



# **TEST REPORT**

# No. I17Z60633-CTE01

for

TCL Communication Ltd.

CDMA/EVDO/GSM/UMTS/LTE Mobile phone

Model Name: 5049S

FCC ID: 2ACCJB083

with

**Hardware Version: PIO** 

Software Version: v5G1H

Issued Date: 2017-5-15

#### 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.

#### **Test Laboratory:**

FCC 2.948 Listed: No.733176

CTTL, Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT

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# **REPORT HISTORY**

| Report Number   | Revision | Description | Issue Date |
|-----------------|----------|-------------|------------|
| I17Z60633-CTE01 | Rev.0    | 1st edition | 2017-5-15  |
| -               | -        | -           | -          |



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# 1. Test Laboratory

# 1.1. Testing Location

Company Name:

CTTL(huayuan North Road)

Address:

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

100191

Postal Code:

100191

# 1.2. Testing Environment

Normal Temperature:

15-35℃

Relative Humidity:

20-80%

# 1.3. Project data

Testing Start Date:

May. 8th,2017

Testing End Date:

May. 15th,2017

# 1.4. Signature

势

Zhu Jun

(Prepared this test report)

Li ChuanFeng

(Reviewed this test report)

Guo Gan

**Deputy Director of the laboratory** 

(Approved this test report)



# 2. Client Information

# 2.1. Applicant Information

Company Name: TCL Communication Ltd.

Address /Post: 5F, C building, No. 232, Liang Jing Road, ZhangJiang High-Tech

Park, Pudong Area, Shanghai, P.R. China.

City: Shanghai Postal Code: 201203 Country: China

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# 2.2. Manufacturer Information

Company Name: TCL Communication Ltd.

Address /Post: 5F, C building, No. 232, Liang Jing Road, ZhangJiang High-Tech

Park, Pudong Area, Shanghai, P.R. China.

City: Shanghai Postal Code: 201203 Country: China

Contact Person: Zhizhou Gong

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 zhizhou.gong@tcl.com

 Telephone:
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 Fax:
 +86 21 61460602



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

# 3.1. About EUT

Description CDMA/EVDO/GSM/UMTS/LTE Mobile phone

Model 5049S

FCC ID 2ACCJB083

Frequency CDMA800MHz(BC0);CDMA1900MHz(BC1)

Antenna Internal

Power supply Battery or Charger (AC Adaptor)

Extreme vol. Limits 3.5VDC to 4.35VDC (nominal: 3.8 VDC)

Extreme temp. Tolerance -10°C to +50°C

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of Telecommunication Metrology Center of MIIT of People's Republic of China.

# 3.2. Internal Identification of EUT used during the test

 EUT ID\*
 SN or MEID
 HW Version
 SW Version

 UT13a
 355471080105665
 PIO
 v5G1H

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

 AE ID\*
 Description
 SN

 AE1
 Battery
 CAC2900001C1

 AE2
 Normal Charger
 CBA0058AGAC2

AE1

Model LI-Polymer Battery

Manufacturer BYD
Capacitance 2900mAh
Nominal Voltage 3.85V

AE2

Model Normal Charger

Manufacturer Ten Pao Industrial Co Ltd \*AE ID: is used to identify the test sample in the lab internally.

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



# 3.4. General Description

The Equipment Under Test (EUT) is a model of CDMA/EVDO/GSM/UMTS/LTE Mobile phone with integrated 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.

| Reference<br>FCC Part 24 | Title PERSONAL COMMUNICATIONS SERVICES  | <b>Version</b><br>V10-1-15 |
|--------------------------|---|----------------------------|
| FCC Part 22              | PUBLIC MOBILE SERVICES  | V10-1-15                   |
| FCC Part 2               | FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS;GENERAL RULES AND REGULATIONS        | V10-1-15                   |
| ANSI/TIA-603-D           | Land Mobile FM or PM Communications Equipment Measurement and Performance Standards | 2010                       |
| KDB 971168 D01           | Measurement Guidance for Certification of Licensed Digital<br>Transmitters          | v02r02                     |



# 5. <u>LABORATORY ENVIRONMENT</u>

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

|                          | <u> </u>                   |
|--------------------------|----------------------------|
| Temperature              | Min. = 15 °C, Max. = 35 °C |
| Relative humidity        | Min. =20 %, Max. = 80 %    |
| Shielding effectiveness  | > 110 dB                   |
| Electrical insulation    | > 2 MΩ                     |
| Ground system resistance | < 0.5 Ω                    |



# 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   | DDODLICED | PRODUCER   CALIBRATION | CAL DUE   |
|-----|------------------------------|--------------|----------|-----------|------------------------|-----------|
| NO. | INAIVIE                      | ITPE         | NUMBER   | PRODUCER  | INTERVAL               | DATE      |
| 1   | Spectrum Analyzer            | FSV30        | 101576   | R&S       | 1 Year                 | 2018-2-1  |
| 2   | Wireless Communications Test | 8960(E5515C) | GB461603 | Agilent   | 1 Year                 | 2017-7-22 |
|     | Set                          | ,            | 13       | 0         |                        |           |
| 3   | Climatic chamber             | SH-641       | 92009050 | ESPEC     | 2 Years                | 2018-2-16 |



# **ANNEX A: MEASUREMENT RESULTS**

# A.1 OUTPUT POWER (§22.913(a)/§24.232(c))

#### 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 ≥ 3 × RBW.
- d) Set number of points in sweep ≥ 2 × 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 power(dBm) |       |       |
|---------|----------------|--------------------|-------|-------|
| Channel | Frequency(MHz) | 1v DTT             | 1xE   | VDO   |
|         |                | 1x RTT             | Rel0  | RevA  |
| 1013    | 824.70         | 24.73              | 24.66 | 24.43 |
| 384     | 836.52         | 24.48              | 24.54 | 24.30 |
| 777     | 848.31         | 24.59              | 24.52 | 23.35 |

# **CDMA 1900**

# **Measurement result**

|         |                | Channel power(dBm) |       |       |
|---------|----------------|--------------------|-------|-------|
| Channel | Frequency(MHz) | 1x RTT             | 1xE   | VDO   |
|         |                | IXKII              | Rel0  | RevA  |
| 25      | 1851.25        | 22.72              | 22.63 | 22.41 |
| 600     | 1880.00        | 22.78              | 22.23 | 22.52 |
| 1175    | 1908.75        | 22.90              | 22.39 | 22.65 |



# **A.2 FREQUENCY STABILITY** (§2.1055/§22.355/§24.235)

#### 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 -30℃.
- 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 -30°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<sup>°</sup>C decrements from +50<sup>°</sup>C to -30<sup>°</sup>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 3.55VDC and 4.35VDC, with a nominal voltage of 3.8VDC. 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 cab 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.

