

# FCC RF Test Report

APPLICANT : Acer Incorporated  
EQUIPMENT : Notebook computer  
BRAND NAME : acer  
MODEL NAME : N18H2  
FCC ID : Contains FCC ID: HLZL850GLA  
STANDARD : 47 CFR Part 2, and 90(S)  
CLASSIFICATION : PCS Licensed Transmitter (PCB)

The product was installed a LTE module (Brand Name: acer, Model Name: L850-GL, FCC ID: HLZL850GLA) during test.

The product was received on Aug. 23, 2018 and testing was completed on Nov. 13, 2018. We, Sporton International (Shenzhen) Inc., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Shenzhen) Inc., the test report shall not be reproduced except in full.



Approved by: Eric Shih / Manager



**Sporton International (Shenzhen) Inc.**

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## TABLE OF CONTENTS

|                                                                                |    |
|--------------------------------------------------------------------------------|----|
| REVISION HISTORY.....                                                          | 3  |
| SUMMARY OF TEST RESULT .....                                                   | 4  |
| 1 GENERAL DESCRIPTION .....                                                    | 5  |
| 1.1. Applicant.....                                                            | 5  |
| 1.2. Manufacturer .....                                                        | 5  |
| 1.3. Feature of Equipment Under Test.....                                      | 5  |
| 1.4. Product Specification of Equipment Under Test .....                       | 6  |
| 1.5. Modification of EUT .....                                                 | 6  |
| 1.6. Maximum Frequency Tolerance, Emission Designator and Conducted Power..... | 7  |
| 1.7. Testing Site.....                                                         | 8  |
| 1.8. Applied Standards .....                                                   | 8  |
| 2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST .....                             | 9  |
| 2.1 Test Mode.....                                                             | 9  |
| 2.2 Connection Diagram of Test System .....                                    | 10 |
| 2.3 Support Unit used in test configuration and system.....                    | 10 |
| 2.4 Frequency List of Low/Middle/High Channels.....                            | 11 |
| 3 TEST RESULT .....                                                            | 12 |
| 3.1 Conducted Output Power Measurement.....                                    | 12 |
| 3.2 Field Strength of Spurious Radiation Measurement .....                     | 13 |
| 4 LIST OF MEASURING EQUIPMENT .....                                            | 15 |
| 5 UNCERTAINTY OF EVALUATION .....                                              | 16 |
| APPENDIX A. TEST RESULTS OF CONDUCTED TEST                                     |    |
| APPENDIX B. TEST RESULTS OF RADIATED TEST                                      |    |
| APPENDIX C. SETUP PHOTOGRAPHS                                                  |    |



## REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION             | ISSUED DATE   |
|------------|---------|-------------------------|---------------|
| FW882306   | Rev. 01 | Initial issue of report | Nov. 28, 2018 |
|            |         |                         |               |
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|            |         |                         |               |

## SUMMARY OF TEST RESULT

| Report Section                                                                                                     | FCC Rule           | Description                                      | Limit                                 | Result | Remark                                    |
|--------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------|---------------------------------------|--------|-------------------------------------------|
| 3.1                                                                                                                | §2.1046            | Conducted Output Power                           | Reporting only                        | PASS   | -                                         |
| -                                                                                                                  | §2.1049<br>§90.209 | Occupied Bandwidth and<br>26dB Bandwidth         | Reporting only                        | Pass   | 1                                         |
| -                                                                                                                  | §2.1051<br>§90.691 | Emission masks –<br>In-band emissions            | $< 50 + 10\log_{10}(P[\text{Watts}])$ | Pass   | 1                                         |
| -                                                                                                                  | §2.1051<br>§90.691 | Emission masks –<br>Out of band emissions        | $< 43 + 10\log_{10}(P[\text{Watts}])$ | Pass   | 1                                         |
| 3.2                                                                                                                | §2.1053<br>§90.691 | Field Strength of Spurious<br>Radiation          | $< 43 + 10\log_{10}(P[\text{Watts}])$ | PASS   | Under limit<br>40.62 dB at<br>2443.50 MHz |
| -                                                                                                                  | §2.1055<br>§90.213 | Frequency Stability for<br>Temperature & Voltage | $< 2.5 \text{ ppm}$                   | Pass   | 1                                         |
| <b>Remark 1:</b> The test items were leverage from module RF report which can refer to Report No. "RF170106C02-5". |                    |                                                  |                                       |        |                                           |



