# FCC Test Report

## FCC Part 27M

Product Name : Module
Model No. : AR7594
FCC ID : N7NAR7594

Applicant : SIERRA WIRELESS, INC
Address : C/O 13811 WIRELESS WAY RICHMOND BC V6V 3A4, RICHMOND BRITISH COLUMBIA

Date of Receipt : Oct. 16, 2017
Test Date : Oct. 16, 2017~ Oct. 24, 2017
Issued Date : Oct. 30, 2017
Report No. : 17A2044R-HP-US-P07V01
Report Version : V1.0

# Test Report Certification

Issued Date : Oct. 30, 2017
Report No. :17A2044R-HP-US-P07V01

| | | |
|---|---|---|
| Product Name | : | Module |
| Applicant | : | SIERRA WIRELESS, INC |
| Address | : | C/O 13811 WIRELESS WAY RICHMOND BC V6V 3A4, RICHMOND BRITISH COLUMBIA |
| Manufacturer | : | SIERRA WIRELESS, INC |
| Address | : | C/O 13811 WIRELESS WAY RICHMOND BC V6V 3A4, RICHMOND BRITISH COLUMBIA |
| Model No. | : | AR7594 |
| FCC ID | : | N7NAR7594 |
| EUT Voltage | : | Low: 3.4V, High: 4.2V, Normal: 3.7V |
| Applicable Standard | : | FCC CFR Title 47 Part 2,TIA/EIA 603-C<br>FCC Part 27 Subpart M<br>Industry Canada RSS-GEN, Issue 4<br>Industry Canada RSS-199, Issue 2 |
| Test Result | : | Complied |
| Performed Location | : | DEKRA Testing and Certification (Suzhou) Co., Ltd.<br>No.99 Hongye Rd., Suzhou Industrial Park, Suzhou,215006, Jiangsu,China<br>TEL:+86-512-6251-5088 / FAX:+86-512-6251-5098<br>FCC Registration Number: CN1199 |
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| Approved By | : | Harry Zhao |
| | | (Engineering Manager: Harry Zhao) |

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## History of This Test Report

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|---|---|---|---|
| 17A2044R-HP-US-P07V01 | V1.0 | Initial Issued Report | Oct. 30, 2017 |
| | | | |
| | | | |
| | | | |

# 1. General Information

## 1.1. EUT Description

| | |
|---|---|
| Product Name | Module |
| Model No. | AR7594 |
| EUT Voltage | Low: 3.4V, High: 4.2V, Normal: 3.7V |
| HW | 1.0 |
| SW | SWI9X40A_01.11.05.00 |
| **4G** | |
| Support Band | LTE Band 7 |
| Uplink | Band 7: 2500~2570MHz |
| Downlink | Band 7:2620~2690mMHz |
| Type of modulation | QPSK, 16QAM |
| Antenna Type | Dipole |
| Antenna Gain | Band 7: 1.3dBi |

## 1.2. Antenna Information

| | | | | |
|---|---|---|---|---|
| Antenna manufacturer | N/A | | | |
| Antenna Delivery | ☒ 1*TX+1*RX | ☐ 2*TX+2*RX | ☐ 3*TX+3*RX | |
| Antenna technology | ☒ SISO | | | |
| | ☐ MIMO | ☐ Basic | | |
| | | ☐ Sectorized antenna systems | | |
| | | ☐ Cross-polarized antennas | | |
| | | ☐ Unequal antenna gains, with equal transmit powers | | |
| | | ☐ Spatial Multiplexing | | |
| | | ☐ CDD | | |
| | | ☐ Beam-forming | | |
| Antenna Type | ☒ External | ☒ Dipole | | |
| | ☐ Internal | ☐ PIFA | | |
| | | ☐ PCB | | |
| | | ☐ Ceramic Chip Antenna | | |
| | | ☐ Metal plate type F antenna | | |
| | | ☐ Cross-polarize Antenna | | |
| Antenna Gain #1 | 1.3dBi | | | |

## 1.3. Mode of Operation

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

| Test Mode |
|---|
| Mode 1 :LTE Band 7 Link |
| Note 1:<br>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. For the LTE band, we also evaluate the each channel of bandwidth, RB offset and modulation, we will choose the worst case shown on this report. |

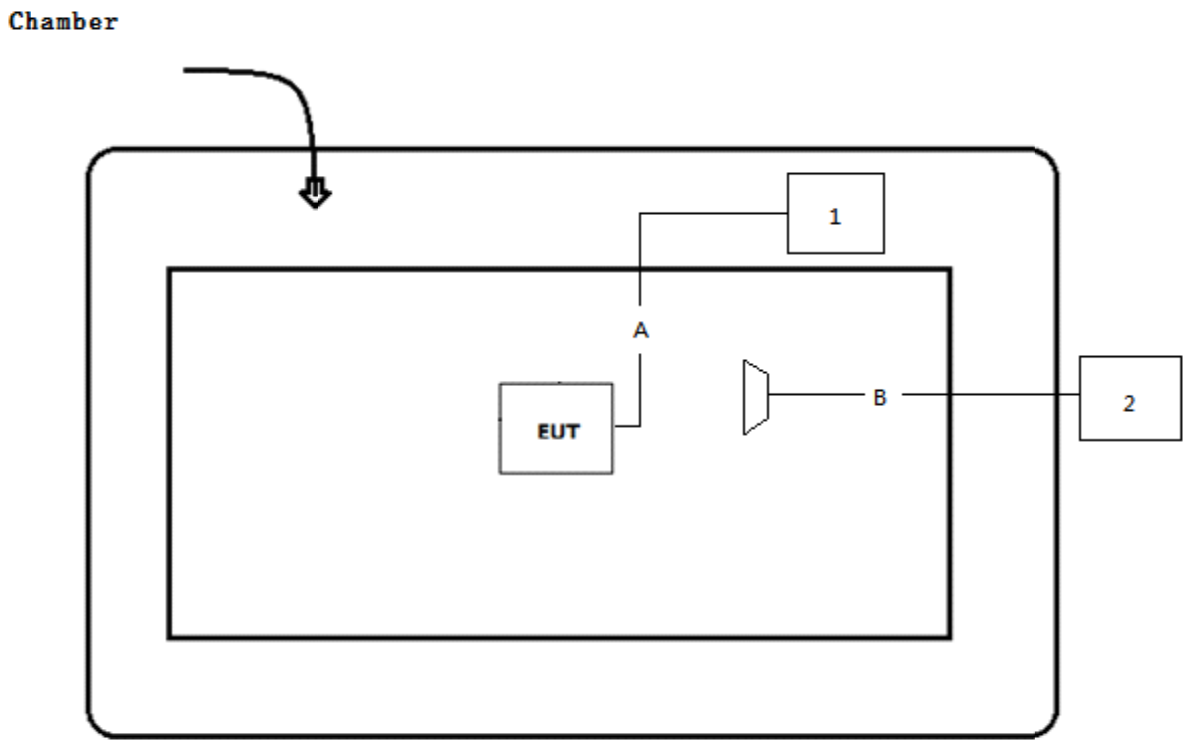
## 1.4. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

| Product | | Manufacturer | Model No. | Serial No. | Power Cord |
|---|---|---|---|---|---|
| 1 | DC Power Supply | IDRC | CD-035-020PR | 977272 | N/A |
| 2 | Radio Communication Tester | Anritsu | MT8820C | 6201181503 | N/A |

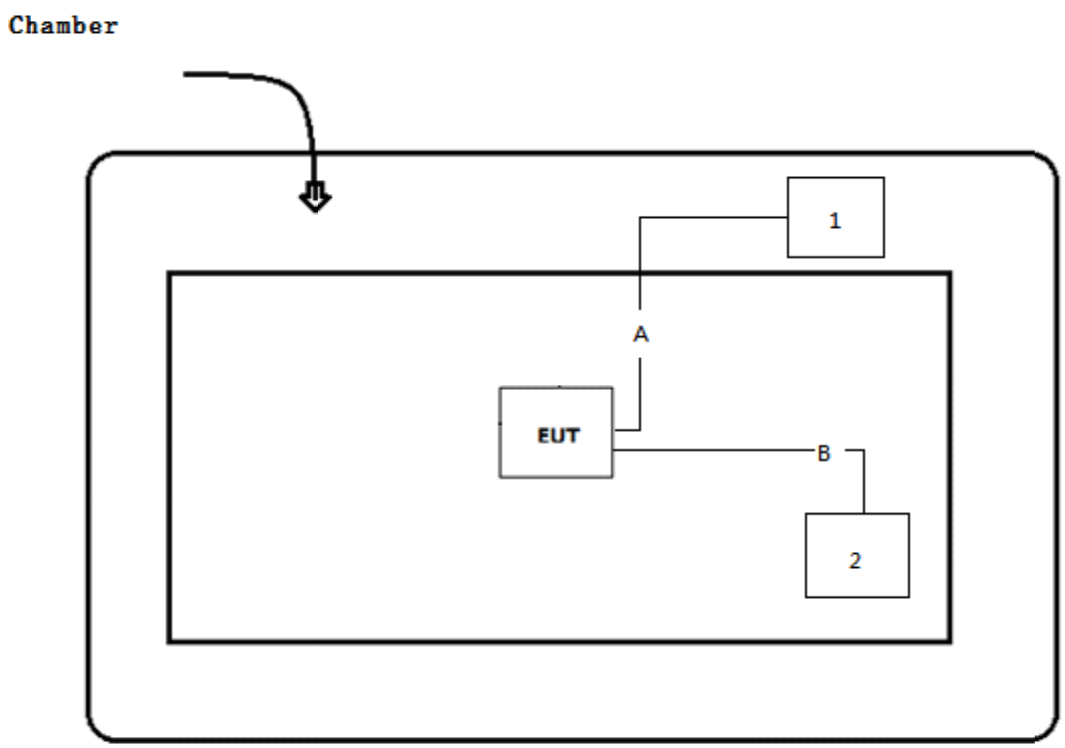
## 1.5. Configuration of Tested System

RadiatedConnection Diagram




| Signal Cable Type | | Signal cable Description |
|---|---|---|
| A | Control Cable | Non-Shielded,2m |
| B | Coaxial Cable | Shielded,>5m |

| Conducted Connection Diagram |
|---|




| Signal Cable Type | | Signal cable Description |
|---|---|---|
| A | Control Cable | Non-Shielded,2m |
| B | Coaxial Cable | Shielded,>5m |

## 1.6. EUT Exercise Software

| | |
|---|---|
| 1 | Setup the EUT and simulators as shown on above. |
| 2 | Turn on the power of all equipment. |
| 3 | EUT Communicate with MT8820C, then select channel to test. |

## 2. Summary Technical Test

### 2.1. Limit and Test Result

| LTE Band 7 | | | | | |
|---|---|---|---|---|---|
| FCC Part 27 SubpartM | | | | | |
| Industry Canada RSS-199, Issue 2, Industry Canada RSS-GEN | | | | | |
| Test Item | FCC Reference section | Limit | IC Reference section | Limit | Result |
| Maximum Output Power | §2.1033<br>§2.1046<br>§27.50 | Output Power < 2 Watts | §5.4 | Output Power < 2 Watts | Pass |
| Equivalent Isotropic Radiated Power | §27.50 | < 33 dBW + 10 log(X/Y)dBW + 10 log(360/beamwidth) dBW | §5.4 | < 33 dBW + 10 log(X/Y)dBW + 10 log(360/beamwidth) dBW | Pass |
| Occupied Bandwidth | §2.1049 | N/A | RSS-GEN §4.2 | N/A | Pass |
| Conducted Band EdgeEmissions | §27.53 | < 5MHz: -10dBm<br>5MHz-X MHz:-13dBm<br>>X MHz:-25dBm | §5.5 | < 5MHz: -10dBm<br>5MHz-X MHz:-13dBm<br>>X MHz:-25dBm | Pass |
| Spurious Radiation | §2.1053<br>§27.53 | -25 dBm | §5.5 | -25 dBm | Pass |
| Frequency Stability Under Temperature & Voltage Variations | §2.1055<br>§27.54 | 2.5 ppm | §5.3 | 2.5 ppm | Pass |

