

NCC

低功率射頻電機型式試驗報告

產品名稱 : AC2300 Wireless MU-MIMO Gigabit Router
型號 : Archer A10
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 : 2017.12.16 ~ 2018.01.24
發行日期 : 2018.03.26

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本測試報告僅對實驗室所受測之樣品負責

本測試報告非經本公司同意不可局部複製使用

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. 21723-1) 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	AC2300 Wireless MU-MIMO Gigabit Router
產品型號	Archer A10
天線樣式	Refer to the table "Antenna List"
天線規格	Refer to the table "Antenna List"
待測物額定電壓	AC adapter input
調變模式	DSSS for IEEE 802.11 b, OFDM for IEEE 802.11g/n
傳輸速率	Up to 11Mbps for IEEE 802.11 b Up to 54Mbps for IEEE 802.11 g Up to 600Mbps for IEEE 802.11 n
頻道控制	Auto
附件	
適配器	Model No.: T120150-2B1 Input Power: 100 - 240V ~ 50/60Hz, 0.6A Output Power: 12VDC/1.5A

2.2. 通道清單

802.11b/g/n-HT20

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	--	--

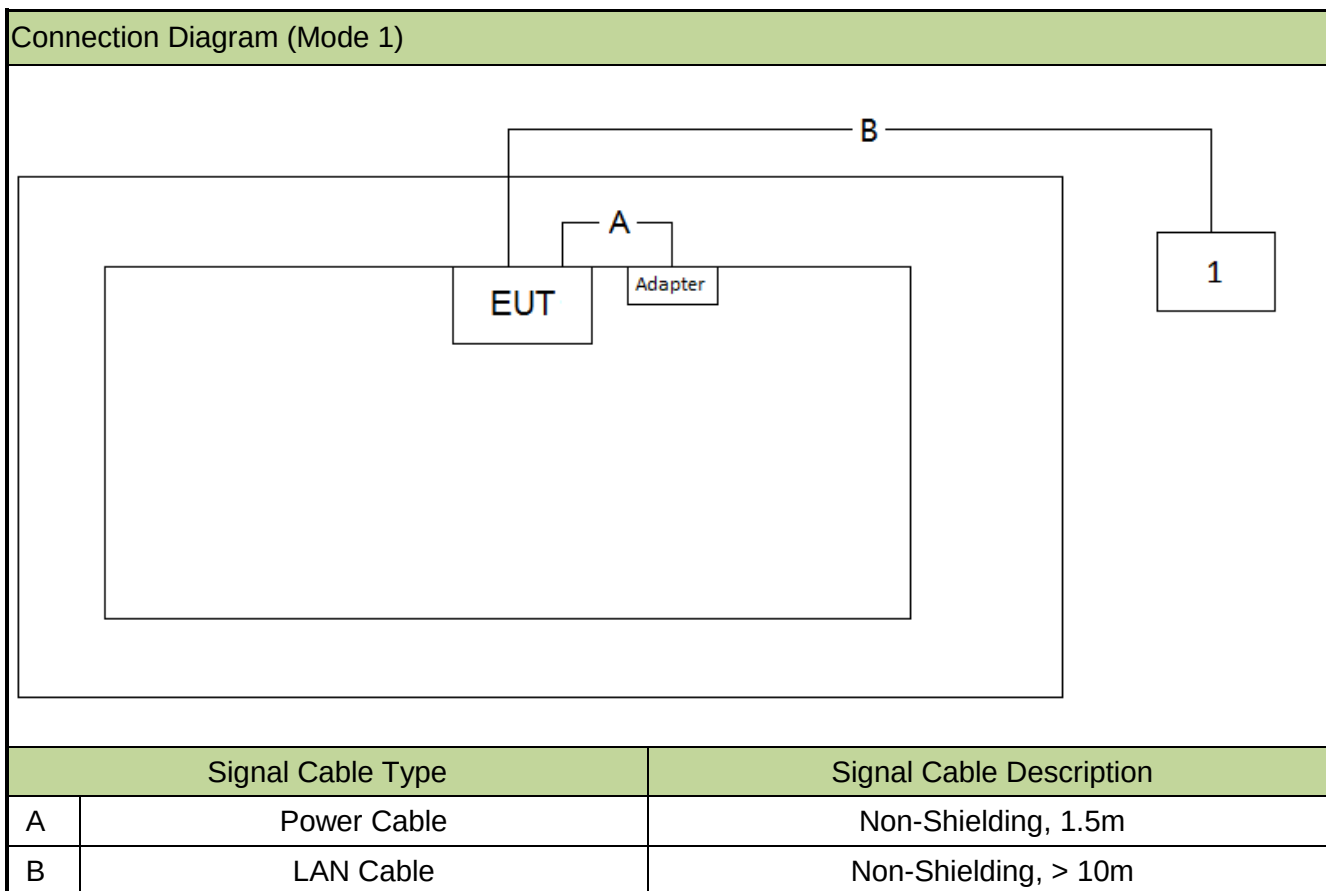
802.11n-HT40

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 (MCS0)
Mode 4: 發射器 802.11n-HT40 (MCS0)

2. 4. 測試系統組合圖



2. 5. 測試周邊

Item	Product	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 "QATool_Dbg.exe (MT7615 QA)" program.
4.	Configure the test channel and the data rate.
5.	Start test.

3. 量測不確定度

AC Conducted Emission Measurement - SR2
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 150kHz~30MHz: 3.46dB
Radiated Emission Measurement - AC1
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 9kHz ~ 1GHz: 4.18dB 1GHz ~ 25GHz: 4.76dB
Spurious Emissions, Conducted - SR1
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 0.78dB
Output Power - SR1
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 1.13dB
Power Spectrum Density - SR1
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 1.15dB
Occupied Bandwidth - SR1
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 0.28%

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
EMI Test Receiver	R&S	ESR3	MRTTWA00045	1 year	2018/5/9
Two-Line V-Network	R&S	ENV216	MRTTWA00019	1 year	2019/3/20
Two-Line V-Network	R&S	ENV216	MRTTWA00020	1 year	2018/4/18
Temperature/Humidity Meter	TFA	35.1078.10.IT	MRTTWA00033	1 year	2018/06/08

Radiated Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Signal Analyzer	R&S	FSV40	MRTTWA00007	1 year	2019/3/20
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2019/3/19
Broadband Preamplifier	SCHWARZBECK	BBV 9718	MRTTWA00005	1 year	2018/4/19
Broadband Amplifier	SCHWARZBECK	BBV 9721	MRTTWA00006	1 year	2018/4/24
Active Loop Antenna	SCHWARZBECK	FMZB 1519B	MRTTWA00002	1 year	2018/4/13
Broadband TRILOG Antenna	SCHWARZBECK	VULB 9162	MRTTWA00001	1 year	2018/5/14
Broadband Hornantenna	SCHWARZBECK	BBHA 9120D	MRTTWA00003	1 year	2018/4/17
Breitband Hornantenna	SCHWARZBECK	BBHA 9170	MRTTWA00004	1 year	2018/4/24
Temperature/Humidity Meter	TFA	35.1078.10.IT	MRTTWA00033	1 year	2018/06/08

Conducted Test Equipment

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2018/7/24
X-Series USB Peak and Average Power Sensor	KEYSIGHT	U2021XA	MRTTWA00014	1 year	2018/4/19
X-Series USB Peak and Average Power Sensor	KEYSIGHT	U2021XA	MRTTWA00015	1 year	2019/3/20
Programmable Temperature & Humidity Chamber	TEN BILLION	TTH-B3UP	MRTTWA00036	1 year	2018/05/10
Temperature/Humidity Meter	TFA	35.1078.10.IT	MRTTWA00033	1 year	2018/06/08

Software	Version	Function
e3	Audix	9.160520a
EMI	Quietek	V3

5. 測試結果

產品名稱 AC2300 Wireless MU-MIMO Gigabit Router
型號 Archer A10

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	$\leq 8\text{dBm}$	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