# 1 General Description

## 1.1. Applicant

**Acer Incorporated**

8F, 88, Sec.1 Xintai 5th Rd. Xizhi, New Taipei City 221, Taiwan, R.O.C

## 1.2. Manufacturer

**Acer Incorporated**

8F, 88, Sec.1 Xintai 5th Rd. Xizhi, New Taipei City 221, Taiwan, R.O.C

## 1.3. Feature of Equipment Under Test

| Product Feature & Specification |                                                                                                                                                                                                                      |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment                       | Notebook computer                                                                                                                                                                                                    |
| Brand Name                      | acer                                                                                                                                                                                                                 |
| Model Name                      | N18H2                                                                                                                                                                                                                |
| FCC ID                          | Contains FCC ID:HLZL850GLA                                                                                                                                                                                           |
| EUT supports Radios application | WCDMA/HSPA/DC-HSDPA/<br>HSPA+(16QAM uplink is not supported)/LTE<br>WLAN 2.4GHz 802.11b/g/n/ac HT20/HT40/VHT20/VHT40<br>WLAN 5GHz 802.11a/n HT20/HT40<br>WLAN 5GHz 802.11ac VHT20/VHT40/VHT80<br>Bluetooth BR/EDR/LE |
| EUT Stage                       | Identical Prototype                                                                                                                                                                                                  |

| Module Feature & Specification |            |
|--------------------------------|------------|
| Equipment                      | LTE module |
| Brand Name                     | acer       |
| Model Name                     | L850-GL    |
| FCC ID                         | HLZL850GLA |

**Remark:** The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

## 1.4. Product Specification of Equipment Under Test

| Product Specification subjective to this standard |                                      |
|---------------------------------------------------|--------------------------------------|
| <b>Tx Frequency</b>                               | LTE Band 26 : 814.7 ~ 823.3 MHz      |
| <b>Rx Frequency</b>                               | LTE Band 26 : 859.7 ~ 868.3 MHz      |
| <b>Bandwidth</b>                                  | 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz |
| <b>Maximum Output Power to Antenna</b>            | 22.67 dBm                            |
| <b>Antenna Type</b>                               | Monopole Antenna                     |
| <b>Type of Modulation</b>                         | QPSK / 16QAM                         |

**Remark:** This test report recorded only product characteristics and test results of PCS Licensed Transmitter (PCB).

## 1.5. Modification of EUT

No modifications are made to the EUT during all test items.

## 1.6. Maximum Frequency Tolerance, Emission Designator and Conducted Power

| FCC Rule | System      | Type of Modulation | BW      | Frequency Tolerance (ppm) | Emission Designator | Maximum Conducted power(W) |
|----------|-------------|--------------------|---------|---------------------------|---------------------|----------------------------|
| Part 90S | LTE Band 26 | QPSK               | 1.4 MHz | -                         | -                   | 0.1849                     |
| Part 90S | LTE Band 26 | 16QAM              | 1.4 MHz | -                         | -                   | 0.1600                     |
| Part 90S | LTE Band 26 | QPSK               | 3 MHz   | -                         | -                   | 0.1837                     |
| Part 90S | LTE Band 26 | 16QAM              | 3 MHz   | -                         | -                   | 0.1574                     |
| Part 90S | LTE Band 26 | QPSK               | 5 MHz   | -                         | -                   | 0.1837                     |
| Part 90S | LTE Band 26 | 16QAM              | 5 MHz   | -                         | -                   | 0.1618                     |
| Part 90S | LTE Band 26 | QPSK               | 10 MHz  | -                         | -                   | 0.1795                     |
| Part 90S | LTE Band 26 | 16QAM              | 10 MHz  | -                         | -                   | 0.1570                     |
| Part 90S | LTE Band 26 | QPSK               | 15 MHz  | -                         | -                   | 0.1738                     |
| Part 90S | LTE Band 26 | 16QAM              | 15 MHz  | -                         | -                   | 0.1469                     |

## 1.7. Testing Site

Sporton International (Shenzhen) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0) and the FCC designation No. are CN5018 and CN5019.

