



NCC

低功率射頻電機型式試驗報告

產品名稱: AC1300 MU-MIMO 迷你 USB 無線網卡
型號: Archer T3U
廠牌: tp-link
申請者: 聯洲國際有限公司
申請者地址: 新北市板橋區中山路一段 156 號 13 樓
測試標準: LP0002 (107 年版)
參考法規: ANSI C63.10-2013
測試結果: 符合
測試日期: 2018.10.26 ~ 2019.03.10
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修訂紀錄

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1. 一般資訊

申請者	聯洲國際有限公司
申請者地址	新北市板橋區中山路一段 156 號 13 樓
製造商	普聯技術有限公司
製造商地址	深圳市南山區深南路科技園工業廠房 24 棟南段 1 層、3-5 層、28 棟北段 1-4 層
實驗室	台灣曼瑞檢測科技有限公司
實驗室地址	33377 台灣桃園市龜山區復興二路 38 號
實驗室資訊	1. MRT facility is a FCC registered (Reg. No. 291082) test facility with the site description report on file and is designated by the FCC as an Accredited Test Film. 2. MRT facility is an IC registered (MRT Reg. No. 21723) test laboratory with the site description on file at Industry Canada. 3. MRT Lab is accredited to ISO 17025 by the Taiwan Accreditation Foundation (TAF Cert. No. 3261) in EMC, Telecommunications and Radio testing for FCC, Industry Taiwan, EU and TELEC Rules.
實驗室測試環境條件	溫度 (°C) : 20 - 35 / 濕度 (%RH) : 30 - 65

2. 產品資訊

2.1. 待測物裝置資料

產品名稱	AC1300 MU-MIMO 迷你 USB 無線網卡
產品型號	Archer T3U
無線規格	802.11b/g/n/ac
頻率範圍	802.11b/g/n-HT20/ac-VHT20: 2412 ~ 2462MHz 802.11n-HT40/ VHT40: 2422 ~ 2452MHz
通道數量	802.11b/g/n-HT20/VHT20: 11 802.11n-HT40/VHT40: 7
調變模式	DSSS for IEEE 802.11 b, OFDM for IEEE 802.11g/n/VHT
傳輸速率	802.11b: 1/2/5.5/11Mbps 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 300Mbps 802.11-VHT: up to 866.6Mbps
頻道控制	Auto

2.2. 通道清單

802.11b/g/n-HT20/ VHT20

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

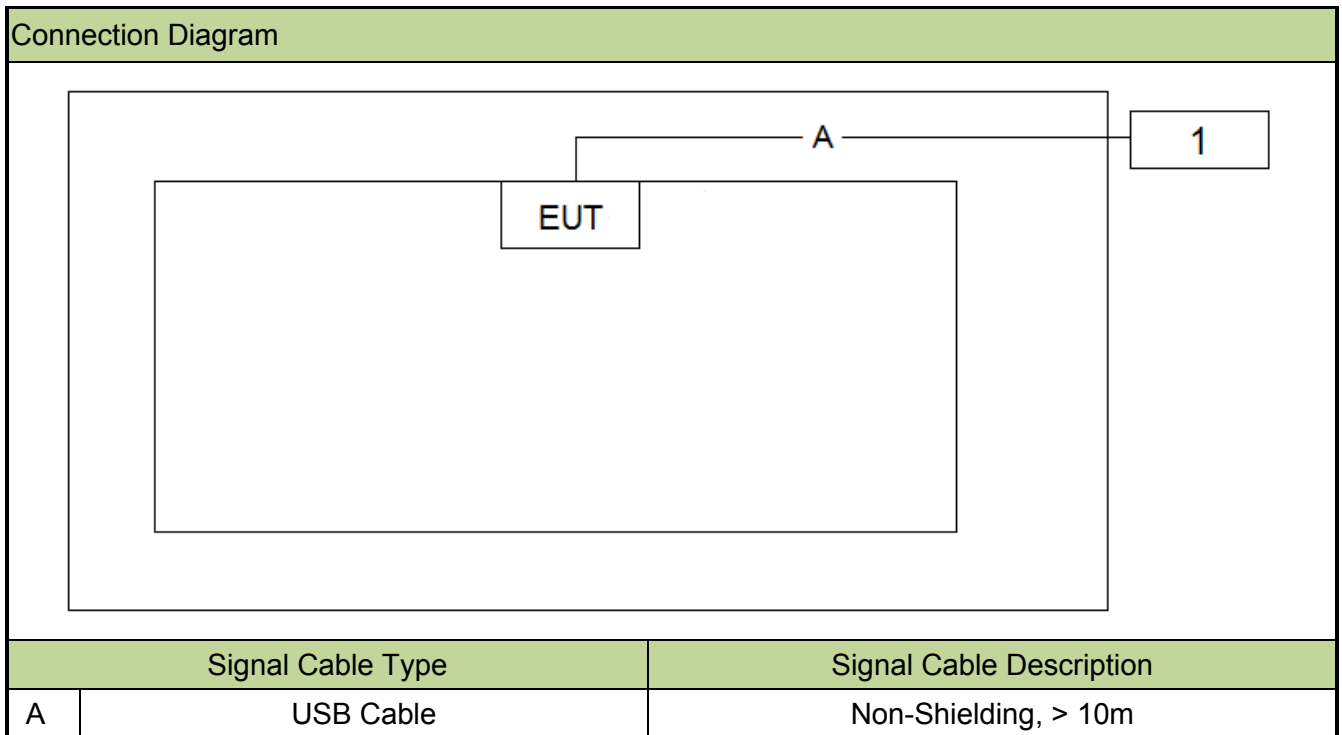
802.11n-HT40/VHT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
03	2422 MHz	04	2427 MHz	05	2432 MHz
06	2437 MHz	07	2442 MHz	08	2447 MHz
09	2452 MHz	--	--	--	--

2.3. 測試模式

Mode 1: 發射器 802.11b (1Mbps)
Mode 2: 發射器 802.11g (6Mbps)
Mode 3: 發射器 802.11n-HT20 (MCS8)
Mode 4: 發射器 802.11n-HT40 (MCS8)
Mode 5: 發射器 802.11-VHT20 (MCS0)
Mode 6: 發射器 802.11-VHT40 (MCS0)

2.4. 測試系統組合圖



2.5. 測試周邊

Item	待測物名稱	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Lenovo	E430c	N/A	Non-Shielded, 1.8m

2.6. 待測裝置測試時之典型操作程式

1.	Setup the EUT and simulators as shown on 2.4
2.	Turn on the power of all equipment.
3.	Execute "REALTEK 11ac 8822BU_USB v5.05" program.
4.	Configure the test channel and the data rate.
5.	Start test.

3. 量測不確定度

電源傳導量測-電源線 (Conducted Emission- Power Line)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 2.53dB
電源傳導量測-通訊埠 (Conducted Emission- Impedance Stabilization Network Measurement)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 3.96dB
輻射干擾量測 (Radiated Spurious Emission)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 3.92dB (Below 30M)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 4.25dB (30M~1G)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 4.40dB (1G~18G)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 4.45dB (18G~40G)
頻率誤差量測 (Frequency Error)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): $\pm 78.4\text{Hz}$
傳導功率量測 (Conducted Power)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): $\pm 0.84\text{dB}$
傳導干擾量測 (Conducted Spurious Emission)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): $\pm 2.65\text{ dB}$
佔用頻寬量測 (Occupied Bandwidth)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 3.3%
溫度 / 濕度 (Temp. / Humidity)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): $\pm 0.82^\circ\text{C}/ \pm 3\%$
直流電源 (DC Voltage)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): $\pm 0.3\%$

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

4. 測試設備明細

Conducted Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Two-Line V-Network	R&S	ENV216	MRTTWA00019	1 year	2019/3/20
Two-Line V-Network	R&S	ENV216	MRTTWA00020	1 year	2019/3/20
8-Wire ISN (T8)	R&S	ENY81	MRTTWA00018	1 year	2019/4/24
EMI Test Receiver	R&S	ESR3	MRTTWA00045	1 year	2019/5/14
溫度/Humidity Meter	TFA	35.1078.10.IT	MRTTWA00033	1 year	2019/5/21

Radiated Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Active Loop Antenna	SCHWARZBECK	FMZB 1519B	MRTTWA00002	1 year	2019/4/24
Broadband TRILOG Antenna	SCHWARZBECK	VULB 9162	MRTTWA00001	1 year	2019/5/22
Broadband Hornantenna	SCHWARZBECK	BBHA 9120D	MRTTWA00003	1 year	2019/4/24
Breitband Hornantenna	SCHWARZBECK	BBHA 9170	MRTTWA00004	1 year	2019/4/23
Broadband Preamplifier	SCHWARZBECK	BBV 9718	MRTTWA00005	1 year	2019/4/23
Broadband Amplifier	SCHWARZBECK	BBV 9721	MRTTWA00006	1 year	2019/4/23
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2019/3/19
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2019/7/30
Antenna Cable	HUBERSUHNER	SF106	MRTTWE00010	1 year	2019/5/18
溫度/Humidity Meter	TFA	35.1078.10.IT	MRTTWA00032	1 year	2019/5/21

Conducted Test Equipment

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2019/7/30
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTSUE06457	1 year	2019/7/19
X-Series USB Peak and Average Power Sensor	KEYSIGHT	U2021XA	MRTTWA00014	1 year	2019/4/24
溫度/Humidity Meter	TFA	35.1078.10.IT	MRTTWA00032	1 year	2019/5/21

Software	Version	Function
e3	9.160520a	EMI Test Software
EMI	Quietek	V3

5. 測試結果

產品名稱 AC1300 MU-MIMO 迷你 USB 無線網卡
型號 Archer T3U

章節	量測項目	限制值	測試結果	測試數據
2.3	電源傳導	低功率射頻電機技術規範 2.3 節	符合	第 5.1 章節
3.10.1.2	峰值傳導輸出功率	$\leq 30.00\text{dBm}$	符合	第 5.2 章節
3.10.1.3	天線之要求	低功率射頻電機技術規範 3.10.1.3 節	符合	第 5.3 章節
3.10.1.5	帶外發射限制	$\leq 30\text{dBc(Average)}$	符合	第 5.4 章節
2.7	輻射電場強度	低功率射頻電機技術規範 2.8 節	符合	第 5.5 章節
2.7	頻帶邊緣	$\leq 74\text{dBuV/m(Peak)}$ $\leq 54\text{dBuV/m(Average)}$	符合	第 5.6 章節
3.10.1.6(2)(A)	佔用頻寬	$\geq 500\text{kHz}$	符合	第 5.7 章節
3.10.1.6(2)(B)	功率頻譜密度	$\leq 8\text{dBm/3kHz}$	符合	第 5.8 章節

5.1. 電源端點干擾測試

5.1.1. 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第 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 150kHz 至 30MHz 之射頻電壓(在電源端子每一電源線對接地點)應小於或等於下表所列之限值。測量時應經過 50 微亨利(μH)及 50 歐姆(Ω)之電源線阻抗模擬網路(LISN)。頻率重疊處，以較低限值為準。

Frequency 頻率範圍 MHz	傳導限制值(dBuV)	
	準尖峰值	平均值
0.15 - 0.50	66-56 _(註)	56-46 _(註)
0.50 - 5.0	56	46
5.0 - 30	60	50

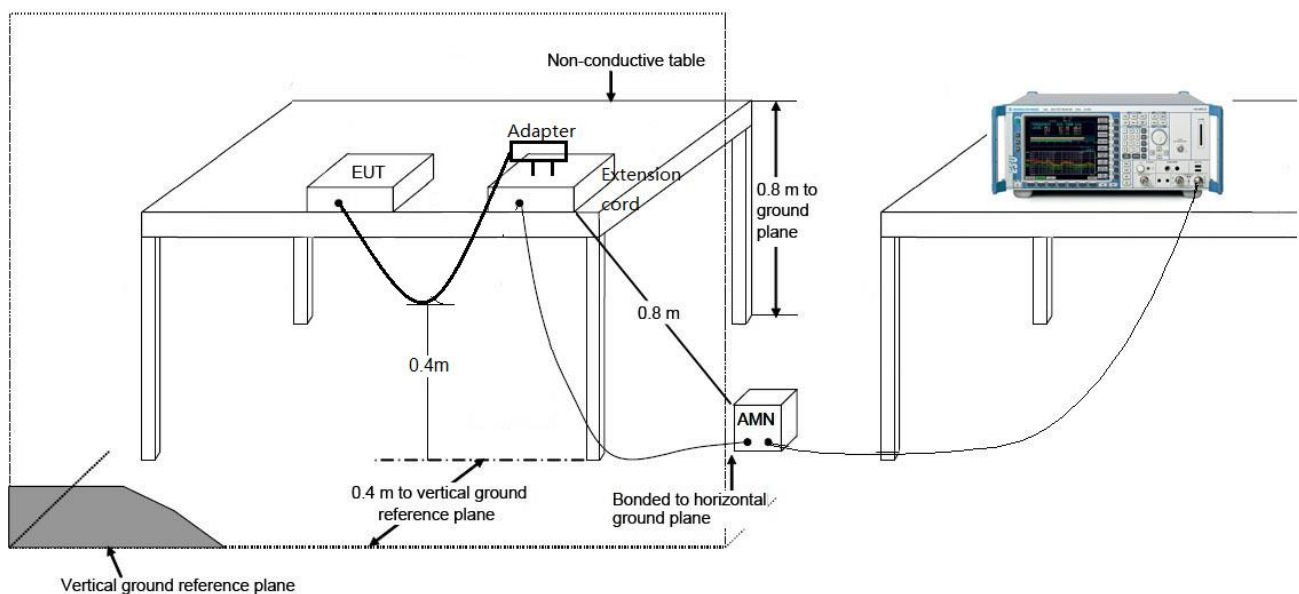
註:隨頻率之對數遞減

5.1.2. 量測方法

待測物置於高 80 公分之非導體桌面（落地型產品置於地上），將待測物之電源線接至電源阻抗網路器 (LISN)，同時保持待測物至 LISN 距 80 公分，並將電源線多餘部份以 30 至 40 公分之八字形捆綁於電源線中央並離地 40cm，於在正常工作狀態下，執行待測物之火線(Line)及地線(neutral)各一次量測。電源端點場強之測量範圍由 0.15MHz –30MHz，所量測之讀值皆為準尖峰值(Quasi-Peak Value)及平均值(Average Value)。場強接收機之解析頻寬為 9kHz。

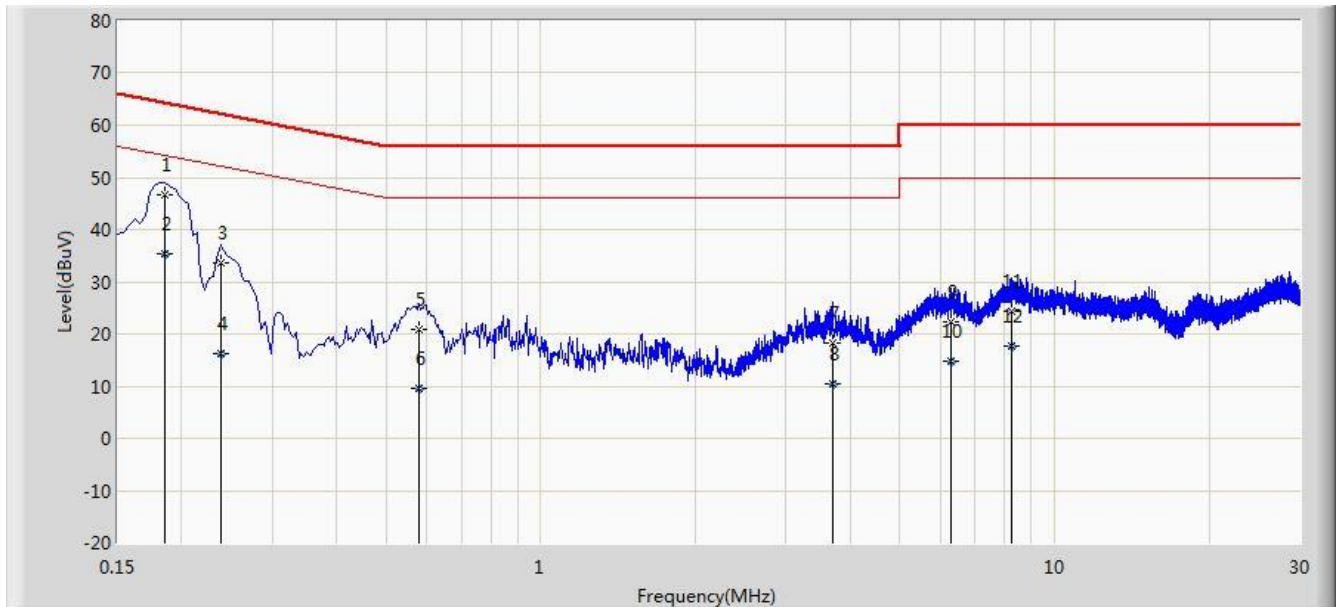
備註：經初測驗證過，電源端點干擾測試對測試頻道數並無差異，因此檢附其中一個測試頻道之測試數。

5.1.3. 測試架構圖



5.1.4. 電源端點測試結果

Site: SR2	Time: 2019/03/08 - 07:48
Limit: NCC LP0002_CE_0.15MHz-30MHz	Engineer: Kevin Ker
Probe: ENV216_Filter On	Polarity: Line
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Worst Case Mode	

