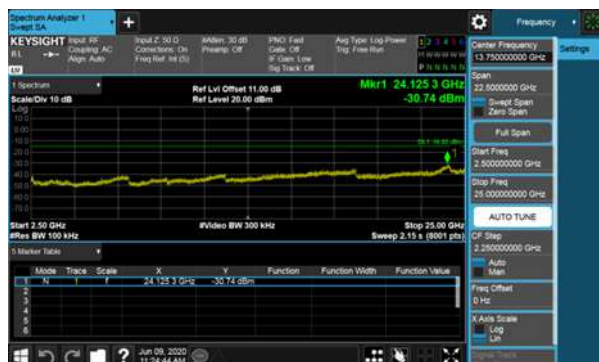
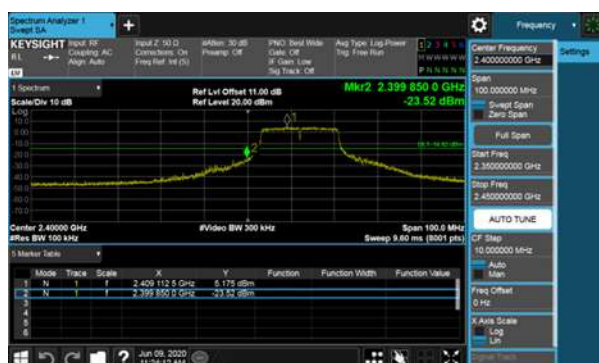
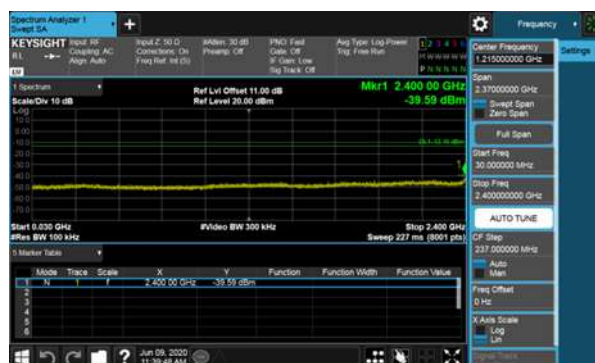




Modulation Type: 802.11n HT20, CH01

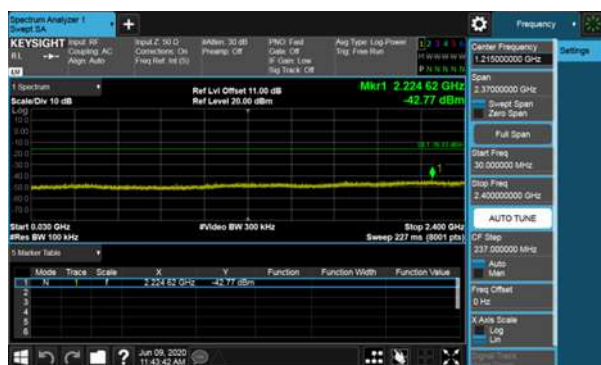


Modulation Type: 802.11n HT20, CH06





Modulation Type: 802.11n HT20, CH11





10. 功率密度之規定

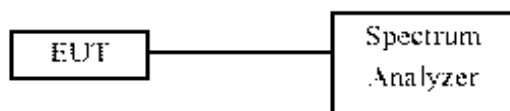
10.1. 適用標準

依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.6 節之(2)(B)規定，對數位調變技術系統，在使用任意 3 kHz 之頻寬內，由發射機傳導至天線之峰值發射電功率密度在任意期間內，皆不得大於 8dBm，且應依 3.10.1.3 之方式降低功率頻譜密度限制值。

10.2. 測試方法

1. 將待測物和儀器相連接。
2. 設定儀器解析頻寬為 3kHz、視訊頻寬為 10 kHz。
3. 量測並記錄於報告中。

10.3. 測試配置



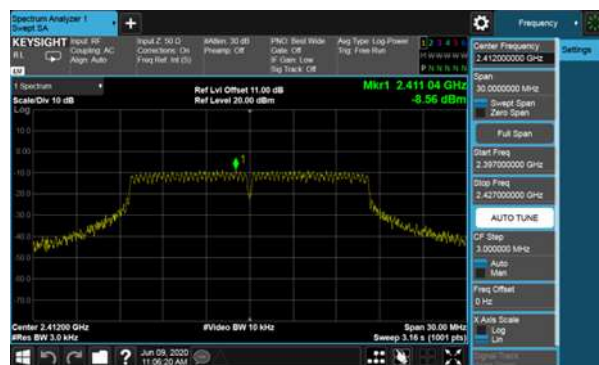
10.4. 功率密度之量測結果及數據

Modulation Type	Channel	Frequency (MHz)	Maximum Power Density of 3KHz Bandwidth(dBm)	Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
			ANT A				
11b	1	2412	-11.27	-11.27	0.00	-11.27	8.00
	6	2437	-10.58	-10.58	0.00	-10.58	8.00
	11	2462	-9.89	-9.89	0.00	-9.89	8.00
11g	1	2412	-8.56	-8.56	0.00	-8.56	8.00
	6	2437	-6.86	-6.86	0.00	-6.86	8.00
	11	2462	-9.57	-9.57	0.00	-9.57	8.00
11n HT20	1	2412	-9.12	-9.12	0.00	-9.12	8.00
	6	2437	-6.94	-6.94	0.00	-6.94	8.00
	11	2462	-10.38	-10.38	0.00	-10.38	8.00

