Shenzhen CTA Testing Technology Co., Ltd.



Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

TEST REPORT

FCC Part 27

Compiled by

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Project Engineer Lushan Kong

Approved by

(position+printed name+signature) .: RF Manager Eric Wang

Date of issue...... May. 07, 2024

Testing Laboratory Name Shenzhen CTA Testing Technology Co., Ltd.

Address Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community,

Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name Leax Arkivator Telecom USA Inc

Address 833 E Arapaho Rd.Suite 203 Richardson, TX 75081

Test specification

FCC CFR Title 47 Part 2, Part 27

Standard ANSI/TIA-603-E-2016

KDB 971168 D01

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Test item description...... Industrial 4G Router

Trade Mark: N/A

Manufacturer Leax Arkivator Telecom USA Inc

Model/Type reference..... FT205L

Listed Models N/A

Ratings DC 12.0V From external circuit

Modulation QPSK, 16QAM

Hardware version: V1.0

Software version V1.0

Frequency..... E-UTRA Band 71

Result..... PASS

CTATESTING

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TEST REPORT

Equipment under Test

Industrial 4G Router

Model /Type

Listed Models N/A

Applicant Leax Arkivator Telecom USA Inc

FT205L

Address 833 E Arapaho Rd. Suite 203 Richardson, TX 75081 CTA TESTING

Leax Arkivator Telecom USA Inc Manufacturer

Address 833 E Arapaho Rd. Suite 203 Richardson, TX 75081

Test result Pass *

* In the configuration tested, the EUT complied with the standards specified page 4.

The test report merely corresponds to the test sample.

CTATEST It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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SUMMARY 1

1.1 TEST STANDARDS

The tests were performed according to following standards:

FCC Part 2: FREQUENCY ALLOCA-TIONS AND RADIO TREATY MAT-TERS; GENERAL RULES AND REG-ULATIONS

FCC Part 27: MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

ANSI/TIA-603-E-2016: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

ANSI C63.26-2015: IEEE/ANSI Standard for Compliance Testing of Transmitters Used in Licensed Radio Services

FCCKDB971168D01 Power Meas License Digital Systems

1.2 Test Description

| Test Item | Section in CFR 47 | Result |
|--|-------------------------|---|
| RF Output Power(Conducted Measurement) | §2.1046, §27.50(c)10 | Referring to the FCC ID No: XMR202008EC25AFXD issued by the Testing Lab (TA technology(shanghai) co., Ltd.) |
| RF Output Power(Radiated Measurement) | §2.1046, §27.50(c)10 | Pass |
| Peak-to-Average Ratio | §2.1046, §27.50(d) | Referring to the FCC ID No: XMR202008EC25AFXD issued by the Testing Lab (TA technology(shanghai) co., Ltd.) |
| 99% & -26 dB Occupied Bandwidth | §2.1049 | Referring to the FCC ID No: XMR202008EC25AFXD issued by the Testing Lab (TA technology(shanghai) co., Ltd.) |
| Spurious Emissions at Antenna Terminal | §2.1051, §27.53(h) | Referring to the FCC ID No: XMR202008EC25AFXD issued by the Testing Lab (TA technology(shanghai) co., Ltd.) |
| Field Strength of Spurious Radiation | §2.1055, §27.54 | Pass |
| Out of band emission, Band Edge | §2.1051, §27.53(h) | Referring to the FCC ID No: XMR202008EC25AFXD issued by the Testing Lab (TA technology(shanghai) co., Ltd.) |
| Frequency stability | §2.1053, §27.53(h) | Referring to the FCC ID No: XMR202008EC25AFXD issued by the Testing Lab (TA technology(shanghai) co., Ltd.) |

Note1: the LTE module in this product has already finished the certification (FCC ID: XMR202008EC25AFXD), Reference the results in the original test report.

1.3 Address of the test laboratory

Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

CTATEST The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.4:2014 and CISPR 16-1-4:2010 SVSWR requirement for radiated emission above 1GHz.

