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# TEST REPORT

of

FCC Part 2 Subpart J, Part 22 Subpart C/H,
Part 24 Subpart E and Part 27 Subpart C,
IC RSS-130 Issue 2, RSS-132 Issue 3, RSS-133 Issue 6,
RSS-139 Issue 4 and RSS-Gen Issue 5

FCC ID: 2BAKQGG02F
IC Certification: 30242-GG02I

| | | |
|---|---|---|
| Equipment Under Test | : | Gateway |
| Model Name | : | GLSD-PLC-GW-2 |
| Variant Model Name(s) | : | - |
| Applicant | : | FCC: Glassdome<br>IC: Glassdome |
| Manufacturer | : | Glassdome |
| Date of Receipt | : | 2023.01.09 |
| Date of Test(s) | : | 2023.01.09 ~ 2023.03.28 |
| Date of Issue | : | 2023.04.04 |

In the configuration tested, the EUT complied with the standards specified above. This test report does not assure KOLAS accreditation.

1) The results of this test report are effective only to the items tested.
2) The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received.
3) This test report cannot be reproduced, except in full, without prior written permission of the Company.
4) The data marked ※ in this report was provided by the customer and may affect the validity of the test results.
We are responsible for all the information of this test report except for the data(※) provided by the customer.

**Tested by:** Murphy Kim

**Technical Manager:** Jinhyoung Cho

**SGS Korea Co., Ltd. Gunpo Laboratory**

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# 1. General Information

## 1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)
- 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- Designation number: KR0150

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## 1.2. Details of Applicant

Applicant : Glassdome
Address : 22F, 755, Hanbat-daero, Seo-gu, Daejeon, Republic of Korea, 35209
Contact Person : Cho, Jun-beom
Phone No. : +82 10 9603 3500

## 1.3. Details of Manufacturer

Company : Same as applicant
Address : Same as applicant

## 1.4. Description of EUT

| | |
|---|---|
| **Kind of Product** | Gateway |
| **Model Name** | GLSD-PLC-GW-2 |
| **Approved Module** | FCC ID: XMR201606EC21A<br>IC Certification: 10224A-201611EC21A |
| **Serial Number** | GG02F000001 |
| **Power Supply** | DC 12 V |
| **Rated Power** | WCDMA Ⅱ, Ⅳ, Ⅴ: 23.0 ㏈m<br>LTE Band 2, 4, 12: 23.0 ㏈m |
| **Frequency Range** | WCDMA Ⅱ: 1 850 ㎒ ~ 1 910 ㎒<br>WCDMA Ⅳ: 1 710 ㎒ ~ 1 755 ㎒<br>WCDMA Ⅴ: 824 ㎒ ~ 849 ㎒<br>LTE Band 2: 1 850 ㎒ ~ 1 910 ㎒<br>LTE Band 4: 1 710 ㎒ ~ 1 755 ㎒<br>LTE Band 12: 699 ㎒ ~ 716 ㎒ |
| **Modulation Technique** | QPSK, 16QAM |
| **Antenna Type** | Dipole antenna |
| **Antenna Gain** | 699 ㎒ ~ 716 ㎒: -2.59 ㏈i<br>824 ㎒ ~ 849 ㎒: -0.08 ㏈i<br>1 710 ㎒ ~ 1 755 ㎒: 1.19 ㏈i<br>1 850 ㎒ ~ 1 910 ㎒: 1.82 ㏈i |
| **H/W Version** | V1.0.0 |
| **S/W Version** | V1.0.0 |
| **FVIN** | N/A |

## 1.5. Test Equipment List

| Equipment | Manufacturer | Model | S/N | Cal. Date | Cal. Interval | Cal. Due |
|---|---|---|---|---|---|---|
| Signal Generator | R&S | SMA100B | 106887 | Oct. 13, 2022 | Annual | Oct. 13, 2023 |
| Signal Generator | R&S | SMBV100A | 255834 | May 25, 2022 | Annual | May 25, 2023 |
| Spectrum Analyzer | R&S | FSV30 | 103210 | Dec. 07, 2022 | Annual | Dec. 07, 2023 |
| Spectrum Analyzer | Agilent | N9020A | MY53421758 | Aug. 26, 2022 | Annual | Aug. 26, 2023 |
| Mobile Test Unit | R&S | CMW 500 | 144034 | Feb. 17, 2023 | Annual | Feb. 17, 2024 |
| Power Meter | Anritsu | ML2495A | 1223004 | Nov. 29, 2022 | Annual | Nov. 29, 2023 |
| Power Sensor | Anritsu | MA2411B | 1207272 | May 27, 2022 | Annual | May 27, 2023 |
| Low Pass Filter | Mini-Circuits | NLP-1200+ | V 8979400903-2 | Feb. 09, 2023 | Annual | Feb. 09, 2024 |
| High Pass Filter | Wainwright Instrument GmbH | WHKX10-900-1000-18000-40SS | 7 | Mar. 02, 2023 | Annual | Mar. 02, 2024 |
| High Pass Filter | Wainwright Instrument GmbH | WHKX2.2/12.75G-10SS | 8 | Mar. 02, 2023 | Annual | Mar. 02, 2024 |
| High Pass Filter | Wainwright Instrument GmbH | WHKX3.0/18G-6SS | 21 | Jun. 09, 2022 | Annual | Jun. 09, 2023 |
| High Pass Filter | Wainwright Instrument GmbH | WHNX7.5/26.5G-6SS | 11 | Oct. 24, 2022 | Annual | Oct. 24, 2023 |
| Directional Coupler | KRYTAR | 152613 | 122660 | Jul. 06, 2022 | Annual | Jul. 06, 2023 |
| DC Power Supply | R&S | HMP2020 | 102130 | Apr. 22, 2022 | Annual | Apr. 22, 2023 |
| Preamplifier | H.P. | 8447F | 2944A03909 | Aug. 04, 2022 | Annual | Aug. 04, 2023 |
| Preamplifier | R&S | SCU 18 | 10117 | Jun. 13, 2022 | Annual | Jun. 13, 2023 |
| Preamplifier | MITEQ Inc. | JS44-18004000-35-8P | 1546891 | Sep. 27, 2022 | Annual | Sep. 27, 2023 |
| Loop Antenna | Schwarzbeck Mess-Elektronik | FMZB 1519 | 1519-039 | Aug. 23, 2021 | Biennial | Aug. 23, 2023 |
| Bilog Antenna | Schwarzbeck Mess-Elektronik | VULB9163 | 01126 | Feb. 09, 2023 | Annual | Feb. 09, 2024 |
| Horn Antenna | R&S | HF906 | 100326 | Feb. 28, 2023 | Annual | Feb. 28, 2024 |
| Horn Antenna | Schwarzbeck Mess-Elektronik | BBHA 9170 | 9170-540 | Nov. 30, 2022 | Annual | Nov. 30, 2023 |
| Test Receiver | R&S | ESU26 | 100109 | Jan. 18, 2023 | Annual | Jan. 18, 2024 |
| Antenna Master | Innco systems GmbH | MA4640-XP-ET | MA4640/536/383 30516/L | N.C.R. | N/A | N.C.R. |
| Turn Table | Innco systems GmbH | DS 1200S | N/A | N.C.R. | N/A | N.C.R. |
| Controller | Innco systems GmbH | CONTROLLER CO3000-4P | CO3000/963/383 30516/L | N.C.R. | N/A | N.C.R. |
| Anechoic Chamber | SY Corporation | L × W × H (9.6 m × 6.4 m × 6.6 m) | N/A | N.C.R. | N/A | N.C.R. |
| Coaxial Cable | RFONE | MWX221-NMSNMS (4 m) | J1023142 | Oct. 04, 2022 | Semi-Annual | Apr. 04, 2023 |
| Coaxial Cable | Qualwave Inc. | QA500-18-NN-10 (10 m) | 22200114 | Oct. 04, 2022 | Semi-Annual | Apr. 04, 2023 |
| Coaxial Cable | RADIALL | TESTPRO 3 | 182287 | Feb. 18, 2023 | Semi-Annual | Aug. 18, 2023 |

**Note;**
- For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

## 1.6. Summary of Test Results

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC Part 2, 22, 24 and 27 / IC part RSS-130 Issue2, RSS-132 Issue 3, RSS-133 Issue 6, RSS-139 Issue 4 and RSS-Gen Issue 5 | | | |
|---|---|---|---|
| **Section(s) in FCC** | **Section(s) in IC** | **Test Item(s)** | **Result** |
| §2.1046<br>§22.913(a)(5)<br>§24.232(c)<br>§27.50(c)(10)<br>§27.50(d)(4) | RSS-130 Issue 2 4.6<br>RSS-132 Issue 3 5.4<br>RSS-133 Issue 6 6.4<br>RSS-139 Issue 4 5.5 | E.R.P. / E.I.R.P. | Complied |
| §2.1053<br>§22.917(a)<br>§24.238(a)<br>§27.53(g)<br>§27.53(h)(1) | RSS-130 Issue 2 4.7<br>RSS-132 Issue 3 5.5<br>RSS-133 Issue 6 6.5<br>RSS-139 Issue 4 5.6 | Spurious Radiated Emission | Complied |
| §2.1046 | RSS-Gen Issue 5 6.12 | Conducted Output Power | Complied |
| §2.1049 | RSS-Gen Issue 5 6.7 | Occupied Bandwidth | N/A[1)] |
| §22.913(d)<br>§24.232(d)<br>§27.50(d)(5) | RSS-130 Issue 2 4.6<br>RSS-132 Issue 3 5.4<br>RSS-133 Issue 6 6.4<br>RSS-139 Issue 4 5.5 | Peak-Average Ratio | N/A[1)] |
| §2.1051<br>§22.917(a)<br>§24.238(a)<br>§27.53(g)<br>§27.53(h)(1) | RSS-130 Issue 2 4.7<br>RSS-132 Issue 3 5.5<br>RSS-133 Issue 6 6.5<br>RSS-139 Issue 4 5.6 | Spurious Emission at Antenna Terminal | N/A[1)] |
| §22.917(a)<br>§24.238(a)<br>§27.53(g)<br>§27.53(h)(1) | RSS-130 Issue 2 4.7<br>RSS-132 Issue 3 5.5<br>RSS-133 Issue 6 6.5<br>RSS-139 Issue 4 5.6 | Band Edge | N/A[1)] |
| §2.1055<br>§22.355<br>§24.235<br>§27.54 | RSS-Gen Issue 5 6.11<br>RSS-130 Issue 2 4.5<br>RSS-132 Issue 3 5.3<br>RSS-133 Issue 6 6.3<br>RSS-139 Issue 4 5.4 | Frequency Stability | N/A[1)] |

**Note;**

1) The test items were not conducted because the approved module was used.
Approved module information
Model Name: EC21-A, EC21-A MINIPCIE
FCC ID: XMR201606EC21A
IC Certification: 10224A-201611EC21A

## 1.7. Test Report Revision

| Revision | Report Number | Date of Issue | Description |
|---|---|---|---|
| 0 | F690501-RF-RTL003964 | 2023.04.04 | Initial |
| 1 | F690501-RF-RTL003964-1 | 2023.04.04 | Revised the IC certification of approved module. |

## 1.8. Sample Calculation for Offset

Where relevant, the following sample calculation is provided:

### 1.8.1. Conducted Test

Offset value (㏈) = Directional Coupler (㏈) + Cable loss (㏈)

### 1.8.2. Radiation Test

- E.I.R.P. ㏈ m) = Measured level (㏈㎶) + Antenna factor (㏈) + Cable loss (㏈) + 20 Log D - 104.5; where D is the measurement distance in meters.
- E.R.P. (㏈ m) = E.I.R.P. (㏈ m) - 2.15 (㏈)

## 1.9. Worst Case Configuration and Mode

**WCDMA**
The worst-case is based on the average conducted output power measurement investigation results. Output power measurements were measured on RMC, HSDPA and HSUPA Modulation. All testing was performed using RMC modulations to represent the worst case.

**LTE**
The worst-case is based on the conducted output power measurement investigation results. The spurious radiated emission at antenna terminal were only performed on bandwidth and RB offset (with RB size 1) with the highest conducted power in QPSK.

The radiation test of the EUT was investigated in three orthogonal orientations X, Y, and Z, and the worst case data is reported.

