

FCC TEST REPORT

For

Shanghai Rising Digital Co., Ltd.

Display screen

Model No.: SECD-510A-03, SECD-510A-03(S), SECD-510B-03,
SECD-510B-03(S), SECD-710A-03, SECD-710A-35

Prepared For : Shanghai Rising Digital Co., Ltd.
Address : No 318, Chuanda Road, Pudong New District, Shanghai China

Prepared By : Shenzhen Anbotek Compliance Laboratory Limited
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Report Number : R0217050061W2
Date of Test : Sept. 10~30, 2017
Date of Report : Sept. 30, 2017


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TEST REPORT

Applicant : Shanghai Rising Digital Co., Ltd.
Manufacturer : Shanghai Rising Digital Co., Ltd.
Product Name : Display screen
Model No. : SECD-510A-03, SECD-510A-03(S), SECD-510B-03, SECD-510B-03(S),
SECD-710A-03, SECD-710A-35
Trade Mark : 
Rating(s) : Input: DC 8-36V, 250mA
Output: DC 24V, 500mA

Test Standard(s) : FCC PART 2, FCC Part 22(H), FCC Part 24(E), FCC Part 27(H):2016

Test Method(s) : ANSI/TIAC603 D: 2010

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC Part 15 Subpart C requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Test : Sept. 10~30, 2017

Prepared by :



Winkey Wang

(Tested Engineer / Winkey Wang)

Reviewer :

Tangcy. T.

(Project Manager / Tangcy. T)

Approved & Authorized Signer :

Tom Chen


(Manager / Tom Chen)

1. General Information

1.1. Client Information

| | | |
|--------------|---|---|
| Applicant | : | Shanghai Rising Digital Co., Ltd. |
| Address | : | No 318, Chuanda Road, Pudong New District, Shanghai China |
| Manufacturer | : | Shanghai Rising Digital Co., Ltd. |
| Address | : | No 318, Chuanda Road, Pudong New District, Shanghai China |

1.2. Description of Device (EUT)

| | | | | | | | | | | |
|---|---|---|---|---|------------------|------------------------------|---------------|--------------|---------------------|-------|
| Product Name | : | Display screen | | | | | | | | |
| Model No. | : | SECD-510A-03, SECD-510A-03(S), SECD-510B-03, SECD-510B-03(S), SECD-710A-03, SECD-710A-35 (Note: All samples are the same except the model number and colour, so we prepare "SECD-510A-03" for test only.) | | | | | | | | |
| Trade Mark | : |  | | | | | | | | |
| Test Power Supply | : | DC 12V from lead acid battery | | | | | | | | |
| Product Description | : | <table border="1"> <tr> <td>Operation Frequency:</td> <td> 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 5 TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz UMTS-FDD Band 2 TX:1852.4~1907.6 MHz; RX: 1932.4~1987.6 MHz UMTS-FDD Band 4 TX :1712.4~1752.6 MHz; RX: 2112.4~2152.6 MHz </td> </tr> <tr> <td>Modulation Type:</td> <td> GPRS: GMSK UMTS-FDD: QPSK </td> </tr> <tr> <td>Antenna Type:</td> <td>PIFA Antenna</td> </tr> <tr> <td>Antenna Gain(Peak):</td> <td>1 dBi</td> </tr> </table> | Operation Frequency: | 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 5 TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz UMTS-FDD Band 2 TX:1852.4~1907.6 MHz; RX: 1932.4~1987.6 MHz UMTS-FDD Band 4 TX :1712.4~1752.6 MHz; RX: 2112.4~2152.6 MHz | Modulation Type: | GPRS: GMSK UMTS-FDD: QPSK | Antenna Type: | PIFA Antenna | Antenna Gain(Peak): | 1 dBi |
| | | Operation Frequency: | 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 5 TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz UMTS-FDD Band 2 TX:1852.4~1907.6 MHz; RX: 1932.4~1987.6 MHz UMTS-FDD Band 4 TX :1712.4~1752.6 MHz; RX: 2112.4~2152.6 MHz | | | | | | | |
| | | Modulation Type: | GPRS: GMSK UMTS-FDD: QPSK | | | | | | | |
| | | Antenna Type: | PIFA Antenna | | | | | | | |
| | | Antenna Gain(Peak): | 1 dBi | | | | | | | |
| Remark: 1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual. 2) This report is for WCDMA. | | | | | | | | | | |

1.3. Auxiliary Equipment Used During Test

| | | |
|-----|---|-----|
| N/A | : | N/A |
|-----|---|-----|

1.4. Description of Test Modes

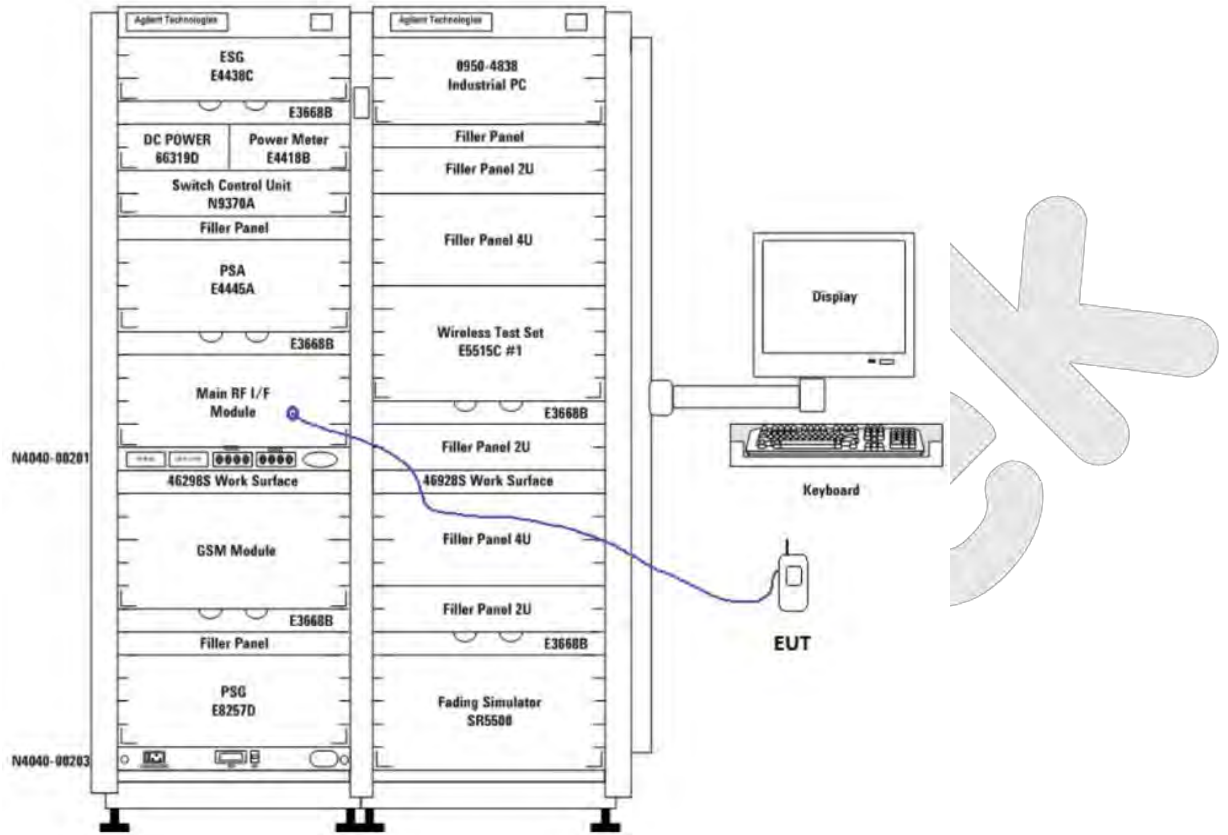
The following is the description of how the EUT is exercised during testing.

| Test | Description Of Operation |
|-------------------|--|
| Emissions Testing | The EUT was communicating with base station and set to work at maximum output power. |
| Others Testing | The EUT was communicating with base station and set to work at maximum output power. |

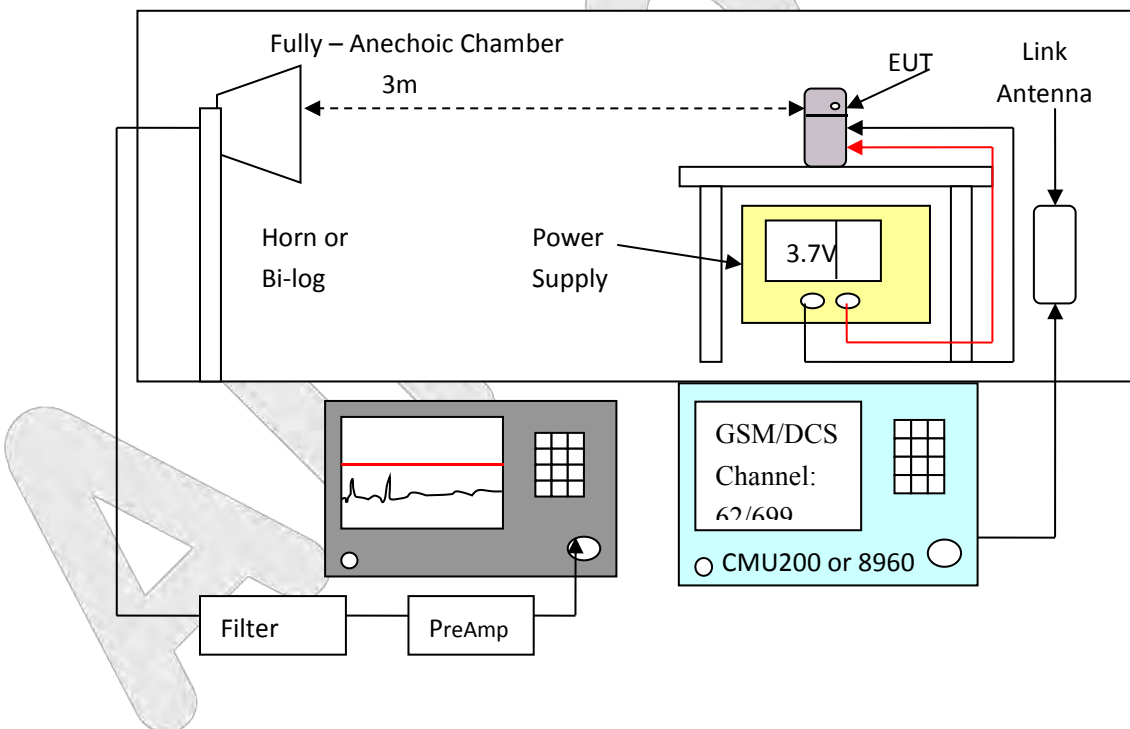
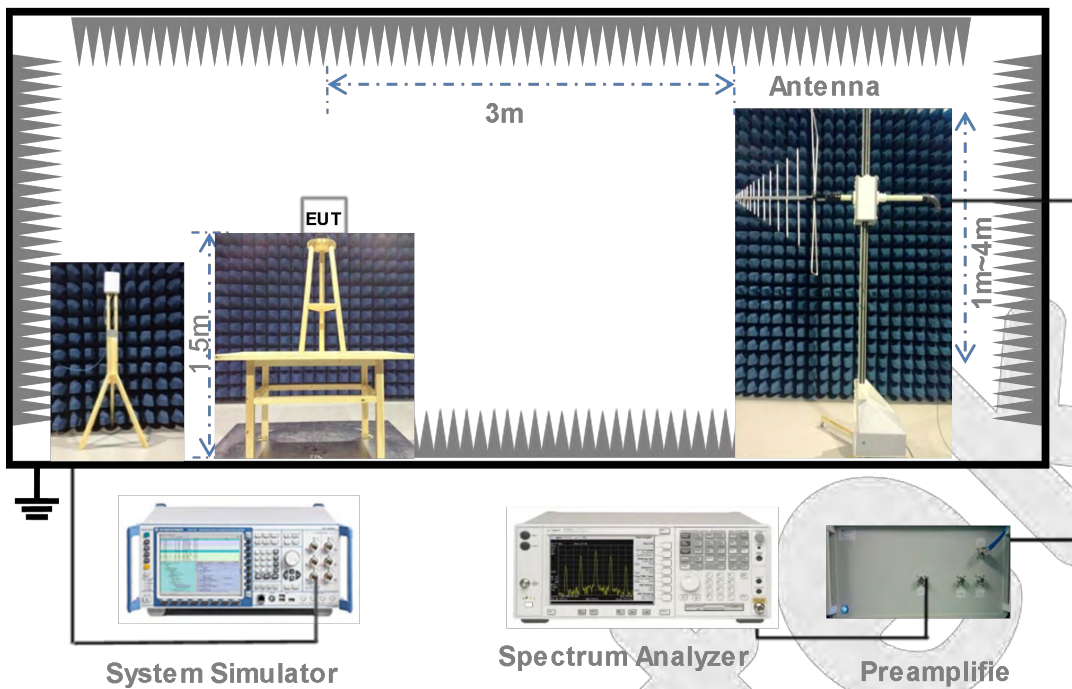
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1.5. Description Of Test Setup