1.4 Test Facility

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

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FCC-Registration No.: 517856 Designation Number: CN1318

Shenzhen CTA Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

Industry Canada Registration Number. Is: 27890 CAB identifier: CN0127

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

A2LA-Lab Cert. No.: 6534.01

Shenzhen CTA Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

1.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen CTA Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen CTA Testing Technology Co., Ltd.:

| Test | Range | Measuremen t Uncertainty | Notes |
|--|-------------|--------------------------------|-------|
| Radiated Emission | 9KHz~30MHz | 3.02 dB | (1) |
| Radiated Emission | 30~1000MHz | 4.06 dB | (1) |
| Radiated Emission | 1~18GHz | 5.14 dB | (1) |
| Radiated Emission | 18-40GHz | 5.38 dB | (1) |
| Conducted Disturbance | 0.15~30MHz | 2.14 dB | (1) |
| Output Peak power | 30MHz~18GHz | 0.55 dB | (1) |
| Power spectral density | / | 0.57 dB | (1) |
| Spectrum bandwidth | / | 1.1% | (1) |
| Radiated spurious emission (30MHz-1GHz) | 30~1000MHz | [©] 4.10 dB | (1) |
| Radiated spurious emission (1GHz-18GHz) | 1~18GHz | 4.32 dB | (1) |
| Radiated spurious emission (18GHz-40GHz) | 18-40GHz | 5.54 dB | (1) |

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



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GENERAL INFORMATION

2.1 Environmental conditions

| Date of receipt of test sample | : | Apr. 11, 2024 |
|--------------------------------|---|---------------|
| TATES | | -1G |
| Testing commenced on | : | Apr. 11, 2024 |
| | | STATE |
| Testing concluded on | | May. 07, 2024 |

TATESTING During the measurement the environmental conditions were within the listed ranges:

| Normal Temperature: | 25°C | CT |
|---------------------|---------|----------------|
| Relative Humidity: | 55 % | -C.112 |
| Air Pressure: | 101 kPa | 1 X 2 WAY 11 W |

2.2 General Description of EUT

| Product Description: | Industrial 4G Router |
|----------------------------------|--|
| Model/Type reference: | FT205L |
| Power supply: | DC 12.0V From external circuit |
| Adapter information: | Model: GQ12-120100-CU Input: AC 100-240V 50/60Hz 0.4A Output: 12.0V 1.0A |
| Testing sample ID : | CTA240429001-1# (Engineer sample), CTA240429001-2# (Normal sample) |
| LTE | , , |
| Operation Band: | E-UTRA Band 71 |
| Support Bandwidth: | Band 71: 5MHz, 10MHz, 15MHz, 20MHz, |
| TX/RXFrequency Range: | E-UTRA Band 71(663MHz-698 MHz) |
| Modulation Type: | QPSK, 16QAM |
| Release Version: | Release 9 |
| Category: | Cat 4 |
| Antenna Type: | External antenna |
| Antenna Gain: | Band 71: 8.545dBi |
| Note: For more details, refer to | the user's manual of the EUT. |
| 2.3 Description of Test Mod | les and Test Frequency |
| | |

2.3 Description of Test Modes and Test Frequency

The EUT has been tested under typical operating condition. The CMW500 used to control the EUT staying in continuous transmitting and receiving mode for testing. Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.

2.4 Equipments Used during the Test

| 2.4 Equipments | Used during the | ESTING | | | |
|----------------|-----------------|-----------|---------------|---------------------|----------------------|
| Test Equipment | Manufacturer | Model No. | Equipment No. | Calibration Date | Calibration Due Date |
| LISN | R&S | ENV216 | CTA-308 | 2023/08/02 | 2024/08/01 |
| LISN | R&S | ENV216 | CTA-314 | 2023/08/02 | 2024/08/01 |
| | ESTING | | | | |