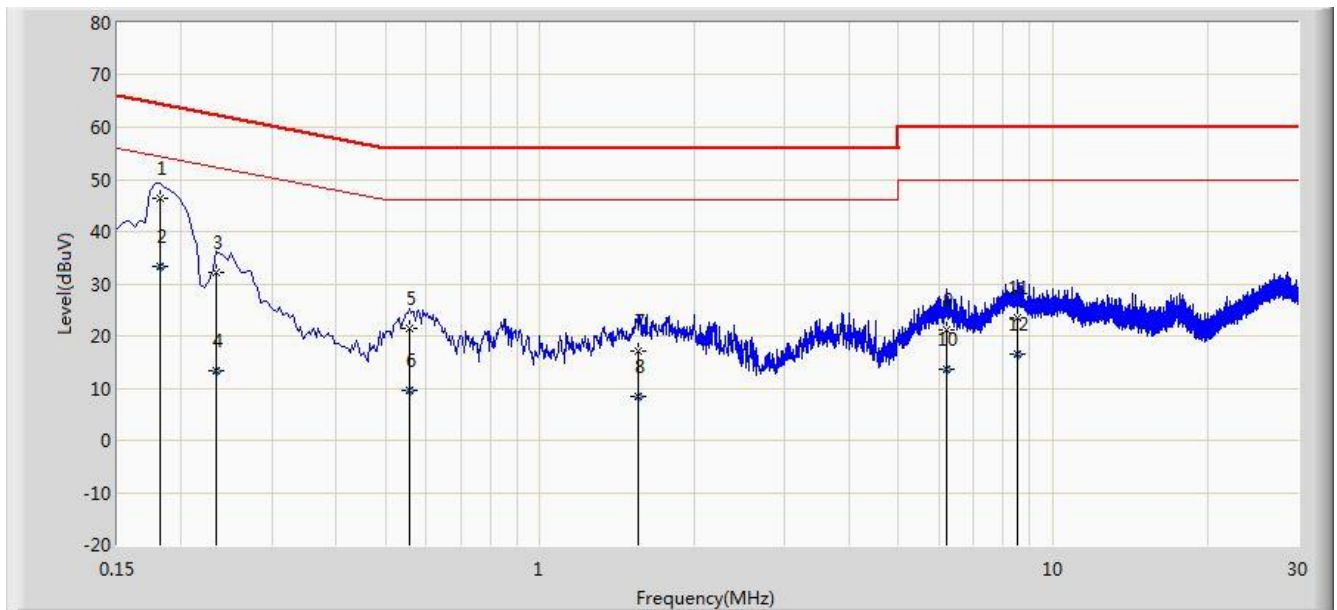


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		*	0.186	46.732	36.693	-17.481	64.213	10.039	QP
2			0.186	35.308	25.270	-18.905	54.213	10.039	AV
3			0.238	33.746	23.792	-28.420	62.166	9.954	QP
4			0.238	16.291	6.337	-35.875	52.166	9.954	AV
5			0.578	20.843	10.717	-35.157	56.000	10.126	QP
6			0.578	9.644	-0.482	-36.356	46.000	10.126	AV
7			3.694	18.239	8.298	-37.761	56.000	9.941	QP
8			3.694	10.567	0.626	-35.433	46.000	9.941	AV
9			6.266	22.306	12.179	-37.694	60.000	10.128	QP
10			6.266	14.817	4.690	-35.183	50.000	10.128	AV
11			8.246	24.372	14.210	-35.628	60.000	10.163	QP
12			8.246	17.750	7.588	-32.250	50.000	10.163	AV

Note: Measure Level (dBuV) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Site: SR2	Time: 2019/03/08 - 07:54
Limit: NCC LP0002_CE_0.15MHz-30MHz	Engineer: Kevin Ker
Probe: ENV216_Filter On	Polarity: Neutral
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Worst Case Mode	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		*	0.182	46.462	36.419	-17.932	64.394	10.042	QP
2			0.182	33.378	23.336	-21.016	54.394	10.042	AV
3			0.234	32.152	22.164	-30.154	62.307	9.989	QP
4			0.234	13.273	3.284	-39.034	52.307	9.989	AV
5			0.558	21.439	11.285	-34.561	56.000	10.154	QP
6			0.558	9.504	-0.651	-36.496	46.000	10.154	AV
7			1.550	17.142	7.255	-38.858	56.000	9.888	QP
8			1.550	8.472	-1.416	-37.528	46.000	9.888	AV
9			6.222	21.176	11.041	-38.824	60.000	10.134	QP
10			6.222	13.713	3.579	-36.287	50.000	10.134	AV
11			8.534	23.491	13.290	-36.509	60.000	10.201	QP
12			8.534	16.486	6.285	-33.514	50.000	10.201	AV

Note: Measure Level (dBuV) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

5.2. 峰值傳導輸出功率

5.2.1. 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第 3.10.1.2(1)(C)節，操作於 2400-2483.5 MHz 之數位調變的發射器材：1 瓦(W)(含)以下。

依據國家通訊傳播委員會低功率射頻電機技術規範之第 3.10.1.3 節，天線增益限制如下：

(1) 操作於 2400 MHz~2483.5 MHz 頻段：

(A) 進行固定式點對點操作時，其發射天線之方向性增益超過6 dBi，每超過3 dBi，最大傳導輸出功率限制值應降低1 dB。

(B) 除第(A)節外，如其發射天線之方向性增益超過6dBi，應依所超過之dB數等量降低最大傳導輸出功率。

(C) 天線以多向波束發射方式(含同時發射或循序發射)將訊號導向多個接收機或接收機群組時，應符合下列規定：

(a) 非同時發射多向波束者，所有載波或頻道傳輸至所有天線陣列或陣列群之總和傳導輸出功率應符合 3.10.1.2 之功率限制值。如天線/天線陣列群之方向性增益超過 6 dBi，每超過 3 dBi，總和傳導輸出功率限制值應降低 1 dB。方向性增益值應計算如下：

(i) 方向性增益值= $10\log(\text{天線陣列之單元數目}) + \text{各單元中最高之方向性增益值}$ 。

(ii) 天線陣列間之遮蔽效應或波束干涉損失能充分佐證時，方向性增益得低於(i)計算數值。

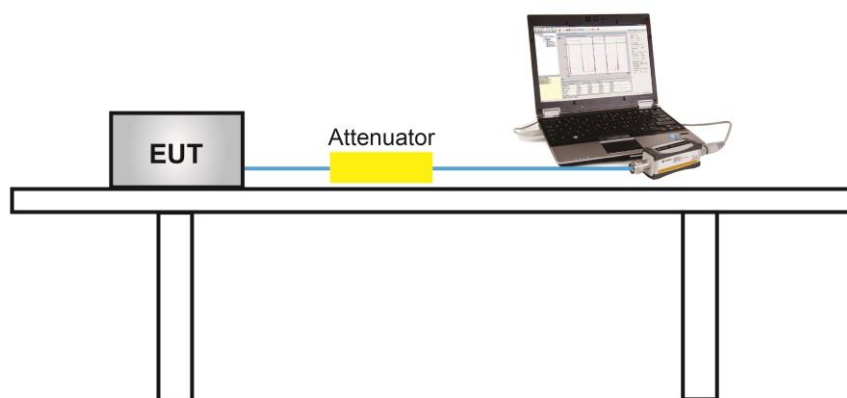
同時發射多向波束於相同或不同頻道者，其每一波束功率應符合(a)之功率限制值。如發射波束有重疊現象，功率應降低，以確保總和傳導輸出功率符合(a)之限制值。同時發射的所有波束總和傳導輸出功率不大於(a) 總和傳導輸出功率限制值加 8 dB。方向性增益值計算同(a)。

(c) 發射機之天線具備單向波束功能者，應符合(1)(A)及(3)後段之規定。

5.2.2. 量測方法

待測物之天線埠經由適當之衰減直接連至頻譜分析儀 RF 輸入端，設定頻譜分析儀之解析度頻寬大於 6dB 發射頻寬或使用峰值功率表。

5.2.3. 測試架構圖



5.2.4. 峰值傳導輸出功率測試結果

Power output test was verified over all data rates of each mode shown as below table, and then choose the maximum power output (gray marker) for final test of each channel.

For Ant 0 port

Test Mode	Bandwidth (MHz)	Channel No.	Frequency (MHz)	Data Rate/ MCS	Average Power (dBm)
802.11b	20	6	2437	1Mbps	18.36
				5.5Mbps	18.20
				11Mbps	18.02
802.11g	20	6	2437	6Mbps	18.51
				24Mbps	18.32
				54Mbps	18.13
802.11n	20	6	2437	MCS8	16.21
				MCS11	16.04
				MCS15	15.83
802.11n	40	6	2437	MCS8	15.53
				MCS11	15.35
				MCS15	15.06
802.11ac	20	6	2437	MCS0	16.18
				MCS4	15.93
				MCS8	15.74
802.11ac	40	6	2437	MCS0	15.32
				MCS5	15.12
				MCS9	14.93

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	25°C
測試工程師	Kevin Ker	濕度	56%
測試場地	SR1	測試日期	2019/02/25

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Limit (dBm)	Result
802.11b	1Mbps	01	2412	18.38	--	18.38	≤ 30.00	Pass
802.11b	1Mbps	06	2437	18.36	--	18.36	≤ 30.00	Pass
802.11b	1Mbps	11	2462	18.23	--	18.23	≤ 30.00	Pass
802.11g	6Mbps	01	2412	15.25	--	15.25	≤ 30.00	Pass
802.11g	6Mbps	06	2437	18.51	--	18.51	≤ 30.00	Pass
802.11g	6Mbps	11	2462	16.47	--	16.47	≤ 30.00	Pass
802.11n-HT20	MCS8	01	2412	14.47	14.96	17.73	≤ 30.00	Pass
802.11n-HT20	MCS8	06	2437	16.21	16.25	19.24	≤ 30.00	Pass
802.11n-HT20	MCS8	11	2462	14.59	14.47	17.54	≤ 30.00	Pass
802.11n-HT40	MCS8	03	2422	12.33	12.06	15.21	≤ 30.00	Pass
802.11n-HT40	MCS8	06	2437	15.53	15.35	18.45	≤ 30.00	Pass
802.11n-HT40	MCS8	09	2452	12.47	12.34	15.42	≤ 30.00	Pass
802.11-VHT20	MCS0	01	2412	15.54	15.16	18.36	≤ 30.00	Pass
802.11-VHT20	MCS0	06	2437	16.18	16.23	19.22	≤ 30.00	Pass
802.11-VHT20	MCS0	11	2462	14.22	14.17	17.21	≤ 30.00	Pass
802.11-VHT40	MCS0	03	2422	13.08	12.51	15.81	≤ 30.00	Pass
802.11-VHT40	MCS0	06	2437	15.32	15.29	18.32	≤ 30.00	Pass
802.11-VHT40	MCS0	09	2452	12.43	12.49	15.47	≤ 30.00	Pass

Note 1: Total Average Power (dBm) = $10 \cdot \log \{10^{(\text{Ant 0 Average Power} / 10)} + 10^{(\text{Ant 1 Average Power} / 10)}\}$

Note 2: Average Power Limit (dBm) = 30dBm.

5.3. 天線之要求

5.3.1. 適用標準

低功率射頻電機之發射機或收發信機所使用之天線，應為全固定、半固定式或以獨特之耦合(unique coupling)方式連接機體。製造者可設計供使用者因損壞而替換之天線，但不得設計或使用原認證以外之天線或可供引接各類電纜之標準天線插座或電氣連接頭，如：BNC、F type、N type、M type、UG type、RCA、SMA、SMB...等及其他各類工業或通訊標準接頭。

5.3.2. 天線樣式

此AC1300 MU-MIMO迷你USB無線網卡其天線為固定式PIFA Antenna (檢附天線規格書)

Antenna Type	Frequency Band (MHz)	TX Paths	Max Antenna Gain (dBi)		Directional Gain (dBi)	
			Ant 0	Ant 1	For Power	For PSD
PIFA Antenna	2400 ~ 2500	2	1.94	1.76	1.94	4.95
	5150 ~ 5850	2	1.99	1.93	1.99	5.0

Note:

1. 802.11a, 802.11b, 802.11g support single transmission at Ant 0 port only.
2. The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated.

For CDD transmissions, directional gain is calculated as follows, $N_{ANT} = 2$, $N_{SS} = 1$.

If all antennas have the same gain, G_{ANT} , Directional gain = $G_{ANT} + \text{Array Gain}$, where Array Gain is as follows.

- For power spectral density (PSD) measurements on all devices,
Array Gain = $10 \log (N_{ANT} / N_{SS}) \text{ dB} = 3.01$;
- For power measurements on IEEE 802.11 devices,
Array Gain = 0 dB for $N_{ANT} \leq 4$;

If antenna gains are not equal and each transmit antenna is driven by only one spatial stream,

Directional gain = $G_{ANT} + \text{Array Gain}$,

- For power spectral density (PSD) measurements on all devices,
Array Gain = $10 \log (N_{ANT} / N_{SS}) \text{ dB} = 3.01$;
- For power measurements on IEEE 802.11 devices,
Array Gain = 0 dB for $N_{ANT} \leq 4$;

5.4. 輻射干擾測試

5.4.1. 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第 3.10.1.5 節，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，衰減值限制如下：

(1)輸出功率以低功率射頻電機技術規範附件二之峰值輸出功率方式量測者，至少須衰減 20 dB，可使用射頻傳導或輻射方式測量。

(2)輸出功率以低功率射頻電機技術規範 3.10.1(2)(2.3)之最大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。

依據國家通訊傳播委員會低功率射頻電機技術規範之第 2.8 節，低功率射頻電機，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(兆赫)	電場強度(微伏/公尺)	測距(公尺)
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

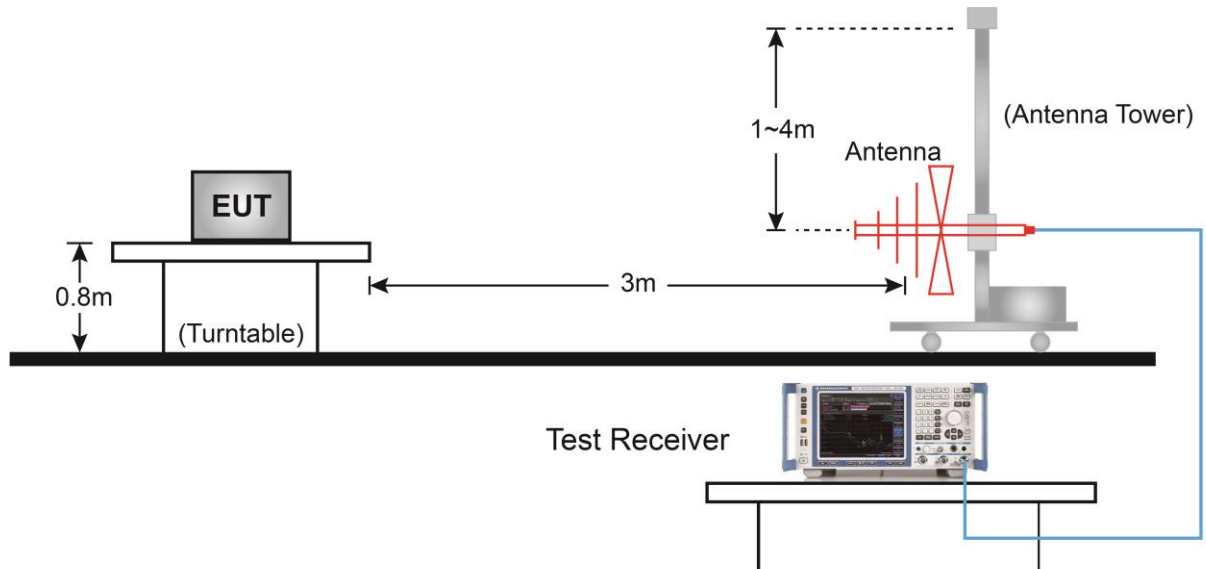
上表規定之電場強度，頻率在 9-90kHz 千赫(kHz)、110-490 千赫(kHz)以及 1000 兆赫(MHz)以上之發射，其量測以平均值檢波器為基準，且須符合第 5.14 節之規定；其他頻率之發射，應以 CISPR 準峰值(quasi-peak) 檢波器測量；非以上表所指定之距離測量時須符合第 5.5 節之規定，而輻射發射之量測頻率範圍須符合第 5.12 節之規定。

5.4.2. 量測方法

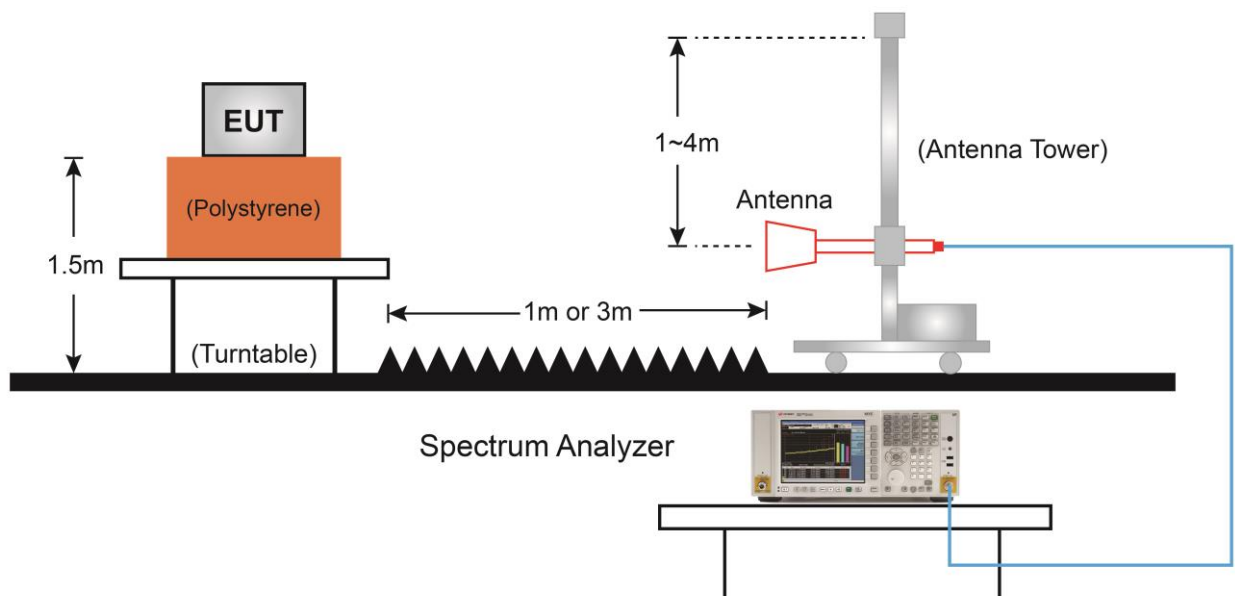
低頻待測物置於高 80 公分之非導體桌面（落地型產品置於地上），高頻待測物置於高 150 公分之非導體桌面，受測物與配件設備之電源線無須束綁，桌面上受測設備的所有電源線由桌子的後緣垂下沿旋轉桌表面接至交流插座。落地型設備的交流電源線可以方便的型態走線。桌面可 360 度旋轉，接收天線置於距待測物 3m 距離，高度可在 1 至 4 公尺間變動，以量測待測物之最大輻射電場強度。接收天線並應於水準及垂直極化方向各量測一次。