1.5.1 Conducted Test Setup



1.5.2 Radiated Test Setup



1.6. Test Equipment List

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|------|---|----------------------------|----------------|---------------|---------------|---------------|
| 1. | L.I.S.N. Artificial Mains Network | Rohde & Schwarz | ENV216 | 100055 | May 27, 2017 | 1 Year |
| 2. | EMI Test Receiver | Rohde & Schwarz | ESCI | 100627 | May 27, 2017 | 1 Year |
| 3. | RF Switching Unit | Compliance Direction | RSU-M2 | 38303 | May 27, 2017 | 1 Year |
| 4. | Spectrum Analysis | Agilent | E4407B | US39390582 | May 27, 2017 | 1 Year |
| 5. | Preamplifier | SKET Electronic | BK1G18G30 D | KD17503 | May 27, 2017 | 1 Year |
| 6. | EMI Test Receiver | Rohde & Schwarz | ESPI | 101604 | May 27, 2017 | 1 Year |
| 7. | Double Ridged Horn Antenna | Instruments corporation | GTH-0118 | 351600 | May 31, 2017 | 1 Year |
| 8. | Bilog Broadband Antenna | Schwarzbeck | VULB9163 | VULB 9163-289 | May 31, 2017 | 1 Year |
| 9. | Loop Antenna | Schwarzbeck | HFH2-Z2 | 100047 | Apr. 03, 2017 | 1 Year |
| 10. | Pre-amplifier | SONOMA | 310N | 186860 | May 27, 2017 | 1 Year |
| 11. | EMI Test Software EZ-EMC | SHURPLE | N/A | N/A | N/A | N/A |
| 12. | Power Sensor | DAER | RPR3006W | 15100041SN045 | May 27, 2017 | 1 Year |
| 13. | Power Sensor | DAER | RPR3006W | 15100041SN046 | May 27, 2017 | 1 Year |
| 14. | MXA Spectrum Analysis | Agilent | N9020A | MY51170037 | May 27, 2017 | 1 Year |
| 15. | MXG RF Vector Signal Generator | Agilent | N5182A | MY48180656 | May 27, 2017 | 1 Year |
| 16. | Signal Generator | Agilent | E4421B | MY41000743 | May 27, 2017 | 1 Year |
| 17. | DC Power supply | IVYTECH | IV6003 | 1601D6030007 | May 26, 2017 | 1 Year |
| 18. | TEMP&HUMI PROGRAMMABLE CHAMBER | Sertep | ZJ-HWHS80 B | ZJ-17042804 | Mar. 03, 2017 | 1 Year |
| 19 | Bilog Broadband Antenna | Schwarzbeck | VULB9163 | VULB 9163-289 | May 31, 2017 | 1 Year |

1.7. Measurement Uncertainty

Maximum measurement uncertainty

| Parameter | Uncertainty |
|-----------------------------------|--------------------------------|
| Occupied Channel Bandwidth | $\pm 5 \%$ |
| RF output power, conducted | $\pm 1,5 \text{ dB}$ |
| Power Spectral Density, conducted | $\pm 3 \text{ dB}$ |
| Unwanted Emissions, conducted | $\pm 3 \text{ dB}$ |
| All emissions, radiated | $\pm 6 \text{ dB}$ |
| Temperature | $\pm 1 \text{ }^\circ\text{C}$ |
| Humidity | $\pm 5 \%$ |
| DC and low frequency voltages | $\pm 3 \%$ |
| Time | $\pm 5 \%$ |
| Duty Cycle | $\pm 5 \%$ |

1.8. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 184111

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 184111, July 31, 2017.

ISED-Registration No.: 8058A-1

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A-1, June 13, 2016.

Test Location

All Emissions tests were performed at

Shenzhen Anbotek Compliance Laboratory Limited.

at 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China

2. Summary of Test

2.1. Summary of test result

| FCC Rules | Description of Test | Result |
|--|--|------------|
| §2.1046; § 22.913(a); § 24.232(c); § 27.50(c.10); § 27.50(d.4) | RF Output Power | Compliance |
| § 24.232 (d); § 27.50(d) | Peak-Average Ratio | Compliance |
| § 2.1047 | Modulation Characteristics | Compliance |
| § 2.1049; § 22.905; § 22.917; § 24.238; § 27.53(a.5) | 99% & -26 dB Occupied Bandwidth | Compliance |
| § 2.1051; § 22.917(a); § 24.238(a); § 27.53(h) | Spurious Emissions at Antenna Terminal | Compliance |
| § 2.1053; § 22.917(a); § 24.238(a); § 27.53(h) | Field Strength of Spurious Radiation | Compliance |
| § 22.917(a); § 24.238(a); § 27.53(h) | Out of band emission, Band Edge | Compliance |
| § 2.1055; § 22.355; § 24.235; § 27.5(h); § 27.54 | Frequency stability vs. temperature Frequency stability vs. voltage | Compliance |

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

2.2. Test mode

During all testing, EUT is in link mode with base station emulator at maximum power level in each test mode and channel as below:

| | |
|-------------------|-----------|
| Temperature range | 21-25°C |
| Humidity range | 40-75% |
| Pressure range | 86-106kPa |

| Mode | Channel | Frequency(MHz) |
|--------------|---------|----------------|
| UMTS BAND V | 4132 | 824.2 |
| | 4182 | 836.6 |
| | 4233 | 846.6 |
| UMTS BAND II | 9262 | 1852.4 |
| | 9400 | 1880.0 |
| | 9538 | 1907.6 |
| UMTS BAND IV | 1313 | 1712.4 |
| | 1413 | 1732.6 |
| | 1512 | 1752.6 |

| Mode | Channel | Frequency(MHz) |
|----------|---------|----------------|
| GSM 850 | 128 | 824.2 |
| | 190 | 836.6 |
| | 251 | 848.8 |
| PCS 1900 | 512 | 1850.2 |
| | 661 | 1880.0 |
| | 810 | 1909.8 |

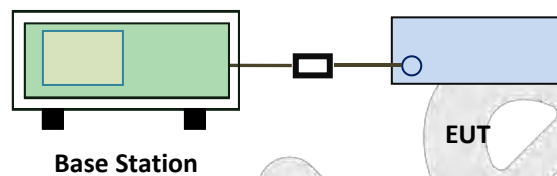
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3. RF Output Power Test

3.1. Test Standard and Limit

| Spec | Item | Requirement |
|-------------|------|--------------|
| §22.913 (a) | a) | ERP:38.45dBm |
| §24.232 (c) | b) | EIRP:33dBm |
| § 27.50 (c) | c) | EIRP:30dBm |

3.2. Test Setup



3.3. Test Procedure

For Conducted Power:

The transmitter output port was connected to base station.

Set EUT at maximum power through base station.

Select lowest, middle, and highest channels for each band and different test mode.

For ERP/EIRP:

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

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.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

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.

Spurious emissions in dB = 10 log (TX power in Watts/0.001) – the absolute level

Spurious attenuation limit in dB = 43 + 10 Log10 (power out in Watts).

3.4. Test Data

Please to see the following pages

Conducted Power

GSM Mode:

| Burst Average Power (dBm); | | | | | | | | |
|--|--------------|-------|-------|------------------------|---------|-------|--------------|------------------------|
| Band | GSM850 | | | | GSM1900 | | | |
| Channel | 128 | 190 | 251 | Tune up Power tolerant | 512 | 661 | 810 | Tune up Power tolerant |
| Frequency (MHz) | 824.2 | 836.6 | 848.8 | / | 1850.2 | 1880 | 1909.8 | / |
| GPRS Multi-Slot Class 8 (1 uplink),GMSK | 31.34 | 31.31 | 31.32 | 31±1 | 29.32 | 29.28 | 29.34 | 29±1 |
| GPRS Multi-Slot Class 10 (2 uplink) GMSK | 31.31 | 31.27 | 31.31 | 31±1 | 29.21 | 29.14 | 29.18 | 29±1 |
| GPRS Multi-Slot Class 12 (4 uplink) GMSK (4 uplink),GMSK | 29.66 | 29.54 | 29.46 | 29±1 | 27.42 | 27.43 | 27.56 | 27±1 |
| Remark: GPRS, CS1 coding scheme. | | | | | | | | |

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UMTS Mode:

UMTS-FDD Band V

| Band/ Time Slot configuration | Channel | Frequency | Average power (dBm) |
|-------------------------------|---------|-----------|---------------------|
| RMC 12.2kbps | 4132 | 826.4 | 22.67 |
| | 4183 | 836.6 | 22.72 |
| | 4233 | 846.6 | 22.66 |
| HSDPA Subtest1 | 4132 | 826.4 | 21.87 |
| | 4183 | 836.6 | 21.95 |
| | 4233 | 846.6 | 21.57 |
| HSDPA Subtest2 | 4132 | 826.4 | 21.79 |
| | 4183 | 836.6 | 21.61 |
| | 4233 | 846.6 | 21.58 |
| HSDPA Subtest3 | 4132 | 826.4 | 22.31 |
| | 4183 | 836.6 | 22.23 |
| | 4233 | 846.6 | 22.15 |
| HSDPA Subtest4 | 4132 | 826.4 | 22.10 |
| | 4183 | 836.6 | 22.18 |
| | 4233 | 846.6 | 22.02 |
| HSUPA Subtest1 | 4132 | 826.4 | 21.72 |
| | 4183 | 836.6 | 21.63 |
| | 4233 | 846.6 | 21.58 |
| HSUPA Subtest2 | 4132 | 826.4 | 19.74 |
| | 4183 | 836.6 | 19.56 |
| | 4233 | 846.6 | 19.75 |
| HSUPA Subtest3 | 4132 | 826.4 | 20.67 |
| | 4183 | 836.6 | 20.76 |
| | 4233 | 846.6 | 20.65 |
| HSUPA Subtest4 | 4132 | 826.4 | 19.73 |
| | 4183 | 836.6 | 19.24 |
| | 4233 | 846.6 | 19.65 |
| HSUPA Subtest5 | 4132 | 826.4 | 21.54 |
| | 4183 | 836.6 | 21.65 |
| | 4233 | 846.6 | 21.64 |

UMTS-FDD Band II

| Band/ Time Slot configuration | Channel | Frequency | Average power (dBm) |
|-------------------------------|---------|-----------|---------------------|
| RMC 12.2kbps | 9262 | 1852.4 | 21.45 |
| | 9400 | 1880.0 | 23.16 |
| | 9538 | 1907.6 | 22.22 |
| HSDPA Subtest1 | 9262 | 1852.4 | 20.82 |
| | 9400 | 1880.0 | 22.32 |
| | 9538 | 1907.6 | 21.34 |
| HSDPA Subtest2 | 9262 | 1852.4 | 20.57 |
| | 9400 | 1880.0 | 22.39 |
| | 9538 | 1907.6 | 21.26 |
| HSDPA Subtest3 | 9262 | 1852.4 | 20.37 |
| | 9400 | 1880.0 | 21.85 |
| | 9538 | 1907.6 | 21.61 |
| HSDPA Subtest4 | 9262 | 1852.4 | 20.26 |
| | 9400 | 1880.0 | 21.75 |
| | 9538 | 1907.6 | 21.64 |
| HSUPA Subtest1 | 9262 | 1852.4 | 20.75 |
| | 9400 | 1880.0 | 22.43 |
| | 9538 | 1907.6 | 21.39 |
| HSUPA Subtest2 | 9262 | 1852.4 | 18.82 |
| | 9400 | 1880.0 | 20.46 |
| | 9538 | 1907.6 | 19.39 |
| HSUPA Subtest3 | 9262 | 1852.4 | 19.68 |
| | 9400 | 1880.0 | 21.46 |
| | 9538 | 1907.6 | 20.25 |
| HSUPA Subtest4 | 9262 | 1852.4 | 18.74 |
| | 9400 | 1880.0 | 20.46 |
| | 9538 | 1907.6 | 19.31 |
| HSUPA Subtest5 | 9262 | 1852.4 | 20.72 |
| | 9400 | 1880.0 | 22.45 |
| | 9538 | 1907.6 | 21.45 |