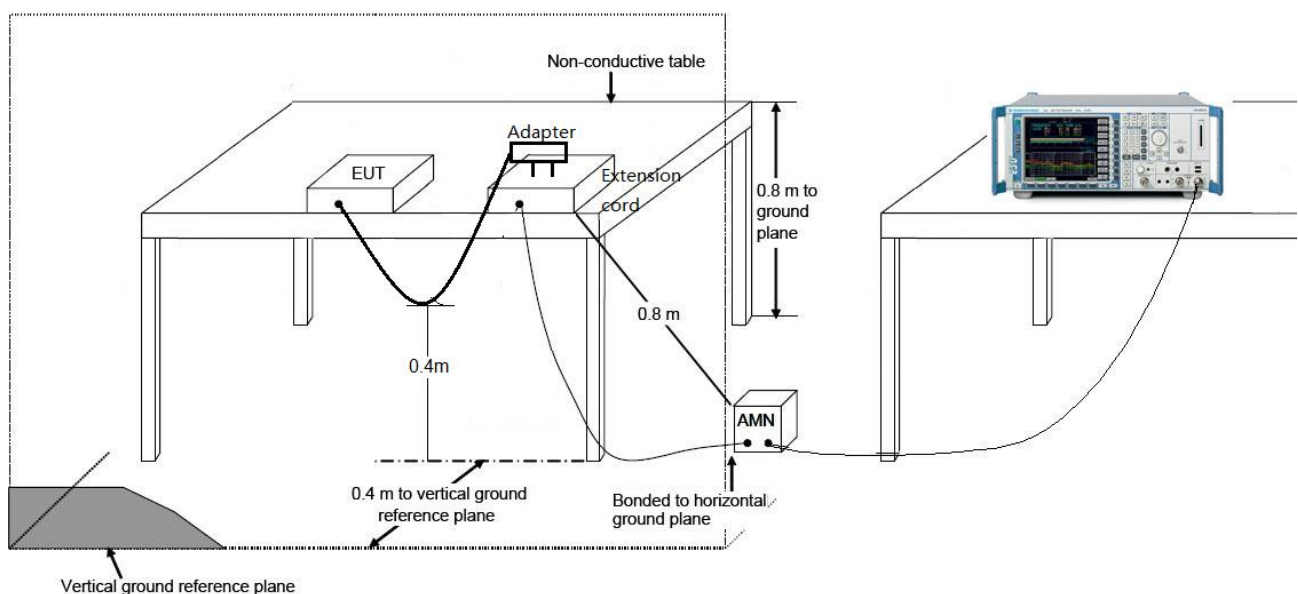
註:隨頻率之對數遞減

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。

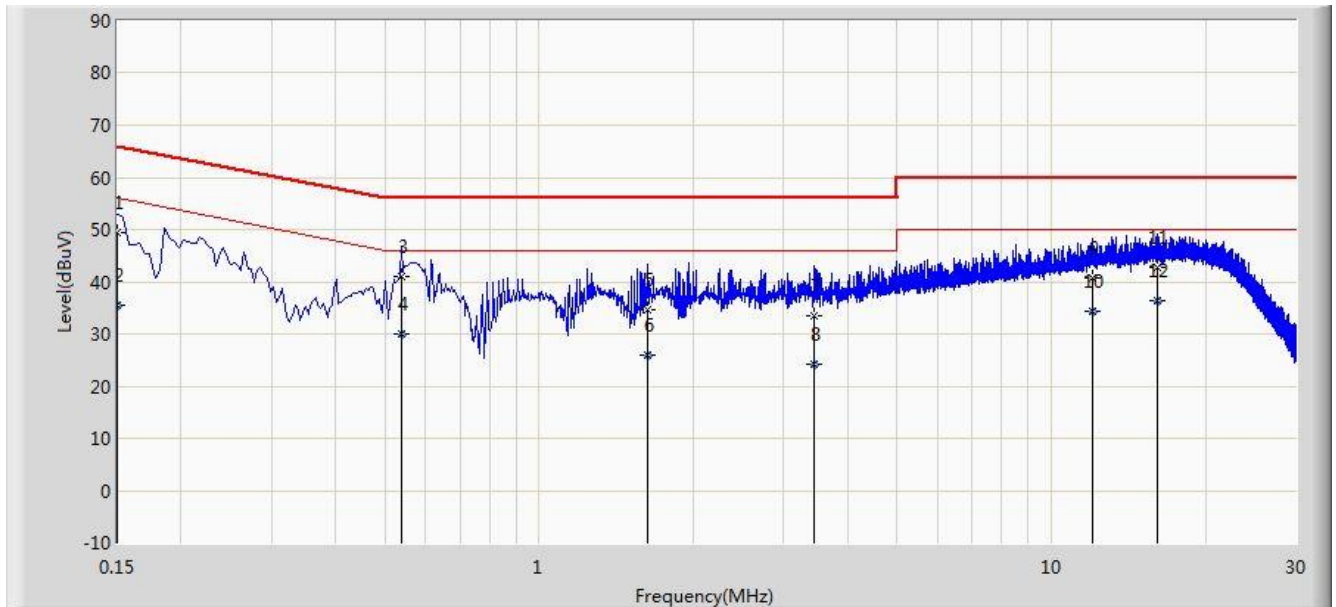
備 註：經初測驗證過，電源端點干擾測試對測試頻道數並無差異，因此檢附其中一個測試頻道之測試數。

5.1.3. 測試架構圖



5.1.4. 電源端點測試結果

Site: SR2	Time: 2018/01/24 - 19:51
Limit: NCC LP0002_CE_0.15MHz-30MHz	Engineer: Kevin Ker
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: AC2300 Wireless MU-MIMO Gigabit Router	Power: AC 110V/60Hz
Test Mode 1	

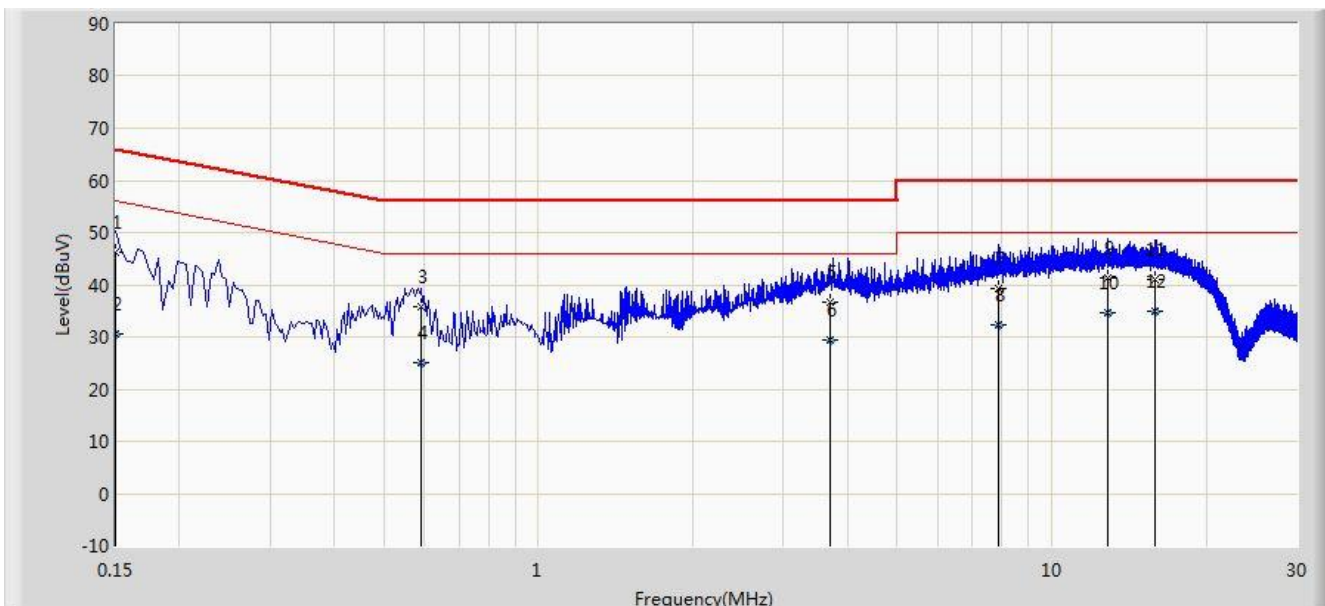


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.150	49.439	38.271	-16.561	66.000	11.168	QP
2			0.150	35.615	24.446	-20.385	56.000	11.168	AV
3			0.538	41.147	31.000	-14.853	56.000	10.147	QP
4		*	0.538	30.047	19.900	-15.953	46.000	10.147	AV
5			1.630	34.695	24.812	-21.305	56.000	9.884	QP
6			1.630	25.919	16.035	-20.081	46.000	9.884	AV
7			3.442	33.394	23.491	-22.606	56.000	9.903	QP
8			3.442	24.261	14.358	-21.739	46.000	9.903	AV
9			12.050	40.666	30.582	-19.334	60.000	10.083	QP
10			12.050	34.346	24.262	-15.654	50.000	10.083	AV
11			16.090	42.724	32.651	-17.276	60.000	10.073	QP
12			16.090	36.497	26.424	-13.503	50.000	10.073	AV

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

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

Site: SR2	Time: 2018/01/24 - 19:57
Limit: NCC LP0002_CE_0.15MHz-30MHz	Engineer: Kevin Ker
Probe: ENV216_101683_Filter On	Polarity: Neutral
EUT: AC2300 Wireless MU-MIMO Gigabit Router	Power: AC 110V/60Hz
Test Mode 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.150	46.210	35.068	-19.790	66.000	11.142	QP
2			0.150	30.477	19.335	-25.523	56.000	11.142	AV
3			0.590	35.734	25.597	-20.266	56.000	10.137	QP
4		*	0.590	25.138	15.001	-20.862	46.000	10.137	AV
5			3.693	36.754	26.806	-19.246	56.000	9.948	QP
6			3.693	29.412	19.464	-16.588	46.000	9.948	AV
7			7.886	39.237	29.050	-20.763	60.000	10.187	QP
8			7.886	32.387	22.201	-17.613	50.000	10.187	AV
9			12.810	41.333	31.217	-18.667	60.000	10.116	QP
10			12.810	34.631	24.515	-15.369	50.000	10.116	AV
11			15.926	41.145	31.033	-18.855	60.000	10.112	QP
12			15.926	34.945	24.833	-15.055	50.000	10.112	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + 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。

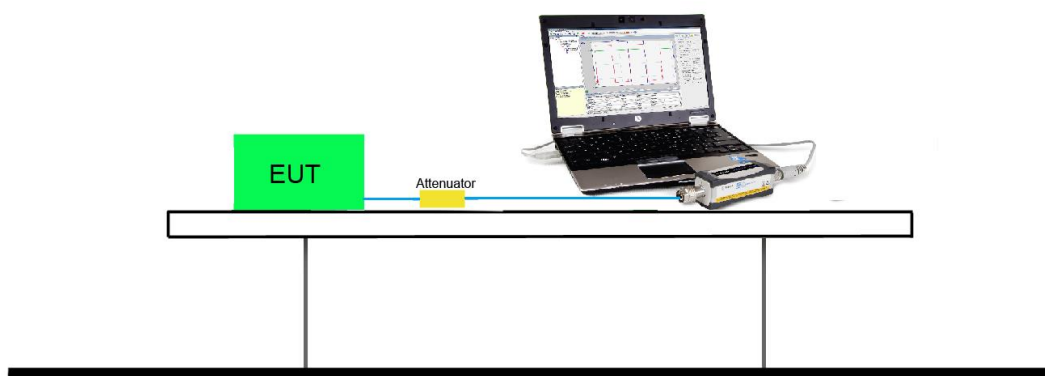
同時發射多向波束於相同或不同頻道者，其每一波束功率應符合(a)之功率限制值。如發射波束有重疊現象，功率應降低，以確保總和傳導輸出功率符合(a)之限制值。同時發射的所有波束總和傳導輸出功率不大於(a) 總和傳導輸出功率限制值加 8 dB。方向性增益值計算同(a)。

(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 / Ant 0 + 1 + 2 + 3 port (CDD Mode):