## 1.10. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

| Parameter | | Uncertainty |
|---|---|---|
| Conducted Output Power | | 0.33 ㏈ |
| Radiated Emission, 9 ㎑ to 30 ㎒ | H | 3.40 ㏈ |
| | V | 3.40 ㏈ |
| Radiated Emission, below 1 ㎓ | H | 4.50 ㏈ |
| | V | 5.10 ㏈ |
| Radiated Emission, above 1 ㎓ | H | 3.70 ㏈ |
| | V | 3.90 ㏈ |

All measurement uncertainty values are shown with a coverage factor of *k*=2 to indicate a 95 % level of confidence.

## 1.11. Spot Check Data

| Band | Test item | Frequency (㎒) | Approved Module | | Basic Model | | Deviation (㏈) | Remark |
|---|---|---|---|---|---|---|---|---|
| | | | EC21-A | | GLSD-PLC-GW-2 | | | |
| | | | FCC ID: XMR201606EC21A IC Certification: 10224A-201611EC21A | | FCC ID: 2BAKQGG02F IC Certification: 30242-GG02I | | | |
| | | | (㏈m) | (W) | (㏈m) | (W) | | |
| WCDMA Ⅱ | Conducted power | 1 850 ~ 1 910 | 23.36 | 0.217 | 23.35 | 0.216 | -0.01 | - |
| WCDMA Ⅳ | Conducted power | 1 710 ~ 1 755 | 23.27 | 0.212 | 23.37 | 0.217 | 0.10 | |
| WCDMA Ⅴ | Conducted power | 824 ~ 849 | 23.37 | 0.217 | 23.72 | 0.236 | 0.35 | - |
| LTE 2 | Conducted power | 1 850 ~ 1 910 | 23.37 | 0.217 | 22.96 | 0.198 | -0.41 | |
| LTE 4 | Conducted power | 1 710 ~ 1 755 | 23.22 | 0.210 | 22.85 | 0.193 | -0.37 | |
| LTE 12 | Conducted power | 699 ~ 716 | 23.32 | 0.215 | 23.55 | 0.226 | 0.23 | |

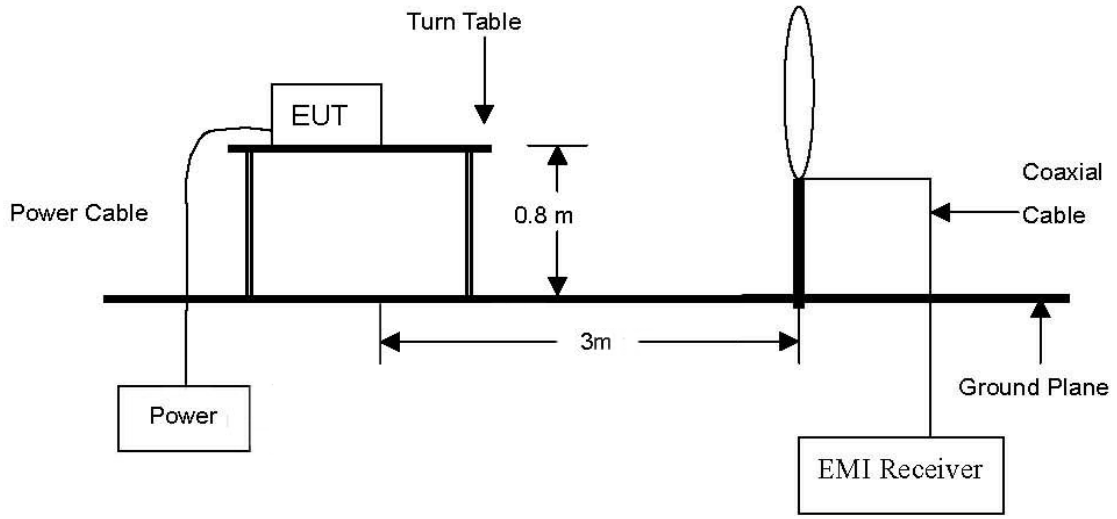
**Note;**

All conducted output power was measured.
Output power compared the approved module with the host equipment.

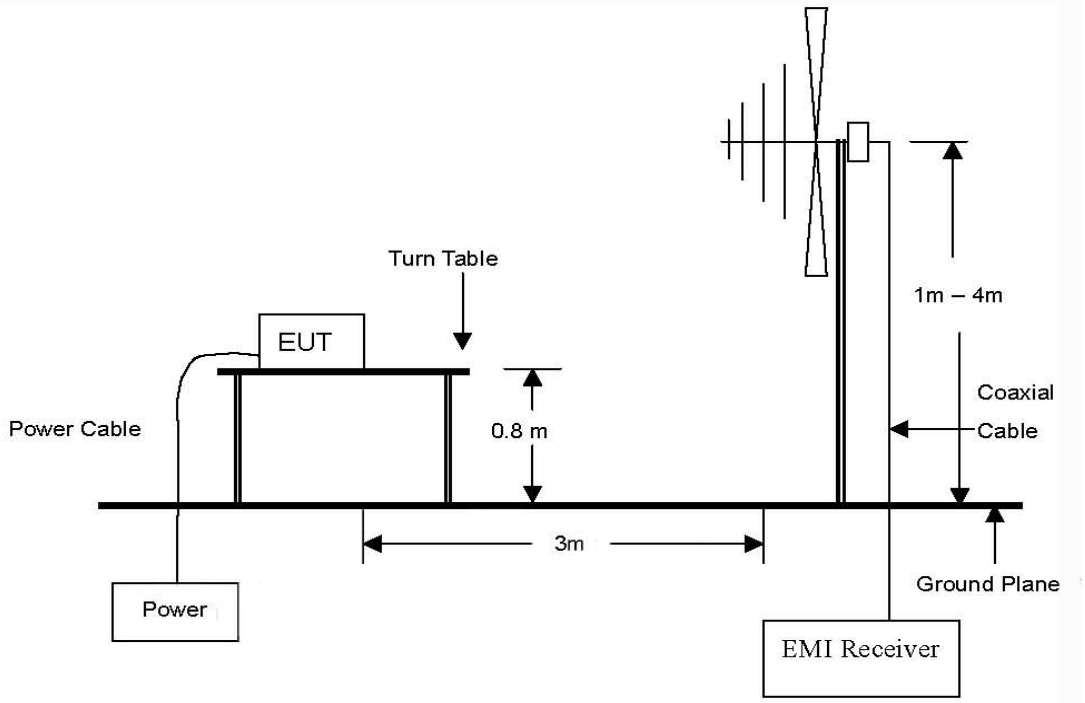
# 2. RF Radiated Output Power & Spurious Radiated Emission

## 2.1. Test setup

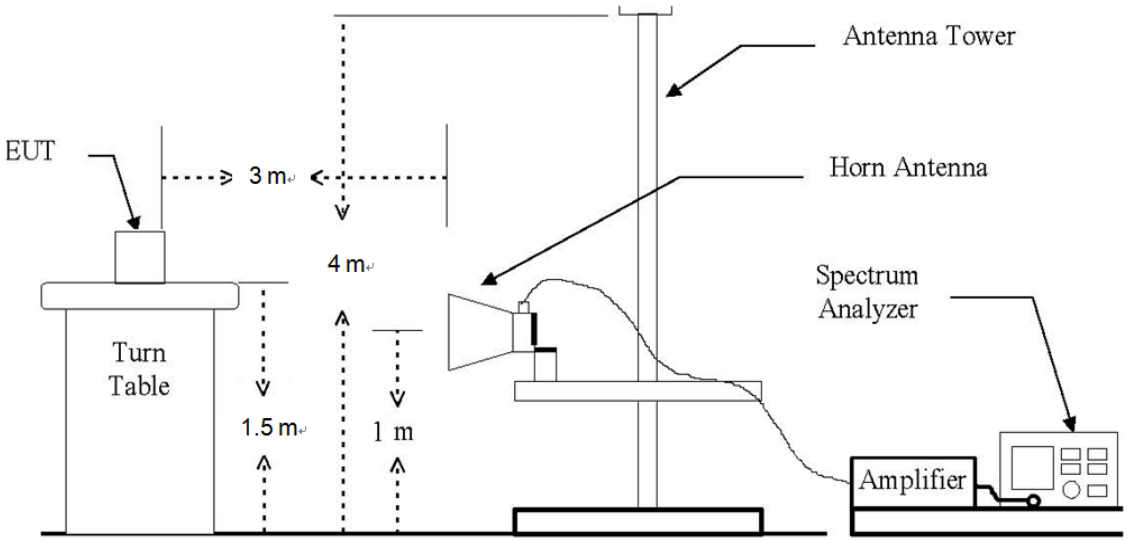
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 ㎑ to 30 ㎒.




The diagram below shows the test setup that is utilized to make the measurements for emission from 30 ㎒ to 1 ㎓ Emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 1 ㎓ to 20 ㎓ Emissions.



## 2.2. Limit

### 2.2.1. Limit of RF Radiated Output Power

**FCC**
- §22.913(a)(5), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

- §24.232(c), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

- §27.50(c)(10), Portable stations (hand-held decives) in the 600 ㎒ uplink band and the 698-746 ㎒ band, and fixed and mobile stations in the 600 ㎒ uplink band are limited to 3 watts ERP.

- §27.50(d)(4), fixed, mobile, and portable (hand-held) stations operating in the 1 710-1 755 ㎒ band and mobile and portable stations operating in the 1 695-1 710 ㎒ and 1 755-1 780 ㎒ bands are limited to 1 watt EIRP.

**IC**
- RSS-130 Issue 2
4.6.3, the e.r.p. shall not exceed 30 watts for mobile equipment and outdoor fixed subscriber equipment. The e.r.p. shall not exceed 3 watts for portable equipment and indoor fixed subscriber equipment.

For base and fixed equipment other than fixed subscriber equipment, refer to SRSP-518 for the e.i.r.p. limits.

- RSS-132 Issue 3
5.4, the transmitter output power shall be measured in terms of average power.
The equivalent isotropically radiated power (e.i.r.p.) for mobile equipment shall not exceed 11.5 watts.
Refer to SRSP-503 for base station e.i.r.p. limits.

- RSS-133 Issue 6
6.4, the equivalent isotropically radiated power (e.i.r.p.) for transmitters shall not exceed the limits given in SRSP-510. Moreover, mobile stations and hand-held portables are limited to 2 watts maximum e.i.r.p. The equipment shall employ means to limit the power to the minimum necessary for successful communication.

- RSS-139 Issue 4
5.5, The maximum output power of the equipment shall comply with the limits specified below. In the tables, maximum power refers to the equivalent isotropically radiated power (e.i.r.p.) or total radiated power (TRP), measured in terms of average values.

**Table 3: Maximum power of equipment in the band 1 710-1 780 ㎒**

| Equipment type | Maximum power |
|---|---|
| Fixed station and base station | 30 ㏈m e.i.r.p./ channel bandwidth |
| Subscriber equipment | 30 ㏈m e.i.r.p./ channel bandwidth |

**2.2.2. Limit of Spurious Radiated Emission**

**FCC**

- §22.917(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10log(P) ㏈.

- §24.238(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) ㏈.

- §27.53(g), the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) ㏈.

- §27.53(h)(1), for operations in the 1 695-1 710 ㎒, 1 710-1 755 ㎒, 1 755-1 780 ㎒, 1 915-1 920 ㎒, 1 995-2 000 ㎒, 2 000-2 020 ㎒, 2 110-2 155 ㎒, 2 155-2 180 ㎒, and 2 180-2 200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 $\log_{10}$ (P) ㏈.

**IC**

- RSS-130 Issue 2

4.7.1, the unwanted emissions in any 100 ㎑ bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (㏈ W), by at least 43 + 10 $\log_{10}$ p (watts), ㏈. However, in the 100 ㎑ band immediately outside of the equipment’s frequency block range, a resolution bandwidth of 30 ㎑ may be employed.

- RSS-132 Issue 3

5.5, Mobile and base station equipment shall comply with the limits in (i) and (ii) below.
(i) In the first 1.0 ㎒ band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1 % of the occupied bandwidth shall be attenuated (in ㏈) below the transmitter output power P (㏈ W) by at least 43 + 10 $\log_{10}$ p (watts).