UMTS-FDD Band IV

| Band/ Time Slot configuration | Channel | Frequency | Average power (dBm) |
|-------------------------------|---------|-----------|---------------------|
| RMC 12.2kbps | 1313 | 1712.6 | 21.21 |
| | 1413 | 1732.6 | 21.79 |
| | 1512 | 1752.4 | 21.25 |
| HSDPA Subtest1 | 1313 | 1712.6 | 21.22 |
| | 1413 | 1732.6 | 21.78 |
| | 1512 | 1752.4 | 21.24 |
| HSDPA Subtest2 | 1313 | 1712.6 | 21.22 |
| | 1413 | 1732.6 | 21.77 |
| | 1512 | 1752.4 | 21.24 |
| HSDPA Subtest3 | 1313 | 1712.6 | 21.25 |
| | 1413 | 1732.6 | 21.74 |
| | 1512 | 1752.4 | 21.26 |
| HSDPA Subtest4 | 1313 | 1712.6 | 21.25 |
| | 1413 | 1732.6 | 21.79 |
| | 1512 | 1752.4 | 21.25 |
| HSUPA Subtest1 | 1313 | 1712.6 | 21.21 |
| | 1413 | 1732.6 | 21.79 |
| | 1512 | 1752.4 | 21.25 |
| HSUPA Subtest2 | 1313 | 1712.6 | 21.21 |
| | 1413 | 1732.6 | 21.79 |
| | 1512 | 1752.4 | 21.25 |
| HSUPA Subtest3 | 1313 | 1712.6 | 21.21 |
| | 1413 | 1732.6 | 21.79 |
| | 1512 | 1752.4 | 21.25 |
| HSUPA Subtest4 | 1313 | 1712.6 | 21.21 |
| | 1413 | 1732.6 | 21.79 |
| | 1512 | 1752.4 | 21.25 |
| HSUPA Subtest5 | 1313 | 1712.6 | 21.21 |
| | 1413 | 1732.6 | 21.79 |
| | 1512 | 1752.4 | 21.25 |

Radiated Output power

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

| Frequency (MHz) | Substituted level (dBm) | Antenna Polarization | Antenna Gain correction (dBi) | Cable Loss (dB) | Absolute Level (dBm) | Limit (dBm) |
|-----------------|-------------------------|----------------------|-------------------------------|-----------------|----------------------|-------------|
| 1852.4 | 10.92 | V | 7.88 | 0.85 | 17.95 | 33 |
| 1852.4 | 11.45 | H | 7.88 | 0.85 | 18.48 | 33 |
| 1880 | 11.04 | V | 7.88 | 0.85 | 18.07 | 33 |
| 1880 | 11.76 | H | 7.88 | 0.85 | 18.69 | 33 |
| 1907.6 | 10.98 | V | 7.86 | 0.85 | 17.99 | 33 |
| 1907.6 | 11.52 | H | 7.86 | 0.85 | 18.53 | 33 |

ERP & EIRP

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

| Frequency (MHz) | Substituted level (dBm) | Antenna Polarization | Antenna Gain correction (dBi) | Cable Loss (dB) | Absolute Level (dBm) | Limit (dBm) |
|-----------------|-------------------------|----------------------|-------------------------------|-----------------|----------------------|-------------|
| 826.4 | 12.55 | V | 6.8 | 0.53 | 18.82 | 38.45 |
| 826.4 | 12.69 | H | 6.8 | 0.53 | 18.96 | 38.45 |
| 836.6 | 12.69 | V | 6.8 | 0.53 | 18.96 | 38.45 |
| 836.6 | 12.85 | H | 6.8 | 0.53 | 19.12 | 38.45 |
| 846.6 | 12.79 | V | 6.9 | 0.53 | 19.16 | 38.45 |
| 846.6 | 12.73 | H | 6.9 | 0.53 | 19.10 | 38.45 |

EIRP for UMTS-FDD Band IV (Part 27)

| Frequency (MHz) | Substituted level (dBm) | Antenna Polarization | Antenna Gain correction (dBi) | Cable Loss (dB) | Absolute Level (dBm) | Limit (dBm) |
|-----------------|-------------------------|----------------------|-------------------------------|-----------------|----------------------|-------------|
| 1712.4 | 12.23 | V | 7.76 | 0.82 | 19.17 | 30 |
| 1712.4 | 11.58 | H | 7.76 | 0.82 | 18.52 | 30 |
| 1740 | 10.74 | V | 7.76 | 0.82 | 17.68 | 30 |
| 1740 | 11.62 | H | 7.76 | 0.82 | 18.56 | 30 |
| 1752.6 | 11.23 | V | 7.74 | 0.82 | 18.15 | 30 |
| 1752.6 | 10.59 | H | 7.74 | 0.82 | 17.51 | 30 |

ERP & EIRP
ERP for Cellular Band (Part 22H)

| Frequency (MHz) | Substituted level (dBm) | Antenna Polarization | Antenna Gain correction (dBi) | Cable Loss (dB) | Absolute Level (dBm) | Limit (dBm) |
|-----------------|-------------------------|----------------------|-------------------------------|-----------------|----------------------|-------------|
| 824.2 | 19.49 | V | 6.8 | 0.53 | 25.76 | 38.45 |
| 824.2 | 19.26 | H | 6.8 | 0.53 | 25.53 | 38.45 |
| 836.6 | 19.64 | V | 6.8 | 0.53 | 25.91 | 38.45 |
| 836.6 | 19.78 | H | 6.8 | 0.53 | 26.05 | 38.45 |
| 848.8 | 19.17 | V | 6.9 | 0.53 | 25.54 | 38.45 |
| 848.8 | 19.56 | H | 6.9 | 0.53 | 25.93 | 38.45 |

EIRP for PCS Band (Part 24E)

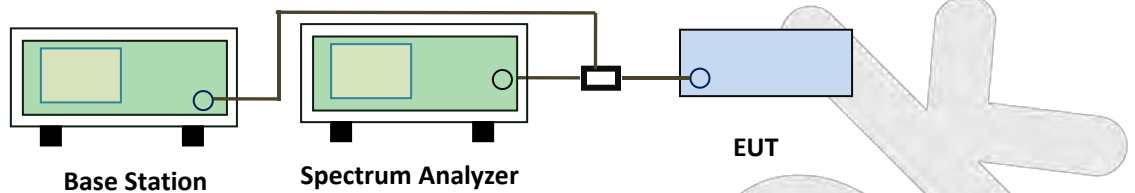
| Frequency (MHz) | Substituted level (dBm) | Antenna Polarization | Antenna Gain correction (dBi) | Cable Loss (dB) | Absolute Level (dBm) | Limit (dBm) |
|-----------------|-------------------------|----------------------|-------------------------------|-----------------|----------------------|-------------|
| 1850.2 | 14.36 | V | 7.88 | 0.85 | 21.39 | 33 |
| 1850.2 | 15.27 | H | 7.88 | 0.85 | 22.30 | 33 |
| 1880 | 14.54 | V | 7.88 | 0.85 | 21.57 | 33 |
| 1880 | 15.25 | H | 7.88 | 0.85 | 22.28 | 33 |
| 1909.8 | 14.33 | V | 7.86 | 0.85 | 21.34 | 33 |
| 1909.8 | 15.47 | H | 7.86 | 0.85 | 22.48 | 33 |

4. Peak-Average Ratio

4.1. Test Standard and Limit

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.

4.2. Test Setup



4.3. Test Procedure

According with KDB 971168

1. The signal analyzer's CCDF measurement profile is enabled
2. Frequency = carrier center frequency
3. Measurement BW > Emission bandwidth of signal
4. The signal analyzer was set to collect one million samples to generate the CCDF curve
5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

4.4. Test Data

PCS1900

| Frequency (MHz) | Peak-Average Ratio(PAR) |
|-----------------|-------------------------|
| 1850.2 | 3.12 |
| 1880.0 | 2.29 |
| 1909.8 | 3.90 |

WCDMA1700

| Frequency (MHz) | Peak-Average Ratio(PAR) |
|-----------------|-------------------------|
| 1712.6 | 2.26 |
| 1732.6 | 1.90 |
| 1752.4 | 2.00 |

WCDMA1900

| Frequency (MHz) | Peak-Average Ratio(PAR) |
|-----------------|-------------------------|
| 1852.4 | 2.03 |
| 1880.0 | 2.04 |
| 1907.6 | 2.06 |

Anbotek

5. Modulation Characteristic

According to FCC § 2.1047(d), Part 22H, 24E there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

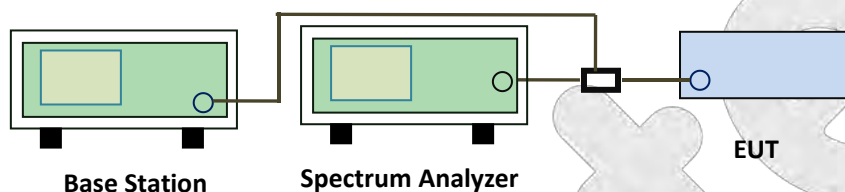
Anbotek

6. Occupied Bandwidth

6.1. Test Standard and Limit

| Spec | Item | Requirement |
|---|------|-----------------------------|
| §2.1049, §22.917, §22.905 §24.238 §27.53(a) | a) | 99% Occupied Bandwidth(kHz) |
| | b) | 26 dB Bandwidth(kHz) |

6.2. Test Setup



6.3. Test Procedure

The EUT was connected to Spectrum Analyzer and Base Station via power divider.
The 99% and 26 dB occupied bandwidth (BW) of the middle channel for the highest RF powers.

6.4. Test Data

Cellular Band (Part 22H) result

| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | 26 dB Bandwidth (MHz) |
|---------|-----------------|------------------------------|-----------------------|
| 128 | 824.2 | 248.68 | 315.80 |
| 190 | 836.6 | 248.85 | 316.20 |
| 251 | 848.8 | 246.69 | 319.40 |

PCS Band (Part 24E) result

| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | 26 dB Bandwidth (MHz) |
|---------|-----------------|------------------------------|-----------------------|
| 512 | 1850.2 | 247.17 | 322.80 |
| 661 | 1880.0 | 249.81 | 322.60 |
| 810 | 1909.8 | 244.37 | 320.00 |

UMTS-FDD Band V (Part 22H)

| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | 26 dB Bandwidth (MHz) |
|---------|-----------------|------------------------------|-----------------------|
| 4132 | 826.4 | 4.2016 | 4.851 |
| 4175 | 836.6 | 4.2210 | 4.951 |
| 4233 | 846.6 | 4.2132 | 4.937 |