## 2.2. Worst Data

| Test Item | LTE Band | Bandwidth | Channel | Frequency | RB Size | RB Offset | Value |
|---|---|---|---|---|---|---|---|
| Maximum Output Power | 7 | 20M | 20850 | 2510 | 1 | 49 | 22.85 |
| | | 15M | 21350 | 2562.5 | 1 | 0 | 22.77 |
| | | 10M | 21400 | 2565 | 1 | 0 | 22.71 |
| | | 5M | 20775 | 2502.5 | 1 | 0 | 22.63 |
| Note: The modulation of the worst data is QPSK | | | | | | | |

| Test Item | LTE Band | Bandwidth | Channel | Frequency | RB Size | RB Offset | Value |
|---|---|---|---|---|---|---|---|
| Equivalent Isotropic Radiated Power | 7 | 20M | 21350 | 2560 | 1 | 0 | 23.86 |
| | | 15M | 21375 | 2562.5 | 1 | 0 | 23.92 |
| | | 10M | 20800 | 2505 | 1 | 0 | 24.02 |
| | | 5M | 20775 | 2502.5 | 1 | 0 | 23.84 |
| Note: The modulation of the worst data is QPSK | | | | | | | |

| Test Item | LTE Band | Bandwidth | Channel | Frequency | RB Size | RB Offset | Value |
|---|---|---|---|---|---|---|---|
| Occupied Bandwidth | 7 | 20M | 20850 | 2510 | 100 | 0 | 17859 |
| | | 15M | 20825 | 2507.5 | 75 | 0 | 13411 |
| | | 10M | 21100 | 2535 | 50 | 0 | 8944.2 |
| | | 5M | 21100 | 2535 | 15 | 0 | 4329.9 |
| Note: The modulation of the worst data is QPSK | | | | | | | |

| Test Item | LTE Band | Bandwidth | Channel | Frequency | RB Size | RB Offset | Value |
|---|---|---|---|---|---|---|---|
| Conducted Band Edge Emissions | 7 | 20M | 20850 | 2510 | 100 | 0 | -27.853 |
| | | 15M | 20825 | 2507.5 | 75 | 0 | -24.388 |
| | | 10M | 21400 | 2565 | 1 | 0 | -11.611 |
| | | 5M | 21425 | 2567.5 | 1 | 0 | -10.898 |
| Note: The modulation of the worst data is QPSK | | | | | | | |

| Test Item | LTE Band | Bandwidth | Channel | Frequency | RB Size | RB Offset | Value |
|---|---|---|---|---|---|---|---|
| Field Strength of Spurious Radiation | 7 | 20M | 21100 | 2535 | 1 | 0 | -44.679 |
| | | 15M | 21375 | 2562.5 | 1 | 0 | -44.621 |
| | | 10M | 21100 | 2535 | 1 | 0 | -44.042 |
| | | 5M | 20775 | 2502.5 | 1 | 0 | -43.082 |
| Note: The modulation of the worst data is QPSK | | | | | | | |

| Test Item | LTE Band | Bandwidth | Channel | Frequency | RB Size | RB Offset | Value |
|---|---|---|---|---|---|---|---|
| Frequency Stability Under Temperature & Voltage Variations | 7 | 20M | 21100 | 2535 | 1 | 0 | -671 |
| Note: The modulation of the worst data is QPSK | | | | | | | |

## 2.3. Test Environment

| Items | Required (IEC 68-1) | Actual |
|---|---|---|
| Temperature (°C) | 15-35 | 23 |
| Humidity (%RH) | 25-75 | 52 |
| Barometric pressure (mbar) | 860-1060 | 950-1000 |

## 2.4. Measurement Uncertainty

| Items | Uncertainty |
|---|---|
| Maximum Output Power | ±1.2 dB |
| Equivalent Isotropic Radiated Power | ±3.2 dB |
| Occupied Bandwidth | ±10 Hz |
| Conducted Band Edge Emissions | ±1.2 dB |
| Field Strength of Spurious Radiation | ±3.2 dB |
| Frequency Stability Under Temperature & Voltage Variations | ±10 Hz |

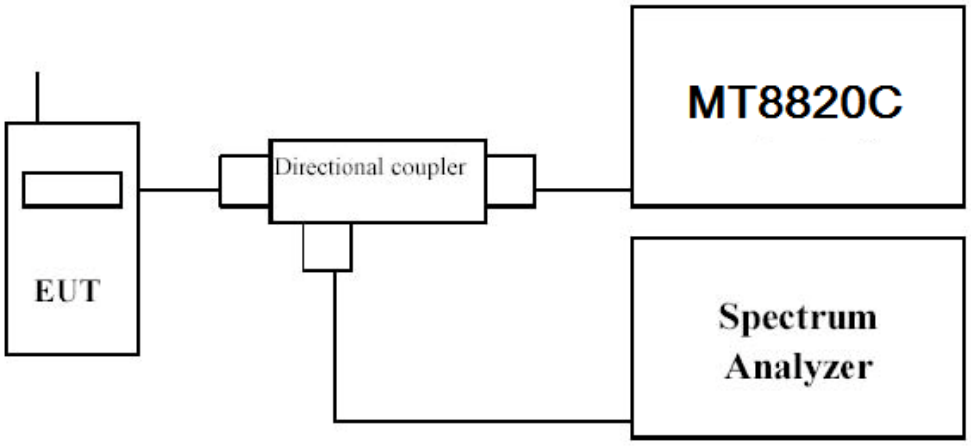
# 3. Maximum Output Power and EffectiveIsotropic Radiated PowerMeasurement

## 3.1. Test Equipment

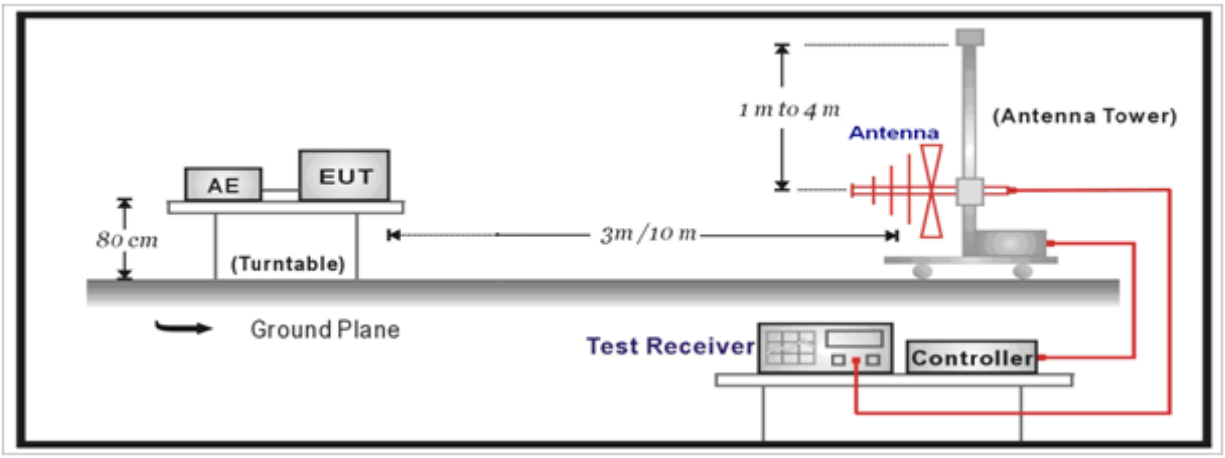
| Maximum Output Power and Effective Isotropic Radiated Power Measurement / AC-5 | | | | |
|---|---|---|---|---|
| Instrument | Manufacturer | Type No. | Serial No | Cali. Due Date |
| PSA Series Spectrum Analyzer | Agilent | E4440A | MY49420184 | 2018.02.04 |
| Radio Communication Tester | Anritsu | MT8820C | 6201181503 | 2018.09.16 |
| Dual Directional Coupler | Agilent | 778D | 20160 | 2018.02.04 |
| 10dB Coaxial Coupler | Agilent | 87300C | MY44300299 | 2018.03.28 |
| PSG Analog Signal Generator | Agilent | E8257D | MY44321116 | 2018.02.04 |
| Preamplifier | QuieTek | AP-025C | CHM-0503006 | 2018.04.11 |
| Preamplifier | Miteq | NSP1800-25 | 1364185 | 2018.05.03 |
| Bilog Antenna | Teseq GmbH | CBL6112D | 27612 | 2018.01.23 |
| Half Wave Tuned Dipole Antenna | COM-POWER | AD-100 | 40137 | 2018.02.26 |
| Broad-Band Horn Antenna | Schwarzbeck | BBHA9120D | 737 | 2018.03.06 |
| DRG Horn | ETS-Lindgren | 3117 | 00167055 | 2018.07.23 |
| Temperature/Humidity Meter | Zhicheng | ZC1-2 | AC5-TH | 2018.01.05 |

## 3.2. Test Setup

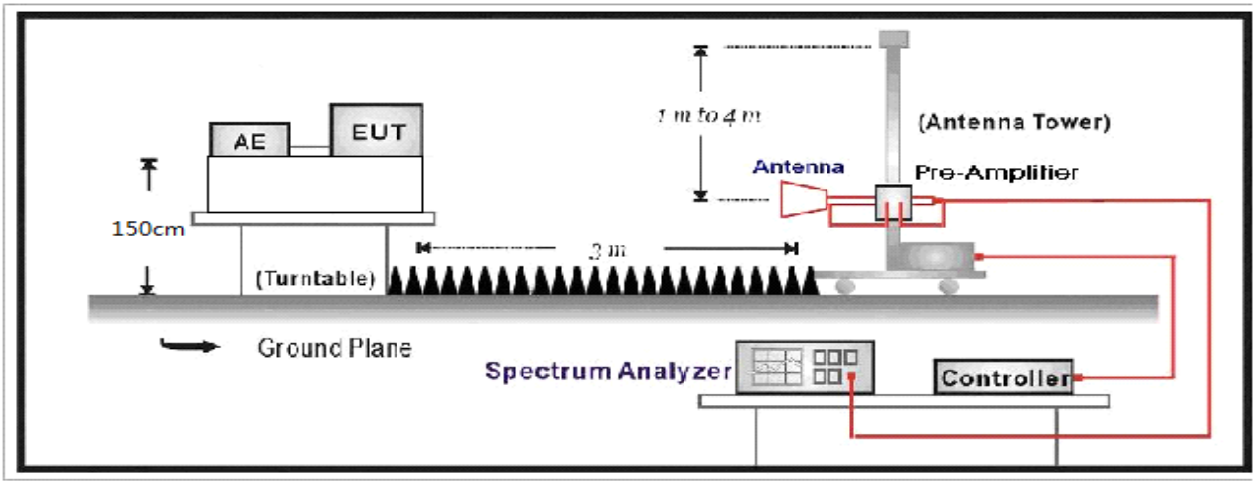
Conducted Power Measurement:




Radiated Power Measurement (Below 1G):




Radiated Power Measurement (Above 1G):



## 3.3. Test Procedure

| **Test Method for conducted power** |
|---|
| a) The RF output of the transmitter was connected to base station simulator. |
| b) The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. |
| c) Set EUT at maximum average power by base station simulator. |
| d) Measure lowest, middle, and highest channels for each bandwidth and different modulation. |
| **Test For Effective Isotropic Radiated Power Measurement:** |
| a) The EUT was placed on a turntable with 1.5 meter height in a fully anechoic chamber. |
| b) The EUT was set at 3 meters from the receiving antenna, which was mounted on the antenna tower |
| c) LTE operating modes: use channel power function to test |
| d) The table was rotated 360 degrees to determine the position of the highest radiated power. |
| e) The height of the receiving antenna is adjusted to look for the maximum EIRP. |
| f) The maximum EIRP shall be record. |
| g) A dipole antenna was substituted in place of the EUT and was driven by a signal generator. |
| h) The conducted power at the terminal of the dipole antenna is measured. |
| i) Repeat step c) to step h) to get the maximum EIRP of the substitution antenna. |
| j) EIRP = Ps + Et – Es + Gs = Ps + Rt – Rs + Gs. |
| k) Ps (dBm)：Input power to substitution antenna |
| l) Gs (dBi or dBd)：Substitution antenna Gain. |
| m) Et = Rt + AF |
| n) Es = Rs + AF |
| o) AF (dB/m)：Receive antenna factor |
| p) Rt：The highest received signal in spectrum analyzer for EUT. |
| q) Rs：The highest received signal in spectrum analyzer for substitution antenna. |

