



# TEST REPORT

## No. I19Z60613-WMD04

for

**TCL Communication Ltd.**

**HHSUPA/HSDPA/UMTS Tri Band/GSM Quad Band/CDMA Tri  
Band/LTE 9 Band Mobile Phone**

**Model Name: 4052W, 4052Z**

**FCC ID: 2ACCJN032**

with

**Hardware Version: 04**

**Software Version: YWX9**

**Issued Date: 2019-06-21**



**Note:**

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL

*The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.*

**Test Laboratory:**

CTTL, Telecommunication Technology Labs, CAICT

No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191.

Tel:+86(0)10-62304633-2512, Fax:+86(0)10-62304633-2504

Email: [ctl\\_terminals@caict.ac.cn](mailto:ctl_terminals@caict.ac.cn), website: [www.caict.ac.cn](http://www.caict.ac.cn)



## **REPORT HISTORY**

| <b>Report Number</b> | <b>Revision</b> | <b>Description</b> | <b>Issue Date</b> |
|----------------------|-----------------|--------------------|-------------------|
| I19Z60613-WMD04      | Rev.0           | 1st edition        | 2019-06-21        |



## **CONTENTS**

|   |           |
|---|-----------|
| <b>1. TEST LABORATORY .....</b>   | <b>4</b>  |
| <b>1.1. INTRODUCTION &amp; ACCREDITATION.....</b>                       | <b>4</b>  |
| <b>1.2. TESTING LOCATION .....</b>                                      | <b>4</b>  |
| <b>1.3. TESTING ENVIRONMENT .....</b>                                   | <b>4</b>  |
| <b>1.4. PROJECT DATA .....</b>  | <b>4</b>  |
| <b>1.5. SIGNATURE.....</b>  | <b>5</b>  |
| <b>2. CLIENT INFORMATION.....</b>                                       | <b>6</b>  |
| <b>2.1. APPLICANT INFORMATION.....</b>                                  | <b>6</b>  |
| <b>2.2. MANUFACTURER INFORMATION.....</b>                               | <b>6</b>  |
| <b>3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE) .....</b> | <b>7</b>  |
| <b>3.1. ABOUT EUT.....</b>  | <b>7</b>  |
| <b>3.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST .....</b>   | <b>7</b>  |
| <b>3.3. INTERNAL IDENTIFICATION OF AE USED DURING THE TEST .....</b>    | <b>7</b>  |
| <b>3.4. NORMAL ACCESSORY SETTING.....</b>                               | <b>8</b>  |
| <b>3.5. GENERAL DESCRIPTION .....</b>                                   | <b>8</b>  |
| <b>4. REFERENCE DOCUMENTS.....</b>                                      | <b>8</b>  |
| <b>4.1. REFERENCE DOCUMENTS FOR TESTING.....</b>                        | <b>8</b>  |
| <b>5. LABORATORY ENVIRONMENT .....</b>                                  | <b>9</b>  |
| <b>6. SUMMARY OF TEST RESULTS .....</b>                                 | <b>10</b> |
| <b>7. TEST EQUIPMENTS UTILIZED .....</b>                                | <b>10</b> |
| <b>ANNEX A: MEASUREMENT RESULTS.....</b>                                | <b>11</b> |
| <b>A.1 OUTPUT POWER .....</b>   | <b>11</b> |
| <b>A.2 FREQUENCY STABILITY .....</b>                                    | <b>13</b> |
| <b>A.3 OCCUPIED BANDWIDTH .....</b>                                     | <b>16</b> |
| <b>A.4 EMISSION BANDWIDTH.....</b>                                      | <b>20</b> |
| <b>A.5 BAND EDGE COMPLIANCE .....</b>                                   | <b>24</b> |
| <b>A.6 CONDUCTED SPURIOUS EMISSION.....</b>                             | <b>26</b> |
| <b>A.7 PEAK-TO-AVERAGE POWER RATIO.....</b>                             | <b>42</b> |
| <b>ANNEX B: ACCREDITATION CERTIFICATE.....</b>                          | <b>43</b> |



## **1. Test Laboratory**

### **1.1. Introduction & Accreditation**

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2005 accredited test laboratory under NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP) with lab code 600118-0, and is also an FCC accredited test laboratory (CN5017), and ISED accredited test laboratory (CN0066). The detail accreditation scope can be found on NVLAP website.

### **1.2. Testing Location**

Location 1: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,  
P. R. China 100191

Location 2: CTTL(Shouxiang)

Address: No. 51 Shouxiang Science Building, Xueyuan Road,  
Haidian District, Beijing, P. R. China 100191

### **1.3. Testing Environment**

Normal Temperature: 15-35°C

Relative Humidity: 20-80%

### **1.4. Project data**

Testing Start Date: 2019-05-10

Testing End Date: 2019-06-21

1.5. Signature



---

Dong Yuan  
(Prepared this test report)



---

Zhang Yufeng  
(Reviewed this test report)



---

Zhao Hui Lin  
Deputy Director of the laboratory  
(Approved this test report)



## **2. Client Information**

### **2.1. Applicant Information**

Company Name: TCL Communication Ltd.  
Address /Post: 7/F, Block F4, TCL International E City, Zhong Shan Yuan Road,  
Nanshan District, Shenzhen, Guangdong, P.R. China 518052  
Contact Person: Gong Zhizhou  
Contact Email: zhizhou.gong@tcl.com  
Telephone: 0086-755-36611722  
Fax: 0086-755-36612000-81722

### **2.2. Manufacturer Information**

Company Name: TCL Communication Ltd.  
Address /Post: 7/F, Block F4, TCL International E City, Zhong Shan Yuan Road,  
Nanshan District, Shenzhen, Guangdong, P.R. China 518052  
Contact Person: Gong Zhizhou  
Contact Email: zhizhou.gong@tcl.com  
Telephone: 0086-755-36611722  
Fax: 0086-755-36612000-81722



### **3. Equipment Under Test (EUT) and Ancillary Equipment (AE)**

#### **3.1. About EUT**

|                         |  |
|-------------------------|--|
| Description             | HSUPA/HSDPA/UMTS Tri Band/GSM Quad Band/CDMA Tri Band/LTE<br>9 Band Mobile Phone |
| Model                   | 4052W, 4052Z   |
| FCC ID                  | 2ACCJN032  |
| Frequency               | CDMA800MHz(BC0);CDMA1900MHz(BC1)   |
| Antenna                 | Embedded   |
| Extreme vol. Limits     | 3.5VDC to 4.2VDC (nominal: 3.7VDC)   |
| Extreme temp. Tolerance | -10°C to +55°C   |

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of CTTL.

#### **3.2. Internal Identification of EUT used during the test**

| <b>EUT ID*</b> | <b>IMEI</b>     | <b>HW Version</b> | <b>SW Version</b> | <b>Date of receipt</b> |
|----------------|-----------------|-------------------|-------------------|------------------------|
| UT38a          | 015490000004651 | 04                | YWX9              | 2019-05-09             |

\*EUT ID: is used to identify the test sample in the lab internally.

#### **3.3. Internal Identification of AE used during the test**

| <b>AE ID*</b> | <b>Description</b> |
|---------------|--------------------|
| AE1           | Battery            |

|              |          |
|--------------|----------|
| AE1          |          |
| Model        | TLi013C1 |
| Manufacturer | BYD      |
| Capacitance  | 1350mAh  |

\*AE ID: is used to identify the test sample in the lab internally.



### **3.4. Normal Accessory setting**

Fully charged battery was used during the test.

### **3.5. General Description**

The Equipment Under Test (EUT) is a model of HSUPA/HSDPA/UMTS Tri Band/GSM Quad Band/CDMA Tri Band/LTE 9 Band Mobile Phone with embedded antenna. It consists of Hand Telephone Set and normal options: lithium battery, charger.

Manual and specifications of the EUT were provided to fulfil the test.

Samples undergoing test were selected by the Client.

## **4. Reference Documents**

### **4.1. Reference Documents for testing**

The following documents listed in this section are referred for testing.

| <b>Reference</b> | <b>Title</b>   | <b>Version</b>      |
|------------------|--|---------------------|
| FCC Part 24      | PERSONAL COMMUNICATIONS SERVICES   | V10-1-18<br>Edition |
| FCC Part 22      | PUBLIC MOBILE SERVICES   | V10-1-18<br>Edition |
| FCC Part 2       | FREQUENCY ALLOCATIONS AND RADIO TREATY<br>MATTERS;GENERAL RULES AND REGULATIONS        | V10-1-18<br>Edition |
| ANSI/TIA-603-E   | Land Mobile FM or PM Communications Equipment<br>Measurement and Performance Standards | 2016                |
| KDB 971168 D01   | Measurement Guidance for Certification of Licensed Digital<br>Transmitters             | v03r01              |





## 5. LABORATORY ENVIRONMENT

**Shielding chamber** did not exceed following limits along the RF testing:

|                   |                            |
|-------------------|----------------------------|
| Temperature       | Min. = 15 °C, Max. = 35 °C |
| Relative humidity | Min. =20 %, Max. = 80 %    |



## 6. SUMMARY OF TEST RESULTS

| Items | List                        | Clause in FCC rules  | Verdict |
|-------|-----------------------------|----------------------|---------|
| 1     | Output Power                | 22.913(a)/24.232(c)  | Pass    |
| 2     | Frequency Stability         | 2.1055/22.355/24.235 | Pass    |
| 3     | Occupied Bandwidth          | 2.1049(h)(i)         | Pass    |
| 4     | Emission Bandwidth          | 22.917(b)/24.238(b)  | Pass    |
| 5     | Band Edge Compliance        | 22.917(b)/24.238(b)  | Pass    |
| 6     | Conducted Spurious Emission | 2.1057/22.917/24.238 | Pass    |
| 7     | Peak to Average Power Ratio | 24.232(d)            | Pass    |

## 7. Test Equipments Utilized

| NO. | NAME                             | TYPE         | SERIES NUMBER | PRODUCER | CALIBRATION INTERVAL | CAL DUE DATE |
|-----|----------------------------------|--------------|---------------|----------|----------------------|--------------|
| 1   | Spectrum Analyzer                | FSV30        | 101576        | R&S      | 1 Year               | 2020-5-3     |
| 2   | Wireless Communications Test Set | 8960(E5515C) | MY48360950    | Agilent  | 2 Years              | 2020-8-29    |
| 3   | Climatic chamber                 | SH-641       | 92009050      | ESPEC    | 2 Years              | 2019-12-21   |

## **ANNEX A: MEASUREMENT RESULTS**

### **A.1 OUTPUT POWER**

#### **A.1.1 Summary**

During the process of testing, the EUT was controlled via Agilent Wireless Communications Test Set (8960(E5515C)) to ensure max power transmission and proper modulation.

This result is max output power conducted measurements for the EUT.

In all cases, output power is within the specified limits.

#### **A.1.2 Method of Measurements**

The EUT was set up for the max output power with pseudo random data modulation.

The power was measured with Rhode & Schwarz Spectrum Analyzer FSV30 (average).

These measurements were done at 3 frequencies, 1851.25 MHz, 1880.0 MHz and 1908.75 MHz for PCS CDMA band, 824.7MHz, 836.52MHz and 848.31MHz for CDMA 800 band (bottom, middle and top of operational frequency range) for 1x RTT and 1xEVDO .

The measurement method is from KDB 971168 D01 5.2.1:

- a) Set span to at least 1.5 times the OBW.
- b) Set RBW = 1-5% of the OBW, not to exceed 1 MHz.
- c) Set VBW  $\geq 3 \times$  RBW.
- d) Set number of points in sweep  $\geq 2 \times$  span / RBW.
- e) Sweep time = auto-couple.
- f) Detector = RMS (power averaging).
- g) If the EUT can be configured to transmit continuously (i.e., burst duty cycle  $\geq 98\%$ ), then set the trigger to free run.
- h) If the EUT cannot be configured to transmit continuously (i.e., burst duty cycle  $< 98\%$ ), then use a sweep trigger with the level set to enable triggering only on full power bursts and configure the EUT to transmit at full power for the entire duration of each sweep. Ensure that the sweep time is less than or equal to the transmission burst duration.
- i) Trace average at least 100 traces in power averaging (i.e., RMS) mode.
- j) Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function, with the band limits set equal to the OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.



**A1.3 Measurement results**

**CDMA 800**

**Measurement result**

| Channel | Frequency(MHz) | Channel power(dBm) |        |       |
|---------|----------------|--------------------|--------|-------|
|         |                | 1x RTT             | 1xEVDO |       |
|         |                |                    | Rel0   | RevA  |
| 1013    | 824.70         | 24.03              | 23.88  | 23.92 |
| 384     | 836.52         | 24.19              | 23.82  | 23.78 |
| 777     | 848.31         | 24.12              | 23.87  | 23.91 |

**CDMA 1900**

**Measurement result**

| Channel | Frequency(MHz) | Channel power(dBm) |        |       |
|---------|----------------|--------------------|--------|-------|
|         |                | 1x RTT             | 1xEVDO |       |
|         |                |                    | Rel0   | RevA  |
| 25      | 1851.25        | 23.92              | 23.20  | 23.33 |
| 600     | 1880.00        | 23.98              | 23.31  | 23.41 |
| 1175    | 1908.75        | 24.04              | 23.46  | 23.62 |

## **A.2 FREQUENCY STABILITY**

### **A.2.1 Method of Measurement**

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a "call mode". This is accomplished with the use of Agilent 8960(E5515C) Wireless Communications Test Set.

