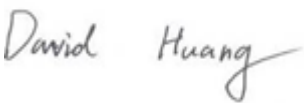


# RF TEST REPORT



Report No.: Q181101S008-FCC-R1

Supersede Report No.: N/A

|                                                                                                                                      |                                                                                     |                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Applicant                                                                                                                            | Cedar Kingdom Corporation Limited                                                   |                                                                                       |
| Product Name                                                                                                                         | Mobile Phone                                                                        |                                                                                       |
| Model No.                                                                                                                            | V501C                                                                               |                                                                                       |
| Serial No.                                                                                                                           | N/A                                                                                 |                                                                                       |
| Test Standard                                                                                                                        | FCC Part 22(H) ;FCC Part 24(E); ANSI/TIA-603-D: 2010                                |                                                                                       |
| Test Date                                                                                                                            | November 06 to 25, 2018                                                             |                                                                                       |
| Issue Date                                                                                                                           | December 03, 2018                                                                   |                                                                                       |
| Test Result                                                                                                                          | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail              |                                                                                       |
| Equipment complied with the specification <input checked="" type="checkbox"/>                                                        |                                                                                     |                                                                                       |
| Equipment did not comply with the specification <input type="checkbox"/>                                                             |                                                                                     |                                                                                       |
|                                                   |  |  |
| Aaron Liang<br>Test Engineer                                                                                                         | David Huang<br>Checked By                                                           |                                                                                       |
| This test report may be reproduced in full only<br>Test result presented in this test report is applicable to the tested sample only |                                                                                     |                                                                                       |

Issued by:

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## Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.



In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

### Accreditations for Conformity Assessment

| Country/Region | Scope                              |
|----------------|------------------------------------|
| USA            | EMC, RF/Wireless, SAR, Telecom     |
| Canada         | EMC, RF/Wireless, SAR, Telecom     |
| Taiwan         | EMC, RF, Telecom, SAR, Safety      |
| Hong Kong      | RF/Wireless, SAR, Telecom          |
| Australia      | EMC, RF, Telecom, SAR, Safety      |
| Korea          | EMI, EMS, RF, SAR, Telecom, Safety |
| Japan          | EMI, RF/Wireless, SAR, Telecom     |
| Singapore      | EMC, RF, SAR, Telecom              |
| Europe         | EMC, RF, SAR, Telecom, Safety      |

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## 1. Report Revision History

| Report No.         | Report Version | Description | Issue Date        |
|--------------------|----------------|-------------|-------------------|
| Q181101S008-FCC-R1 | NONE           | Original    | December 03, 2018 |
|                    |                |             |                   |
|                    |                |             |                   |
|                    |                |             |                   |

## 2. Customer information

|                  |                                                          |
|------------------|----------------------------------------------------------|
| Applicant Name   | Cedar Kingdom Corporation Limited                        |
| Applicant Add    | 11/F, AXA Centre 151 Gloucester Road, Wanchai, Hong Kong |
| Manufacturer     | Cedar Kingdom Corporation Limited                        |
| Manufacturer Add | 11/F, AXA Centre 151 Gloucester Road, Wanchai, Hong Kong |

## 3. Test site information

Test Lab A:

|                      |                                                                                                                                              |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Lab performing tests | SIEMIC (Shenzhen-China) LABORATORIES                                                                                                         |
| Lab Address          | Zone A, Floor 1, Building 2 Wan Ye Long Technology Park<br>South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China<br>518108 |
| FCC Test Site No.    | 535293                                                                                                                                       |
| IC Test Site No.     | 4842E-1                                                                                                                                      |
| Test Software        | Radiated Emission Program-To Shenzhen v2.0                                                                                                   |

Test Lab B:

|                      |                                                                                               |
|----------------------|-----------------------------------------------------------------------------------------------|
| Lab performing tests | Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch Laboratories                                |
| Lab Address          | No. 34, Chenwulu Section, Guantai Rd., Houjie Town, Dongguan City,<br>Guangdong 523942, China |
| FCC Test Site No.    | 749762                                                                                        |
| IC Test Site No.     | 5936A-1                                                                                       |
| Test Software        | ADT_Radiated_V7.6.15.9.2                                                                      |

Note: We just perform Radiated Spurious Emission above 18GHz in the test Lab. B.

## 4. Equipment under Test (EUT) Information

|                      |                                                                                                                                                                |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description of EUT:  | Mobile Phone                                                                                                                                                   |
| Main Model:          | V501C                                                                                                                                                          |
| Serial Model:        | N/A                                                                                                                                                            |
| Date EUT received:   | November 11, 2018                                                                                                                                              |
| Test Date(s):        | November 06 to 25, 2018                                                                                                                                        |
| Equipment Category : | PCE                                                                                                                                                            |
| Antenna Gain:        | GSM850: -1.12dBi<br>PCS1900: -1.45dBi<br>UMTS-FDD Band V: -1.12dBi<br>UMTS-FDD Band II: -1.45dBi<br>WIFI: -2.03dBi<br>Bluetooth/BLE: -2.06dBi<br>GPS: -1.56dBi |
| Antenna Type:        | PIFA antenna                                                                                                                                                   |
| Type of Modulation:  | GSM / GPRS: GMSK<br>EGPRS: GMSK<br>UMTS-FDD: QPSK<br>802.11b/g/n: DSSS, OFDM<br>Bluetooth: GFSK, $\pi$ /4DQPSK, 8DPSK<br>BLE: GFSK<br>GPS: BPSK                |

|                               |                                                              |
|-------------------------------|--------------------------------------------------------------|
|                               | GSM850 TX: 824.2 ~ 848.8 MHz; RX: 869.2 ~ 893.8 MHz          |
|                               | PCS1900 TX: 1850.2 ~ 1909.8 MHz; RX: 1930.2 ~ 1989.8 MHz     |
|                               | UMTS-FDD Band V TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz |
|                               | UMTS-FDD Band II TX: 1852.4 ~ 1907.6 MHz;                    |
| RF Operating Frequency (ies): | RX: 1932.4 ~ 1987.6 MHz                                      |
|                               | WIFI: 802.11b/g/n(20M): 2412-2462 MHz                        |
|                               | WIFI: 802.11n(40M): 2422-2452 MHz                            |
|                               | Bluetooth& BLE: 2402-2480 MHz                                |
|                               | GPS: 1575.42 MHz                                             |
|                               | GSM Voice:GSM850: 32.99 dBm                                  |
|                               | PCS1900: 29.89 dBm                                           |
|                               | GPRS:GSM850: 32.99 dBm                                       |
|                               | PCS1900: 29.89 dBm                                           |
|                               | EGPRS(MSC1):GSM850: 32.97 dBm                                |
| Maximum Conducted             | PCS1900: 29.83 dBm                                           |
| AV Power to Antenna:          | RMC:UMTS-FDD Band V: 21.48 dBm                               |
|                               | UMTS-FDD Band II: 21.43 dBm                                  |
|                               | HSUPA:UMTS-FDD Band V: 20.96 dBm                             |
|                               | UMTS-FDD Band II: 20.85dBm                                   |
|                               | HSDPA:UMTS-FDD Band V: 20.79 dBm                             |
|                               | UMTS-FDD Band II: 20.90 dBm                                  |
|                               | GSM Voice:GSM850: 29.72 dBm / ERP                            |
|                               | PCS1900: 28.44 dBm / EIRP                                    |
|                               | GPRS:GSM850: 29.72 dBm / ERP                                 |
|                               | PCS1900: 28.44 dBm / EIRP                                    |
|                               | EGPRS(MCS1):GSM850: 29.70 dBm / ERP                          |
| ERP/EIRP:                     | PCS1900: 28.38 dBm / EIRP                                    |
|                               | RMC:UMTS-FDD Band V: 18.60 dBm / ERP                         |
|                               | UMTS-FDD Band II: 20.03 dBm / EIRP                           |
|                               | HSDPA:UMTS-FDD Band V: 17.58 dBm / ERP                       |
|                               | UMTS-FDD Band II: 19.51 dBm / EIRP                           |
|                               | HSUPA:UMTS-FDD Band V: 17.44 dBm / ERP                       |
|                               | UMTS-FDD Band II: 19.31 dBm / EIRP                           |

|                              |                                    |
|------------------------------|------------------------------------|
| Number of Channels:          | GSM 850: 124CH                     |
|                              | PCS1900: 299CH                     |
|                              | UMTS-FDD Band V: 102CH             |
|                              | UMTS-FDD Band II: 277CH            |
|                              | WIFI :802.11b/g/n(20M): 11CH       |
|                              | WIFI :802.11n(40M): 7CH            |
|                              | Bluetooth: 79CH                    |
|                              | BLE: 40CH                          |
| Port:                        | GPS:1CH                            |
|                              | Please refer to the user' s manual |
|                              | Adapter :                          |
|                              | Model: V-501C                      |
|                              | Input: AC100-240V~50/60Hz,150mA    |
|                              | Output: DC 5.0V, 1A                |
|                              | Battery :                          |
|                              | Model: V-501C                      |
| Input Power:                 | Spec: 3.8V, 2200mAh/8.36Wh         |
|                              | Limited charge voltage: 4.35       |
|                              |                                    |
| Trade Name :                 | VIRZO                              |
| GPRS/ EGPRS Multi-slot class | 8/10/11/12                         |
| FCC ID:                      | 2AKQUVZCKV501C                     |

## 5. Test Summary

The product was tested in accordance with the following specifications.

All testing has been performed according to below product classification:

| FCC Rules                                             | Description of Test                                                    | Result     |
|-------------------------------------------------------|------------------------------------------------------------------------|------------|
| § 1.1307; § 2.1093                                    | RF Exposure (SAR)                                                      | Compliance |
| §2.1046; § 22.913(a); § 24.232(c);<br>§ 27.50(c.10) ; | RF Output Power                                                        | Compliance |
| § 24.232 (d) ;                                        | Peak-Average Ratio                                                     | Compliance |
| § 2.1049; § 22.905; § 22.917;<br>§ 24.238;            | 99% & -26 dB Occupied Bandwidth                                        | Compliance |
| § 2.1051; § 22.917(a);<br>§ 24.238(a);                | Spurious Emissions at Antenna Terminal                                 | Compliance |
| § 2.1053; § 22.917(a);<br>§ 24.238(a);                | Field Strength of Spurious Radiation                                   | Compliance |
| § 22.917(a); § 24.238(a);                             | Out of band emission, Band Edge                                        | Compliance |
| § 2.1055; § 22.355; § 24.235;                         | Frequency stability vs. temperature<br>Frequency stability vs. voltage | Compliance |

Note: Testing was performed by configuring EUT to maximum output power status, the declared output power class for different

### Measurement Uncertainty

| Emissions                                    |                                                                                                                                                 |               |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Test Item                                    | Description                                                                                                                                     | Uncertainty   |
| Band Edge and Radiated<br>Spurious Emissions | Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m) | +5.6dB/-4.5dB |
| -                                            | -                                                                                                                                               | -             |

## 6. MEASUREMENTS, EXAMINATION AND DERIVED RESULTS

### 6.1 RF Exposure (SAR)

Test Result: Pass

The EUT is a portable device, thus requires SAR evaluation;

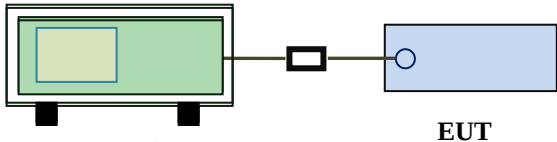
Please refer to RF Exposure Evaluation Report: Q181101S008-FCC-H.

