

Shenzhen General Testing & Inspection Technology Co.,Ltd.

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| TES | $T \; R$ | EP | O | R٦ | Г |
|------------|----------|----|---|----|---|
| | | | | | |

Report No. GTI20181564F-2

FCC ID...... 2AC88-ELTP18A04

IC 24230-ELTP18A04

Applicant······ HONGKONG UCLOUDLINK NETWORK TECHNOLOGY LIMITED

Address Suite 603, 6/F, Laws Commercial Plaza, 788 Cheung Sha Wan

Road, Kowloon, Hong Kong, China

Manufacturer HONGKONG UCLOUDLINK NETWORK TECHNOLOGY LIMITED

Address····· Suite 603, 6/F, Laws Commercial Plaza, 788 Cheung Sha Wan

Road, Kowloon, Hong Kong, China

Product Name······: Smart Phone

Trade Mark······ GlocalMe

Model/Type reference······ ELTP18A04

Listed Model(s) · · · · · N/A

Standard FCC CFR Title 47 Part 15 Subpart C Section 15.247

RSS 247 Issue 2

Date of receipt of test sample...: 2018-07-25

Date of issue...... 2018-08-09

Result..... PASS

Compiled by:

(Printed name+signature) Terry Su

Supervised by:

(Printed name+signature) Cary Luo

Approved by:

(Printed name+signature) Walter Chen

Testing Laboratory Name...... Shenzhen General Testing & Inspection Technology Co., Ltd.

Terry. Su ang lus water chis

Address...... 1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park,

Shenzhen, Guangdong, China

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Any objections must be raised to GTI within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit. The test report merely correspond to the test sample.





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1. TEST SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.247: Operation within the bands of 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz.

RSS 247 Issue 2: Standard Specifications for Frequency Hopping Systems (FHSs) and Digital Transmission Systems (DTSs) Operating in the Bands 902-928MHz, 2400-2483.5MHz and 5725-5850MHz.

ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.

1.2. Report version

| Revised No. | Date of issue | Description | |
|-------------|---------------|-------------|--|
| 01 | 2018-08-09 | Original | |
| | | | |
| | | | |
| | | | |

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1.3. Test Description

| FCC Part 15 Subpart C(15.247)/ RSS 247 Issue 5 | | | | | |
|---|-----------------------------|-----------------|--------|---------------|--|
| To at litera | Standard S | Danult | | | |
| Test Item | FCC | IC | Result | Test Engineer | |
| Antenna Requirement | 15.203 | / | Pass | Terry Su | |
| Conducted Emission | 15.207(a) | RSS-GEN 7.2.4 | Pass | Terry Su | |
| Band-Edge & Unwanted Emissions into Restricted Frequency | 15.205&15.247(d) | RSS-GEN 7.2.2 | Pass | Terry Su | |
| 6dB Bandwidth | 15.247(a)(2) | RSS 247 5.2 (1) | Pass | Terry Su | |
| Conducted Max Output Power | 15.247(b)(3) | RSS 247 5.4 (4) | Pass | Terry Su | |
| Power Spectral Density | 15.247(e) | RSS 247 5.2 (2) | Pass | Terry Su | |
| Transmitter Radiated Spurious &Unwanted Emissions into Restricted Frequency | 15.205, 15.209&15.247(d) | RSS 247 5.5 | Pass | Terry Su | |

Note: The measurement uncertainty is not included in the test result.

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1.4. Test Facility

Address of the report laboratory

Shenzhen General Testing & Inspection Technology Co., Ltd.

Add: 1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Laboratory accreditation

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

CNAS-Lab Code: L5365

Shenzhen General Testing & Inspection Technology Co.,Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No.: 4340.01

Shenzhen General Testing & Inspection Technology Co.,Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

IC Registration No.: 9783A

The 3m alternate test site of Shenzhen General Testing & Inspection Technology Co.,Ltd. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration NO.: 9783A on Jan, 2016.

FCC-Registration No.: 951311

Shenzhen General Testing & Inspection Technology Co.,Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 951311, Aug 26, 2017

1.5. 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 General Testing & Inspection 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.

Below is the best measurement capability for Shenzhen General Testing & Inspection Technology Co., Ltd.

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| Test Items | Measurement Uncertainty | Notes |
|---|-------------------------|-------|
| Transmitter power conducted | 0.42 dB | (1) |
| Transmitter power Radiated | 2.14 dB | (1) |
| Conducted spurious emissions 9kHz~40GHz | 1.60 dB | (1) |
| Radiated spurious emissions 9kHz~40GHz | 2.20 dB | (1) |
| Conducted Emissions 9kHz~30MHz | 3.20 dB | (1) |
| Radiated Emissions 30~1000MHz | 4.70 dB | (1) |
| Radiated Emissions 1~18GHz | 5.00 dB | (1) |
| Radiated Emissions 18~40GHz | 5.54 dB | (1) |
| Occupied Bandwidth | | (1) |

Note (1): This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

1.6. Environmental conditions

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

| Temperature: | 15~35°C |
|--------------------|-------------|
| Relative Humidity: | 30~60 % |
| Air Pressure: | 950~1050mba |

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2. GENERAL INFORMATION

2.1. Client Information

| Applicant: | HONGKONG UCLOUDLINK NETWORK TECHNOLOGY LIMITED | |
|---------------|--|--|
| Address: | Suite 603, 6/F, Laws Commercial Plaza, 788 Cheung Sha Wan Road, Kowloon, Hong Kong, China | |
| Manufacturer: | HONGKONG UCLOUDLINK NETWORK TECHNOLOGY LIMITED | |
| Address: | Suite 603, 6/F, Laws Commercial Plaza, 788 Cheung Sha Wan Road, Kowloon, Hong Kong, China | |
| Factory: | Shenzhen uCloudlink Network Technology Co., Ltd. | |
| Address: | 3rd Floor, A part of Building 1, Shenzhen Software Industry Base, Nanshan District Xuefu Road, 518057 Shenzhen City, Guangdong, China | |

2.2. General Description of EUT

| Product Name: | Smart Phone | | |
|------------------------|---|--|--|
| Model/Type reference: | ELTP18A04 | | |
| Marketing Name: | GlocalMe | | |
| Listed Model(s): | / | | |
| Power supply: | 3.85Vdc 3400mAh from Li-ion Battery | | |
| Adapter 1: | Model:HJ-0502000W2-US Input:100-240V 50/60Hz 0.3A Output:5V/2A | | |
| Adapter 2: | Model:PS10J050K2000UU Input:100-240V 50/60Hz 0.35A Output:5V/2A | | |
| Hardware version: | P3_MB_PCB_VA | | |
| Software version: | P3S18_TSV1.0.000.001.180720 | | |
| Bluetooth 4.2+BD/EDR | | | |
| Modulation: | GFSK | | |
| Operation frequency: | 2402MHz~2480MHz | | |
| Max Peak Output Power: | -1.29dBm | | |
| Channel number: | 40 | | |
| Channel separation: | 2MHz | | |
| Antenna type: | PIFA Antenna | | |
| Antenna gain: | 1.44dBi | | |