1. Measure the carrier frequency at room temperature.
2. Subject the EUT to overnight soak at -10°C.
3. With the EUT, powered via nominal voltage, connected to the 8960(E5515C) and in a simulated call on channel 384 for CDMA 800 and channel 600 for 1900 measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
4. Repeat the above measurements at 10°C increments from -10°C to +50°C. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.
5. Remeasure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments remeasuring carrier frequency at each voltage. Pause at nominal voltage for 1 1/2 hours unpowered, to allow any self-heating to stabilize, before continuing.
6. Subject the EUT to overnight soak at +50°C.
7. With the EUT, powered via nominal voltage, connected to the 8960(E5515C) and in a simulated call on the centre channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
8. Repeat the above measurements at 10°C decrements from +50°C to -10°C. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.
9. At all temperature levels hold the temperature to +/- 0.5°C during the measurement procedure.

### **A.2.2 Measurement Limit**

#### **A.2.2.1 For Hand carried battery powered equipment**

According to the JTC standard the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. As this transceiver is considered "Hand carried, battery powered equipment" Section 2.1055(d)(2) applies. This requires that the lower voltage for frequency stability testing be specified by the manufacturer. This transceiver is specified to operate with an input voltage of between 3.5VDC and 4.2VDC, with a nominal voltage of 3.7VDC. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from overstress.

For CDMA800, according to section. 22.355, frequency tolerance can be maintained within 2.5ppm.

#### **A.2.2.2 For equipment powered by primary supply voltage**

According to the JTC standard the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec.



24.235, Frequency Stability. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. For this EUT section 2.1055(d)(1) applies. This requires varying primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.

For CDMA800, according to section. 22.355, frequency tolerance cab be maintained within 2.5ppm.

**A.2.3 Measurement results**

**CDMA 800**

**Frequency Error vs Voltage**

| Voltage(V) | Frequency error(Hz) | Frequency error(ppm) |
|------------|---------------------|----------------------|
| 3.5        | -1.81               | 0.0022               |
| 3.7        | -1.58               | 0.0019               |
| 4.2        | -2.10               | 0.0025               |

**Frequency Error vs Temperature**

| temperature(°C) | Frequency error(Hz) | Frequency error(ppm) |
|-----------------|---------------------|----------------------|
| -10             | -1.30               | 0.0016               |
| 0               | -2.17               | 0.0026               |
| 10              | -3.75               | 0.0045               |
| 20              | -2.67               | 0.0032               |
| 30              | -2.21               | 0.0026               |
| 40              | -3.13               | 0.0037               |
| 50              | -2.64               | 0.0032               |

**CDMA 1900**

**Frequency Error vs Voltage**

| Voltage(V) | Frequency error(Hz) | Frequency error(ppm) |
|------------|---------------------|----------------------|
| 3.5        | -5.75               | 0.0031               |
| 3.7        | -3.57               | 0.0019               |
| 4.2        | -3.33               | 0.0018               |

**Frequency Error vs Temperature**

| temperature(°C) | Frequency error(Hz) | Frequency error(ppm) |
|-----------------|---------------------|----------------------|
| -10             | -4.34               | 0.0023               |
| 0               | -4.93               | 0.0026               |
| 10              | -2.48               | 0.0013               |
| 20              | -2.60               | 0.0014               |
| 30              | -4.62               | 0.0025               |
| 40              | -2.65               | 0.0014               |
| 50              | -4.33               | 0.0023               |

### **A.3 OCCUPIED BANDWIDTH**

#### **A.3.1 Occupied Bandwidth Results**

Similar to conducted emissions; occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of the CDMA frequency band. The table below lists the measured 99% BW. Spectrum analyzer plots are included on the following pages.

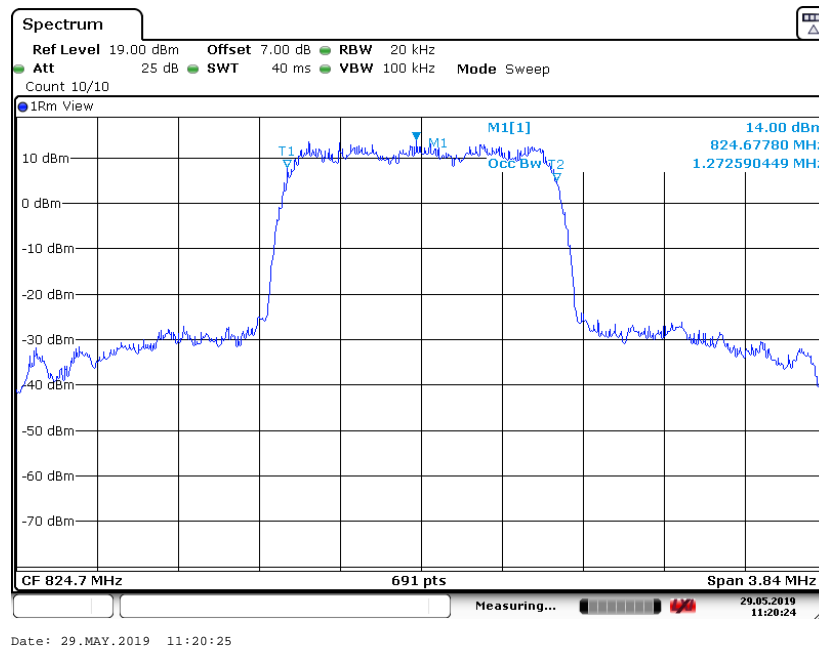
#### **CDMA 800 (99% BW)**

| Channel | Occupied Bandwidth (99% BW)( MHz) |
|---------|-----------------------------------|
| 1013    | 1.273                             |
| 384     | 1.267                             |
| 777     | 1.278                             |

**ANALYZER SETTINGS: RBW=20 kHz, VBW=100 kHz**

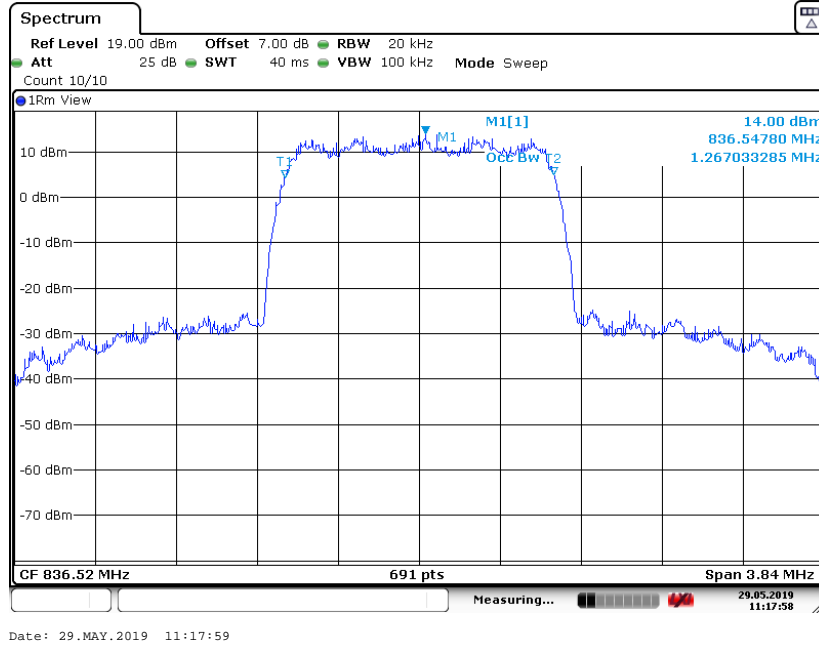
#### **CDMA 800**

#### **Channel 1013-Occupied Bandwidth (99% BW)**

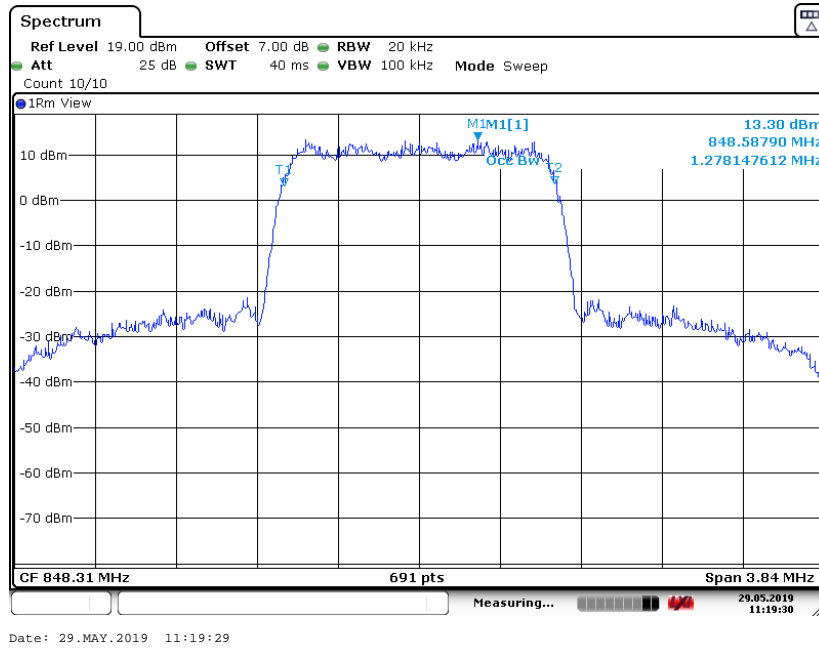




### Channel 384-Occupied Bandwidth (99% BW)



### Channel 777-Occupied Bandwidth (99% BW)



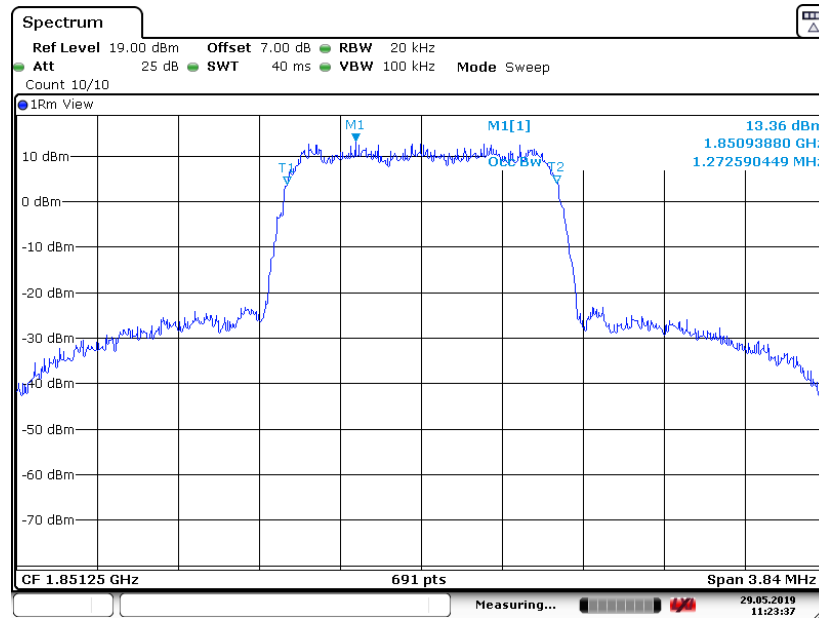
**CDMA 1900(99% BW)**

| Channel | Occupied Bandwidth (99% BW)( MHz) |
|---------|-----------------------------------|
| 25      | 1.273                             |
| 600     | 1.267                             |
| 1175    | 1.273                             |