5.4.3. 測試架構圖

Below 1GHz Test Setup:



Above 1GHz Test Setup:



5.4.4. 輻射干擾測試結果

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11b - Ant 0	測試通道	01
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4009.0	41.5	0.4	41.9	74.0	-32.1	Peak	Horizontal
	4825.0	48.0	3.7	51.7	74.0	-22.3	Peak	Horizontal
*	6431.5	38.0	7.9	45.9	78.3	-32.4	Peak	Horizontal
*	7230.5	39.5	12.2	51.7	78.3	-26.6	Peak	Horizontal
	4315.0	39.8	1.6	41.4	74.0	-32.6	Peak	Vertical
	4825.0	40.8	3.7	44.5	74.0	-29.5	Peak	Vertical
*	6635.5	37.4	8.7	46.1	78.3	-32.2	Peak	Vertical
*	7239.0	38.6	12.2	50.8	78.3	-27.5	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (108.3dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11b - Ant 0	測試通道	06
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4170.5	39.9	1.0	40.9	74.0	-33.1	Peak	Horizontal
	4876.0	43.9	3.7	47.6	74.0	-26.4	Peak	Horizontal
*	5751.5	38.8	5.2	44.0	76.3	-32.3	Peak	Horizontal
*	6185.0	38.0	6.8	44.8	76.3	-31.5	Peak	Horizontal
	4085.5	40.5	0.7	41.2	74.0	-32.8	Peak	Vertical
	5037.5	37.5	4.0	41.5	74.0	-32.5	Peak	Vertical
*	5964.0	36.7	6.1	42.8	76.3	-33.5	Peak	Vertical
*	6542.0	36.6	8.6	45.2	76.3	-31.1	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (106.3dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11b - Ant 0	測試通道	11
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4519.0	39.2	2.7	41.9	74.0	-32.1	Peak	Horizontal
	4927.0	42.4	3.7	46.1	74.0	-27.9	Peak	Horizontal
*	5981.0	38.1	6.1	44.2	77.2	-33.0	Peak	Horizontal
*	6907.5	36.2	9.9	46.1	77.2	-31.1	Peak	Horizontal
	4799.5	39.2	3.7	42.9	74.0	-31.1	Peak	Vertical
	4995.0	38.5	3.8	42.3	74.0	-31.7	Peak	Vertical
*	5836.5	38.1	5.7	43.8	77.2	-33.4	Peak	Vertical
*	6499.5	36.4	8.4	44.8	77.2	-32.4	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (107.2dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11g - Ant 0	測試通道	01
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4009.0	41.0	0.4	41.4	74.0	-32.6	Peak	Horizontal
	4825.0	42.2	3.7	45.9	74.0	-28.1	Peak	Horizontal
*	6049.0	37.2	6.2	43.4	77.0	-33.6	Peak	Horizontal
*	6355.0	37.8	7.5	45.3	77.0	-31.7	Peak	Horizontal
	4051.5	40.8	0.5	41.3	74.0	-32.7	Peak	Vertical
	5071.5	38.3	4.1	42.4	74.0	-31.6	Peak	Vertical
*	5862.0	37.2	5.8	43.0	77.0	-34.0	Peak	Vertical
*	7239.0	37.3	12.2	49.5	77.0	-27.5	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (107.0dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11g - Ant 0	測試通道	06
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4068.5	41.1	0.6	41.7	74.0	-32.3	Peak	Horizontal
	4867.5	42.6	3.7	46.3	74.0	-27.7	Peak	Horizontal
*	6006.5	37.6	6.1	43.7	78.7	-35.0	Peak	Horizontal
*	6839.5	35.4	9.3	44.7	78.7	-34.0	Peak	Horizontal
	4017.5	41.3	0.4	41.7	74.0	-32.3	Peak	Vertical
	7315.5	37.6	12.3	49.9	74.0	-24.1	Peak	Vertical
*	7885.0	34.9	12.4	47.3	78.7	-31.4	Peak	Vertical
*	8811.5	34.4	14.0	48.4	78.7	-30.3	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (108.7BμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11g - Ant 0	測試通道	11
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	3881.5	38.8	0.3	39.1	74.0	-34.9	Peak	Horizontal
	4927.0	39.1	3.7	42.8	74.0	-31.2	Peak	Horizontal
*	5989.5	37.6	6.1	43.7	77.7	-34.0	Peak	Horizontal
*	6780.0	34.6	8.9	43.5	77.7	-34.2	Peak	Horizontal
	4731.5	38.6	3.6	42.2	74.0	-31.8	Peak	Vertical
	5131.0	38.1	4.2	42.3	74.0	-31.7	Peak	Vertical
*	6176.5	37.2	6.7	43.9	77.7	-33.8	Peak	Vertical
*	6737.5	37.2	8.8	46.0	77.7	-31.7	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (107.7dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11n-HT20 - Ant 0+1	測試通道	01
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4043.0	42.0	0.5	42.5	74.0	-31.5	Peak	Horizontal
	4825.0	47.4	3.7	51.1	74.0	-22.9	Peak	Horizontal
*	6185.0	36.8	6.8	43.6	77.8	-34.2	Peak	Horizontal
*	7230.5	45.0	12.2	57.2	77.8	-20.6	Peak	Horizontal
	4238.5	40.3	1.3	41.6	74.0	-32.4	Peak	Vertical
	4825.0	48.7	3.7	52.4	74.0	-21.6	Peak	Vertical
*	6040.5	38.4	6.2	44.6	77.8	-33.2	Peak	Vertical
*	7230.5	43.1	12.2	55.3	77.8	-22.5	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (107.8dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11n-HT20 - Ant 0+1	測試通道	06
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4876.0	45.9	3.7	49.6	74.0	-24.4	Peak	Horizontal
	7315.5	39.8	12.3	52.1	74.0	-21.9	Peak	Horizontal
*	7876.5	36.6	12.4	49.0	79.6	-30.6	Peak	Horizontal
*	8616.0	34.2	13.5	47.7	79.6	-31.9	Peak	Horizontal
	4357.5	39.1	1.8	40.9	74.0	-33.1	Peak	Vertical
	4867.5	40.5	3.7	44.2	74.0	-29.8	Peak	Vertical
*	5794.0	37.6	5.4	43.0	79.6	-36.6	Peak	Vertical
*	6414.5	37.8	7.8	45.6	79.6	-34.0	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (109.6dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11n-HT20 - Ant 0+1	測試通道	11
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4170.5	38.5	1.0	39.5	74.0	-34.5	Peak	Horizontal
	4927.0	42.1	3.7	45.8	74.0	-28.2	Peak	Horizontal
*	5760.0	36.2	5.2	41.4	80.5	-39.1	Peak	Horizontal
*	6440.0	36.2	8.0	44.2	80.5	-36.3	Peak	Horizontal
	4323.5	39.3	1.7	41.0	74.0	-33.0	Peak	Vertical
	4918.5	42.2	3.7	45.9	74.0	-28.1	Peak	Vertical
*	6091.5	37.6	6.4	44.0	80.5	-36.5	Peak	Vertical
*	6414.5	37.4	7.8	45.2	80.5	-35.3	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (110.5dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11n-HT40 - Ant 0+1	測試通道	03
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	3992.0	39.9	0.4	40.3	74.0	-33.7	Peak	Horizontal
	4706.0	37.1	3.6	40.7	74.0	-33.3	Peak	Horizontal
*	5768.5	36.7	5.3	42.0	76.1	-34.1	Peak	Horizontal
*	6176.5	36.1	6.7	42.8	76.1	-33.3	Peak	Horizontal
	4026.0	40.9	0.5	41.4	74.0	-32.6	Peak	Vertical
	4782.5	38.7	3.7	42.4	74.0	-31.6	Peak	Vertical
*	6261.5	38.7	7.0	45.7	76.1	-30.4	Peak	Vertical
*	6499.5	35.9	8.4	44.3	76.1	-31.8	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (106.1dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11n-HT40 - Ant 0+1	測試通道	06
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4009.0	40.0	0.4	40.4	74.0	-33.6	Peak	Horizontal
	7281.5	37.9	12.3	50.2	74.0	-23.8	Peak	Horizontal
*	7910.5	36.0	12.4	48.4	78.1	-29.7	Peak	Horizontal
*	8743.5	32.2	13.9	46.1	78.1	-32.0	Peak	Horizontal
	4366.0	39.2	1.9	41.1	74.0	-32.9	Peak	Vertical
	4876.0	39.3	3.7	43.0	74.0	-31.0	Peak	Vertical
*	5539.0	38.1	4.4	42.5	78.1	-35.6	Peak	Vertical
*	6185.0	36.4	6.8	43.2	78.1	-34.9	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (108.1dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11n-HT40 - Ant 0+1	測試通道	09
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4009.0	41.3	0.4	41.7	74.0	-32.3	Peak	Horizontal
	4901.5	39.0	3.7	42.7	74.0	-31.3	Peak	Horizontal
*	6049.0	35.7	6.2	41.9	74.0	-32.1	Peak	Horizontal
*	6499.5	35.8	8.4	44.2	74.0	-29.8	Peak	Horizontal
	3975.0	40.4	0.4	40.8	74.0	-33.2	Peak	Vertical
	4816.5	38.5	3.7	42.2	74.0	-31.8	Peak	Vertical
*	5981.0	37.6	6.1	43.7	74.0	-30.3	Peak	Vertical
*	6933.0	36.8	10.1	46.9	74.0	-27.1	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (103.5dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11-VHT20 - Ant 0+1	測試通道	01
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4315.0	39.2	1.6	40.8	74.0	-33.2	Peak	Horizontal
	4816.5	43.0	3.7	46.7	74.0	-27.3	Peak	Horizontal
*	6899.0	37.1	9.8	46.9	78.4	-31.5	Peak	Horizontal
*	7239.0	37.3	12.2	49.5	78.4	-28.9	Peak	Horizontal
	4051.5	40.8	0.5	41.3	74.0	-32.7	Peak	Vertical
	4833.5	41.1	3.7	44.8	74.0	-29.2	Peak	Vertical
*	5845.0	38.4	5.7	44.1	78.4	-34.3	Peak	Vertical
*	7230.5	37.2	12.2	49.4	78.4	-29.0	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (108.4dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11-VHT20 - Ant 0+1	測試通道	06
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4043.0	40.4	0.5	40.9	74.0	-33.1	Peak	Horizontal
	4867.5	44.2	3.7	47.9	74.0	-26.1	Peak	Horizontal
*	6321.0	37.4	7.3	44.7	79.7	-35.0	Peak	Horizontal
*	6890.5	36.6	9.7	46.3	79.7	-33.4	Peak	Horizontal
	4272.5	39.7	1.5	41.2	74.0	-32.8	Peak	Vertical
	4867.5	39.6	3.7	43.3	74.0	-30.7	Peak	Vertical
*	5998.0	39.3	6.1	45.4	79.7	-34.3	Peak	Vertical
*	7137.0	37.1	11.7	48.8	79.7	-30.9	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (109.7dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11-VHT20 - Ant 0+1	測試通道	11
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4017.5	40.4	0.4	40.8	74.0	-33.2	Peak	Horizontal
	4927.0	39.1	3.7	42.8	74.0	-31.2	Peak	Horizontal
*	5819.5	37.8	5.6	43.4	77.8	-34.4	Peak	Horizontal
*	6584.5	36.4	8.6	45.0	77.8	-32.8	Peak	Horizontal
	3941.0	40.6	0.3	40.9	74.0	-33.1	Peak	Vertical
	4808.0	38.3	3.7	42.0	74.0	-32.0	Peak	Vertical
*	5777.0	39.5	5.3	44.8	77.8	-33.0	Peak	Vertical
*	6720.5	37.8	8.7	46.5	77.8	-31.3	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (107.8dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11-VHT40 - Ant 0+1	測試通道	03
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4332.0	39.1	1.7	40.8	74.0	-33.2	Peak	Horizontal
	4842.0	38.4	3.7	42.1	74.0	-31.9	Peak	Horizontal
*	5564.5	36.9	4.5	41.4	74.0	-32.6	Peak	Horizontal
*	6210.5	37.0	6.9	43.9	74.0	-30.1	Peak	Horizontal
	3779.5	40.6	0.2	40.8	74.0	-33.2	Peak	Vertical
	4621.0	38.2	3.3	41.5	74.0	-32.5	Peak	Vertical
*	5930.0	38.2	6.0	44.2	74.0	-29.8	Peak	Vertical
*	6491.0	37.1	8.3	45.4	74.0	-28.6	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (103.3dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11-VHT40 - Ant 0+1	測試通道	06
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4119.5	40.6	0.8	41.4	74.0	-32.6	Peak	Horizontal
	4876.0	44.3	3.7	48.0	74.0	-26.0	Peak	Horizontal
*	5930.0	38.2	6.0	44.2	76.0	-31.8	Peak	Horizontal
*	6542.0	37.2	8.6	45.8	76.0	-30.2	Peak	Horizontal
	4247.0	39.0	1.3	40.3	74.0	-33.7	Peak	Vertical
	4833.5	37.4	3.7	41.1	74.0	-32.9	Peak	Vertical
*	6491.0	37.1	8.3	45.4	76.0	-30.6	Peak	Vertical
*	7128.5	37.6	11.7	49.3	76.0	-26.7	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (106.0dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	26°C
測試工程師	Kevin Ker	濕度	56%
測試場地	AC1	測試日期	2019/02/28
測試模式	802.11-VHT40 - Ant 0+1	測試通道	09
備註	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4612.5	38.0	3.2	41.2	74.0	-32.8	Peak	Horizontal
	4901.5	37.9	3.7	41.6	74.0	-32.4	Peak	Horizontal
*	5734.5	37.0	5.1	42.1	74.0	-31.9	Peak	Horizontal
*	6227.5	36.7	6.9	43.6	74.0	-30.4	Peak	Horizontal
	3915.5	39.2	0.3	39.5	74.0	-34.5	Peak	Vertical
	4808.0	39.2	3.7	42.9	74.0	-31.1	Peak	Vertical
*	6108.5	37.1	6.5	43.6	74.0	-30.4	Peak	Vertical
*	6533.5	36.8	8.5	45.3	74.0	-28.7	Peak	Vertical

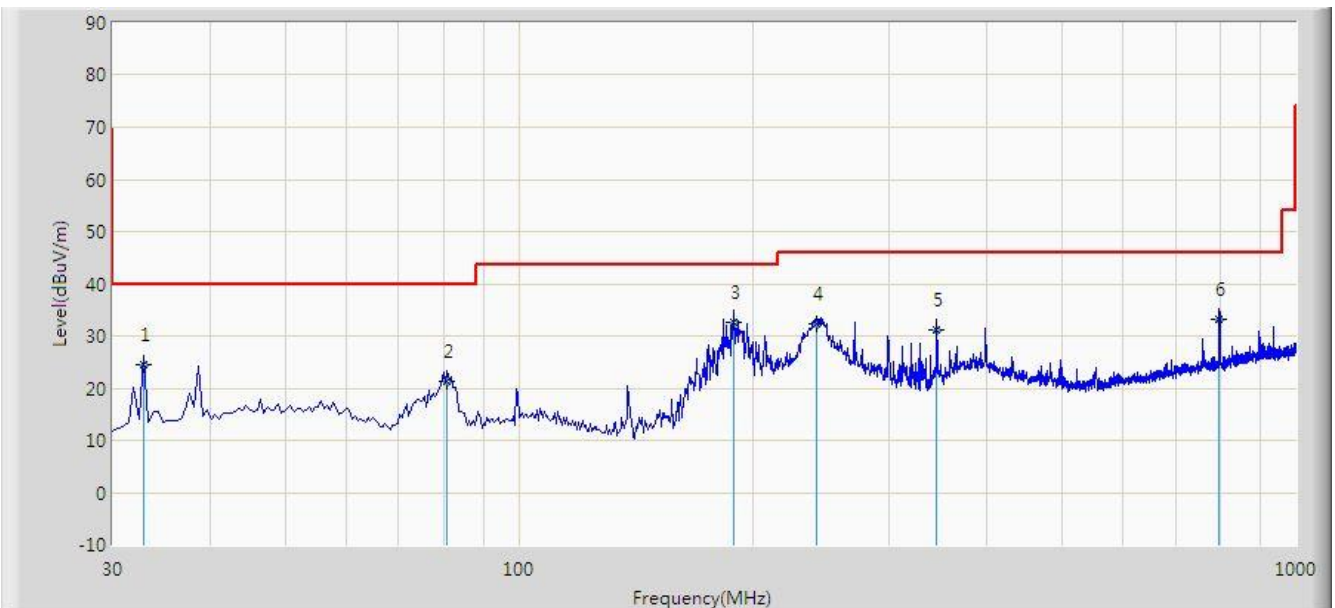
Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (102.2dBμV/m) or LP0002 Section 2.8 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

The Worst Case of Radiated Emission below 1GHz:

Site: AC1	Time: 2019/03/08 - 02:46
Limit: NCC LP0002_9KHz-1GHz	Engineer: Kevin Ker
Probe: VULB9162_0.03-8GHz	Polarity: Horizontal
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
測試模式: There is the worst case within frequency range 30MHz~1GHz.	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			32.910	24.375	11.715	-15.625	40.000	12.660	QP
2			80.925	21.325	11.656	-18.675	40.000	9.669	QP
3		*	189.080	32.540	20.570	-10.960	43.500	11.970	QP
4			241.945	32.387	18.660	-13.613	46.000	13.728	QP
5			344.765	31.186	15.116	-14.814	46.000	16.070	QP
6			796.785	33.078	9.863	-12.922	46.000	23.215	QP