Test Mode	Bandwidth (MHz)	Channel No.	Frequency (MHz)	Data Rate/ MCS	Average Power (dBm)
802.11b	20	6	2437	1Mbps	21.13
				5.5Mbps	20.94
				11Mbps	20.76
802.11g	20	6	2437	6Mbps	19.82
				24Mbps	19.73
				54Mbps	19.56
802.11n	20	6	2437	MCS0	20.07
				MCS3	19.84
				MCS7	19.65
802.11n	40	6	2437	MCS0	14.62
				MCS3	14.49
				MCS7	14.37

Product	AC2300 Wireless MU-MIMO Gigabit Router	Temperature	25°C
Test Engineer	Kevin Ker	Relative Humidity	52%
Test Site	SR2	Test Date	2018/01/19

Test Mode	Data Rate / MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Limit (dBm)	Result
11b	1Mbps	01	2412	19.11	18.92	19.02	18.62	25.04	≤ 30.00	Pass
11b	1Mbps	06	2437	21.13	20.98	20.98	20.60	27.04	≤ 30.00	Pass
11b	1Mbps	11	2462	19.24	19.40	19.23	18.54	25.30	≤ 30.00	Pass
11g	6Mbps	01	2412	16.35	16.40	16.31	16.30	22.36	≤ 30.00	Pass
11g	6Mbps	06	2437	19.82	19.64	19.72	19.82	25.75	≤ 30.00	Pass
11g	6Mbps	11	2462	15.12	15.41	15.32	14.95	21.31	≤ 30.00	Pass
11n-HT20	MCS0	01	2412	13.21	13.48	13.49	13.45	19.44	≤ 30.00	Pass
11n-HT20	MCS0	06	2437	20.07	20.03	19.67	20.11	25.88	≤ 30.00	Pass
11n-HT20	MCS0	11	2462	13.89	14.27	14.21	13.76	20.17	≤ 30.00	Pass
11n-HT40	MCS0	03	2422	9.66	9.57	9.73	9.82	15.69	≤ 30.00	Pass
11n-HT40	MCS0	06	2437	14.62	14.51	14.65	14.48	20.63	≤ 30.00	Pass
11n-HT40	MCS0	09	2452	10.71	11.47	11.82	11.17	17.50	≤ 30.00	Pass

Note: Total Average Power (dBm) = $10 \cdot \log \{10^{(\text{Ant 0 Average Power} / 10)} + 10^{(\text{Ant 1 Average Power} / 10)} + 10^{(\text{Ant 2 Average Power} / 10)} + 10^{(\text{Ant 3 Average Power} / 10)}\}$ (dBm).

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

Antenna Type	Frequency Band (MHz)	TX Paths	Max Antenna Gain (dBi)	CDD Directional Gain (dBi)	
				For Power	For PSD
Dipole Antenna (External)	2412 ~ 2462	4	1.0	1.0	7.02
PCB Antenna (Built-in)	5150 ~ 5850	4	1.0	1.0	7.02

Note 1: The EUT supports Cyclic Delay Diversity (CDD) technology for 802.11a/b/g/n/ac mode, and the transmitter output signal is correlated.

For CDD transmissions, directional gain is calculated as follows, $N_{ANT} = 4$, $N_{SS} = 1$.

Three 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 = $10 \log (N_{ANT} / N_{SS})$ dB = 6.02;
- For power measurements on IEEE 802.11 devices,
Array Gain = 0 dB for $N_{ANT} \leq 4$;

Note 2: The EUT also supports Beam Forming technology, and the Beam Forming only support 802.11ac mode. Three antennas have the same gain, G_{ANT} :

Directional gain = $G_{ANT} + 10 \log (N_{ANT} / N_{SS})$ dBi, where N_{SS} = the number of independent spatial streams of data and G_{ANT} is the antenna gain in dBi.

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

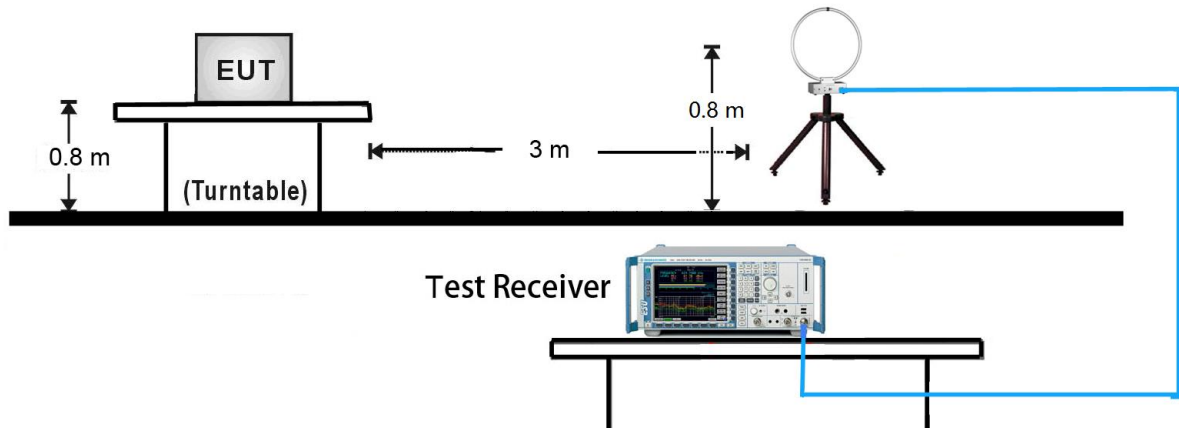
上表規定之電場強度，頻率在 9-90kHz 千赫(kHz)、110-490 千赫(kHz)以及 1000 兆赫(MHz)以上之發射，其量測以平均值檢波器為基準，且須符合第 5.14 節之規定；其他頻率之發射，應以 CISPR 準峰值(quasi-peak) 檢波器測量；非以上表所指定之距離測量時須符合第 5.5 節之規定，而輻射發射之量測頻率範圍須符合第 5.12 節之規定。

5.4.2. 量測方法

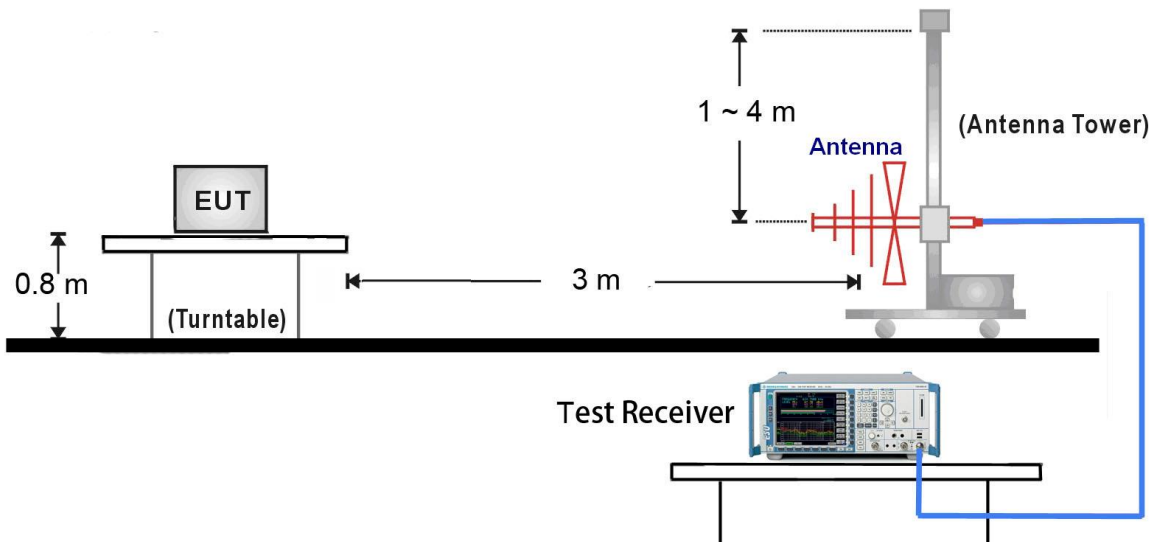
低頻待測物置於高 80 公分之非導體桌面（落地型產品置於地上），高頻待測物置於高 150 公分之非導體桌面，受測物與配件設備之電源線無須束綁，桌面上受測設備的所有電源線由桌子的後緣垂下沿旋轉桌表面接至交流插座。落地型設備的交流電源線可以方便的型態走線。桌面可 360 度旋轉，接收天線置於距待測物 3m 距離，高度可在 1 至 4 公尺間變動，以量測待測物之最大輻射電場強度。接收天線並應於水準及垂直極化方向各量測一次。

5.4.3. 測試架構圖

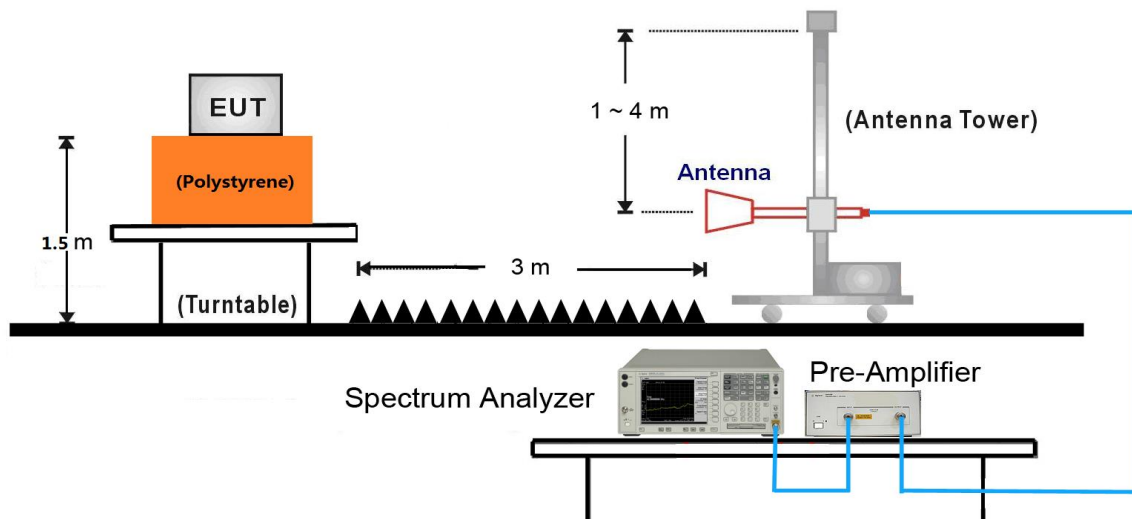
9kHz ~ 30MHz Test Setup:



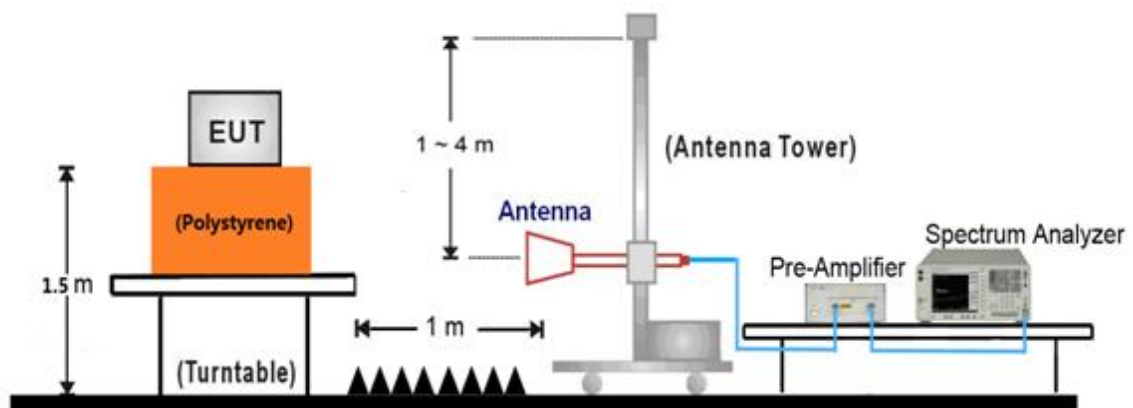
30MHz ~ 1GHz Test Setup:



1GHz ~ 18GHz Test Setup:



18GHz ~ 25GHz Test Setup:



Note: This item was performed with the WIFI antenna connected.

5.4.4. 輻射干擾測試結果

Product	AC2300 Wireless MU-MIMO Gigabit Router	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2018/01/17
Test Mode:	802.11b - Ant 0 + 1 + 2 + 3	Test Channel:	01
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
	7434.5	35.5	12.7	48.2	74.0	-25.8	Peak	Horizontal
	8395.0	36.2	12.2	48.4	74.0	-25.6	Peak	Horizontal
*	9857.0	33.5	16.2	49.7	88.7	-39.0	Peak	Horizontal
*	12840.5	32.6	19.2	51.8	88.7	-36.9	Peak	Horizontal
	7579.0	36.0	12.7	48.7	74.0	-25.3	Peak	Vertical
	8250.5	36.5	11.9	48.4	74.0	-25.6	Peak	Vertical
*	9814.5	33.8	15.4	49.2	88.7	-39.5	Peak	Vertical
*	12891.5	33.5	19.4	52.9	88.7	-35.8	Peak	Vertical
Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (118.7dBμV/m) or FCC 15.209 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)								

Product	AC2300 Wireless MU-MIMO Gigabit Router	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2018/01/17
Test Mode:	802.11b - Ant 0 + 1 + 2 + 3	Test Channel:	06
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
	7502.5	35.4	12.8	48.2	74.0	-25.8	Peak	Horizontal
	8250.5	35.8	11.9	47.7	74.0	-26.3	Peak	Horizontal
*	9874.0	34.1	15.8	49.9	89.3	-39.4	Peak	Horizontal
*	12866.0	34.0	19.3	53.3	89.3	-36.0	Peak	Horizontal
	7417.5	35.4	12.6	48.0	74.0	-26.0	Peak	Vertical
	8480.0	35.5	12.7	48.2	74.0	-25.8	Peak	Vertical
*	9823.0	34.4	15.6	50.0	89.3	-39.3	Peak	Vertical
*	12866.0	34.0	19.3	53.3	89.3	-36.0	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (119.3dBμV/m) or FCC 15.209 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)

Product	AC2300 Wireless MU-MIMO Gigabit Router	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2018/01/17
Test Mode:	802.11b - Ant 0 + 1 + 2 + 3	Test Channel:	11
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
	7417.5	35.4	12.6	48.0	74.0	-26.0	Peak	Horizontal
	8463.0	33.9	12.6	46.5	74.0	-27.5	Peak	Horizontal
*	10044.0	33.0	15.5	48.5	89.6	-41.1	Peak	Horizontal
*	12840.5	32.6	19.2	51.8	89.6	-37.8	Peak	Horizontal
	7545.0	34.7	12.8	47.5	74.0	-26.5	Peak	Vertical
	8318.5	36.6	11.9	48.5	74.0	-25.5	Peak	Vertical
*	10222.5	35.1	16.3	51.4	89.6	-38.2	Peak	Vertical
*	12840.5	32.6	19.2	51.8	89.6	-37.8	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (119.6dBμV/m) or FCC 15.209 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)

Product	AC2300 Wireless MU-MIMO Gigabit Router	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2018/01/17
Test Mode:	802.11g - Ant 0 + 1 + 2 + 3	Test Channel:	01
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
	7545.0	34.7	12.8	47.5	74.0	-26.5	Peak	Horizontal
	8352.5	35.6	12.0	47.6	74.0	-26.4	Peak	Horizontal
*	9823.0	33.1	15.6	48.7	87.4	-38.7	Peak	Horizontal
*	12789.5	32.9	19.0	51.9	87.4	-35.5	Peak	Horizontal
	7451.5	35.8	12.8	48.6	74.0	-25.4	Peak	Vertical
	8276.0	35.9	11.9	47.8	74.0	-26.2	Peak	Vertical
*	9993.0	35.3	15.4	50.7	87.4	-36.7	Peak	Vertical
*	12789.5	32.9	19.0	51.9	87.4	-35.5	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (117.4dBμV/m) or FCC 15.209 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)

Product	AC2300 Wireless MU-MIMO Gigabit Router	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2018/01/17
Test Mode:	802.11g - Ant 0 + 1 + 2 + 3	Test Channel:	06
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
	7451.5	35.8	12.8	48.6	74.0	-25.4	Peak	Horizontal
	8242.0	36.5	11.9	48.4	74.0	-25.6	Peak	Horizontal
*	9959.0	36.2	15.3	51.5	87.8	-36.3	Peak	Horizontal
*	12713.0	33.6	18.8	52.4	87.8	-35.4	Peak	Horizontal
	7528.0	35.8	12.8	48.6	74.0	-25.4	Peak	Vertical
	8199.5	36.1	12.0	48.1	74.0	-25.9	Peak	Vertical
*	9882.5	35.4	15.6	51.0	87.8	-36.8	Peak	Vertical
*	12713.0	33.6	18.8	52.4	87.8	-35.4	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (117.8dBμV/m) or FCC 15.209 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)

Product	AC2300 Wireless MU-MIMO Gigabit Router	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2018/01/17
Test Mode:	802.11g - Ant 0 + 1 + 2 + 3	Test Channel:	11
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
	7528.0	35.8	12.8	48.6	74.0	-25.4	Peak	Horizontal
	8352.5	34.2	12.0	46.2	74.0	-27.8	Peak	Horizontal
*	9712.5	35.9	14.7	50.6	88.1	-37.5	Peak	Horizontal
*	12781.0	31.1	19.0	50.1	88.1	-38.0	Peak	Horizontal
	7477.0	35.1	12.8	47.9	74.0	-26.1	Peak	Vertical
	8233.5	36.7	11.9	48.6	74.0	-25.4	Peak	Vertical
*	10035.5	34.9	15.5	50.4	88.1	-37.7	Peak	Vertical
*	12781.0	31.1	19.0	50.1	88.1	-38.0	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (118.1dBμV/m) or FCC 15.209 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)

Product	AC2300 Wireless MU-MIMO Gigabit Router	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2018/01/17
Test Mode:	802.11n-HT20 - Ant 0 + 1 + 2 + 3	Test Channel:	01
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
	7477.0	35.1	12.8	47.9	74.0	-26.1	Peak	Horizontal
	8318.5	34.7	11.9	46.6	74.0	-27.4	Peak	Horizontal
*	9967.5	33.8	15.3	49.1	85.7	-36.6	Peak	Horizontal
*	12925.5	30.7	19.6	50.3	85.7	-35.4	Peak	Horizontal
	7502.5	33.7	12.8	46.5	74.0	-27.5	Peak	Vertical
	8463.0	34.0	12.6	46.6	74.0	-27.4	Peak	Vertical
*	10197.0	34.1	16.2	50.3	85.7	-35.4	Peak	Vertical
*	12925.5	30.7	19.6	50.3	85.7	-35.4	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (115.7dBμV/m) or FCC 15.209 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)

Product	AC2300 Wireless MU-MIMO Gigabit Router	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2018/01/17
Test Mode:	802.11n-HT20 - Ant 0 + 1 + 2 + 3	Test Channel:	06
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
	7502.5	33.7	12.8	46.5	74.0	-27.5	Peak	Horizontal
	8191.0	38.2	12.0	50.2	74.0	-23.8	Peak	Horizontal
*	9857.0	33.3	16.2	49.5	86.6	-37.1	Peak	Horizontal
*	12891.5	32.0	19.4	51.4	86.6	-35.2	Peak	Horizontal
	7366.5	36.5	12.5	49.0	74.0	-25.0	Peak	Vertical
	8301.5	36.4	11.9	48.3	74.0	-25.7	Peak	Vertical
*	9797.5	35.4	15.1	50.5	86.6	-36.1	Peak	Vertical
*	12891.5	32.0	19.4	51.4	86.6	-35.2	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (116.6dBμV/m) or FCC 15.209 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)