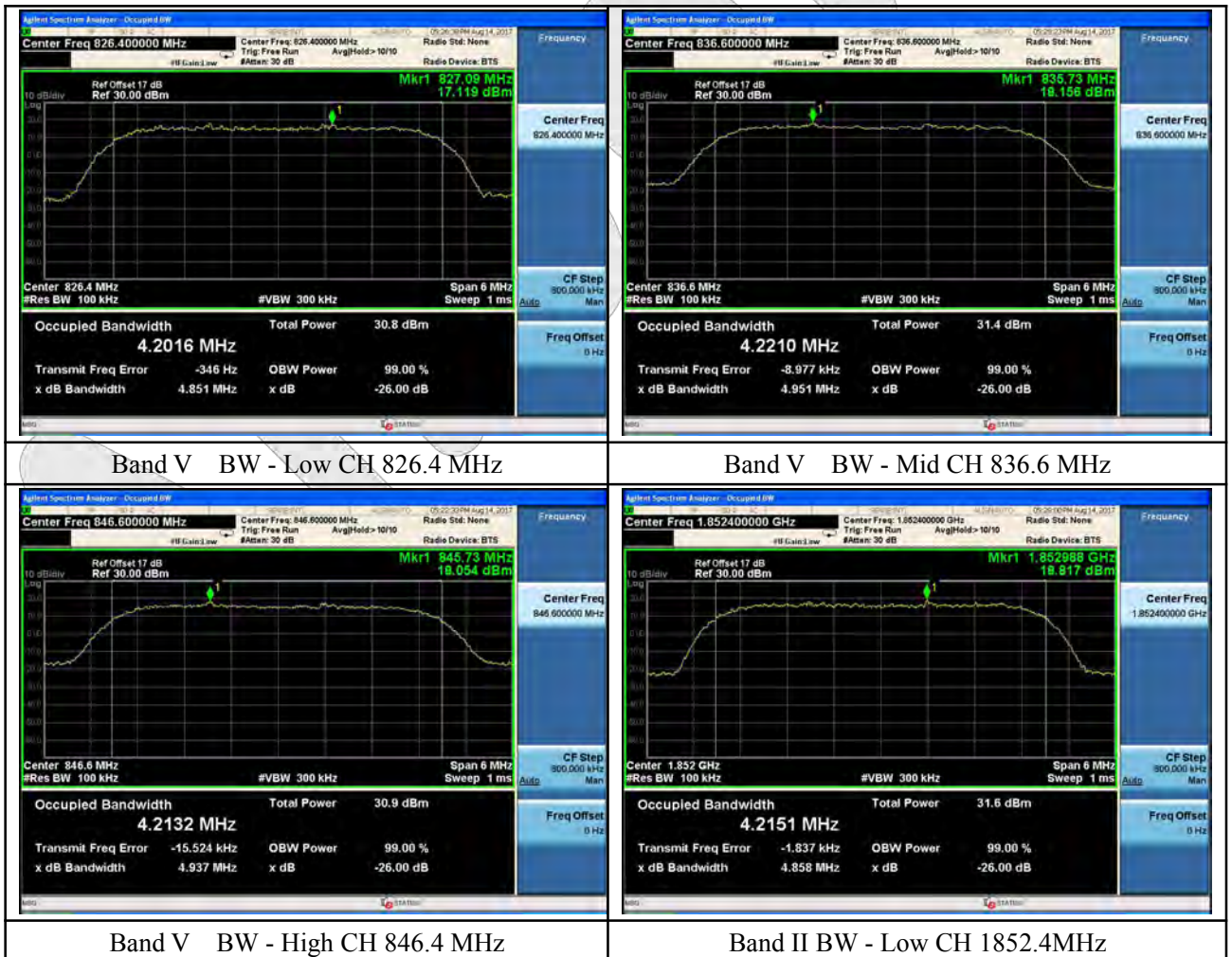
UMTS-FDD Band II (Part 24E)

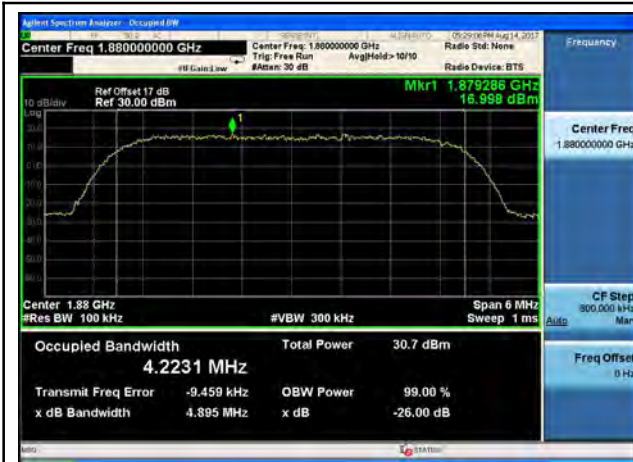
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | 26 dB Bandwidth (MHz) |
|---------|-----------------|------------------------------|-----------------------|
| 9262 | 1852.4 | 4.2151 | 4.858 |
| 9400 | 1880.0 | 4.2231 | 4.895 |
| 9538 | 1907.6 | 4.2208 | 4.870 |

UMTS-FDD Band IV (Part 27)

| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | 26 dB Bandwidth (MHz) |
|---------|-----------------|------------------------------|-----------------------|
| 1313 | 1712.4 | 4.1616 | 4.744 |
| 1413 | 1732.6 | 4.1548 | 4.719 |
| 1512 | 1752.6 | 4.1762 | 4.728 |

Test Plots





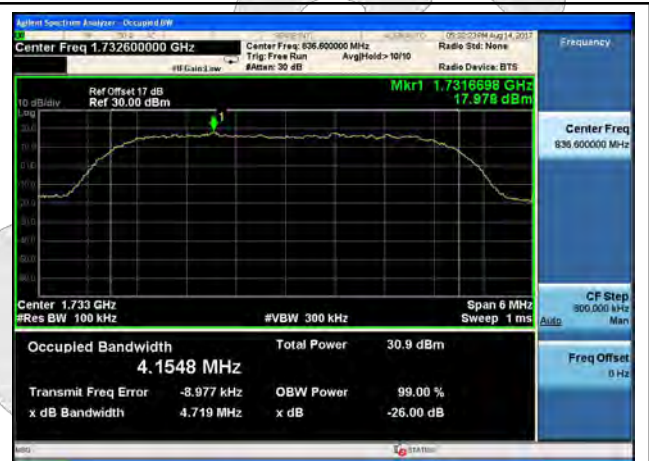
Band II BW - Mid CH 1880MHz



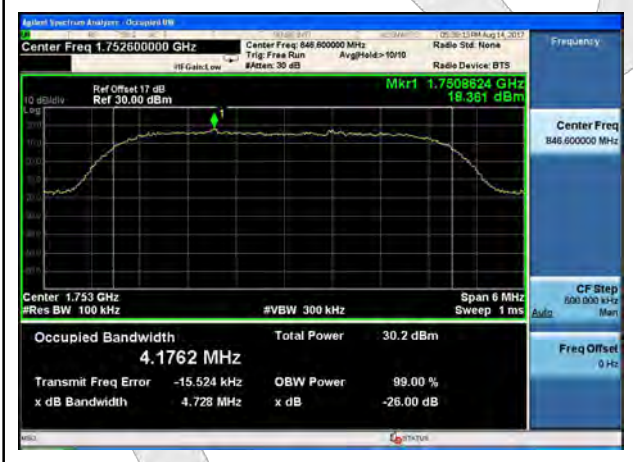
Band II BW - High CH 1907.6MHz



Band IV BW - Low CH 1712.4 MHz



Band IV BW - Mid CH 1732.6 MHz



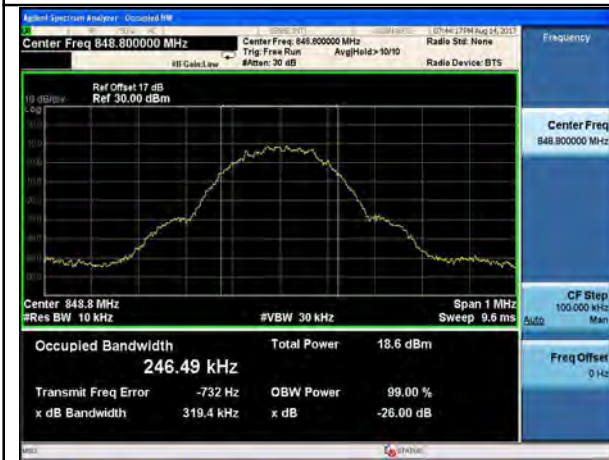
Band IV BW - High CH 1752.6MHz



GPRS 850 BW - Low CH 824.2MHz



GPRS 850 BW - Mid CH 836.6MHz



GPRS 850 BW - High CH 848.8MHz



GPRS 1900 BW - Low CH 1850.2MHz



GPRS 1900 BW - Mid CH 1880MHz



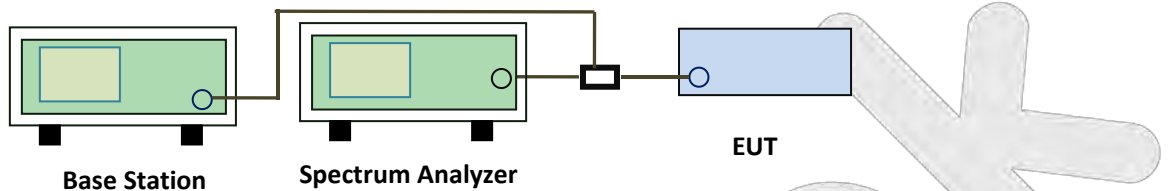
GPRS 1900 BW - High CH 1909.8MHz

7. Spurious Emissions at Antenna Terminals

7.1. Test Standard and Limit

The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency outside the frequency band by at least $(43 + 10 \log P)$ dB, in this case, -13dBm.

7.2. Test Setup



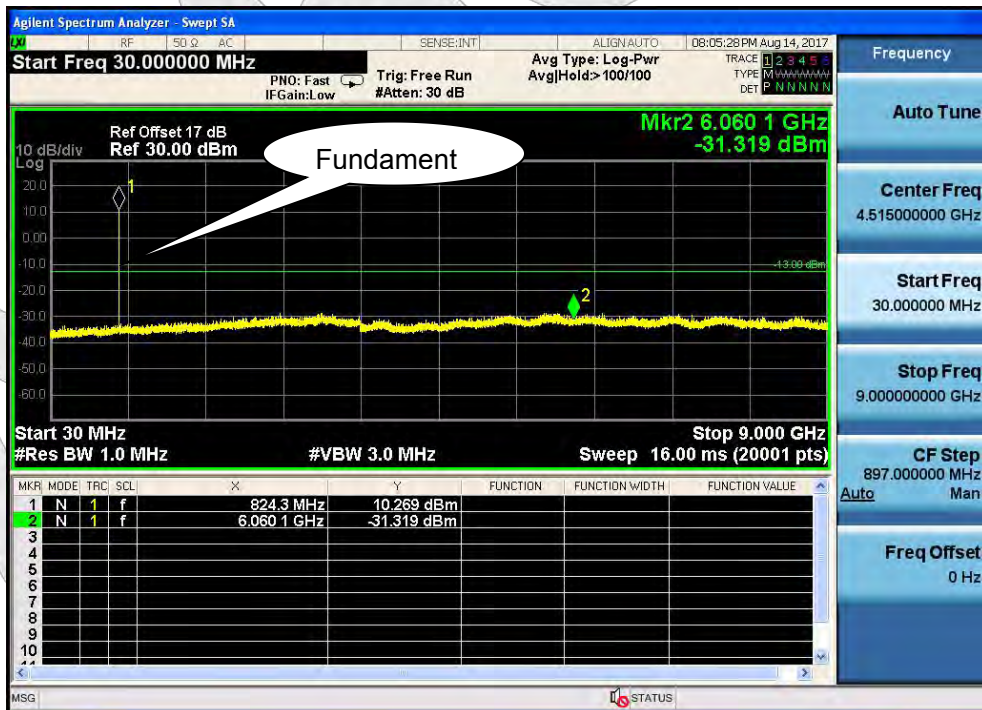
7.3. Test Procedure

The EUT was connected to Spectrum Analyzer and Base Station via power divider. The Band Edges of low and high channels for the highest RF powers were measured. Setting RBW as roughly $BW/100$.

