

# 低功率射頻電機 檢驗報告

|        |                                        |
|--------|----------------------------------------|
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| 製造廠商   | Canon Inc.                             |
| 受檢設備名稱 | Wireless Module                        |
| 廠牌     | Canon                                  |
| 型號     | WM601                                  |
| 檢驗依據標準 | 國家通訊傳播委員會低功率射頻電機<br>技術規範<br>( LP0002 ) |
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| 檢驗結果   | 合格                                     |

財團法人台灣電子檢驗中心

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電話：(03)3276170~74

傳真：(03)3276188

實驗室認可編號及範圍: 0371 (9 kHz to 325 GHz)

實驗室認可證書有效期限: 110年10月31日

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## 1 一般資料

### 1.1 產品描述

- a) 產品型態 : Wireless Module
- b) 廠 牌 : Canon
- c) 產品型號 : WM601
- d) 供應電源 : 1. Charger:  
Input 110-240VAC, 50/60Hz  
Output 8.4V dc ..... 0.54A  
2. Battery:  
DC 7.2V ..... 875mAh

備註：1. 本產品內含WLAN、Bluetooth及Bluetooth LE無線技術，WLAN部份包含DTS頻帶。本報告僅記錄DTS部份，Bluetooth部份請見ETC報告編號: 19-02-MAS-005-01，Bluetooth LE部份請見ETC報告編號: 19-02-MAS-005-02。

- 2. 原適用設備/廠牌/型號: Digital Camera / Canon / PC2366。
- 3. 增列適用設備: Digital Camera，廠牌: Canon，型號: PC2367，其差異如系列差異表所示。
- 4. 該產品確符合同系列產品技術規格及射頻性能相同。
- 5. 原證書號碼：CCAB18LP2170T1。
- 6. 原主測報告編號: 18-10-MAS-080-03。

### 1.2 產品特性

此裝置為 Wireless Module，內含之WLAN其發射頻率落於 2412 至 2462 MHz頻段分為 11 個頻道。採用 IEEE 802.11b/g/n HT20 直接序列展頻調變技術，最高資料傳送速度為 135 Mbps，調變方式為 DSSS (IEEE 802.11b)：DBPSK，DQPSK，CCK 以及 OFDM (IEEE 802.11g/n HT20)：BPSK，QPSK，16QAM，64QAM，其應用為區域網路無線傳輸。主波發射功率為 17.63 dBm，即為 57.94 mW，其頻道對應頻率如下：

| 頻道 | 對應頻率(MHz) | 頻道 | 對應頻率(MHz) |
|----|-----------|----|-----------|
| 01 | 2412      | 07 | 2442      |
| 02 | 2417      | 08 | 2447      |
| 03 | 2422      | 09 | 2452      |
| 04 | 2427      | 10 | 2457      |
| 05 | 2432      | 11 | 2462      |
| 06 | 2437      |    |           |

### 1.3 測試方法之依據

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 IEEE ANSI、歐盟ETSI EN與美國EIA、FCC 47 CFR PART 2、KDB及ARIB STD-T67 等有關檢驗之規定。

試驗室介紹：財團法人台灣電子檢驗中心電磁相容試驗室通過下列評鑑、認可、登錄與相互認可協議：

- ① ISO9001: TÜV Product Service
- ② ISO/IEC 17025: BSMI, TAF, NCC, NVLAP, ILAC MRA, UL, Compliance
- ③ Filing: FCC, Industry Canada, VCCI
- ④ MRA: Australia, Hong Kong, New Zealand, Singapore, USA, Japan, Korea, China, APLAC through TAF
- ⑤ FCC Registration Number: TW0371, TW1112
- ⑥ Industry Canada Site Registration Number: IC 2949A-2

## 2 適用規範

### 2.1 規範要求

#### (1) 傳導之規定

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~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制值。測量時應經過50微亨利及50歐姆之電源線阻抗穩定網路(Line Impedance Stabilization Network ; LISN)。頻率重疊處，以較低限制值為準。

| 頻率範圍<br>MHz | 傳導限制值(dB $\mu$ 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

#### (2) 天線增益之要求

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3.10.1.3之規定，若發射天線之方向性增益超過6dBi時，除符合下列情形外，應依其所超過之dB數降低最大傳導輸出功率。

依據國家通訊傳播委員會低功率射頻電機技術規範3.10.1.3節之(3)規定，除3.10.1.3節之(1)與(2)外，使用超過6dBi方向增益之發射天線時，應依照超過6 dBi天線方向性增益的dBi總量，等量減少最大傳導輸出功率限制值。

#### (3) 頻寬之要求

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。

#### (4) 峰值傳導輸出功率之要求

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節之(1)(C)規定，對使用數位調變技術之低功率發射機，其峰值傳導輸出功率不得大於 1 Watt，且其所使用天線之增益不可大於6 dBi，若使用大於6dBi增益之天線，則其峰值傳導輸出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。

### (5) 功率密度之要求

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，在使用頻率範圍之任一3 kHz頻寬內，由發射機傳導至天線之功率頻譜密度在任意傳輸期間內，皆小於或等於8毫分貝(dBm)，且應依3.10.1.3之方式降低功率頻譜密度限制值。

### (6) 發射限制之要求

操作頻帶範圍外之任意100 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 kHz內的射頻功率，其衰減值限制如下：

- (1) 輸出功率以附件二之峰值輸出功率方式測量者，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3.10.1.2(1)(C)之最大傳導輸出功率測量方式者，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。

### (7) 輻射之規定

依據國家通訊傳播委員會低功率射頻電機技術規範3.10.1.5之要求，落於2.7節禁用頻段之輻射發射，應符合2.8節之規定：

| 頻率<br>MHz            | 測試距離<br>m | 限制值<br>$\mu\text{V/m}$ |
|----------------------|-----------|------------------------|
| 0.009 - 0.490(含)     | 300       | 2400/頻率(kHz)           |
| 0.490(不含) - 1.705(含) | 30        | 24000/頻率(kHz)          |
| 1.705(不含) - 30(不含)   | 30        | 30                     |
| 30(含) - 88(含)        | 3         | 100                    |
| 88(不含) - 216(含)      | 3         | 150                    |
| 216(不含) - 960(含)     | 3         | 200                    |
| 960(不含)以上            | 3         | 500                    |

## 2.2 限制使用之頻帶

| MHz             | MHz             |
|-----------------|-----------------|
| 0.090 - 0.110   | 1660.0 – 1785.0 |
| 0.490 - 0.510   | 1805.0 – 1880.0 |
| 2.172 - 2.198   | 1855.0 – 1900.0 |
| 3.013 - 3.033   | 1905.0 – 1985.0 |
| 4.115 - 4.198   | 2010.0 – 2025.0 |
| 5.670 - 5.690   | 2110.0 – 2170.0 |
| 6.200 - 6.300   | 2200.0 – 2300.0 |
| 8.230 - 8.400   | 2310.0 - 2390.0 |
| 12.265 - 12.600 | 2483.5 - 2900.0 |
| 13.340 - 13.430 | 3260.0 – 3267.0 |
| 14.965 - 15.020 | 3332.0 – 3339.0 |
| 16.700 - 16.755 | 3345.8 – 3358.0 |
| 19.965 - 20.020 | 3500.0 - 4400.0 |
| 25.500 - 25.700 | 4500.0 – 5250.0 |
| 37.475 - 38.275 | 5350.0 - 5460.0 |
| 73.500 - 75.400 | 7250.0 - 7750.0 |
| 108.00 - 138.00 | 8025.0 - 8500.0 |
| 149.90 - 150.05 | 9000.0 - 9200.0 |
| 156.70 - 156.90 | 9300.0 - 9500.0 |
| 162.01 – 167.17 | 10600 - 12700   |
| 167.72 – 173.20 | 13250 - 13400   |
| 240.00 – 285.00 | 14470 - 14500   |
| 322.00 – 335.40 | 15350 - 16200   |
| 399.90 – 410.00 | 17700 - 21400   |
| 485.00 – 510.00 | 22010 - 23120   |
| 608.00 – 614.00 | 23600 - 24000   |
| 703.00 – 748.00 | 31200 - 31800   |
| 758.00 – 803.00 | 36430 - 36500   |
| 825.00 – 915.00 | 38600 以上        |
| 930.00 – 1240.0 |                 |
| 1300.0 – 1427.0 |                 |
| 1435.0 – 1626.5 |                 |

### 3 受測裝置之系統說明

#### 3.1 受測裝置

| 裝置名稱              | 製造者/代理者    | 型 號    | 纜線說明                      |
|-------------------|------------|--------|---------------------------|
| * Wireless Module | Canon Inc. | WM601  | ----                      |
| Digital Camera    | Canon Inc. | PC2367 | 非隔離電源線 1.8m * 1 / Adapter |

註: 1. 標記“\*”表欲申請之受測物。

2. 測試配置:

T X M o d e

E U T

C h a r g i n g M o d e

C h a r g e r

A C

3. 軟體設定:

|       |                                                            |
|-------|------------------------------------------------------------|
| 軟體名稱: | RF-TEST.exe                                                |
| 軟體設定: | Power: 802.11b ➔ Data rate 1 Mbps (經驗證為最差模式); Power Set: 8 |
|       | 802.11g ➔ Data rate 6 Mbps (經驗證為最差模式); Power Set: 8        |
|       | 802.11n HT20 MCS0 (經驗證為最差模式); Power Set: 8                 |

#### 3.2 測試模式說明

##### 3.2.1 調變方式及模式

| Test Mode | Modulation        | Worse Case | Test Channel | Frequency (MHz) |
|-----------|-------------------|------------|--------------|-----------------|
| A         | IEEE 802.11b      | B (註1)     | Channel Low  | 2412            |
| B         | IEEE 802.11g      |            | Channel Mid  | 2437            |
| C         | IEEE 802.11n HT20 |            | Channel High | 2462            |

##### 3.2.2 測試項目及模式

| Item | 測試項目            | 測試模式                  | 測試頻率(MHz)        |
|------|-----------------|-----------------------|------------------|
| 1    | 電源線傳導干擾之量測      | B+Charging Mode (註1)  | 2437 (註2)        |
| 2    | 發射頻寬之量測         | -                     | -                |
| 3    | 峰值輸出功率之量測       | -                     | -                |
| 4    | 功率密度之量測         | -                     | -                |
| 5    | 混附波發射限制之量測      | -                     | -                |
| 6    | 場強輻射之量測(主諧波)    | A, B, C               | 2412, 2437, 2462 |
| 6.1  | 場強輻射之量測(1GHz以下) | B, Charging Mode (註1) | 2437 (註2)        |
| 6.2  | 場強輻射之量測(1GHz以上) | A, B, C               | 2412, 2437, 2462 |

註: 1. IEEE 802.11b, IEEE 802.11g, IEEE 802.11n HT20 預掃時, 擇峰值輸出功率最高者作最終測試並記錄之。

2. 高, 中, 低頻道預掃時無差異, 擇一作最終測試並記錄之。

3. 此產品為手持式分別要以三軸相(X、Y、Z)放置, 並分別測試以找出最大輻射電場強度軸相, 其中以 X 軸模式較差, 並記錄其讀值。

3.2.3 Duty cycle

|              |            |
|--------------|------------|
| Modulation   | Duty cycle |
| IEEE 802.11b | >98%       |

File: 18-10-MAS-080\_B

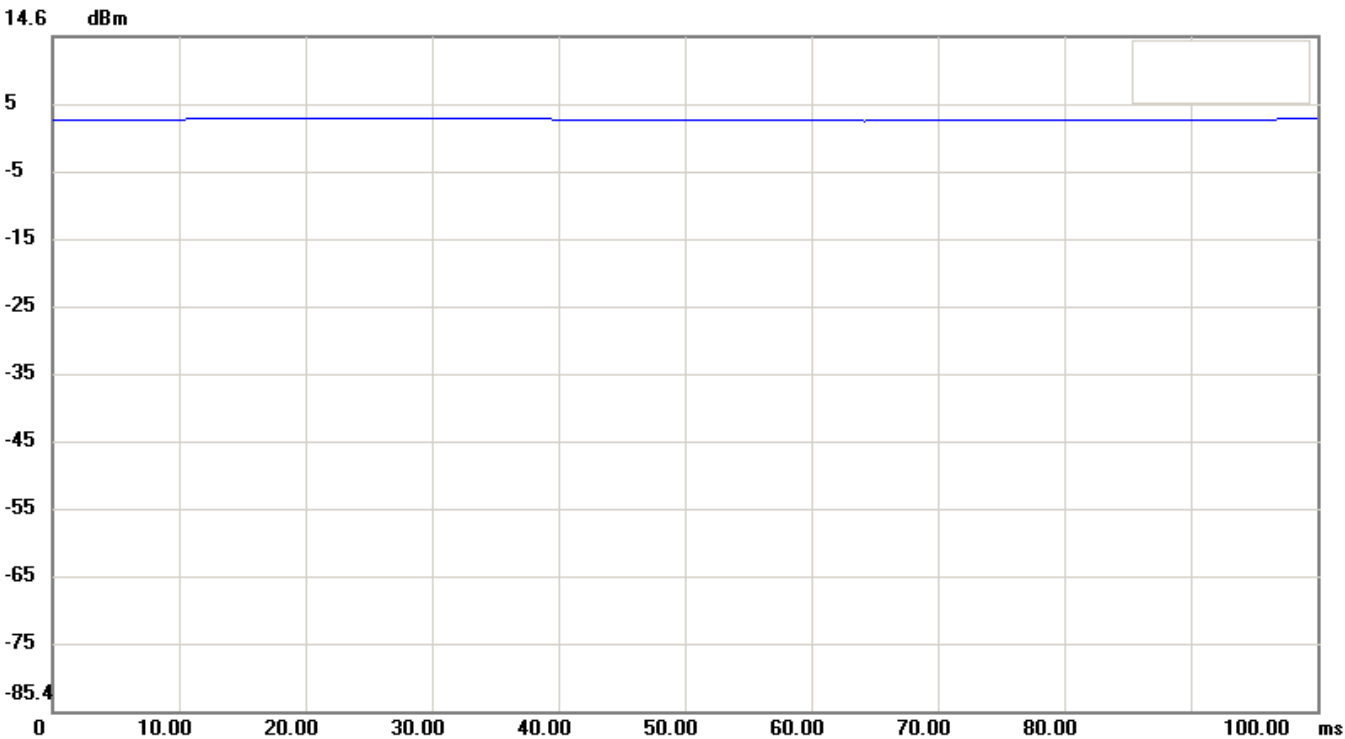
#15

Date: 2018/11/6

Temperature: 25 °C

Time: 上午 10:50:51

Humidity: 60 %



Condition:

EUT:

Model:

Test Mode:

Note:

RF Conducted

Sweep Time: 100ms Att.: 20dB

RBW: 1000 KHz VBW: 1000 KHz

NCC-802.11b Duty Cycle-1

|              |            |
|--------------|------------|
| Modulation   | Duty cycle |
| IEEE 802.11g | >98%       |

File: 18-10-MAS-080\_G

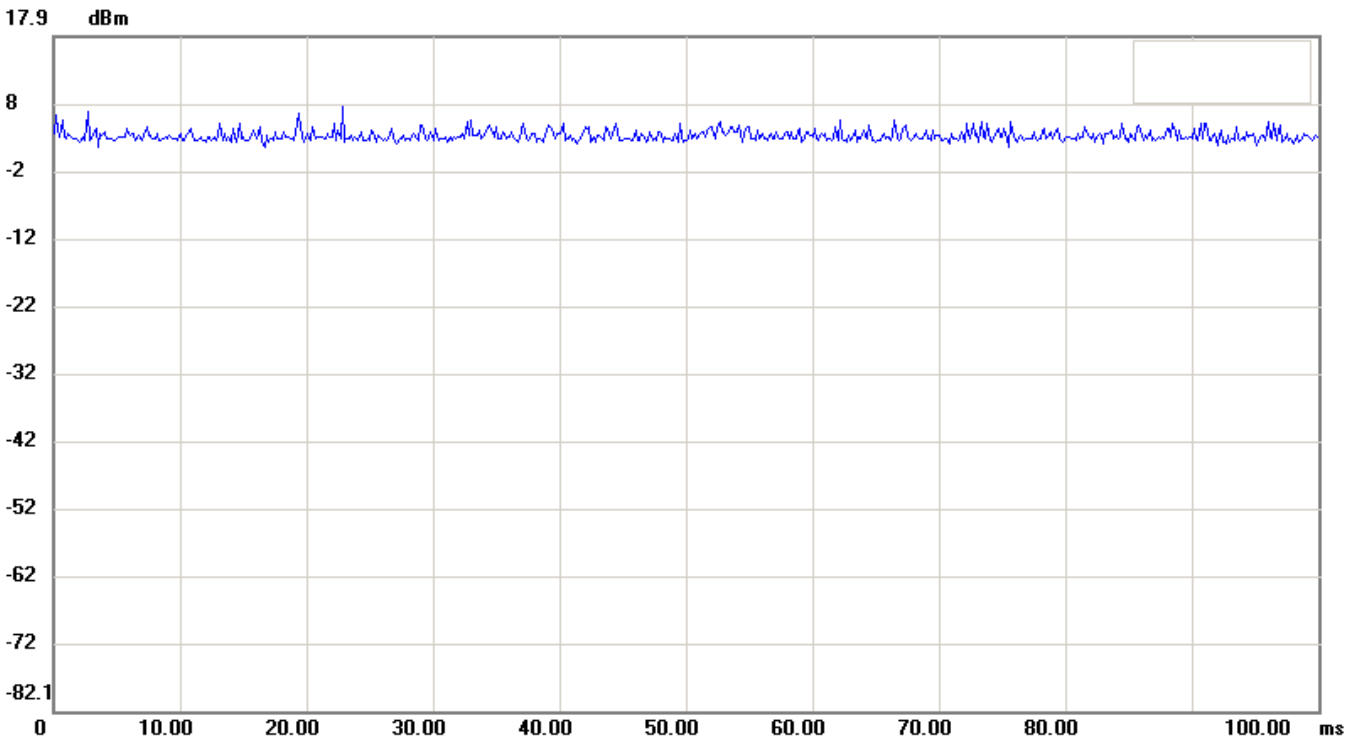
#15

Date: 2018/11/6

Temperature: 25 °C

Time: 上午 11:21:33

Humidity: 60 %



Condition:

EUT:

Model:

Test Mode:

Note:

RF Conducted

Sweep Time: 100ms Att.: 20dB

RBW: 1000 KHz VBW: 1000 KHz

NCC-802.11g Duty Cycle-1

|                   |            |
|-------------------|------------|
| Modulation        | Duty cycle |
| IEEE 802.11n HT20 | >98%       |

File: 18-10-MAS-080\_HT20

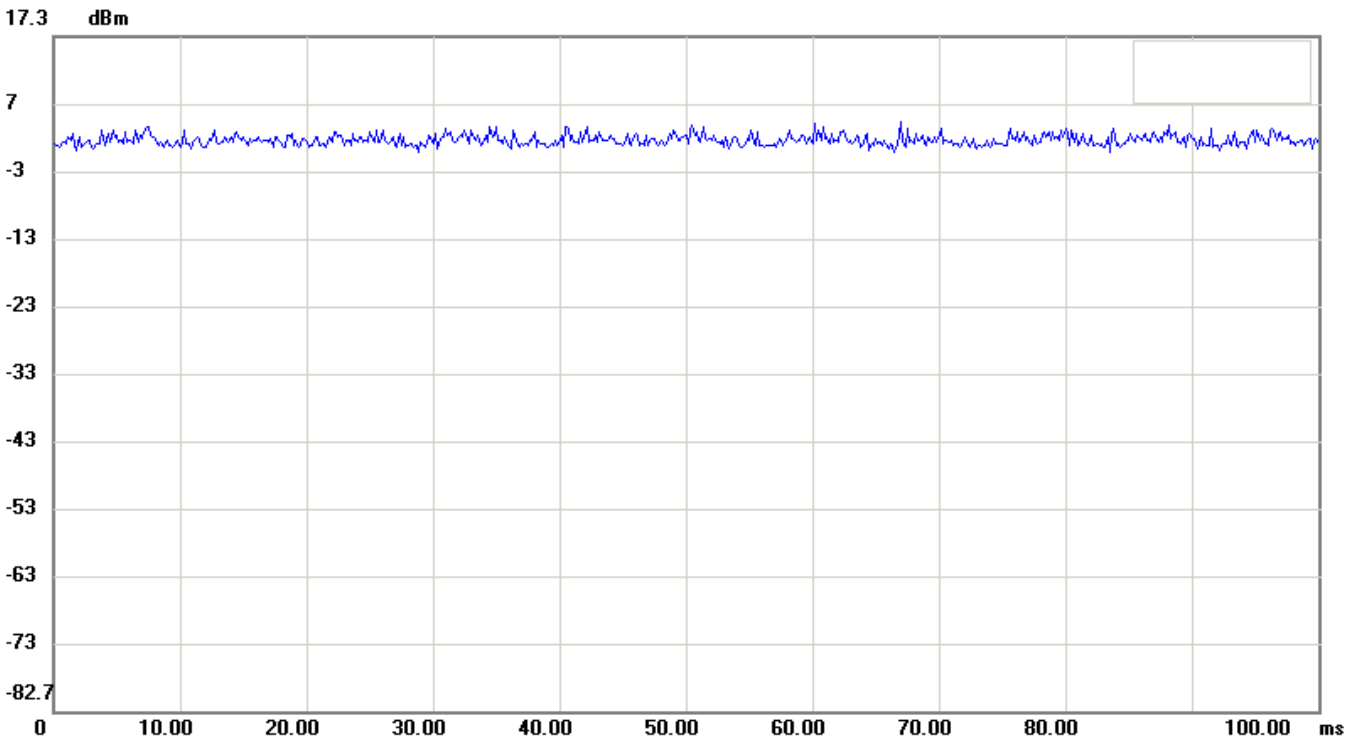
#18

Date: 2018/11/6

Temperature: 25 °C

Time: 下午 01:45:07

Humidity: 60 %



Condition:

EUT:

Model:

Test Mode:

Note:

RF Conducted

Sweep Time: 100ms Att.: 20dB

RBW: 1000 KHz VBW: 1000 KHz

NCC-802.11HT20 Duty Cycle-1

## 4 電源線傳導干擾之量測

### 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2.3節之要求。

### 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 之間之電源線傳導干擾強度。

### 4.3 量測電源線傳導干擾之儀器

| 儀器名稱              | 廠 牌 | 型 號    |
|-------------------|-----|--------|
| EMI Test Receiver | R&S | ESCI   |
| V-LISN            | R&S | ENV216 |

測試軟體: EZ-EMC (Ver. ETC-03A1)

## 4.4 傳導干擾之量測結果

測試工程師：羅世勇

File: LC-E12

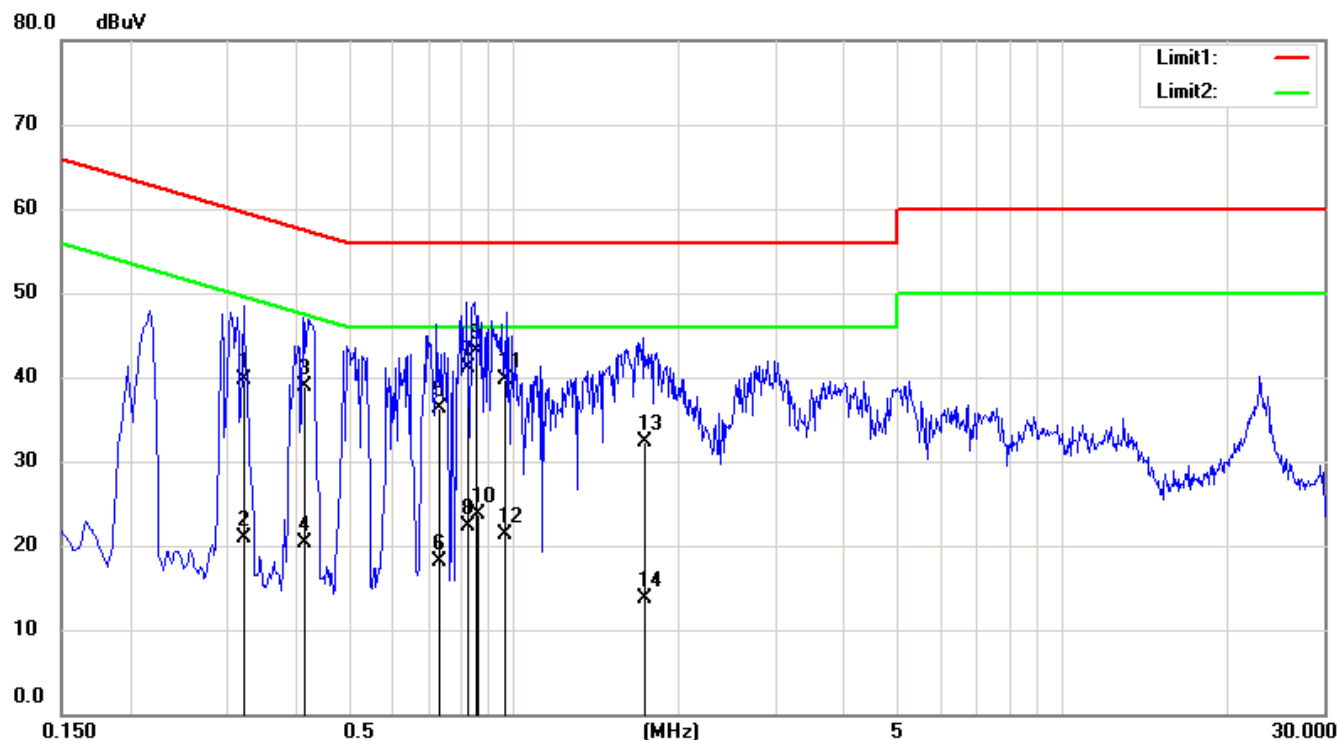
Data: #1

Date: 2019/3/22

Temperature: 20 °C

Time: 下午 08:04:42

Humidity: 58 %



Condition:

Phase:

L1

EUT:

Model:

Test Mode:

| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Detector | Corrected<br>Factor(dB) | Result<br>(dBuV) | Limit<br>(dBuV) | Margin<br>(dB) |
|-----|--------------------|-------------------|----------|-------------------------|------------------|-----------------|----------------|
| 1   | 0.3223             | 30.12             | QP       | 9.65                    | 39.77            | 59.65           | -19.88         |
| 2   | 0.3223             | 11.30             | AVG      | 9.65                    | 20.95            | 49.65           | -28.70         |
| 3   | 0.4153             | 29.34             | QP       | 9.65                    | 38.99            | 57.54           | -18.55         |
| 4   | 0.4153             | 10.75             | AVG      | 9.65                    | 20.40            | 47.54           | -27.14         |
| 5   | 0.7308             | 26.67             | QP       | 9.65                    | 36.32            | 56.00           | -19.68         |
| 6   | 0.7308             | 8.39              | AVG      | 9.65                    | 18.04            | 46.00           | -27.96         |
| 7   | 0.8261             | 31.47             | QP       | 9.66                    | 41.13            | 56.00           | -14.87         |
| 8   | 0.8261             | 12.58             | AVG      | 9.66                    | 22.24            | 46.00           | -23.76         |
| 9   | 0.8538             | 33.39             | QP       | 9.66                    | 43.05            | 56.00           | -12.95         |
| 10  | 0.8638             | 14.14             | AVG      | 9.66                    | 23.80            | 46.00           | -22.20         |
| 11  | 0.9644             | 29.95             | QP       | 9.66                    | 39.61            | 56.00           | -16.39         |
| 12  | 0.9644             | 11.61             | AVG      | 9.66                    | 21.27            | 46.00           | -24.73         |
| 13  | 1.7333             | 22.68             | QP       | 9.68                    | 32.36            | 56.00           | -23.64         |
| 14  | 1.7333             | 3.94              | AVG      | 9.68                    | 13.62            | 46.00           | -32.38         |

註： 1. “----”表示量測準峰值的結果符合平均值的限制值，則視為同時符合準峰值與平均值的限制值，不需再對其平均值進行量測。

2. “#”表示干擾值太小，直接量取其峰值。

3. 標記“\*\*\*”表示為本地震盪頻率及其諧波。

4. 量測不準確度:  $\pm 2.5\text{dB}$  ( $150\text{kHz} \leq f \leq 30\text{MHz}$ )。

File: LC-E12

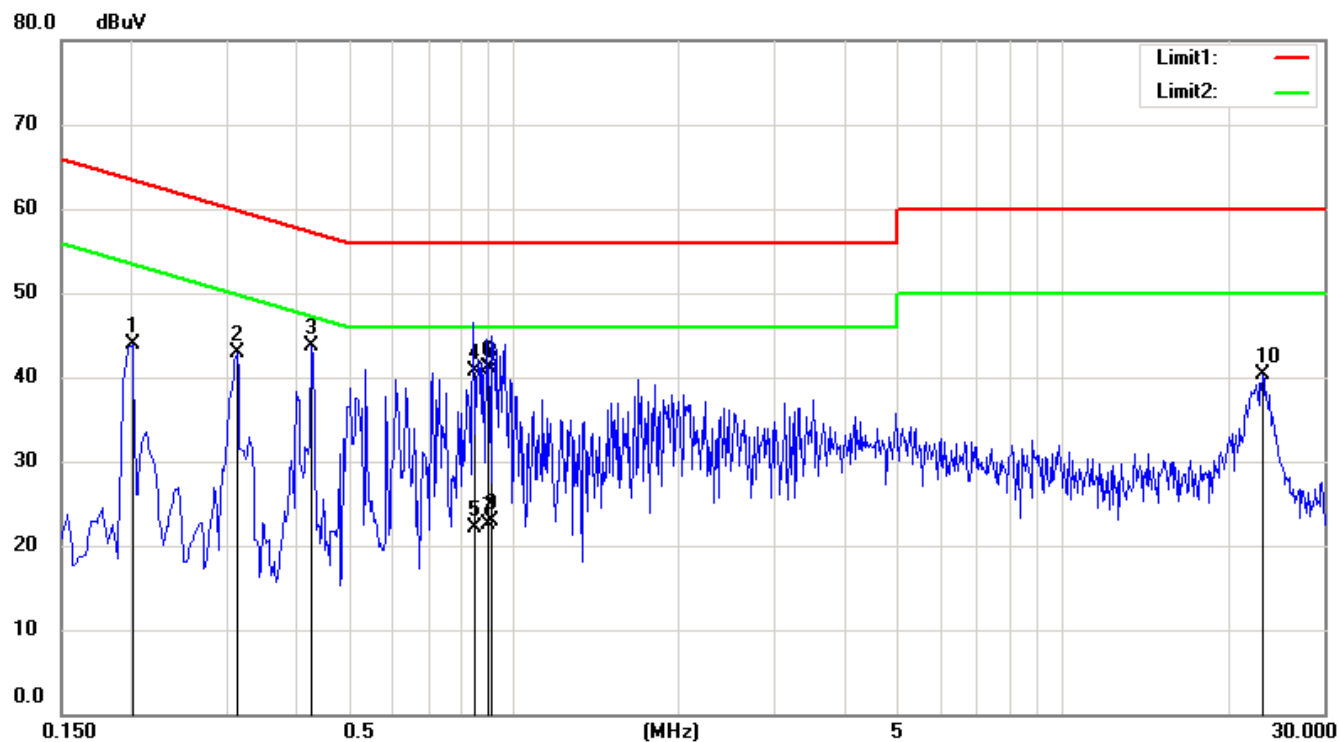
Data: #2

Date: 2019/3/22

Temperature: 20 °C

Time: 下午 08:10:13

Humidity: 58 %



Condition:

Phase:

N

EUT:

Model:

Test Mode:

