



低功率射頻電機測試報告

申請廠商：鎮陞科技股份有限公司

地址：台中市南區忠明南路 760 號 14 樓

製造廠商：1. NETTECH TECHNOLOGY (SUZHOU) CO LTD
2. 友勁科技股份有限公司

地址：1. 1 CHUN-SHEN-HU EAST RD. XIANGCHENG
ECONOMICAL DEV DISTRICT SUZHOU JIANGSU CHINA
2. 台南市安南區科技五路 168 號

產品名稱：802.11ac 無線基地台

主型號：AT-TQ5403

系列型號：AT-TQm5403

廠牌：Allied Telesis

受理日期：107 年 02 月 08 日

完成日期：107 年 09 月 10 日

實驗室名稱：世騰電子科技股份有限公司測試實驗室

實驗室地址：桃園市蘆竹區聯福街 2 巷 10 號

實驗室認可證書有效期限：109 年 07 月 08 日

實驗室認可編號及範圍：1439 (9 kHz to 40 GHz)

實驗室認證資格





目 錄

證 明 書.....	5
1. 一般描述.....	6
1.1. 產品規格.....	6
1.2. 差異說明.....	6
1.3. 無線界面規格及頻道對應頻率.....	7
1.4. 測試模式之描述.....	8
1.5. 受測裝置之系統說明.....	8
1.6. 測試場地.....	9
1.7. 量測不確定度.....	9
2. 測試儀器.....	10
3. 天線增益之要求.....	12
3.1. 天線型式及其增益.....	12
3.2. 結果判定.....	12
4. 電源線傳導干擾之量測規定.....	14
4.1. 適用標準.....	14
4.2. 測試方法.....	14
4.3. 傳導干擾之擺設.....	14
4.4. 傳導干擾之測試結果及數據.....	15
4.5. 傳導量測之配置照片.....	17
5. 輻射之量測規定.....	18
5.1. 適用標準.....	18
5.2. 測試方法.....	18
5.3. 輻射場地之擺設.....	18
5.4. 輻射之測試結果及數據 (30MHz ~ 1GHz).....	20
5.5. 輻射之測試結果及數據 (1GHz ~ 25GHz).....	24
5.6. 輻射量測之配置照片 (30MHz ~ 1GHz).....	48
5.7. 輻射量測之配置照片 (1GHz ~ 25GHz).....	50
6. On Time, Duty Cycle and Measurement methods.....	51
6.1. 適用標準.....	51
6.2. 測試方法.....	51
6.3. 測試配置.....	51
6.4. 測試結果及數據.....	51
7. 6dB 頻寬之規定.....	53
7.1. 適用標準.....	53
7.2. 測試方法.....	53
7.3. 測試配置.....	53
7.4. 6dB 頻寬之測試結果及數據.....	53
7.5. 結果判定.....	53
8. 峰值輸出功率之規定.....	58
8.1. 適用標準.....	58
8.2. 測試方法.....	58
8.3. 測試配置.....	58
8.4. 峰值輸出功率之測試結果及數據.....	58
8.5. 結果判定.....	59
9. 混附波發射限制之規定.....	60
9.1. 適用方法.....	60
9.2. 測試方法.....	60
9.3. 測試配置.....	60
9.4. 結果判定.....	60
10. 功率密度之規定.....	77
10.1. 適用標準.....	77
10.2. 測試方法.....	77



10.3.	測試配置	77
10.4.	功率密度之量測結果及數據	77
10.5.	結果判定	77
11.	電波暴露量之評估	82
11.1.	適用標準	82
11.2.	電波暴露量之評估結果及數據	83
11.3.	結果判定	84
12.	限制使用之頻帶	85
附錄 A:	產品照	A1 ~A14



修訂記錄

報告號碼.	發行日期	描述
TENC1804233	Sep. 10, 2018	Original



證 明 書

申請廠商	:	鎮陞科技股份有限公司
地址	:	台中市南區忠明南路 760 號 14 樓
製造廠商	:	1. NETTECH TECHNOLOGY (SUZHOU) CO LTD 2. 友勁科技股份有限公司
地址	:	1. 1 CHUN-SHEN-HU EAST RD. XIANGCHENG ECONOMICAL DEV DISTRICT SUZHOU JIANGSU CHINA 2. 台南市安南區科技五路 168 號
產品名稱	:	802.11ac 無線基地台
主型號	:	AT-TQ5403
系列型號	:	AT-TQm5403
廠牌	:	Allied Telesis
該產品樣品試驗 依據之試驗標準	:	國家通訊傳播委員會低功率射頻電機技術規範(LP0002)。 規範修訂日期 107 年 1 月 10 日。 FCC Part 15C, 15.247 LP0002 3.10 章節及 FCC KDB 558074, KDB 662911
發射功率 (電場強度)	:	23.78 dBm

茲在此鄭重聲明：

本試驗報告所列之待測設備樣品已於民國 107 年 09 月 10 日在本公司的標準測試場地完成詳細及完整之量測。本試驗報告所列之量測皆依據低功率射頻電機技術規範之規定來執行。並判斷此待測設備樣品確實符合低功率射頻電機技術規範規定。

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

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

報告簽署人：

測試工程師：



1. 一般描述

1.1. 產品規格

Equipment	802.11ac 無線基地台
Model No.	AT-TQ5403, AT-TQm5403
Brand Name	Allied Telesis
Product Description	Please refer to User's Manual.
Connecting I/O Port(s)	Please refer to User's Manual.
AC ADAPTER	Adapter Brand: APD Model No.: WA-24Q12R I/P: AC 100-240V~, 50-60Hz, 0.7A MAX. ; O/P: DC 12V, 2.0A
PoE	48Vdc/0.67A
Memo	A1
Frequency Range	802.11b/g/n: 2400MHz-2483.5MHz 802.11a/n/ac: 5150MHz-5250MHz, 5250MHz-5350MHz, 5470MHz-5725MHz, 5725MHz-5850MHz
Modulation Type	OFDM, DSSS
Data Rate	2.4GHz: 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS15, HT20/40, VHT20/40 5GHz: 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS15, HT20/40 802.11ac: MCS0 – MCS9, VHT20/40/80
Antenna Type	PCB Antenna
Antenna Gain	2.4GHz: ANT A: 4.85 dBi ; ANT B: 4.4 dBi 5150MHz-5250MHz: ANT A: 4.18 dBi ; ANT B: 4.81 dBi 5250MHz-5350MHz: ANT A: 4.02 dBi ; ANT B: 4.20 dBi 5470MHz-5725MHz: ANT A: 4.83 dBi ; ANT B: 4.05 dBi 5725MHz-5850MHz: ANT A: 4.90 dBi ; ANT B: 4.18 dBi

Note: For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

1.2. 差異說明

本申請件各系列(廠牌及型號如下表)之技術規格及射頻性能皆相同。主要差異處為型號，其餘完全相同，該產品確符合同系列產品，技術規格及射頻性能相同以利申請為系列機種。

型號	廠牌	差異說明
AT-TQ5403	Allied Telesis	型號: AT-TQ5403
AT-TQm5403	Allied Telesis	型號: AT-TQm5403



1.3. 無線界面規格及頻道對應頻率

802.11b, 802.11g, 802.11n HT20, VHT20 (2412MHz~2462MHz)

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

802.11n HT40, VHT40 (2422MHz~2452MHz)

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

*為量測之頻率



1.4. 測試模式之描述

- 電源傳導及輻射測試之測試軟體如下：
 1. 將量測系統之全部電源打開。
 2. 於測試進行的同時，在 WIN 7 作業系統下，待測物執行"QDART_CONN.WIN.1.0 Installer-00039.1"傳送及接收訊號。
- 本申請件測試模式如下：

傳導干擾測試	
Test Mode	Operating Description
1	802.11b (1Mbps)
2	802.11g (6Mbps)
3	VHT20 (6.5Mbps)
4	VHT40 (13.5Mbps)
caused "Test Mode 3" generated the worst case, it was reported as the final data.	
輻射干擾測試 (30MHz ~ 1GHz)	
Test Mode	Operating Description
1	802.11b (1Mbps), Power from Adapter
2	802.11g (6Mbps), Power from Adapter
3	VHT20 (6.5Mbps), Power from Adapter
4	VHT40 (13.5Mbps), Power from Adapter
5	802.11b (1Mbps), Power from PoE
6	802.11g (6Mbps), Power from PoE
7	VHT20 (6.5Mbps), Power from PoE
8	VHT40 (13.5Mbps), Power from PoE
caused "Test Mode 3,7" generated the worst case, they were reported as the final data.	
輻射干擾測試 (1GHz ~ 25GHz)	
Test Mode	Operating Description
1	802.11b (1Mbps), Power from Adapter
2	802.11g (6Mbps), Power from Adapter
3	VHT20 (6.5Mbps), Power from Adapter
4	VHT40 (13.5Mbps), Power from Adapter
caused "Test Mode 1~4" generated the worst case, they were reported as the final data.	
直接量測測試模式	
Test Mode	Operating Description
1	802.11b (1Mbps), Power from Adapter
2	802.11g (6Mbps), Power from Adapter
3	VHT20 (6.5Mbps), Power from Adapter
4	VHT40 (13.5Mbps), Power from Adapter

- 量測頻道及頻率：
 - 802.11 b/g/VHT20: CH 01: 2412MHz, CH 06: 2437MHz, CH 11: 2462MHz
 - 802.11 VHT40: CH 03: 2422MHz, CH 06: 2437MHz, CH 09: 2452MHz

1.5. 受測裝置之系統說明

設備	廠牌	型號	檢磁號碼	長度/訊號線類別	長度/電源線類別
遠端工作站					
筆記型電腦	DELL	LatitudeE5450/5450	R33002	N/A	非隔離 1.8m



1.6. 測試場地

測試場地：	世騰電子科技股份有限公司測試實驗室 338 桃園市蘆竹區聯福街 2 巷 10 號 223 新北市石碇區十八重溪 68 之 1 號
測試電壓：	AC 110V / 60Hz
適用規範：	本測試報告之所有項目皆依據國家通訊傳播委員會低功率射頻電機技術規範以及參考 ANSI、FCC/47CFR/2.1046、2.1047、2.1049、2.1051、2.1053 及 2.1055 之檢驗法。
測試頻率：	電源傳導：從 150 kHz 到 30 MHz。 場強輻射：從 30 MHz 到 25000 MHz。
測試天線的距離：	場強輻射之測試距離為 3 M。

1.7. 量測不確定度

Measurement Item	Uncertainty
Radiated Spurious Emission(9KHz~30MHz)	±5.007dB
Radiated Spurious Emission(30MHz~1GHz)	±5.157dB
Radiated Spurious Emission(1GHz~18GHz)	±6.383dB
Radiated Spurious Emission(18GHz~40GHz)	±6.648dB
Conducted Spurious Emission	±1.253dB
6dB Bandwidth	±6.89%
Power Spectral Density	±0.630dB
26 dB Occupied Bandwidth	±6.10%
Frequency Stability	±375KHz
Channel Frequencies Separation	±6.10%
20dB Bandwidth	±6.12%
Dwell Time	±1.34%
Peak Output Power(Conducted Power Meter)	±0.86dB
Temperature	±1.2℃
Humidity	±2.7%
Channel Move Time	±4.53%
Channel Closing Transmission Time	±6.61%
Threshold	±0.631dB
Non occupancy period	±1.17%



2. 測試儀器

<For 802.11b conduction and radiation (Below 1GHz test)>

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
EMI Receiver	R&S	ESCI3	100443	2018/03/15	2019/03/14
LISN	Schwarzbeck	NSLK 8127	8127-568	2018/02/26	2019/02/25
Pulse Limiter	R&S	ESH3-Z2	101934	2018/02/22	2019/02/21
Bilog Antenna	Schwarzbeck	VULB9168	275	2017/08/31	2018/08/30
Active Loop Antenna	EMCO	6507	40855	2018/05/22	2019/05/21
Horn Antenna	EMCO	3115	31601	2017/09/11	2018/09/10
Horn Antenna	EMCO	3116	31970	2018/03/23	2019/03/22
Preamplifier	EM	EM330	60658	2017/09/08	2018/09/07
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2017/09/20	2018/09/19
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2017/11/10	2018/11/09
MXG MW Analog Signal Generator	KEYSIGHT	N5183A	MY50142931	2018/04/10	2019/04/09
Spectrum Analyzer	R&S	FSP40	100219	2018/07/03	2019/07/02
BLUETOOTH TESTER	R&S	CBT	101133	2018/04/02	2019/04/01
Attenuator	KEYSIGHT	8491B	MY39250705	2017/09/04	2018/09/03
Rotary Attenuator	Agilent	8495B	MY42146680	2018/03/29	2019/03/28
Temp & Humi chamber	T-MACHINE	TMJ-9712	T-12-040111	2017/09/04	2018/09/03
Series Power Meter	Anritsu	ML2495A	1224005	2018/03/23	2019/03/22
Power Sensor	Anritsu	MA2411B	1207295	2018/03/23	2019/03/22
Software	Farad	Ez-EMC	ver.ct3a1	N/A	N/A
Software	AUDIX	E3	V8.2014-8-6	N/A	N/A
Software	Keysight	N7607B Signal Studio	V3.0.0.0	N/A	N/A
Software	Keysight	Inservice MonitorUtility	N/A	N/A	N/A



<For Others Test>

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
EMI Receiver	R&S	ESCI3	100443	2017/03/07	2018/03/06
LISN	Schwarzbeck	NSLK 8127	8127-568	2017/02/15	2018/02/14
Pulse Limiter	R&S	ESH3-Z2	101934	2017/02/14	2018/02/13
Bilog Antenna	Schwarzbeck	VULB9168	369	2017/03/15	2018/03/14
Active Loop Antenna	EMCO	6507	40855	2017/05/15	2018/05/14
Horn Antenna	EMCO	3115	31589	2017/02/18	2018/02/17
Horn Antenna	EMCO	3116	31970	2017/03/29	2018/03/28
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200207	2017/03/17	2018/03/16
Preamplifier	EM	EM330	60660	2017/02/25	2018/02/24
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2017/09/20	2018/09/19
Preamplifier	Agilent	8449B	3008A01954	2017/02/09	2018/02/08
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2017/11/10	2018/11/09
MXG MW Analog Signal Generator	KEYSIGHT	N5183A	MY50142931	2017/03/17	2018/03/16
Spectrum Analyzer	R&S	FSP40	100219	2017/07/01	2018/06/30
BLUETOOTH TESTER	R&S	CBT	101133	2017/03/10	2018/03/09
Attenuator	KEYSIGHT	8491B	MY39250703	2017/03/07	2018/03/06
Rotary Attenuator	Agilent	8495B	MY42146680	2017/03/13	2018/03/12
Temp & Humi chamber	T-MACHINE	TMJ-9712	T-12-040111	2017/09/04	2018/09/03
Series Power Meter	Anritsu	ML2495A	1224005	2017/03/01	2018/02/28
Power Sensor	Anritsu	MA2411B	1207295	2017/03/01	2018/02/28
Cable	HUBER SUHNER	SUCOFLEX 102	28422/2	2017/02/25	2018/02/24
Cable	HUBER SUHNER	SUCOFLEX 102	28418/2	2017/02/25	2018/02/24
Software	Farad	Ez-EMC	ver.ct3a1	N/A	N/A
Software	AUDIX	E3	V8.2014-8-6	N/A	N/A
Software	Keysight	N7607B Signal Studio	v2.0.0.1	N/A	N/A
Software	Keysight	Inservice MonitorUtility	N/A	N/A	N/A



3. 天線增益之要求

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

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

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

3.1. 天線型式及其增益

1.1 Brand :	WHA YU INDUSTRIAL CO., LTD.
1.2 Model :	AT-TQ5403
1.3 Antenna type :	PCB Antenna
1.4 Frequency Rang :	2400-2483.5MHz
1.5 Gain(peak) :	ANT A: 4.85 dBi ; ANT B: 4.4 dBi
(參照天線規格資料)	

3.2. 結果判定

(Non-Beamforming)

2412MHz -2462MHz
For Power directional gain= $G_{ant} = 4.85 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT]$ = 7.64 (dBi)
5150MHz -5250MHz
For Power directional gain= $G_{ant} = 4.81 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT]$ = 7.51 (dBi)
5250MHz -5350MHz
For Power directional gain= $G_{ant} = 4.2 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT]$ = 7.12 (dBi)
5470MHz -5725MHz
For Power directional gain= $G_{ant} = 4.83 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT]$ = 7.46 (dBi)
5725MHz -5850MHz
For Power directional gain= $G_{ant} = 4.9 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT]$ = 7.56 (dBi)

**(Beamforming)**

2412MHz -2462MHz
For Power directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.64 \text{ dBi}$
For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.64 \text{ (dBi)}$
5150MHz -5250MHz
For Power directional gain= $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.51 \text{ (dBi)}$
For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.51 \text{ (dBi)}$
5250MHz -5350MHz
For Power directional gain= $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.12 \text{ (dBi)}$
For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.12 \text{ (dBi)}$
5470MHz -5725MHz
For Power directional gain= $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.46 \text{ (dBi)}$
For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.46 \text{ (dBi)}$
5725MHz -5850MHz
For Power directional gain= $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.56 \text{ (dBi)}$
For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.56 \text{ (dBi)}$

4. 電源線傳導干擾之量測規定

4.1. 適用標準

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

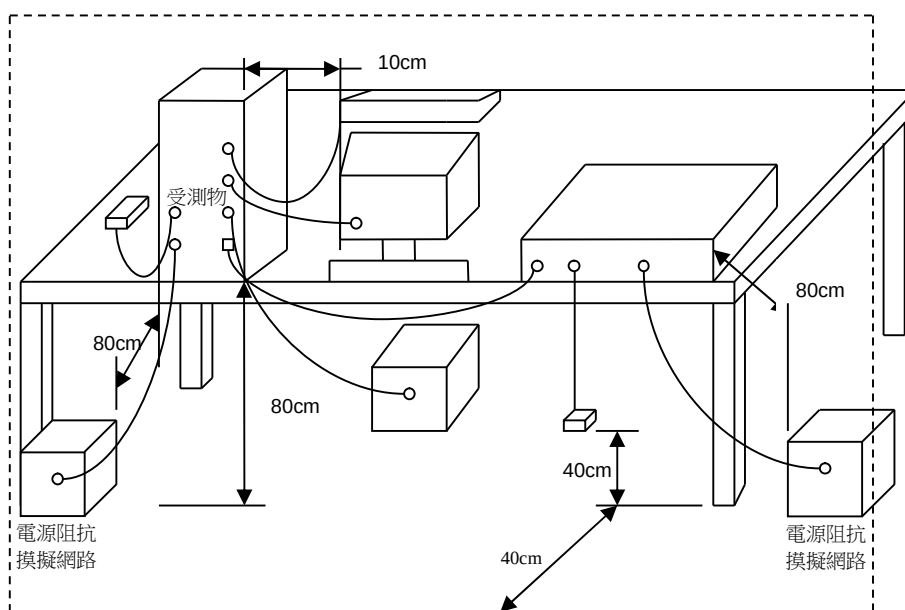
頻率範圍(MHz)	傳導限制值 (dB μ V)	
	準峰值(Quasi-peak)	平均值(Average)
0.15 ~ 0.5	66-56 (註)	56-46 (註)
0.5 ~ 5	56	46
5 ~ 30	60	50

註：隨頻率之對數遞減

4.2. 測試方法

將待測物置於 0.8 米高的非金屬桌面，使其在工作狀態，待測物電源線接至電源線接至電源阻抗穩定網路上，從測試接收機記錄頻率由 0.15MHz 至 30MHz 之間之電源線導放射強度。

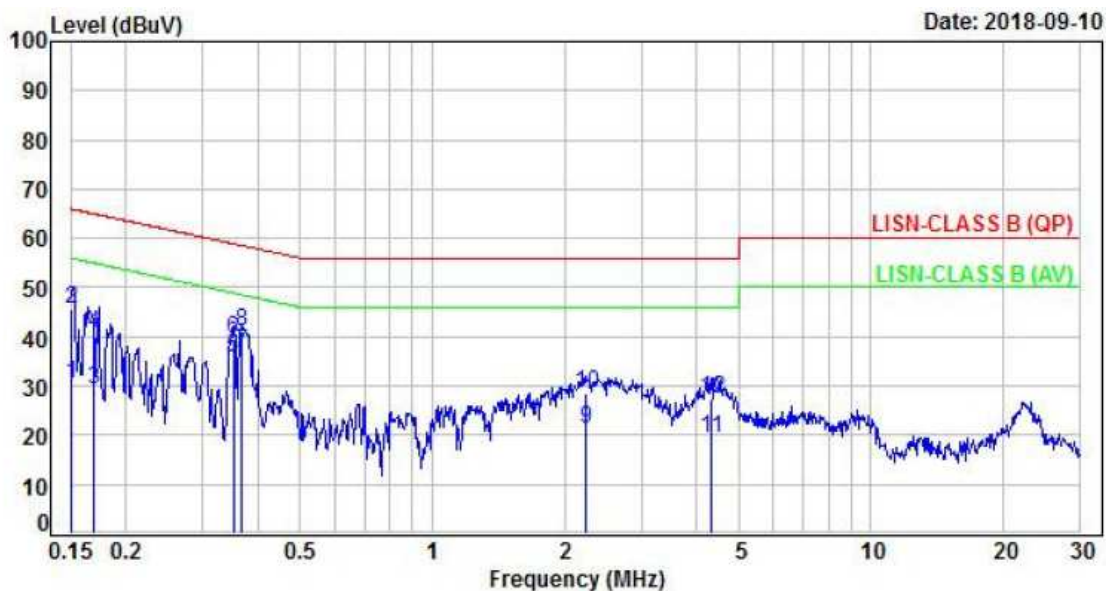
4.3. 傳導干擾之擺設





4.4. 傳導干擾之測試結果及數據

Power	: AC 110V	Pol/Phase	: LINE
Test Mode	: Mode 3	Temperature	: 20 °C
Test Date	: Sep. 10, 2018	Humidity	: 40 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.94	20.50	30.44	55.95	-25.51	Average	P
2	0.15	9.94	35.58	45.52	65.95	-20.43	QP	P
3	0.17	9.94	19.19	29.13	55.02	-25.89	Average	P
4	0.17	9.94	30.61	40.55	65.02	-24.47	QP	P
5	0.35	9.95	25.92	35.87	48.92	-13.05	Average	P
6	0.35	9.95	29.50	39.45	58.92	-19.47	QP	P
7	0.37	9.95	26.85	36.80	48.54	-11.74	Average	P
8	0.37	9.95	31.10	41.05	58.54	-17.49	QP	P
9	2.23	10.04	11.44	21.48	46.00	-24.52	Average	P
10	2.23	10.04	18.38	28.42	56.00	-27.58	QP	P
11	4.32	10.14	9.17	19.31	46.00	-26.69	Average	P
12	4.32	10.14	17.05	27.19	56.00	-28.81	QP	P

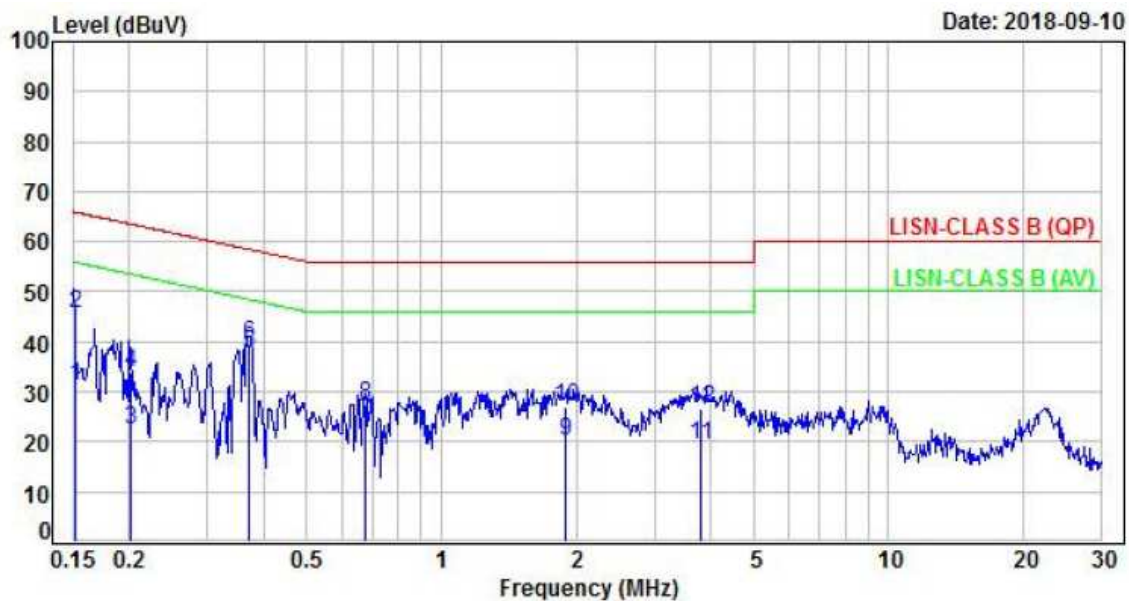
Note: Level = Reading + Factor

Margin = Level – Limit

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



Power	: AC 110V	Pol/Phase	: NEUTRAL
Test Mode	: Mode 3	Temperature	: 20 °C
Test Date	: Sep. 10, 2018	Humidity	: 40 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.94	21.34	31.28	55.91	-24.63	Average	P
2	0.15	9.94	35.63	45.57	65.91	-20.34	QP	P
3	0.20	9.94	12.42	22.36	53.55	-31.19	Average	P
4	0.20	9.94	24.03	33.97	63.55	-29.58	QP	P
5	0.37	9.95	27.77	37.72	48.49	-10.77	Average	P
6	0.37	9.95	29.59	39.54	58.49	-18.95	QP	P
7	0.68	9.97	13.99	23.96	46.00	-22.04	Average	P
8	0.68	9.97	17.58	27.55	56.00	-28.45	QP	P
9	1.89	10.03	10.00	20.03	46.00	-25.97	Average	P
10	1.89	10.03	16.82	26.85	56.00	-29.15	QP	P
11	3.80	10.12	9.46	19.58	46.00	-26.42	Average	P
12	3.80	10.12	16.38	26.50	56.00	-29.50	QP	P

