

**FCC PART 90 TEST REPORT**

**for**

**RF DATA RADIO**

**Model No.: 52-7085VE5**

**FCC ID: L9N-7085VE5**

**of**

Applicant: **AES Corporation**

Address: **285 Newbury Street, Peabody, MA01960 USA**

Tested and Prepared

by

**Worldwide Testing Services (Taiwan) Co., Ltd.**

**FCC Registration No.: TW1477, TW0020, TW1072**

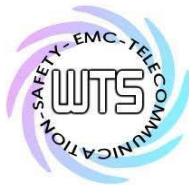
**Industry Canada filed test laboratory Reg. No. IC 5679A-1, IC 5107A-1**

**A2LA Accredited No.: 2732.01**



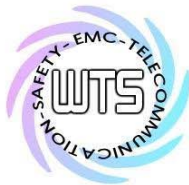
**Report No.: W6M21804-18006-C-1**

6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU TAIPEI 114, TAIWAN, R.O.C.  
TEL: 886-2-66068877 FAX: 886-2-66068879 E-mail: [wtls@wtls-lab.com](mailto:wtls@wtls-lab.com)



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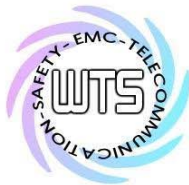
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## **1. General Information**

### **1.1 Notes**

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.

The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.

Furthermore, there is no guarantee that a test sample which has passed all the relevant tests conforms to a specification.

Neither is there any guarantee that such a test sample will interwork with other genuinely open systems. The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that its performance generally conforms to representative cases of communications equipment.

The test results of this test report relate exclusively to the item tested as specified in 1.5.

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### **Tester:**

May 24, 2018

Sora Kuo

*Sora*

Date

WTS-Lab.

Name

Signature

### **Technical responsibility for area of testing:**

May 24, 2018

Kevin Wang

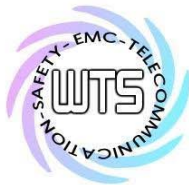
*Kevin Wang*

Date

WTS

Name

Signature



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## **1.2 Testing laboratory**

### **1.2.1 Location**

OATS

No.5-1, Lishui, Shuang Sing Village,  
Wanli Dist., New Taipei City 207,  
Taiwan (R.O.C.)

Company

Worldwide Testing Services(Taiwan) Co., Ltd.  
6F, NO. 58, LANE 188, RUEY-KUANG RD.  
NEIHU, TAIPEI 114, TAIWAN R.O.C.

Tel : 886-2-66068877

Fax : 886-2-66068879

### **1.2.2 Details of accreditation status**

Accredited testing laboratory

A2LA accredited number: 2732.01

FCC filed test laboratory Reg. No. TW1477, TW0020, TW1072

Industry Canada filed test laboratory Reg. No. IC 5679A-1, IC 5107A-1

**Test location, where different from Worldwide Testing Services (Taiwan) Co., Ltd. :**

Name: ./.

Accredited number: ./.

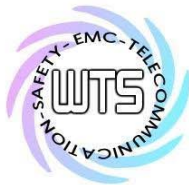
Street: ./.

Town: ./.

Country: ./.

Telephone: ./.

Fax: ./.



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## **1.3 Details of approval holder**

Name: AES Corporation  
Street: 285 Newbury Street, Peabody,  
City: MA01960  
Country: USA  
Telephone: 978-5357310  
Fax: 978-5357313

## **1.4 Application details**

Date of receipt of test item: April 24, 2018  
Date of test: from April 25, 2018 to May 24, 2018

## **1.5 General information of Test item**

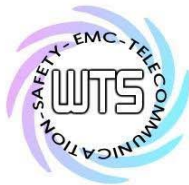
Type of test item: RF DATA RADIO  
Model Number: 52-7085VE5  
Brand Name: ./.  
Multi-listing model number: ./.  
Photos: See appendix

## **Technical data**

Operating frequency band:

| Frequency(MHz) | Used Band                           |
|----------------|-------------------------------------|
| 136            | <input checked="" type="checkbox"/> |
| 155            | <input checked="" type="checkbox"/> |
| 174            | <input checked="" type="checkbox"/> |

Type of modulation: FM  
Designation of emission: 16K0F3E / 11K0F3E (136 MHz~174 MHz)  
Antenna Type / Gain: Dipole antenna / 5 dBi  
Connection of Antenna: ☒ detachable ☐ not detachable  
Power Rating: 13.6 VDC, 2A  
Operation modes: Half-duplex



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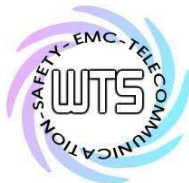
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## **Manufacturer:** (if applicable)

|          |                                                     |
|----------|-----------------------------------------------------|
| Name:    | Hermes Electronics Co., Ltd                         |
| Street:  | No 185-1, 4FL, 38th Road, Taichung Industrial Park, |
| Town:    | Taichung (407)                                      |
| Country: | Taiwan                                              |

## **1.6 Test standards**

Technical standard: FCC RULES PART 90 (2017-10)



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## **2. Technical test**

### **2.1 Summary of test results**

No deviations from the technical specification(s) were ascertained in the course of the tests performed.



**or**

The deviations as specified in 3 were ascertained in the course of the tests performed.



### **2.2 Test environment**

Relative humidity content: 20 ... 75 %

Air pressure: 86-103 KPa

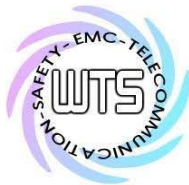
| Test item Name                                                                                                                                                      | Uncertainty                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Estimation Result of Uncertainty of Conducted Emission                                                                                                              | Expanded Uncertainty : 1.54 dB                                                                                         |
| Estimation Result of Uncertainty of Radiated Emission(3M)                                                                                                           | Expanded Uncertainty :<br>0.009-30 MHz : 2.17 dB<br>30-1000 MHz : 3.57 dB<br>1-18 GHz : 2.60 dB<br>18-40 GHz : 2.58 dB |
| Estimation Result of Uncertainty of Bandwidth Measurement<br>20 dB Bandwidth, Occupied bandwidth, Channel bandwidth, Necessary Bandwidth                            | Expanded Uncertainty : 0.45 kHz                                                                                        |
| Estimation Result of Uncertainty of Conducted Output Power Measurement<br>Output power                                                                              | Expanded Uncertainty : 1.01 dB                                                                                         |
| Estimation Result of Uncertainty of Conducted Spurious Emission<br>Measurement Conducted spurious emission 、 Spectrum emission mask                                 | Expanded Uncertainty : 1.01 dB                                                                                         |
| Estimation Result of Uncertainty of Conducted Spurious Emission<br>Measurement Conducted spurious emission                                                          | Expanded Uncertainty : 1.01 dB                                                                                         |
| Estimation Result of Uncertainty of EIRP Measurement<br>EIRP 、 ERP 、 Output power(dBm) 、 Radiated spurious emission(dBm),<br>Receiver spurious radiations (≥30 MHz) | Expanded Uncertainty :<br>30-200MHz : 2.32 dB<br>200-1000MHz : 2.30 dB<br>1-18GHz : 3.25 dB<br>18-40GHz : 2.89 dB      |

### **2.3 Description of Tested System**

The EUT was tested with the Accessories or Peripherals Listed below:

| Equipment | Model No. | Series No. | Software | Cable information | Note |
|-----------|-----------|------------|----------|-------------------|------|
| --        | --        | --         | --       | --                | --   |
| --        | --        | --         | --       | --                | --   |

Explanation: The EUT was configured as stand alone device, and there are no accessories or peripherals during the test.

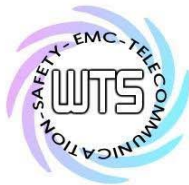


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## 2.4 Test Equipment List

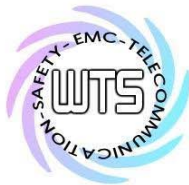
| No.          | Test equipment                                  | Type            | Serial No.  | Manufacturer | Cal. Date     | Next Cal. Date |
|--------------|-------------------------------------------------|-----------------|-------------|--------------|---------------|----------------|
| ETSTW-CE 001 | EMI TEST RECEIVER                               | ESHS10          | 842121/013  | R&S          | 2018/5/18     | 2019/5/17      |
| ETSTW-CE 003 | AC POWER SOURCE                                 | APS-9102        | D161137     | GW           | Function Test |                |
| ETSTW-CE 004 | ZWEILEITER-V-NETZNACHBILDUNG TWO-LINE V-NETWORK | ESH3-Z5         | 840731/011  | R&S          | 2017/10/26    | 2018/10/25     |
| ETSTW-CE 006 | IMPULSBEGRENZER PULSE LIMITER                   | ESH3-Z2         | 100226      | R&S          | 2017/8/22     | 2018/8/21      |
| ETSTW-CE 008 | HF-EICHELITUNG RF STEP ATTENUATOR 139dB DPSP    | 334.6010.02     | 844581/024  | R&S          | Function Test |                |
| ETSTW-CE 009 | TEMP.&HUMIDITY CHAMBER                          | GTH-225-40-1P-U | MAA0305-009 | GIANT FORCE  | 2017/7/14     | 2018/7/13      |
| ETSTW-CE 016 | TWO-LINE V-NETWORK                              | ENV216          | 100050      | R&S          | 2017/8/31     | 2018/8/30      |
| ETSTW-CE 028 | MXE EMI Receiver                                | N9038A          | MY53220110  | Agilent      | 2017/7/11     | 2018/7/10      |
| ETSTW-RE 003 | EMI TEST RECEIVER                               | ESI 26          | 831438/001  | R&S          | 2018/5/18     | 2019/5/17      |
| ETSTW-RE 004 | EMI TEST RECEIVER                               | ESI 40          | 832427/004  | R&S          | 2018/5/9      | 2019/5/8       |
| ETSTW-RE 005 | EMI TEST RECEIVER                               | ESVS10          | 843207/020  | R&S          | 2017/8/25     | 2018/8/24      |
| ETSTW-RE 012 | TUNABLE BANDREJECT FILTER                       | D.C 0309        | 146         | K&L          | Function Test |                |
| ETSTW-RE 013 | TUNABLE BANDREJECT FILTER                       | D.C 0336        | 397         | K&L          | Function Test |                |
| ETSTW-RE 018 | MICROWAVE HORN ANTENNA                          | AT4560          | 27212       | AR           | 2017/7/4      | 2018/7/3       |
| ETSTW-RE 027 | Passive Loop Antenna                            | 6512            | 00034563    | ETS-Lindgren | 2017/7/3      | 2018/7/2       |
| ETSTW-RE 030 | Double-Ridged Guide Horn Antenna                | 3117            | 00035224    | ETS-Lindgren | 2018/3/26     | 2019/3/25      |
| ETSTW-RE 042 | Biconical Antenna                               | HK116           | 100172      | R&S          | 2018/1/23     | 2019/1/22      |
| ETSTW-RE 043 | Log-Periodic Dipole Antenna                     | HL223           | 100166      | R&S          | 2018/4/13     | 2019/4/12      |
| ETSTW-RE 044 | Log-Periodic Antenna                            | HL050           | 100094      | R&S          | 2018/4/26     | 2019/4/25      |
| ETSTW-RE 045 | ESA-E SERIES SPECTRUM ANALYZER                  | E4404B          | MY45111242  | Agilent      | Pre-test Use  |                |
| ETSTW-RE 050 | Attenuator 10dB                                 | 50HF-010-1      | None        | JFW          | 2018/3/1      | 2019/2/28      |
| ETSTW-RE 051 | Attenuator 6dB                                  | 50HF-006-1      | None        | JFW          | 2018/3/1      | 2019/2/28      |
| ETSTW-RE 053 | Attenuator 3dB                                  | 50HF-003-1      | None        | JFW          | 2018/3/1      | 2019/2/28      |
| ETSTW-RE 055 | SPECTRUM ANALYZER                               | FSU 26          | 200074      | R&S          | 2018/3/6      | 2019/3/5       |
| ETSTW-RE 060 | Attenuator 30dB                                 | 5015-30         | F651012z-01 | ATM          | 2018/3/1      | 2019/2/28      |
| ETSTW-RE 062 | Amplifier Module                                | CHC 2           | None        | KMIC         | 2018/3/30     | 2019/3/29      |
| ETSTW-RE 064 | Bluetooth Test Set                              | MT8852B-042     | 6K00005709  | Anritsu      | Function Test |                |
| ETSTW-RE 069 | Double-Ridged Guide Horn Antenna                | 3117            | 00069377    | ETS-Lindgren | Function Test |                |
| ETSTW-RE 072 | CELL SITE TEST SET                              | 8921A           | 3339A00375  | HP           | 2017/9/11     | 2018/9/10      |
| ETSTW-RE 088 | SOLID STATE AMPLIFIER                           | KMA180265A01    | 99057       | KMIC         | 2017/9/19     | 2018/9/18      |
| ETSTW-RE 091 | Match Pad                                       | MDCS1500        | None        | WOKEN        | 2018/4/16     | 2019/4/15      |
| ETSTW-RE 099 | DC Block                                        | 50DB-007-1      | None        | JFW          | 2018/2/23     | 2019/2/22      |



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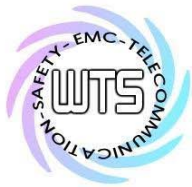
|                 |                                      |                                        |                 |                    |                  |            |
|-----------------|--------------------------------------|----------------------------------------|-----------------|--------------------|------------------|------------|
| ETSTW-RE 112    | AC POWER SOURCE                      | TFC-1005                               | T-0A023536      | T-Power            | Function test    |            |
| ETSTW-RE 115    | 2.4GHz Notch Filter                  | N0124411                               | 473874          | MICROWAVE CIRCUITS | 2018/1/15        | 2019/1/14  |
| ETSTW-RE 120    | RF Player                            | MP9200                                 | MP9210-111022   | ADIVIC             | Function test    |            |
| ETSTW-RE 122    | SIGNAL GENERATOR                     | SMF100A                                | 102149          | R&S                | 2018/5/18        | 2019/5/17  |
| ETSTW-RE 125    | 5GHz Notch filter                    | 5NSL11-5200/E221.3-O/O                 | 1               | K&L Microwave      | 2017/8/9         | 2018/8/8   |
| ETSTW-RE 126    | 5GHz Notch filter                    | 5NSL12-5800/E221.3-O/O                 | 1               | K&L Microwave      | 2017/8/9         | 2018/8/8   |
| ETSTW-RE 127    | RF Switch Box                        | RFS-01                                 | None            | WTS                | 2018/2/27        | 2019/2/26  |
| ETSTW-RE 128    | 5.3GHz Notch filter                  | N0153001                               | SN487233        | Microwave Circuits | 2017/8/9         | 2018/8/8   |
| ETSTW-RE 129    | 5.5GHz Notch filter                  | N0555984                               | SN487234        | Microwave Circuits | 2017/8/9         | 2018/8/8   |
| ETSTW-RE 130    | Handheld RF Spectrum Analyzer        | N9340A                                 | CN0147000204    | Agilent            | Pre-test Use     |            |
| ETSTW-RE 142    | Amplifier                            | 8447D                                  | 2805A03378      | Agilent            | 2018/3/30        | 2019/3/29  |
| ETSTW-RE 147    | Bi-log Hybrid Antenna                | MCTD 2786B                             | BLB16M04005     | ETC                | 2018/3/23        | 2019/3/22  |
| ETSTW-RE 151    | Thermohygrometer                     | 608-h1                                 | 45104376        | TESTO              | 2017/8/30        | 2018/8/29  |
| ETSTW-EMI 011   | USB Compact Modulator                | SFC-U                                  | 101689          | R&S                | 2018/5/10        | 2019/5/9   |
| ETSTW-GSM 002   | Universal Radio Communication Tester | CMU 200                                | 109439          | R&S                | 2018/2/27        | 2019/2/26  |
| ETSTW-GSM 003   | Radio Communication Analyzer         | MT8820C                                | 6201342073      | Anritsu            | 2018/3/2         | 2019/3/1   |
| ETSTW-GSM 004   | Wideband Radio Communication Tester  | CMW500                                 | 128092          | R&S                | 2017/10/16       | 2018/10/15 |
| ETSTW-GSM 019   | Band Reject Filter                   | WRCTF824/849-822/851-40 /12+9SS        | 3               | WI                 | 2018/1/11        | 2019/1/10  |
| ETSTW-GSM 020   | Band Reject Filter                   | WRCD1747/1748-1743/1752-32/5SS         | 1               | WI                 | 2018/1/11        | 2019/1/10  |
| ETSTW-GSM 021   | Band Reject Filter                   | WRCD1879.5/1880.5-1875.5/1884.5-32/5SS | 3               | WI                 | 2018/1/11        | 2019/1/10  |
| ETSTW-GSM 022   | Band Reject Filter                   | WRCT901.9/903.1-904.25-50/8SS          | 1               | WI                 | 2018/1/11        | 2019/1/10  |
| ETSTW-GSM 023   | Power Divider                        | 4901.19.A                              | None            | SUHNER             | 2017/9/13        | 2018/9/12  |
| ETSTW-GSM 024   | Radio Communication Analyzer         | MT8821C                                | None            | Anritsu            | 2018/3/7         | 2019/3/6   |
| ETSTW-Cable 011 | SMA to N type Cable                  | RGU-400                                | None            | THERMAX            | Pre-test Use NCR |            |
| ETSTW-Cable 016 | BNC Cable                            | Switch Box                             | B Cable 1       | Schwarz beck       | 2018/2/22        | 2019/2/21  |
| ETSTW-Cable 017 | BNC Cable                            | X Cable                                | B Cable 2       | Schwarz beck       | 2018/2/22        | 2019/2/21  |
| ETSTW-Cable 018 | BNC Cable                            | Y Cable                                | B Cable 3       | Schwarz beck       | 2018/2/22        | 2019/2/21  |
| ETSTW-Cable 019 | BNC Cable                            | Z Cable                                | B Cable 4       | Schwarz beck       | 2018/2/22        | 2019/2/21  |
| ETSTW-Cable 020 | N TYPE Cable                         | OATS Cable 1                           | N30N30-L335-15M | JYE BAO CO.,LTD.   | 2017/7/3         | 2018/7/2   |
| ETSTW-Cable 026 | Microwave Cable                      | SUCOFLEX 104                           | 279075          | HUBER+SUHNER       | 2018/2/27        | 2019/2/26  |
| ETSTW-Cable 027 | Microwave Cable                      | SUCOFLEX 104                           | 279083          | HUBER+SUHNER       | 2018/5/9         | 2019/5/8   |
| ETSTW-Cable 028 | Microwave Cable                      | FA147A0015M2020                        | 30064-2         | UTIFLEX            | 2017/9/7         | 2018/9/6   |
| ETSTW-Cable 029 | Microwave Cable                      | FA147A0015M2020                        | 30064-3         | UTIFLEX            | 2017/9/7         | 2018/9/6   |
| ETSTW-Cable 030 | Microwave Cable                      | SUCOFLEX 104 (S Cable 9)               | 279067          | HUBER+SUHNER       | 2018/2/27        | 2019/2/26  |
| ETSTW-Cable 031 | Microwave Cable                      | SUCOFLEX 104 (S Cable 10)              | 238092          | HUBER+SUHNER       | 2018/3/30        | 2019/3/29  |
| ETSTW-Cable 043 | Microwave Cable                      | SUCOFLEX 104                           | 317576          | HUBER+SUHNER       | 2018/3/30        | 2019/3/29  |



## Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

|                 |                   |                           |         |              |                  |           |
|-----------------|-------------------|---------------------------|---------|--------------|------------------|-----------|
| ETSTW-Cable 048 | Microwave Cable   | SUCOFLEX 104              | 325519  | HUBER+SUHNER | 2018/3/30        | 2019/3/29 |
| ETSTW-Cable 058 | Microwave Cable   | SUCOFLEX 104              | none    | HUBER+SUHNER | 2018/2/21        | 2019/2/20 |
| ETSTW-Cable 064 | Microwave Cable   | SUCOFLEX 104              | MY28891 | HUBER+SUHNER | 2018/3/30        | 2019/3/29 |
| ETSTW-Cable 066 | SMA type cable    | 32022                     | None    | ASTROLAB     | 2017/8/31        | 2018/8/30 |
| ETSTW-Cable 071 | N TYPE CABLE      | EMCCFD400-NM-<br>NM-25000 | 170239  | EMCI         | 2018/2/21        | 2019/2/20 |
| WTSTW-SW 002    | EMI TEST SOFTWARE | EZ EMC                    | None    | Farad        | Version ETS-03A1 |           |
| WTSTW-SW 006    | EMI TEST SOFTWARE | e3                        | None    | AUDIX        | Version 9.161014 |           |
| WTSTW-SW 008    | Signal studio     | Agilent                   | None    | AUDIX        | Version 2.0.0.1  |           |



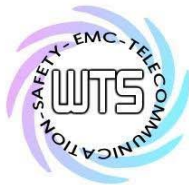
## **2.5 General Test Procedure**

**POWER LINE CONDUCTED INTERFERENCE:** The procedure used was ANSI STANDARD C63.10-2013 using a LISN (if necessary). Both lines were observed. The bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed.

**RADIATION INTERFERENCE:** The test procedure used was according to ANSI STANDARD C63.10-2013 employing a spectrum analyzer. For investigated frequency is equal to or below 1GHz, the RBW and VBW of the spectrum analyzer was 100 kHz and 100 kHz respectively with an appropriate sweep speed. For investigated frequency is above 1GHz, both of RBW and VBW of the spectrum analyzer were 1 MHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna.

For hand-held devices, an exploratory test was performed with three (3) orthogonal planes to determine the highest emissions.

Measurements were made by at the registered open field test site located at The Registration Number: 930600. When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

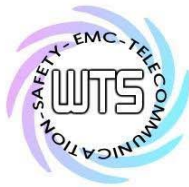


Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

### **3. Test results (enclosure)**

| TEST CASE                               | Para. Number                | Required                            | Test passed                         | Test failed              |
|-----------------------------------------|-----------------------------|-------------------------------------|-------------------------------------|--------------------------|
| Modulation Characteristics              | 2.1047(a) (b);<br>2.1033(c) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Necessary Bandwidth                     | 90.209                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Frequency stability.                    | 90.213                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Transmitter Output Power                | 90.205                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Emission masks                          | 90.210                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Transmitter Spurious Radiated Emission  | 90.210                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Transmitter Spurious Conducted Emission | 90.210                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Transient frequency behavior            | 90.214                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Receiver Radiated Spurious Emission     | FCC part 15B                | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> |

The following is intentionally left blank.



Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

## **4. Modulation Characteristics**

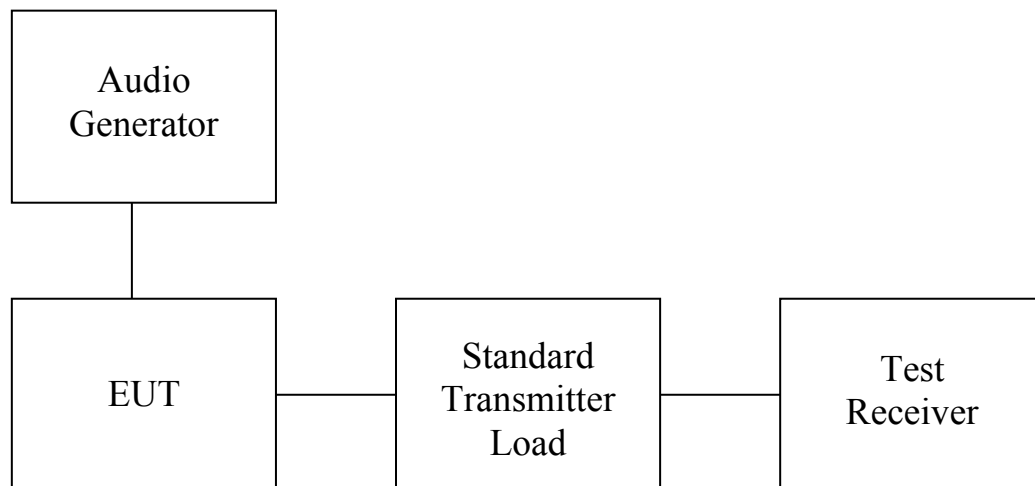
### **4.1 Test procedure**

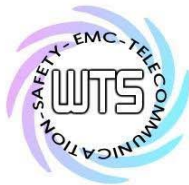
Modulation limiting is the transmitter circuit's ability to limit the transmitter from producing deviations in excess of rated system deviation.

The audio signal generator is connected to the audio input of the EUT with its full rating.

The modulation response is measured at certain modulation frequencies, related to 1000Hz reference signal. Tests are performed for positive and negative modulation.

### **4.2 Test Setup**





Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

## 4.3 Test results

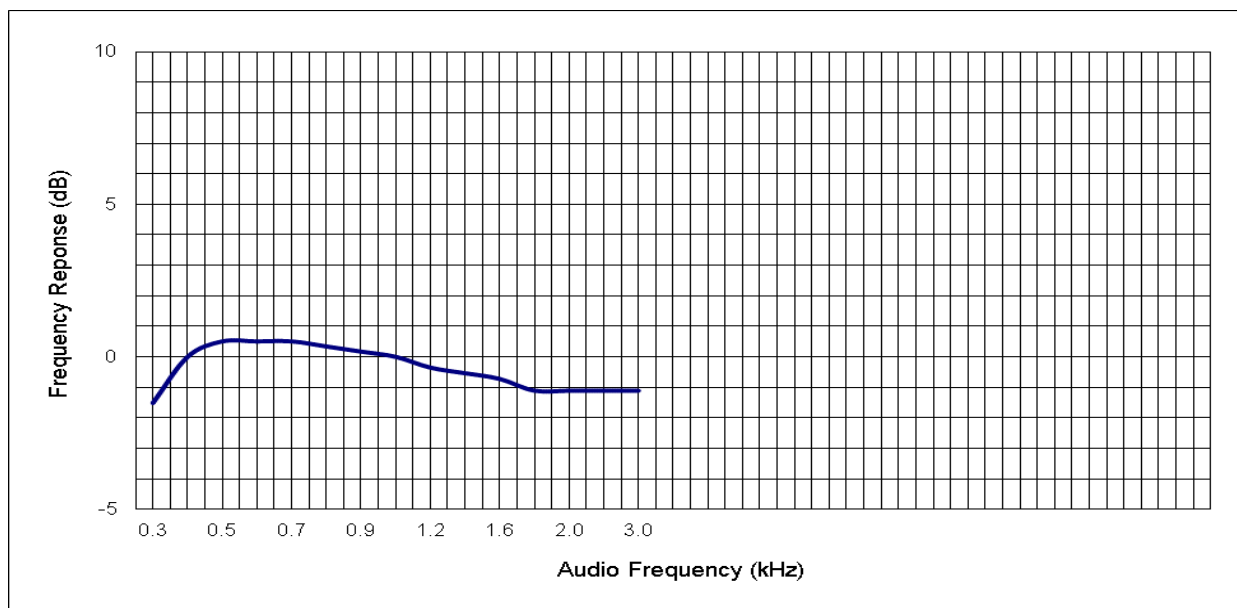
### 4.3.1 Audio Frequency Response

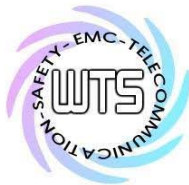
Rule Part No.: Part 2.1047(a)(b) Method of Measurement: The audio frequency response was measured in accordance with TIA/EIA Specification 603 with no exception. A curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 300 – 3000Hz shall be submitted. The audio frequency response curve is shown below.

Test Audio level 20mV

136 MHz

| Audio Frequency (kHz) | A.R (dB) | F.D. |
|-----------------------|----------|------|
| 0.3                   | -1.514   | 0.42 |
| 0.4                   | 0.000    | 0.50 |
| 0.5                   | 0.506    | 0.53 |
| 0.6                   | 0.506    | 0.53 |
| 0.7                   | 0.506    | 0.53 |
| 0.8                   | 0.341    | 0.52 |
| 0.9                   | 0.172    | 0.51 |
| 1.0                   | 0.000    | 0.50 |
| 1.2                   | -0.355   | 0.48 |
| 1.4                   | -0.537   | 0.47 |
| 1.6                   | -0.724   | 0.46 |
| 1.8                   | -1.110   | 0.44 |
| 2.0                   | -1.110   | 0.44 |
| 2.5                   | -1.110   | 0.44 |
| 3.0                   | -1.110   | 0.44 |



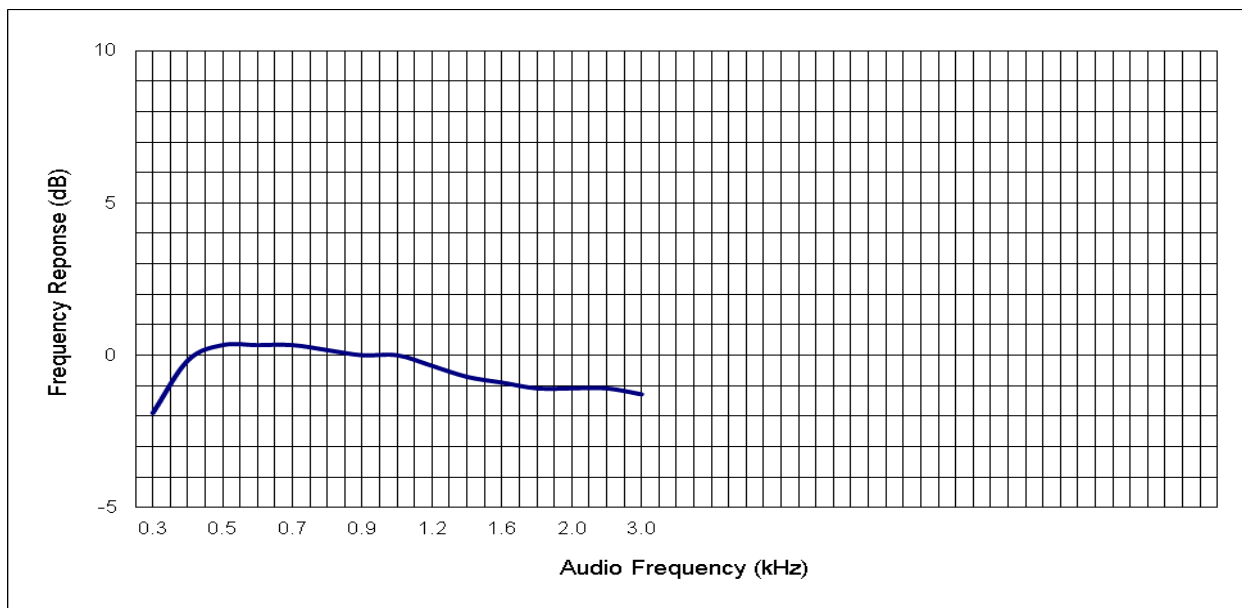


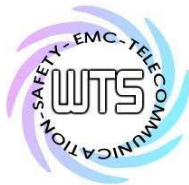
Registration number: W6M21804-18006-C-1

FCC ID: L9N-7085VE5

155 MHz

| Audio Frequency<br>(kHz) | A.R<br>(dB) | F.D. |
|--------------------------|-------------|------|
| 0.3                      | -1.896      | 0.41 |
| 0.4                      | -0.172      | 0.50 |
| 0.5                      | 0.334       | 0.53 |
| 0.6                      | 0.334       | 0.53 |
| 0.7                      | 0.334       | 0.53 |
| 0.8                      | 0.169       | 0.52 |
| 0.9                      | 0.000       | 0.51 |
| 1.0                      | 0.000       | 0.51 |
| 1.2                      | -0.347      | 0.49 |
| 1.4                      | -0.709      | 0.47 |
| 1.6                      | -0.896      | 0.46 |
| 1.8                      | -1.087      | 0.45 |
| 2.0                      | -1.087      | 0.45 |
| 2.5                      | -1.087      | 0.45 |
| 3.0                      | -1.282      | 0.44 |



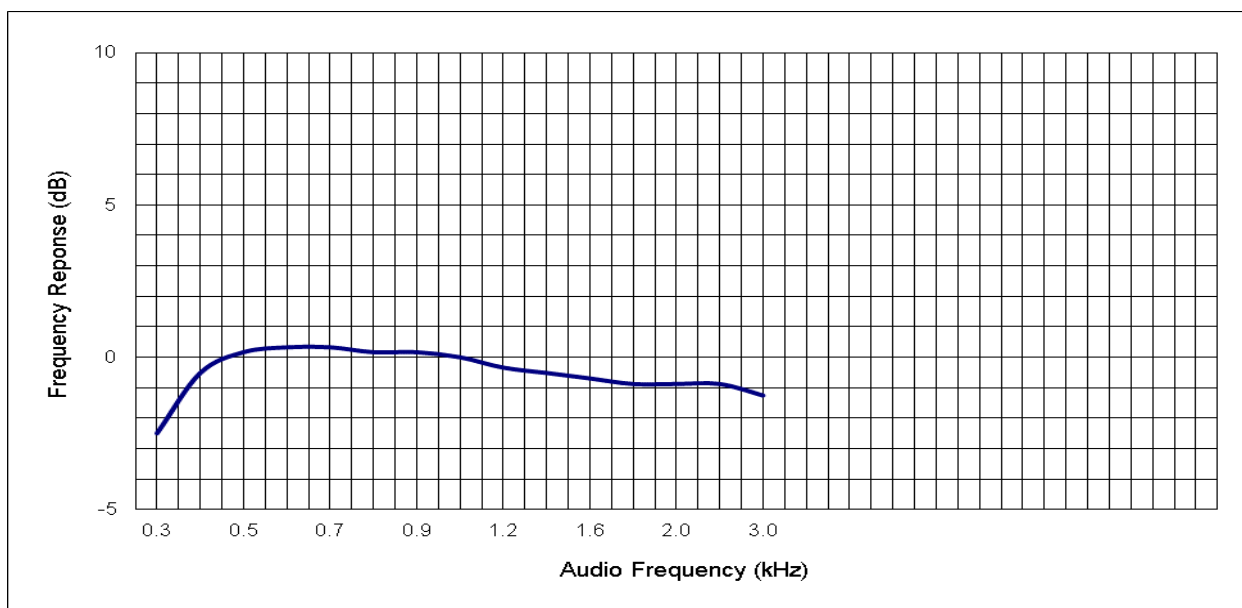


Registration number: W6M21804-18006-C-1

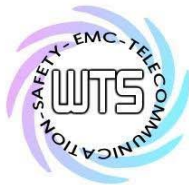
FCC ID: L9N-7085VE5

174 MHz

| Audio Frequency<br>(kHz) | A.R<br>(dB) | F.D. |
|--------------------------|-------------|------|
| 0.3                      | -2.499      | 0.39 |
| 0.4                      | -0.516      | 0.49 |
| 0.5                      | 0.165       | 0.53 |
| 0.6                      | 0.328       | 0.54 |
| 0.7                      | 0.328       | 0.54 |
| 0.8                      | 0.165       | 0.53 |
| 0.9                      | 0.165       | 0.53 |
| 1.0                      | 0.000       | 0.52 |
| 1.2                      | -0.341      | 0.50 |
| 1.4                      | -0.516      | 0.49 |
| 1.6                      | -0.695      | 0.48 |
| 1.8                      | -0.878      | 0.47 |
| 2.0                      | -0.878      | 0.47 |
| 2.5                      | -0.878      | 0.47 |
| 3.0                      | -1.256      | 0.45 |



Test equipment used: ETSTW-RE 072



Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

## 4.3.2 AUDIO INPUT VERSUS MODULATION

Rule Part No.: Part 2.1047(b) & 90

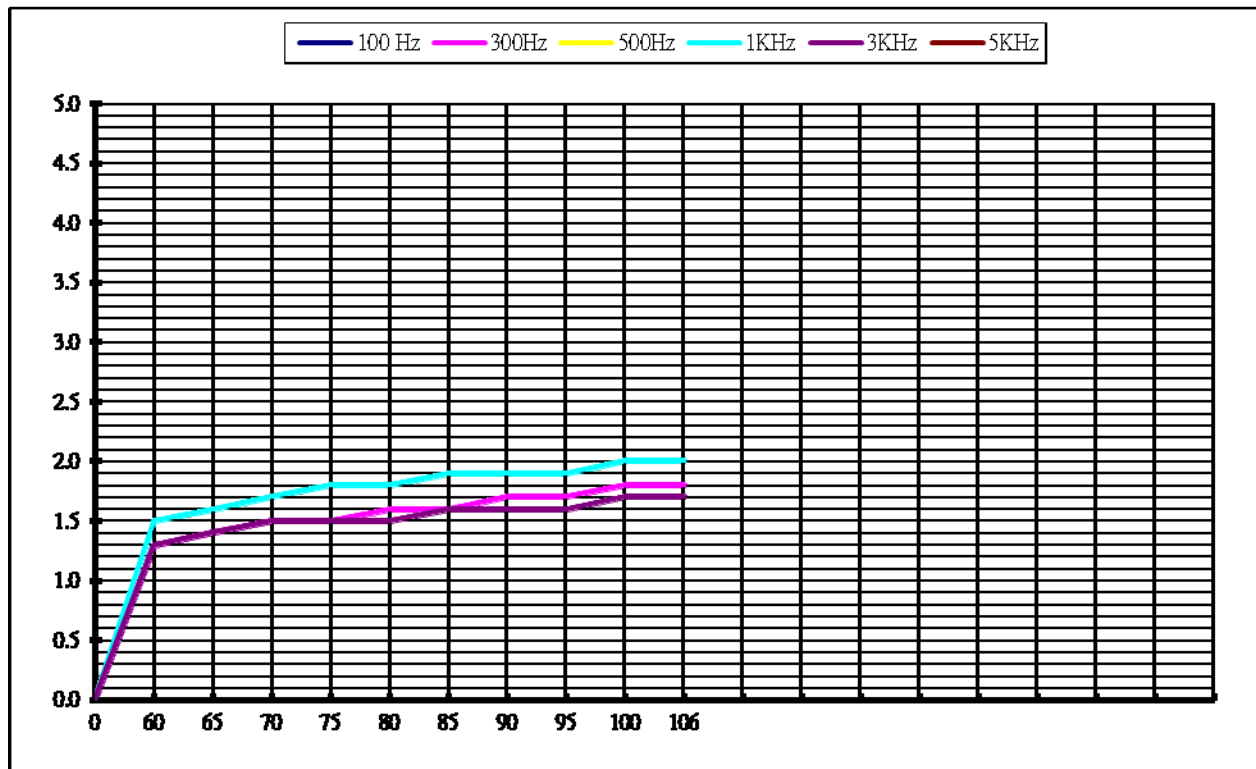
Test Requirements: Modulation cannot exceed 100%

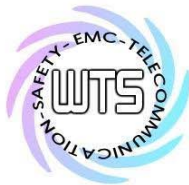
Method of Measurement: The audio input level needed for a particular percentage of modulation was measured in accordance with TIA/EIA Specification 603. The audio input curves versus modulation are shown below. Curves are provided for audio input frequencies of 300, 1000, and 3000 Hz.