## 3.4. Test Result

| Product | Module | Test Site | AC-5 |
|---|---|---|---|
| Test Item | Maximum Output Power | Date of Test | 2017/10/19 |
| Test Mode | Mode 1: LTE Band 7 Link | Test engineer | Demon |

| BW [MHz] | RB Size | RB Offset | Mod | Maximum Average Power [dBm] | | |
|---|---|---|---|---|---|---|
| | | | | Low Ch. / Freq. | Mid Ch. / Freq. | High Ch. / Freq. |
| Channel | | | | 20850 | 21100 | 21350 |
| Frequency | | | | 2510 | 2535 | 2560 |
| 20 | 1 | 0 | | 22.44 | 22.67 | 22.71 |
| 20 | 1 | 49 | | 22.85 | 22.36 | 22.55 |
| 20 | 1 | 99 | | 22.47 | 22.5 | 22.7 |
| 20 | 50 | 0 | QPSK | 21.52 | 21.31 | 21.54 |
| 20 | 50 | 24 | | 21.51 | 21.4 | 21.52 |
| 20 | 50 | 49 | | 21.49 | 21.42 | 21.56 |
| 20 | 100 | 0 | | 21.45 | 21.43 | 21.55 |
| 20 | 1 | 0 | | 22.06 | 21.69 | 22.00 |
| 20 | 1 | 49 | | 21.81 | 21.62 | 21.57 |
| 20 | 1 | 99 | | 21.71 | 21.77 | 21.73 |
| 20 | 50 | 0 | 16-QAM | 20.58 | 20.46 | 20.78 |
| 20 | 50 | 24 | | 20.56 | 20.43 | 20.67 |
| 20 | 50 | 49 | | 20.54 | 20.41 | 20.64 |
| 20 | 100 | 0 | | 20.7 | 20.54 | 20,62 |
| Channel | | | | 20825 | 21100 | 21375 |
| Frequency | | | | 2507.5 | 2535 | 2562.5 |
| 15 | 1 | 0 | | 22.58 | 22.66 | 22.77 |
| 15 | 1 | 37 | | 22.48 | 22.54 | 22.64 |
| 15 | 1 | 74 | | 22.8 | 22.56 | 22.66 |
| 15 | 36 | 0 | QPSK | 21.69 | 21.56 | 21.45 |
| 15 | 36 | 18 | | 21.65 | 21.5 | 21.43 |
| 15 | 36 | 37 | | 21.53 | 21.43 | 21.42 |
| 15 | 75 | 0 | | 21.52 | 21.38 | 21.4 |
| 15 | 1 | 0 | | 21.73 | 21.27 | 21.63 |
| 15 | 1 | 37 | 16-QAM | 21.68 | 21.35 | 21.55 |
| 15 | 1 | 74 | | 21.82 | 21.24 | 21.51 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 15 | 36 | 0 | | 20.55 | 20.3 | 20.47 |
| 15 | 36 | 18 | | 20.53 | 20.35 | 20.43 |
| 15 | 36 | 37 | | 20.59 | 20.4 | 20.42 |
| 15 | 75 | 0 | | 20.54 | 20.38 | 20.34 |
| **Channel** | | | | **20800** | **21100** | **21400** |
| **Frequency** | | | | **2505** | **2535** | **2565** |
| 10 | 1 | 0 | | 22.56 | 22.69 | 22.71 |
| 10 | 1 | 24 | | 22.46 | 22.41 | 22.60 |
| 10 | 1 | 49 | | 22.78 | 22.55 | 22.43 |
| 10 | 25 | 0 | QPSK | 21.58 | 21.38 | 21.4 |
| 10 | 25 | 12 | | 21.54 | 21.36 | 21.37 |
| 10 | 25 | 24 | | 21.53 | 21.39 | 21.41 |
| 10 | 50 | 0 | | 21.63 | 21.39 | 21.57 |
| 10 | 1 | 0 | | 21.85 | 21.69 | 21.89 |
| 10 | 1 | 24 | | 21.44 | 21.61 | 21.62 |
| 10 | 1 | 49 | | 21.76 | 21.88 | 21.84 |
| 10 | 25 | 0 | 16-QAM | 20.67 | 20.67 | 20.42 |
| 10 | 25 | 12 | | 20.69 | 20.7 | 20.59 |
| 10 | 25 | 24 | | 20.58 | 20.62 | 20.5 |
| 10 | 50 | 0 | | 20.67 | 20.65 | 20.51 |
| **Channel** | | | | **20775** | **21100** | **21425** |
| **Frequency** | | | | **2502.5** | **2535** | **2567.5** |
| 5 | 1 | 0 | | 22.63 | 22.50 | 22.56 |
| 5 | 1 | 12 | | 22.59 | 22.35 | 22.5 |
| 5 | 1 | 24 | | 22.45 | 22.32 | 22.48 |
| 5 | 12 | 0 | QPSK | 21.47 | 21.36 | 21.4 |
| 5 | 12 | 6 | | 21.49 | 21.37 | 21.37 |
| 5 | 12 | 11 | | 21.55 | 21.29 | 21.34 |
| 5 | 25 | 0 | | 21.32 | 21.21 | 21.31 |
| 5 | 1 | 0 | | 21.92 | 21.69 | 21.72 |
| 5 | 1 | 12 | | 21.62 | 21.91 | 21.67 |
| 5 | 1 | 24 | | 21.98 | 21.81 | 21.66 |
| 5 | 12 | 0 | 16-QAM | 20.55 | 20.4 | 20.51 |
| 5 | 12 | 6 | | 20.47 | 20.37 | 20.49 |
| 5 | 12 | 11 | | 20.41 | 20.29 | 20.46 |
| 5 | 25 | 0 | | 20.45 | 20.36 | 20.43 |

Note: All conducted measurements are based on a RMS detector.

| Product | Module | Test Site | AC-5 |
|---|---|---|---|
| Test Item | Effective Isotropic Radiated Power | Date of Test | 2017/10/19 |
| Test Mode | Mode 1: LTE Band 7 Link | Test engineer | Demon |

| LTE Band 7 Radiated Power EIRP | | | | | | | |
|---|---|---|---|---|---|---|---|
| LTE Band | Channel BW (MHz) | Modulation | RB Configuration | | Freq. (MHz) | EIRP (dBm) | H/V |
| | | | RB Size | RB Offset | | | |
| 7 | 5 | QPSK | 1 | 0 | 2502.5 | 23.84 | H |
| 7 | 5 | QPSK | 1 | 0 | 2535.0 | 23.65 | H |
| 7 | 5 | QPSK | 1 | 0 | 2567.5 | 23.81 | H |
| 7 | 5 | QPSK | 1 | 0 | 2502.5 | 23.82 | V |
| 7 | 5 | QPSK | 1 | 0 | 2535.0 | 23.63 | V |
| 7 | 5 | QPSK | 1 | 0 | 2567.5 | 23.79 | V |
| 7 | 5 | 16QAM | 1 | 0 | 2502.5 | 23.01 | H |
| 7 | 5 | 16QAM | 1 | 0 | 2535.0 | 23.15 | H |
| 7 | 5 | 16QAM | 1 | 0 | 2567.5 | 23.11 | H |
| 7 | 5 | 16QAM | 1 | 0 | 2502.5 | 23.05 | V |
| 7 | 5 | 16QAM | 1 | 0 | 2535.0 | 23.08 | V |
| 7 | 5 | 16QAM | 1 | 0 | 2567.5 | 23.12 | V |
| 7 | 10 | QPSK | 1 | 0 | 2505.0 | 24.02 | H |
| 7 | 10 | QPSK | 1 | 0 | 2535.0 | 23.83 | H |
| 7 | 10 | QPSK | 1 | 0 | 2565.0 | 23.98 | H |
| 7 | 10 | QPSK | 1 | 0 | 2505.0 | 24.05 | V |
| 7 | 10 | QPSK | 1 | 0 | 2535.0 | 23.81 | V |
| 7 | 10 | QPSK | 1 | 0 | 2565.0 | 23.95 | V |
| 7 | 10 | 16QAM | 1 | 0 | 2505.0 | 23.15 | H |
| 7 | 10 | 16QAM | 1 | 0 | 2535.0 | 23.08 | H |
| 7 | 10 | 16QAM | 1 | 0 | 2565.0 | 23.11 | H |
| 7 | 10 | 16QAM | 1 | 0 | 2505.0 | 23.14 | V |
| 7 | 10 | 16QAM | 1 | 0 | 2535.0 | 23.17 | V |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7 | 10 | 16QAM | 1 | 0 | 2565.0 | 23.13 | V |

| LTE Band 7 Radiated Power EIRP | | | | | | | |
|---|---|---|---|---|---|---|---|
| LTE Band | Channel BW (MHz) | Modulation | RB Configuration | | Freq. (MHz) | EIRP (dBm) | H/V |
| | | | RB Size | RB Offset | | | |
| 7 | 15 | QPSK | 1 | 0 | 2507.5 | 23.71 | H |
| 7 | 15 | QPSK | 1 | 0 | 2535.0 | 23.84 | H |
| 7 | 15 | QPSK | 1 | 0 | 2562.5 | 23.92 | H |
| 7 | 15 | QPSK | 1 | 0 | 2507.5 | 23.69 | V |
| 7 | 15 | QPSK | 1 | 0 | 2535.0 | 23.81 | V |
| 7 | 15 | QPSK | 1 | 0 | 2562.5 | 23.87 | V |
| 7 | 15 | 16QAM | 1 | 0 | 2507.5 | 23.15 | H |
| 7 | 15 | 16QAM | 1 | 0 | 2535.0 | 23.08 | H |
| 7 | 15 | 16QAM | 1 | 0 | 2562.5 | 23.05 | H |
| 7 | 15 | 16QAM | 1 | 0 | 2507.5 | 23.17 | V |
| 7 | 15 | 16QAM | 1 | 0 | 2535.0 | 23.06 | V |
| 7 | 15 | 16QAM | 1 | 0 | 2562.5 | 22.95 | V |
| 7 | 20 | QPSK | 1 | 0 | 2507.5 | 23.65 | H |
| 7 | 20 | QPSK | 1 | 0 | 2535.0 | 23.71 | H |
| 7 | 20 | QPSK | 1 | 0 | 2560.0 | 23.84 | H |
| 7 | 20 | QPSK | 1 | 0 | 2507.5 | 23.59 | V |
| 7 | 20 | QPSK | 1 | 0 | 2535.0 | 23.73 | V |
| 7 | 20 | QPSK | 1 | 0 | 2560.0 | 23.86 | V |
| 7 | 20 | 16QAM | 1 | 0 | 2507.5 | 23.15 | H |
| 7 | 20 | 16QAM | 1 | 0 | 2535.0 | 23.02 | H |
| 7 | 20 | 16QAM | 1 | 0 | 2560.0 | 23.09 | H |
| 7 | 20 | 16QAM | 1 | 0 | 2507.5 | 23.17 | V |
| 7 | 20 | 16QAM | 1 | 0 | 2535.0 | 23.08 | V |
| 7 | 20 | 16QAM | 1 | 0 | 2560.0 | 23.16 | V |

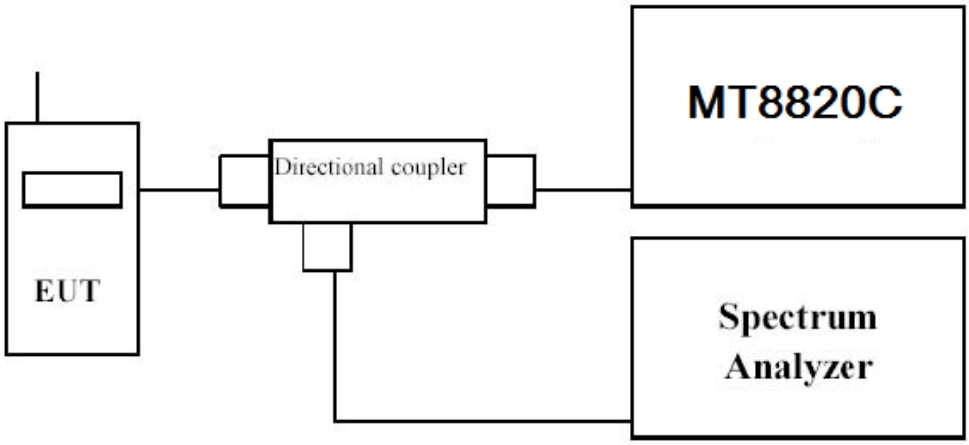
Note: For EIRP test, we have evaluated all the and RB size and Offset in each channel, we choose the worst data shown in the report.