|                           |                                                                                                                                                                               |                                       |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| <b>Test Site</b>          | Sporton International (Shenzhen) Inc.                                                                                                                                         |                                       |
| <b>Test Site Location</b> | 1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan<br>Shenzhen City Guangdong Province 518055 China<br>TEL: +86-755-8637-9589<br>FAX: +86-755-8637-9595 |                                       |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>                                                                                                                                                       | <b>FCC Test Firm Registration No.</b> |
|                           | TH01-SZ                                                                                                                                                                       | 337463                                |

|                           |                                                                                                                                                                             |                                       |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| <b>Test Site</b>          | Sporton International (Shenzhen) Inc.                                                                                                                                       |                                       |
| <b>Test Site Location</b> | No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan<br>Warehouse, Nanshan District Shenzhen City Guangdong Province 518055<br>China<br>TEL: +86-755-3320-2398 |                                       |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>                                                                                                                                                     | <b>FCC Test Firm Registration No.</b> |
|                           | 03CH02-SZ                                                                                                                                                                   | 577730                                |

## 1.8. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 2, 90
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 971168 D02 Misc Rev Approv License Devices v02r01

### Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



## 2 Test Configuration of Equipment Under Test

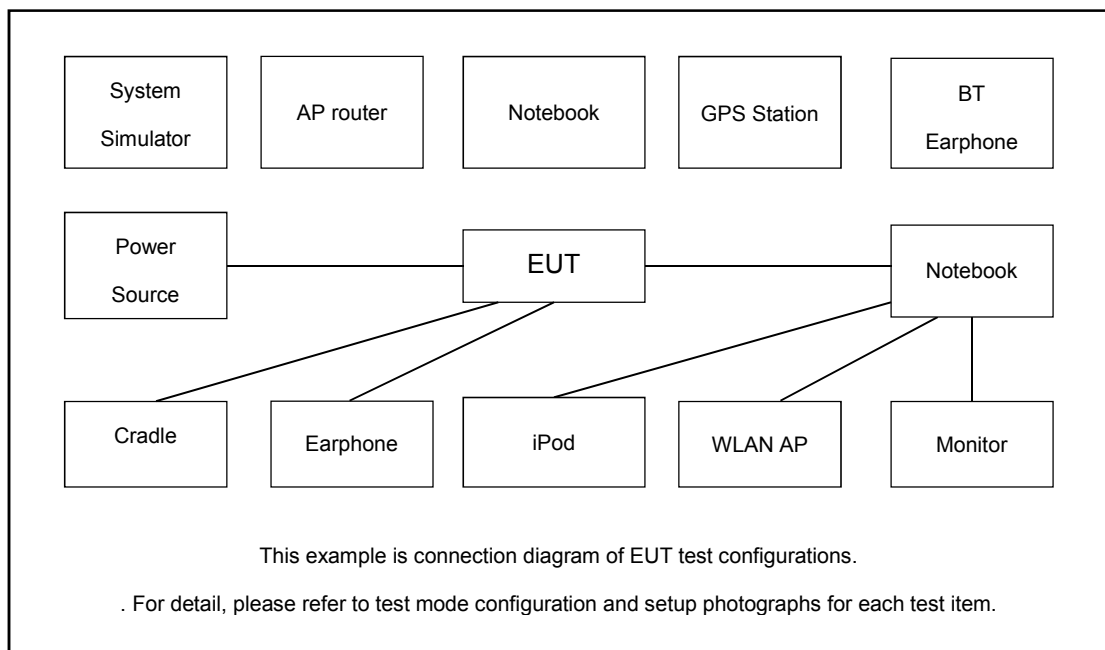
### 2.1 Test Mode

During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission.

Frequency range investigated for radiated emission is 30 MHz to 10th harmonic.