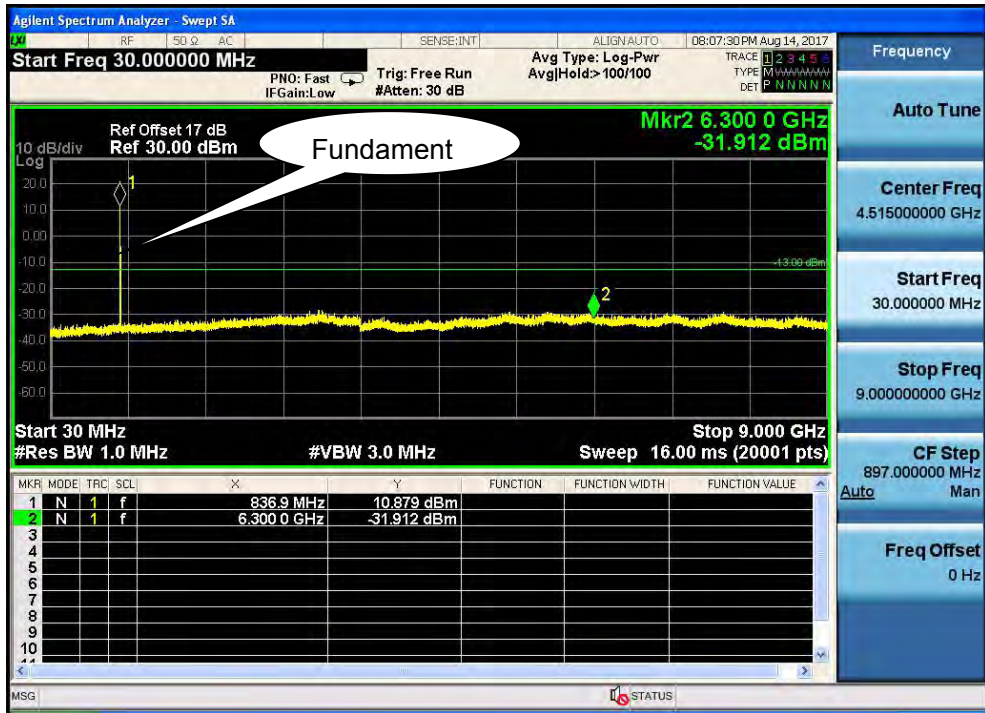
7.4. Test Data

Test Plots

Cellular Band (Part 22H) result



Test Mode:GSM 850 - Low Channel

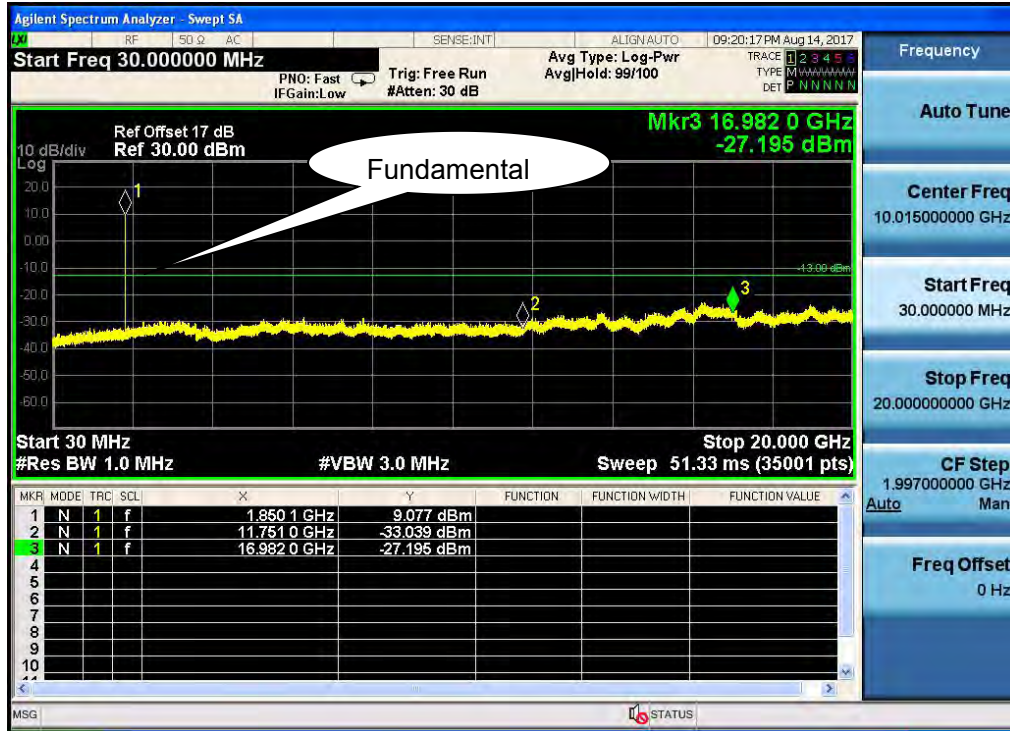


Test Mode:GSM 850 Middle Channel

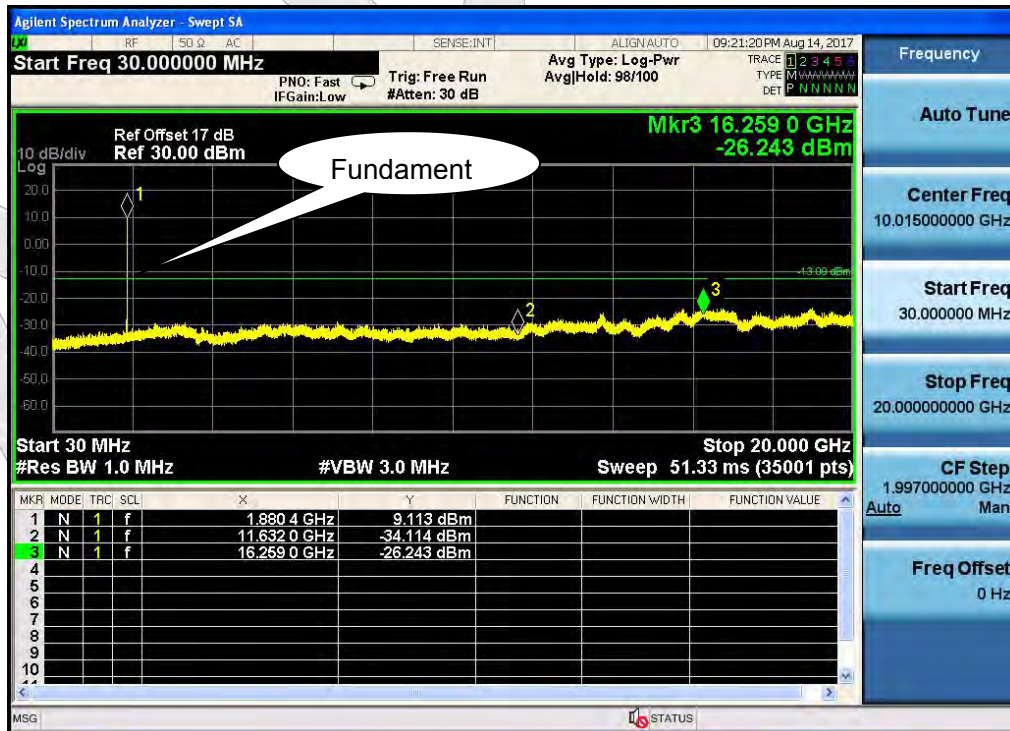


Test Mode:GSM 850 - High Channel

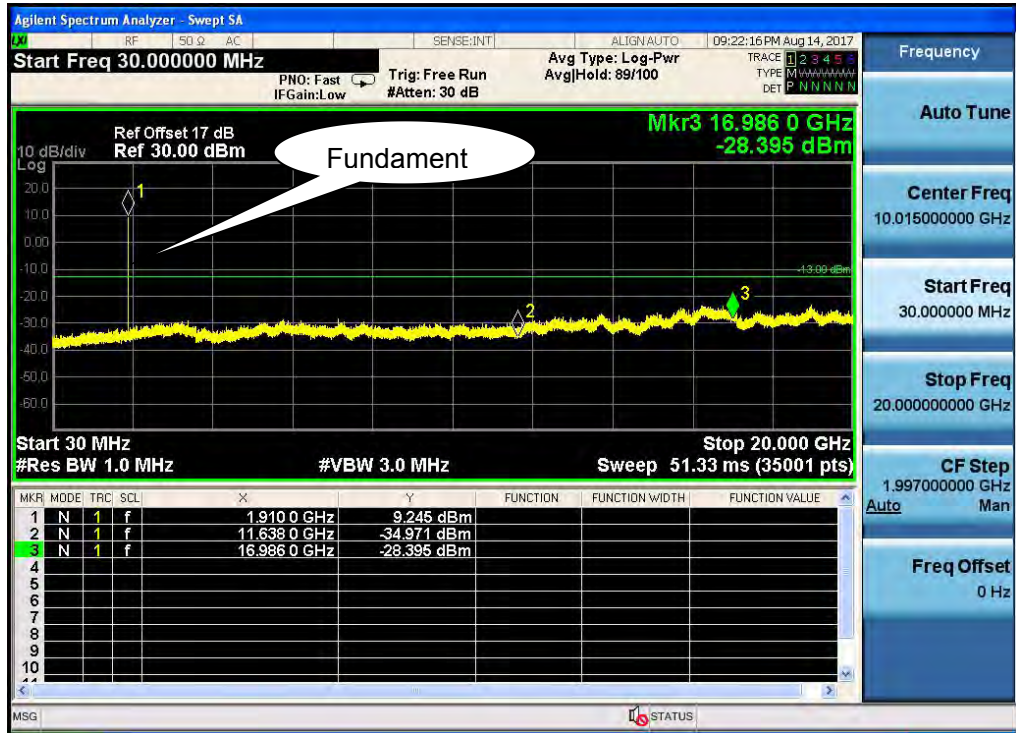
PCS Band (Part24E) result



Test Mode:PCS1900 - Low Channel

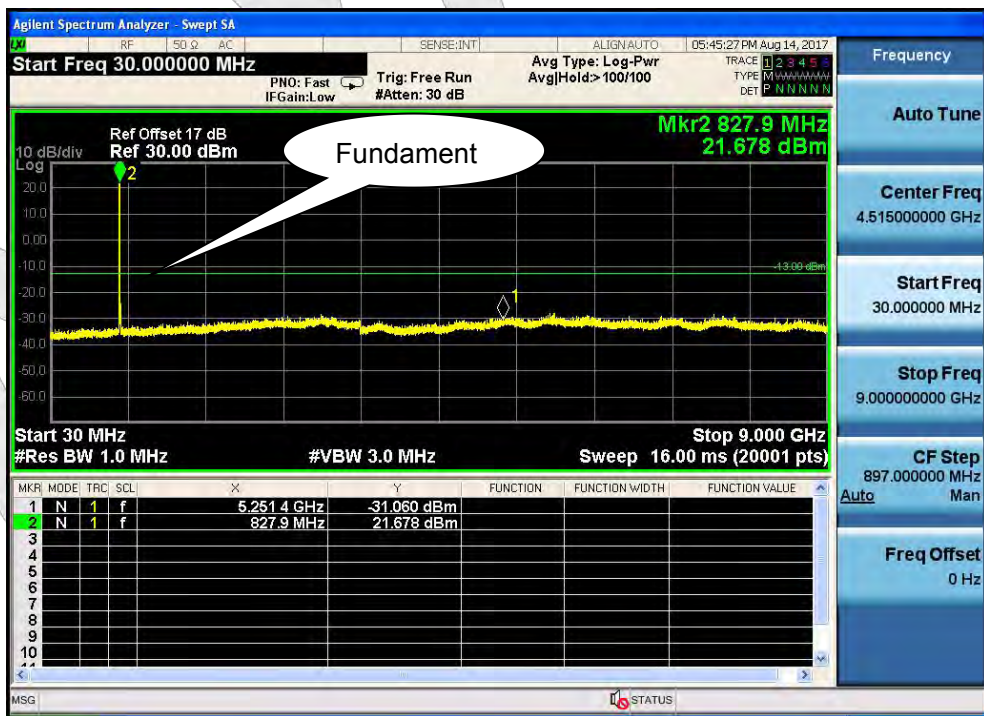


Test Mode:PCS1900 - Middle Channel

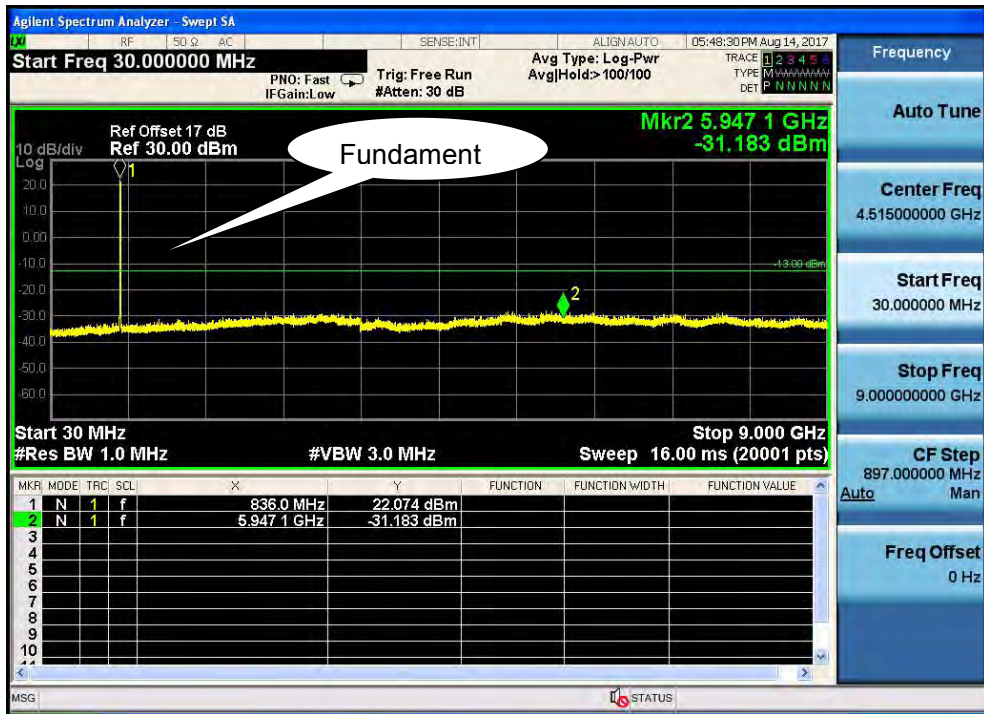


Test Mode:PCS1900 - High Channel

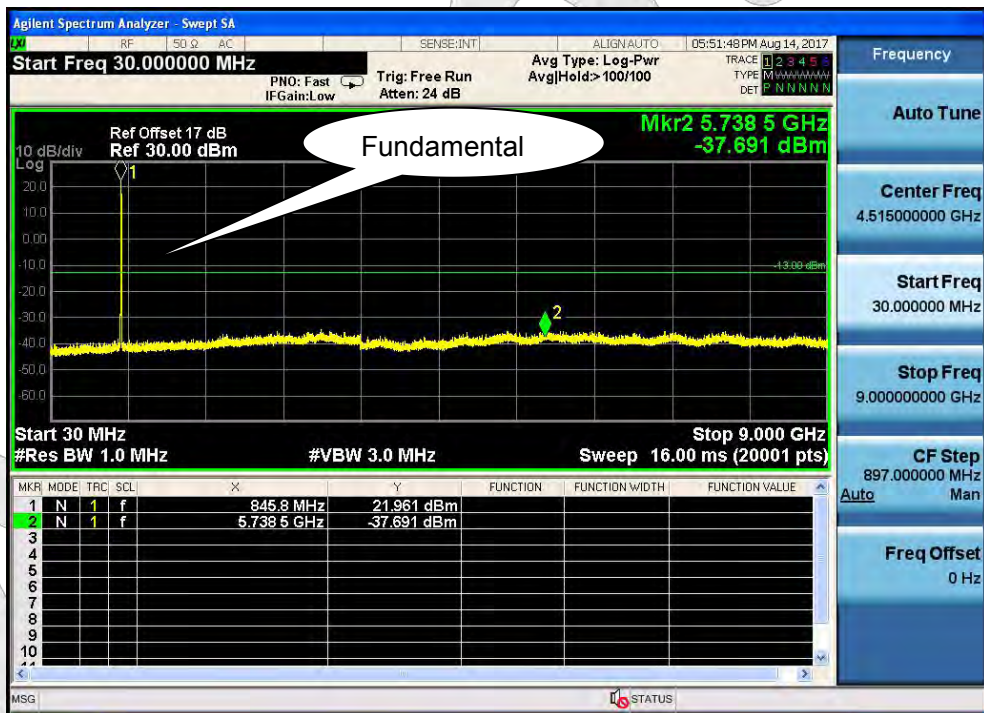
UMTS-FDD Band V (Part 22H)



Test Mode: Band V - Low Channel

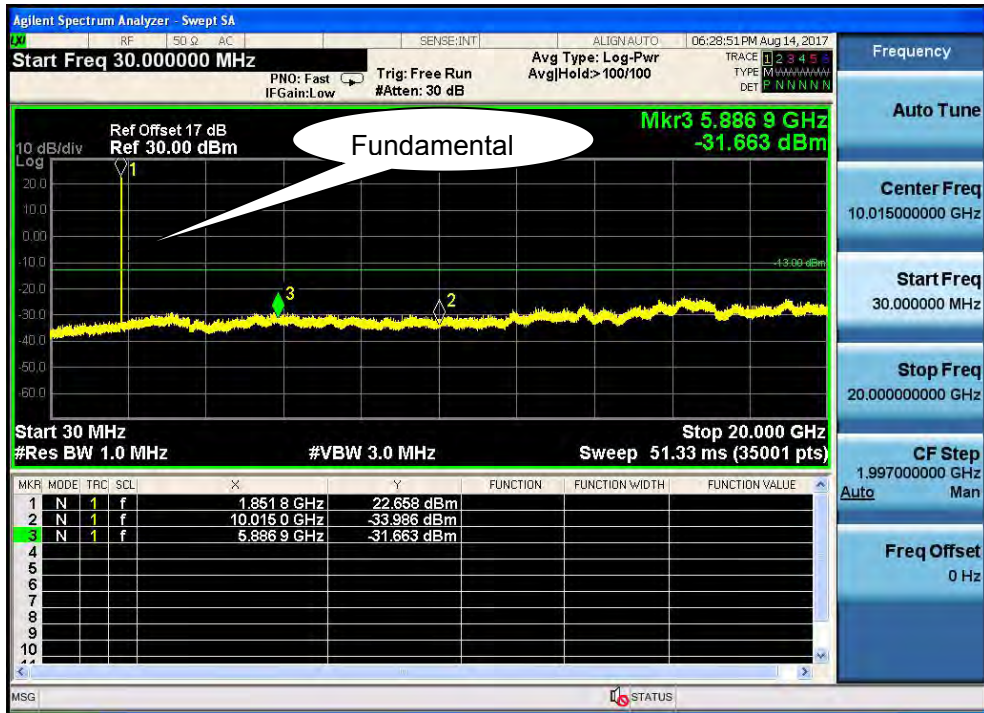


Test Mode: Band V – Middle Channel



Test Mode: Band V - High Channel