EUT Max deviation: 2.5kHz 60% EUT Max deviation: 1.5kHz

136 MHz

| Input Audio Level (mV) | 100 Hz | 300Hz | 500Hz | 1kHz | 3kHz | 5kHz |
|------------------------|--------|-------|-------|------|------|------|
| 0                      | --     | 0.0   | --    | 0.0  | 0.0  | --   |
| 60                     | --     | 1.3   | --    | 1.5  | 1.3  | --   |
| 65                     | --     | 1.4   | --    | 1.6  | 1.4  | --   |
| 70                     | --     | 1.5   | --    | 1.7  | 1.5  | --   |
| 75                     | --     | 1.5   | --    | 1.8  | 1.5  | --   |
| 80                     | --     | 1.6   | --    | 1.8  | 1.5  | --   |
| 85                     | --     | 1.6   | --    | 1.9  | 1.6  | --   |
| 90                     | --     | 1.7   | --    | 1.9  | 1.6  | --   |
| 95                     | --     | 1.7   | --    | 1.9  | 1.6  | --   |
| 100                    | --     | 1.8   | --    | 2.0  | 1.7  | --   |
| 106                    | --     | 1.8   | --    | 2.0  | 1.7  | --   |





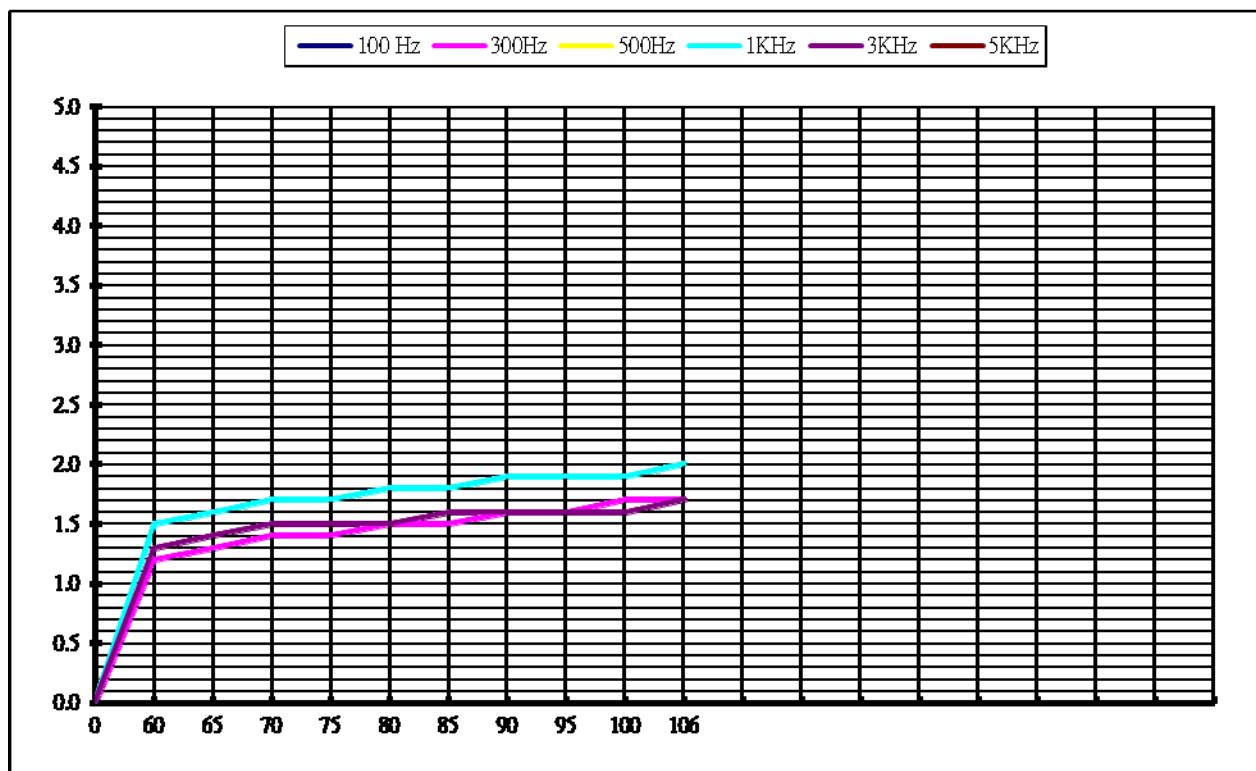
# Worldwide Testing Services(Taiwan) Co., Ltd.

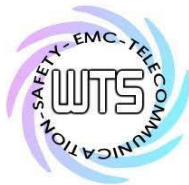
Registration number: W6M21804-18006-C-1

FCC ID: L9N-7085VE5

155 MHz

| Input Audio Level (mV) | 100 Hz | 300Hz | 500Hz | 1kHz | 3kHz | 5kHz |
|------------------------|--------|-------|-------|------|------|------|
| 0                      | --     | 0.0   | --    | 0.0  | 0.0  | --   |
| 60                     | --     | 1.2   | --    | 1.5  | 1.3  | --   |
| 65                     | --     | 1.3   | --    | 1.6  | 1.4  | --   |
| 70                     | --     | 1.4   | --    | 1.7  | 1.5  | --   |
| 75                     | --     | 1.4   | --    | 1.7  | 1.5  | --   |
| 80                     | --     | 1.5   | --    | 1.8  | 1.5  | --   |
| 85                     | --     | 1.5   | --    | 1.8  | 1.6  | --   |
| 90                     | --     | 1.6   | --    | 1.9  | 1.6  | --   |
| 95                     | --     | 1.6   | --    | 1.9  | 1.6  | --   |
| 100                    | --     | 1.7   | --    | 1.9  | 1.6  | --   |
| 106                    | --     | 1.7   | --    | 2.0  | 1.7  | --   |





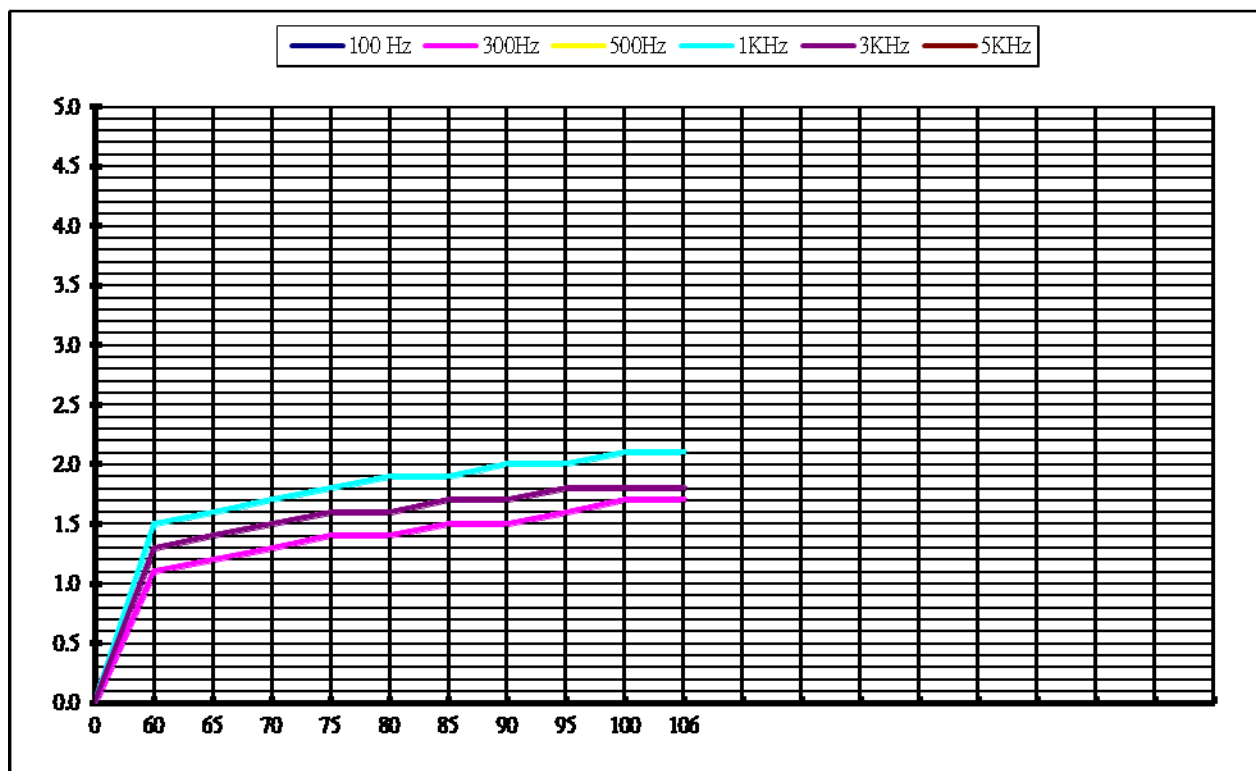
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21804-18006-C-1

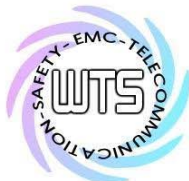
FCC ID: L9N-7085VE5

174 MHz

| Input Audio Level (mV) | 100 Hz | 300Hz | 500Hz | 1kHz | 3kHz | 5kHz |
|------------------------|--------|-------|-------|------|------|------|
| 0                      | --     | 0.0   | --    | 0.0  | 0.0  | --   |
| 60                     | --     | 1.1   | --    | 1.5  | 1.3  | --   |
| 65                     | --     | 1.2   | --    | 1.6  | 1.4  | --   |
| 70                     | --     | 1.3   | --    | 1.7  | 1.5  | --   |
| 75                     | --     | 1.4   | --    | 1.8  | 1.6  | --   |
| 80                     | --     | 1.4   | --    | 1.9  | 1.6  | --   |
| 85                     | --     | 1.5   | --    | 1.9  | 1.7  | --   |
| 90                     | --     | 1.5   | --    | 2.0  | 1.7  | --   |
| 95                     | --     | 1.6   | --    | 2.0  | 1.8  | --   |
| 100                    | --     | 1.7   | --    | 2.1  | 1.8  | --   |
| 106                    | --     | 1.7   | --    | 2.1  | 1.8  | --   |



Test equipment used: ETSTW-RE 072



Registration number: W6M21804-18006-C-1

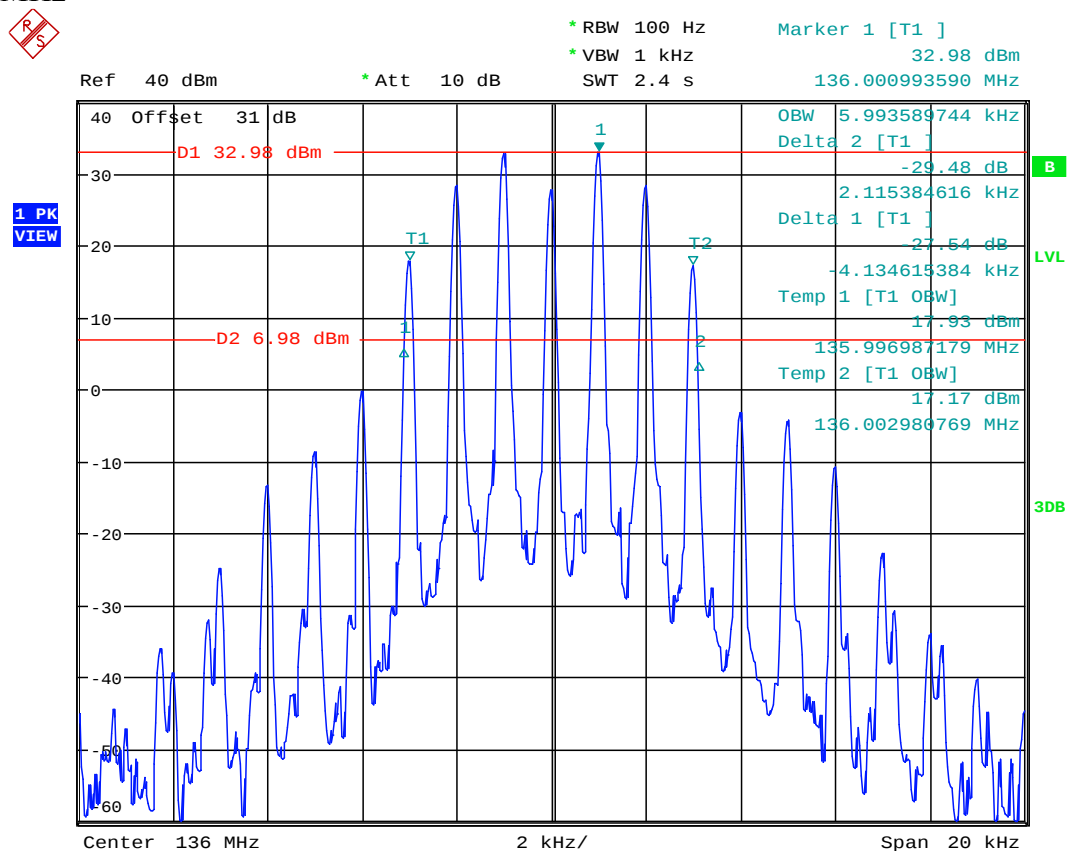
FCC ID: L9N-7085VE5

## 4.3.3 Necessary Bandwidth

12.5 kHz

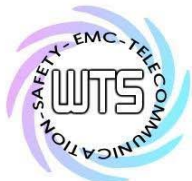
| Frequency (MHz) | 26dB Bandwidth (kHz) | 99% Occupied Bandwidth (kHz) | Max. Limit (kHz) |
|-----------------|----------------------|------------------------------|------------------|
| 136             | 6.25                 | 5.99359                      | 11.25            |
| 155             | 6.282051282          | 6.02564                      | 11.25            |
| 174             | 6.282051281          | 6.02564                      | 11.25            |

136 MHz



NECESSARY BANDWIDTH 12.5K 136MHz

Date: 17.MAY.2018 16:33:45

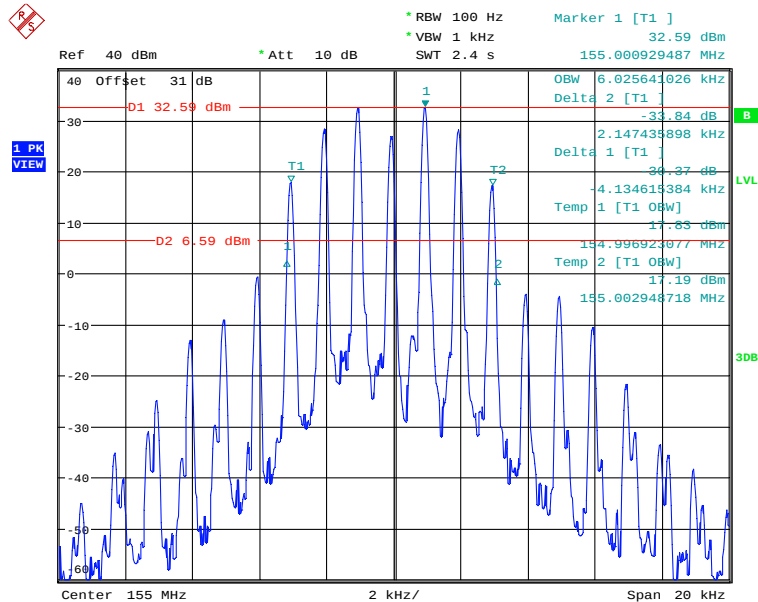


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21804-18006-C-1

FCC ID: L9N-7085VE5

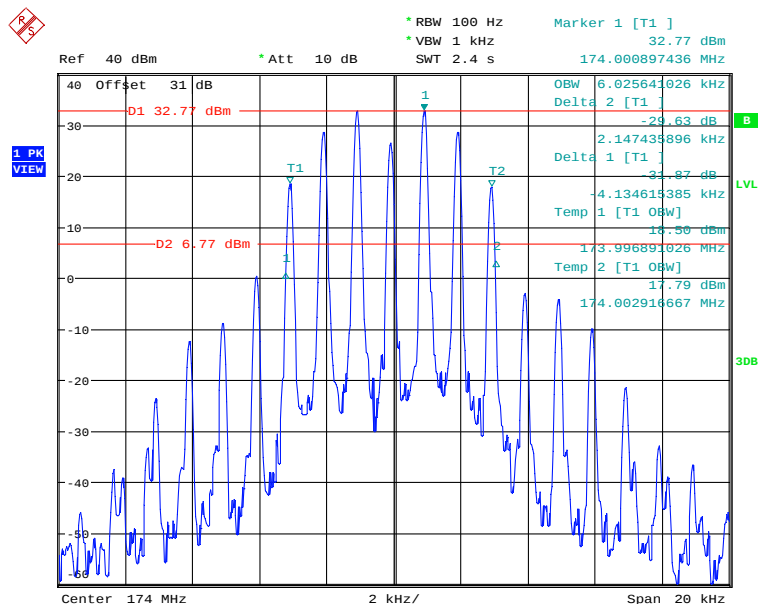
155 MHz



NECESSARY BANDWIDTH 12.5K 155MHz

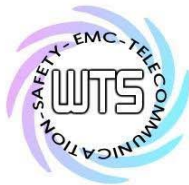
Date: 17.MAY.2018 16:31:53

174 MHz



NECESSARY BANDWIDTH 12.5K 174MHz

Date: 17.MAY.2018 16:37:48



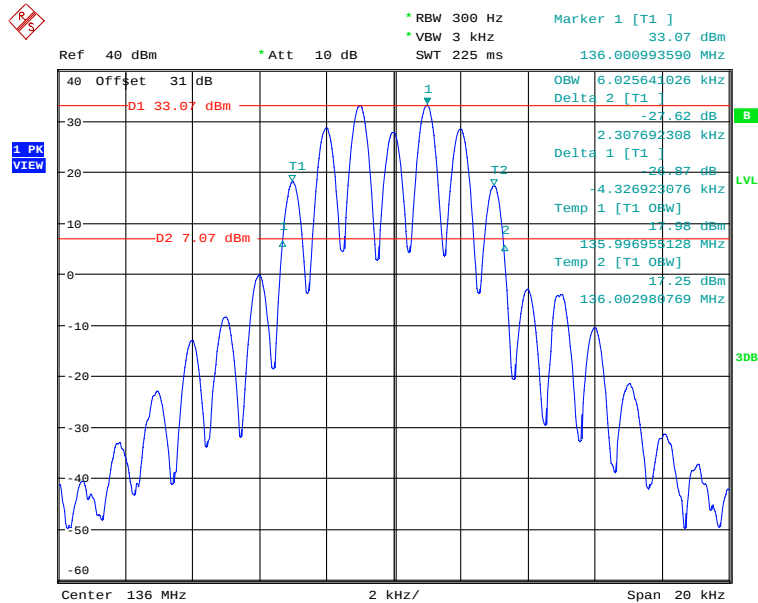
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

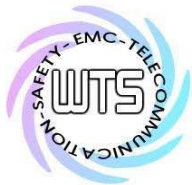
25 kHz

| Frequency (MHz) | 26dB Bandwidth (kHz) | 99% Occupied Bandwidth (kHz) | Max. Limit (kHz) |
|-----------------|----------------------|------------------------------|------------------|
| 136             | 6.634615384          | 6.02564                      | 20               |
| 155             | 6.666666666          | 6.02564                      | 20               |
| 174             | 6.666666667          | 6.05769                      | 20               |

136 MHz



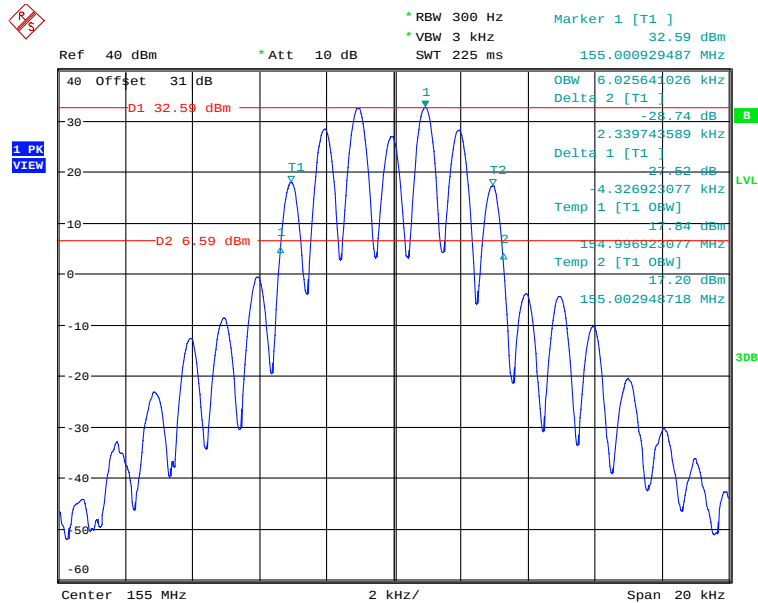
NECESSARY BANDWIDTH 25K 136MHz  
Date: 17.MAY.2018 16:41:21



Registration number: W6M21804-18006-C-1

FCC ID: L9N-7085VE5

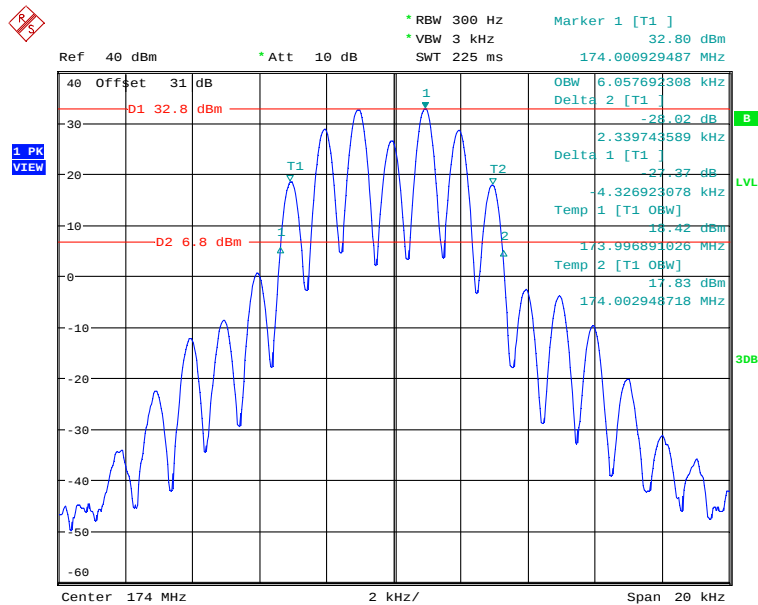
155 MHz



NECESSARY BANDWIDTH 25K 155MHz

Date: 17.MAY.2018 16:43:13

174 MHz



NECESSARY BANDWIDTH 25K 174MHz

Date: 17.MAY.2018 16:39:59

Test equipment used: ETSTW-RE 055, ETSTW-RE072

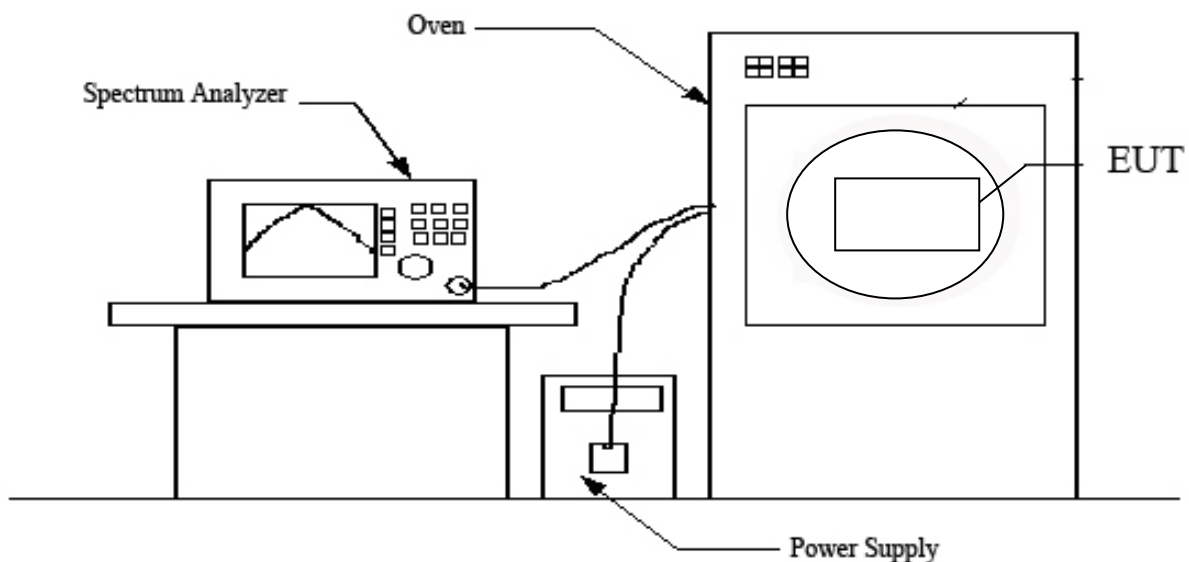
Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

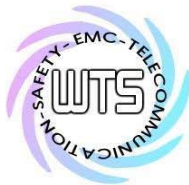
## 5. Frequency stability

### 5.1 Test Procedures

1. The transmitter output is connected to the spectrum analyzer through an attenuator.
2. Set RBW of spectrum analyzer to 1kHz and VBW to 1kHz.
3. Use peak detector mode, Max-hold and search the peak of trace 1.
4. According to the part 2.1055(d)(1), the supply voltage has to be changed from 85 to 115 percent of the nominal value.
5. According to the part 2.1055(a)(1), extreme temperature has to be changed from -20°C to 50°C.
6. Read the frequency of the carrier and calculate the deviation.

### 5.2 Test Setup





# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

## 5.3 Test Result

| Nominal Frequency : 136MHz          |                       | Nominal Frequency : 155 MHz         |                       | Nominal Frequency : 174 MHz         |                       |
|-------------------------------------|-----------------------|-------------------------------------|-----------------------|-------------------------------------|-----------------------|
| Voltage V.S Frequency Stability     |                       | Voltage V.S Frequency Stability     |                       | Voltage V.S Frequency Stability     |                       |
| Voltage                             | Measurement Frequency | Voltage                             | Measurement Frequency | Voltage                             | Measurement Frequency |
| 13.6 V                              | 136.000008            | 13.6 V                              | 154.999992            | 13.6 V                              | 174.000024            |
| 14.96 V                             | 136.000008            | 14.96 V                             | 155                   | 14.96 V                             | 174.000040            |
| 12.24 V                             | 136.000008            | 12.24 V                             | 155.000008            | 12.24 V                             | 174.000040            |
| Max Deviation (MHz)                 | 0.000008              | Max Deviation (MHz)                 | 0.000008              | Max Deviation (MHz)                 | 0.000040              |
| Max Deviation (ppm)                 | 0.058919              | Max Deviation (ppm)                 | 0.051697              | Max Deviation (ppm)                 | 0.230253              |
| Limit (ppm)                         | 2.5                   | Limit (ppm)                         | 2.5                   | Limit (ppm)                         | 2.5                   |
| Temperature V.S Frequency Stability |                       | Temperature V.S Frequency Stability |                       | Temperature V.S Frequency Stability |                       |
| Temperature                         | Measurement Frequency | Temperature                         | Measurement Frequency | Temperature                         | Measurement Frequency |
| -20                                 | 136.000008            | -20                                 | 155.000008            | -20                                 | 173.999816            |
| -10                                 | 136.000008            | -10                                 | 154.999992            | -10                                 | 173.999880            |
| 0                                   | 135.999976            | 0                                   | 154.999952            | 0                                   | 173.999808            |
| 10                                  | 135.999968            | 10                                  | 154.999984            | 10                                  | 173.999704            |
| 20                                  | 136.000008            | 20                                  | 154.999984            | 20                                  | 173.999896            |
| 30                                  | 136.000008            | 30                                  | 155.000008            | 30                                  | 173.999968            |
| 40                                  | 136.000008            | 40                                  | 155.000008            | 40                                  | 174.000056            |
| 50                                  | 136.000008            | 50                                  | 154.999992            | 50                                  | 174.000048            |
| 60                                  | 135.999944            | 60                                  | 154.999992            | 60                                  | 173.999920            |
| Max Deviation (MHz)                 | -0.000056             | Max Deviation (MHz)                 | -0.000048             | Max Deviation (MHz)                 | -0.000296             |
| Max Deviation (ppm)                 | -0.412426             | Max Deviation (ppm)                 | -0.310174             | Max Deviation (ppm)                 | -1.703874             |
| Limit (ppm)                         | 2.5                   | Limit (ppm)                         | 2.5                   | Limit (ppm)                         | 2.5                   |

Test equipment used: ETSTW-RE 055

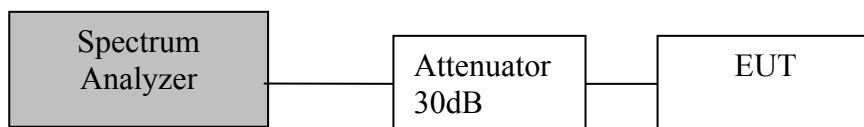
Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

## 6. Transmitter Output Power

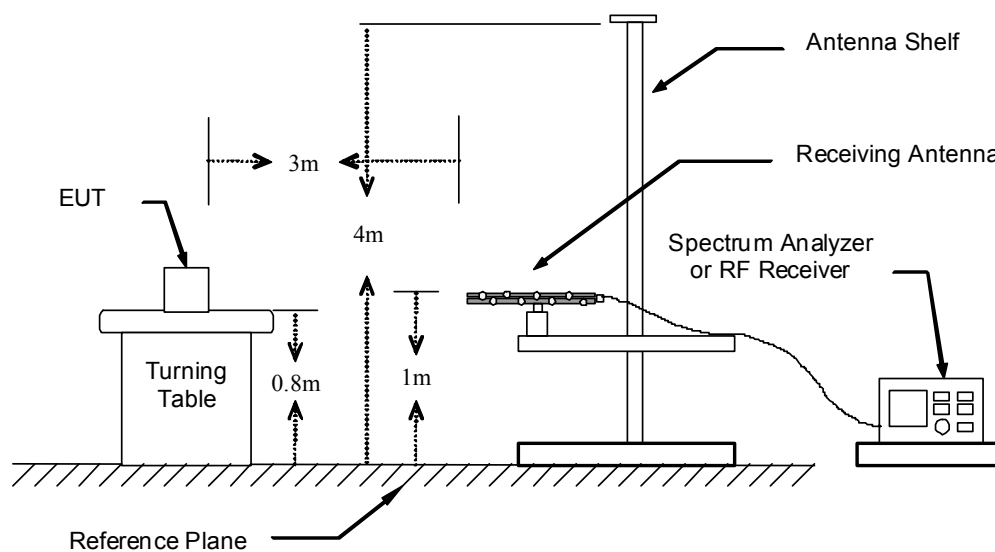
### 6.1 Test Procedures

1. The EUT was placed on the top of the turntable in semi-anechoic chamber.
2. The test shall be made in the transmitting mode. Antenna tower was scan (from 1 M to 4 M) and the turn table was rotated by 360 degrees to determine the position of the highest radiation.
3. The receiving Horn antenna was placed 0.5 meters far away from the turntable.
4. The receiving antenna was fixed on the same height with the EUT to find maximum suspected emissions. Recorded suspected value is indicated as Read Level (Raw).
5. Replace the EUT by standard antenna and feed the RF port by signal generator.
6. Adjust the frequency of the signal generator to the suspected emission and slightly rotate the turntable to locate the position with maximum reading.
7. Adjust the power level of the signal generator to reach the same reading with Read Level (Raw).
8. The level of the spurious emission is the power level of (7) plus the gain of the standard antenna in dBd and minus the loss of the cable used between the signal generator and the standard antenna.