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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        | -3.69               | 0.004                |
| 3.8        | -3.36               | 0.004                |
| 4.35       | -3.29               | 0.004                |

#### **Frequency Error vs Temperature**

| temperature(°C) | Frequency error(Hz) | Frequency error(ppm) |
|-----------------|---------------------|----------------------|
| -30             | \                   | \                    |
| -20             | \                   | \                    |
| -10             | -4.73               | 0.006                |
| 0               | 3.25                | 0.004                |
| 10              | 4.31                | 0.005                |
| 20              | -3.36               | 0.004                |
| 30              | -3.97               | 0.005                |
| 40              | 4.13                | 0.005                |
| 50              | 3.56                | 0.004                |



# **CDMA 1900**

# **Frequency Error vs Voltage**

| Voltage(V) | Frequency error(Hz) | Frequency error(ppm) |
|------------|---------------------|----------------------|
| 3.5        | 5.51                | 0.003                |
| 3.8        | 6.23                | 0.003                |
| 4.35       | -6.34               | 0.003                |

# **Frequency Error vs Temperature**

| $temperature(^{\circ}\!\mathbb{C})$ | Frequency error(Hz) | Frequency error(ppm) |
|-------------------------------------|---------------------|----------------------|
| -30                                 | \                   | \                    |
| -20                                 | \                   | \                    |
| -10                                 | 5.80                | 0.003                |
| 0                                   | -4.35               | 0.002                |
| 10                                  | 5.49                | 0.003                |
| 20                                  | 6.23                | 0.003                |
| 30                                  | -5.26               | 0.003                |
| 40                                  | 4.39                | 0.002                |
| 50                                  | 6.42                | 0.003                |



# A.3 OCCUPIED BANDWIDTH (§2.1049(h)(i))

#### A.3.1 Occupied Bandwidth Results

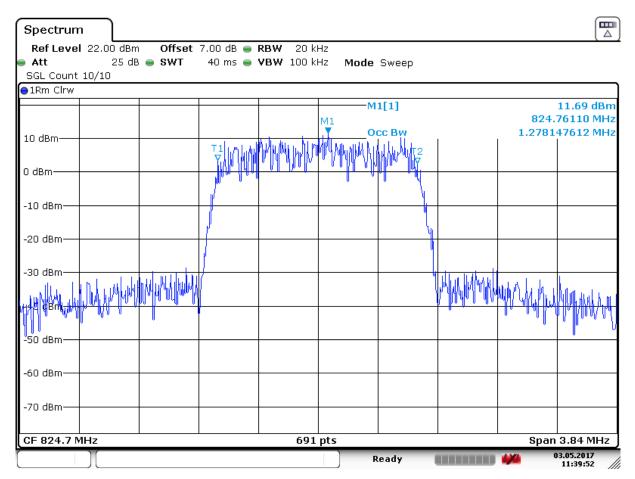
Similar to conducted emissions; occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of the CDMA frequency band. The table below lists the measured 99% BW. Spectrum analyzer plots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

#### CDMA 800 (99% BW)

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

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

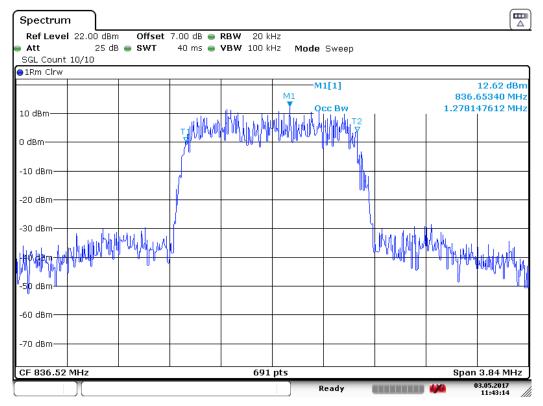
CDMA 800 Channel 1013-Occupied Bandwidth (99% BW)



Date: 3.MAY.2017 11:39:52

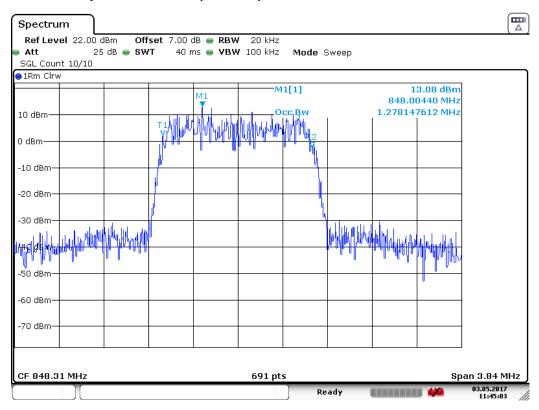


# Channel 384-Occupied Bandwidth (99% BW)



Date: 3.MAY.2017 11:43:15

# Channel 777-Occupied Bandwidth (99% BW)



Date: 3.MAY.2017 11:45:03



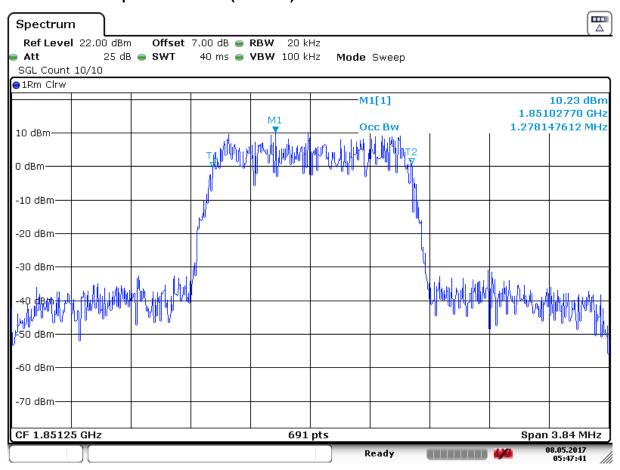
#### CDMA 1900(99% BW)

| Channel | Occupied Bandwidth (99% BW)( MHz) |  |  |
|---------|-----------------------------------|--|--|
| 25      | 1.278                             |  |  |
| 600     | 1.278                             |  |  |
| 1175    | 1.278                             |  |  |

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

#### **CDMA 1900**

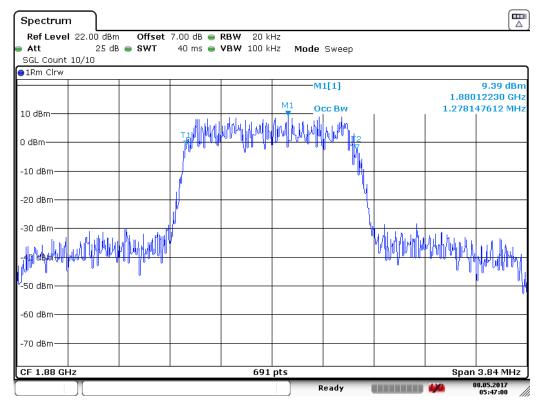
# Channel 25-Occupied Bandwidth (99% BW)