| EMI Test Receiver | R&S | ESPI | CTA-307 | 2023/08/02 | 2024/08/01 |
|--------------------------------|---------------------------|-------------|---------|------------|------------|
| EMI Test Receiver | R&S | ESCI | CTA-306 | 2023/08/02 | 2024/08/01 |
| Spectrum Analyzer | Agilent | N9020A | CTA-301 | 2023/08/02 | 2024/08/01 |
| Spectrum Analyzer | R&S | FSP | CTA-337 | 2023/08/02 | 2024/08/01 |
| Vector Signal generator | Agilent | N5182A | CTA-305 | 2023/08/02 | 2024/08/01 |
| Analog Signal Generator | R&S | SML03 | CTA-304 | 2023/08/02 | 2024/08/01 |
| Universal Radio Communication | CMW500 | R&S | CTA-302 | 2023/08/02 | 2024/08/01 |
| Temperature and humidity meter | Chigo | ZG-7020 | CTA-326 | 2023/08/02 | 2024/08/01 |
| Ultra-Broadband Antenna | Schwarzbeck | VULB9163 | CTA-310 | 2023/10/17 | 2024/10/16 |
| Horn Antenna | Schwarzbeck | BBHA 9120D | CTA-309 | 2023/10/13 | 2024/10/12 |
| Loop Antenna | Zhinan | ZN30900C | CTA-311 | 2023/10/17 | 2024/10/16 |
| Horn Antenna | Beijing Hangwei Dayang | OBH100400 | CTA-336 | 2021/08/07 | 2024/08/06 |
| Amplifier | Schwarzbeck | BBV 9745 | CTA-312 | 2023/08/02 | 2024/08/01 |
| Amplifier | Taiwan chengyi | EMC051845B | CTA-313 | 2023/08/02 | 2024/08/01 |
| Directional coupler | NARDA | 4226-10 | CTA-303 | 2023/08/02 | 2024/08/01 |
| High-Pass Filter | XingBo | XBLBQ-GTA18 | CTA-402 | 2023/08/02 | 2024/08/01 |
| High-Pass Filter | XingBo | XBLBQ-GTA27 | CTA-403 | 2023/08/02 | 2024/08/01 |
| Automated filter bank | Tonscend | JS0806-F | CTA-404 | 2023/08/02 | 2024/08/01 |
| Power Sensor | Agilent | U2021XA | CTA-405 | 2023/08/02 | 2024/08/01 |
| Amplifier | Schwarzbeck | BBV9719 | CTA-406 | 2023/08/02 | 2024/08/01 |
| | | | | | |

| Test Equipment | Manufacturer | Model No. | Version number | Calibration Date | Calibration Due Date |
|-------------------|--------------|-------------|----------------|---------------------|-------------------------|
| EMI Test Software | Tonscend | TS®JS32-RE | 5.0.0.2 | N/A | N/A |
| EMI Test Software | Tonscend | TS®JS32-CE | 5.0.0.1 | N/A | N/A |
| RF Test Software | Tonscend | TS®JS1120-3 | 3.1.65 | N/A | N/A |
| RF Test Software | Tonscend | TS®JS1120 | 3.1.46 | N/A | N/A |

2.5 Related Submittal(s) / Grant (s)

CTATEST CTATEST This submittal(s) (test report) is intended for filing to comply with of the FCC Part 27 Rules.

2.6 Modifications

No modifications were implemented to meet testing criteria.

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3 TEST CONDITIONS AND RESULTS

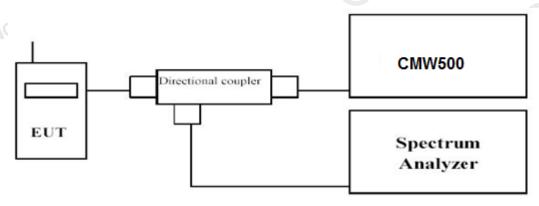
3.1 Output Power

LIMIT

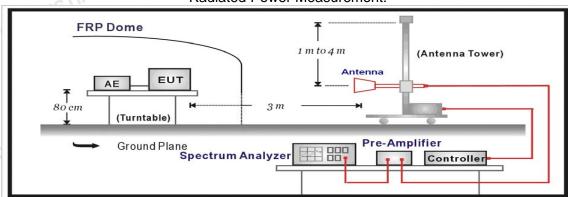
According to § 27.50 C(10): Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP."