| Test Items                 | Band                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Bandwidth (MHz) |   |   |    |    |    | Modulation |       | RB # |      |      | Test Channel |   |   |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---|---|----|----|----|------------|-------|------|------|------|--------------|---|---|
|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.4             | 3 | 5 | 10 | 15 | 20 | QPSK       | 16QAM | 1    | Half | Full | L            | M | H |
| Max. Output Power          | 26                                                                                                                                                                                                                                                                                                                                                                                                                                                             | v               | v | v | v  | v  | -  | v          | v     | v    | v    | v    | v            | v | v |
| Radiated Spurious Emission | 26                                                                                                                                                                                                                                                                                                                                                                                                                                                             | v               | v | v |    |    | -  | v          |       | v    |      |      | v            | v | v |
|                            | 26                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |   |   | v  |    |    | v          |       | v    |      |      |              | v |   |
| Note                       | <ol style="list-style-type: none"> <li>The mark "v" means that this configuration is chosen for testing</li> <li>The mark "-" means that this bandwidth is not supported.</li> <li>LTE Band26 transmit frequency for part22 rule is 824MHz-849MHz, for part90 rule is 814MHz-824MHz. ERP over 15MHz bandwidth complies the ERP limit line of part22 rule, therefore ERP of the partial frequency spectrum which falls within part 22 also complies.</li> </ol> |                 |   |   |    |    |    |            |       |      |      |      |              |   |   |

## 2.2 Connection Diagram of Test System



## 2.3 Support Unit used in test configuration and system

| Item | Equipment        | Trade Name | Model No. | FCC ID | Data Cable | Power Cord        |
|------|------------------|------------|-----------|--------|------------|-------------------|
| 1.   | LTE Base Station | Anritsu    | MT8820C   | N/A    | N/A        | Unshielded, 1.8m  |
| 2.   | DC Power Supply  | GW INSTEK  | GPS-3030D | N/A    | N/A        | Unshielded, 1.8 m |

## 2.4 Frequency List of Low/Middle/High Channels

| LTE Band 26 Channel and Frequency List |                        |        |        |         |
|----------------------------------------|------------------------|--------|--------|---------|
| BW [MHz]                               | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 15                                     | Channel                | 26765  | -      | -       |
|                                        | Frequency              | 821.5  | -      | -       |
| 10                                     | Channel                | -      | 26740  | -       |
|                                        | Frequency              | -      | 819    | -       |
| 5                                      | Channel                | 26715  | 26740  | 26765   |
|                                        | Frequency              | 816.5  | 819    | 821.5   |
| 3                                      | Channel                | 26705  | 26740  | 26775   |
|                                        | Frequency              | 815.5  | 819    | 822.5   |
| 1.4                                    | Channel                | 26697  | 26740  | 26783   |
|                                        | Frequency              | 814.7  | 819    | 823.3   |

### 3 Test Result

#### 3.1 Conducted Output Power Measurement

##### 3.1.1 Description of the Conducted Output Power Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

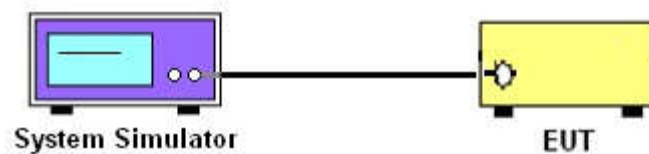
##### 3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

##### 3.1.3 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.

##### 3.1.4 Test Setup



##### 3.1.5 Test Result of Conducted Output Power

Please refer to Appendix A.

## 3.2 Field Strength of Spurious Radiation Measurement

### 3.2.1 Description of Field Strength of Spurious Radiated Measurement

The radiated spurious emission was measured by substitution method according to ANSI/TIA-603-E. The power of any emission FCC Part 90.691 on any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth at least  $43 + 10 \log(P)$  dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $43 + 10 \log_{10}(P[\text{Watts}])$  dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

### 3.2.2 Measuring Instruments

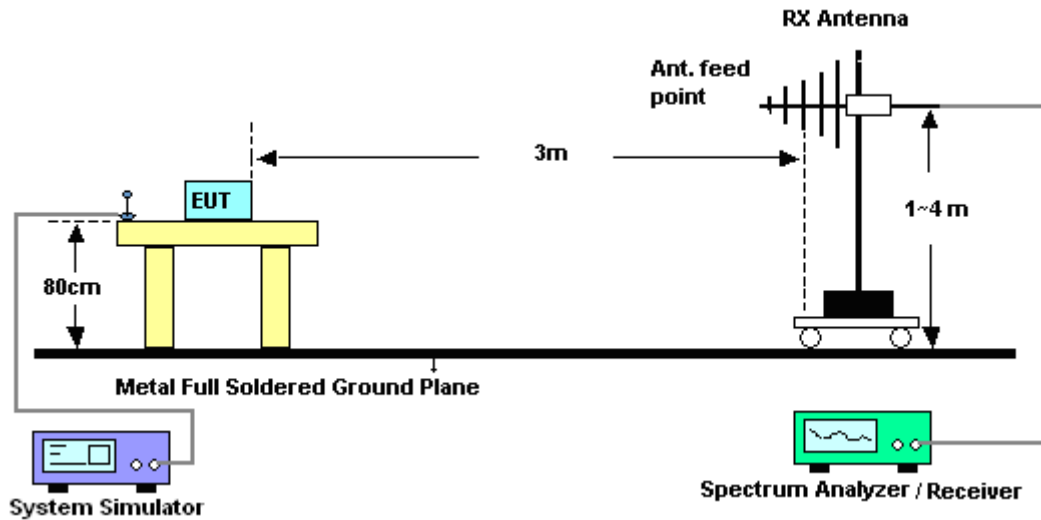
The measuring equipment is listed in the section 4 of this test report.