Date: 8.MAY.2017 05:47:41

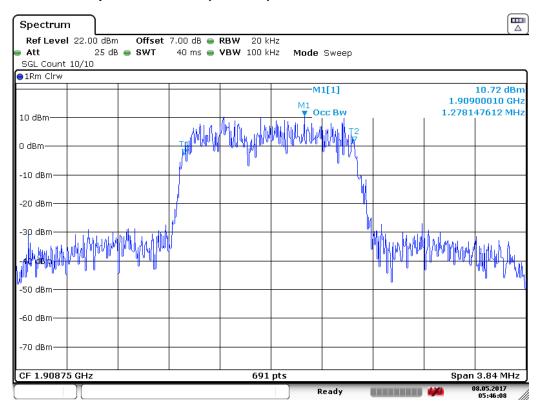


# Channel 600-Occupied Bandwidth (99% BW)



#### Date: 8.MAY.2017 05:47:01

# Channel 1175-Occupied Bandwidth (99% BW)



Date: 8.MAY.2017 05:46:08



# <u>A.4 EMISSION BANDWIDTH</u> (§22.917(b)/§24.238(b))

#### A.4.1Emission Bandwidth Results

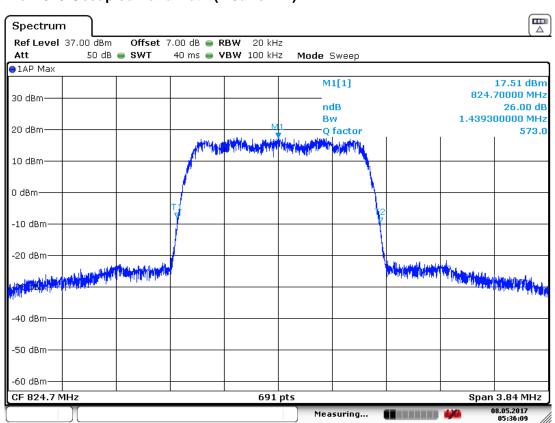
Similar to conducted emissions; Emission bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of the CDMA 800, and CDMA 1900 band. Table below lists the measured -26dBc BW. Spectrum analyzer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

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

| Channel | Occupied Bandwidth (–26dBc BW)( MHz) |  |  |
|---------|--------------------------------------|--|--|
| 1013    | 1.439                                |  |  |
| 384     | 1.423                                |  |  |
| 777     | 1.434                                |  |  |

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

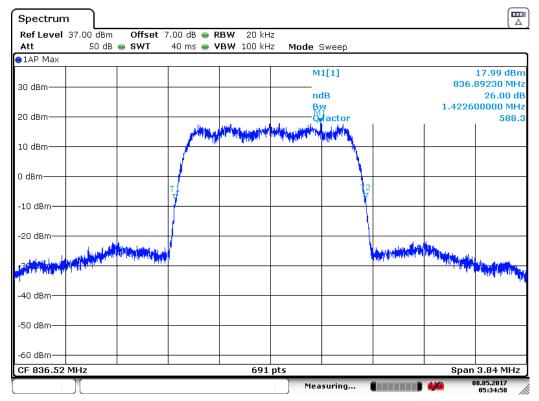
CDMA 800 Channel 1013-Occupied Bandwidth (-26dBc BW)



Date: 8.MAY.2017 05:36:09

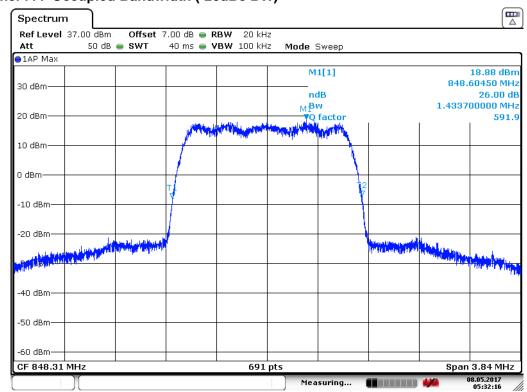


# Channel 384-Occupied Bandwidth (-26dBc BW)



Date: 8.MAY.2017 05:34:50

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



Date: 8.MAY.2017 05:32:16



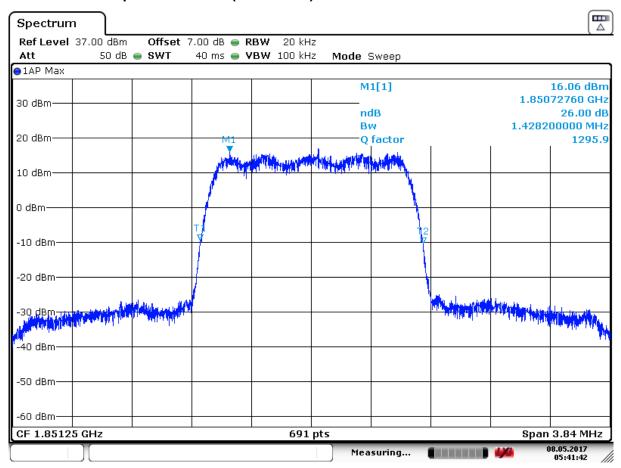
#### CDMA 1900 (-26dBc)

| Channel | Occupied Bandwidth (–26dBc BW)( MHz) |  |  |
|---------|--------------------------------------|--|--|
| 25      | 1.428                                |  |  |
| 600     | 1.428                                |  |  |
| 1175    | 1.434                                |  |  |

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

**CDMA 1900** 

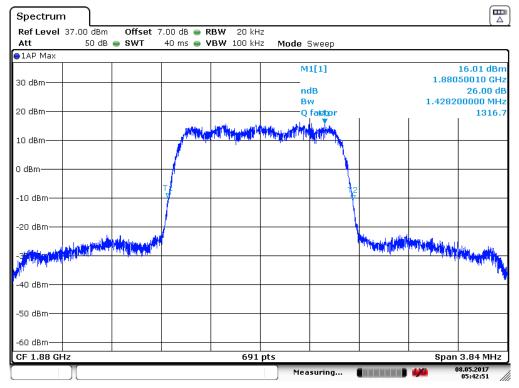
# Channel 25-Occupied Bandwidth (-26dBc BW)



Date: 8.MAY.2017 05:41:42

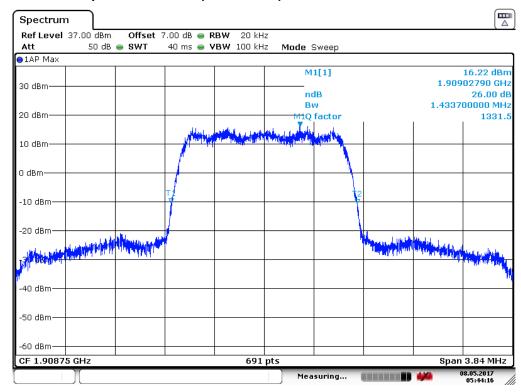


# Channel 600-Occupied Bandwidth (-26dBc BW)



Date: 8.MAY.2017 05:42:52

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

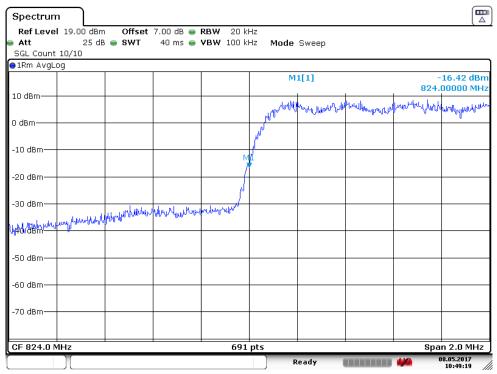


Date: 8.MAY.2017 05:44:16



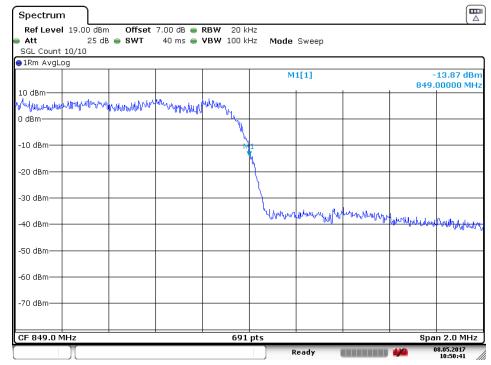
# A.5 BAND EDGE COMPLIANCE (§22.917(b)/§24.238(b))