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2.3. Operation state

Operation Frequency List: The EUT has been tested under typical operating condition. The Applicant provides communication tools software to control the EUT for staying in continuous transmitting and receiving mode for testing. BT BLE, 40 channels are provided to the EUT. Channels 00/20/39 were selected for testing. Operation Frequency List:

| Channel | Frequency (MHz) |
|---------|-----------------|
| 00 | 2402 |
| 01 | 2404 |
| i : | i i |
| 19 | 2440 |
| 20 | 2442 |
| 21 | 2444 |
| : | i i |
| 38 | 2478 |
| 39 | 2480 |

Note: The display in grey were the channel selected for testing.

Test mode

For RF test items:

The engineering test program was provided and enabled to make EUT continuous transmit.

For AC power line conducted emissions:

The EUT was set to connect with the Bluetooth instrument under large package sizes transmission.

For Radiated spurious emissions test item:

The engineering test program was provided and enabled to make EUT continuous transmit. The EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

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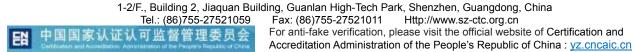


2.4. Measurement Instruments List

| Tonsc | Tonscend JS0806-2 Test system | | | | | |
|-------|---|--------------------|-----------|------------|--------------------|------------------|
| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Calibrated Date | Calibrated until |
| 1 | Spectrum Analyzer | Rohde & Schwarz | FSU26 | 100105 | Jan. 07, 2017 | Jan. 04 2019 |
| 2 | Spectrum Analyzer | Rohde & Schwarz | FUV40-N | 101331 | Jan. 07, 2017 | Jan. 04 2019 |
| 3 | MXG Vector Signal Generator | Agilent | N5182A | MY47420864 | Jan. 07, 2017 | Jan. 04 2019 |
| 4 | Signal Generator | Agilent | E8257D | MY46521908 | Jan. 07, 2017 | Jan. 04 2019 |
| 5 | Power Sensor | Agilent | U2021XA | MY5365004 | Jan. 07, 2017 | Jan. 04 2019 |
| 6 | Power Sensor | Agilent | U2021XA | MY5365006 | Jan. 07, 2017 | Jan. 04 2019 |
| 7 | Simultaneous Sampling DAQ | Agilent | U2531A | TW54493510 | Jan. 07, 2017 | Jan. 04 2019 |
| 8 | Climate Chamber | TABAI | PR-4G | A8708055 | Jan. 07, 2017 | Jan. 04 2019 |
| 9 | Wideband Radio Communication Tester | Rohde & Schwarz | CMW500 | 116410 | Jan. 06, 2018 | Jan. 04,2019 |
| 10 | Climate Chamber | ESPEC | MT3065 | 1 | Jan. 04,2018 | Jan. 04,2019 |
| 11 | 300328 v2.1.1 test system | TONSCEND | v2.6 | 1 | 1 | 1 |

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Calibrated until |
|------|----------------------------|-----------------|-------------|------------|------------------|
| 1 | EMI Test Receiver | Rohde & Schwarz | ESCI | 100658 | Jan. 04 2019 |
| 2 | High pass filter | micro-tranics | HPM50111 | 142 | Jan. 04 2019 |
| 3 | Log-Bicon Antenna | Schwarzbeck | CBL6141A | 4180 | Jan. 04 2019 |
| 4 | Ultra-Broadband Antenna | ShwarzBeck | BBHA9170 | 25841 | Jan. 04 2019 |
| 5 | Loop Antenna | LAPLAC | RF300 | 9138 | Jan. 04 2019 |
| 6 | Spectrum Analyzer | Rohde & Schwarz | FSU26 | 100105 | Jan. 04 2019 |
| 7 | Horn Antenna | Schwarzbeck | BBHA 9120D | 647 | Jan. 04 2019 |
| 8 | Pre-Amplifier | HP | 8447D | 1937A03050 | Jan. 04 2019 |
| 9 | Pre-Amplifier | EMCI | EMC051835 | 980075 | Jan. 04 2019 |
| 10 | Antenna Mast | UC | UC3000 | N/A | N/A |
| 11 | Turn Table | UC | UC3000 | N/A | N/A |
| 12 | Cable Below 1GHz | Schwarzbeck | AK9515E | 33155 | Jan. 04 2019 |
| 13 | Cable Above 1GHz | Hubersuhner | SUCOFLEX102 | DA1580 | Jan. 04 2019 |
| 14 | Splitter | Mini-Circuit | ZAPD-4 | 400059 | Jan. 04 2019 |
| 15 | RF Connection Cable | HUBER+SUHNER | RE-7-FL | N/A | Jan. 04 2019 |

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| 16 | RF Connection Cable | Chengdu E-Microwave | | | Jan. 04 2019 |
|----|---------------------|------------------------------|--------------------|-------|--------------|
| 17 | High pass filter | Compliance Direction systems | BSU-6 | 34202 | Jan. 04 2019 |
| 18 | Attenuator | Chengdu E-Microwave | EMCAXX-10R NZ-3 | | Jan. 04 2019 |

Note:1. The Cal. Interval was one year.

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^{2.} The cable loss has calculated in test result which connection between each test instruments.



3. TEST ITEM AND RESULTS

3.1. Conducted Emission

Limit

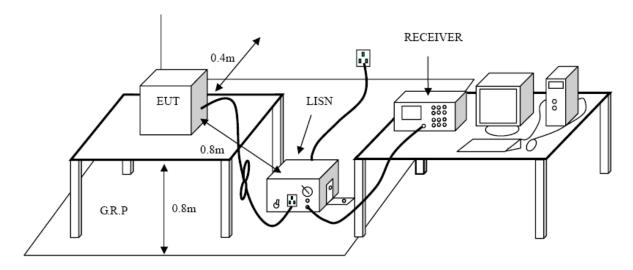
Conducted Emission Test Limit

| Fraguency | Maximum RF Line Voltage (dBμV) | | | | | |
|---------------|--------------------------------|---------------|--|--|--|--|
| Frequency | Quasi-peak Level | Average Level | | | | |
| 150kHz~500kHz | 66 ~ 56 * | 56 ~ 46 * | | | | |
| 500kHz~5MHz | 56 | 46 | | | | |
| 5MHz~30MHz | 60 | 50 | | | | |

Notes:

- (1) *Decreasing linearly with logarithm of the frequency.
- (2) The lower limit shall apply at the transition frequencies.
- (3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

Test Configuration



Test Procedure

- 1. The EUT was setup according to ANSI C63.10:2013 requirements.
- 2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
- 3. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50ohm /50uH coupling impedance for the measuring equipment.