### 3.2.3 Test Procedures

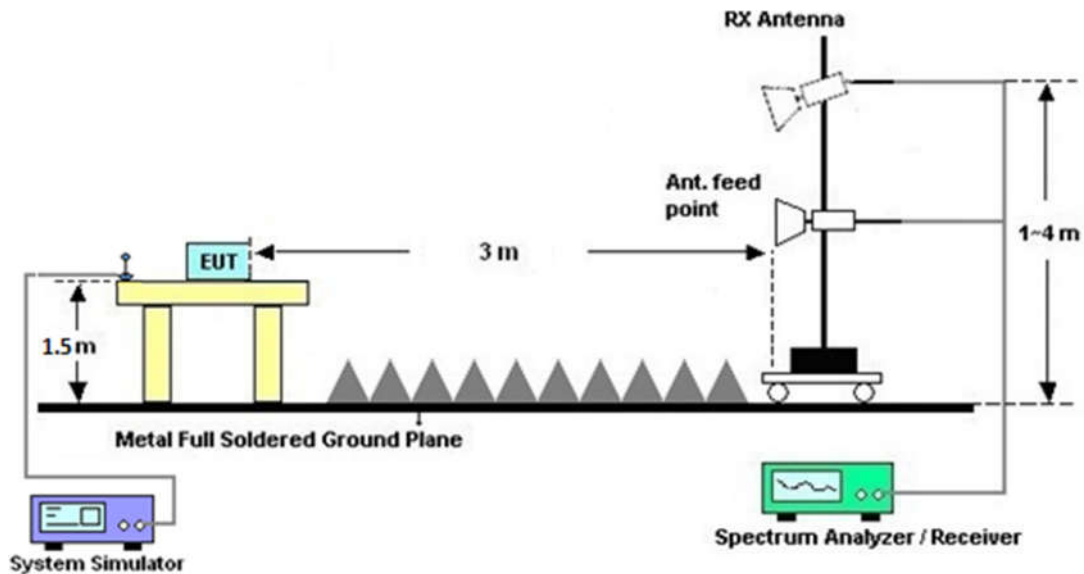
1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, Sweep = 500ms, Taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10.  $\text{EIRP (dBm)} = \text{S.G. Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$
11.  $\text{ERP (dBm)} = \text{EIRP} - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
13. The limit line is derived from  $43 + 10 \log(P)$  dB below the transmitter power P(Watts)

### 3.2.4 Test Setup

For radiated test from 30MHz to 1GHz



For radiated test above 1GHz



### 3.2.5 Test Result of Field Strength of Spurious Radiated

Please refer to Appendix B.