**ANALYZER SETTINGS: RBW=20 kHz, VBW=100 kHz**

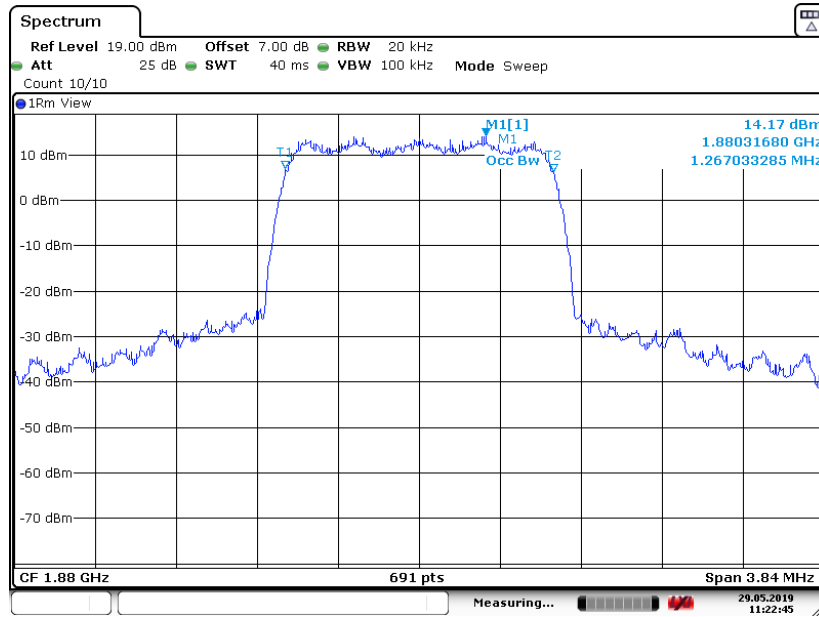
**CDMA 1900**

**Channel 25-Occupied Bandwidth (99% BW)**



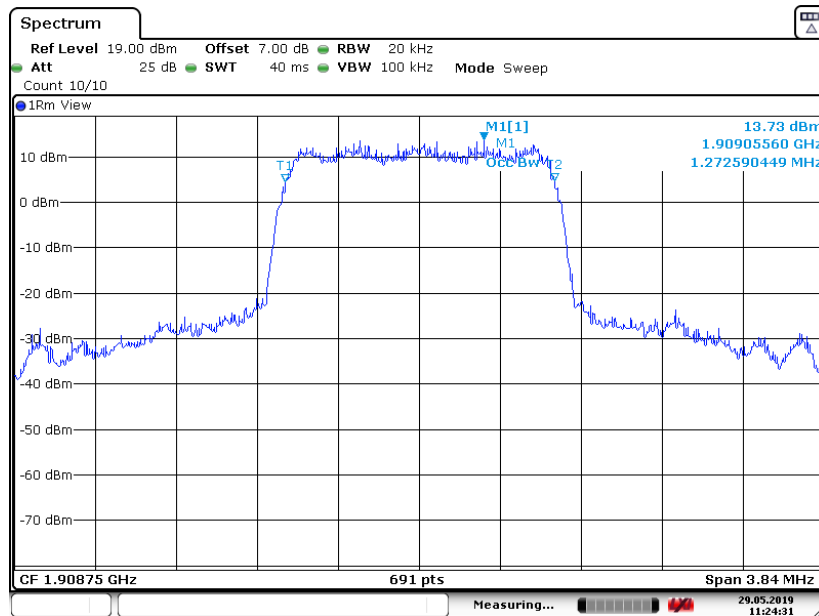
Date: 29.MAY.2019 11:23:37

### Channel 600-Occupied Bandwidth (99% BW)



Date: 29.MAY.2019 11:22:46

### Channel 1175-Occupied Bandwidth (99% BW)



Date: 29.MAY.2019 11:24:32

## A.4 EMISSION BANDWIDTH

### A.4.1 Emission Bandwidth Results

Similar to conducted emissions; Emission bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of the CDMA 800, and CDMA 1900 band. Table below lists the measured -26dBc BW. Spectrum analyzer plots are included on the following pages.

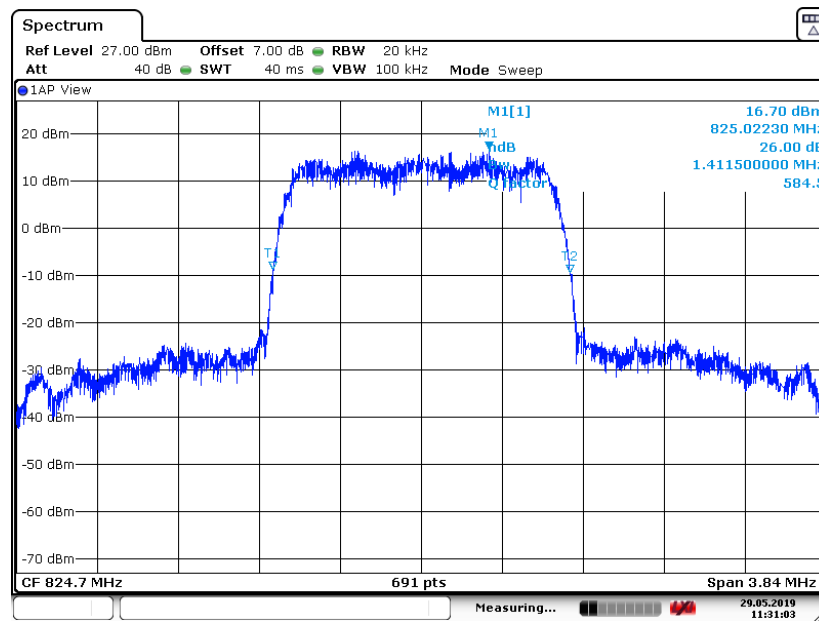
#### CDMA 800 (-26dBc BW)

| Channel | Emission Bandwidth (-26dBc BW)( MHz) |
|---------|--------------------------------------|
| 1013    | 1.412                                |
| 384     | 1.417                                |
| 777     | 1.423                                |

**ANALYZER SETTINGS: RBW=20 kHz, VBW=100 kHz**

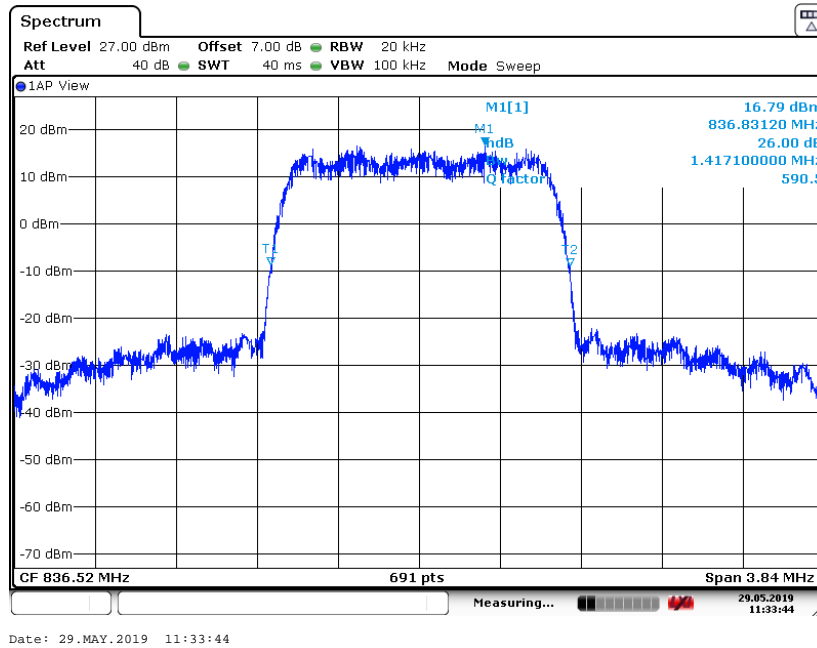
#### CDMA 800

#### Channel 1013-Emission Bandwidth (-26dBc BW)

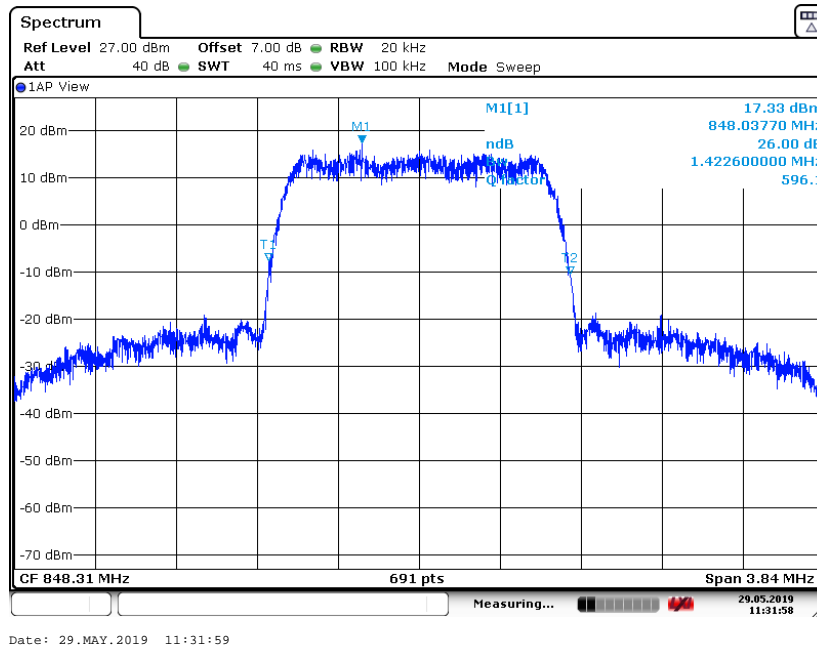


Date: 29.MAY.2019 11:31:02

### Channel 384-Emission Bandwidth (-26dBc BW)



### Channel 777-Emission Bandwidth (-26dBc BW)



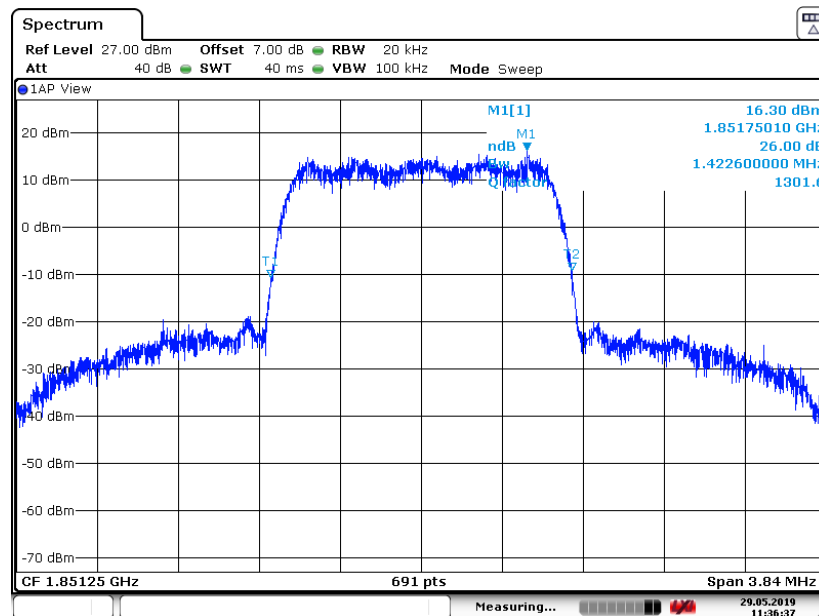
**CDMA 1900 (-26dBc)**

| Channel | Emission Bandwidth (-26dBc BW)( MHz) |
|---------|--------------------------------------|
| 25      | 1.423                                |
| 600     | 1.417                                |
| 1175    | 1.417                                |