 The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
- 4. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
- 5. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
- 6. Conducted Emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
- 7. During the above scans, the emissions were maximized by cable manipulation.





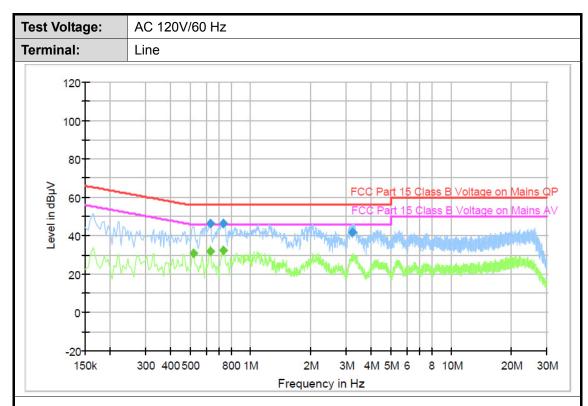


Test Mode:

Please refer to the clause 2.2.

Test Results

Only show worst adapter data.



Final Measurement Detector 1

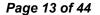
| Frequency (MHz) | QuasiPeak (dBµ∀) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµ V) | Comment |
|--------------------|---------------------|--------------------|--------------------|--------|------|---------------|----------------|---------------------|---------|
| 0.627000 | 46.3 | 1000.000 | 9.000 | Off | L1 | 9.8 | 9.7 | 56.0 | |
| 0.730500 | 46.3 | 1000.000 | 9.000 | Off | L1 | 9.8 | 9.7 | 56.0 | |
| 3.232500 | 41.5 | 1000.000 | 9.000 | Off | L1 | 9.9 | 14.5 | 56.0 | |

Final Measurement Detector 2

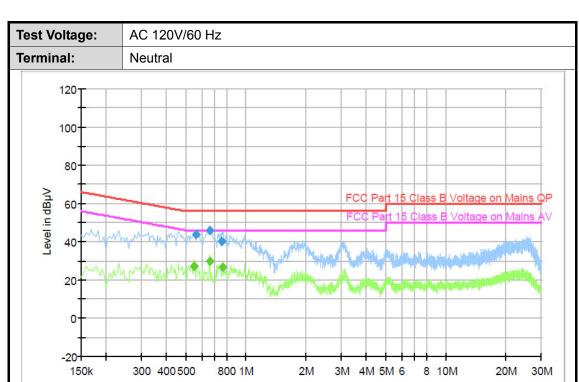
| Frequency (MHz) | Average (dBµ∀) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµ V) | Comment |
|--------------------|-------------------|--------------------|--------------------|--------|------|---------------|----------------|---------------------|---------|
| 0.519000 | 30.9 | 1000.000 | 9.000 | Off | L1 | 9.8 | 15.1 | 46.0 | |
| 0.627000 | 31.7 | 1000.000 | 9.000 | Off | L1 | 9.8 | 14.3 | 46.0 | |
| 0.735000 | 32.2 | 1000.000 | 9.000 | Off | L1 | 9.8 | 13.8 | 46.0 | |

Emission Level= Read Level+ Correct Factor

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Final Measurement Detector 1

| Frequency (MHz) | QuasiPeak (dBµV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµ V) | Comment |
|--------------------|---------------------|--------------------|--------------------|--------|------|---------------|----------------|---------------------|---------|
| 0.564000 | 43.6 | 1000.000 | 9.000 | Off | N | 10.1 | 12.4 | 56.0 | |
| 0.658500 | 46.0 | 1000.000 | 9.000 | Off | N | 10.0 | 10.0 | 56.0 | |
| 0.757500 | 40.1 | 1000.000 | 9.000 | Off | N | 10.0 | 15.9 | 56.0 | |

Frequency in Hz

Final Measurement Detector 2

| Frequency (MHz) | Average (dBµ∀) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµ V) | Comment |
|--------------------|-------------------|--------------------|--------------------|--------|------|---------------|----------------|---------------------|---------|
| 0.550500 | 27.2 | 1000.000 | 9.000 | Off | N | 10.1 | 18.8 | 46.0 | |
| 0.658500 | 29.8 | 1000.000 | 9.000 | Off | N | 10.0 | 16.2 | 46.0 | |
| 0.766500 | 26.8 | 1000.000 | 9.000 | Off | N | 10.0 | 19.2 | 46.0 | |

Emission Level= Read Level+ Correct Factor

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3.2. Radiated Emission

<u>Limit</u>

Radiated Emission Limits (9 kHz~1000 MHz)

| Frequency (MHz) | Field Strength (microvolt/meter) | Measurement Distance (meters) |
|--------------------|-------------------------------------|----------------------------------|
| 0.009~0.490 | 2400/F(KHz) | 300 |
| 0.490~1.705 | 24000/F(KHz) | 30 |
| 1.705~30.0 | 30 | 30 |
| 30~88 | 100 | 3 |
| 88~216 | 150 | 3 |
| 216~960 | 200 | 3 |
| Above 960 | 500 | 3 |

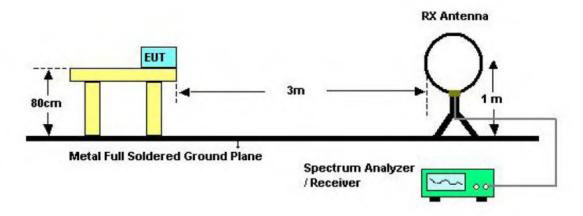
Radiated Emission Limit (Above 1000MHz)

| Frequency | Distance Meters(at 3m) | | | | |
|------------|------------------------|---------|--|--|--|
| (MHz) | Peak | Average | | | |
| Above 1000 | 74 | 54 | | | |

Note:

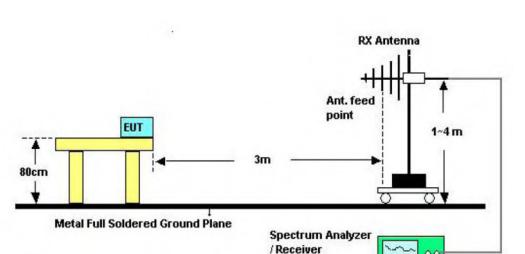
- (1) The tighter limit applies at the band edges.
- (2) Emission Level (dBuV/m)=20log Emission Level (uV/m).