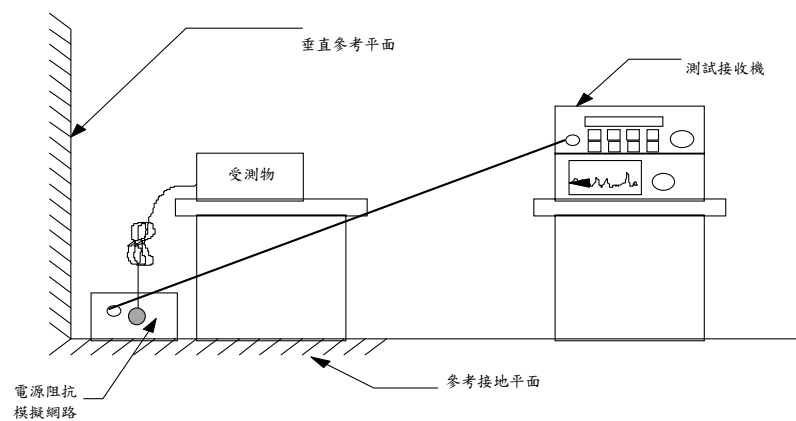
Note:

| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Detector | Corrected<br>Factor(dB) | Result<br>(dBuV) | Limit<br>(dBuV) | Margin<br>(dB) |
|-----|--------------------|-------------------|----------|-------------------------|------------------|-----------------|----------------|
| 1   | 0.2020             | 34.31             | QP       | 9.63                    | 43.94            | 63.53           | -19.59         |
| 2   | 0.3140             | 33.36             | QP       | 9.63                    | 42.99            | 59.86           | -16.87         |
| 3   | 0.4300             | 34.00             | QP       | 9.63                    | 43.63            | 57.25           | -13.62         |
| 4   | 0.8500             | 31.09             | QP       | 9.65                    | 40.74            | 56.00           | -15.26         |
| 5   | 0.8500             | 12.42             | AVG      | 9.65                    | 22.07            | 46.00           | -23.93         |
| 6   | 0.8985             | 31.39             | QP       | 9.65                    | 41.04            | 56.00           | -14.96         |
| 7   | 0.8985             | 12.93             | AVG      | 9.65                    | 22.58            | 46.00           | -23.42         |
| 8   | 0.9138             | 31.24             | QP       | 9.65                    | 40.89            | 56.00           | -15.11         |
| 9   | 0.9138             | 13.21             | AVG      | 9.65                    | 22.86            | 46.00           | -23.14         |
| 10  | 23.2180            | 30.15             | QP       | 10.09                   | 40.24            | 60.00           | -19.76         |

- 註： 1. “----”表示量測準峰值的結果符合平均值的限制值，則視為同時符合準峰值與平均值的限制值，不需再對其平均值進行量測。
2. “#”表示干擾值太小，直接量取其峰值。
3. 標記“\*\*\*”表示為本地震盪頻率及其諧波。
4. 量測不準確度:  $\pm 2.5\text{dB}$  ( $150\text{kHz} \leq f \leq 30\text{MHz}$ )。

## 4.5 電源線傳導干擾之測試配置

圖 1



## 4.6 傳導量測之配置照片

請參考產品照片

## 5 天線增益之要求

### 5.1 適用標準

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3.10.1.3之規定，若發射天線之方向性增益超過6dBi時，除符合下列情形外，應依其所超過之dB數降低最大傳導輸出功率。

依據國家通訊傳播委員會低功率射頻電機技術規範3.10.1.3節之(3)規定，除3.10.1.3節之(1)與(2)外，使用超過6dBi方向增益之發射天線時，應依照超過6 dBi天線方向性增益的 dBi總量，等量減少最大傳導輸出功率限制值。

### 5.2 天線增益

此裝置使用內接固定式天線連接於主體內 PCB 板上，天線增益 1.67 dBi，未超過 6 dBi，不須降低峰值輸出功率及功率密度之限制值。

### 5.3 結果判定

天線之方向性增益低於6dBi，因此無需降低峰值輸出功率。

## 6 場強輻射之量測

### 6.1 適用標準

依據國家通訊傳播委員會低功率射頻電機技術規範3.10.1.5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。

### 6.2 量測方法

將待測物置於非金屬桌面，使其在工作狀態，接收天線置於3米外。待測物分別要垂直或水平放置，而且桌面要360度旋轉，另外接收天線也要從1米至4米升降變化，以找出最大的輻射電場強度，接收天線置於水平、垂直極向各執行測試一次。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。

### 6.3 量測場強輻射之儀器

#### (1)量測儀器

| 儀器名稱              | 製造者     | 型號         |
|-------------------|---------|------------|
| EMI Receiver      | R&S     | ESCI       |
| Spectrum Analyzer | R&S     | FSU46      |
| Horn Antenna      | EMCO    | 3117       |
| Horn Antenna      | EMCO    | 3116       |
| PRE-Amplifier     | Agilent | 8449B      |
| PRE-Amplifier     | Agilent | 8447D      |
| BiLog Antenna     | ETC     | MCTD 2786B |

測試軟體: LZ-RF (Ver. ETC-3A2)

#### (2)儀器設定

| Frequency Band<br>(MHz) | Instrument        | Function   | Resolution<br>Bandwidth | Video<br>Bandwidth |
|-------------------------|-------------------|------------|-------------------------|--------------------|
| 30 to 1000              | RF Test Receiver  | Quasi-Peak | 120 kHz                 | 300 kHz            |
|                         | RF Test Receiver  | Peak       | 120 kHz                 | 300 kHz            |
| Above 1000              | Spectrum Analyzer | Peak       | 1 MHz                   | 1 MHz              |
|                         | Spectrum Analyzer | Average    | 1 MHz                   | 10 Hz              |

## 6.4 場強度之計算

場強之計算公式如下

$$\text{結果值} = \text{讀值} + \text{校正因子}$$

其中校正因子為：

天線因子+饋線損失+濾波器損失（若有使用）-放大器增益（若有使用）  
量測結果請見下頁。

## 6.5 場強輻射之量測結果

### 6.5.1 諧波發射

測試工程師: 羅世勇

#### 6.5.1.1 調變技術: IEEE 802.11b

##### a. Channel Low

操作模式 : 發射接收

基本波頻率 : 2412 MHz

測試日期: Feb. 22, 2019

環境溫度: 21°C

環境濕度 : 63%

| 輻射<br>頻率<br>(MHz) | 天線<br>極性<br>H/V | 機器讀值<br>(dBuV/m)@3m |     | 校正<br>因子<br>(dB) | 結果值<br>(dBuV/m)@3m |     | 限制值<br>(dBuV/m)@3m |      | 餘裕值<br>(worse)<br>(dB) |
|-------------------|-----------------|---------------------|-----|------------------|--------------------|-----|--------------------|------|------------------------|
|                   |                 | Peak                | AVG |                  | Peak               | AVG | Peak               | AVG  |                        |
| 4824.0000         | H               | ---                 | --- | -1.99            | ---                | --- | 74.0               | 54.0 | ---                    |
| 4824.0000         | V               | ---                 | --- | -1.99            | ---                | --- | 74.0               | 54.0 | ---                    |
| 7236.0000         | H               | ---                 | --- | 0.97             | ---                | --- | 74.0               | 54.0 | ---                    |
| 7236.0000         | V               | ---                 | --- | 0.97             | ---                | --- | 74.0               | 54.0 | ---                    |
| 9648.0000         | H               | ---                 | --- | 2.55             | ---                | --- | 74.0               | 54.0 | ---                    |
| 9648.0000         | V               | ---                 | --- | 2.55             | ---                | --- | 74.0               | 54.0 | ---                    |
| 14472.000         | H               | ---                 | --- | 8.96             | ---                | --- | 74.0               | 54.0 | ---                    |
| 14472.000         | V               | ---                 | --- | 8.96             | ---                | --- | 74.0               | 54.0 | ---                    |

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“\*”表示為本地震盪頻率及其諧波
4. 量測不準確度:  $\pm 4.1\text{dB}$  ( $1\text{GHz} \leq f < 18\text{GHz}$ )  
 $\pm 4.4\text{dB}$  ( $18\text{GHz} \leq f \leq 40\text{GHz}$ )

**b. Channel Mid**

操作模式：發射接收

基本波頻率：2437 MHz

測試日期：Feb. 22, 2019

環境溫度：21℃

環境濕度：63%

| 輻射<br>頻率<br>(MHz) | 天線<br>極性<br>H/V | 機器讀值<br>(dBuV/m)@3m |     | 校正<br>因子<br>(dB) | 結果值<br>(dBuV/m)@3m |     | 限制值<br>(dBuV/m)@3m |      | 餘裕值<br>(worse)<br>(dB) |
|-------------------|-----------------|---------------------|-----|------------------|--------------------|-----|--------------------|------|------------------------|
|                   |                 | Peak                | AVG |                  | Peak               | AVG | Peak               | AVG  |                        |
| 4874.0000         | H               | ---                 | --- | -1.88            | ---                | --- | 74.0               | 54.0 | ---                    |
| 4874.0000         | V               | ---                 | --- | -1.88            | ---                | --- | 74.0               | 54.0 | ---                    |
| 7311.0000         | H               | ---                 | --- | 1.15             | ---                | --- | 74.0               | 54.0 | ---                    |
| 7311.0000         | V               | ---                 | --- | 1.15             | ---                | --- | 74.0               | 54.0 | ---                    |
| 9748.0000         | H               | ---                 | --- | 2.65             | ---                | --- | 74.0               | 54.0 | ---                    |
| 9748.0000         | V               | ---                 | --- | 2.65             | ---                | --- | 74.0               | 54.0 | ---                    |
| 19496.000         | H               | ---                 | --- | 13.70            | ---                | --- | 74.0               | 54.0 | ---                    |
| 19496.000         | V               | ---                 | --- | 13.70            | ---                | --- | 74.0               | 54.0 | ---                    |

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“\*”表示為本地震盪頻率及其諧波
4. 量測不準確度:  $\pm 4.1\text{dB}$  ( $1\text{GHz} \leq f < 18\text{GHz}$ )  
 $\pm 4.4\text{dB}$  ( $18\text{GHz} \leq f \leq 40\text{GHz}$ )

**c. Channel High**

操作模式：發射接收

基本波頻率：2462 MHz

測試日期：Feb. 22, 2019

環境溫度：21℃

環境濕度：63%

| 輻射<br>頻率  | 天線<br>極性 | 機器讀值<br>(dBuV/m)@3m |     | 校正<br>因子 | 結果值<br>(dBuV/m)@3m |     | 限制值<br>(dBuV/m)@3m |      | 餘裕值<br>(worse) |
|-----------|----------|---------------------|-----|----------|--------------------|-----|--------------------|------|----------------|
| (MHz)     | H/V      | Peak                | AVG | (dB)     | Peak               | AVG | Peak               | AVG  | (dB)           |
| 4924.0000 | H        | ---                 | --- | -1.77    | ---                | --- | 74.0               | 54.0 | ---            |
| 4924.0000 | V        | ---                 | --- | -1.77    | ---                | --- | 74.0               | 54.0 | ---            |
| 7386.0000 | H        | ---                 | --- | 1.33     | ---                | --- | 74.0               | 54.0 | ---            |
| 7386.0000 | V        | ---                 | --- | 1.33     | ---                | --- | 74.0               | 54.0 | ---            |
| 9848.0000 | H        | ---                 | --- | 2.75     | ---                | --- | 74.0               | 54.0 | ---            |
| 9848.0000 | V        | ---                 | --- | 2.75     | ---                | --- | 74.0               | 54.0 | ---            |
| 19696.000 | H        | ---                 | --- | 13.70    | ---                | --- | 74.0               | 54.0 | ---            |
| 19696.000 | V        | ---                 | --- | 13.70    | ---                | --- | 74.0               | 54.0 | ---            |
| 22158.000 | H        | ---                 | --- | 13.00    | ---                | --- | 74.0               | 54.0 | ---            |
| 22158.000 | V        | ---                 | --- | 13.00    | ---                | --- | 74.0               | 54.0 | ---            |

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“\*”表示為本地震盪頻率及其諧波
4. 量測不準確度:  $\pm 4.1\text{dB}(1\text{GHz} \leq f < 18\text{GHz})$   
 $\pm 4.4\text{dB}(18\text{GHz} \leq f \leq 40\text{GHz})$

## 6.5.1.2 調變技術: IEEE 802.11g

**a. Channel Low**

操作模式：發射接收

基本波頻率：2412 MHz

測試日期: Feb. 22, 2019

環境溫度: 21°C

環境濕度：63%

| 輻射<br>頻率  | 天線<br>極性 | 機器讀值<br>(dBuV/m)@3m |     | 校正<br>因子 | 結果值<br>(dBuV/m)@3m |     | 限制值<br>(dBuV/m)@3m |      | 餘裕值<br>(worse) |
|-----------|----------|---------------------|-----|----------|--------------------|-----|--------------------|------|----------------|
|           |          | Peak                | AVG |          | Peak               | AVG | Peak               | AVG  |                |
| 4824.0000 | H        | ---                 | --- | -1.99    | ---                | --- | 74.0               | 54.0 | ---            |
| 4824.0000 | V        | ---                 | --- | -1.99    | ---                | --- | 74.0               | 54.0 | ---            |
| 7236.0000 | H        | ---                 | --- | 0.97     | ---                | --- | 74.0               | 54.0 | ---            |
| 7236.0000 | V        | ---                 | --- | 0.97     | ---                | --- | 74.0               | 54.0 | ---            |
| 9648.0000 | H        | ---                 | --- | 2.55     | ---                | --- | 74.0               | 54.0 | ---            |
| 9648.0000 | V        | ---                 | --- | 2.55     | ---                | --- | 74.0               | 54.0 | ---            |
| 14472.000 | H        | ---                 | --- | 8.96     | ---                | --- | 74.0               | 54.0 | ---            |
| 14472.000 | V        | ---                 | --- | 8.96     | ---                | --- | 74.0               | 54.0 | ---            |

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“\*”表示為本地震盪頻率及其諧波
4. 量測不準確度:  $\pm 4.1\text{dB}(1\text{GHz} \leq f < 18\text{GHz})$   
 $\pm 4.4\text{dB}(18\text{GHz} \leq f \leq 40\text{GHz})$

**b. Channel Mid**

操作模式：發射接收

基本波頻率：2437 MHz

測試日期：Feb. 22, 2019

環境溫度：21℃

環境濕度：63%

| 輻射<br>頻率<br>(MHz) | 天線<br>極性<br>H/V | 機器讀值<br>(dBuV/m)@3m |     | 校正<br>因子<br>(dB) | 結果值<br>(dBuV/m)@3m |     | 限制值<br>(dBuV/m)@3m |      | 餘裕值<br>(worse)<br>(dB) |
|-------------------|-----------------|---------------------|-----|------------------|--------------------|-----|--------------------|------|------------------------|
|                   |                 | Peak                | AVG |                  | Peak               | AVG | Peak               | AVG  |                        |
| 4874.0000         | H               | ---                 | --- | -1.88            | ---                | --- | 74.0               | 54.0 | ---                    |
| 4874.0000         | V               | ---                 | --- | -1.88            | ---                | --- | 74.0               | 54.0 | ---                    |
| 7311.0000         | H               | ---                 | --- | 1.15             | ---                | --- | 74.0               | 54.0 | ---                    |
| 7311.0000         | V               | ---                 | --- | 1.15             | ---                | --- | 74.0               | 54.0 | ---                    |
| 9748.0000         | H               | ---                 | --- | 2.65             | ---                | --- | 74.0               | 54.0 | ---                    |
| 9748.0000         | V               | ---                 | --- | 2.65             | ---                | --- | 74.0               | 54.0 | ---                    |
| 19496.000         | H               | ---                 | --- | 13.70            | ---                | --- | 74.0               | 54.0 | ---                    |
| 19496.000         | V               | ---                 | --- | 13.70            | ---                | --- | 74.0               | 54.0 | ---                    |

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“\*”表示為本地震盪頻率及其諧波
4. 量測不準確度:  $\pm 4.1\text{dB}$  ( $1\text{GHz} \leq f < 18\text{GHz}$ )  
 $\pm 4.4\text{dB}$  ( $18\text{GHz} \leq f \leq 40\text{GHz}$ )

**c. Channel High**

操作模式：發射接收

基本波頻率：2462 MHz

測試日期：Feb. 22, 2019

環境溫度：21℃

環境濕度：63%

| 輻射<br>頻率<br>(MHz) | 天線<br>極性<br>H/V | 機器讀值<br>(dBuV/m)@3m |     | 校正<br>因子<br>(dB) | 結果值<br>(dBuV/m)@3m |     | 限制值<br>(dBuV/m)@3m |      | 餘裕值<br>(worse)<br>(dB) |
|-------------------|-----------------|---------------------|-----|------------------|--------------------|-----|--------------------|------|------------------------|
|                   |                 | Peak                | AVG |                  | Peak               | AVG | Peak               | AVG  |                        |
| 4924.0000         | H               | ---                 | --- | -1.77            | ---                | --- | 74.0               | 54.0 | ---                    |
| 4924.0000         | V               | ---                 | --- | -1.77            | ---                | --- | 74.0               | 54.0 | ---                    |
| 7386.0000         | H               | ---                 | --- | 1.33             | ---                | --- | 74.0               | 54.0 | ---                    |
| 7386.0000         | V               | ---                 | --- | 1.33             | ---                | --- | 74.0               | 54.0 | ---                    |
| 9848.0000         | H               | ---                 | --- | 2.75             | ---                | --- | 74.0               | 54.0 | ---                    |
| 9848.0000         | V               | ---                 | --- | 2.75             | ---                | --- | 74.0               | 54.0 | ---                    |
| 19696.000         | H               | ---                 | --- | 13.70            | ---                | --- | 74.0               | 54.0 | ---                    |
| 19696.000         | V               | ---                 | --- | 13.70            | ---                | --- | 74.0               | 54.0 | ---                    |
| 22158.000         | H               | ---                 | --- | 13.00            | ---                | --- | 74.0               | 54.0 | ---                    |
| 22158.000         | V               | ---                 | --- | 13.00            | ---                | --- | 74.0               | 54.0 | ---                    |

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“\*”表示為本地震盪頻率及其諧波
4. 量測不準確度:  $\pm 4.1\text{dB}(1\text{GHz} \leq f < 18\text{GHz})$   
 $\pm 4.4\text{dB}(18\text{GHz} \leq f \leq 40\text{GHz})$

## 6.5.1.3 調變技術: IEEE 802.11n HT20

**a. Channel Low**

操作模式：發射接收

基本波頻率：2412 MHz

測試日期: Feb. 22, 2019

環境溫度: 21°C

環境濕度：63%

| 輻射<br>頻率  | 天線<br>極性 | 機器讀值<br>(dBuV/m)@3m |     | 校正<br>因子 | 結果值<br>(dBuV/m)@3m |     | 限制值<br>(dBuV/m)@3m |      | 餘裕值<br>(worse) |
|-----------|----------|---------------------|-----|----------|--------------------|-----|--------------------|------|----------------|
|           |          | Peak                | AVG |          | Peak               | AVG | Peak               | AVG  |                |
| (MHz)     | H/V      |                     |     | (dB)     |                    |     |                    |      | (dB)           |
| 4824.0000 | H        | ---                 | --- | -1.99    | ---                | --- | 74.0               | 54.0 | ---            |
| 4824.0000 | V        | ---                 | --- | -1.99    | ---                | --- | 74.0               | 54.0 | ---            |
| 7236.0000 | H        | ---                 | --- | 0.97     | ---                | --- | 74.0               | 54.0 | ---            |
| 7236.0000 | V        | ---                 | --- | 0.97     | ---                | --- | 74.0               | 54.0 | ---            |
| 9648.0000 | H        | ---                 | --- | 2.55     | ---                | --- | 74.0               | 54.0 | ---            |
| 9648.0000 | V        | ---                 | --- | 2.55     | ---                | --- | 74.0               | 54.0 | ---            |
| 14472.000 | H        | ---                 | --- | 8.96     | ---                | --- | 74.0               | 54.0 | ---            |
| 14472.000 | V        | ---                 | --- | 8.96     | ---                | --- | 74.0               | 54.0 | ---            |

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“\*”表示為本地震盪頻率及其諧波
4. 量測不準確度:  $\pm 4.1\text{dB}(1\text{GHz} \leq f < 18\text{GHz})$   
 $\pm 4.4\text{dB}(18\text{GHz} \leq f \leq 40\text{GHz})$

**b. Channel Mid**

操作模式：發射接收

基本波頻率：2437 MHz

測試日期：Feb. 22, 2019

環境溫度：21℃

環境濕度：63%

| 輻射<br>頻率<br>(MHz) | 天線<br>極性<br>H/V | 機器讀值<br>(dBuV/m)@3m |     | 校正<br>因子<br>(dB) | 結果值<br>(dBuV/m)@3m |     | 限制值<br>(dBuV/m)@3m |      | 餘裕值<br>(worse)<br>(dB) |
|-------------------|-----------------|---------------------|-----|------------------|--------------------|-----|--------------------|------|------------------------|
|                   |                 | Peak                | AVG |                  | Peak               | AVG | Peak               | AVG  |                        |
| 4874.0000         | H               | ---                 | --- | -1.88            | ---                | --- | 74.0               | 54.0 | ---                    |
| 4874.0000         | V               | ---                 | --- | -1.88            | ---                | --- | 74.0               | 54.0 | ---                    |
| 7311.0000         | H               | ---                 | --- | 1.15             | ---                | --- | 74.0               | 54.0 | ---                    |
| 7311.0000         | V               | ---                 | --- | 1.15             | ---                | --- | 74.0               | 54.0 | ---                    |
| 9748.0000         | H               | ---                 | --- | 2.65             | ---                | --- | 74.0               | 54.0 | ---                    |
| 9748.0000         | V               | ---                 | --- | 2.65             | ---                | --- | 74.0               | 54.0 | ---                    |
| 19496.000         | H               | ---                 | --- | 13.70            | ---                | --- | 74.0               | 54.0 | ---                    |
| 19496.000         | V               | ---                 | --- | 13.70            | ---                | --- | 74.0               | 54.0 | ---                    |

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“\*”表示為本地震盪頻率及其諧波
4. 量測不準確度:  $\pm 4.1\text{dB}$  ( $1\text{GHz} \leq f < 18\text{GHz}$ )  
 $\pm 4.4\text{dB}$  ( $18\text{GHz} \leq f \leq 40\text{GHz}$ )

**c. Channel High**

操作模式：發射接收

基本波頻率：2462 MHz

測試日期：Feb. 22, 2019

環境溫度：21℃

環境濕度：63%

| 輻射<br>頻率<br>(MHz) | 天線<br>極性<br>H/V | 機器讀值<br>(dBuV/m)@3m |     | 校正<br>因子<br>(dB) | 結果值<br>(dBuV/m)@3m |     | 限制值<br>(dBuV/m)@3m |      | 餘裕值<br>(worse)<br>(dB) |
|-------------------|-----------------|---------------------|-----|------------------|--------------------|-----|--------------------|------|------------------------|
|                   |                 | Peak                | AVG |                  | Peak               | AVG | Peak               | AVG  |                        |
| 4924.0000         | H               | ---                 | --- | -1.77            | ---                | --- | 74.0               | 54.0 | ---                    |
| 4924.0000         | V               | ---                 | --- | -1.77            | ---                | --- | 74.0               | 54.0 | ---                    |
| 7386.0000         | H               | ---                 | --- | 1.33             | ---                | --- | 74.0               | 54.0 | ---                    |
| 7386.0000         | V               | ---                 | --- | 1.33             | ---                | --- | 74.0               | 54.0 | ---                    |
| 9848.0000         | H               | ---                 | --- | 2.75             | ---                | --- | 74.0               | 54.0 | ---                    |
| 9848.0000         | V               | ---                 | --- | 2.75             | ---                | --- | 74.0               | 54.0 | ---                    |
| 19696.000         | H               | ---                 | --- | 13.70            | ---                | --- | 74.0               | 54.0 | ---                    |
| 19696.000         | V               | ---                 | --- | 13.70            | ---                | --- | 74.0               | 54.0 | ---                    |
| 22158.000         | H               | ---                 | --- | 13.00            | ---                | --- | 74.0               | 54.0 | ---                    |
| 22158.000         | V               | ---                 | --- | 13.00            | ---                | --- | 74.0               | 54.0 | ---                    |

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“\*”表示為本地震盪頻率及其諧波
4. 量測不準確度:  $\pm 4.1\text{dB}(1\text{GHz} \leq f < 18\text{GHz})$   
 $\pm 4.4\text{dB}(18\text{GHz} \leq f \leq 40\text{GHz})$

## 6.5.2 其它不必要之訊號

## 6.5.2.1 測試狀態: IEEE 802.11g

## 6.5.2.1.1 1GHz以下

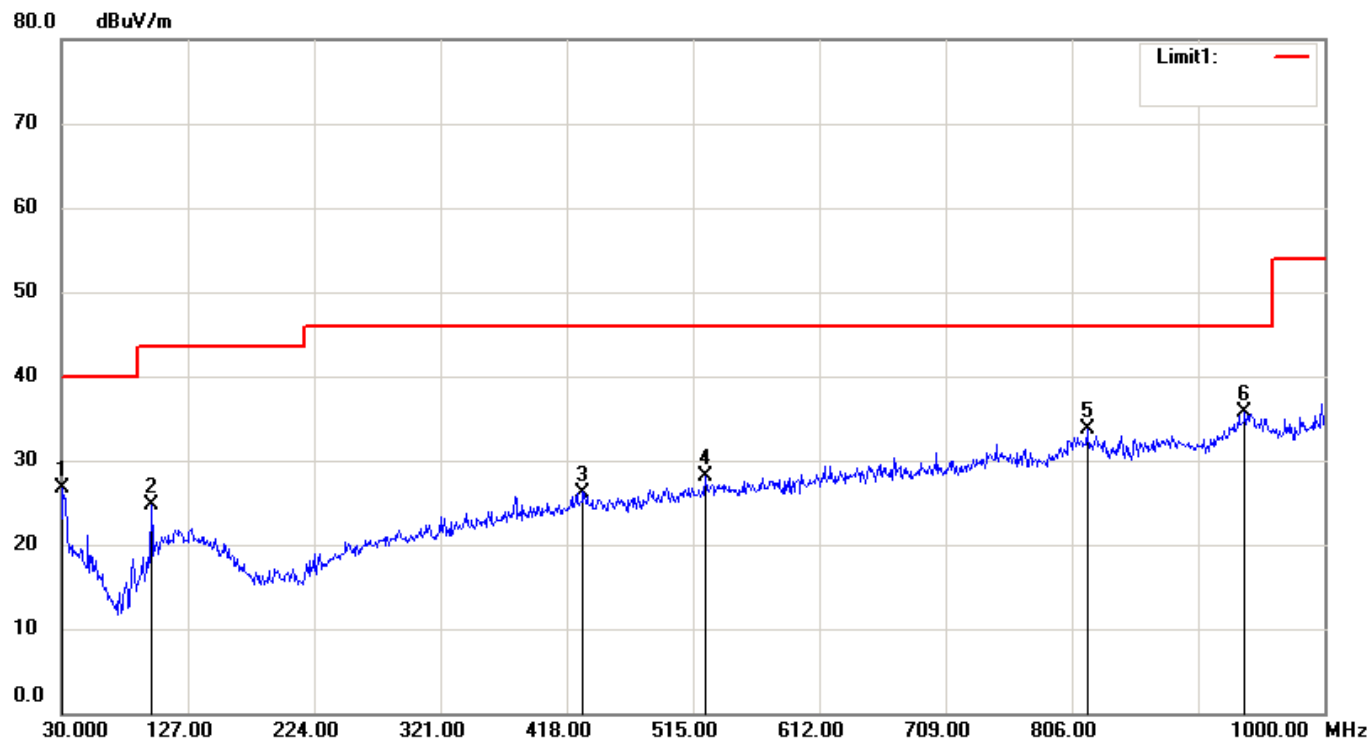
File: 19-02-MAS-005 #7

Date: 2019/2/22

Temperature: 21 °C

Time: 下午 02:14:11

Humidity: 63 %



Condition: NCC\_LP0002\_30-1000MHz

Polarization: Horizontal

EUT:

Distance:

3m

Model:

Test Mode:

Note: DTS

| No. | Frequency<br>(MHz) | Reading<br>(dBuV/m) | Detector | Corrected<br>dB/m | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|-----|--------------------|---------------------|----------|-------------------|--------------------|-------------------|----------------|
| 1   | 30.9700            | 33.80               | QP       | -7.08             | 26.72              | 40.00             | -13.28         |
| 2   | 98.8700            | 33.24               | QP       | -8.47             | 24.77              | 43.50             | -18.73         |
| 3   | 430.6100           | 27.49               | QP       | -1.29             | 26.20              | 46.00             | -19.80         |
| 4   | 524.7000           | 28.36               | QP       | -0.32             | 28.04              | 46.00             | -17.96         |
| 5   | 817.6400           | 28.31               | QP       | 5.30              | 33.61              | 46.00             | -12.39         |
| 6   | 938.8900           | 27.27               | QP       | 8.40              | 35.67              | 46.00             | -10.33         |

File: 19-02-MAS-005

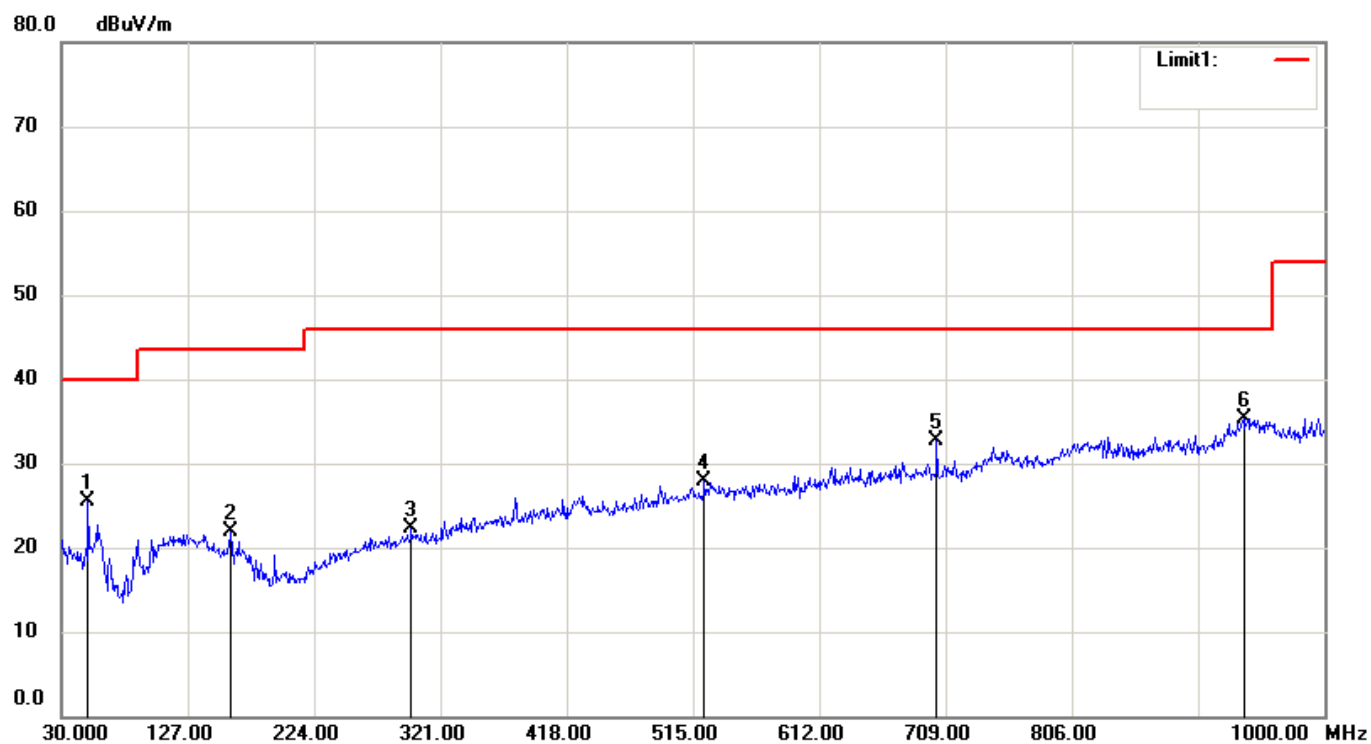
#8

Date: 2019/2/22

Temperature: 21 °C

Time: 下午 02:18:49

Humidity: 63 %



Condition: NCC\_LP0002\_30-1000MHz

Polarization: Vertical

EUT:

Distance:

3m

Model:

Test Mode:

Note: DTS

| No. | Frequency<br>(MHz) | Reading<br>(dBuV/m) | Detector | Corrected<br>dB/m | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|-----|--------------------|---------------------|----------|-------------------|--------------------|-------------------|----------------|
| 1   | 50.3700            | 34.44               | QP       | -9.02             | 25.42              | 40.00             | -14.58         |
| 2   | 159.9800           | 29.81               | QP       | -7.92             | 21.89              | 43.50             | -21.61         |
| 3   | 298.6900           | 26.84               | QP       | -4.53             | 22.31              | 46.00             | -23.69         |
| 4   | 523.7300           | 28.22               | QP       | -0.38             | 27.84              | 46.00             | -18.16         |
| 5   | 702.2100           | 30.67               | QP       | 2.06              | 32.73              | 46.00             | -13.27         |
| 6   | 937.9200           | 26.93               | QP       | 8.34              | 35.27              | 46.00             | -10.73         |

## 6.5.2.1.2 1GHz以上

## 6.5.2.1.2.1 調變技術: IEEE 802.11b

## 6.5.2.1.2.1.1 操作頻率 : 2412 MHz

| 輻射<br>頻率  | 天線<br>極性 | 機器讀值<br>(dBuV/m)<br>@3m |     | 校正<br>因子 | 結果值<br>(dBuV/m)<br>@3m |     | 限制值<br>(dBuV/m)<br>@3m |     | 餘裕值   |
|-----------|----------|-------------------------|-----|----------|------------------------|-----|------------------------|-----|-------|
| (MHz)     | H/V      | Peak                    | AVG | (dB)     | Peak                   | AVG | Peak                   | AVG | (dB)  |
| 1042.1153 | V        | 49.9                    | --- | -9.70    | 40.2                   | --- | 74                     | 54  | -13.8 |
| 1280.4486 | H        | 50.1                    | --- | -8.90    | 41.2                   | --- | 74                     | 54  | -12.8 |
| 1771.7950 | H        | 50.2                    | --- | -5.70    | 44.5                   | --- | 74                     | 54  | -9.5  |
| 1771.7950 | V        | 50.4                    | --- | -5.70    | 44.7                   | --- | 74                     | 54  | -9.3  |
| 1897.4358 | V        | 49.7                    | --- | -4.50    | 45.2                   | --- | 74                     | 54  | -8.8  |
| 1919.8717 | V        | 49.6                    | --- | -4.30    | 45.3                   | --- | 74                     | 54  | -8.7  |
| 2186.8590 | H        | 49.1                    | --- | -3.30    | 45.8                   | --- | 74                     | 54  | -8.2  |
| 2732.1620 | H        | 50.0                    | --- | -2.70    | 47.3                   | --- | 74                     | 54  | -6.7  |
| 2732.1620 | V        | 49.6                    | --- | -2.70    | 46.9                   | --- | 74                     | 54  | -7.1  |

## 6.5.2.1.2.1.2 操作頻率 : 2437 MHz

| 輻射<br>頻率  | 天線<br>極性 | 機器讀值<br>(dBuV/m)<br>@3m |     | 校正<br>因子 | 結果值<br>(dBuV/m)<br>@3m |     | 限制值<br>(dBuV/m)<br>@3m |     | 餘裕值   |
|-----------|----------|-------------------------|-----|----------|------------------------|-----|------------------------|-----|-------|
| (MHz)     | H/V      | Peak                    | AVG | (dB)     | Peak                   | AVG | Peak                   | AVG | (dB)  |
| 1148.0770 | H        | 49.6                    | --- | -9.30    | 40.3                   | --- | 74                     | 54  | -13.7 |
| 1769.5513 | H        | 49.7                    | --- | -5.70    | 44.0                   | --- | 74                     | 54  | -10.0 |
| 1771.7950 | V        | 49.7                    | --- | -5.70    | 44.0                   | --- | 74                     | 54  | -10.0 |
| 2067.9486 | V        | 49.0                    | --- | -3.40    | 45.6                   | --- | 74                     | 54  | -8.4  |
| 2732.1620 | H        | 49.7                    | --- | -2.70    | 47.0                   | --- | 74                     | 54  | -7.0  |
| 2732.1620 | V        | 49.2                    | --- | -2.70    | 46.5                   | --- | 74                     | 54  | -7.5  |

## 6.5.2.1.2.1.3 操作頻率：2462 MHz

| 輻射<br>頻率  | 天線<br>極性 | 機器讀值<br>(dBuV/m)<br>@3m |     | 校正<br>因子 | 結果值<br>(dBuV/m)<br>@3m |     | 限制值<br>(dBuV/m)<br>@3m |     | 餘裕值   |
|-----------|----------|-------------------------|-----|----------|------------------------|-----|------------------------|-----|-------|
|           |          | Peak                    | AVG |          | Peak                   | AVG | Peak                   | AVG |       |
| (MHz)     | H/V      |                         |     | (dB)     |                        |     |                        |     | (dB)  |
| 1231.0896 | H        | 49.7                    | --- | -9.10    | 40.6                   | --- | 74                     | 54  | -13.4 |
| 1231.0896 | V        | 49.9                    | --- | -9.10    | 40.8                   | --- | 74                     | 54  | -13.2 |
| 1771.7950 | H        | 49.8                    | --- | -5.70    | 44.1                   | --- | 74                     | 54  | -9.9  |
| 1771.7950 | V        | 49.9                    | --- | -5.70    | 44.2                   | --- | 74                     | 54  | -9.8  |
| 2757.0280 | H        | 49.6                    | --- | -2.70    | 46.9                   | --- | 74                     | 54  | -7.1  |
| 2757.0280 | V        | 49.3                    | --- | -2.70    | 46.6                   | --- | 74                     | 54  | -7.4  |

- 註：1. 繪圖資料請參考第 39-56 頁。  
 2. “#”，表示干擾值很低，記錄其峰值。  
 3. 標記“---”表發射之訊號太弱而儀器無法量測。  
 4. 量測不準確度: +4.20dB/ -4.24 dB ( $30\text{MHz} \leq f < 1\text{GHz}$ )  
                   +4.10dB/ -4.10 dB ( $1\text{GHz} \leq f < 18\text{GHz}$ )  
                   +4.40dB/ -4.42 dB ( $18\text{GHz} \leq f \leq 40\text{GHz}$ )

## 6.5.2.1.2.2 調變技術: IEEE 802.11g

## 6.5.2.1.2.2.1 操作頻率 : 2412 MHz

| 輻射<br>頻率  | 天線<br>極性 | 機器讀值<br>(dBuV/m)<br>@3m |     | 校正<br>因子 | 結果值<br>(dBuV/m)<br>@3m |     | 限制值<br>(dBuV/m)<br>@3m |     | 餘裕值   |
|-----------|----------|-------------------------|-----|----------|------------------------|-----|------------------------|-----|-------|
| (MHz)     | H/V      | Peak                    | AVG | (dB)     | Peak                   | AVG | Peak                   | AVG | (dB)  |
| 1311.8590 | H        | 50.9                    | --- | -8.80    | 42.1                   | --- | 74                     | 54  | -11.9 |
| 1560.8974 | V        | 49.9                    | --- | -7.70    | 42.2                   | --- | 74                     | 54  | -11.8 |
| 1771.7950 | H        | 51.2                    | --- | -5.70    | 45.5                   | --- | 74                     | 54  | -8.5  |
| 1771.7950 | V        | 51.1                    | --- | -5.70    | 45.4                   | --- | 74                     | 54  | -8.6  |
| 2732.1620 | V        | 49.0                    | --- | -2.70    | 46.3                   | --- | 74                     | 54  | -7.7  |
| 3105.1545 | H        | 49.4                    | --- | -2.10    | 47.3                   | --- | 74                     | 54  | -6.7  |

## 6.5.2.1.2.2.2 操作頻率 : 2437 MHz

| 輻射<br>頻率  | 天線<br>極性 | 機器讀值<br>(dBuV/m)<br>@3m |     | 校正<br>因子 | 結果值<br>(dBuV/m)<br>@3m |     | 限制值<br>(dBuV/m)<br>@3m |     | 餘裕值   |
|-----------|----------|-------------------------|-----|----------|------------------------|-----|------------------------|-----|-------|
| (MHz)     | H/V      | Peak                    | AVG | (dB)     | Peak                   | AVG | Peak                   | AVG | (dB)  |
| 1074.0385 | V        | 50.3                    | --- | -9.60    | 40.7                   | --- | 74                     | 54  | -13.3 |
| 1769.5513 | H        | 50.0                    | --- | -5.70    | 44.3                   | --- | 74                     | 54  | -9.7  |
| 1769.5513 | V        | 50.5                    | --- | -5.70    | 44.8                   | --- | 74                     | 54  | -9.2  |
| 1870.5127 | H        | 49.6                    | --- | -4.70    | 44.9                   | --- | 74                     | 54  | -9.1  |
| 1895.1922 | H        | 49.7                    | --- | -4.50    | 45.2                   | --- | 74                     | 54  | -8.8  |
| 2757.0280 | H        | 50.4                    | --- | -2.70    | 47.7                   | --- | 74                     | 54  | -6.3  |
| 2781.8942 | V        | 49.2                    | --- | -2.60    | 46.6                   | --- | 74                     | 54  | -7.4  |

## 6.5.2.1.2.2.3 操作頻率：2462 MHz

| 輻射<br>頻率  | 天線<br>極性 | 機器讀值<br>(dBuV/m)<br>@3m |     | 校正<br>因子 | 結果值<br>(dBuV/m)<br>@3m |     | 限制值<br>(dBuV/m)<br>@3m |     | 餘裕值   |
|-----------|----------|-------------------------|-----|----------|------------------------|-----|------------------------|-----|-------|
| (MHz)     | H/V      | Peak                    | AVG | (dB)     | Peak                   | AVG | Peak                   | AVG | (dB)  |
| 1256.7691 | H        | 50.0                    | --- | -9.00    | 41.0                   | --- | 74                     | 54  | -13.0 |
| 1280.4486 | V        | 50.7                    | --- | -8.90    | 41.8                   | --- | 74                     | 54  | -12.2 |
| 1769.5513 | H        | 50.3                    | --- | -5.70    | 44.6                   | --- | 74                     | 54  | -9.4  |
| 1771.7950 | V        | 51.2                    | --- | -5.70    | 45.5                   | --- | 74                     | 54  | -8.5  |
| 1892.9486 | V        | 49.3                    | --- | -4.50    | 44.8                   | --- | 74                     | 54  | -9.2  |
| 2781.8942 | H        | 49.2                    | --- | -2.60    | 46.6                   | --- | 74                     | 54  | -7.4  |
| 2906.2251 | V        | 49.2                    | --- | -2.50    | 46.7                   | --- | 74                     | 54  | -7.3  |

- 註：1. 繪圖資料請參考第 57-74 頁。
2. “#”，表示干擾值很低，記錄其峰值。
3. 標記“---”表發射之訊號太弱而儀器無法量測。
4. 量測不準確度: +4.20dB/ -4.24 dB ( $30\text{MHz} \leq f < 1\text{GHz}$ )  
+4.10dB/ -4.10 dB ( $1\text{GHz} \leq f < 18\text{GHz}$ )  
+4.40dB/ -4.42 dB ( $18\text{GHz} \leq f \leq 40\text{GHz}$ )

## 6.5.2.1.2.3 調變技術: IEEE 802.11n HT20

## 6.5.2.1.2.3.1 操作頻率 : 2412 MHz

| 輻射<br>頻率  | 天線<br>極性 | 機器讀值<br>(dBuV/m)<br>@3m |     | 校正<br>因子 | 結果值<br>(dBuV/m)<br>@3m |     | 限制值<br>(dBuV/m)<br>@3m |     | 餘裕值   |
|-----------|----------|-------------------------|-----|----------|------------------------|-----|------------------------|-----|-------|
| (MHz)     | H/V      | Peak                    | AVG | (dB)     | Peak                   | AVG | Peak                   | AVG | (dB)  |
| 1078.5255 | V        | 50.7                    | --- | -9.60    | 41.1                   | --- | 74                     | 54  | -12.9 |
| 1150.3205 | H        | 50.8                    | --- | -9.30    | 41.5                   | --- | 74                     | 54  | -12.5 |
| 1578.8461 | V        | 50.4                    | --- | -7.50    | 42.9                   | --- | 74                     | 54  | -11.1 |
| 1623.7180 | H        | 50.0                    | --- | -7.10    | 42.9                   | --- | 74                     | 54  | -11.1 |
| 1769.5513 | H        | 49.9                    | --- | -5.70    | 44.2                   | --- | 74                     | 54  | -9.8  |
| 1771.7950 | V        | 50.4                    | --- | -5.70    | 44.7                   | --- | 74                     | 54  | -9.3  |
| 2732.1620 | H        | 49.3                    | --- | -2.70    | 46.6                   | --- | 74                     | 54  | -7.4  |
| 2757.0280 | V        | 49.3                    | --- | -2.70    | 46.6                   | --- | 74                     | 54  | -7.4  |

## 6.5.2.1.2.3.2 操作頻率 : 2437 MHz

| 輻射<br>頻率  | 天線<br>極性 | 機器讀值<br>(dBuV/m)<br>@3m |     | 校正<br>因子 | 結果值<br>(dBuV/m)<br>@3m |     | 限制值<br>(dBuV/m)<br>@3m |     | 餘裕值   |
|-----------|----------|-------------------------|-----|----------|------------------------|-----|------------------------|-----|-------|
| (MHz)     | H/V      | Peak                    | AVG | (dB)     | Peak                   | AVG | Peak                   | AVG | (dB)  |
| 1071.7950 | V        | 50.7                    | --- | -9.60    | 41.1                   | --- | 74                     | 54  | -12.9 |
| 1080.7691 | H        | 50.3                    | --- | -9.50    | 40.8                   | --- | 74                     | 54  | -13.2 |
| 1771.7950 | H        | 49.5                    | --- | -5.70    | 43.8                   | --- | 74                     | 54  | -10.2 |
| 1771.7950 | V        | 50.8                    | --- | -5.70    | 45.1                   | --- | 74                     | 54  | -8.9  |
| 2757.0280 | V        | 49.4                    | --- | -2.70    | 46.7                   | --- | 74                     | 54  | -7.3  |
| 3080.2885 | H        | 50.6                    | --- | -2.20    | 48.4                   | --- | 74                     | 54  | -5.6  |
| 3353.8164 | V        | 49.5                    | --- | -1.60    | 47.9                   | --- | 74                     | 54  | -6.1  |

## 6.5.2.1.2.3.3 操作頻率：2462 MHz

| 輻射<br>頻率  | 天線<br>極性 | 機器讀值<br>(dBuV/m)<br>@3m |     | 校正<br>因子 | 結果值<br>(dBuV/m)<br>@3m |     | 限制值<br>(dBuV/m)<br>@3m |     | 餘裕值   |
|-----------|----------|-------------------------|-----|----------|------------------------|-----|------------------------|-----|-------|
| (MHz)     | H/V      | Peak                    | AVG | (dB)     | Peak                   | AVG | Peak                   | AVG | (dB)  |
| 1123.3974 | V        | 50.4                    | --- | -9.40    | 41.0                   | --- | 74                     | 54  | -13.0 |
| 1183.9744 | H        | 50.4                    | --- | -9.20    | 41.2                   | --- | 74                     | 54  | -12.8 |
| 1769.5513 | V        | 51.1                    | --- | -5.70    | 45.4                   | --- | 74                     | 54  | -8.6  |
| 1771.7950 | H        | 50.2                    | --- | -5.70    | 44.5                   | --- | 74                     | 54  | -9.5  |
| 3080.2885 | H        | 49.5                    | --- | -2.20    | 47.3                   | --- | 74                     | 54  | -6.7  |
| 3478.1473 | V        | 49.4                    | --- | -1.30    | 48.1                   | --- | 74                     | 54  | -5.9  |

- 註：1. 繪圖資料請參考第 75-92 頁。
2. “#”，表示干擾值很低，記錄其峰值。
3. 標記“---”表示發射之訊號太弱而儀器無法量測。
4. 量測不準確度: +4.20dB/ -4.24 dB ( $30\text{MHz} \leq f < 1\text{GHz}$ )  
+4.10dB/ -4.10 dB ( $1\text{GHz} \leq f < 18\text{GHz}$ )  
+4.40dB/ -4.42 dB ( $18\text{GHz} \leq f \leq 40\text{GHz}$ )

## 6.5.2.2 測試狀態: Charging Mode

File: 19-02-MAS-005

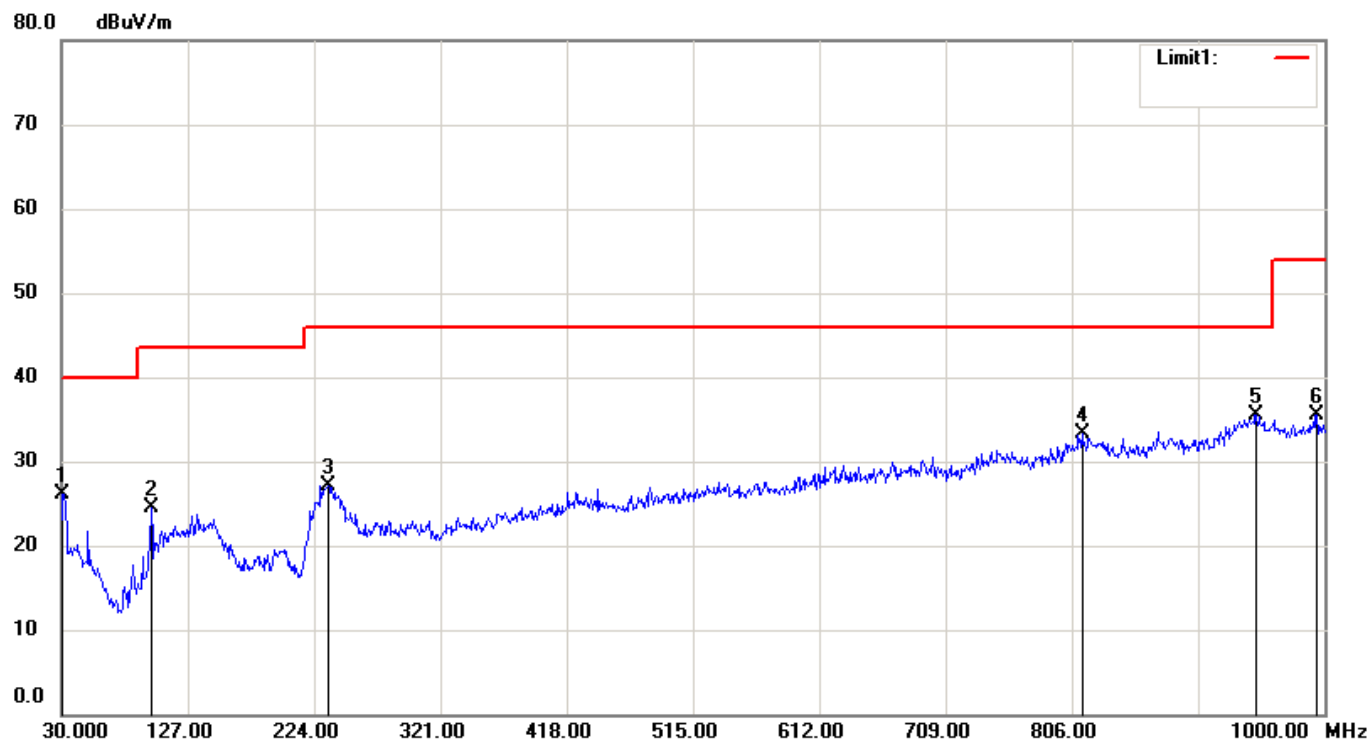
#1

Date: 2019/2/22

Temperature: 21 °C

Time: 下午 01:24:21

Humidity: 63 %



Condition: NCC\_LP0002\_30-1000MHz

Polarization: Horizontal

EUT:

Distance: 3m

Model:

Test Mode:

Note: charger

| No. | Frequency (MHz) | Reading (dBuV/m) | Detector | Corrected dB/m | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) |
|-----|-----------------|------------------|----------|----------------|-----------------|----------------|-------------|
| 1   | 30.9700         | 33.25            | QP       | -7.08          | 26.17           | 40.00          | -13.83      |
| 2   | 98.8700         | 32.93            | QP       | -8.47          | 24.46           | 43.50          | -19.04      |
| 3   | 234.6700        | 34.76            | QP       | -7.68          | 27.08           | 46.00          | -18.92      |
| 4   | 813.7600        | 28.03            | QP       | 5.24           | 33.27           | 46.00          | -12.73      |
| 5   | 947.6200        | 27.29            | QP       | 8.27           | 35.56           | 46.00          | -10.44      |
| 6   | 994.1800        | 27.36            | QP       | 8.18           | 35.54           | 54.00          | -18.46      |

File: 19-02-MAS-005

#2

Date: 2019/2/22

Temperature: 21 °C

Time: 下午 01:29:00

Humidity: 63 %



Condition: NCC\_LP0002\_30-1000MHz

Polarization:

Vertical

EUT:

Distance:

3m

Model:

Test Mode:

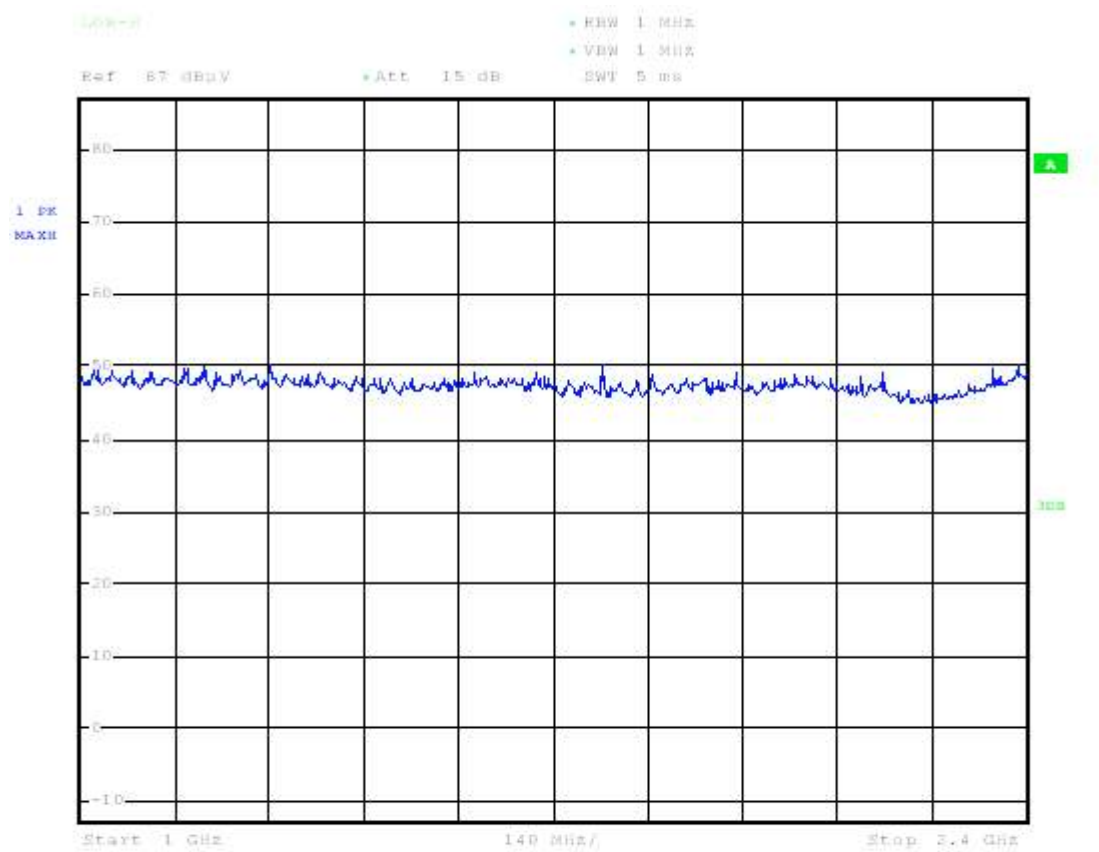
Note: charger

| No. | Frequency<br>(MHz) | Reading<br>(dBuV/m) | Detector | Corrected<br>dB/m | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|-----|--------------------|---------------------|----------|-------------------|--------------------|-------------------|----------------|
| 1   | 50.3700            | 37.36               | QP       | -9.02             | 28.34              | 40.00             | -11.66         |
| 2   | 59.1000            | 39.03               | QP       | -10.66            | 28.37              | 40.00             | -11.63         |
| 3   | 145.4300           | 31.02               | QP       | -6.14             | 24.88              | 43.50             | -18.62         |
| 4   | 233.7000           | 35.24               | QP       | -7.75             | 27.49              | 46.00             | -18.51         |
| 5   | 824.4300           | 27.75               | QP       | 5.36              | 33.11              | 46.00             | -12.89         |
| 6   | 939.8600           | 27.42               | QP       | 8.47              | 35.89              | 46.00             | -10.11         |

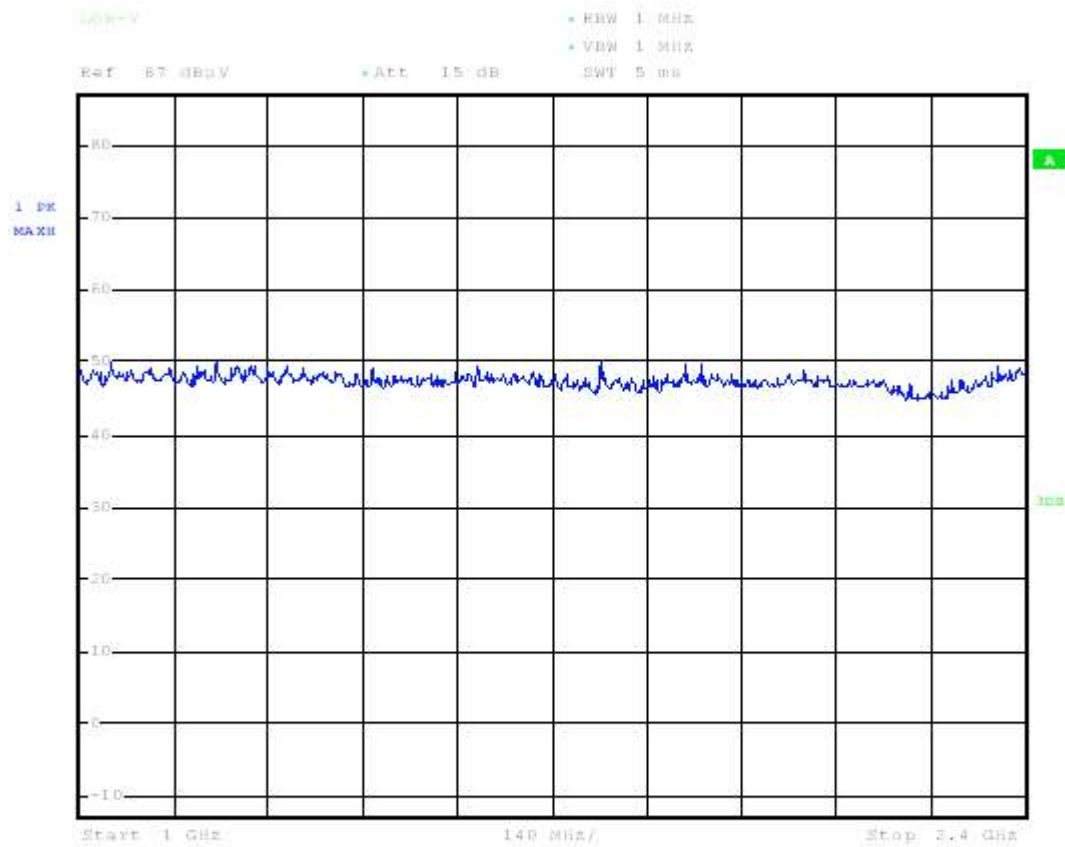
註：

1. “#”，表示干擾值很低，記錄其峰值。
2. 標記“---”表發射之訊號太弱而儀器無法量測。
3. 量測不準確度: +4.20dB/ -4.24 dB ( $30\text{MHz} \leq f < 1\text{GHz}$ )  
+4.10dB/ -4.10 dB ( $1\text{GHz} \leq f < 18\text{GHz}$ )  
+4.40dB/ -4.42 dB ( $18\text{GHz} \leq f \leq 40\text{GHz}$ )