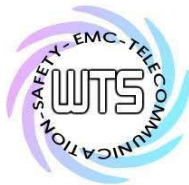
### 6.2 Test Setup



Setup for Conducted Power



Setup for Radiated Power

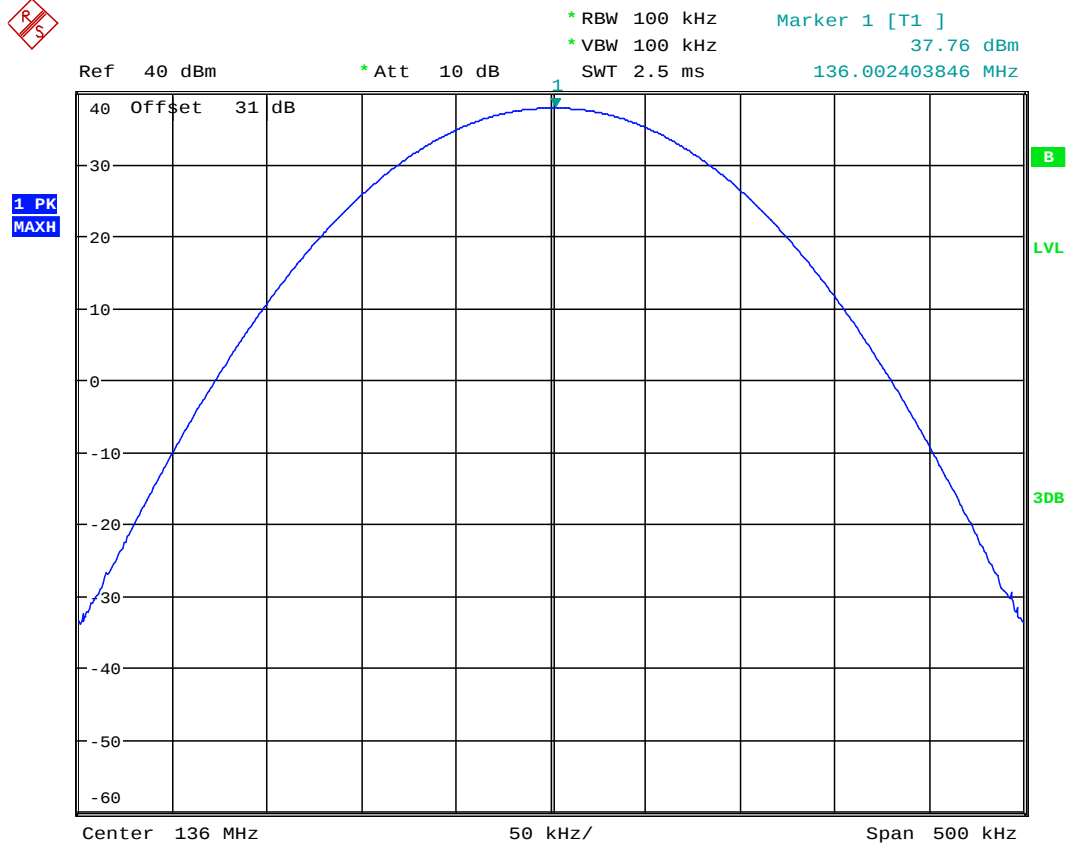


Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

## 6.3 Test Result

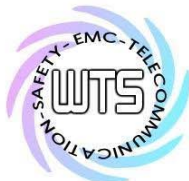
### 6.3.1 Conducted Power

136 MHz



MAX OUTPUT POWER 136MHz

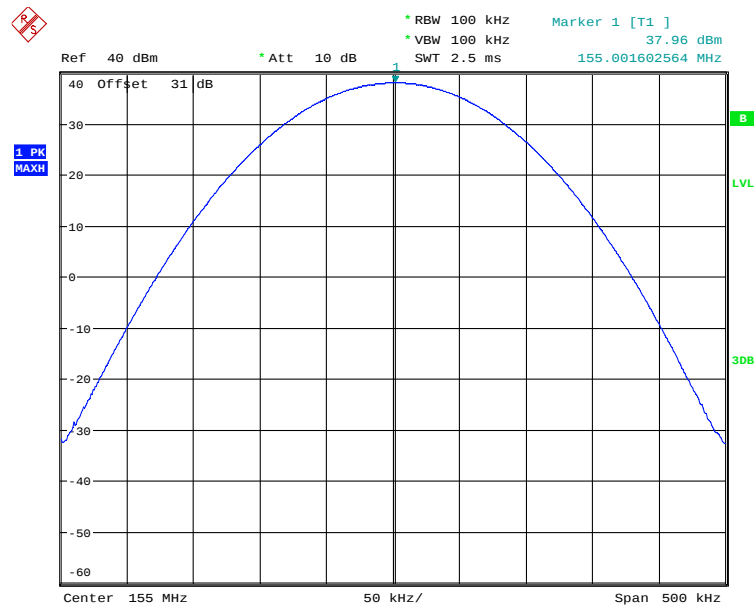
Date: 17.MAY.2018 16:08:21



Registration number: W6M21804-18006-C-1

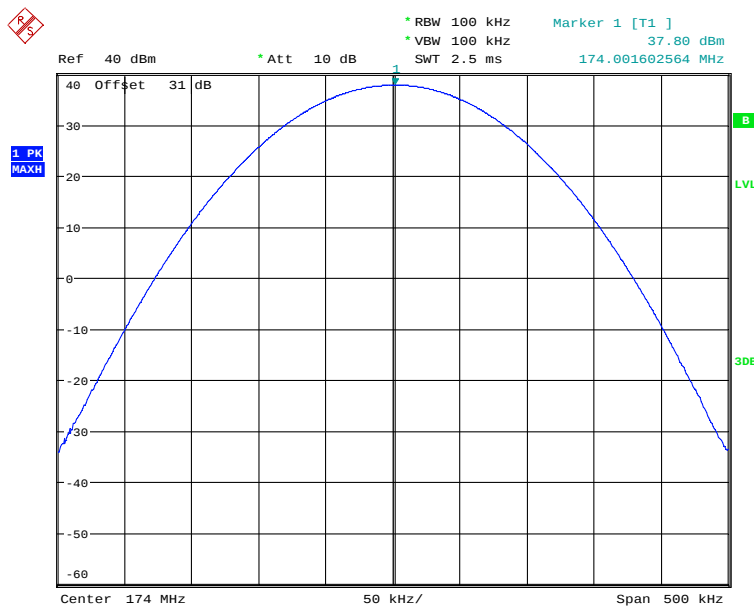
FCC ID: L9N-7085VE5

155 MHz

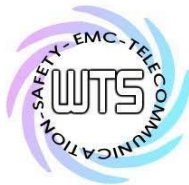


MAX OUTPUT POWER 155MHz  
Date: 17.MAY.2018 16:09:35

174 MHz

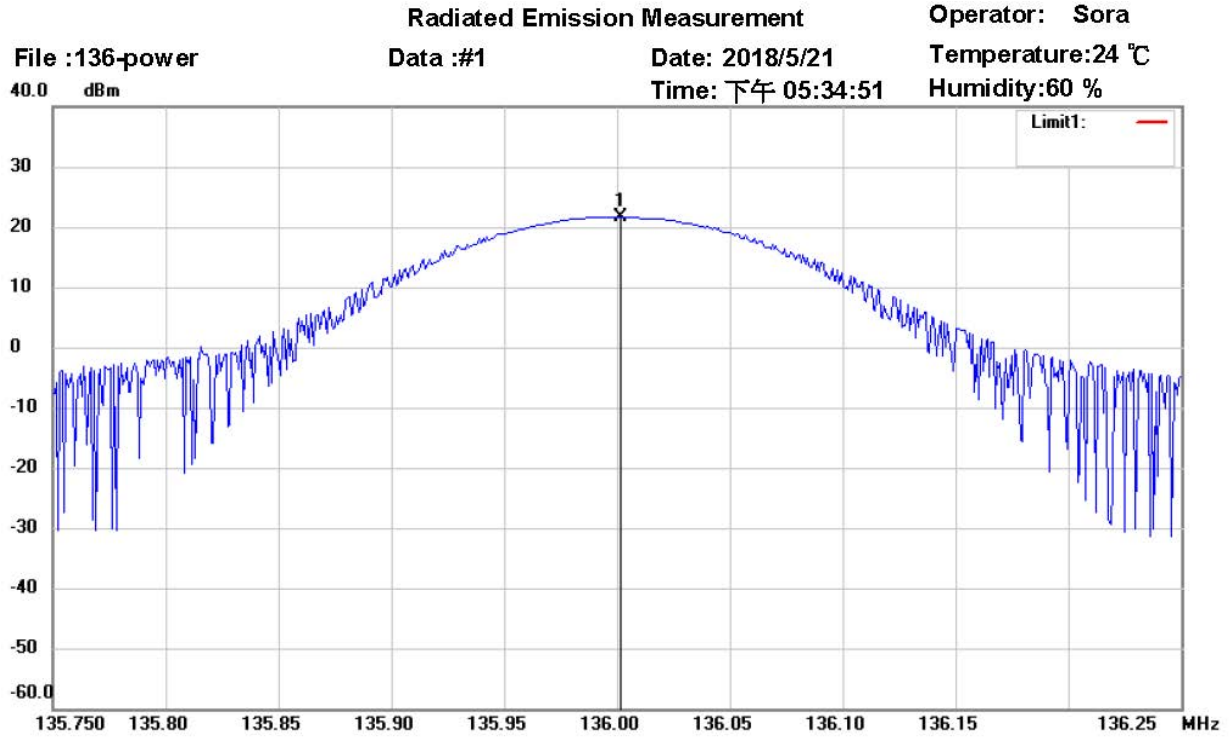


MAX OUTPUT POWER 174MHz  
Date: 17.MAY.2018 16:13:22



Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

## 6.3.2 Radiated Power 136 MHz



Site : Chamber

Condition :

EUT : W6M21804-18006

M/N:

Test Mode : TX 136MHz

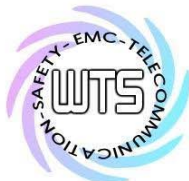
Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

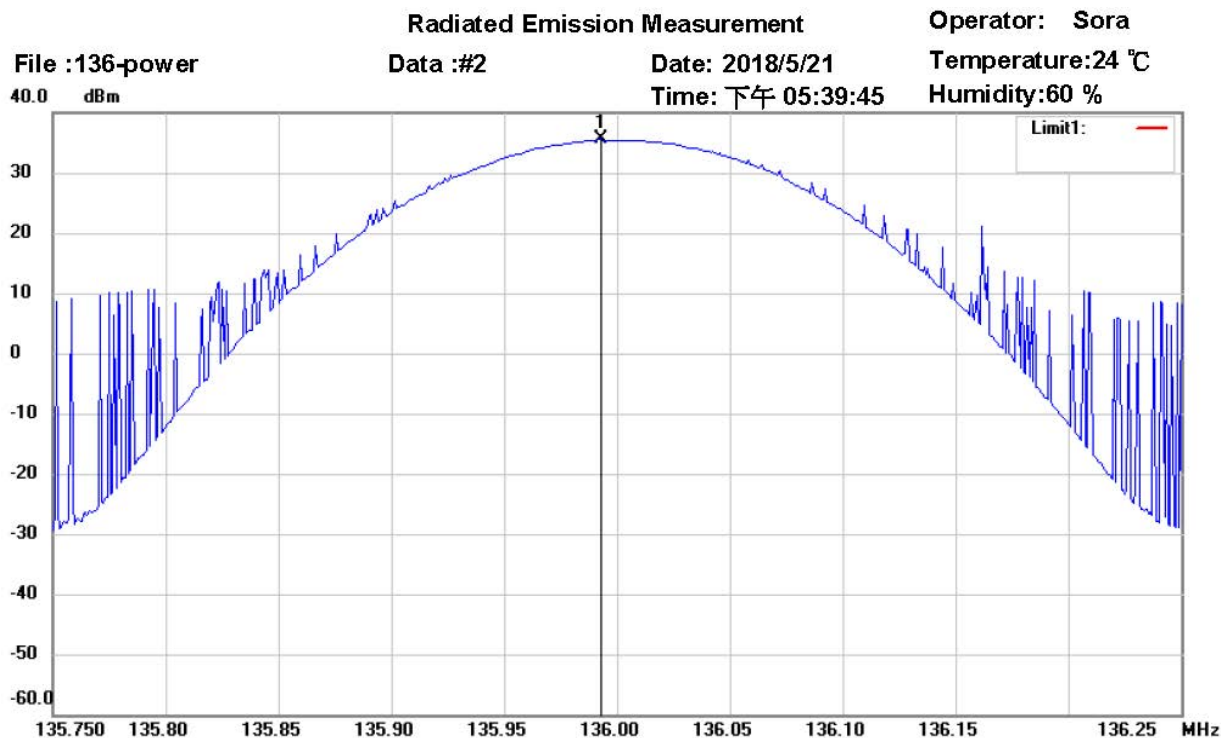
| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 136.0016        | 1.57          | peak     | 20.15             | 21.72        |             | 150          | 150            |             |         |



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21804-18006-C-1

FCC ID: L9N-7085VE5



Site : Chamber

Condition :

EUT : W6M21804-18006

M/N:

Test Mode : TX 136MHz

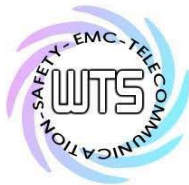
Note :

Polarization: *Vertical*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 135.9928        | 14.84         | peak     | 20.69             | 35.53        |             | 150          | 300            |             |         |



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21804-18006-C-1

FCC ID: L9N-7085VE5

155 MHz

## Radiated Emission Measurement

Operator: Sora

File :155-power

Data :#1

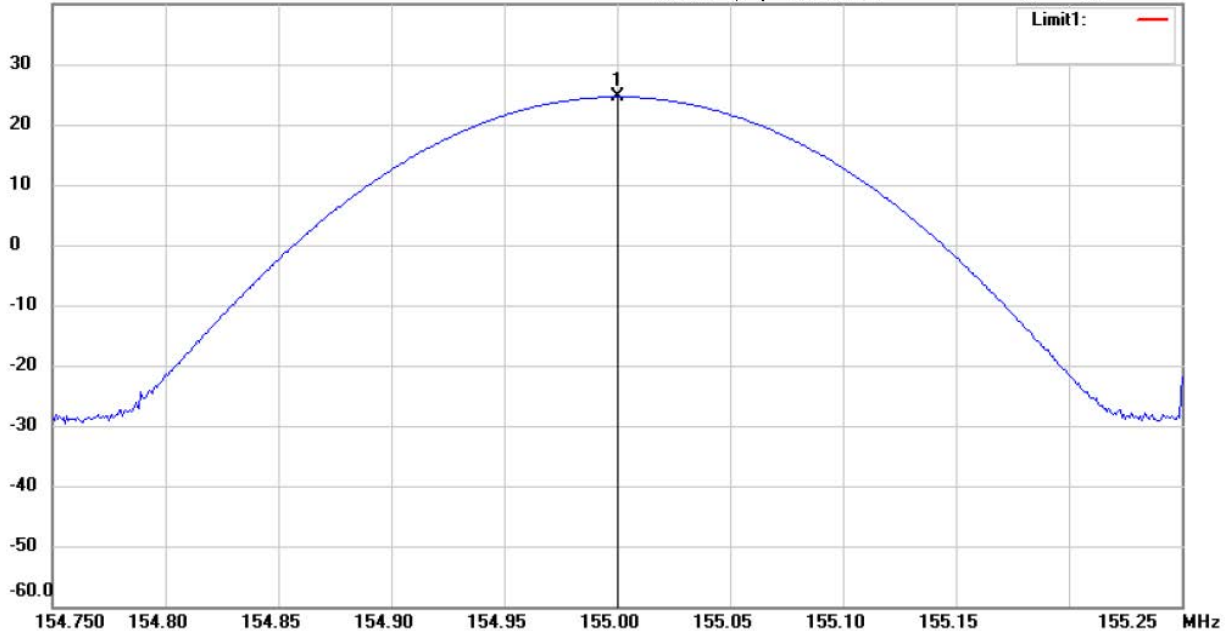
Date: 2018/5/21

Temperature:24 °C

Time: 下午 05:03:29

Humidity:60 %

40.0 dBm



Site : Chamber

Condition :

EUT : W6M21804-18006

M/N:

Test Mode : TX 155MHz

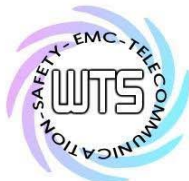
Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

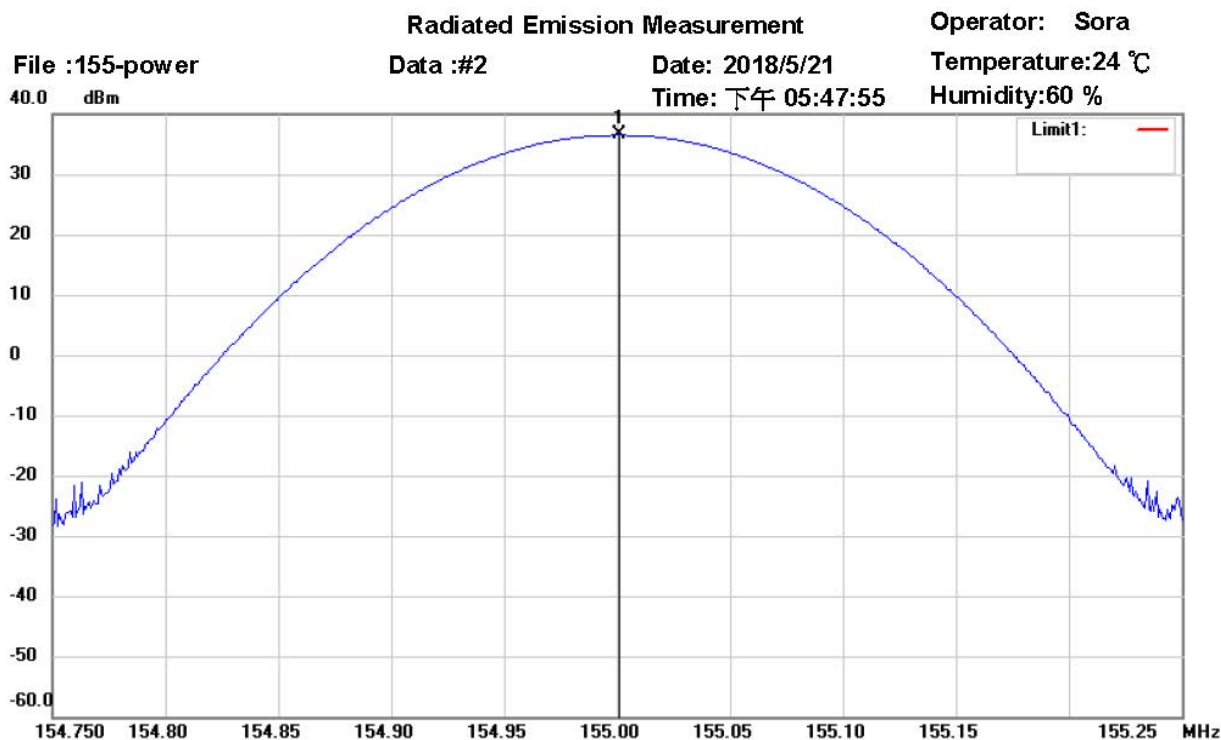
| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 155.0000        | 3.38          | peak     | 21.20             | 24.58        |             | 150          | 160            |             |         |



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21804-18006-C-1

FCC ID: L9N-7085VE5



Site : Chamber

Condition :

EUT : W6M21804-18006

M/N:

Test Mode : TX 155MHz

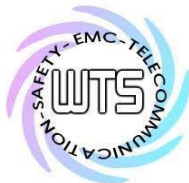
Note :

Polarization: **Vertical**

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 155.0008        | 14.83         | peak     | 21.70             | 36.53        |             | 150          | 225            |             |         |



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21804-18006-C-1

FCC ID: L9N-7085VE5

174 MHz

## Radiated Emission Measurement

Operator: Sora

File :174-power

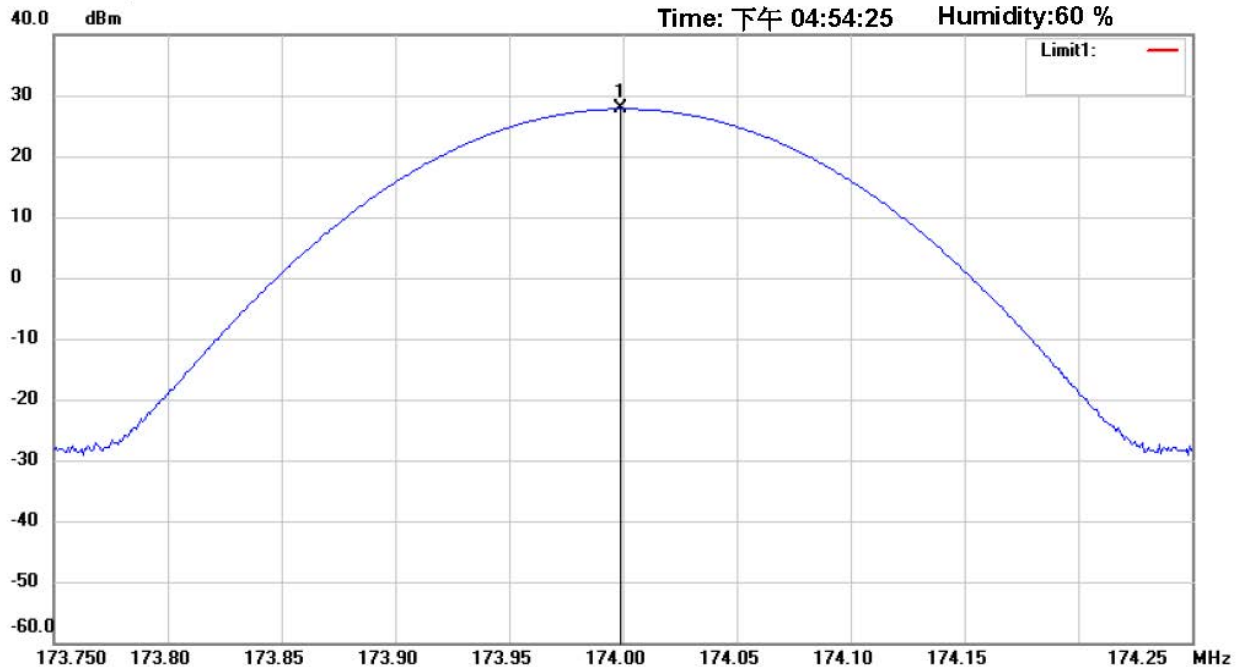
Data :#1

Date: 2018/5/21

Temperature:24 °C

Time: 下午 04:54:25

Humidity:60 %



Site : Chamber

Condition :

EUT : W6M21804-18006

M/N:

Test Mode : TX 174MHz

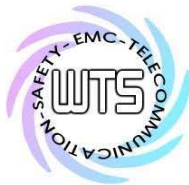
Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

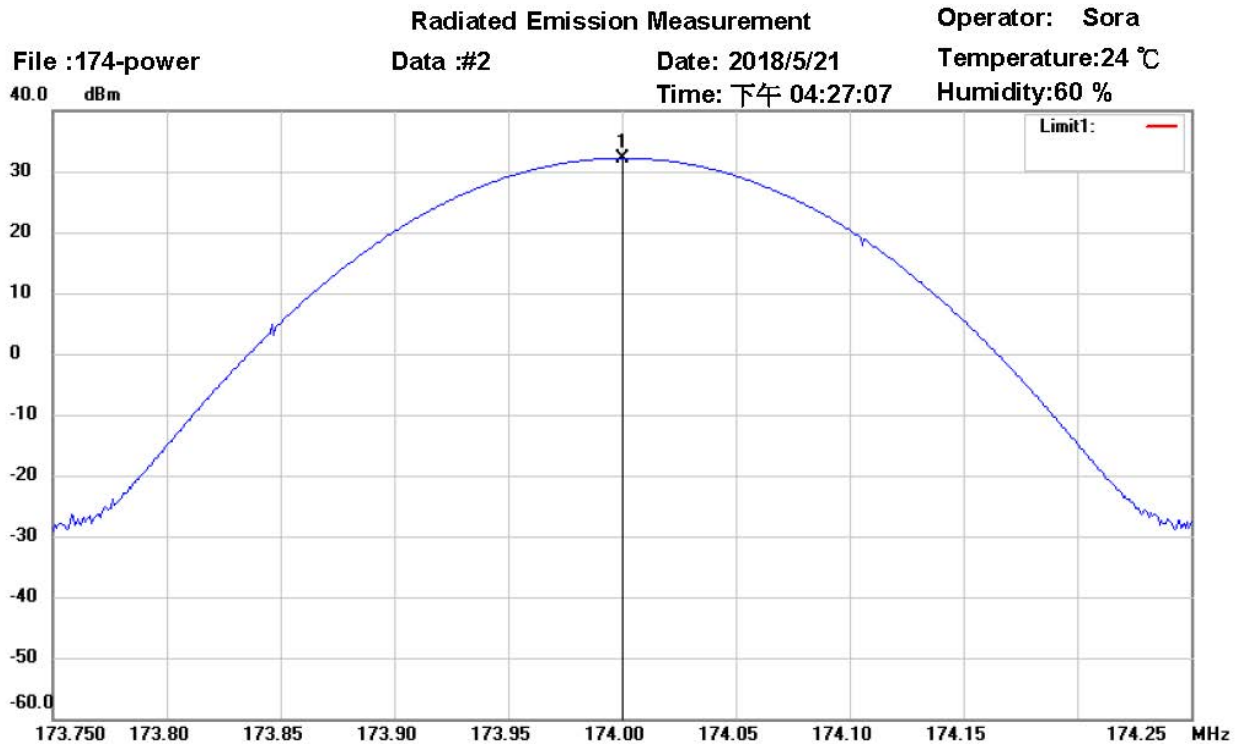
Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 173.9992        | 5.84          | peak     | 21.96             | 27.80        |             | 150          | 150            |             |         |



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5



Site : Chamber

Condition :

EUT : W6M21804-18006

M/N:

Test Mode : TX 174MHz

Note :

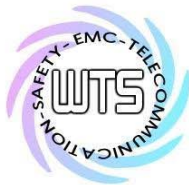
Polarization: **Vertical**

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 174.0000        | 10.05         | peak     | 22.15             | 32.20        |             | 150          | 225            |             |         |

Test equipment used: ETSTW-RE 003, ETSTW-RE 042, ETSTW-RE 055, ETSTW-RE 072



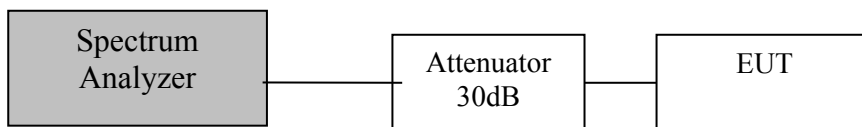
Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

## 7. Emission masks

### 7.1 Test Procedures

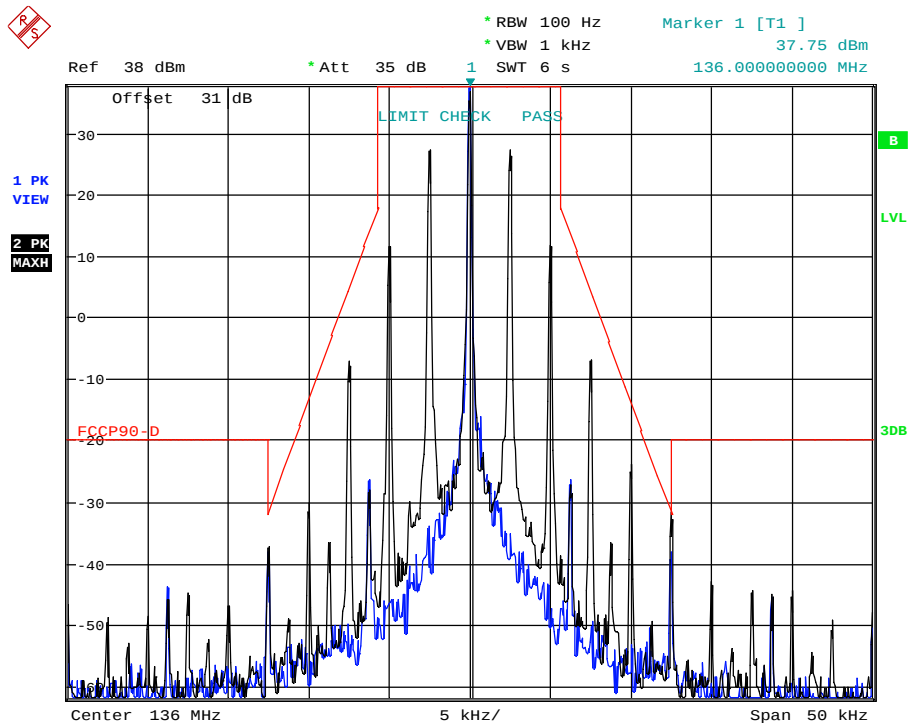
1. The transmitter output is connected to the spectrum analyzer through an attenuator.
2. Set RBW of spectrum analyzer to 100Hz and VBW to 1 kHz.
3. Mark the frequency with maximum peak power as the center of the display of the spectrum
4. Set the span to 50 kHz and the sweep time to Auto.
5. Record the power spectral and compare to the Mask.

### 7.2 Test Setup

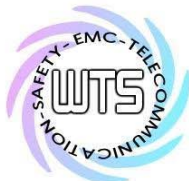


### 7.3 Test Result

12.5 kHz  
136 MHz



EMISSION MASK 12.5K 136MHz  
Date: 17.MAY.2018 17:22:48

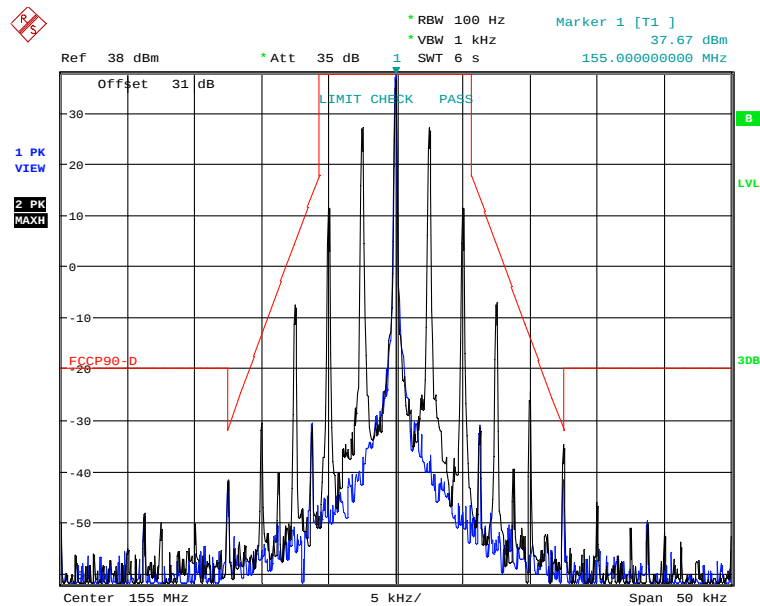


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21804-18006-C-1

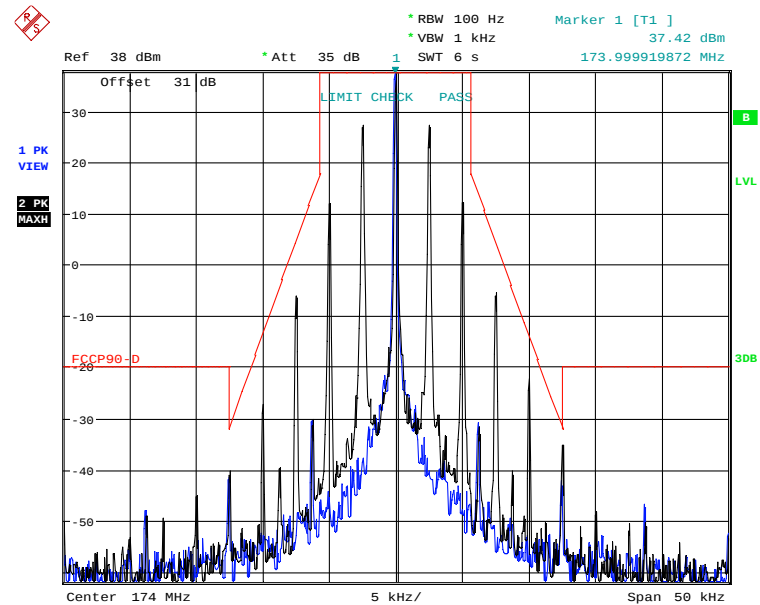
FCC ID: L9N-7085VE5

155 MHz

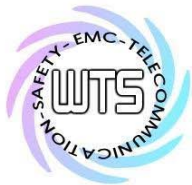


EMISSION MASK 12.5K 155MHz  
Date: 17.MAY.2018 17:29:11

174 MHz

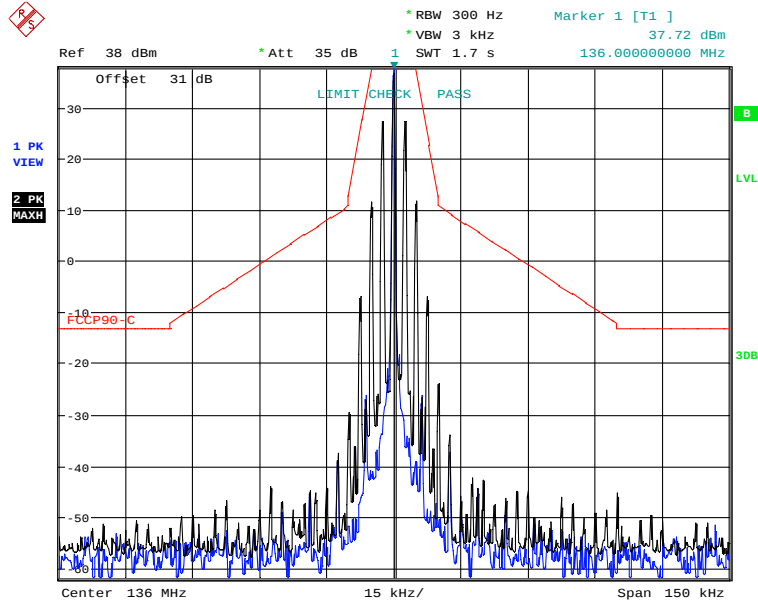


EMISSION MASK 12.5K 174MHz  
Date: 17.MAY.2018 17:26:53



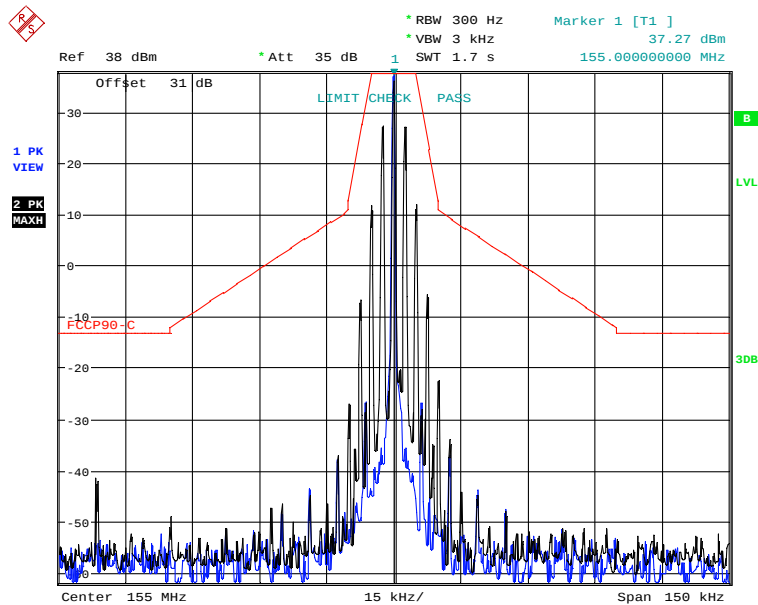
Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

25 kHz  
136 MHz

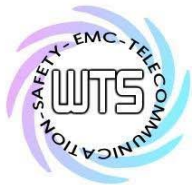


EMISSION MASK 25K 136MHz  
Date: 17.MAY.2018 17:04:25

155 MHz



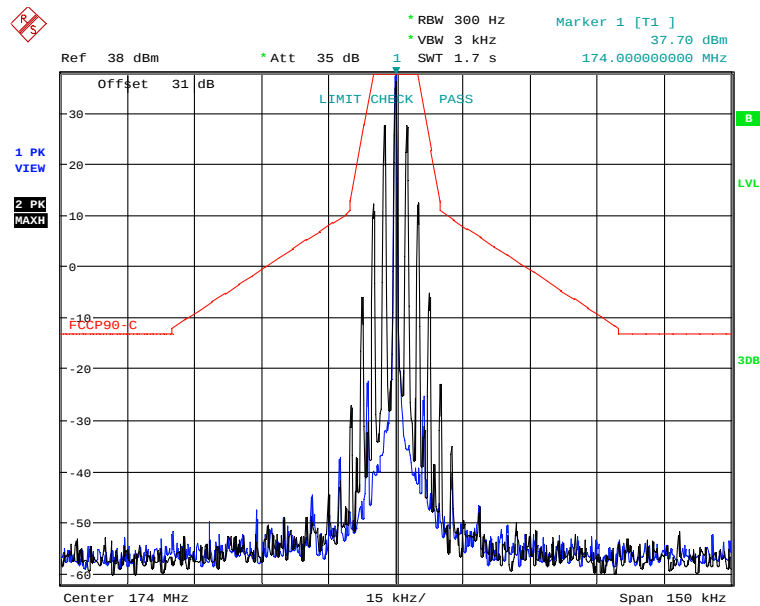
EMISSION MASK 25K 155MHz  
Date: 17.MAY.2018 17:06:43



Registration number: W6M21804-18006-C-1

FCC ID: L9N-7085VE5

174 MHz



EMISSION MASK 25K 174MHZ  
Date: 17.MAY.2018 17:12:51

Limit according to FCC § 90.210: 12.5 kHz: Emission Mask D / 25 kHz: Emission Mask C.