Test Configuration

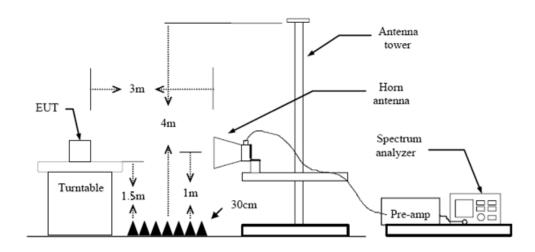


Below 30MHz Test Setup

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Below 1000MHz Test Setup



Above 1GHz Test Setup

Test Procedure

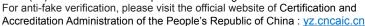
- 1. The EUT was setup and tested according to ANSI C63.10:2013
- 2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
- 3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
- 4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
- 5. Set to the maximum power setting and enable the EUT transmit continuously.
- 6. Use the following spectrum analyzer settings
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Below 1 GHz:

RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold;

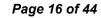
If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

(3) From 1 GHz to 10th harmonic:

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RBW=1MHz, VBW=3MHz Peak detector for Peak value. RBW=1MHz, VBW=3MHz RMS detector for Average value.

Test Mode

Please refer to the clause 2.2.

Test Result

9 KHz~30 MHz

From 9 KHz to 30 MHz: Conclusion: PASS

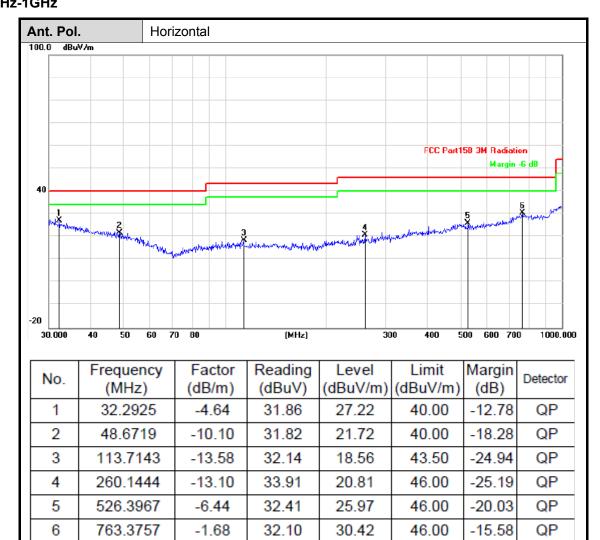
Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible

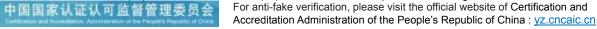
value has no need to be reported.

Above 18G test data reference to the test report No.: C180811Z01-RP1.

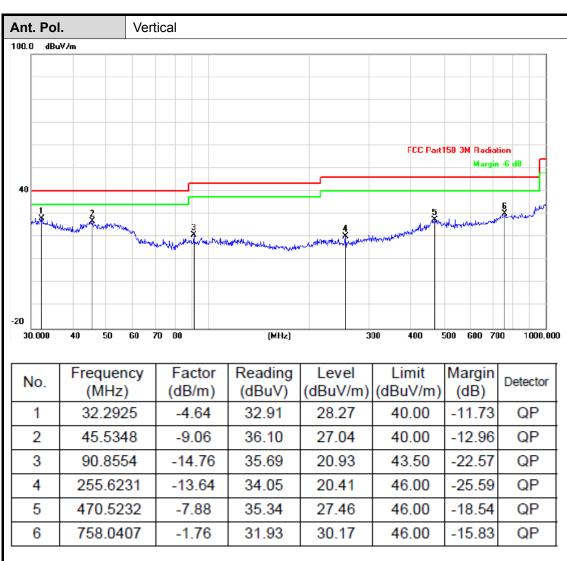
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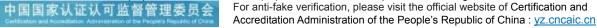
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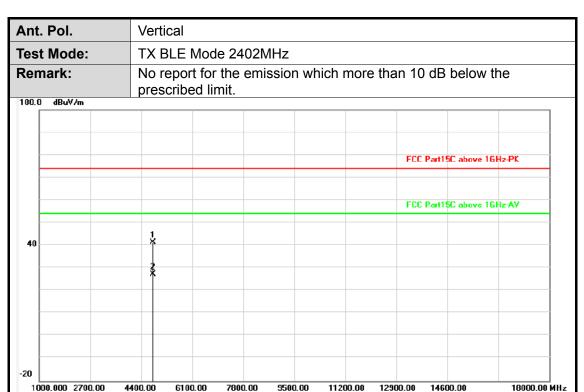


Adobe 1GHz

| An | t. Pol. | Horizonta | | | | | |
|-------|-----------------|----------------------|-------------|---------------|----------------|--------------------|-------|
| Tes | st Mode: | TX BLE M | lode 2402MH | lz | | | |
| Rei | mark: | No report prescribed | | ion which m | nore than 10 c | dB below the | |
| 100.0 |) dBuV/m | | | | | | 7 |
| | | | | | | | |
| | | | | | | | |
| | | | | | FCC Par | t15C above 1GHz-PK | |
| | | | | | | | - |
| | | | | | FCC Par | t15C above 1GHz-AV | |
| | | | | | | | - |
| 40 | | 2 | | | | | - |
| | | | | | | | _ |
| | | * | | | | | |
| | | | | | | | |
| | | | | | | | 1 |
| | | | | | | | - |
| | | | | | | | _ |
| -20 | | | | | | | |
| 10 | 000.000 2700.00 | 4400.00 6100.0 | 0 7800.00 9 | 500.00 11200. | .00 12900.00 1 | 1600.00 18000.00 | 0 MHz |

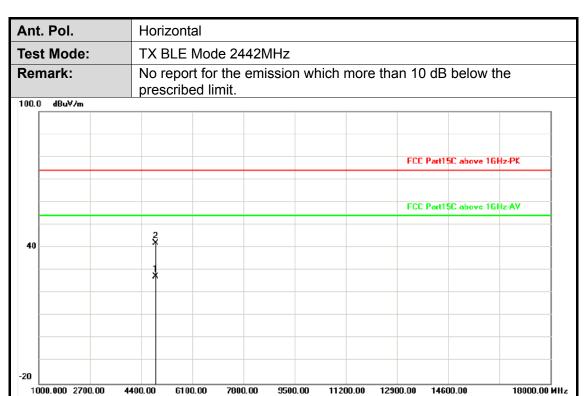
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | | Margin (dB) | Detector |
|-----|--------------------|------------------|-------------------|-------------------|-------|----------------|----------|
| 1 | 4803.998 | 2.61 | 24.57 | 27.18 | 54.00 | -26.82 | AVG |
| 2 | 4804.001 | 2.61 | 38.81 | 41.42 | 74.00 | -32.58 | peak |





| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | I | Margin (dB) | Detector |
|-----|--------------------|------------------|-------------------|-------------------|-------|----------------|----------|
| 1 | 4803.997 | 2.61 | 38.86 | 41.47 | 74.00 | -32.53 | peak |
| 2 | 4804.001 | 2.61 | 24.58 | 27.19 | 54.00 | -26.81 | AVG |