## 6.2 RF Output Power

|                      |                   |
|----------------------|-------------------|
| Temperature          | 26 °C             |
| Relative Humidity    | 56%               |
| Atmospheric Pressure | 1023mbar          |
| Test date :          | November 22, 2018 |
| Tested By :          | Aaron Liang       |

### Requirement(s):

| Spec        | Item | Requirement  | Applicable                          |
|-------------|------|--------------|-------------------------------------|
| §22.913 (a) | a)   | ERP:38.45dBm | <input checked="" type="checkbox"/> |
| §24.232 (c) | b)   | EIRP:33dBm   | <input checked="" type="checkbox"/> |

|            |                                                                                                                                                              |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Setup |  <p style="text-align: center;">Base Station                      EUT</p> |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Procedure | <p>For Conducted Power:</p> <ul style="list-style-type: none"> <li>- The transmitter output port was connected to base station.</li> <li>- Set EUT at maximum power through base station.</li> <li>- Select lowest, middle, and highest channels for each band and different test mode.</li> </ul> <p>For ERP/EIRP:</p> <p>According with KDB 971168 v02r02</p> <ul style="list-style-type: none"> <li>- The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.</li> <li>- The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.</li> <li>- The frequency range up to tenth harmonic of the fundamental frequency was investigated.</li> </ul> |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | <ul style="list-style-type: none"> <li>- Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.</li> <li>- Spurious emissions in dB = <math>10 \log (\text{TX power in Watts}/0.001)</math> – the absolute level</li> <li>- Spurious attenuation limit in dB = <math>43 + 10 \text{ Log}_{10} (\text{power out in Watts})</math>.</li> </ul> |
| Remark |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Result | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

Test Data ☒ Yes ☐ N/A

Test Plot ☐ Yes (See below) ☒ N/A

## GSM Mode:

| Burst Average Power (dBm);                                         |        |              |       |                              |         |       |              |                              |
|--------------------------------------------------------------------|--------|--------------|-------|------------------------------|---------|-------|--------------|------------------------------|
| Band                                                               | GSM850 |              |       |                              | PCS1900 |       |              |                              |
| Channel                                                            | 128    | 190          | 251   | Tune up<br>Power<br>tolerant | 512     | 661   | 810          | Tune up<br>Power<br>tolerant |
| Frequency (MHz)                                                    | 824.2  | 836.6        | 848.8 | /                            | 1850.2  | 1880  | 1909.8       | /                            |
| GSM Voice<br>(1 uplink),GMSK                                       | 32.94  | <b>32.99</b> | 32.74 | 32.5±1                       | 29.60   | 29.75 | <b>29.89</b> | 29.5±1                       |
| GPRS Multi-Slot Class<br>8 (1 uplink),GMSK                         | 32.98  | <b>32.99</b> | 32.80 | 32.5±1                       | 29.63   | 29.76 | <b>29.89</b> | 29±1                         |
| GPRS Multi-Slot Class<br>10 (2 uplink) GMSK                        | 32.28  | 32.25        | 31.95 | 32±1                         | 28.68   | 28.81 | 29.00        | 28±1                         |
| GPRS Multi-Slot Class<br>11 (3 uplink) GMSK                        | 30.47  | 30.36        | 29.98 | 30±1                         | 26.78   | 27.02 | 27.18        | 26.5±1                       |
| GPRS Multi-Slot Class<br>12 (4 uplink) GMSK                        | 29.49  | 29.41        | 29.04 | 28.5±1                       | 25.68   | 25.92 | 26.13        | 25.5±1                       |
| EGPRS Multi-Slot<br>Class 8 (1 uplink)<br>GMSK MCS1                | 32.95  | <b>32.97</b> | 32.73 | 32.5±1                       | 29.57   | 29.72 | <b>29.83</b> | 29±1                         |
| EGPRS Multi-Slot<br>Class 10 (2 uplink)<br>GMSK MCS1               | 32.23  | 32.21        | 31.90 | 32±1                         | 28.61   | 28.78 | 29.01        | 29±1                         |
| EGPRS Multi-Slot<br>Class 11 (3 uplink)<br>GMSK MCS1               | 30.45  | 30.35        | 29.95 | 30±1                         | 26.77   | 27.06 | 27.18        | 27±1                         |
| EGPRS Multi-Slot<br>Class 12 (4 uplink)<br>GMSK MCS1               | 29.46  | 29.38        | 29.01 | 28.5±1                       | 25.66   | 25.92 | 26.12        | 26±1                         |
| Remark :<br>GPRS, CS1 coding scheme.<br>EGPRS, MCS1 coding scheme. |        |              |       |                              |         |       |              |                              |

|             |                    |
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Multi-Slot Class 8 , Support Max 4 downlink, 1 uplink , 5 working link

Multi-Slot Class 10 , Support Max 4 downlink, 2 uplink , 5 working link

Multi-Slot Class 11 , Support Max 4 downlink, 2 uplink , 5 working link

Multi-Slot Class 12 , Support Max 4 downlink, 4 uplink , 5 working link

## UMTS Mode:

### UMTS-FDD Band V

| Band/ Time Slot configuration | Channel | Frequency | Average power (dBm) | Tune up Power tolerant |
|-------------------------------|---------|-----------|---------------------|------------------------|
| RMC<br>12.2kbps               | 4132    | 826.4     | 21.43               | 21±1                   |
|                               | 4175    | 835       | 21.32               | 21±1                   |
|                               | 4233    | 846.6     | 21.34               | 21±1                   |
| HSDPA<br>Subtest1             | 4132    | 826.4     | 20.75               | 20.5±1                 |
|                               | 4175    | 835       | 20.6                | 20.5±1                 |
|                               | 4233    | 846.6     | 20.6                | 20.5±1                 |
| HSDPA<br>Subtest2             | 4132    | 826.4     | 20.8                | 20.5±1                 |
|                               | 4175    | 835       | 20.82               | 20.5±1                 |
|                               | 4233    | 846.6     | 20.68               | 20.5±1                 |
| HSDPA<br>Subtest3             | 4132    | 826.4     | 20.79               | 20.5±1                 |
|                               | 4175    | 835       | 20.59               | 20.5±1                 |
|                               | 4233    | 846.6     | 20.62               | 20.5±1                 |
| HSDPA<br>Subtest4             | 4132    | 826.4     | 20.85               | 20.5±1                 |
|                               | 4175    | 835       | 20.59               | 20.5±1                 |
|                               | 4233    | 846.6     | 20.72               | 20.5±1                 |
| HSUPA<br>Subtest1             | 4132    | 826.4     | 20.67               | 20.5±1                 |
|                               | 4175    | 835       | 20.68               | 20.5±1                 |
|                               | 4233    | 846.6     | 20.69               | 20.5±1                 |
| HSUPA<br>Subtest2             | 4132    | 826.4     | 20.71               | 20.5±1                 |
|                               | 4175    | 835       | 20.66               | 20.5±1                 |
|                               | 4233    | 846.6     | 20.69               | 20.5±1                 |
| HSUPA<br>Subtest3             | 4132    | 826.4     | 20.76               | 20.5±1                 |
|                               | 4175    | 835       | 20.58               | 20.5±1                 |
|                               | 4233    | 846.6     | 20.64               | 20.5±1                 |
| HSUPA<br>Subtest4             | 4132    | 826.4     | 20.66               | 20.5±1                 |
|                               | 4175    | 835       | 20.51               | 20.5±1                 |
|                               | 4233    | 846.6     | 20.47               | 20.5±1                 |
| HSUPA<br>Subtest5             | 4132    | 826.4     | 20.9                | 20.5±1                 |
|                               | 4175    | 835       | 20.56               | 20.5±1                 |
|                               | 4233    | 846.6     | 20.56               | 20.5±1                 |

## UMTS-FDD Band II

| Band/ Time Slot configuration | Channel | Frequency | Average power (dBm) | Tune up Power tolerant |
|-------------------------------|---------|-----------|---------------------|------------------------|
| RMC<br>12.2kbps               | 9262    | 1852.4    | 21.35               | 21±1                   |
|                               | 9400    | 1880      | 21.48               | 21±1                   |
|                               | 9538    | 1907.6    | 21.36               | 21±1                   |
| HSDPA<br>Subtest1             | 9262    | 1852.4    | 20.74               | 20.5±1                 |
|                               | 9400    | 1880      | 20.83               | 20.5±1                 |
|                               | 9538    | 1907.6    | 20.59               | 20.5±1                 |
| HSDPA<br>Subtest2             | 9262    | 1852.4    | 20.83               | 20.5±1                 |
|                               | 9400    | 1880      | 20.96               | 20.5±1                 |
|                               | 9538    | 1907.6    | 20.74               | 20.5±1                 |
| HSDPA<br>Subtest3             | 9262    | 1852.4    | 20.56               | 20.5±1                 |
|                               | 9400    | 1880      | 20.8                | 20.5±1                 |
|                               | 9538    | 1907.6    | 20.71               | 20.5±1                 |
| HSDPA<br>Subtest4             | 9262    | 1852.4    | 20.73               | 20.5±1                 |
|                               | 9400    | 1880      | 20.8                | 20.5±1                 |
|                               | 9538    | 1907.6    | 20.81               | 20.5±1                 |
| HSUPA<br>Subtest1             | 9262    | 1852.4    | 20.71               | 20.5±1                 |
|                               | 9400    | 1880      | 20.79               | 20.5±1                 |
|                               | 9538    | 1907.6    | 20.75               | 20.5±1                 |
| HSUPA<br>Subtest2             | 9262    | 1852.4    | 20.65               | 20.5±1                 |
|                               | 9400    | 1880      | 20.71               | 20.5±1                 |
|                               | 9538    | 1907.6    | 20.71               | 20.5±1                 |
| HSUPA<br>Subtest3             | 9262    | 1852.4    | 20.6                | 20.5±1                 |
|                               | 9400    | 1880      | 20.76               | 20.5±1                 |
|                               | 9538    | 1907.6    | 20.66               | 20.5±1                 |
| HSUPA<br>Subtest4             | 9262    | 1852.4    | 20.43               | 20.5±1                 |
|                               | 9400    | 1880      | 20.52               | 20.5±1                 |
|                               | 9538    | 1907.6    | 20.64               | 20.5±1                 |
| HSUPA<br>Subtest5             | 9262    | 1852.4    | 20.66               | 20.5±1                 |
|                               | 9400    | 1880      | 20.75               | 20.5±1                 |
|                               | 9538    | 1907.6    | 20.72               | 20.5±1                 |