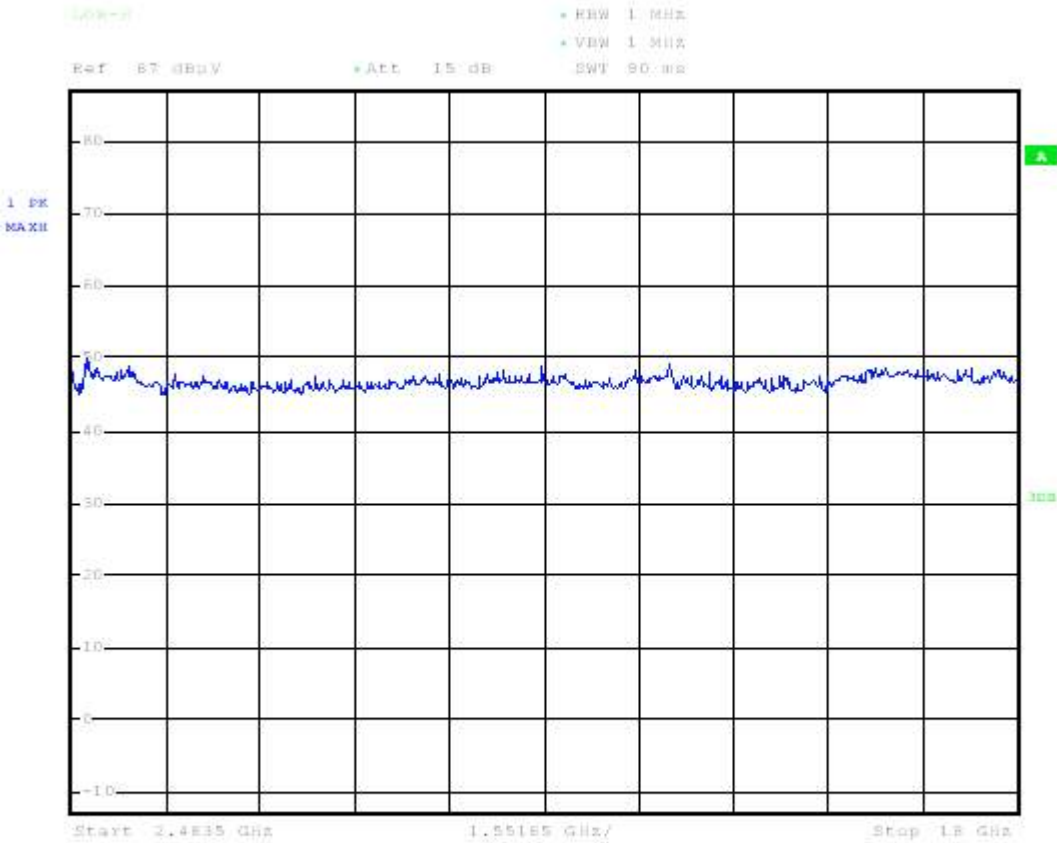
調變技術: IEEE 802.11b



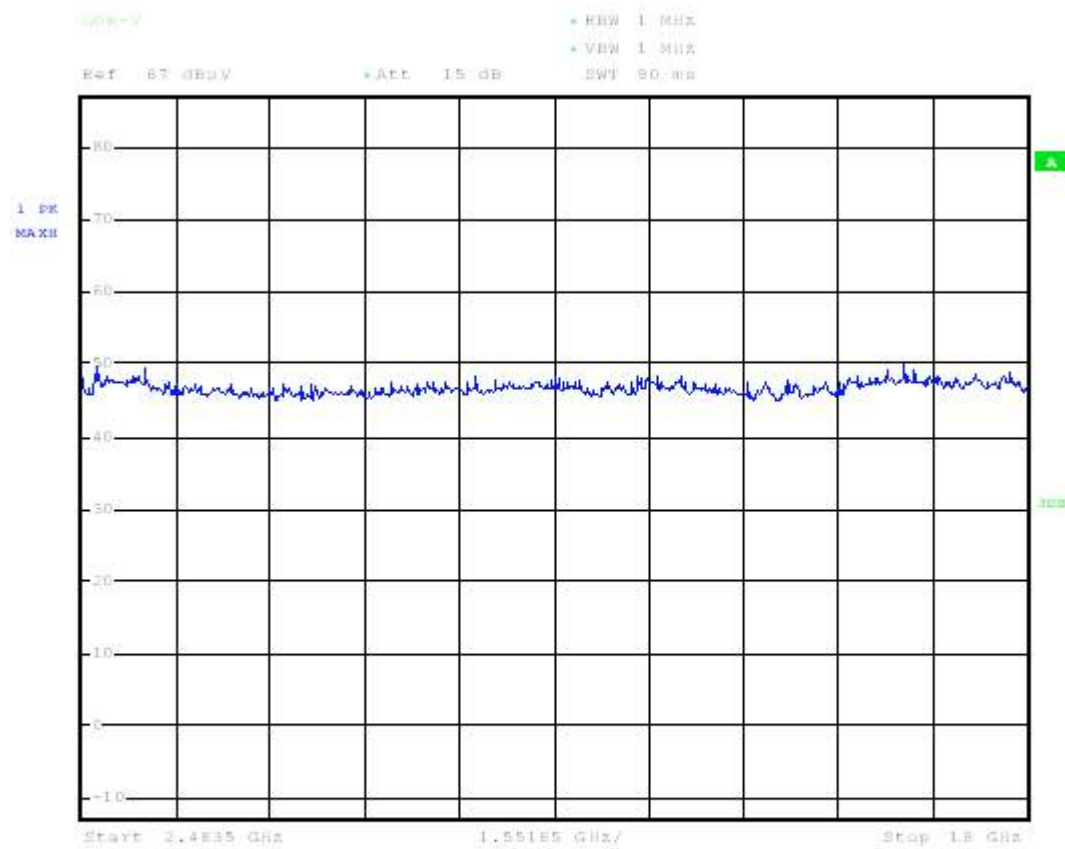
Date: 23.FEB.2019 04:52:05



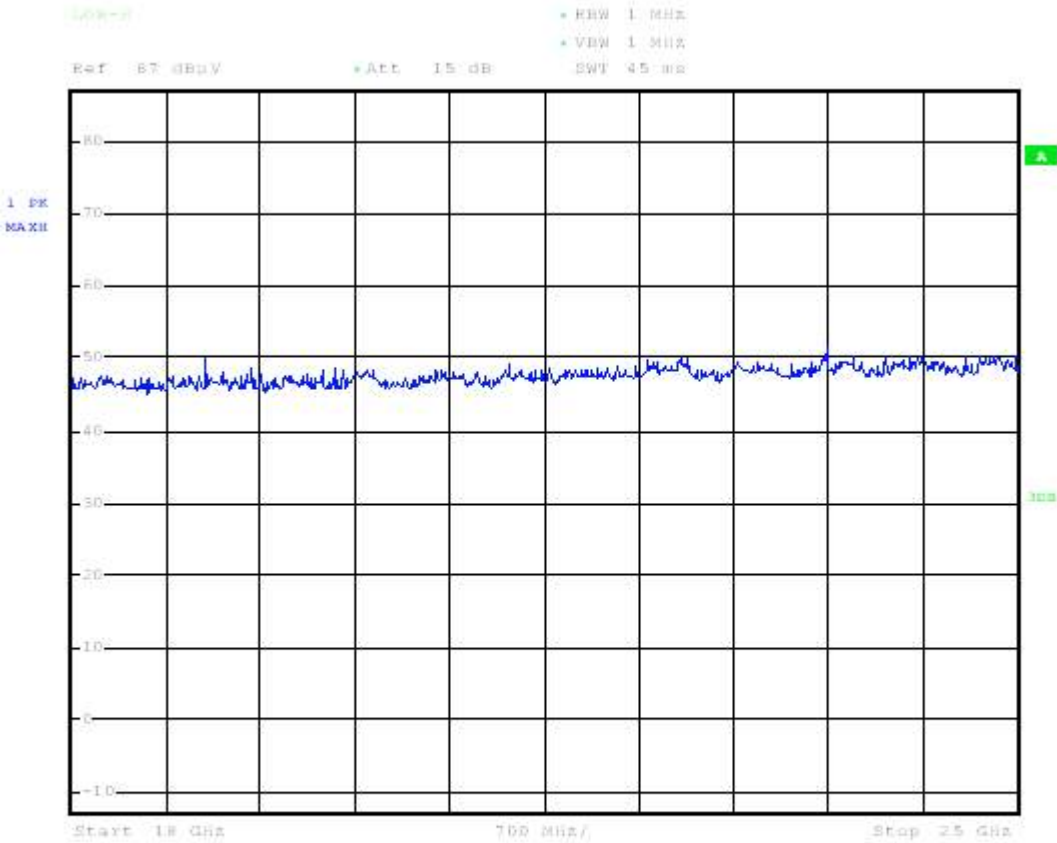
Date: 23.FEB.2019 04:54:49



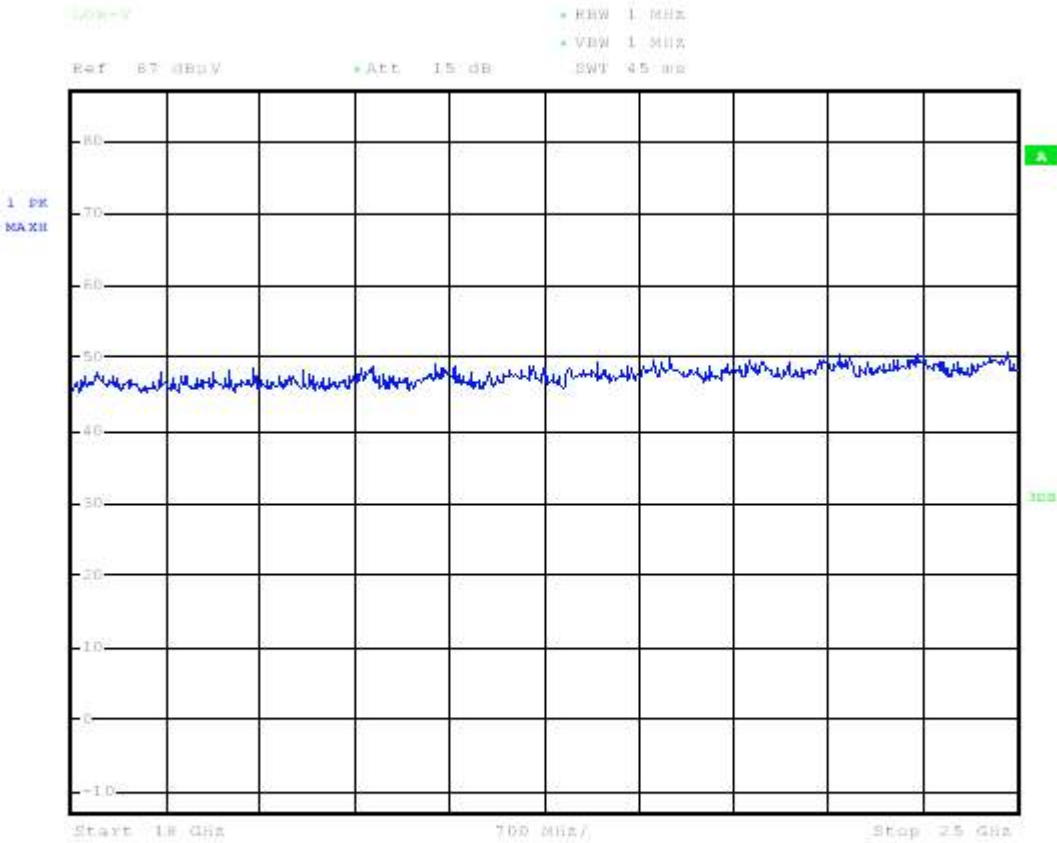
Date: 23.FEB.2019 04:53:17



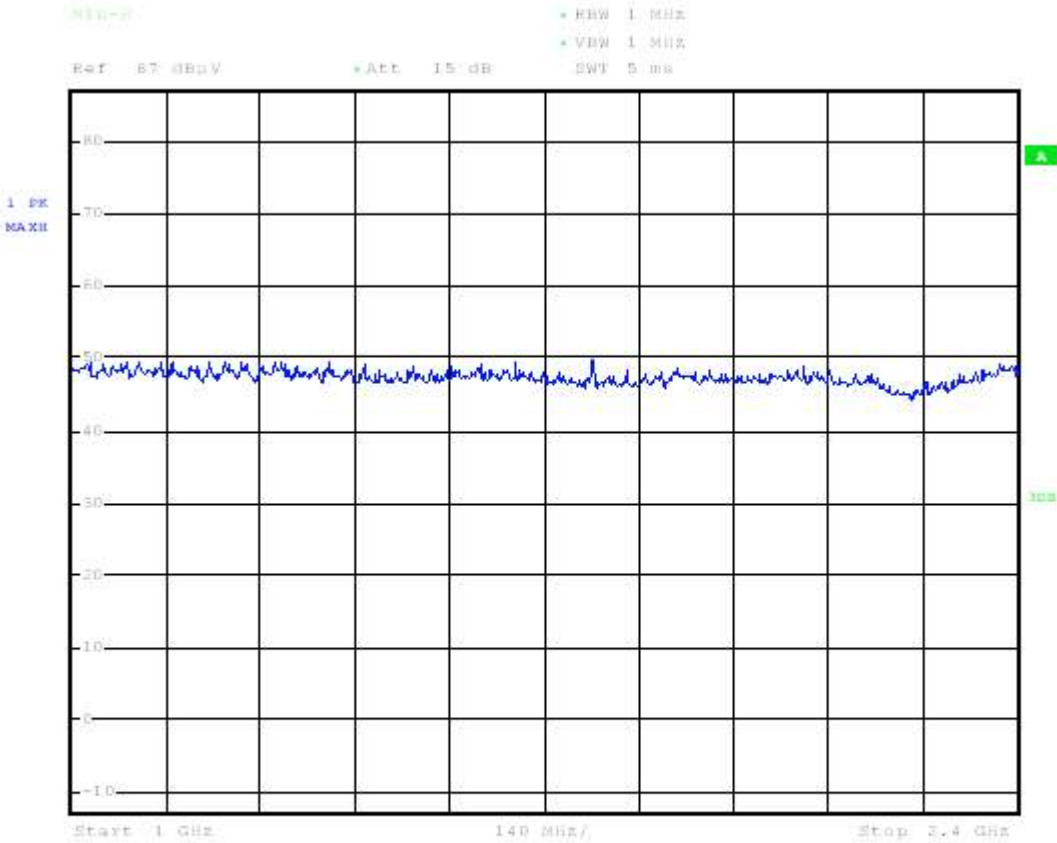
Date: 23.FEB.2019 04:55:59



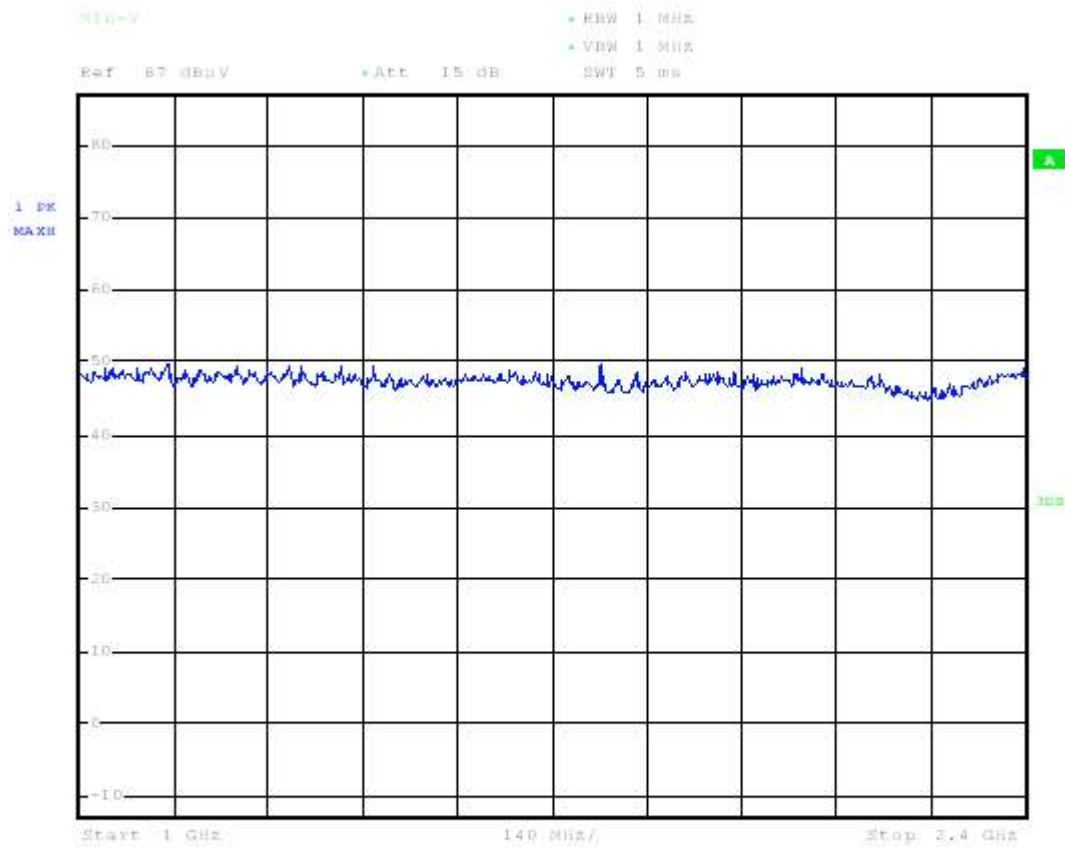
Date: 23.FEB.2019 04:53:37



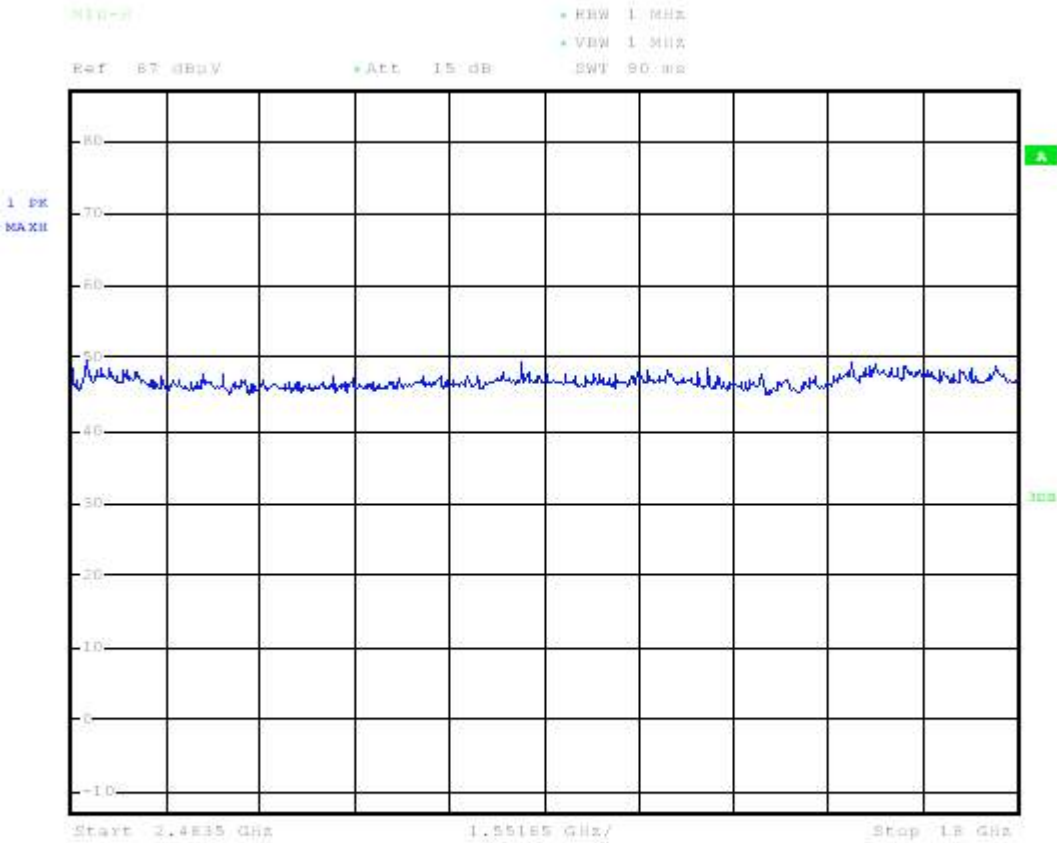
Date: 23.FEB.2019 04:55:20



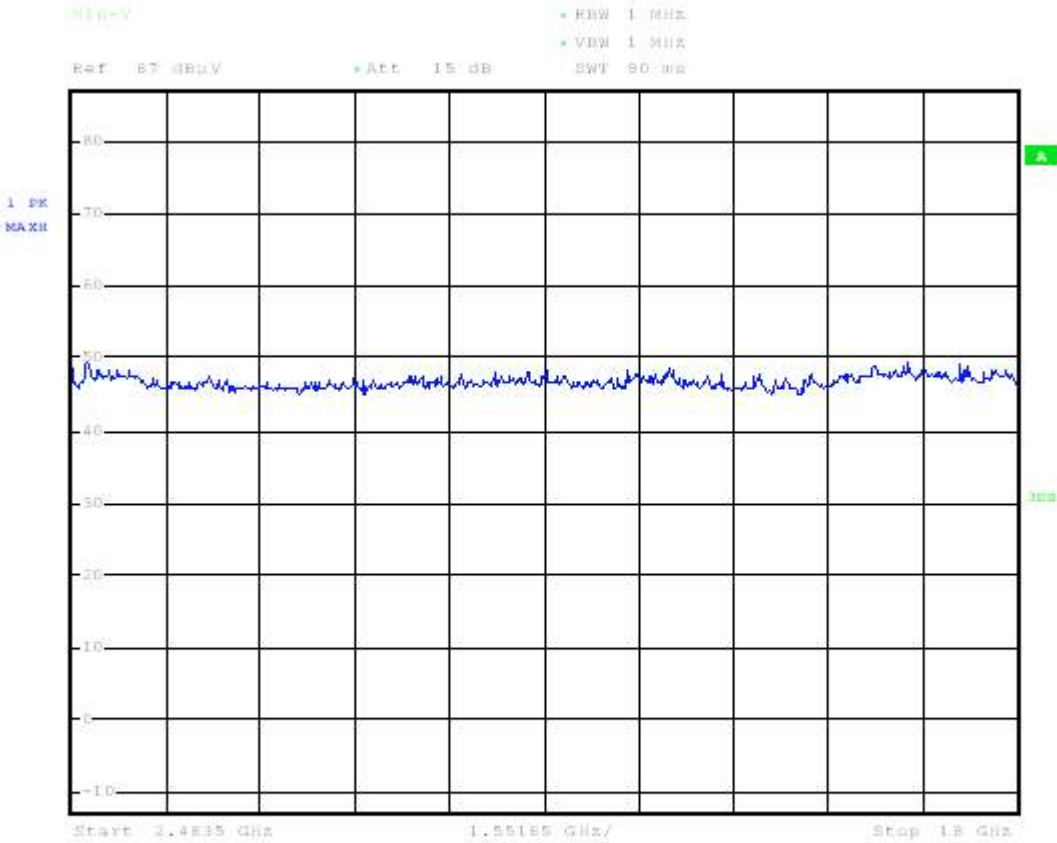
Date: 23.FEB.2019 05:01:07



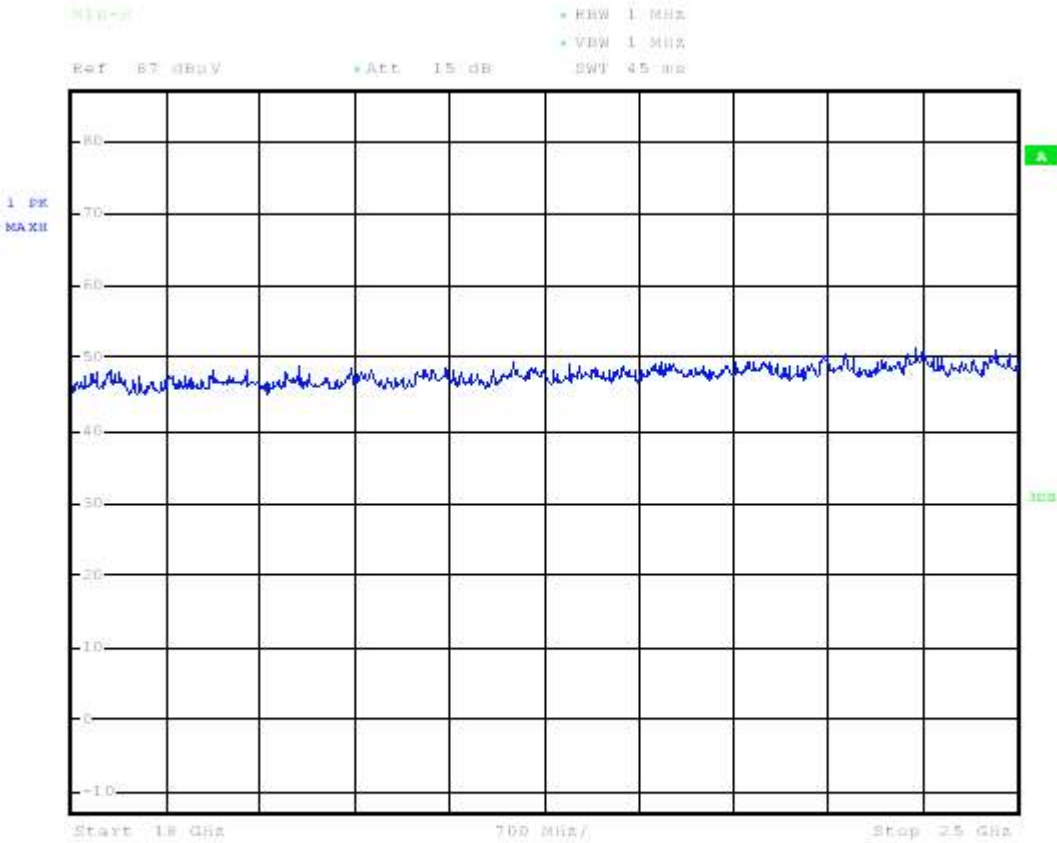
Date: 23.FEB.2019 05:03:49



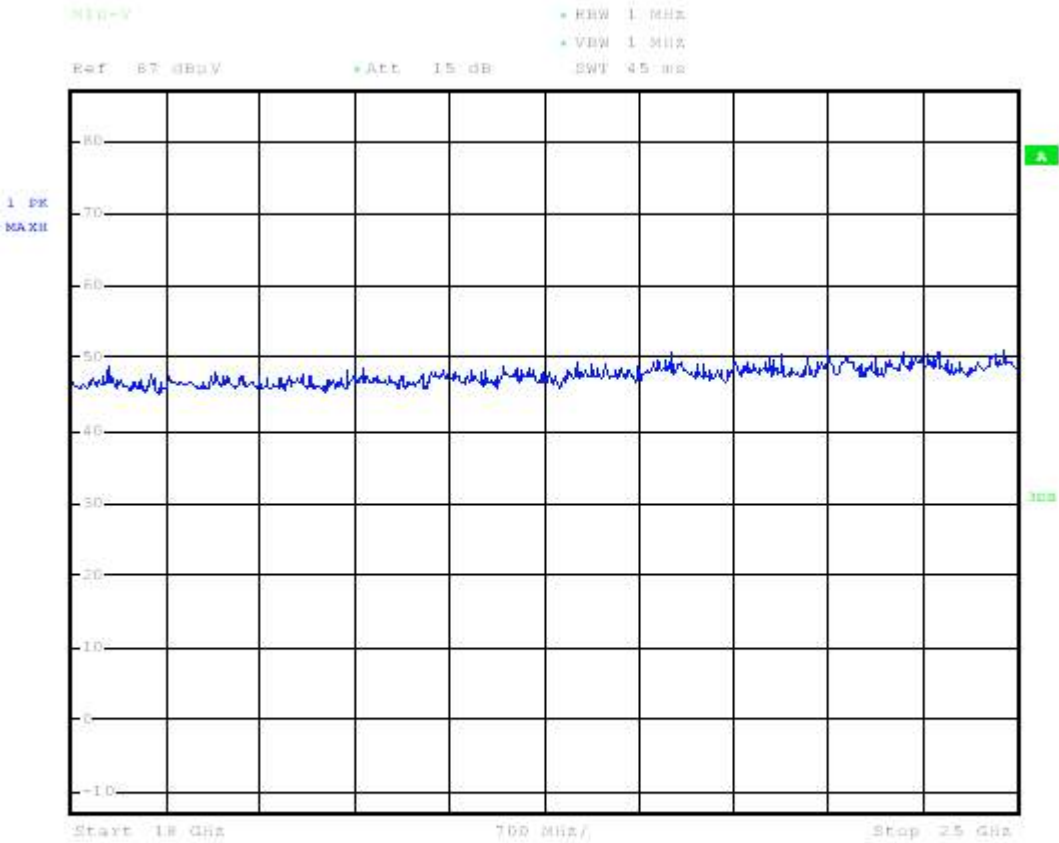
Date: 23.FEB.2019 05:02:17



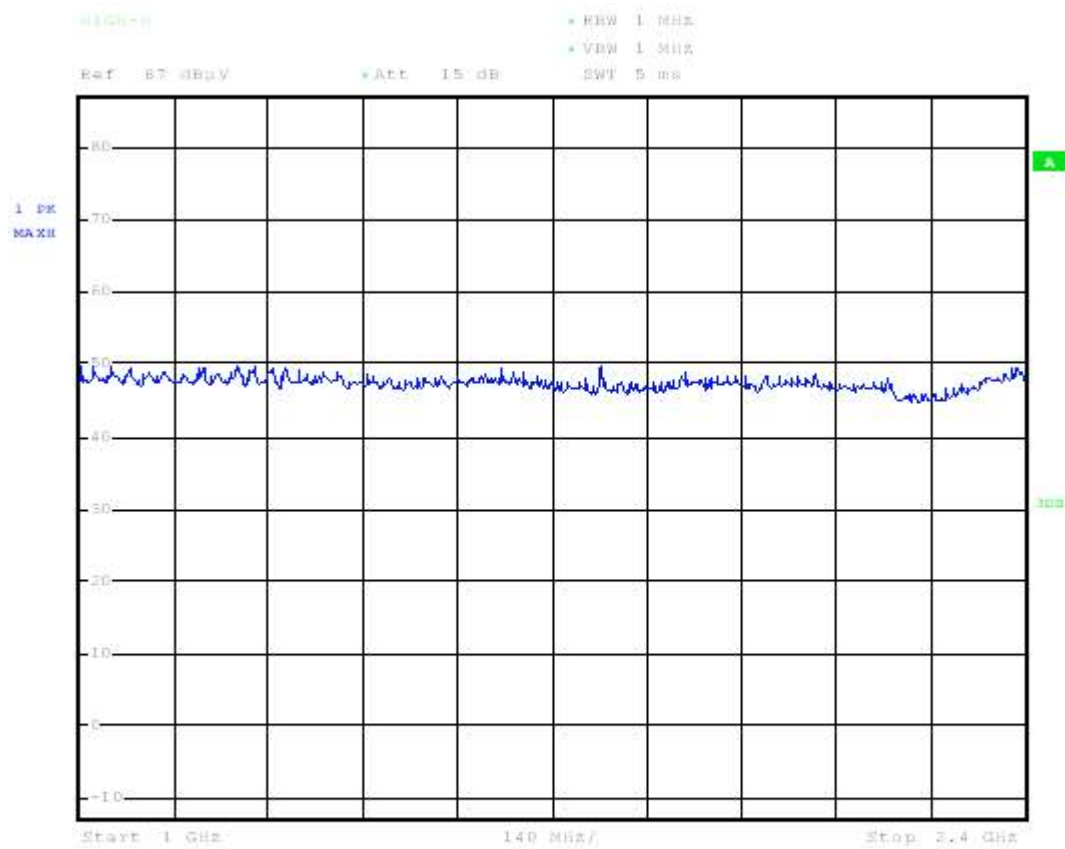
Date: 23.FEB.2019 05:05:00



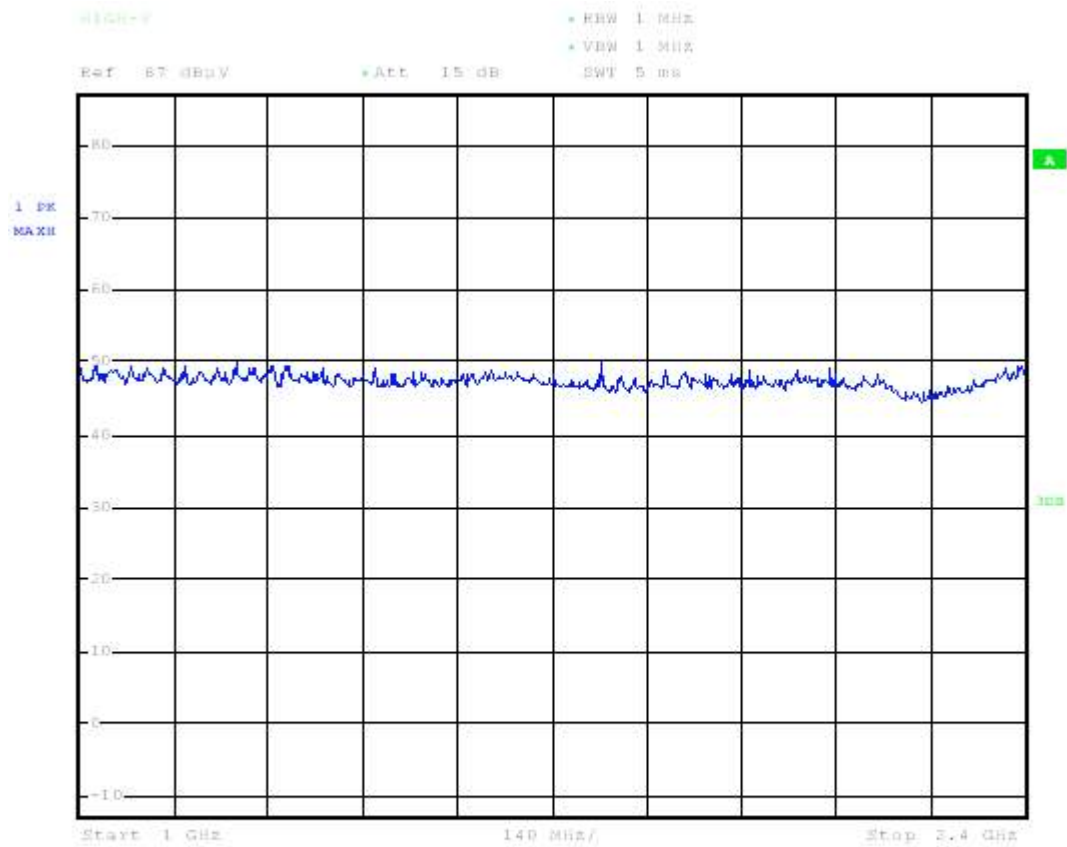
Date: 23.FEB.2019 05:02:38



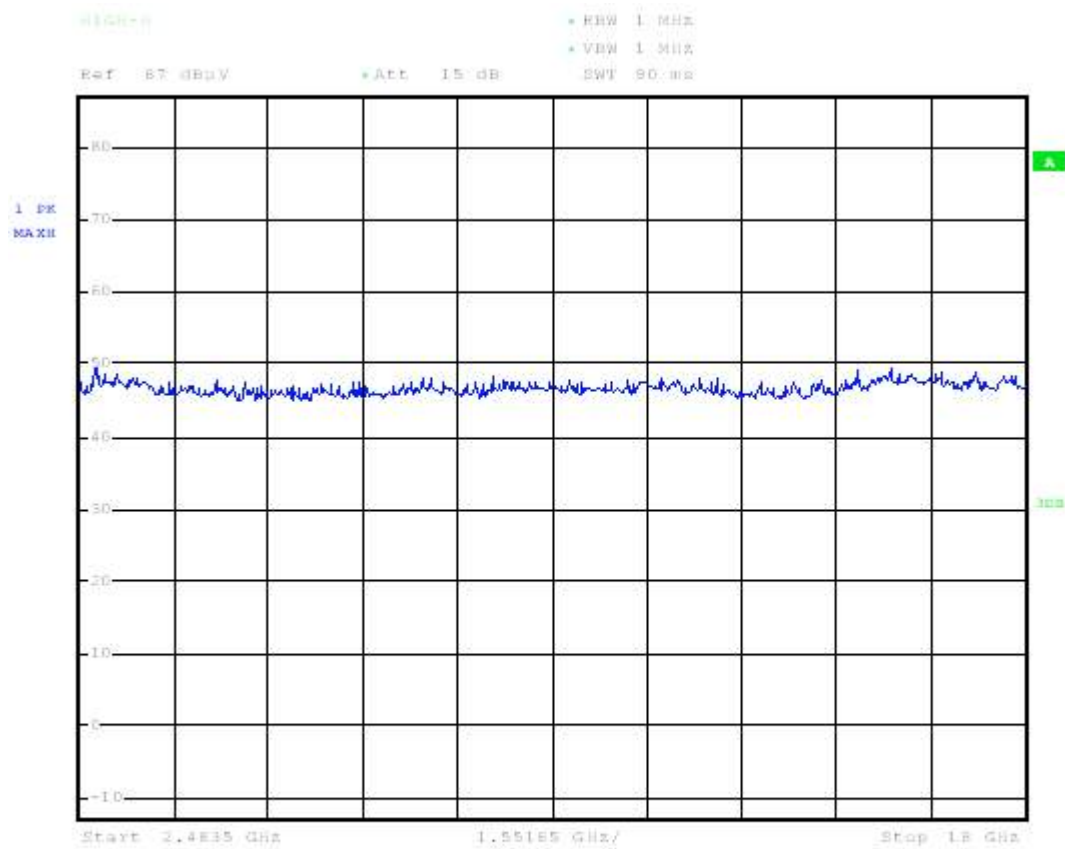