Test equipment used: ETSTW-RE 055, ETSTW-RE072

Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

## 8. Transmitter Spurious Radiated Emission

### 8.1 Test Procedures

The EUT was positioned on a non-conductive turntable, 0.8m above the ground plane.

The radiated emission at the fundamental frequency was measured at 3 m distance with a test antenna and spectrum analyzer.

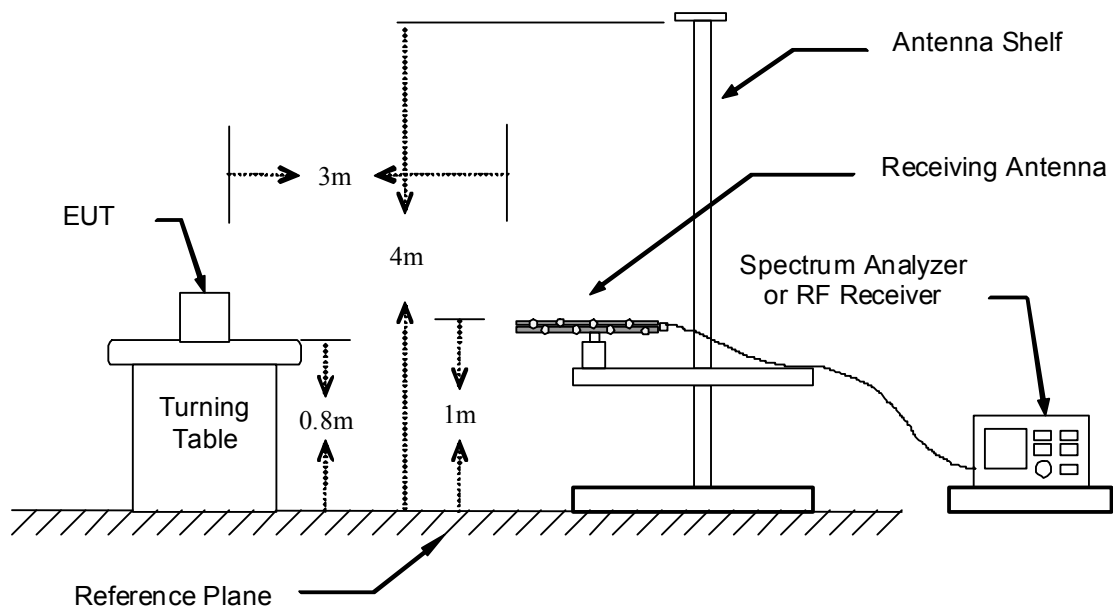
Worst case emission was recorded with the rotation of the turntable and the raising and lowering of the test antenna.

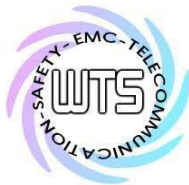
ERP was measured using a substitution method. The EUT was replaced by reference antenna connected to a signal generator.

The test of spurious radiated emission has been carried out with the validated test software. The measurements below 1GHz were performed with a measurement bandwidth of 100 kHz, above 1GHz with a bandwidth of 1MHz.

Spurious emission limits near the carrier are defined by a emission mask.

### 8.2 Test Setup





Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

## 8.3 Test Result

Model: 52-7085VE5 Date: --  
Mode: -- Temperature: -- °C Engineer: --  
Polarization: Horizontal Humidity: -- %

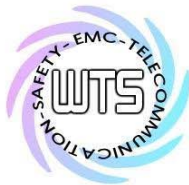
| Frequency<br>(MHz) | Reading<br>(dBm)<br>Peak | Factor<br>(dB)<br>Corr. | Result<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Table<br>Degree<br>(Deg.) | Ant.<br>High<br>(cm) |
|--------------------|--------------------------|-------------------------|-----------------|----------------|----------------|---------------------------|----------------------|
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |

Polarization: Vertical

| Frequency<br>(MHz) | Reading<br>(dBm)<br>Peak | Factor<br>(dB)<br>Corr. | Result<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Table<br>Degree<br>(Deg.) | Ant.<br>High<br>(cm) |
|--------------------|--------------------------|-------------------------|-----------------|----------------|----------------|---------------------------|----------------------|
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |

- Note**
1. Correction Factor = Antenna factor + Cable loss - Preamplifier
  2. The formula of measured value as: Test Result = Reading + Correction Factor
  3. Detector function in the form : PK = Peak, QP = Quasi Peak, AV = Average
  4. All not in the table noted test results are more than 20 dB below the relevant limits.
  5. Measurement uncertainty above 30-1000 MHz =  $\pm 2.32$  dB, 1-18 GHz =  $\pm 2.30$  dB, 18-40 GHz =  $\pm 3.25$  dB ; Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.
  6. See attached diagrams in appendix.

Test equipment used: ETSTW-RE 003, ETSTW-RE 042, ETSTW-RE 043, ETSTW-RE 044, ETSTW-RE 072



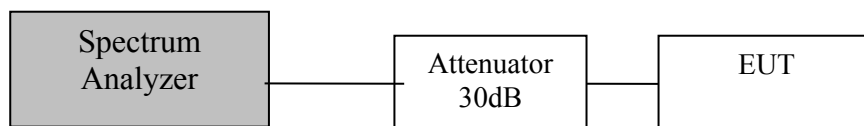
Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

## 9. Transmitter Spurious Conducted Emission

### 9.1 Test Procedures

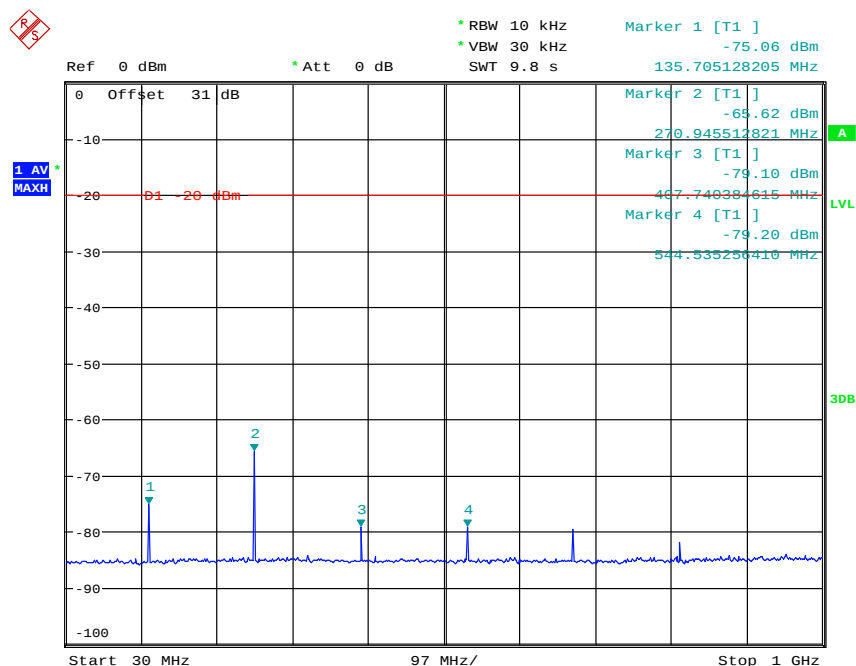
1. The transmitter output is connected to the spectrum analyzer through an attenuator.
2. Adjust the spectrum analyzer for the following settings:
  - Resolution Bandwidth = 10 kHz for spurious emissions below 1 GHz and 1 MHz for spurious emissions above 1GHz.
  - Video Bandwidth = 30 kHz for spurious emissions below 1 GHz, and 3 MHz for spurious emissions above 1 GHz.
  - Sweep Speed slow enough to maintain measurement calibration. Detector Mode = Positive Peak.
3. Limits= $P \text{ (dBm)} + 10\log(P(W)) = -13\text{dBm}$

### 9.2 Test Setup

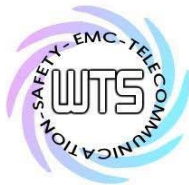


### 9.3 Test Result

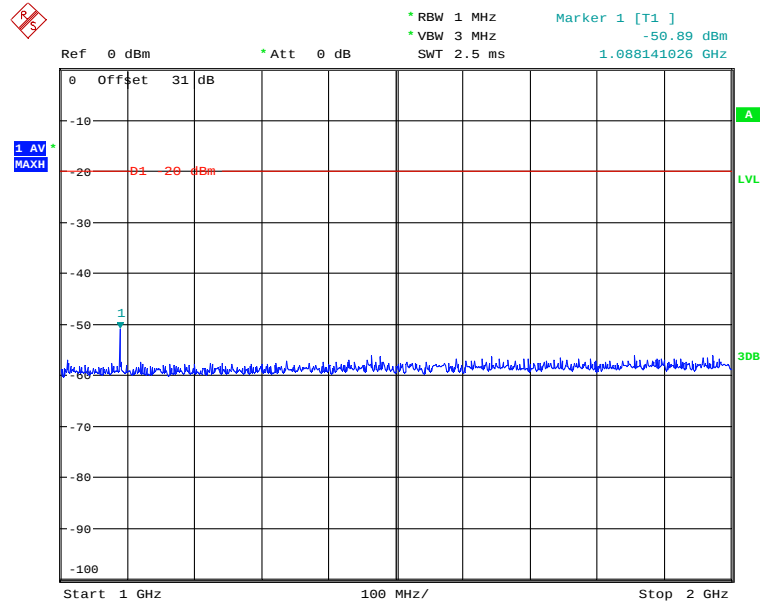
12.5 kHz  
136 MHz



CONDUCTED SPURIOUS EMISSION 12.5K 136MHz  
Date: 22.MAY.2018 10:30:32

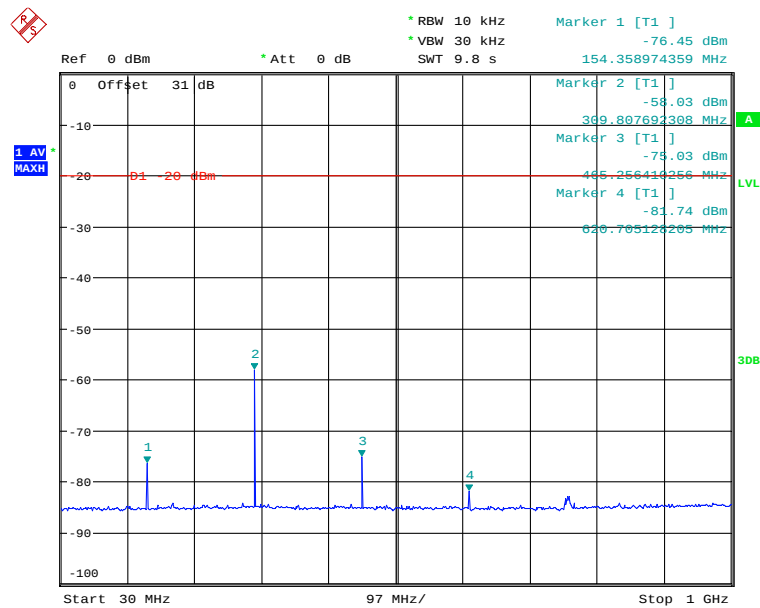


Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

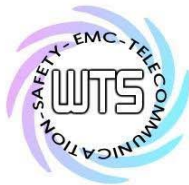


CONDUCTED SPURIOUS EMISSION 12.5K 136MHz  
Date: 22.MAY.2018 10:36:06

155 MHz

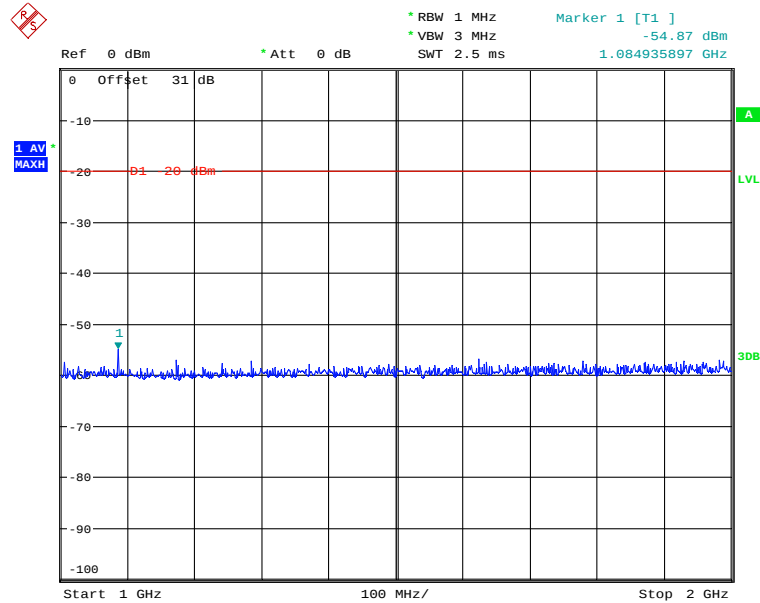


CONDUCTED SPURIOUS EMISSION 12.5K 155MHz  
Date: 22.MAY.2018 10:29:20



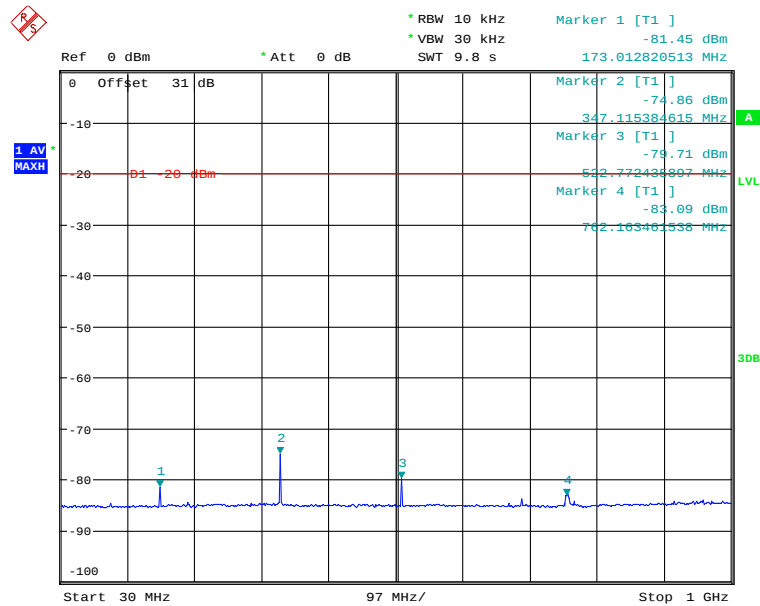
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

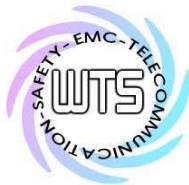


CONDUCTED SPURIOUS EMISSION 12.5K 155MHz  
Date: 22.MAY.2018 10:37:03

174 MHz

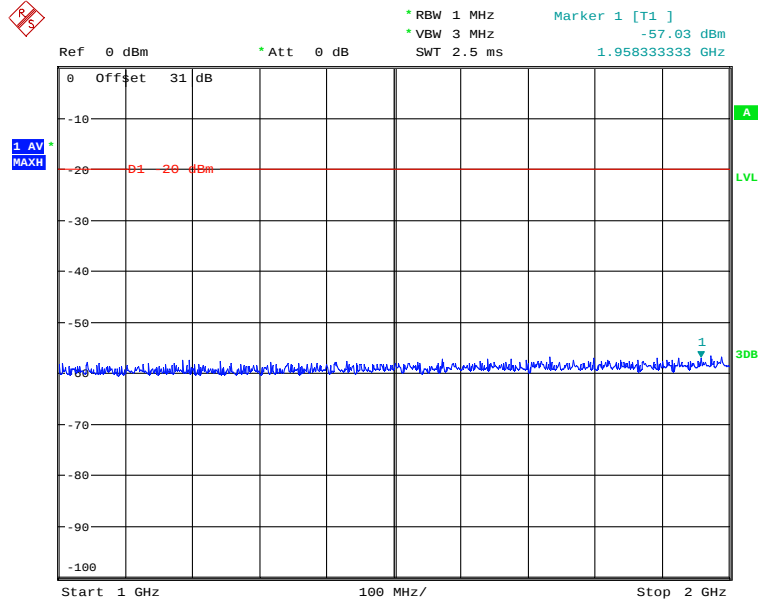


CONDUCTED SPURIOUS EMISSION 12.5K 174MHz  
Date: 22.MAY.2018 10:27:07



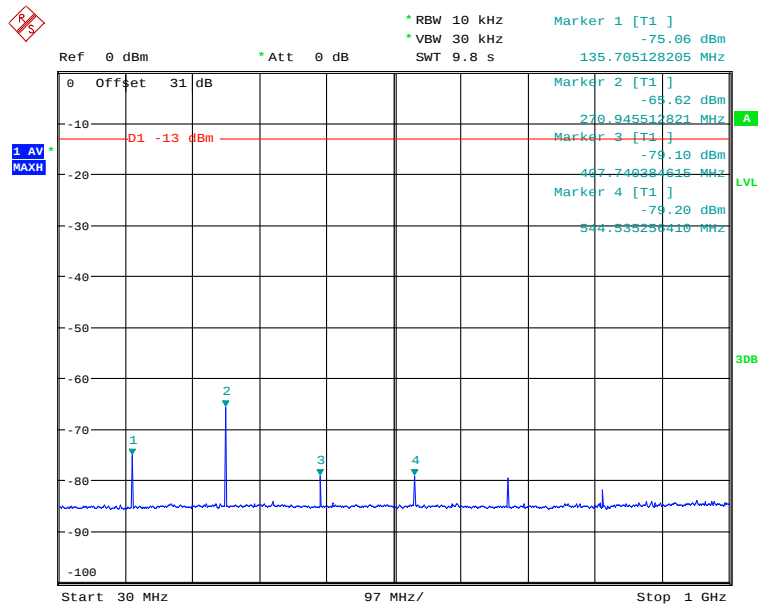
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

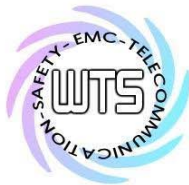


CONDUCTED SPURIOUS EMISSION 12.5K 174MHz  
Date: 22.MAY.2018 10:39:03

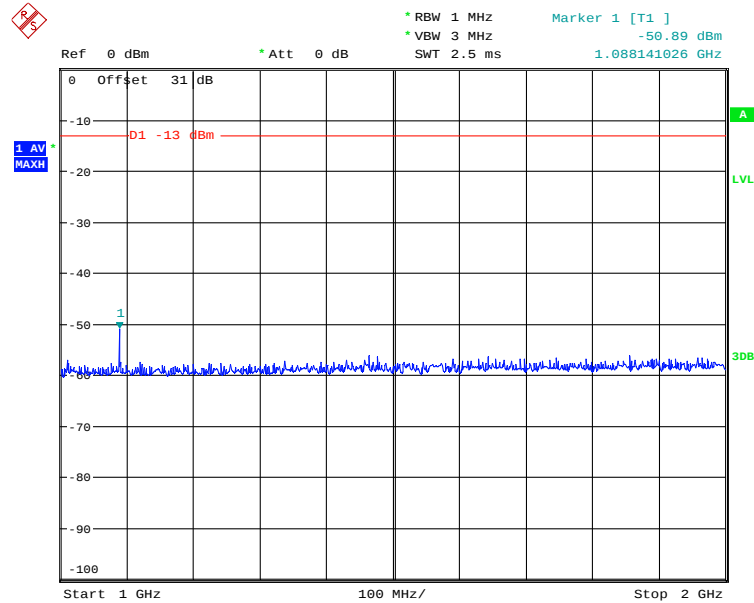
25 kHz  
136 MHz



CONDUCTED SPURIOUS EMISSION 25K 136MHz  
Date: 22.MAY.2018 10:30:54

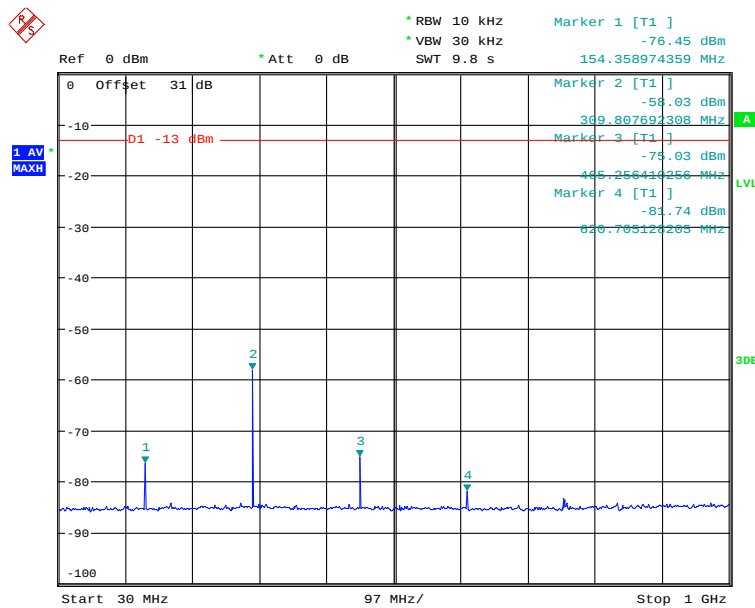


Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

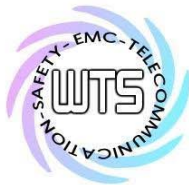


CONDUCTED SPURIOUS EMISSION 25K 136MHz  
Date: 22.MAY.2018 10:35:37

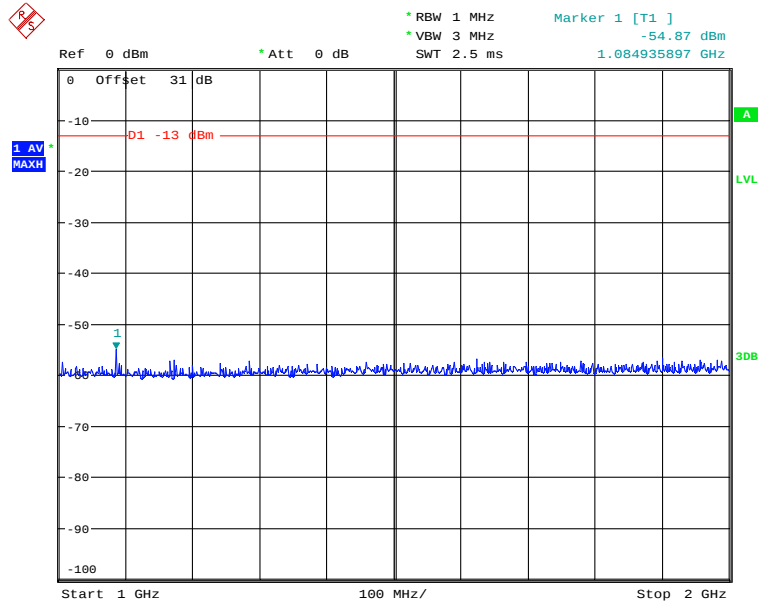
155 MHz



CONDUCTED SPURIOUS EMISSION 25K 155MHz  
Date: 22.MAY.2018 10:28:56

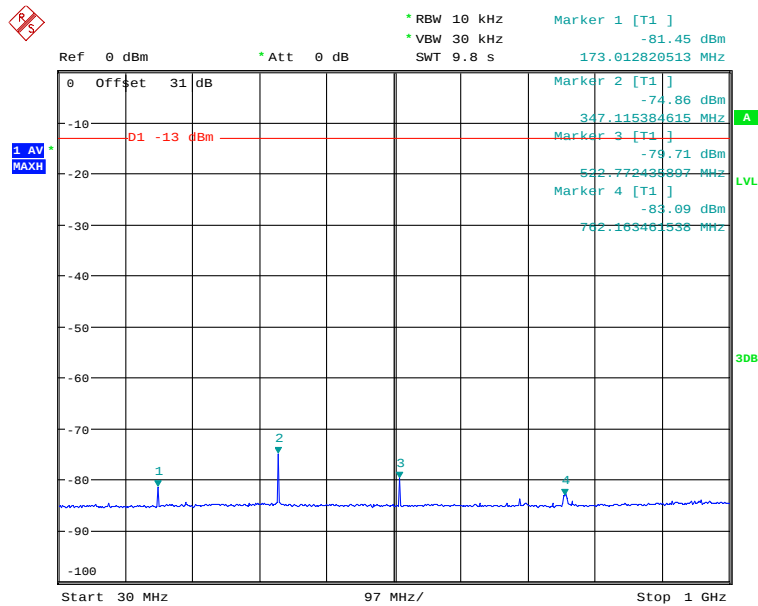


Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

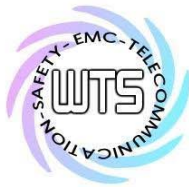


CONDUCTED SPURIOUS EMISSION 25K 155MHz  
Date: 22.MAY.2018 10:37:25

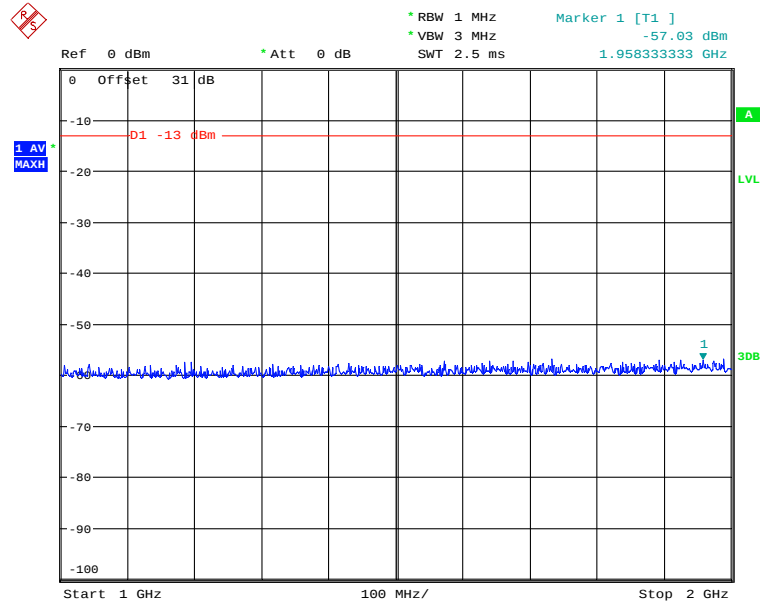
174 MHz



CONDUCTED SPURIOUS EMISSION 25K 174MHz  
Date: 22.MAY.2018 10:27:32



Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5



CONDUCTED SPURIOUS EMISSION 25K 174MHz  
Date: 22.MAY.2018 10:38:38

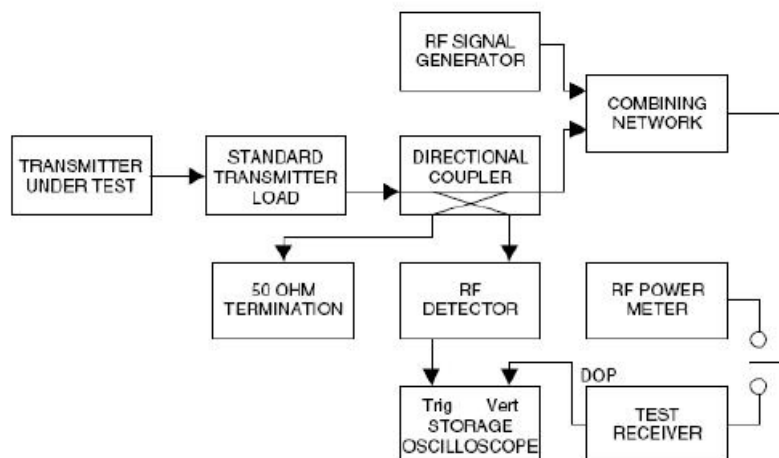
Test equipment used: ETSTW-RE 055, ETSTW-RE 072

## 10. Transient frequency behavior

### 10.1 Test Procedures

1. SG to the assigned transmitter frequency and modulate it with a 1 kHz tone at  $\pm 25$  kHz deviation and set its output level to below 30dB of EUT signal level to receiver.
2. Set the horizontal sweep rate on the storage oscilloscope to 10 ms per division and adjust the display to continuously view the 1000 Hz tone from the DOP. Adjust the vertical amplitude control of the oscilloscope to display the 1000 Hz at  $\pm 4$  divisions vertically centered on the display.
3. Transmitter on and observe the stored display. The output at the DOP, due to the change in the ratio of power between the signal generator input power and the transmitter output power will, because of the capture effect of the test receiver, produce a change in display: For the first part of the sweep it will show the 1 kHz test signal. Then once the receiver's demodulator has been captured by the transmitter power, the display will show the frequency difference from the assigned frequency to the actual transmitter frequency versus time. The instant when the 1 kHz test signal is completely suppressed (including any capture time due to phasing) is considered to be  $t_{on}$ . The trace should be maintained within the allowed divisions during the period  $t_1$  and  $t_2$ . See the figure in the appropriate standards section.
4. During the time from the end of  $t_2$  to the beginning of  $t_3$  the frequency difference should not exceed the limits set by the FCC in 47 CFR 90.214 and outlined in 3.2.2. The allowed limit is equal to the transmitter frequency times its FCC frequency tolerance times  $\pm 4$  display divisions divided by 25 kHz. For example, at a transmitter assigned frequency of 500 MHz and a frequency tolerance of 5 ppm. This would be 500 MHz times 5 ppm times  $\pm 4$  divisions divided by 25 kHz. This equals  $\pm 0.4$  divisions in this example. Greater vertical sensitivity may be required to view this accurately
5. Adjust the oscilloscope trigger controls so it will trigger on a decreasing magnitude from the RF peak detector, at 1 division from the right side of the display, when the transmitter is turned off. Set the controls to store the display. The moment when the 1 kHz test signal starts to rise is considered to provide  $t_{off}$ .