## ERP & EIRP

### GSM Voice

#### ERP for Cellular Band (Part 22H)

| Frequency<br>(MHz) | Antenna<br>Polarization<br>(H/V) | Absolute Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|----------------------------------|-------------------------|----------------|----------------|
| 824.2              | V                                | 29.67                   | 38.45          | -8.78          |
| 824.2              | H                                | 28.72                   | 38.45          | -9.73          |
| 836.6              | V                                | 29.72                   | 38.45          | -8.73          |
| 836.6              | H                                | 27.98                   | 38.45          | -10.47         |
| 848.8              | V                                | 29.47                   | 38.45          | -8.98          |
| 848.8              | H                                | 28.51                   | 38.45          | -9.94          |

#### EIRP for PCS Band (Part 24E)

| Frequency<br>(MHz) | Antenna<br>Polarization<br>(H/V) | Absolute Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|----------------------------------|-------------------------|----------------|----------------|
| 1850.2             | V                                | 28.15                   | 33             | -4.85          |
| 1850.2             | H                                | 26.83                   | 33             | -6.17          |
| 1880               | V                                | 28.3                    | 33             | -4.7           |
| 1880               | H                                | 26.89                   | 33             | -6.11          |
| 1909.8             | V                                | 28.44                   | 33             | -4.56          |
| 1909.8             | H                                | 26.44                   | 33             | -6.56          |

**GPRS:**

**ERP for Cellular Band (Part 22H)**

| Frequency<br>(MHz) | Antenna<br>Polarization<br>(H/V) | Absolute Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|----------------------------------|-------------------------|----------------|----------------|
| 824.2              | V                                | 29.71                   | 38.45          | -8.74          |
| 824.2              | H                                | 28.35                   | 38.45          | -10.1          |
| 836.6              | V                                | 29.72                   | 38.45          | -8.73          |
| 836.6              | H                                | 28.79                   | 38.45          | -9.66          |
| 848.8              | V                                | 29.53                   | 38.45          | -8.92          |
| 848.8              | H                                | 28.67                   | 38.45          | -9.78          |

**EIRP for PCS Band (Part 24E)**

| Frequency<br>(MHz) | Antenna<br>Polarization<br>(H/V) | Absolute Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|----------------------------------|-------------------------|----------------|----------------|
| 1850.2             | V                                | 28.18                   | 33             | -4.82          |
| 1850.2             | H                                | 26.58                   | 33             | -6.42          |
| 1880               | V                                | 28.31                   | 33             | -4.69          |
| 1880               | H                                | 26.93                   | 33             | -6.07          |
| 1909.8             | V                                | 28.44                   | 33             | -4.56          |
| 1909.8             | H                                | 27.51                   | 33             | -5.49          |

## EGPRS (MCS1):

### ERP for Cellular Band (Part 22H)

| Frequency<br>(MHz) | Antenna<br>Polarization<br>(H/V) | Absolute Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|----------------------------------|-------------------------|----------------|----------------|
| 824.2              | V                                | 29.68                   | 38.45          | -8.77          |
| 824.2              | H                                | 28.39                   | 38.45          | -10.06         |
| 836.6              | V                                | 29.7                    | 38.45          | -8.75          |
| 836.6              | H                                | 27.98                   | 38.45          | -10.47         |
| 848.8              | V                                | 29.46                   | 38.45          | -8.99          |
| 848.8              | H                                | 28.24                   | 38.45          | -10.21         |

### EIRP for PCS Band (Part 24E)

| Frequency<br>(MHz) | Antenna<br>Polarization<br>(H/V) | Absolute Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|----------------------------------|-------------------------|----------------|----------------|
| 1850.2             | V                                | 28.12                   | 33             | -4.88          |
| 1850.2             | H                                | 26.24                   | 33             | -6.76          |
| 1880               | V                                | 28.27                   | 33             | -4.73          |
| 1880               | H                                | 27.06                   | 33             | -5.94          |
| 1909.8             | V                                | 28.38                   | 33             | -4.62          |
| 1909.8             | H                                | 27.45                   | 33             | -5.55          |

## RMC

### ERP for UMTS-FDD Band V (Part 22H)

| Frequency<br>(MHz) | Antenna<br>Polarization<br>(H/V) | Absolute Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|----------------------------------|-------------------------|----------------|----------------|
| 826.4              | V                                | 18.16                   | 38.45          | -20.29         |
| 826.4              | H                                | 16.69                   | 38.45          | -21.76         |
| 835                | V                                | 18.05                   | 38.45          | -20.4          |
| 835                | H                                | 16.82                   | 38.45          | -21.63         |
| 846.6              | V                                | 18.07                   | 38.45          | -20.38         |
| 846.6              | H                                | 17.3                    | 38.45          | -21.15         |

### EIRP for UMTS-FDD Band II (Part 24E)

| Frequency<br>(MHz) | Antenna<br>Polarization<br>(H/V) | Absolute Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|----------------------------------|-------------------------|----------------|----------------|
| 1852.4             | V                                | 19.9                    | 33             | -13.1          |
| 1852.4             | H                                | 18.11                   | 33             | -14.89         |
| 1880               | V                                | 20.03                   | 33             | -12.97         |
| 1880               | H                                | 18.32                   | 33             | -14.68         |
| 1907.6             | V                                | 19.91                   | 33             | -13.09         |
| 1907.6             | H                                | 18.89                   | 33             | -14.11         |

## HSDPA

### ERP for UMTS-FDD Band V (Part 22H)

| Frequency<br>(MHz) | Antenna<br>Polarization<br>(H/V) | Absolute Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|----------------------------------|-------------------------|----------------|----------------|
| 826.4              | V                                | 17.58                   | 38.45          | -20.87         |
| 826.4              | H                                | 16.71                   | 38.45          | -21.74         |
| 835                | V                                | 17.56                   | 38.45          | -20.89         |
| 835                | H                                | 16.36                   | 38.45          | -22.09         |
| 846.6              | V                                | 17.45                   | 38.45          | -21            |
| 846.6              | H                                | 16.59                   | 38.45          | -21.86         |

### EIRP for UMTS-FDD Band II (Part 24E)

| Frequency<br>(MHz) | Antenna<br>Polarization<br>(H/V) | Absolute Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|----------------------------------|-------------------------|----------------|----------------|
| 1852.4             | V                                | 19.36                   | 33             | -13.64         |
| 1852.4             | H                                | 18.11                   | 33             | -14.89         |
| 1880               | V                                | 19.51                   | 33             | -13.49         |
| 1880               | H                                | 17.89                   | 33             | -15.11         |
| 1907.6             | V                                | 19.38                   | 33             | -13.62         |
| 1907.6             | H                                | 18.32                   | 33             | -14.68         |

## HSUPA

### ERP for UMTS-FDD Band V (Part 22H)

| Frequency<br>(MHz) | Antenna<br>Polarization<br>(H/V) | Absolute Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|----------------------------------|-------------------------|----------------|----------------|
| 826.4              | V                                | 17.42                   | 38.45          | -21.03         |
| 826.4              | H                                | 15.76                   | 38.45          | -22.69         |
| 835                | V                                | 17.41                   | 38.45          | -21.04         |
| 835                | H                                | 16.24                   | 38.45          | -22.21         |
| 846.6              | V                                | 17.44                   | 38.45          | -21.01         |
| 846.6              | H                                | 16.68                   | 38.45          | -21.77         |

### EIRP for UMTS-FDD Band II (Part 24E)

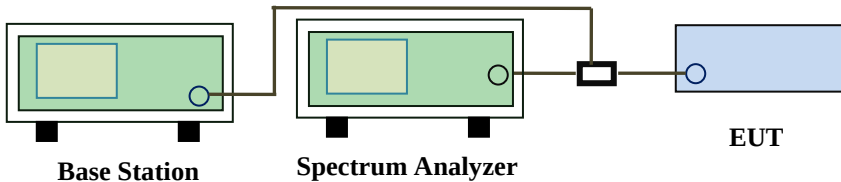
| Frequency<br>(MHz) | Antenna<br>Polarization<br>(H/V) | Absolute Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|----------------------------------|-------------------------|----------------|----------------|
| 1852.4             | V                                | 19.26                   | 33             | -13.74         |
| 1852.4             | H                                | 18.14                   | 33             | -14.86         |
| 1880               | V                                | 19.3                    | 33             | -13.7          |
| 1880               | H                                | 18.31                   | 33             | -14.69         |
| 1907.6             | V                                | 19.31                   | 33             | -13.69         |
| 1907.6             | H                                | 18.08                   | 33             | -14.92         |

## 6.3 Peak-Average Ratio

|                      |                   |
|----------------------|-------------------|
| Temperature          | 26 °C             |
| Relative Humidity    | 56%               |
| Atmospheric Pressure | 1023mbar          |
| Test date :          | November 22, 2018 |
| Tested By :          | Aaron Liang       |

Requirement(s):

| Spec       | Item | Requirement                                                              | Applicable                          |
|------------|------|--------------------------------------------------------------------------|-------------------------------------|
| §24.232(d) | a)   | The peak-to-average ratio (PAR) of the transmission may not exceed 13dB. | <input checked="" type="checkbox"/> |

|            |                                                                                                                                                                     |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Setup |  <p style="text-align: center;">Base Station      Spectrum Analyzer      EUT</p> |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Procedure | <p>According with KDB 971168 v02r02</p> <p><b>5.7.2 Alternate procedure for PAPR</b></p> <p><b>5.1.2 Peak power measurements with a peak power meter</b></p> <p>The total peak output power may be measured using a broadband peak RF power meter. The power meter must have a video bandwidth that is greater than or equal to the emission bandwidth and utilize a fast-responding diode detector.</p> <p><b>5.2.3 Average power measurement with average power meter</b></p> <p>As an alternative to the use of a spectrum/signal analyzer or EMI receiver to perform a measurement of the total in-band average output power, a wideband RF average power meter with a thermocouple detector or equivalent can be used under certain conditions</p> <p>If the EUT can be configured to transmit continuously (i.e., the burst duty cycle <math>\geq 98\%</math>) and at all times the EUT is transmitting at its maximum output</p> |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | <p>power level, then a conventional wide-band RF power meter can be used.</p> <p>If the EUT cannot be configured to transmit continuously (i.e., the burst duty cycle &lt; 98%), then there are two options for the use of an average power meter. First, a gated average power meter can be used to perform the measurement if the gating parameters can be adjusted such that the power is measured only over active transmission bursts at maximum output power levels. A conventional average power meter can also be used if the measured burst duty cycle is constant (i.e., duty cycle variations are less than <math>\pm 2</math> percent) by performing the measurement over the on/off burst cycles and then correcting (increasing) the measured level by a factor equal to <math>10\log(1/\text{duty cycle})</math></p> |
| Remark |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Result | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

Test Data ☒ Yes ☐ N/A  
 Test Plot ☐ Yes (See below) ☒ N/A

#### GSM : GSM 1900 PK-AV POWER (PART 24E)

| Frequency<br>(MHz) | Conducted power(dBm) |         | Peak-Average<br>Ratio(PAR) |
|--------------------|----------------------|---------|----------------------------|
|                    | Peak                 | Average |                            |
| 1850.2             | 30.42                | 29.6    | 0.82                       |
| 1880               | 30.56                | 29.75   | 0.81                       |
| 1909.8             | 30.68                | 29.89   | 0.79                       |