# 4. Peak-to-average power ratio

## 4.1. Test Equipment

| Peak-to-average power ratio / AC-5 | | | | |
|---|---|---|---|---|
| Instrument | Manufacturer | Type No. | Serial No | Cali. Due Date |
| PSA Series Spectrum Analyzer | Agilent | E4440A | MY49420184 | 2018.02.04 |
| Radio Communication Tester | Anritsu | MT8820C | 6201181503 | 2018.09.16 |
| Dual Directional Coupler | Agilent | 778D | 20160 | 2018.02.04 |
| 10dB Coaxial Coupler | Agilent | 87300C | MY44300299 | 2018.03.28 |
| Temperature/Humidity Meter | Zhicheng | ZC1-2 | AC6-TH | 2018.01.05 |

## 4.2. Test Setup

| Conducted Power Measurement: |
|---|
|  |



## 4.3. Test Procedure

| ☒ | **CCDF procedure for PAPR** |
|---|---|

The inherent randomness of the power peaks in a noise-like digital signal makes it difficult to quantify the peak power using traditional measurement techniques for determining the peak power of an analog signal.

The peak power of a digitally-modulated signal is predictable only on a statistical basis. Thus, for these types of signals, a statistical measurement of the peak power is necessary.

The power complementary cumulative distribution function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. The following guidelines are offered for performing a CCDF measurement.

a) Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;

b) Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;

c) Set the number of counts to a value that stabilizes the measured CCDF curve;

d) Set the measurement interval as follows:

1) for continuous transmissions, set to 1 ms,

2) for burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.

| |
|---|
| e) Record the maximum PAPR level associated with a probability of 0.1%. |
| ☐ **Alternate procedure for PAPR** |
| Use one of the procedures presented in 4.1 to measure the total peak power and record as PPk. Use one of the applicable procedures presented 4.2 to measure the total average power and record as PAvg. Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:<br>PAPR (dB) = PPk (dBm) - PAvg (dBm). |

## 4.4. Test Result

The LTE Band 7 is not application.

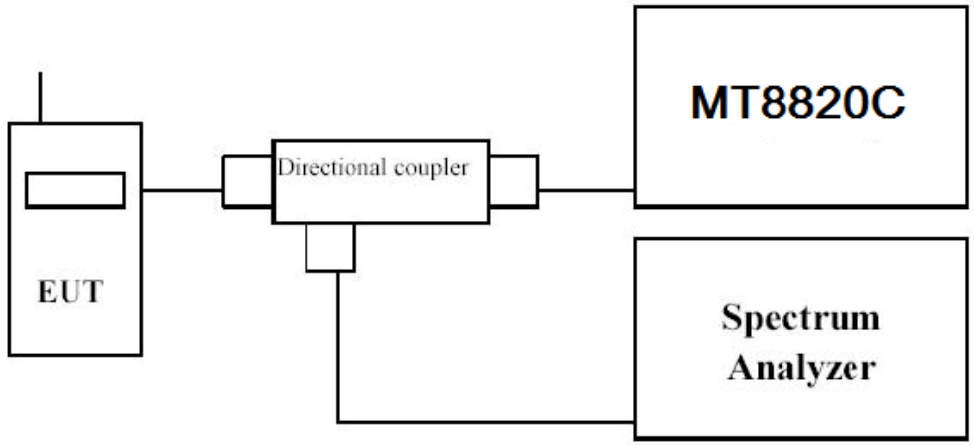
# 5. Occupied Bandwidth

## 5.1. Test Equipment

| Occupied Bandwidth / TR-8 | | | | |
|---|---|---|---|---|
| Instrument | Manufacturer | Type No. | Serial No | Cali. Due Date |
| PSA Series Spectrum Analyzer | Agilent | E4440A | MY49420184 | 2018.02.04 |
| Radio Communication Tester | Anritsu | MT8820C | 6201181503 | 2018.09.16 |
| Dual Directional Coupler | Agilent | 778D | 20160 | 2018.02.04 |
| 10dB Coaxial Coupler | Agilent | 87300C | MY44300299 | 2018.03.28 |
| Temperature/Humidity Meter | Zhicheng | ZC1-2 | AC6-TH | 2018.01.05 |

## 5.2. Test Setup

Conducted Power Measurement:




## 5.3. Test Procedure

**Test Method for conducted test**

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The 99% occupied bandwidth and 26 dB bandwidth of themiddle channel for the highest RF powers were measured.

## 5.4. Test Result

| Product | Module | Test Site | AC-5 |
|---|---|---|---|
| Test Item | Occupied Bandwidth | Date of Test | 2017/10/20 |
| Test Mode | Mode 1(QPSK) | Test engineer | Demon |

| Mode | Bandwidth (MHz) | Channel No. | Frequency (MHz) | 99% Occupied Bandwidth (kHz) | -26dBOccupied Bandwidth (kHz) |
|---|---|---|---|---|---|
| LTE Band 7 | 20 | 20850 | 2510 | 17859 | 18910 |
| | | 21100 | 2535 | 17856 | 18720 |
| | | 21350 | 2560 | 17861 | 18840 |
| | 15 | 20825 | 2507.5 | 13411 | 14250 |
| | | 21100 | 2535 | 13407 | 14310 |
| | | 21400 | 2562.5 | 13395 | 14190 |
| | 10 | 20800 | 2505 | 8932.3 | 9493 |
| | | 21100 | 2535 | 8944.2 | 9611 |
| | | 21400 | 2565 | 8937.4 | 9611 |
| | 5 | 20775 | 2502.5 | 4321.9 | 4846 |
| | | 21100 | 2535 | 4329.9 | 4809 |
| | | 21425 | 2567.5 | 4328.0 | 4829 |

**Note1: The worst case as below:**

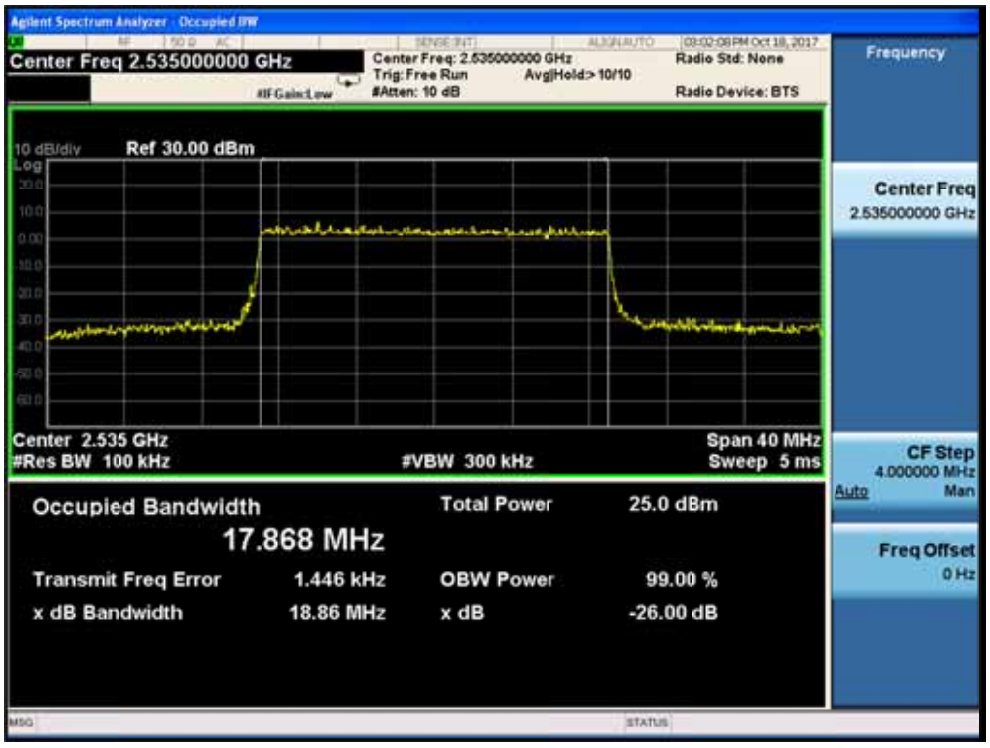
**LTE Band 7 BW20M Channel 20850 100RB0**

| Product | Module | Test Site | AC-5 |
|---|---|---|---|
| Test Item | Occupied Bandwidth | Date of Test | 2017/10/20 |
| Test Mode | Mode 1(16QAM) | Test engineer | Demon |

| Mode | Bandwidth (MHz) | Channel No. | Frequency (MHz) | 99% Occupied Bandwidth (kHz) | -26dBOccupied Bandwidth (kHz) |
|---|---|---|---|---|---|
| LTE Band 7 | 20 | 20850 | 2510 | 17865 | 18880 |
| | | 21100 | 2535 | 17868 | 18860 |
| | | 21350 | 2560 | 17849 | 18840 |
| | 15 | 20825 | 2507.5 | 13409 | 14300 |
| | | 21100 | 2535 | 13399 | 14190 |
| | | 21400 | 2562.5 | 13395 | 14180 |
| | 10 | 20800 | 2505 | 8946.1 | 9567 |
| | | 21100 | 2535 | 8951.3 | 9484 |
| | | 21400 | 2565 | 8946.7 | 9579 |
| | 5 | 20775 | 2502.5 | 4464.7 | 4879 |
| | | 21100 | 2535 | 4340.2 | 4869 |
| | | 21425 | 2567.5 | 4326.9 | 4830 |

**Note1: The worst case as below:**

**LTE Band 7 BW20M Channel 21100 100RB0**

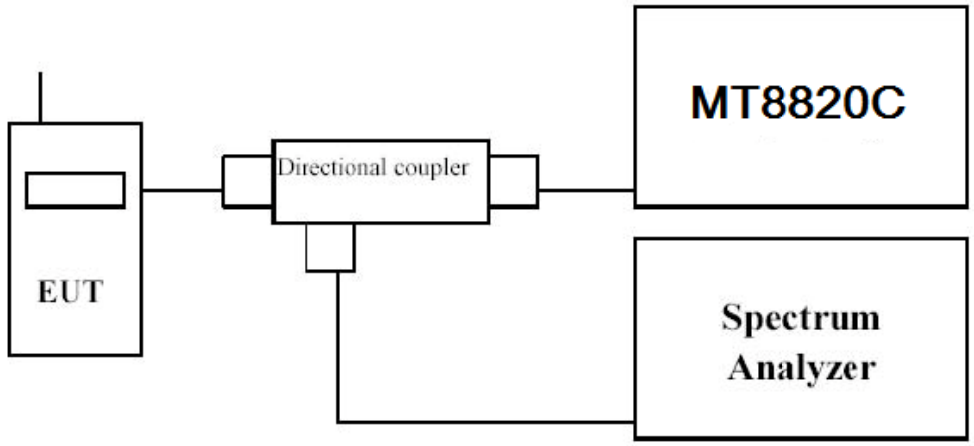


# 6. Conducted Band Edge

## 6.1. Test Equipment

| Conducted Band Edge / TR-8 | | | | |
|---|---|---|---|---|
| Instrument | Manufacturer | Type No. | Serial No | Cali. Due Date |
| PSA Series Spectrum Analyzer | Agilent | E4440A | MY49420184 | 2018.02.04 |
| Radio Communication Tester | Anritsu | MT8820C | 6201181503 | 2018.09.16 |
| Dual Directional Coupler | Agilent | 778D | 20160 | 2018.02.04 |
| 10dB Coaxial Coupler | Agilent | 87300C | MY44300299 | 2018.03.28 |
| Temperature/Humidity Meter | Zhicheng | ZC1-2 | AC6-TH | 2018.01.05 |

Conducted Power Measurement:




## 6.2. Test Procedure

**Test Method for conducted test**

1. The EUT was connected to spectrum analyzer and System Simulator via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The conducted spurious emission for the whole frequency range was taken.

