

FCC Radio Partial Test Report

FCC ID: 2AYGCLGE-NX9

This report concerns: Original Grant

Project No. : 2203G019
Equipment : Smart Phone
Brand Name : HONOR
Test Model : LGE-NX9
Series Model : N/A
Applicant : Honor Device Co., Ltd.
Address : Shum Yip Sky Park, No. 8089, Hongli West Road, Shenzhen, China
Manufacturer : Honor Device Co., Ltd.
Address : Shum Yip Sky Park, No. 8089, Hongli West Road, Shenzhen, China
Date of Receipt : Feb. 14, 2022
Date of Test : Feb. 14, 2022 ~ Apr. 14, 2022
Issued Date : Apr. 21, 2022
Report Version : R00
Standard(s) : 47 CFR FCC Part 27 Subpart L
47 CFR FCC Part 27 Subpart M
47 CFR FCC Part 27 Subpart H
47 CFR FCC Part 2
ANSI/TIA/EIA-603-E-2016
FCC KDB 971168 D01 Power Meas License Digital Systems v03r01

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

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TESTING CERT #5123.02

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Declaration

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The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and is not use in determining the Pass/Fail results.

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REPORT ISSUED HISTORY

| Report No. | Version | Description | Issued Date | Note |
|---------------------|---------|------------------|---------------|-------|
| BTL-FCCP-7-2203G019 | R00 | Original Report. | Apr. 21, 2022 | Valid |

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

| FCC Part 27 Subpart L, M, N & Part 2 | | | |
|---|---|----------|-------------|
| Standard(s) Section | Test Item | Judgment | Remark |
| 2.1046 27.50(c)(10) | Output Power & Equivalent (Isotropic) Radiated Power | PASS | ----- |
| 2.1049 | Occupied Bandwidth | PASS | ----- |
| 2.1051 27.53(g) 27.53 (h) 27.53(m)(4)&(m)(6) | Conducted Spurious Emissions | PASS | ----- |
| 2.1047 | Modulation Characteristics | PASS | ----- |
| 2.1051 27.53(h) 27.53(g) 27.53(m)(4)&(m)(6) | Band Edge Measurements | PASS | ----- |
| - | Peak To Average Ratio | PASS | Record Only |
| 2.1055 27.54 | Frequency Stability | PASS | ----- |

Note:

(1) "N/A" denotes test is not applicable in this test report.

1.1 TEST FACILITY

The test facilities used to collect the test data of conducted in this report is at the location of Room 108, Building 2, No.1, Yile Road, Songshan Lake Zone, Dongguan City, Guangdong, People's Republic of China.

BTL's Test Firm Registration Number for FCC: 357015
 BTL's Designation Number for FCC: CN1240

1.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

The BTL measurement uncertainty as below table:

| Parameter | Uncertainty |
|-----------------------------------|---|
| Transmit Output Power Output Data | U = 0.40 dB |
| RF Power Density, Conducted | U = 0.66 dB |
| Bandwidth | 200kHz: U=9.06kHz 1.4MHz: U=9.48kHz 3MHz: U= 10.86kHz 5MHz: U=13.84kHz 10MHz: U=22.32kHz 15MHz: U=31.9kHz 20MHz: U=41.78kHz |
| Band Edge Compliance | U = 0.9 dB |
| Spurious Emissions, Conducted | 20MHz~3.6GHz: U=0.88dB 3.6GHz~8.4GHz: U=1.08dB 8.4GHz~13.6GHz: U=1.24dB 13.6GHz~22GHz: U=1.34dB 22GHz~26.5GHz: U=1.36dB |
| Frequency Stability | 800MHz: U=24.08Hz 900MHz: U=24.54Hz 1900MHz: U=34.7Hz 2100MHz: U=36.96Hz 2300MHz: U=39.24Hz 2500MHz: U=41.58Hz 2600MHz: U=42.74Hz |




Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

| Test Item | Temperature | Humidity | Test Voltage | Tested By |
|------------------------------|------------------|----------|------------------|-----------|
| Output Power & EIRP & ERP | 19.5 ~ 25°C | 25 ~ 75% | DC 3.87V | Rick Liao |
| Occupied Bandwidth | 19.5 ~ 25°C | 25 ~ 75% | DC 3.87V | Rick Liao |
| Conducted Spurious Emissions | 19.5 ~ 25°C | 25 ~ 75% | DC 3.87V | Rick Liao |
| Band Edge | 19.5 ~ 25°C | 25 ~ 75% | DC 3.87V | Rick Liao |
| Peak to Average Ratio | 19.5 ~ 25°C | 25 ~ 75% | DC 3.87V | Rick Liao |
| Frequency Stability | Normal & Extreme | 25 ~ 75% | Normal & Extreme | Rick Liao |

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

| | | | |
|---------------------------------------|--|-------|-------------------|
| Equipment | Smart Phone | | |
| Brand Name | HONOR | | |
| Test Model | LGE-NX9 | | |
| Series Model | N/A | | |
| Model Difference(s) | N/A | | |
| Hardware Version | HN1LGEHM | | |
| Software Version | 6.0.0.108(C900E103R1P3) | | |
| Power Source | 1# DC voltage supplied from AC adapter. 2# Supplied from battery. | | |
| Power Rating | 1# I/P: 100-240V~ 50/60Hz 1.6A O/P: 5V  2A or 10V  4A or 20V  5A Max 2# DC 3.87V, Rated Capacity:4500mAh | | |
| IMEI No. | 867843050038442, 867843050038392 | | |
| Radio System Type | SA&NSA | | |
| Supported Inter-band EN-DC within FR1 | There are all kinds of EN-DC combinations. Please refer to detailed product specifications. | | |
| SCS | 15KHz, 30KHz | | |
| Operation Bands | n7 / n38 / n41 / n66 / n71 | | |
| Bandwidth | n7: 5MHz, 10MHz, 15MHz, 20MHz n38: 10MHz, 15MHz, 20MHz n41: 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 80MHz, 90MHz, 100MHz n66: 5MHz, 10MHz, 15MHz, 20MHz n71: 5MHz, 10MHz, 15MHz, 20MHz | | |
| Modulation Type | DFT-s-OFDM PI/2 BPSK | | |
| | DFT-s-OFDM QPSK | | DFT-s-OFDM QPSK |
| | DFT-s-OFDM 16QAM | | DFT-s-OFDM 16QAM |
| | DFT-s-OFDM 64QAM | | DFT-s-OFDM 64QAM |
| | DFT-s-OFDM 256QAM | | DFT-s-OFDM 256QAM |
| Max. EIRP | 5G NR n7 | 22.76 | dBm |
| | 5G NR n38 | 18.29 | dBm |
| | 5G NR n41 | 24.32 | dBm |
| | 5G NR n66 | 20.56 | dBm |
| Max. ERP | 5G NR n71 | 9.59 | dBm |

Note:

- LGE-NX9 is subscriber equipment in the GSM/WCDMA/LTE/NR system. The Mobile Phone implements such functions as RF signal receiving/transmitting, NR/LTE/WCDMA and GSM/GPRS/EDGE protocol processing, voice, video MMS service, GPS, AGPS, Wi-Fi etc. dual SIM/single SIM card interface. LGE-NX9 is dual/single SIM smart phone. It also provides Bluetooth module to synchronize data between a PC and the phone, or to use the built-in modem of the phone to access the Internet, or to exchange data with other Bluetooth devices. The device is a dual SIM and single SIM smart phone, Single SIM delete SIM only by software. (Only 5G NR test data include in this report.)

2. Channel List:

| 5G NR n7 (UL:2500-2570MHz, DL: 2620-2690MHz) | | | | | | |
|--|-------------|-------------|--------------|---------------|---------------|----------------|
| Bandwidth | Low Channel | Mid Channel | High Channel | Low Frequency | Mid Frequency | High Frequency |
| 5 | 500500 | 507000 | 513500 | 2502.5 | 2535 | 2567.5 |
| 10 | 501000 | 507000 | 513000 | 2505 | 2535 | 2565 |
| 15 | 501500 | 507000 | 512500 | 2507.5 | 2535 | 2562.5 |
| 20 | 502000 | 507000 | 512000 | 2510 | 2535 | 2560 |