Note: Level = Reading + Factor

Margin = Level – Limit

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



5. 輻射之量測規定

5.1. 適用標準

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

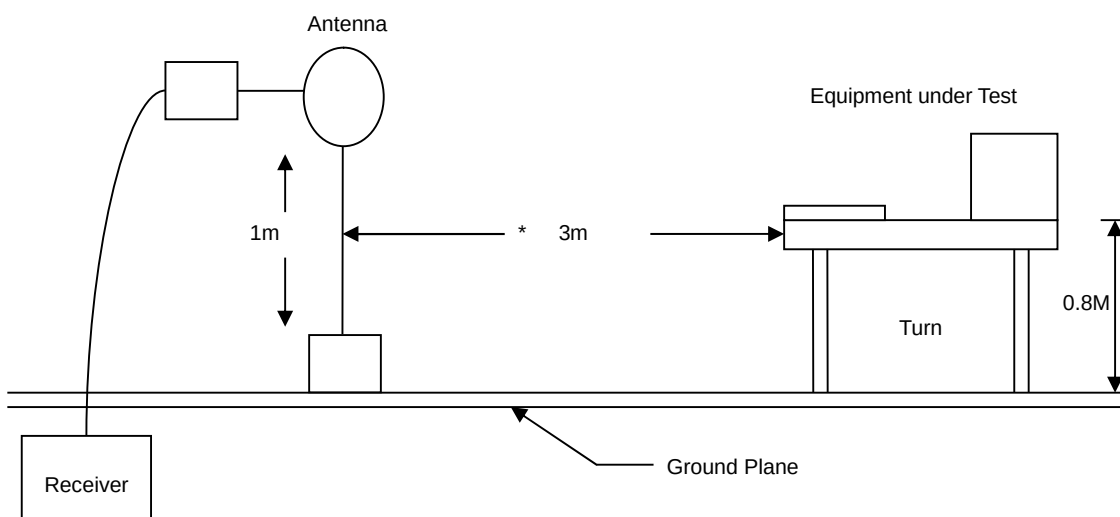
頻率(MHz)	測試距離(m)	限制值(dB μ V)	限制值(μ V/m)
0.009 – 0.490 (含)	300	67.6 / kHz	2400 / kHz
0.490 (不含) – 1.705 (含)	30	87.6 / kHz	24000 / kHz
1.705(不含) – 30(不含)	30	29.5	30
30 (含) – 88 (含)	3	40.0	100
88(不含) – 216 (含)	3	43.5	150
216(不含) – 960 (含)	3	46.0	200
960(不含)以上	3	54.0	500

5.2. 測試方法

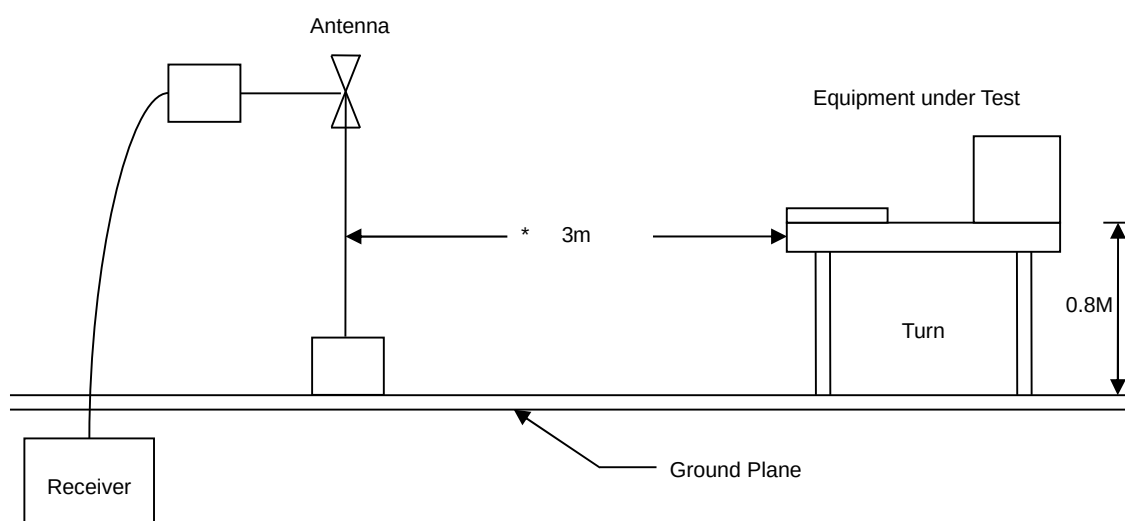
將待測物置於 0.8 米(Below 1G) & 1.5 米(Above 1G)高的非金屬桌面，使其在測試模式狀態，且設定為高、中、低各頻道產生最高峰值輸出功率的傳輸速率，接收天線置於 3 米外，且桌面要 360 度旋轉，另外接收天線也要從 1 米至 4 米升降變化，接收天線置於水平、垂直極向各執行測試一次。待測物若為手持式則分別要以三軸相放置，並分別測試以找出最大輻射電場強度。備註: For Below 1G 若待測物之輻射峰值低於限制值 6dB 以上，則將終止測試，並以峰值之讀值作為報告之記錄;反之，若無 6dB 餘裕範圍之輻射，則每一訊號皆以準峰值之測試方法量測，並記錄於報告之中

5.3. 輻射場地之擺設

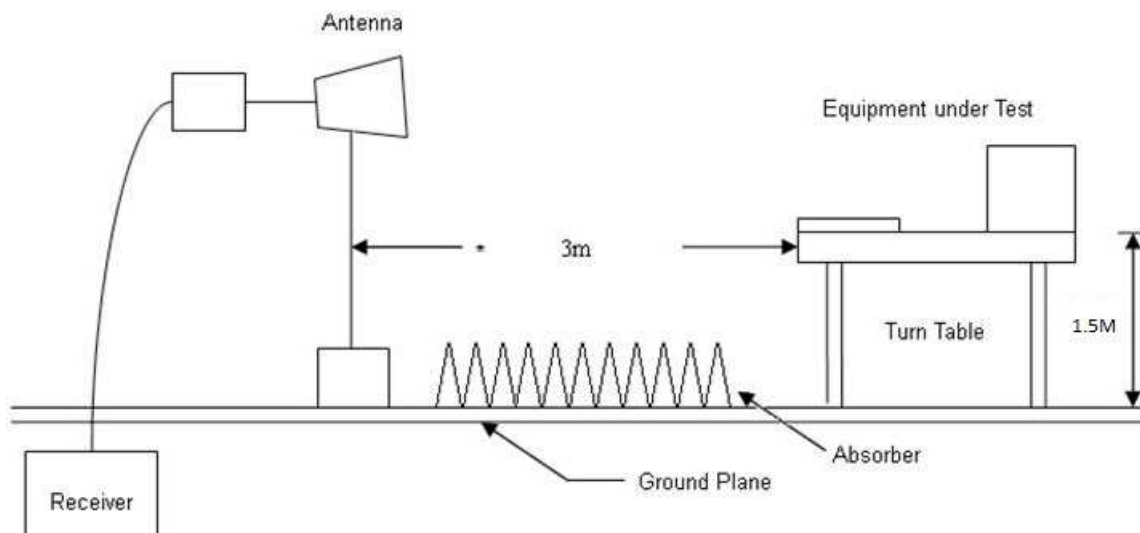
Below 30MHz test setup



30MHz- 1GHz Test Setup



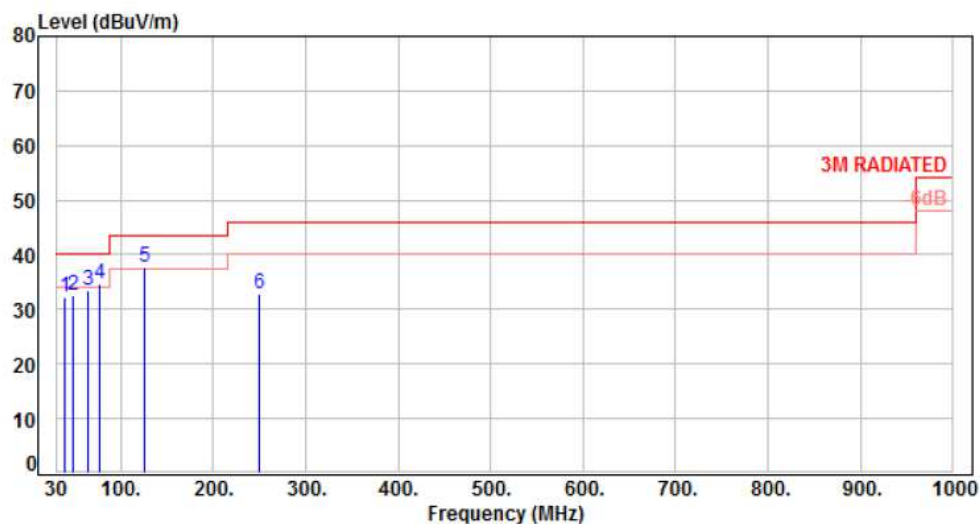
Above 1GHz Test Setup





5.4. 輻射之測試結果及數據 (30MHz ~ 1GHz)

Power	: AC 110V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3	Temperature	: 23 °C
Test Date	: Sep. 10, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	39.88	-11.04	43.44	32.40	40.00	-7.60	QP	100	144	P
2	48.59	-10.63	43.25	32.62	40.00	-7.38	QP	100	199	P
3	63.85	-11.85	45.42	33.57	40.00	-6.43	QP	100	122	P
4	77.68	-14.82	49.63	34.81	40.00	-5.19	Peak	400	0	P
5	125.00	-12.49	50.30	37.81	43.50	-5.69	QP	100	100	P
6	250.00	-11.62	44.46	32.84	46.00	-13.16	Peak	400	0	P

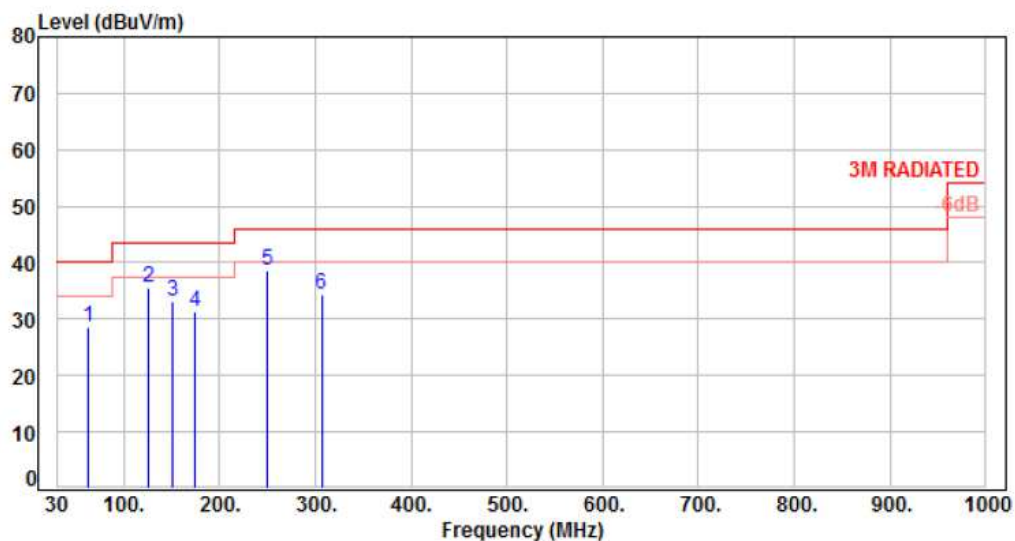
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3	Temperature	: 23 °C
Test Date	: Sep. 10, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	62.55	-11.60	40.34	28.74	40.00	-11.26	Peak	100	0	P
2	125.50	-12.44	47.88	35.44	43.50	-8.06	Peak	100	0	P
3	150.67	-10.75	43.81	33.06	43.50	-10.44	Peak	100	0	P
4	173.49	-11.25	42.50	31.25	43.50	-12.25	Peak	100	0	P
5	250.00	-11.62	50.36	38.74	46.00	-7.26	Peak	100	0	P
6	306.44	-9.51	43.85	34.34	46.00	-11.66	Peak	100	0	P

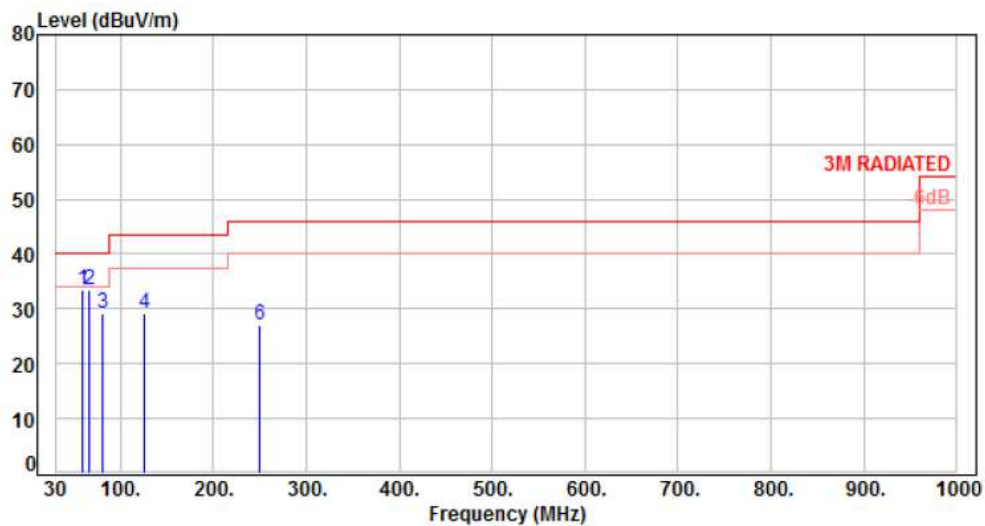
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: VERTICAL
Test Mode	: Mode 7	Temperature	: 23 °C
Test Date	: Sep. 10, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	59.33	-11.08	44.66	33.58	40.00	-6.42	Peak	400	0	P
2	65.84	-12.23	45.57	33.34	40.00	-6.66	Peak	400	0	P
3	80.66	-15.47	44.82	29.35	40.00	-10.65	Peak	400	0	P
4	125.05	-12.48	41.74	29.26	43.50	-14.24	Peak	400	0	P
5	166.20	-10.76	0.00	-10.76	43.50	-54.26	Peak	400	0	P
6	250.00	-11.62	38.69	27.07	46.00	-18.93	Peak	400	0	P

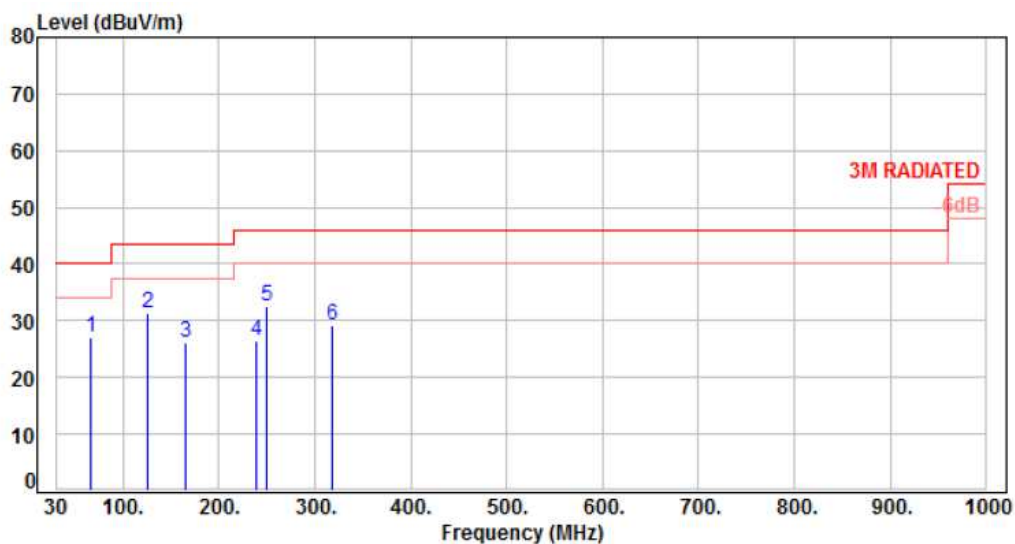
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 7	Temperature	: 23 °C
Test Date	: Sep. 10, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	65.58	-12.18	39.11	26.93	40.00	-13.07	Peak	100	0	P
2	125.50	-12.44	43.66	31.22	43.50	-12.28	Peak	100	0	P
3	164.51	-10.72	36.89	26.17	43.50	-17.33	Peak	100	0	P
4	238.42	-12.14	38.63	26.49	46.00	-19.51	Peak	100	0	P
5	250.50	-11.59	44.13	32.54	46.00	-13.46	Peak	100	0	P
6	317.33	-9.23	38.51	29.28	46.00	-16.72	Peak	100	0	P

Note: Level=Reading+Factor

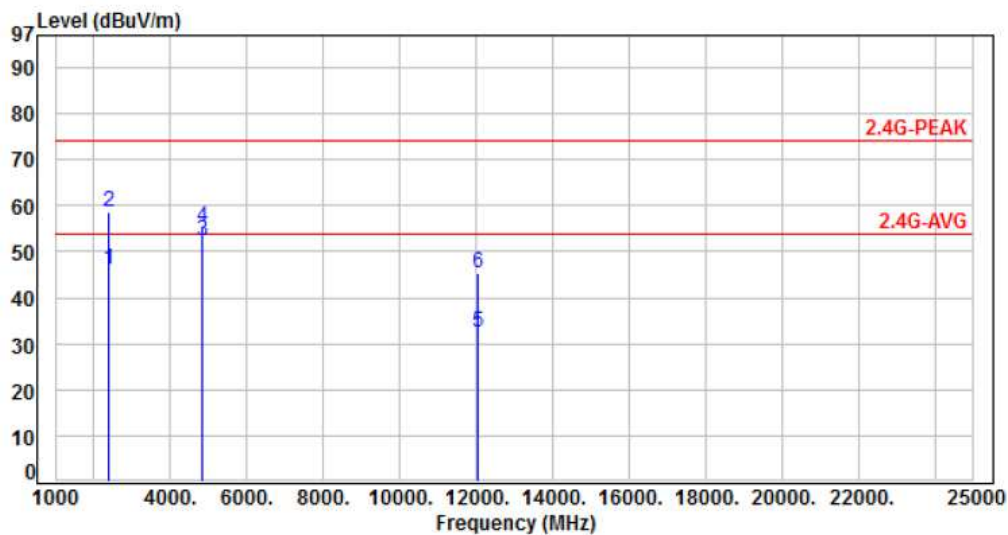
Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



5.5. 輻射之測試結果及數據 (1GHz ~ 25GHz)

Power	: AC 110V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH01	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	61.93	45.97	54.00	-8.03	Average	359	360	P
2	2390.00	-15.96	74.54	58.58	74.00	-15.42	Peak	359	360	P
3	4824.00	-8.80	61.33	52.53	54.00	-1.47	Average	132	314	P
4	4824.00	-8.80	63.99	55.19	74.00	-18.81	Peak	132	314	P
5	12060.00	1.21	31.12	32.33	54.00	-21.67	Average	100	360	P
6	12060.00	1.21	44.09	45.30	74.00	-28.70	Peak	100	360	P

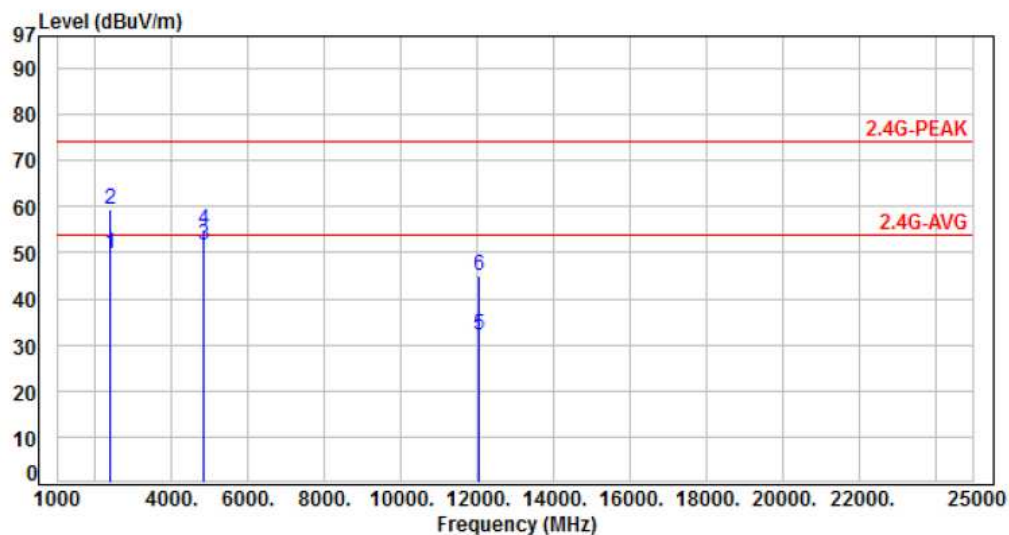
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH01	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	65.90	49.94	54.00	-4.06	Average	177	286	P
2	2390.00	-15.96	75.28	59.32	74.00	-14.68	Peak	177	286	P
3	4824.00	-8.80	60.57	51.77	54.00	-2.23	Average	116	337	P
4	4824.00	-8.80	63.60	54.80	74.00	-19.20	Peak	116	337	P
5	12060.00	1.21	30.70	31.91	54.00	-22.09	Average	100	120	P
6	12060.00	1.21	43.94	45.15	74.00	-28.85	Peak	100	120	P

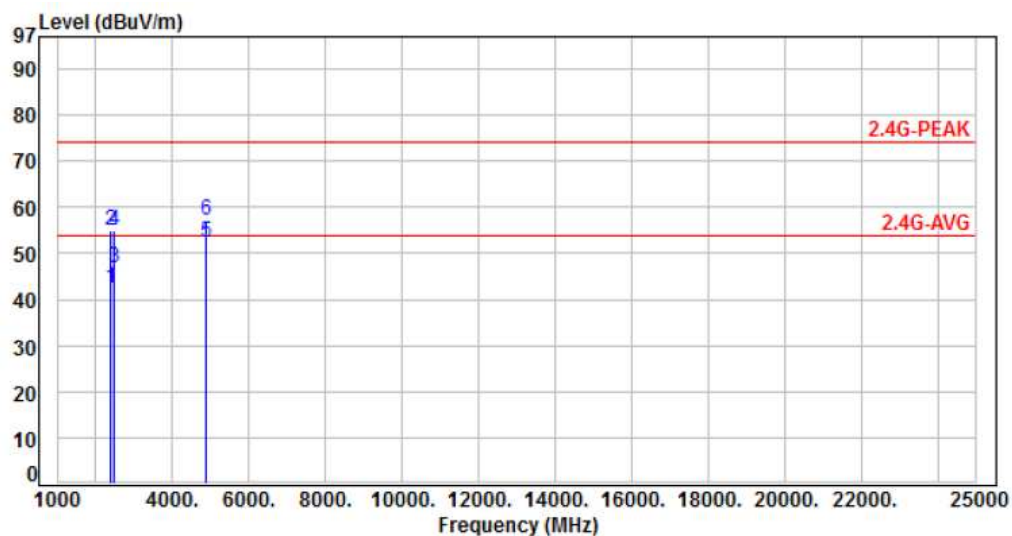
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH06	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	58.21	42.25	54.00	-11.75	Average	151	32	P
2	2390.00	-15.96	71.10	55.14	74.00	-18.86	Peak	151	32	P
3	2483.50	-15.65	62.43	46.78	54.00	-7.22	Average	151	32	P
4	2483.50	-15.65	70.69	55.04	74.00	-18.96	Peak	151	32	P
5	4874.00	-8.65	61.00	52.35	54.00	-1.65	Average	114	313	P
6	4874.00	-8.65	65.65	57.00	74.00	-17.00	Peak	114	313	P

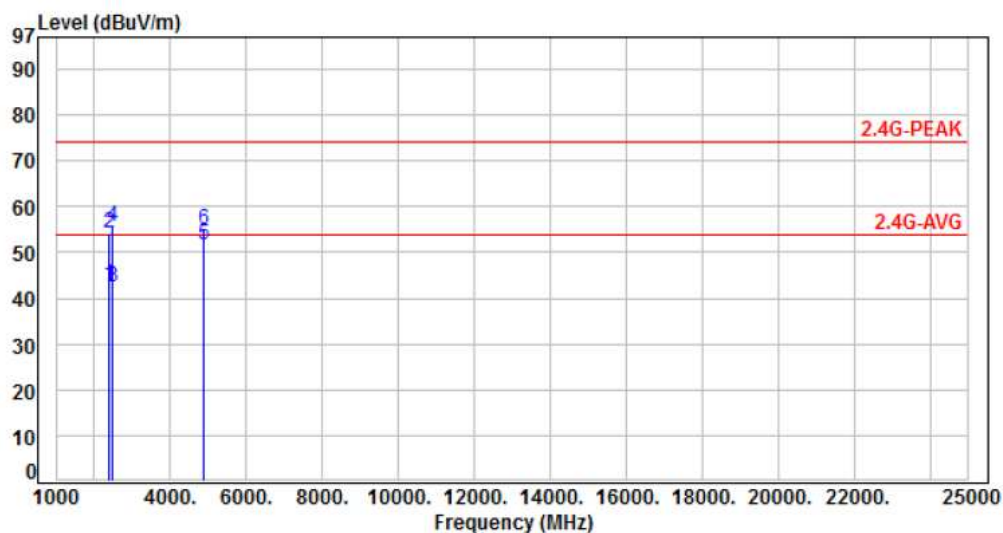
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH06	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	58.66	42.70	54.00	-11.30	Average	263	354	P
2	2390.00	-15.96	70.35	54.39	74.00	-19.61	Peak	263	354	P
3	2483.50	-15.65	58.15	42.50	54.00	-11.50	Average	263	354	P
4	2483.50	-15.65	71.36	55.71	74.00	-18.29	Peak	263	354	P
5	4874.00	-8.65	60.44	51.79	54.00	-2.21	Average	130	334	P
6	4874.00	-8.65	63.55	54.90	74.00	-19.10	Peak	130	334	P