# CDMA 800 BAND EDGE BLOCK-Channel 1013



Date: 8.MAY.2017 10:49:19

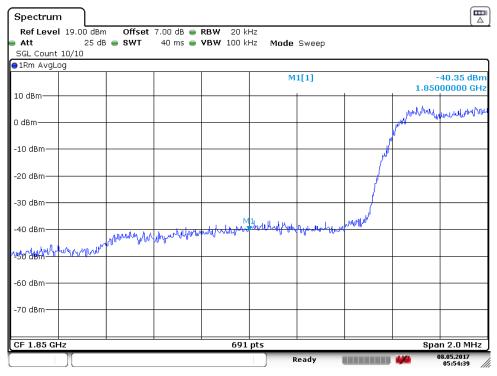
#### **BAND EDGE BLOCK-Channel 777**



Date: 8.MAY.2017 10:50:42

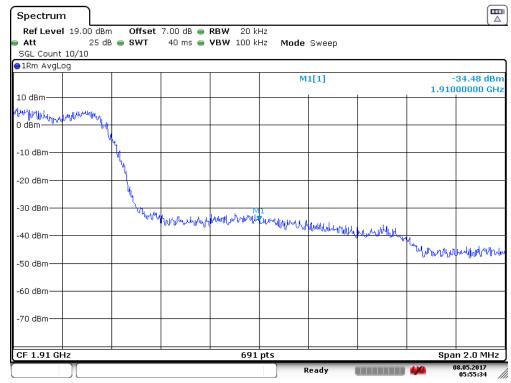


# CDMA 1900 BAND EDGE BLOCK-Channel 25



Date: 8.MAY.2017 05:54:39

#### **BAND EDGE BLOCK-Channel 1175**



Date: 8.MAY.2017 05:55:34



# A.6 CONDUCTED SPURIOUS EMISSION (§2.1057/§22.917/§24.238)

#### A.6.1 Measurement Method

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

- 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.

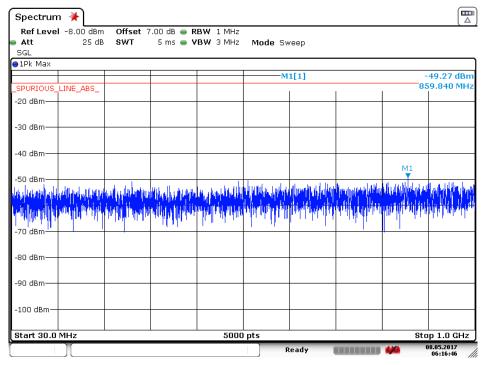
(a) On any frequency outside frequency band of the USPCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least 43+10Log(P) dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.



# A. 6.3 Measurement result CDMA 1900

#### A. 6.3.1 Channel 25: 30MHz -1GHz

Spurious emission limit -13dBm.

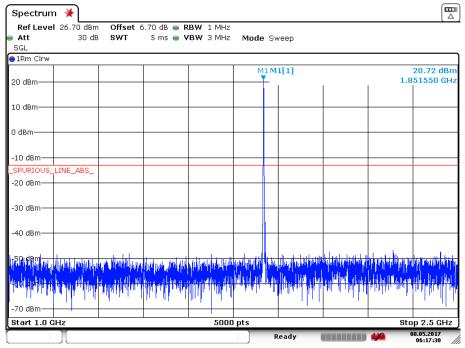


Date: 8.MAY.2017 06:16:46

#### A.6.3.2 Channel 25: 1GHz -2.5GHz

Spurious emission limit -13dBm.

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

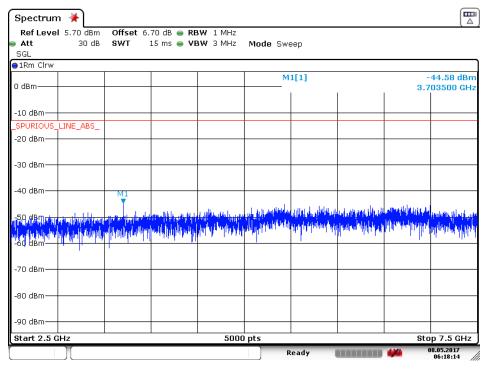


Date: 8.MAY.2017 06:17:30



#### A.6.3.3 Channel 25: 2.5GHz -7.5GHz

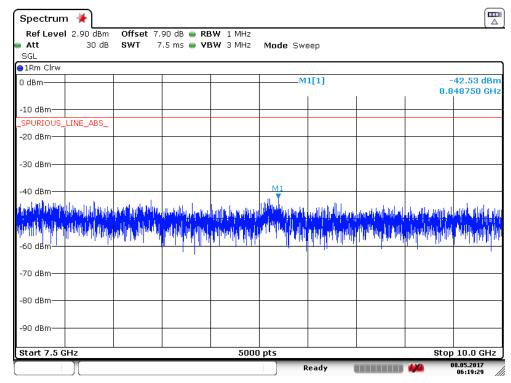
Spurious emission limit -13dBm.



Date: 8.MAY.2017 06:18:14

#### A.6.3.4 Channel 25: 7.5GHz -10GHz

Spurious emission limit -13dBm.

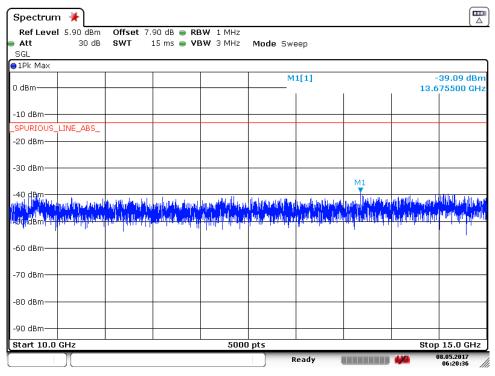


Date: 8.MAY.2017 06:19:30



#### A.6.3.5 Channel 25: 10GHz -15GHz

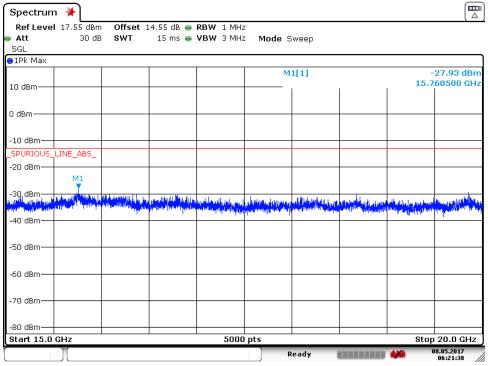
Spurious emission limit -13dBm.



Date: 8.MAY.2017 06:20:36

#### A.6.3.6 Channel 25: 15GHz -20GHz

Spurious emission limit -13dBm.