| 5G NR n38 (UL:2570-2620MHz, DL: 2570-2620MHz) | | | | | | |
|---|-------------|-------------|--------------|---------------|---------------|----------------|
| Bandwidth | Low Channel | Mid Channel | High Channel | Low Frequency | Mid Frequency | High Frequency |
| 10 | 515000 | 519000 | 523000 | 2575 | 2595 | 2615 |
| 15 | 515500 | 519000 | 522500 | 2577.5 | 2595 | 2612.5 |
| 20 | 516000 | 519000 | 522000 | 2580 | 2595 | 2610 |

| 5G NR n41 (UL: 2496-2690MHz, DL: 2496-2690MHz) | | | | | | |
|--|-------------|-------------|--------------|---------------|---------------|----------------|
| Bandwidth | Low Channel | Mid Channel | High Channel | Low Frequency | Mid Frequency | High Frequency |
| 20 | 501204 | 518598 | 535998 | 2506.02 | 2592.99 | 2679.99 |
| 30 | 502200 | 518598 | 534996 | 2526.0 | 2592.99 | 2659.98 |
| 40 | 503202 | 518598 | 534000 | 2516.01 | 2592.99 | 2670 |
| 50 | 504204 | 518598 | 532998 | 2521.02 | 2592.99 | 2664.99 |
| 60 | 505200 | 518598 | 531996 | 2526 | 2592.99 | 2659.98 |
| 80 | 507204 | 518598 | 529998 | 2536.02 | 2592.99 | 2649.99 |
| 90 | 508200 | 518598 | 528996 | 2541 | 2592.99 | 2644.98 |
| 100 | 509202 | 518598 | 528000 | 2546.01 | 2592.99 | 2640 |

| 5G NR n66 (UL: 1710~1780MHz, DL: 2110~2200MH) | | | | | | |
|---|-------------|-------------|--------------|---------------|---------------|----------------|
| Bandwidth | Low Channel | Mid Channel | High Channel | Low Frequency | Mid Frequency | High Frequency |
| 5 | 342500 | 349000 | 355500 | 1712.5 | 1745 | 1777.5 |
| 10 | 343000 | 349000 | 355000 | 1715 | 1745 | 1775 |
| 15 | 343500 | 349000 | 354500 | 1717.5 | 1745 | 1772.5 |
| 20 | 344000 | 349000 | 354000 | 1720 | 1745 | 1770 |

| 5G NR n71 (UL: 663~698 MHz, DL: 617~652 MH) | | | | | | |
|---|-------------|-------------|--------------|---------------|---------------|----------------|
| Bandwidth | Low Channel | Mid Channel | High Channel | Low Frequency | Mid Frequency | High Frequency |
| 5 | 133100 | 136100 | 139100 | 665.5 | 680.5 | 695.5 |
| 10 | 133600 | 136100 | 138600 | 668 | 680.5 | 693 |
| 15 | 134100 | 136100 | 138100 | 670.5 | 680.5 | 690.5 |
| 20 | 134600 | 136100 | 137600 | 673 | 680.5 | 688 |

3. RB allocation:

| Bandwidth | 50 | 40 | 30 | 25 | 20 | 15 | 10 | 5 |
|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| SCS 15KHz CP-OFDM | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset |
| Edge_1RB_Left | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 |
| Inner_1RB_Left | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 |
| Inner_1RB_Right | 1/268 | 1/214 | 1/158 | 1/131 | 1/104 | 1/77 | 1/50 | 1/23 |
| Edge_1RB_Right | 1/269 | 1/215 | 1/159 | 1/132 | 1/105 | 1/78 | 1/51 | 1/24 |
| Edge_Full_Left | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 |
| Edge_Full_Right | 2/268 | 2/214 | 2/158 | 2/131 | 2/104 | 2/77 | 2/50 | 2/23 |
| Inner_Full | 135/67 | 108/54 | 80/40 | 67/33 | 53/26 | 39/19 | 26/13 | 13/6 |
| Outer_Full | 270/0 | 216/0 | 160/0 | 133/0 | 106/0 | 79/0 | 52/0 | 25/0 |