Product	AC2300 Wireless MU-MIMO Gigabit Router	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2018/01/17
Test Mode:	802.11n-HT20 - Ant 0 + 1 + 2 + 3	Test Channel:	11
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
	7366.5	36.5	12.5	49.0	74.0	-25.0	Peak	Horizontal
	8395.0	35.0	12.2	47.2	74.0	-26.8	Peak	Horizontal
*	9721.0	34.4	14.7	49.1	87.8	-38.7	Peak	Horizontal
*	12891.5	30.9	19.4	50.3	87.8	-37.5	Peak	Horizontal
	7451.5	35.5	12.8	48.3	74.0	-25.7	Peak	Vertical
	8395.0	35.8	12.2	48.0	74.0	-26.0	Peak	Vertical
*	10129.0	35.1	15.9	51.0	87.8	-36.8	Peak	Vertical
*	12891.5	30.9	19.4	50.3	87.8	-37.5	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (117.8dBμV/m) or FCC 15.209 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)

Product	AC2300 Wireless MU-MIMO Gigabit Router	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2018/01/17
Test Mode:	802.11n-HT40 - Ant 0 + 1 + 2 + 3	Test Channel:	03
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
	7451.5	35.5	12.8	48.3	74.0	-25.7	Peak	Horizontal
	8488.5	34.9	12.7	47.6	74.0	-26.4	Peak	Horizontal
*	10171.5	35.2	16.1	51.3	80.0	-28.7	Peak	Horizontal
*	12781.0	31.3	19.0	50.3	80.0	-29.7	Peak	Horizontal
	7562.0	35.7	12.8	48.5	74.0	-25.5	Peak	Vertical
	8446.0	35.2	12.5	47.7	74.0	-26.3	Peak	Vertical
*	10069.5	34.0	15.6	49.6	80.0	-30.4	Peak	Vertical
*	12781.0	31.3	19.0	50.3	80.0	-29.7	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (110.0dBμV/m) or FCC 15.209 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)

Product	AC2300 Wireless MU-MIMO Gigabit Router	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2018/01/17
Test Mode:	802.11n-HT40 - Ant 0 + 1 + 2 + 3	Test Channel:	06
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
	7562.0	35.7	12.8	48.5	74.0	-25.5	Peak	Horizontal
	8352.5	36.1	12.0	48.1	74.0	-25.9	Peak	Horizontal
*	9857.0	33.8	16.2	50.0	81.0	-31.0	Peak	Horizontal
*	12738.5	31.5	18.9	50.4	81.0	-30.6	Peak	Horizontal
	7417.5	35.3	12.6	47.9	74.0	-26.1	Peak	Vertical
	8429.0	34.0	12.4	46.4	74.0	-27.6	Peak	Vertical
*	10171.5	33.4	16.1	49.5	81.0	-31.5	Peak	Vertical
*	12738.5	31.5	18.9	50.4	81.0	-30.6	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (111.0dBμV/m) or FCC 15.209 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)

Product	AC2300 Wireless MU-MIMO Gigabit Router	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2018/01/17
Test Mode:	802.11n-HT40 - Ant 0 + 1 + 2 + 3	Test Channel:	09
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
	7417.5	35.3	12.6	47.9	74.0	-26.1	Peak	Horizontal
	8284.5	36.9	11.9	48.8	74.0	-25.2	Peak	Horizontal
*	9916.5	34.2	15.3	49.5	82.0	-32.5	Peak	Horizontal
*	12781.0	31.5	19.0	50.5	82.0	-31.5	Peak	Horizontal
	7553.5	35.8	12.8	48.6	74.0	-25.4	Peak	Vertical
	8242.0	37.2	11.9	49.1	74.0	-24.9	Peak	Vertical
*	9967.5	35.9	15.3	51.2	82.0	-30.8	Peak	Vertical
*	12781.0	31.5	19.0	50.5	82.0	-31.5	Peak	Vertical

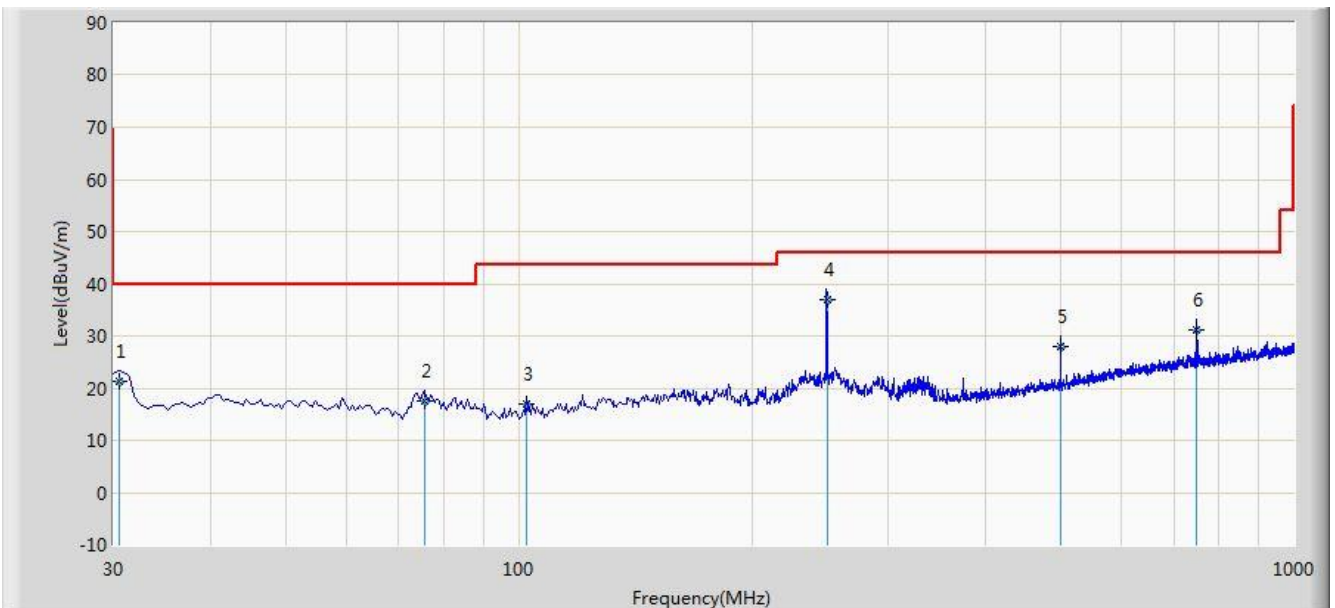
Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (112.0dBμV/m) or FCC 15.209 which is higher.

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: 2018/01/19 - 14:16
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: VULB 9168_20-2000MHz	Polarity: Horizontal
EUT: AC2300 Wireless MU-MIMO Gigabit Router	Power: AC 110V/60Hz
Worst Case Mode: Transmit by 802.11n-HT20 at channel 2412MHz, Ant 0 + 1 + 2 + 3	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			30.482	21.268	7.530	-18.732	40.000	13.738	QP
2			75.590	17.500	6.740	-22.500	40.000	10.760	QP
3			102.265	16.978	5.680	-26.522	43.500	11.298	QP
4			250.150	36.917	23.890	-9.083	46.000	13.027	QP
5		*	500.013	27.990	9.420	-18.010	46.000	18.570	QP
6			750.225	31.164	8.360	-14.836	46.000	22.803	QP

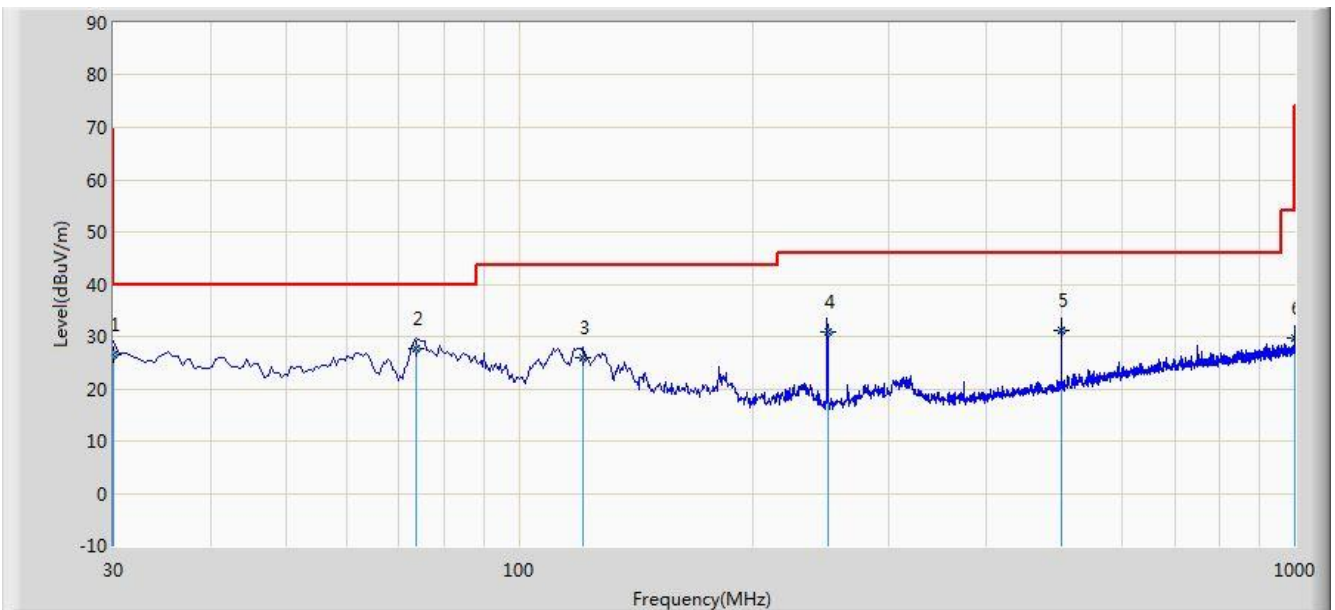
Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