(ii) After the first 1.0 ㎒ immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 ㎑ bandwidth shall be attenuated (in ㏈) below the transmitter output power P (㏈ W) by at least 43 + 10 $\log_{10}$ p (watts). If the measurement is performed using 1 % of the occupied bandwidth, power integration over 100 ㎑ is required.

- RSS-133 Issue 6

6.5, Equipment shall comply with the limits in (i) and (ii) below.
(i) In the 1.0 ㎒ bands immediately outside and adjacent to the equipment’s operating frequency block, the emission power per any 1 % of the emission bandwidth shall be attenuated (in ㏈) below the transmitter output power P (㏈ W) by at least 43 + 10 $\log_{10}$ p(watts).

(ii) After the first 1.0 ㎒, the emission power in any 1 ㎒ bandwidth shall be attenuated (in ㏈) below the transmitter output power P (㏈ W) by at least 43 + 10 $\log_{10}$ p(watts). If the measurement is performed using 1 % of the emission bandwidth, power integration over 1.0 ㎒ is required.

- RSS-139 Issue 4
5.6, Unwanted emissions shall be measured in terms of average values.

For all equipment, the TRP or total conducted power (sum of conducted power across all antenna connectors) of the unwanted emissions outside the frequency block or frequency block group shall not exceed the limits shown in table 6.

**Table 6: Unwanted emission limits**

| Offset from the edge of the frequency block or frequency block group | Unwanted emission limit |
|---|---|
| 1 ㎒ | -13 ㏈m/(1% of OB)* |
| >1 ㎒ | -13 ㏈m |

* OB is the occupied bandwidth

## 2.3. Test Procedure: Based on ANSI/TIA 603E: 2016 and ANSI C63.26-2015, KDB 971168 D01 Power Meas License Digital Systems v03r01.

1. On a test site, the EUT shall be placed at 0.8 m or 1.5 m height on a turn table, and in the position close to normal use as declared by the applicant.
2. The test antenna shall be oriented initially for vertical polarization located 3 m from EUT to correspond to the fundamental frequency of the transmitter.
3. The output of the test antenna shall be connected to the measuring receiver and the peak detector is used for the measurement.
4. Radiated spurious emissions measurement method was set as follows:
   RBW = 100 ㎑ for emissions below 1 ㎓ and 1 ㎒ for emissions above 1 ㎓, VBW ≥ 3 x RBW,
   Detector = RMS, trace mode = max hold, per the guidelines of KDB 971168 D01 Power Meas License Digital Systems v03r01.
5. The transmitter shall be switched on, the measuring receiver shall be tuned to the frequency of the transmitter under test.
6. The test antenna shall be raised and lowered through the specified range of height until the maximum signal level is detected by the measuring receiver.
7. The transmitter shall be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
8. The test antenna shall be raised and lowered again through the specified range of height until the maximum signal level is detected by the measuring receiver.
9. The maximum signal level detected by the measuring receiver shall be noted.
10. In necessary, the input attenuator setting on the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
11. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
12. The measurement shall be repeated with the test antenna orientated for horizontal polarization.

## 2.4. Test Results

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

### 2.4.1. RF Radiated Output Power

| Band | Frequency (㎒) | Maximum Conducted Power (dB m) | Maximum Conducted Power (W) | Antenna Gain (dB i) | Maximum E.I.R.P. (dB m) | Maximum E.I.R.P. (W) | Maximum E.R.P. (dB m) | Maximum E.R.P. (W) | Limit |
|---|---|---|---|---|---|---|---|---|---|
| WCDMA Ⅱ | 1 850 ~ 1 910 | 23.35 | 0.216 | 1.82 | 25.17 | 0.329 | | | 2 W E.I.R.P. |
| WCDMA Ⅳ | 1 710 ~ 1 755 | 23.37 | 0.217 | 1.19 | 24.56 | 0.286 | | | 1 W E.I.R.P. |
| WCDMA Ⅴ | 824 ~ 849 | 23.72 | 0.236 | -0.08 | 23.64 | 0.231 | 21.49 | 0.141 | 7 W E.R.P. |
| LTE 2 | 1 850 ~ 1 910 | 22.96 | 0.198 | 1.82 | 24.78 | 0.301 | | | 2 W E.I.R.P. |
| LTE 4 | 1 710 ~ 1 755 | 22.85 | 0.193 | 1.19 | 24.04 | 0.254 | | | 1 W E.I.R.P. |
| LTE 12 | 699 ~ 716 | 23.55 | 0.226 | -2.59 | 20.96 | 0.125 | 18.81 | 0.076 | 3 W E.R.P. |

**Remark;**

1. E.I.R.P. (dB m) = Maximum Conducted Power (dB m) + Antenna Gain (dB i)
2. E.R.P. (dB m) = E.I.R.P. (dB m) - 2.15 (dB); where E.R.P. and E.I.R.P. are expressed in consistent units.

## 2.4.2. Spurious Radiated Emission

**WCDMA Ⅱ**

| Frequency (㎒) | Measured Level (dB㎶) | Ant. Pol. | AF (dB/m) | AMP+CL (dB) | E (dB㎶/m) | CF (dB) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| Low Channel (1 852.4 ㎒) | | | | | | | | | |
| 3 706.46 | 43.07 | V | 32.23 | -36.61 | 38.69 | -95.26 | -56.57 | -13 | 43.57 |
| 4 599.78 | 42.23 | H | 32.10 | -36.65 | 37.68 | -95.26 | -57.58 | -13 | 44.58 |
| 5 561.10 | 45.14 | H | 34.20 | -34.14 | 45.20 | -95.26 | -50.06 | -13 | 37.06 |
| 5 560.80 | 48.65 | V | 34.20 | -34.14 | 48.71 | -95.26 | -46.55 | -13 | 33.55 |
| 7 404.75 | 44.77 | V | 36.20 | -32.16 | 48.81 | -95.26 | -46.45 | -13 | 33.45 |
| 11 107.85 | 38.24 | H | 38.12 | -30.12 | 46.24 | -95.26 | -49.02 | -13 | 36.02 |
| Above 11 200.00 | Not detected | – | – | – | – | – | – | – | – |
| Middle Channel (1 880.0 ㎒) | | | | | | | | | |
| 3 762.40 | 43.58 | V | 32.40 | -36.89 | 39.09 | -95.26 | -56.17 | -13 | 43.17 |
| 4 600.02 | 42.59 | H | 32.10 | -36.65 | 38.04 | -95.26 | -57.22 | -13 | 44.22 |
| 5 643.65 | 48.15 | H | 34.11 | -33.43 | 48.83 | -95.26 | -46.43 | -13 | 33.43 |
| 5 636.25 | 43.63 | V | 34.13 | -33.48 | 44.28 | -95.26 | -50.98 | -13 | 37.98 |
| 7 520.45 | 40.57 | V | 36.16 | -32.84 | 43.89 | -95.26 | -51.37 | -13 | 38.37 |
| 11 272.80 | 37.11 | H | 38.25 | -29.90 | 45.46 | -95.26 | -49.80 | -13 | 36.80 |
| Above 11 300.00 | Not detected | – | – | – | – | – | – | – | – |
| High Channel (1 907.6 ㎒) | | | | | | | | | |
| 3 813.10 | 44.85 | V | 32.37 | -36.51 | 40.71 | -95.26 | -54.55 | -13 | 41.55 |
| 4 600.04 | 43.01 | H | 32.10 | -36.65 | 38.46 | -95.26 | -56.80 | -13 | 43.80 |
| 5 726.65 | 48.96 | H | 34.21 | -33.55 | 49.62 | -95.26 | **-45.64** | -13 | 32.64 |
| 5 724.80 | 44.81 | V | 34.20 | -33.54 | 45.47 | -95.26 | -49.79 | -13 | 36.79 |
| 7 634.60 | 43.82 | V | 36.00 | -32.53 | 47.29 | -95.26 | -47.97 | -13 | 34.97 |
| 11 442.30 | 34.12 | H | 38.58 | -30.54 | 42.16 | -95.26 | -53.10 | -13 | 40.10 |
| Above 11 500.00 | Not detected | – | – | – | – | – | – | – | – |

**WCDMA Ⅳ**

| Frequency (㎒) | Measured Level (dB㎶) | Ant. Pol. | AF (dB/m) | AMP+CL (dB) | E (dB㎶/m) | CF (dB) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| Low Channel (1 712.4 ㎒) | | | | | | | | | |
| 3 423.40 | 52.85 | H | 31.09 | -36.92 | 47.02 | -95.26 | -48.24 | -13 | 35.24 |
| 3 423.80 | 46.74 | V | 31.10 | -36.92 | 40.92 | -95.26 | -54.34 | -13 | 41.34 |
| 4 599.83 | 44.10 | V | 32.10 | -36.65 | 39.55 | -95.26 | -55.71 | -13 | 42.71 |
| 5 134.95 | 49.07 | H | 33.60 | -35.46 | 47.21 | -95.26 | -48.05 | -13 | 35.05 |
| 5 140.05 | 41.98 | V | 33.60 | -35.47 | 40.11 | -95.26 | -55.15 | -13 | 42.15 |
| Above 5 200.00 | Not detected | – | – | – | – | – | – | – | – |
| Middle Channel (1 732.6 ㎒) | | | | | | | | | |
| 3 467.15 | 49.80 | H | 31.23 | -36.77 | 44.26 | -95.26 | -51.00 | -13 | 38.00 |
| 3 467.60 | 46.34 | V | 31.24 | -36.77 | 40.81 | -95.26 | -54.45 | -13 | 41.45 |
| 4 599.64 | 45.28 | V | 32.10 | -36.65 | 40.73 | -95.26 | -54.53 | -13 | 41.53 |
| 5 195.55 | 50.30 | H | 33.78 | -35.19 | 48.89 | -95.26 | **-46.37** | -13 | 33.37 |
| 5 201.55 | 47.26 | V | 33.80 | -35.17 | 45.89 | -95.26 | -49.37 | -13 | 36.37 |
| Above 5 300.00 | Not detected | – | – | – | – | – | – | – | – |
| High Channel (1 752.6 ㎒) | | | | | | | | | |
| 3 503.55 | 45.91 | H | 31.30 | -36.68 | 40.53 | -95.26 | -54.73 | -13 | 41.73 |
| 3 507.00 | 45.94 | V | 31.30 | -36.70 | 40.54 | -95.26 | -54.72 | -13 | 41.72 |
| 4 599.76 | 44.58 | V | 32.10 | -36.65 | 40.03 | -95.26 | -55.23 | -13 | 42.23 |
| 5 254.35 | 44.34 | H | 33.72 | -35.07 | 42.99 | -95.26 | -52.27 | -13 | 39.27 |
| 5 254.35 | 42.79 | V | 33.72 | -35.07 | 41.44 | -95.26 | -53.82 | -13 | 40.82 |
| Above 5 300.00 | Not detected | – | – | – | – | – | – | – | – |