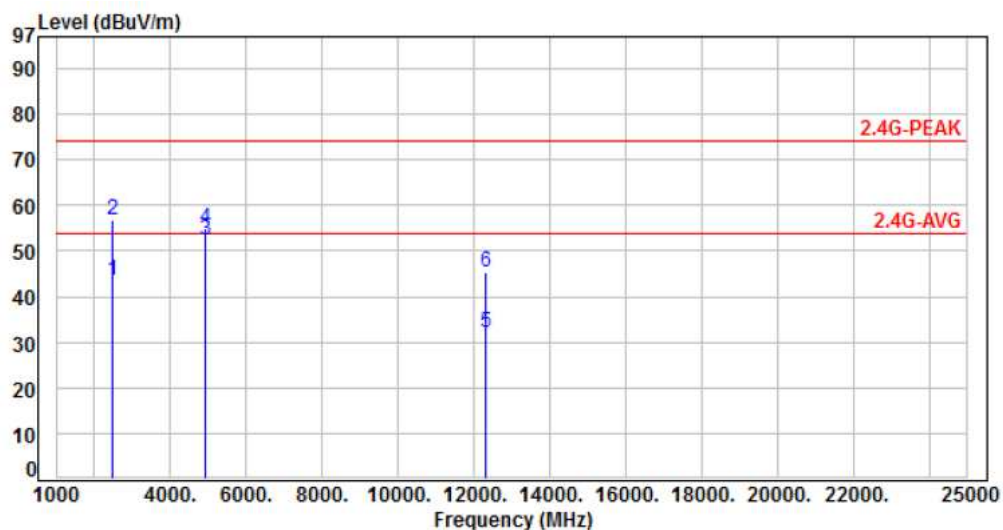
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH11	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	59.20	43.55	54.00	-10.45	Average	337	360	P
2	2483.50	-15.65	72.60	56.95	74.00	-17.05	Peak	337	360	P
3	4924.00	-8.49	60.85	52.36	54.00	-1.64	Average	170	318	P
4	4924.00	-8.49	63.59	55.10	74.00	-18.90	Peak	170	318	P
5	12310.00	1.44	30.59	32.03	54.00	-21.97	Average	100	351	P
6	12310.00	1.44	43.82	45.26	74.00	-28.74	Peak	100	351	P

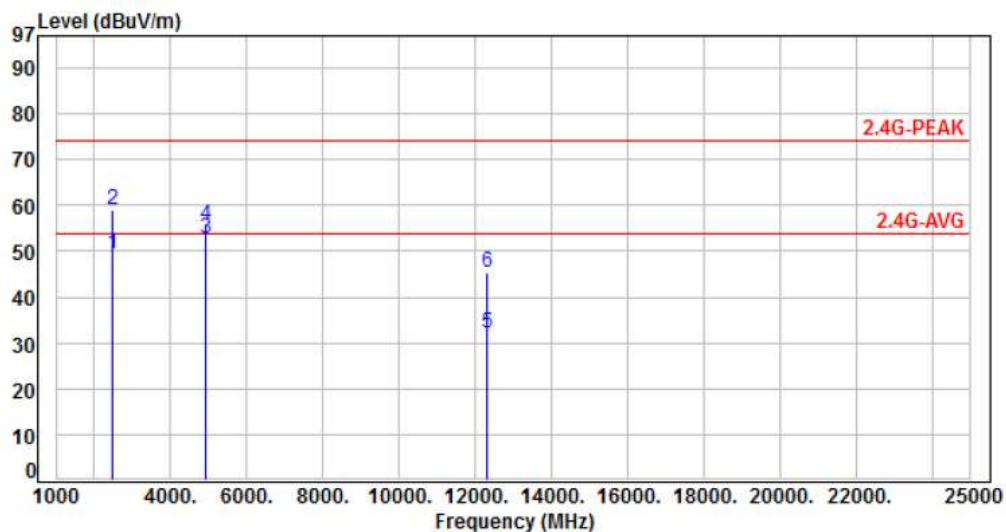
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH11	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	64.95	49.30	54.00	-4.70	Average	188	296	P
2	2483.50	-15.65	74.60	58.95	74.00	-15.05	Peak	188	296	P
3	4924.00	-8.49	61.39	52.90	54.00	-1.10	Average	197	191	P
4	4924.00	-8.49	64.34	55.85	74.00	-18.15	Peak	197	191	P
5	12310.00	1.44	30.53	31.97	54.00	-22.03	Average	100	136	P
6	12310.00	1.44	43.86	45.30	74.00	-28.70	Peak	100	136	P

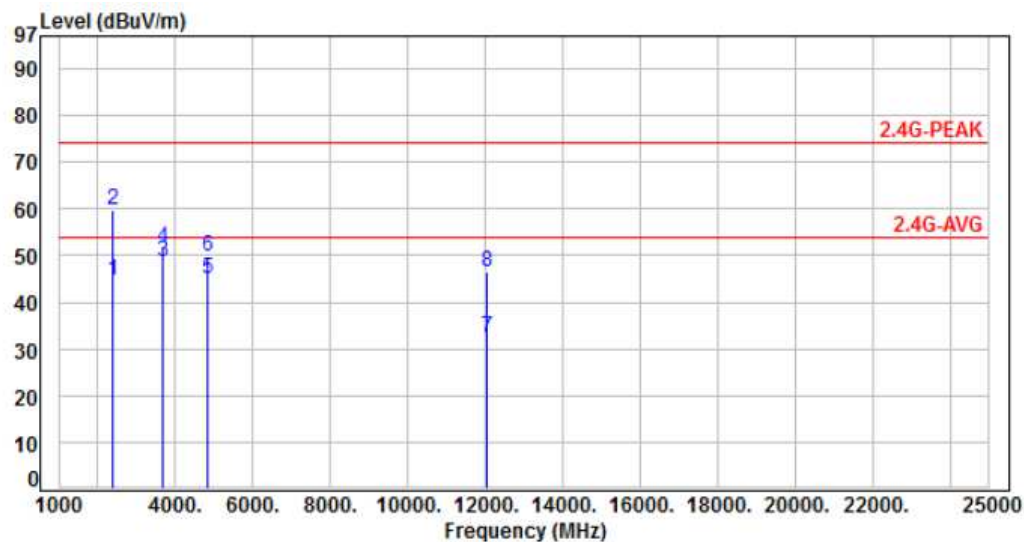
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH01	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-14.45	59.00	44.55	54.00	-9.45	Average	366	355	P
2	2390.00	-14.45	74.10	59.65	74.00	-14.35	Peak	366	355	P
3	3666.66	-9.39	58.00	48.61	54.00	-5.39	Average	140	132	P
4	3666.66	-9.39	61.20	51.81	74.00	-22.19	Peak	140	132	P
5	4824.00	-6.59	51.63	45.04	54.00	-8.96	Average	345	110	P
6	4824.00	-6.59	56.20	49.61	74.00	-24.39	Peak	345	110	P
7	12060.00	5.00	27.30	32.30	54.00	-21.70	Average	102	55	P
8	12060.00	5.00	41.55	46.55	74.00	-27.45	Peak	102	55	P

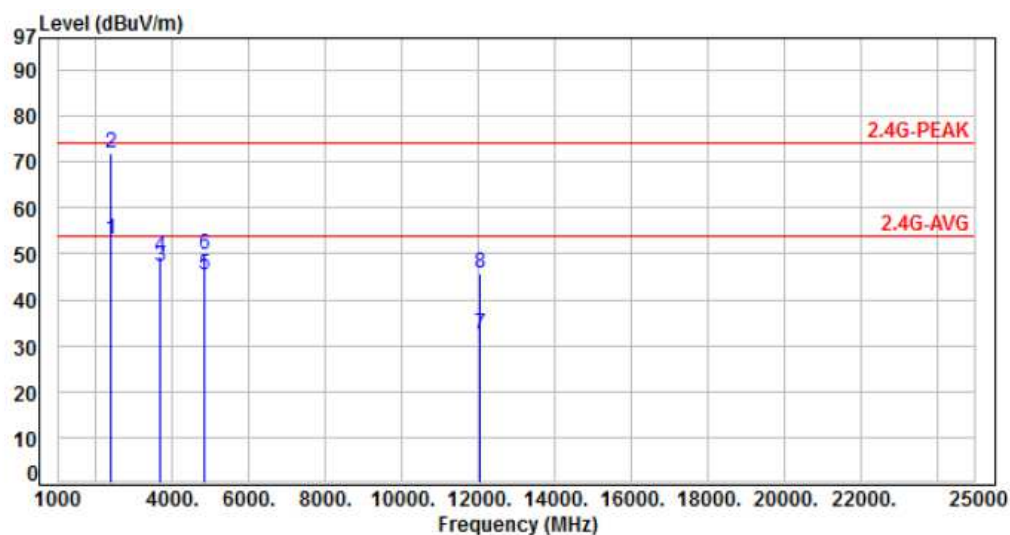
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH01	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-14.45	67.40	52.95	54.00	-1.05	Average	150	320	P
2	2390.00	-14.45	86.20	71.75	74.00	-2.25	Peak	150	320	P
3	3666.66	-9.39	56.47	47.08	54.00	-6.92	Average	151	132	P
4	3666.66	-9.39	58.67	49.28	74.00	-24.72	Peak	151	132	P
5	4824.00	-6.59	51.90	45.31	54.00	-8.69	Average	153	114	P
6	4824.00	-6.59	56.50	49.91	74.00	-24.09	Peak	153	114	P
7	12060.00	5.00	27.33	32.33	54.00	-21.67	Average	100	352	P
8	12060.00	5.00	40.63	45.63	74.00	-28.37	Peak	100	352	P

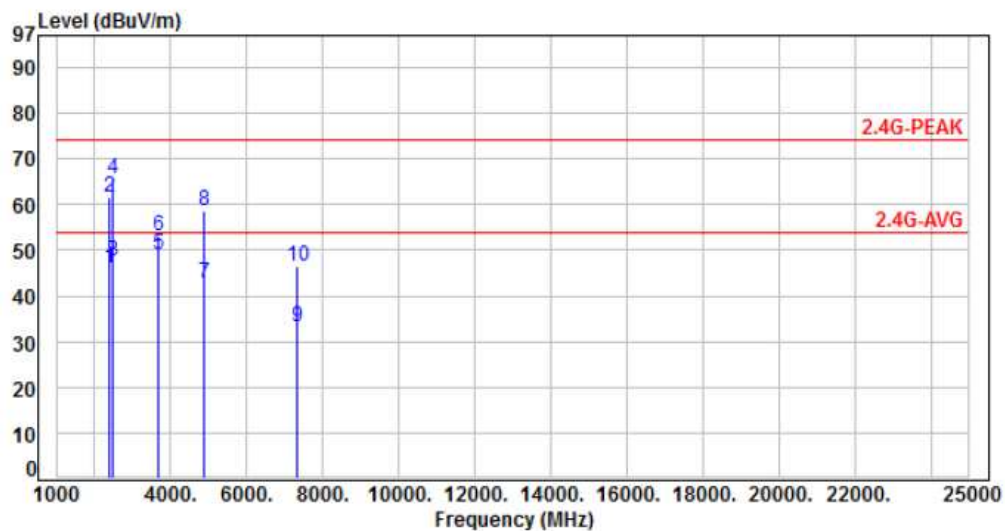
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH06	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2387.00	-14.46	60.50	46.04	54.00	-7.96	Average	142	183	P
2	2387.00	-14.46	76.20	61.74	74.00	-12.26	Peak	142	183	P
3	2483.50	-14.10	61.70	47.60	54.00	-6.40	Average	142	182	P
4	2483.50	-14.10	79.60	65.50	74.00	-8.50	Peak	142	182	P
5	3666.00	-9.40	58.53	49.13	54.00	-4.87	Average	148	163	P
6	3666.00	-9.40	62.34	52.94	74.00	-21.06	Peak	148	163	P
7	4874.00	-6.42	49.30	42.88	54.00	-11.12	Average	120	52	P
8	4874.00	-6.42	65.08	58.66	74.00	-15.34	Peak	120	52	P
9	7311.00	-1.90	35.26	33.36	54.00	-20.64	Average	100	108	P
10	7311.00	-1.90	48.51	46.61	74.00	-27.39	Peak	100	108	P

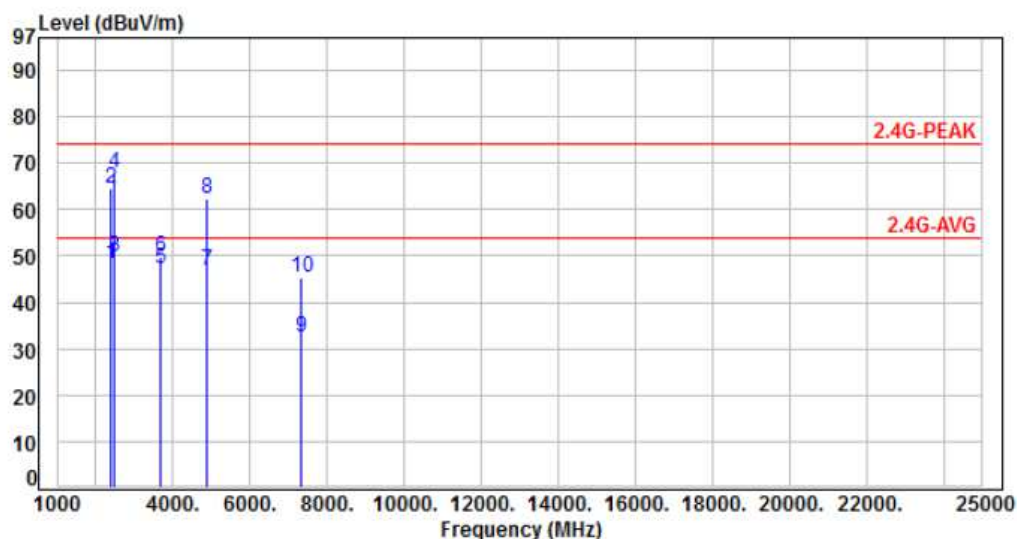
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH06	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2387.00	-14.46	62.70	48.24	54.00	-5.76	Average	282	300	P
2	2387.00	-14.46	78.90	64.44	74.00	-9.56	Peak	282	300	P
3	2483.50	-14.10	64.00	49.90	54.00	-4.10	Average	282	300	P
4	2483.50	-14.10	82.00	67.90	74.00	-6.10	Peak	282	300	P
5	3666.00	-9.40	56.49	47.09	54.00	-6.91	Average	112	345	P
6	3666.00	-9.40	59.36	49.96	74.00	-24.04	Peak	112	345	P
7	4874.00	-6.42	53.20	46.78	54.00	-7.22	Average	100	355	P
8	4874.00	-6.42	68.60	62.18	74.00	-11.82	Peak	100	355	P
9	7311.00	-1.90	34.53	32.63	54.00	-21.37	Average	152	214	P
10	7311.00	-1.90	47.11	45.21	74.00	-28.79	Peak	152	214	P

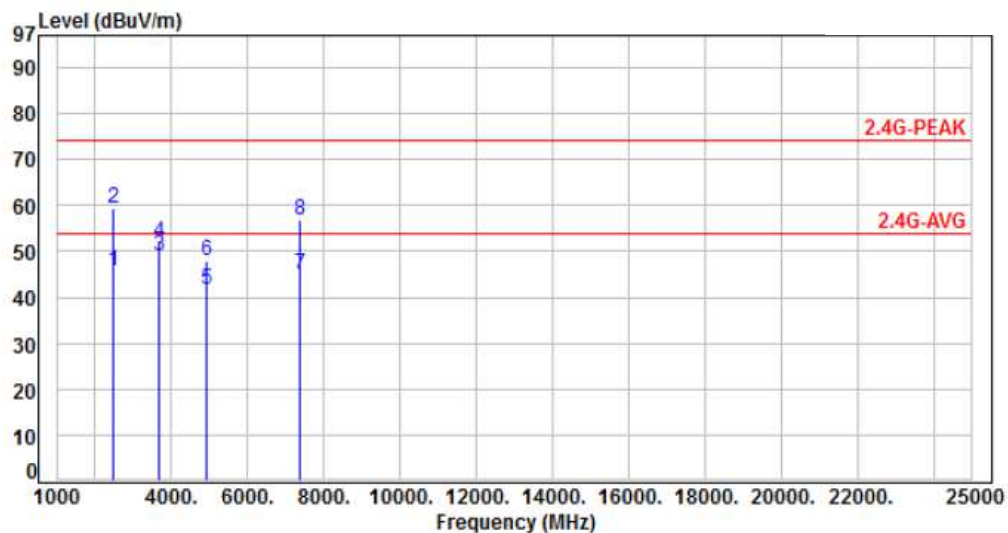
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH11	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-14.10	59.80	45.70	54.00	-8.30	Average	271	300	P
2	2483.50	-14.10	73.50	59.40	74.00	-14.60	Peak	271	300	P
3	3666.00	-9.40	58.45	49.05	54.00	-4.95	Average	140	152	P
4	3666.00	-9.40	61.53	52.13	74.00	-21.87	Peak	140	152	P
5	4924.00	-6.25	48.05	41.80	54.00	-12.20	Average	348	145	P
6	4924.00	-6.25	54.13	47.88	74.00	-26.12	Peak	348	145	P
7	7386.00	-1.67	46.52	44.85	54.00	-9.15	Average	160	122	P
8	7386.00	-1.67	58.55	56.88	74.00	-17.12	Peak	160	122	P

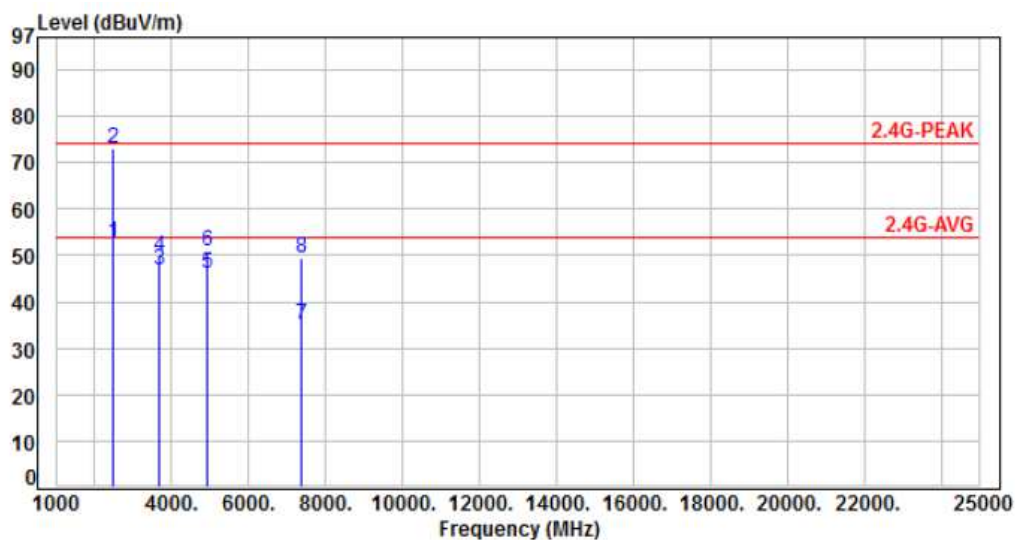
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH11	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-14.10	66.80	52.70	54.00	-1.30	Average	100	34	P
2	2483.50	-14.10	87.10	73.00	74.00	-1.00	Peak	100	34	P
3	3666.00	-9.40	56.23	46.83	54.00	-7.17	Average	143	152	P
4	3666.00	-9.40	59.33	49.93	74.00	-24.07	Peak	143	152	P
5	4924.00	-6.25	52.49	46.24	54.00	-7.76	Average	172	110	P
6	4924.00	-6.25	57.19	50.94	74.00	-23.06	Peak	172	110	P
7	7386.00	-1.67	36.55	34.88	54.00	-19.12	Average	104	188	P
8	7386.00	-1.67	50.97	49.30	74.00	-24.70	Peak	104	188	P

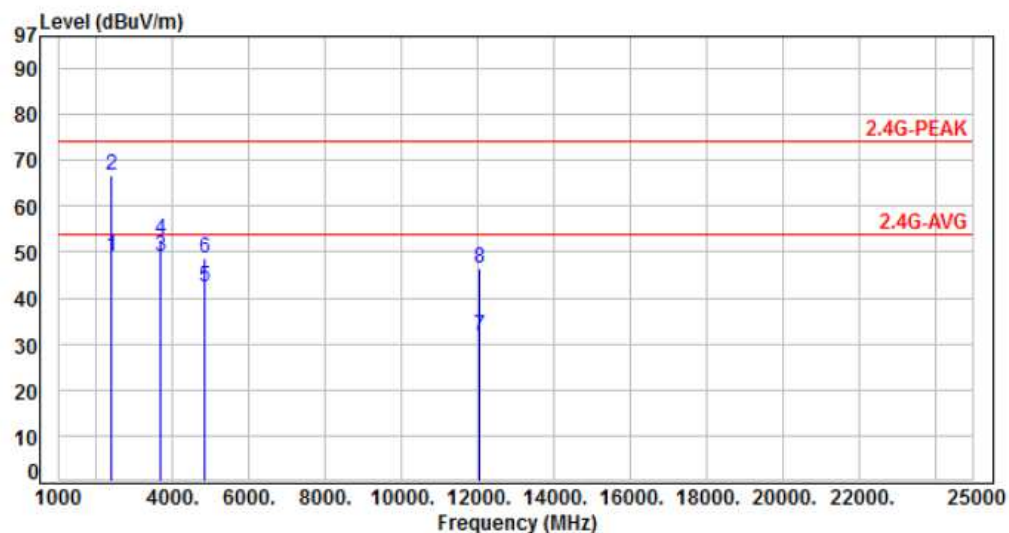
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH01	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-14.45	63.60	49.15	54.00	-4.85	Average	377	293	P
2	2390.00	-14.45	81.33	66.88	74.00	-7.12	Peak	377	293	P
3	3666.10	-9.39	58.46	49.07	54.00	-4.93	Average	147	139	P
4	3666.10	-9.39	62.30	52.91	74.00	-21.09	Peak	147	139	P
5	4824.00	-6.59	49.10	42.51	54.00	-11.49	Average	100	148	P
6	4824.00	-6.59	55.23	48.64	74.00	-25.36	Peak	100	148	P
7	12060.00	5.00	26.58	31.58	54.00	-22.42	Average	100	57	P
8	12060.00	5.00	41.33	46.33	74.00	-27.67	Peak	100	57	P

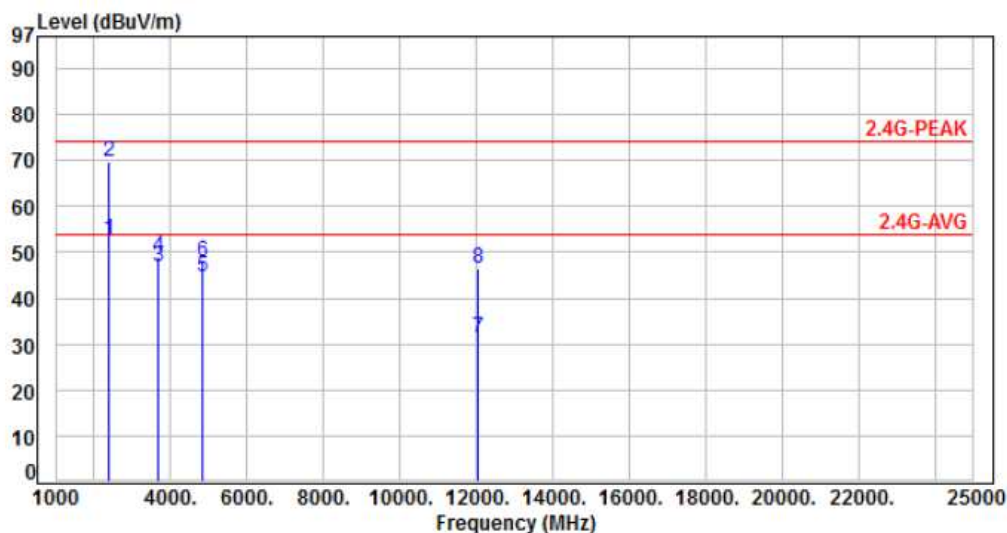
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH01	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV)	Limit (dBUV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-14.45	67.30	52.85	54.00	-1.15	Average	230	319	P
2	2390.00	-14.45	84.20	69.75	74.00	-4.25	Peak	230	319	P
3	3666.10	-9.39	56.14	46.75	54.00	-7.25	Average	154	263	P
4	3666.10	-9.39	58.44	49.05	74.00	-24.95	Peak	154	263	P
5	4824.00	-6.59	51.10	44.51	54.00	-9.49	Average	100	116	P
6	4824.00	-6.59	54.70	48.11	74.00	-25.89	Peak	100	116	P
7	12060.00	5.00	26.47	31.47	54.00	-22.53	Average	100	345	P
8	12060.00	5.00	41.33	46.33	74.00	-27.67	Peak	100	345	P

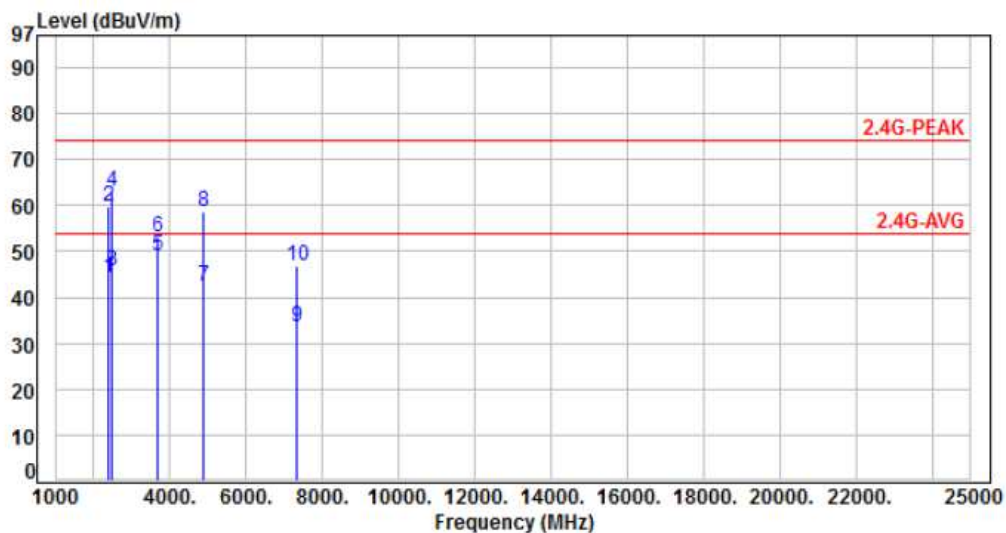
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH06	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-14.45	58.66	44.21	54.00	-9.79	Average	144	213	P
2	2390.00	-14.45	74.19	59.74	74.00	-14.26	Peak	144	213	P
3	2483.50	-14.10	59.75	45.65	54.00	-8.35	Average	144	213	P
4	2483.50	-14.10	77.24	63.14	74.00	-10.86	Peak	144	213	P
5	3666.00	-9.40	58.53	49.13	54.00	-4.87	Average	148	163	P
6	3666.00	-9.40	62.34	52.94	74.00	-21.06	Peak	148	163	P
7	4874.00	-6.42	48.79	42.37	54.00	-11.63	Average	117	14	P
8	4874.00	-6.42	64.98	58.56	74.00	-15.44	Peak	117	14	P
9	7311.00	-1.90	35.43	33.53	54.00	-20.47	Average	100	100	P
10	7311.00	-1.90	48.76	46.86	74.00	-27.14	Peak	100	100	P