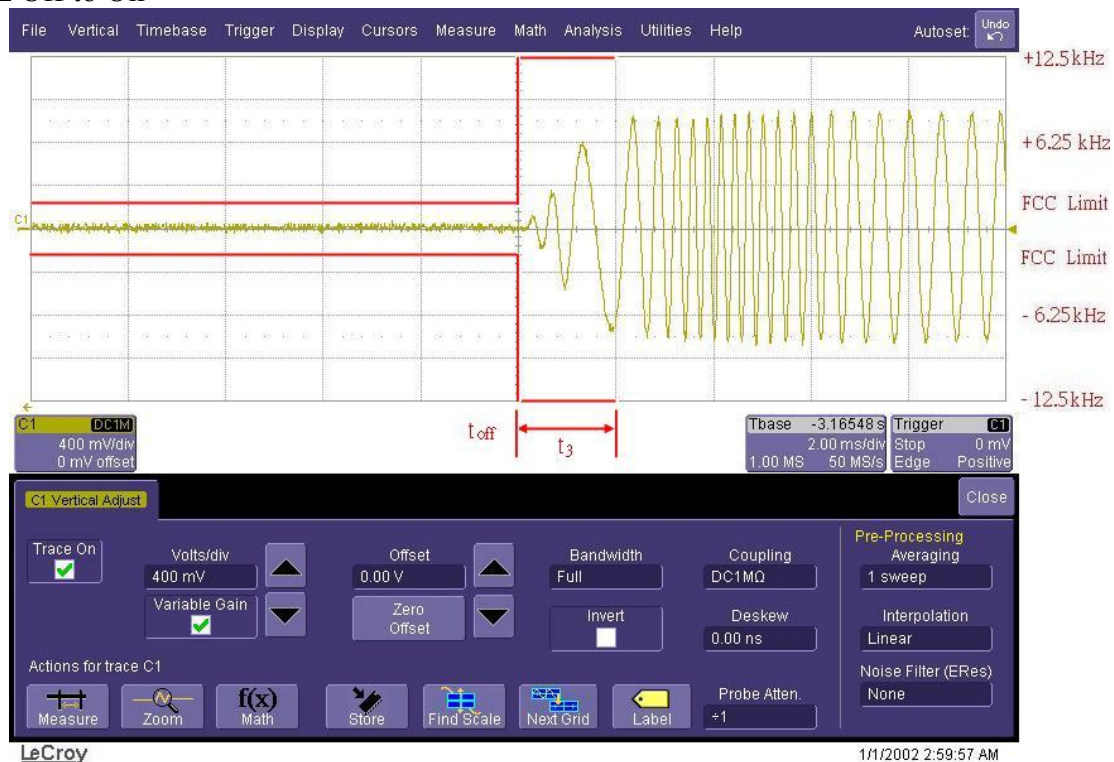
### 10.2 Test Setup



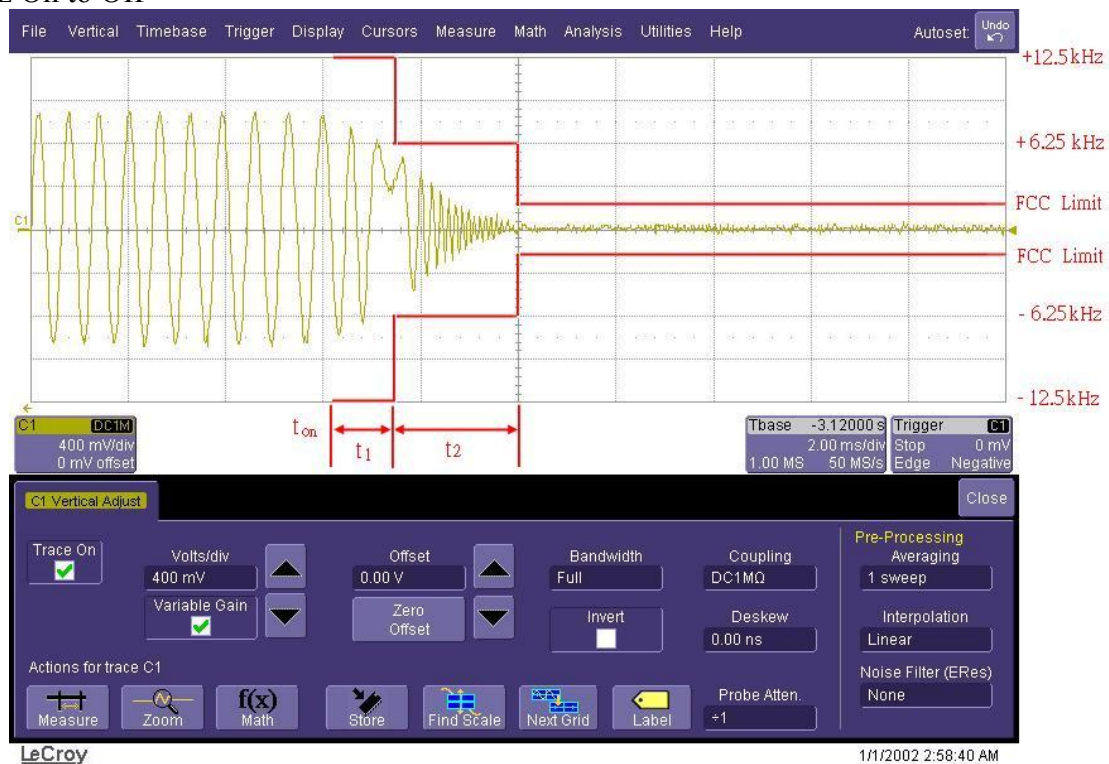
Registration number: W6M21804-18006-C-1

FCC ID: L9N-7085VE5

## 10.3 Test Result 136 MHz Off to On



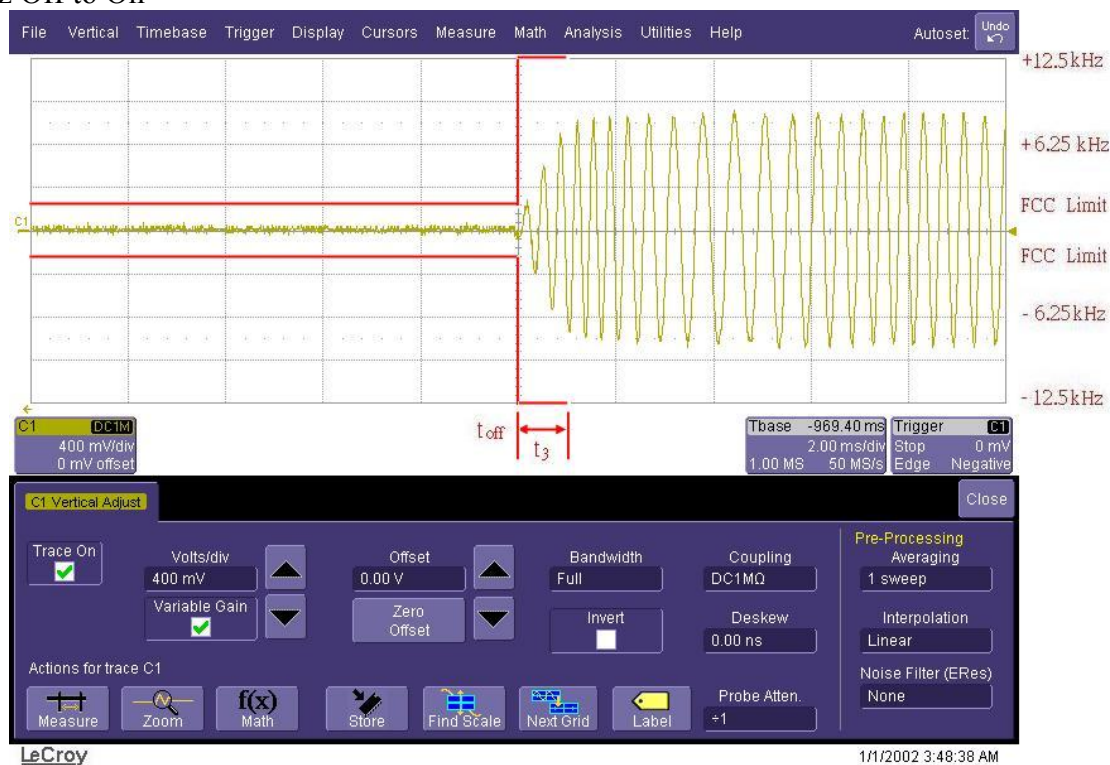
## 136 MHz On to Off



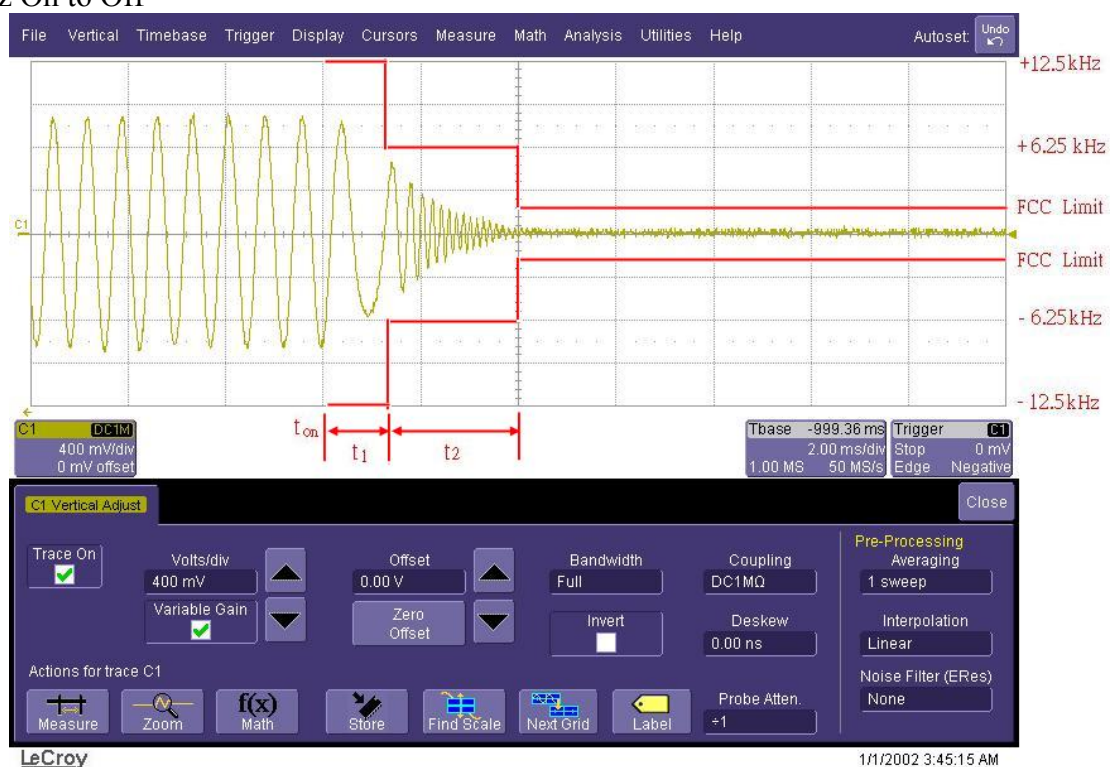
Registration number: W6M21804-18006-C-1

FCC ID: L9N-7085VE5

155 MHz Off to On



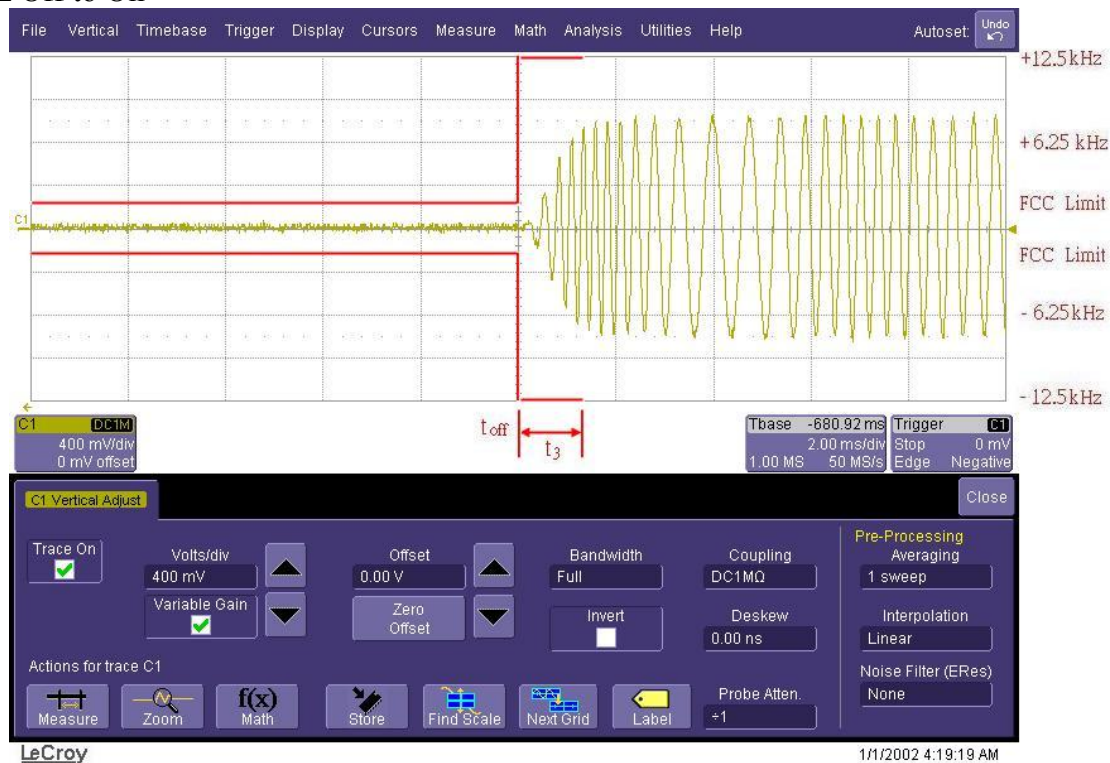
155 MHz On to Off



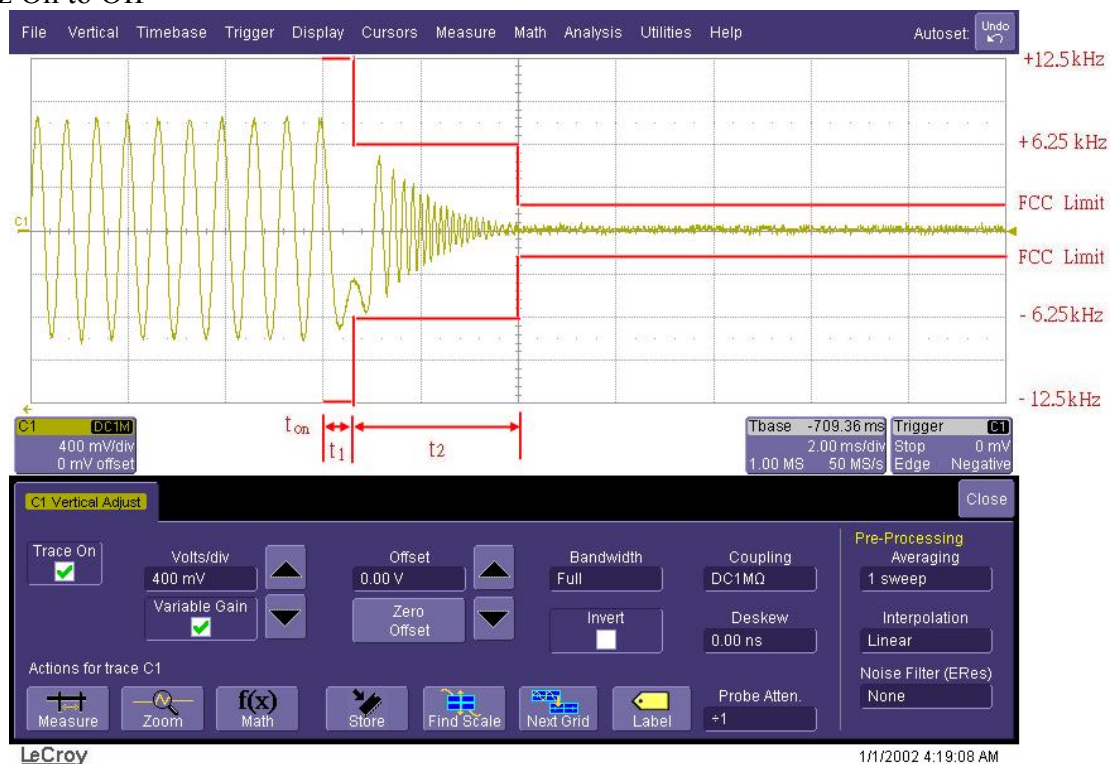
Registration number: W6M21804-18006-C-1

FCC ID: L9N-7085VE5

174 MHz Off to On



174 MHz On to Off



Test equipment used: ETSTW-RE 072, ETSTW-RE 033

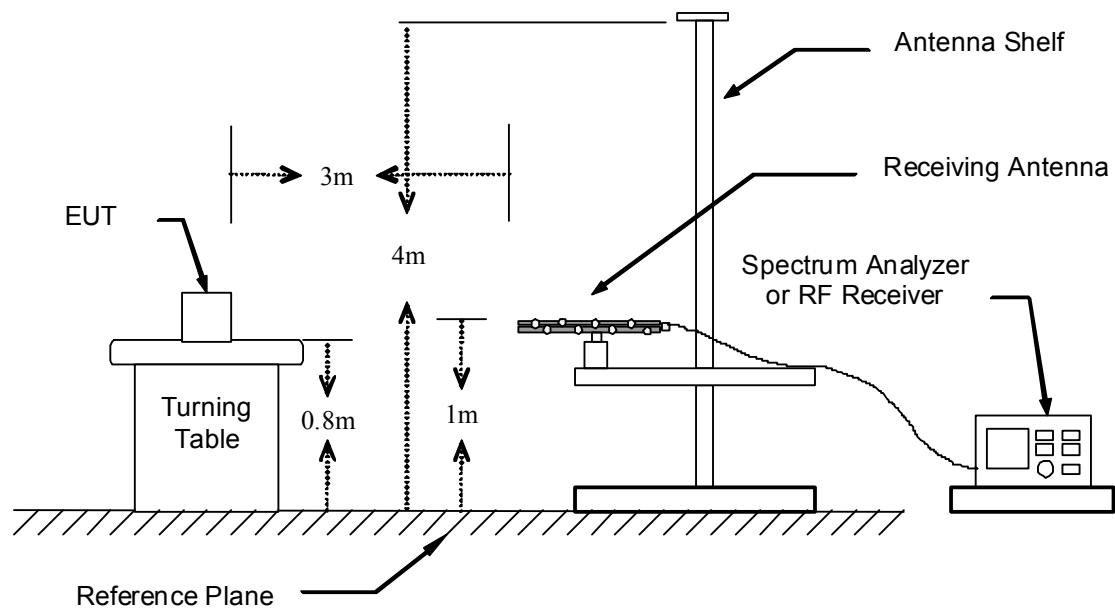
Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

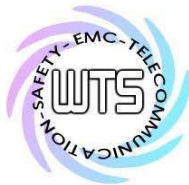
## 11. Receiver Radiated Spurious Emission

### 11.1 Test Procedures

1. Configure the EUT according to ANSI C63.4.
2. The EUT was placed on the top of the turn table 0.8 meter above ground.
3. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turn table.
4. Power on the EUT and all the supporting units.
5. The turn table was rotated 360 degrees to determine the position of the highest radiation.
6. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of both horizontal and vertical polarization.
7. For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turn table was rotated (from 0 degree to 360 degrees) to find the maximum reading.
8. Adjust the spectrum analyzer for the following settings:
  - Resolution Bandwidth = 100 kHz for spurious emissions below 1 GHz and 1 MHz for spurious emissions above 1GHz.
  - Video Bandwidth = 100 kHz for spurious emissions below 1 GHz, and 1 MHz for spurious emissions above 1 GHz.
  - Sweep Speed slow enough to maintain measurement calibration.
  - Detector Mode = Positive Peak.

### 11.2 Test Setup





Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

## 11.3 Test Result

Model: 52-7085VE5 Date: --  
Mode: -- Temperature: -- °C Engineer: --  
Polarization: Horizontal Humidity: -- %

| Frequency<br>(MHz) | Reading<br>(dBm)<br>Peak | Factor<br>(dB)<br>Corr. | Result<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Table<br>Degree<br>(Deg.) | Ant.<br>High<br>(cm) |
|--------------------|--------------------------|-------------------------|-----------------|----------------|----------------|---------------------------|----------------------|
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |

Polarization: Vertical

| Frequency<br>(MHz) | Reading<br>(dBm)<br>Peak | Factor<br>(dB)<br>Corr. | Result<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Table<br>Degree<br>(Deg.) | Ant.<br>High<br>(cm) |
|--------------------|--------------------------|-------------------------|-----------------|----------------|----------------|---------------------------|----------------------|
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |
| --                 | --                       | --                      | --              | --             | --             | --                        | --                   |

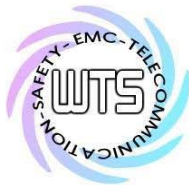
### Note

1. Correction Factor = Antenna factor + Cable loss - Preamplifier
2. The formula of measured value as: Test Result = Reading + Correction Factor
3. Detector function in the form: PK = Peak, QP = Quasi Peak, AV = Average
4. Measurement uncertainty: 30-1000 MHz :  $\pm 3.57$  dB, 1-18GHz :  $\pm 2.60$  dB, 18-40 GHz :  $\pm 2.58$  dB;  
Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .
5. All not in the table noted test results are more than 20 dB below the relevant limits.
6. Up Line: PK Limit Line, Down Line: Ave Limit Line.
7. See attached diagrams in appendix.

Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

| Frequency of Emission<br>(MHz) | Field Strength<br>(microvolts/meter) | Field Strength<br>(dBmicrovolts/meter) |
|--------------------------------|--------------------------------------|----------------------------------------|
| 30 – 88                        | 100                                  | 40.0                                   |
| 88 – 216                       | 150                                  | 43.5                                   |
| 216 – 960                      | 200                                  | 46.0                                   |
| Above 960                      | 500                                  | 54.0                                   |

Test equipment used: ETSTW-RE 004, ETSTW-RE 030, ETSTW-RE 062, ETSTW-RE 142,  
ETSTW-RE 147



Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

## 12. Maximum Permissible Exposure

### 12.1 Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.9 m normally can be maintained between the user and the device.

### 12.2 MPE Calculation Method

#### (A) Limits for Occupational/Controlled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/cm <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|-----------------------------------------|-------------------------------------------------------------------|
| 0.3-3.0               | 614                               | 1.63                              | (100)*                                  | 6                                                                 |
| 3.0-30                | 1842/f                            | 4.89/f                            | (900/f <sup>2</sup> )*                  | 6                                                                 |
| 30-300                | 61.4                              | 0.163                             | 1.0                                     | 6                                                                 |
| 300-1500              | --                                | --                                | f/300                                   | 6                                                                 |
| 1500-100,000          | --                                | --                                | 5                                       | 6                                                                 |

#### (B) Limits for General Population/Uncontrolled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/cm <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|-----------------------------------------|-------------------------------------------------------------------|
| 0.3-1.34              | 614                               | 1.63                              | (100)*                                  | 30                                                                |
| 1.34-30               | 824/f                             | 2.19/f                            | (180/f <sup>2</sup> )*                  | 30                                                                |
| 30-300                | 27.5                              | 0.073                             | 0.2                                     | 30                                                                |
| 300-1500              | --                                | --                                | f/1500                                  | 30                                                                |
| 1500-100,000          | --                                | --                                | 1.0                                     | 30                                                                |

f = frequency in MHz

\*Plane-wave equivalent power density

$$E \text{ (V/m)} \cdot \frac{\sqrt{30 \times P \times G}}{d}$$

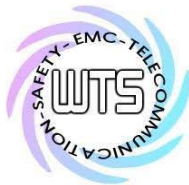
$$\text{Power Density: } Pd \text{ (W/m}^2\text{)} \cdot \frac{E^2}{377}$$

E = Electric field (V/m) P = output power (W) G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd \cdot \frac{30 \times P \times G}{377 \times d^2}$$



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21804-18006-C-1  
FCC ID: L9N-7085VE5

## (A) Limits for Occupational/Controlled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/cm <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|-----------------------------------------|-------------------------------------------------------------------|
| 0.3-3.0               | 614                               | 1.63                              | (100)*                                  | 6                                                                 |
| 3.0-30                | 1842/f                            | 4.89/f                            | (900/f <sup>2</sup> )*                  | 6                                                                 |
| 30-300                | 61.4                              | 0.163                             | 1.0                                     | 6                                                                 |
| 300-1500              | --                                | --                                | f/300                                   | 6                                                                 |
| 1500-100,000          | --                                | --                                | 5                                       | 6                                                                 |

## (B) Limits for General Population/Uncontrolled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/cm <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|-----------------------------------------|-------------------------------------------------------------------|
| 0.3-1.34              | 614                               | 1.63                              | (100)*                                  | 30                                                                |
| 1.34-30               | 824/f                             | 2.19/f                            | (180/f <sup>2</sup> )*                  | 30                                                                |
| 30-300                | 27.5                              | 0.073                             | 0.2                                     | 30                                                                |
| 300-1500              | --                                | --                                | f/1500                                  | 30                                                                |
| 1500-100,000          | --                                | --                                | 1.0                                     | 30                                                                |

f = frequency in MHz

\*Plane-wave equivalent power density

$$E \text{ (V/m)} \cdot \frac{\sqrt{30 \times P \times G}}{d}$$

$$\text{Power Density: } Pd \text{ (W/m}^2\text{)} \cdot \frac{E^2}{377}$$

E = Electric field (V/m) P = output power (W) G = EUT Antenna numeric gain (numeric)

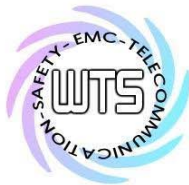
d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd \cdot \frac{30 \times P \times G}{377 \times d^2}$$

| Max output power (W) | Antenna numeric Gain | Power Density(S) (mW/cm <sup>2</sup> ) | Limit of Power Density (S) (mW/cm <sup>2</sup> ) | Test Result |
|----------------------|----------------------|----------------------------------------|--------------------------------------------------|-------------|
| 6.25                 | 5                    | 0.19                                   | 0.2                                              | Complies    |

From the peak EUT RF output power, the minimum mobile separation distance, d= 0.9 as well as the gain of the used antenna, the RF power density can be obtained.



## **Appendix**

### **A. Photos**

1. External Photos
2. Internal Photos
3. Set Up Photo of Radiated Emission

### **B. Measurement diagrams**

Spurious Emissions radiated

# **Appendix**

## **Measurement diagrams**

Spurious Emissions radiated\_TX 12.5 kHz



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, Nei-hu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

# Radiated Emission Measurement

Operator: Sora

File :1

Data :#1

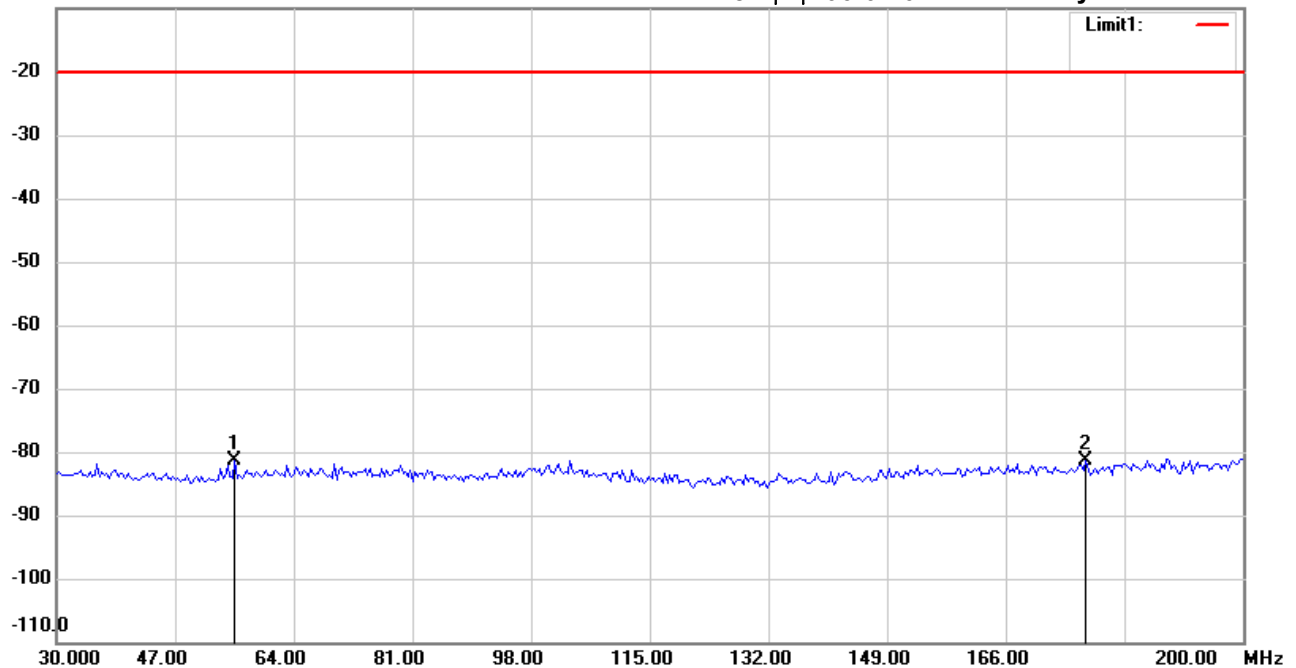
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 06:07:07

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 136MHz

Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 55.5511         | -102.95       | peak     | 21.58             | -81.37       | -20.00      | 150          | 155            | -61.37      |         |
|     | 177.5150        | -102.91       | peak     | 21.50             | -81.41       | -20.00      | 150          | 165            | -61.41      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

# Radiated Emission Measurement

Operator: Sora

File :1

Data :#2

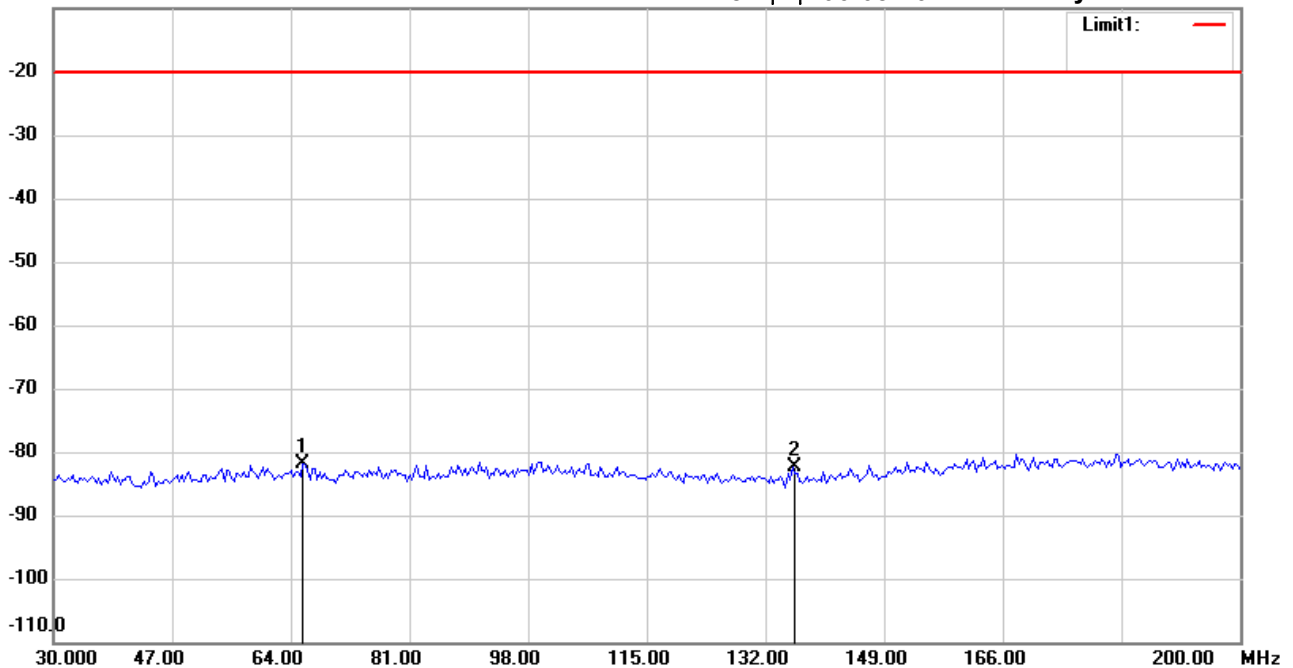
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 06:08:46

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 136MHz

Note :

Polarization: **Vertical**

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 65.7715         | -103.19       | peak     | 21.24             | -81.95       | -20.00      | 150          | 315            | -61.95      |         |
|     | 135.9520        | -102.61       | peak     | 20.23             | -82.38       | -20.00      | 150          | 25             | -62.38      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, Neihu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Sora

File : 2

Data : #1

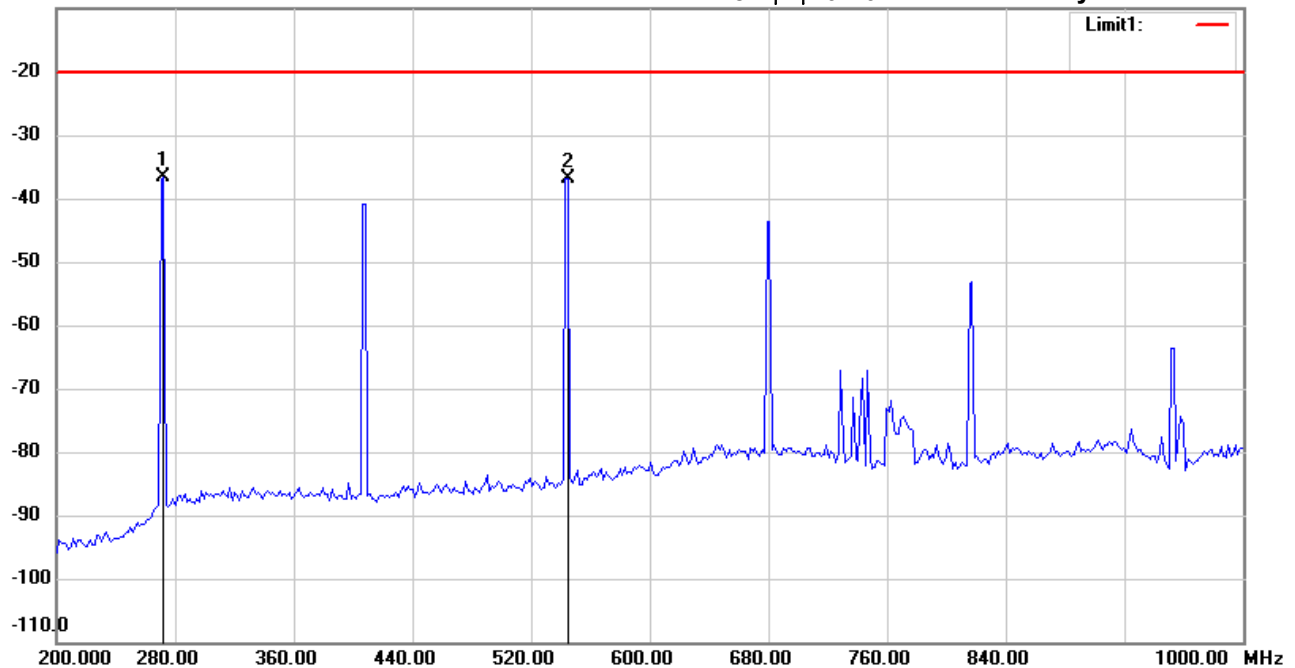
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 02:02:17