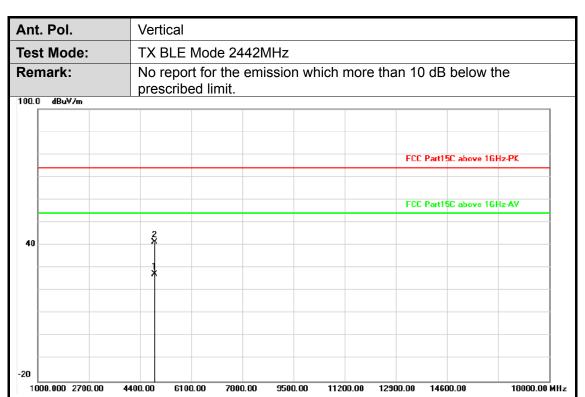


| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | | Margin (dB) | Detector |
|-----|--------------------|------------------|-------------------|-------------------|-------|----------------|----------|
| 1 | 4883.995 | 2.63 | 24.64 | 27.27 | 54.00 | -26.73 | AVG |
| 2 | 4883.997 | 2.63 | 39.21 | 41.84 | 74.00 | -32.16 | peak |

Emission Level= Read Level+ Correct Factor

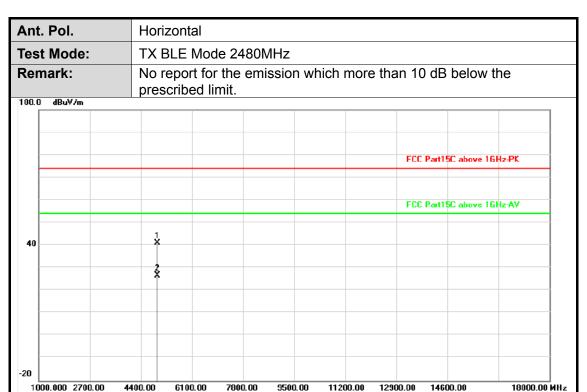
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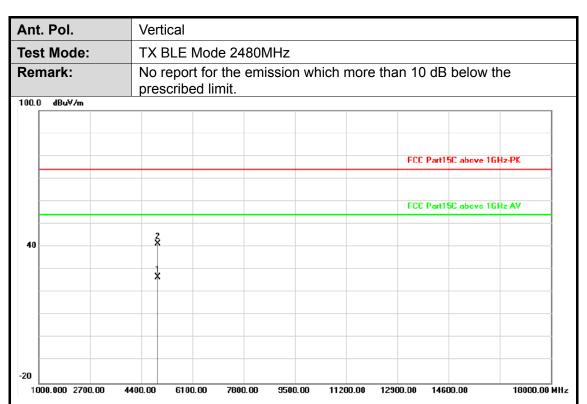
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | | Margin (dB) | Detector |
|-----|--------------------|------------------|-------------------|-------------------|-------|----------------|----------|
| 1 | 4883.996 | 2.63 | 24.63 | 27.26 | 54.00 | -26.74 | AVG |
| 2 | 4884.001 | 2.63 | 38.74 | 41.37 | 74.00 | -32.63 | peak |





| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | I | Margin (dB) | Detector |
|-----|--------------------|------------------|-------------------|-------------------|-------|----------------|----------|
| 1 | 4959.997 | 2.65 | 38.52 | 41.17 | 74.00 | -32.83 | peak |
| 2 | 4959.997 | 2.65 | 24.05 | 26.70 | 54.00 | -27.30 | AVG |





| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | I | Margin (dB) | Detector |
|-----|--------------------|------------------|-------------------|-------------------|-------|----------------|----------|
| 1 | 4959.996 | 2.65 | 24.03 | 26.68 | 54.00 | -27.32 | AVG |
| 2 | 4959.997 | 2.65 | 38.62 | 41.27 | 74.00 | -32.73 | peak |



3.3. Band Edge Emissions

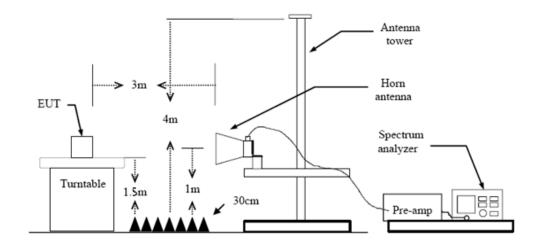
Limit

| Restricted Frequency Band | (dBuV/m)(at 3m) | | |
|---------------------------|-----------------|---------|--|
| (MHz) | Peak | Average | |
| 2310 ~2390 | 74 | 54 | |
| 2483.5 ~2500 | 74 | 54 | |

Report No.: GTI20181564F-2

Note: All restriction bands have been tested, only the worst case is reported.

Test Configuration



Test Procedure

- 1. The EUT was setup and tested according to ANSI C63.10:2013 requirements.
- 2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
- 3. The EUT waspositioned such that the distance from antenna to the EUT was 3 meters.
- 4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. Thisis repeated for both horizontal and vertical polarization of the antenna. In order to find themaximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.
- 5. The receiver set as follow:

RBW=1MHz, VBW=3MHz PEAK detector for Peak value.

RBW=1MHz, VBW=10Hz with PEAK Detector for Average Value.

Test Mode

Please refer to the clause 2.2.