**ANALYZER SETTINGS: RBW=20 kHz, VBW=100 kHz**

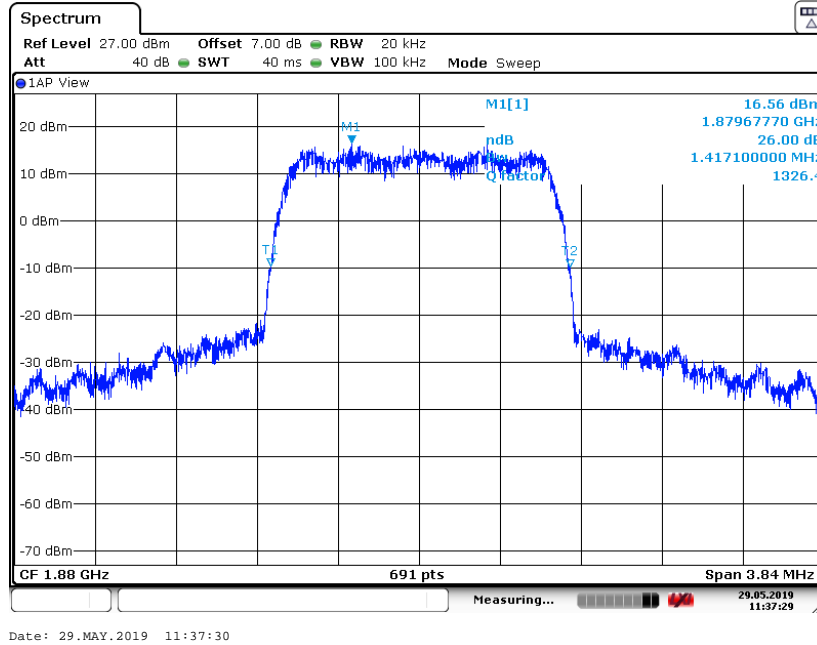
**CDMA 1900**

**Channel 25-Emission Bandwidth (-26dBc BW)**

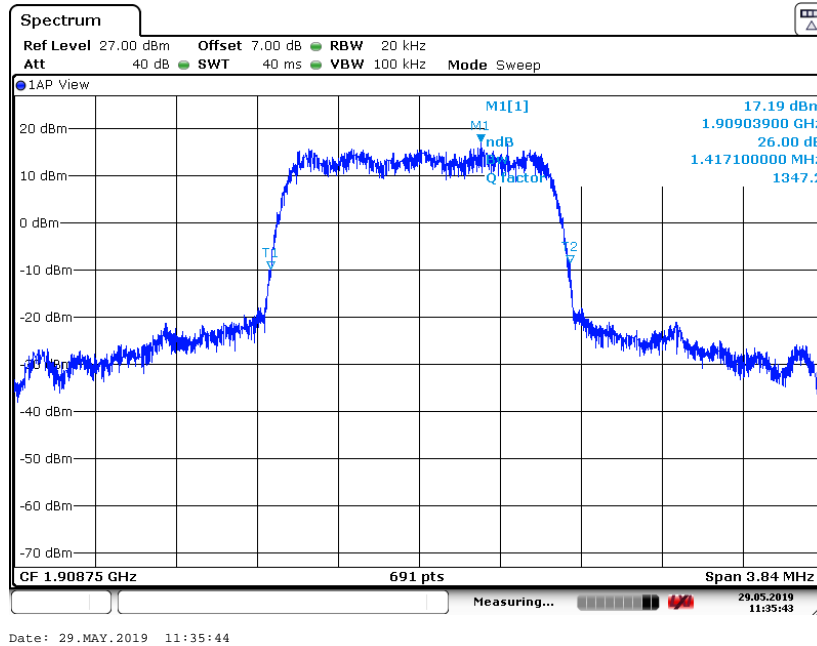


Date: 29.MAY.2019 11:36:37

### Channel 600-Emission Bandwidth (-26dBc BW)



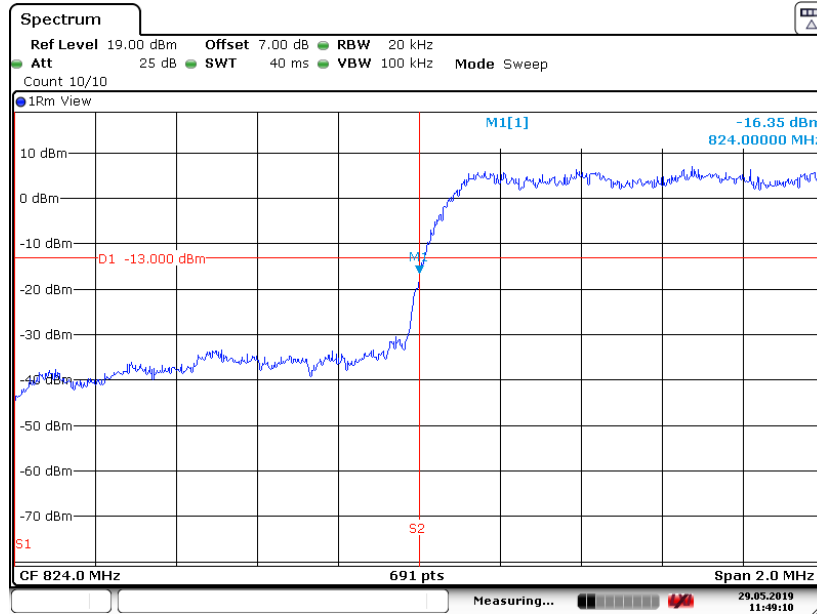
### Channel 1175-Emission Bandwidth (-26dBc BW)



## A.5 BAND EDGE COMPLIANCE

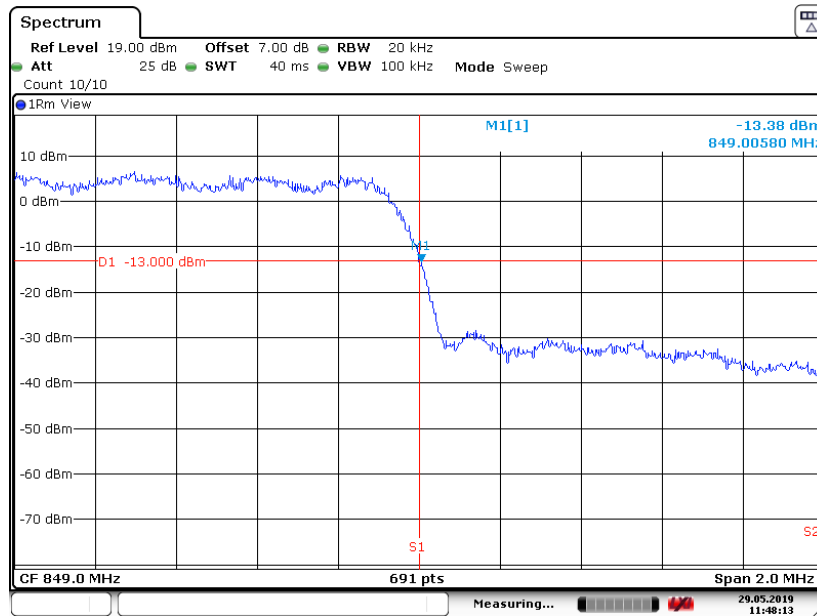
### CDMA 800

#### BAND EDGE BLOCK-Channel 1013



Date: 29.MAY.2019 11:49:11

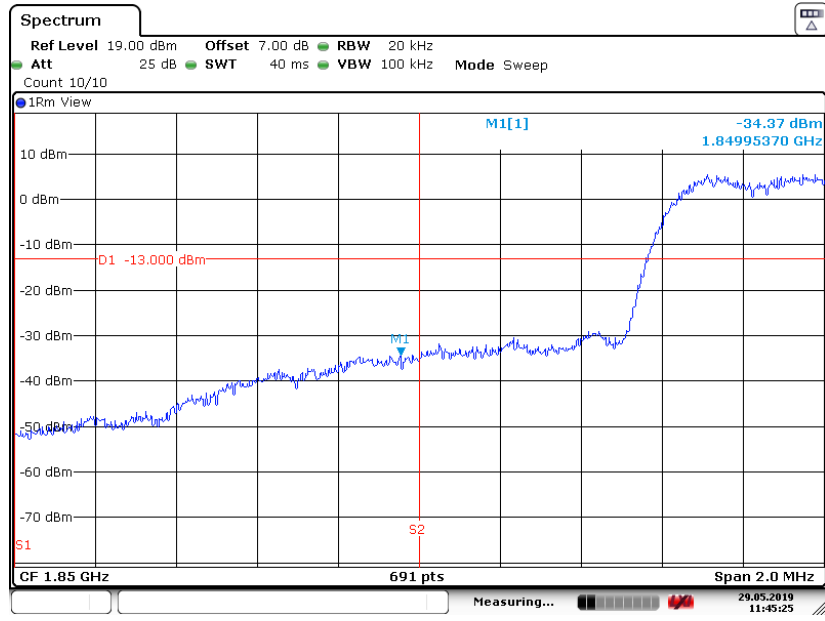
#### BAND EDGE BLOCK-Channel 777



Date: 29.MAY.2019 11:48:14

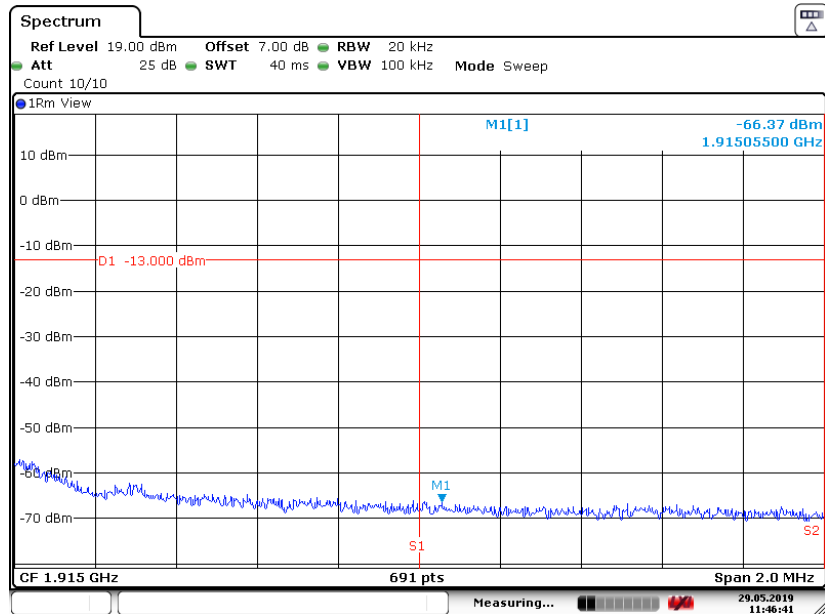


**CDMA 1900**  
**BAND EDGE BLOCK-Channel 25**



Date: 29.MAY.2019 11:45:24

**BAND EDGE BLOCK-Channel 1175**



Date: 29.MAY.2019 11:46:42

## **A.6 CONDUCTED SPURIOUS EMISSION**

### **A.6.1 Measurement Method**

The following steps outline the procedure used to measure the conducted emissions from the EUT.

1. Determine frequency range for measurements: From CFR 2.1057 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency.
2. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.

#### **CDMA 800 Transmitter**

| Channel | Frequency (MHz) |
|---------|-----------------|
| 1013    | 824.70          |
| 384     | 836.52          |
| 777     | 848.31          |

#### **CDMA 1900 Transmitter**

| Channel | Frequency (MHz) |
|---------|-----------------|
| 25      | 1851.25         |
| 600     | 1880.00         |
| 1175    | 1909.75         |

### **A. 6.2 Measurement Limit**

Sec. 24.238 Emission Limits.

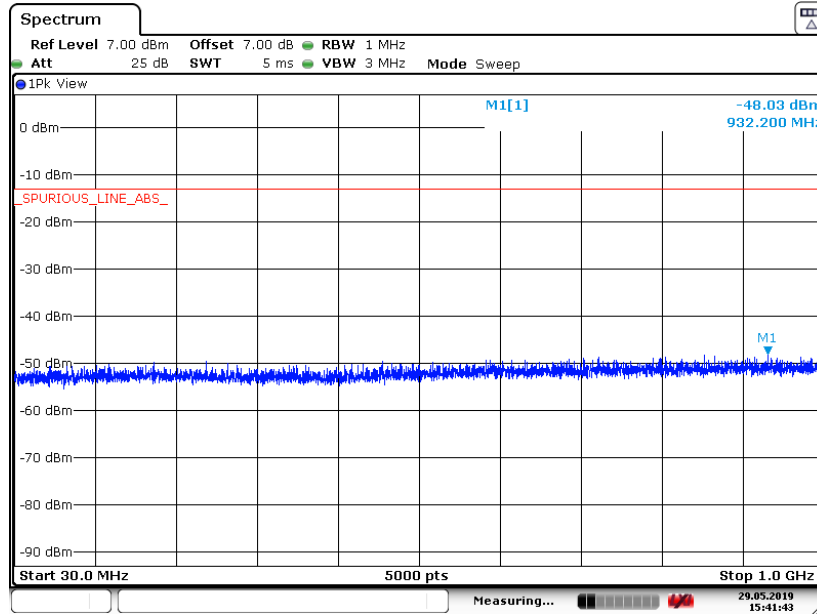
(a) On any frequency outside frequency band of the USPCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least  $43+10\text{Log}(P)$  dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.

**A. 6.3 Measurement result**

**CDMA 1900**

**A. 6.3.1 Channel 25: 30MHz –1GHz**

Spurious emission limit –13dBm.

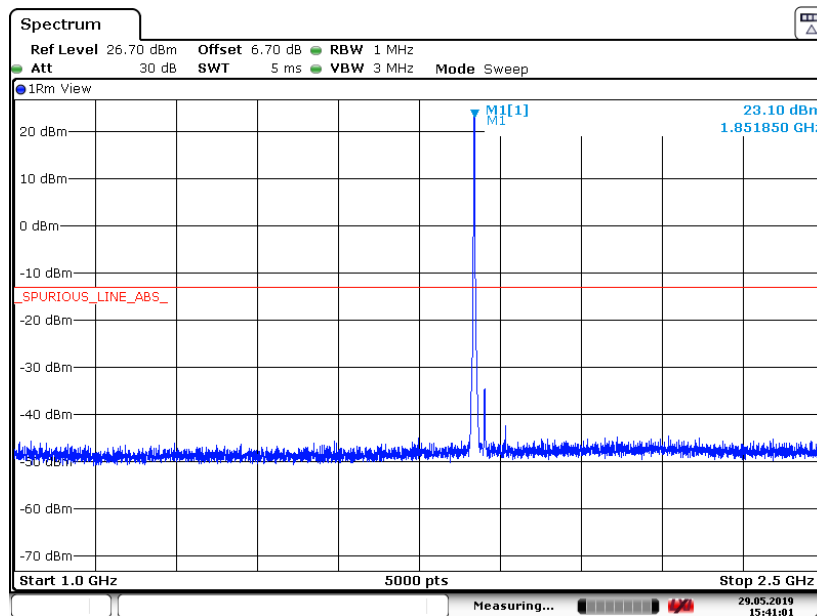


Date: 29.MAY.2019 15:41:42

**A.6.3.2 Channel 25: 1GHz –2.5GHz**

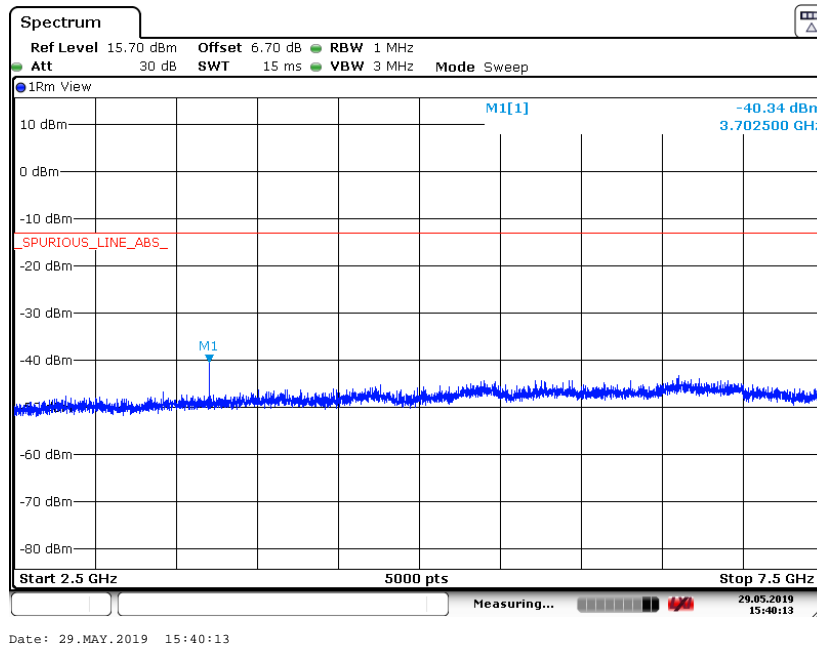
Spurious emission limit –13dBm.