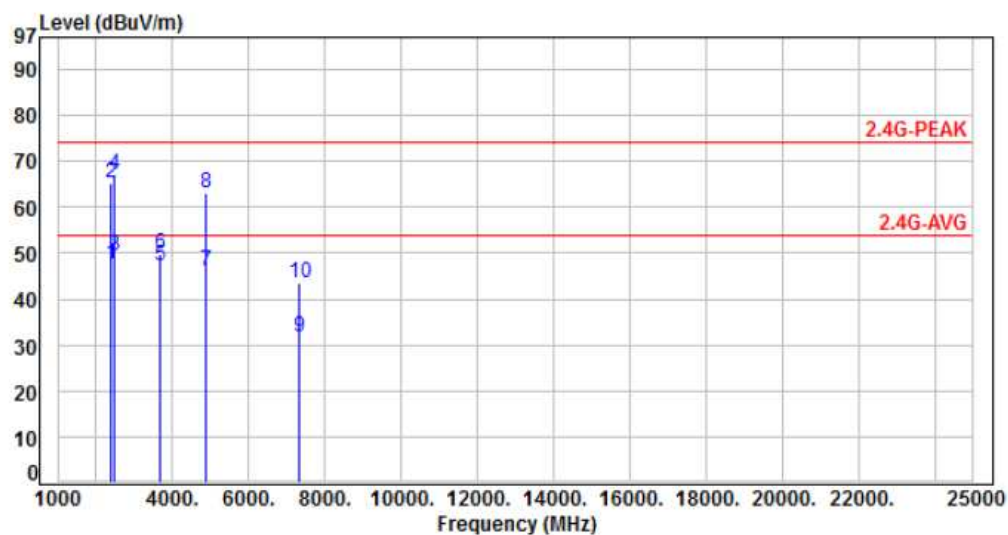
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH06	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-14.45	62.00	47.55	54.00	-6.45	Average	370	318	P
2	2390.00	-14.45	79.60	65.15	74.00	-8.85	Peak	370	318	P
3	2483.50	-14.10	63.60	49.50	54.00	-4.50	Average	234	318	P
4	2483.50	-14.10	81.20	67.10	74.00	-6.90	Peak	234	318	P
5	3666.00	-9.40	56.49	47.09	54.00	-6.91	Average	155	163	P
6	3666.00	-9.40	59.12	49.72	74.00	-24.28	Peak	155	163	P
7	4874.00	-6.42	52.50	46.08	54.00	-7.92	Average	101	355	P
8	4874.00	-6.42	69.50	63.08	74.00	-10.92	Peak	101	355	P
9	7311.00	-1.90	33.47	31.57	54.00	-22.43	Average	100	163	P
10	7311.00	-1.90	45.28	43.38	74.00	-30.62	Peak	100	163	P

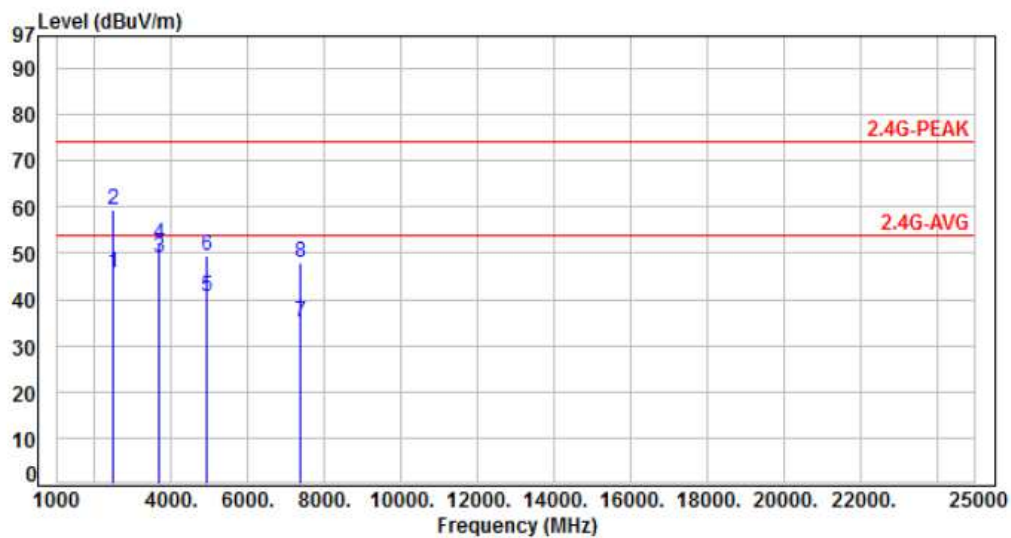
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH11	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-14.10	59.90	45.80	54.00	-8.20	Average	375	322	P
2	2483.50	-14.10	73.50	59.40	74.00	-14.60	Peak	375	322	P
3	3666.50	-9.39	58.34	48.95	54.00	-5.05	Average	100	152	P
4	3666.50	-9.39	61.44	52.05	74.00	-21.95	Peak	100	152	P
5	4924.00	-6.25	47.00	40.75	54.00	-13.25	Average	100	115	P
6	4924.00	-6.25	55.83	49.58	74.00	-24.42	Peak	100	115	P
7	7386.00	-1.67	36.81	35.14	54.00	-18.86	Average	100	155	P
8	7386.00	-1.67	49.62	47.95	74.00	-26.05	Peak	100	155	P

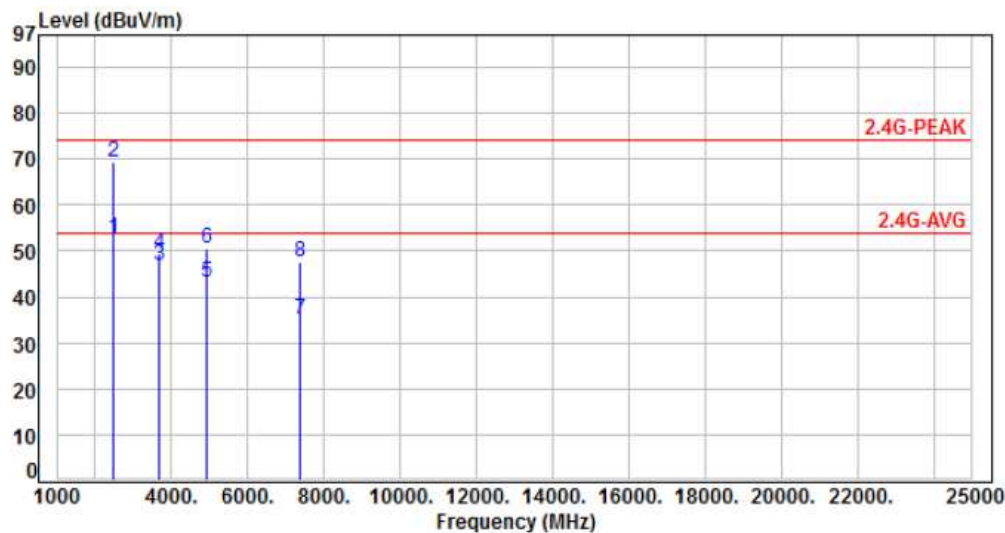
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH11	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-14.10	66.90	52.80	54.00	-1.20	Average	170	312	P
2	2483.50	-14.10	83.50	69.40	74.00	-4.60	Peak	170	312	P
3	3666.50	-9.39	56.34	46.95	54.00	-7.05	Average	156	124	P
4	3666.50	-9.39	58.88	49.49	74.00	-24.51	Peak	156	124	P
5	4924.00	-6.25	49.50	43.25	54.00	-10.75	Average	102	166	P
6	4924.00	-6.25	56.81	50.56	74.00	-23.44	Peak	102	166	P
7	7386.00	-1.67	36.82	35.15	54.00	-18.85	Average	100	188	P
8	7386.00	-1.67	49.25	47.58	74.00	-26.42	Peak	100	188	P

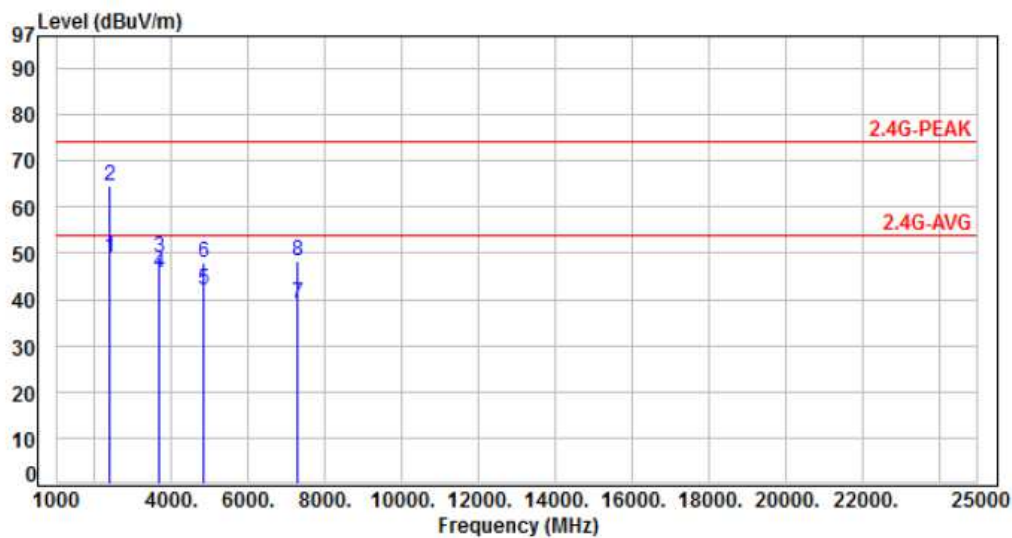
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH03	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-14.45	63.37	48.92	54.00	-5.08	Average	100	247	P
2	2390.00	-14.45	78.89	64.44	74.00	-9.56	Peak	100	247	P
3	3666.25	-9.39	58.44	49.05	54.00	-4.95	Average	155	163	P
4	3666.25	-9.39	55.28	45.89	74.00	-28.11	Peak	155	163	P
5	4844.00	-6.52	48.51	41.99	54.00	-12.01	Average	100	133	P
6	4844.00	-6.52	54.41	47.89	74.00	-26.11	Peak	100	133	P
7	7266.00	-2.05	41.01	38.96	54.00	-15.04	Average	247	311	P
8	7266.00	-2.05	50.35	48.30	74.00	-25.70	Peak	247	311	P

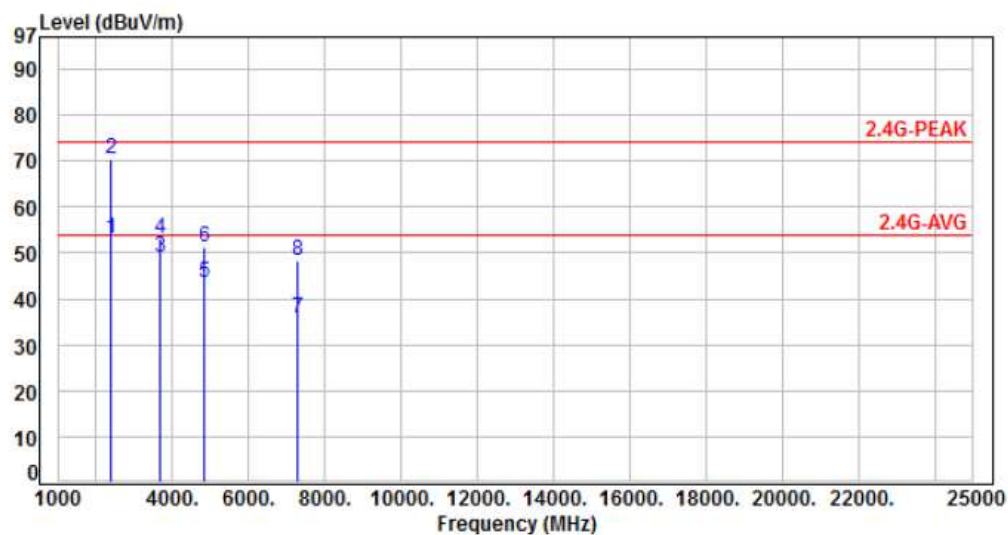
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH03	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-14.45	67.40	52.95	54.00	-1.05	Average	132	307	P
2	2390.00	-14.45	84.90	70.45	74.00	-3.55	Peak	132	307	P
3	3666.25	-9.39	58.36	48.97	54.00	-5.03	Average	146	185	P
4	3666.25	-9.39	62.44	53.05	74.00	-20.95	Peak	146	185	P
5	4844.00	-6.52	50.08	43.56	54.00	-10.44	Average	100	154	P
6	4844.00	-6.52	57.72	51.20	74.00	-22.80	Peak	100	154	P
7	7266.00	-2.05	37.65	35.60	54.00	-18.40	Average	100	224	P
8	7266.00	-2.05	50.27	48.22	74.00	-25.78	Peak	100	224	P

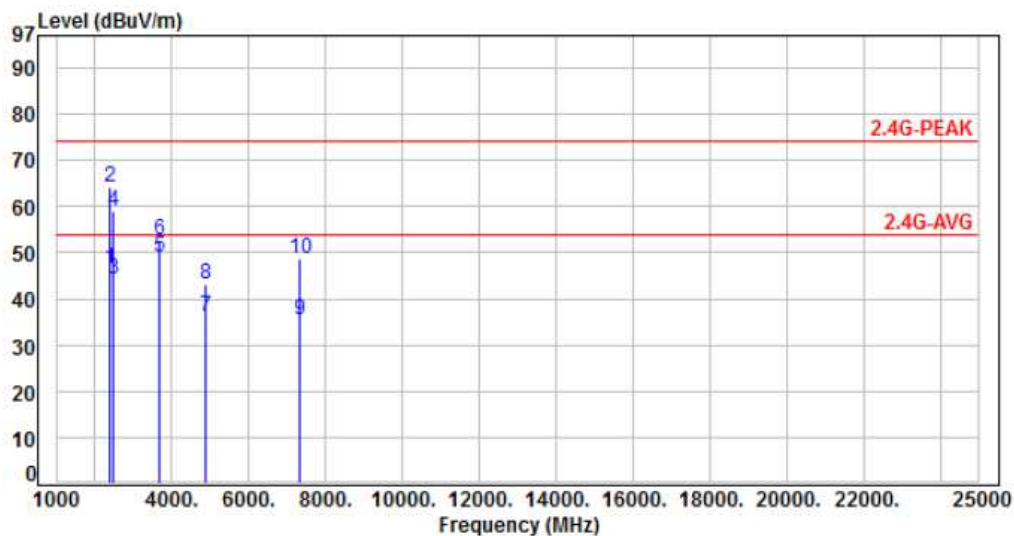
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH06	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-14.45	60.78	46.33	54.00	-7.67	Average	142	193	P
2	2390.00	-14.45	78.78	64.33	74.00	-9.67	Peak	142	193	P
3	2483.50	-14.10	58.46	44.36	54.00	-9.64	Average	142	193	P
4	2483.50	-14.10	73.26	59.16	74.00	-14.84	Peak	142	193	P
5	3666.00	-9.40	58.64	49.24	54.00	-4.76	Average	133	158	P
6	3666.00	-9.40	62.12	52.72	74.00	-21.28	Peak	133	158	P
7	4874.00	-6.42	42.58	36.16	54.00	-17.84	Average	100	356	P
8	4874.00	-6.42	49.44	43.02	74.00	-30.98	Peak	100	356	P
9	7311.00	-1.90	37.36	35.46	54.00	-18.54	Average	100	188	P
10	7311.00	-1.90	50.67	48.77	74.00	-25.23	Peak	100	188	P

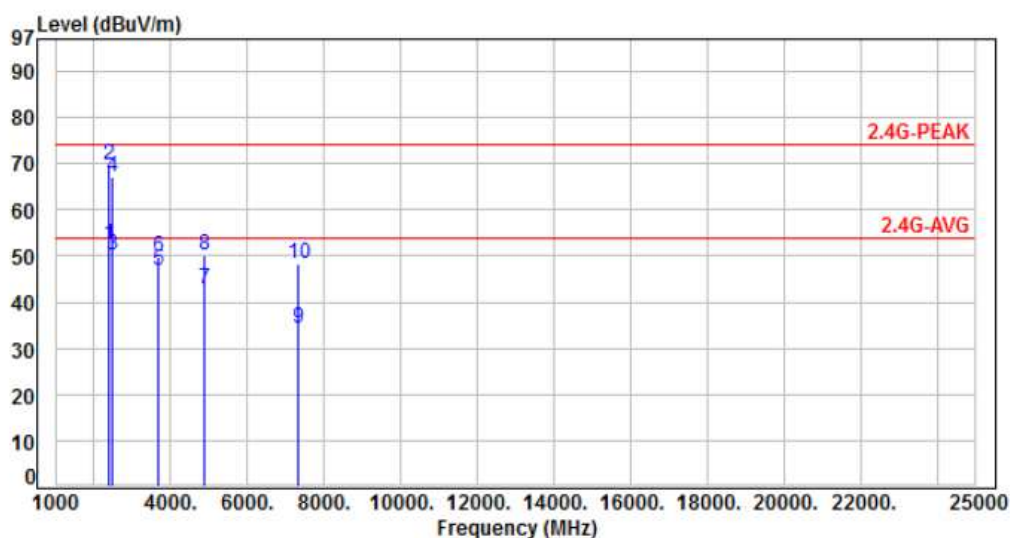
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH06	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-14.45	66.85	52.40	54.00	-1.60	Average	244	352	P
2	2390.00	-14.45	84.23	69.78	74.00	-4.22	Peak	244	352	P
3	2483.50	-14.10	64.43	50.33	54.00	-3.67	Average	244	352	P
4	2483.50	-14.10	81.25	67.15	74.00	-6.85	Peak	244	352	P
5	3666.00	-9.40	56.25	46.85	54.00	-7.15	Average	151	136	P
6	3666.00	-9.40	59.23	49.83	74.00	-24.17	Peak	151	136	P
7	4874.00	-6.42	49.28	42.86	54.00	-11.14	Average	100	155	P
8	4874.00	-6.42	56.76	50.34	74.00	-23.66	Peak	100	155	P
9	7311.00	-1.90	36.36	34.46	54.00	-19.54	Average	100	256	P
10	7311.00	-1.90	50.15	48.25	74.00	-25.75	Peak	100	256	P

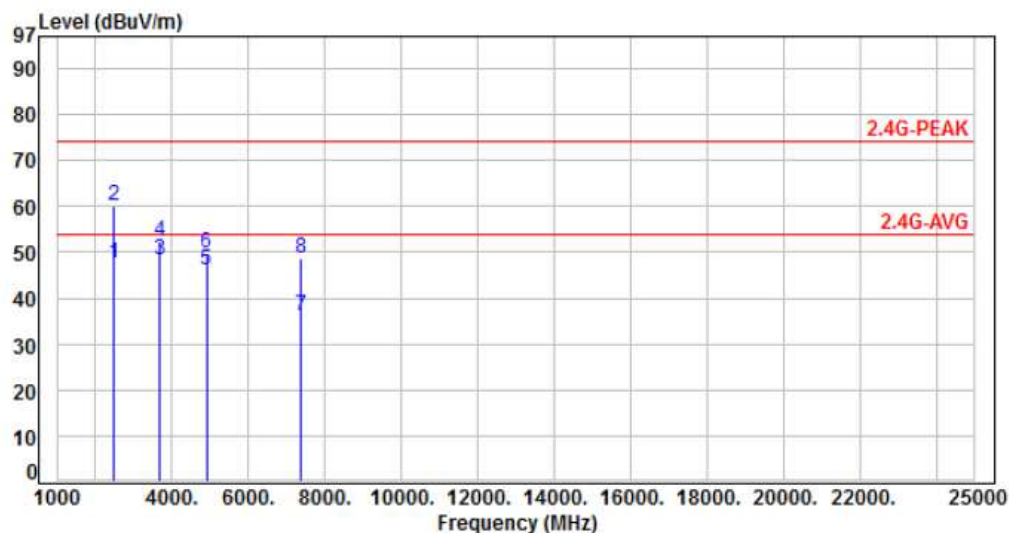
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH09	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-14.10	61.60	47.50	54.00	-6.50	Average	144	185	P
2	2483.50	-14.10	74.40	60.30	74.00	-13.70	Peak	144	185	P
3	3666.20	-9.39	57.58	48.19	54.00	-5.81	Average	133	142	P
4	3666.20	-9.39	61.77	52.38	74.00	-21.62	Peak	133	142	P
5	4904.00	-6.32	52.60	46.28	54.00	-7.72	Average	337	111	P
6	4904.00	-6.32	56.00	49.68	74.00	-24.32	Peak	337	111	P
7	7356.00	-1.77	38.09	36.32	54.00	-17.68	Average	100	142	P
8	7356.00	-1.77	50.43	48.66	74.00	-25.34	Peak	100	142	P

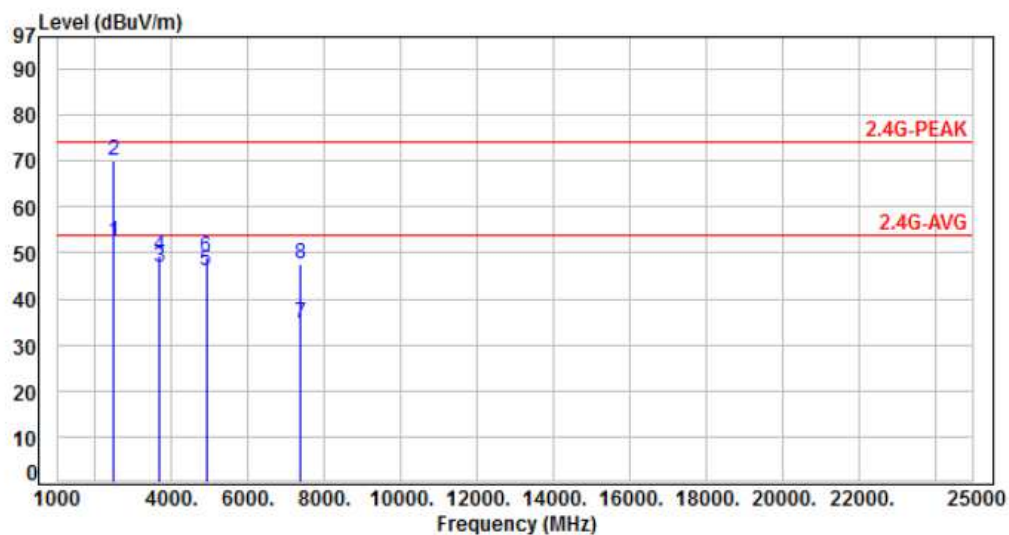
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 110V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH09	Temperature	: 24 °C
Test Date	: Feb. 08, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-14.10	66.60	52.50	54.00	-1.50	Average	174	310	P
2	2483.50	-14.10	84.10	70.00	74.00	-4.00	Peak	174	310	P
3	3666.20	-9.39	56.34	46.95	54.00	-7.05	Average	157	152	P
4	3666.20	-9.39	58.66	49.27	74.00	-24.73	Peak	157	152	P
5	4904.00	-6.32	52.30	45.98	54.00	-8.02	Average	218	106	P
6	4904.00	-6.32	55.30	48.98	74.00	-25.02	Peak	218	106	P
7	7356.00	-1.77	36.35	34.58	54.00	-19.42	Average	133	214	P
8	7356.00	-1.77	49.39	47.62	74.00	-26.38	Peak	133	214	P

Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



6. On Time, Duty Cycle and Measurement methods

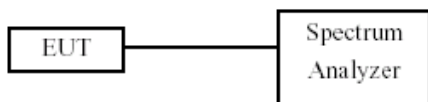
6.1. 適用標準

None; for reporting purposes only.

6.2. 測試方法

KDB 558074 Zero-Span Spectrum Analyzer Method.