Date: 23.FEB.2019 05:05:20



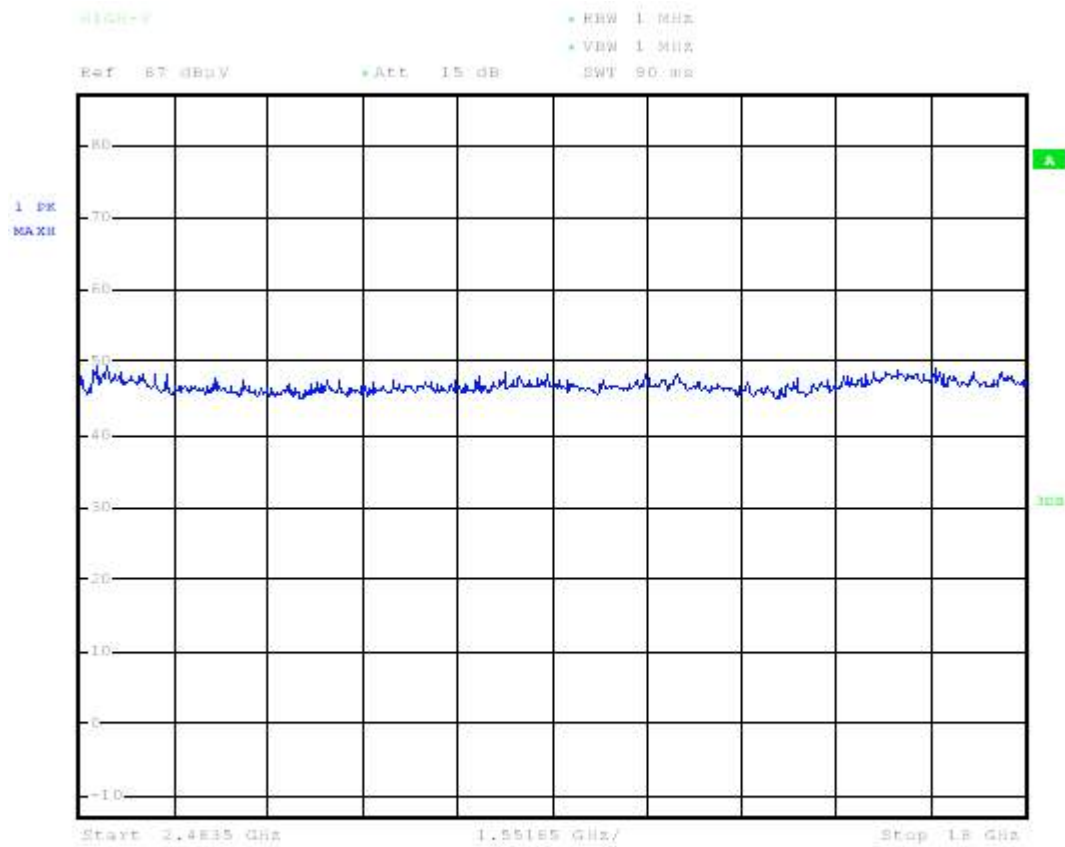
Date: 23.FEB.2019 05:12:49



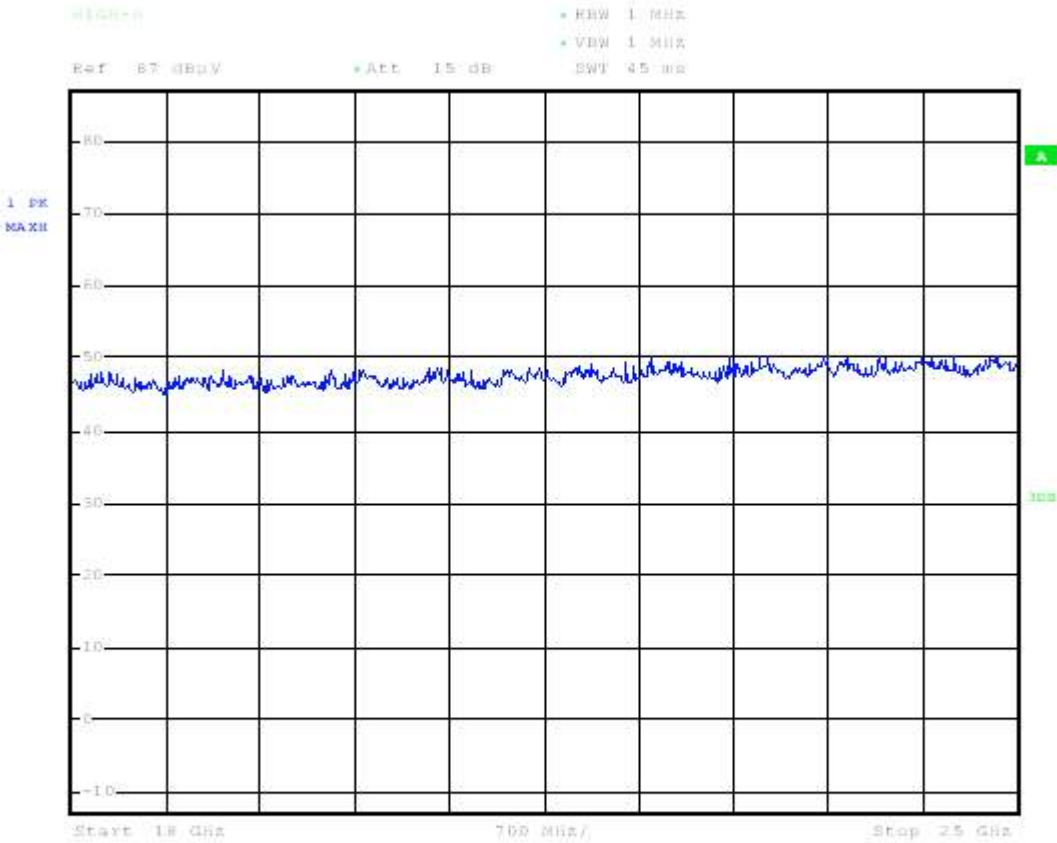
Date: 23.FEB.2019 05:15:31



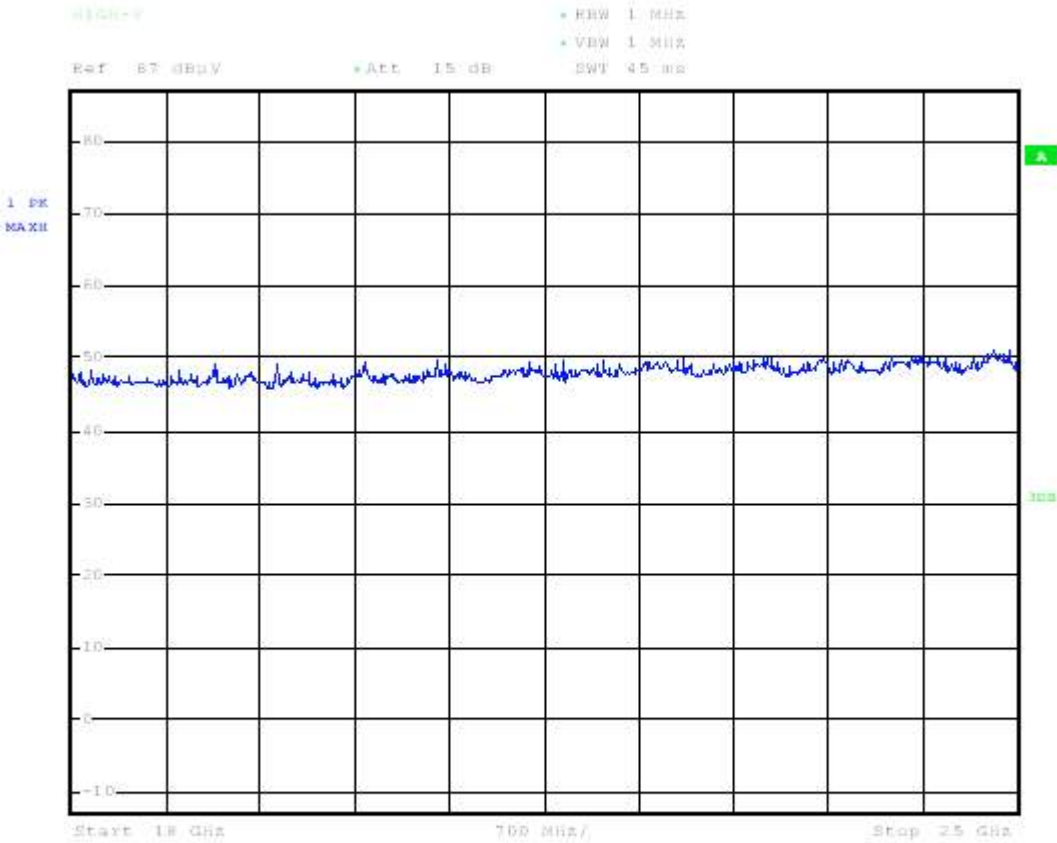
Date: 23.FEB.2019 05:13:59



Date: 23.FEB.2019 05:15:42

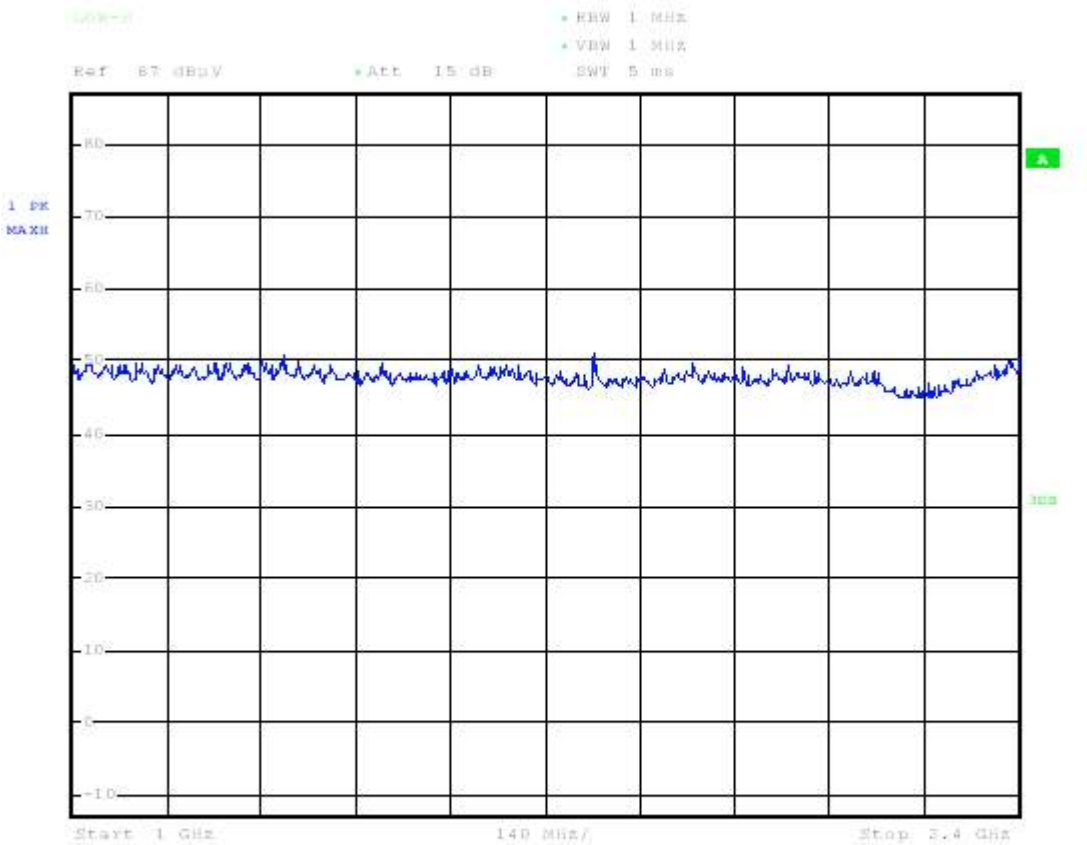


Date: 23.FEB.2019 05:14:20

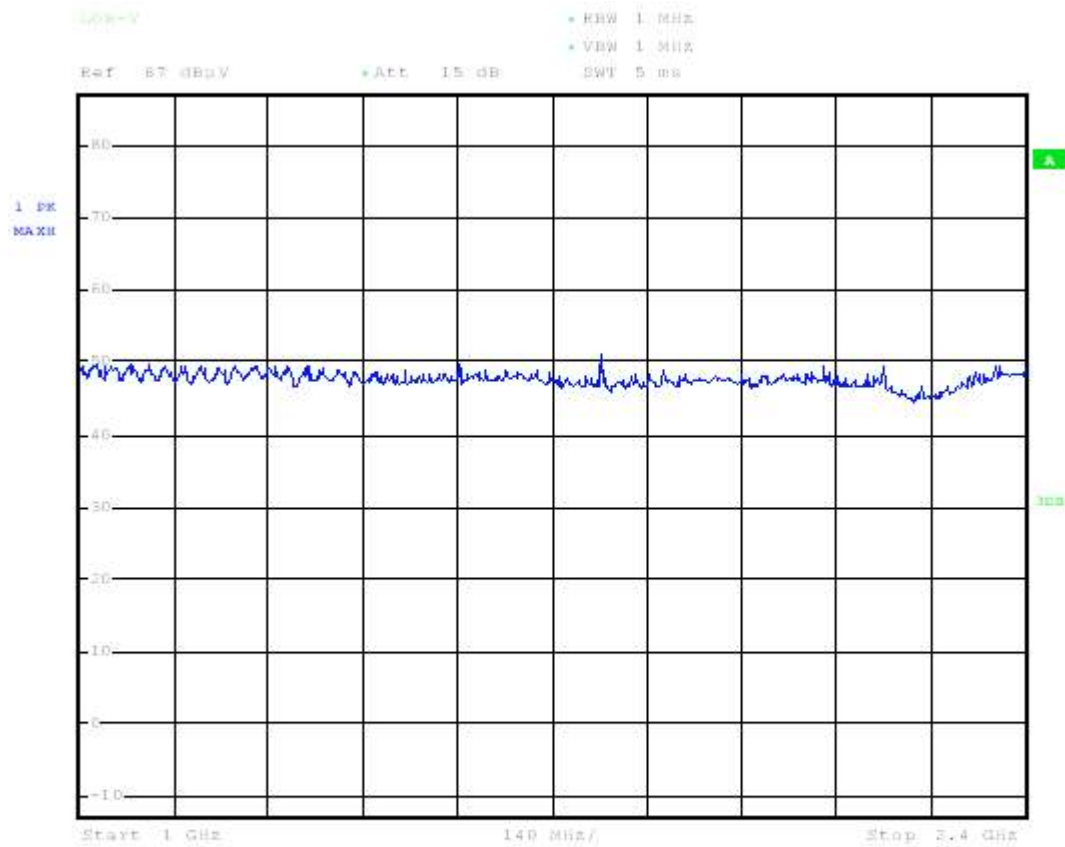


Date: 23.FEB.2019 05:17:11

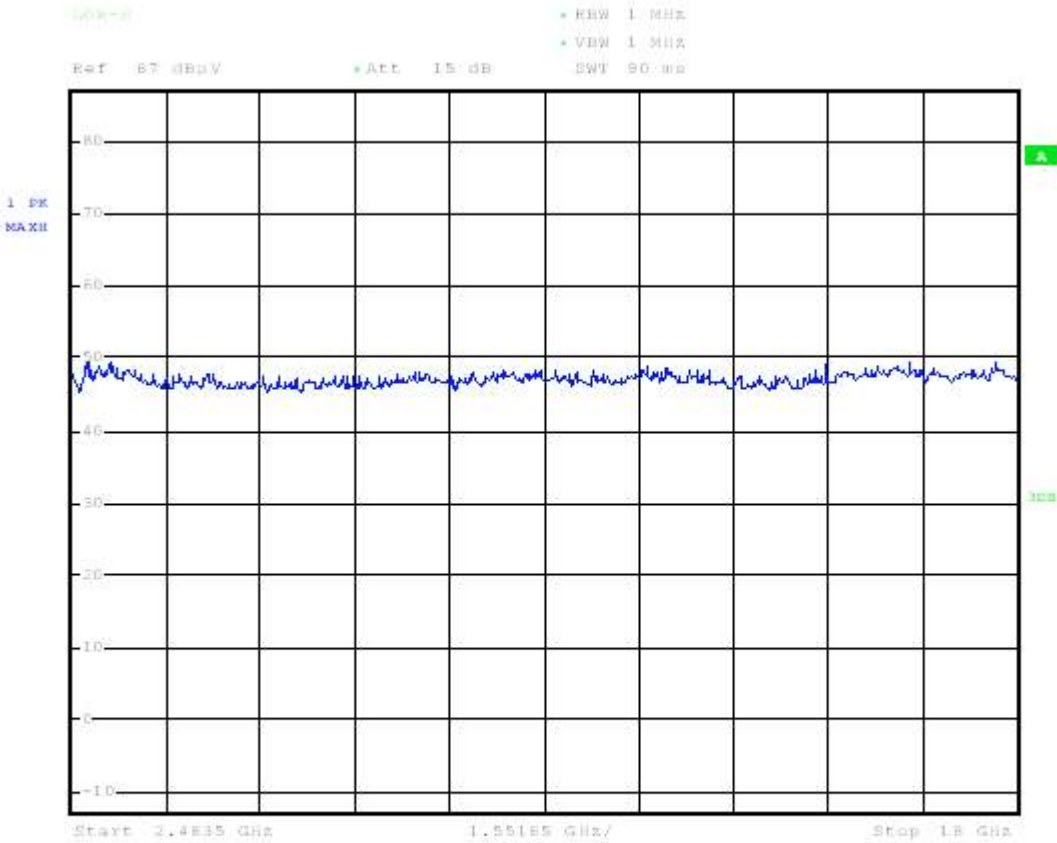
調變技術: IEEE 802.11g



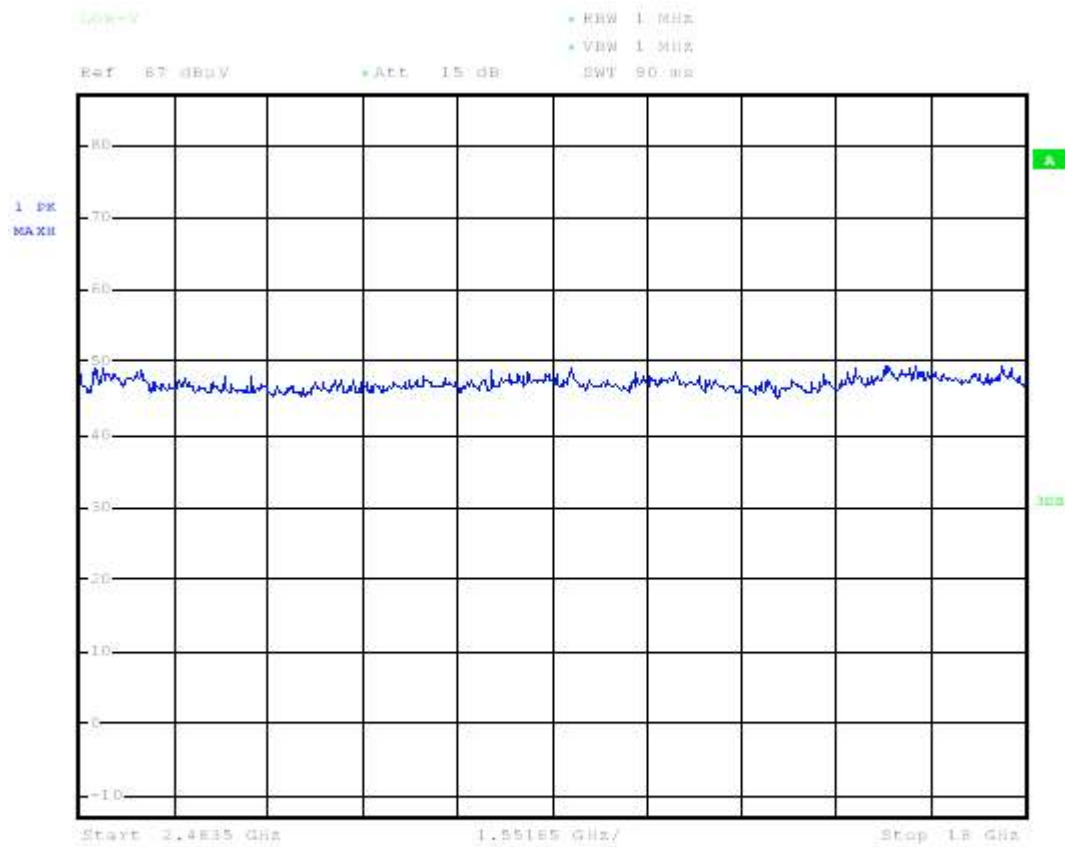
Date: 25.FEB.2019 02:43:29



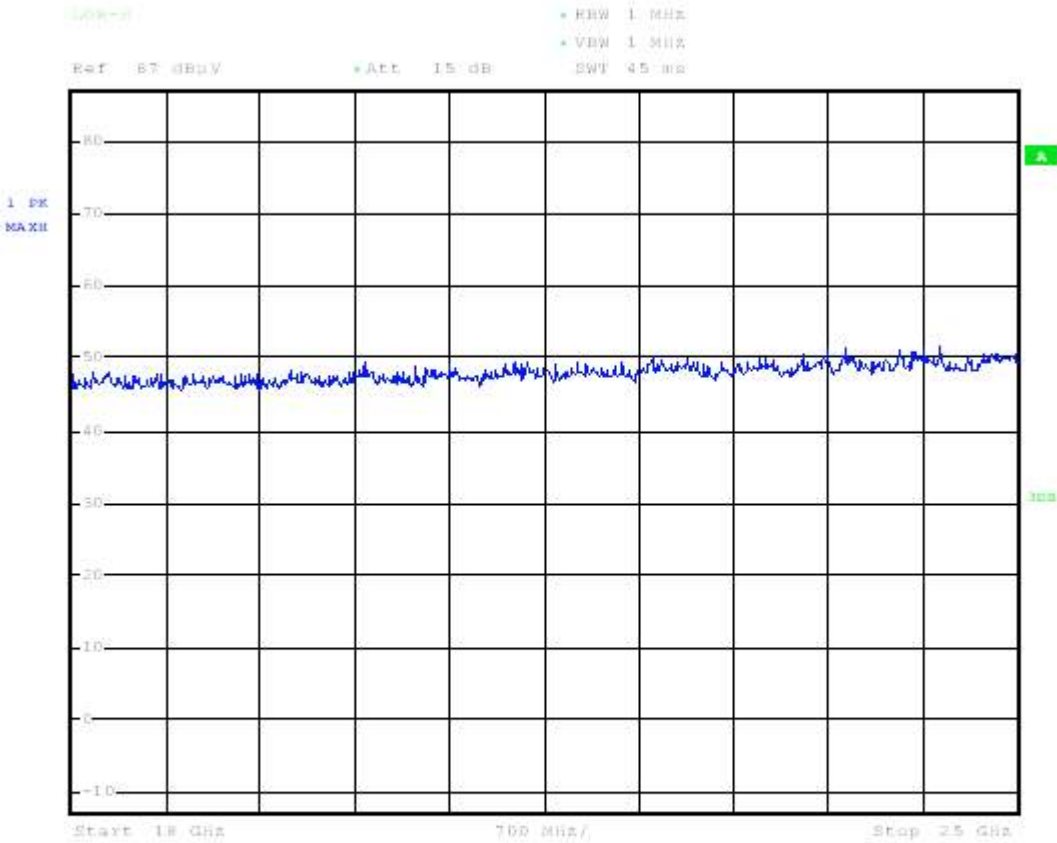
Date: 25.FEB.2019 02:45:12



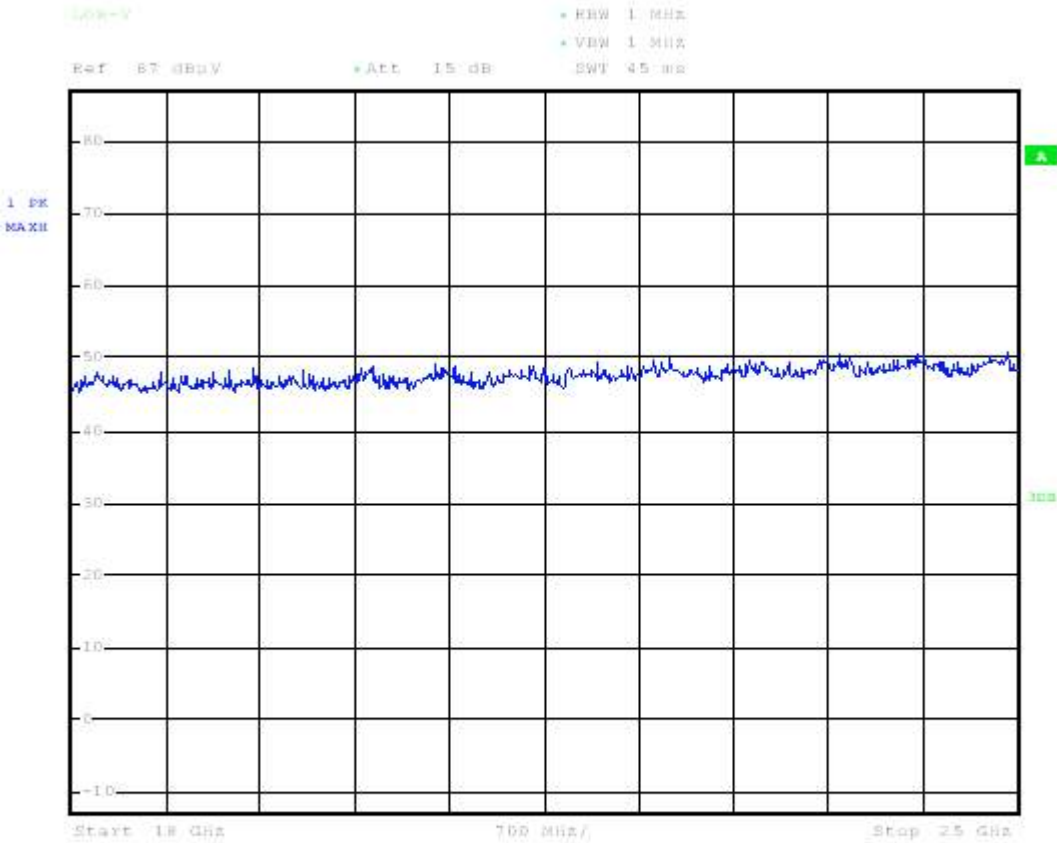
Date: 25.FEB.2019 02:44:41



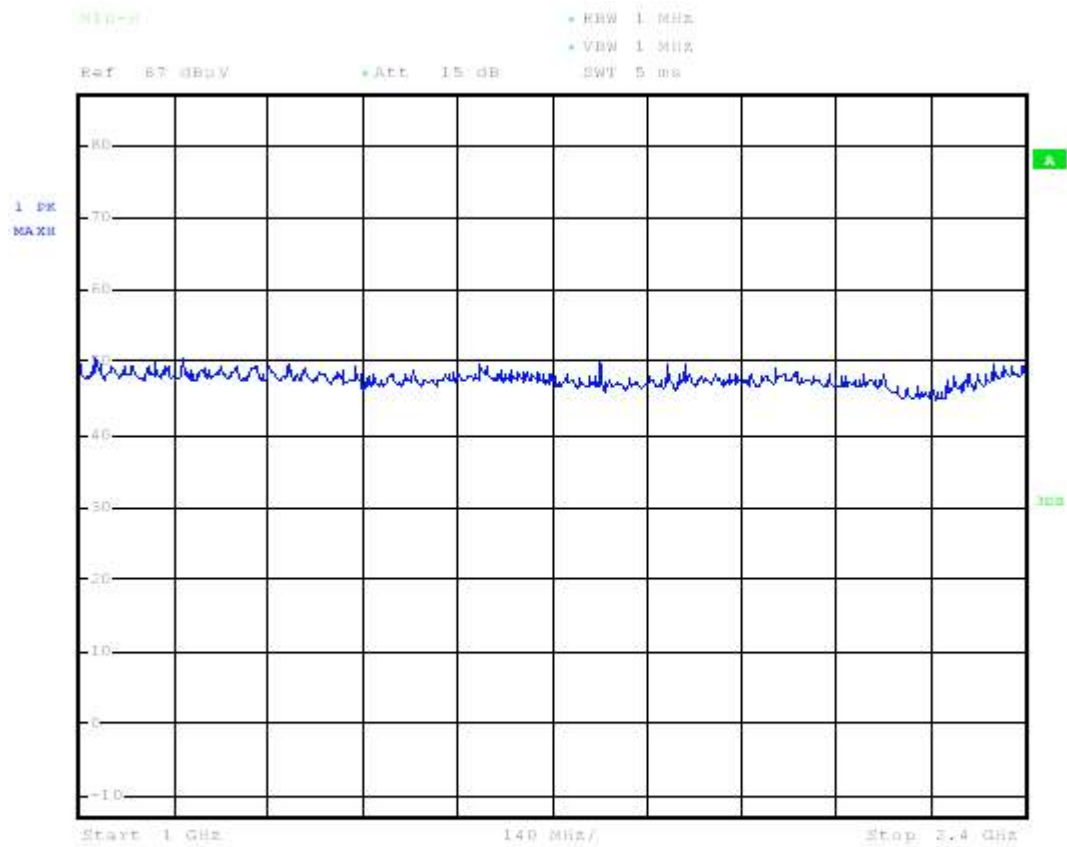
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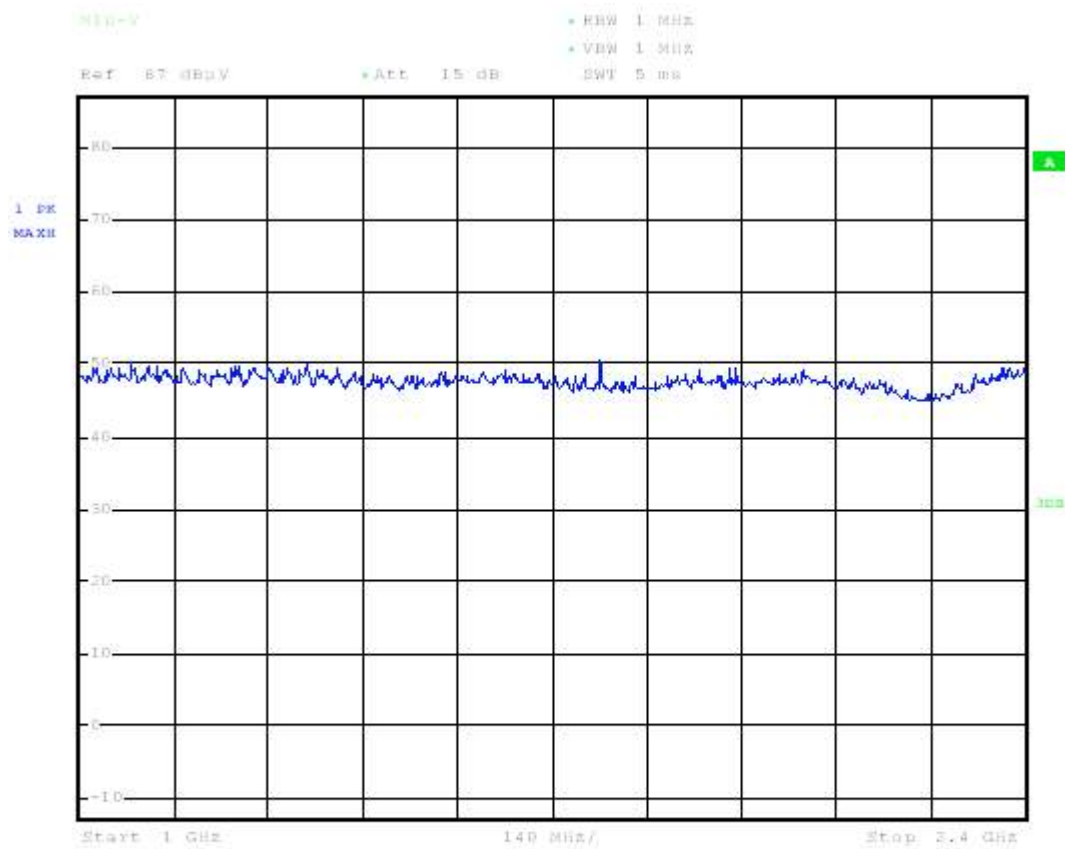
Date: 25.FEB.2019 02:45:01