備註：繪圖資料請參考下頁。

10.5. 結果判定

高、中、低頻段的 3 kHz 功率密度皆低於 8 dBm，合乎標準規定。

Modulation Type: 802.11b
CH01Modulation Type: 802.11g
CH01

CH06



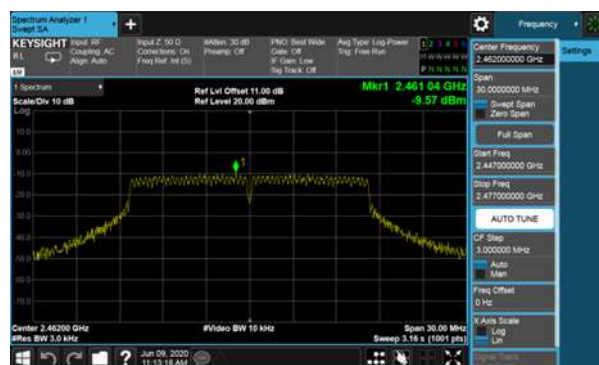
CH06



CH11

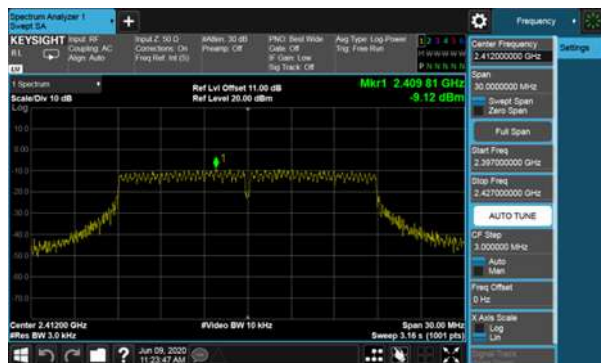


CH11

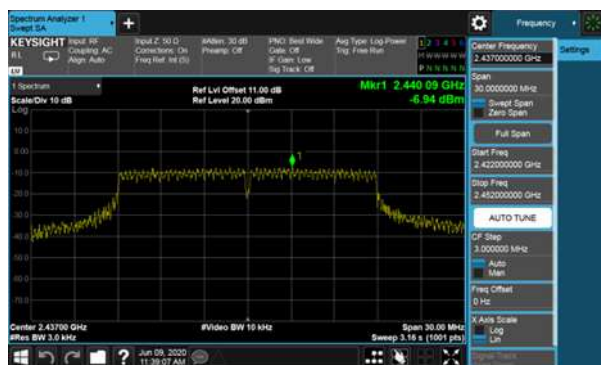




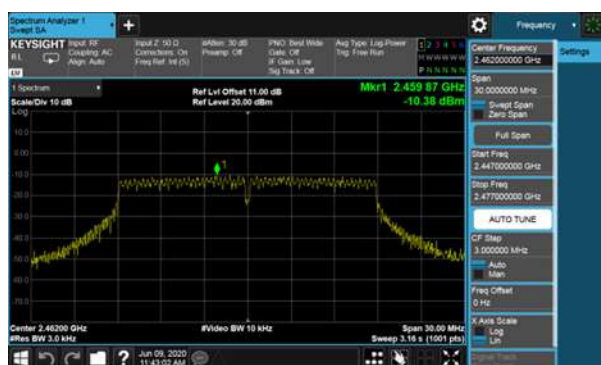
Modulation Type: 802.11n HT20 CH01



CH06



CH11





11. 電波暴露量之評估

11.1. 適用標準

依據國家通訊傳播委員會低功率射頻電機技術規範 5.20 節之(5.20.2)規定，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)以證明其符電波暴露量之要求。限制值如下：

(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：百萬赫(MHz)。

(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)
0.3-3.0	614	1.63	*100	30
3-30	1842/f	4.89/f	*180/f ²	30
30-300	27.5	0.073	1.0	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：百萬赫(MHz)。



11.2. 電波暴露量之評估結果及數據

Channel Frequency (MHz)	Max. Conducted output power(dBm)	Max. Tune up power (dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	26.37	27.87	1.8	20	0.184	1

11.3. 結果判定

高、中、低頻段的電波暴露量皆低於限制值，合乎標準規定。



12. 限制使用之頻帶

Only spurious emissions are permitted in any of the frequency bands listed below:

頻率(兆赫)	頻率(兆赫)	頻率(兆赫)
0.090 - 0.110	240.00 - 285.00	3332.0 - 3339.0
0.490 - 0.510	322.00 - 335.40	3345.8 - 3358.0
2.172 - 2.198	399.90 - 410.00	3500.0 - 4400.0
3.013 - 3.033	485.00 - 510.00	4500.0 - 5250.0
4.115 - 4.198	608.00 - 614.00	5350.0 - 5460.0
5.670 - 5.690	703.00 - 748.00	7250.0 - 7750.0
6.200 - 6.300	758.00 - 803.00	8025.0 - 8500.0
8.230 - 8.400	825.00 - 915.00	9000.0 - 9200.0
12.265 - 12.600	930.00 - 1240.0	9300.0 - 9500.0
13.340 - 13.430	1300.0 - 1427.0	10600 - 12700
14.965 - 15.020	1435.0 - 1626.5	13250 - 13400
16.700 - 16.755	1660.0 - 1770.0	14470 - 14500
19.965 - 20.020	1805.0 - 1865.0	15350 - 16200
25.500 - 25.700	1885.0 - 1900.0	17700 - 21400
37.475 - 38.275	1905.0 - 1985.0	22010 - 23120
73.500 - 75.400	2015.0 - 2025.0	23600 - 24000
108.00 - 138.00	2125.0 - 2165.0	31200 - 31800
149.90 - 150.05	2200.0 - 2300.0	36430 - 36500
156.70 - 156.90	2310.0 - 2390.0	38600 以上
162.01 - 167.17	2483.5 - 2900.0	
167.72 - 173.20	3260.0 - 3267.0	