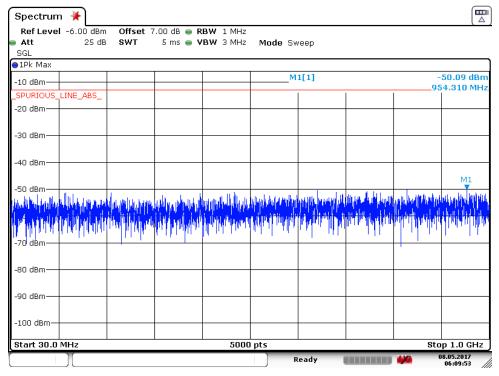


Date: 8.MAY.2017 06:21:38



#### A. 6.3.7 Channel 600: 30MHz -1GHz

Spurious emission limit -13dBm.

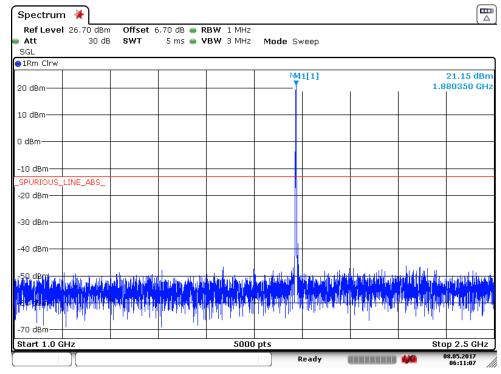


Date: 8.MAY.2017 06:09:53

#### A.6.3.8 Channel 600: 1GHz -2.5GHz

Spurious emission limit -13dBm.

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

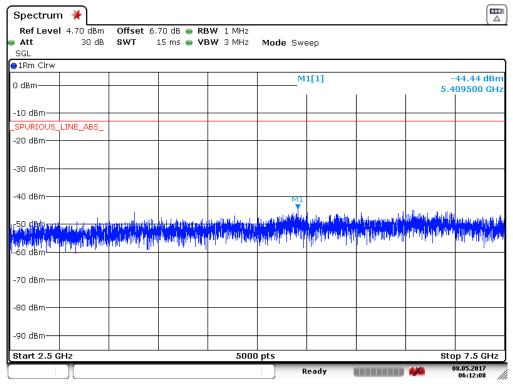


Date: 8.MAY.2017 06:11:07



#### A.6.3.9 Channel 600: 2.5GHz -7.5GHz

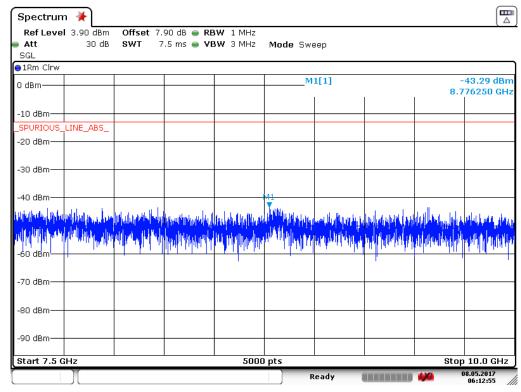
Spurious emission limit -13dBm.



Date: 8.MAY.2017 06:12:08

#### A.6.3.10 Channel 600: 7.5GHz -10GHz

Spurious emission limit -13dBm.

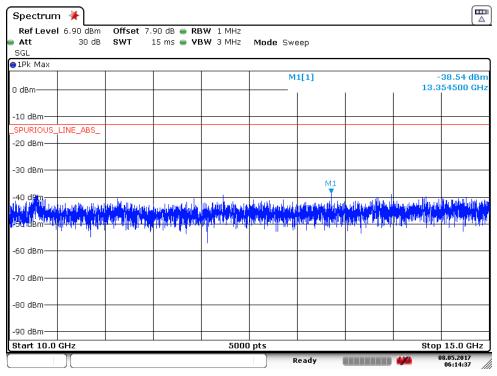


Date: 8.MAY.2017 06:12:55



#### A.6.3.11 Channel 600: 10GHz -15GHz

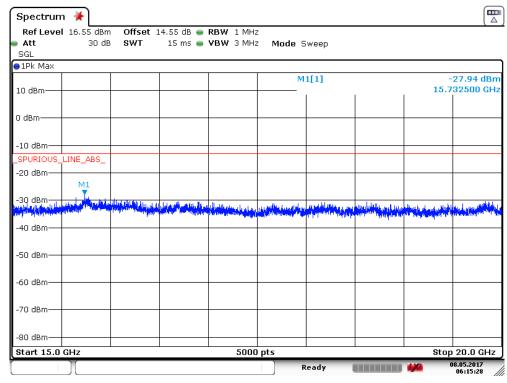
Spurious emission limit -13dBm.



Date: 8.MAY.2017 06:14:37

#### A.6.3.12 Channel 600: 15GHz -20GHz

Spurious emission limit -13dBm.

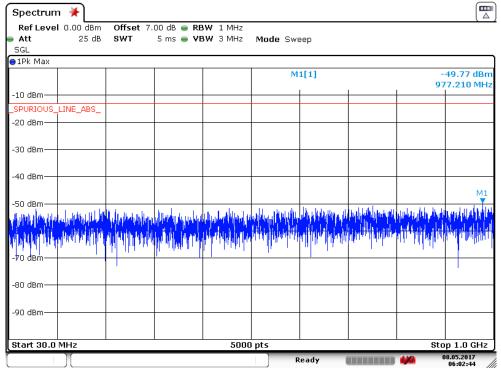


Date: 8.MAY.2017 06:15:29



#### A. 6.3.13 Channel 1175: 30MHz -1GHz

Spurious emission limit -13dBm.

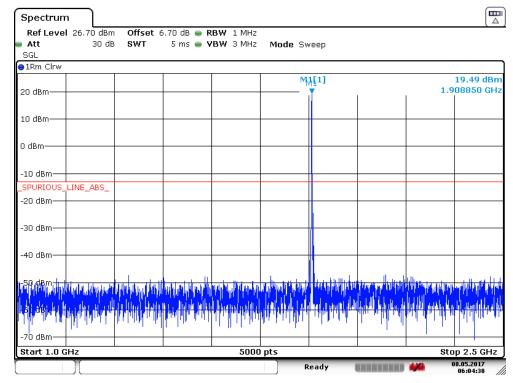


Date: 8.MAY.2017 06:02:44

#### A.6.3.14 Channel 1175: 1GHz -2.5GHz

Spurious emission limit -13dBm.

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

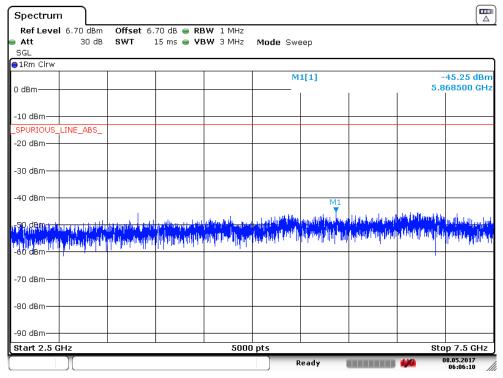


Date: 8.MAY.2017 06:04:39



#### A.6.3.15 Channel 1175: 2.5GHz -7.5GHz

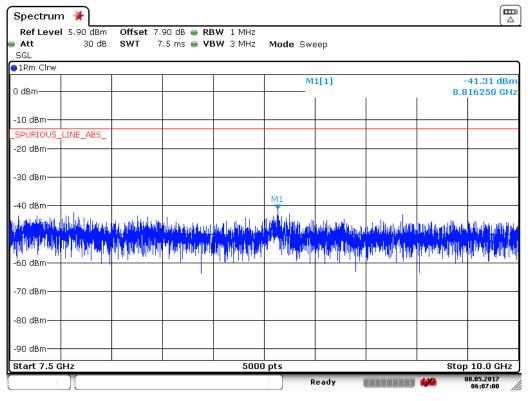
Spurious emission limit -13dBm.