| Bandwidth | 50 | 40 | 30 | 25 | 20 | 15 | 10 | 5 |
|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| SCS 15KHz DFT-s-OFDM | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset |
| Edge_1RB_Left | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 |
| Inner_1RB_Left | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 |
| Inner_1RB_Right | 1/268 | 1/214 | 1/158 | 1/131 | 1/104 | 1/77 | 1/50 | 1/23 |
| Edge_1RB_Right | 1/269 | 1/215 | 1/159 | 1/132 | 1/105 | 1/78 | 1/51 | 1/24 |
| Edge_Full_Left | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 |
| Edge_Full_Right | 2/268 | 2/214 | 2/158 | 2/131 | 2/104 | 2/77 | 2/50 | 2/23 |
| Inner_Full | 135/67 | 108/54 | 80/40 | 64/32 | 50/25 | 36/18 | 25/12 | 12/6 |
| Outer_Full | 270/0 | 216/0 | 160/0 | 128/0 | 100/0 | 75/0 | 50/0 | 25/0 |

| Bandwidth | 100 | 90 | 80 | 60 | 50 | 40 | 30 | 25 | 20 | 15 | 10 |
|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| SCS 30KHz CP-OFDM | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset |
| Edge_1RB_Left | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 |
| Inner_1RB_Left | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 |
| Inner_1RB_Right | 1/271 | 1/243 | 1/215 | 1/160 | 1/131 | 1/104 | 1/76 | 1/63 | 1/49 | 1/36 | 1/22 |
| Edge_1RB_Right | 1/272 | 1/244 | 1/216 | 1/161 | 1/132 | 1/105 | 1/77 | 1/64 | 1/50 | 1/37 | 1/23 |
| Edge_Full_Left | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 |
| Edge_Full_Right | 2/271 | 2/243 | 2/215 | 2/160 | 2/131 | 2/104 | 2/76 | 2/63 | 2/49 | 2/36 | 2/22 |
| Inner_Full | 137/68 | 123/61 | 109/54 | 81/40 | 67/33 | 53/26 | 39/19 | 33/16 | 25/12 | 19/9 | 12/6 |
| Outer_Full | 273/0 | 245/0 | 217/0 | 162/0 | 133/0 | 106/0 | 78/0 | 65/0 | 51/0 | 36/0 | 24/0 |




| Bandwidth | 100 | 90 | 80 | 60 | 50 | 40 | 30 | 25 | 20 | 15 | 10 |
|--------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| SCS 30KHz DFT-s- OFDM | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset | RB Size/ Offset |
| Edge_1RB _Left | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 | 1/0 |
| Inner_1RB _Left | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/0 |
| Inner_1RB _Right | 1/271 | 1/243 | 1/215 | 1/160 | 1/131 | 1/104 | 1/76 | 1/63 | 1/49 | 1/36 | 1/22 |
| Edge_1RB _Right | 1/272 | 1/244 | 1/216 | 1/161 | 1/132 | 1/105 | 1/77 | 1/64 | 1/50 | 1/37 | 1/23 |
| Edge_Full _Left | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 |
| Edge_Full _Right | 2/271 | 2/243 | 2/215 | 2/160 | 2/131 | 2/104 | 2/76 | 2/63 | 2/49 | 2/36 | 2/22 |
| Inner _Full | 135/67 | 120/60 | 108/54 | 81/40 | 64/32 | 50/25 | 36/18 | 32/16 | 25/12 | 18/9 | 12/6 |
| Outer _Full | 270/0 | 240/0 | 216/0 | 162/0 | 128/0 | 100/0 | 75/0 | 64/0 | 50/0 | 38/0 | 24/0 |

4. Table for Filed Antenna:

| Brand | Model Name | Antenna Type | Connector | Gain (dBi) | Note |
|-------|------------|--------------|-----------|------------|-----------|
| N/A | N/A | Integral | N/A | -1.1 | 5G NR n7 |
| | | | | -1.1 | 5G NR n38 |
| | | | | -1.1 | 5G NR n41 |
| | | | | -3.2 | 5G NR n66 |
| | | | | -11 | 5G NR n71 |

Note: The antenna gain is provided by the manufacturer.