## 6.3. Test Result

| Product | Module | Test Site | AC-5 |
|---|---|---|---|
| Test Item | Conducted Band Edge | Date of Test | 2017/10/20 |
| Test Mode | Mode 1(QPSK) | Test engineer | Demon |

| Mode | Bandwidth (MHz) | Channel | Test Frequency (MHz) | RB | Measure Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|
| LTE Band 7 | 20 | 20850 | 2510 | 1RB0 | -29.649 | ＜-10 | Pass |
| | | | | 100RB0 | -27.853 | ＜-10 | Pass |
| | | 21350 | 2560 | 1RB99 | -30.789 | ＜-10 | Pass |
| | | | | 100RB0 | -28.417 | ＜-10 | Pass |
| | 15 | 20825 | 2507.5 | 1RB0 | -24.862 | ＜-10 | Pass |
| | | | | 75RB0 | -24.388 | ＜-10 | Pass |
| | | 21400 | 2562.5 | 1RB74 | -25.108 | ＜-10 | Pass |
| | | | | 75RB0 | -27.121 | ＜-10 | Pass |
| | 10 | 20800 | 2505 | 1RB0 | -12.053 | ＜-10 | Pass |
| | | | | 50RB0 | -24.991 | ＜-10 | Pass |
| | | 21400 | 2565 | 1RB49 | -11.611 | ＜-10 | Pass |
| | | | | 50RB0 | -25.987 | ＜-10 | Pass |
| | 5 | 20775 | 2502.5 | 1RB0 | -19.767 | ＜-10 | Pass |
| | | | | 25RB0 | -13.814 | ＜-10 | Pass |
| | | 21425 | 2567.5 | 1RB24 | -10.898 | ＜-10 | Pass |
| | | | | 25RB0 | -14.481 | ＜-10 | Pass |

**Note: The worst case as below:**

**LTE Band 7 BW5M Channel 21425 1RB24**

| Product | Module | Test Site | AC-5 |
|---|---|---|---|
| Test Item | Conducted Band Edge | Date of Test | 2017/10/20 |
| Test Mode | Mode 1(16QAM) | Test engineer | Demon |

| Mode | Bandwidth (MHz) | Channel | Test Frequency (MHz) | RB | Measure Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|
| LTE Band 7 | 20 | 20850 | 2510 | 1RB0 | -28.769 | ＜-10 | Pass |
| | | | | 100RB0 | -27.336 | ＜-10 | Pass |
| | | 21350 | 2560 | 1RB99 | -30.304 | ＜-10 | Pass |
| | | | | 100RB0 | -31.444 | ＜-10 | Pass |
| | 15 | 20825 | 2507.5 | 1RB0 | -25.740 | ＜-10 | Pass |
| | | | | 75RB0 | -24.594 | ＜-10 | Pass |
| | | 21400 | 2562.5 | 1RB74 | -25.182 | ＜-10 | Pass |
| | | | | 75RB0 | -26.189 | ＜-10 | Pass |
| | 10 | 20800 | 2505 | 1RB0 | -11.595 | ＜-10 | Pass |
| | | | | 50RB0 | -22.949 | ＜-10 | Pass |
| | | 21400 | 2565 | 1RB49 | -12.119 | ＜-10 | Pass |
| | | | | 50RB0 | -27.687 | ＜-10 | Pass |
| | 5 | 20775 | 2502.5 | 1RB0 | -19.982 | ＜-10 | Pass |
| | | | | 25RB0 | -20.201 | ＜-10 | Pass |
| | | 21425 | 2567.5 | 1RB24 | -21.467 | ＜-10 | Pass |
| | | | | 25RB0 | -15.354 | ＜-10 | Pass |

**Note: The worst case as below:**

**LTE Band 7 BW10M Channel 20800 1RB0**

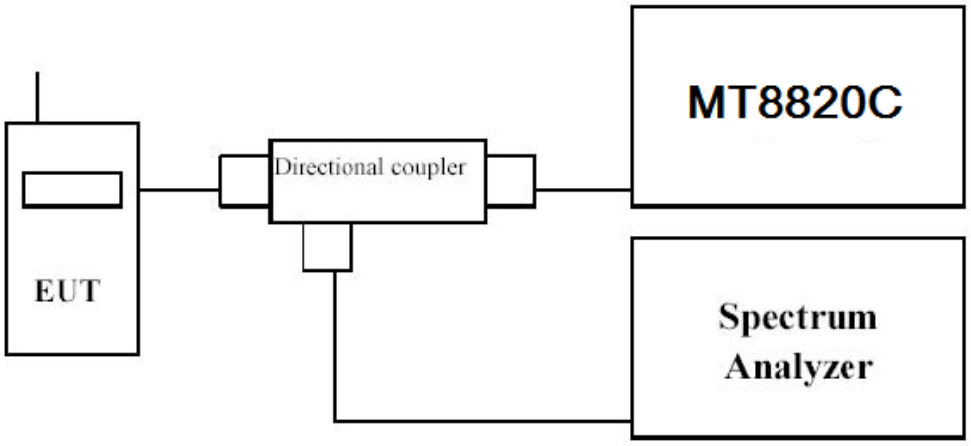
# 7. Spurious Emission

## 7.1. Test Equipment

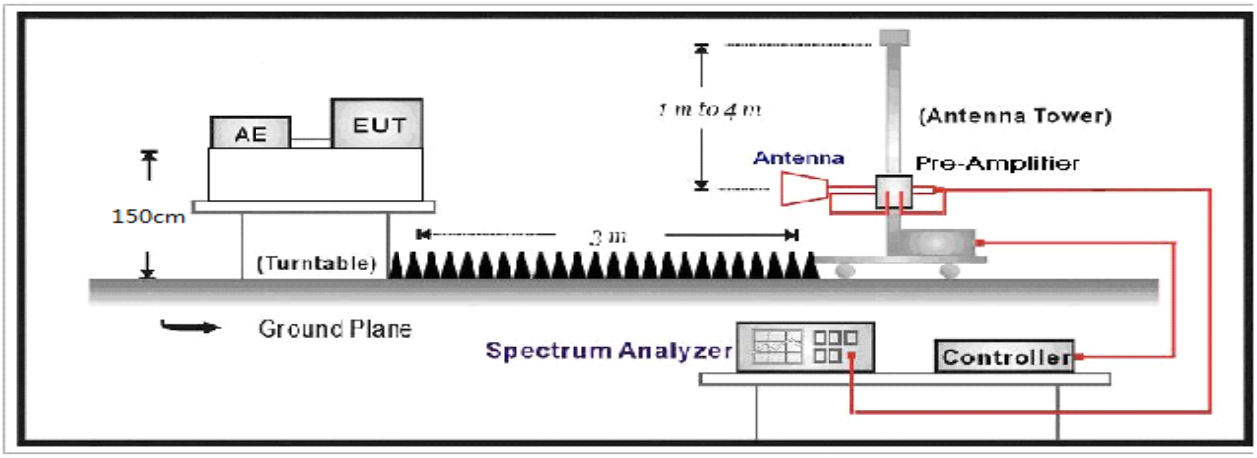
| Spurious Emission / AC-5 | | | | |
|---|---|---|---|---|
| Instrument | Manufacturer | Type No. | Serial No | Cali. Due Date |
| PSA Series Spectrum Analyzer | Agilent | E4440A | MY49420184 | 2018.02.04 |
| Radio Communication Tester | Anritsu | MT8820C | 6201181503 | 2018.09.16 |
| Dual Directional Coupler | Agilent | 778D | 20160 | 2018.02.04 |
| 10dB Coaxial Coupler | Agilent | 87300C | MY44300299 | 2018.03.28 |
| PSG Analog Signal Generator | Agilent | E8257D | MY44321116 | 2018.02.04 |
| Preamplifier | QuieTek | AP-025C | CHM-0503006 | 2018.04.11 |
| Preamplifier | Miteq | NSP1800-25 | 1364185 | 2018.05.03 |
| Bilog Antenna | Teseq GmbH | CBL6112D | 27612 | 2018.01.23 |
| Half Wave Tuned Dipole Antenna | COM-POWER | AD-100 | 40137 | 2018.02.26 |
| Broad-Band Horn Antenna | Schwarzbeck | BBHA9120D | 737 | 2018.03.06 |
| DRG Horn | ETS-Lindgren | 3117 | 00167055 | 2018.07.23 |
| Temperature/Humidity Meter | Zhicheng | ZC1-2 | AC5-TH | 2018.01.05 |

## 7.2. Test Setup

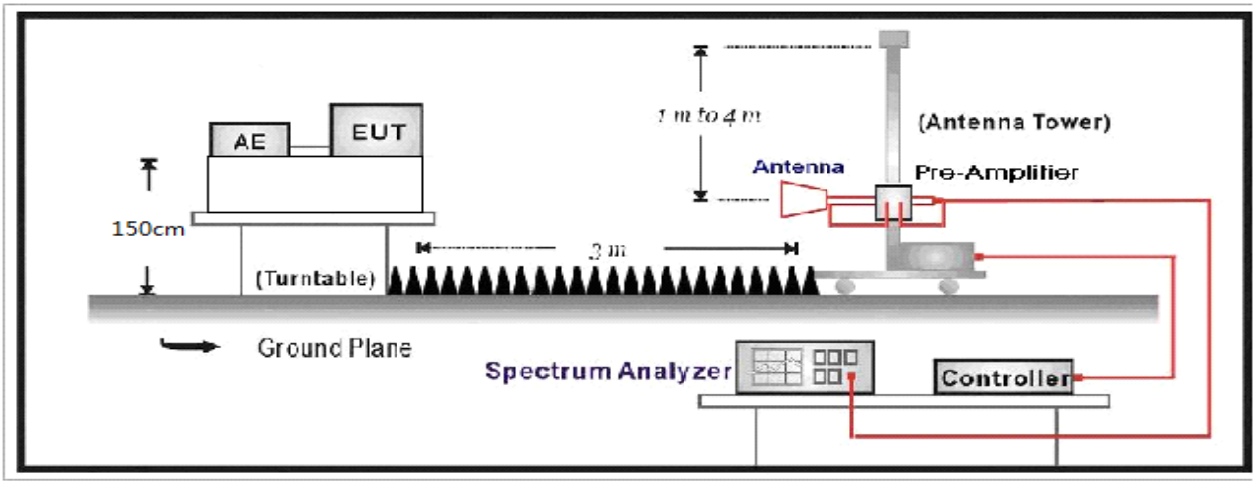
Conducted Power Measurement:




Radiated Power Measurement (Below 1G):




Radiated Power Measurement (Above 1G):



## 7.3. Test Procedure

| **Test Method for conducted power** |
|---|
| a) The RF output of the transmitter was connected to base station simulator.<br>b) The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.<br>c) Set EUT at maximum average power by base station simulator.<br>d) Measure lowest, middle, and highest channels for each bandwidth and different modulation. |
| **Test For Effective Isotropic Radiated Power Measurement:** |
| a) The EUT was placed on a turntable with 1.5 meter height in a fully anechoic chamber.<br>b) The EUT was set at 3 meters from the receiving antenna, which was mounted on the antenna tower<br>c) LTE operating modes: use channel power function to test<br>d) The table was rotated 360 degrees to determine the position of the highest radiated power.<br>e) The height of the receiving antenna is adjusted to look for the maximum EIRP.<br>f) The maximum EIRP shall be record.<br>g) A dipole antenna was substituted in place of the EUT and was driven by a signal generator.<br>h) The conducted power at the terminal of the dipole antenna is measured.<br>i) Repeat step c) to step h) to get the maximum EIRP of the substitution antenna.<br>j) EIRP = Ps + Et – Es + Gs = Ps + Rt – Rs + Gs.<br>k) Ps (dBm)：Input power to substitution antenna<br>l) Gs (dBi or dBd)：Substitution antenna Gain.<br>m) Et = Rt + AF<br>n) Es = Rs + AF<br>o) AF (dB/m)：Receive antenna factor<br>p) Rt：The highest received signal in spectrum analyzer for EUT.<br>q) Rs：The highest received signal in spectrum analyzer for substitution antenna. |