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: 2018/01/19 - 14:20
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: VULB 9168_20-2000MHz	Polarity: Vertical
EUT: AC2300 Wireless MU-MIMO Gigabit Router	Power: AC 110V/60Hz
Worst Case Mode: Transmit by 802.11n-HT20 at channel 2412MHz, Ant 0 + 1 + 2 + 3	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	30.000	26.405	12.690	-13.595	40.000	13.715	QP
2			73.650	27.579	16.530	-12.421	40.000	11.049	QP
3			120.690	25.885	12.610	-17.615	43.500	13.275	QP
4			250.050	30.994	17.970	-15.006	46.000	13.024	QP
5			500.010	31.250	12.680	-14.750	46.000	18.570	QP
6			1000.000	29.835	4.670	-24.165	54.000	25.165	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。

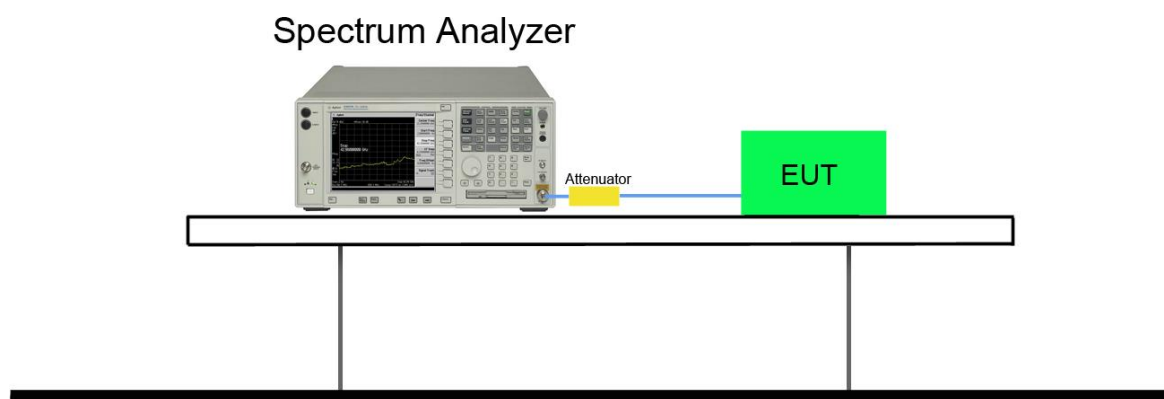
5.5.2. 量測方法

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

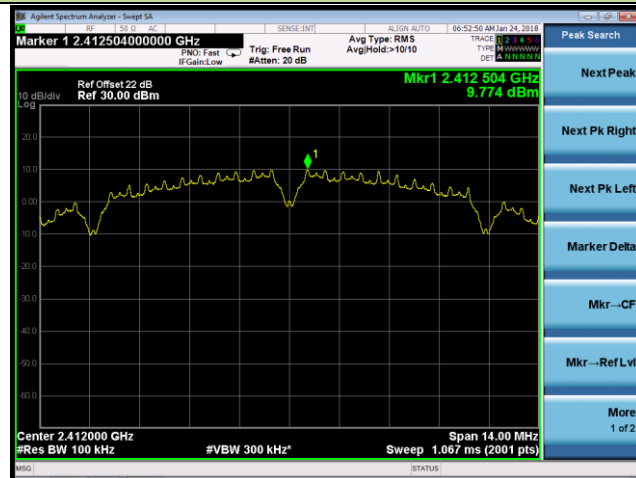
Product	AC2300 Wireless MU-MIMO Gigabit Router	Temperature	23°C
Test Engineer	Kevin Ker	Relative Humidity	54%
Test Site	SR2	Test Date	2017/10/18

Test Mode	Data Rate / MCS	Channel No.	Frequency (MHz)	Limit	Result
Ant 0 / Ant 0 + 1 + 2 + 3					
802.11b	1Mbps	01	2412	30dBc	Pass
802.11b	1Mbps	06	2437	30dBc	Pass
802.11b	1Mbps	11	2462	30dBc	Pass
802.11g	6Mbps	01	2412	30dBc	Pass
802.11g	6Mbps	06	2437	30dBc	Pass
802.11g	6Mbps	11	2462	30dBc	Pass
802.11n-HT20	MCS0	01	2412	30dBc	Pass
802.11n-HT20	MCS0	06	2437	30dBc	Pass
802.11n-HT20	MCS0	11	2462	30dBc	Pass
802.11n-HT40	MCS0	03	2422	30dBc	Pass
802.11n-HT40	MCS0	06	2437	30dBc	Pass
802.11n-HT40	MCS0	09	2452	30dBc	Pass

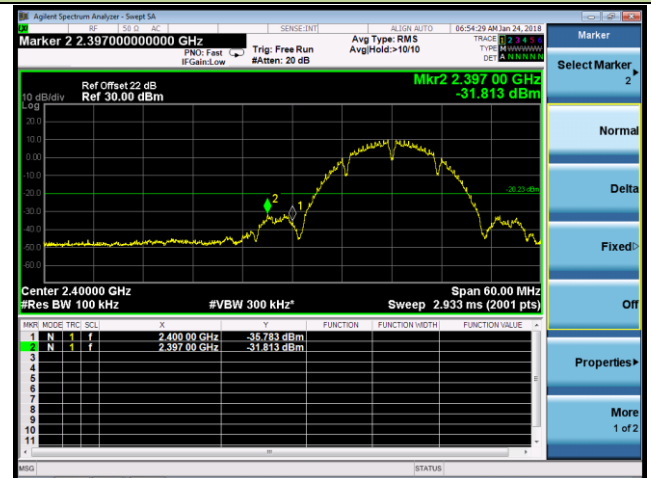
802.11b Out-of-Band Emissions - Ant 0 / Ant 0 + 1 + 2 + 3

Channel 01 (2412MHz)

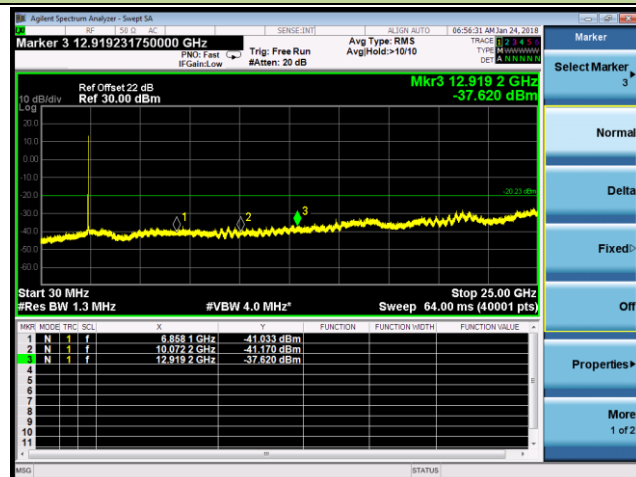
100kHz PSD Reference Level



Low Band Edge



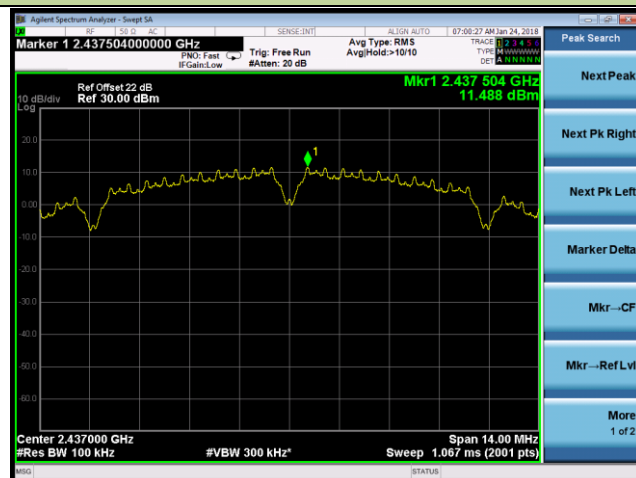
Spurious Emission



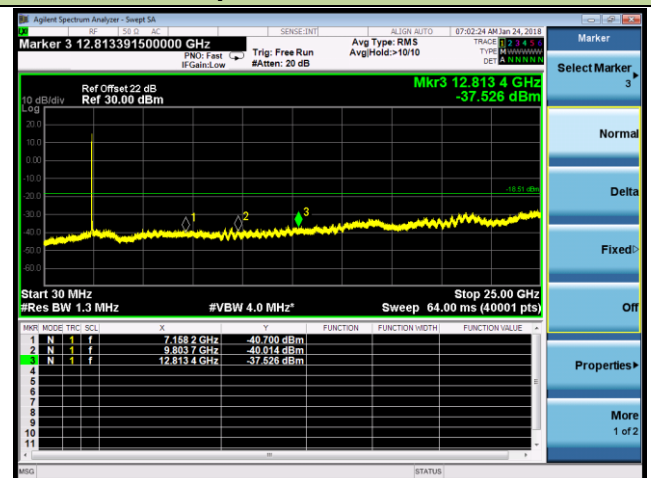
Note: The value of the display line is -20.23

Channel 06 (2437MHz)

100kHz PSD Reference Level



Spurious Emission

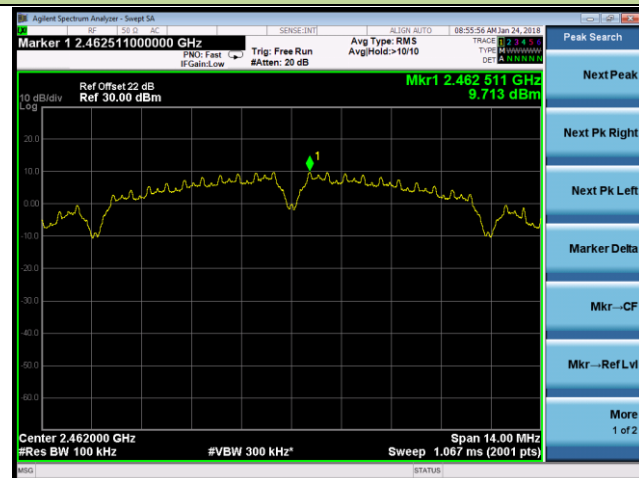


Note: The value of the display line is -18.51

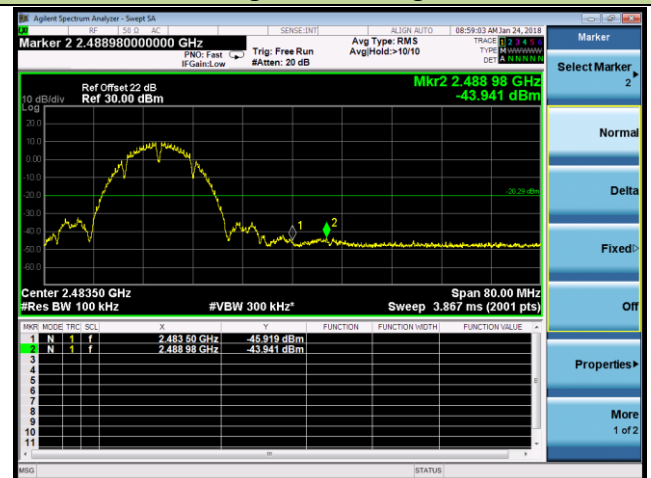
802.11b Out-of-Band Emissions - Ant 0 / Ant 0 + 1 + 2 + 3