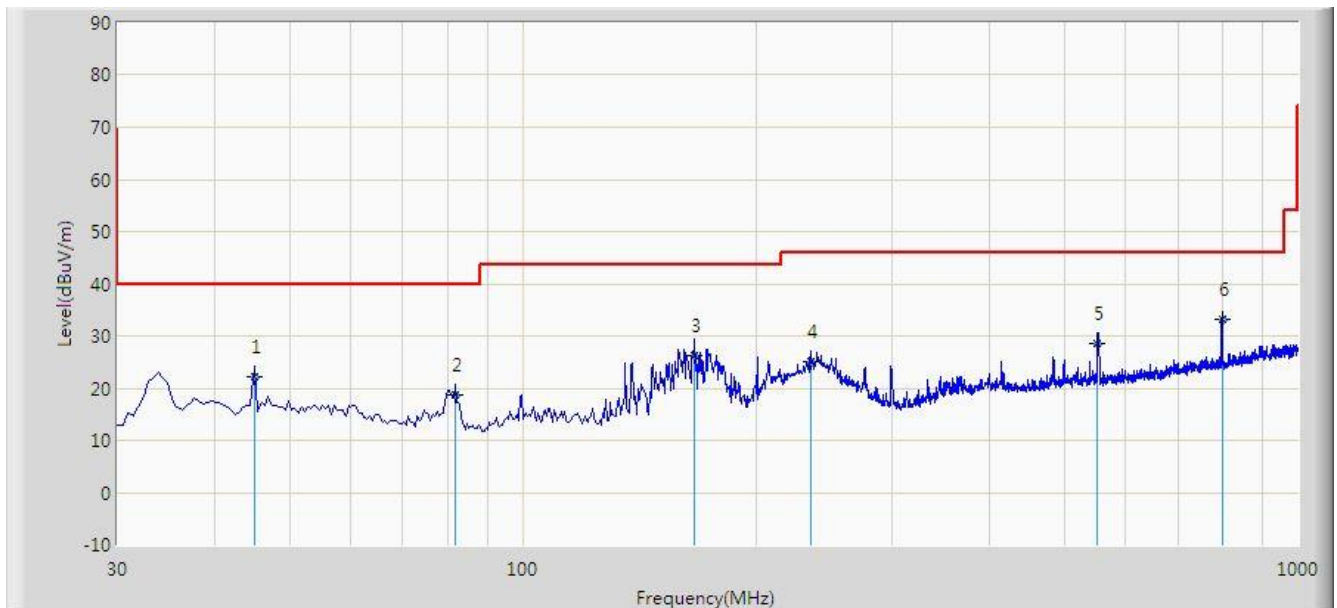
Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

Note 3: 經初測驗證過，1GHz 以下輻射干擾測試對測試頻道數並無差異，故僅檢附最差狀況之測試頻道。

Site: AC1	Time: 2019/03/08 - 02:48
Limit: NCC LP0002_9KHz-1GHz	Engineer: Kevin Ker
Probe: VULB9162_0.03-8GHz	Polarity: Vertical
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
測試模式: There is the worst case within frequency range 30MHz~1GHz.	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			45.035	22.290	7.353	-17.710	40.000	14.937	QP
2			81.895	18.651	8.846	-21.349	40.000	9.805	QP
3			166.770	26.355	16.020	-17.145	43.500	10.335	QP
4			235.155	25.068	11.554	-20.932	46.000	13.514	QP
5			551.860	28.571	9.027	-17.429	46.000	19.544	QP
6		*	799.210	33.121	9.870	-12.879	46.000	23.251	QP

Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

Note 3: 經初測驗證過，1GHz 以下輻射干擾測試對測試頻道數並無差異，故僅檢附最差狀況之測試頻道。

5.5. 混附發射之 RF 傳導發射

5.5.1. 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之第 3.10.1.5 節，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。如發射機以本節 3.10.1(2)(2.3) 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。

備註

解析頻寬設置為 1.3 MHz 是為了提供量測速度。使用限值還是法規定義的基於解析頻寬 100 kHz 情形下主波下降 20dB，如果量測波形接近限值，我們會使用降低解析頻寬方式作驗證。

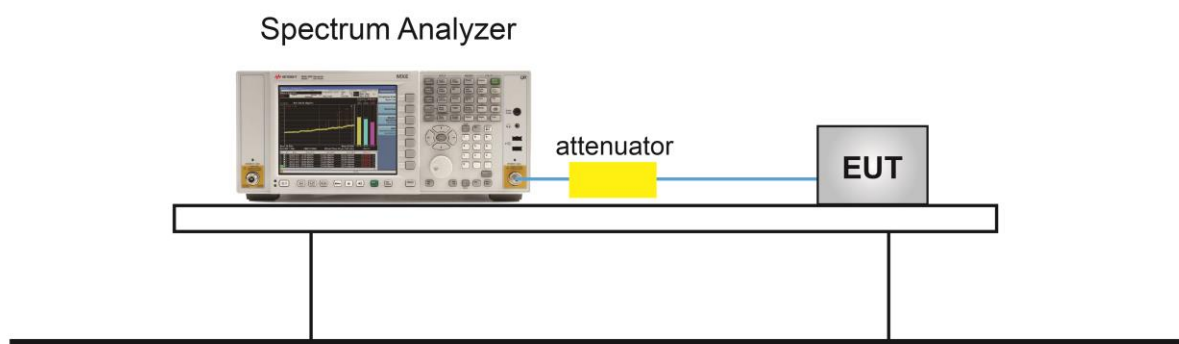
5.5.2. 量測方法

依據國家通訊傳播委員會低功率射頻電機技術規範之附件三，頻率跳頻展頻系統檢測之參考程式七 混附發射之 RF 傳導發射：

(一) 頻譜分析儀設定如下：

1. 頻率掃描範圍足以檢測頻帶內的發射波峰位準以及由受測物產生之最低頻率到第 10 次諧波的所有混附發射，通常需要分幾段以涵蓋全部頻率範圍。
2. 解析頻寬為 100kHz，視訊頻寬不小於解析頻寬。
3. 掃描時間為自動，檢波功能為峰值，訊號軌跡為最大保留 (Max Hold)。
4. 將標記設定於任何欲紀錄之波峰上，所顯示之位準值必須符合指定之限制值。

5.5.3. 測試架構圖



5.5.4. 混附發射之 RF 傳導發射測試結果

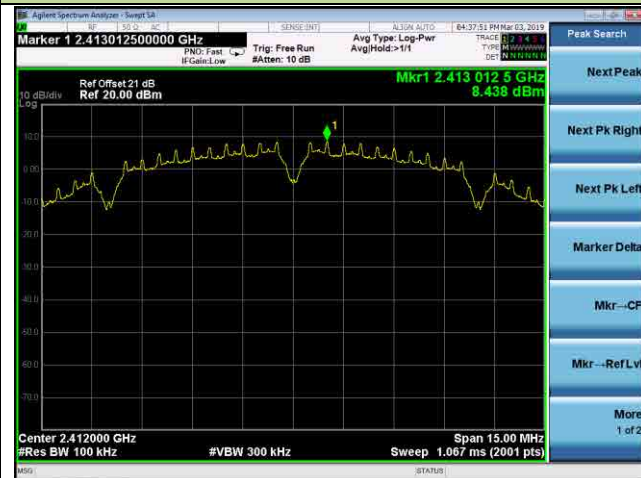
待測物名稱	AC1300 MU-MIMO 迷你 USB 無線網卡	溫度	23°C
測試工程師	Kevin Ker	濕度	54%
測試場地	SR2	測試日期	2019/03/03

Test Mode	Data Rate / MCS	Channel No.	Frequency (MHz)	Limit (dBc)	Result
802.11b	1Mbps	01	2412	30	Pass
802.11b	1Mbps	06	2437	30	Pass
802.11b	1Mbps	11	2462	30	Pass
802.11g	6Mbps	01	2412	30	Pass
802.11g	6Mbps	06	2437	30	Pass
802.11g	6Mbps	11	2462	30	Pass
802.11n-HT20	MCS8	01	2412	30	Pass
802.11n-HT20	MCS8	06	2437	30	Pass
802.11n-HT20	MCS8	11	2462	30	Pass
802.11n-HT40	MCS8	03	2422	30	Pass
802.11n-HT40	MCS8	06	2437	30	Pass
802.11n-HT40	MCS8	09	2452	30	Pass
802.11-VHT20	MCS0	01	2412	30	Pass
802.11-VHT20	MCS0	06	2437	30	Pass
802.11-VHT20	MCS0	11	2462	30	Pass
802.11-VHT40	MCS0	03	2422	30	Pass
802.11-VHT40	MCS0	06	2437	30	Pass
802.11-VHT40	MCS0	09	2452	30	Pass

802.11b Out-of-Band Emissions - Ant 0

Channel 01 (2412MHz)

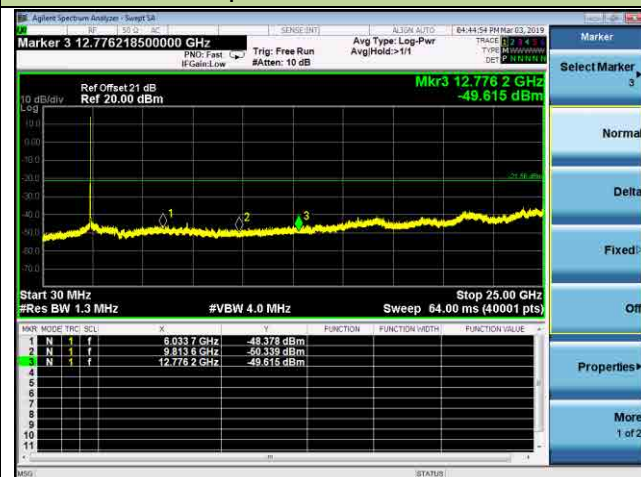
100kHz PSD reference Level



Low Band Edge



Spurious Emission

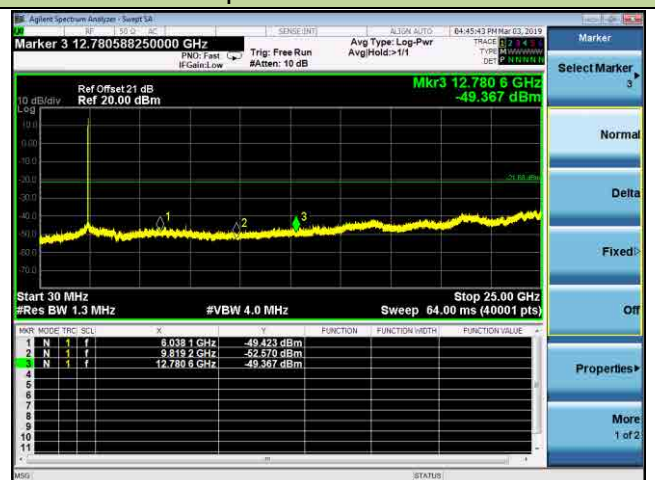


Channel 06 (2437MHz)

100kHz PSD reference Level



Spurious Emission



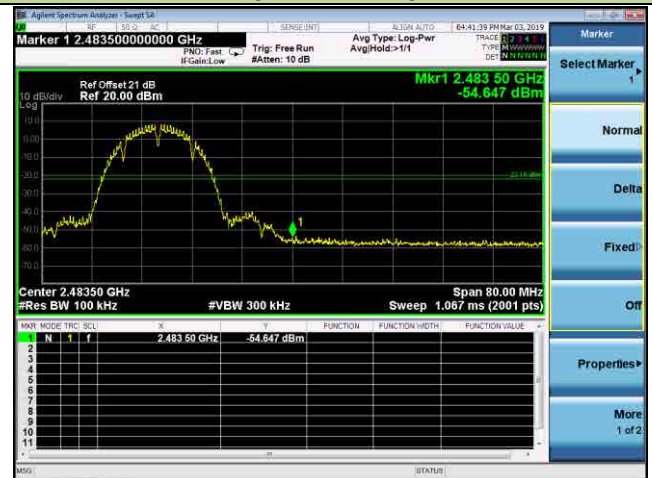
802.11b Out-of-Band Emissions - Ant 0

Channel 11 (2462MHz)

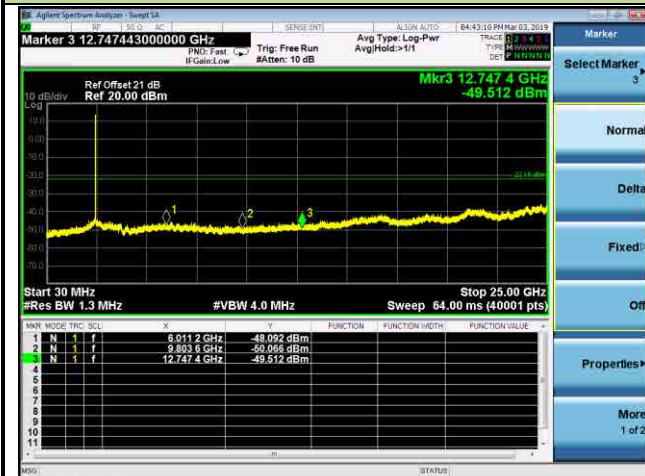
100kHz PSD reference Level



High Band Edge



Spurious Emission



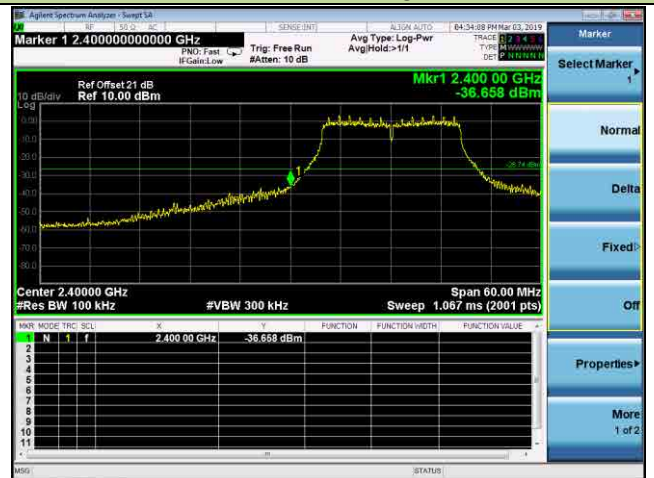
802.11g Out-of-Band Emissions - Ant 0

Channel 01 (2412MHz)

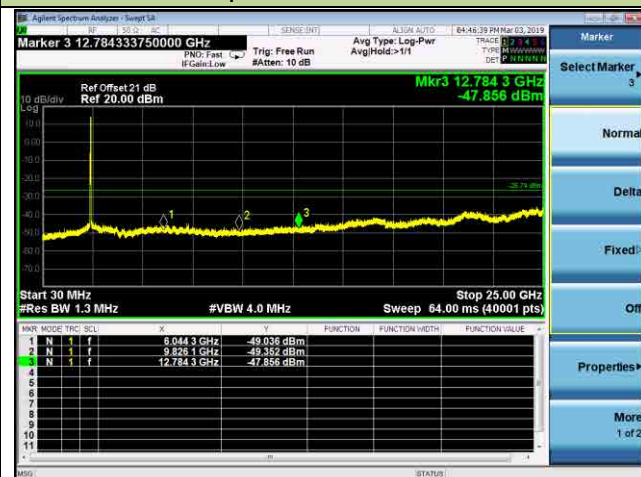
100kHz PSD reference Level



Low Band Edge

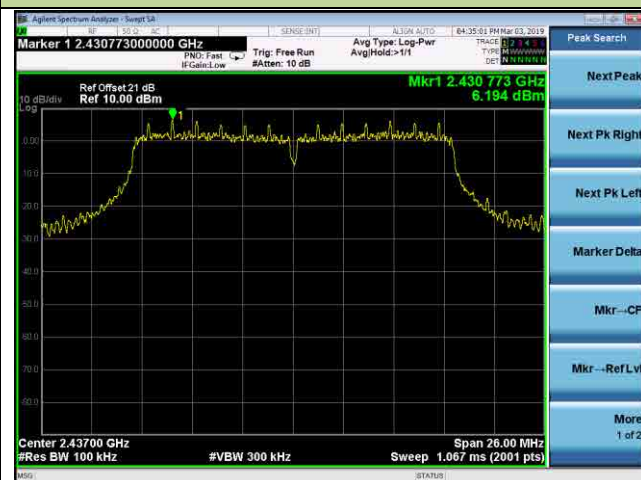


Spurious Emission

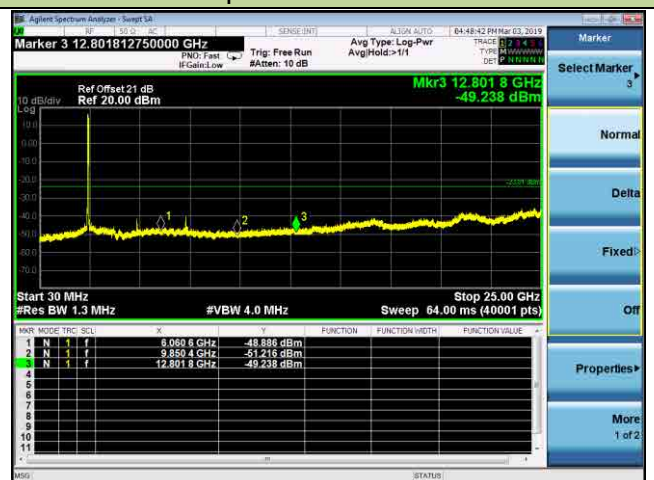


Channel 06 (2437MHz)