TEST CONFIGURATION

Conducted Power Measurement



Radiated Power Measurement:



TEST PROCEDURE

Radiated Power Measurement:

- a) The EUT shall be placed at the specified height on a support, and in the position closest to normal use as declared by provider.
- b) The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter
- c) The output of the test antenna shall be connected to the measuring receiver.
- d) The transmitter shall be switched on and the measuring receiver shall be tuned to the frequency of the transmitter under test.
- The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
- f) The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- g) The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
- h) The maximum signal level detected by the measuring receiver shall be noted.
- The transmitter shall be replaced by a substitution antenna.

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The substitution antenna shall be orientated for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.

- The substitution antenna shall be connected to a calibrated signal generator. k)
- If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- m) The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
- n) The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
- The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.
- The measure of the effective radiated power is the larger of the two levels recorded at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.
- Test site anechoic chamber refer to ANSI C63.4.

TEST RESULTS

Radiated Measurement:

Remark:

- 1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 71; recorded worst case for each Channel Bandwidth of LTE FDD Band 71.
- 2. $EIRP=P_{Mea}(dBm)-P_{cl}(dB)+P_{Ag}(dB)+G_{a}(dBi)$
- 3. ERP = EIRP 2.15dBi as EIRP by subtracting the gain of the dipole.

LTE FDD Band 71_Channel Bandwidth 5MHz_QPSK

| Frequency (MHz) | P _{Mea} (dBm) | P _{cl} (dB) | G _a Antenna Gain(dB) | Correction (dB) | P _{Ag} (dB) | ERP (dBm) | Limit (dBm) | Margin (dB) | Polarization | |
|--|---------------------------|----------------------|---------------------------------|-----------------|----------------------|--------------|----------------|----------------|----------------|----|
| 666.50 | -18.72 | 2.31 | 8.16 | 2.15 | 36.6 | 21.58 | 34.77 | -13.19 | V | |
| 680.50 | -18.56 | 2.34 | 8.19 | 2.15 | 36.6 | 21.74 | 34.77 | -13.03 | V | |
| 695.50 | -18.13 | 2.38 | 8.23 | 2.15 | 36.6 | 22.17 | 34.77 | -12.60 | V | ES |
| LTE FDD Band 71_Channel Bandwidth 10MHz_QPSK | | | | | | | | | | |
| - TING | _ | _ | Ga | _ | _ | | | | No seculiaries | |

LTE FDD Band 71 Channel Bandwidth 10MHz QPSK

| Frequency (MHz) | P _{Mea} (dBm) | P _{cl} (dB) | G _a Antenna Gain(dB) | Correction (dB) | P _{Ag} (dB) | ERP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|--------------------|---------------------------|----------------------|---------------------------------------|-----------------|----------------------|--------------|----------------|----------------|--------------|
| 668.00 | -18.74 | 2.31 | 8.16 | 2.15 | 36.6 | 21.56 | 34.77 | -13.21 | V |
| 680.50 | -18.21 | 2.34 | 8.19 | 2.15 | 36.6 | 22.09 | 34.77 | -12.68 | V |
| 693.00 | -19.59 | 2.38 | 8.23 | 2.15 | 36.6 | 20.71 | 34.77 | -14.06 | V |

LTE FDD Band 71_Channel Bandwidth 15MHz_QPSK

| Frequency (MHz) | P _{Mea} (dBm) | P _{cl} (dB) | G _a Antenna Gain(dB) | Correction (dB) | P _{Ag} (dB) | ERP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|--------------------|---------------------------|-------------------------|---------------------------------------|-----------------|-------------------------|--------------|----------------|----------------|--------------|
| 670.50 | -18.97 | 2.31 | 8.16 | 2.15 | 36.6 | 21.33 | 34.77 | -13.44 | V |
| 680.50 | -18.24 | 2.34 | 8.19 | 2.15 | 36.6 | 22.06 | 34.77 | -12.71 | V |
| 690.50 | -19.03 | 2.38 | 8.23 | 2.15 | 36.6 | 21.27 | 34.77 | -13.50 | V |