Channel 11 (2462MHz)

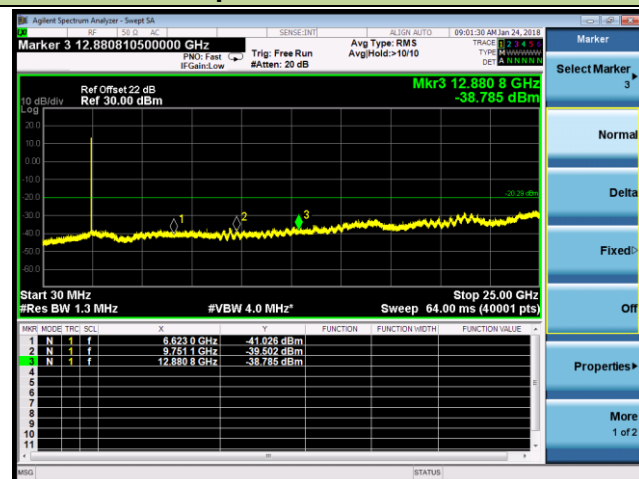
100kHz PSD Reference Level



High Band Edge



Spurious Emission

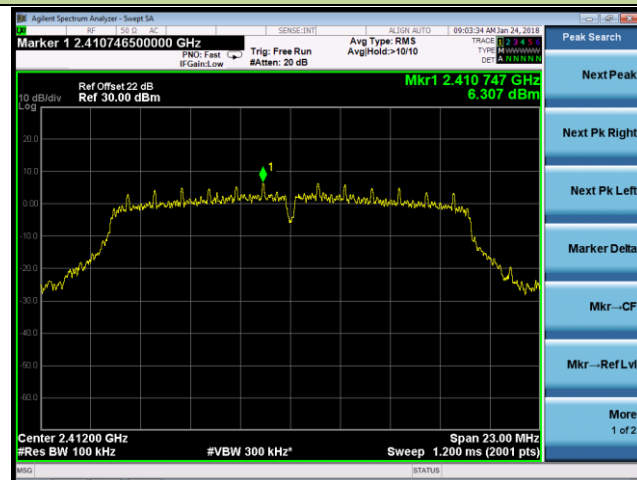


Note: The value of the display line is -20.29

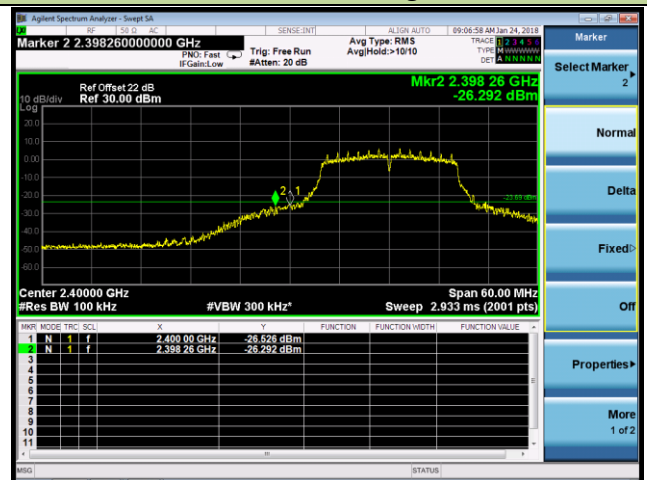
802.11g Out-of-Band Emissions - Ant 0 / Ant 0 + 1 + 2 + 3

Channel 01 (2412MHz)

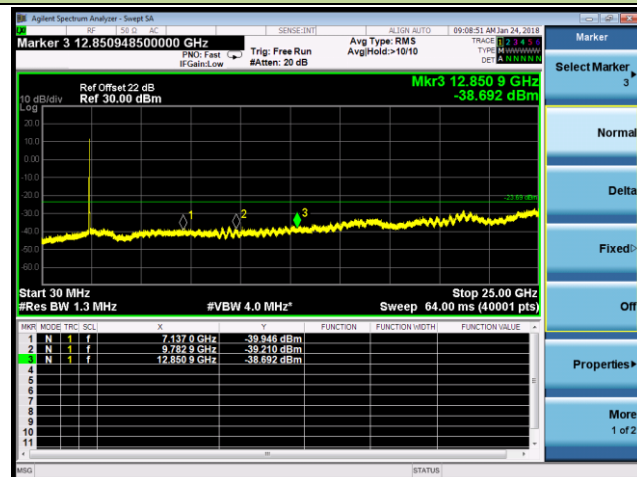
100kHz PSD Reference Level



Low Band Edge



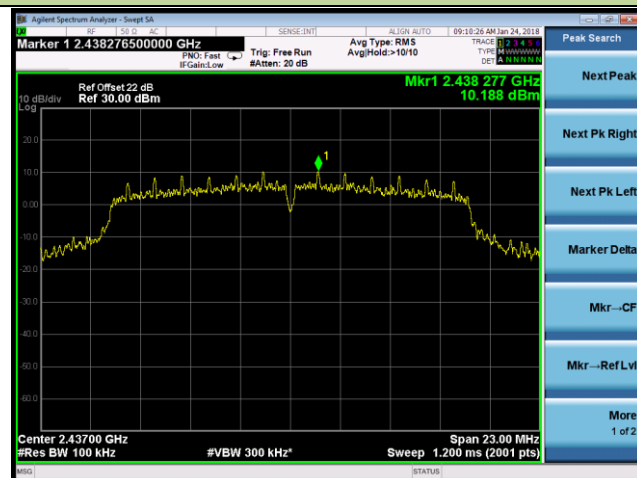
Spurious Emission



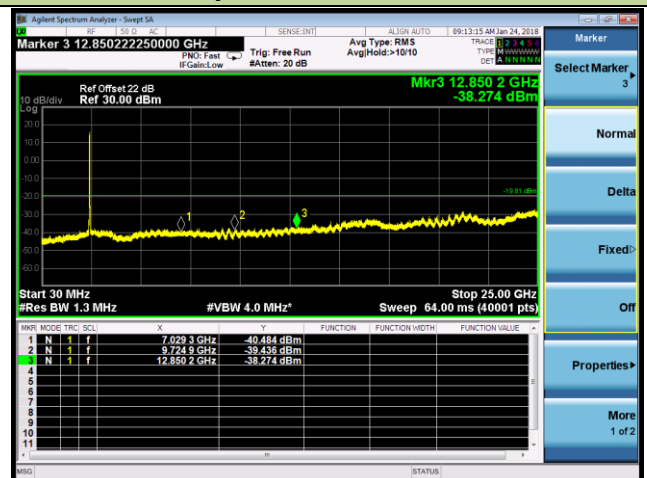
Note: The value of the display line is -23.69

Channel 06 (2437MHz)

100kHz PSD Reference Level



Spurious Emission

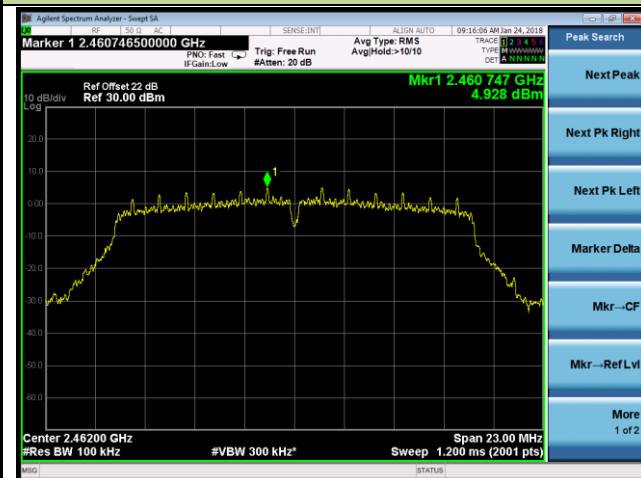


Note: The value of the display line is -19.81

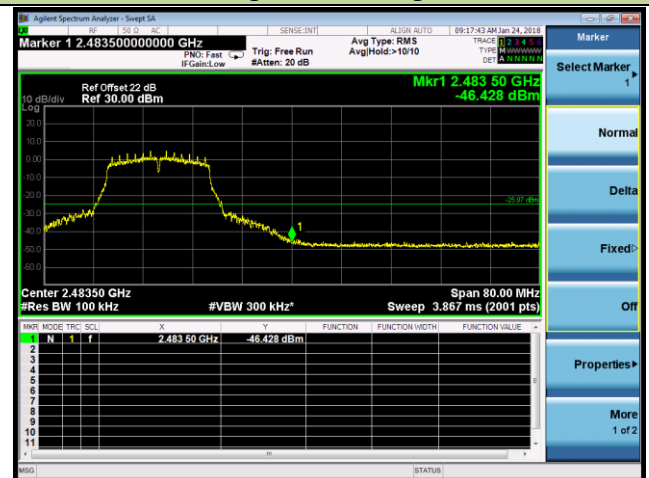
802.11g Out-of-Band Emissions - Ant 0 / Ant 0 + 1 + 2 + 3

Channel 11 (2462MHz)