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 136MHz

Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 272.1443        | -24.61        | peak     | -12.04            | -36.65       | -20.00      | 150          | 180            | -16.65      |         |
|     | 544.6894        | -28.99        | peak     | -7.76             | -36.75       | -20.00      | 150          | 135            | -16.75      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, Neihu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Sora

File : 2

Data : #2

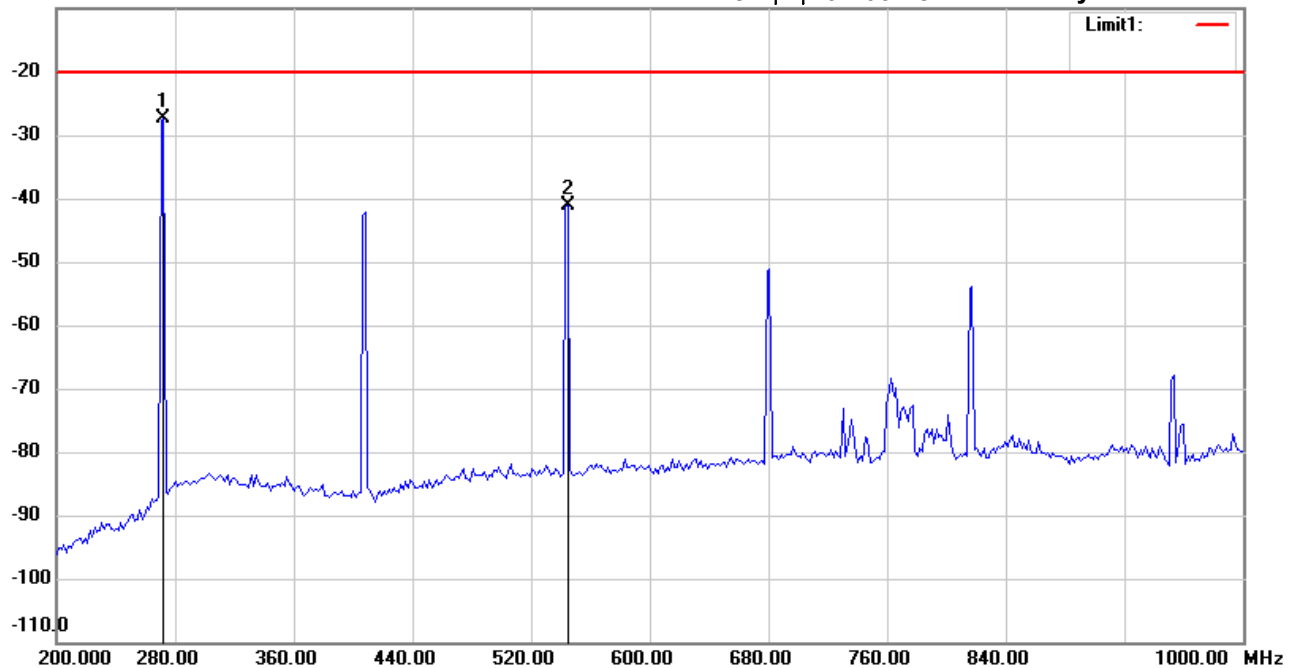
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 02:03:48

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 136MHz

Note :

Polarization: *Vertical*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 272.1443        | -17.21        | peak     | -10.21            | -27.42       | -20.00      | 150          | 350            | -7.42       |         |
|     | 544.6894        | -34.99        | peak     | -6.20             | -41.19       | -20.00      | 150          | 15             | -21.19      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

# Radiated Emission Measurement

Operator: Sora

File : 3

Data : #1

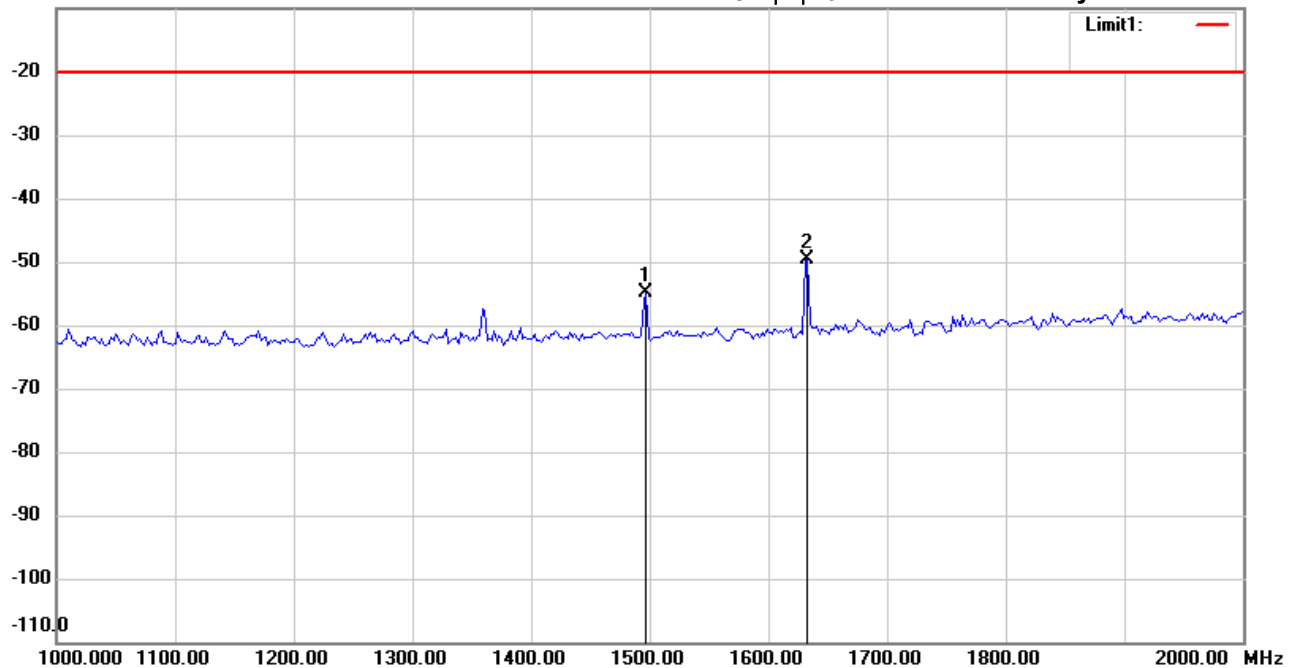
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 07:21:42

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 136MHz

Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 1496.994        | -54.73        | peak     | -0.05             | -54.78       | -20.00      | 150          | 225            | -34.78      |         |
| *   | 1633.266        | -50.45        | peak     | 0.83              | -49.62       | -20.00      | 150          | 280            | -29.62      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, Nei-hu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

# Radiated Emission Measurement

Operator: Sora

File : 3

Data : #2

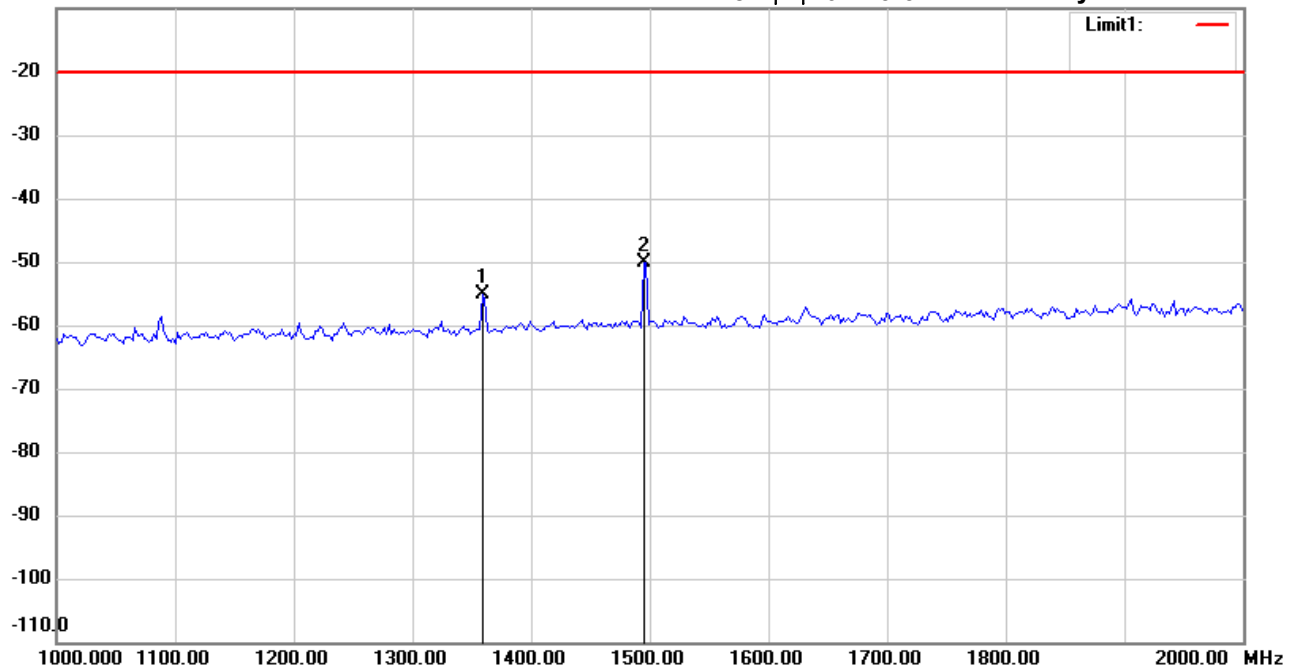
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 07:23:31

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 136MHz

Note :

Polarization: **Vertical**

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 1358.717        | -56.65        | peak     | 1.48              | -55.17       | -20.00      | 150          | 190            | -35.17      |         |
| *   | 1494.990        | -52.02        | peak     | 1.89              | -50.13       | -20.00      | 150          | 150            | -30.13      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

# Radiated Emission Measurement

Operator: Sora

File :1

Data :#1

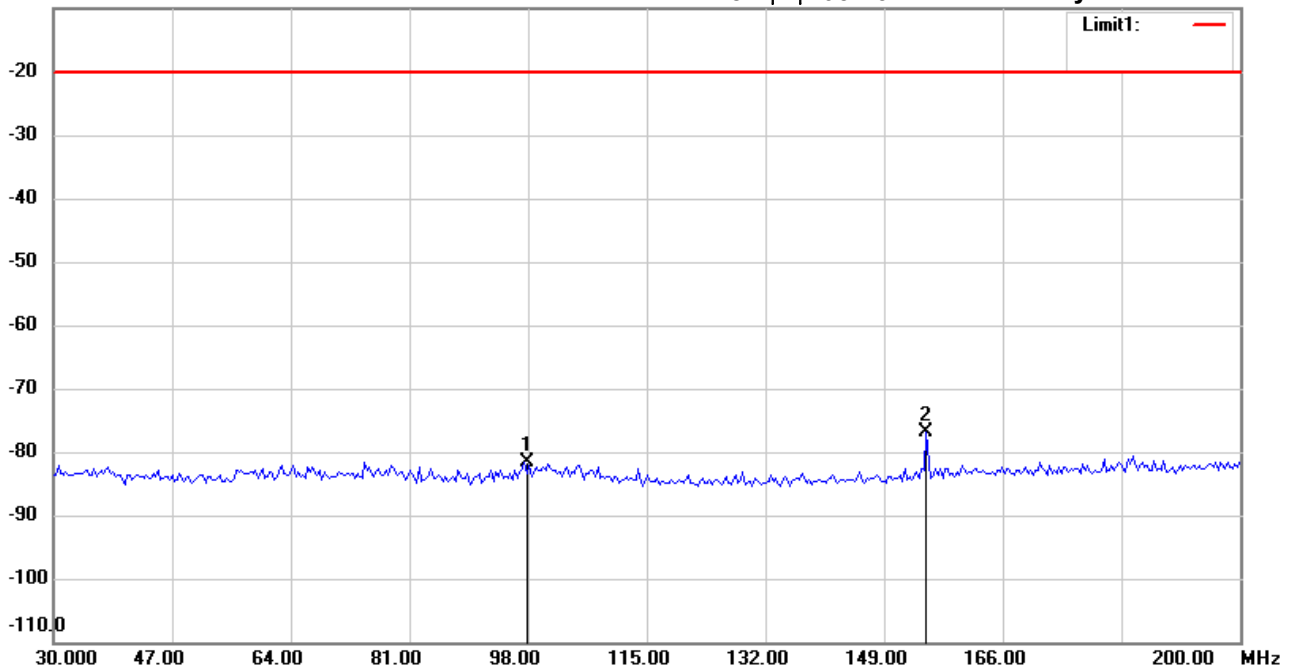
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 05:23:14

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 155MHz

Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 97.4550         | -103.03       | peak     | 21.41             | -81.62       | -20.00      | 150          | 180            | -61.62      |         |
| *   | 155.0301        | -97.99        | peak     | 21.05             | -76.94       | -20.00      | 150          | 165            | -56.94      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

# Radiated Emission Measurement

Operator: Sora

File :1

Data :#2

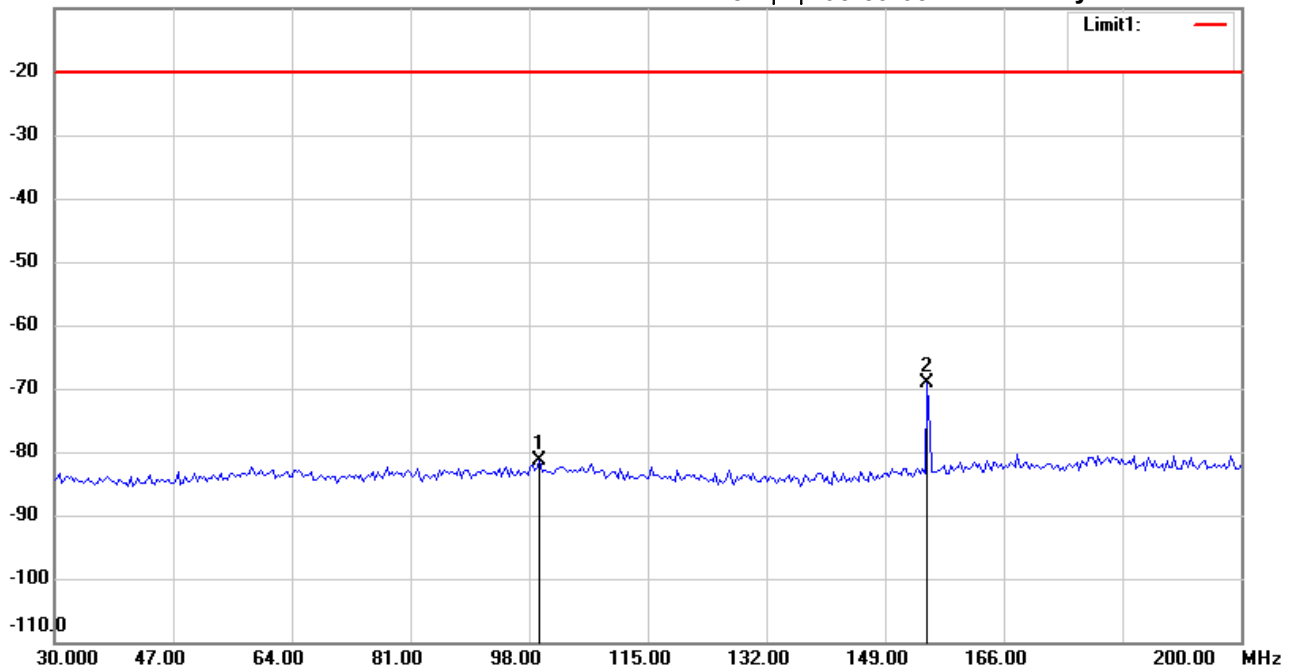
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 05:59:05

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 155MHz

Note :

Polarization: **Vertical**

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 99.4990         | -103.17       | peak     | 21.69             | -81.48       | -20.00      | 150          | 350            | -61.48      |         |
| *   | 155.0301        | -90.57        | peak     | 21.51             | -69.06       | -20.00      | 150          | 335            | -49.06      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

# Radiated Emission Measurement

Operator: Sora

File : 2

Data : #1

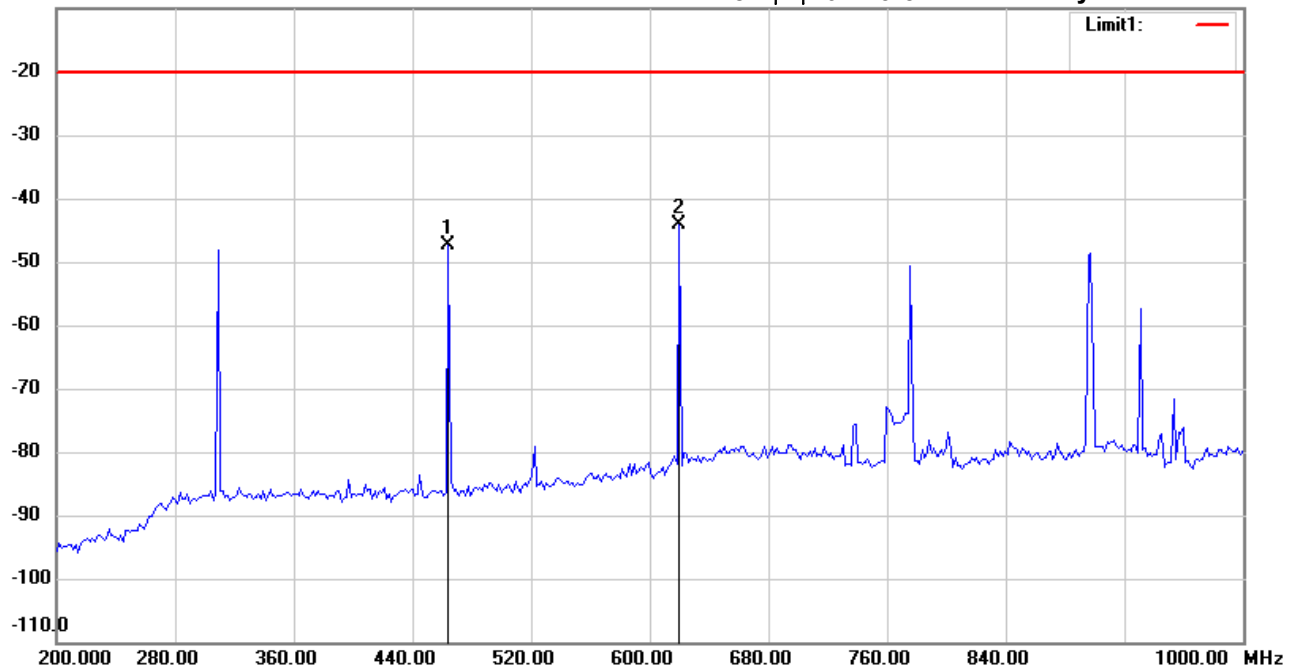
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 02:13:51

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 155MHz

Note :

Polarization: **Horizontal**

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 464.5291        | -37.74        | peak     | -9.65             | -47.39       | -20.00      | 150          | 135            | -27.39      |         |
| *   | 620.0401        | -39.51        | peak     | -4.66             | -44.17       | -20.00      | 150          | 120            | -24.17      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

# Radiated Emission Measurement

Operator: Sora

File : 2

Data : #2

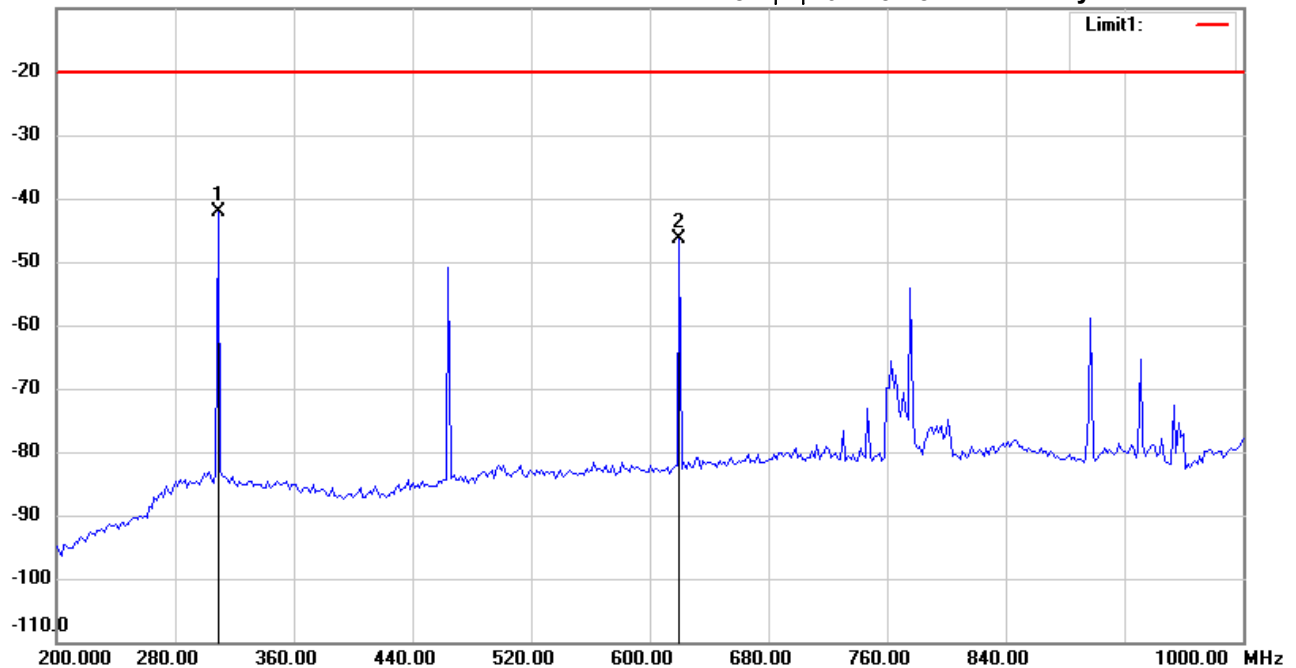
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 02:15:18

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 155MHz

Note :

Polarization: **Vertical**

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 309.0180        | -34.29        | peak     | -7.85             | -42.14       | -20.00      | 150          | 20             | -22.14      |         |
|     | 620.0401        | -41.14        | peak     | -5.12             | -46.26       | -20.00      | 150          | 35             | -26.26      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Sora

File : 3

Data : #1

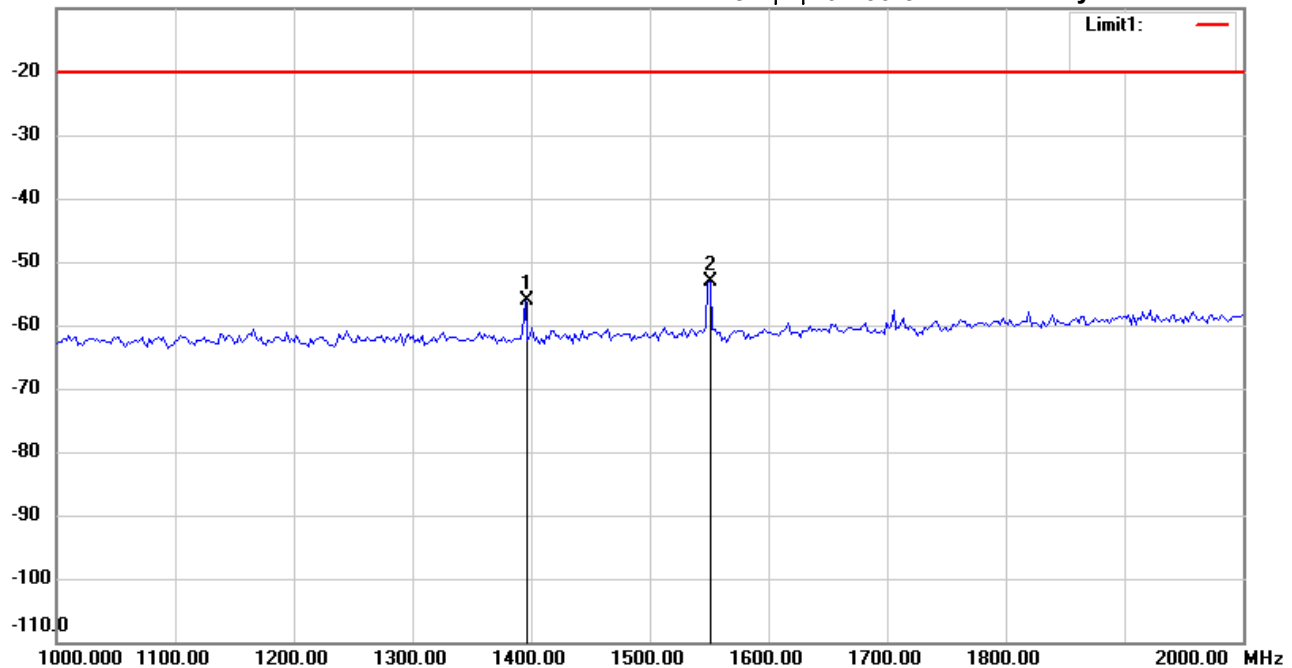
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 07:30:34

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 155MHz

Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 1394.790        | -56.08        | peak     | -0.04             | -56.12       | -20.00      | 150          | 120            | -36.12      |         |
| *   | 1551.102        | -53.40        | peak     | 0.29              | -53.11       | -20.00      | 150          | 125            | -33.11      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei  
Tel: +886-2-6606-8877  
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Radiated Emission Measurement

Operator: Sora

File : 3

Data : #2

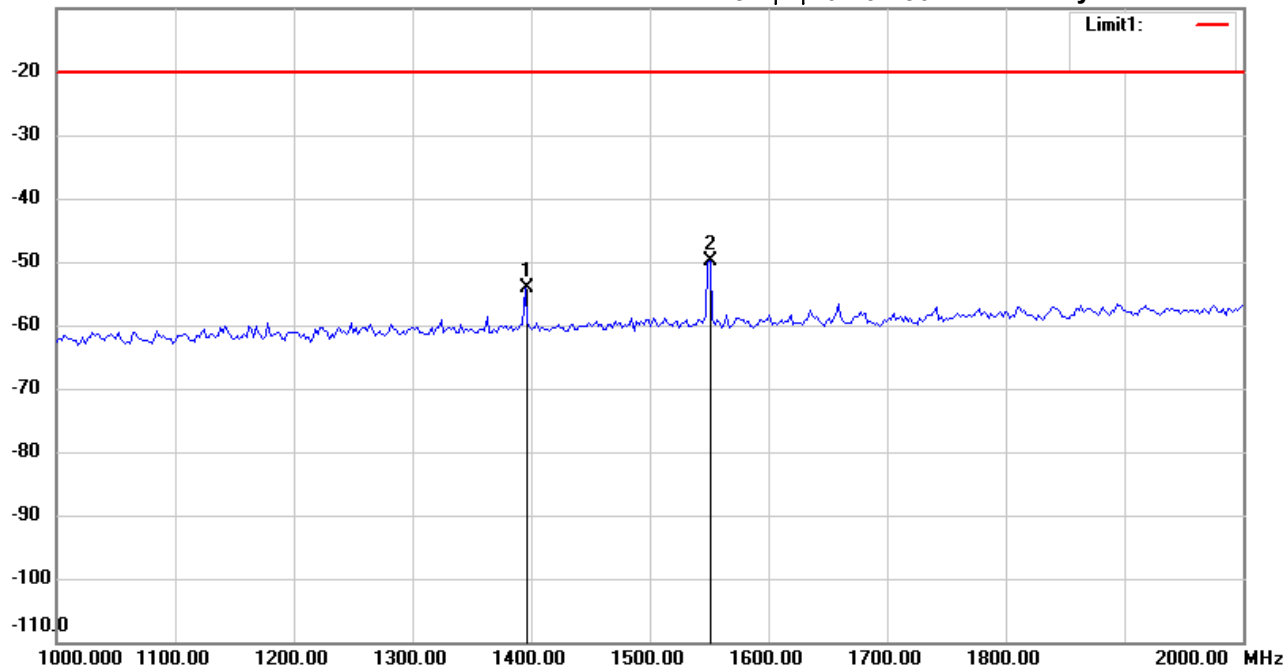
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 07:31:56

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 155MHz

Note :

Polarization: **Vertical**

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 1394.790        | -55.67        | peak     | 1.59              | -54.08       | -20.00      | 150          | 105            | -34.08      |         |
| *   | 1551.102        | -52.12        | peak     | 2.17              | -49.95       | -20.00      | 150          | 40             | -29.95      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

# Radiated Emission Measurement

Operator: Sora

File :1

Data :#1

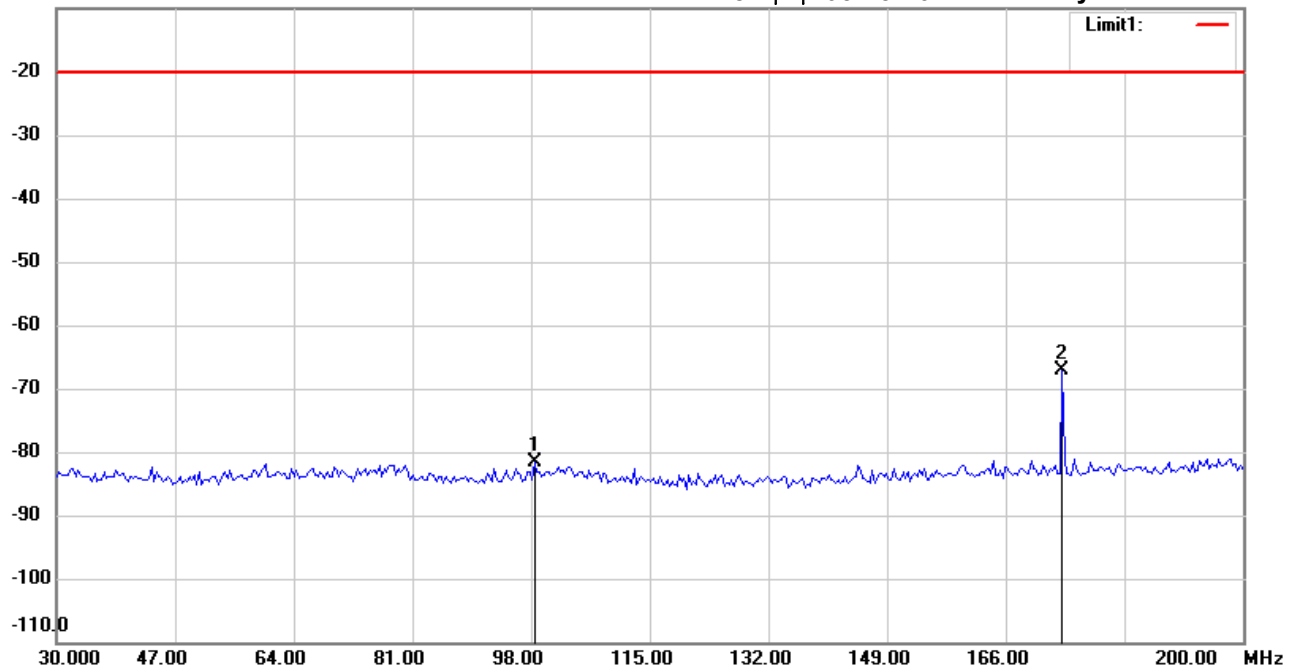
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 05:15:46

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 174MHz

Note :

Polarization: **Horizontal**

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 98.4770         | -103.05       | peak     | 21.49             | -81.56       | -20.00      | 150          | 110            | -61.56      |         |
| *   | 174.1082        | -88.51        | peak     | 21.47             | -67.04       | -20.00      | 150          | 150            | -47.04      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, Neihu, Taipei  
Tel: +886-2-6606-8877  
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Radiated Emission Measurement

Operator: Sora

File :1

Data :#2

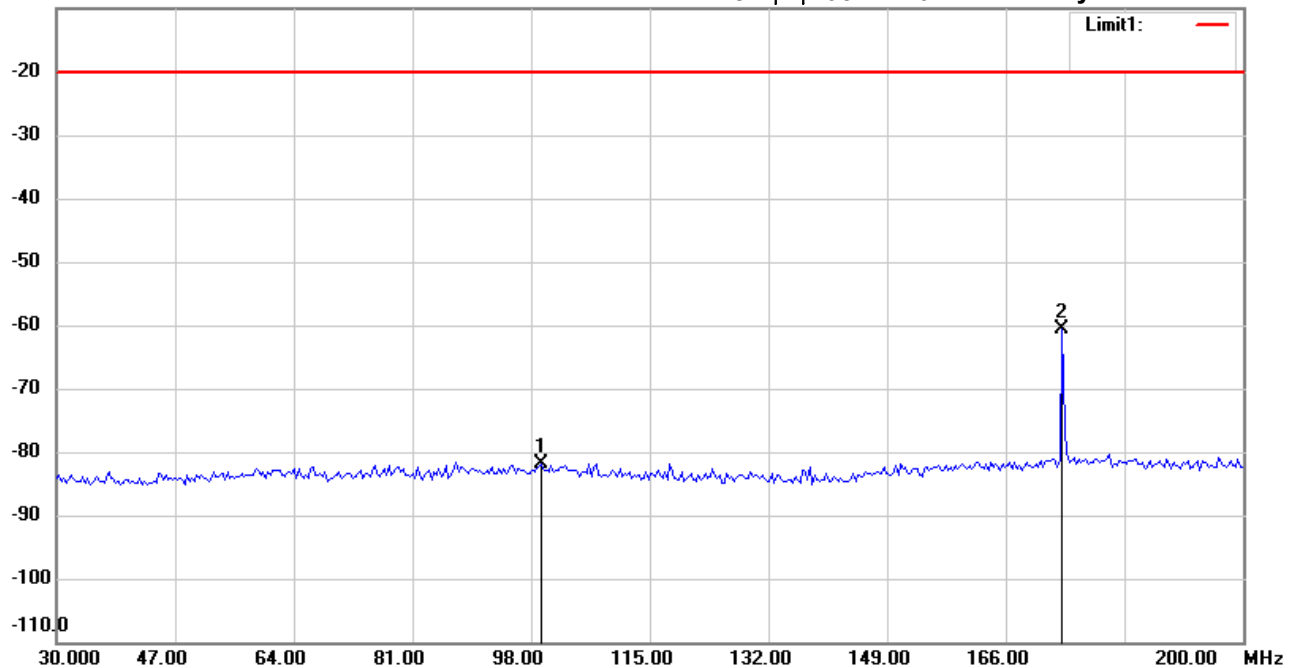
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 05:17:40

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 174MHz

Note :

Polarization: **Vertical**

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 99.4990         | -103.60       | peak     | 21.69             | -81.91       | -20.00      | 150          | 15             | -61.91      |         |
| *   | 174.1082        | -83.08        | peak     | 22.36             | -60.72       | -20.00      | 150          | 280            | -40.72      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Sora