## 7.4. Test Result

| Product | Module | Test Site | AC-5 |
|---|---|---|---|
| Test Item | Conducted Spurious Emission | Date of Test | 2017/10/20 |
| Test Mode | Mode 1(QPSK) | Test engineer | Demon |

| Mode | Bandwidth (MHz) | Channel | Test Frequency (MHz) | RB | Measure Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|
| LTE Band 7 | 20 | 20850 | 2510 | 1RB0 | -45.033 | <-25 | Pass |
| | | 21100 | 2535 | 1RB0 | -44.679 | <-25 | Pass |
| | | 21350 | 2560 | 1RB0 | -45.164 | <-25 | Pass |
| | 15 | 20825 | 2507.5 | 1RB0 | -45.027 | <-25 | Pass |
| | | 21100 | 2535 | 1RB0 | -45.347 | <-25 | Pass |
| | | 21375 | 2562.5 | 1RB0 | -44.621 | <-25 | Pass |
| | 10 | 20800 | 2505 | 1RB0 | -45.015 | <-25 | Pass |
| | | 21100 | 2535 | 1RB0 | -44.042 | <-25 | Pass |
| | | 21400 | 2565 | 1RB0 | -45.411 | <-25 | Pass |
| | 5 | 20775 | 2502.5 | 1RB0 | -43.082 | <-25 | Pass |
| | | 21100 | 2535 | 1RB0 | -44.101 | <-25 | Pass |
| | | 21425 | 2567.5 | 1RB0 | -44.430 | <-25 | Pass |

Note: The worst case as below:

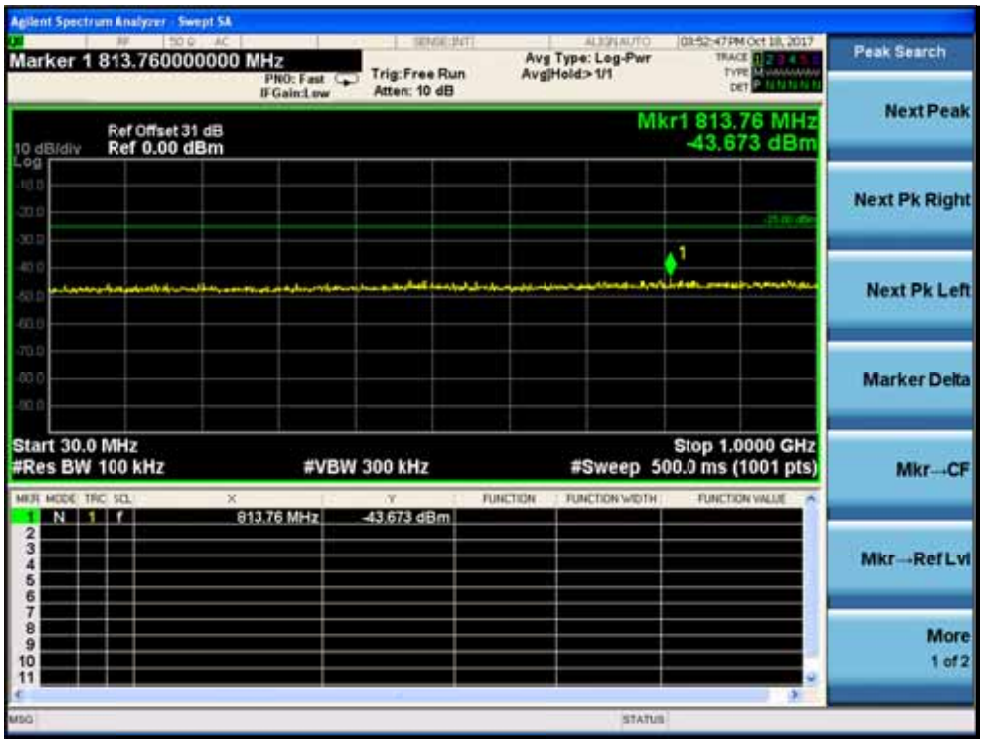
**LTE Band 7 BW5M Channel 20775 1RB0**

| Product | Module | Test Site | AC-5 |
|---|---|---|---|
| Test Item | Conducted Spurious Emission | Date of Test | 2017/10/20 |
| Test Mode | Mode 1(16QAM) | Test engineer | Demon |

| Mode | Bandwidth (MHz) | Channel | Test Frequency (MHz) | RB | Measure Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|
| LTE Band 7 | 20 | 20850 | 2510 | 1RB0 | -43.829 | ＜-25 | Pass |
| | | 21100 | 2535 | 1RB0 | -44.943 | ＜-25 | Pass |
| | | 21350 | 2560 | 1RB0 | -44.824 | ＜-25 | Pass |
| | 15 | 20825 | 2507.5 | 1RB0 | -45.738 | ＜-25 | Pass |
| | | 21100 | 2535 | 1RB0 | -44.149 | ＜-25 | Pass |
| | | 21375 | 2562.5 | 1RB0 | -44.768 | ＜-25 | Pass |
| | 10 | 20800 | 2505 | 1RB0 | -44.680 | ＜-25 | Pass |
| | | 21100 | 2535 | 1RB0 | -44.354 | ＜-25 | Pass |
| | | 21400 | 2565 | 1RB0 | -43.673 | ＜-25 | Pass |
| | 5 | 20775 | 2502.5 | 1RB0 | -45.314 | ＜-25 | Pass |
| | | 21100 | 2535 | 1RB0 | -43.780 | ＜-25 | Pass |
| | | 21425 | 2567.5 | 1RB0 | -44.883 | ＜-25 | Pass |

Note: The worst case as below:

**LTE Band 7 BW10M Channel 21400 1RB0**



| Product | Module | | |
|---|---|---|---|
| Test Item | Radiated Spurious Emission | | |
| Test Mode | Mode 1: LTE Band VII (5M/QPSK) | | |
| Date of Test | 2017/10/23 | Test Site | AC-5 |

| Frequency (MHz) | SA Reading (dBm) | Ant.Pol. (H/V) | SG Reading (dBm) | Cable Loss (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| **Low Channel 20775 (2502.50MHz) 1RB0** | | | | | | | | |
| 5005 | -53.876 | V | -64.421 | 1.24 | 12.65 | -53.011 | -25 | -28.011 |
| 7507.5 | -59.08 | V | -64.73 | 1.48 | 11.25 | -54.96 | -25 | -29.96 |
| 5005 | -52.581 | H | -62.846 | 1.24 | 12.65 | -51.436 | -25 | -26.436 |
| 7507.5 | -56.864 | H | -61.622 | 1.48 | 11.25 | -51.852 | -25 | -26.852 |
| **Middle Channel 21100 (2535.00MHz) 1RB0** | | | | | | | | |
| 5070.00 | -55.285 | V | -65.788 | 1.22 | 12.72 | -54.288 | -25 | -29.288 |
| 7605.00 | -56.818 | V | -62.446 | 1.54 | 11.45 | -52.536 | -25 | -27.536 |
| 5070.00 | -57.219 | H | -67.484 | 1.22 | 12.72 | -55.984 | -25 | -30.984 |
| 7605.00 | -59.251 | H | -64.036 | 1.54 | 11.45 | -54.126 | -25 | -29.126 |
| **High Channel 21425 (2567.50MHz) 1RB0** | | | | | | | | |
| 5135.00 | -55.947 | V | -66.47 | 1.22 | 12.79 | -54.9 | -25 | -29.9 |
| 7702.50 | -56.917 | V | -62.389 | 1.57 | 11.45 | -52.509 | -25 | -27.509 |
| 5135.00 | -57.674 | H | -67.93 | 1.22 | 12.79 | -56.36 | -25 | -31.36 |
| 7702.50 | -58.01 | H | -62.608 | 1.57 | 11.45 | -52.728 | -25 | -27.728 |

| Product | Module | | |
|---|---|---|---|
| Test Item | Radiated Spurious Emission | | |
| Test Mode | Mode 1: LTE Band VII (5M/16QAM) | | |
| Date of Test | 2017/10/23 | Test Site | AC-5 |

| Frequency (MHz) | SA Reading (dBm) | Ant.Pol. (H/V) | SG Reading (dBm) | Cable Loss (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| **Low Channel 20775 (2502.50MHz) 1RB0** | | | | | | | | |
| 5005.00 | -53.452 | V | -63.997 | 1.24 | 12.65 | -52.587 | -25 | -27.587 |
| 7507.50 | -58.05 | V | -63.7 | 1.48 | 11.25 | -53.93 | -25 | -28.93 |
| 5005.00 | -54.413 | H | -64.678 | 1.24 | 12.65 | -53.268 | -25 | -28.268 |
| 7507.50 | -59.962 | H | -64.72 | 1.48 | 11.25 | -54.95 | -25 | -29.95 |
| **Middle Channel 21100 (2535.00MHz) 1RB0** | | | | | | | | |
| 5070.00 | -55.356 | V | -65.859 | 1.22 | 12.72 | -54.359 | -25 | -29.359 |
| 7605.00 | -58.276 | V | -63.904 | 1.54 | 11.45 | -53.994 | -25 | -28.994 |
| 5070.00 | -57.786 | H | -68.051 | 1.22 | 12.72 | -56.551 | -25 | -31.551 |
| 7605.00 | -59.334 | H | -64.119 | 1.54 | 11.45 | -54.209 | -25 | -29.209 |
| **High Channel 21425 (2567.50MHz) 1RB0** | | | | | | | | |
| 5135.00 | -55.389 | V | -65.912 | 1.22 | 12.79 | -54.342 | -25 | -29.342 |
| 7702.50 | -56.96 | V | -62.432 | 1.57 | 11.45 | -52.552 | -25 | -27.552 |
| 5135.00 | -57.243 | H | -67.499 | 1.22 | 12.79 | -55.929 | -25 | -30.929 |
| 7702.50 | -59.379 | H | -63.977 | 1.57 | 11.45 | -54.097 | -25 | -29.097 |

| Product | Module | | |
|---|---|---|---|
| Test Item | Radiated Spurious Emission | | |
| Test Mode | Mode 1: LTE Band VII (10M/QPSK) | | |
| Date of Test | 2017/10/23 | Test Site | AC-5 |

| Frequency (MHz) | SA Reading (dBm) | Ant.Pol. (H/V) | SG Reading (dBm) | Cable Loss (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| **Low Channel 20800 (2505.00MHz) 1RB0** | | | | | | | | |
| 5010.00 | -53.819 | V | -64.372 | 1.24 | 12.66 | -52.952 | -25 | -27.952 |
| 7515.00 | -57.793 | V | -63.427 | 1.49 | 11.27 | -53.647 | -25 | -28.647 |
| 5010.00 | -55.438 | H | -65.711 | 1.24 | 12.66 | -54.291 | -25 | -29.291 |
| 7515.00 | -59.637 | H | -64.392 | 1.49 | 11.27 | -54.612 | -25 | -29.612 |
| **Middle Channel 21100 (2535.00MHz) 1RB0** | | | | | | | | |
| 5070.00 | -56.236 | V | -66.739 | 1.22 | 12.72 | -55.239 | -25 | -30.239 |
| 7605.00 | -57.805 | V | -63.433 | 1.54 | 11.45 | -53.523 | -25 | -28.523 |
| 5070.00 | -56.946 | H | -67.211 | 1.22 | 12.72 | -55.711 | -25 | -30.711 |
| 7605.00 | -59.876 | H | -64.661 | 1.54 | 11.45 | -54.751 | -25 | -29.751 |
| **High Channel 21400 (2565.00MHz) 1RB0** | | | | | | | | |
| 5130.00 | -55.464 | V | -65.994 | 1.22 | 12.79 | -54.424 | -25 | -29.424 |
| 7695.00 | -56.928 | V | -62.409 | 1.57 | 11.45 | -52.529 | -25 | -27.529 |
| 5130.00 | -57.927 | H | -68.203 | 1.22 | 12.79 | -56.633 | -25 | -31.633 |
| 7695.00 | -58.042 | H | -62.648 | 1.57 | 11.45 | -52.768 | -25 | -27.768 |

| Product | Module | | |
|---|---|---|---|
| Test Item | Radiated Spurious Emission | | |
| Test Mode | Mode 1: LTE Band VII (10M/16QAM) | | |
| Date of Test | 2017/10/23 | Test Site | AC-5 |