Date: 8.MAY.2017 06:06:11

#### A.6.3.16 Channel 1175: 7.5GHz -10GHz

Spurious emission limit -13dBm.

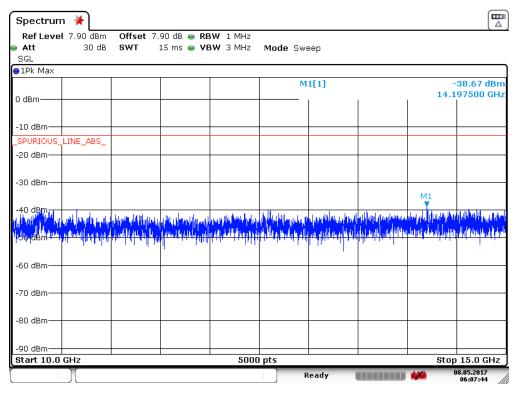


Date: 8.MAY.2017 06:07:00



#### A.6.3.17 Channel 1175: 10GHz -15GHz

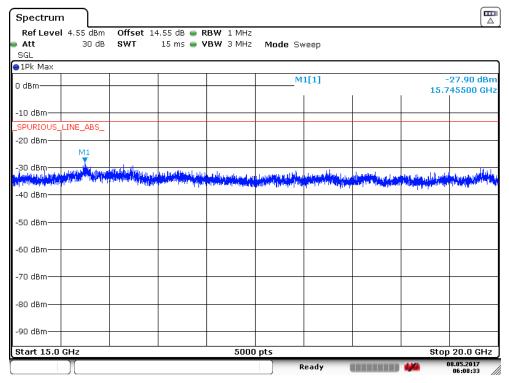
Spurious emission limit -13dBm.



Date: 8.MAY.2017 06:07:44

#### A.6.3.18 Channel 1175: 15GHz -20GHz

Spurious emission limit -13dBm.

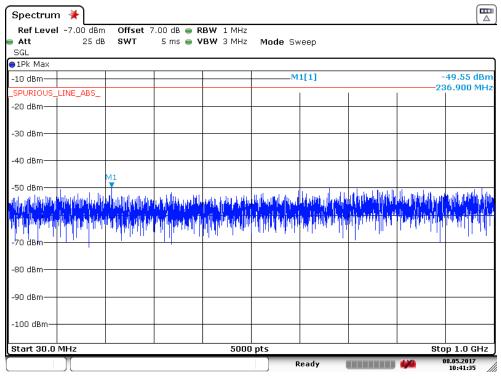


Date: 8.MAY.2017 06:08:34



#### A. 6.3.19 Idle mode: 30MHz -1GHz

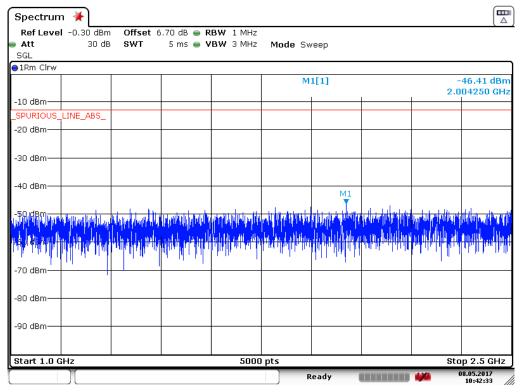
Spurious emission limit -13dBm.



Date: 8.MAY.2017 10:41:36

#### A.6.3.20 Idle mode: 1GHz -2.5GHz

Spurious emission limit -13dBm.

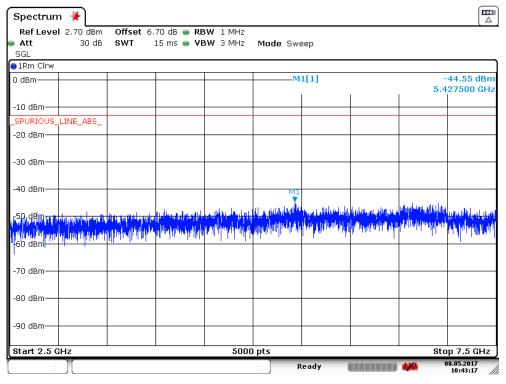


Date: 8.MAY.2017 10:42:34



#### A.6.3.21 Idle mode: 2.5GHz -7.5GHz

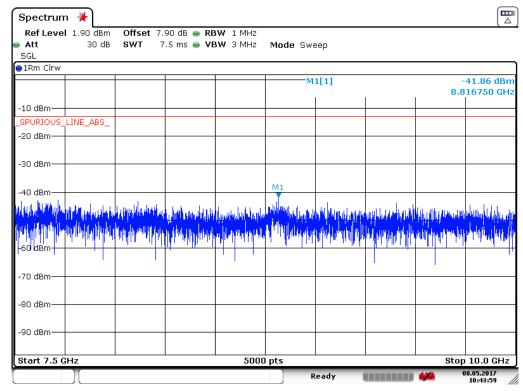
Spurious emission limit -13dBm.



Date: 8.MAY.2017 10:43:17

#### A.6.3.22 Idle mode: 7.5GHz -10GHz

Spurious emission limit -13dBm.

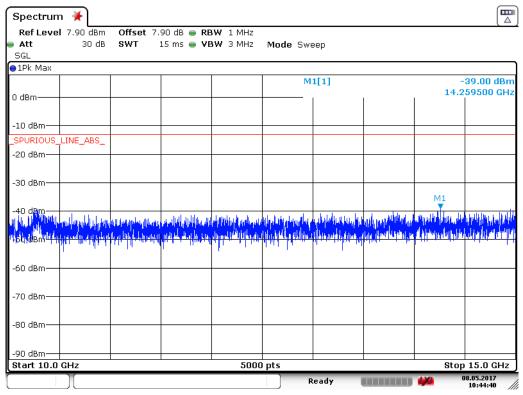


Date: 8.MAY.2017 10:43:59



#### A.6.3.23 Idle mode: 10GHz -15GHz

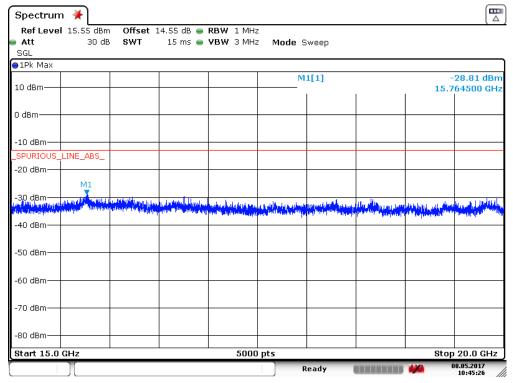
Spurious emission limit -13dBm.