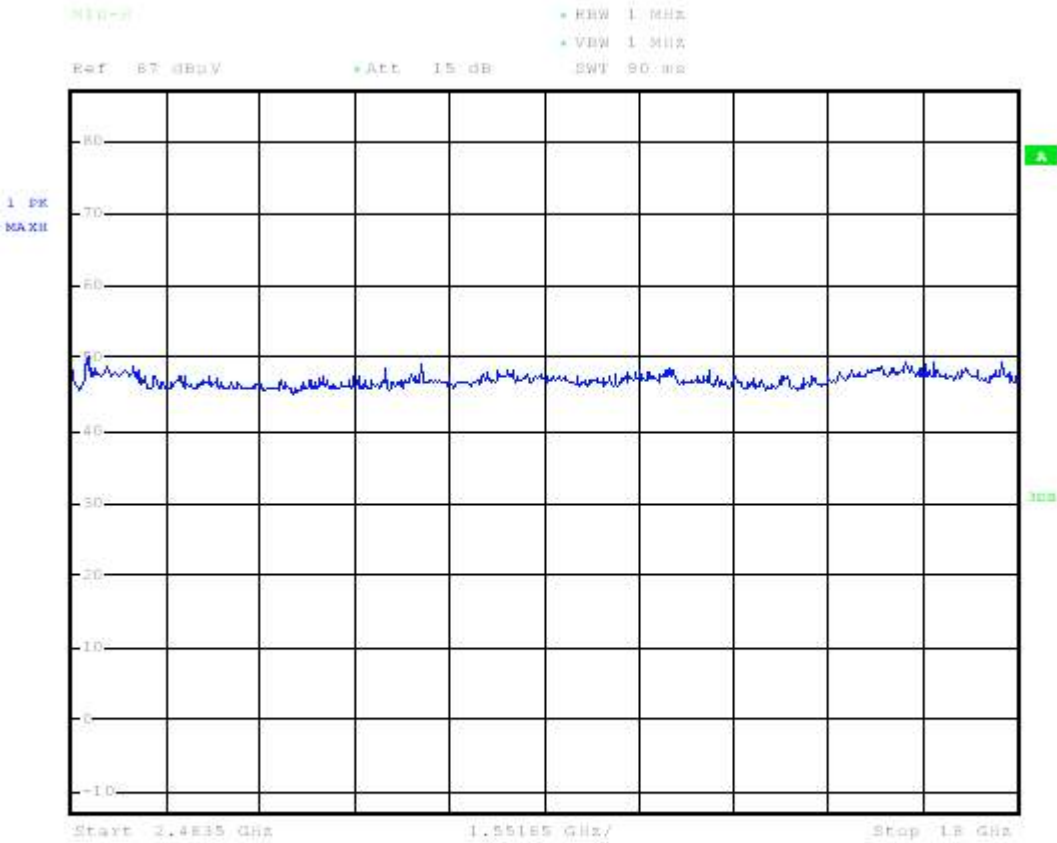
Date: 23.FEB.2019 04:55:20



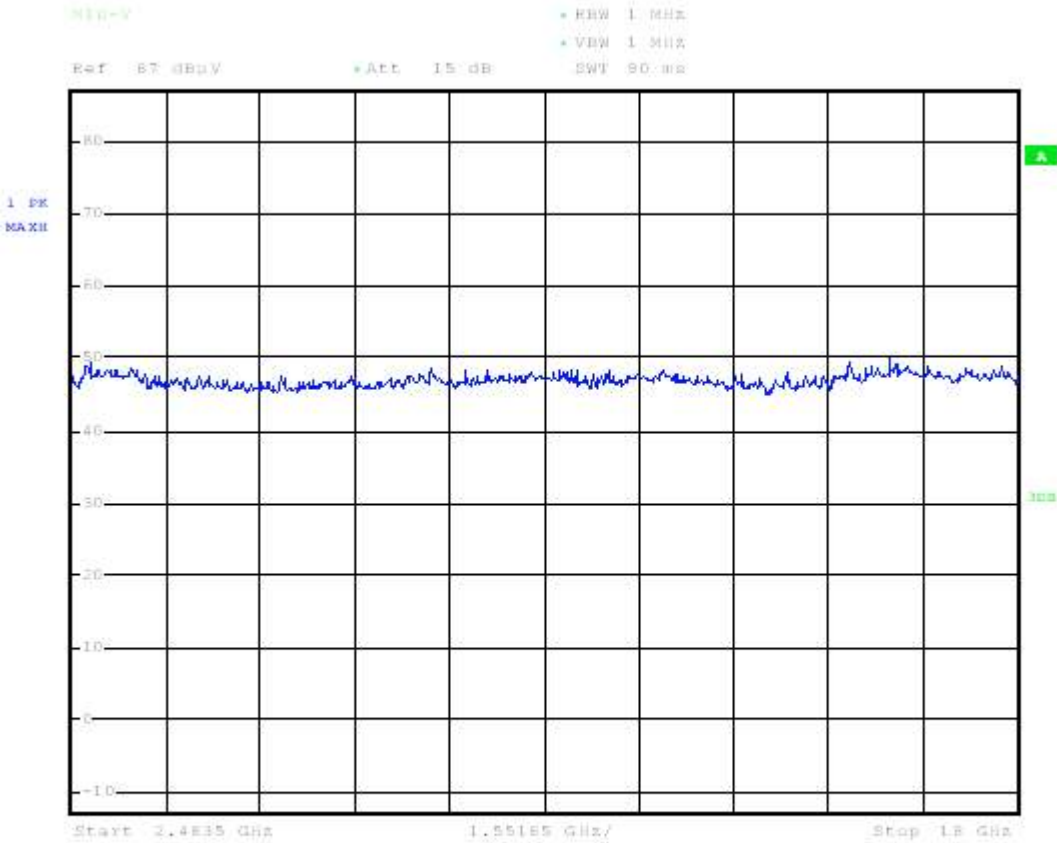
Date: 25.FEB.2019 02:51:57



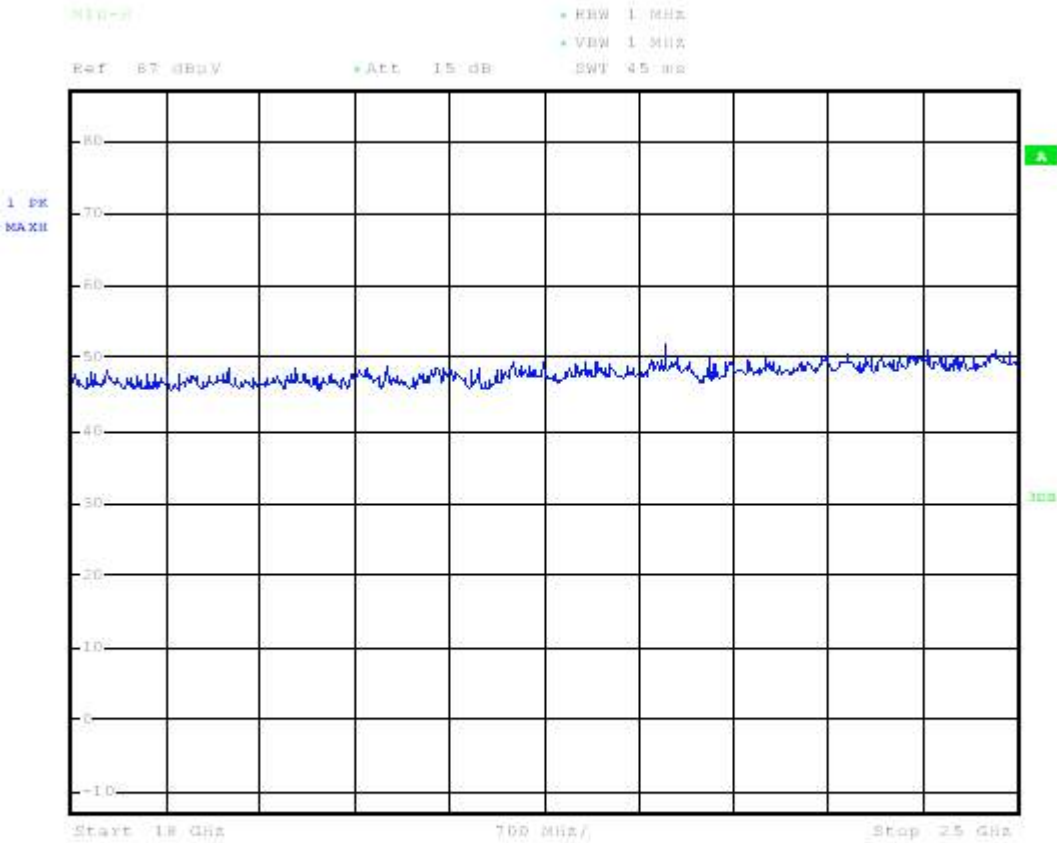
Date: 25.FEB.2019 02:54:39



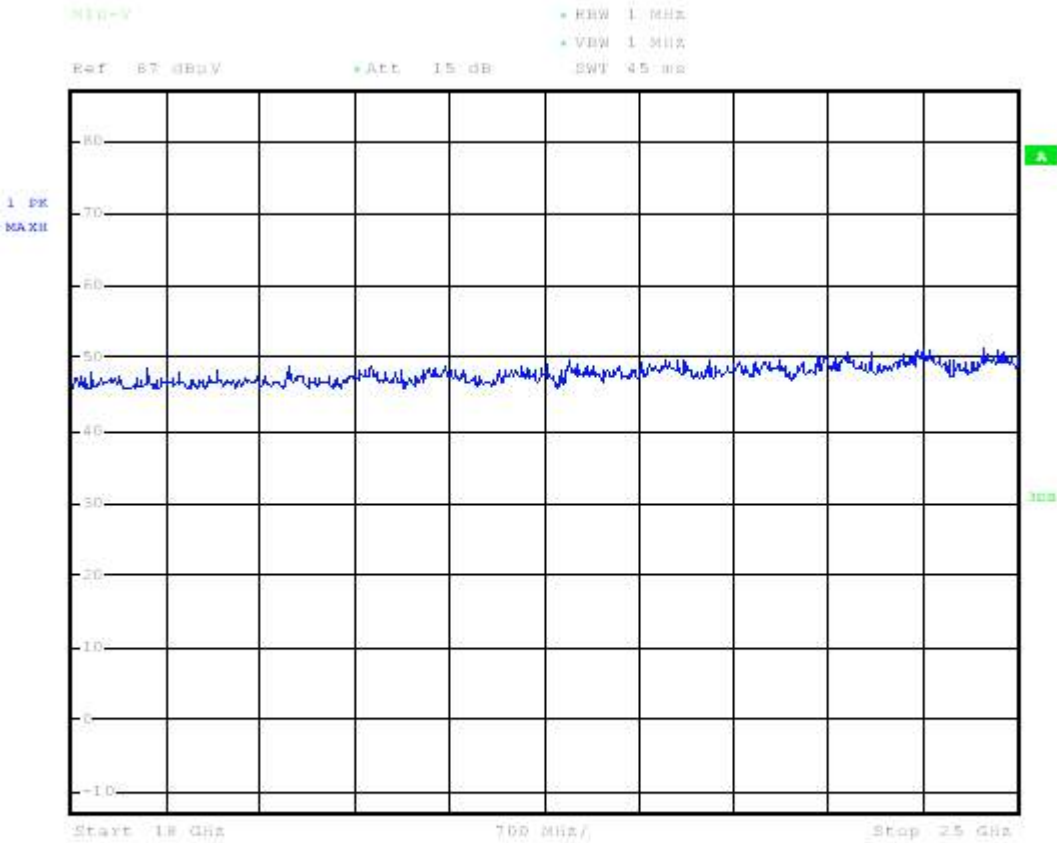
Date: 25.FEB.2019 02:53:08



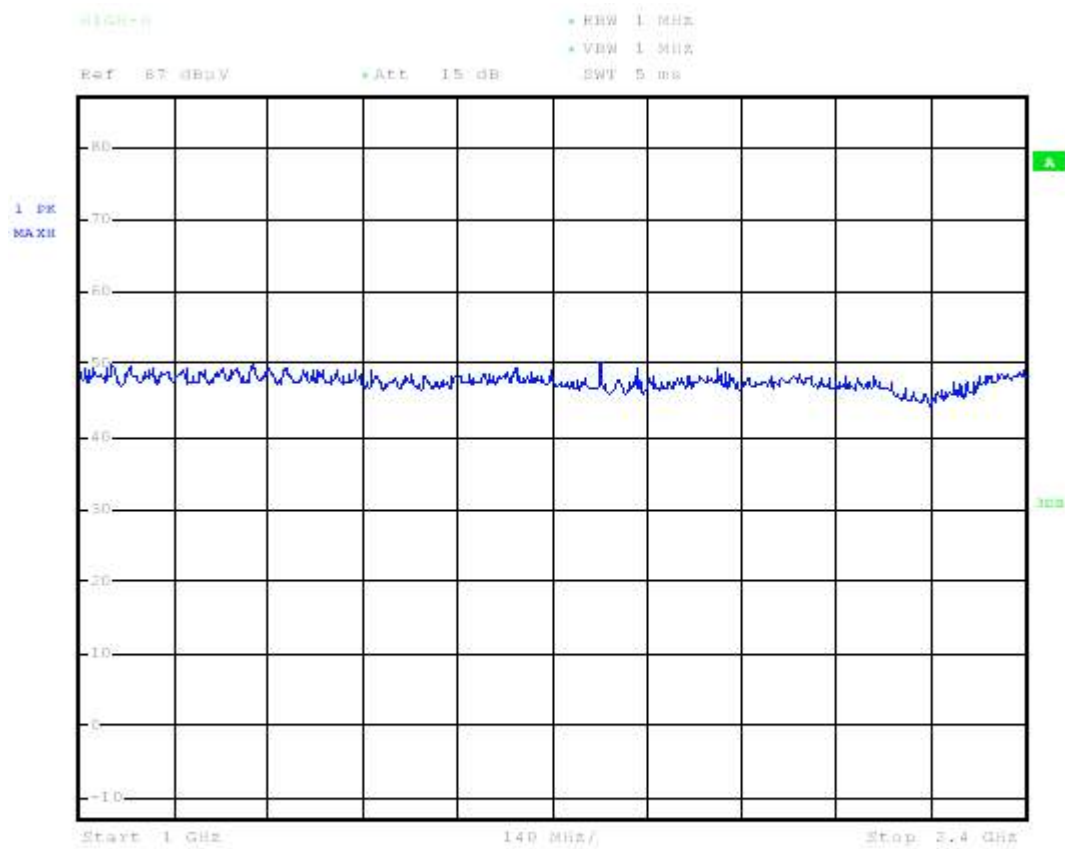
Date: 25.FEB.2019 02:55:51



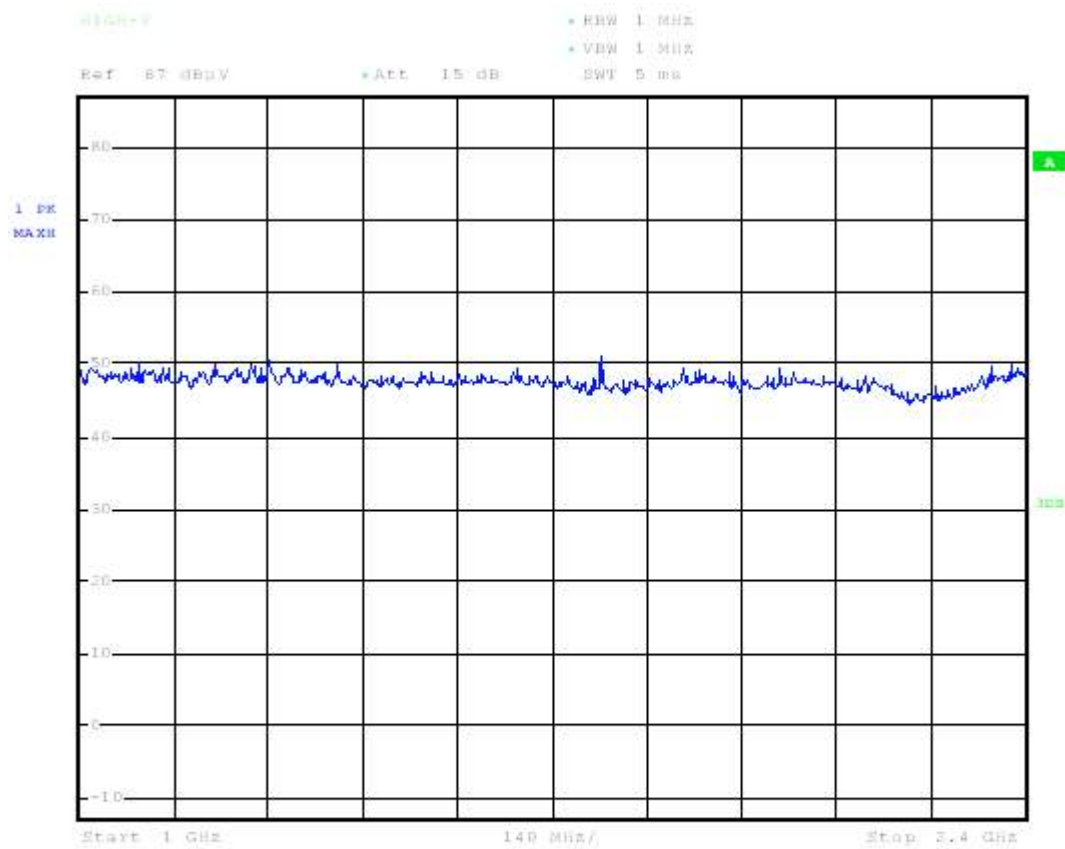
Date: 25.FEB.2019 02:53:28



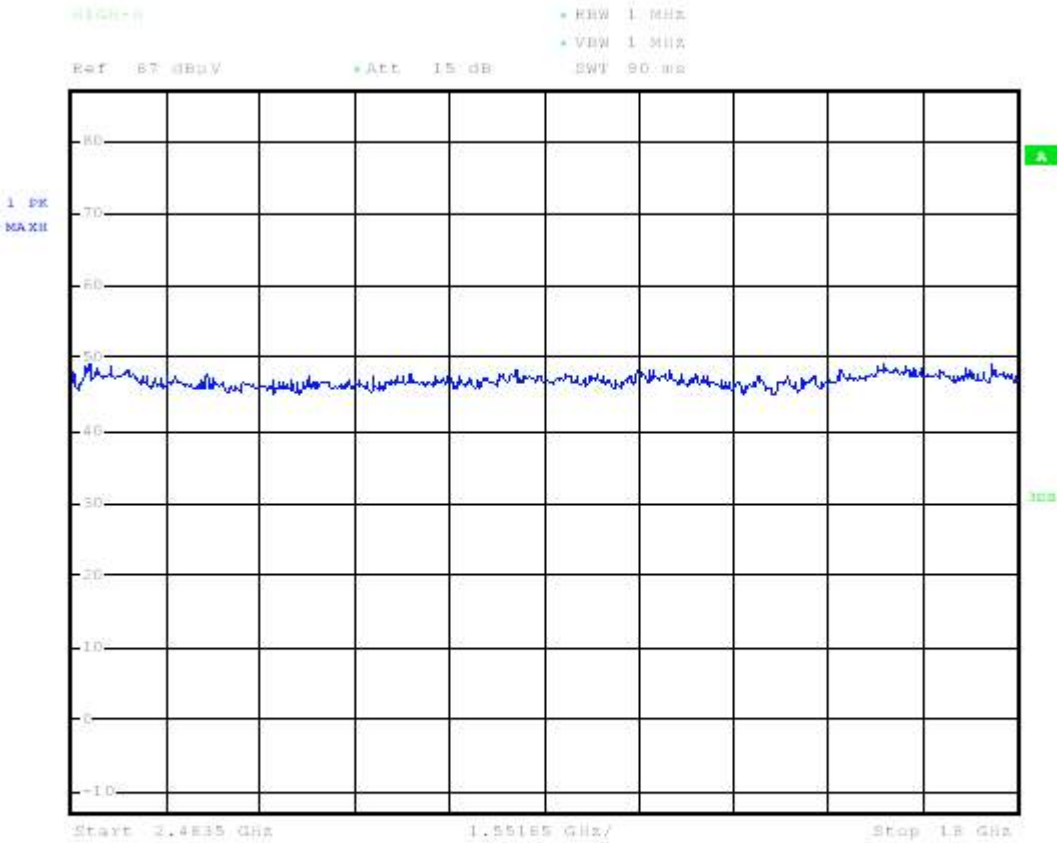
Date: 25.FEB.2019 02:55:11



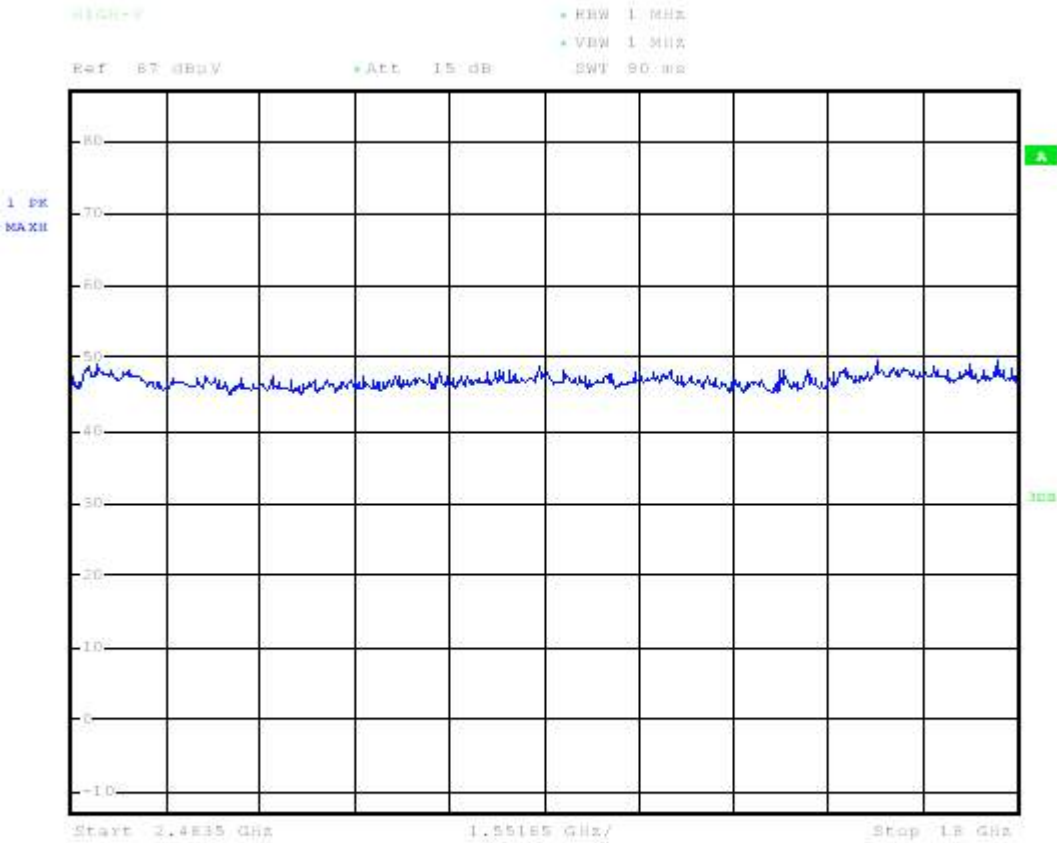
Date: 25.FEB.2019 03:00:35



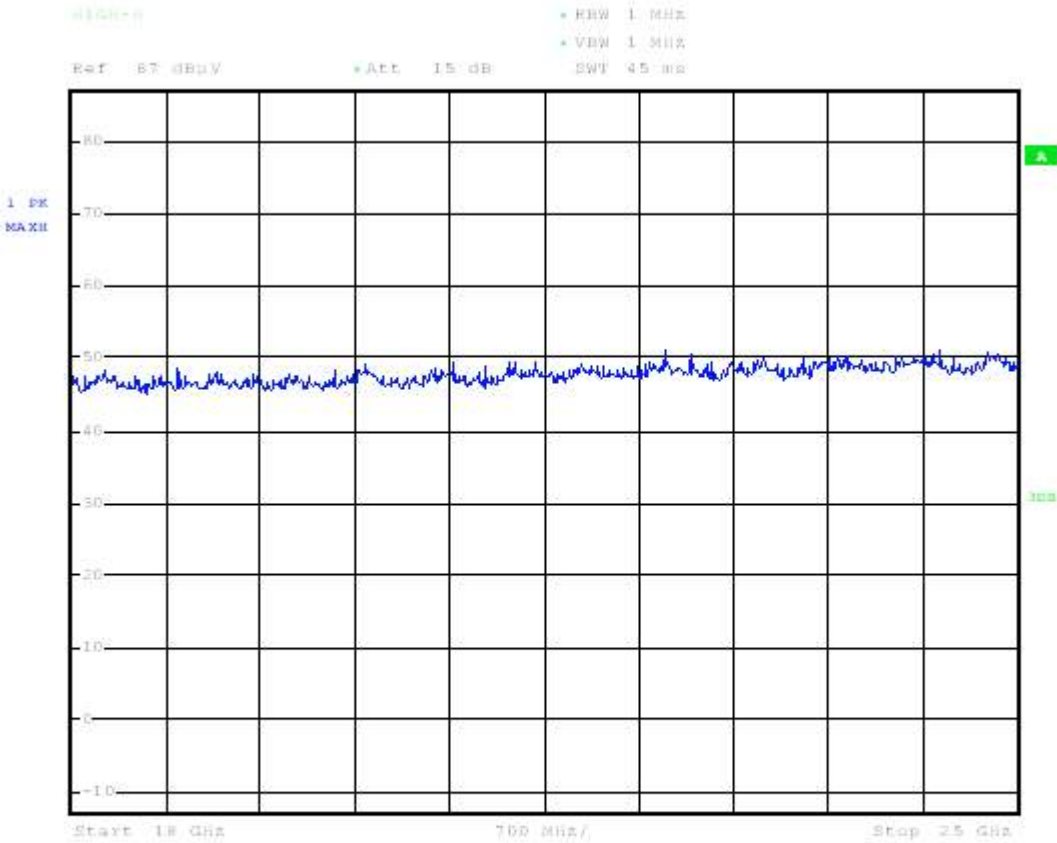
Date: 25.FEB.2019 03:03:18



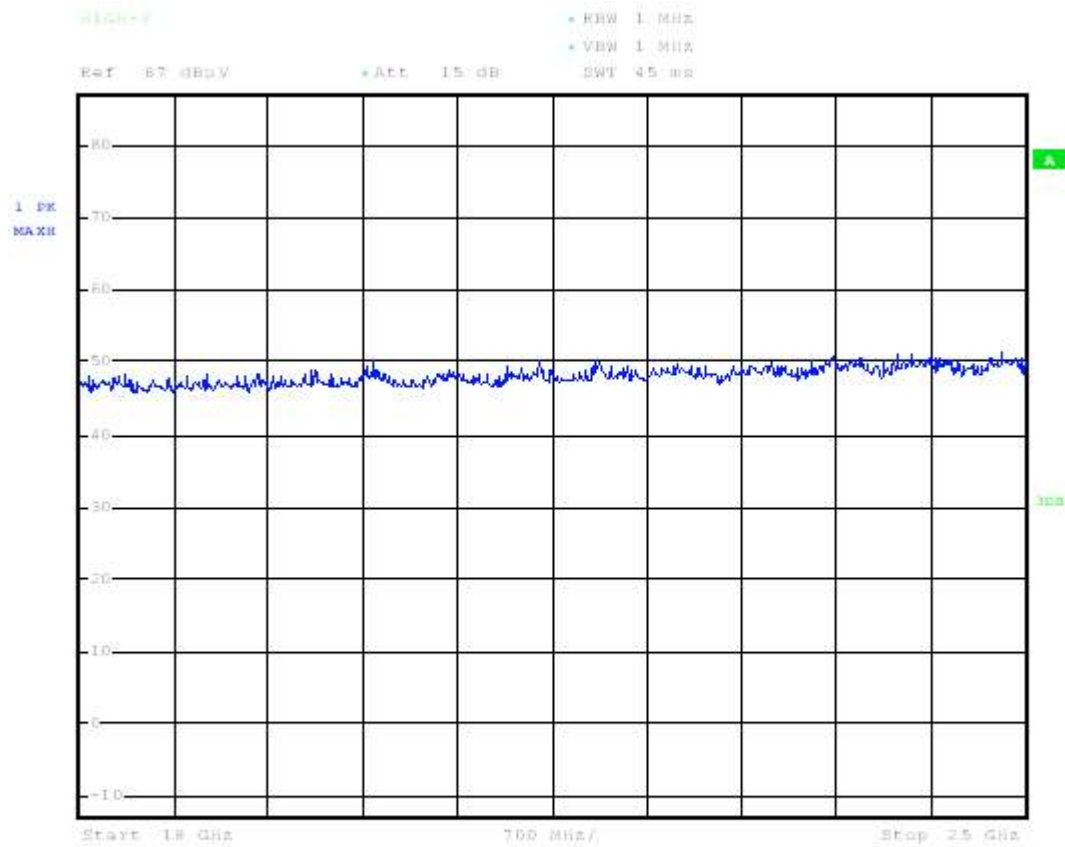
Date: 25.FEB.2019 03:01:47



Date: 25.FEB.2019 03:04:29

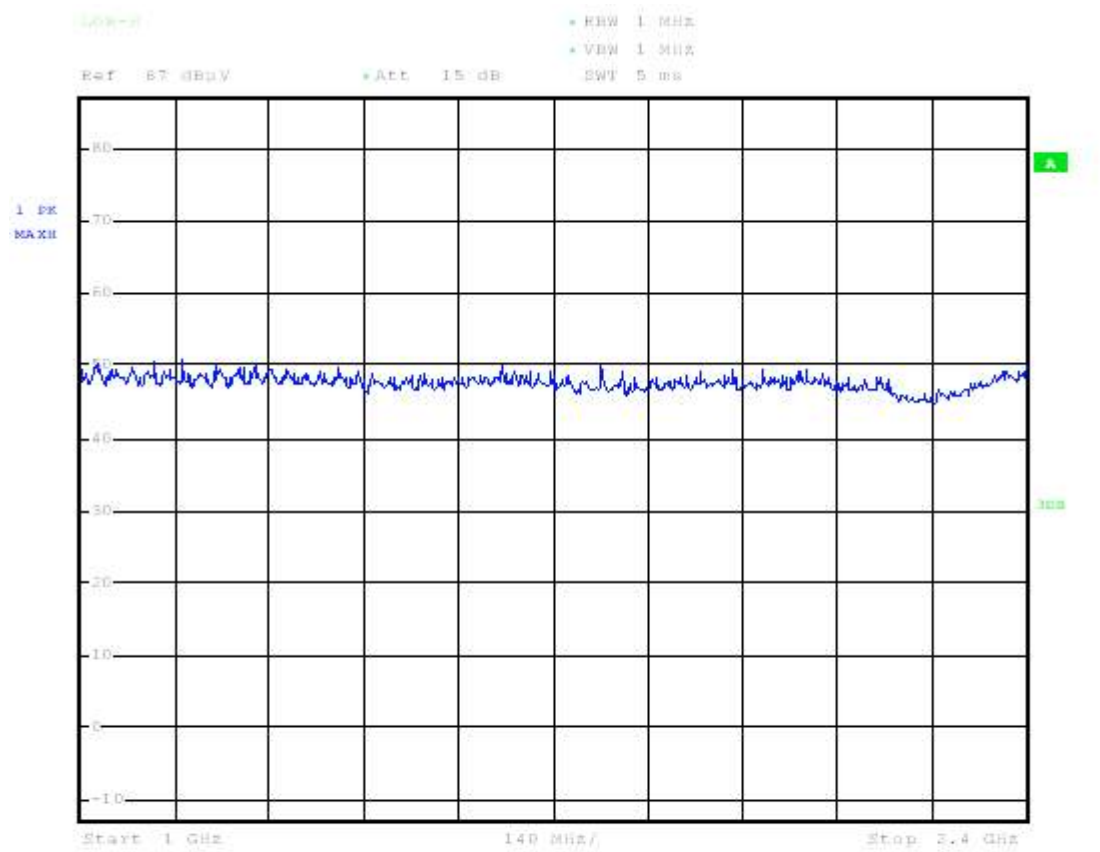


Date: 25.FEB.2019 03:02:08

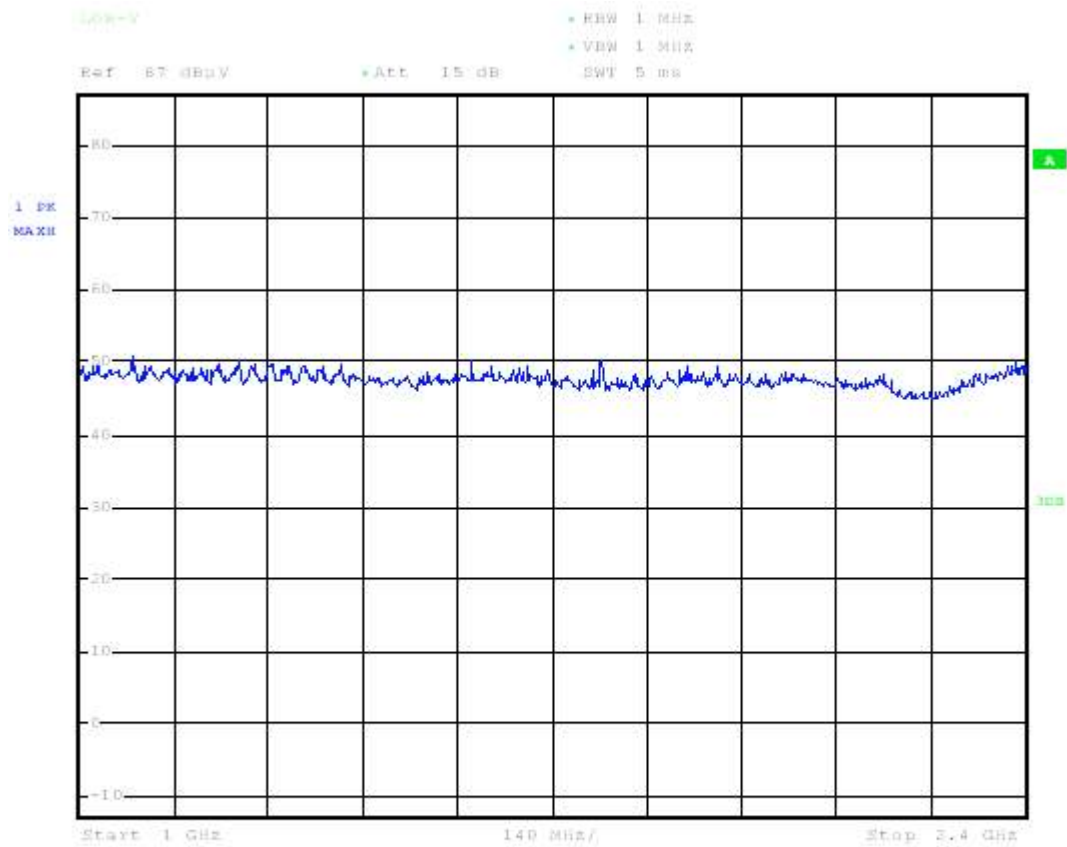


Date: 25.FEB.2019 03:04:58

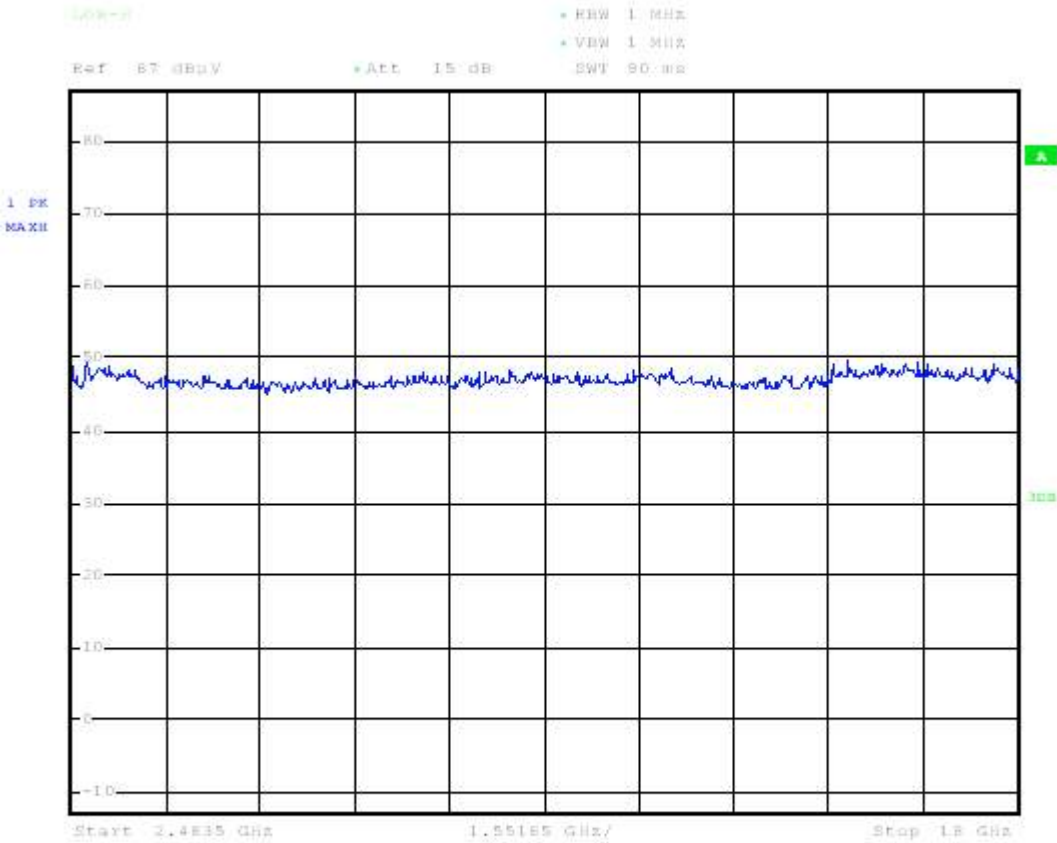
調變技術: IEEE 802.11n HT20



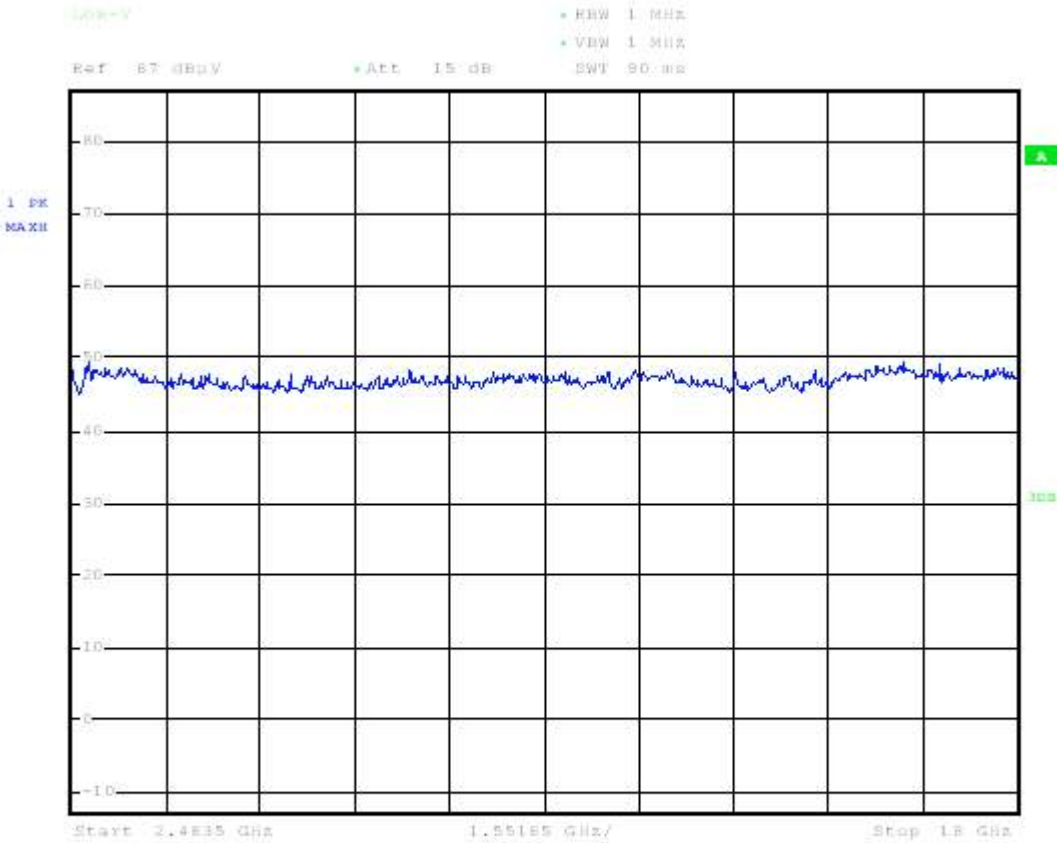
Date: 25.FEB.2019 04:02:51



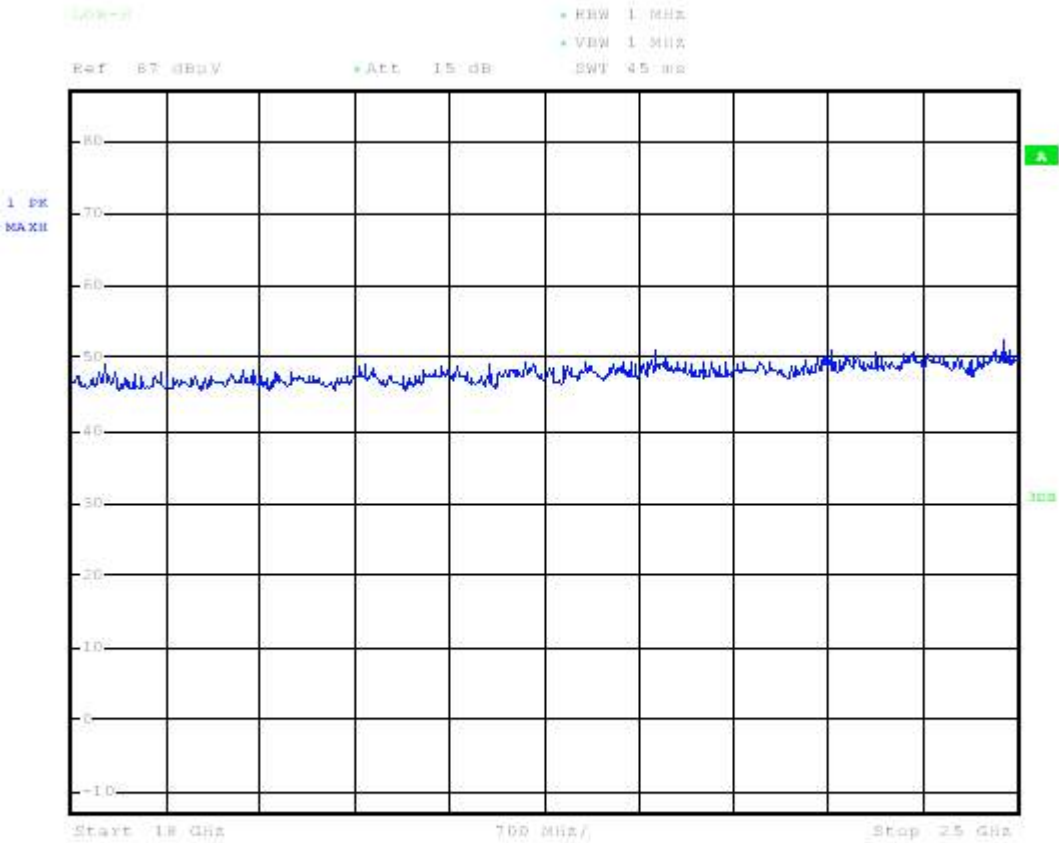
Date: 25.FEB.2019 04:05:33



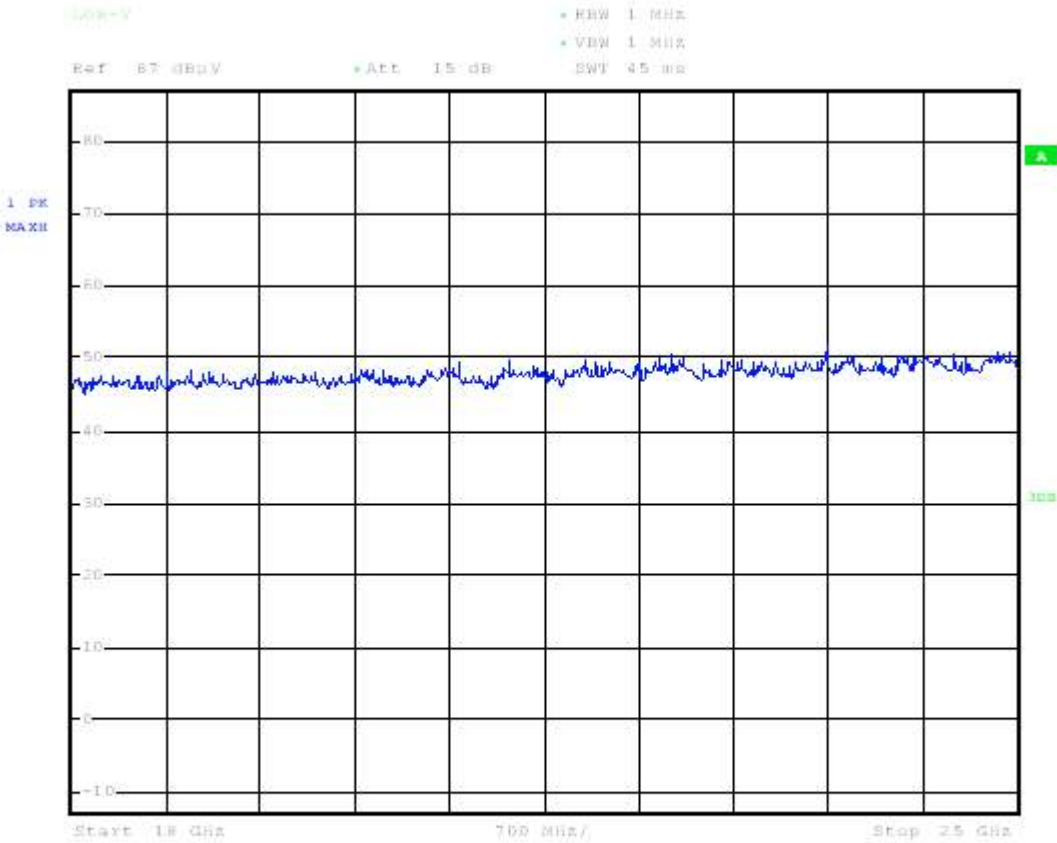
Date: 25.FEB.2019 04:04:02



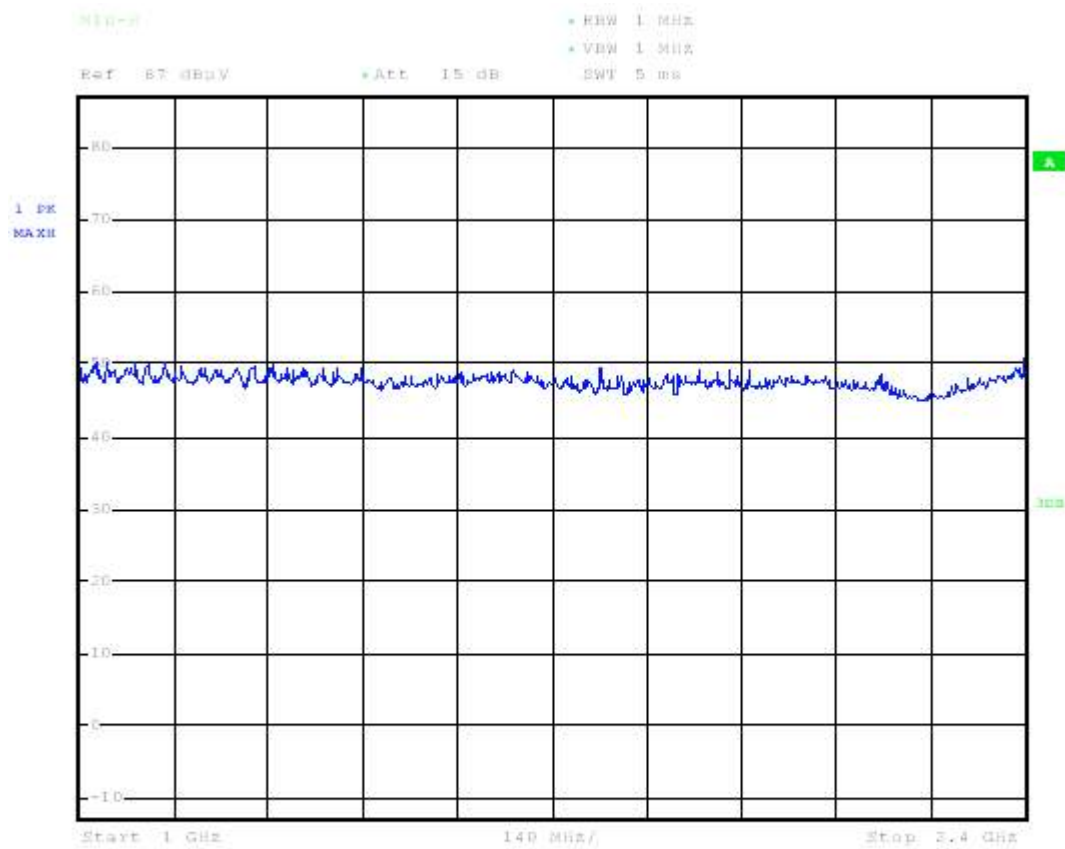
Date: 25.FEB.2019 04:05:45



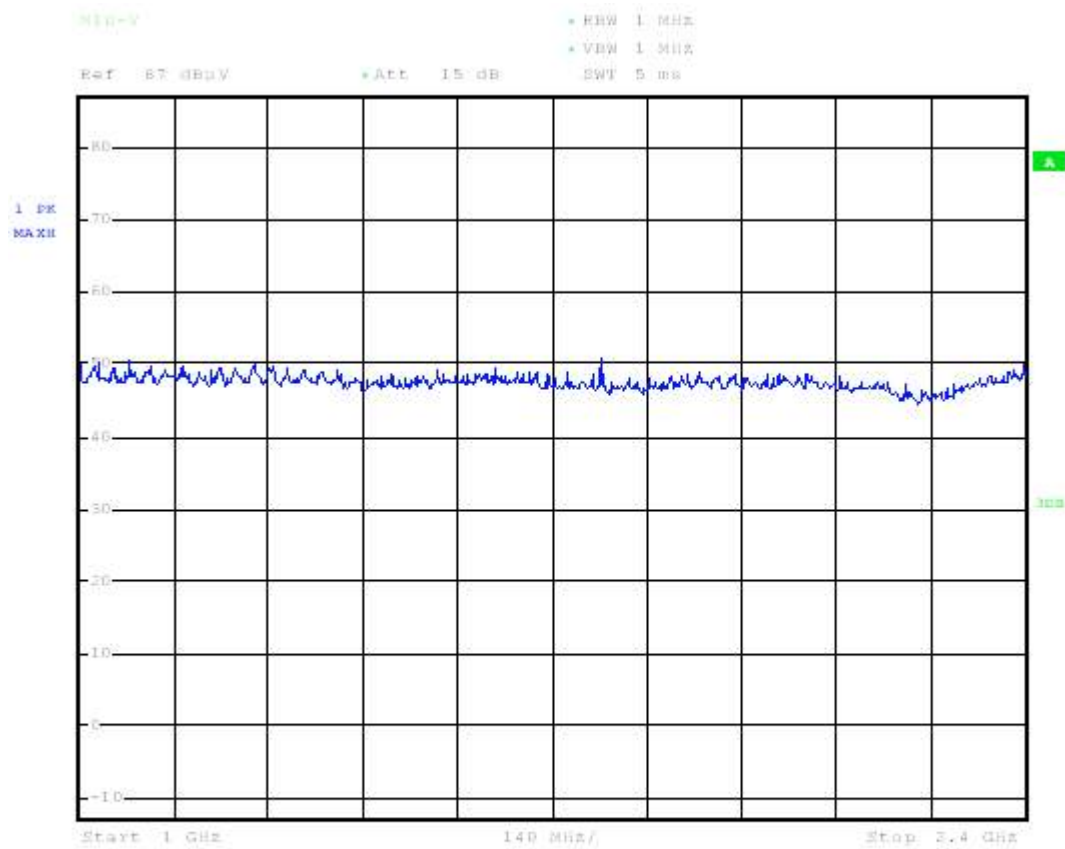
Date: 25.FEB.2019 04:04:22



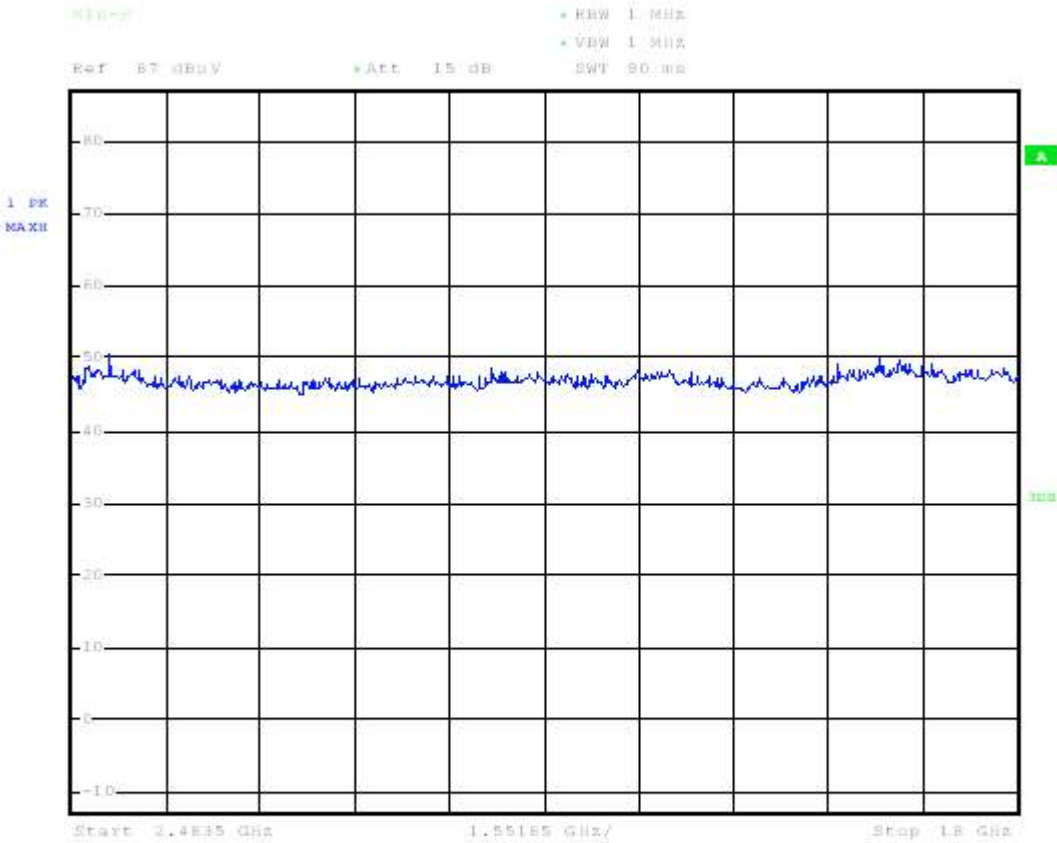
Date: 25.FEB.2019 04:07:05



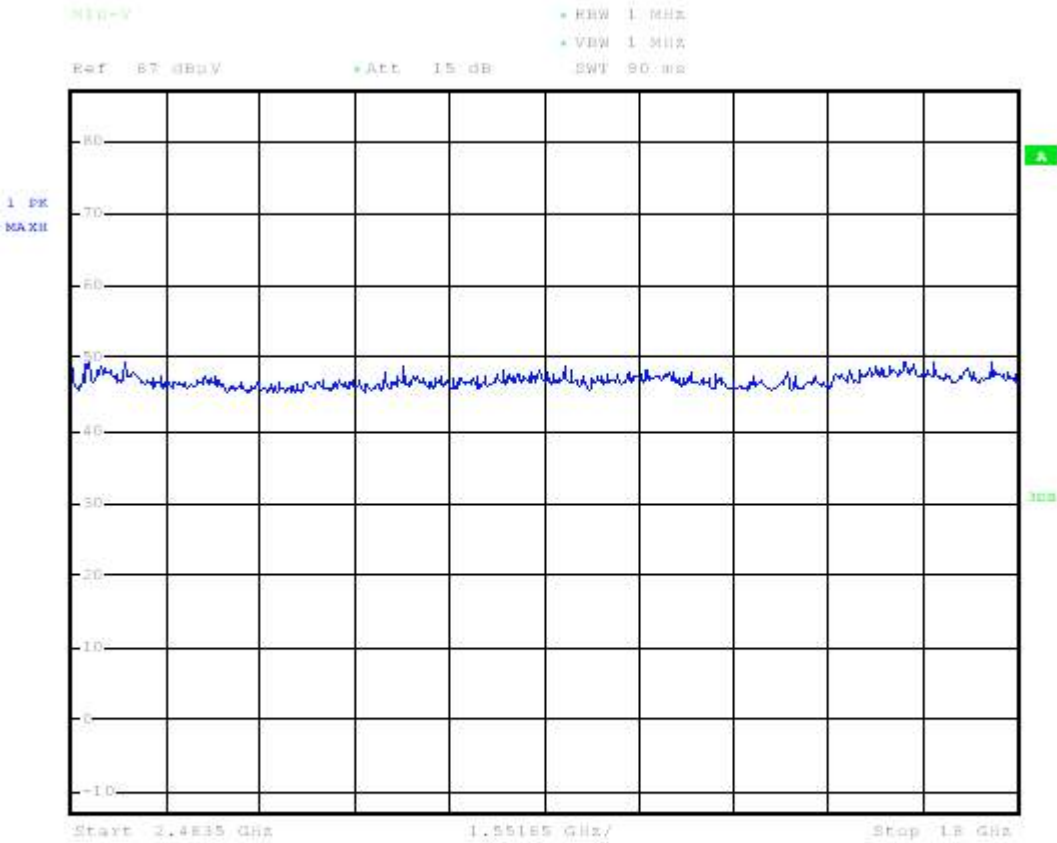
Date: 25.FEB.2019 04:09:37



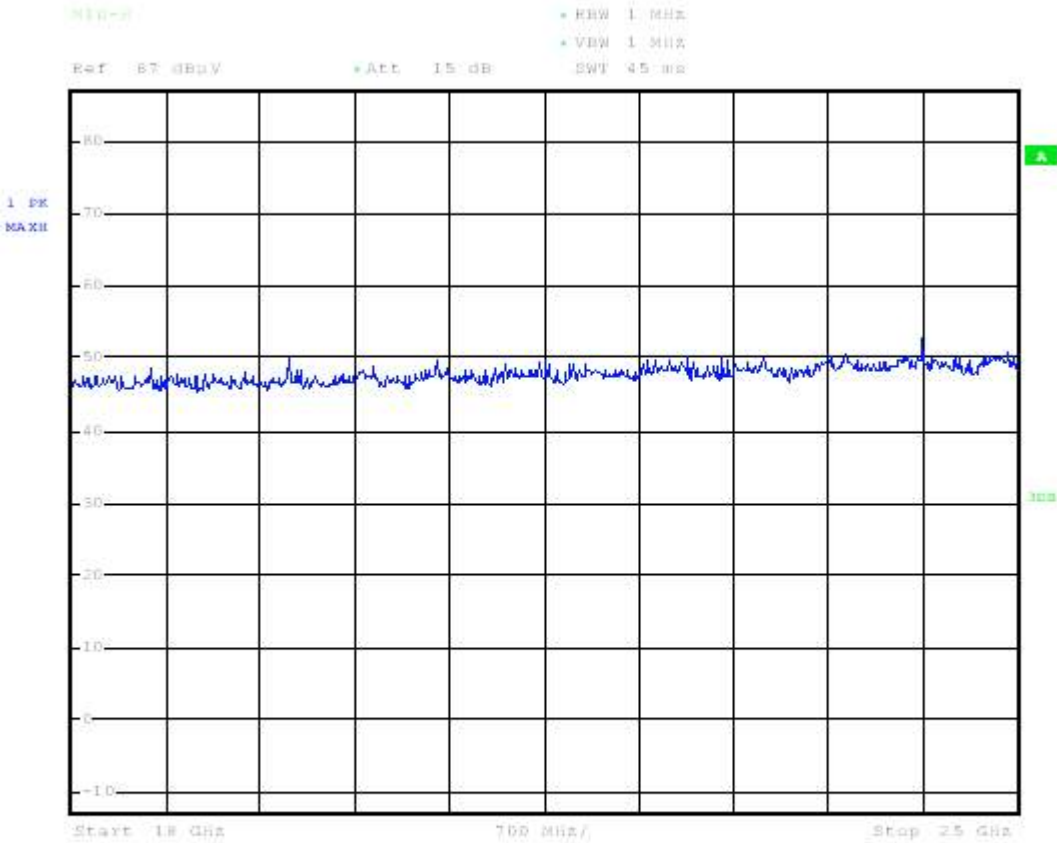
Date: 25.FEB.2019 04:12:20



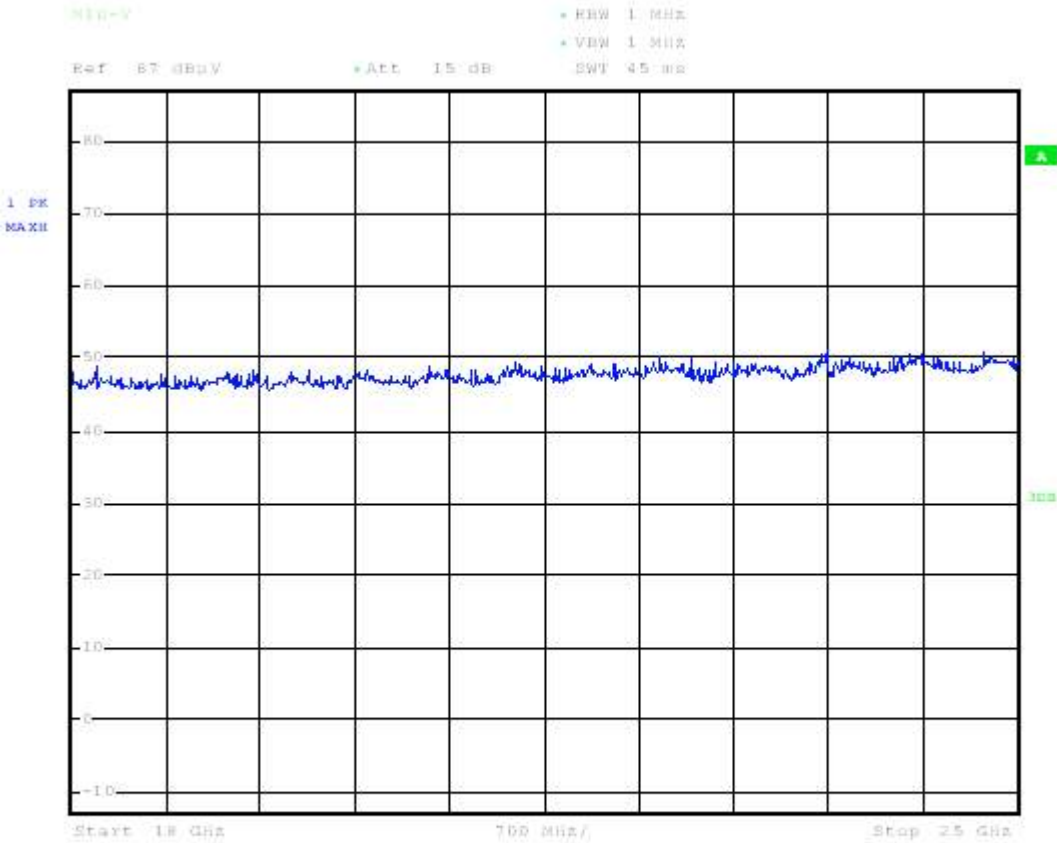
Date: 25.FEB.2019 04:10:49



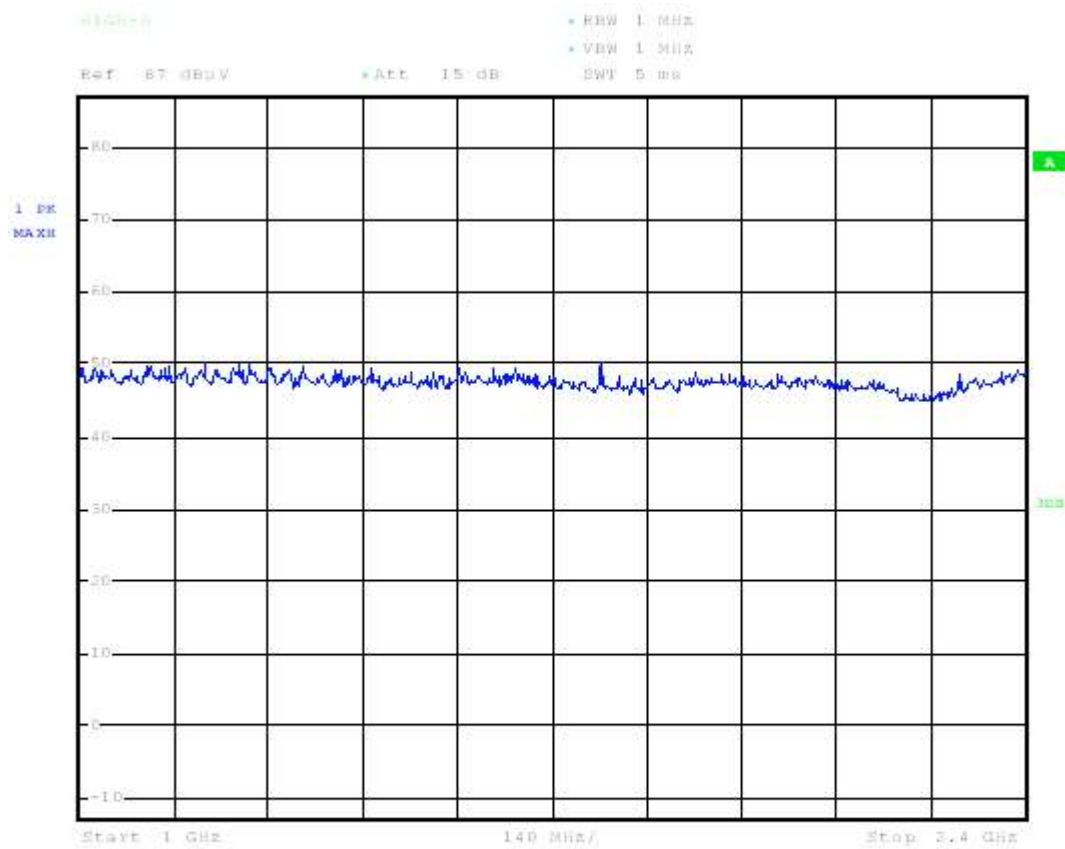
Date: 25.FEB.2019 04:13:31



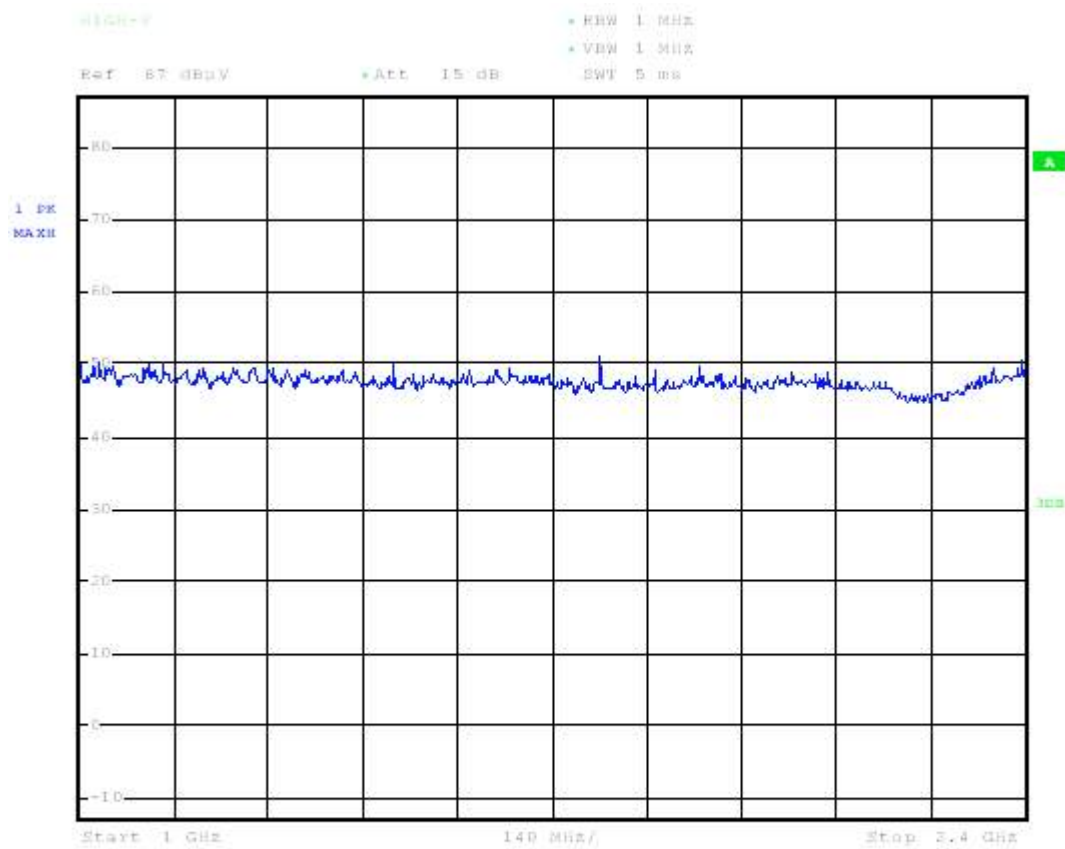
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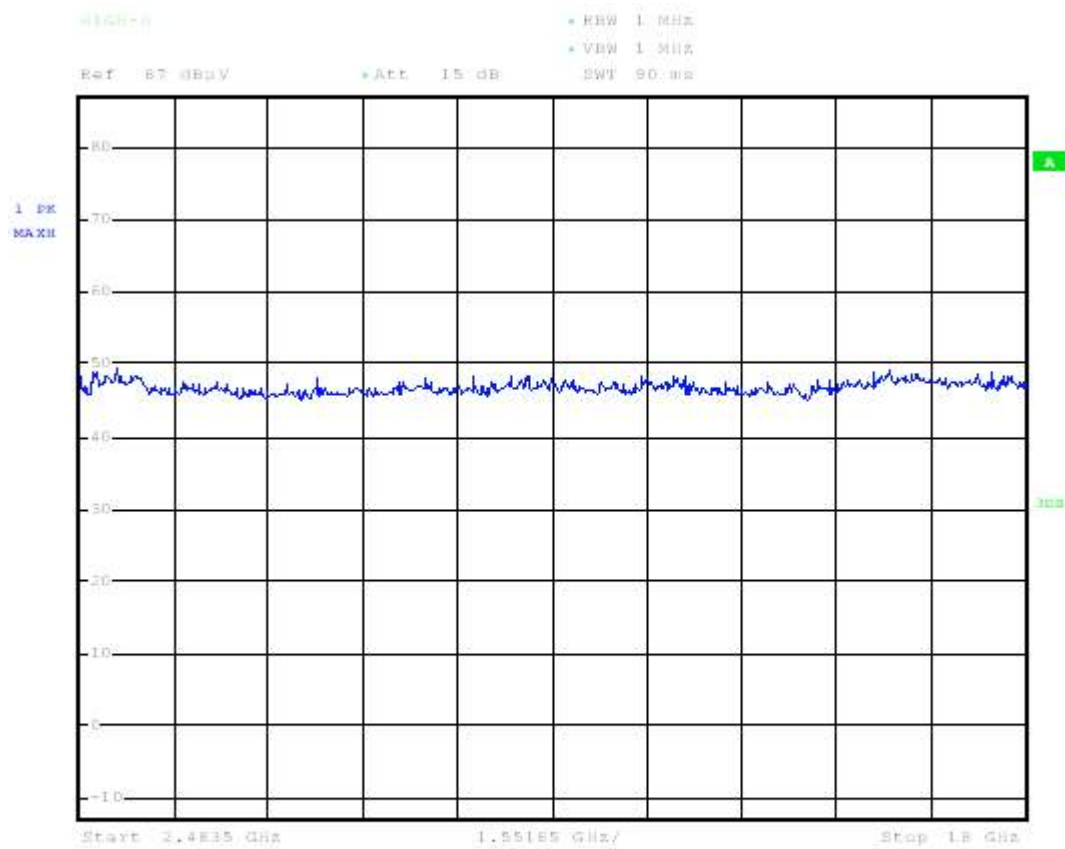
Date: 25.FEB.2019 04:13:52



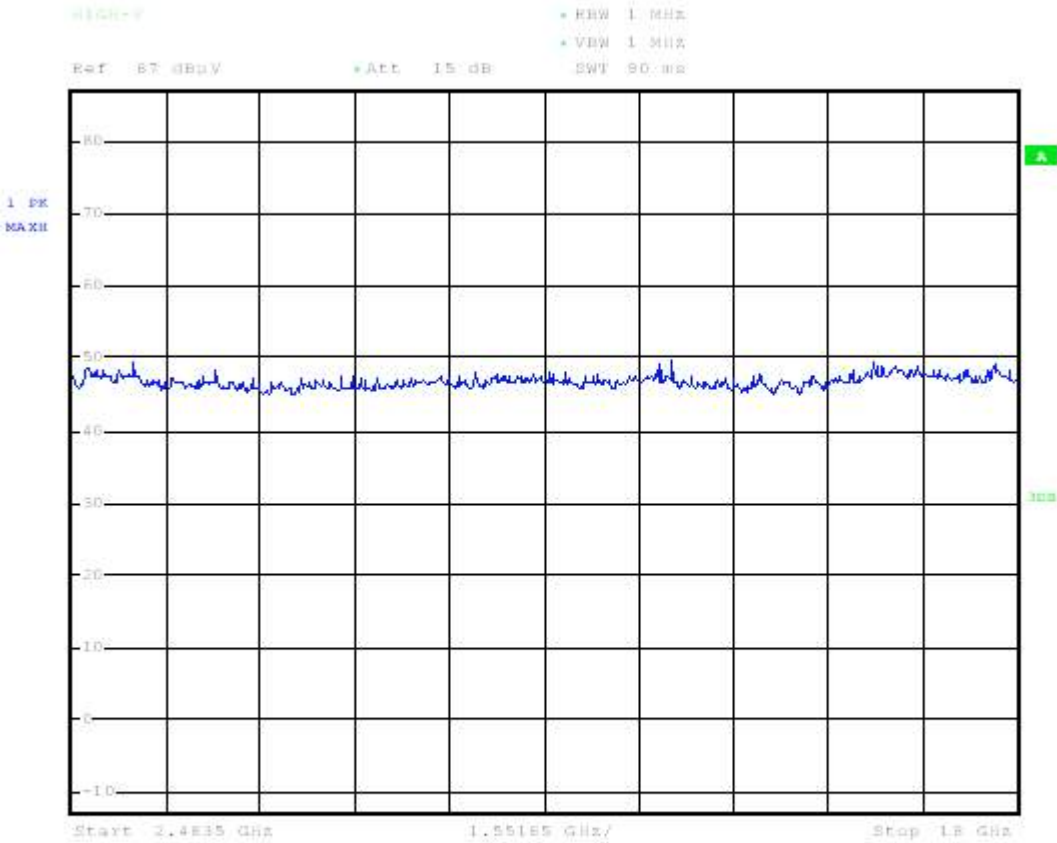
Date: 25.FEB.2019 04:18:22



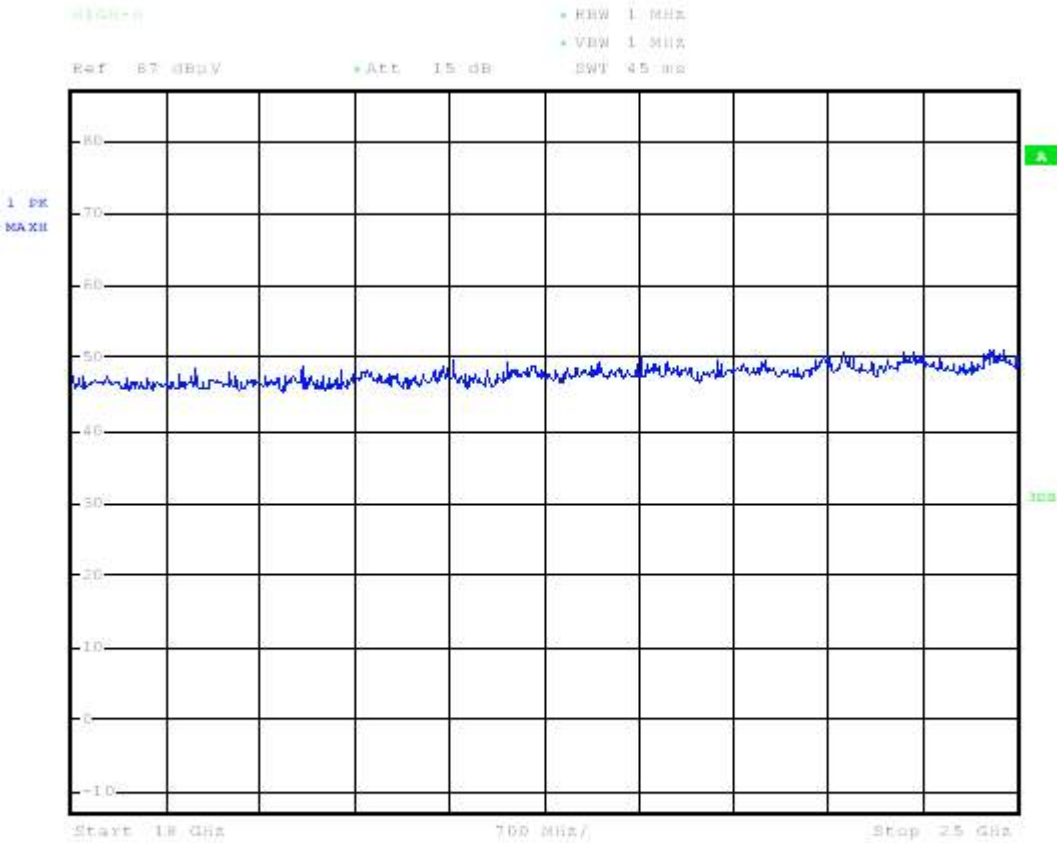
Date: 25.FEB.2019 04:21:04



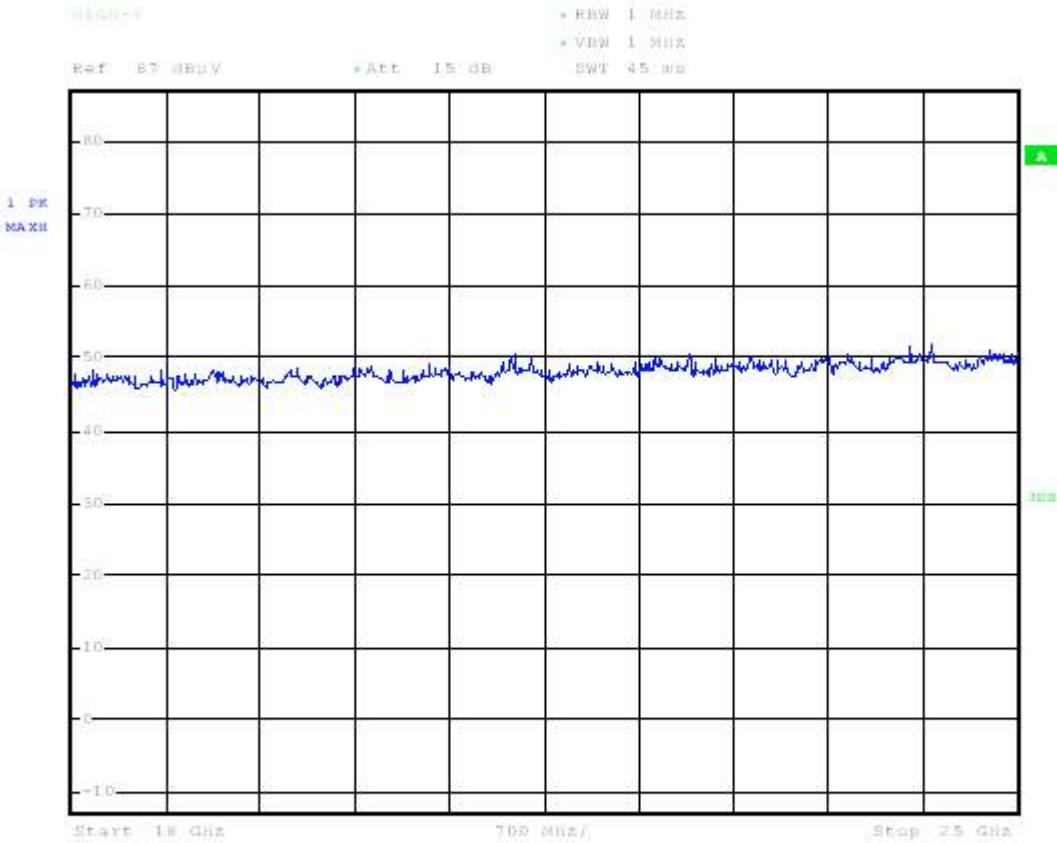
Date: 25.FEB.2019 04:19:34