100kHz PSD reference Level



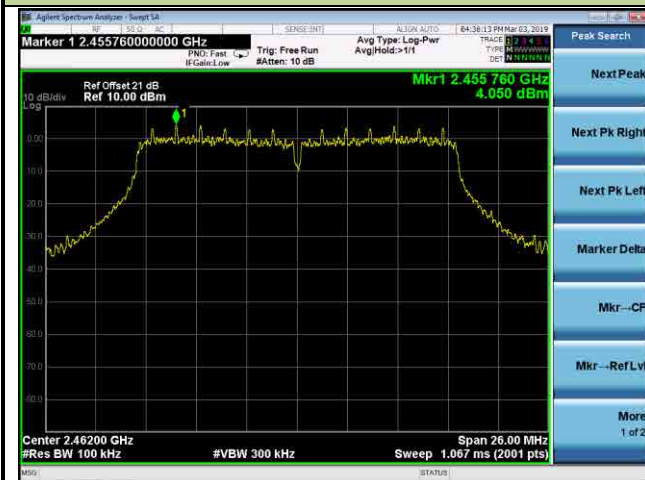
Spurious Emission



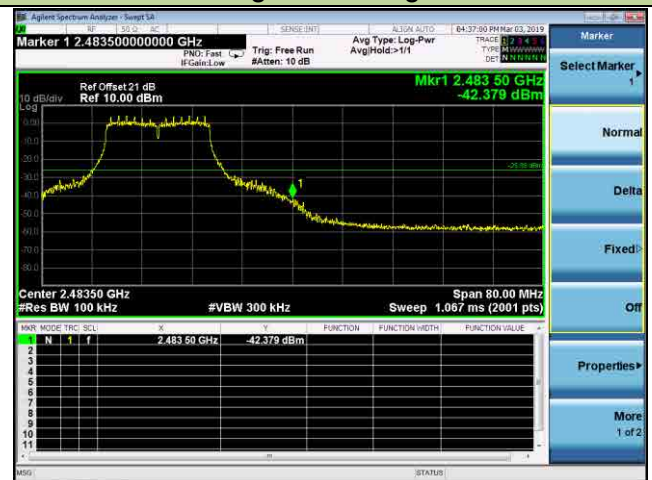
802.11g Out-of-Band Emissions - Ant 0

Channel 11 (2462MHz)

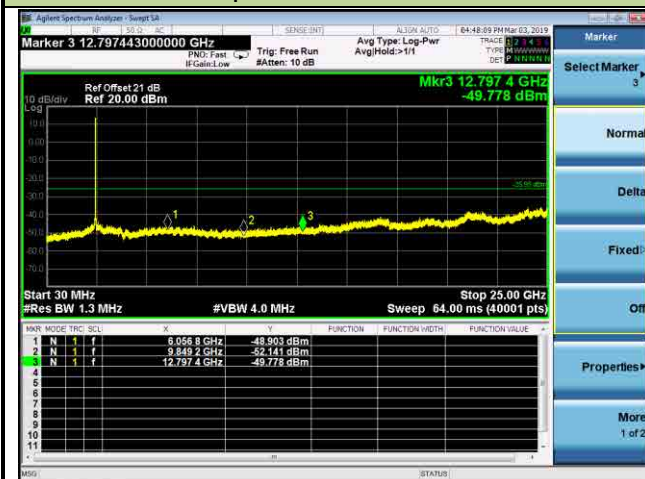
100kHz PSD reference Level



High Band Edge



Spurious Emission



802.11n-HT20 Out-of-Band Emissions - Ant 0 / Ant 0 + 1

Channel 01 (2412MHz)

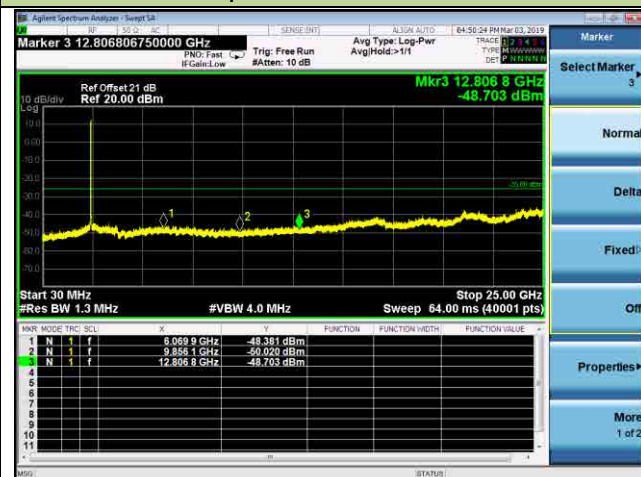
100kHz PSD reference Level



Low Band Edge



Spurious Emission



Channel 06 (2437MHz)

100kHz PSD reference Level



Spurious Emission



802.11n-HT20 Out-of-Band Emissions - Ant 0 / Ant 0 + 1

Channel 11 (2462MHz)

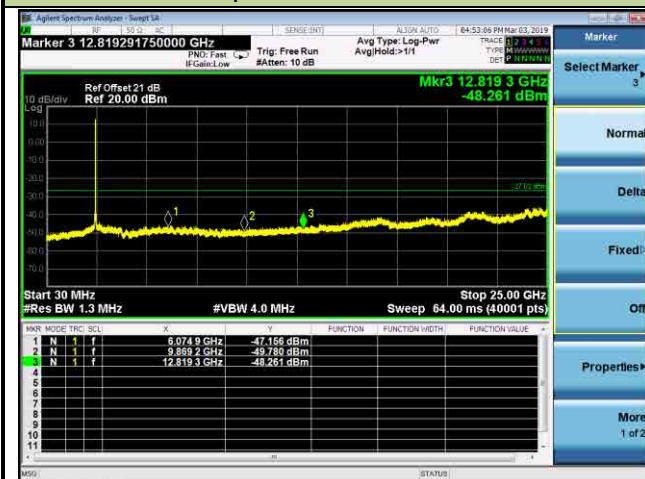
100kHz PSD reference Level



High Band Edge



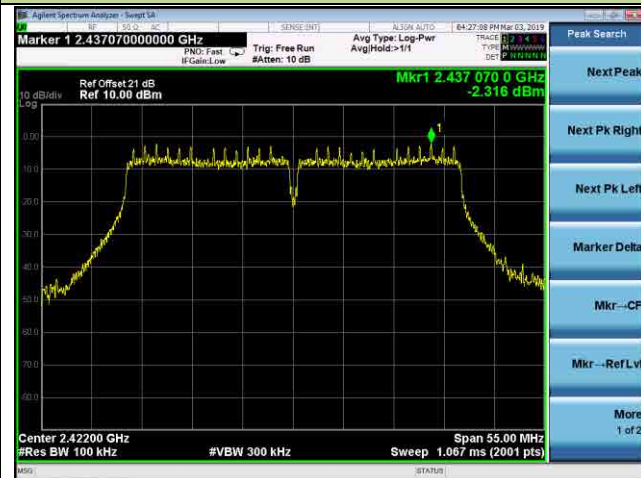
Spurious Emission



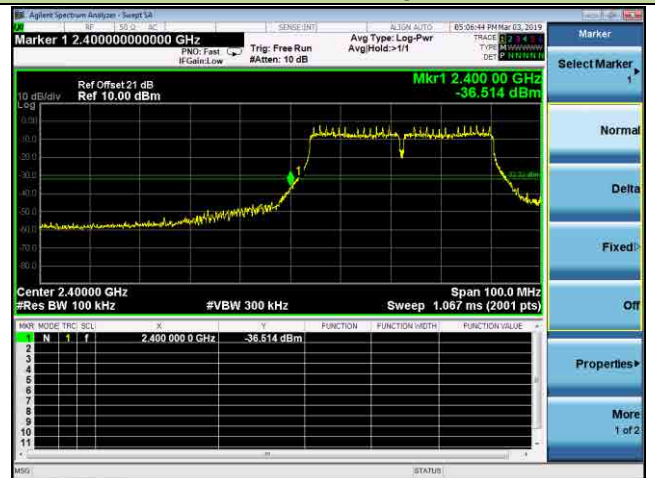
802.11n-HT40 Out-of-Band Emissions - Ant 0 / Ant 0 + 1

Channel 03 (2422MHz)

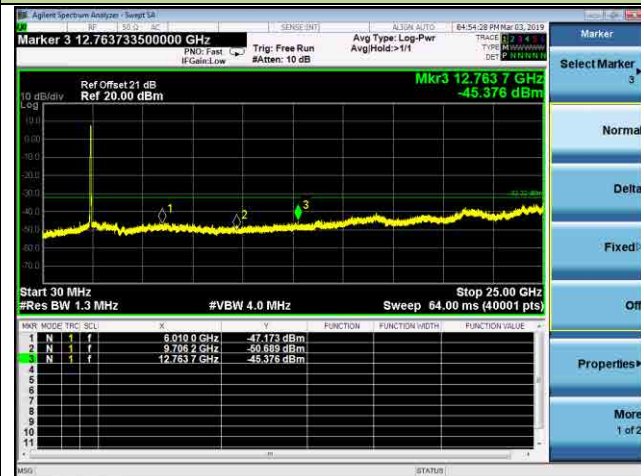
100kHz PSD reference Level



Low Band Edge

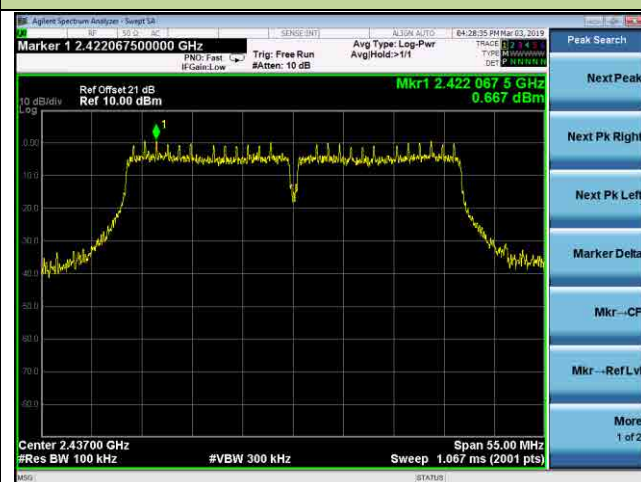


Spurious Emission

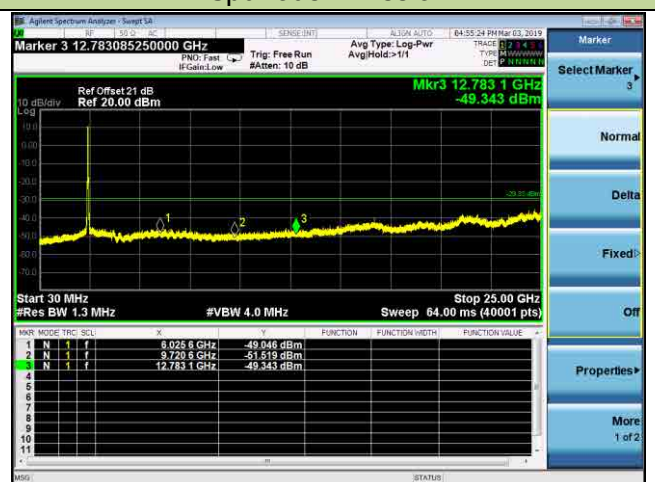


Channel 06 (2437MHz)

100kHz PSD reference Level



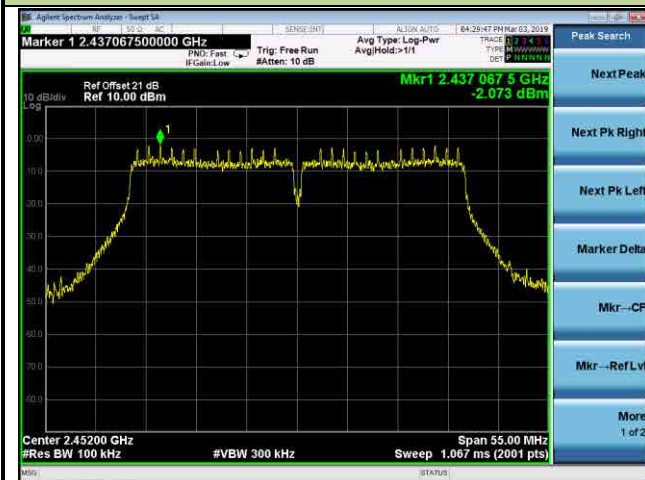
Spurious Emission



802.11n-HT40 Out-of-Band Emissions - Ant 0 / Ant 0 + 1

Channel 09 (2452MHz)

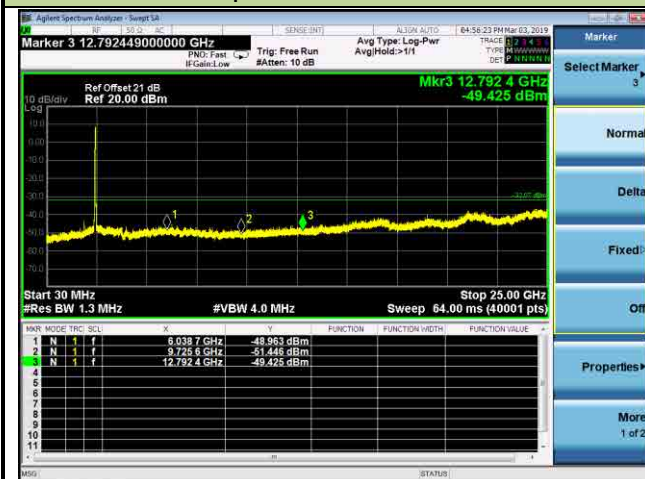
100kHz PSD reference Level



High Band Edge



Spurious Emission



802.11-VHT20 Out-of-Band Emissions - Ant 0 / Ant 0 + 1

Channel 01 (2412MHz)

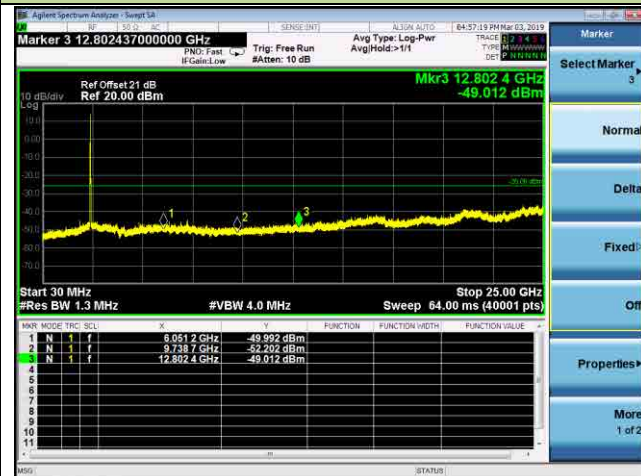
100kHz PSD reference Level



Low Band Edge



Spurious Emission



Channel 06 (2437MHz)

100kHz PSD reference Level



Spurious Emission



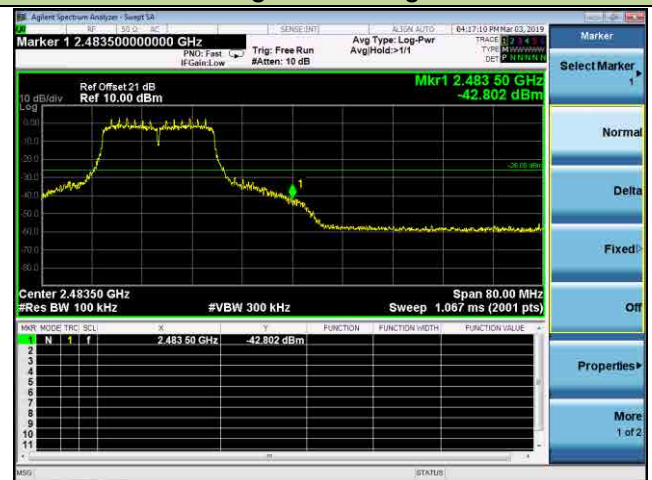
802.11-VHT20 Out-of-Band Emissions - Ant 0 / Ant 0 + 1

Channel 11 (2462MHz)

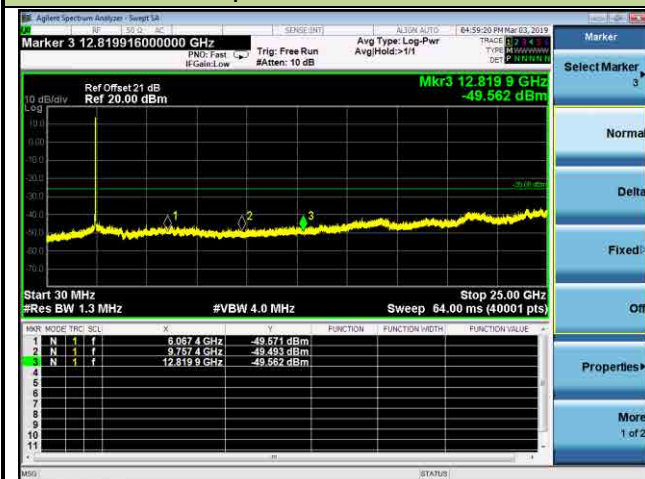
100kHz PSD reference Level



High Band Edge



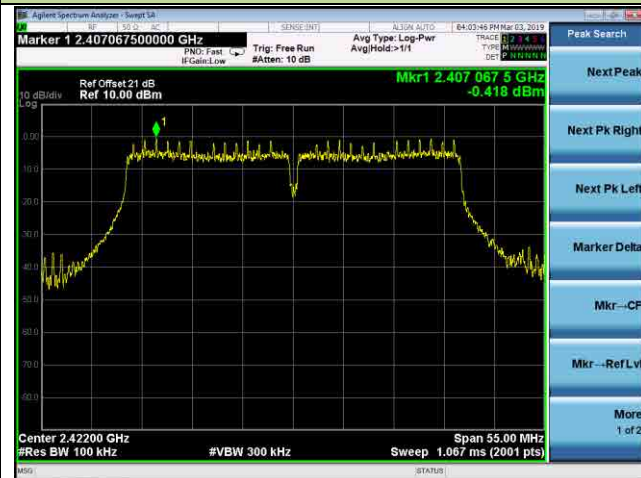
Spurious Emission



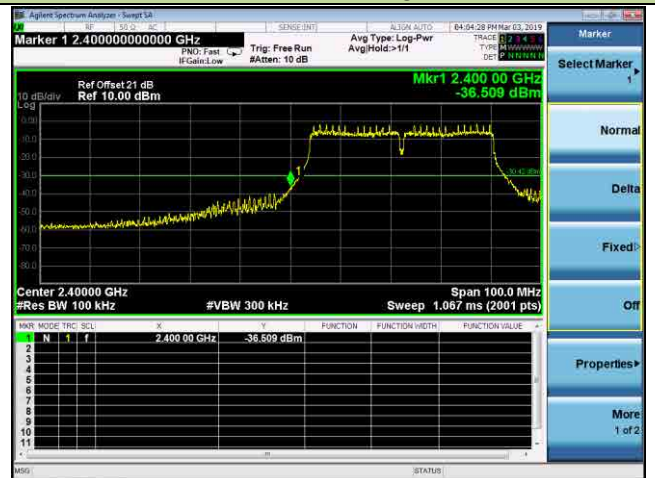
802.11-VHT40 Out-of-Band Emissions - Ant 0 / Ant 0 + 1