5. The EUT contains following accessory devices:

| Object / Part No. | Manufacturer / Trademark | Type / Model Name | Technical Data |
|-------------------|--|-------------------|---|
| Adapter | HONOR Device Co., Ltd. | HN-200500E01 | I/P: 100-240V ~50/60Hz, 1.6A O/P: 5V  2A or 10V  4A or 20V  5A Max |
| | | HN-200500U01 | |
| | | HN-200500B01 | |
| Battery | Shenzhen Sunwoda Intelligence Technology Co., Ltd. | HB586680EFW | Rated capacity: 4500 mAh Nominal Voltage: +3.87V Charging Voltage: +4.45V |
| | Scud (Fujian) Electronics Co., Ltd. | | |

2.2 DESCRIPTION OF TEST MODES

For inter-band EN-DC, the test configurations is same with the SA mode.

| 5G NR n7 | | | | |
|-----------------------------|----------------|-------------------|---|---|
| Test Item | Tested Channel | Channel Bandwidth | Modulation | RB allocation |
| Output Power & EIRP | Low, Mid, High | 5MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM | Outer Full Inner 1RB Left Inner 1RB Right Inner Full |
| | Low, Mid, High | 15MHz | | |
| | Low, Mid, High | 20MHz | | |
| Peak To Average Ratio | Mid | 5MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Outer Full |
| | Mid | 15MHz | | |
| | Mid | 20MHz | | |
| Modulation Characteristics | Mid | 20MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Outer Full |
| Occupied Bandwidth | Low, Mid, High | 5MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Outer Full |
| | Low, Mid, High | 10MHz | | |
| | Low, Mid, High | 15MHz | | |
| | Low, Mid, High | 20MHz | | |
| Band Edge | Low, High | 5MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Edge 1RB Left Edge 1RB Right Outer Full Inner Full |
| | Low, High | 20MHz | | |
| Conducted Spurious Emission | Low, Mid, High | 5MHz | CP-OFDM QPSK | Edge 1RB Left Edge 1RB Right Outer Full |
| | Low, Mid, High | 15MHz | | |
| | Low, Mid, High | 20MHz | | |
| Frequency Stability | Mid | 20MHz | DFT-s-OFDM QPSK | Outer Full |

| 5G NR n38 | | | | |
|-----------------------------|----------------|-------------------|---|---|
| Test Item | Tested Channel | Channel Bandwidth | Modulation | RB allocation |
| Output Power & EIRP | Low, Mid, High | 10MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM | Outer Full Inner 1RB Left Inner 1RB Right Inner Full |
| | | 15MHz | | |
| | | 20MHz | | |
| Peak To Average Ratio | Mid | 10MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Outer Full |
| | Mid | 15MHz | | |
| | Mid | 20MHz | | |
| Modulation Characteristics | Mid | 20MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Outer Full |
| Occupied Bandwidth | Low, Mid, High | 10MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Outer Full |
| | Low, Mid, High | 15MHz | | |
| | Low, Mid, High | 20MHz | | |
| Band Edge | Low, High | 20MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Edge 1RB Left Edge 1RB Right Outer Full Inner Full |
| Conducted Spurious Emission | Low, Mid, High | 10MHz | CP-OFDM QPSK | Edge 1RB Left Edge 1RB Right Outer Full |
| | Low, Mid, High | 15MHz | | |
| | Low, Mid, High | 20MHz | | |
| Frequency Stability | Mid | 20MHz | DFT-s-OFDM QPSK | Outer Full |

| 5G NR n41 | | | | |
|-----------------------------|----------------|-------------------|---|---|
| Test Item | Tested Channel | Channel Bandwidth | Modulation | RB allocation |
| Output Power & EIRP | Low, Mid, High | 20MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM | Outer Full Inner 1RB Left Inner 1RB Right Inner Full |
| | Low, Mid, High | 60MHz | | |
| | Low, Mid, High | 100MHz | | |
| Peak To Average Ratio | Mid | 20MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Outer Full |
| | Mid | 60MHz | | |
| | Mid | 100MHz | | |
| Modulation Characteristics | Mid | 100MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Outer Full |
| Occupied Bandwidth | Low, Mid, High | 20MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Outer Full |
| | Low, Mid, High | 30MHz | | |
| | Low, Mid, High | 40MHz | | |
| | Low, Mid, High | 50MHz | | |
| | Low, Mid, High | 60MHz | | |
| | Low, Mid, High | 80MHz | | |
| | Low, Mid, High | 90MHz | | |
| | Low, Mid, High | 100MHz | | |
| Band Edge | Low, High | 20MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Edge 1RB Left Edge 1RB Right Outer Full Inner Full |
| | Low, High | 100MHz | | |
| Conducted Spurious Emission | Low, Mid, High | 20MHz | CP-OFDM QPSK | Edge 1RB Left Edge 1RB Right Outer Full |
| | Low, Mid, High | 60MHz | | |
| | Low, Mid, High | 100MHz | | |
| Frequency Stability | Mid | 100MHz | DFT-s-OFDM QPSK | Outer Full |