UMTS-FDD Band II (Part 24E)



Test Mode: Band II - Low Channel

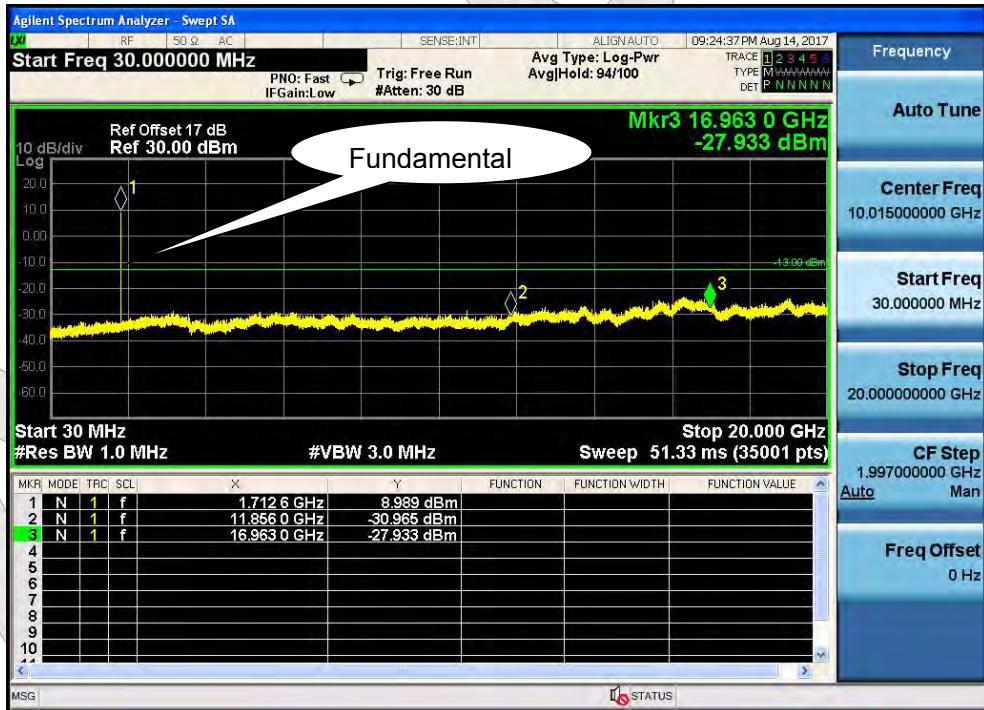


Test Mode: Band II - Middle Channel



Test Mode: Band II - High Channel

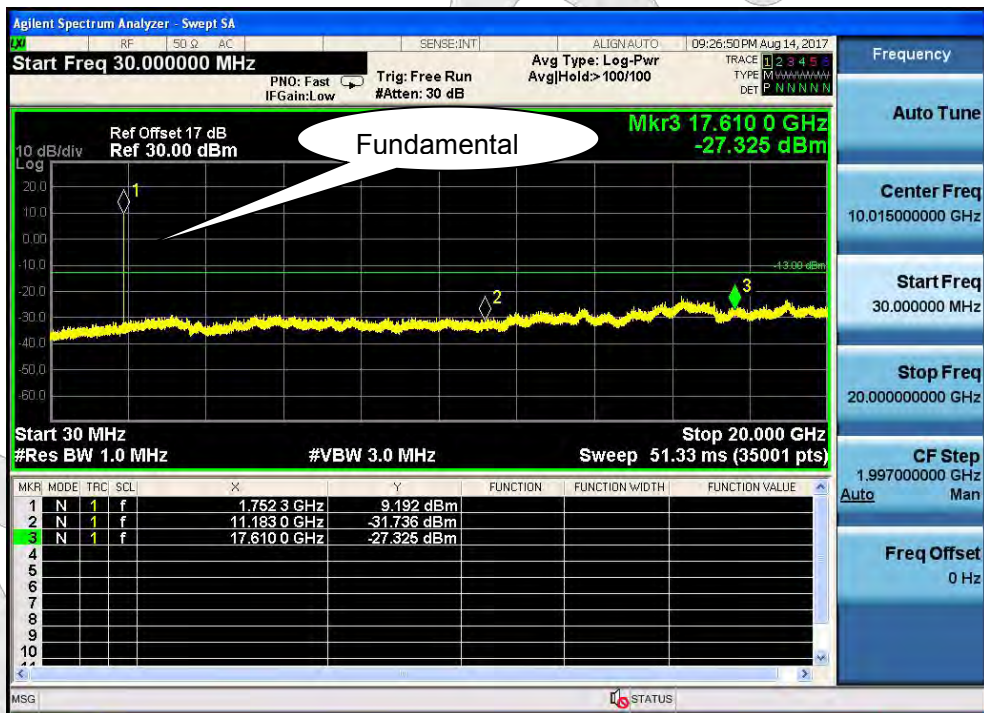
UMTS-FDD Band IV (Part 27)



Test Mode: Band IV - Low Channel



Test Mode: Band IV - Middle Channel



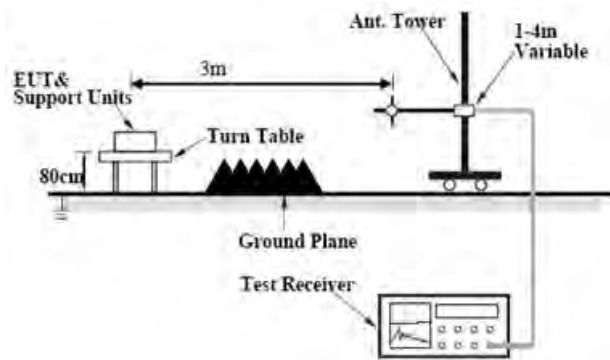
Test Mode: Band IV - High Channel

8. Spurious Radiated Emissions

8.1. Test Standard and Limit

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

8.2. Test Setup



8.3. Test Procedure

1. The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.
2. 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.
3. 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.