LTE FDD Band 71_Channel Bandwidth 20MHz_QPSK

| Frequency (MHz) | P _{Mea} (dBm) | P _{cl} (dB) | G _a Antenna Gain(dB) | Correction (dB) | P _{Ag} (dB) | ERP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|--------------------|---------------------------|----------------------|---------------------------------------|-----------------|-------------------------|--------------|----------------|----------------|--------------|
| 673.00 | -19.26 | 2.31 | 8.16 | 2.15 | 36.6 | 21.04 | 34.77 | -13.73 | VCTA |
| 683.00 | -18.12 | 2.34 | 8.19 | 2.15 | 36.6 | 22.18 | 34.77 | -12.59 | V |
| 688.00 | -18.24 | 2.38 | 8.23 | 2.15 | 36.6 | 22.06 | 34.77 | -12.71 | V |

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LTE FDD Band 71_Channel Bandwidth 5MHz_16QAM

| Frequency (MHz) | P _{Mea} (dBm) | P _{cl} (dB) | G _a Antenna Gain(dB) | Correction (dB) | P _{Ag} (dB) | ERP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|--------------------|---------------------------|----------------------|---------------------------------------|-----------------|----------------------|--------------|----------------|----------------|--------------|
| 666.50 | -20.97 | 2.31 | 8.16 | 2.15 | 36.6 | 19.33 | 34.77 | -15.44 | V |
| 680.50 | -20.52 | 2.34 | 8.19 | 2.15 | 36.6 | 19.78 | 34.77 | -14.99 | V |
| 695.50 | -19.15 | 2.38 | 8.23 | 2.15 | 36.6 | 21.15 | 34.77 | -13.62 | V |

| LTE FDD B | and 71_(| Channe | l Bandwidth | 10MHz_160 | Q <i>AM</i> | | | | |
|--------------------|------------------------|----------------------|---------------------------------------|-----------------|----------------------|--------------|----------------|----------------|--------------|
| Frequency (MHz) | P _{Mea} (dBm) | P _{cl} (dB) | G _a Antenna Gain(dB) | Correction (dB) | P _{Ag} (dB) | ERP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 668.00 | -19.85 | 2.31 | 8.16 | 2.15 | 36.6 | 20.45 | 34.77 | -14.32 | VC |
| 680.50 | -20.03 | 2.34 | 8.19 | 2.15 | 36.6 | 20.27 | 34.77 | -14.50 | V |
| 693.00 | -20.29 | 2.38 | 8.23 | 2.15 | 36.6 | 20.01 | 34.77 | -14.76 | V |

LTE FDD Band 71_Channel Bandwidth 15MHz_16QAM

| Frequency (MHz) | P _{Mea} (dBm) | P _{cl} (dB) | G _a Antenna Gain(dB) | Correction (dB) | P _{Ag} (dB) | ERP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|--------------------|---------------------------|----------------------|---------------------------------------|-----------------|----------------------|--------------|----------------|----------------|--------------|
| 670.50 | -19.54 | 2.31 | 8.16 | 2.15 | 36.6 | 20.76 | 34.77 | -14.01 | E5 V |
| 680.50 | -20.36 | 2.34 | 8.19 | 2.15 | 36.6 | 19.94 | 34.77 | -14.83 | V |
| 690.50 | -20.48 | 2.38 | 8.23 | 2.15 | 36.6 | 19.82 | 34.77 | -14.95 | V |