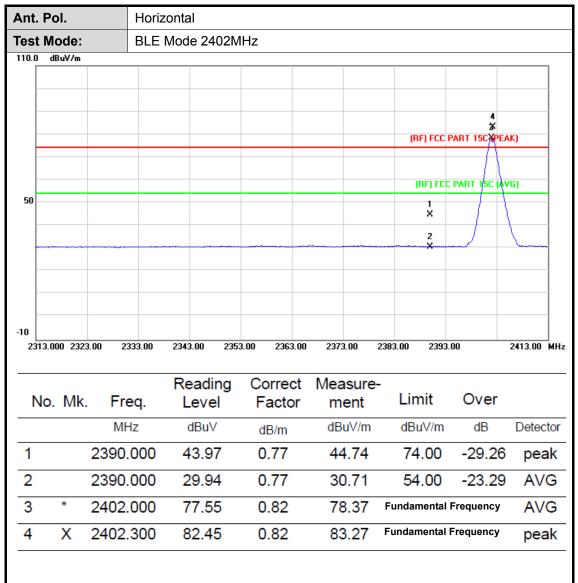
Test Results

Shenzhen General Testing & Inspection Technology Co., Ltd.

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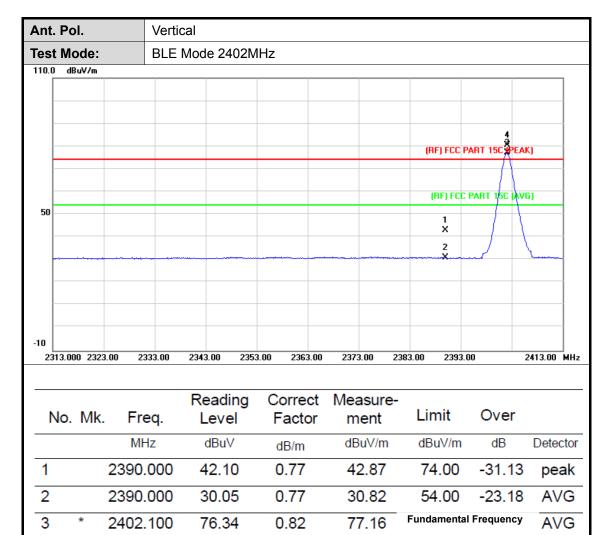


(1) Radiation Test



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0.82

80.41

Emission Level= Read Level+ Correct Factor

79.59

2402.200

4

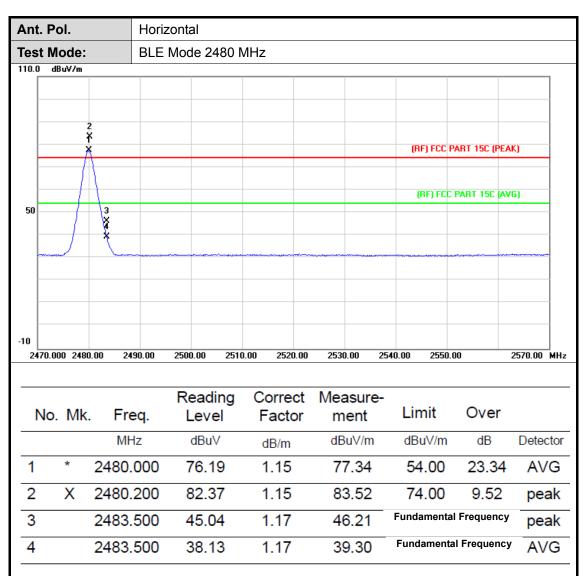
Χ

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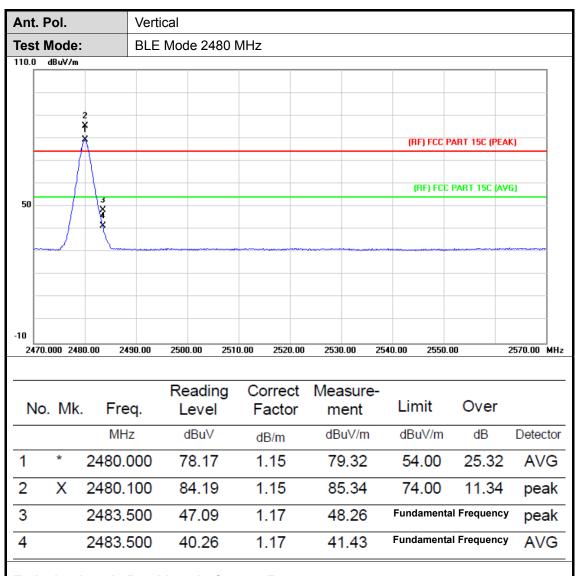
Fundamental Frequency

peak









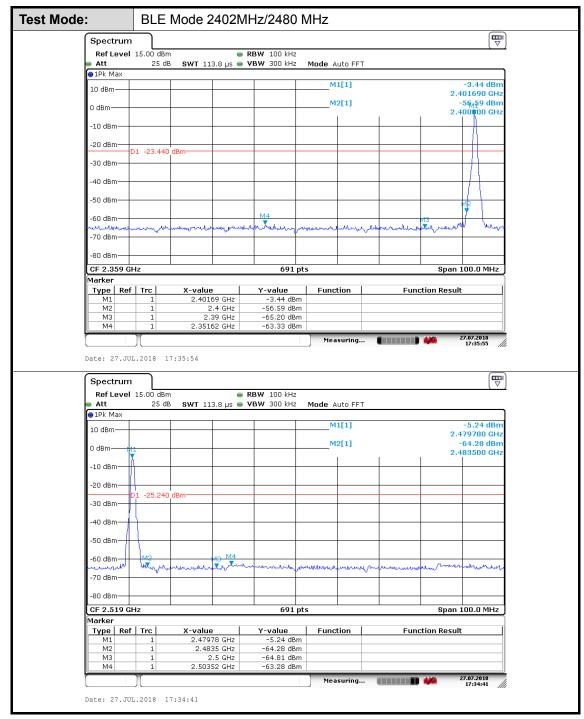
Emission Level= Read Level+ Correct Factor

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(2) Conducted Test







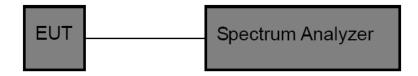
3.4. Bandwidth

Limit

| Test Item | Limit | Frequency Range(MHz) | |
|-----------|------------------------------|----------------------|--|
| Bandwidth | >=500 KHz (6dB bandwidth) | 2400~2483.5 | |

Report No.: GTI20181564F-2

Test Configuration



Test Procedure

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- 2. Spectrum Setting:
 - (1) Set RBW = 100 kHz.
 - (2) Set the video bandwidth (VBW) ≥ 3 RBW.
 - (3) Detector = Peak.
 - (4) Trace mode = Max hold.
 - (5) Sweep = Auto couple.

NOTE: The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

Test Mode

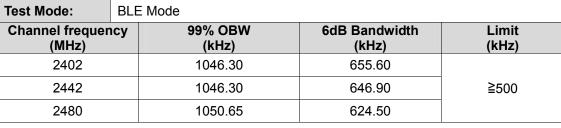
Please refer to the clause 2.2.