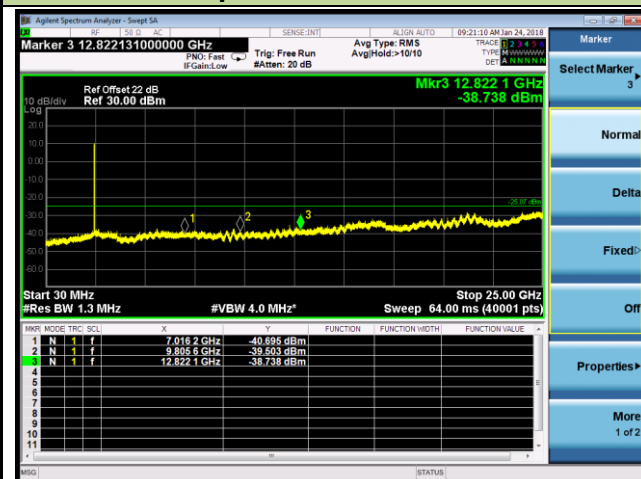
100kHz PSD Reference Level



High Band Edge



Spurious Emission

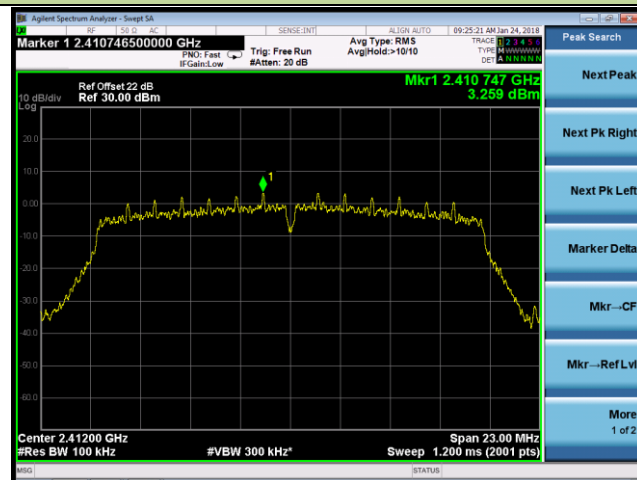


Note: The value of the display line is -25.07

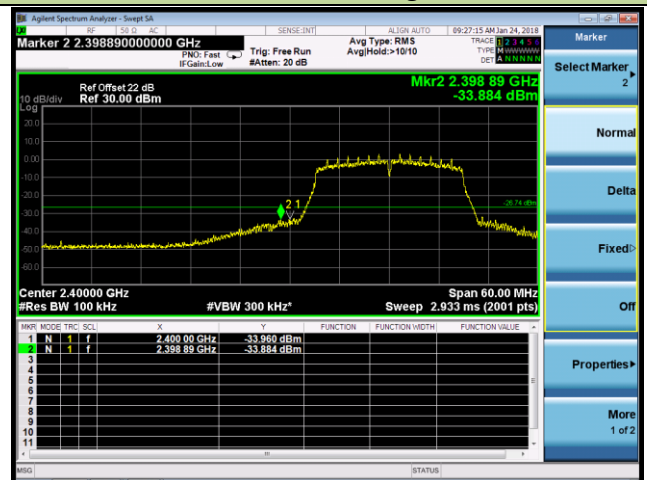
802.11n-HT20 Out-of-Band Emissions - Ant 0 / Ant 0 + 1 + 2 + 3

Channel 01 (2412MHz)

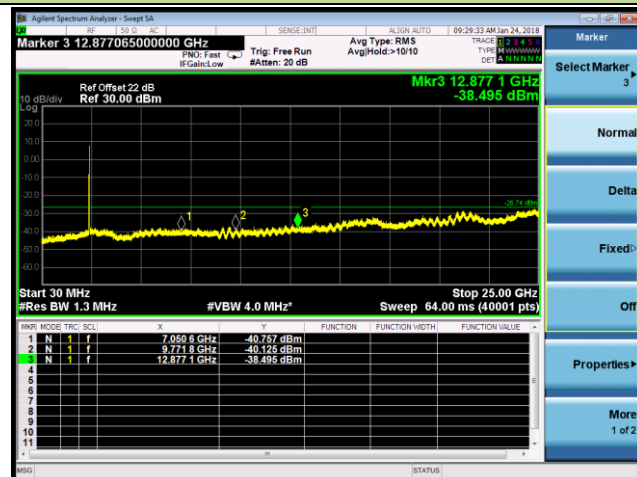
100kHz PSD Reference Level



Low Band Edge



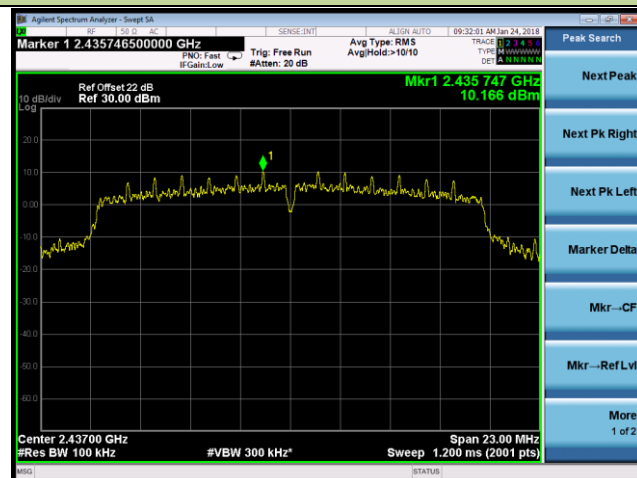
Spurious Emission



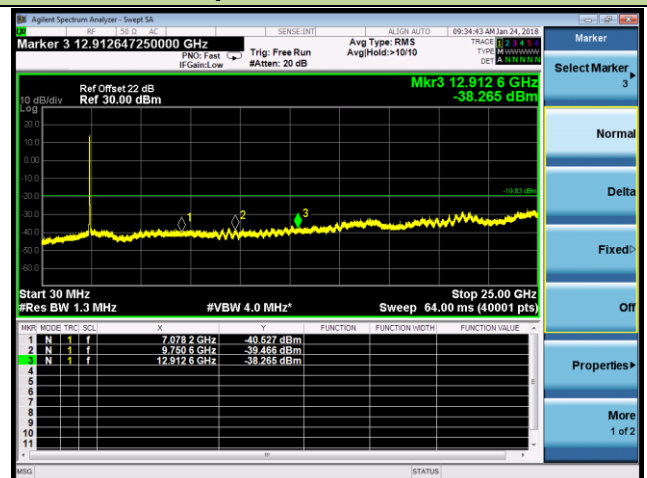
Note: The value of the display line is -26.74

Channel 06 (2437MHz)

100kHz PSD Reference Level



Spurious Emission

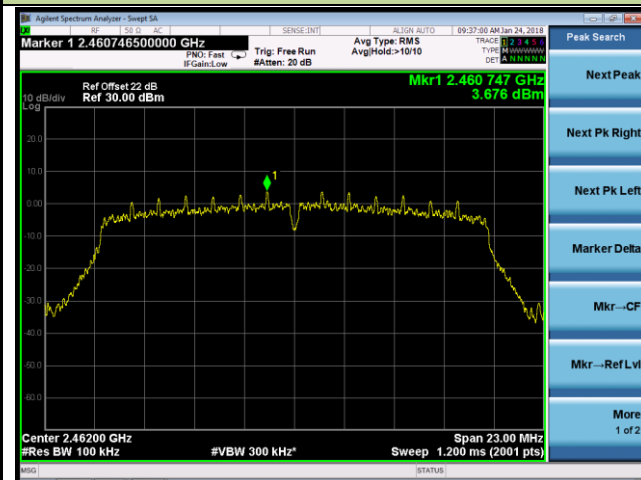


Note: The value of the display line is -19.83

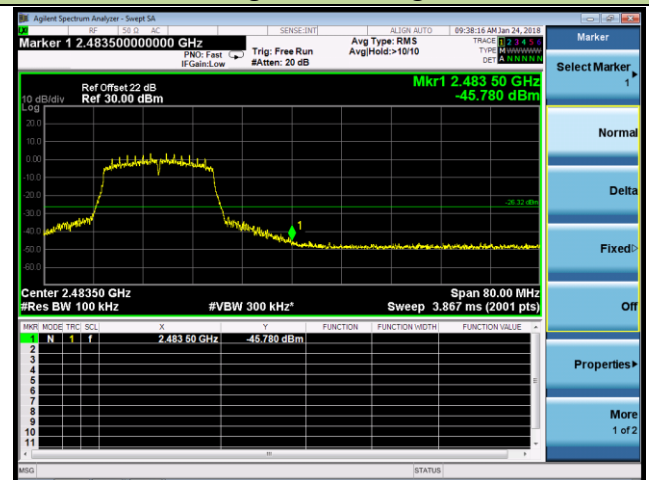
802.11n-HT20 Out-of-Band Emissions - Ant 0 / Ant 0 + 1 + 2 + 3

Channel 11 (2462MHz)

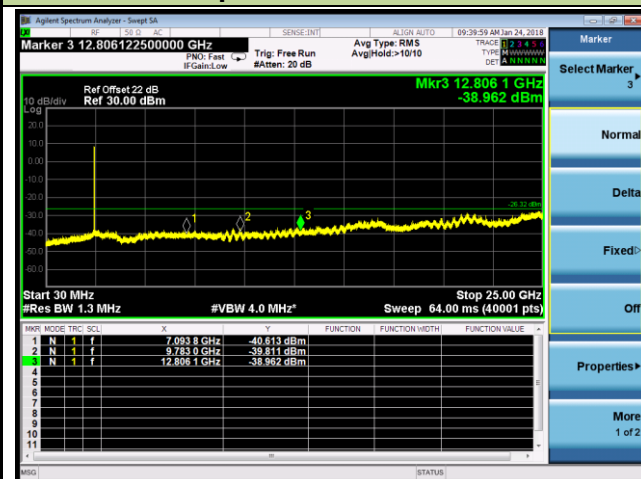
100kHz PSD Reference Level



High Band Edge



Spurious Emission



Note: The value of the display line is -26.32