LTE FDD Band 71 Channel Bandwidth 20MHz 16QAM

| Frequency (MHz) | P _{Mea} (dBm) | P _{cl} (dB) | G _a Antenna Gain(dB) | Correction (dB) | P _{Ag} (dB) | ERP (dBm) | Limit (dBm) | Margin (dB) | Polarization | |
|--------------------|---------------------------|-------------------------|---------------------------------------|-----------------|-------------------------|--------------|----------------|----------------|--------------|--|
| 673.00 | -20.68 | 2.31 | 8.16 | 2.15 | 36.6 | 19.62 | 34.77 | -15.15 | V | |
| 683.00 | -20.24 | 2.34 | 8.19 | 2.15 | 36.6 | 20.06 | 34.77 | -14.71 | V | |
| 688.00 | -19.79 | 2.38 | 8.23 | 2.15 | 36.6 | 20.51 | 34.77 | -14.26 | V | |
| | | | | | | CAN C | | | CTAT | |

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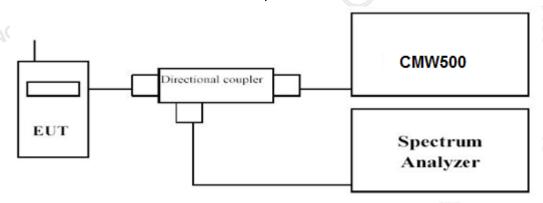
3.2 Spurious Emission

LIMIT

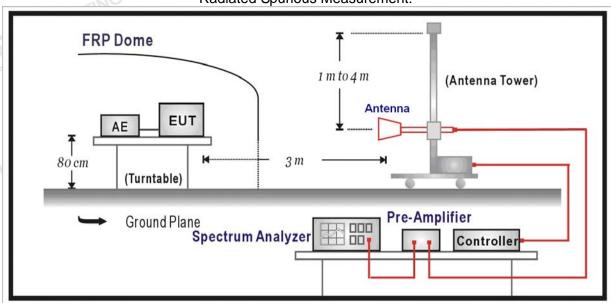
The power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB

TEST CONFIGURATION

Conducted Spurious Measurement:



Radiated Spurious Measurement:

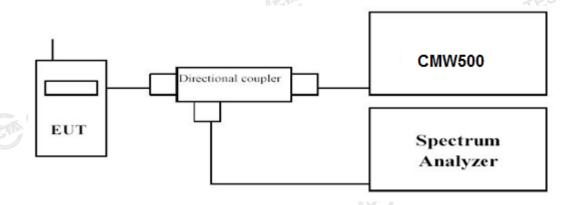


TEST CONFIGURATION CTA TESTING

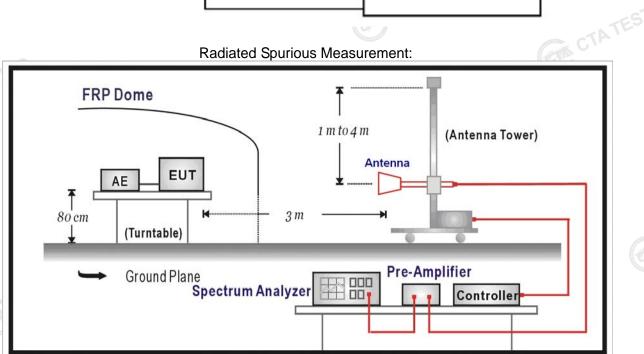
Conducted Spurious Measurement: CTATESTING

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CTATEST



Radiated Spurious Measurement:



TEST PROCEDURE

The EUT was setup according to EIA/TIA 603D

Radiated Spurious Measurement:

- a. The EUT shall be placed at the specified height on a support, and in the position closest to normal use as declared by provider.
- b. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter
- c. The output of the test antenna shall be connected to the measuring receiver.
- d. The transmitter shall be switched on and the measuring receiver shall be tuned to the frequency of the transmitter under test.
- e. The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
- The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- g. The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
- h. The maximum signal level detected by the measuring receiver shall be noted.
- The transmitter shall be replaced by a substitution antenna.
- The substitution antenna shall be orientated for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
- The substitution antenna shall be connected to a calibrated signal generator.
- increase the sensitivity of the measuring receiver. If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to

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m. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.

- n. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
- o. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.
- p. The measure of the effective radiated power is the larger of the two levels recorded at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.
- q. The resolution bandwidth of the spectrum analyzer was set at 100 kHz for Part 22 and 1MHz for Part 24. The frequency range was checked up to 10th harmonic.
- Test site anechoic chamber refer to ANSI C63.