**NOTE: peak above the limit line is the carrier frequency.**

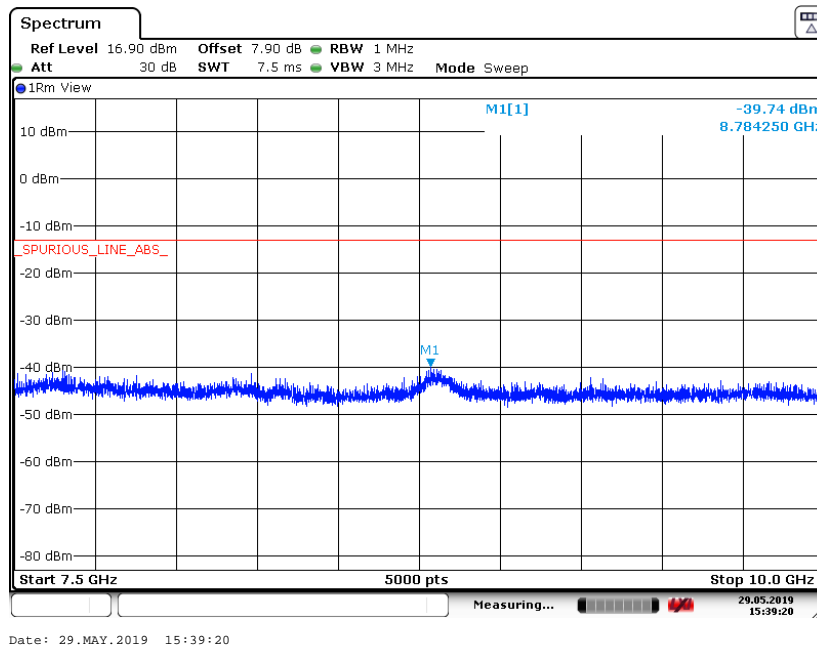


Date: 29.MAY.2019 15:41:01

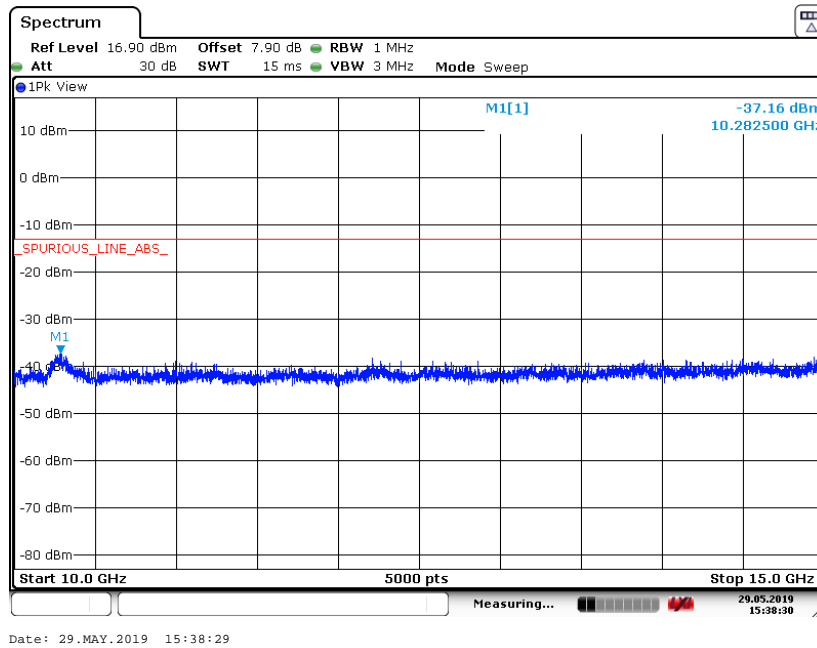
**A.6.3.3 Channel 25: 2.5GHz –7.5GHz**  
Spurious emission limit –13dBm.



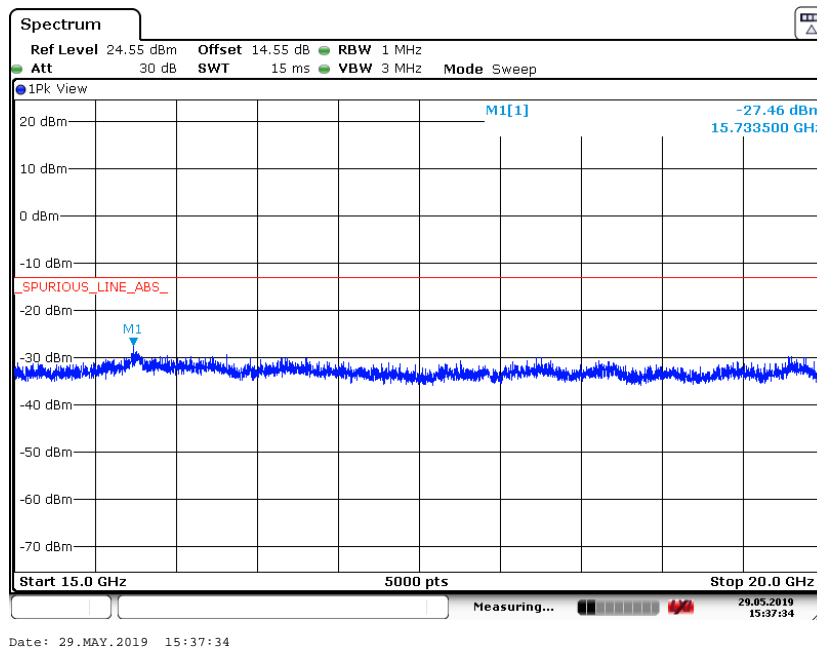
**A.6.3.4 Channel 25: 7.5GHz –10GHz**  
Spurious emission limit –13dBm.



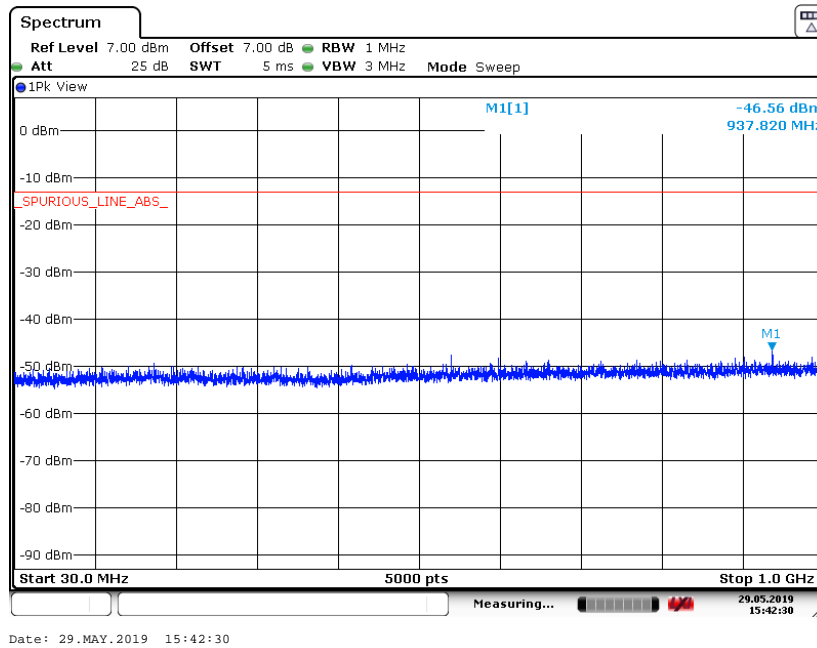
**A.6.3.5 Channel 25: 10GHz –15GHz**  
Spurious emission limit –13dBm.



**A.6.3.6 Channel 25: 15GHz –20GHz**  
Spurious emission limit –13dBm.

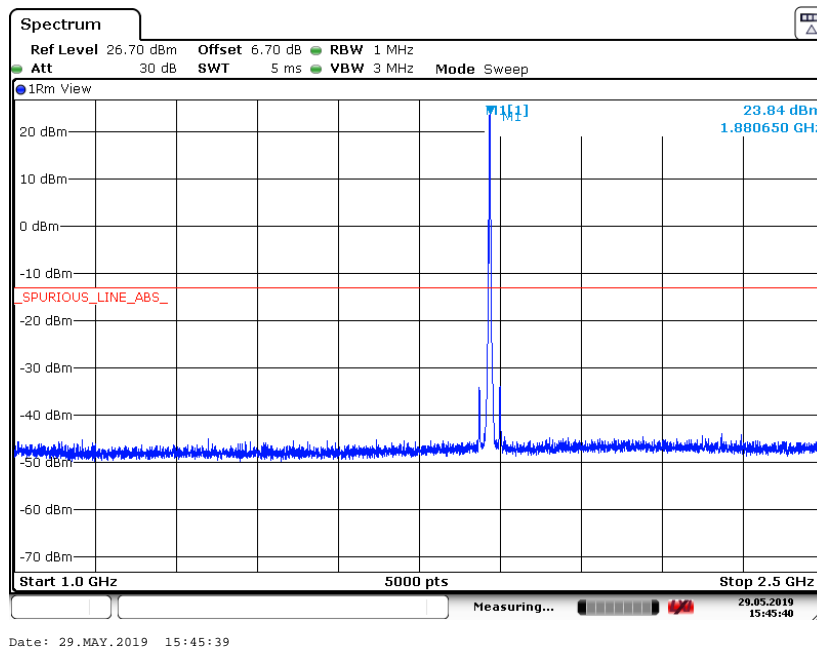


**A. 6.3.7 Channel 600: 30MHz –1GHz**  
Spurious emission limit –13dBm.

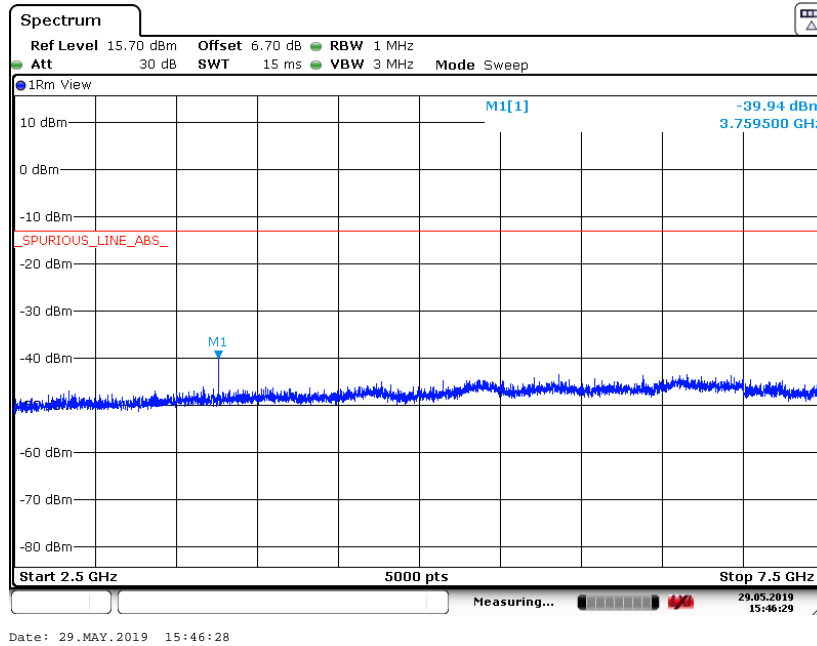


**A.6.3.8 Channel 600: 1GHz –2.5GHz**  
Spurious emission limit –13dBm.

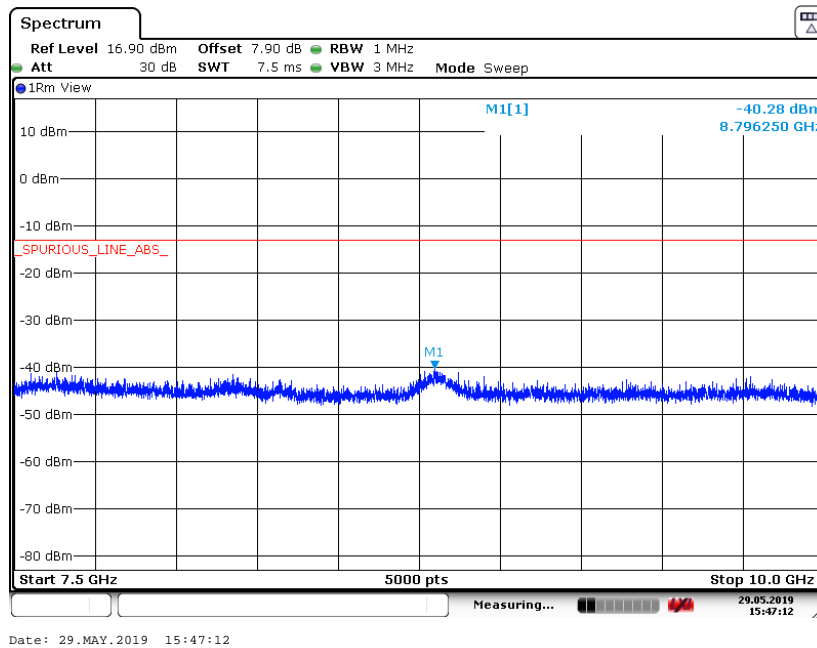
**NOTE: peak above the limit line is the carrier frequency.**