**WCDMA V**

| Frequency (㎒) | Measured Level (dBμV) | Ant. Pol. | AF (dB/m) | AMP+CL (dB) | E (dBμV/m) | CF (dB) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| Low Channel (826.4 ㎒) | | | | | | | | | |
| 1 319.84 | 57.14 | H | 25.04 | -39.26 | 42.92 | -97.41 | -54.49 | -13 | 41.49 |
| 1 650.64 | 49.81 | H | 25.71 | -38.67 | 36.85 | -97.41 | -60.56 | -13 | 47.56 |
| 1 650.56 | 51.61 | V | 25.71 | -38.67 | 38.65 | -97.41 | -58.76 | -13 | 45.76 |
| 1 980.00 | 49.35 | V | 27.82 | -37.74 | 39.43 | -97.41 | -57.98 | -13 | 44.98 |
| 2 301.90 | 48.84 | H | 28.01 | -36.36 | 40.49 | -97.41 | -56.92 | -13 | 43.92 |
| 2 310.40 | 52.70 | V | 28.04 | -36.42 | 44.32 | -97.41 | **-53.09** | -13 | 40.09 |
| 2 639.96 | 46.49 | H | 28.82 | -36.82 | 38.49 | -97.41 | -58.92 | -13 | 45.92 |
| 2 639.87 | 49.12 | V | 28.82 | -36.82 | 41.12 | -97.41 | -56.29 | -13 | 43.29 |
| Above 2 700.00 | Not detected | – | – | – | – | – | – | – | – |
| Middle Channel (836.6 ㎒) | | | | | | | | | |
| 1 319.63 | 56.57 | H | 25.04 | -39.26 | 42.35 | -97.41 | -55.06 | -13 | 42.06 |
| 1 670.64 | 48.04 | H | 26.03 | -38.66 | 35.41 | -97.41 | -62.00 | -13 | 49.00 |
| 1 670.12 | 49.05 | V | 26.02 | -38.66 | 36.41 | -97.41 | -61.00 | -13 | 48.00 |
| 1 985.00 | 49.74 | V | 27.84 | -37.71 | 39.87 | -97.41 | -57.54 | -13 | 44.54 |
| 2 311.10 | 49.29 | H | 28.04 | -36.42 | 40.91 | -97.41 | -56.50 | -13 | 43.50 |
| 2 310.30 | 51.77 | V | 28.04 | -36.42 | 43.39 | -97.41 | -54.02 | -13 | 41.02 |
| 2 639.94 | 47.22 | H | 28.82 | -36.82 | 39.22 | -97.41 | -58.19 | -13 | 45.19 |
| 2 639.70 | 50.50 | V | 28.82 | -36.82 | 42.50 | -97.41 | -54.91 | -13 | 41.91 |
| Above 2 700.00 | Not detected | – | – | – | – | – | – | – | – |
| High Channel (846.6 ㎒) | | | | | | | | | |
| 1 319.94 | 56.57 | H | 25.04 | -39.26 | 42.35 | -97.41 | -55.06 | -13 | 42.06 |
| 1 690.82 | 46.46 | H | 26.35 | -38.73 | 34.08 | -97.41 | -63.33 | -13 | 50.33 |
| 1 695.14 | 44.30 | V | 26.42 | -38.75 | 31.97 | -97.41 | -65.44 | -13 | 52.44 |
| 1 994.60 | 49.33 | V | 27.88 | -37.67 | 39.54 | -97.41 | -57.87 | -13 | 44.87 |
| 2 307.50 | 48.36 | H | 28.03 | -36.40 | 39.99 | -97.41 | -57.42 | -13 | 44.42 |
| 2 309.10 | 50.48 | V | 28.04 | -36.41 | 42.11 | -97.41 | -55.30 | -13 | 42.30 |
| 2 639.95 | 46.87 | H | 28.82 | -36.82 | 38.87 | -97.41 | -58.54 | -13 | 45.54 |
| 2 640.29 | 48.69 | V | 28.82 | -36.81 | 40.70 | -97.41 | -56.71 | -13 | 43.71 |
| Above 2 700.00 | Not detected | – | – | – | – | – | – | – | – |

**LTE 2**

| Frequency (㎒) | Measured Level (dB㎶) | Ant. Pol. | AF (dB/m) | AMP+CL (dB) | E (dB㎶/m) | CF (dB) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| Low Channel (1 860.0 ㎒) | | | | | | | | | |
| 5 553.26 | 50.07 | H | 34.20 | -34.20 | 50.07 | -95.26 | -45.19 | -13 | 32.19 |
| 5 553.38 | 47.82 | V | 34.20 | -34.20 | 47.82 | -95.26 | -47.44 | -13 | 34.44 |
| 7 404.60 | 45.59 | H | 36.20 | -32.16 | 49.63 | -95.26 | -45.63 | -13 | 32.63 |
| 7 404.47 | 42.15 | V | 36.20 | -32.16 | 46.19 | -95.26 | -49.07 | -13 | 36.07 |
| 9 255.56 | 43.85 | V | 37.11 | -32.68 | 48.28 | -95.26 | -46.98 | -13 | 33.98 |
| 11 106.73 | 38.94 | H | 38.11 | -30.13 | 46.92 | -95.26 | -48.34 | -13 | 35.34 |
| 11 106.34 | 44.93 | V | 38.11 | -30.14 | 52.90 | -95.26 | **-42.36** | -13 | 29.36 |
| Above 11 200.00 | Not detected | – | – | – | – | – | – | – | – |
| Middle Channel (1 880.0 ㎒) | | | | | | | | | |
| 5 613.21 | 52.06 | H | 34.17 | -33.66 | 52.57 | -95.26 | -42.69 | -13 | 29.69 |
| 5 613.29 | 49.64 | V | 34.17 | -33.66 | 50.15 | -95.26 | -45.11 | -13 | 32.11 |
| 7 484.49 | 44.66 | H | 36.20 | -32.90 | 47.96 | -95.26 | -47.30 | -13 | 34.30 |
| 7 484.40 | 42.80 | V | 36.20 | -32.90 | 46.10 | -95.26 | -49.16 | -13 | 36.16 |
| 9 355.48 | 43.61 | V | 37.41 | -32.20 | 48.82 | -95.26 | -46.44 | -13 | 33.44 |
| 11 226.64 | 38.05 | H | 38.35 | -30.14 | 46.26 | -95.26 | -49.00 | -13 | 36.00 |
| 11 226.68 | 41.88 | V | 38.35 | -30.14 | 50.09 | -95.26 | -45.17 | -13 | 32.17 |
| Above 11 300.00 | Not detected | – | – | – | – | – | – | – | – |
| High Channel (1 900.0 ㎒) | | | | | | | | | |
| 5 673.36 | 50.67 | H | 34.10 | -33.32 | 51.45 | -95.26 | -43.81 | -13 | 30.81 |
| 5 673.26 | 48.04 | V | 34.10 | -33.32 | 48.82 | -95.26 | -46.44 | -13 | 33.44 |
| 7 564.15 | 44.10 | H | 36.07 | -32.68 | 47.49 | -95.26 | -47.77 | -13 | 34.77 |
| 7 564.46 | 42.30 | V | 36.07 | -32.68 | 45.69 | -95.26 | -49.57 | -13 | 36.57 |
| 9 455.72 | 44.54 | V | 37.60 | -31.92 | 50.22 | -95.26 | -45.04 | -13 | 32.04 |
| 11 346.67 | 38.11 | H | 38.20 | -30.18 | 46.13 | -95.26 | -49.13 | -13 | 36.13 |
| 11 346.62 | 41.34 | V | 38.20 | -30.18 | 49.36 | -95.26 | -45.90 | -13 | 32.90 |
| Above 11 400.00 | Not detected | – | – | – | – | – | – | – | – |

**LTE 4**

| Frequency (㎒) | Measured Level (dB㎶) | Ant. Pol. | AF (dB/m) | AMP+CL (dB) | E (dB㎶/m) | CF (dB) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| Low Channel (1 720.0 ㎒) | | | | | | | | | |
| 3 422.15 | 54.78 | H | 31.09 | -36.92 | 48.95 | -95.26 | -46.31 | -13 | 33.31 |
| 3 422.18 | 55.57 | V | 31.09 | -36.92 | 49.74 | -95.26 | -45.52 | -13 | 32.52 |
| 4 599.26 | 40.23 | H | 32.10 | -36.64 | 35.69 | -95.26 | -59.57 | -13 | 46.57 |
| 4 600.03 | 44.61 | V | 32.10 | -36.65 | 40.06 | -95.26 | -55.20 | -13 | 42.20 |
| 5 133.26 | 45.55 | H | 33.60 | -35.46 | 43.69 | -95.26 | -51.57 | -13 | 38.57 |
| 5 133.30 | 48.05 | V | 33.60 | -35.46 | 46.19 | -95.26 | -49.07 | -13 | 36.07 |
| 6 844.46 | 43.64 | H | 35.59 | -33.87 | 45.36 | -95.26 | -49.90 | -13 | 36.90 |
| 10 266.68 | 44.87 | V | 37.87 | -31.27 | 51.47 | -95.26 | -43.79 | -13 | 30.79 |
| Above 10 300.00 | Not detected | – | – | – | – | – | – | – | – |
| Middle Channel (1 732.5 ㎒) | | | | | | | | | |
| 3 447.08 | 51.12 | H | 31.19 | -36.76 | 45.55 | -95.26 | -49.71 | -13 | 36.71 |
| 3 447.32 | 49.33 | V | 31.19 | -36.76 | 43.76 | -95.26 | -51.50 | -13 | 38.50 |
| 4 599.68 | 43.01 | H | 32.10 | -36.65 | 38.46 | -95.26 | -56.80 | -13 | 43.80 |
| 4 599.67 | 44.57 | V | 32.10 | -36.65 | 40.02 | -95.26 | -55.24 | -13 | 42.24 |
| 5 170.84 | 44.11 | H | 33.68 | -35.34 | 42.45 | -95.26 | -52.81 | -13 | 39.81 |
| 5 170.92 | 44.18 | V | 33.68 | -35.34 | 42.52 | -95.26 | -52.74 | -13 | 39.74 |
| 6 894.88 | 43.41 | H | 35.51 | -33.53 | 45.39 | -95.26 | -49.87 | -13 | 36.87 |
| 10 341.66 | 46.61 | V | 37.72 | -30.70 | 53.63 | -95.26 | **-41.63** | -13 | 28.63 |
| Above 10 400.00 | Not detected | – | – | – | – | – | – | – | – |
| High Channel (1 745.0 ㎒) | | | | | | | | | |
| 3 472.27 | 52.38 | H | 31.24 | -36.79 | 46.83 | -95.26 | -48.43 | -13 | 35.43 |
| 3 472.16 | 51.38 | V | 31.24 | -36.79 | 45.83 | -95.26 | -49.43 | -13 | 36.43 |
| 4 599.78 | 43.13 | H | 32.10 | -36.65 | 38.58 | -95.26 | -56.68 | -13 | 43.68 |
| 4 599.66 | 44.31 | V | 32.10 | -36.65 | 39.76 | -95.26 | -55.50 | -13 | 42.50 |
| 5 208.28 | 44.89 | H | 33.78 | -35.15 | 43.52 | -95.26 | -51.74 | -13 | 38.74 |
| 5 208.26 | 47.87 | V | 33.78 | -35.15 | 46.50 | -95.26 | -48.76 | -13 | 35.76 |
| 6 944.26 | 43.41 | H | 35.50 | -33.26 | 45.65 | -95.26 | -49.61 | -13 | 36.61 |
| 10 416.58 | 46.61 | V | 37.80 | -31.07 | 53.34 | -95.26 | -41.92 | -13 | 28.92 |
| Above 10 500.00 | Not detected | – | – | – | – | – | – | – | – |

**LTE12**

| Frequency (㎒) | Measured Level (dBμV) | Ant. Pol. | AF (dB/m) | AMP+CL (dB) | E (dBμV/m) | CF (dB) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| Low Channel (704.0 ㎒) | | | | | | | | | |
| 1 319.71 | 51.17 | H | 25.04 | -39.26 | 36.95 | -97.41 | -60.46 | -13 | 47.46 |
| 1 319.80 | 49.85 | V | 25.04 | -39.26 | 35.63 | -97.41 | -61.78 | -13 | 48.78 |
| 1 399.26 | 56.59 | H | 25.30 | -39.15 | 42.74 | -97.41 | -54.67 | -13 | 41.67 |
| 1 399.26 | 61.49 | V | 25.30 | -39.15 | 47.64 | -97.41 | -49.77 | -13 | 36.77 |
| 1 498.80 | 56.35 | H | 25.20 | -38.91 | 42.64 | -97.41 | -54.77 | -13 | 41.77 |
| 1 500.20 | 50.90 | V | 25.20 | -38.90 | 37.20 | -97.41 | -60.21 | -13 | 47.21 |
| 1 679.95 | 46.98 | V | 26.18 | -38.69 | 34.47 | -97.41 | -62.94 | -13 | 49.94 |
| 1 799.94 | 48.64 | H | 27.00 | -38.70 | 36.94 | -97.41 | -60.47 | -13 | 47.47 |
| 1 799.86 | 49.57 | V | 27.00 | -38.70 | 37.87 | -97.41 | -59.54 | -13 | 46.54 |
| 2 098.82 | 50.97 | H | 27.80 | -37.35 | 41.42 | -97.41 | -55.99 | -13 | 42.99 |
| 2 098.71 | 47.64 | V | 27.80 | -37.35 | 38.09 | -97.41 | -59.32 | -13 | 46.32 |
| 2 310.20 | 51.89 | H | 28.04 | -36.42 | 43.51 | -97.41 | -53.90 | -13 | 40.90 |
| 2 309.80 | 48.86 | V | 28.04 | -36.41 | 40.49 | -97.41 | -56.92 | -13 | 43.92 |
| 2 639.81 | 46.17 | H | 28.82 | -36.82 | 38.17 | -97.41 | -59.24 | -13 | 46.24 |
| 2 636.96 | 44.19 | V | 28.83 | -36.83 | 36.19 | -97.41 | -61.22 | -13 | 48.22 |
| 2 798.49 | 52.97 | H | 29.10 | -36.77 | 45.30 | -97.41 | -52.11 | -13 | 39.11 |
| 2 798.47 | 53.13 | V | 29.10 | -36.77 | 45.46 | -97.41 | -51.95 | -13 | 38.95 |
| 3 498.02 | 60.25 | H | 31.30 | -36.67 | 54.88 | -97.41 | -42.53 | -13 | 29.53 |
| 3 498.04 | 54.20 | V | 31.30 | -36.67 | 48.83 | -97.41 | -48.58 | -13 | 35.58 |
| 4 197.33 | 49.06 | H | 32.19 | -36.26 | 44.99 | -97.41 | -52.42 | -13 | 39.42 |
| 4 197.40 | 49.54 | V | 32.19 | -36.26 | 45.47 | -97.41 | -51.94 | -13 | 38.94 |
| Above 4 200.00 | Not detected | – | – | – | – | – | – | – | – |