| 5G NR n66 | | | | |
|-----------------------------|----------------|-------------------|---|---|
| Test Item | Tested Channel | Channel Bandwidth | Modulation | RB allocation |
| Output Power & EIRP | Low, Mid, High | 5MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM | Outer Full Inner 1RB Left Inner 1RB Right Inner Full |
| | Low, Mid, High | 15MHz | | |
| | Low, Mid, High | 20MHz | | |
| Peak To Average Ratio | Mid | 5MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Outer Full |
| | Mid | 15MHz | | |
| | Mid | 20MHz | | |
| Modulation Characteristics | Mid | 20MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Outer Full |
| Occupied Bandwidth | Low, Mid, High | 5MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Outer Full |
| | Low, Mid, High | 10MHz | | |
| | Low, Mid, High | 15MHz | | |
| | Low, Mid, High | 20MHz | | |
| Band Edge | Low, High | 5MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Edge 1RB Left Edge 1RB Right Outer Full Inner Full |
| | Low, High | 20MHz | | |
| Conducted Spurious Emission | Low, Mid, High | 5MHz | CP-OFDM QPSK | Edge 1RB Left Edge 1RB Right Outer Full |
| | Low, Mid, High | 15MHz | | |
| | Low, Mid, High | 20MHz | | |
| Frequency Stability | Mid | 20MHz | DFT-s-OFDM QPSK | Outer Full |

| 5G NR n71 | | | | |
|-----------------------------|----------------|-------------------|---|---|
| Test Item | Tested Channel | Channel Bandwidth | Modulation | RB allocation |
| Output Power & ERP | Low, Mid, High | 5MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM | Outer Full Inner 1RB Left Inner 1RB Right Inner Full |
| | Low, Mid, High | 15MHz | | |
| | Low, Mid, High | 20MHz | | |
| Peak To Average Ratio | Mid | 5MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Outer Full |
| | Mid | 15MHz | | |
| | Mid | 20MHz | | |
| Modulation Characteristics | Mid | 20MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Outer Full |
| Occupied Bandwidth | Low, Mid, High | 5MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Outer Full |
| | Low, Mid, High | 10MHz | | |
| | Low, Mid, High | 15MHz | | |
| | Low, Mid, High | 20MHz | | |
| Band Edge | Low, High | 5MHz | DFT-s-OFDM: PI/2 BPSK,QPSK, 16QAM, 64QAM,256QAM CP-OFDM: QPSK, 16QAM, 64QAM,256QAM | Edge 1RB Left Edge 1RB Right Outer Full Inner Full |
| | Low, High | 20MHz | | |
| Conducted Spurious Emission | Low, Mid, High | 5MHz | CP-OFDM QPSK | Edge 1RB Left Edge 1RB Right Outer Full |
| | Low, Mid, High | 15MHz | | |
| | Low, Mid, High | 20MHz | | |
| Frequency Stability | Mid | 20MHz | DFT-s-OFDM QPSK | Outer Full |

3. TEST RESULT

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMIT

Mobile / Portable station are limited to 1 watts e.i.r.p. (Part 27 Subpart L)

Mobile / Portable station are limited to 2 watts e.i.r.p. (Part 27 Subpart M)

Mobile / Portable station are limited to 3 watts e.r.p (Part 27 Subpart N)

3.1.2 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 5.

EIRP:

$EIRP = \text{Output Power} + \text{Antenan gain}$

ERP:

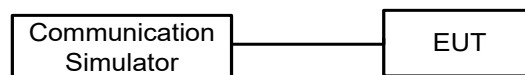
$ERP = EIRP - 2.15$

Output Power:

The EUT was set up for the maximum power with WCDMA and LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

3.1.3 TEST SETUP LAYOUT

Output Power Measurement



3.1.4 TEST DEVIATION

No deviation

3.1.5 TEST RESULTS

Please refer to the APPENDIX.