Date: 25.FEB.2019 04:22:16



Date: 25.FEB.2019 04:19:54



Date: 25.FEB.2019 04:22:44

## 6.6 禁用頻段邊緣輻射場強之量測結果

### 6.6.1 調變技術: IEEE 802.11b

操作模式: 發射接收

測試日期: Feb. 22, 2019

環境溫度: 21°C

環境濕度: 63%

| 主波<br>頻道 | 輻射<br>頻率 | 儀器讀值@3m (dBuV/m) |      |      |      | 校正<br>因子 | 結果值      |      | 限制值@3m   |     | 餘裕值<br>(worse) |      |
|----------|----------|------------------|------|------|------|----------|----------|------|----------|-----|----------------|------|
|          |          | 水平               |      | 垂直   |      |          | (dBuV/m) |      | (dBuV/m) |     | (dB)           |      |
|          | (MHz)    | 峰值               | 平均值  | 峰值   | 平均值  | (dB)     | 峰值       | 平均值  | 峰值       | 平均值 | 峰值             | 平均值  |
| CH Low   | 2390.000 | 27.7             | 14.1 | 27.5 | 14.0 | 34.4     | 62.1     | 48.5 | 74       | 54  | -12.0          | -5.5 |
| CH High  | 2483.500 | 28.3             | 14.2 | 28.6 | 14.1 | 34.5     | 63.1     | 48.7 | 74       | 54  | -10.9          | -5.3 |

### 6.6.2 調變技術: IEEE 802.11g

| 主波<br>頻道 | 輻射<br>頻率 | 儀器讀值@3m (dBuV/m) |      |      |      | 校正<br>因子 | 結果值      |      | 限制值@3m   |     | 餘裕值<br>(worse) |      |
|----------|----------|------------------|------|------|------|----------|----------|------|----------|-----|----------------|------|
|          |          | 水平               |      | 垂直   |      |          | (dBuV/m) |      | (dBuV/m) |     | (dB)           |      |
|          | (MHz)    | 峰值               | 平均值  | 峰值   | 平均值  | (dB)     | 峰值       | 平均值  | 峰值       | 平均值 | 峰值             | 平均值  |
| CH Low   | 2390.000 | 33.3             | 15.7 | 27.5 | 14.6 | 34.4     | 67.7     | 50.1 | 74       | 54  | -6.3           | -3.9 |
| CH High  | 2483.500 | 35.0             | 16.3 | 29.2 | 14.8 | 34.5     | 69.5     | 50.8 | 74       | 54  | -4.5           | -3.2 |

### 6.6.3 調變技術: IEEE 802.11n HT20

| 主波<br>頻道 | 輻射<br>頻率 | 儀器讀值@3m (dBuV/m) |      |      |      | 校正<br>因子 | 結果值      |      | 限制值@3m   |     | 餘裕值<br>(worse) |      |