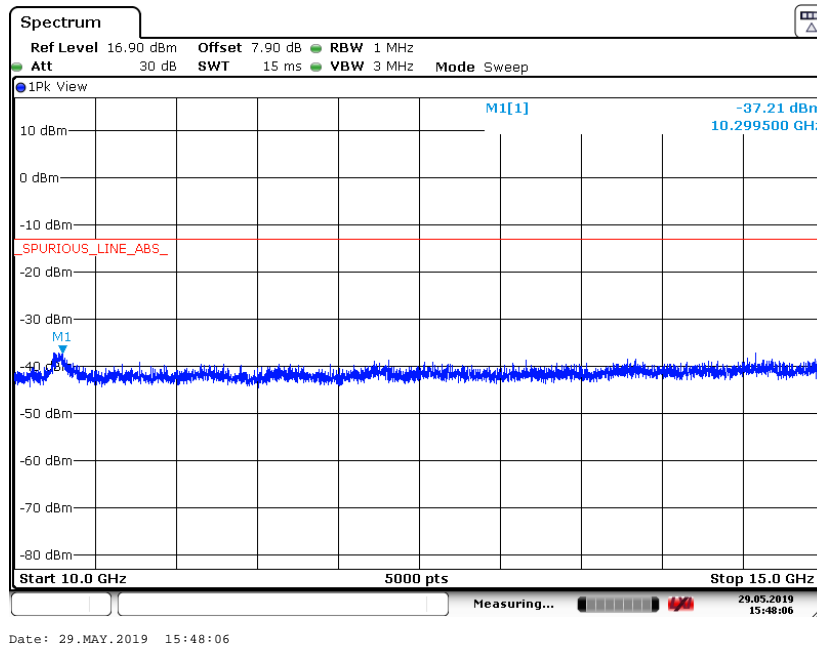
**A.6.3.9 Channel 600: 2.5GHz –7.5GHz**  
Spurious emission limit –13dBm.



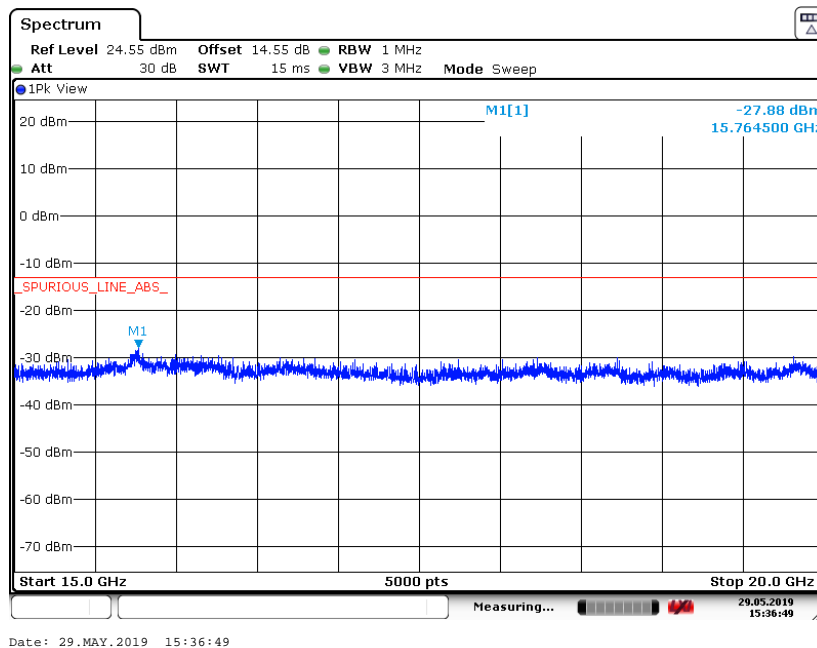
**A.6.3.10 Channel 600: 7.5GHz –10GHz**  
Spurious emission limit –13dBm.



**A.6.3.11 Channel 600: 10GHz –15GHz**  
Spurious emission limit –13dBm.

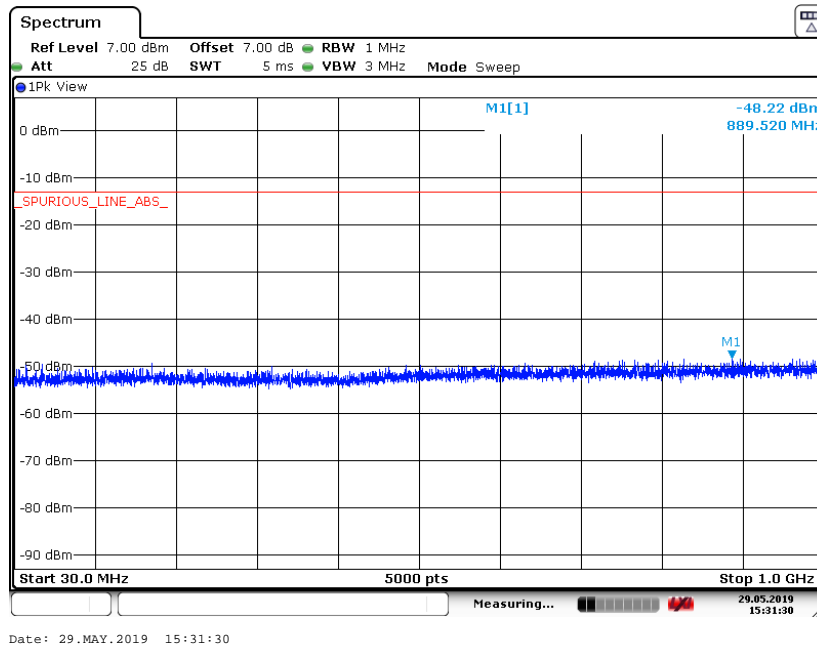


**A.6.3.12 Channel 600: 15GHz –20GHz**  
Spurious emission limit –13dBm.



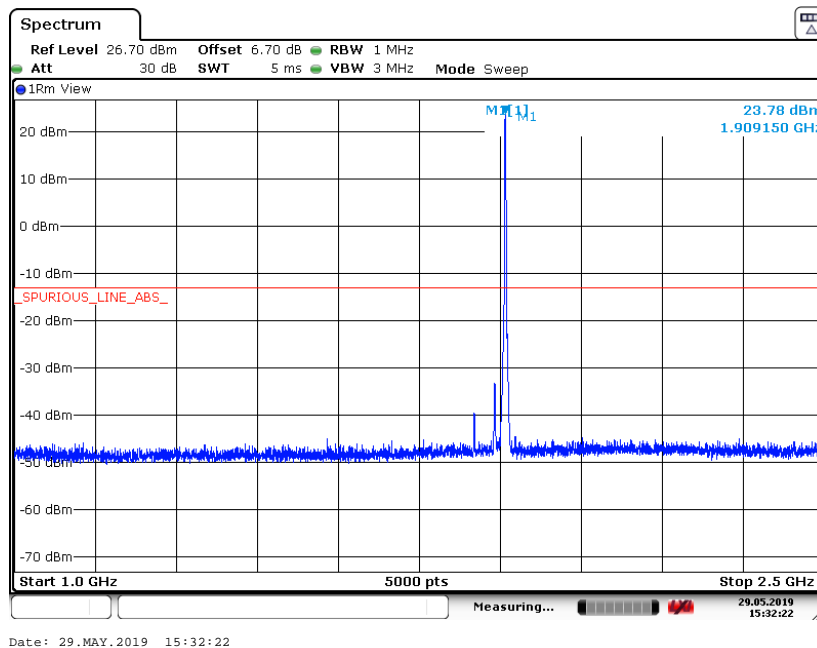


**A. 6.3.13 Channel 1175: 30MHz –1GHz**  
Spurious emission limit –13dBm.

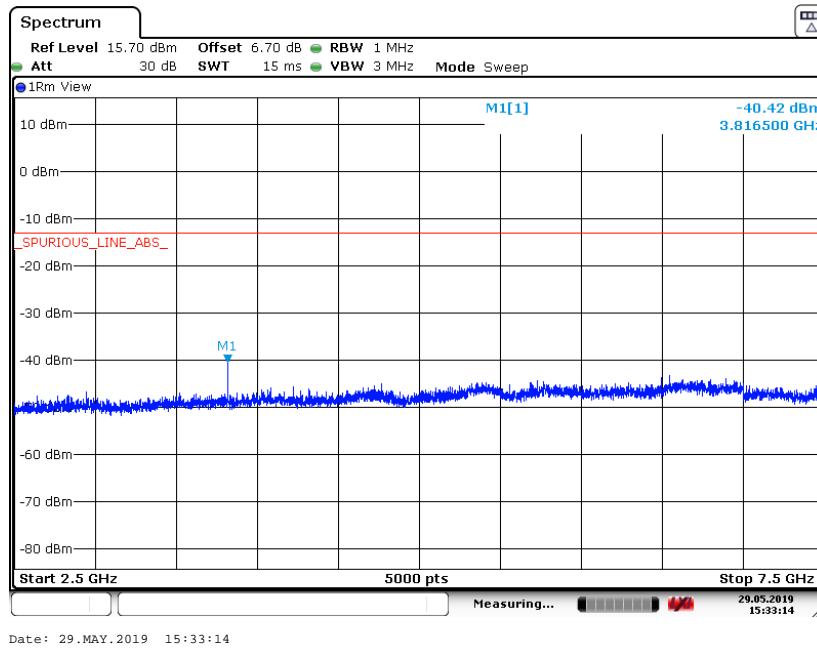


**A.6.3.14 Channel 1175: 1GHz –2.5GHz**  
Spurious emission limit –13dBm.

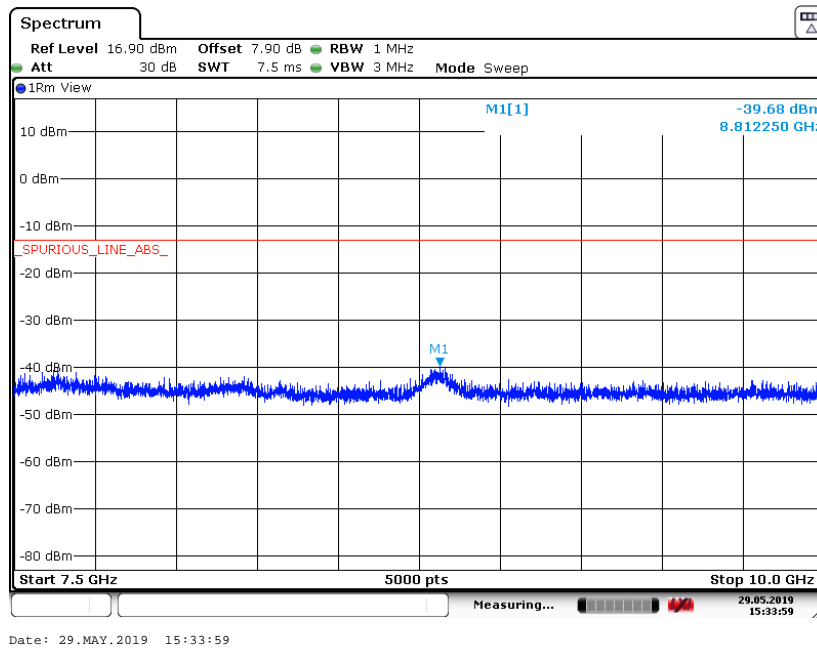
**NOTE: peak above the limit line is the carrier frequency.**



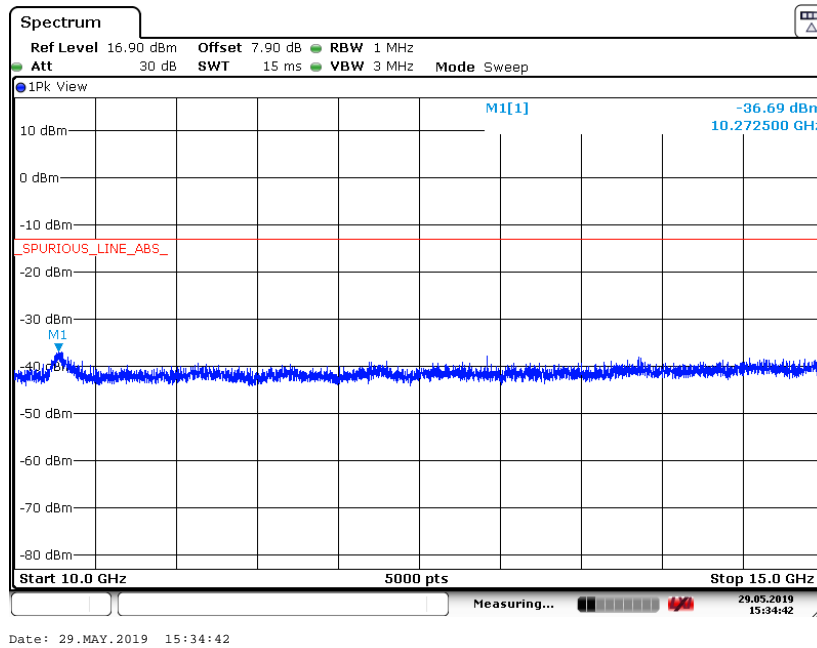
**A.6.3.15 Channel 1175: 2.5GHz –7.5GHz**  
Spurious emission limit –13dBm.