6.3. 測試配置



6.4. 測試結果及數據

Temperature: 21°C

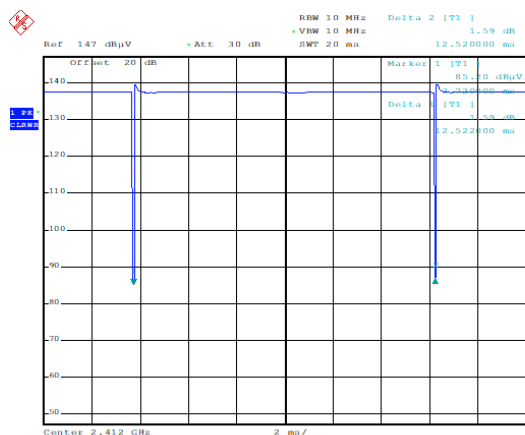
Humidity: 64%

Test Date: Feb. 08, 2018

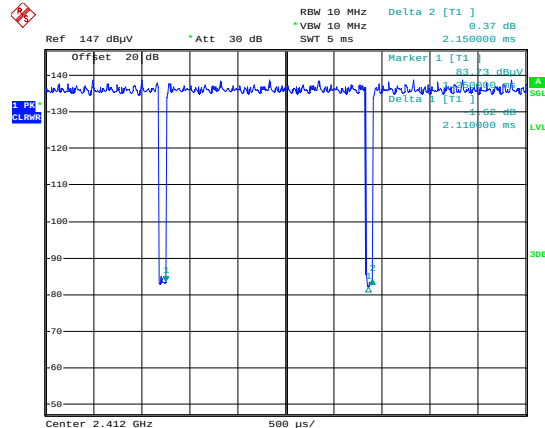
Modulation Type	On Time (msec)	Period Time (msec)	Duty Cycle (%)
802.11b	12.52	12.52	99.98%
802.11g	2.11	2.15	98.14%
VHT20	5.08	5.12	99.22%
VHT40	2.47	2.52	98.02%



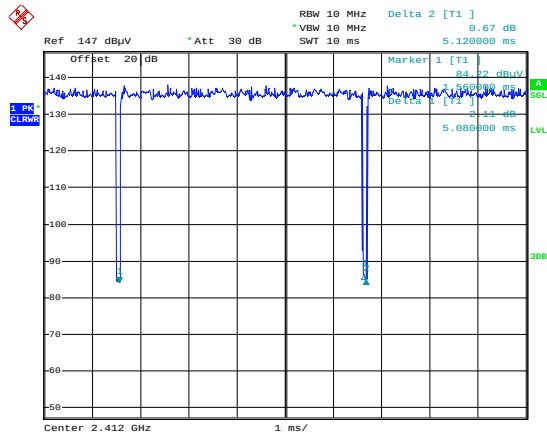
Modulation Standard: 802.11b (1Mbps)



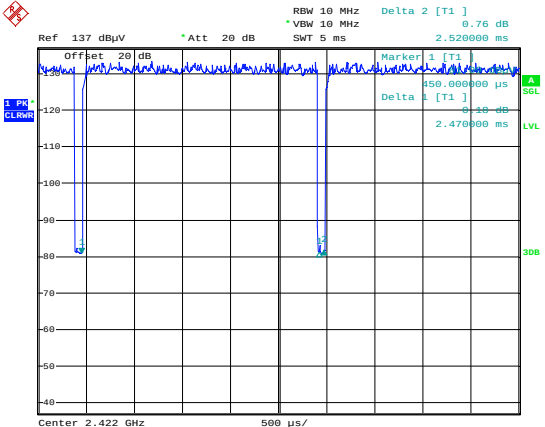
Modulation Standard: 802.11g (6Mbps)



Modulation Standard: VHT20 (6.5Mbps)



Modulation Standard: VHT40 (13.5Mbps)





7. 6dB 頻寬之規定

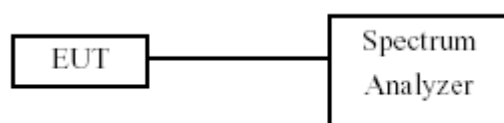
7.1. 適用標準

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

7.2. 測試方法

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

7.3. 測試配置



7.4. 6dB 頻寬之測試結果及數據

Temperature : 23°C

Humidity : 64%

Test Date : Aug. 20, 2018

Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Limit (MHz)
			ANT A	ANT B	
IEEE 802.11b (1Mbps)	01	2412	8.00	8.00	0.5
	06	2437	8.10	8.10	0.5
	11	2462	8.10	8.00	0.5
IEEE 802.11g (6Mbps)	01	2412	16.40	16.40	0.5
	06	2437	16.30	16.50	0.5
	11	2462	16.30	16.30	0.5
VHT20 (6.5Mbps)	01	2412	17.70	17.60	0.5
	06	2437	17.70	17.70	0.5
	11	2462	17.60	17.60	0.5
VHT40 (13.5Mbps)	03	2422	35.20	35.20	0.5
	06	2437	35.20	35.20	0.5
	09	2452	35.00	35.00	0.5

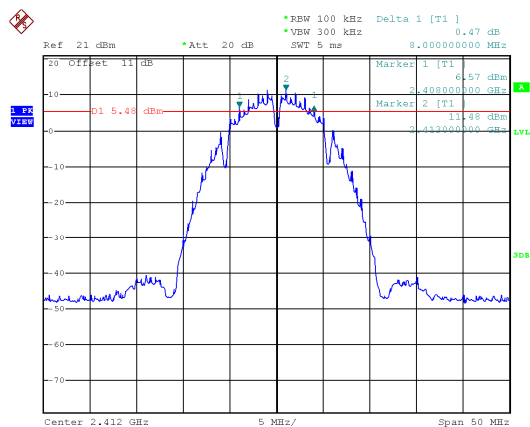
備註：繪圖資料請參考下頁。

7.5. 結果判定

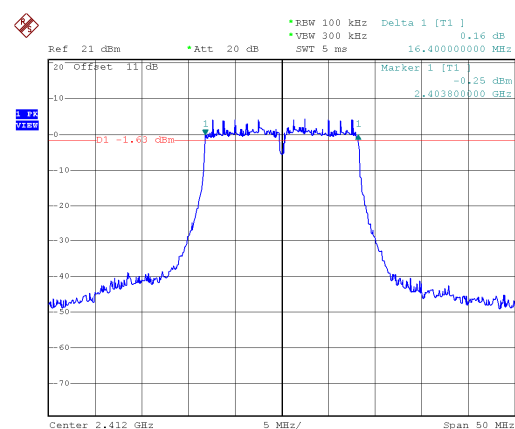
高、中、低頻段的 6dB 頻寬皆大於 500 KHz，合乎標準規定。



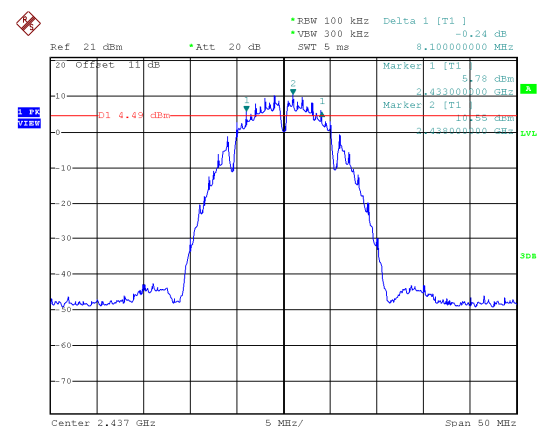
ANT A Modulation Type: 802.11b CH01



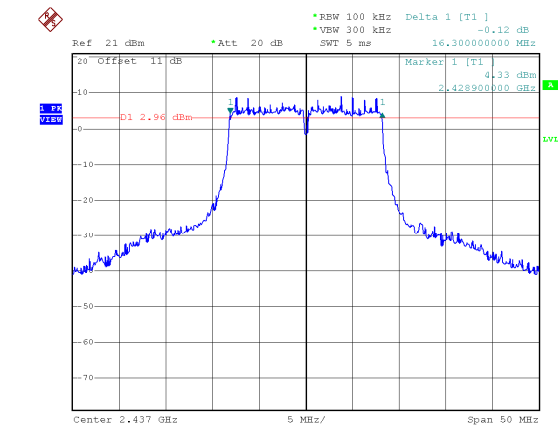
Modulation Type: 802.11g CH01



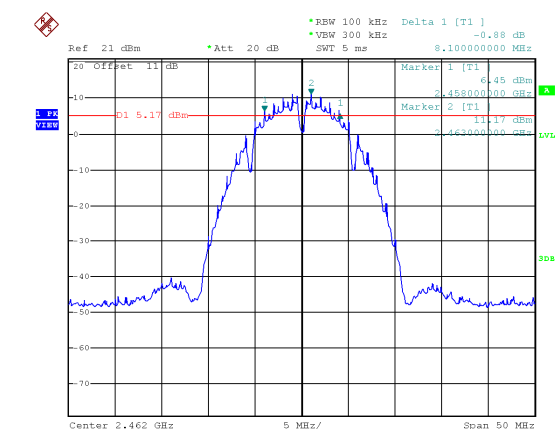
CH06



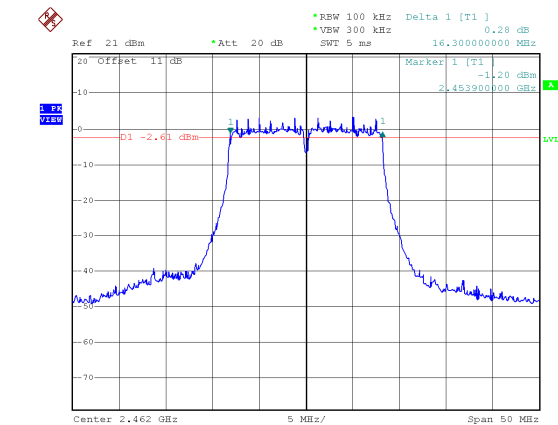
CH06

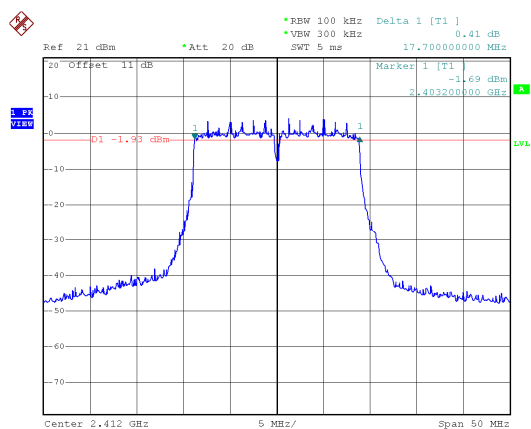
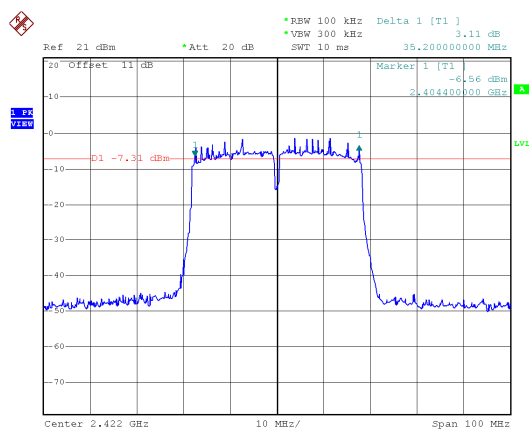


CH11

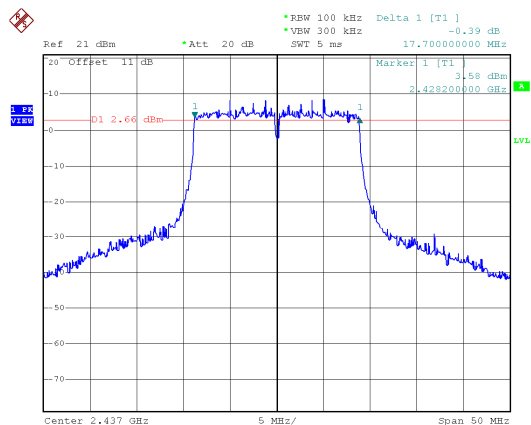


CH11

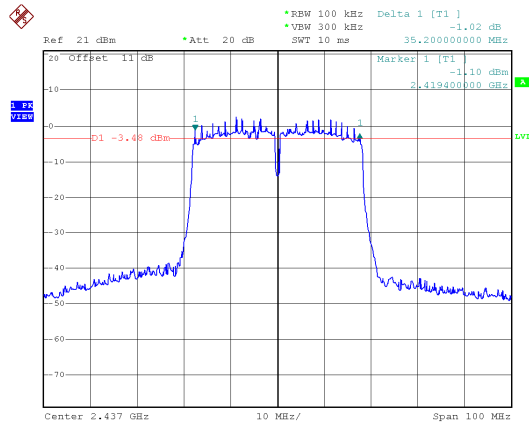


Modulation Type: VHT20
CH01Modulation Type: VHT40
CH03

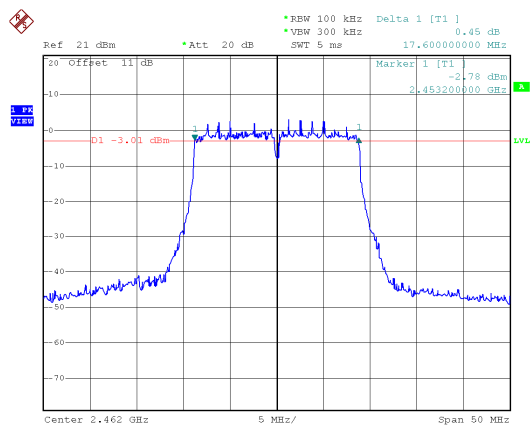
CH06



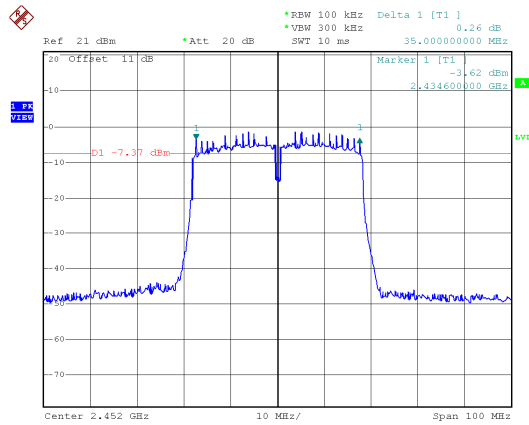
CH06



CH11

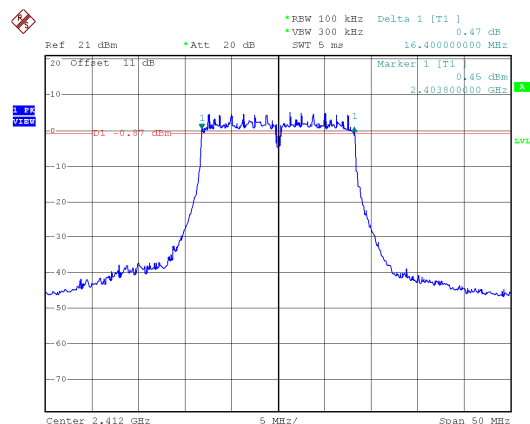


CH09

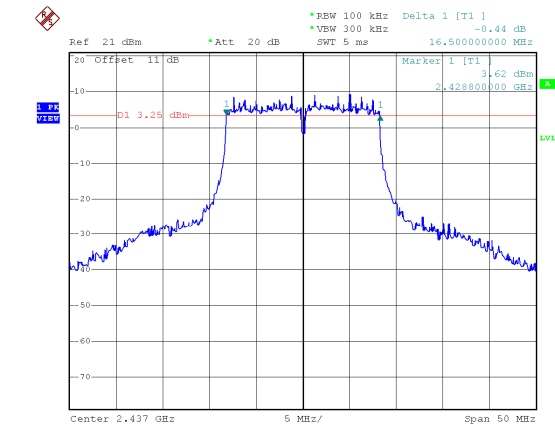




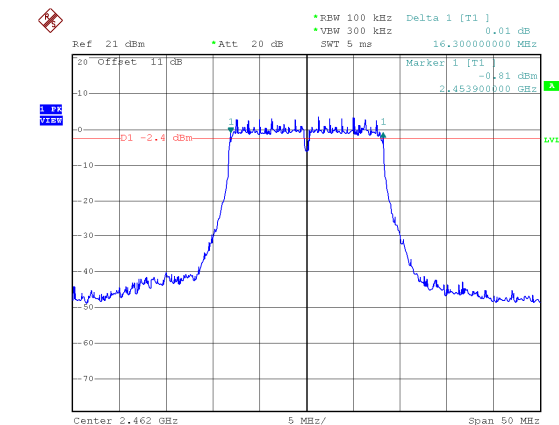
Modulation Type: 802.11g
CH01

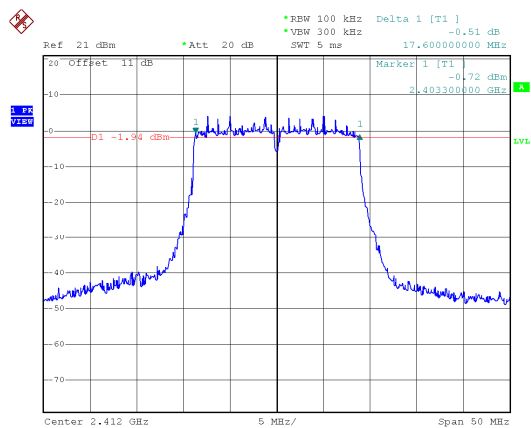
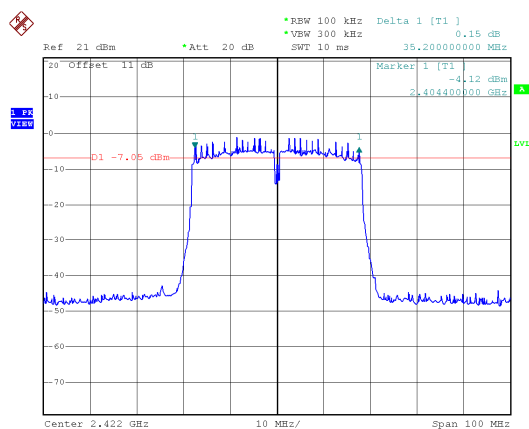


CH06

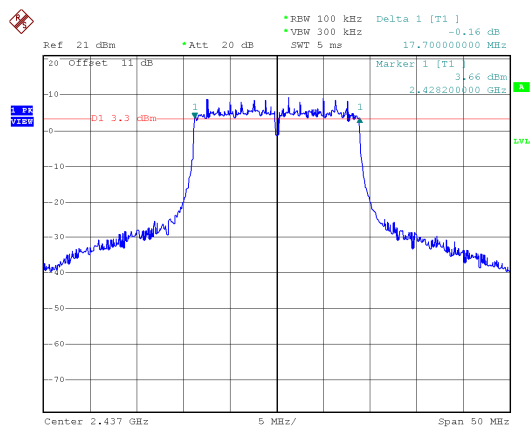


CH11

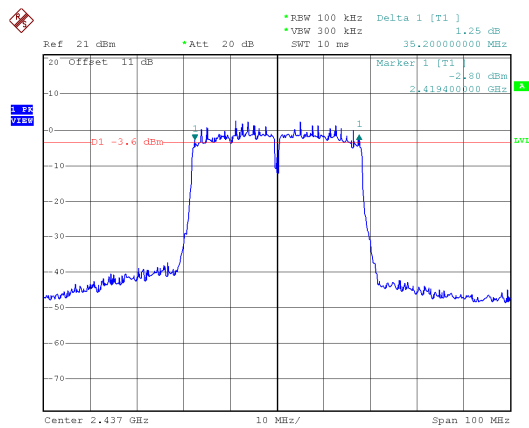


Modulation Type: VHT20
CH01Modulation Type: VHT40
CH03

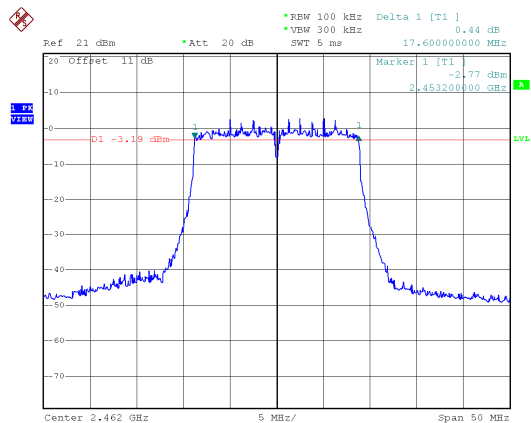
CH06



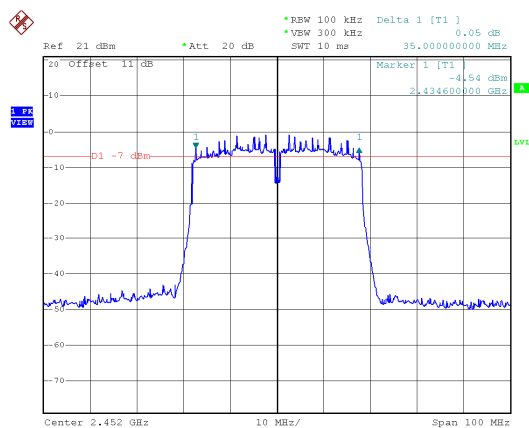
CH06



CH11



CH09





8. 峰值輸出功率之規定

8.1. 適用標準

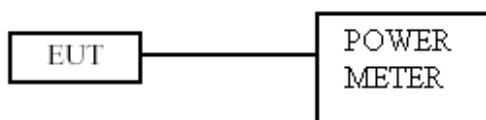
依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.2 節(1)(C)之規定，對使用數位調變技術之低功率發射機，其輸出峰值功率不得大於 1 Watt，且其所使用天線之增益不可大於 6dBi，若使用大於 6dBi 增益之天線，則其輸出峰值功率相對需衰減天線增益所增加之量(單位為 dB)。放寬之條件請參考天線增益之要求。

8.2. 測試方法

- 將待測物和儀器相連接。
- 量測輸出功率並記錄於報告中。

備註:此測試項目檢驗之擴充不準確定度 $\pm 1.4\text{dB}$ 。

8.3. 測試配置



8.4. 峰值輸出功率之測試結果及數據

Temperature : 23°C Humidity : 64%
Test Date : Aug. 20, 2018 Test Mode : Non-Beamforming

Modulation Type	Channel	Frequency (MHz)	Avg. Power Output (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)
			ANT A	ANT B			
IEEE 802.11b (1Mbps)	01	2412	19.74	19.36	180.49	22.56	30.00
	06	2437	18.9	18.64	150.74	21.78	30.00
	11	2462	19.0	18.8	155.29	21.91	30.00
IEEE 802.11g (6Mbps)	01	2412	15.88	16.2	80.41	19.05	30.00
	06	2437	20.19	20.49	216.42	23.35	30.00
	11	2462	14.72	14.75	59.50	17.75	30.00
IEEE 802.11an HT20 (6.5Mbps)	01	2412	15.22	15.63	69.83	18.44	30.00
	06	2437	20.58	20.82	235.07	23.71	30.00
	11	2462	14.11	14.19	52.01	17.16	30.00
IEEE 802.11an HT40 (13.5Mbps)	03	2422	12.62	12.78	37.25	15.71	30.00
	06	2437	16.18	16.31	84.25	19.26	30.00
	09	2452	12.81	12.88	38.51	15.86	30.00
VHT20 (6.5Mbps)	01	2412	15.28	15.7	70.88	18.51	30.00
	06	2437	20.61	20.93	238.96	23.78	30.00
	11	2462	14.16	14.23	52.55	17.21	30.00
VHT40 (13.5Mbps)	03	2422	12.7	12.84	37.85	15.78	30.00
	06	2437	16.25	16.38	85.62	19.33	30.00
	09	2452	12.89	12.95	39.18	15.93	30.00



Temperature : 23°C

Humidity : 64%

Test Date : Aug. 20, 2018

Test Mode : Beamforming

Modulation Type	Channel	Frequency (MHz)	Avg. Power Output (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)
			ANT A	ANT B			
IEEE 802.11g (6Mbps)	01	2412	12.87	13.19	40.21	16.04	28.36
	06	2437	17.18	17.48	108.22	20.34	28.36
	11	2462	11.71	11.74	29.75	14.74	28.36
IEEE 802.11an HT20 (6.5Mbps)	01	2412	12.21	12.62	34.92	15.43	28.36
	06	2437	17.57	17.81	117.54	20.70	28.36
	11	2462	11.1	11.18	26.00	14.15	28.36
IEEE 802.11an HT40 (13.5Mbps)	03	2422	9.61	9.77	18.63	12.70	28.36
	06	2437	13.17	13.3	42.13	16.25	28.36
	09	2452	9.8	9.87	19.26	12.85	28.36
VHT20 (6.5Mbps)	01	2412	12.27	12.69	35.44	15.50	28.36
	06	2437	17.6	17.92	119.49	20.77	28.36
	11	2462	11.15	11.22	26.28	14.20	28.36
VHT40 (13.5Mbps)	03	2422	9.69	9.83	18.93	12.77	28.36
	06	2437	13.24	13.37	42.81	16.32	28.36
	09	2452	9.88	9.94	19.59	12.92	28.36

8.5. 結果判定

高、中、低頻段的峰值輸出功率皆低於 30 dBm，合乎標準規定。



9. 混附波發射限制之規定

9.1. 適用方法

依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.5 節之規定，使用頻帶範圍外之任意 100 千赫(kHz)內，發射器所產生的射頻功率相較於使用頻帶範圍中包含最高所需功率之 100 千赫(kHz)內的射頻功率，其衰減值限制如下：

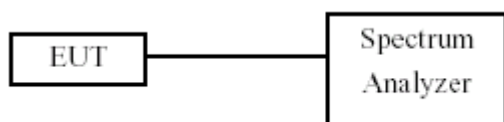
- (1) 輸出功率以峰值輸出功率方式量測者，至少需衰減 20dB，可使用射頻傳導或輻射方式測量。
- (2) 輸出功率以 3.10.1.2(1)(C)之最大傳導輸出功率測量方式者，至少需衰減 30dB，可使用射頻傳導或輻射方式測量。

此外，落於第 2.7 節禁用頻段之輻射發射，應符合第 2.8 節之規定。

9.2. 測試方法

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

9.3. 測試配置



9.4. 結果判定

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

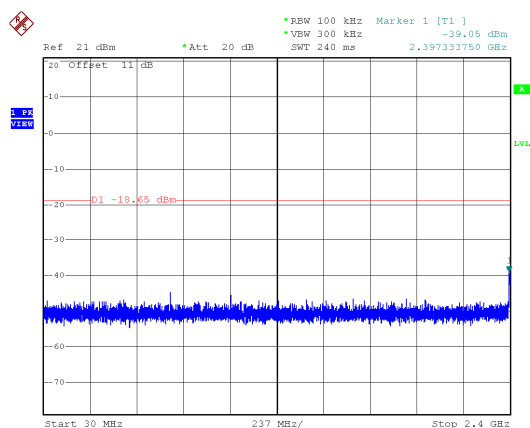
7.6.2 上邊緣頻帶：距上頻帶邊緣 40MHz 內最大混附波比主波低 20dB 以上，合乎標準規定。