Sample Calculation:

EUT Field Strength = Raw Amplitude (dB μ V/m) – Amplifier Gain (dB) + Antenna Factor (dB) + Cable Loss (dB) + Filter Attenuation (dB, if used)

8.4. Test Data

Cellular Band (Part 22H) result

Low channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 1648.4 | -41.26 | V | 7.95 | 0.78 | -34.09 | -13 | -21.09 |
| 1648.4 | -41.63 | H | 7.95 | 0.78 | -34.46 | -13 | -21.46 |
| 268.1 | -51.14 | V | 5.40 | 0.24 | -45.98 | -13 | -32.98 |
| 685.4 | -50.74 | H | 7.00 | 0.39 | -44.13 | -13 | -31.13 |

Middle channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 1673.2 | -41.59 | V | 7.95 | 0.78 | -34.42 | -13 | -21.42 |
| 1673.2 | -41.57 | H | 7.95 | 0.78 | -34.40 | -13 | -21.40 |
| 269.3 | -52.14 | V | 5.40 | 0.24 | -46.98 | -13 | -33.98 |
| 686.2 | -50.28 | H | 7.00 | 0.39 | -43.67 | -13 | -30.67 |

High channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 1697.6 | -41.74 | V | 7.95 | 0.78 | -34.57 | -13 | -21.57 |
| 1697.6 | -41.16 | H | 7.95 | 0.78 | -33.99 | -13 | -20.99 |
| 267.8 | -53.82 | V | 5.40 | 0.24 | -48.66 | -13 | -35.66 |
| 684.9 | -50.41 | H | 7.00 | 0.39 | -43.80 | -13 | -30.80 |

PCS Band (Part24E) result

Low channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 1652.8 | -46.75 | V | 7.95 | 0.78 | -39.58 | -13 | -26.58 |
| 1652.8 | -46.17 | H | 7.95 | 0.78 | -39.00 | -13 | -26.00 |
| 268.5 | -54.78 | V | 5.40 | 0.24 | -49.62 | -13 | -36.62 |
| 689.2 | -51.48 | H | 7.00 | 0.39 | -44.87 | -13 | -31.87 |

Middle channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 1670 | -48.72 | V | 7.95 | 0.78 | -41.55 | -13 | -28.55 |
| 1670 | -47.26 | H | 7.95 | 0.78 | -40.09 | -13 | -27.09 |
| 269.4 | -54.57 | V | 5.40 | 0.24 | -49.41 | -13 | -36.41 |
| 689.6 | -51.67 | H | 7.00 | 0.39 | -45.06 | -13 | -32.06 |

High channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 1693.2 | -48.73 | V | 7.95 | 0.78 | -41.56 | -13 | -28.56 |
| 1693.2 | -47.38 | H | 7.95 | 0.78 | -40.21 | -13 | -27.21 |
| 267.2 | -54.83 | V | 5.40 | 0.24 | -49.67 | -13 | -36.67 |
| 684.4 | -51.72 | H | 7.00 | 0.39 | -45.11 | -13 | -32.11 |

UMTS-FDD Band V (Part 22H)

Low channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 1652.8 | -46.75 | V | 7.95 | 0.78 | -39.58 | -13 | -26.58 |
| 1652.8 | -46.17 | H | 7.95 | 0.78 | -39 | -13 | -26 |
| 268.5 | -54.78 | V | 5.40 | 0.24 | -49.62 | -13 | -36.62 |
| 689.2 | -51.48 | H | 7.00 | 0.39 | -44.87 | -13 | -31.87 |

Middle channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 1670 | -48.72 | V | 7.95 | 0.78 | -41.55 | -13 | -28.55 |
| 1670 | -47.26 | H | 7.95 | 0.78 | -40.09 | -13 | -27.09 |
| 269.4 | -54.57 | V | 5.40 | 0.24 | -49.41 | -13 | -36.41 |
| 689.6 | -51.67 | H | 7.00 | 0.39 | -45.06 | -13 | -32.06 |

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 1693.2 | -48.73 | V | 7.95 | 0.78 | -41.56 | -13 | -28.56 |
| 1693.2 | -47.38 | H | 7.95 | 0.78 | -40.21 | -13 | -27.21 |
| 267.2 | -54.83 | V | 5.40 | 0.24 | -49.67 | -13 | -36.67 |
| 684.4 | -51.72 | H | 7.00 | 0.39 | -45.11 | -13 | -32.11 |

UMTS-FDD Band II (Part 24E)

Low channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 3704.8 | -48.55 | V | 10.25 | 2.73 | -41.03 | -13 | -28.03 |
| 3704.8 | -50.02 | H | 10.25 | 2.73 | -42.5 | -13 | -29.50 |
| 269.5 | -54.19 | V | 5.40 | 0.24 | -49.03 | -13 | -36.03 |
| 690.2 | -51.62 | H | 7.00 | 0.39 | -45.01 | -13 | -32.01 |

Middle channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 3760 | -48.66 | V | 10.25 | 2.73 | -41.14 | -13 | -28.14 |
| 3760 | -50.31 | H | 10.25 | 2.73 | -42.79 | -13 | -29.79 |
| 270.6 | -55.06 | V | 5.40 | 0.24 | -49.9 | -13 | -36.90 |
| 690.3 | -51.27 | H | 7.00 | 0.39 | -44.66 | -13 | -31.66 |

High channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 3815.2 | -48.42 | V | 10.36 | 2.73 | -40.79 | -13 | -27.79 |
| 3815.2 | -49.72 | H | 10.36 | 2.73 | -42.09 | -13 | -29.09 |
| 270.7 | -55.64 | V | 5.40 | 0.24 | -50.48 | -13 | -37.48 |
| 689.1 | -49.21 | H | 7.00 | 0.39 | -42.60 | -13 | -29.60 |

UMTS-FDD Band IV (Part 27)

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 3424.8 | -45.26 | V | 10.07 | 2.52 | -37.71 | -13 | -24.71 |
| 3424.8 | -44.81 | H | 10.07 | 2.52 | -37.26 | -13 | -24.26 |
| 291.3 | -54.28 | V | 6.00 | 0.25 | -48.53 | -13 | -35.53 |
| 652.3 | -51.46 | H | 6.70 | 0.39 | -45.15 | -13 | -32.15 |

Middle channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 3480 | -48.59 | V | 10.09 | 2.52 | -41.02 | -13 | -28.02 |
| 3480 | -48.61 | H | 10.09 | 2.52 | -41.04 | -13 | -28.04 |
| 292.6 | -53.69 | V | 6.00 | 0.25 | -47.94 | -13 | -34.94 |
| 653.4 | -52.49 | H | 6.70 | 0.39 | -46.18 | -13 | -33.18 |

High channel

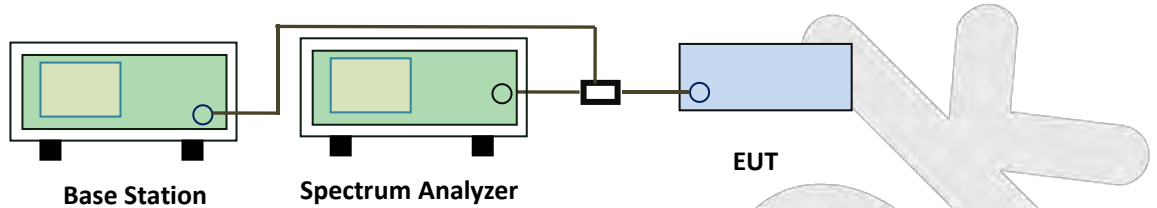
| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 3505.2 | -45.17 | V | 10.09 | 2.52 | -37.6 | -13 | -24.6 |
| 3505.2 | -46.82 | H | 10.09 | 2.52 | -39.25 | -13 | -26.25 |
| 295.1 | -53.67 | V | 6.00 | 0.25 | -47.92 | -13 | -34.92 |
| 654.7 | -51.73 | H | 6.70 | 0.39 | -45.42 | -13 | -32.42 |

9. Band Edge Compliance

9.1. Test Standard and Limit

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.

9.2. Test Setup



9.3. Test Procedure

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The band edges of low and high channels for the highest RF powers were measured.

9.4. Test Data

Cellular Band (Part 22H) result

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 824 | -37.555 | -13 |
| 849 | -35.599 | -13 |

PCS Band (Part24E) result

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 1850 | -39.238 | -13 |
| 1910 | -39.722 | -13 |

UMTS-FDD Band V (Part 22H)

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 824 | -19.058 | -13 |
| 849 | -21.016 | -13 |

UMTS-FDD Band II (Part 24E)

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 1850 | -24.646 | -13 |
| 1910 | -28.269 | -13 |

UMTS-FDD Band IV (Part 27)

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 1710 | -19.521 | -13 |
| 1755 | -21.016 | -13 |

Test Plots

Cellular Band (Part 22H) result



Test Mode: GSM850 - Low Channel

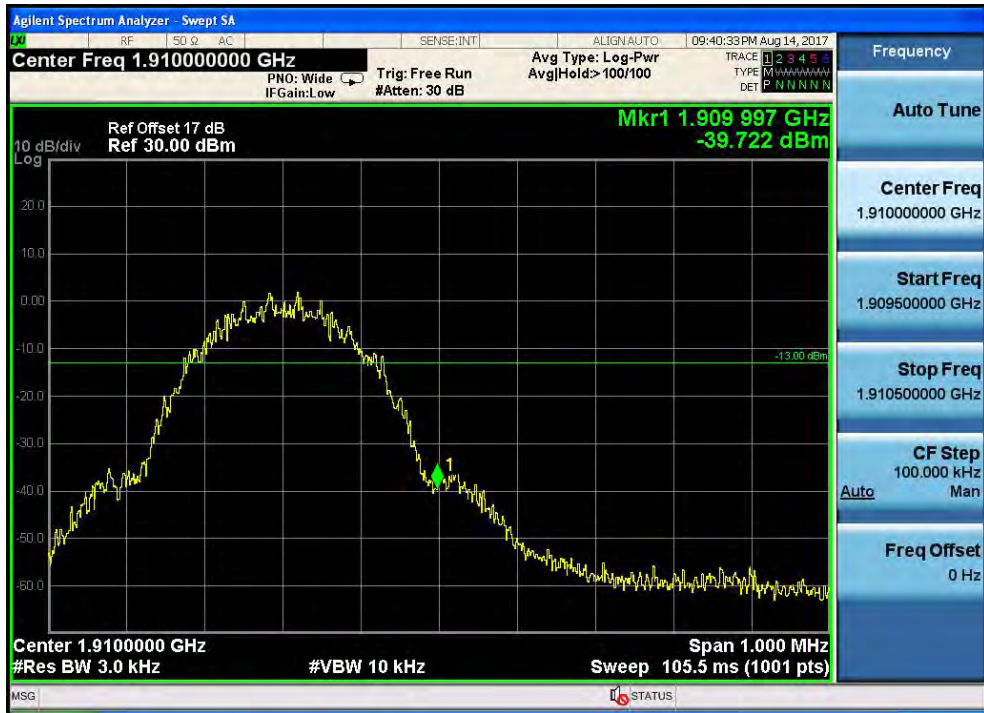


Test Mode: GSM850 - High Channel

PCS Band (Part24E) result



Test Mode: GSM1900 - Low Channel



Test Mode: GSM1900 - High Channel

UMTS-FDD Band V (Part 22H)



Test Mode: Band V - Low Channel

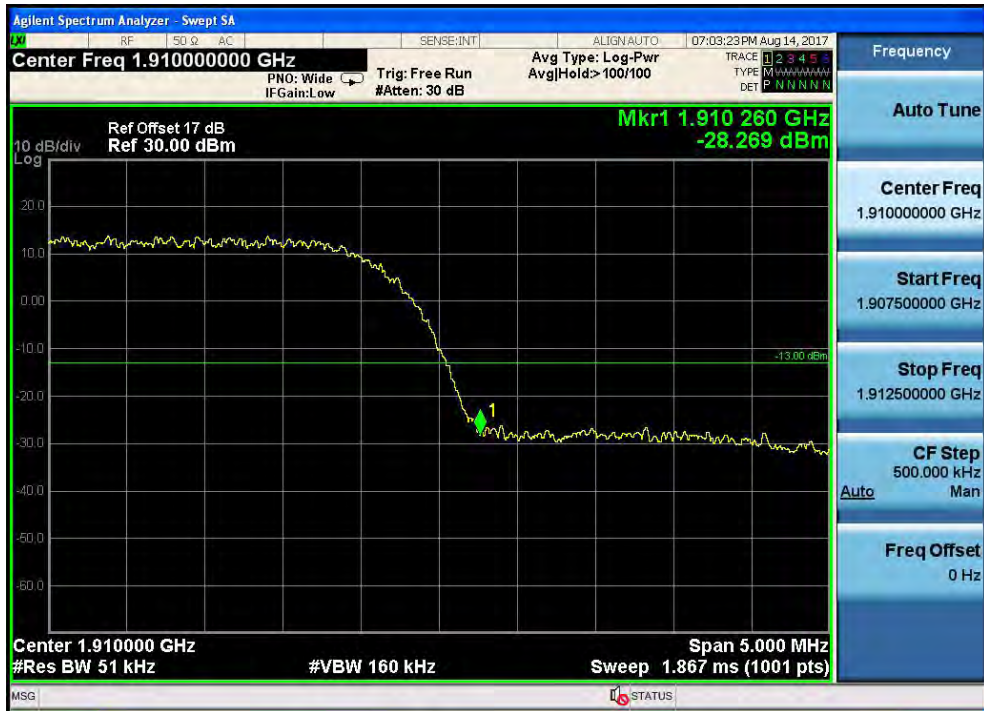


Test Mode: Band V - High Channel

UMTS-FDD Band II (Part 24E)