**LTE12**

| Frequency (㎒) | Measured Level (dB㎶) | Ant. Pol. | AF (dB/m) | AMP+CL (dB) | E (dB㎶/m) | CF (dB) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| Middle Channel (707.5 ㎒) | | | | | | | | | |
| 1 319.78 | 51.10 | H | 25.04 | -39.26 | 36.88 | -97.41 | -60.53 | -13 | 47.53 |
| 1 319.76 | 49.17 | V | 25.04 | -39.26 | 34.95 | -97.41 | -62.46 | -13 | 49.46 |
| 1 406.32 | 61.54 | H | 25.27 | -39.15 | 47.66 | -97.41 | -49.75 | -13 | 36.75 |
| 1 406.17 | 58.92 | V | 25.28 | -39.15 | 45.05 | -97.41 | -52.36 | -13 | 39.36 |
| 1 499.70 | 55.70 | H | 25.20 | -38.90 | 42.00 | -97.41 | -55.41 | -13 | 42.41 |
| 1 499.20 | 51.58 | V | 25.20 | -38.90 | 37.88 | -97.41 | -59.53 | -13 | 46.53 |
| 1 679.75 | 47.38 | V | 26.18 | -38.68 | 34.88 | -97.41 | -62.53 | -13 | 49.53 |
| 1 799.82 | 49.16 | H | 27.00 | -38.70 | 37.46 | -97.41 | -59.95 | -13 | 46.95 |
| 1 799.52 | 50.48 | V | 27.00 | -38.70 | 38.78 | -97.41 | -58.63 | -13 | 45.63 |
| 2 109.43 | 48.37 | H | 27.76 | -37.22 | 38.91 | -97.41 | -58.50 | -13 | 45.50 |
| 2 109.11 | 50.17 | V | 27.76 | -37.23 | 40.70 | -97.41 | -56.71 | -13 | 43.71 |
| 2 307.80 | 49.79 | H | 28.03 | -36.40 | 41.42 | -97.41 | -55.99 | -13 | 42.99 |
| 2 309.50 | 46.73 | V | 28.04 | -36.41 | 38.36 | -97.41 | -59.05 | -13 | 46.05 |
| 2 639.60 | 46.45 | H | 28.82 | -36.82 | 38.45 | -97.41 | -58.96 | -13 | 45.96 |
| 2 643.11 | 44.17 | V | 28.81 | -36.80 | 36.18 | -97.41 | -61.23 | -13 | 48.23 |
| 2 812.40 | 55.25 | H | 29.15 | -36.76 | 47.64 | -97.41 | -49.77 | -13 | 36.77 |
| 2 812.36 | 54.69 | V | 29.15 | -36.76 | 47.08 | -97.41 | -50.33 | -13 | 37.33 |
| 3 515.42 | 64.13 | H | 31.30 | -36.77 | 58.66 | -97.41 | **-38.75** | -13 | 25.75 |
| 3 515.56 | 57.13 | V | 31.30 | -36.77 | 51.66 | -97.41 | -45.75 | -13 | 32.75 |
| 4 218.69 | 48.22 | H | 32.20 | -36.06 | 44.36 | -97.41 | -53.05 | -13 | 40.05 |
| 4 218.58 | 46.80 | V | 32.20 | -36.06 | 42.94 | -97.41 | -54.47 | -13 | 41.47 |
| Above 4 300.00 | Not detected | – | – | – | – | – | – | – | – |

**LTE12**

| Frequency (㎒) | Measured Level (dB㎶) | Ant. Pol. | AF (dB/m) | AMP+CL (dB) | E (dB㎶/m) | CF (dB) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| High Channel (711.0 ㎒) | | | | | | | | | |
| 1 319.92 | 50.89 | H | 25.04 | -39.26 | 36.67 | -97.41 | -60.74 | -13 | 47.74 |
| 1 319.99 | 49.05 | V | 25.04 | -39.26 | 34.83 | -97.41 | -62.58 | -13 | 49.58 |
| 1 413.16 | 58.72 | H | 25.25 | -39.14 | 44.83 | -97.41 | -52.58 | -13 | 39.58 |
| 1 413.29 | 62.75 | V | 25.25 | -39.14 | 48.86 | -97.41 | -48.55 | -13 | 35.55 |
| 1 498.10 | 56.55 | H | 25.20 | -38.91 | 42.84 | -97.41 | -54.57 | -13 | 41.57 |
| 1 500.60 | 51.96 | V | 25.20 | -38.90 | 38.26 | -97.41 | -59.15 | -13 | 46.15 |
| 1 679.90 | 47.59 | V | 26.18 | -38.69 | 35.08 | -97.41 | -62.33 | -13 | 49.33 |
| 1 799.96 | 48.09 | H | 27.00 | -38.70 | 36.39 | -97.41 | -61.02 | -13 | 48.02 |
| 1 799.90 | 50.75 | V | 27.00 | -38.70 | 39.05 | -97.41 | -58.36 | -13 | 45.36 |
| 2 119.76 | 48.83 | H | 27.72 | -37.09 | 39.46 | -97.41 | -57.95 | -13 | 44.95 |
| 2 119.84 | 50.10 | V | 27.72 | -37.09 | 40.73 | -97.41 | -56.68 | -13 | 43.68 |
| 2 310.80 | 50.36 | H | 28.04 | -36.42 | 41.98 | -97.41 | -55.43 | -13 | 42.43 |
| 2 308.00 | 46.54 | V | 28.03 | -36.40 | 38.17 | -97.41 | -59.24 | -13 | 46.24 |
| 2 639.84 | 46.13 | H | 28.82 | -36.82 | 38.13 | -97.41 | -59.28 | -13 | 46.28 |
| 2 640.17 | 44.25 | V | 28.82 | -36.82 | 36.25 | -97.41 | -61.16 | -13 | 48.16 |
| 2 826.46 | 54.37 | H | 29.21 | -36.76 | 46.82 | -97.41 | -50.59 | -13 | 37.59 |
| 2 826.23 | 53.12 | V | 29.20 | -36.76 | 45.56 | -97.41 | -51.85 | -13 | 38.85 |
| 3 532.95 | 62.23 | H | 31.30 | -36.89 | 56.64 | -97.41 | -40.77 | -13 | 27.77 |
| 3 532.95 | 57.98 | V | 31.30 | -36.89 | 52.39 | -97.41 | -45.02 | -13 | 32.02 |
| 4 239.83 | 45.74 | H | 32.20 | -35.86 | 42.08 | -97.41 | -55.33 | -13 | 42.33 |
| 4 239.61 | 47.21 | V | 32.20 | -35.86 | 43.55 | -97.41 | -53.86 | -13 | 40.86 |
| Above 4 300.00 | Not detected | - | - | - | - | - | - | - | - |

**Remark;**

1. AF = Antenna Factor, CL = Cable Loss, CF = Conversion Factor.
2. E (dB㎶/m) = Measured Level (dB㎶) + Antenna Factor (dB/m) + Cable Loss (dB).
3. E.I.R.P. (dB m) = E (dB㎶/m) + CF (dB).
4. E.R.P. (dB m) = E (dB㎶/m) + CF (dB) - 2.15 (dB); where E.R.P. and E.I.R.P. are expressed in consistent units.
5. CF (dB) = 20 log D - 104.8; where D is the measurement distance in meters, According to ANSI C63.26-2015 5.2.7 and KDB 971168 D01 v03r01 5.8.4
6. The frequency spectrum is examined from 9 ㎑ to the 10th harmonic of the fundamental frequency of the transmitter. No other spurious and harmonic emissions were reported greater than listed emissions above table.

# 3. Conducted Output Power

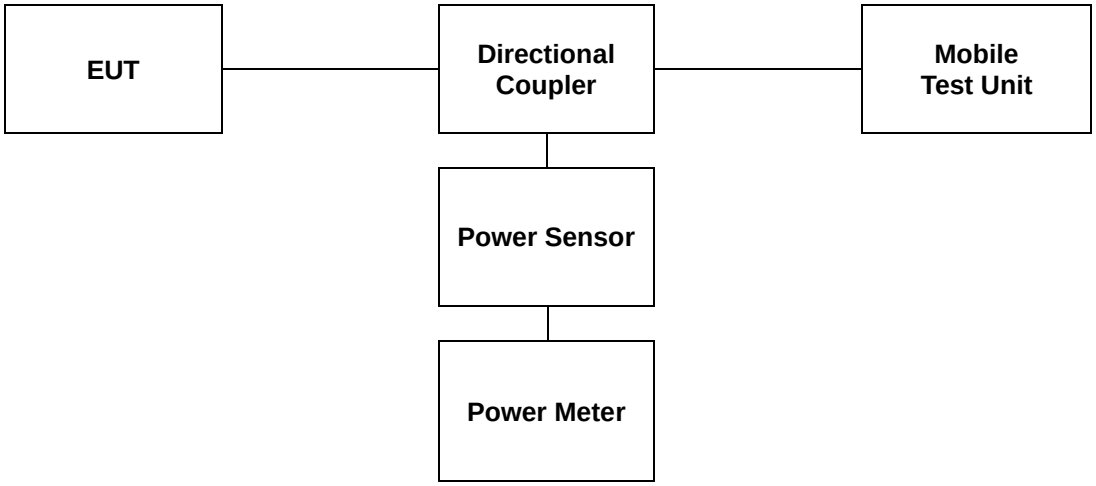
## 3.1. Limit

CFR 47, Section FCC §2.1046 and IC RSS-Gen Issue 5 6.12.

## 3.2. Test Procedure

Output power shall be measured at the RF output terminals for all configurations.

1. The RF output of the transmitter was connected to the input of the mobile test unit in order to establish communication with the EUT.
2. The EUT was set up for the max. output power with pseudo random data modulation by using mobile test unit parameters.
3. The measurement performed using a wideband RF power meter.
4. This EUT was tested under all configurations and the highest power was investigated and reported.