Channel 03 (2422MHz)

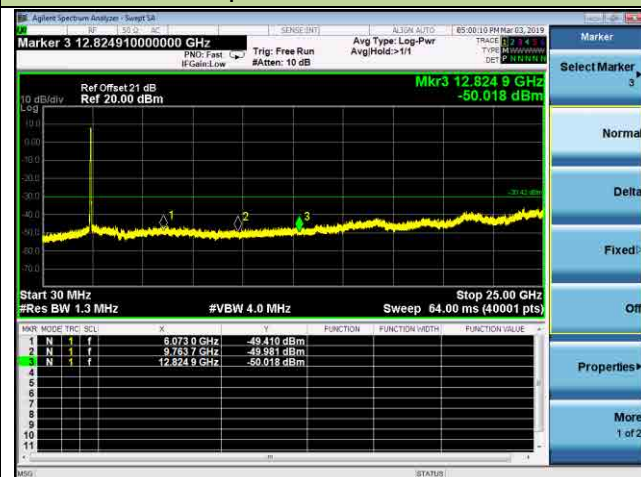
100kHz PSD reference Level



Low Band Edge



Spurious Emission

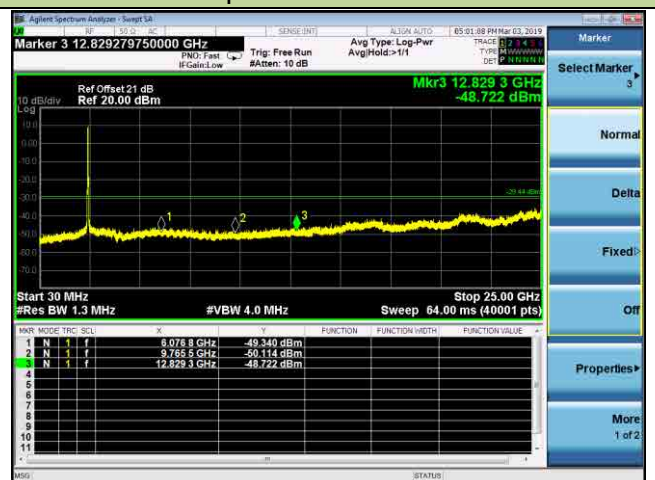


Channel 06 (2437MHz)

100kHz PSD reference Level



Spurious Emission



802.11-VHT40 Out-of-Band Emissions - Ant 0 / Ant 0 + 1

Channel 09 (2452MHz)

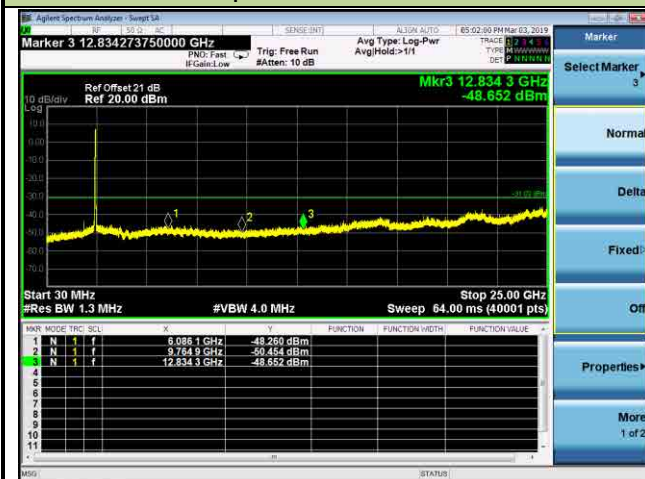
100kHz PSD reference Level



High Band Edge



Spurious Emission



5.6. 開放頻帶邊緣之不必要幅射要求

5.6.1. 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第 3.10.1.5 節，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，衰減值限制如下：

(1)輸出功率以低功率射頻電機技術規範附件二之峰值輸出功率方式量測者，至少須衰減 20 dB，可使用射頻傳導或輻射方式測量。

(2)輸出功率以低功率射頻電機技術規範 3.10.1(2)(2.3)之最大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(限制要求如下)：

發射依據國家通訊傳播委員會低功率射頻電機技術規範之第 2.8 節，低功率射頻電機，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。

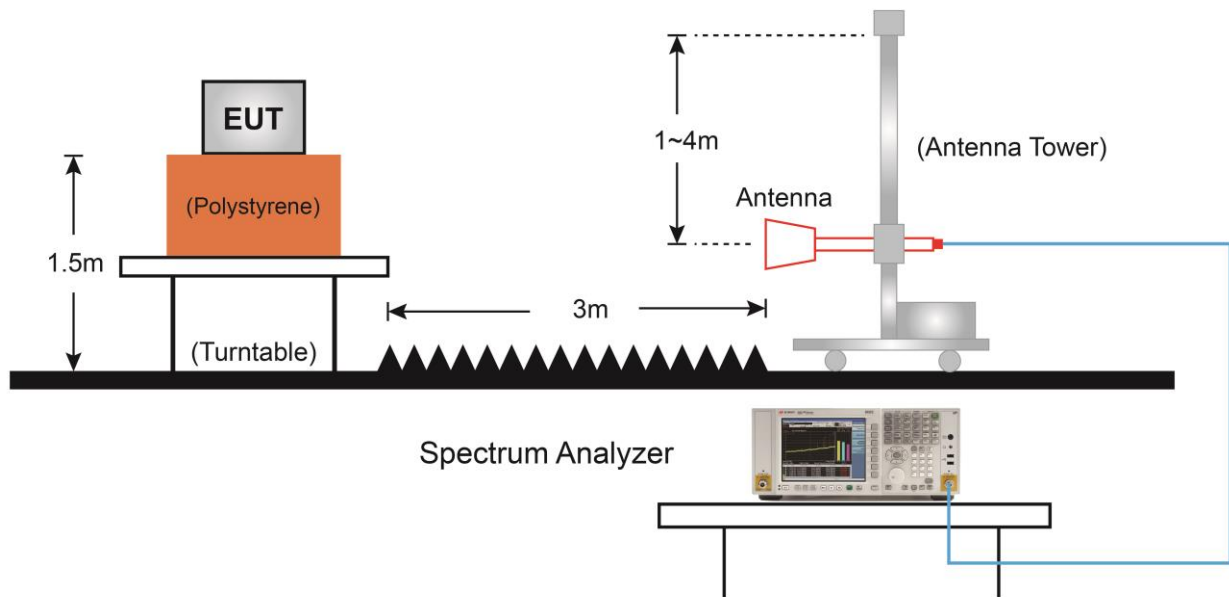
頻 率(兆赫)	電場強度(微伏/公尺)	測距(公尺)
0.009 - 0.490(含)	2,400/頻率(千赫)	300
0.490 (不含) - 1.705 (含)	24,000/頻率(千赫)	30
1.705(不含) - 30 (不含)	30	30
30 (含) - 88 (含)	100	3
88 (不含) - 216 (含)	150	3
216 (不含) - 960 (含)	200	3
960 (不含)以上	500	3

上表規定之電場強度，頻率在 9-90kHz 千赫(kHz)、110-490 千赫(kHz)以及 1000 兆赫(MHz)以上之發射，其量測以平均值檢波器為基準，且須符合第 5.14 節之規定；其他頻率之發射，應以 CISPR 準峰值(quasi-peak) 檢波器測量；非以上表所指定之距離測量時須符合第 5.5 節之規定，而輻射發射之量測頻率範圍須符合第 5.12 節之規定。

5.6.2. 量測方法

待測物置於高 80 公分之非導體桌面（落地型產品置於地上），受測物與配件設備之電源線無須束綁，桌面上受測設備的所有電源線由桌子的後緣垂下沿旋轉桌表面接至交流插座。落地型設備的交流電源線可以方便的型態走線。桌面可 360 度旋轉，接收天線置於距待測物 3m 距離，高度可在 1 至 4 公尺間變動，以量測待測物之最大輻射電場強度。接收天線並應於水準及垂直極化方向各量測一次。

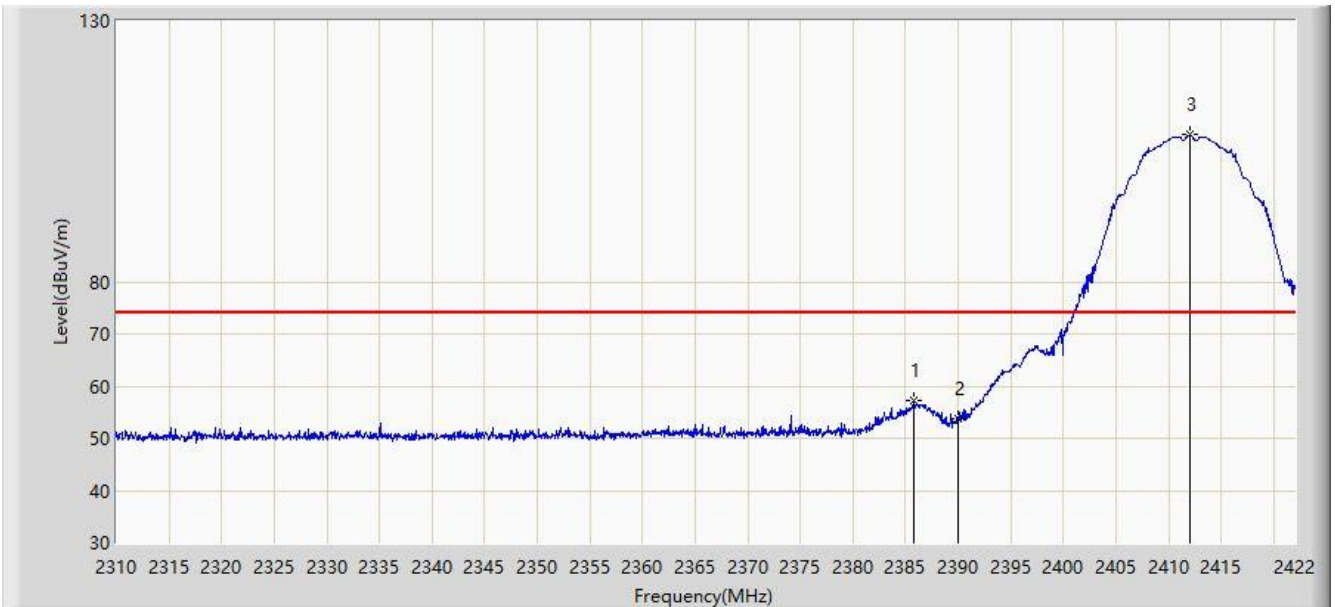
5.6.3. 測試架構圖



備 註: 使用頻率範圍外之任意 100 千赫雜訊, 使用輻射方式測量, 6 dB 頻寬使用 1MHz 遠大於 100kHz 仍可 PASS, 檢附其測試數據。

5.6.4. 測試結果

Site: AC1	Time: 2019/02/21 - 18:48
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Horizontal
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11b at Channel 2412MHz, Ant 0	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2385.768	57.250	59.080	-16.750	74.000	-1.830	PK
2			2390.000	53.775	55.617	-20.225	74.000	-1.842	PK
3		*	2411.976	108.290	110.208	N/A	N/A	-1.918	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/02/21 - 18:54
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Horizontal
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11b at Channel 2412MHz, Ant 0	

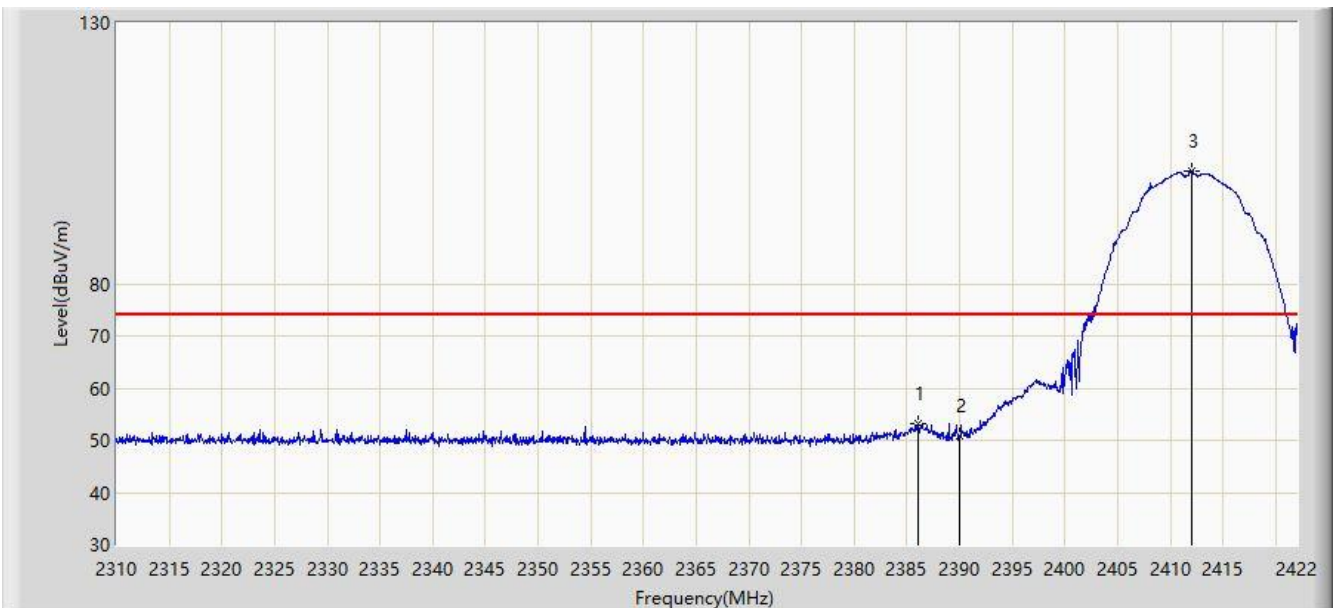


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2386.216	48.207	50.038	-5.793	54.000	-1.832	AV
2			2390.000	41.735	43.577	-12.265	54.000	-1.842	AV
3		*	2411.136	103.533	105.448	N/A	N/A	-1.914	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/02/21 - 18:53
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Vertical
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11b at Channel 2412MHz, Ant 0	

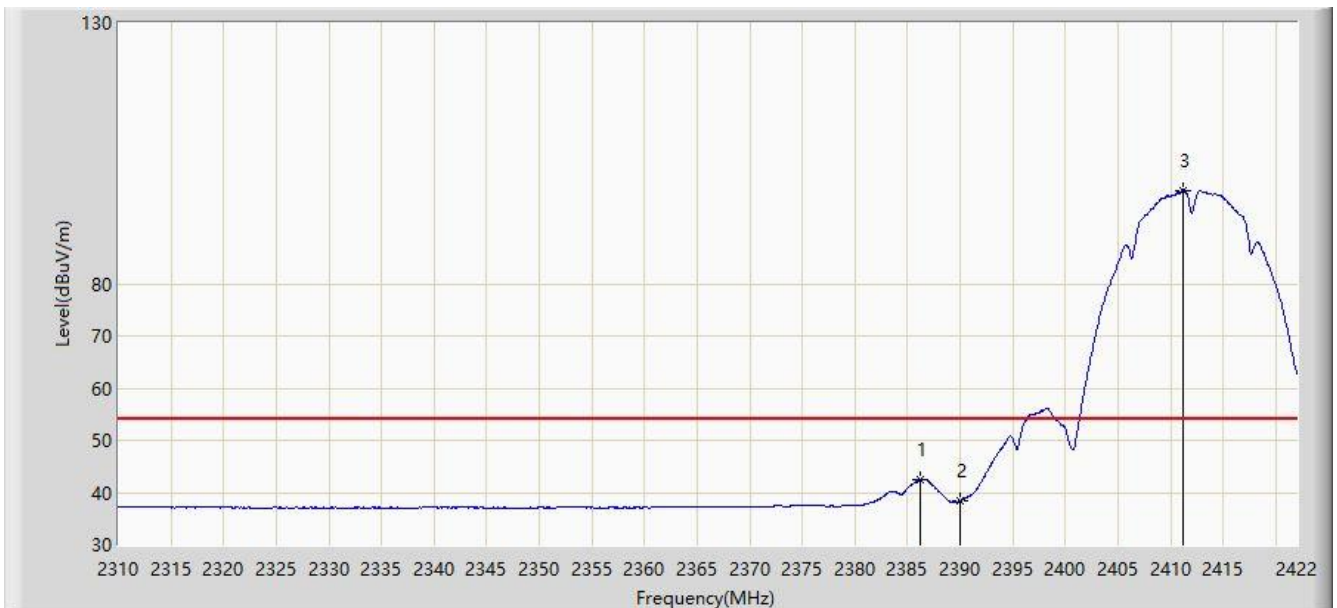


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2386.104	53.294	55.125	-20.706	74.000	-1.832	PK
2			2390.000	50.870	52.712	-23.130	74.000	-1.842	PK
3		*	2411.976	101.688	103.606	N/A	N/A	-1.918	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/02/21 - 18:58
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Vertical
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11b at Channel 2412MHz, Ant 0	