備註：繪圖資料請參考下頁。

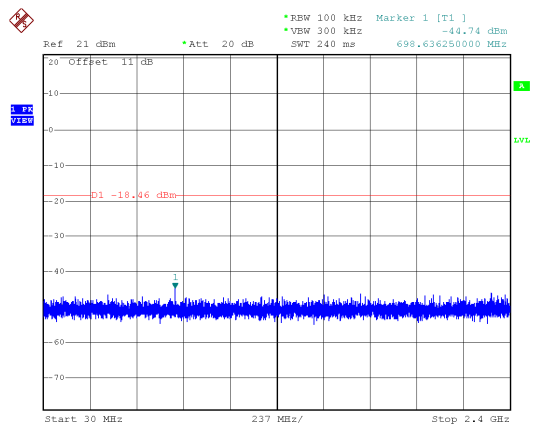
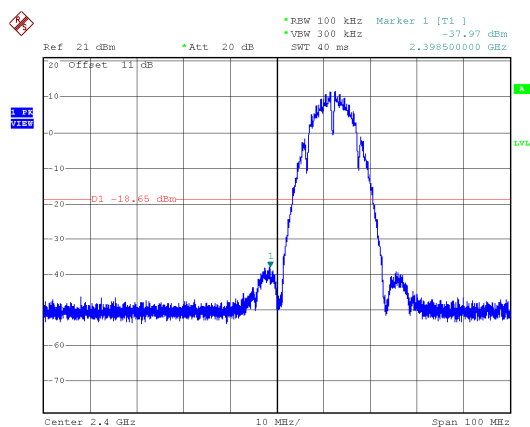
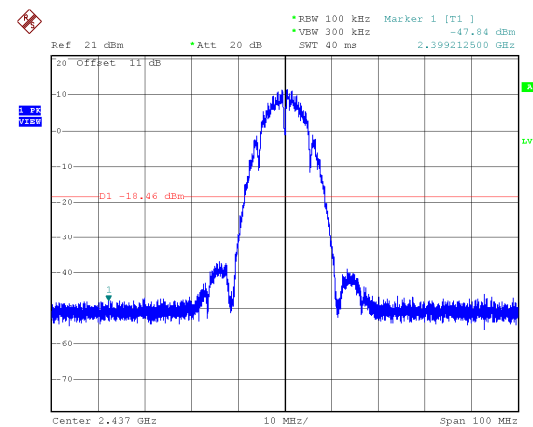
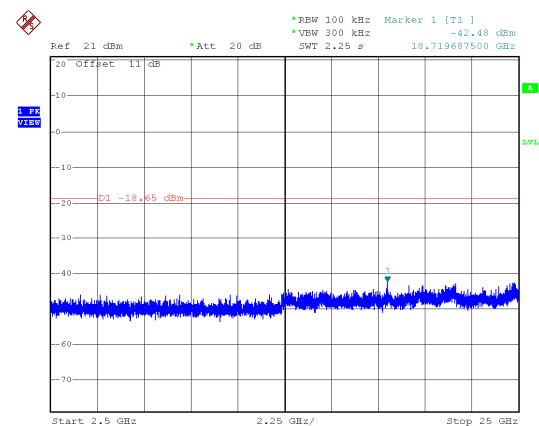
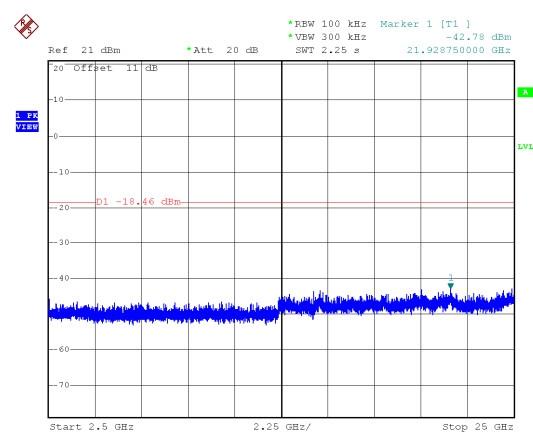


ANT A

Modulation Type: 802.11b, CH 01

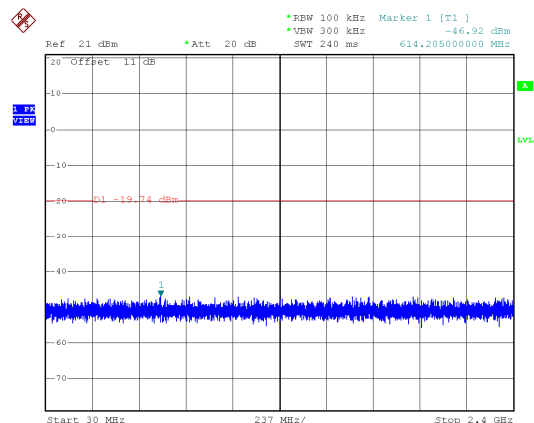
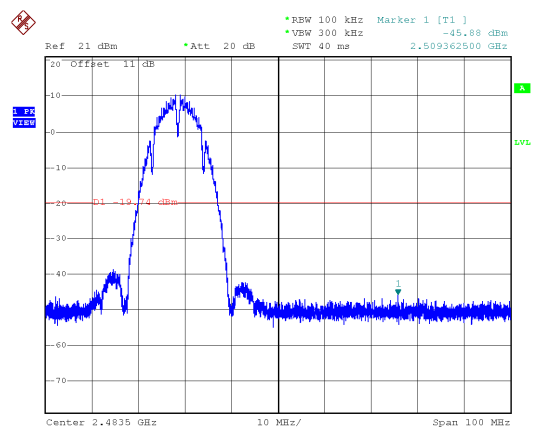
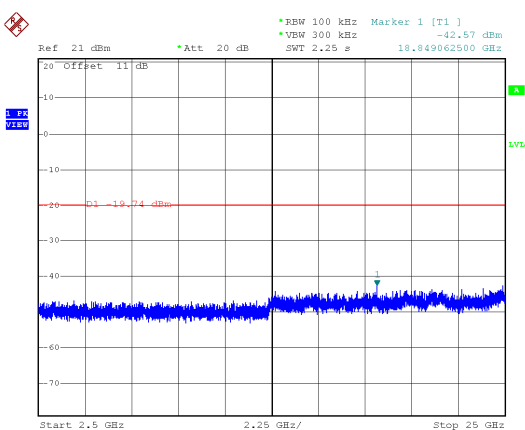


Modulation Type: 802.11b, CH 06





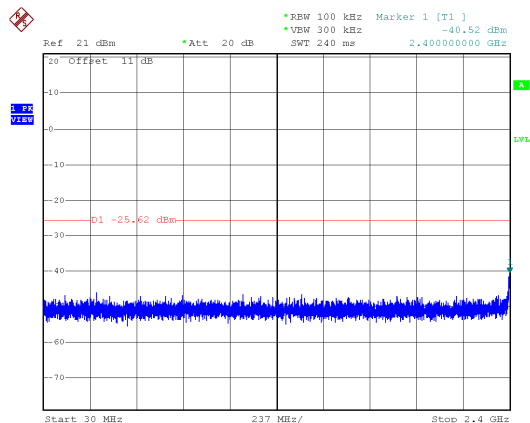
Modulation Type: 802.11b, CH 11



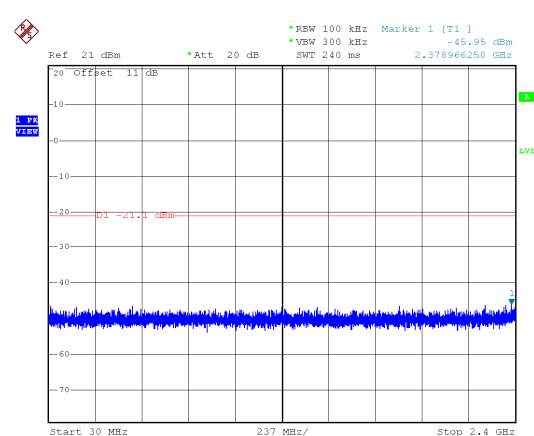
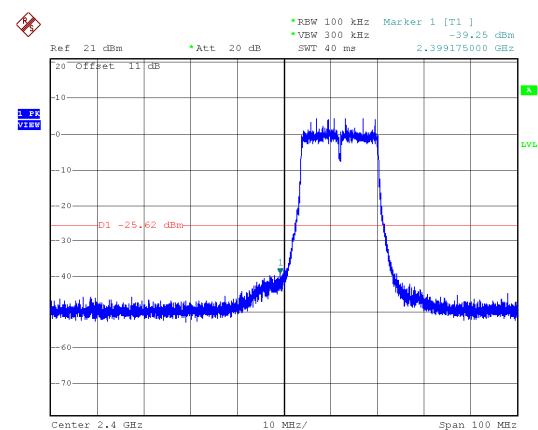
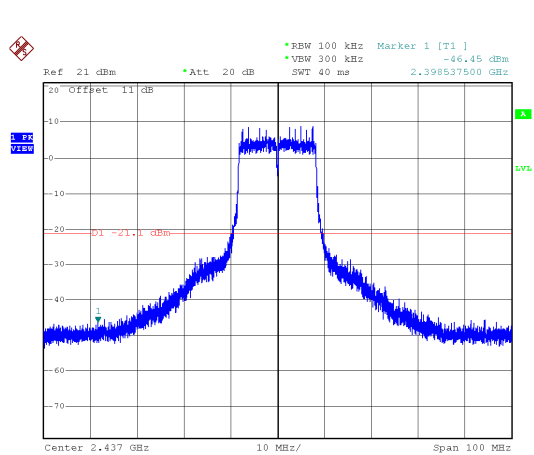
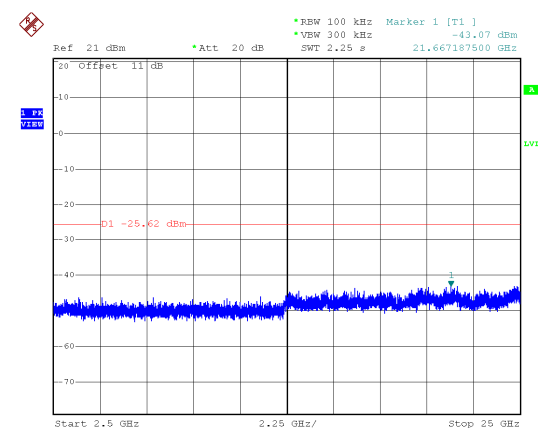
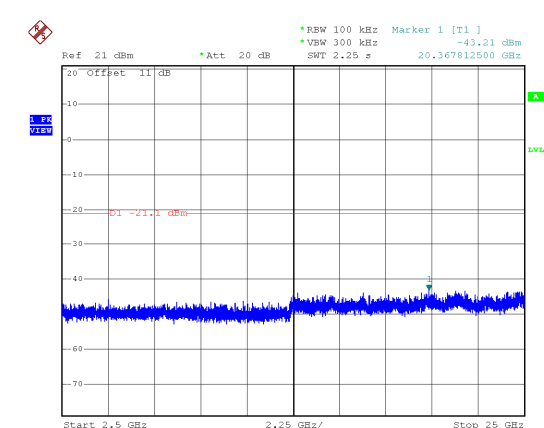


ANT A

Modulation Type: 802.11g, CH 01

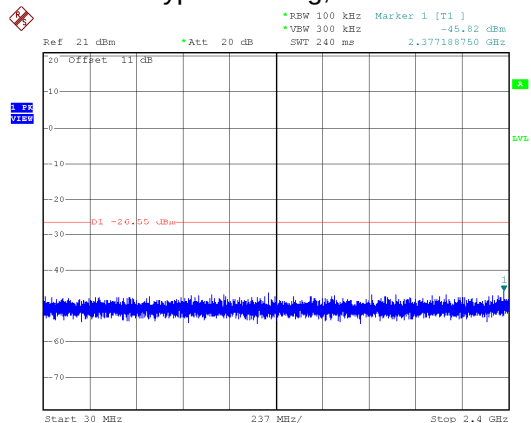
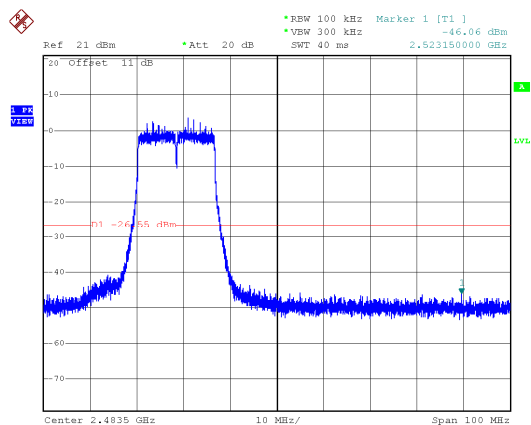
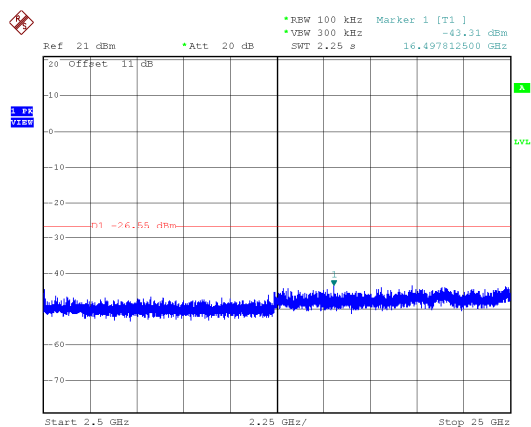


Modulation Type: 802.11g, CH 06





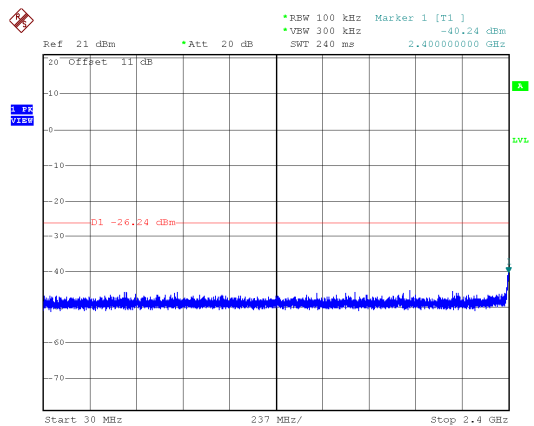
Modulation Type: 802.11g, CH 11



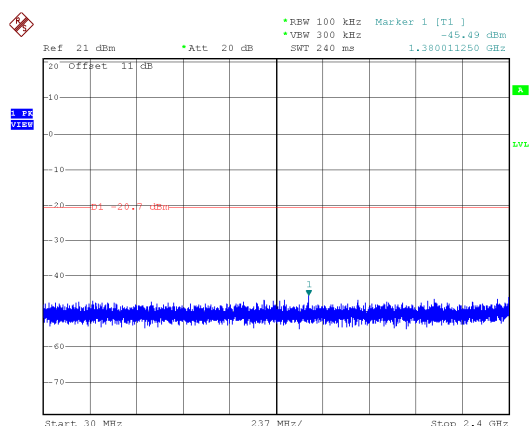
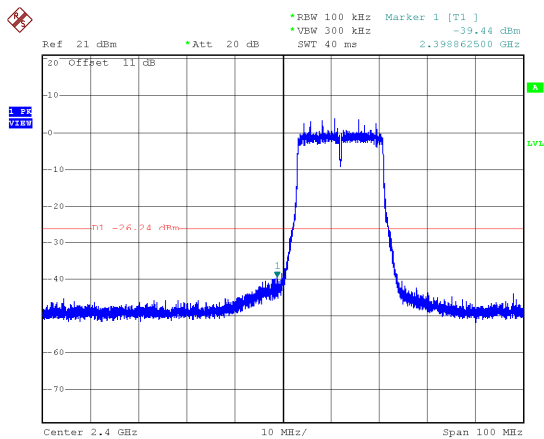
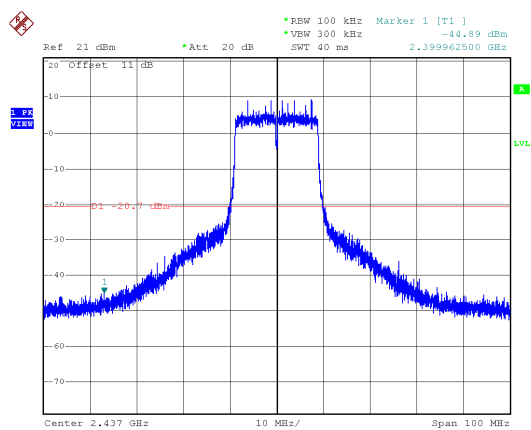
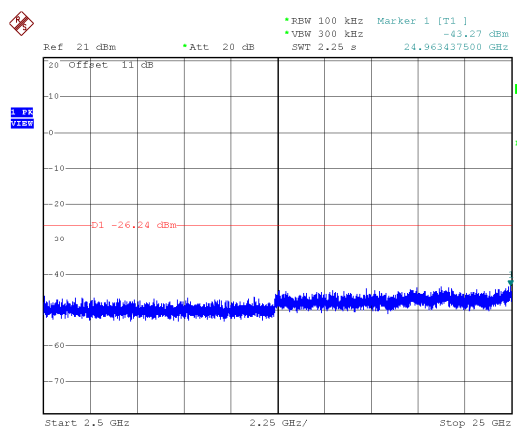
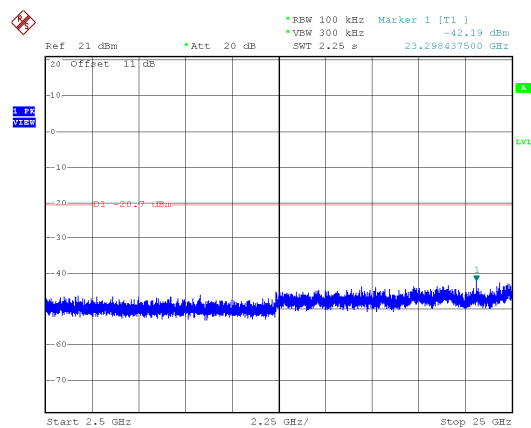


ANT A

Modulation Type: VHT20, CH01

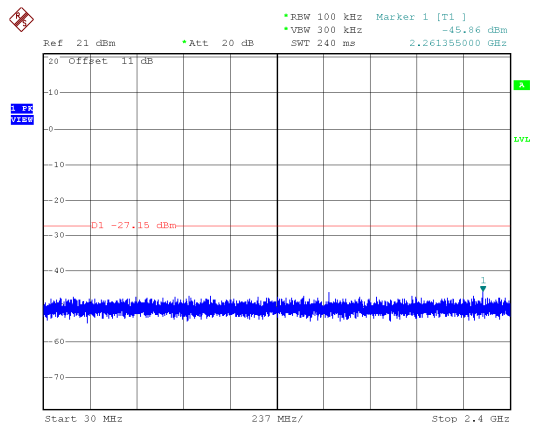
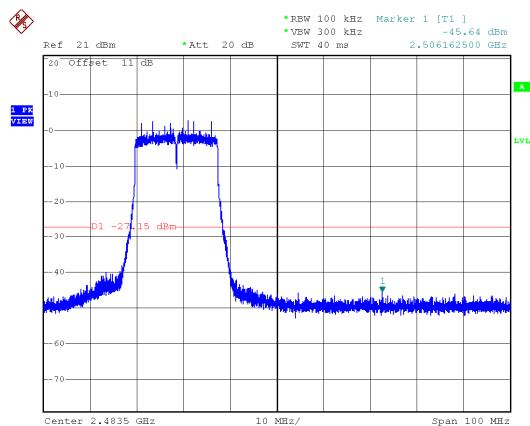
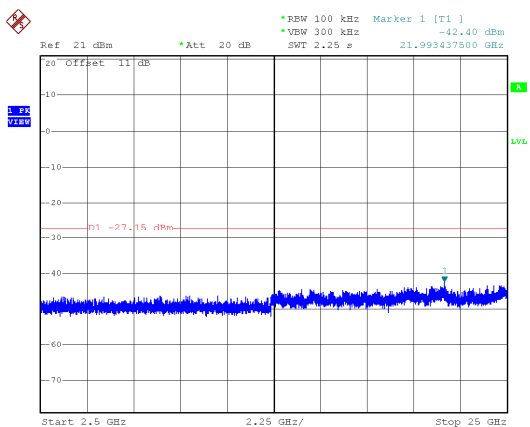


Modulation Type: VHT20, CH06





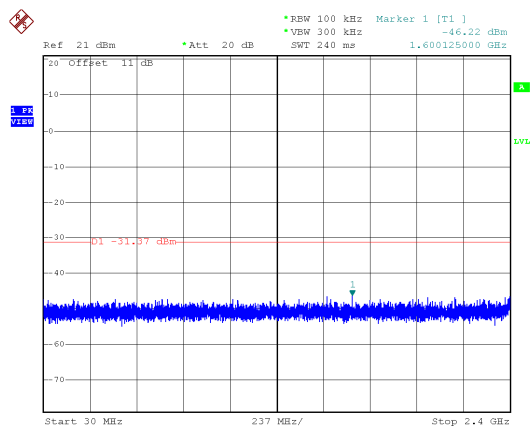
Modulation Type: VHT20, CH11



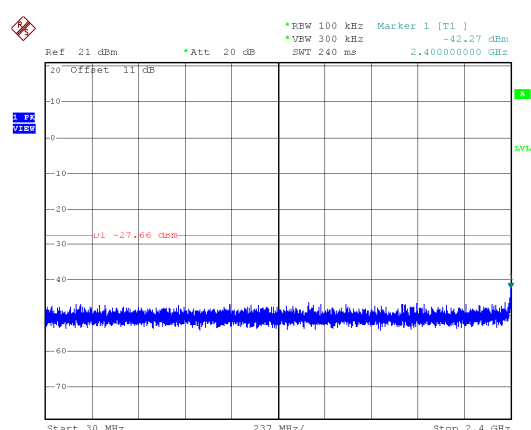
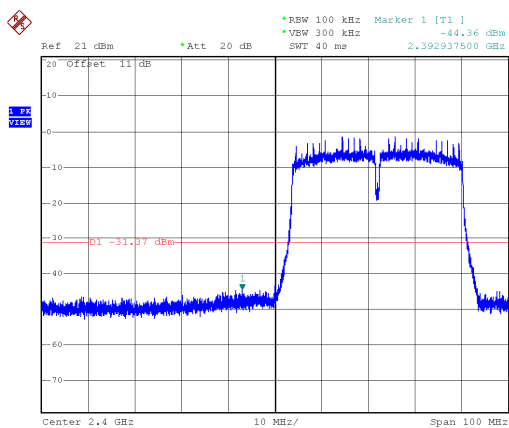
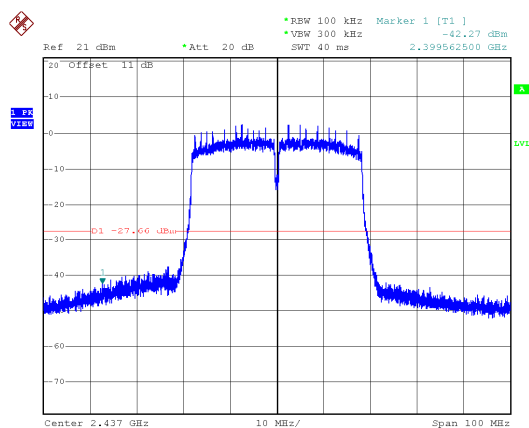
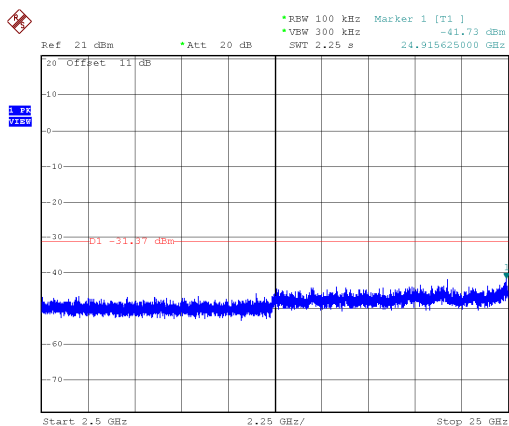
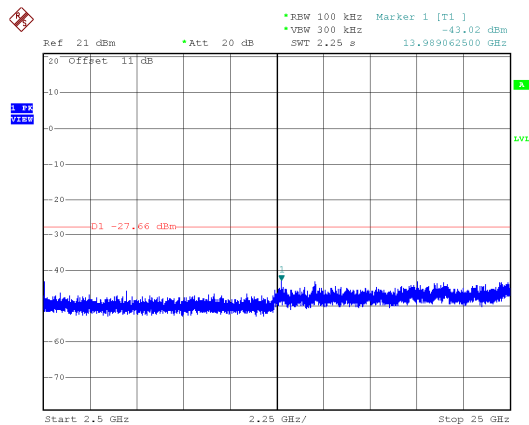


ANT A

Modulation Type: VHT40, CH03

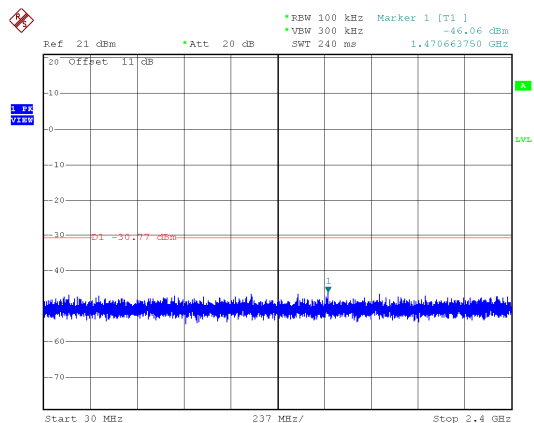
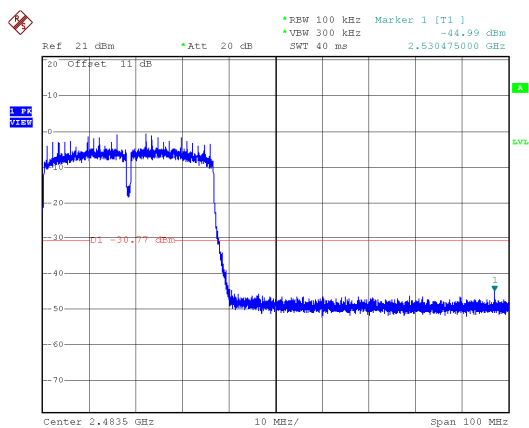
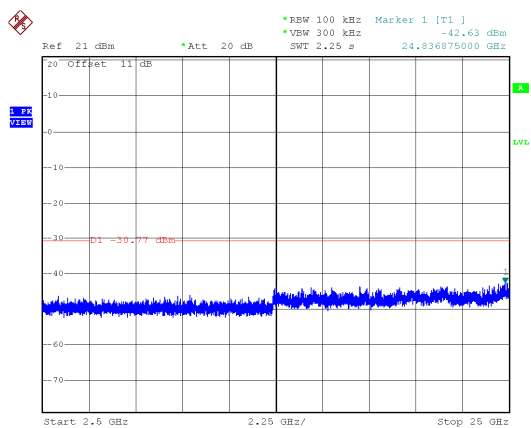