## 3.3. Test Result

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

**- WCDMA**

| Band | Channel | | 9262 | | 9400 | | 9538 | |
|---|---|---|---|---|---|---|---|---|
| | Frequency (㎒) | | 1 852.4 | | 1 880.0 | | 1 907.6 | |
| | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) |
| Ⅱ | RMC | | 23.19 | 0.208 | 23.27 | 0.212 | **23.35** | **0.216** |
| | HSDPA | Subtest 1 | **22.29** | **0.169** | 22.26 | 0.168 | 22.24 | 0.167 |
| | | Subtest 2 | 22.09 | 0.162 | 22.05 | 0.160 | 22.27 | 0.169 |
| | | Subtest 3 | 21.60 | 0.145 | 21.72 | 0.149 | 21.68 | 0.147 |
| | | Subtest 4 | 21.74 | 0.149 | 21.62 | 0.145 | 21.69 | 0.148 |
| | HSUPA | Subtest 1 | 21.56 | 0.143 | 21.50 | 0.141 | 22.06 | 0.161 |
| | | Subtest 2 | 21.41 | 0.138 | 21.46 | 0.140 | 21.69 | 0.148 |
| | | Subtest 3 | 21.92 | 0.156 | 22.05 | 0.160 | 22.14 | 0.164 |
| | | Subtest 4 | 21.91 | 0.155 | 21.92 | 0.156 | 22.08 | 0.161 |
| | | Subtest 5 | 22.02 | 0.159 | 21.94 | 0.156 | 21.99 | 0.158 |
| | DC-HSDPA | Subtest 1 | 22.23 | 0.167 | 22.25 | 0.168 | 22.18 | 0.165 |
| | | Subtest 2 | 22.01 | 0.159 | 22.01 | 0.159 | 22.20 | 0.166 |
| | | Subtest 3 | 21.46 | 0.140 | 21.56 | 0.143 | 21.66 | 0.147 |
| | | Subtest 4 | 21.58 | 0.144 | 21.57 | 0.144 | 21.53 | 0.142 |

| Band | Channel | | 1312 | | 1413 | | 1513 | |
|---|---|---|---|---|---|---|---|---|
| | Frequency (㎒) | | 1 712.4 | | 1 732.6 | | 1 752.6 | |
| | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) |
| Ⅳ | RMC | | **23.37** | **0.217** | 23.35 | 0.216 | 23.18 | 0.208 |
| | HSDPA | Subtest 1 | **22.27** | **0.169** | 22.17 | 0.165 | 21.94 | 0.156 |
| | | Subtest 2 | 22.24 | 0.167 | 22.08 | 0.161 | 22.07 | 0.161 |
| | | Subtest 3 | 21.65 | 0.146 | 21.62 | 0.145 | 21.41 | 0.138 |
| | | Subtest 4 | 21.69 | 0.148 | 21.63 | 0.146 | 21.38 | 0.137 |
| | HSUPA | Subtest 1 | 21.42 | 0.139 | 22.19 | 0.166 | 21.60 | 0.145 |
| | | Subtest 2 | 21.63 | 0.146 | 21.86 | 0.153 | 20.74 | 0.119 |
| | | Subtest 3 | 22.11 | 0.163 | 21.99 | 0.158 | 21.79 | 0.151 |
| | | Subtest 4 | 22.13 | 0.163 | 22.03 | 0.160 | 21.91 | 0.155 |
| | | Subtest 5 | 22.06 | 0.161 | 21.99 | 0.158 | 21.84 | 0.153 |
| | DC-HSDPA | Subtest 1 | 22.26 | 0.168 | 22.15 | 0.164 | 21.95 | 0.157 |
| | | Subtest 2 | 22.19 | 0.166 | 22.01 | 0.159 | 22.03 | 0.160 |
| | | Subtest 3 | 21.63 | 0.146 | 21.59 | 0.144 | 21.46 | 0.140 |
| | | Subtest 4 | 21.71 | 0.148 | 21.68 | 0.147 | 21.35 | 0.136 |

| Band | Channel | | 4132 | | 4182 | | 4233 | |
|---|---|---|---|---|---|---|---|---|
| | Frequency (㎒) | | 826.4 | | 836.6 | | 846.6 | |
| | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) |
| V | RMC | | 23.49 | 0.223 | 23.63 | 0.231 | **23.72** | **0.236** |
| | HSDPA | Subtest 1 | 22.38 | 0.173 | 22.64 | 0.184 | **22.66** | **0.185** |
| | | Subtest 2 | 22.51 | 0.178 | 22.51 | 0.178 | 22.63 | 0.183 |
| | | Subtest 3 | 21.95 | 0.157 | 22.15 | 0.164 | 22.27 | 0.169 |
| | | Subtest 4 | 21.97 | 0.157 | 22.09 | 0.162 | 22.15 | 0.164 |
| | HSUPA | Subtest 1 | 22.35 | 0.172 | 22.01 | 0.159 | 22.21 | 0.166 |
| | | Subtest 2 | 21.45 | 0.140 | 22.11 | 0.163 | 21.60 | 0.145 |
| | | Subtest 3 | 22.32 | 0.171 | 22.53 | 0.179 | 22.53 | 0.179 |
| | | Subtest 4 | 22.40 | 0.174 | 22.55 | 0.180 | 22.60 | 0.182 |
| | | Subtest 5 | 22.43 | 0.175 | 22.51 | 0.178 | 22.52 | 0.179 |
| | DC-HSDPA | Subtest 1 | 22.33 | 0.171 | 22.60 | 0.182 | 22.64 | 0.184 |
| | | Subtest 2 | 22.48 | 0.177 | 22.52 | 0.179 | 22.54 | 0.179 |
| | | Subtest 3 | 21.91 | 0.155 | 22.13 | 0.163 | 22.22 | 0.167 |
| | | Subtest 4 | 21.95 | 0.157 | 22.02 | 0.159 | 22.17 | 0.165 |

**- LTE**

| LTE Band 2 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Bandwidth (㎒) | Modulation | RB Size | RB Offset | Conducted Output Power | | | | | |
| | | | | 18607 (1 850.7 ㎒) | | 18900 (1 880.0 ㎒) | | 19193 (1 909.3 ㎒) | |
| | | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) |
| 1.4 | QPSK | 1 | 0 | 22.44 | 0.175 | 22.63 | 0.183 | **22.93** | **0.196** |
| | | 1 | 3 | 22.46 | 0.176 | 22.61 | 0.182 | 22.82 | 0.191 |
| | | 1 | 5 | 22.46 | 0.176 | 22.60 | 0.182 | 22.88 | 0.194 |
| | | 3 | 0 | 22.42 | 0.175 | 22.77 | 0.189 | 22.83 | 0.192 |
| | | 3 | 2 | 22.52 | 0.179 | 22.76 | 0.189 | 22.75 | 0.188 |
| | | 3 | 3 | 22.49 | 0.177 | 22.69 | 0.186 | 22.86 | 0.193 |
| | | 6 | 0 | 21.37 | 0.137 | 22.61 | 0.182 | 22.85 | 0.193 |
| | 16QAM | 1 | 0 | 21.28 | 0.134 | 21.39 | 0.138 | 21.54 | 0.143 |
| | | 1 | 3 | 21.26 | 0.134 | 21.32 | 0.136 | 21.51 | 0.142 |
| | | 1 | 5 | 21.13 | 0.130 | 21.35 | 0.136 | **21.57** | **0.144** |
| | | 3 | 0 | 21.27 | 0.134 | 21.39 | 0.138 | 21.57 | 0.144 |
| | | 3 | 2 | 21.22 | 0.132 | 21.33 | 0.136 | 21.57 | 0.144 |
| | | 3 | 3 | 21.34 | 0.136 | 21.34 | 0.136 | 21.57 | 0.144 |
| | | 6 | 0 | 20.28 | 0.107 | 21.36 | 0.137 | 21.56 | 0.143 |

| LTE Band 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bandwidth (㎒) | Modulation | RB Size | RB Offset | Conducted Output Power | | | | | | | |
| | | | | 18615 (1 851.5 ㎒) | | 18900 (1 880.0 ㎒) | | 19185 (1 908.5 ㎒) | | | |
| | | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) | | |
| 3 | QPSK | 1 | 0 | 22.54 | 0.179 | 22.70 | 0.186 | 22.84 | 0.192 | | |
| | | 1 | 7 | 22.56 | 0.180 | 22.78 | 0.190 | 22.80 | 0.191 | | |
| | | 1 | 14 | 22.48 | 0.177 | 22.73 | 0.187 | **22.85** | **0.193** | | |
| | | 8 | 0 | 22.55 | 0.180 | 21.48 | 0.141 | 21.88 | 0.154 | | |
| | | 8 | 4 | 22.50 | 0.178 | 21.50 | 0.141 | 21.60 | 0.145 | | |
| | | 8 | 7 | 22.42 | 0.175 | 21.54 | 0.143 | 21.80 | 0.151 | | |
| | | 15 | 0 | 21.39 | 0.138 | 21.56 | 0.143 | 21.79 | 0.151 | | |
| | 16QAM | 1 | 0 | 21.22 | 0.132 | 21.26 | 0.134 | 21.55 | 0.143 | | |
| | | 1 | 7 | 21.13 | 0.130 | 21.37 | 0.137 | 21.44 | 0.139 | | |
| | | 1 | 14 | 21.13 | 0.130 | 21.37 | 0.137 | 21.45 | 0.140 | | |
| | | 8 | 0 | **21.58** | **0.144** | 20.31 | 0.107 | 20.50 | 0.112 | | |
| | | 8 | 4 | 21.28 | 0.134 | 20.42 | 0.110 | 20.52 | 0.113 | | |
| | | 8 | 7 | 21.20 | 0.132 | 20.39 | 0.109 | 20.51 | 0.112 | | |
| | | 15 | 0 | 20.38 | 0.109 | 20.72 | 0.118 | 20.65 | 0.116 | | |

| LTE Band 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bandwidth (㎒) | Modulation | RB Size | RB Offset | Conducted Output Power | | | | | | | |
| | | | | 18625 (1 852.5 ㎒) | | 18900 (1 880.0 ㎒) | | 19175 (1 907.5 ㎒) | | | |
| | | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) | | |
| 5 | QPSK | 1 | 0 | 22.41 | 0.174 | 22.61 | 0.182 | 22.63 | 0.183 | | |
| | | 1 | 12 | 22.53 | 0.179 | 22.72 | 0.187 | **22.95** | **0.197** | | |
| | | 1 | 24 | 22.60 | 0.182 | 22.66 | 0.185 | 22.70 | 0.186 | | |
| | | 12 | 0 | 22.50 | 0.178 | 22.65 | 0.184 | 21.68 | 0.147 | | |
| | | 12 | 6 | 22.54 | 0.179 | 22.67 | 0.185 | 21.61 | 0.145 | | |
| | | 12 | 13 | 22.47 | 0.177 | 22.67 | 0.185 | 21.66 | 0.147 | | |
| | | 25 | 0 | 22.47 | 0.177 | 21.52 | 0.142 | 21.72 | 0.149 | | |
| | 16QAM | 1 | 0 | 21.18 | 0.131 | 21.46 | 0.140 | 21.37 | 0.137 | | |
| | | 1 | 12 | 21.17 | 0.131 | 21.38 | 0.137 | 21.39 | 0.138 | | |
| | | 1 | 24 | 21.19 | 0.132 | 21.15 | 0.130 | 21.37 | 0.137 | | |
| | | 12 | 0 | 21.22 | 0.132 | 21.36 | 0.137 | 20.48 | 0.112 | | |
| | | 12 | 6 | 21.25 | 0.133 | 21.50 | 0.141 | 20.60 | 0.115 | | |
| | | 12 | 13 | **21.51** | **0.142** | 21.41 | 0.138 | 20.49 | 0.112 | | |
| | | 25 | 0 | 21.30 | 0.135 | 20.49 | 0.112 | 20.71 | 0.118 | | |

| LTE Band 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bandwidth (㎒) | Modulation | RB Size | RB Offset | Conducted Output Power | | | | | | | |
| | | | | 18650 (1 855.0 ㎒) | | 18900 (1 880.0 ㎒) | | 19150 (1 905.0 ㎒) | | | |
| | | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) | | |
| 10 | QPSK | 1 | 0 | 22.55 | 0.180 | 22.71 | 0.187 | 22.86 | 0.193 | | |
| | | 1 | 25 | 22.55 | 0.180 | 22.72 | 0.187 | 22.79 | 0.190 | | |
| | | 1 | 49 | 22.60 | 0.182 | 22.79 | 0.190 | **22.88** | **0.194** | | |
| | | 25 | 0 | 22.44 | 0.175 | 22.70 | 0.186 | 22.73 | 0.187 | | |
| | | 25 | 12 | 22.39 | 0.173 | 22.68 | 0.185 | 22.71 | 0.187 | | |
| | | 25 | 25 | 22.54 | 0.179 | 22.68 | 0.185 | 22.79 | 0.190 | | |
| | | 50 | 0 | 22.55 | 0.180 | 21.56 | 0.143 | 21.74 | 0.149 | | |
| | 16QAM | 1 | 0 | 21.28 | 0.134 | 21.37 | 0.137 | 21.56 | 0.143 | | |
| | | 1 | 25 | 21.33 | 0.136 | 21.24 | 0.133 | 21.25 | 0.133 | | |
| | | 1 | 49 | 21.11 | 0.129 | 21.38 | 0.137 | 21.39 | 0.138 | | |
| | | 25 | 0 | 21.40 | 0.138 | 21.47 | 0.140 | 21.68 | 0.147 | | |
| | | 25 | 12 | 21.41 | 0.138 | **21.77** | **0.150** | 21.49 | 0.141 | | |
| | | 25 | 25 | 21.42 | 0.139 | 21.77 | 0.150 | 21.48 | 0.141 | | |
| | | 50 | 0 | 21.46 | 0.140 | 20.70 | 0.117 | 20.77 | 0.119 | | |