File : 2

Data : #1

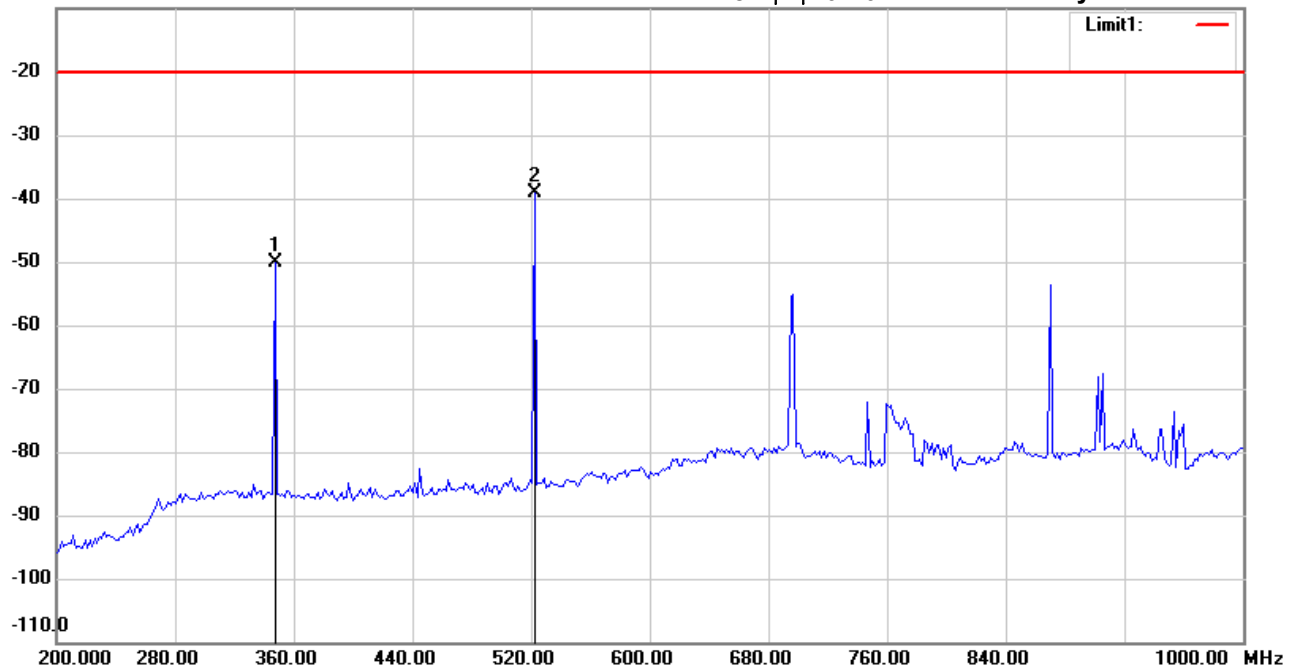
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 02:07:44

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 174MHz

Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 347.4950        | -39.81        | peak     | -10.40            | -50.21       | -20.00      | 150          | 210            | -30.21      |         |
| *   | 522.2445        | -30.76        | peak     | -8.48             | -39.24       | -20.00      | 150          | 250            | -19.24      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei  
Tel: +886-2-6606-8877  
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# Radiated Emission Measurement

Operator: Sora

File : 2

Data : #2

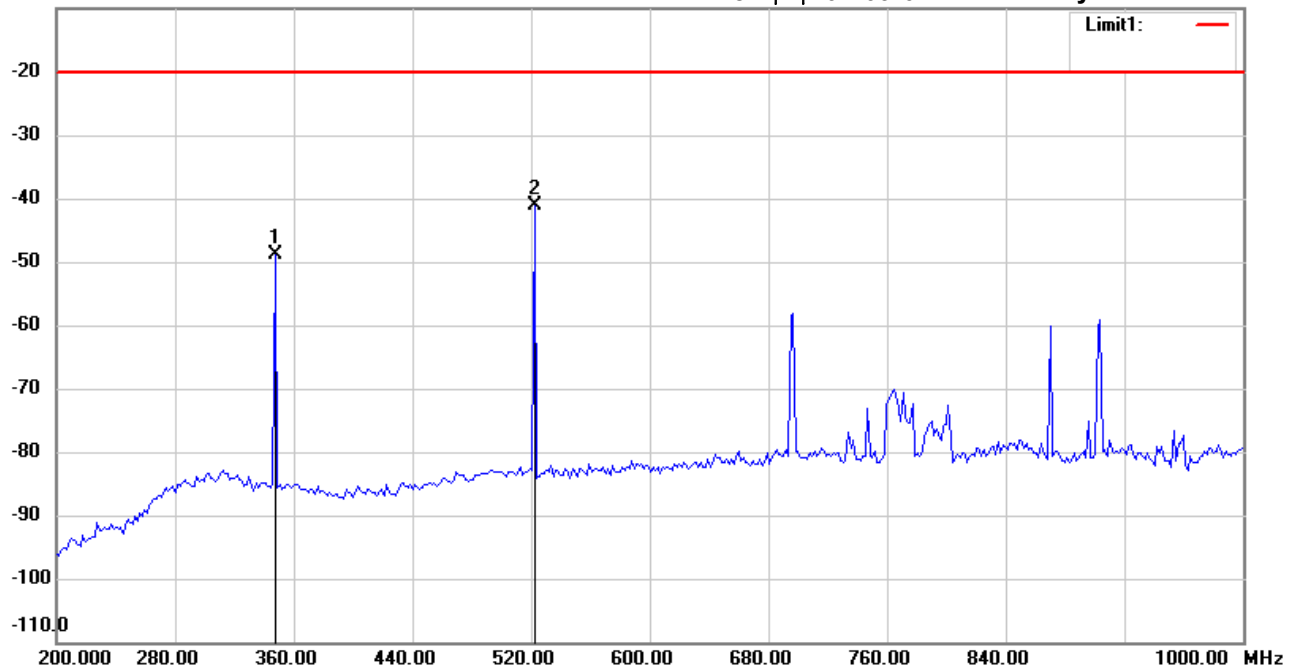
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 02:09:02

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 174MHz

Note :

Polarization: Vertical

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 347.4950        | -39.82        | peak     | -8.95             | -48.77       | -20.00      | 150          | 35             | -28.77      |         |
| *   | 522.2445        | -34.76        | peak     | -6.46             | -41.22       | -20.00      | 150          | 80             | -21.22      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Sora

File :3

Data :#1

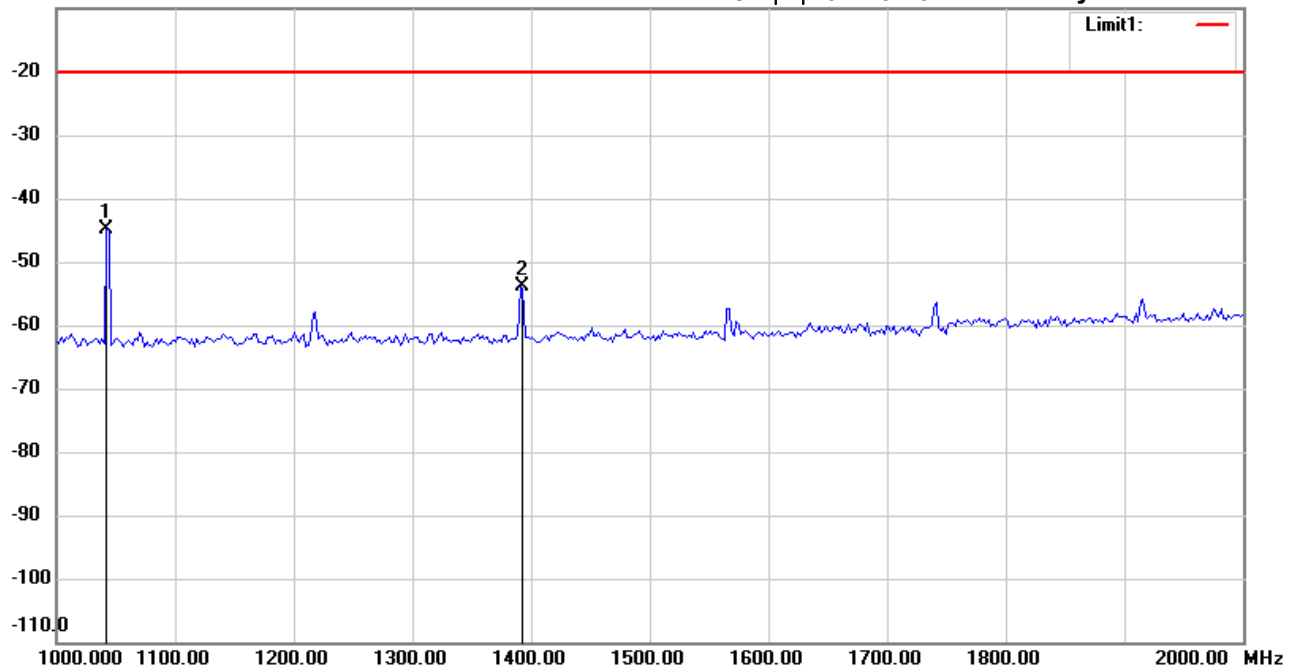
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 07:26:23

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 174MHz

Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 1042.084        | -44.98        | peak     | 0.00              | -44.98       | -20.00      | 150          | 160            | -24.98      |         |
|     | 1390.782        | -53.88        | peak     | -0.04             | -53.92       | -20.00      | 150          | 155            | -33.92      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Sora

File : 3

Data : #2

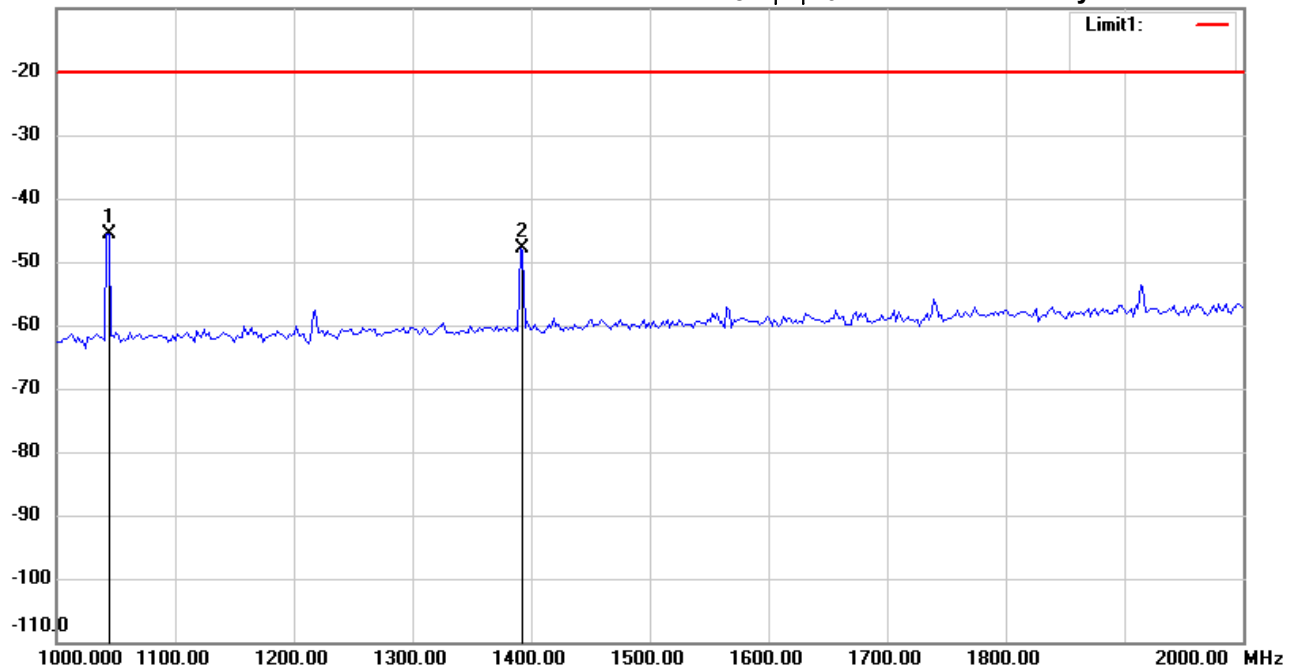
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 07:27:44

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 174MHz

Note :

Polarization: **Vertical**

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 1044.088        | -46.02        | peak     | 0.51              | -45.51       | -20.00      | 150          | 310            | -25.51      |         |
|     | 1390.782        | -49.54        | peak     | 1.58              | -47.96       | -20.00      | 150          | 50             | -27.96      |         |

\*:Maximum data    x:Over limit    !:over margin

# **Appendix**

## **Measurement diagrams**

Spurious Emissions radiated\_TX 25 kHz



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Sora

File :1

Data :#1

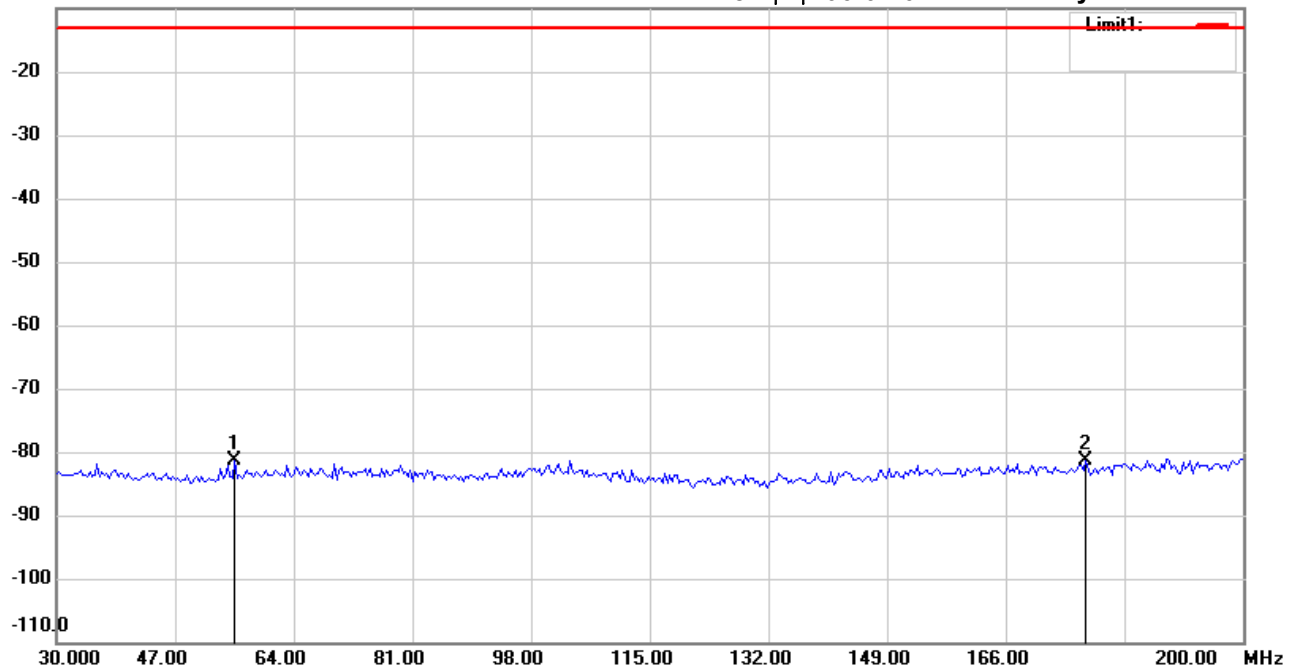
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 06:07:07

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 136MHz

Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 55.5511         | -102.95       | peak     | 21.58             | -81.37       | -13.00      | 150          | 155            | -68.37      |         |
|     | 177.5150        | -102.91       | peak     | 21.50             | -81.41       | -13.00      | 150          | 165            | -68.41      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Sora

File :1

Data :#2

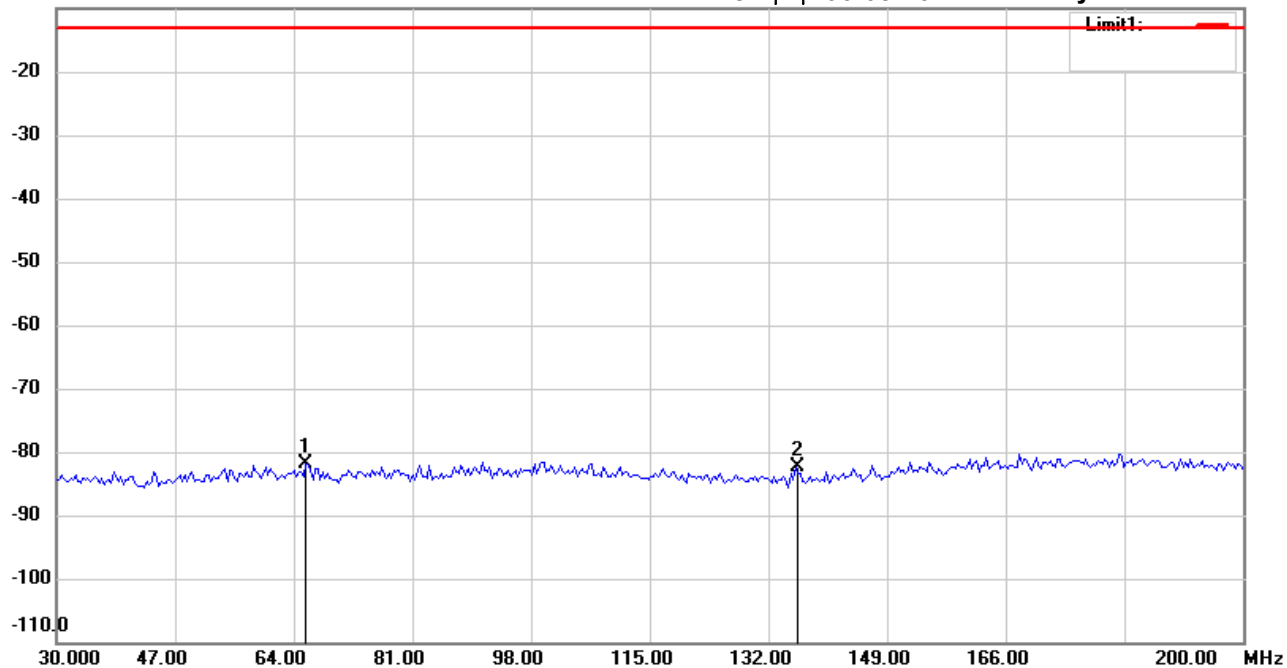
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 06:08:46

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 136MHz

Note :

Polarization: **Vertical**

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 65.7715         | -103.19       | peak     | 21.24             | -81.95       | -13.00      | 150          | 315            | -68.95      |         |
|     | 135.9520        | -102.61       | peak     | 20.23             | -82.38       | -13.00      | 150          | 25             | -69.38      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, Neihu, Taipei  
Tel: +886-2-6606-8877  
Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Sora

File : 2

Data : #1

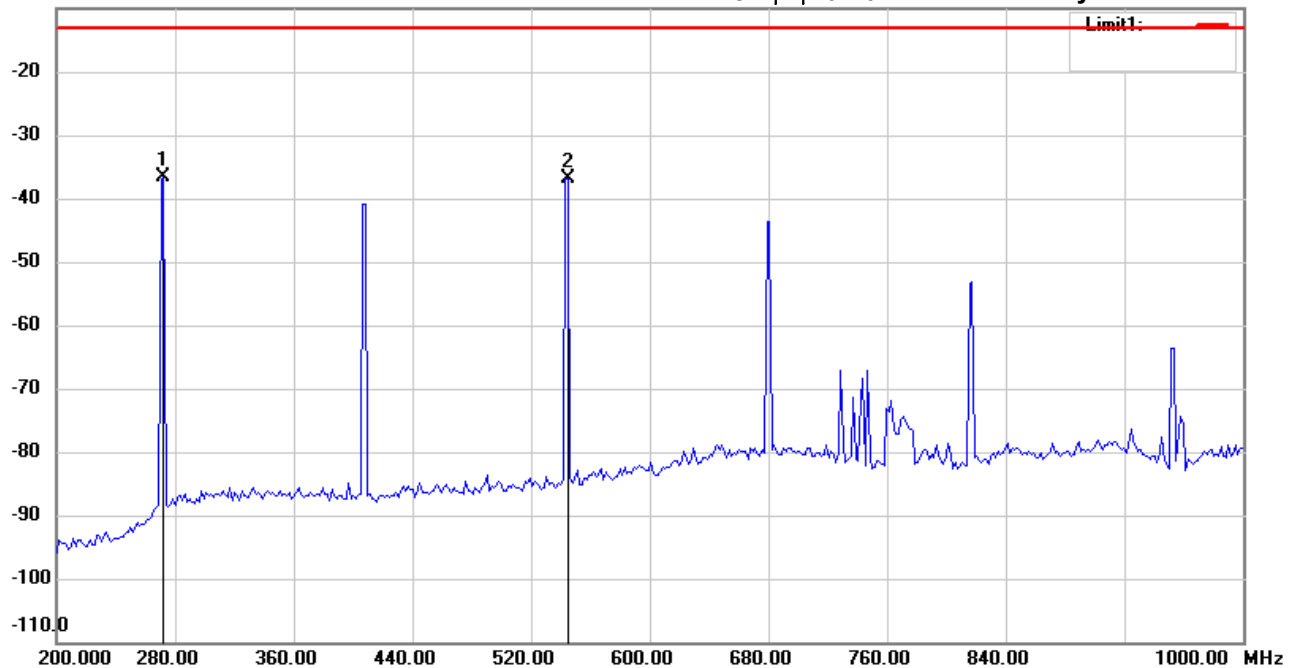
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 02:02:17

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 136MHz

Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 272.1443        | -24.61        | peak     | -12.04            | -36.65       | -13.00      | 150          | 180            | -23.65      |         |
|     | 544.6894        | -28.99        | peak     | -7.76             | -36.75       | -13.00      | 150          | 135            | -23.75      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, Neihu, Taipei  
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Radiated Emission Measurement

Operator: Sora

File : 2

Data : #2

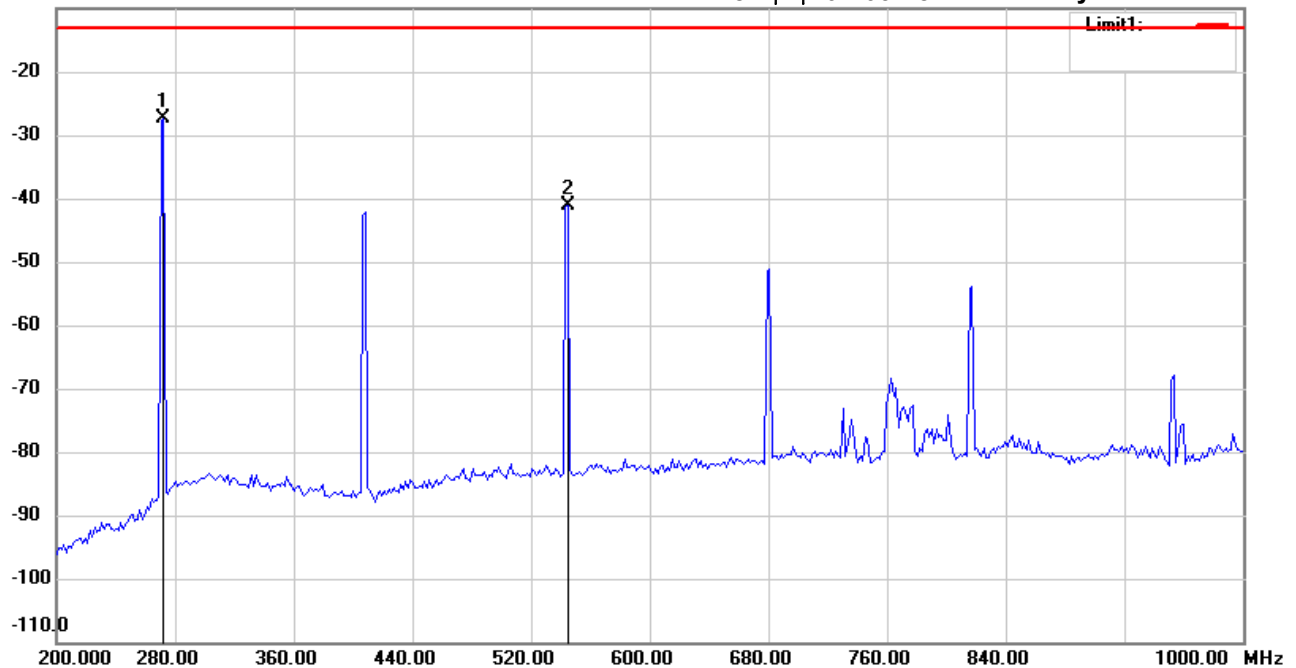
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 02:03:48

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 136MHz

Note :

Polarization: **Vertical**

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 272.1443        | -17.21        | peak     | -10.21            | -27.42       | -13.00      | 150          | 350            | -14.42      |         |
|     | 544.6894        | -34.99        | peak     | -6.20             | -41.19       | -13.00      | 150          | 15             | -28.19      |         |

\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Sora

File : 3

Data : #1

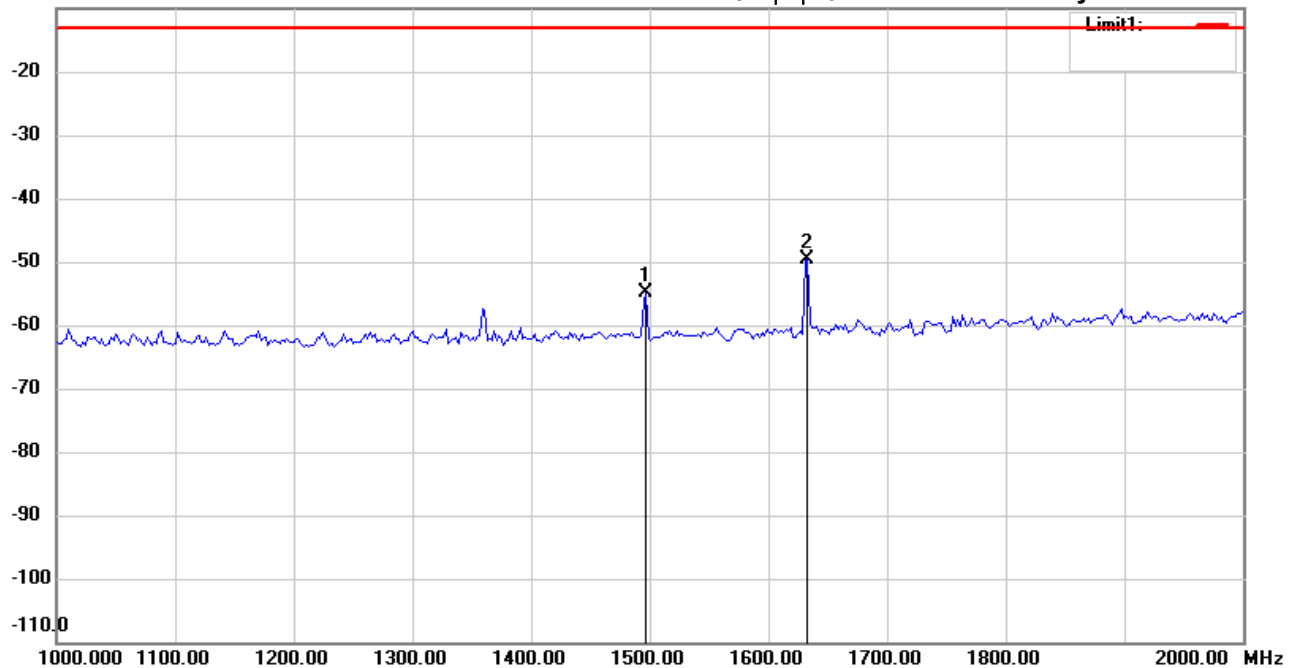
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 07:21:42

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 136MHz

Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 1496.994        | -54.73        | peak     | -0.05             | -54.78       | -13.00      | 150          | 225            | -41.78      |         |
| *   | 1633.266        | -50.45        | peak     | 0.83              | -49.62       | -13.00      | 150          | 280            | -36.62      |         |

\*:Maximum data    x:Over limit    !:over margin



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Tel: +886-2-6606-8877  
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# Radiated Emission Measurement

Operator: Sora

File : 3

Data : #2

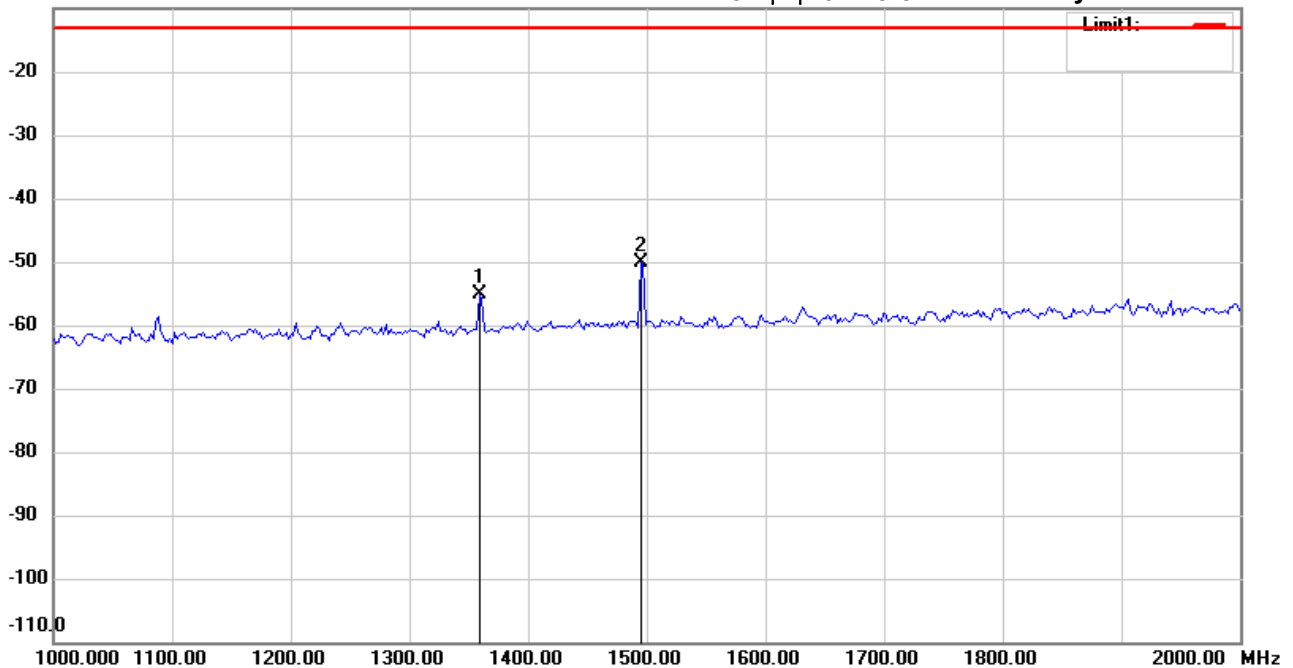
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 07:23:31

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 136MHz

Note :

Polarization: **Vertical**

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 1358.717        | -56.65        | peak     | 1.48              | -55.17       | -13.00      | 150          | 190            | -42.17      |         |
| *   | 1494.990        | -52.02        | peak     | 1.89              | -50.13       | -13.00      | 150          | 150            | -37.13      |         |

\*:Maximum data    x:Over limit    !:over margin



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# Radiated Emission Measurement

Operator: Sora

File :1

Data :#1

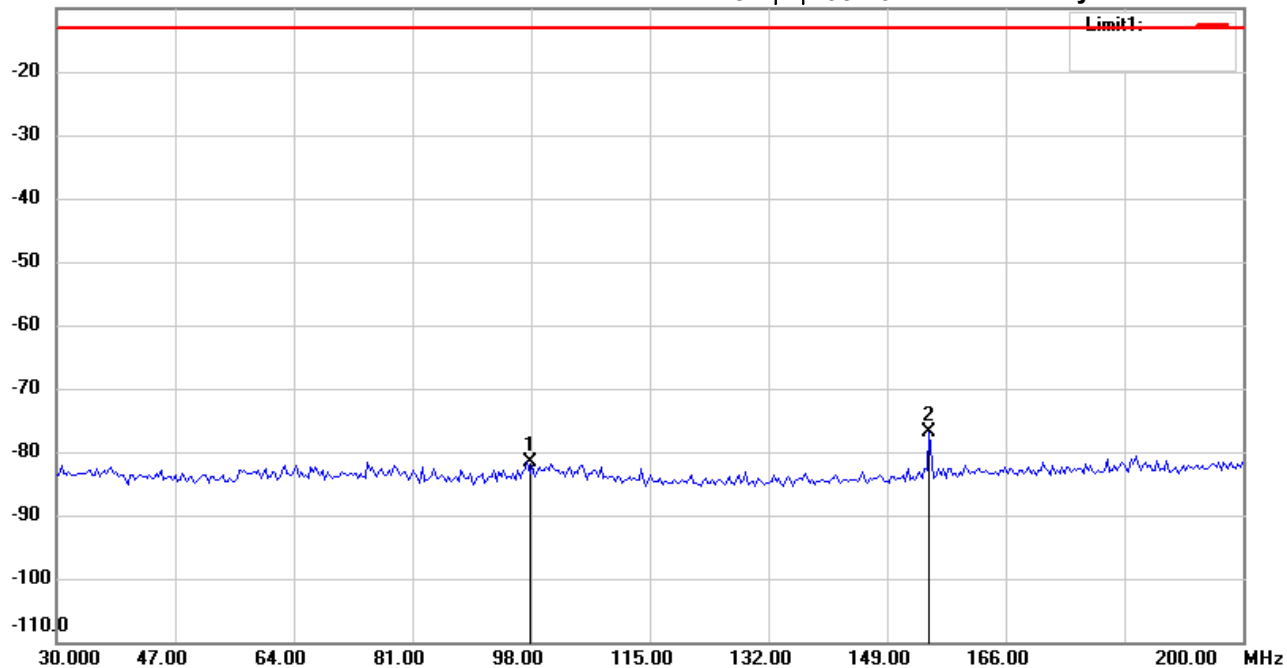
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 05:23:14

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 155MHz

Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 97.4550         | -103.03       | peak     | 21.41             | -81.62       | -13.00      | 150          | 180            | -68.62      |         |
| *   | 155.0301        | -97.99        | peak     | 21.05             | -76.94       | -13.00      | 150          | 165            | -63.94      |         |