Date: 8.MAY.2017 10:44:40

#### A.6.3.24 Idle mode: 15GHz -20GHz

Spurious emission limit -13dBm.



Date: 8.MAY.2017 10:45:27

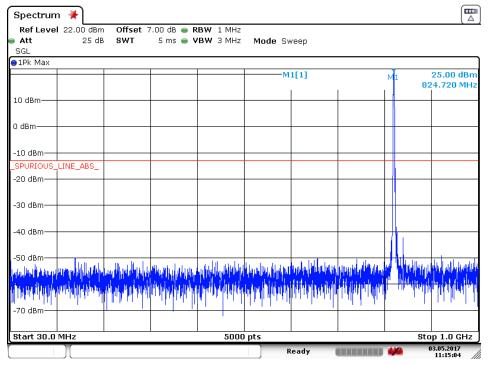


#### **CDMA 800**

#### A. 6.3.25 Channel 1013: 30MHz -1GHz

Spurious emission limit -13dBm.

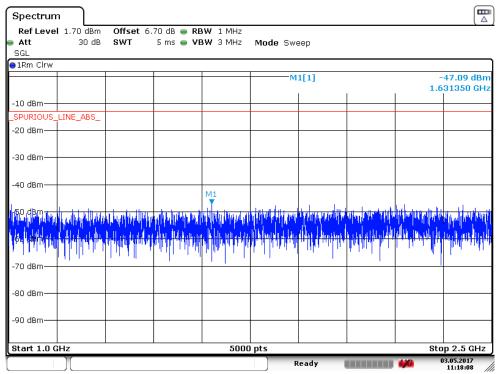
NOTE: peak above the limit line is the carrier frequency.



Date: 3.MAY.2017 11:15:04

#### A. 6.3.26 Channel 1013: 1GHz - 2.5GHz

Spurious emission limit -13dBm.

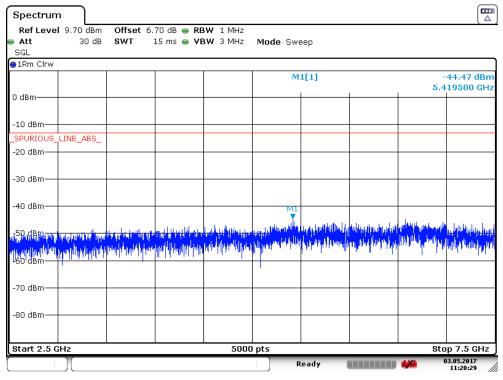


Date: 3.MAY.2017 11:18:08



#### A. 6.3.27 Channel 1013: 2.5GHz -7.5GHz

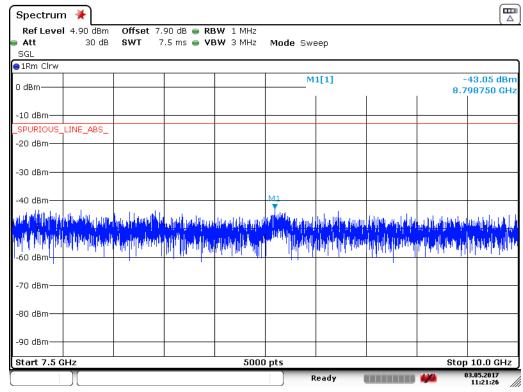
Spurious emission limit -13dBm.



Date: 3.MAY.2017 11:20:29

#### A. 6.3.28 Channel 1013: 7.5GHz - 10GHz

Spurious emission limit -13dBm.



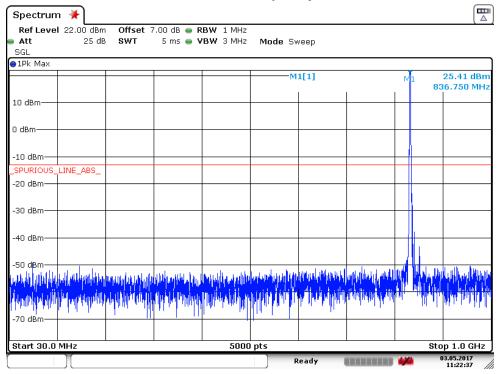
Date: 3.MAY.2017 11:21:27



#### A. 6.3.29 Channel 384: 30MHz -1GHz

Spurious emission limit -13dBm.

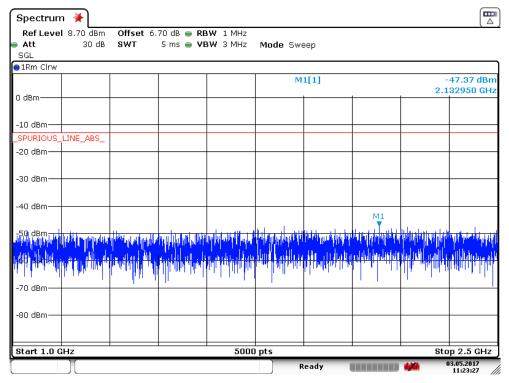
NOTE: peak above the limit line is the carrier frequency.



Date: 3.MAY.2017 11:22:37

#### A.6.3.30 Channel 384: 1GHz - 2.5GHz

Spurious emission limit -13dBm.

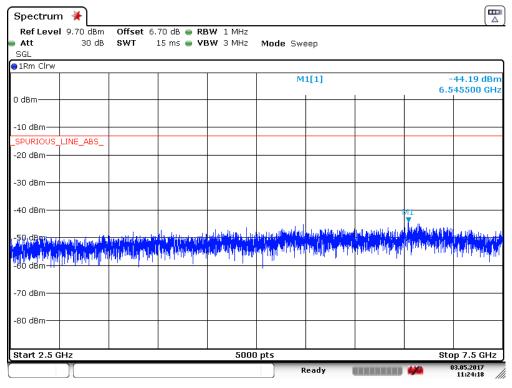


Date: 3.MAY.2017 11:23:27



#### A. 6.3.31 Channel 384: 2.5GHz -7.5GHz

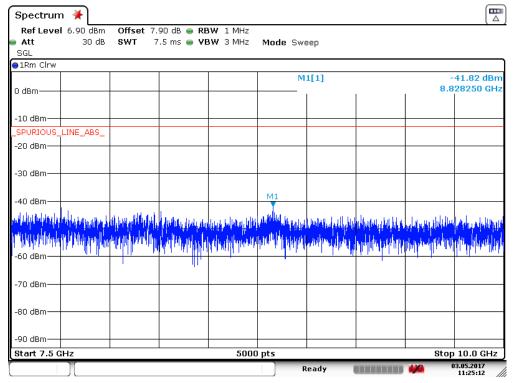
Spurious emission limit -13dBm.



Date: 3.MAY.2017 11:24:18

#### A. 6.3.32 Channel 384: 7.5GHz - 10GHz

Spurious emission limit -13dBm.



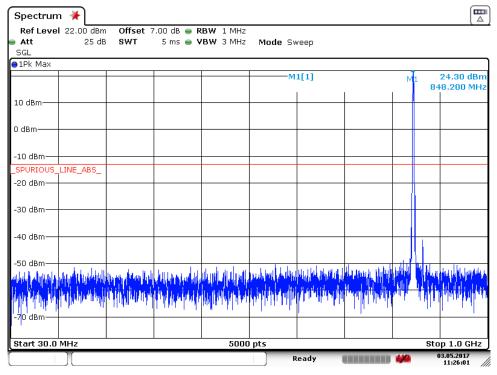
Date: 3.MAY.2017 11:25:12



#### A. 6.3.33 Channel 777: 30MHz -1GHz

Spurious emission limit -13dBm.