| LTE Band 2 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Bandwidth (㎒) | Modulation | RB Size | RB Offset | Conducted Output Power | | | | | |
| | | | | 18675 (1 857.5 ㎒) | | 18900 (1 880.0 ㎒) | | 19125 (1 902.5 ㎒) | |
| | | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) |
| 15 | QPSK | 1 | 0 | 22.63 | 0.183 | 22.83 | 0.192 | 22.86 | 0.193 |
| | | 1 | 36 | 22.58 | 0.181 | 22.82 | 0.191 | 22.76 | 0.189 |
| | | 1 | 74 | 22.68 | 0.185 | 22.75 | 0.188 | **22.90** | **0.195** |
| | | 36 | 0 | 22.51 | 0.178 | 22.68 | 0.185 | 22.71 | 0.187 |
| | | 36 | 18 | 22.55 | 0.180 | 22.66 | 0.185 | 22.72 | 0.187 |
| | | 36 | 37 | 22.55 | 0.180 | 22.65 | 0.184 | 22.73 | 0.187 |
| | | 75 | 0 | 22.47 | 0.177 | 22.62 | 0.183 | 21.30 | 0.135 |
| | 16QAM | 1 | 0 | 21.28 | 0.134 | 21.54 | 0.143 | 21.29 | 0.135 |
| | | 1 | 36 | 21.32 | 0.136 | 21.40 | 0.138 | 21.36 | 0.137 |
| | | 1 | 74 | 21.38 | 0.137 | 21.24 | 0.133 | 21.53 | 0.142 |
| | | 36 | 0 | 21.44 | 0.139 | 21.57 | 0.144 | 21.41 | 0.138 |
| | | 36 | 18 | 21.41 | 0.138 | 21.52 | 0.142 | 21.55 | 0.143 |
| | | 36 | 37 | 21.40 | 0.138 | 21.52 | 0.142 | **21.58** | **0.144** |
| | | 75 | 0 | 21.44 | 0.139 | 21.55 | 0.143 | 20.78 | 0.120 |

| LTE Band 2 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Bandwidth (㎒) | Modulation | RB Size | RB Offset | Conducted Output Power | | | | | |
| | | | | 18700 (1 860.0 ㎒) | | 18900 (1 880.0 ㎒) | | 19100 (1 900.0 ㎒) | |
| | | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) |
| 20 | QPSK | 1 | 0 | 22.53 | 0.179 | 22.70 | 0.186 | **22.96** | **0.198** |
| | | 1 | 50 | 22.56 | 0.180 | 22.75 | 0.188 | 22.93 | 0.196 |
| | | 1 | 99 | 22.59 | 0.182 | 22.82 | 0.191 | 22.77 | 0.189 |
| | | 50 | 0 | 22.43 | 0.175 | 22.80 | 0.191 | 22.88 | 0.194 |
| | | 50 | 25 | 22.63 | 0.183 | 22.68 | 0.185 | 22.61 | 0.182 |
| | | 50 | 50 | 22.41 | 0.174 | 22.61 | 0.182 | 22.82 | 0.191 |
| | | 100 | 0 | 22.40 | 0.174 | 22.75 | 0.188 | 21.67 | 0.147 |
| | 16QAM | 1 | 0 | 21.57 | 0.144 | 21.38 | 0.137 | 21.56 | 0.143 |
| | | 1 | 50 | 21.42 | 0.139 | 21.42 | 0.139 | 21.49 | 0.141 |
| | | 1 | 99 | 21.36 | 0.137 | 21.39 | 0.138 | 21.46 | 0.140 |
| | | 50 | 0 | 21.36 | 0.137 | 21.34 | 0.136 | 21.57 | 0.144 |
| | | 50 | 25 | 21.35 | 0.136 | 21.61 | 0.145 | 21.61 | 0.145 |
| | | 50 | 50 | 21.52 | 0.142 | 21.61 | 0.145 | 21.66 | 0.147 |
| | | 100 | 0 | 21.44 | 0.139 | **21.72** | **0.149** | 20.79 | 0.120 |

| LTE Band 4 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Bandwidth (㎒) | Modulation | RB Size | RB Offset | Conducted Output Power | | | | | |
| | | | | 19957 (1 710.7 ㎒) | | 20175 (1 732.5 ㎒) | | 20393 (1 754.3 ㎒) | |
| | | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) |
| 1.4 | QPSK | 1 | 0 | 22.19 | 0.166 | 22.69 | 0.186 | 22.50 | 0.178 |
| | | 1 | 3 | 22.30 | 0.170 | **22.76** | **0.189** | 22.48 | 0.177 |
| | | 1 | 5 | 22.18 | 0.165 | 22.67 | 0.185 | 22.51 | 0.178 |
| | | 3 | 0 | 22.23 | 0.167 | 22.74 | 0.188 | 22.59 | 0.182 |
| | | 3 | 2 | 22.32 | 0.171 | 22.54 | 0.179 | 22.52 | 0.179 |
| | | 3 | 3 | 22.29 | 0.169 | 22.73 | 0.187 | 22.52 | 0.179 |
| | | 6 | 0 | 21.23 | 0.133 | 22.63 | 0.183 | 22.52 | 0.179 |
| | 16QAM | 1 | 0 | 21.18 | 0.131 | 21.52 | 0.142 | 21.39 | 0.138 |
| | | 1 | 3 | 21.22 | 0.132 | 21.39 | 0.138 | 21.35 | 0.136 |
| | | 1 | 5 | 21.27 | 0.134 | **21.52** | **0.142** | 21.34 | 0.136 |
| | | 3 | 0 | 21.19 | 0.132 | 21.39 | 0.138 | 21.44 | 0.139 |
| | | 3 | 2 | 21.22 | 0.132 | 21.45 | 0.140 | 21.30 | 0.135 |
| | | 3 | 3 | 21.34 | 0.136 | 21.41 | 0.138 | 21.42 | 0.139 |
| | | 6 | 0 | 20.34 | 0.108 | 21.49 | 0.141 | 21.27 | 0.134 |

| LTE Band 4 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Bandwidth (㎒) | Modulation | RB Size | RB Offset | Conducted Output Power | | | | | |
| | | | | 19965 (1 711.5 ㎒) | | 20175 (1 732.5 ㎒) | | 20385 (1 753.5 ㎒) | |
| | | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) |
| 3 | QPSK | 1 | 0 | 22.55 | 0.180 | **22.80** | **0.191** | 22.40 | 0.174 |
| | | 1 | 7 | 22.40 | 0.174 | 22.74 | 0.188 | 22.56 | 0.180 |
| | | 1 | 14 | 22.35 | 0.172 | 22.58 | 0.181 | 22.56 | 0.180 |
| | | 8 | 0 | 22.47 | 0.177 | 21.56 | 0.143 | 21.34 | 0.136 |
| | | 8 | 4 | 22.42 | 0.175 | 21.58 | 0.144 | 21.36 | 0.137 |
| | | 8 | 7 | 22.33 | 0.171 | 21.53 | 0.142 | 21.35 | 0.136 |
| | | 15 | 0 | 21.34 | 0.136 | 21.55 | 0.143 | 21.36 | 0.137 |
| | 16QAM | 1 | 0 | 21.30 | 0.135 | 21.43 | 0.139 | 21.34 | 0.136 |
| | | 1 | 7 | 21.19 | 0.132 | 21.20 | 0.132 | 21.22 | 0.132 |
| | | 1 | 14 | 21.21 | 0.132 | 21.36 | 0.137 | 21.34 | 0.136 |
| | | 8 | 0 | 21.40 | 0.138 | 20.44 | 0.111 | 20.44 | 0.111 |
| | | 8 | 4 | **21.45** | **0.140** | 20.59 | 0.115 | 20.45 | 0.111 |
| | | 8 | 7 | 21.30 | 0.135 | 20.67 | 0.117 | 20.49 | 0.112 |
| | | 15 | 0 | 20.32 | 0.108 | 20.44 | 0.111 | 20.61 | 0.115 |

| LTE Band 4 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Bandwidth (㎒) | Modulation | RB Size | RB Offset | Conducted Output Power | | | | | |
| | | | | 19975 (1 712.5 ㎒) | | 20175 (1 732.5 ㎒) | | 20375 (1 752.5 ㎒) | |
| | | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) |
| 5 | QPSK | 1 | 0 | 22.50 | 0.178 | 22.69 | 0.186 | 22.54 | 0.179 |
| | | 1 | 12 | 22.50 | 0.178 | 22.83 | 0.192 | **22.84** | **0.192** |
| | | 1 | 24 | 22.49 | 0.177 | 22.63 | 0.183 | 22.76 | 0.189 |
| | | 12 | 0 | 22.40 | 0.174 | 22.62 | 0.183 | 21.62 | 0.145 |
| | | 12 | 6 | 22.38 | 0.173 | 22.60 | 0.182 | 21.52 | 0.142 |
| | | 12 | 13 | 22.41 | 0.174 | 22.61 | 0.182 | 21.62 | 0.145 |
| | | 25 | 0 | 22.46 | 0.176 | 21.54 | 0.143 | 21.55 | 0.143 |
| | 16QAM | 1 | 0 | 21.06 | 0.128 | 21.33 | 0.136 | 21.20 | 0.132 |
| | | 1 | 12 | 21.12 | 0.129 | 21.35 | 0.136 | 21.20 | 0.132 |
| | | 1 | 24 | 21.12 | 0.129 | 21.22 | 0.132 | 21.39 | 0.138 |
| | | 12 | 0 | 21.28 | 0.134 | 21.35 | 0.136 | 20.61 | 0.115 |
| | | 12 | 6 | 21.31 | 0.135 | 21.32 | 0.136 | 20.50 | 0.112 |
| | | 12 | 13 | 21.27 | 0.134 | **21.62** | **0.145** | 20.72 | 0.118 |
| | | 25 | 0 | 21.46 | 0.140 | 20.77 | 0.119 | 20.75 | 0.119 |

| LTE Band 4 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Bandwidth (㎒) | Modulation | RB Size | RB Offset | Conducted Output Power | | | | | |
| | | | | 20000 (1 715.0 ㎒) | | 20175 (1 732.5 ㎒) | | 20350 (1 750.0 ㎒) | |
| | | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) |
| 10 | QPSK | 1 | 0 | 22.40 | 0.174 | 22.76 | 0.189 | 22.46 | 0.176 |
| | | 1 | 25 | 22.44 | 0.175 | 22.72 | 0.187 | 22.58 | 0.181 |
| | | 1 | 49 | 22.56 | 0.180 | **22.80** | **0.191** | 22.66 | 0.185 |
| | | 25 | 0 | 22.37 | 0.173 | 22.63 | 0.183 | 22.54 | 0.179 |
| | | 25 | 12 | 22.53 | 0.179 | 22.65 | 0.184 | 22.51 | 0.178 |
| | | 25 | 25 | 22.54 | 0.179 | 22.60 | 0.182 | 22.52 | 0.179 |
| | | 50 | 0 | 22.41 | 0.174 | 21.62 | 0.145 | 21.48 | 0.141 |
| | 16QAM | 1 | 0 | 21.16 | 0.131 | 21.33 | 0.136 | 21.11 | 0.129 |
| | | 1 | 25 | 21.30 | 0.135 | 21.35 | 0.136 | 21.10 | 0.129 |
| | | 1 | 49 | 21.27 | 0.134 | 21.39 | 0.138 | 21.39 | 0.138 |
| | | 25 | 0 | 21.40 | 0.138 | 21.23 | 0.133 | 21.53 | 0.142 |
| | | 25 | 12 | 21.49 | 0.141 | 21.27 | 0.134 | 21.58 | 0.144 |
| | | 25 | 25 | 21.72 | 0.149 | **21.80** | **0.151** | 21.62 | 0.145 |
| | | 50 | 0 | 21.38 | 0.137 | 20.71 | 0.118 | 20.67 | 0.117 |