TEST RESULTS

Radiated Measurement:

Remark:

- 1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 71; recorded worst case for each Channel Bandwidth of LTE FDD Band 71 @ QPSK
- 2. $EIRP=P_{Mea}(dBm)-P_{cl}(dB)+G_a(dBi)$
- 3. We were not recorded other points as values lower than limits.
- 4. Margin = Limit EIRP

LTE FDD Band 71_Channel Bandwidth 20MHz_QPSK_ Low Channel

| Frequency (MHz) | PMea (dBm) | Pcl (dB) | Distance (m) | Ga Antenna Gain(dB) | Peak EIRP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|--------------------|---------------|-------------|--------------|---------------------------|-----------------------|----------------|----------------|--------------|
| 1346.00 | -44.88 | 2.83 | 3.00 | 7.24 | -40.47 | -13.00 | -27.47 | Н |
| 2019.00 | -50.90 | 2.91 | 3.00 | 9.51 | -44.30 | -13.00 | -31.30 | Н |
| 1346.00 | -41.89 | 2.83 | 3.00 | 7.24 | -37.48 | -13.00 | -24.48 | V |
| 2019.00 | -53.75 | 2.91 | 3.00 | 9.51 | -47.15 | -13.00 | -34.15 | VCTA |

LTE FDD Band 71 Channel Bandwidth 20MHz QPSK Middle Channel

| Frequency (MHz) | PMea (dBm) | Pcl (dB) | Distance (m) | Ga Antenna Gain(dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|--------------------|---------------|-------------|--------------|---------------------------|---------------|----------------|----------------|--------------|
| 1366.00 | -43.52 | 2.83 | 3.00 | 7.24 | -39.11 | -13.00 | -26.11 | Н |
| 2049.00 | -50.75 | 2.91 | 3.00 | 9.51 | -44.15 | -13.00 | -31.15 | Ha |
| 1366.00 | -44.88 | 2.83 | 3.00 | 7.24 | -40.47 | -13.00 | -27.47 | STIV |
| 2049.00 | -52.71 | 2.91 | 3.00 | 9.51 | -46.11 | -13.00 | -33.11 | V |

LTE FDD 7 Channel Bandwidth 20MHz QPSK High Channel

| | | | | 141114111 2011 | | <u> </u> | A STATE OF THE STA | | _ |
|---|---|---------------------------|--------------------------------|---------------------------|---------------|----------------|--|--------------|---|
| Frequency (MHz) | PMea (dBm) | Pcl (dB) | Distance (m) | Ga Antenna Gain(dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Polarization | E |
| 1376.00 | -44.01 | 2.83 | 3.00 | 7.24 | -39.60 | -13.00 | -26.60 | Н | |
| 2064.00 | -55.67 | 2.91 | 3.00 | 9.51 | -49.07 | -13.00 | -36.07 | Н | |
| 1376.00 | -45.87 | 2.83 | 3.00 | 7.24 | -41.46 | -13.00 | -28.46 | V | |
| 2064.00 | -47.38 | 2.91 | 3.00 | 9.51 | -40.78 | -13.00 | -27.78 | V | |
| Notes: 1.All channel 2. EIRP=PMe 3. ERP = EIR 4. Margin = E | ea(dBm)-Pc RP – 2.15dB EIRP – Limit | l(dB)+PAg(i as EIRP t | (dB)+Ga(dBi) by subtracting | g the gain of | | CTA. | | | |

Notes:

- 1.All channel bandwidth were tested, the report recorded the worst data.
- 2. EIRP=PMea(dBm)-Pcl(dB)+PAg(dB)+Ga(dBi)
- 3. ERP = EIRP 2.15dBi as EIRP by subtracting the gain of the dipole.
- 4. Margin = EIRP Limit
- 5. We measured all modes and only recorded the worst case.

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Test Setup Photos of the EUT





CTATESTING **Photos of the EUT**

Reference to the test report No. CTA24042900101

CTATESTING