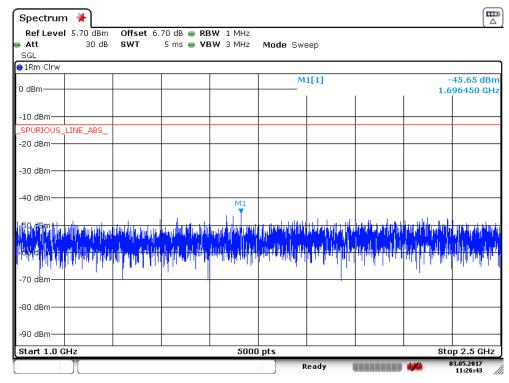
NOTE: peak above the limit line is the carrier frequency.



#### Date: 3.MAY.2017 11:26:01

#### A. 6.3.34 Channel 777: 1GHz - 2.5GHz

Spurious emission limit -13dBm.

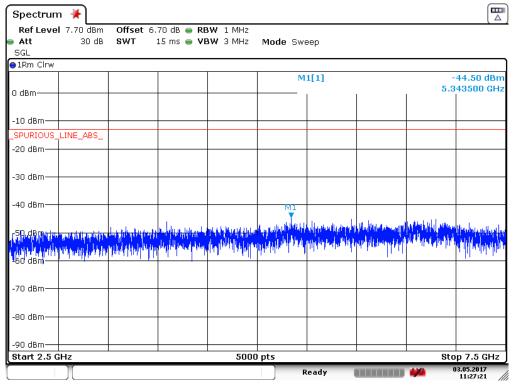


Date: 3.MAY.2017 11:26:44



#### A. 6.3.35 Channel 777: 2.5GHz -7.5GHz

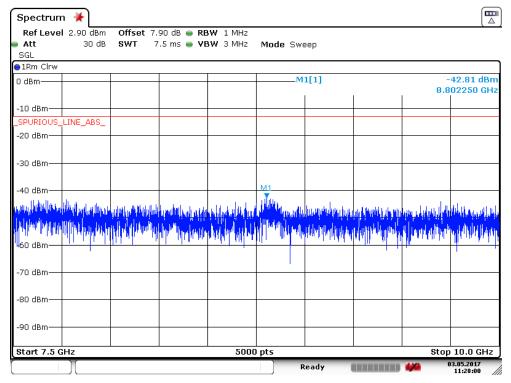
Spurious emission limit -13dBm.



Date: 3.MAY.2017 11:27:21

#### A. 6.3.36 Channel 777: 7.5GHz - 10GHz

Spurious emission limit -13dBm.

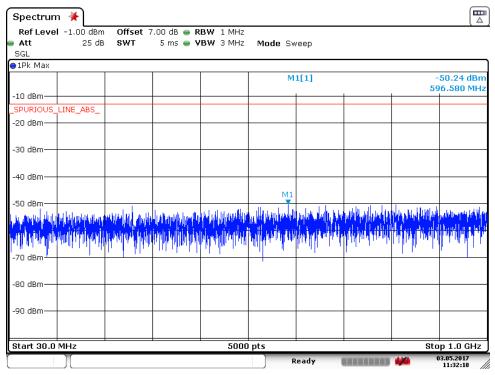


Date: 3.MAY.2017 11:28:00



#### A. 6.3.37 Idle mode: 30MHz - 1GHz

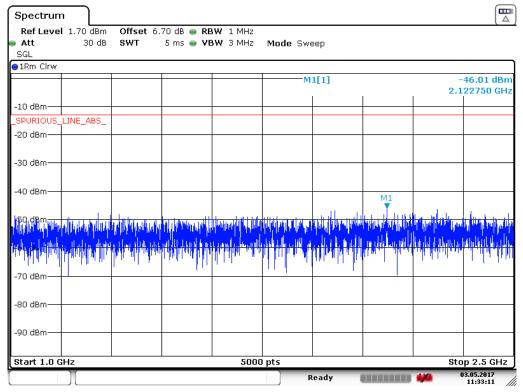
Spurious emission limit -13dBm.



Date: 3.MAY.2017 11:32:18

#### A.6.3.38 Idle mode: 1GHz - 2.5GHz

Spurious emission limit -13dBm.

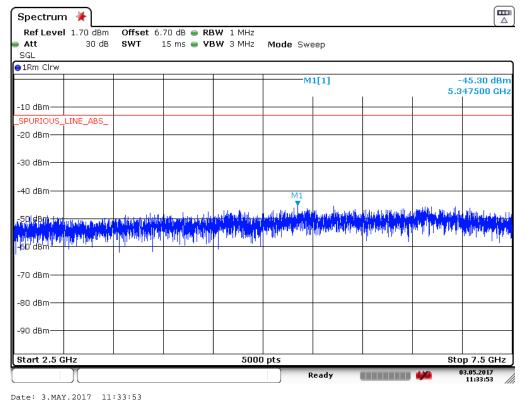


Date: 3.MAY.2017 11:33:11



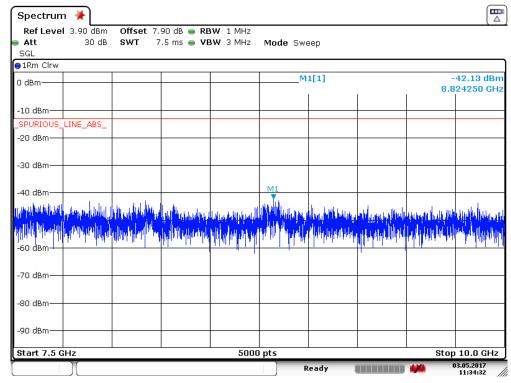
#### A.6.3.39 Idle mode: 2.5GHz - 7.5GHz

Spurious emission limit -13dBm.



#### A.6.3.40 Idle mode: 7.5GHz - 10GHz

Spurious emission limit -13dBm.



Date: 3.MAY.2017 11:34:32



# A.7 PEAK-TO-AVERAGE POWER RATIO (§24.232(d))

#### Reference

FCC: CFR Part 24.232(d)

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 v02r02 5.7.1:

- a) Refer to instrument's analyzer instruction manual for details on how to use the power Statistics/CCDF function;
- b) Set resolution/measurement bandwidth ≥ 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 800**

#### Measurement result

| Channel | Frequency(MHz) | PAPR(dB) |        |      |
|---------|----------------|----------|--------|------|
|         |                | 1x RTT   | 1xEVDO |      |
|         |                |          | Rel0   | RevA |
| 384     | 836.52         | 8.70     | 8.26   | 8.29 |

# **CDMA 1900**

#### **Measurement result**

| Channel | Frequency(MHz) | PAPR(dB) |        |      |
|---------|----------------|----------|--------|------|
|         |                | 1x RTT   | 1xEVDO |      |
|         |                |          | Rel0   | RevA |
| 600     | 1880.00        | 3.83     | 4.81   | 4.72 |

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