Modulation Type: VHT40, CH06





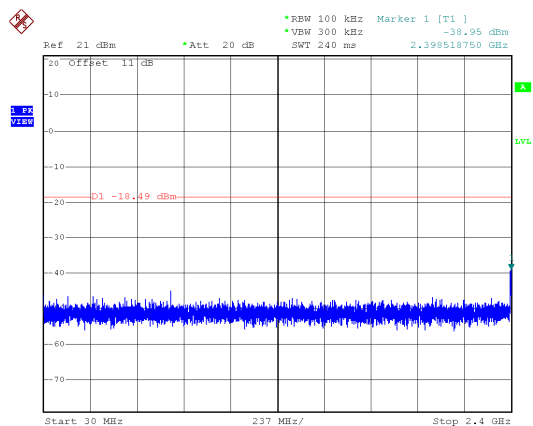
Modulation Type: VHT40, CH09



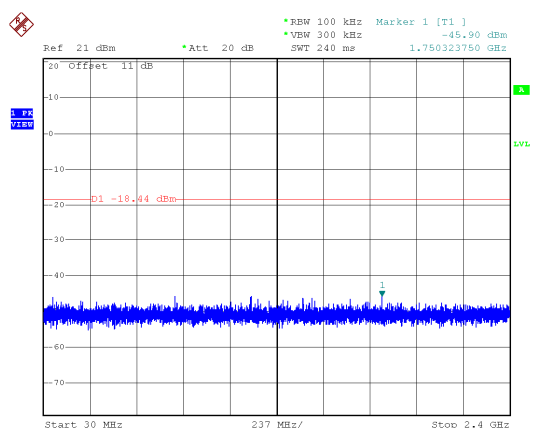
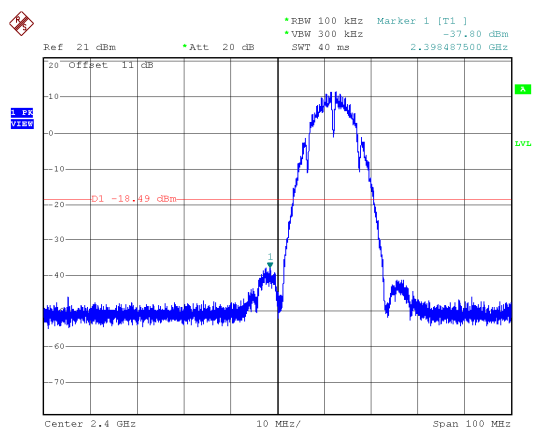
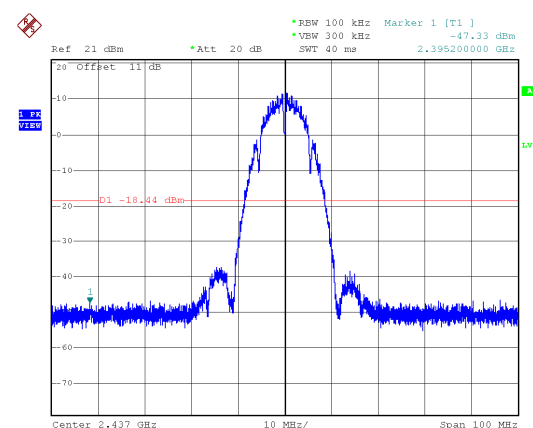
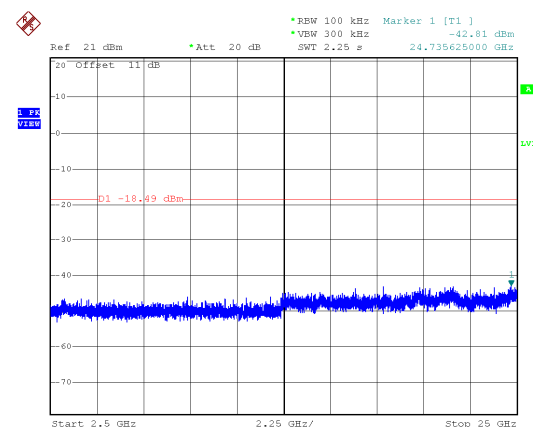
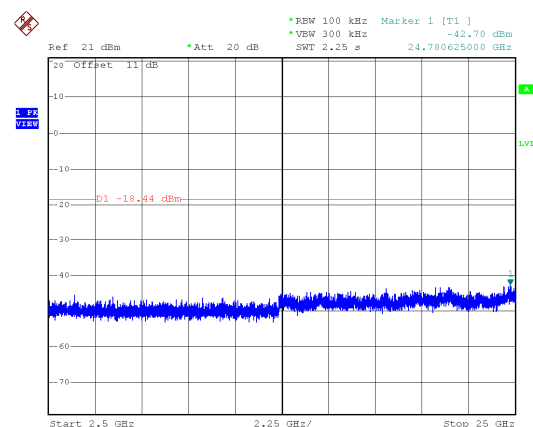


ANT B

Modulation Type: 802.11b, CH 01

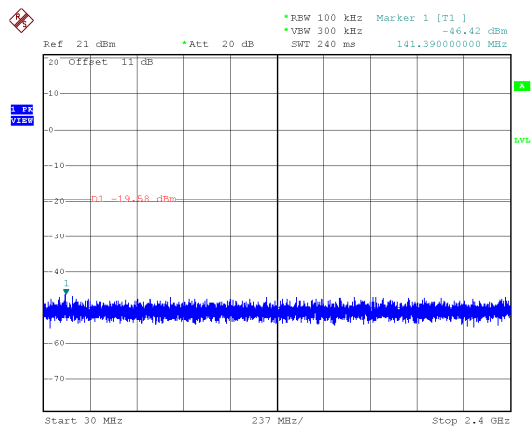
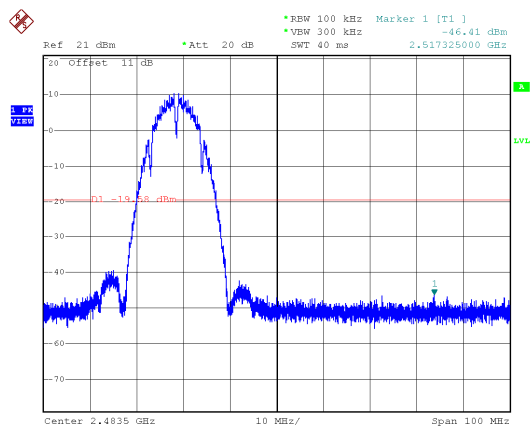
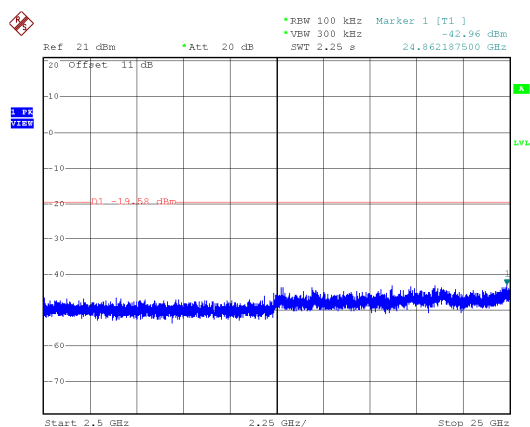


Modulation Type: 802.11b, CH 06





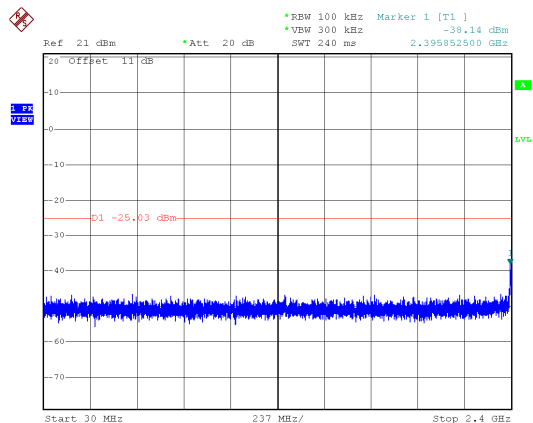
Modulation Type: 802.11b, CH 11



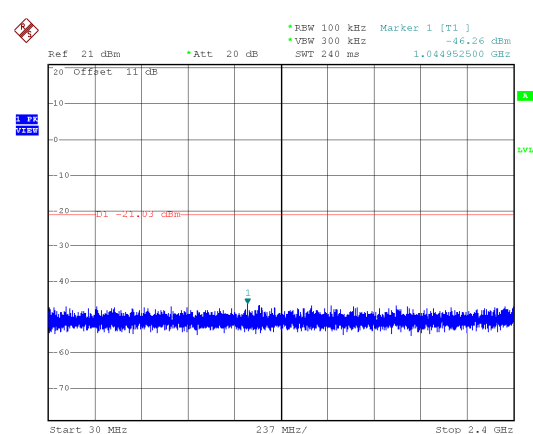
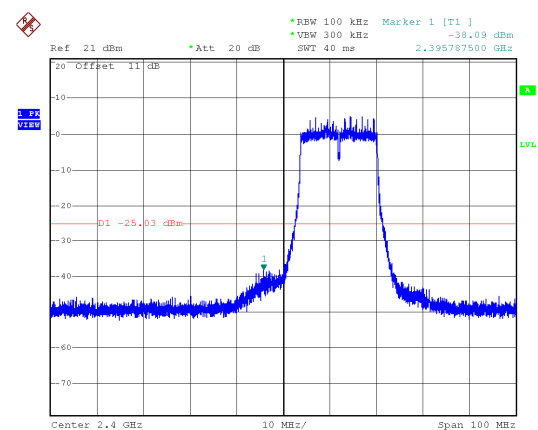
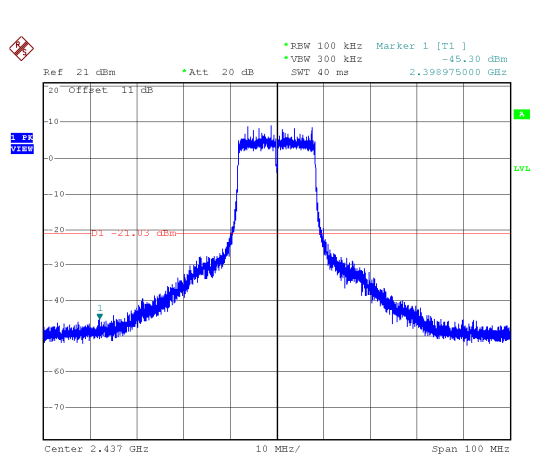
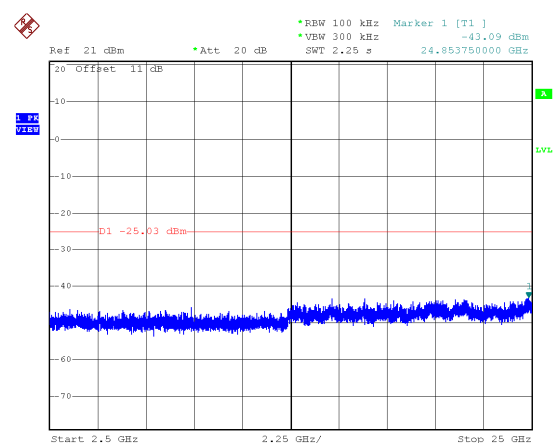
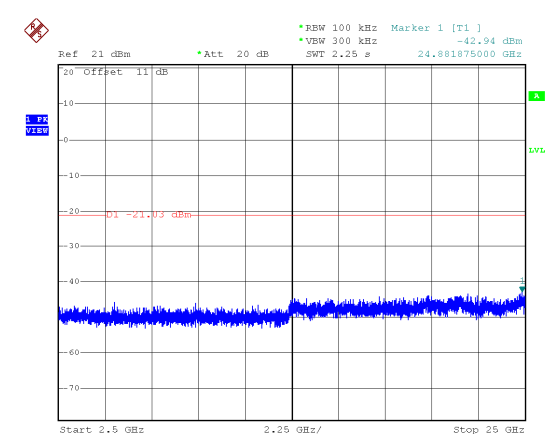


ANT B

Modulation Type: 802.11g, CH 01

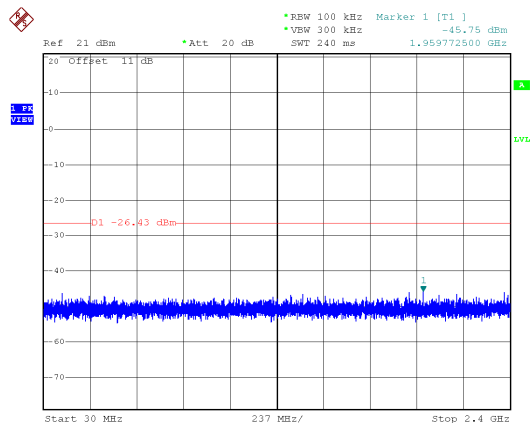
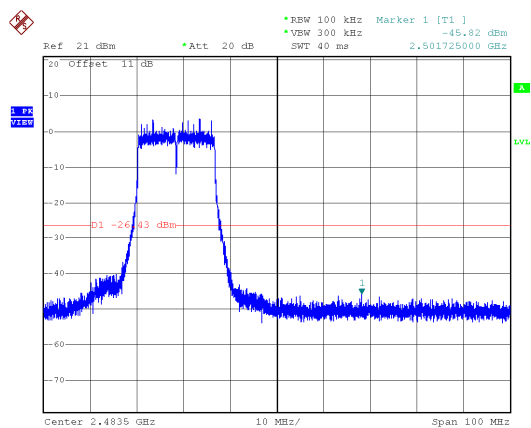
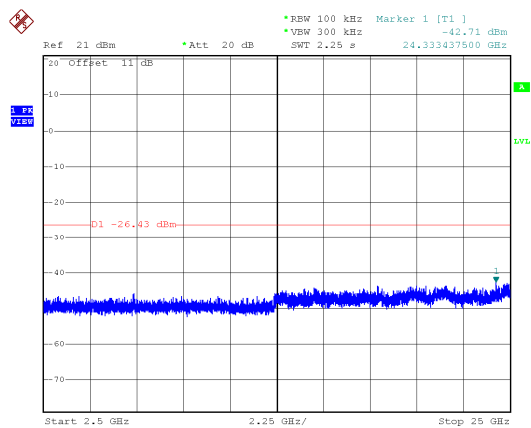


Modulation Type: 802.11g, CH 06





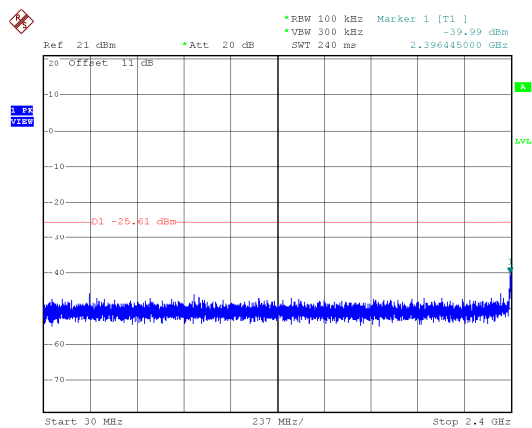
Modulation Type: 802.11g, CH 11



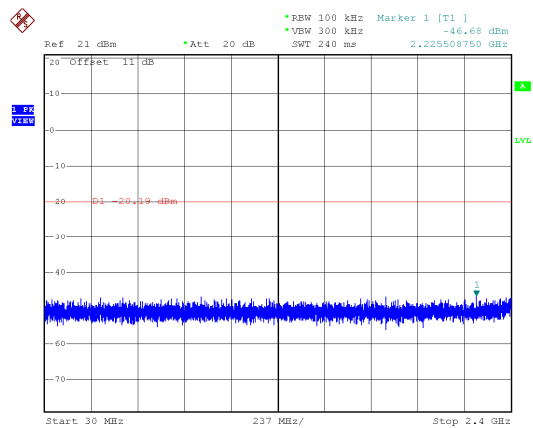
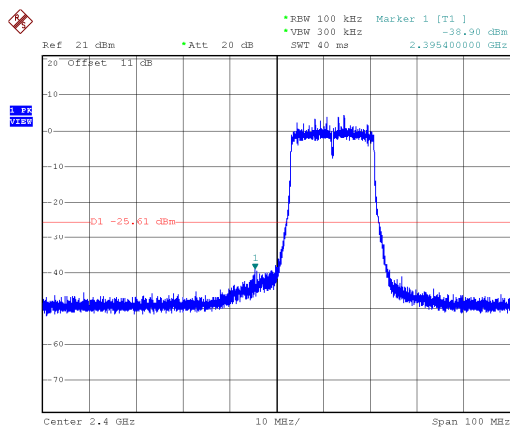
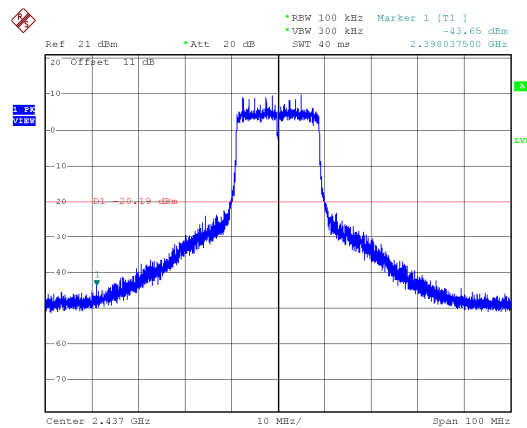
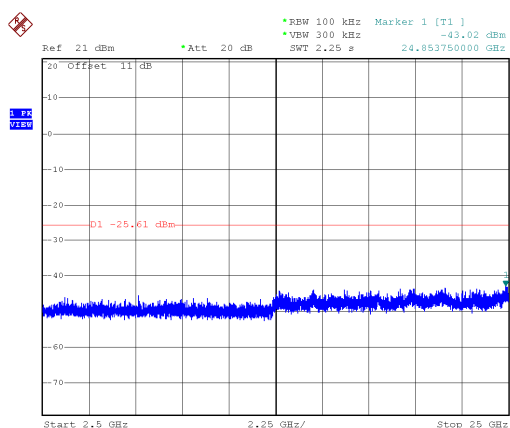
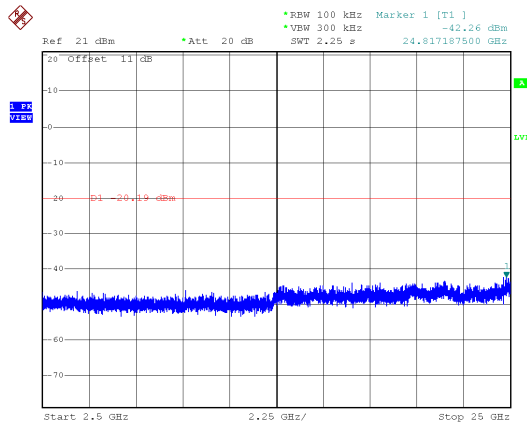


ANT B

Modulation Type: VHT20, CH01

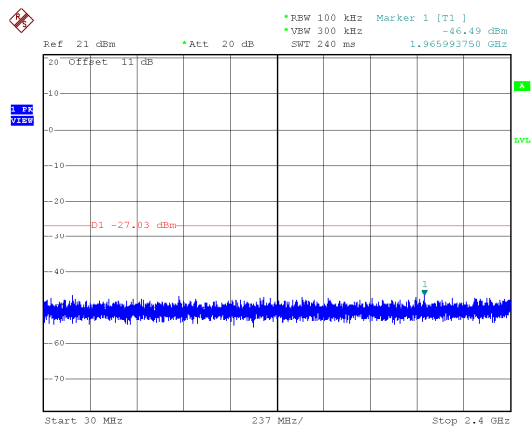
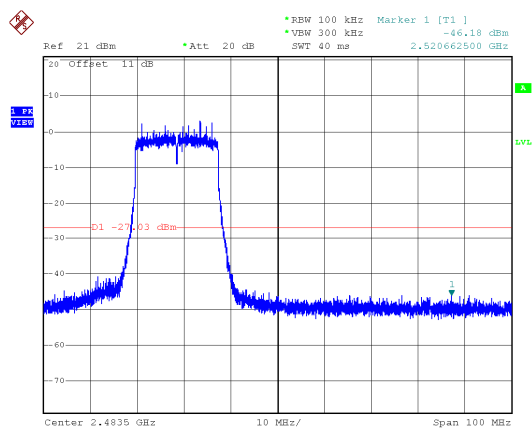
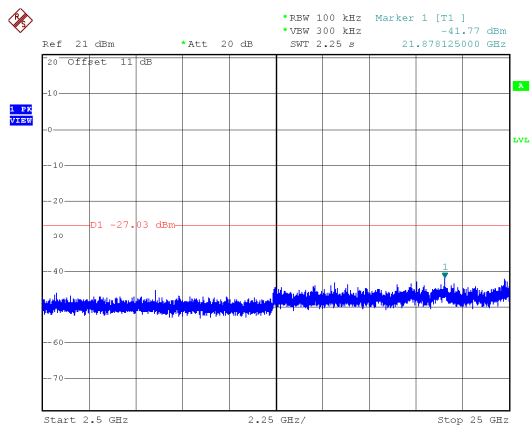


Modulation Type: VHT20, CH06





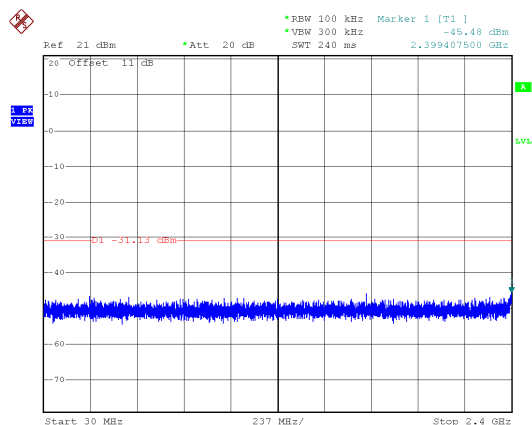
Modulation Type: VHT20, CH11



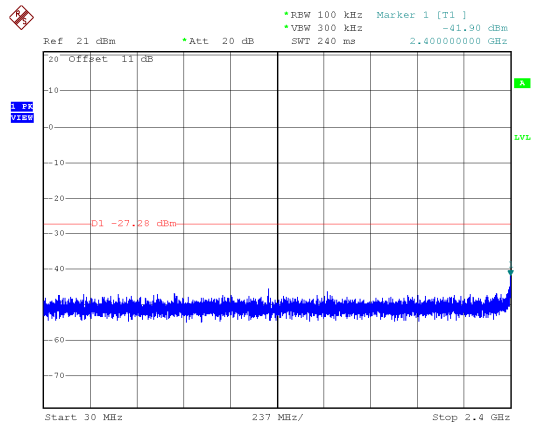
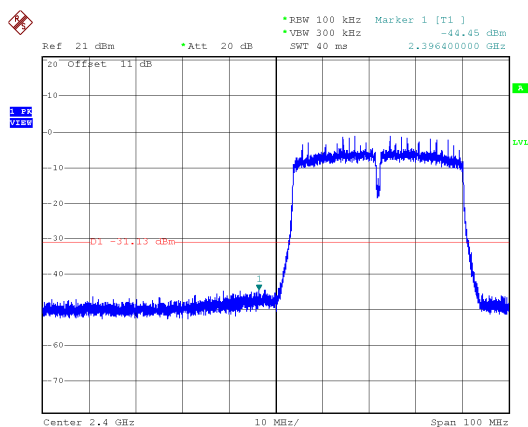
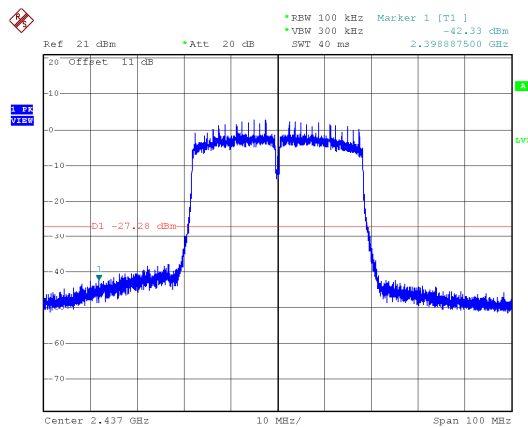
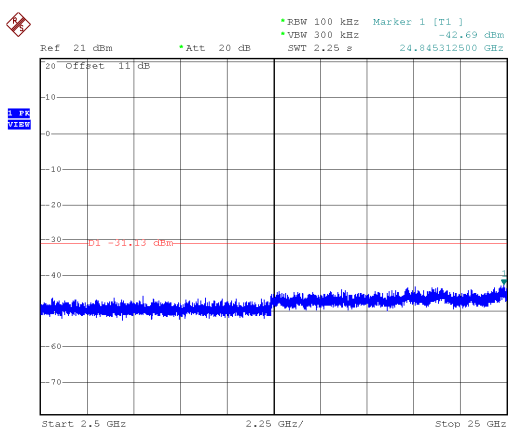
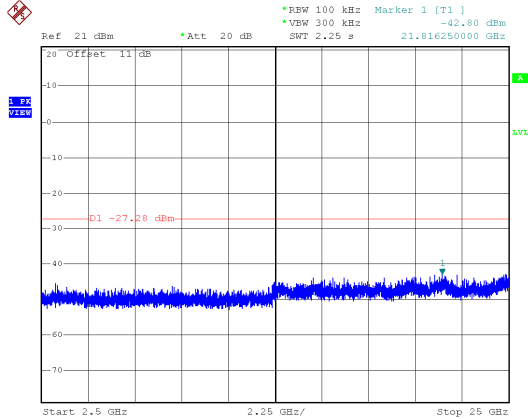


ANT B

Modulation Type: VHT40, CH03

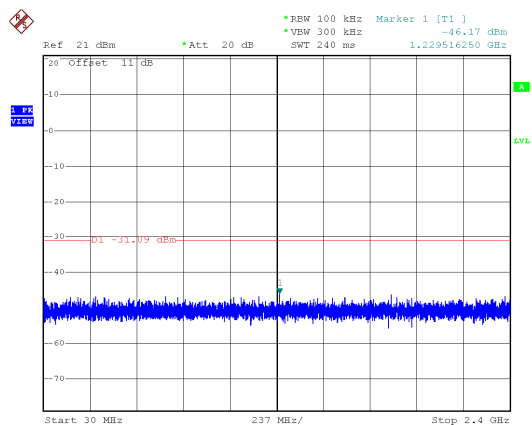
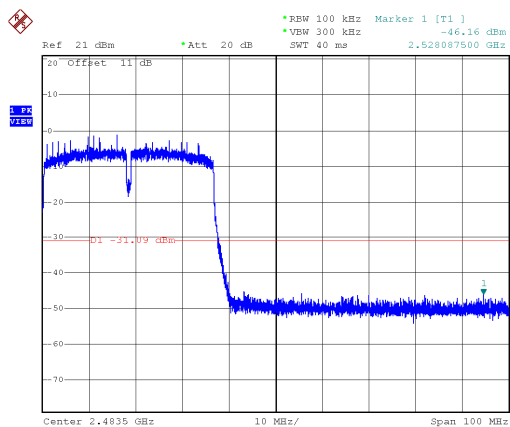
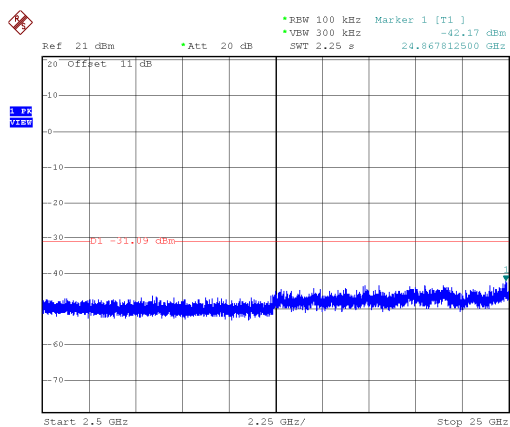