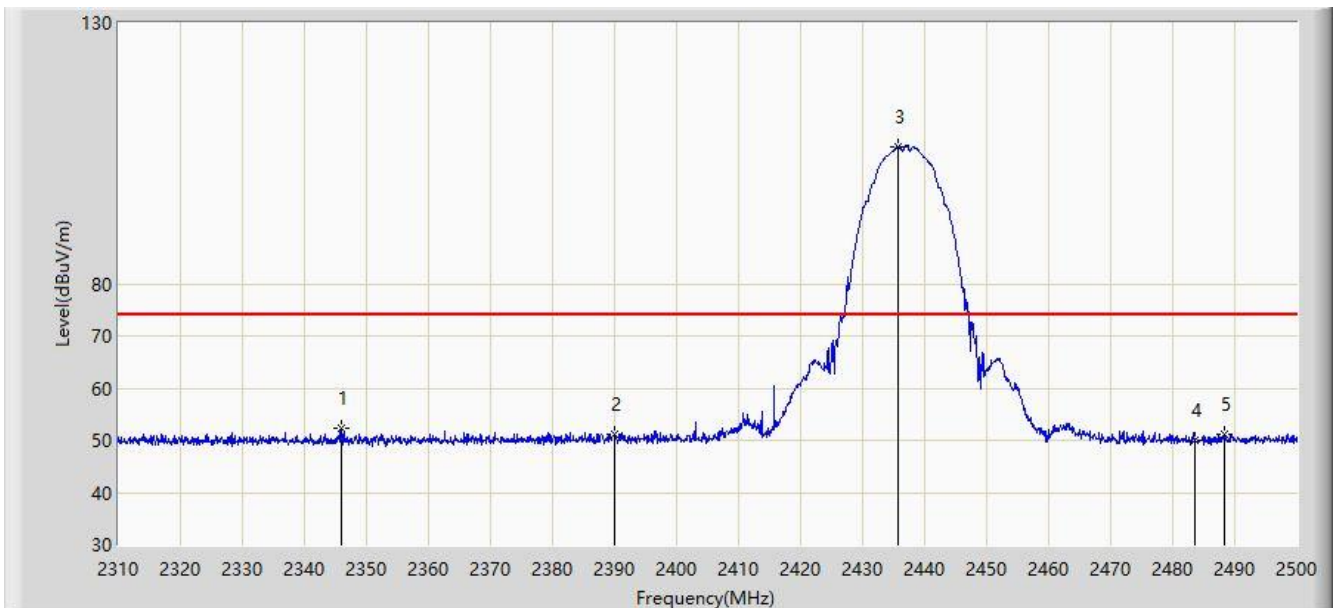


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2386.272	42.608	44.440	-11.392	54.000	-1.831	AV
2			2390.000	38.433	40.275	-15.567	54.000	-1.842	AV
3		*	2411.136	97.939	99.854	N/A	N/A	-1.914	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/02/21 - 19:03
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Horizontal
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11b at Channel 2437MHz, Ant 0	

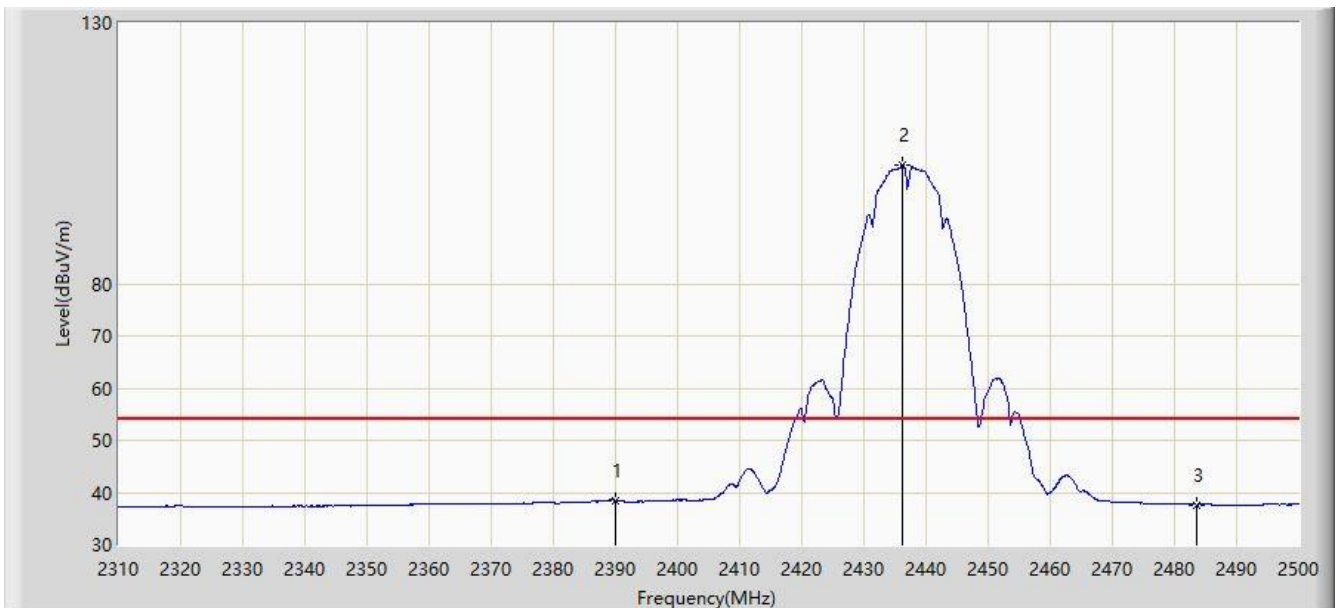


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2346.005	52.318	54.026	-21.682	74.000	-1.708	PK
2			2390.000	51.101	52.943	-22.899	74.000	-1.842	PK
3		*	2435.780	106.247	108.260	N/A	N/A	-2.013	PK
4			2483.500	49.960	52.037	-24.040	74.000	-2.077	PK
5			2488.220	51.119	53.197	-22.881	74.000	-2.077	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

aSite: AC1	Time: 2019/02/21 - 19:04
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Horizontal
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11b at Channel 2437MHz, Ant 0	

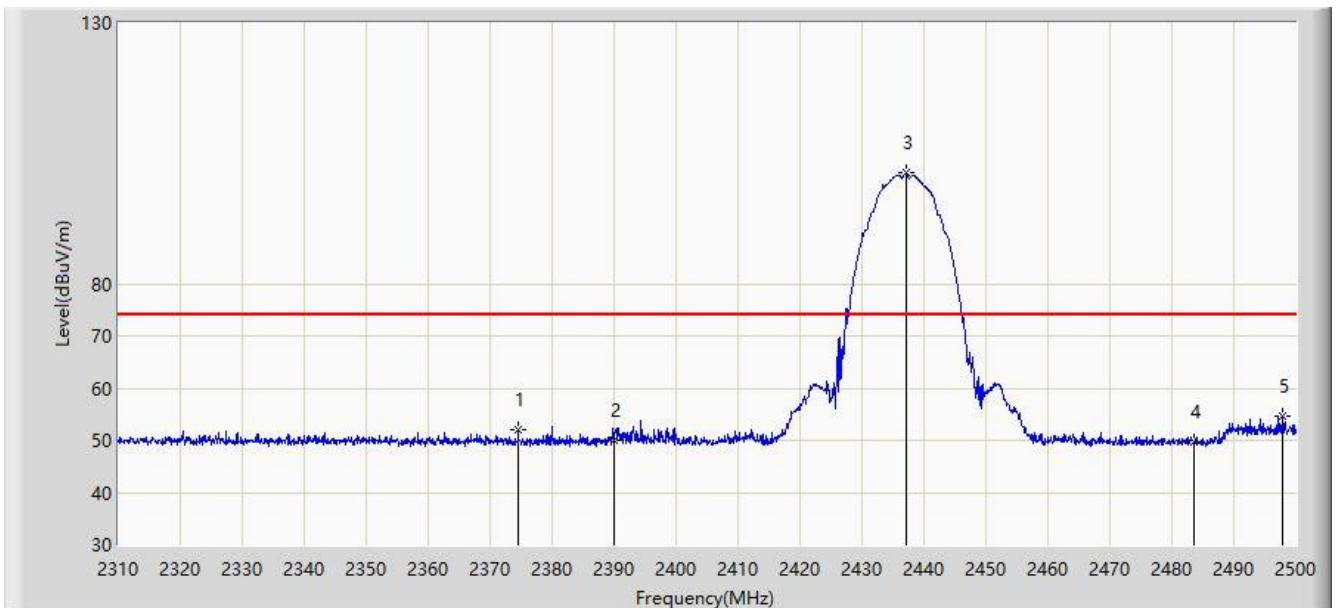


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	38.508	40.350	-15.492	54.000	-1.842	AV
2		*	2436.255	102.832	104.847	N/A	N/A	-2.015	AV
3			2483.500	37.668	39.745	-16.332	54.000	-2.077	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

aSite: AC1	Time: 2019/02/21 - 19:06
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Vertical
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11b at Channel 2437MHz, Ant 0	

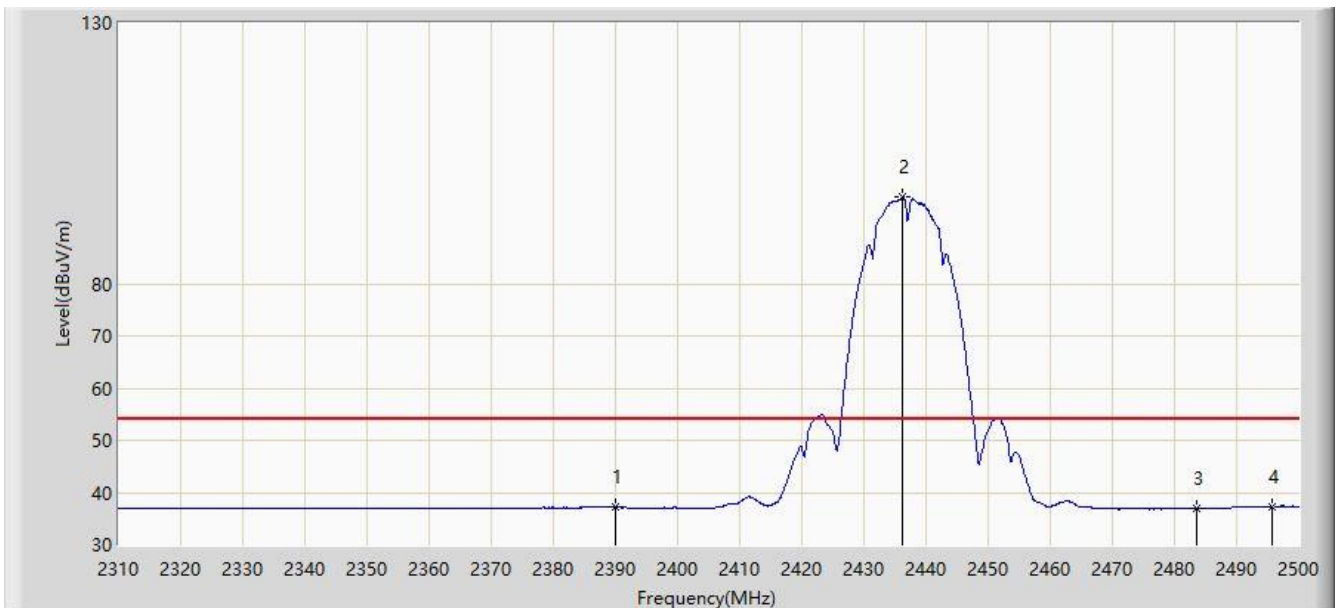


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2374.505	52.094	53.893	-21.906	74.000	-1.800	PK
2			2390.000	49.952	51.794	-24.048	74.000	-1.842	PK
3		*	2437.110	101.389	103.407	N/A	N/A	-2.018	PK
4			2483.500	49.651	51.728	-24.349	74.000	-2.077	PK
5			2497.910	54.764	56.844	-19.236	74.000	-2.080	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

aSite: AC1	Time: 2019/02/21 - 19:08
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Vertical
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11b at Channel 2437MHz, Ant 0	

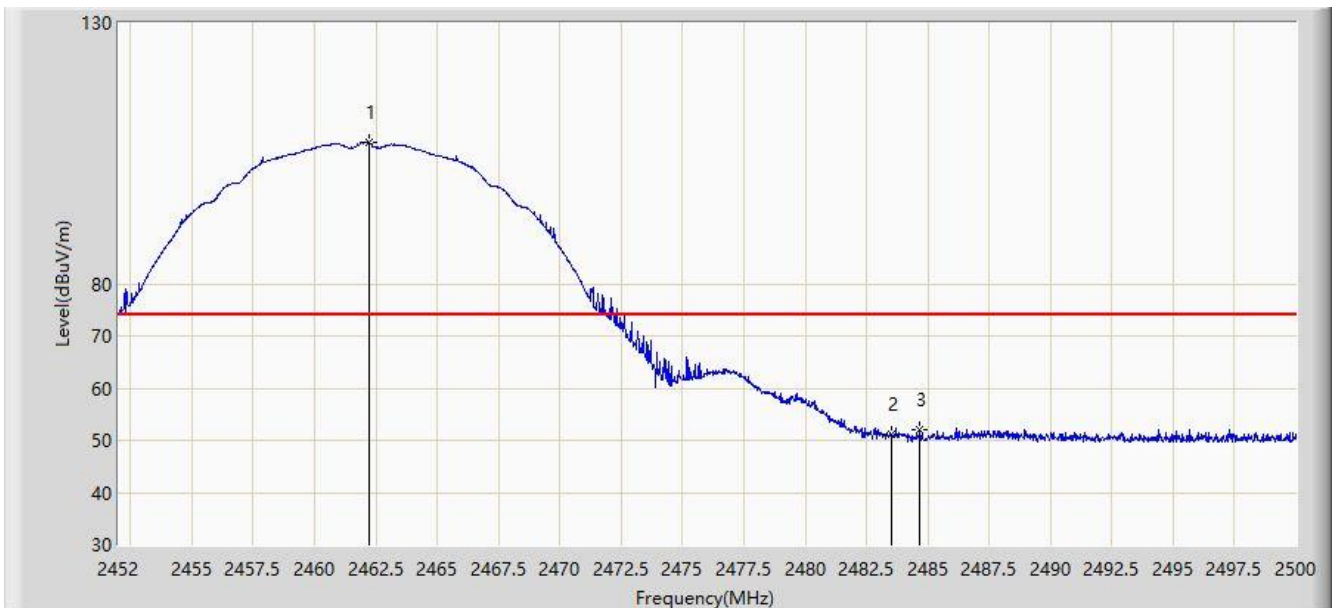


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	37.250	39.092	-16.750	54.000	-1.842	AV
2		*	2436.160	96.628	98.642	N/A	N/A	-2.014	AV
3			2483.500	36.879	38.956	-17.121	54.000	-2.077	AV
4			2495.725	37.383	39.462	-16.617	54.000	-2.079	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/02/21 - 19:09
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Horizontal
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11b at Channel 2462MHz, Ant 0	

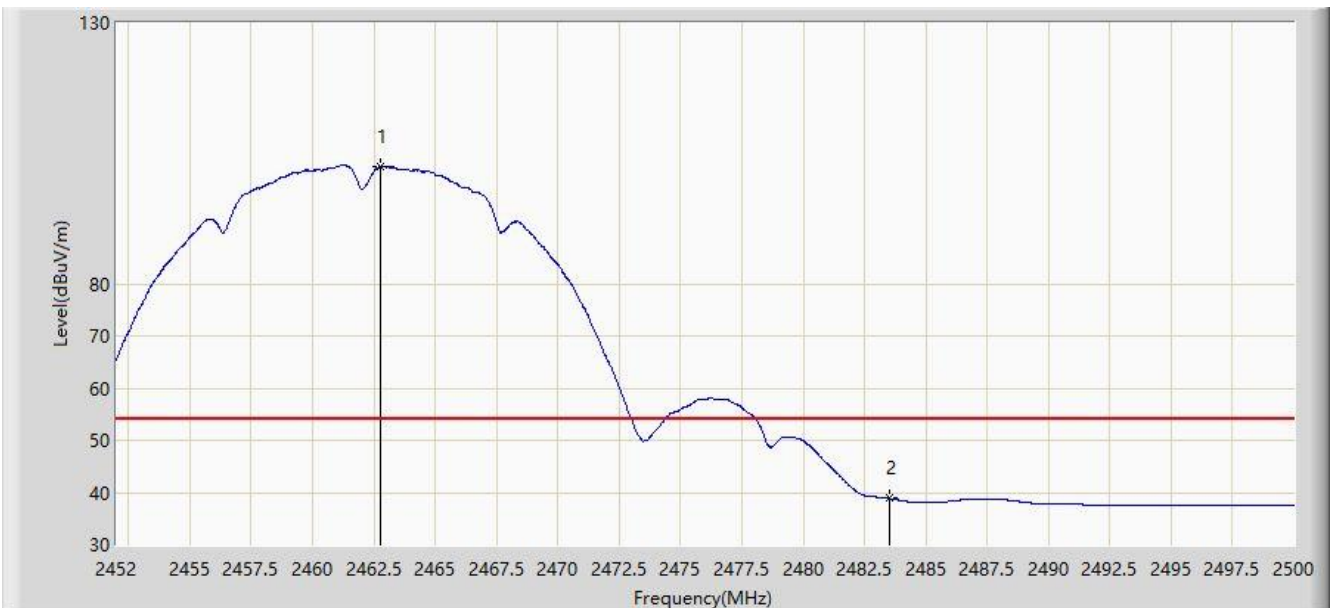


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2462.248	107.177	109.249	N/A	N/A	-2.072	PK
2			2483.500	51.064	53.141	-22.936	74.000	-2.077	PK
3			2484.688	51.934	54.011	-22.066	74.000	-2.077	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/02/21 - 19:11
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Horizontal
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11b at Channel 2462MHz, Ant 0	