| Frequency (MHz) | SA Reading (dBm) | Ant.Pol. (H/V) | SG Reading (dBm) | Cable Loss (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| **Low Channel 20800 (2505.00MHz) 1RB0** | | | | | | | | |
| 5010.00 | -53.249 | V | -63.802 | 1.24 | 12.66 | -52.382 | -25 | -27.382 |
| 7515.00 | -58.139 | V | -63.773 | 1.49 | 11.27 | -53.993 | -25 | -28.993 |
| 5010.00 | -53.396 | H | -63.669 | 1.24 | 12.66 | -52.249 | -25 | -27.249 |
| 7515.00 | -59.261 | H | -64.016 | 1.49 | 11.27 | -54.236 | -25 | -29.236 |
| **Middle Channel 21100 (2535.00MHz) 1RB0** | | | | | | | | |
| 5070.00 | -56.556 | V | -67.059 | 1.22 | 12.72 | -55.559 | -25 | -30.559 |
| 7605.00 | -57.993 | V | -63.621 | 1.54 | 11.45 | -53.711 | -25 | -28.711 |
| 5070.00 | -57.053 | H | -67.318 | 1.22 | 12.72 | -55.818 | -25 | -30.818 |
| 7605.00 | -59.048 | H | -63.833 | 1.54 | 11.45 | -53.923 | -25 | -28.923 |
| **High Channel 21400 (2565.00MHz) 1RB0** | | | | | | | | |
| 5130.00 | -56.391 | V | -66.921 | 1.22 | 12.79 | -55.351 | -25 | -30.351 |
| 7695.00 | -56.141 | V | -61.622 | 1.57 | 11.45 | -51.742 | -25 | -26.742 |
| 5130.00 | -56.435 | H | -66.711 | 1.22 | 12.79 | -55.141 | -25 | -30.141 |
| 7695.00 | -56.882 | H | -61.488 | 1.57 | 11.45 | -51.608 | -25 | -26.608 |

| Product | Module | | |
|---|---|---|---|
| Test Item | Radiated Spurious Emission | | |
| Test Mode | Mode 1: LTE Band VII (15M/QPSK) | | |
| Date of Test | 2017/10/23 | Test Site | AC-5 |

| Frequency (MHz) | SA Reading (dBm) | Ant.Pol. (H/V) | SG Reading (dBm) | Cable Loss (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| **Low Channel 20825 (2507.50MHz) 1RB0** | | | | | | | | |
| 5015.00 | -55.152 | V | -65.713 | 1.24 | 12.67 | -54.283 | -25 | -29.283 |
| 7522.50 | -57.71 | V | -63.295 | 1.49 | 11.27 | -53.515 | -25 | -28.515 |
| 5015.00 | -55.461 | H | -65.733 | 1.24 | 12.67 | -54.303 | -25 | -29.303 |
| 7522.50 | -58.123 | H | -62.872 | 1.49 | 11.27 | -53.092 | -25 | -28.092 |
| **Middle Channel 21100 (2535.00MHz) 1RB0** | | | | | | | | |
| 5070.00 | -57.742 | V | -68.245 | 1.22 | 12.72 | -56.745 | -25 | -31.745 |
| 7605.00 | -58.349 | V | -63.977 | 1.54 | 11.45 | -54.067 | -25 | -29.067 |
| 5070.00 | -55.593 | H | -65.858 | 1.22 | 12.72 | -54.358 | -25 | -29.358 |
| 7605.00 | -56.191 | H | -60.976 | 1.54 | 11.45 | -51.066 | -25 | -26.066 |
| **High Channel 21375 (2562.50MHz) 1RB0** | | | | | | | | |
| 5125.00 | -56.013 | V | -66.538 | 1.22 | 12.78 | -54.978 | -25 | -29.978 |
| 7687.50 | -56.531 | V | -62.031 | 1.57 | 11.45 | -52.151 | -25 | -27.151 |
| 5125.00 | -56.578 | H | -66.854 | 1.22 | 12.78 | -55.294 | -25 | -30.294 |
| 7687.50 | -58.609 | H | -63.226 | 1.57 | 11.45 | -53.346 | -25 | -28.346 |

| Product | Module | | |
|---|---|---|---|
| Test Item | Radiated Spurious Emission | | |
| Test Mode | Mode 1: LTE Band VII (15M/16QAM) | | |
| Date of Test | 2017/10/23 | Test Site | AC-5 |

| Frequency (MHz) | SA Reading (dBm) | Ant.Pol. (H/V) | SG Reading (dBm) | Cable Loss (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| **Low Channel 20825 (2507.50MHz) 1RB0** | | | | | | | | |
| 5015.00 | -55.22 | V | -65.781 | 1.24 | 12.67 | -54.351 | -25 | -29.351 |
| 7522.50 | -57.539 | V | -63.124 | 1.49 | 11.27 | -53.344 | -25 | -28.344 |
| 5015.00 | -56.747 | H | -67.019 | 1.24 | 12.67 | -55.589 | -25 | -30.589 |
| 7522.50 | -58.5 | H | -63.249 | 1.49 | 11.27 | -53.469 | -25 | -28.469 |
| **Middle Channel 21100 (2535.00MHz) 1RB0** | | | | | | | | |
| 5070.00 | -56.279 | V | -66.782 | 1.22 | 12.72 | -55.282 | -25 | -30.282 |
| 7605.00 | -57.649 | V | -63.277 | 1.54 | 11.45 | -53.367 | -25 | -28.367 |
| 5070.00 | -57.972 | H | -68.237 | 1.22 | 12.72 | -56.737 | -25 | -31.737 |
| 7605.00 | -57.664 | H | -62.449 | 1.54 | 11.45 | -52.539 | -25 | -27.539 |
| **High Channel 21375 (2562.50MHz) 1RB0** | | | | | | | | |
| 5125.00 | -56.635 | V | -67.16 | 1.22 | 12.78 | -55.6 | -25 | -30.6 |
| 7687.50 | -57.448 | V | -62.948 | 1.57 | 11.45 | -53.068 | -25 | -28.068 |
| 5125.00 | -55.17 | H | -65.446 | 1.22 | 12.78 | -53.886 | -25 | -28.886 |
| 7687.50 | -57.36 | H | -61.977 | 1.57 | 11.45 | -52.097 | -25 | -27.097 |

| Product | Module | | |
|---|---|---|---|
| Test Item | Radiated Spurious Emission | | |
| Test Mode | Mode 1: LTE Band VII (20M/QPSK) | | |
| Date of Test | 2017/10/23 | Test Site | AC-5 |

| Frequency (MHz) | SA Reading (dBm) | Ant.Pol. (H/V) | SG Reading (dBm) | Cable Loss (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| **Low Channel 20850 (2510.00MHz) 1RB0** | | | | | | | | |
| 5020.00 | -56.506 | V | -67.066 | 1.24 | 12.67 | -55.636 | -25 | -30.636 |
| 7530.00 | -58.698 | V | -64.266 | 1.5 | 11.3 | -54.466 | -25 | -29.466 |
| 5020.00 | -57.617 | H | -67.872 | 1.24 | 12.67 | -56.442 | -25 | -31.442 |
| 7530.00 | -59.42 | H | -64.184 | 1.5 | 11.3 | -54.384 | -25 | -29.384 |
| **Middle Channel 21100 (2535.00MHz) 1RB0** | | | | | | | | |
| 5070.00 | -56.047 | V | -66.55 | 1.22 | 12.72 | -55.05 | -25 | -30.05 |
| 7605.00 | -57.863 | V | -63.491 | 1.54 | 11.45 | -53.581 | -25 | -28.581 |
| 5070.00 | -57.218 | H | -67.483 | 1.22 | 12.72 | -55.983 | -25 | -30.983 |
| 7605.00 | -59.298 | H | -64.083 | 1.54 | 11.45 | -54.173 | -25 | -29.173 |
| **High Channel 21350 (2560.00MHz) 1RB0** | | | | | | | | |
| 5120.00 | -57.562 | V | -68.103 | 1.21 | 12.78 | -56.533 | -25 | -31.533 |
| 7680.00 | -59.497 | V | -65.015 | 1.57 | 11.45 | -55.135 | -25 | -30.135 |
| 5120.00 | -55.313 | H | -65.609 | 1.21 | 12.78 | -54.039 | -25 | -29.039 |
| 7680.00 | -56.57 | H | -61.197 | 1.57 | 11.45 | -51.317 | -25 | -26.317 |

| Product | Module | | |
|---|---|---|---|
| Test Item | Radiated Spurious Emission | | |
| Test Mode | Mode 1: LTE Band VII (20M/16QAM) | | |
| Date of Test | 2017/10/23 | Test Site | AC-5 |

| Frequency (MHz) | SA Reading (dBm) | Ant.Pol. (H/V) | SG Reading (dBm) | Cable Loss (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| **Low Channel 20850 (2510.00MHz) 1RB0** | | | | | | | | |
| 5020.00 | -55.589 | V | -66.149 | 1.24 | 12.67 | -54.719 | -25 | -29.719 |
| 7530.00 | -58.045 | V | -63.613 | 1.5 | 11.3 | -53.813 | -25 | -28.813 |
| 5020.00 | -57.346 | H | -67.601 | 1.24 | 12.67 | -56.171 | -25 | -31.171 |
| 7530.00 | -59.094 | H | -63.858 | 1.5 | 11.3 | -54.058 | -25 | -29.058 |
| **Middle Channel 21100 (2535.00MHz) 1RB0** | | | | | | | | |
| 5070.00 | -55.931 | V | -66.434 | 1.22 | 12.72 | -54.934 | -25 | -29.934 |
| 7605.00 | -57.819 | V | -63.447 | 1.54 | 11.45 | -53.537 | -25 | -28.537 |
| 5070.00 | -57.352 | H | -67.617 | 1.22 | 12.72 | -56.117 | -25 | -31.117 |
| 7605.00 | -58.789 | H | -63.574 | 1.54 | 11.45 | -53.664 | -25 | -28.664 |
| **High Channel 21350 (2560.00MHz) 1RB0** | | | | | | | | |
| 5120.00 | -56.746 | V | -67.287 | 1.21 | 12.78 | -55.717 | -25 | -30.717 |
| 7680.00 | -58.15 | V | -63.668 | 1.57 | 11.45 | -53.788 | -25 | -28.788 |
| 5120.00 | -56.928 | H | -67.224 | 1.21 | 12.78 | -55.654 | -25 | -30.654 |
| 7680.00 | -58.758 | H | -63.385 | 1.57 | 11.45 | -53.505 | -25 | -28.505 |

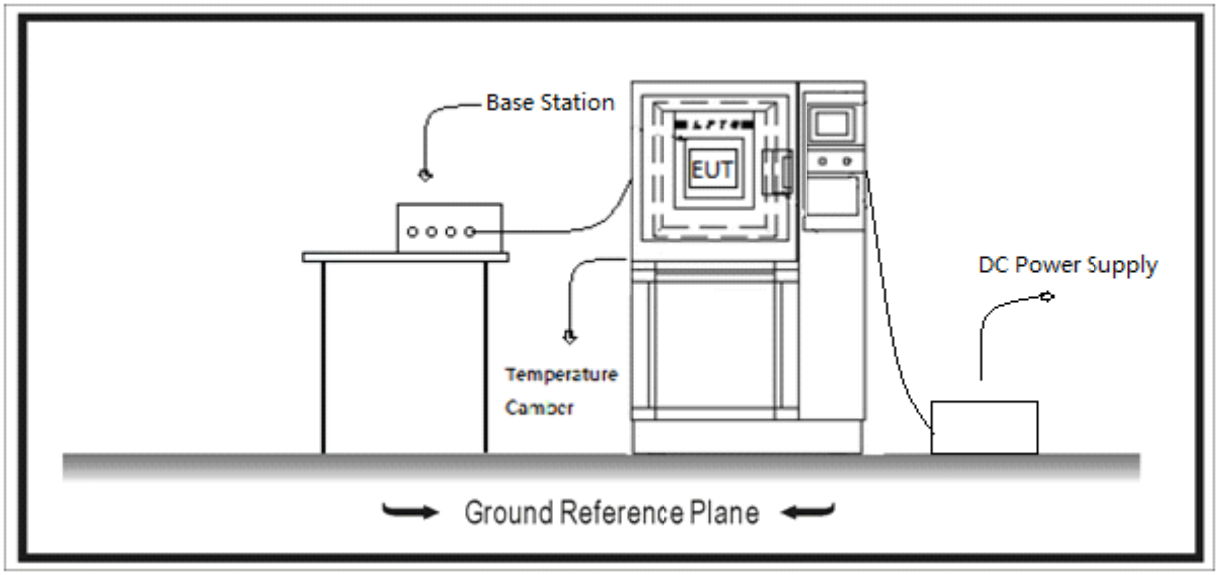
# 8. Frequency Stability Under Temperature & Voltage Variations