Modulation Type: VHT40, CH06





Modulation Type: VHT40, CH09





10. 功率密度之規定

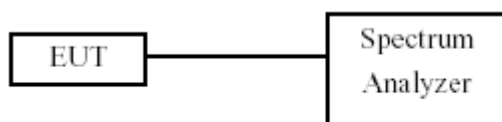
10.1. 適用標準

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

10.2. 測試方法

1. 將待測物和儀器相連接。
2. 設定儀器解析頻寬為 3kHz、視訊頻寬為 30 kHz。
3. 量測並記錄於報告中。

10.3. 測試配置



10.4. 功率密度之量測結果及數據

Temperature : 21°C

Humidity : 64%

Test Date : Feb. 08, 2018

Modulation Type	Channel	Frequency (MHz)	Maximum Power Density of 10 kHz Bandwidth (dBm)		Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
			ANT A	ANT B				
IEEE 802.11b (1Mbps)	01	2412	-7.2	-7.57	-4.37	0.00	-4.37	6.36
	06	2437	-8.49	-8.09	-5.28	0.00	-5.28	6.36
	11	2462	-7.66	-7.83	-4.73	0.00	-4.73	6.36
IEEE 802.11g (6Mbps)	01	2412	-14.26	-14.03	-11.13	0.00	-11.13	6.36
	06	2437	-10.25	-9.81	-7.01	0.00	-7.01	6.36
	11	2462	-15.19	-15.51	-12.34	0.00	-12.34	6.36
VHT20 (6.5Mbps)	01	2412	-14.31	-12.17	-10.10	0.00	-10.10	6.36
	06	2437	-9.29	-8.6	-5.92	0.00	-5.92	6.36
	11	2462	-15.72	-15.12	-12.40	0.00	-12.40	6.36
VHT40 (6.5Mbps)	03	2422	-20.25	-13.58	-12.73	0.00	-12.73	6.36
	06	2437	-16.65	-15.66	-13.12	0.00	-13.12	6.36
	09	2452	-19.92	-20.24	-17.07	0.00	-17.07	6.36

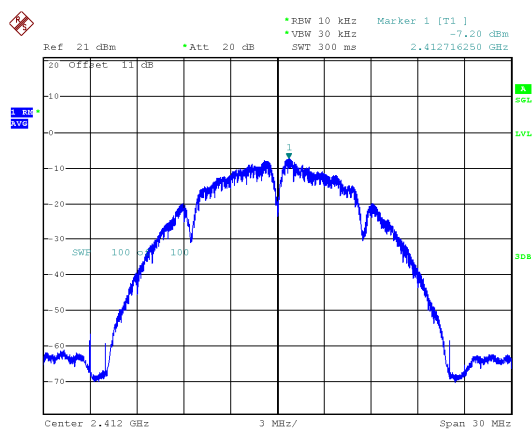
備註：繪圖資料請參考下頁。

10.5. 結果判定

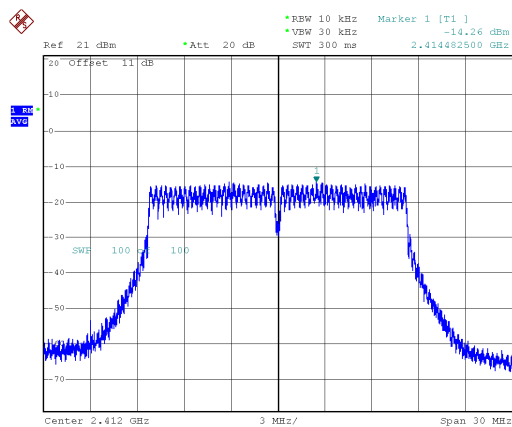
高、中、低頻段的 3 kHz 功率密度皆低於 8 dBm，合乎標準規定。



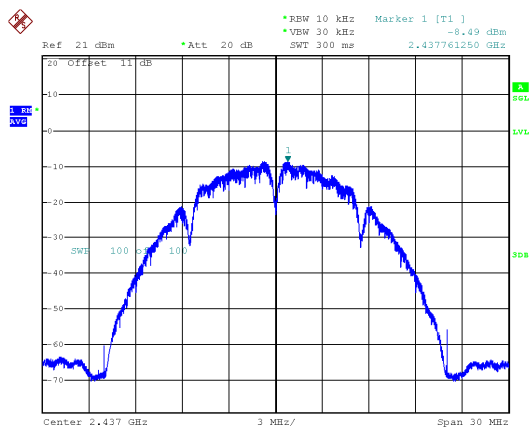
ANT A
Modulation Type: 802.11b
CH01



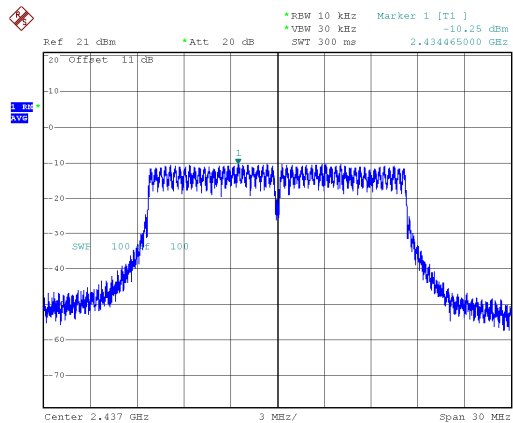
Modulation Type: 802.11g
CH01



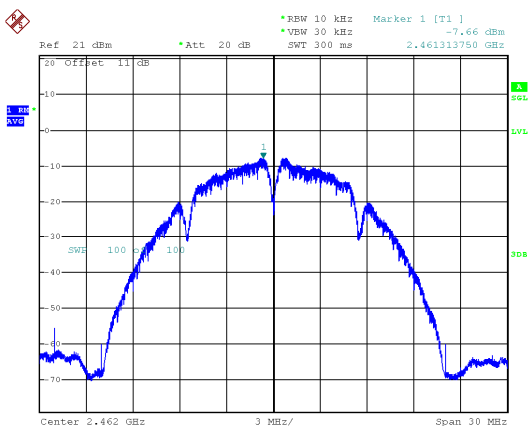
CH06



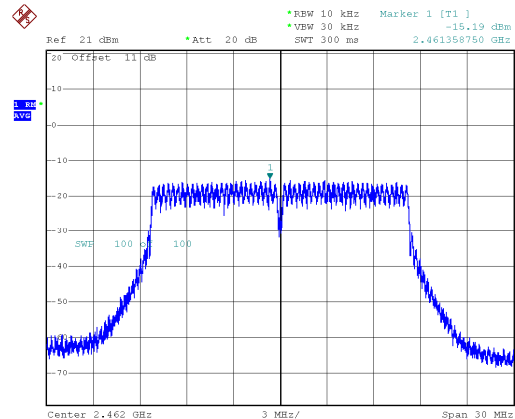
CH06



CH11

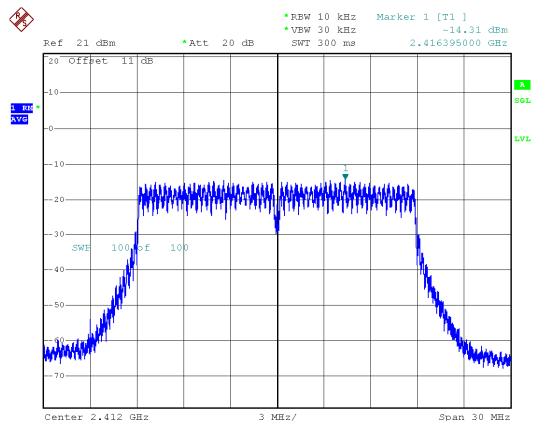


CH11

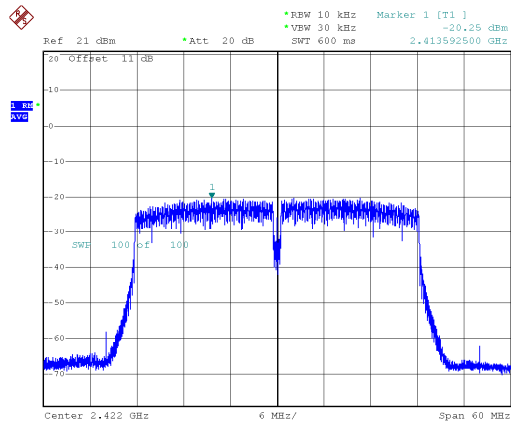




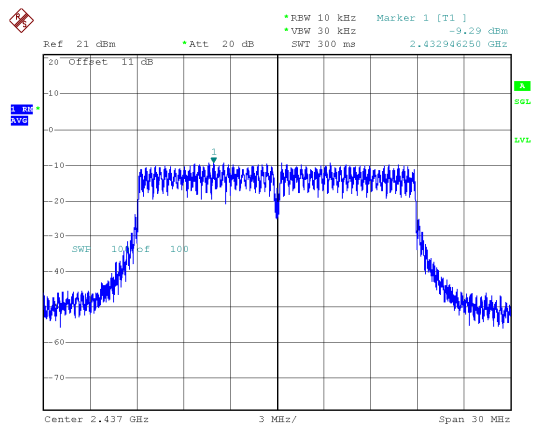
Modulation Type: VHT20 CH01



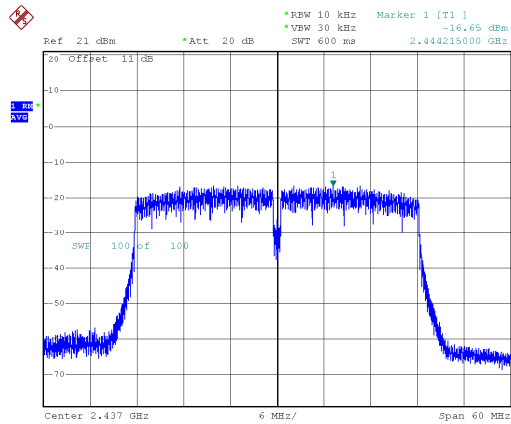
Modulation Type: VHT40 CH03



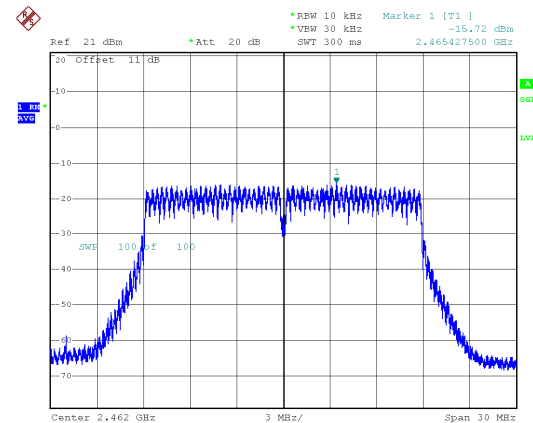
CH06



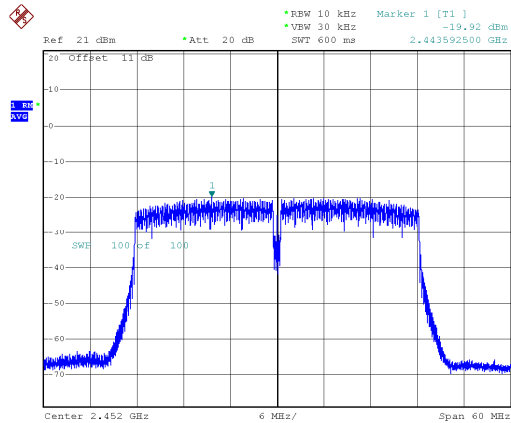
CH06



CH11

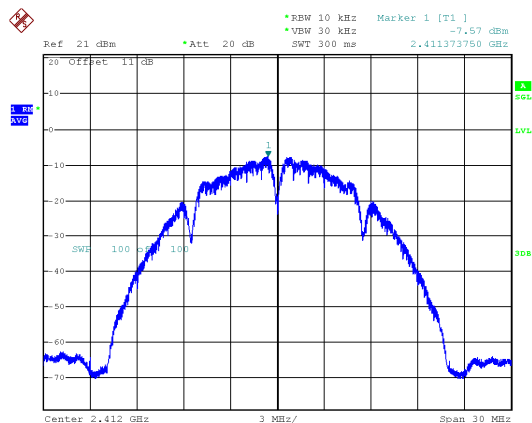


CH09

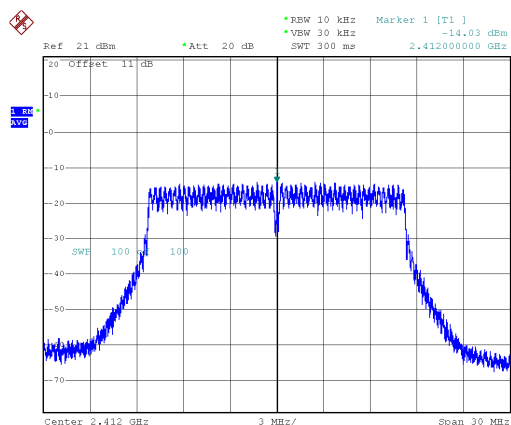




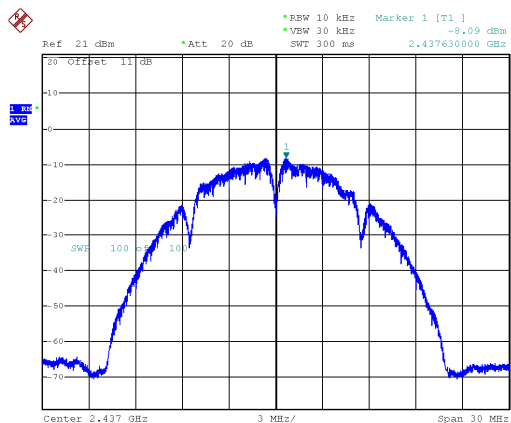
ANT B
Modulation Type: 802.11b
CH01



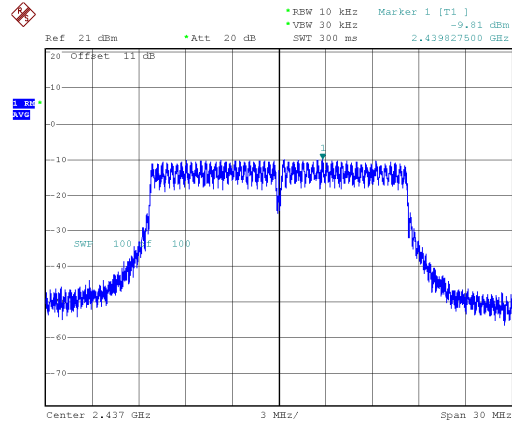
Modulation Type: 802.11g
CH01



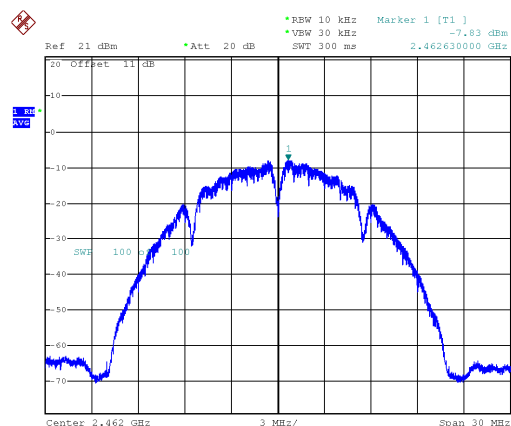
CH06



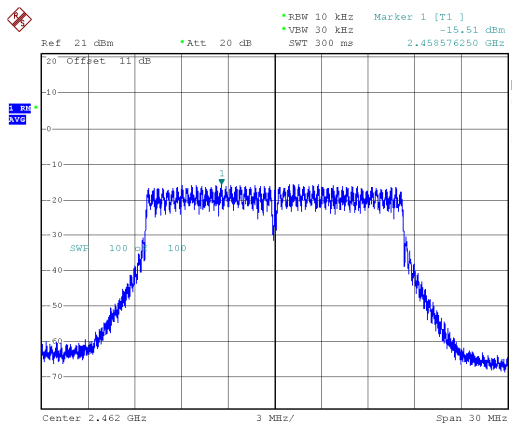
CH06

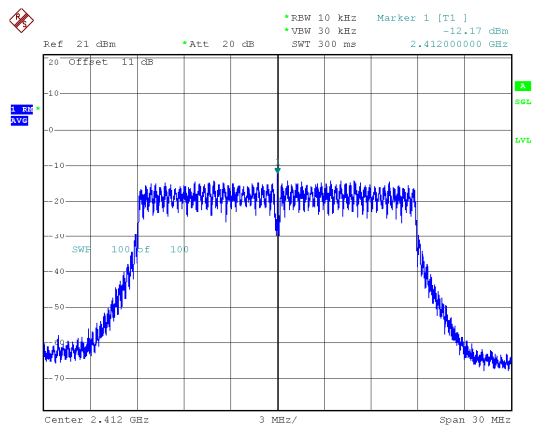
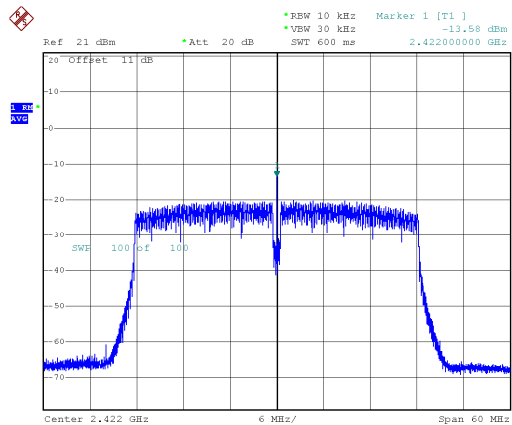


CH11

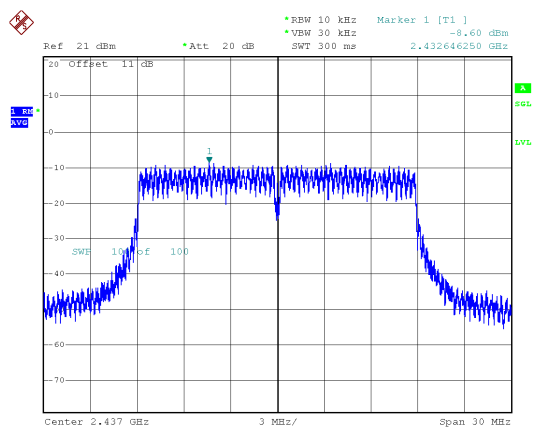


CH11

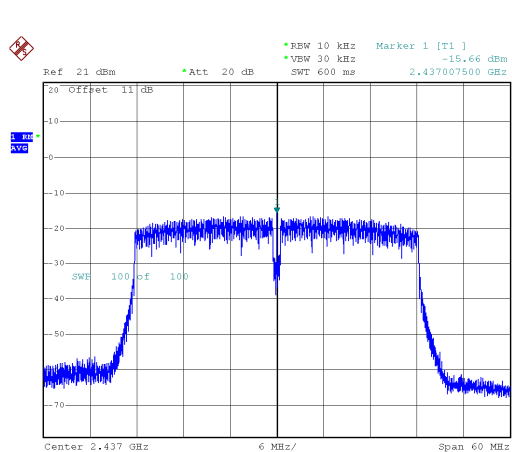


Modulation Type: VHT20
CH01Modulation Type: VHT40
CH03

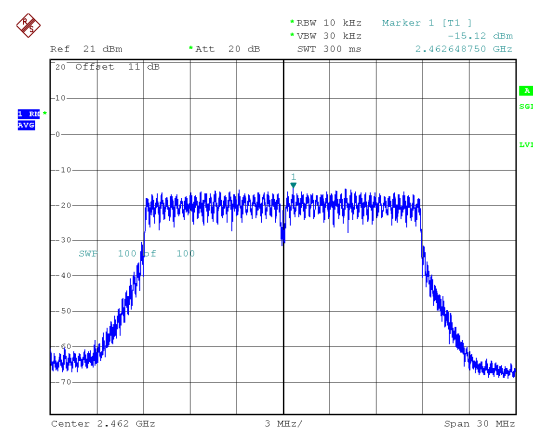
CH06



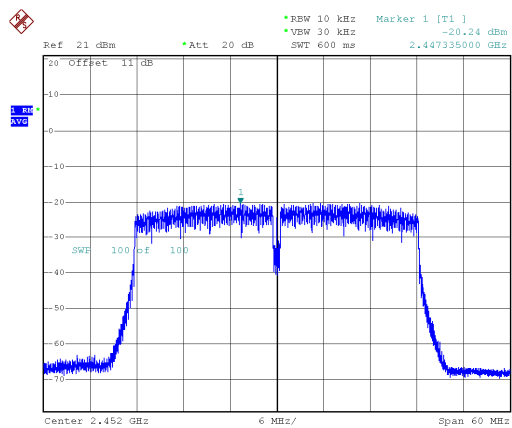
CH06



CH11



CH09





11. 電波暴露量之評估

11.1. 適用標準

依據國家通訊傳播委員會低功率射頻電機技術規範 5.20 節之(5.20.2)規定，若受測物於正常操作模式下，其發射機距離人體 20 公分以上者，可測試最大暴露允許值(Maximum Permissible Exposure, MPE)以證明其符電波暴露量之要求。限制值如下：

(1) 職業性/可控制之暴露

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

註 1：標記*表平面波等效功率密度。

註 2：f 表測試頻率，單位：百萬赫(MHz)。

(2) 一般人/不可控制之暴露

頻率範圍 (MHz)	電場強度 (V/m)	磁場強度 (A/m)	功率密度 (mW/cm ²)	平均時間 (minutes)
0.3-3.0	614	1.63	*100	30
3-30	1842/f	4.89/f	*180/f ²	30
30-300	27.5	0.073	1.0	30
300-1,500	-----	-----	f/1500	30
1,500-100,000	-----	-----	1.0	30

註 1：標記*表平面波等效功率密度。

註 2：f 表測試頻率，單位：百萬赫(MHz)。

**11.2. 電波暴露量之評估結果及數據**

Temperature : 21°C

Humidity : 64%

Test Date : Feb. 08, 2018

Maximum Permissible Exposure (Non-Beamforming)

Modulation Mode	Frequency band (MHz)	Max. Conducted output power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
802.11b	2412-2462	22.56	4.85	20	0.1096	1
802.11g	2412-2462	23.35	4.85	20	0.1315	1
802.11n HT20	2412-2462	23.71	4.85	20	0.1429	1
802.11n HT40	2422-2452	19.26	4.85	20	0.0512	1
VHT20	2412-2462	23.78	4.85	20	0.1452	1
VHT40	2422-2452	19.33	4.85	20	0.0520	1

Maximum Permissible Exposure (Beamforming)

Modulation Mode	Frequency band (MHz)	Max. Conducted output power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
802.11g	2412-2462	20.34	7.64	20	0.3160	1
802.11n HT20	2412-2462	20.70	7.64	20	0.1358	1
802.11n HT40	2422-2452	16.25	7.64	20	0.0487	1
VHT20	2412-2462	20.77	7.64	20	0.1381	1
VHT40	2422-2452	16.32	7.64	20	0.0495	1

Maximum Permissible Exposure (Co-location)**(Non-Beamforming)**

Modulation Mode	Frequency band (MHz)	Max. Conducted output power (dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)
VHT20	2412-2462	23.78	4.85	20	0.1452
5G 11ac VHT40	5250-5350	23.34	4.20	20	0.1129
5G 11a	5725-5850	22.83	4.90	20	0.1180
Co-location Total					0.3761
Maximum Permissible Exposure Limit					1

(Beamforming)

Modulation Mode	Frequency band (MHz)	Max. Conducted output power (dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)
11ac VHT20	2412-2462	20.77	7.64	20	0.1381
5G 11ac VHT40	5250-5350	20.33	7.12	20	0.1106
802.11a	5725-5850	19.82	7.56	20	0.1089
Co-location Total					0.3576
Maximum Permissible Exposure Limit					1



11.3. 結果判定

高、中、低頻段的電波暴露量皆低於限制值，合乎標準規定。



12. 限制使用之頻帶

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

頻率(兆赫)	頻率(兆赫)	頻率(兆赫)
0.090 - 0.110	167.72 - 173.20	3260.0 - 3267.0
0.490 - 0.510	240.00 - 285.00	3332.0 - 3339.0
2.172 - 2.198	322.00 - 335.40	3345.8 - 3358.0
3.013 - 3.033	399.90 - 410.00	3500.0 - 4400.0
4.115 - 4.198	485.00 - 510.00	4500.0 - 5250.0
5.670 - 5.690	608.00 - 614.00	5350.0 - 5460.0
6.200 - 6.300	703.00 - 748.00	7250.0 - 7750.0
8.230 - 8.400	758.00 - 803.00	8025.0 - 8500.0
12.265 - 12.600	825.00 - 915.00	9000.0 - 9200.0
13.340 - 13.430	930.00 - 1240.0	9300.0 - 9500.0
14.965 - 15.020	1300.0 - 1427.0	10600- 12700
16.700 - 16.755	1435.0 - 1626.5	13250- 13400
19.965 - 20.020	1660.0 - 1770.0	14470- 14500
25.500 - 25.700	1805.0 - 1865.0	15350- 16200
37.475 - 38.275	1885.0 - 1900.0	17700- 21400
73.500 - 75.400	1905.0 - 1985.0	22010- 23120
108.00 - 138.00	2015.0 - 2025.0	23600- 24000
149.90 - 150.05	2125.0 - 2160.0	31200- 31800
156.70 - 156.90	2200.0 - 2300.0	36430- 36500
162.01 - 167.17	2310.0 - 2390.0	38600 以上
162.01 - 167.17	2483.5 - 2900.0	