\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Sora

File :1

Data :#2

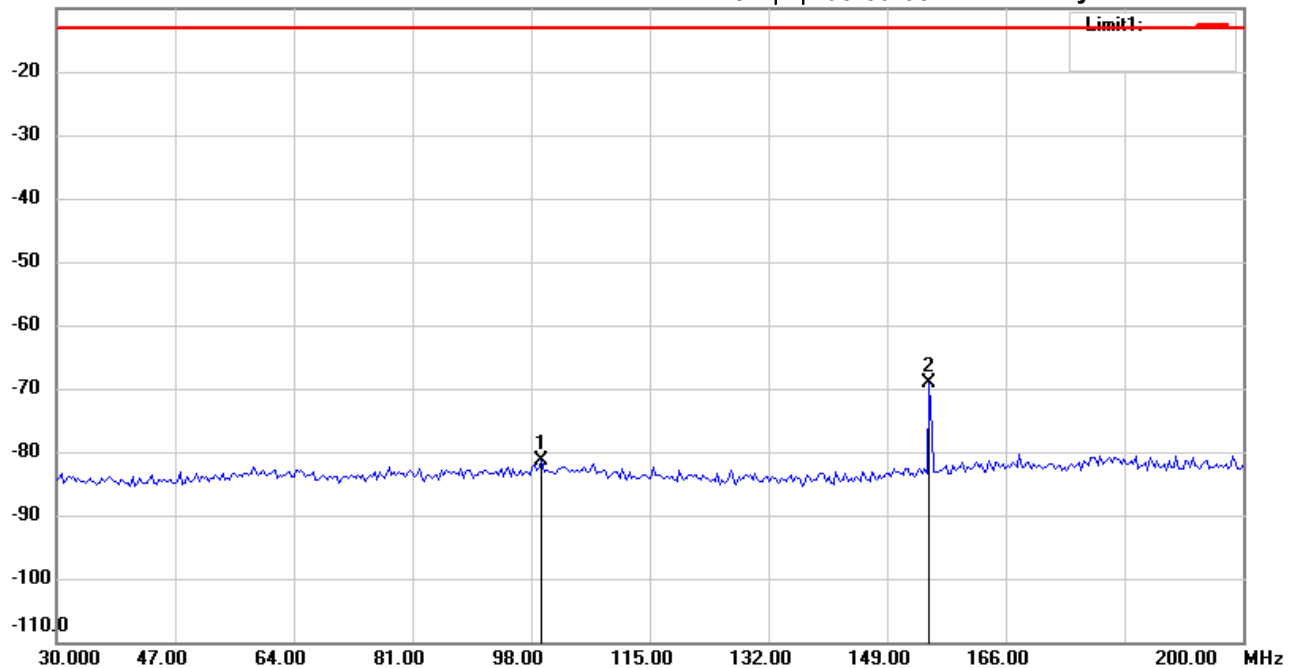
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 05:59:05

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 155MHz

Note :

Polarization: Vertical

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 99.4990         | -103.17       | peak     | 21.69             | -81.48       | -13.00      | 150          | 350            | -68.48      |         |
| *   | 155.0301        | -90.57        | peak     | 21.51             | -69.06       | -13.00      | 150          | 335            | -56.06      |         |

\*:Maximum data    x:Over limit    !:over margin



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# Radiated Emission Measurement

Operator: Sora

File : 2

Data : #1

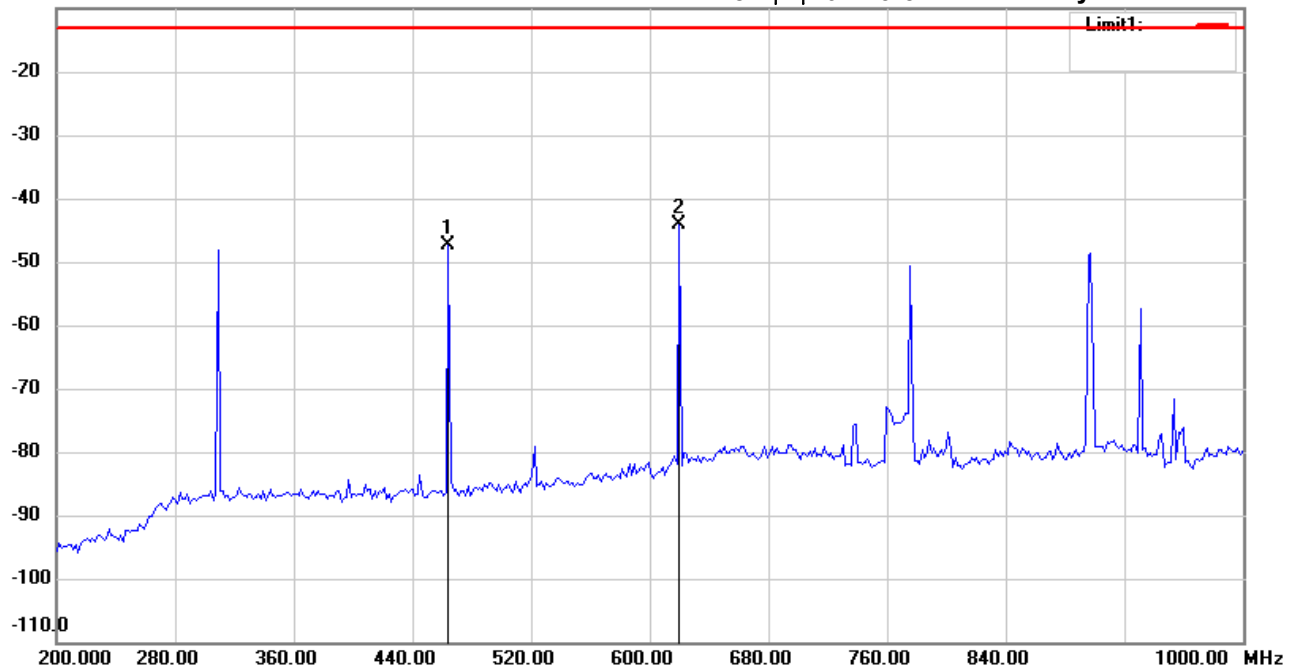
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 02:13:51

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 155MHz

Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 464.5291        | -37.74        | peak     | -9.65             | -47.39       | -13.00      | 150          | 135            | -34.39      |         |
| *   | 620.0401        | -39.51        | peak     | -4.66             | -44.17       | -13.00      | 150          | 120            | -31.17      |         |

\*:Maximum data    x:Over limit    !:over margin



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# Radiated Emission Measurement

Operator: Sora

File : 2

Data : #2

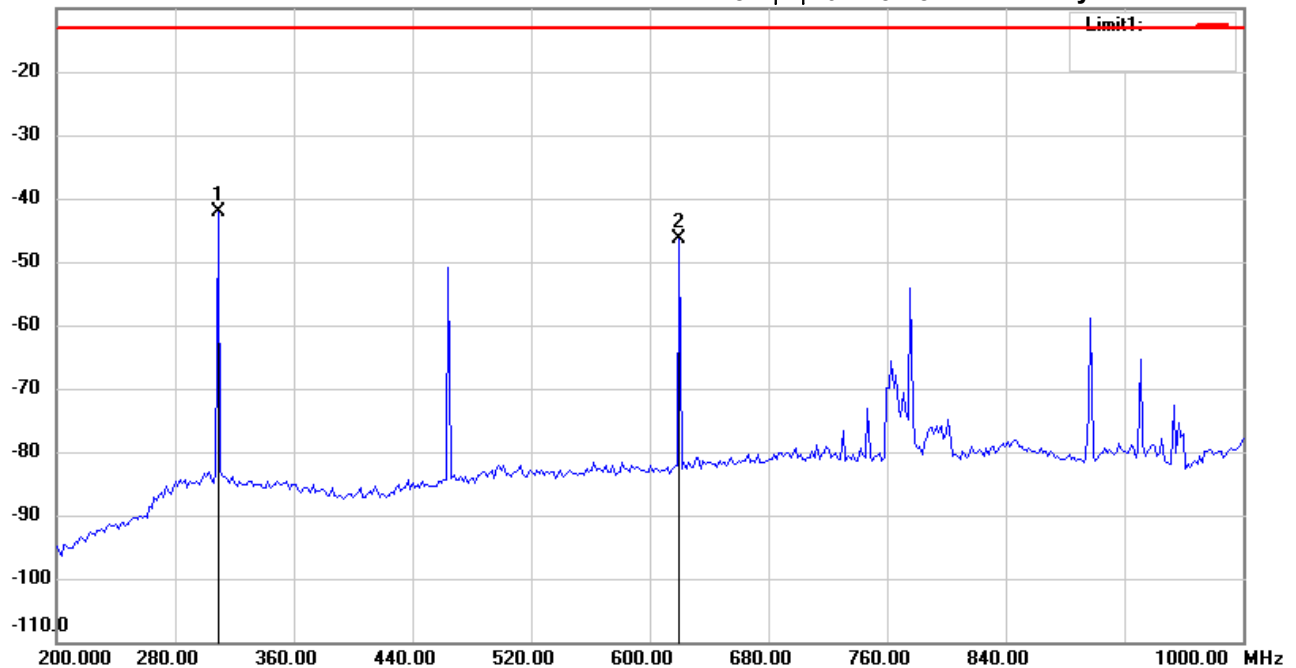
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 02:15:18

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 155MHz

Note :

Polarization: Vertical

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 309.0180        | -34.29        | peak     | -7.85             | -42.14       | -13.00      | 150          | 20             | -29.14      |         |
|     | 620.0401        | -41.14        | peak     | -5.12             | -46.26       | -13.00      | 150          | 35             | -33.26      |         |

\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Sora

File : 3

Data : #1

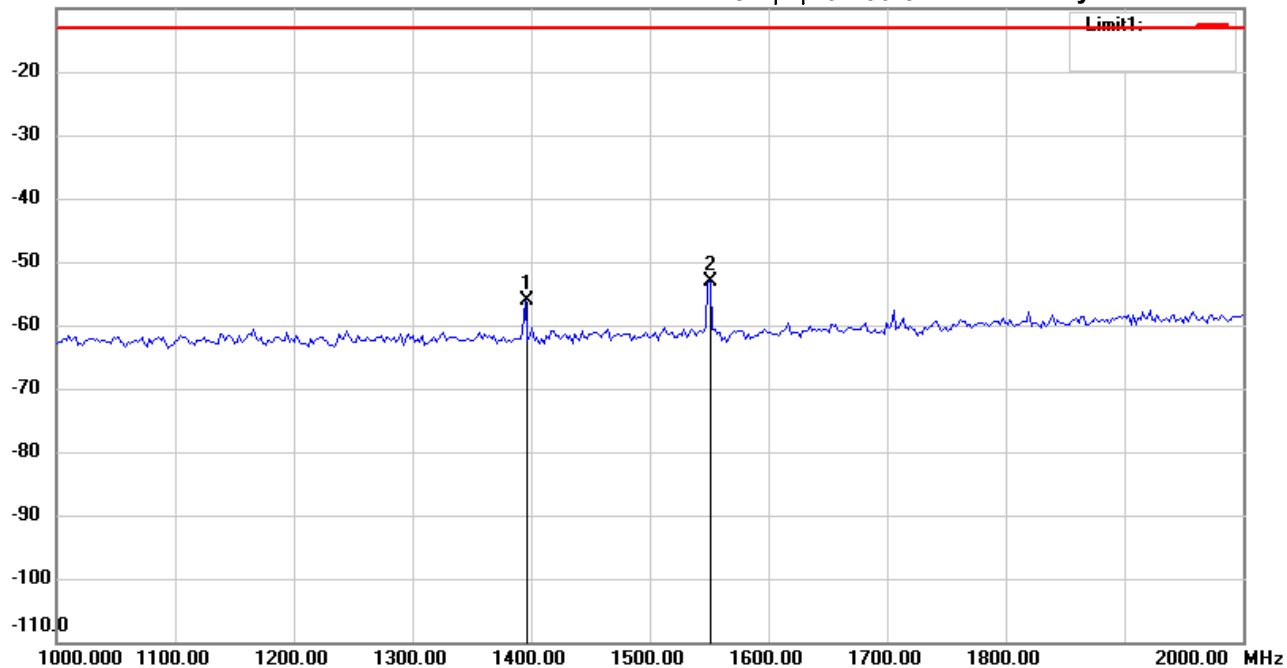
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 07:30:34

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 155MHz

Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 1394.790        | -56.08        | peak     | -0.04             | -56.12       | -13.00      | 150          | 120            | -43.12      |         |
| *   | 1551.102        | -53.40        | peak     | 0.29              | -53.11       | -13.00      | 150          | 125            | -40.11      |         |

\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Sora

File : 3

Data : #2

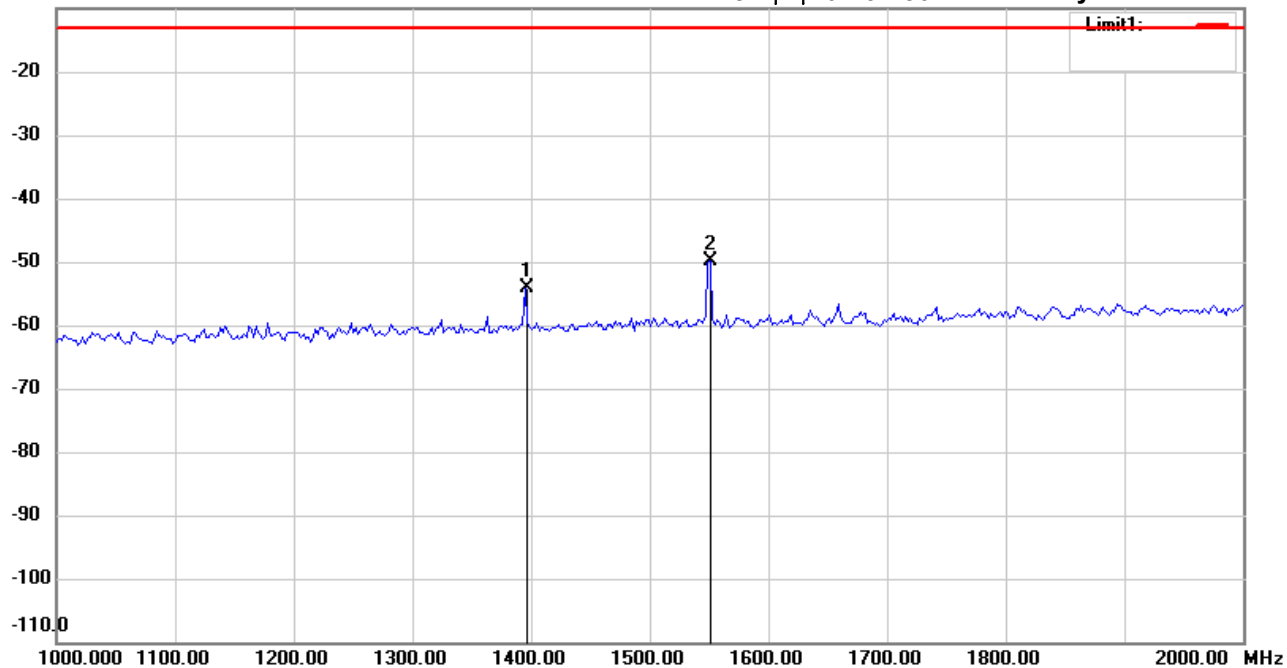
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 07:31:56

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 155MHz

Note :

Polarization: Vertical

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 1394.790        | -55.67        | peak     | 1.59              | -54.08       | -13.00      | 150          | 105            | -41.08      |         |
| *   | 1551.102        | -52.12        | peak     | 2.17              | -49.95       | -13.00      | 150          | 40             | -36.95      |         |

\*:Maximum data    x:Over limit    !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei  
Tel: +886-2-6606-8877  
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# Radiated Emission Measurement

Operator: Sora

File :1

Data :#1

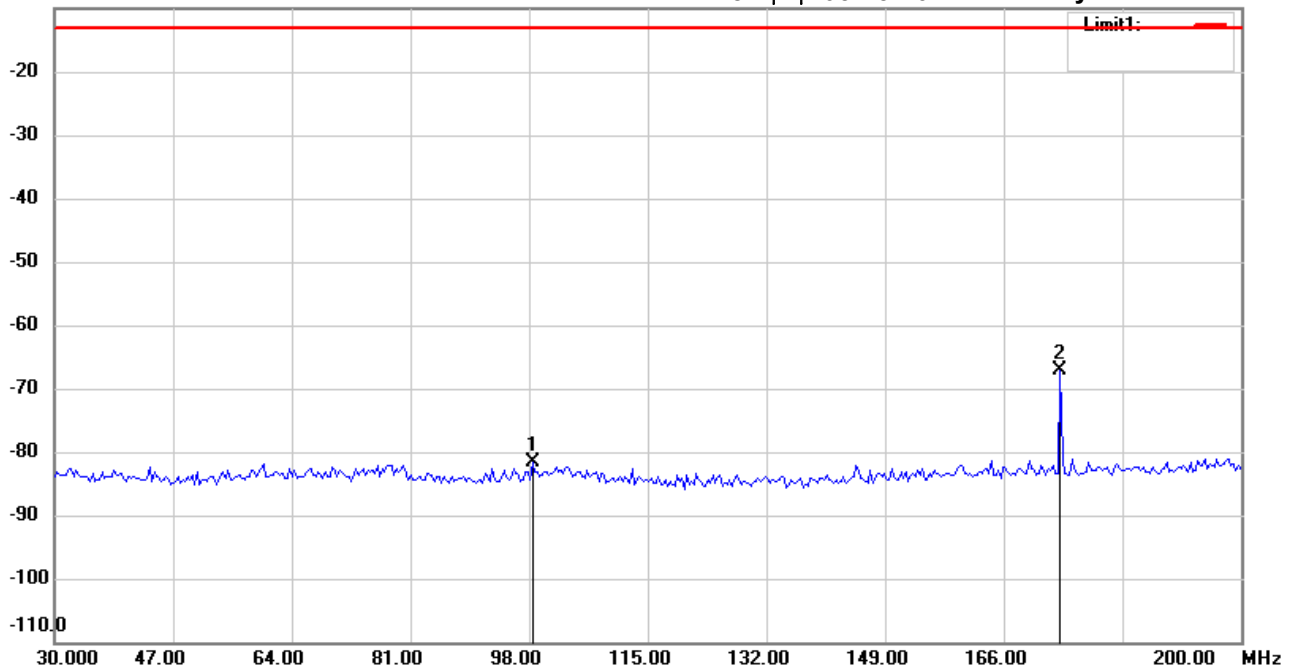
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 05:15:46

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 174MHz

Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 98.4770         | -103.05       | peak     | 21.49             | -81.56       | -13.00      | 150          | 110            | -68.56      |         |
| *   | 174.1082        | -88.51        | peak     | 21.47             | -67.04       | -13.00      | 150          | 150            | -54.04      |         |

\*:Maximum data    x:Over limit    !:over margin



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Tel: +886-2-6606-8877  
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Radiated Emission Measurement

Operator: Sora

File :1

Data :#2

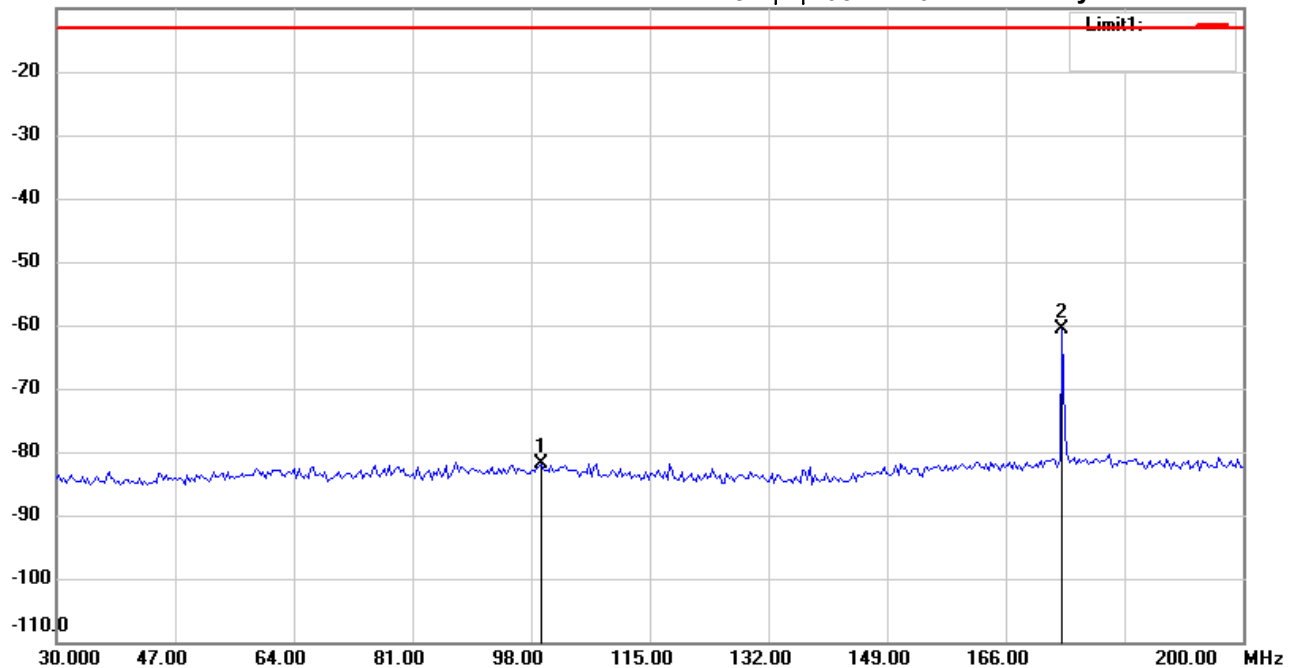
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 05:17:40

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 174MHz

Note :

Polarization: Vertical

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 99.4990         | -103.60       | peak     | 21.69             | -81.91       | -13.00      | 150          | 15             | -68.91      |         |
| *   | 174.1082        | -83.08        | peak     | 22.36             | -60.72       | -13.00      | 150          | 280            | -47.72      |         |

\*:Maximum data    x:Over limit    !:over margin



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Tel: +886-2-6606-8877  
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Radiated Emission Measurement

Operator: Sora

File : 2

Data : #1

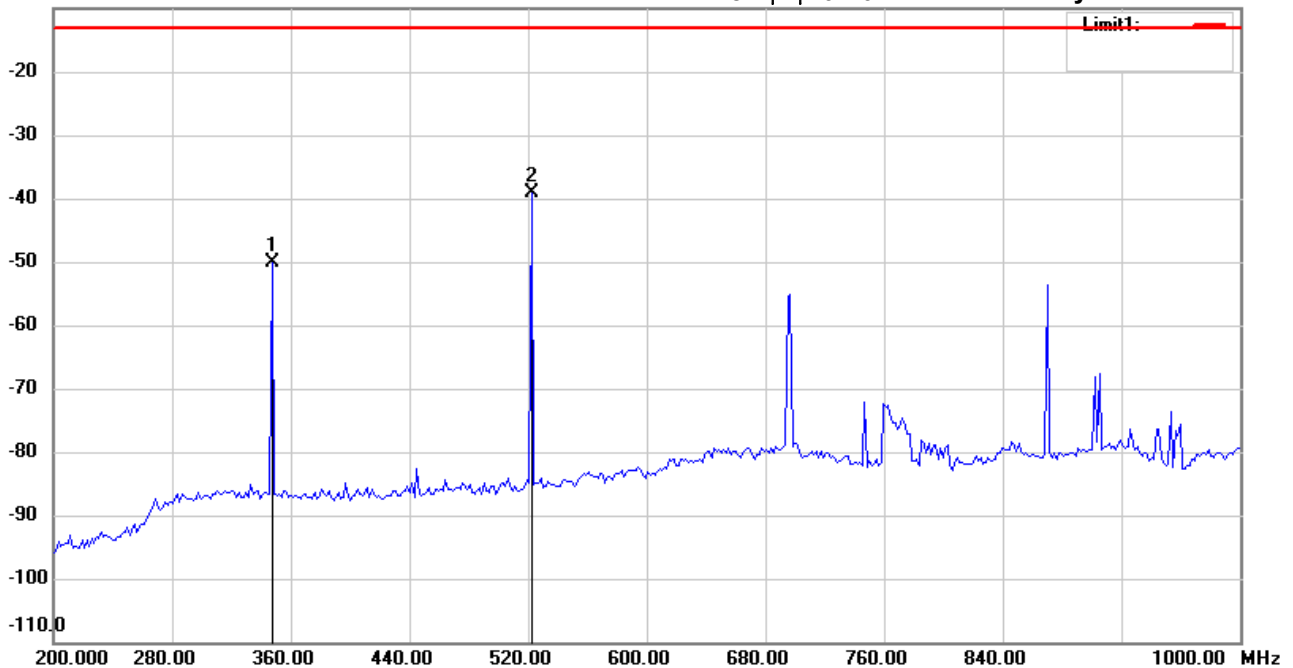
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 02:07:44

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 174MHz

Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 347.4950        | -39.81        | peak     | -10.40            | -50.21       | -13.00      | 150          | 210            | -37.21      |         |
| *   | 522.2445        | -30.76        | peak     | -8.48             | -39.24       | -13.00      | 150          | 250            | -26.24      |         |

\*:Maximum data    x:Over limit    !:over margin



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Tel: +886-2-6606-8877  
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Radiated Emission Measurement

Operator: Sora

File : 2

Data : #2

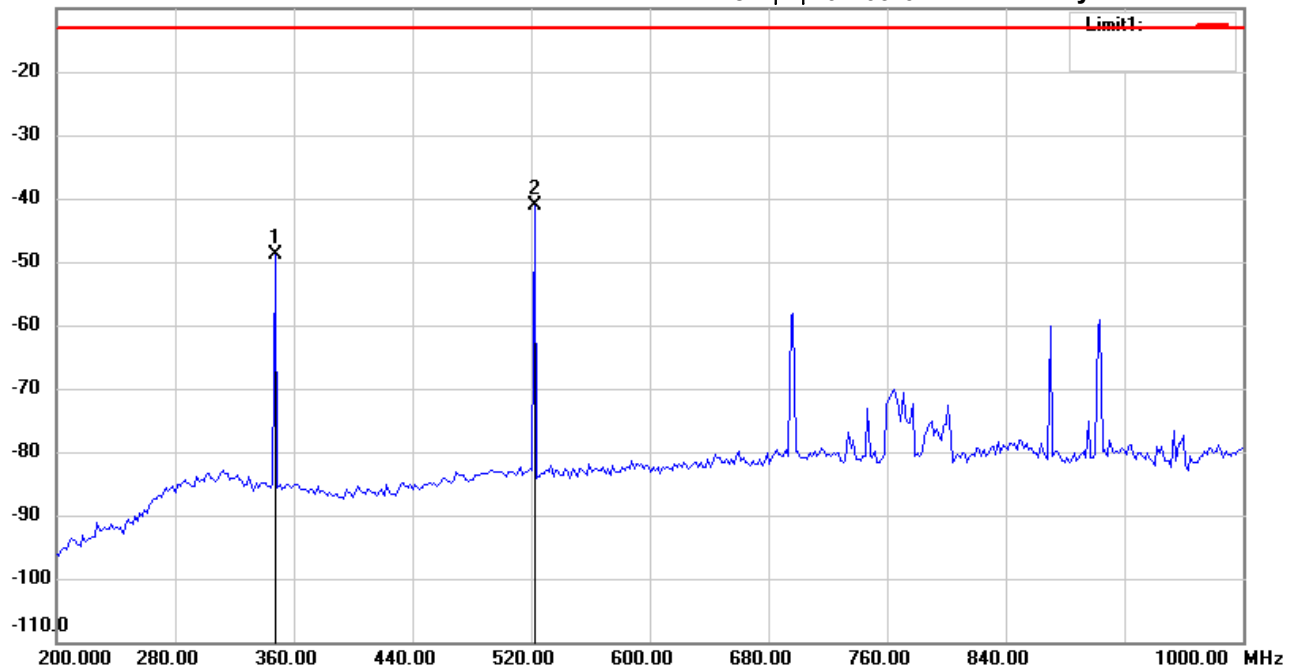
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 02:09:02

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 174MHz

Note :

Polarization: **Vertical**

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
|     | 347.4950        | -39.82        | peak     | -8.95             | -48.77       | -13.00      | 150          | 35             | -35.77      |         |
| *   | 522.2445        | -34.76        | peak     | -6.46             | -41.22       | -13.00      | 150          | 80             | -28.22      |         |

\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Sora

File :3

Data :#1

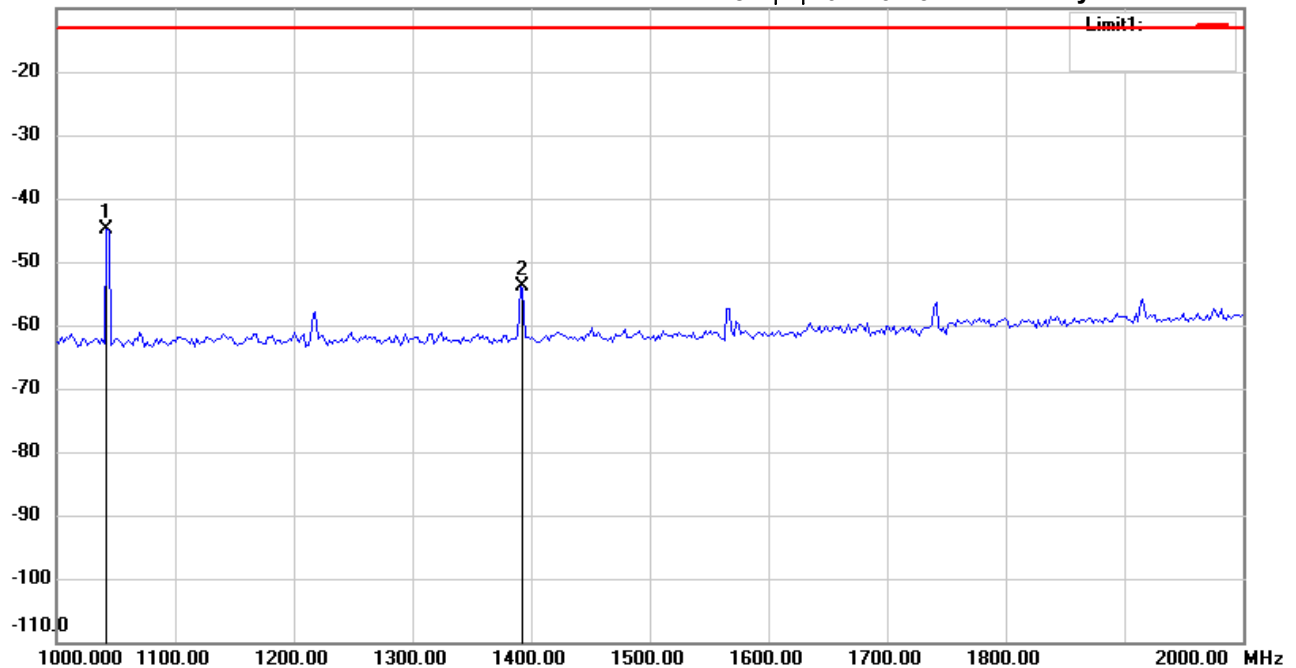
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 07:26:23

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 174MHz

Note :

Polarization: *Horizontal*

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 1042.084        | -44.98        | peak     | 0.00              | -44.98       | -13.00      | 150          | 160            | -31.98      |         |
|     | 1390.782        | -53.88        | peak     | -0.04             | -53.92       | -13.00      | 150          | 155            | -40.92      |         |

\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Sora

File :3

Data :#2

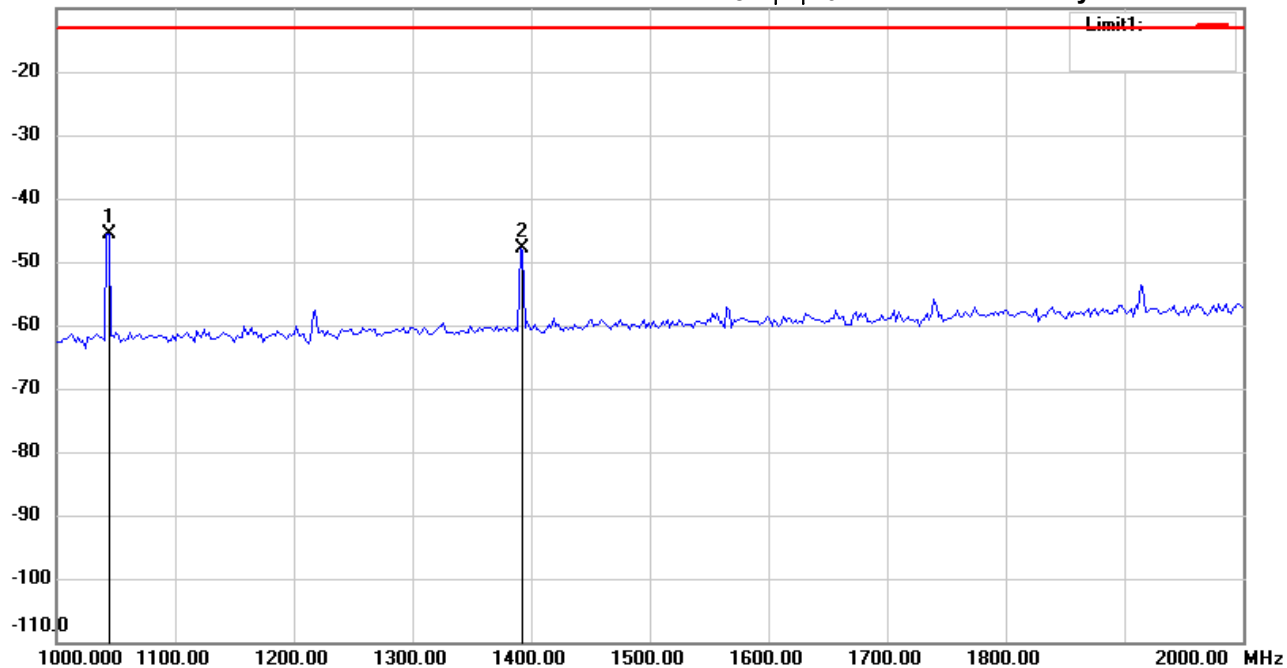
Date: 2018/5/21

Temperature: 24 °C

-10.0 dBm

Time: 下午 07:27:44

Humidity: 60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21804-18006

M/N:

Test Mode : TX 174MHz

Note :

Polarization: **Vertical**

Power : 13.6 Vd.c.

Distance: 3m

| Mk. | Frequency (MHz) | Reading (dBm) | Detector | Corr. factor (dB) | Result (dBm) | Limit (dBm) | Ant.Pos (cm) | Tab.Pos (deg.) | Margin (dB) | Comment |
|-----|-----------------|---------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|---------|
| *   | 1044.088        | -46.02        | peak     | 0.51              | -45.51       | -13.00      | 150          | 310            | -32.51      |         |
|     | 1390.782        | -49.54        | peak     | 1.58              | -47.96       | -13.00      | 150          | 50             | -34.96      |         |

\*:Maximum data    x:Over limit    !:over margin