|----------|----------|------------------|------|------|------|----------|----------|------|----------|-----|----------------|------|
|          |          | 水平               |      | 垂直   |      |          | (dBuV/m) |      | (dBuV/m) |     | (dB)           |      |
|          | (MHz)    | 峰值               | 平均值  | 峰值   | 平均值  | (dB)     | 峰值       | 平均值  | 峰值       | 平均值 | 峰值             | 平均值  |
| CH Low   | 2390.000 | 30.8             | 16.4 | 29.3 | 14.9 | 34.4     | 65.2     | 50.8 | 74       | 54  | -8.8           | -3.2 |
| CH High  | 2483.500 | 32.2             | 15.6 | 29.0 | 14.5 | 34.5     | 66.7     | 50.1 | 74       | 54  | -7.3           | -3.9 |

註:1. “---”表示干擾值太小而儀器無法量得。

2. “#”表示干擾值太小，直接量取其峰值。

3. 標記“\*\*\*”表示為本地震盪頻率及其諧波。

4. 量測不準確度:  $\pm 4.1\text{dB}$  ( $1\text{GHz} \leq f \leq 18\text{GHz}$ )

5. 量測頻率範圍為 2310 ~ 2390 MHz 及 2483.5 ~ 2900 MHz, 並記錄兩頻率範圍中之最大讀值。

## 6.7 結果判定

以上之場強輻射測試結果皆低於限制值，合乎標準規定。

## 6.8 輻射之測試配置

圖 2: 量測頻率低於1GHz之測試配置

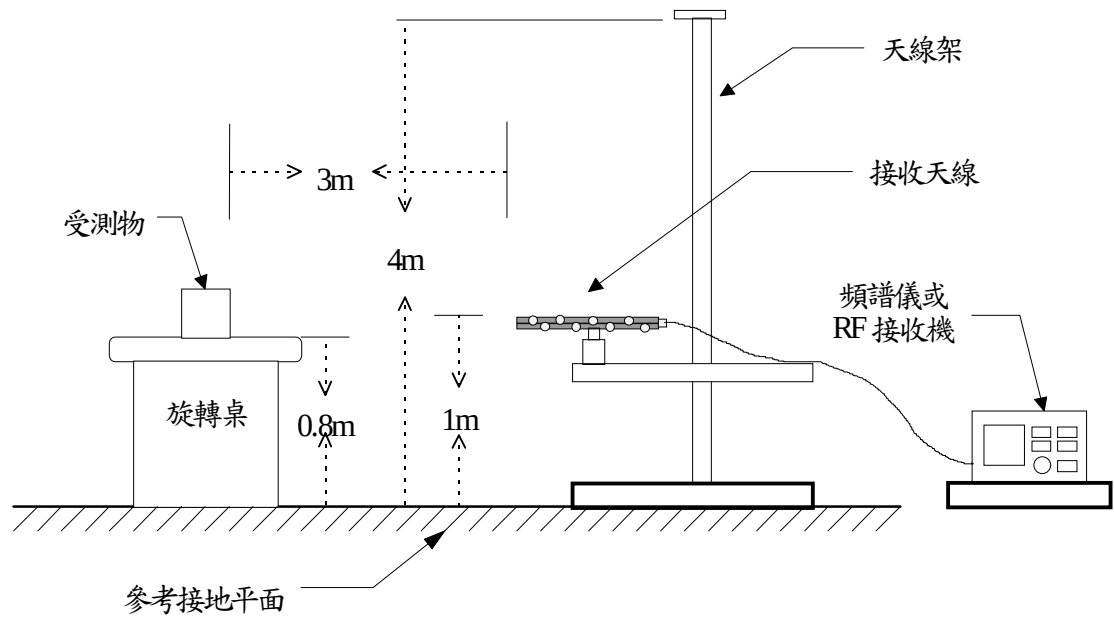
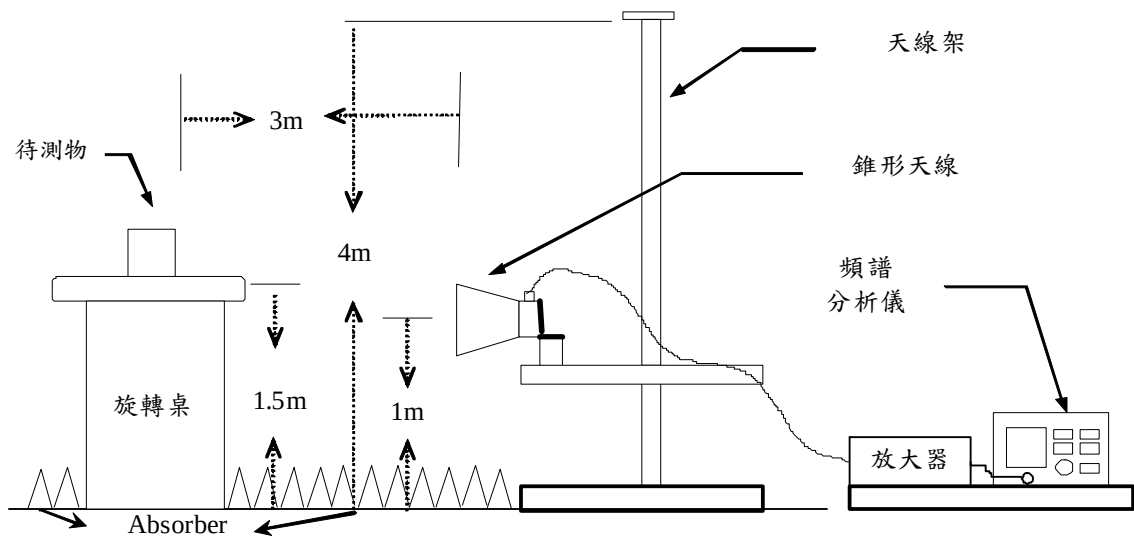


圖 3: 量測頻率高於1GHz之測試配置



## 6.9 輻射量測之配置照片

請參考產品照片

## 7 量測之儀器

| 儀器名稱              | 製造者     | 型號         | 財產編號/序號      | 校驗日期       | 下次校驗日期     |
|-------------------|---------|------------|--------------|------------|------------|
| EMI Test Receiver | R&S     | ESCI       | 13054418-001 | 01/24/2019 | 01/23/2020 |
| V-LISN            | R&S     | ENV216     | 13057719-001 | 09/21/2018 | 09/20/2019 |
| EMI Receiver      | R&S     | ESCI       | 13054423-001 | 01/04/2019 | 01/03/2020 |
| Spectrum Analyzer | R&S     | FSU46      | 13040904-001 | 06/04/2018 | 06/03/2019 |
| Horn Antenna      | EMCO    | 3117       | 13059211-004 | 01/05/2019 | 01/04/2020 |
| Horn Antenna      | EMCO    | 3116       | 13059202-001 | 11/23/2018 | 11/22/2019 |
| PRE-Amplifier     | Agilent | 8449B      | 13040709-001 | 01/03/2019 | 01/02/2020 |
| PRE-Amplifier     | Agilent | 8447D      | 13040715-002 | 04/23/2018 | 04/22/2019 |
| BiLog Antenna     | ETC     | MCTD 2786B | BLB17F04016  | 10/15/2018 | 10/14/2019 |