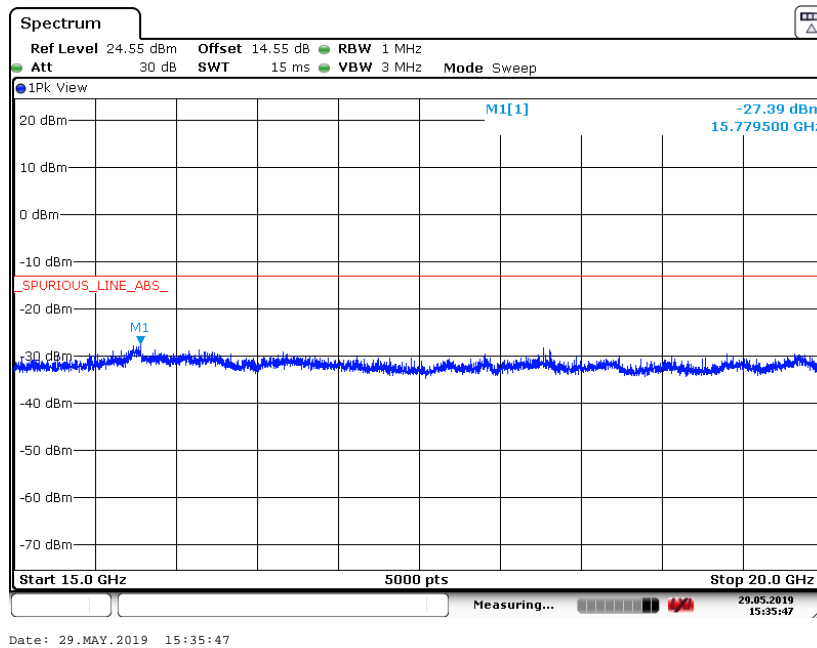
**A.6.3.16 Channel 1175: 7.5GHz –10GHz**  
Spurious emission limit –13dBm.



**A.6.3.17 Channel 1175: 10GHz –15GHz**  
Spurious emission limit –13dBm.



**A.6.3.18 Channel 1175: 15GHz –20GHz**  
Spurious emission limit –13dBm.

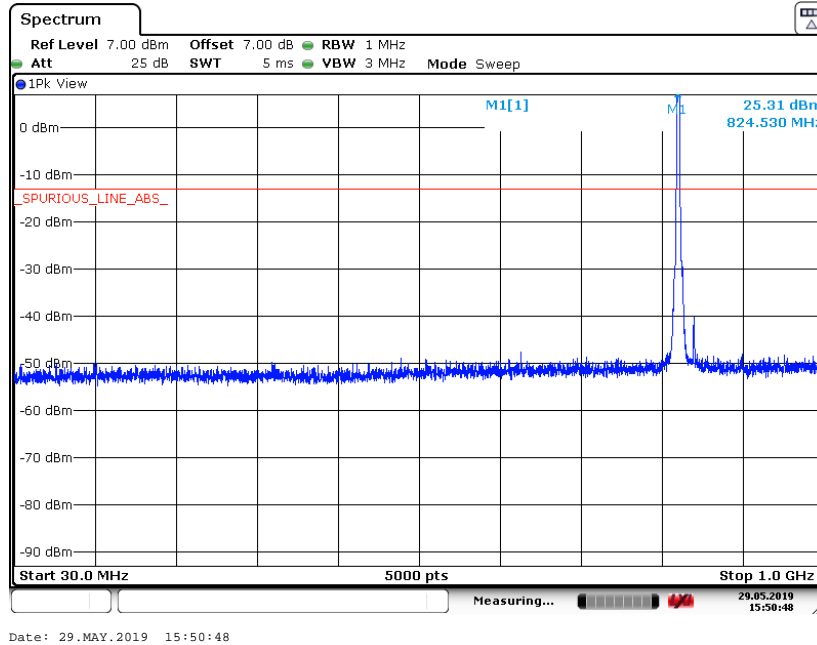


**CDMA 800**

**A. 6.3.19 Channel 1013: 30MHz –1GHz**

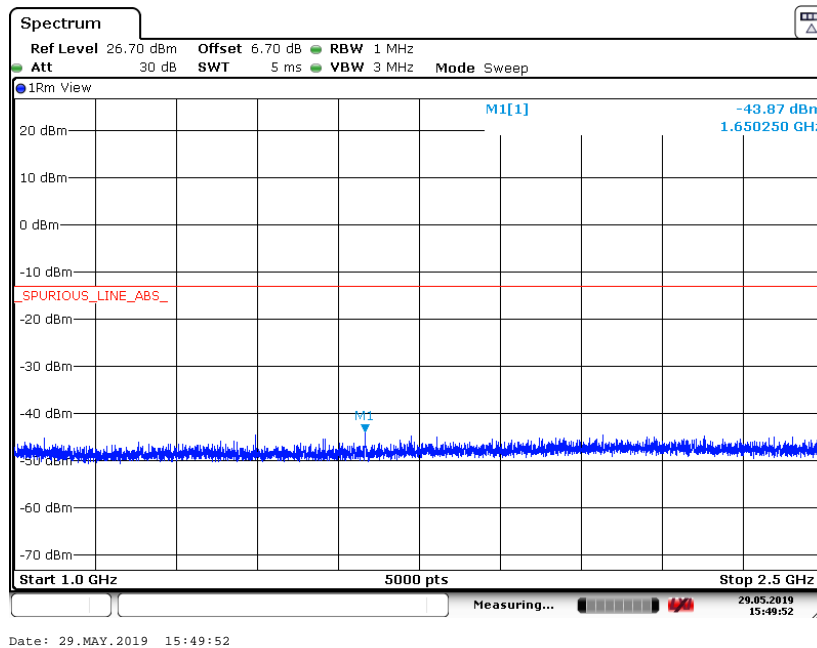
Spurious emission limit –13dBm.

**NOTE: peak above the limit line is the carrier frequency.**

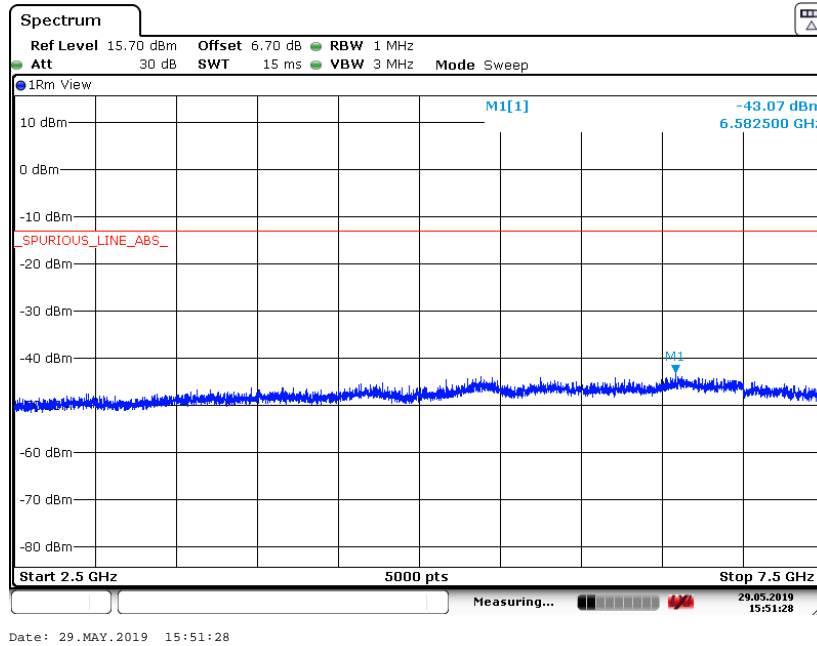


**A. 6.3.20 Channel 1013: 1GHz – 2.5GHz**

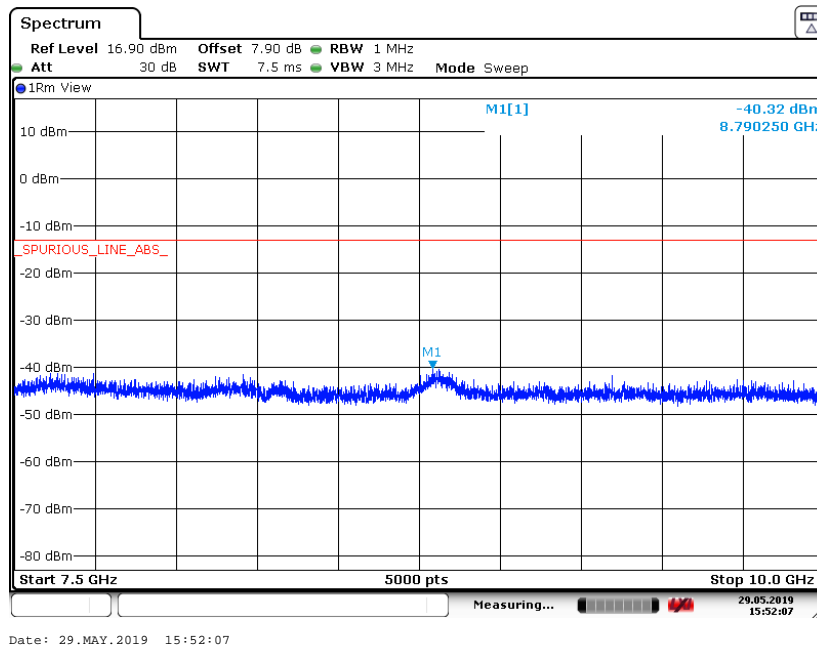
Spurious emission limit –13dBm.



**A. 6.3.21 Channel 1013: 2.5GHz –7.5GHz**  
Spurious emission limit –13dBm.



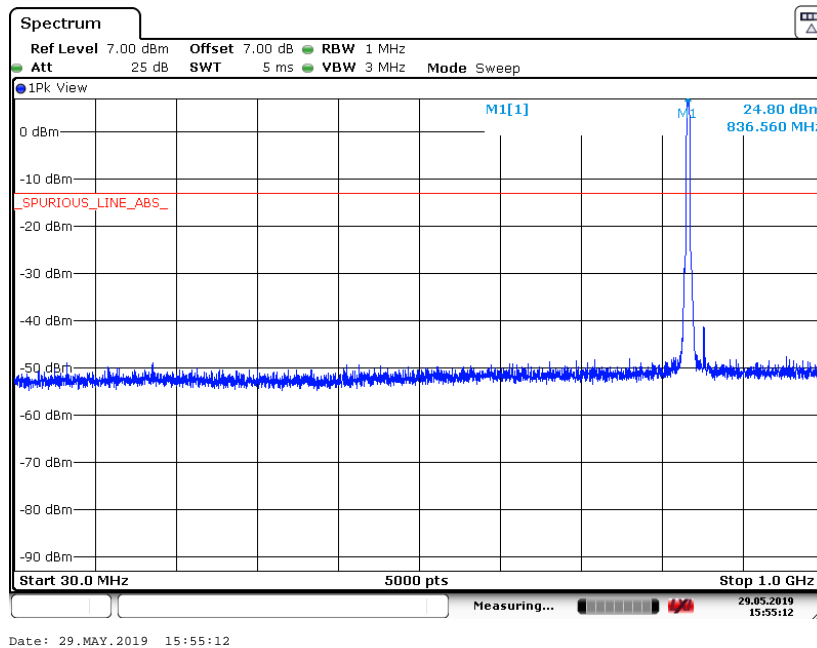
**A. 6.3.22 Channel 1013: 7.5GHz – 10GHz**  
Spurious emission limit –13dBm.



**A. 6.3.23 Channel 384: 30MHz –1GHz**

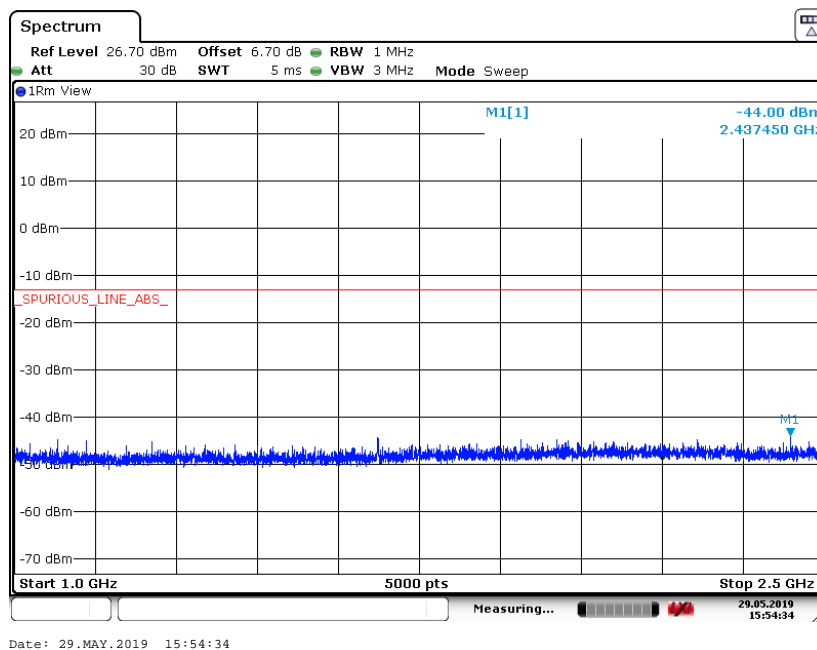
Spurious emission limit –13dBm.