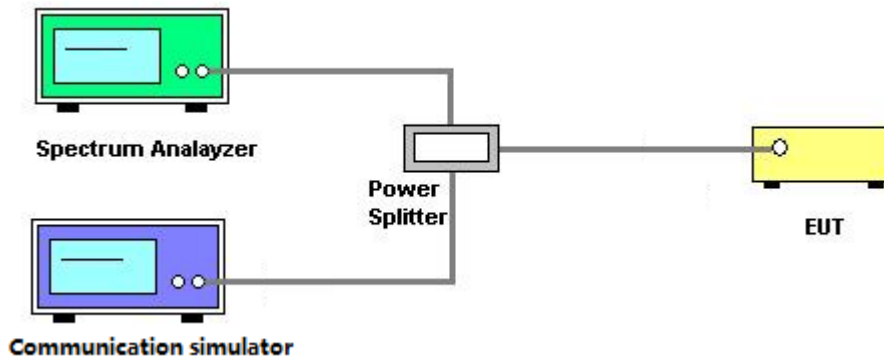
3.2 OCCUPIED BANDWIDTH MEASUREMENT

3.2.1 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 4.

1. The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth and 26dB bandwidth.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. $RBW=(1\% \sim 5\%)*EBW$
 $VBW \geq 3* RBW$
4. Set spectrum analyzer with Peak detector.

3.2.2 TEST SETUP LAYOUT



3.2.3 TEST DEVIATION

No deviation

3.2.4 TEST RESULTS

Please refer to the APPENDIX.

3.3 CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

3.3.1 LIMIT

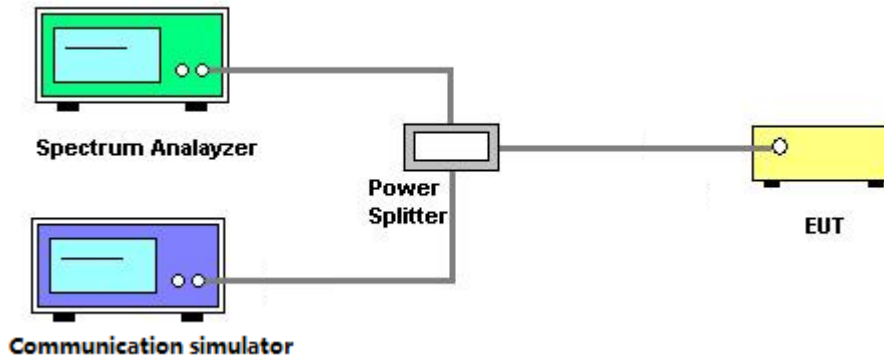
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13dBm.

3.3.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 6.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured. Set RBW \geq 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
3. Set spectrum analyzer with Peak detector.
4. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.3.3 TEST SETUP LAYOUT



3.3.4 TEST DEVIATION

No deviation

3.3.5 TEST RESULTS

Please refer to the APPENDIX.

3.4 BAND EDGE MEASUREMENT

3.4.1 LIMIT

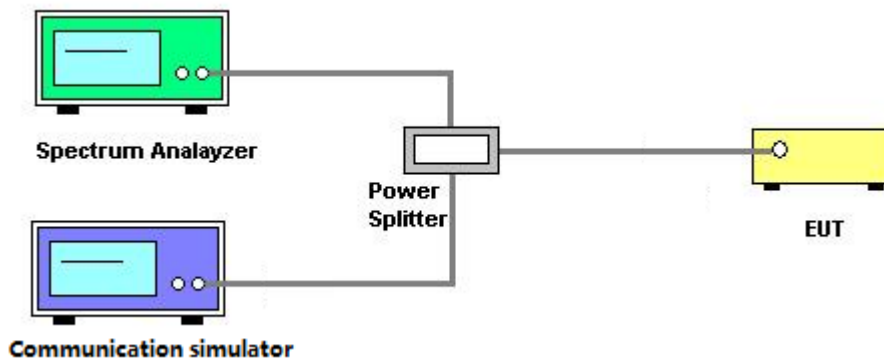
A Power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

3.4.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 6.

1. All measurements were done at low and high operational frequency range.
2. Record the max trace plot into the test report.

3.4.3 TEST SETUP LAYOUT



3.4.4 TEST DEVIATION

No deviation

3.4.5 TEST RESULTS

Please refer to the APPENDIX.