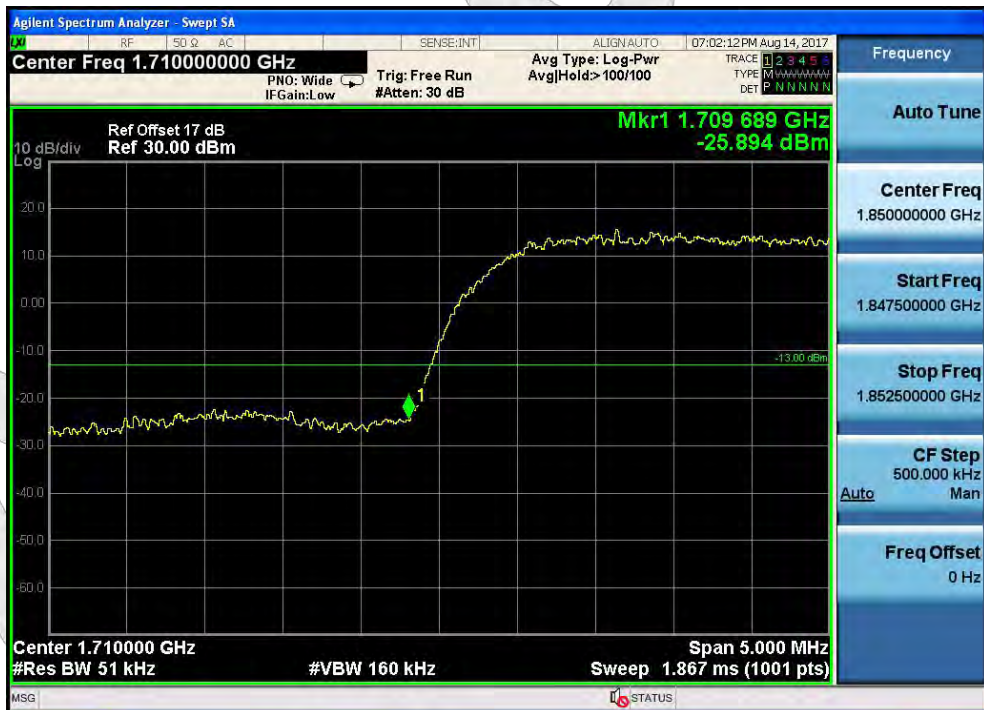


Test Mode: Band II - Low Channel



Test Mode: Band II - High Channel

UMTS-FDD Band IV (Part 27)



Test Mode: Band IV - Low Channel



Test Mode: Band IV - High Channel

10. Frequency Stability

10.1. Test Standard and Limit

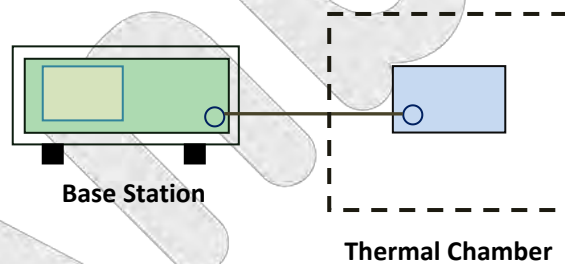
According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

Frequency Tolerance for Transmitters in the Public Mobile Services

| Frequency Range (MHz) | Base, fixed (ppm) | Mobile ≤ 3 watts (ppm) | Mobile ≤ 3 watts (ppm) |
|-----------------------|-------------------|------------------------|------------------------|
| 25 to 50 | 20.0 | 20.0 | 50.0 |
| 50 to 450 | 5.0 | 5.0 | 50.0 |
| 450 to 512 | 2.5 | 5.0 | 5.0 |
| 821 to 896 | 1.5 | 2.5 | 2.5 |
| 928 to 29. | .0 | N/A | N/A |
| 929 to 960. | 1.5 | N/A | N/A |
| 2110 to 2220 | 10.0 | N/A | N/A |

According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized frequency block.

10.2. Test Setup



10.3. Test Procedure

A communication link was established between EUT and base station. The frequency error was monitored and measured by base station under variation of ambient temperature and variation of primary supply voltage.

Limit: The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.

10.4. Test Data

Cellular Band (Part 22H) result

| Middle Channel, $f_0 = 836.6$ MHz | | | | |
|-----------------------------------|-----------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C) | Power Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -10 | 3.7 | 21 | 0.0251 | 2.5 |
| 0 | | 20 | 0.0239 | 2.5 |
| 10 | | 17 | 0.0203 | 2.5 |
| 20 | | 12 | 0.0143 | 2.5 |
| 30 | | 15 | 0.0179 | 2.5 |
| 40 | | 20 | 0.0239 | 2.5 |
| 50 | | 25 | 0.0299 | 2.5 |
| 55 | | 32 | 0.0383 | 2.5 |
| 25 | 4.2 | 21 | 0.0251 | 2.5 |
| | 3.5 | 23 | 0.0275 | 2.5 |

PCS Band (Part 24E) result

| Middle Channel, $f_0 = 1880$ MHz | | | | |
|----------------------------------|-----------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C) | Power Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -10 | 3.7 | 29 | 0.0154 | 2.5 |
| 0 | | 22 | 0.0117 | 2.5 |
| 10 | | 19 | 0.0101 | 2.5 |
| 20 | | 12 | 0.0064 | 2.5 |
| 30 | | 18 | 0.0096 | 2.5 |
| 40 | | 21 | 0.0112 | 2.5 |
| 50 | | 23 | 0.0122 | 2.5 |
| 55 | | 28 | 0.0149 | 2.5 |
| 25 | 4.2 | 22 | 0.0117 | 2.5 |
| | 3.5 | 25 | 0.0133 | 2.5 |

UMTS-FDD Band V (Part 22H)

| Middle Channel, $f_0 = 836.6$ MHz | | | | |
|-----------------------------------|-----------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C) | Power Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -10 | 3.7 | 17 | 0.0204 | 2.5 |
| 0 | | 15 | 0.0180 | 2.5 |
| 10 | | 11 | 0.0132 | 2.5 |
| 20 | | 10 | 0.0120 | 2.5 |
| 30 | | 13 | 0.0156 | 2.5 |
| 40 | | 15 | 0.0180 | 2.5 |
| 50 | | 21 | 0.0251 | 2.5 |
| 55 | | 23 | 0.0275 | 2.5 |
| 25 | 4.2 | 18 | 0.0216 | 2.5 |
| | 3.5 | 15 | 0.0180 | 2.5 |

UMTS-FDD Band II (Part 24E)

| Middle Channel, $f_0 = 1880$ MHz | | | | |
|----------------------------------|-----------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C) | Power Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -10 | 3.7 | 10 | 0.0053 | 2.5 |
| 0 | | 8 | 0.0043 | 2.5 |
| 10 | | 5 | 0.0027 | 2.5 |
| 20 | | 4 | 0.0021 | 2.5 |
| 30 | | 6 | 0.0032 | 2.5 |
| 40 | | 7 | 0.0037 | 2.5 |
| 50 | | 9 | 0.0048 | 2.5 |
| 55 | | 15 | 0.0080 | 2.5 |
| 25 | 4.2 | 12 | 0.0064 | 2.5 |
| | 3.5 | 15 | 0.0080 | 2.5 |

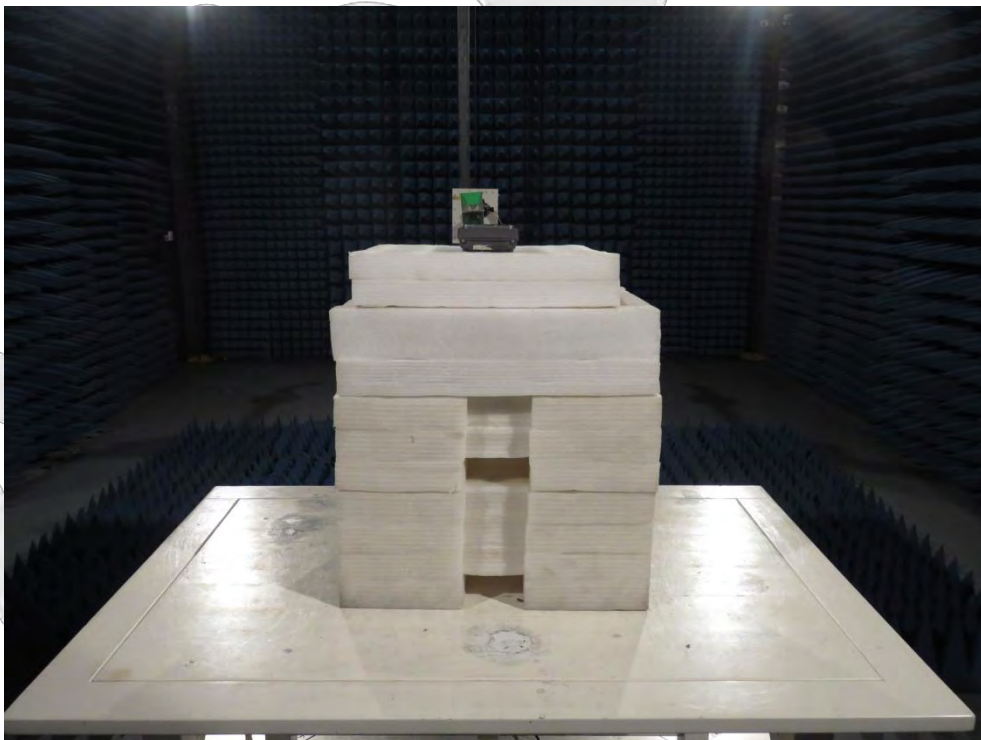
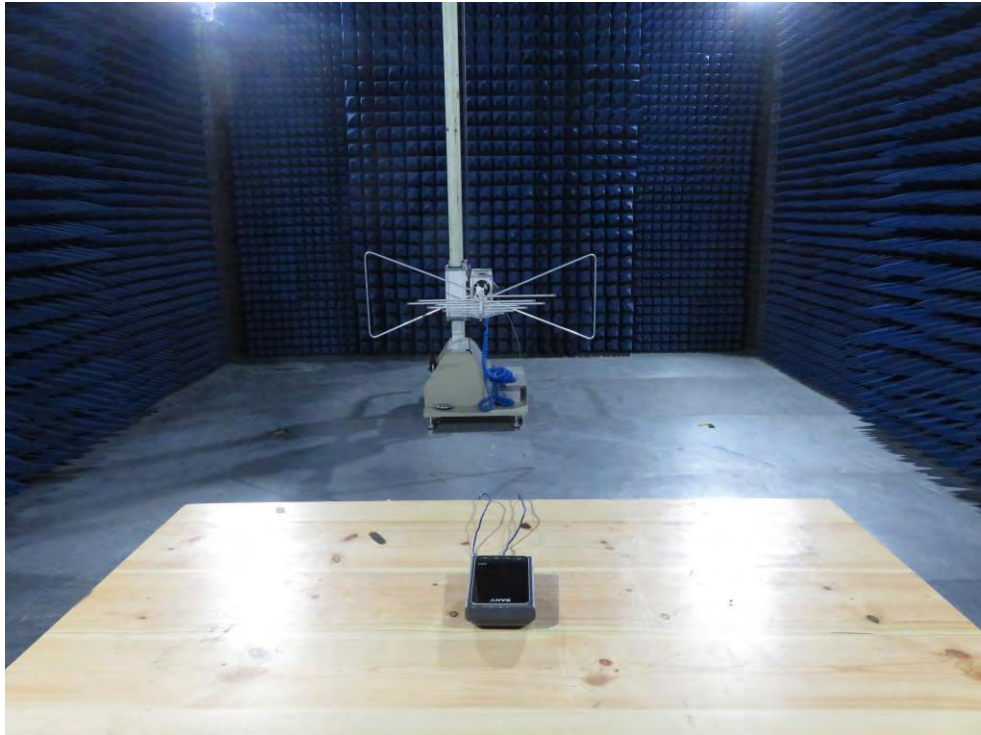
UMTS-FDD Band IV (Part 27)

| Middle Channel, $f_0 = 1880$ MHz | | | | |
|----------------------------------|-----------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C) | Power Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -10 | 3.7 | 15 | 0.0080 | 2.5 |
| 0 | | 12 | 0.0064 | 2.5 |
| 10 | | 8 | 0.0043 | 2.5 |
| 20 | | 5 | 0.0027 | 2.5 |
| 30 | | 7 | 0.0037 | 2.5 |
| 40 | | 13 | 0.0069 | 2.5 |
| 50 | | 15 | 0.0080 | 2.5 |
| 55 | | 20 | 0.0106 | 2.5 |
| 25 | | 4.2 | 9 | 0.0048 |
| | 3.5 | 11 | 0.0059 | 2.5 |

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APPENDIX I -- TEST SETUP PHOTOGRAPH

Photo of Radiation Emission Test



APPENDIX II -- PHOTOGRAPH

Reference to the test report No. R0217050061W1

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