#### GPRS 1900 PK-AV POWER (PART 24E)

| Frequency<br>(MHz) | Conducted power(dBm) |         | Peak-Average<br>Ratio(PAR) |
|--------------------|----------------------|---------|----------------------------|
|                    | Peak                 | Average |                            |
| 1850.2             | 30.42                | 29.63   | 0.79                       |
| 1880               | 30.54                | 29.76   | 0.78                       |
| 1909.8             | 30.63                | 29.89   | 0.74                       |

#### EGPRS (MSC1) 1900 PK-AV POWER (PART 24E)

| Frequency<br>(MHz) | Conducted power(dBm) |         | Peak-Average<br>Ratio(PAR) |
|--------------------|----------------------|---------|----------------------------|
|                    | Peak                 | Average |                            |
| 1850.2             | 30.35                | 29.57   | 0.78                       |
| 1880               | 30.51                | 29.72   | 0.79                       |
| 1909.8             | 30.68                | 29.83   | 0.85                       |

#### RMC : UMTS-FDD Band 2 PK-AV POWER (PART 24E)

| Frequency<br>(MHz) | Conducted power(dBm) |         | Peak-Average<br>Ratio(PAR) |
|--------------------|----------------------|---------|----------------------------|
|                    | Peak                 | Average |                            |
| 1852.4             | 22.12                | 21.35   | 0.77                       |
| 1880               | 22.22                | 21.48   | 0.74                       |
| 1907.6             | 22.11                | 21.36   | 0.75                       |

#### HSDPA : UMTS-FDD Band 2 PK-AV POWER (PART 24E)

| Frequency<br>(MHz) | Conducted power(dBm) |         | Peak-Average<br>Ratio(PAR) |
|--------------------|----------------------|---------|----------------------------|
|                    | Peak                 | Average |                            |
| 1852.4             | 21.39                | 20.67   | 0.72                       |
| 1880               | 21.53                | 20.68   | 0.85                       |
| 1907.6             | 21.42                | 20.69   | 0.73                       |

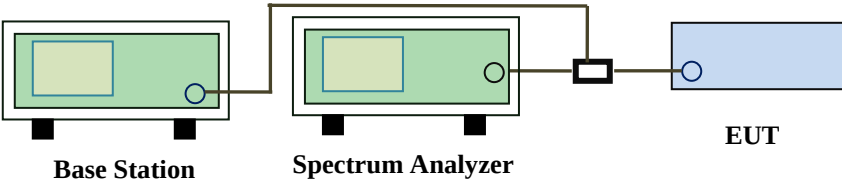
**HSUPA : UMTS-FDD Band 2 PK-AV POWER (PART 24E)**

| Frequency<br>(MHz) | Conducted power(dBm) |         | Peak-Average<br>Ratio(PAR) |
|--------------------|----------------------|---------|----------------------------|
|                    | Peak                 | Average |                            |
| 1852.4             | 21.52                | 20.75   | 0.77                       |
| 1880               | 21.43                | 20.6    | 0.83                       |
| 1907.6             | 21.46                | 20.6    | 0.86                       |

## 6.4 Occupied Bandwidth

|                      |                   |
|----------------------|-------------------|
| Temperature          | 26 °C             |
| Relative Humidity    | 56%               |
| Atmospheric Pressure | 1023mbar          |
| Test date :          | November 22, 2018 |
| Tested By :          | Aaron Liang       |

### Requirement(s):

| Spec                                       | Item                                                                                                                                                                                                                                     | Requirement                 | Applicable                          |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------|
| §2.1049,<br>§22.917,<br>§22.905<br>§24.238 | a)                                                                                                                                                                                                                                       | 99% Occupied Bandwidth(kHz) | <input checked="" type="checkbox"/> |
|                                            | b)                                                                                                                                                                                                                                       | 26 dB Bandwidth(kHz)        | <input checked="" type="checkbox"/> |
| Test Setup                                 |                                                                                                                                                      |                             |                                     |
| Test Procedure                             | <ul style="list-style-type: none"> <li>- The EUT was connected to Spectrum Analyzer and Base Station via power divider.</li> <li>- The 99% and 26 dB occupied bandwidth (BW) of the middle channel for the highest RF powers.</li> </ul> |                             |                                     |
| Remark                                     |                                                                                                                                                                                                                                          |                             |                                     |
| Result                                     | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail                                                                                                                                                                   |                             |                                     |

Test Data    ☒ Yes      ☐ N/A

Test Plot    ☒ Yes (See below)      ☐ N/A

## GSM Voice:

### Cellular Band (Part 22H) result

| Channel | Frequency (MHz) | 99% Occupied Bandwidth (kHz) | 26 dB Bandwidth (kHz) |
|---------|-----------------|------------------------------|-----------------------|
| 128     | 824.2           | 243.82                       | 318.7                 |
| 190     | 836.6           | 242.65                       | 316.3                 |
| 251     | 848.8           | 241.27                       | 309.9                 |

### PCS Band (Part 24E) result

| Channel | Frequency (MHz) | 99% Occupied Bandwidth (kHz) | 26 dB Bandwidth (kHz) |
|---------|-----------------|------------------------------|-----------------------|
| 512     | 1850            | 248.17                       | 305.5                 |
| 661     | 1880            | 251.01                       | 320.9                 |
| 810     | 1910            | 244.30                       | 312.6                 |

## GPRS:

### Cellular Band (Part 22H) result

| Channel | Frequency (MHz) | 99% Occupied Bandwidth (kHz) | 26 dB Bandwidth (kHz) |
|---------|-----------------|------------------------------|-----------------------|
| 128     | 824.2           | 247.83                       | 317.3                 |
| 190     | 836.6           | 245.68                       | 322.7                 |
| 251     | 848.8           | 245.54                       | 316.4                 |

### PCS Band (Part 24E) result

| Channel | Frequency (MHz) | 99% Occupied Bandwidth (kHz) | 26 dB Bandwidth (kHz) |
|---------|-----------------|------------------------------|-----------------------|
| 512     | 1850            | 250.78                       | 319.3                 |
| 661     | 1880            | 245.23                       | 313.8                 |
| 810     | 1910            | 246.08                       | 318.9                 |

## EGPRS (MSC 1):

### Cellular Band (Part 22H) result

| Channel | Frequency<br>(MHz) | 99% Occupied<br>Bandwidth (kHz) | 26 dB Bandwidth<br>(kHz) |
|---------|--------------------|---------------------------------|--------------------------|
| 128     | 824.2              | 240.17                          | 310.7                    |
| 190     | 836.6              | 237.13                          | 317.3                    |
| 251     | 848.8              | 249.47                          | 320.3                    |

### PCS Band (Part 24E) result

| Channel | Frequency<br>(MHz) | 99% Occupied<br>Bandwidth (kHz) | 26 dB Bandwidth<br>(kHz) |
|---------|--------------------|---------------------------------|--------------------------|
| 512     | 1850               | 248.98                          | 317.2                    |
| 661     | 1880               | 244.89                          | 319.7                    |
| 810     | 1910               | 244.82                          | 320.2                    |

**RMC:**

**UMTS-FDD Band V (Part 22H)**

| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | 26 dB Bandwidth (MHz) |
|---------|-----------------|------------------------------|-----------------------|
| 4132    | 826.6           | 4.1349                       | 4.660                 |
| 4175    | 835.0           | 4.1524                       | 4.672                 |
| 4233    | 846.4           | 4.1529                       | 4.698                 |

**UMTS-FDD Band II (Part 24E)**

| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | 26 dB Bandwidth (MHz) |
|---------|-----------------|------------------------------|-----------------------|
| 9262    | 1853            | 4.1560                       | 4.709                 |
| 9400    | 1880            | 4.1651                       | 4.692                 |
| 9538    | 1907            | 4.1548                       | 4.703                 |

**HSDPA:**

**UMTS-FDD Band V (Part 22H)**

| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | 26 dB Bandwidth (MHz) |
|---------|-----------------|------------------------------|-----------------------|
| 4132    | 826.6           | 4.1512                       | 4.668                 |
| 4175    | 835.0           | 4.1533                       | 4.683                 |
| 4233    | 846.4           | 4.1495                       | 4.696                 |

**UMTS-FDD Band II (Part 24E)**

| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | 26 dB Bandwidth (MHz) |
|---------|-----------------|------------------------------|-----------------------|
| 9262    | 1853            | 4.1571                       | 4.720                 |
| 9400    | 1880            | 4.1958                       | 4.721                 |
| 9538    | 1907            | 4.1803                       | 4.718                 |

**HSUPA:**

**UMTS-FDD Band V (Part 22H)**

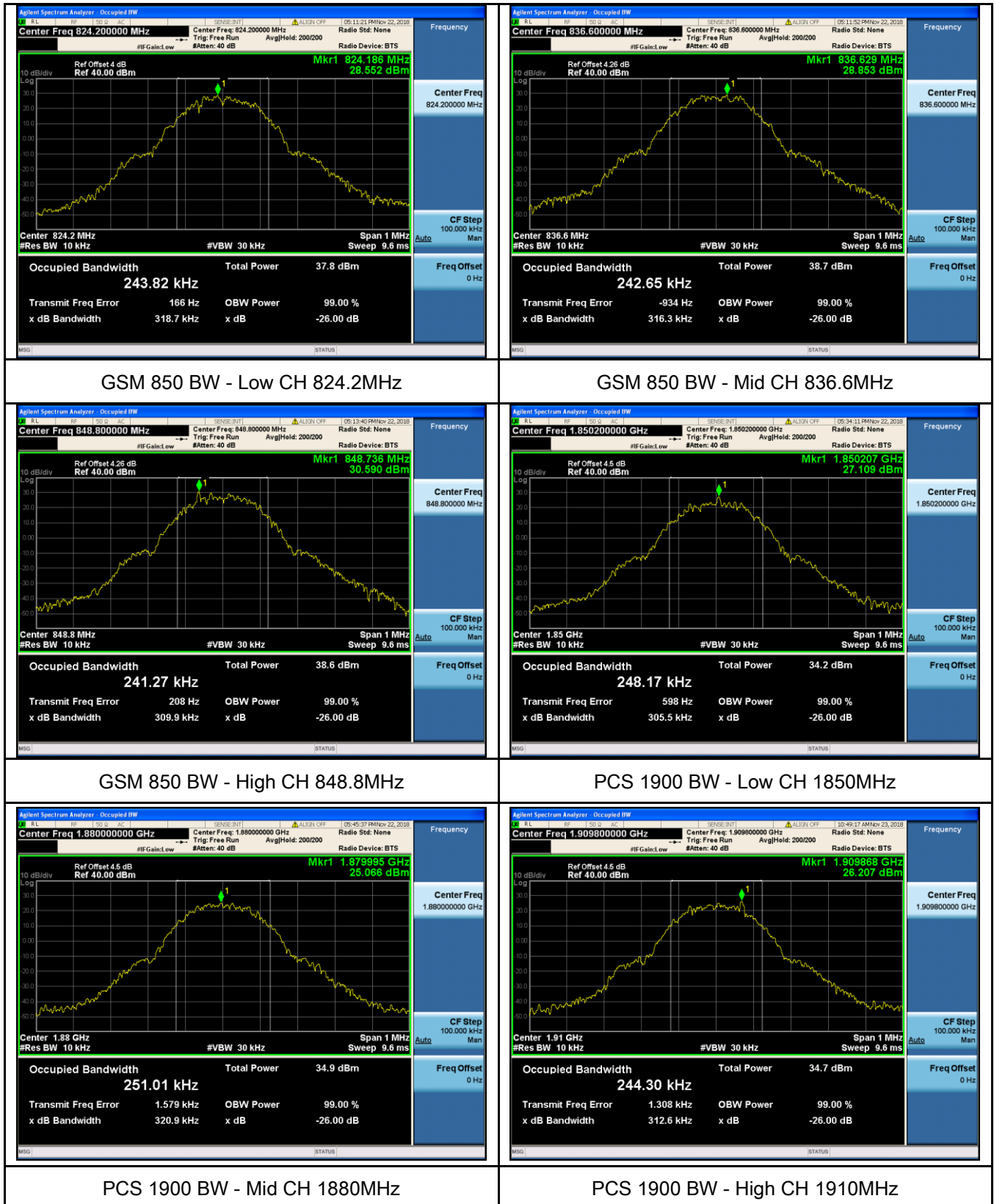
| Channel | Frequency<br>(MHz) | 99% Occupied<br>Bandwidth (MHz) | 26 dB Bandwidth<br>(MHz) |
|---------|--------------------|---------------------------------|--------------------------|
| 4132    | 826.6              | 4.1346                          | 4.680                    |
| 4175    | 835.0              | 4.1672                          | 4.688                    |
| 4233    | 846.4              | 4.1461                          | 4.680                    |