| LTE Band 4 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Bandwidth (㎒) | Modulation | RB Size | RB Offset | Conducted Output Power | | | | | |
| | | | | 20025 (1 717.5 ㎒) | | 20175 (1 732.5 ㎒) | | 20325 (1 747.5 ㎒) | |
| | | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) |
| 15 | QPSK | 1 | 0 | 22.53 | 0.179 | 22.59 | 0.182 | **22.68** | **0.185** |
| | | 1 | 36 | 22.49 | 0.177 | 22.64 | 0.184 | 22.42 | 0.175 |
| | | 1 | 74 | 22.48 | 0.177 | 22.62 | 0.183 | 22.53 | 0.179 |
| | | 36 | 0 | 22.40 | 0.174 | 22.54 | 0.179 | 22.48 | 0.177 |
| | | 36 | 18 | 22.38 | 0.173 | 22.43 | 0.175 | 22.31 | 0.170 |
| | | 36 | 37 | 22.41 | 0.174 | 22.54 | 0.179 | 22.09 | 0.162 |
| | | 75 | 0 | 22.36 | 0.172 | 22.47 | 0.177 | 21.23 | 0.133 |
| | 16QAM | 1 | 0 | **21.64** | **0.146** | 21.18 | 0.131 | 21.47 | 0.140 |
| | | 1 | 36 | 21.35 | 0.136 | 21.20 | 0.132 | 20.99 | 0.126 |
| | | 1 | 74 | 21.42 | 0.139 | 21.35 | 0.136 | 21.29 | 0.135 |
| | | 36 | 0 | 21.38 | 0.137 | 21.45 | 0.140 | 21.50 | 0.141 |
| | | 36 | 18 | 21.51 | 0.142 | 21.42 | 0.139 | 21.43 | 0.139 |
| | | 36 | 37 | 21.41 | 0.138 | 21.59 | 0.144 | 21.39 | 0.138 |
| | | 75 | 0 | 21.25 | 0.133 | 21.55 | 0.143 | 20.32 | 0.108 |

| LTE Band 4 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Bandwidth (㎒) | Modulation | RB Size | RB Offset | Conducted Output Power | | | | | |
| | | | | 20050 (1 720.0 ㎒) | | 20175 (1 732.5 ㎒) | | 20300 (1 745.0 ㎒) | |
| | | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) |
| 20 | QPSK | 1 | 0 | 22.41 | 0.174 | 22.55 | 0.180 | **22.85** | **0.193** |
| | | 1 | 50 | 22.49 | 0.177 | 22.40 | 0.174 | 22.76 | 0.189 |
| | | 1 | 99 | 22.62 | 0.183 | 22.47 | 0.177 | 22.59 | 0.182 |
| | | 50 | 0 | 22.15 | 0.164 | 22.32 | 0.171 | 22.70 | 0.186 |
| | | 50 | 25 | 22.38 | 0.173 | 22.24 | 0.167 | 22.62 | 0.183 |
| | | 50 | 50 | 22.53 | 0.179 | 22.18 | 0.165 | 22.56 | 0.180 |
| | | 100 | 0 | 22.14 | 0.164 | 22.21 | 0.166 | 21.54 | 0.143 |
| | 16QAM | 1 | 0 | 21.20 | 0.132 | 21.26 | 0.134 | **21.97** | **0.157** |
| | | 1 | 50 | 21.19 | 0.132 | 20.95 | 0.124 | 21.37 | 0.137 |
| | | 1 | 99 | 21.27 | 0.134 | 21.04 | 0.127 | 21.28 | 0.134 |
| | | 50 | 0 | 21.14 | 0.130 | 20.93 | 0.124 | 21.53 | 0.142 |
| | | 50 | 25 | 21.12 | 0.129 | 21.26 | 0.134 | 21.46 | 0.140 |
| | | 50 | 50 | 21.79 | 0.151 | 21.20 | 0.132 | 21.46 | 0.140 |
| | | 100 | 0 | 21.16 | 0.131 | 21.29 | 0.135 | 20.64 | 0.116 |

| LTE Band 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Bandwidth (㎒) | Modulation | RB Size | RB Offset | Conducted Output Power | | | | | |
| | | | | 23017 (699.7 ㎒) | | 23095 (707.5 ㎒) | | 23173 (715.3 ㎒) | |
| | | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) |
| 1.4 | QPSK | 1 | 0 | 23.22 | 0.210 | 23.26 | 0.212 | **23.30** | **0.214** |
| | | 1 | 3 | 23.20 | 0.209 | 23.24 | 0.211 | 23.03 | 0.201 |
| | | 1 | 5 | 23.14 | 0.206 | 23.16 | 0.207 | 23.15 | 0.207 |
| | | 3 | 0 | 23.25 | 0.211 | 23.13 | 0.206 | 23.15 | 0.207 |
| | | 3 | 2 | 23.22 | 0.210 | 23.13 | 0.206 | 23.11 | 0.205 |
| | | 3 | 3 | 23.16 | 0.207 | 23.13 | 0.206 | 23.11 | 0.205 |
| | | 6 | 0 | 22.17 | 0.165 | 22.11 | 0.163 | 22.13 | 0.163 |
| | 16QAM | 1 | 0 | 22.21 | 0.166 | **22.56** | **0.180** | 21.96 | 0.157 |
| | | 1 | 3 | 22.00 | 0.158 | 21.87 | 0.154 | 21.89 | 0.155 |
| | | 1 | 5 | 22.09 | 0.162 | 21.87 | 0.154 | 21.71 | 0.148 |
| | | 3 | 0 | 21.95 | 0.157 | 21.88 | 0.154 | 21.89 | 0.155 |
| | | 3 | 2 | 22.41 | 0.174 | 21.75 | 0.150 | 21.99 | 0.158 |
| | | 3 | 3 | 22.42 | 0.175 | 21.82 | 0.152 | 22.00 | 0.158 |
| | | 6 | 0 | 21.19 | 0.132 | 21.91 | 0.155 | 21.79 | 0.151 |

| LTE Band 12 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bandwidth (㎒) | Modulation | RB Size | RB Offset | Conducted Output Power | | | | | | | |
| | | | | 23025 (700.5 ㎒) | | 23095 (707.5 ㎒) | | 23165 (714.5 ㎒) | | | |
| | | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) | | |
| 3 | QPSK | 1 | 0 | 23.13 | 0.206 | 23.16 | 0.207 | 22.91 | 0.195 | | |
| | | 1 | 7 | **23.20** | **0.209** | 23.17 | 0.207 | 22.89 | 0.195 | | |
| | | 1 | 14 | 23.15 | 0.207 | 23.14 | 0.206 | 22.89 | 0.195 | | |
| | | 8 | 0 | 23.12 | 0.205 | 23.04 | 0.201 | 22.90 | 0.195 | | |
| | | 8 | 4 | 23.02 | 0.200 | 23.06 | 0.202 | 22.94 | 0.197 | | |
| | | 8 | 7 | 23.11 | 0.205 | 23.01 | 0.200 | 22.92 | 0.196 | | |
| | | 15 | 0 | 22.09 | 0.162 | 22.10 | 0.162 | 22.19 | 0.166 | | |
| | 16QAM | 1 | 0 | **22.51** | **0.178** | 21.82 | 0.152 | 21.75 | 0.150 | | |
| | | 1 | 7 | 21.80 | 0.151 | 21.89 | 0.155 | 21.78 | 0.151 | | |
| | | 1 | 14 | 21.81 | 0.152 | 21.91 | 0.155 | 21.93 | 0.156 | | |
| | | 8 | 0 | 22.05 | 0.160 | 22.01 | 0.159 | 22.03 | 0.160 | | |
| | | 8 | 4 | 22.04 | 0.160 | 21.96 | 0.157 | 21.98 | 0.158 | | |
| | | 8 | 7 | 21.95 | 0.157 | 21.89 | 0.155 | 22.01 | 0.159 | | |
| | | 15 | 0 | 21.21 | 0.132 | 21.16 | 0.131 | 21.08 | 0.128 | | |

| LTE Band 12 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bandwidth (㎒) | Modulation | RB Size | RB Offset | Conducted Output Power | | | | | | | |
| | | | | 23035 (701.5 ㎒) | | 23095 (707.5 ㎒) | | 23155 (713.5 ㎒) | | | |
| | | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) | | |
| 5 | QPSK | 1 | 0 | 23.10 | 0.204 | 22.99 | 0.199 | 23.13 | 0.206 | | |
| | | 1 | 12 | 23.21 | 0.209 | 23.19 | 0.208 | 23.10 | 0.204 | | |
| | | 1 | 24 | **23.35** | **0.216** | 23.22 | 0.210 | 23.11 | 0.205 | | |
| | | 12 | 0 | 23.09 | 0.204 | 23.01 | 0.200 | 22.12 | 0.163 | | |
| | | 12 | 6 | 23.17 | 0.207 | 23.18 | 0.208 | 22.14 | 0.164 | | |
| | | 12 | 13 | 23.17 | 0.207 | 23.16 | 0.207 | 22.12 | 0.163 | | |
| | | 25 | 0 | 23.14 | 0.206 | 22.17 | 0.165 | 22.16 | 0.164 | | |
| | 16QAM | 1 | 0 | 21.85 | 0.153 | 21.76 | 0.150 | 21.97 | 0.157 | | |
| | | 1 | 12 | 21.79 | 0.151 | 22.36 | 0.172 | 21.95 | 0.157 | | |
| | | 1 | 24 | 21.94 | 0.156 | 21.87 | 0.154 | 22.03 | 0.160 | | |
| | | 12 | 0 | 22.02 | 0.159 | 22.18 | 0.165 | 21.18 | 0.131 | | |
| | | 12 | 6 | 21.95 | 0.157 | 22.34 | 0.171 | 21.25 | 0.133 | | |
| | | 12 | 13 | 22.18 | 0.165 | **22.37** | **0.173** | 21.05 | 0.127 | | |
| | | 25 | 0 | 22.04 | 0.160 | 21.25 | 0.133 | 20.99 | 0.126 | | |

| LTE Band 12 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bandwidth (㎒) | Modulation | RB Size | RB Offset | Conducted Output Power | | | | | | | |
| | | | | 23060 (704.0 ㎒) | | 23095 (707.5 ㎒) | | 23130 (711.0 ㎒) | | | |
| | | | | (dB m) | (W) | (dB m) | (W) | (dB m) | (W) | | |
| 10 | QPSK | 1 | 0 | 23.15 | 0.207 | 23.17 | 0.207 | **23.55** | **0.226** | | |
| | | 1 | 25 | 23.17 | 0.207 | 23.12 | 0.205 | 23.16 | 0.207 | | |
| | | 1 | 49 | 23.18 | 0.208 | 23.08 | 0.203 | 23.15 | 0.207 | | |
| | | 25 | 0 | 23.07 | 0.203 | 22.92 | 0.196 | 23.16 | 0.207 | | |
| | | 25 | 12 | 23.09 | 0.204 | 23.07 | 0.203 | 23.04 | 0.201 | | |
| | | 25 | 25 | 23.19 | 0.208 | 23.02 | 0.200 | 23.02 | 0.200 | | |
| | | 50 | 0 | 23.13 | 0.206 | 21.98 | 0.158 | 22.14 | 0.164 | | |
| | 16QAM | 1 | 0 | 21.74 | 0.149 | 21.55 | 0.143 | 21.47 | 0.140 | | |
| | | 1 | 25 | 21.98 | 0.158 | 21.74 | 0.149 | 21.77 | 0.150 | | |
| | | 1 | 49 | 21.98 | 0.158 | 21.81 | 0.152 | 21.87 | 0.154 | | |
| | | 25 | 0 | 22.06 | 0.161 | 21.91 | 0.155 | 22.00 | 0.158 | | |
| | | 25 | 12 | **22.30** | **0.170** | 22.18 | 0.165 | 22.22 | 0.167 | | |
| | | 25 | 25 | 21.75 | 0.150 | 22.13 | 0.163 | 22.11 | 0.163 | | |
| | | 50 | 0 | 22.11 | 0.163 | 20.86 | 0.122 | 21.33 | 0.136 | | |

**- End of the Test Report -**