Test Results



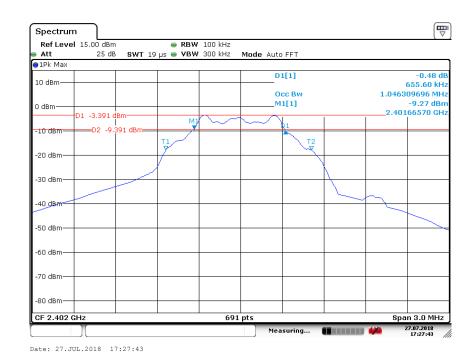
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: yz.cncaic.cn

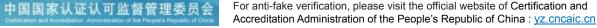




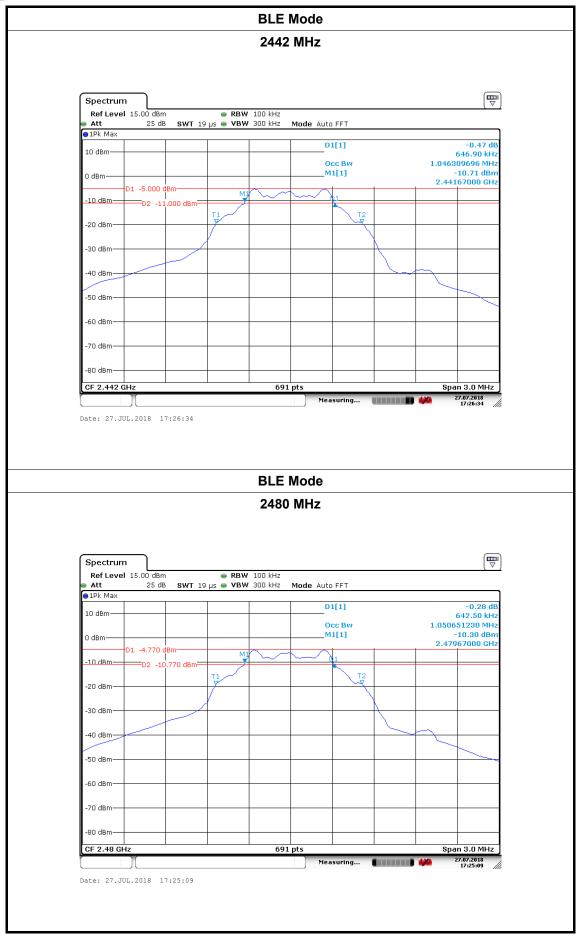
BLE Mode

2402 MHz









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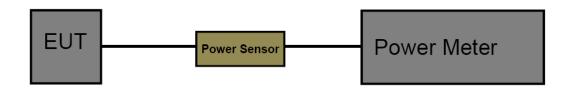
3.5. Peak Output Power

Limit

| Test Item | Limit | Frequency Range(MHz) |
|-------------------|------------------|----------------------|
| Peak Output Power | 1 Watt or 30 dBm | 2400~2483.5 |

Report No.: GTI20181564F-2

Test Configuration



Test Procedure

- 1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- Spectrum Setting:

Peak Detector: RBW≥DTS Bandwidth, VBW≥3*RBW.

Sweep time=Auto.

Detector= Peak.

Trace mode= Maxhold.

Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

Test Mode

Please refer to the clause 2.2

Test Result



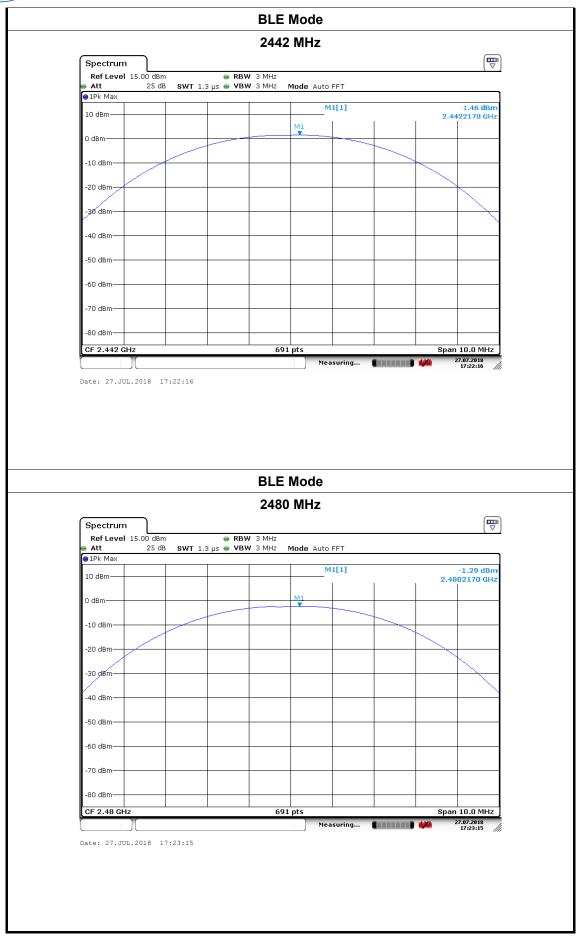
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: yz.cncaic.cn



| Channel frequency (MHz) Test Result (dBm) Limit (| |
|---|---------------------|
| 2441 -1.46 36 2480 -1.29 BLE Mode 2402 MHz Spectrum Ref Level 15.00 dBm | |
| 2480 -1.29 BLE Mode 2402 MHz Spectrum Ref Level 15.00 dBm | |
| BLE Mode 2402 MHz Spectrum Ref Level 15.00 dBm | ₩ V |
| BLE Mode 2402 MHz Spectrum Ref Level 15.00 dBm | □ |
| 2402 MHz Spectrum | □ |
| Spectrum | $\overline{\nabla}$ |
| Ref Level 15.00 dBm | ∇ |
| Ref Level 15.00 dBm | ∇ |
| Ref Level 15.00 dBm | |
| ● Att 25 dB SWT 1.3 µs ● VBW 3 MHz Mode Auto FFT ● IPk Max 10 dBm — M1[1] -1.88 2.4015800 | |
| 10 dBm M1[1] -1.88 2.4015800 | |
| 2.4015800 | |
| 0 dBm M1 | |
| 0 33 | |
| | |
| -10 d8m | \dashv |
| -20 dBm | |
| | |
| -30 dBm | $\overline{}$ |
| -40 dBm | |
| | |
| -50 dBm | \dashv |
| -60 dBm | |
| | |
| -70 dBm | \dashv |
| -80 dBm | |
| | |
| CF 2.402 GHz 691 pts Span 10.0 Measuring PM 27,07,201 | |