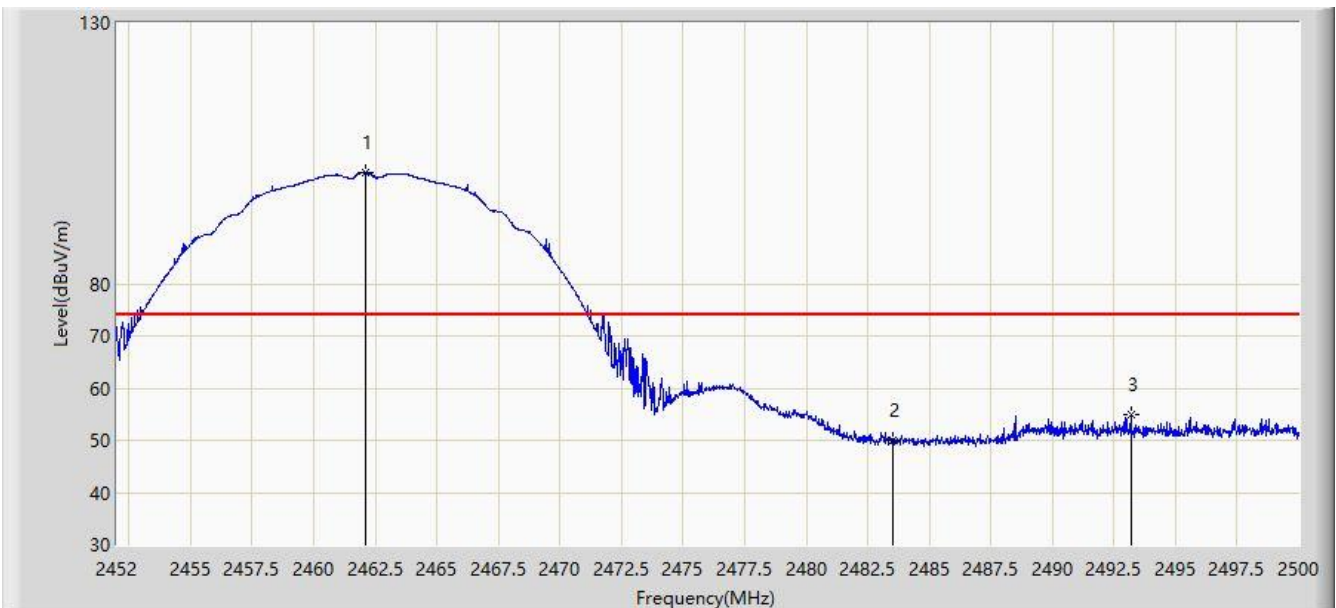


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2462.752	102.580	104.652	N/A	N/A	-2.073	AV
2			2483.500	38.877	40.954	-15.123	54.000	-2.077	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/02/21 - 19:12
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Vertical
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11b at Channel 2462MHz, Ant 0	

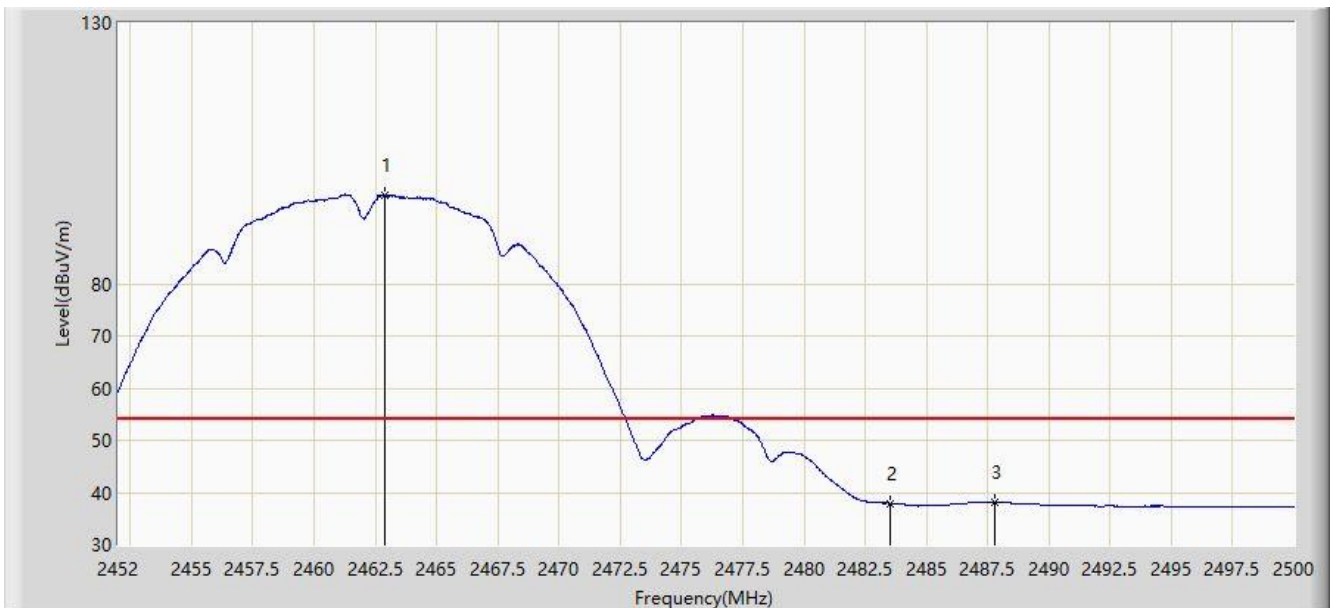


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2462.128	101.430	103.502	N/A	N/A	-2.073	PK
2			2483.500	49.999	52.076	-24.001	74.000	-2.077	PK
3			2493.208	55.066	57.144	-18.934	74.000	-2.078	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/02/21 - 19:16
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Vertical
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11b at Channel 2462MHz, Ant 0	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2462.872	96.943	99.015	N/A	N/A	-2.072	AV
2			2483.500	37.947	40.024	-16.053	54.000	-2.077	AV
3			2487.808	38.196	40.273	-15.804	54.000	-2.078	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/02/21 - 19:17
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Horizontal
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11g at Channel 2412MHz, Ant 0	

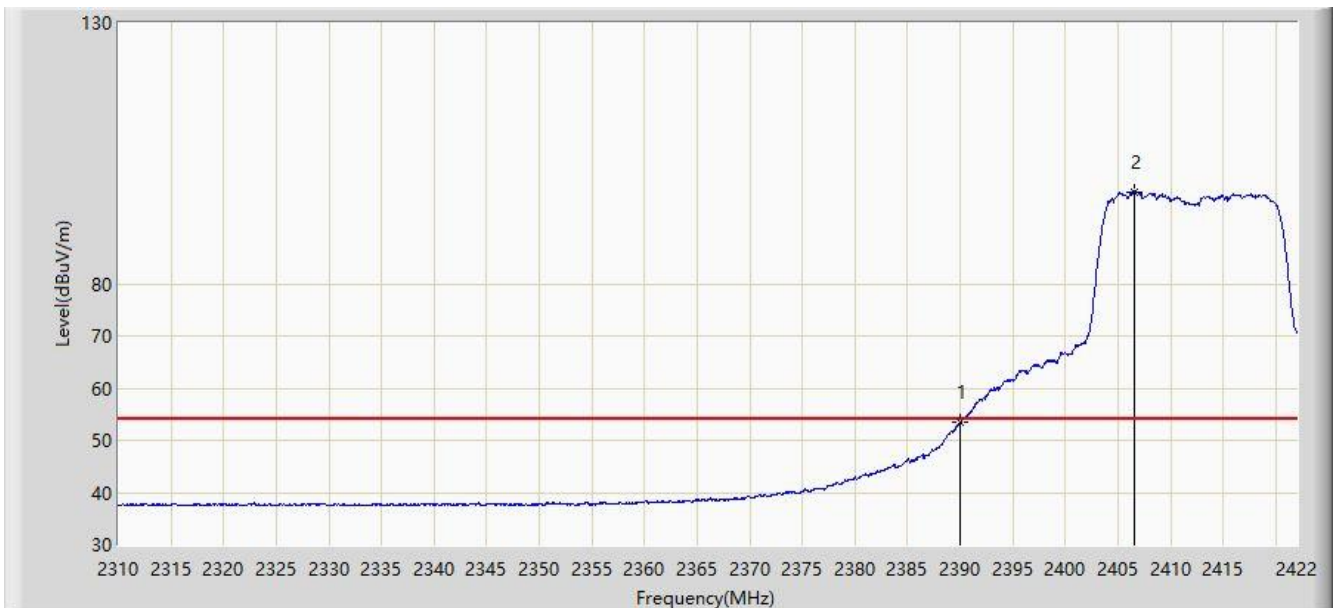


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.632	68.048	69.889	-5.952	74.000	-1.841	PK
2			2390.000	67.457	69.299	-6.543	74.000	-1.842	PK
3		*	2417.352	107.022	108.961	N/A	N/A	-1.939	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

aSite: AC1	Time: 2019/02/21 - 19:28
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Horizontal
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11g at Channel 2412MHz, Ant 0	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	53.430	55.272	-0.570	54.000	-1.842	AV
2		*	2406.600	97.643	99.539	N/A	N/A	-1.895	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/02/21 - 19:31
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Vertical
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11g at Channel 2412MHz, Ant 0	

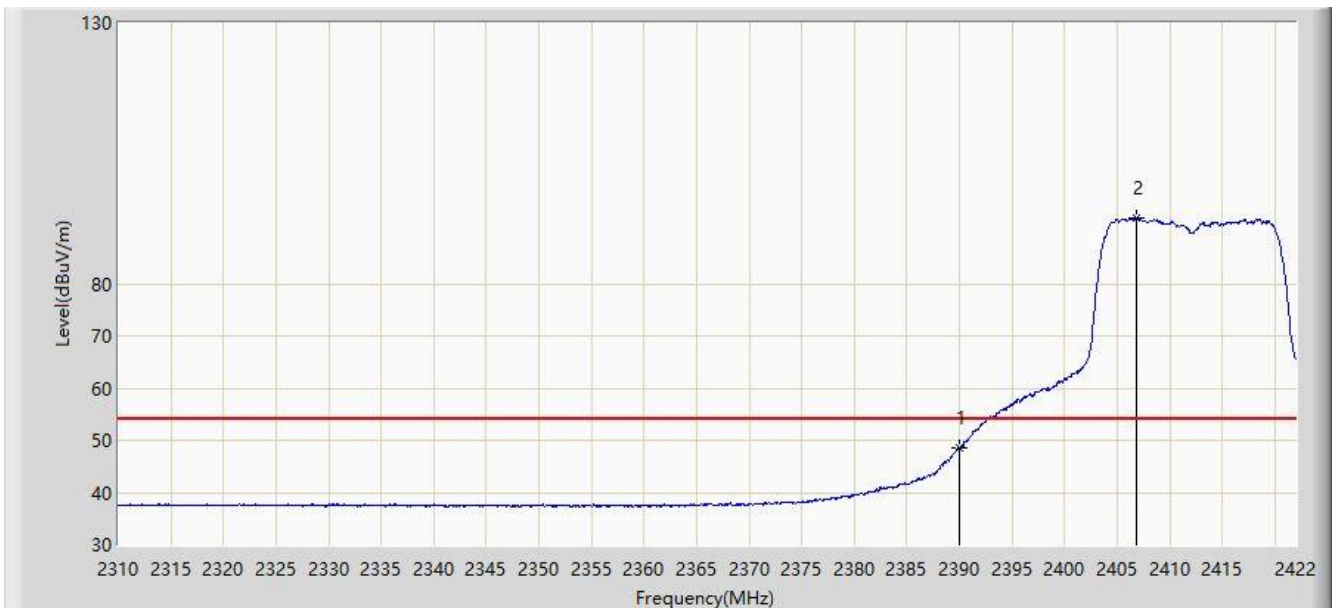


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	65.271	67.113	-8.729	74.000	-1.842	PK
2		*	2405.760	102.264	104.156	N/A	N/A	-1.892	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

aSite: AC1	Time: 2019/02/21 - 19:32
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Vertical
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11g at Channel 2412MHz, Ant 0	

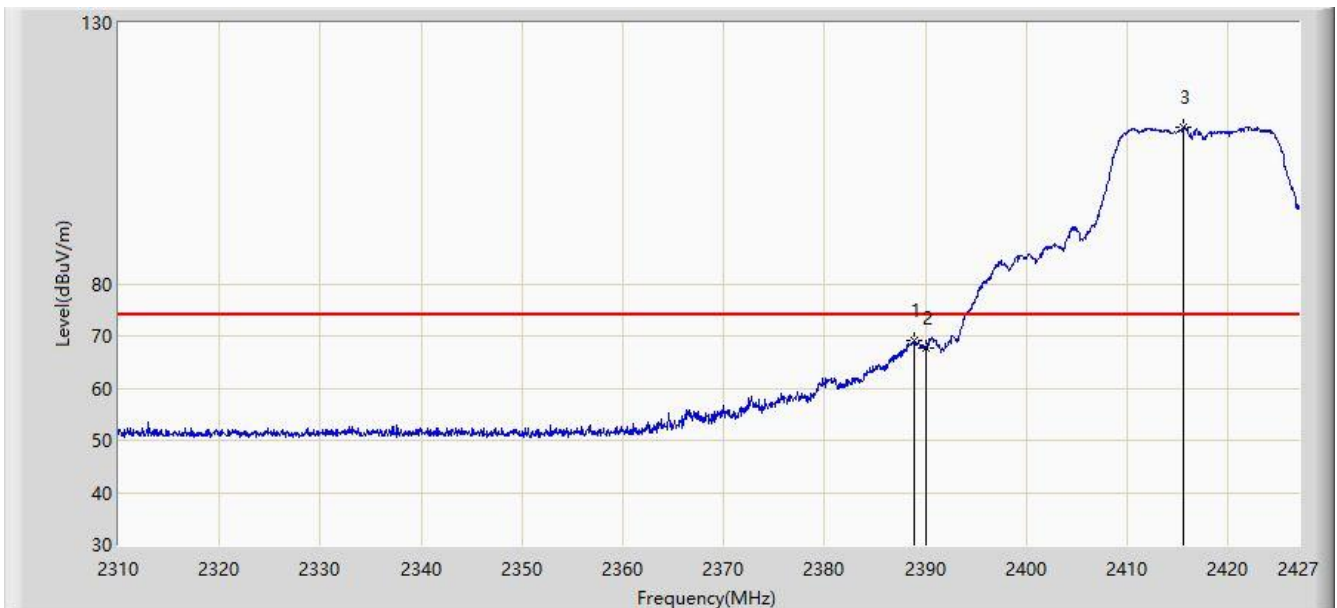


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	48.502	50.344	-5.498	54.000	-1.842	AV
2		*	2406.824	92.619	94.516	N/A	N/A	-1.897	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/02/28 - 01:58
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Horizontal
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11g at Channel 2417MHz, Ant 0	

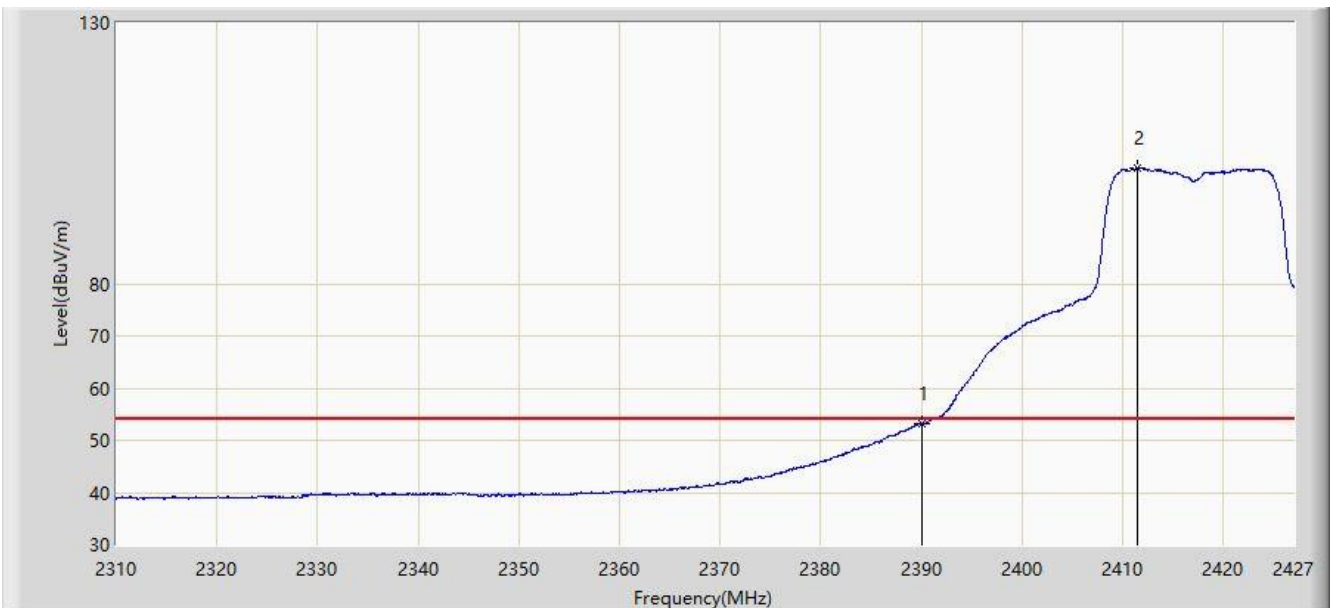


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2388.917	69.007	70.846	-4.993	74.000	-1.839	PK
2			2390.000	67.788	69.630	-6.212	74.000	-1.842	PK
3		*	2415.593	110.062	111.994	N/A	N/A	-1.933	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/02/28 - 01:57
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA9120D_1GHz_18GHz	Polarity: Horizontal
EUT: AC1300 MU-MIMO 迷你 USB 無線網卡	Power: AC 110V/60Hz
Test Mode: Transmit by 802.11g at Channel 2417MHz, Ant 0	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	53.188	55.030	-0.812	54.000	-1.842	AV
2		*	2411.498	102.222	104.138	N/A	N/A	-1.916	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).