## 8.1. Test Equipment

| Frequency Stability Under Temperature & Voltage Variations/TR-7 | | | | |
|---|---|---|---|---|
| Instrument | Manufacturer | Type No. | Serial No | Cali. Due Date |
| PSA Series Spectrum Analyzer | Agilent | E4440A | MY49420184 | 2018.02.04 |
| Radio Communication Tester | Anritsu | MT8820C | 6201181503 | 2018.09.16 |
| Dual Directional Coupler | Agilent | 778D | 20160 | 2018.02.04 |
| 10dB Coaxial Coupler | Agilent | 87300C | MY44300299 | 2018.03.28 |
| DC Power Supply | IDRC | CD-035-020PR | 977272 | 2018.09.16 |
| Temperature & Humidity Chamber | Gaoyu | TH-1P-B | WIT-05121302 | 2018.01.04 |
| Temperature/Humidity Meter | Zhicheng | ZC1-2 | AC6-TH | 2018.01.05 |

## 8.2. Test Setup

For Conducted Measurement



## 8.3. Test Procedure

| **Frequency Stability Under Temperature Variations:** |
|---|
| The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20℃ operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30℃. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10℃ increased per stage until the highest temperature of +50℃ reached. |
| **Frequency Stability Under Voltage Variations:** |
| Set chamber temperature to 20℃. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.<br>Reduce the input voltage to specify extreme voltage variation (±15%) and endpoint, record the maximum frequency change. |

## 8.4. Test Result

| Product | Module | | |
|---|---|---|---|
| Test Item | Frequency Stability Under Temperature & Voltage Variations | | |
| Test Mode | Mode 1: LTE Band VII (5M/QPSK) | | |
| Date of Test | 2017/10/19 | Test Site | TR7 |

Frequency Stability under Temperature

| Temperature Interval (℃) | Test Frequency (MHz) | Deviation (Hz) | Limit (Hz) |
|---|---|---|---|
| -30 | 2535.00 | -232 | ± 6337.5 |
| -20 | 2535.00 | 141 | ± 6337.5 |
| -10 | 2535.00 | -133 | ± 6337.5 |
| 0 | 2535.00 | 340 | ± 6337.5 |
| 10 | 2535.00 | 242 | ± 6337.5 |
| 20 | 2535.00 | 145 | ± 6337.5 |
| 30 | 2535.00 | -245 | ± 6337.5 |
| 40 | 2535.00 | 465 | ± 6337.5 |
| 50 | 2535.00 | 371 | ± 6337.5 |

Frequency Stability under Voltage

| DC Voltage (V) | Test Frequency (MHz) | Deviation (Hz) | Limit (Hz) |
|---|---|---|---|
| 3.3 | 2535.00 | -235 | ± 6337.5 |
| 3.7 | 2535.00 | 244 | ± 6337.5 |
| 4.2 | 2535.00 | -325 | ± 6337.5 |

| Product | Module | | |
|---|---|---|---|
| Test Item | Frequency Stability Under Temperature & Voltage Variations | | |
| Test Mode | Mode 1: LTE Band VII (5M/16QAM) | | |
| Date of Test | 2017/10/19 | Test Site | TR7 |

Frequency Stability under Temperature

| Temperature Interval (℃) | Test Frequency (MHz) | Deviation (Hz) | Limit (Hz) |
|---|---|---|---|
| -30 | 2535.00 | 363 | ± 6337.5 |
| -20 | 2535.00 | -441 | ± 6337.5 |
| -10 | 2535.00 | 536 | ± 6337.5 |
| 0 | 2535.00 | 342 | ± 6337.5 |
| 10 | 2535.00 | -341 | ± 6337.5 |
| 20 | 2535.00 | -252 | ± 6337.5 |
| 30 | 2535.00 | 467 | ± 6337.5 |
| 40 | 2535.00 | 655 | ± 6337.5 |
| 50 | 2535.00 | 549 | ± 6337.5 |

Frequency Stability under Voltage

| DC Voltage (V) | Test Frequency (MHz) | Deviation (Hz) | Limit (Hz) |
|---|---|---|---|
| 3.3 | 2535.00 | 469 | ± 6337.5 |
| 3.7 | 2535.00 | -547 | ± 6337.5 |
| 4.2 | 2535.00 | -336 | ± 6337.5 |

| Product | Module | | |
|---|---|---|---|
| Test Item | Frequency Stability Under Temperature & Voltage Variations | | |
| Test Mode | Mode 1: LTE Band VII (10M/QPSK) | | |
| Date of Test | 2017/10/19 | Test Site | TR7 |

Frequency Stability under Temperature

| Temperature Interval (℃) | Test Frequency (MHz) | Deviation (Hz) | Limit (Hz) |
|---|---|---|---|
| -30 | 2535.00 | -344 | ± 6337.5 |
| -20 | 2535.00 | 636 | ± 6337.5 |
| -10 | 2535.00 | -532 | ± 6337.5 |
| 0 | 2535.00 | 551 | ± 6337.5 |
| 10 | 2535.00 | -110 | ± 6337.5 |
| 20 | 2535.00 | -236 | ± 6337.5 |
| 30 | 2535.00 | -520 | ± 6337.5 |
| 40 | 2535.00 | 342 | ± 6337.5 |
| 50 | 2535.00 | 233 | ± 6337.5 |

Frequency Stability under Voltage

| DC Voltage (V) | Test Frequency (MHz) | Deviation (Hz) | Limit (Hz) |
|---|---|---|---|
| 3.3 | 2535.00 | 361 | ± 6337.5 |
| 3.7 | 2535.00 | -462 | ± 6337.5 |
| 4.2 | 2535.00 | 547 | ± 6337.5 |

| Product | Module | | |
|---|---|---|---|
| Test Item | Frequency Stability Under Temperature & Voltage Variations | | |
| Test Mode | Mode 1: LTE Band VII (10M/16QAM) | | |
| Date of Test | 2017/10/19 | Test Site | TR7 |

Frequency Stability under Temperature

| Temperature Interval (℃) | Test Frequency (MHz) | Deviation (Hz) | Limit (Hz) |
|---|---|---|---|
| -30 | 2535.00 | 625 | ± 6337.5 |
| -20 | 2535.00 | -524 | ± 6337.5 |
| -10 | 2535.00 | 446 | ± 6337.5 |
| 0 | 2535.00 | -521 | ± 6337.5 |
| 10 | 2535.00 | -322 | ± 6337.5 |
| 20 | 2535.00 | 629 | ± 6337.5 |
| 30 | 2535.00 | -671 | ± 6337.5 |
| 40 | 2535.00 | 542 | ± 6337.5 |
| 50 | 2535.00 | 548 | ± 6337.5 |

Frequency Stability under Voltage

| DC Voltage (V) | Test Frequency (MHz) | Deviation (Hz) | Limit (Hz) |
|---|---|---|---|
| 3.3 | 2535.00 | 456 | ± 6337.5 |
| 3.7 | 2535.00 | -531 | ± 6337.5 |
| 4.2 | 2535.00 | -368 | ± 6337.5 |

| Product | Module | | |
|---|---|---|---|
| Test Item | Frequency Stability Under Temperature & Voltage Variations | | |
| Test Mode | Mode 1: LTE Band VII (15M/QPSK) | | |
| Date of Test | 2017/10/19 | Test Site | TR7 |

Frequency Stability under Temperature

| Temperature Interval (℃) | Test Frequency (MHz) | Deviation (Hz) | Limit (Hz) |
|---|---|---|---|
| -30 | 2535.00 | 358 | ± 6337.5 |
| -20 | 2535.00 | 633 | ± 6337.5 |
| -10 | 2535.00 | -524 | ± 6337.5 |
| 0 | 2535.00 | 434 | ± 6337.5 |
| 10 | 2535.00 | -541 | ± 6337.5 |
| 20 | 2535.00 | -152 | ± 6337.5 |
| 30 | 2535.00 | 126 | ± 6337.5 |
| 40 | 2535.00 | -231 | ± 6337.5 |
| 50 | 2535.00 | -124 | ± 6337.5 |

Frequency Stability under Voltage

| DC Voltage (V) | Test Frequency (MHz) | Deviation (Hz) | Limit (Hz) |
|---|---|---|---|
| 3.3 | 2535.00 | 518 | ± 6337.5 |
| 3.7 | 2535.00 | -311 | ± 6337.5 |
| 4.2 | 2535.00 | 229 | ± 6337.5 |

| Product | Module | | |
|---|---|---|---|
| Test Item | Frequency Stability Under Temperature & Voltage Variations | | |
| Test Mode | Mode 1: LTE Band VII (15M/16QAM) | | |
| Date of Test | 2017/10/19 | Test Site | TR7 |

Frequency Stability under Temperature

| Temperature Interval (℃) | Test Frequency (MHz) | Deviation (Hz) | Limit (Hz) |
|---|---|---|---|
| -30 | 2535.00 | -264 | ± 6337.5 |
| -20 | 2535.00 | -333 | ± 6337.5 |
| -10 | 2535.00 | 525 | ± 6337.5 |
| 0 | 2535.00 | -557 | ± 6337.5 |
| 10 | 2535.00 | 133 | ± 6337.5 |
| 20 | 2535.00 | -211 | ± 6337.5 |
| 30 | 2535.00 | 175 | ± 6337.5 |
| 40 | 2535.00 | -334 | ± 6337.5 |
| 50 | 2535.00 | 162 | ± 6337.5 |

Frequency Stability under Voltage

| DC Voltage (V) | Test Frequency (MHz) | Deviation (Hz) | Limit (Hz) |
|---|---|---|---|
| 3.3 | 2535.00 | -525 | ± 6337.5 |
| 3.7 | 2535.00 | 412 | ± 6337.5 |
| 4.2 | 2535.00 | 536 | ± 6337.5 |

| Product | Module | | |
|---|---|---|---|
| Test Item | Frequency Stability Under Temperature & Voltage Variations | | |
| Test Mode | Mode 1: LTE Band VII (20M/QPSK) | | |
| Date of Test | 2017/10/19 | Test Site | TR7 |

Frequency Stability under Temperature

| Temperature Interval (℃) | Test Frequency (MHz) | Deviation (Hz) | Limit (Hz) |
|---|---|---|---|
| -30 | 2535.00 | 289 | ± 6337.5 |
| -20 | 2535.00 | 541 | ± 6337.5 |
| -10 | 2535.00 | 524 | ± 6337.5 |
| 0 | 2535.00 | 142 | ± 6337.5 |
| 10 | 2535.00 | 168 | ± 6337.5 |
| 20 | 2535.00 | 256 | ± 6337.5 |
| 30 | 2535.00 | 284 | ± 6337.5 |
| 40 | 2535.00 | 334 | ± 6337.5 |
| 50 | 2535.00 | 258 | ± 6337.5 |

Frequency Stability under Voltage

| DC Voltage (V) | Test Frequency (MHz) | Deviation (Hz) | Limit (Hz) |
|---|---|---|---|
| 3.3 | 2535.00 | 512 | ± 6337.5 |
| 3.7 | 2535.00 | 484 | ± 6337.5 |
| 4.2 | 2535.00 | 285 | ± 6337.5 |

| Product | Module | | |
|---|---|---|---|
| Test Item | Frequency Stability Under Temperature & Voltage Variations | | |
| Test Mode | Mode 1: LTE Band VII (20M/16QAM) | | |
| Date of Test | 2017/10/19 | Test Site | TR7 |

Frequency Stability under Temperature

| Temperature Interval (℃) | Test Frequency (MHz) | Deviation (Hz) | Limit (Hz) |
|---|---|---|---|
| -30 | 2535.00 | 412 | ± 6337.5 |
| -20 | 2535.00 | 356 | ± 6337.5 |
| -10 | 2535.00 | 241 | ± 6337.5 |
| 0 | 2535.00 | 284 | ± 6337.5 |
| 10 | 2535.00 | 521 | ± 6337.5 |
| 20 | 2535.00 | 334 | ± 6337.5 |
| 30 | 2535.00 | 118 | ± 6337.5 |
| 40 | 2535.00 | 169 | ± 6337.5 |
| 50 | 2535.00 | 125 | ± 6337.5 |

Frequency Stability under Voltage

| DC Voltage (V) | Test Frequency (MHz) | Deviation (Hz) | Limit (Hz) |
|---|---|---|---|
| 3.3 | 2535.00 | 256 | ± 6337.5 |
| 3.7 | 2535.00 | 212 | ± 6337.5 |
| 4.2 | 2535.00 | 362 | ± 6337.5 |

The End