3.5 PEAK TO AVERAGE RATIO MEASUREMENT

3.5.1 LIMIT

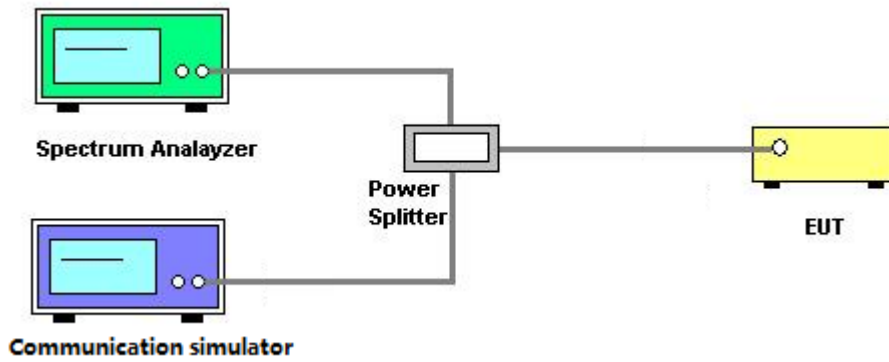
In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.5.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 5.7.

1. Set resolution/measurement bandwidth \geq signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

3.5.3 TEST SETUP LAYOUT



3.5.4 TEST DEVIATION

No deviation

3.5.5 TEST RESULTS

Please refer to the APPENDIX.

3.6 FREQUENCY STABILITY MEASUREMENT

3.6.1 LIMIT

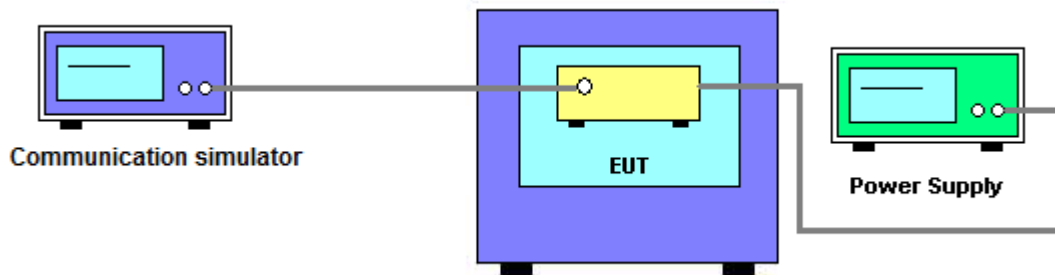
± 1.5 ppm is for base and fixed station. ± 2.5 ppm is for mobile station.

3.6.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 9.

1. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
2. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
3. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.
4. The frequency error was recorded frequency error from the communication simulator.

3.6.3 TEST SETUP LAYOUT



3.6.4 TEST DEVIATION

No deviation

3.6.5 TEST RESULTS

Please refer to the APPENDIX.

4. LIST OF MEASUREMENT EQUIPMENTS

| Conducted Measurement | | | | | |
|-----------------------|--------------------------------------|--------------|------------|--------------|------------------|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Universal Radio Communication Tester | keysight | E7515B | MY60192688 | Sep. 26, 2022 |
| 2 | Universal Radio Communication Tester | Starpoint | SP9500 | 20643 | Oct. 26, 2022 |
| 3 | Universal Radio Communication Tester | Starpoint | SP9500 | 20648 | Oct. 26, 2022 |
| 4 | Universal Radio Communication Tester | Starpoint | SP9500 | 20545 | Sep. 28, 2022 |
| 5 | Signal Analyzer | R&S | FSW26 | 102415 | Sep. 26, 2022 |
| 6 | Signal Analyzer | R&S | FSW43 | 101998 | Sep. 26, 2022 |
| 7 | Vector Signal Generator | R&S | SMW200A | 109896 | Sep. 27, 2022 |
| 8 | Temperature Chamber | JINGIE | HWS-150LPS | 202107122018 | Sep. 24, 2022 |
| 9 | DC Power Supply | ITECH | IT6512CW | A2105008278 | May 26, 2022 |

Remark: "N/A" denotes no model name, serial no. or calibration specified.
 All calibration period of equipment list is one year.

End of Test Report