Accreditation Administration of the People's Republic of China: <u>yz.cncaic.cn</u>

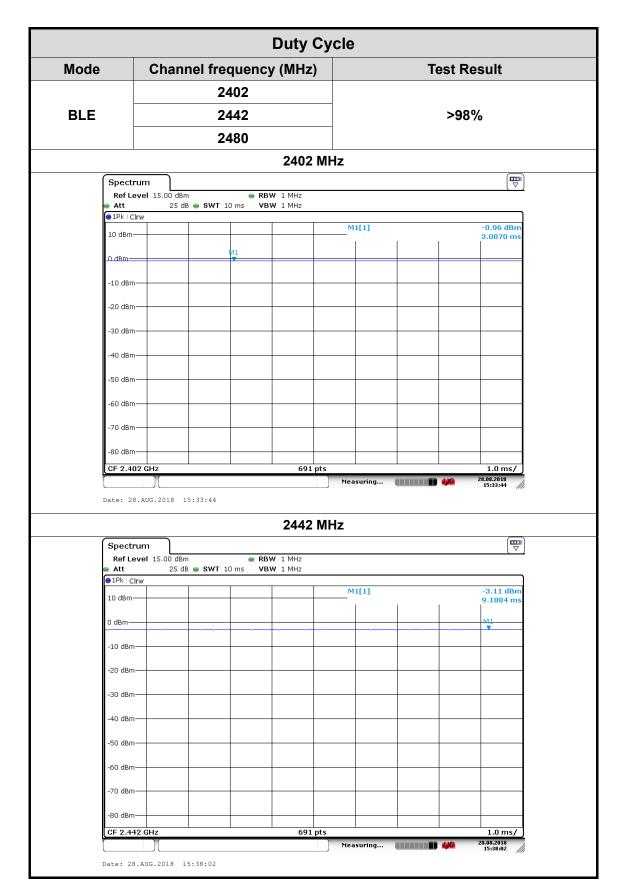




Accreditation Administration of the People's Republic of China: yz.cncaic.cn

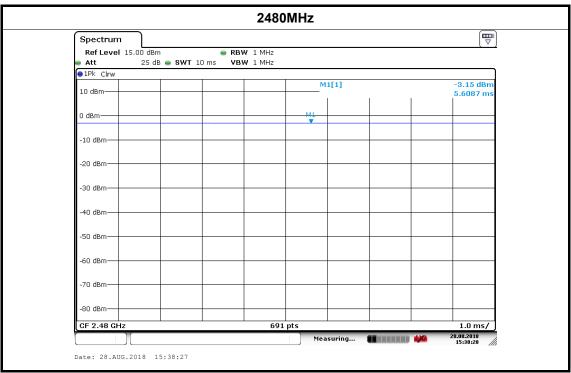














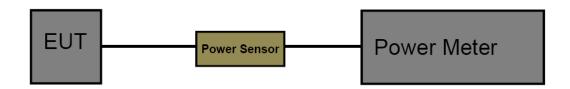
3.6. Power Spectral Density

Limit

| FCC Part 15 Subpart C(15.247) | | | | |
|-------------------------------|--------------------|----------------------|--|--|
| Test Item | Limit | Frequency Range(MHz) | | |
| Power Spectral Density | 8dBm(in any 3 kHz) | 2400~2483.5 | | |

Report No.: GTI20181564F-2

Test Configuration



Test Procedure

- 1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- 2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v04.
- Spectrum Setting:

Set analyser center frequency to DTS channel center frequency.

Set the span to 1.5 times the DTS bandwidth.

Set the RBW to: 3 kHz Set the VBW to: 10 kHz

Detector: peak
Sweep time: auto

Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

Test Mode

Please refer to the clause 2.2

Test Result

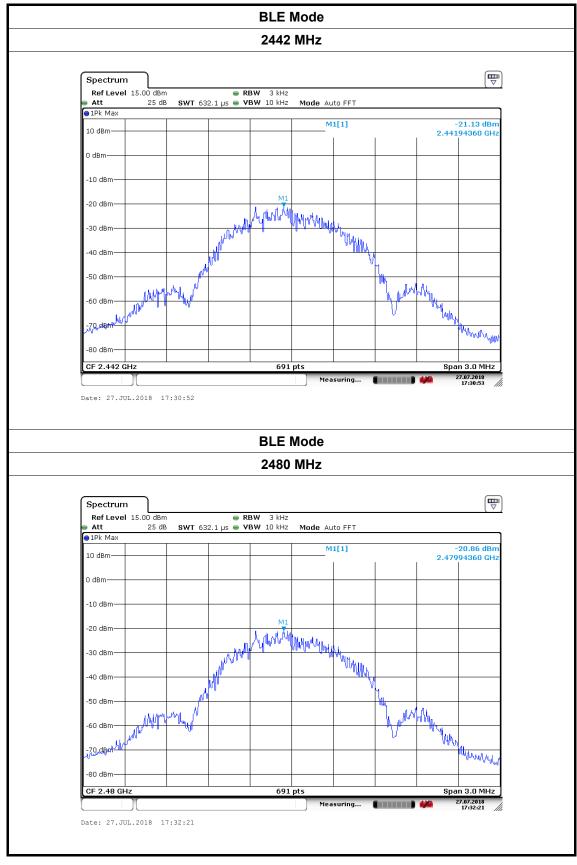


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Test Mode: BLE Mode Channel Frequency Power Density Limit Result (dBm) (MHz) (dBm) 2402 -19.19 2442 -21.13 8 **PASS** 2480 -20.86 **BLE Mode** 2402 MHz Spectrum RBW 3 kHzSWT 632.1 μsVBW 10 kHz Ref Level 15.00 dBm Att 25 dB Mode Auto FFT ●1Pk Max -19.19 dBm 2.40194360 GHz M1[1] 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm MANA -40 dBm -50 dBm CF 2.402 GHz 691 pts Span 3.0 MHz 27.07.2018 17:30:07 Date: 27.JUL.2018 17:30:07







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3.7. Antenna requirement

Requirement

FCC CFR Title 47 Part 15 Subpart C Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of anantenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i):

(i) Systems operating in the 2400~2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

Test Result

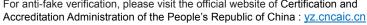
The directional gain of the antenna less than 6dBi, please refer to the EUT internal photographs antenna photo.

For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: yz.cncaic.cn



4.EUT TEST PHOTOS

Reference to the document No.: Test Photographs 1.







5.PHOTOGRAPHS OF EUT CONSTRUCTIONAL

Reference to the document No.: External Photographs and Internal Photographs.

For anti-take verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: yz.cncaic.cn