**UMTS-FDD Band II (Part 24E)**

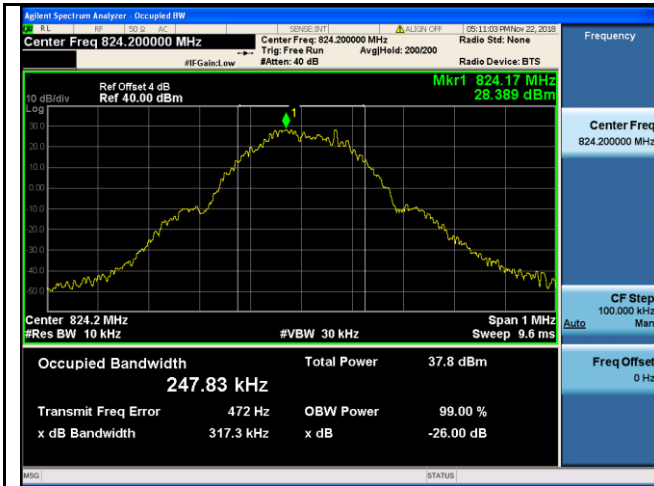
| Channel | Frequency<br>(MHz) | 99% Occupied<br>Bandwidth (MHz) | 26 dB Bandwidth<br>(MHz) |
|---------|--------------------|---------------------------------|--------------------------|
| 9262    | 1853               | 4.1703                          | 4.700                    |
| 9400    | 1880               | 4.1523                          | 4.680                    |
| 9538    | 1907               | 4.1444                          | 4.700                    |

## Test Plots

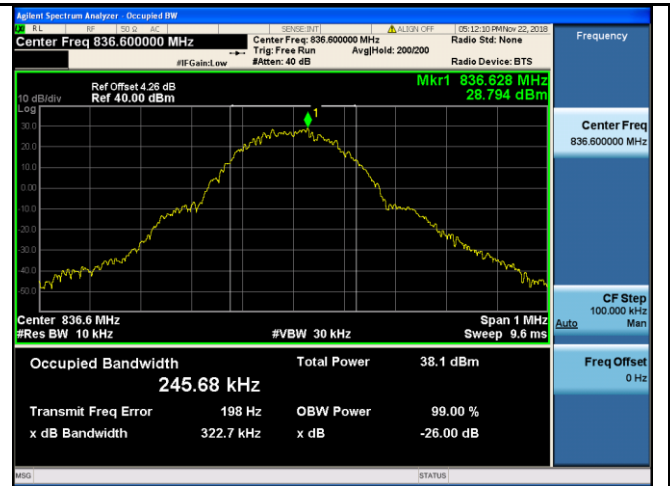
### GSM Voice:



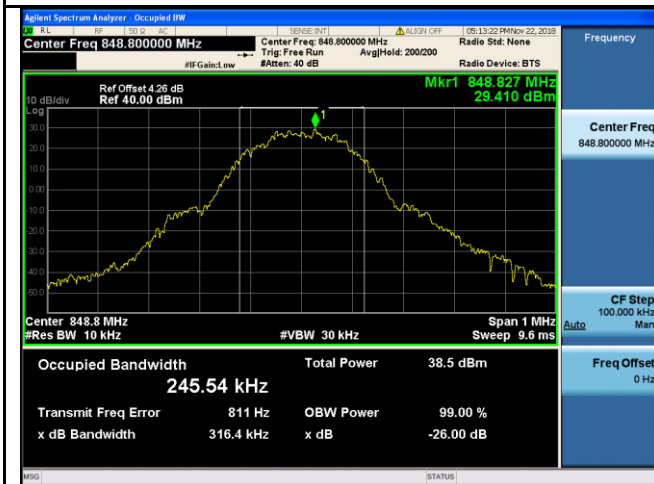
## GPRS:



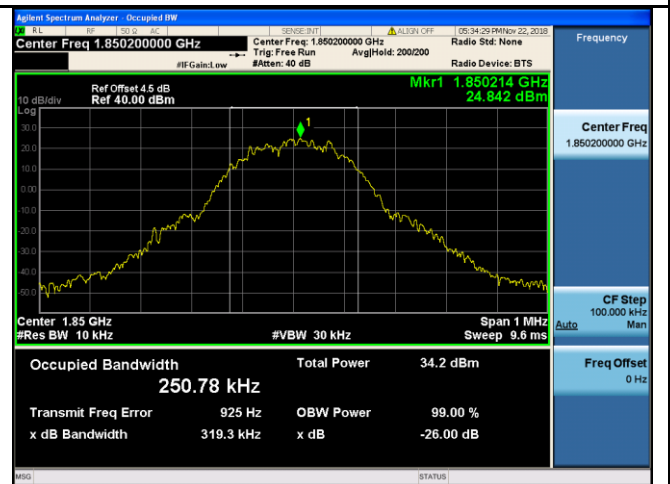
GSM 850 BW - Low CH 824.2MHz



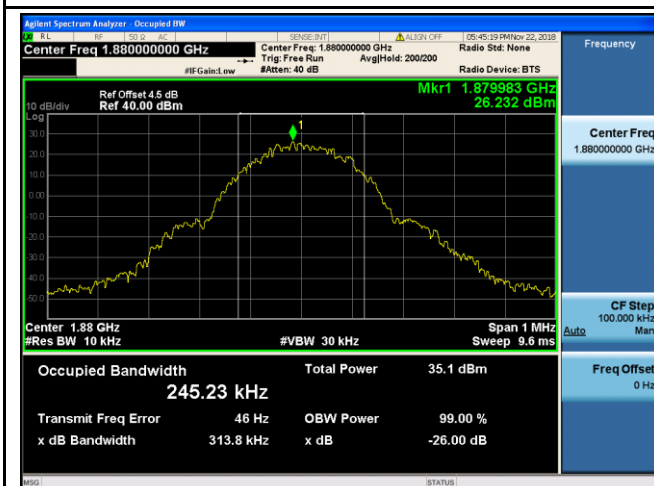
GSM 850 BW - Mid CH 836.6MHz



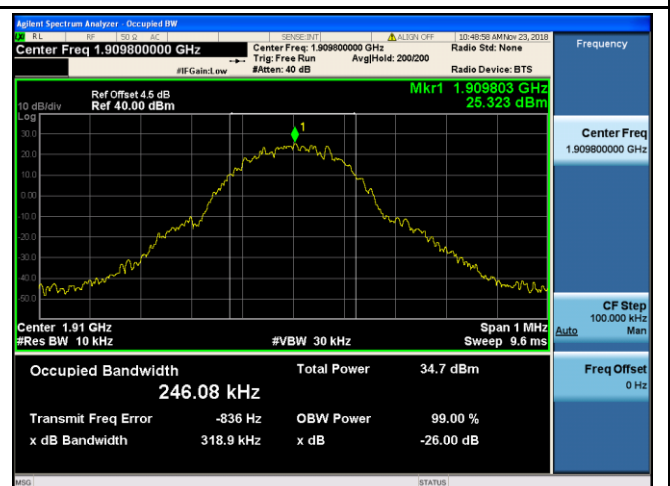
GSM 850 BW - High CH 848.8MHz



PCS 1900 BW - Low CH 1850MHz

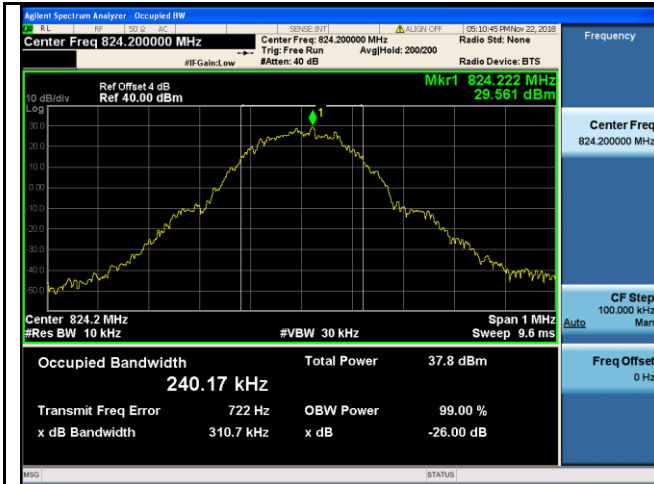


PCS 1900 BW - Mid CH 1880MHz

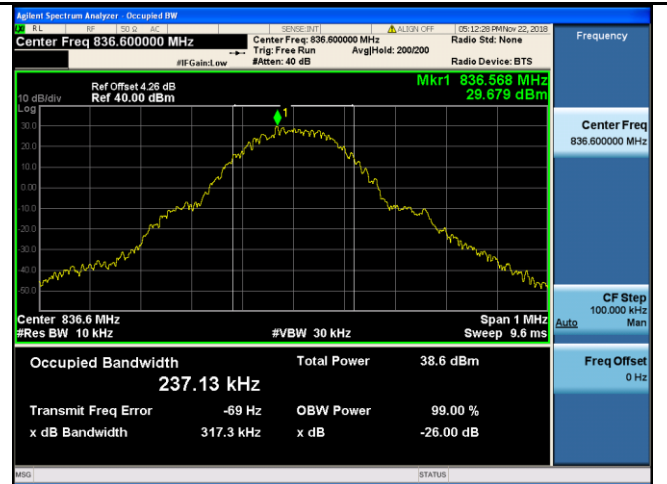


PCS 1900 BW - High CH 1910MHz

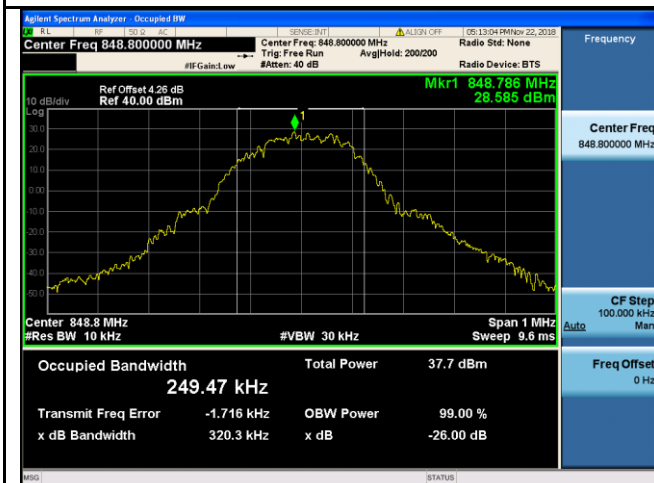
## EGPRS (MCS1):