## 4 List of Measuring Equipment

| Instrument                   | Manufacturer | Model No.      | Serial No.   | Characteristics        | Calibration Date | Test Date     | Due Date      | Remark                |
|------------------------------|--------------|----------------|--------------|------------------------|------------------|---------------|---------------|-----------------------|
| Radio Communication Analyzer | Anritsu      | MT8820C        | 6201563777   | 2G/3G/4G (CDMA)        | Jan. 03, 2018    | Nov. 13, 2018 | Jan. 02, 2019 | Conducted (TH01-SZ)   |
| Spectrum Analyzer            | R&S          | FSV40          | 101041       | 10kHz~40GHz;Ma x 30dBm | Oct.20, 2017     | Oct. 26, 2018 | Oct 19, 2019  | Radiation (03CH02-SZ) |
| Bilog Antenna                | TeseQ        | CBL6112D       | 35407        | 30MHz-2GHz             | May. 10, 2018    | Oct. 26, 2018 | May. 09, 2019 | Radiation (03CH02-SZ) |
| Double Ridge Horn Antenna    | SCHWARZBECK  | BBHA 9120D     | 9120D-1285   | 1GHz~18GHz             | Dec. 13, 2017    | Oct. 26, 2018 | Dec. 12, 2018 | Radiation (03CH02-SZ) |
| SHF-EHF Horn                 | com-power    | AH-840         | 101071       | 18GHz-40GHz            | Mar.30, 2018     | Oct. 26, 2018 | Mar.29, 2019  | Radiation (03CH02-SZ) |
| LF Amplifier                 | Burgeon      | BPA-530        | 102211       | 0.01~3000Mhz           | Oct.20, 2018     | Oct. 26, 2018 | Oct 19, 2019  | Radiation (03CH02-SZ) |
| HF Amplifier                 | Agilent      | 8449B          | 3008A01023   | 1GHz~26.5GHz           | Oct.20, 2018     | Oct. 26, 2018 | Oct 19, 2019  | Radiation (03CH02-SZ) |
| HF Amplifier                 | MITEQ        | TTA1840-35 -HG | 1871923      | 18GHz~40GHz            | Jul.30, 2018     | Oct. 26, 2018 | Jul.29, 2019  | Radiation (03CH02-SZ) |
| AC Power Source              | Chroma       | 61601          | 616010002470 | N/A                    | NCR              | Oct. 26, 2018 | NCR           | Radiation (03CH02-SZ) |
| Turn Table                   | Chaintek     | T-200          | N/A          | 0~360 degree           | NCR              | Oct. 26, 2018 | NCR           | Radiation (03CH02-SZ) |
| Antenna Mast                 | Chaintek     | MBS-400        | N/A          | 1 m~4 m                | NCR              | Oct. 26, 2018 | NCR           | Radiation (03CH02-SZ) |

NCR: No Calibration Required

## 5 Uncertainty of Evaluation

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

|                                                                         |       |
|-------------------------------------------------------------------------|-------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 2.5dB |
|-------------------------------------------------------------------------|-------|

### Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

|                                                                         |       |
|-------------------------------------------------------------------------|-------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 3.3dB |
|-------------------------------------------------------------------------|-------|

### Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

|                                                                         |       |
|-------------------------------------------------------------------------|-------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 3.7dB |
|-------------------------------------------------------------------------|-------|





## Appendix A. Test Results of Conducted Test

### Conducted Output Power (Average power)

| LTE Band 26 Maximum Average Power [dBm] |         |           |        |        |        |         |  |  |
|-----------------------------------------|---------|-----------|--------|--------|--------|---------|--|--|
| BW [MHz]                                | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |  |  |
| 15                                      | 1       | 0         | QPSK   | 22.40  | -      | -       |  |  |
| 15                                      | 1       | 37        |        | 22.26  |        |         |  |  |
| 15                                      | 1       | 74        |        | 22.28  |        |         |  |  |
| 15                                      | 36      | 0         |        | 21.18  |        |         |  |  |
| 15                                      | 36      | 20        |        | 21.35  |        |         |  |  |
| 15                                      | 36      | 39        |        | 21.36  |        |         |  |  |
| 15                                      | 75      | 0         |        | 21.47  |        |         |  |  |
| 15                                      | 1       | 0         | 16-QAM | 21.46  |        |         |  |  |
| 15                                      | 1       | 37        |        | 21.67  |        |         |  |  |
| 15                                      | 1       | 74        |        | 21.56  |        |         |  |  |
| 15                                      | 36      | 0         |        | 20.23  |        |         |  |  |
| 15                                      | 36      | 20        |        | 20.36  |        |         |  |  |
| 15                                      | 36      | 39        |        | 20.38  |        |         |  |  |
| 15                                      | 75      | 0         |        | 20.46  |        |         |  |  |
| 10                                      | 1       | 0         | QPSK   | -      | 22.42  | -       |  |  |
| 10                                      | 1       | 25        |        |        | 22.45  |         |  |  |
| 10                                      | 1       | 49        |        |        | 22.54  |         |  |  |
| 10                                      | 25      | 0         |        |        | 21.45  |         |  |  |
| 10                                      | 25      | 12        |        |        | 21.48  |         |  |  |
| 10                                      | 25      | 25        |        |        | 21.53  |         |  |  |
| 10                                      | 50      | 0         |        |        | 21.50  |         |  |  |
| 10                                      | 1       | 0         | 16-QAM |        | 21.83  |         |  |  |
| 10                                      | 1       | 25        |        |        | 21.87  |         |  |  |
| 10                                      | 1       | 49        |        |        | 21.96  |         |  |  |
| 10                                      | 25      | 0         |        |        | 20.58  |         |  |  |
| 10                                      | 25      | 12        |        |        | 20.60  |         |  |  |
| 10                                      | 25      | 25        |        |        | 20.64  |         |  |  |
| 10                                      | 50      | 0         |        |        | 20.60  |         |  |  |