**NOTE: peak above the limit line is the carrier frequency.**

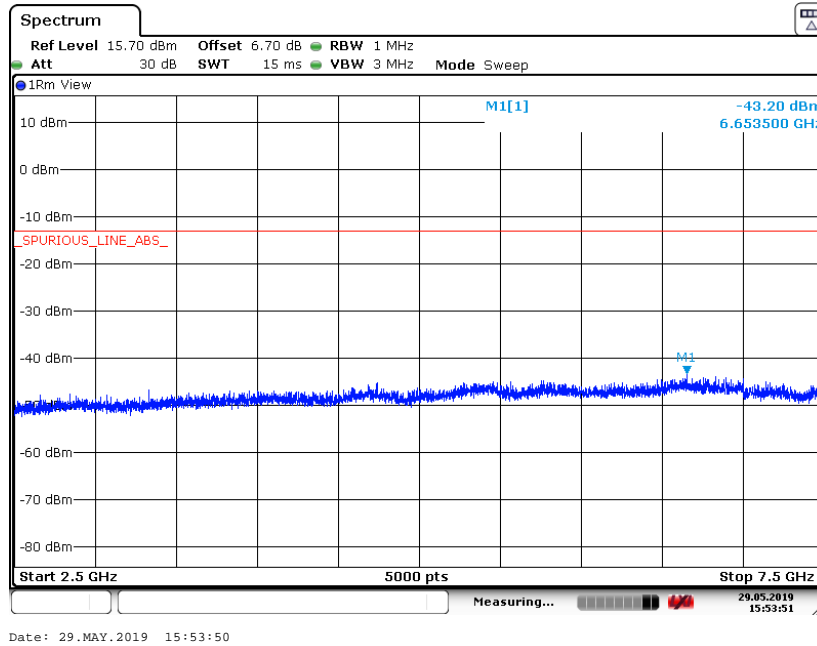


**A.6.3.24 Channel 384: 1GHz – 2.5GHz**

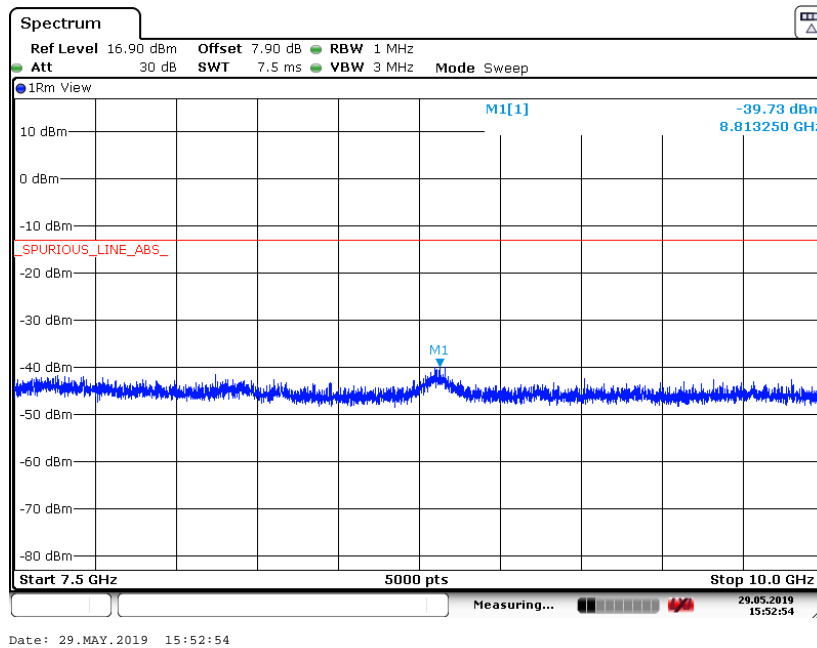
Spurious emission limit –13dBm.



**A. 6.3.25 Channel 384: 2.5GHz –7.5GHz**  
Spurious emission limit –13dBm.



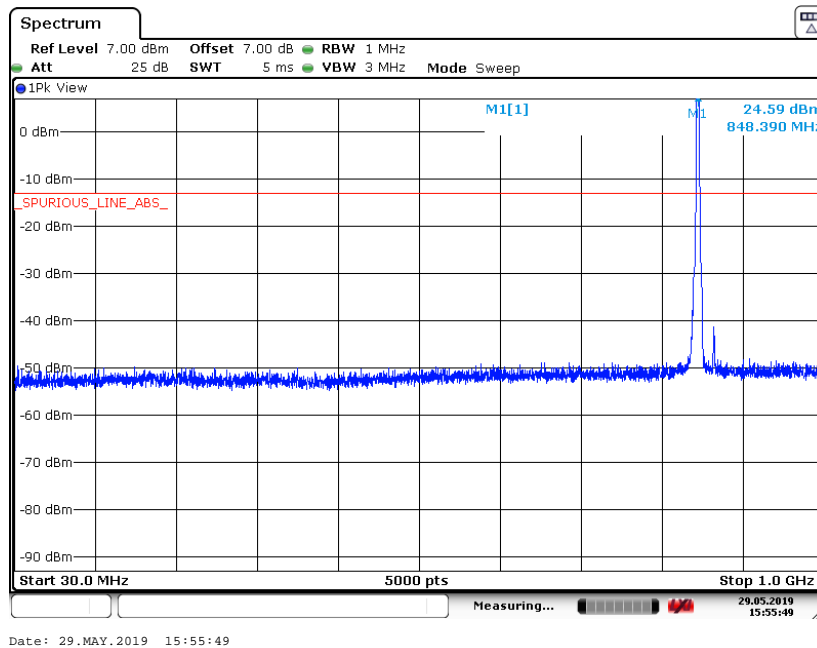
**A. 6.3.26 Channel 384: 7.5GHz – 10GHz**  
Spurious emission limit –13dBm.



**A. 6.3.27 Channel 777: 30MHz –1GHz**

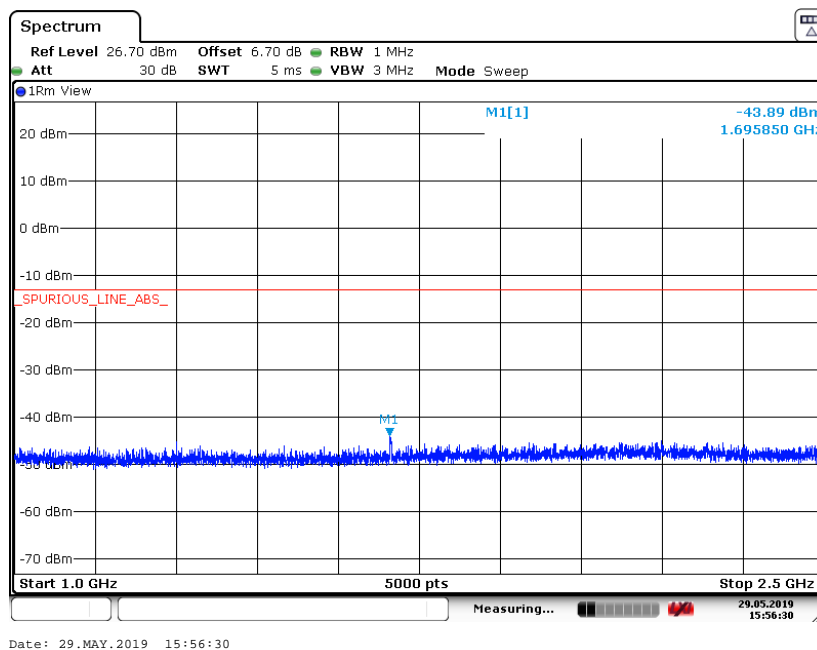
Spurious emission limit –13dBm.

**NOTE: peak above the limit line is the carrier frequency.**



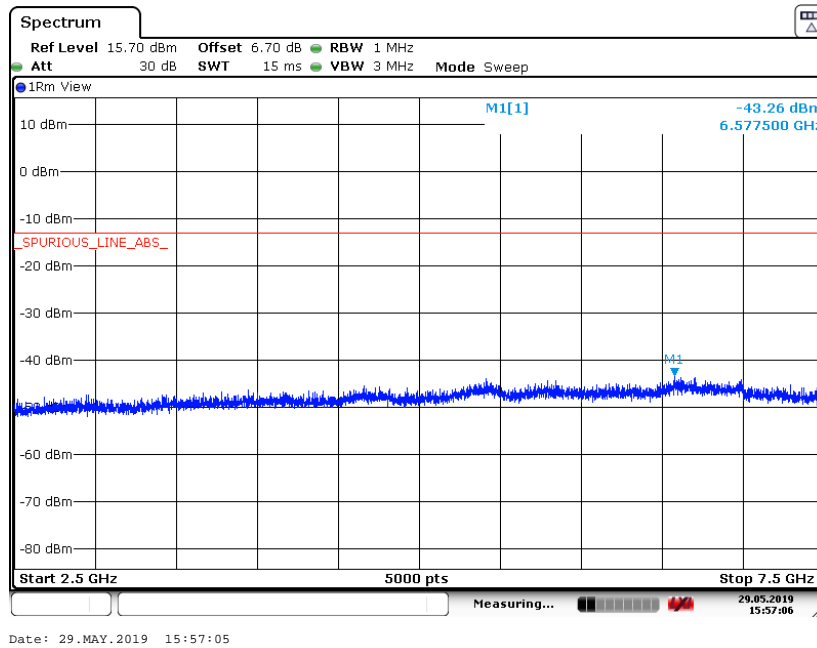
**A. 6.3.28 Channel 777: 1GHz – 2.5GHz**

Spurious emission limit –13dBm.

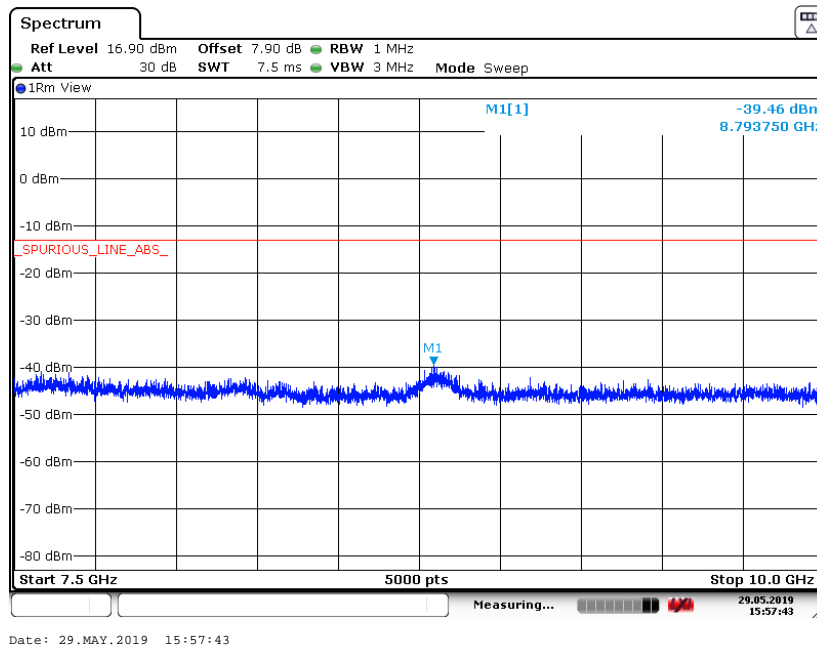




**A. 6.3.29 Channel 777: 2.5GHz –7.5GHz**  
Spurious emission limit –13dBm.



**A. 6.3.30 Channel 777: 7.5GHz – 10GHz**  
Spurious emission limit –13dBm.





**A.7 PEAK-TO-AVERAGE POWER RATIO**

**Reference**

FCC: CFR Part 24.232

Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of § 24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

According to KDB 971168 D01:

- a) Refer to instrument's analyzer instruction manual for details on how to use the power Statistics/CCDF function;
- b) Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth;
- c) Set the number of counts to a value that stabilizes the measured CCDF curve;
- d) Set the measurement interval to 1 ms;
- e) Record the maximum PAPR level associated with a probability of 0.1%.

**A.7.1 Measurement limit**

Not exceed 13 dB

**A.7.2 Measurement results**

**CDMA 1900**

**Measurement result**

| Channel | Frequency(MHz) | PAPR(dB) |        |      |
|---------|----------------|----------|--------|------|
|         |                | 1x RTT   | 1xEVDO |      |
|         |                |          | Rel0   | RevA |
| 600     | 1880.00        | 3.74     | 4.49   | 4.52 |

**ANNEX B: Accreditation Certificate**

**United States Department of Commerce  
National Institute of Standards and Technology**



---

**Certificate of Accreditation to ISO/IEC 17025:2005**

---

**NVLAP LAB CODE: 600118-0**

**Telecommunication Technology Labs, CAICT**  
Beijing  
China

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:*

**Electromagnetic Compatibility & Telecommunications**

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2018-09-28 through 2019-09-30  
*Effective Dates*



  
*For the National Voluntary Laboratory Accreditation Program*

\*\*\*END OF REPORT\*\*\*