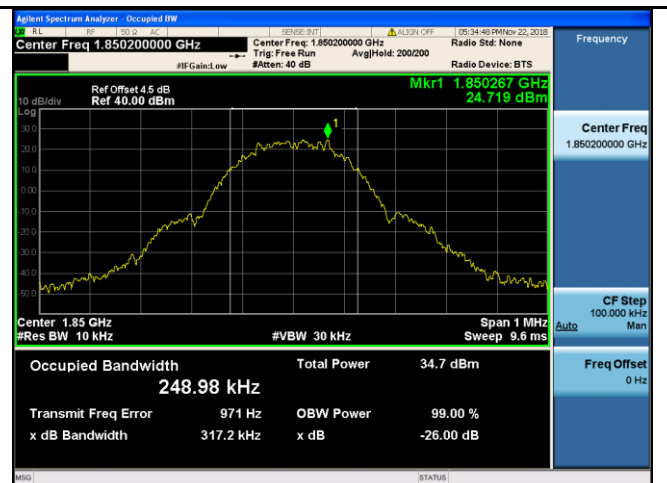
GSM 850 BW - Low CH 824.2MHz



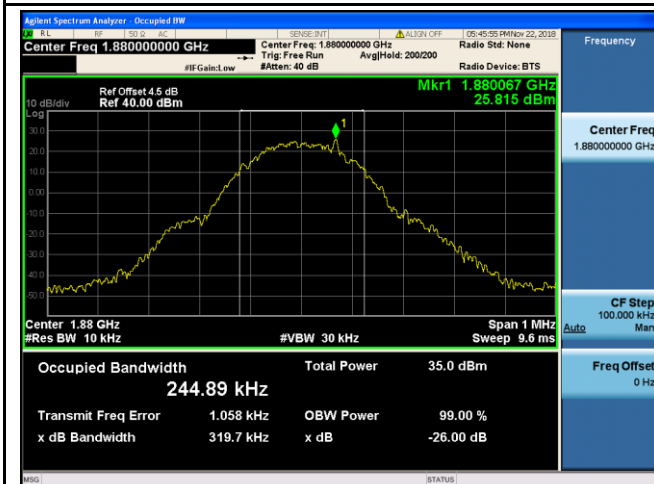
GSM 850 BW - Mid CH 836.6MHz



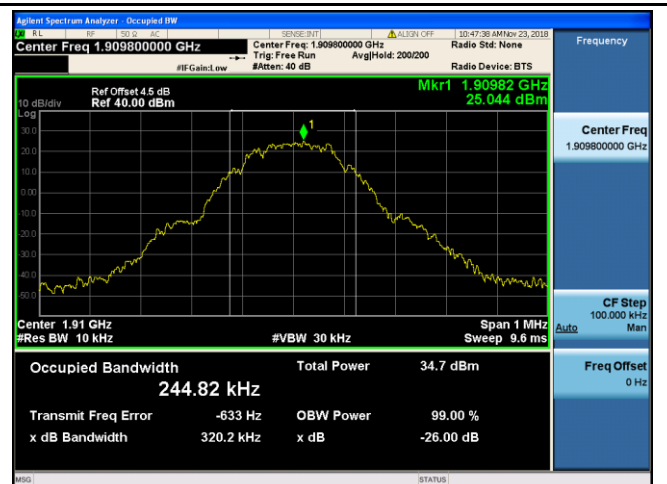
GSM 850 BW - High CH 848.8MHz



PCS 1900 BW - Low CH 1850MHz

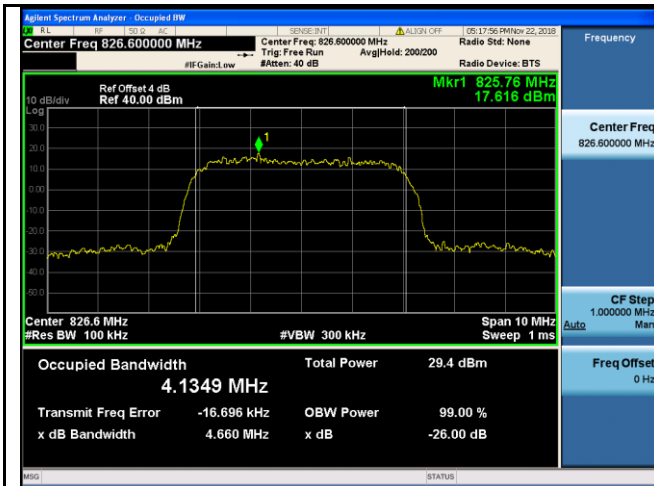


PCS 1900 BW - Mid CH 1880MHz

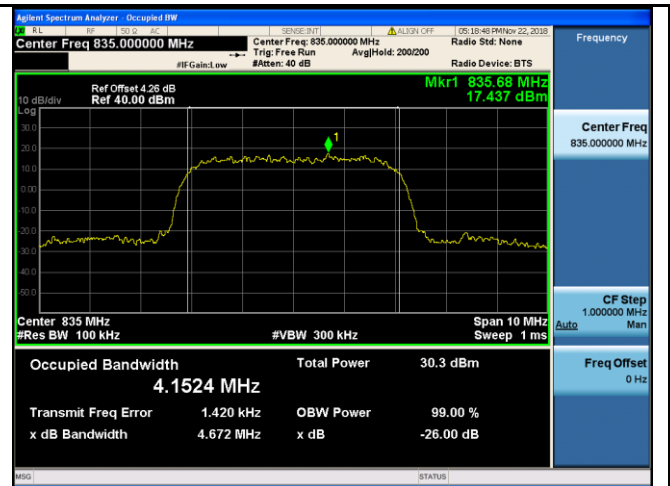


PCS 1900 BW - High CH 1910MHz

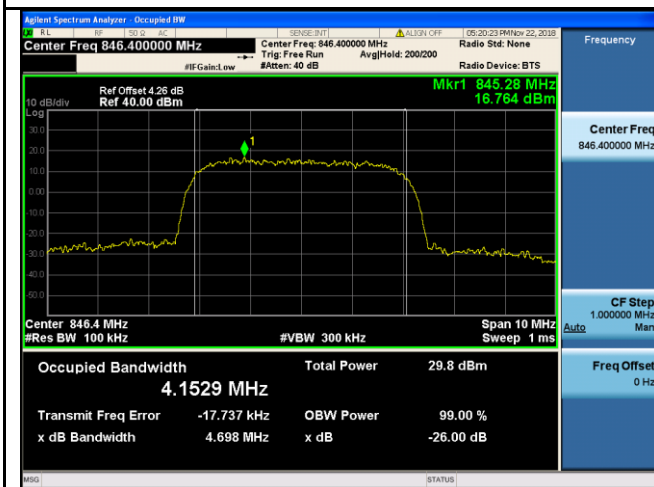
# RMC:



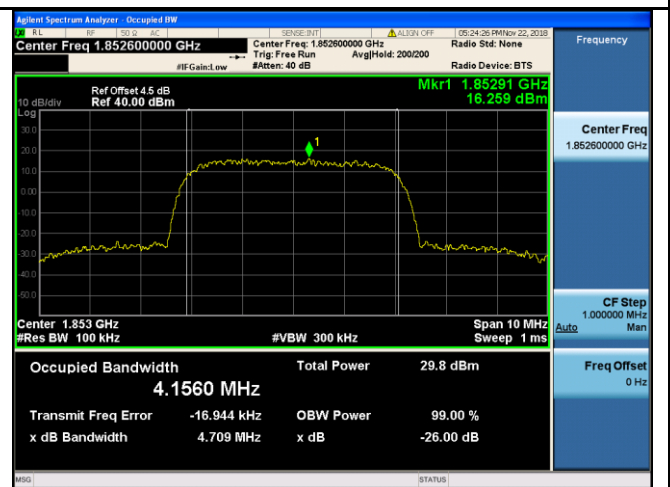
Band V BW - Low CH 826.6 MHz



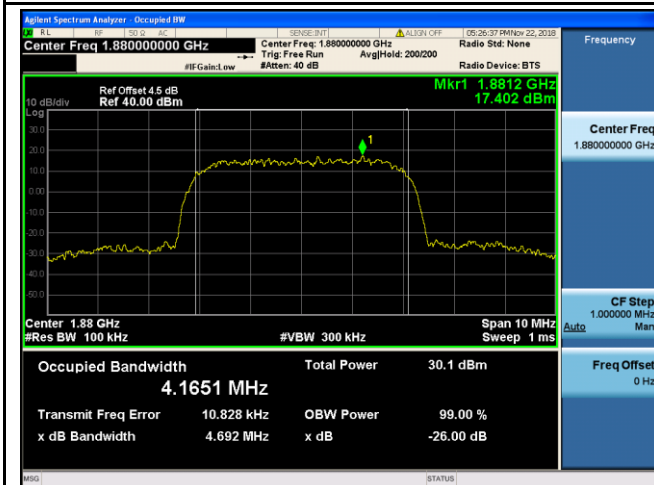
Band V BW - Mid CH 835.0 MHz



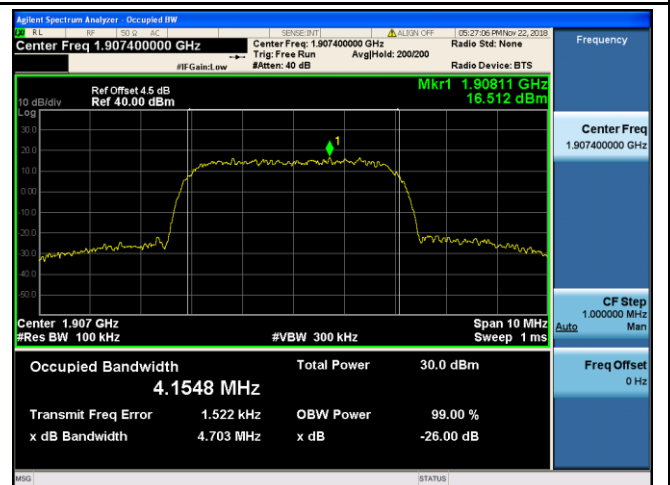
Band V BW - High CH 846.4 MHz



Band II BW - Low CH 1853MHz

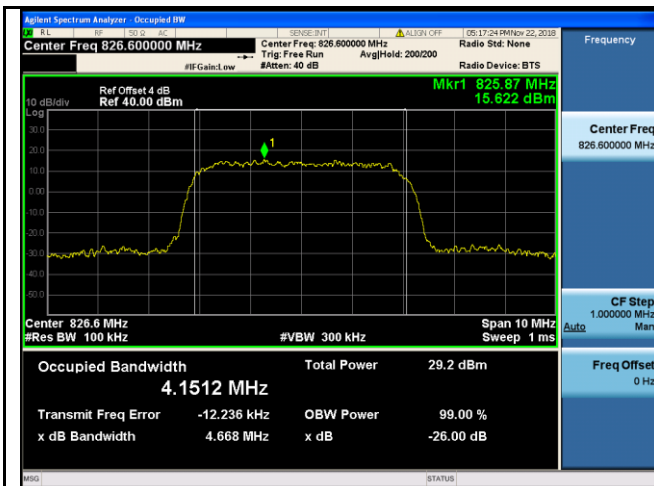


Band II BW - Mid CH 1880MHz

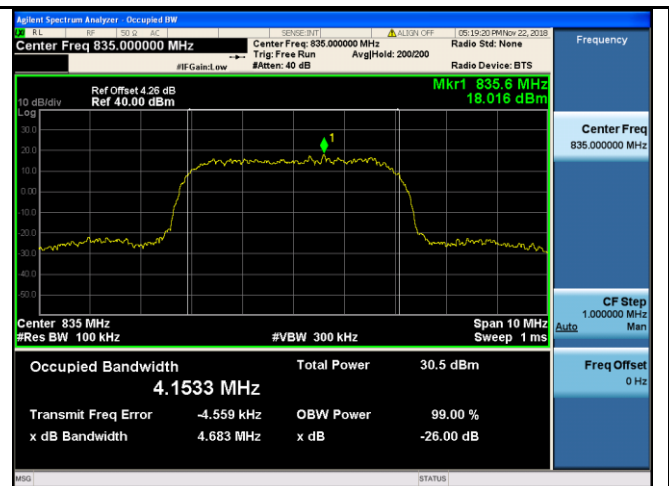


Band II BW - High CH 1907MHz

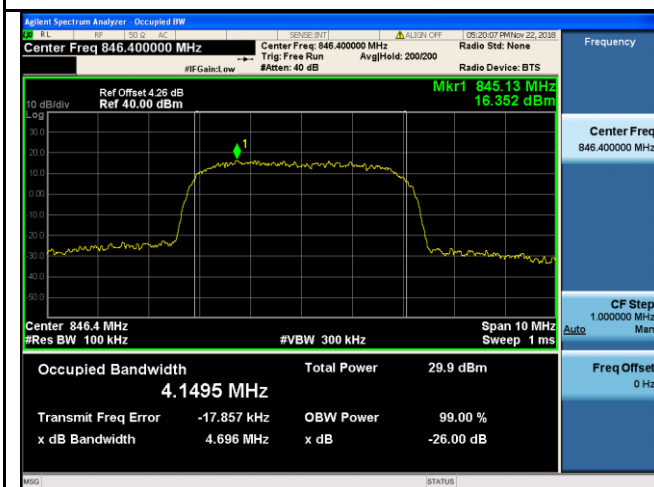
## HSDPA:



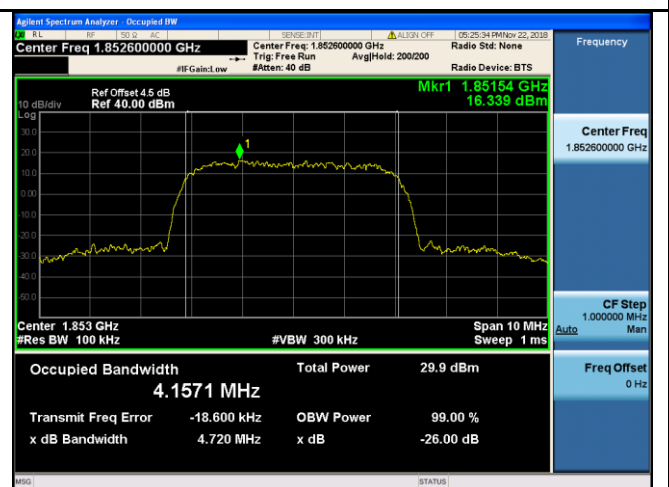
Band V BW - Low CH 826.6 MHz



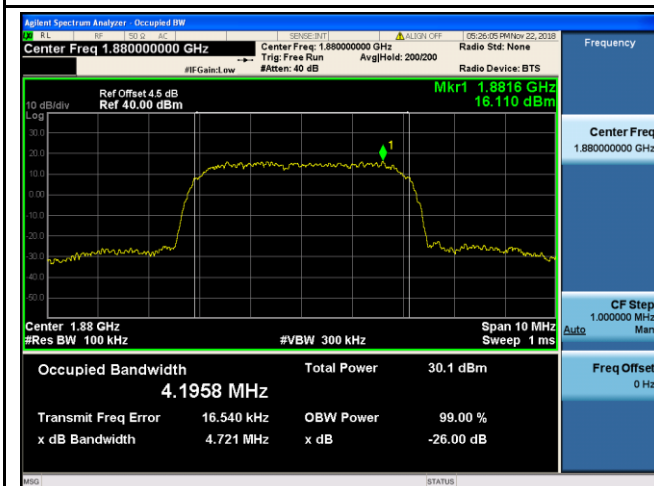
Band V BW - Mid CH 835.0 MHz



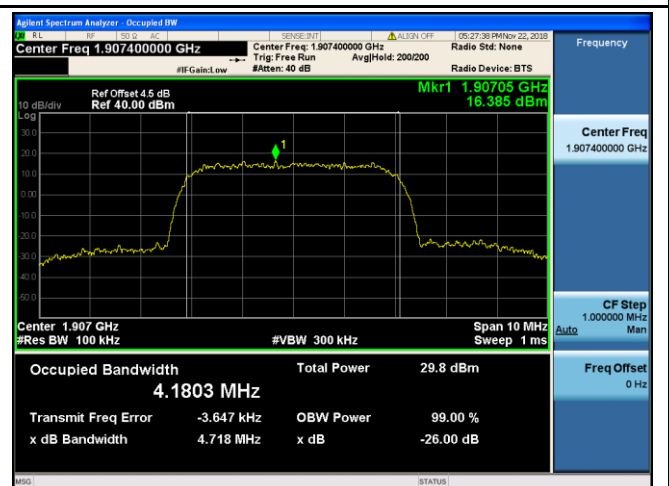
Band V BW - High CH 846.4 MHz



Band II BW - Low CH 1853MHz

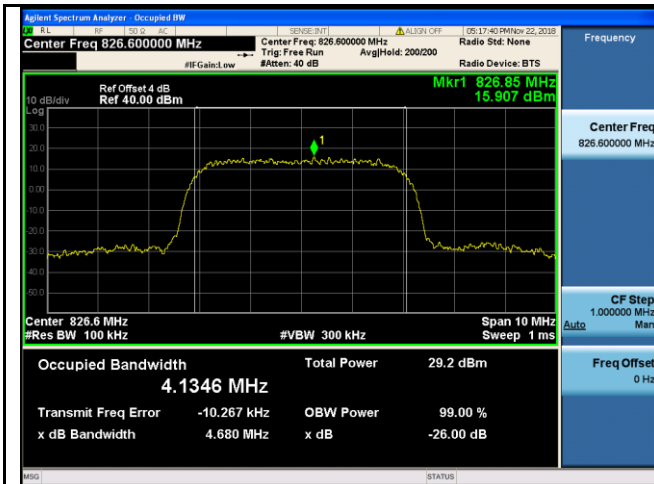


Band II BW - Mid CH 1880MHz

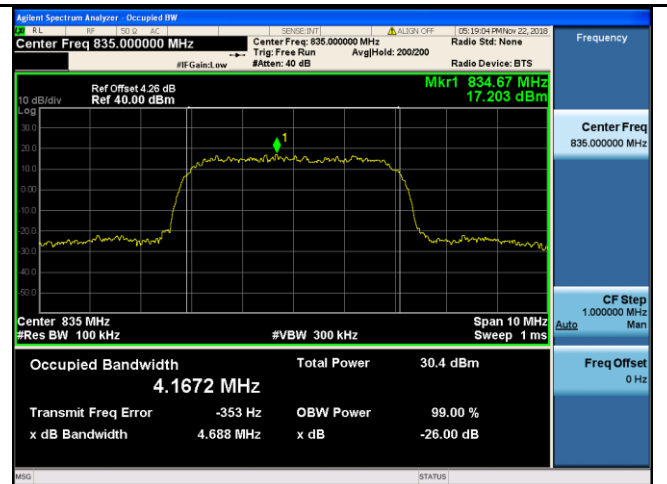


Band II BW - High CH 1907MHz

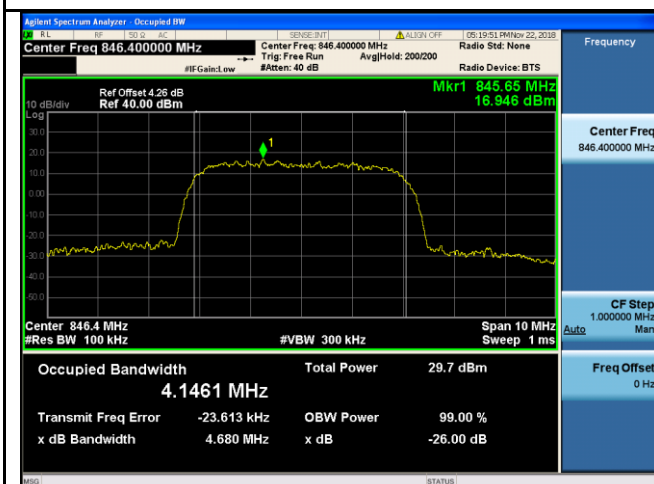
## HSUPA:



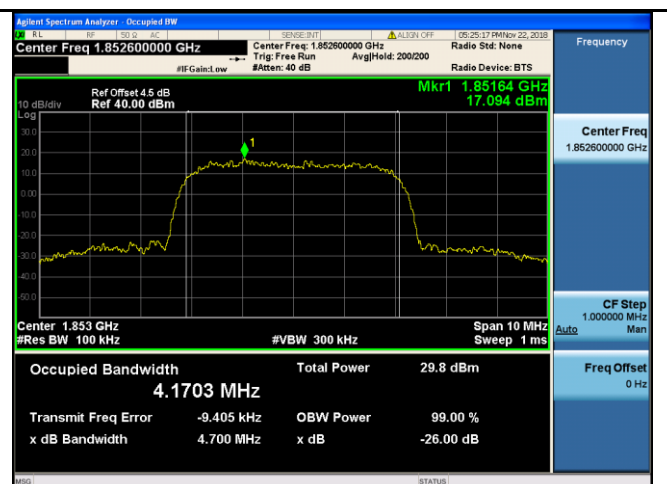
Band V BW - Low CH 826.6 MHz



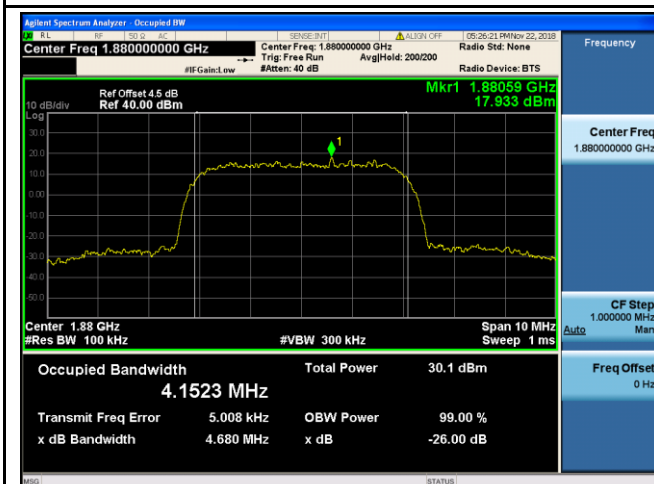
Band V BW - Mid CH 835.0 MHz



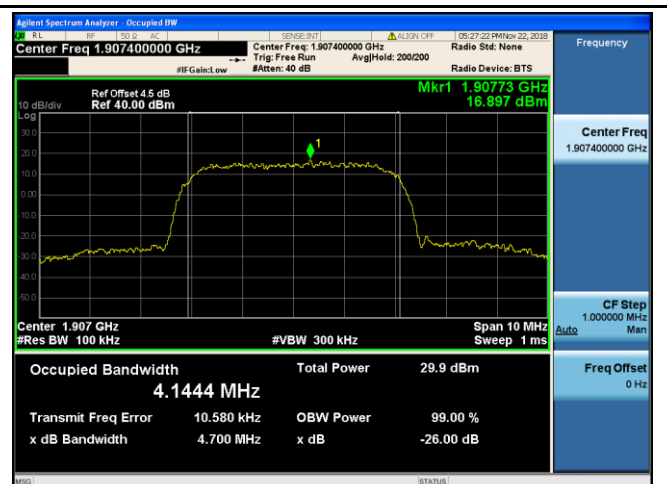
Band V BW - High CH 846.4 MHz



Band II BW - Low CH 1853MHz



Band II BW - Mid CH 1880MHz

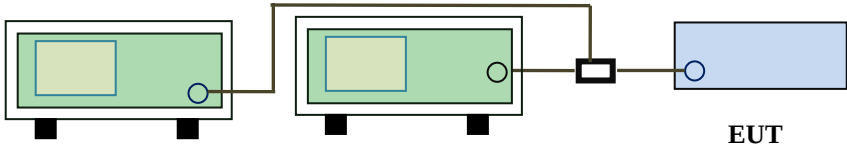


Band II BW - High CH 1907MHz

## 6.5 Spurious Emissions at Antenna Terminals

|                      |                   |
|----------------------|-------------------|
| Temperature          | 26 °C             |
| Relative Humidity    | 56%               |
| Atmospheric Pressure | 1023mbar          |
| Test date :          | November 22, 2018 |
| Tested By :          | Aaron Liang       |

### Requirement(s):

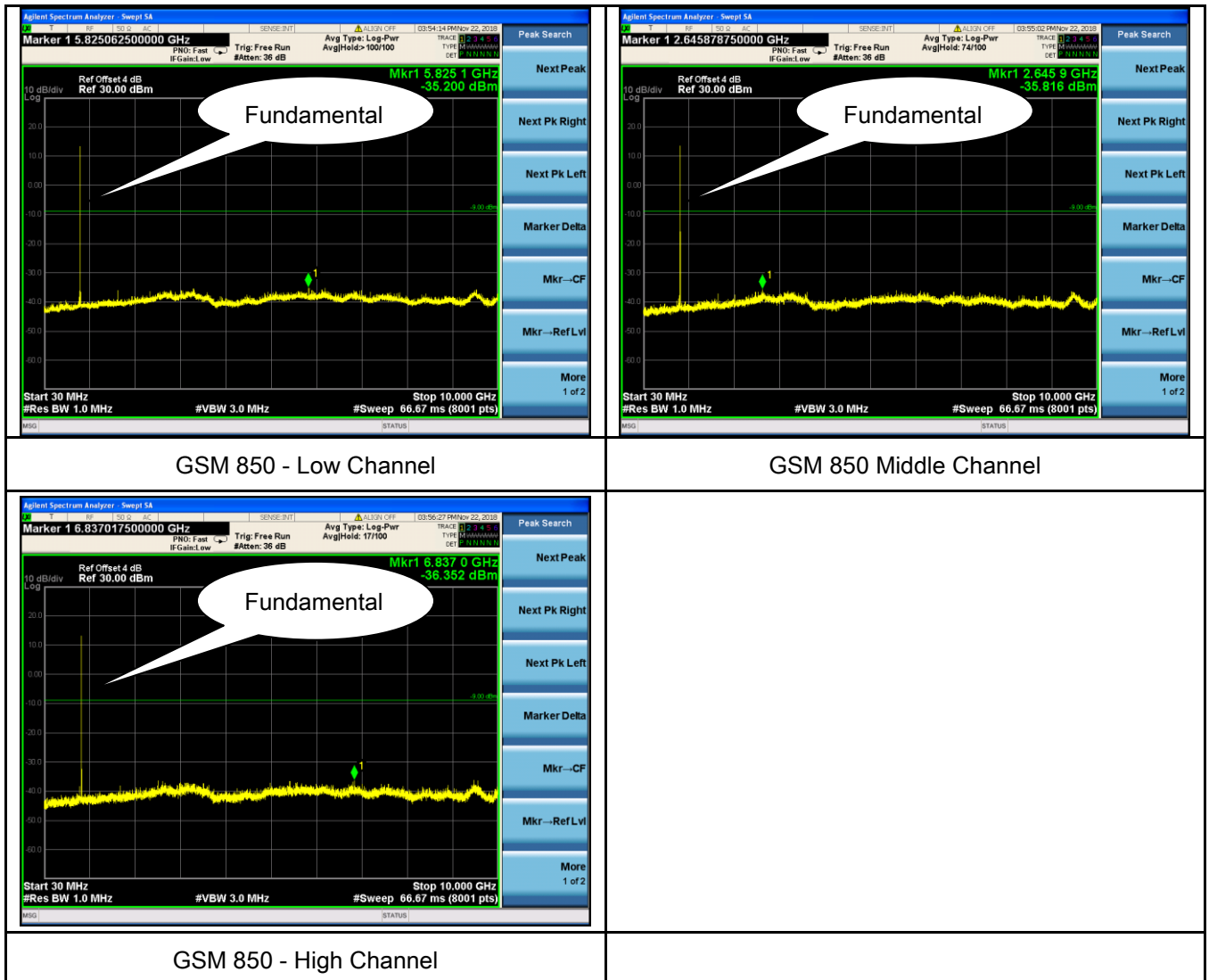
| Spec                                  | Item                                                                                                                                                                                                                                                                     | Requirement                                                                                                                                                               | Applicable                          |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| §2.1051,<br>§22.917(a)&<br>§24.238(a) | a)                                                                                                                                                                                                                                                                       | The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB | <input checked="" type="checkbox"/> |
| Test Setup                            |  <p style="text-align: center;">Base Station      Spectrum Analyzer      EUT</p>                                                                                                     |                                                                                                                                                                           |                                     |
| Test Procedure                        | <ul style="list-style-type: none"> <li>- The EUT was connected to Spectrum Analyzer and Base Station via power divider.</li> <li>- The Band Edges of low and high channels for the highest RF powers were measured.</li> <li>- Setting RBW as roughly BW/100.</li> </ul> |                                                                                                                                                                           |                                     |
| Remark                                |                                                                                                                                                                                                                                                                          |                                                                                                                                                                           |                                     |
| Result                                | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail                                                                                                                                                                                                   |                                                                                                                                                                           |                                     |

Test Data    ☒ Yes      ☐ N/A  
 Test Plot    ☒ Yes (See below)      ☐ N/A

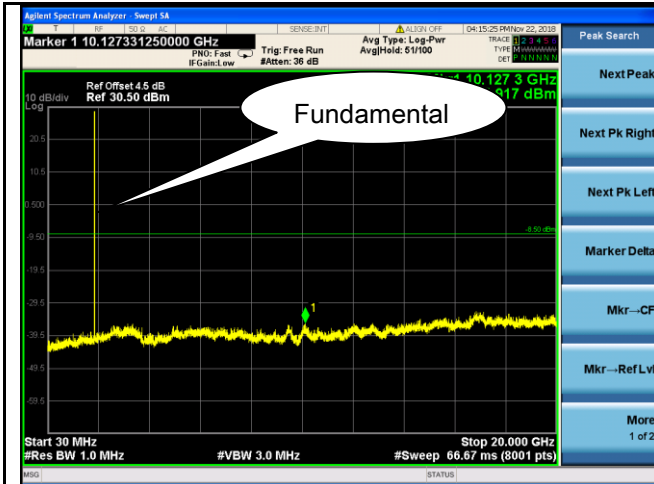
## Test Plots

### GSM Voice:

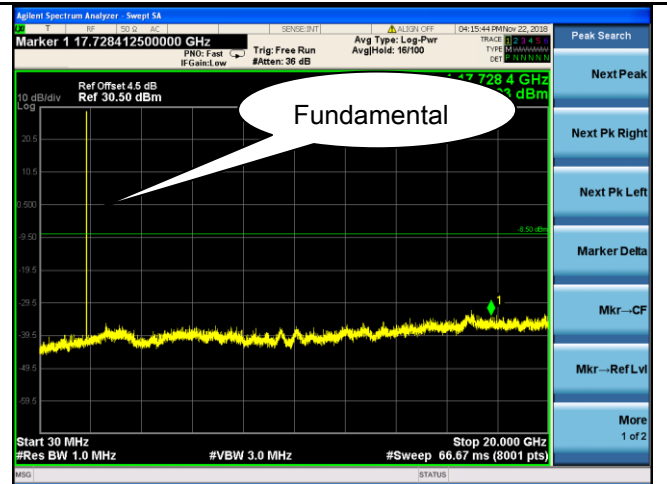
#### Cellular Band (Part 22H) result



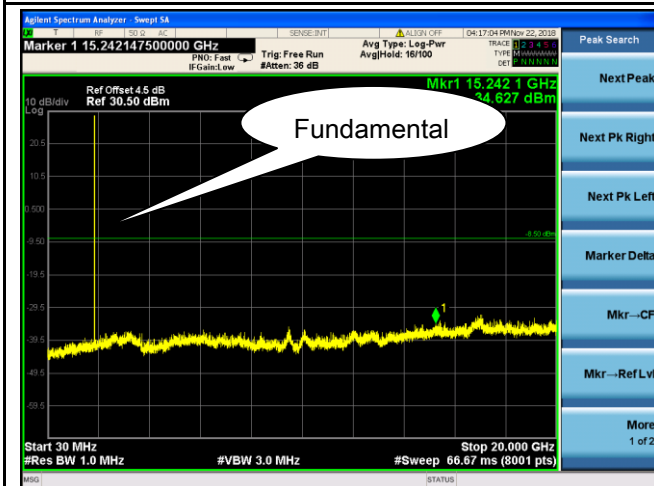
## PCS Band (Part24E) result



PCS1900 - Low Channel



PCS1900 - Middle Channel-1



PCS1900 - High Channel