| LTE Band 26 Maximum Average Power [dBm] |         |           |        |        |        |         |
|-----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                                | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 5                                       | 1       | 0         | QPSK   | 22.36  | 22.46  | 22.48   |
| 5                                       | 1       | 12        |        | 22.39  | 22.46  | 22.48   |
| 5                                       | 1       | 24        |        | 22.18  | 22.54  | 22.64   |
| 5                                       | 12      | 0         |        | 21.27  | 21.41  | 21.51   |
| 5                                       | 12      | 7         |        | 21.26  | 21.42  | 21.48   |
| 5                                       | 12      | 13        |        | 21.31  | 21.44  | 21.57   |
| 5                                       | 25      | 0         |        | 21.10  | 21.43  | 21.56   |
| 5                                       | 1       | 0         | 16-QAM | 21.68  | 21.81  | 21.87   |
| 5                                       | 1       | 12        |        | 21.60  | 21.84  | 21.88   |
| 5                                       | 1       | 24        |        | 21.57  | 21.92  | 22.09   |
| 5                                       | 12      | 0         |        | 20.41  | 20.53  | 20.57   |
| 5                                       | 12      | 7         |        | 20.42  | 20.55  | 20.59   |
| 5                                       | 12      | 13        |        | 20.24  | 20.56  | 20.68   |
| 5                                       | 25      | 0         |        | 20.20  | 20.48  | 20.64   |
| 3                                       | 1       | 0         | QPSK   | 22.44  | 22.41  | 22.53   |
| 3                                       | 1       | 8         |        | 22.26  | 22.46  | 22.64   |
| 3                                       | 1       | 14        |        | 22.08  | 22.45  | 22.63   |
| 3                                       | 8       | 0         |        | 21.32  | 21.44  | 21.51   |
| 3                                       | 8       | 4         |        | 21.28  | 21.44  | 21.58   |
| 3                                       | 8       | 7         |        | 21.07  | 21.46  | 21.58   |
| 3                                       | 15      | 0         |        | 21.01  | 21.46  | 21.61   |
| 3                                       | 1       | 0         | 16-QAM | 21.57  | 21.79  | 21.84   |
| 3                                       | 1       | 8         |        | 21.43  | 21.82  | 21.97   |
| 3                                       | 1       | 14        |        | 21.46  | 21.85  | 21.97   |
| 3                                       | 8       | 0         |        | 20.48  | 20.57  | 20.60   |
| 3                                       | 8       | 4         |        | 20.54  | 20.54  | 20.68   |
| 3                                       | 8       | 7         |        | 20.23  | 20.57  | 20.70   |
| 3                                       | 15      | 0         |        | 20.48  | 20.53  | 20.65   |



| LTE Band 26 Maximum Average Power [dBm] |         |           |        |        |        |         |
|-----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                                | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 1.4                                     | 1       | 0         | QPSK   | 22.33  | 22.37  | 22.63   |
| 1.4                                     | 1       | 3         |        | 22.26  | 22.37  | 22.60   |
| 1.4                                     | 1       | 5         |        | 22.28  | 22.38  | 22.67   |
| 1.4                                     | 3       | 0         |        | 22.38  | 22.38  | 22.61   |
| 1.4                                     | 3       | 1         |        | 22.38  | 22.36  | 22.56   |
| 1.4                                     | 3       | 3         |        | 22.29  | 22.36  | 22.55   |
| 1.4                                     | 6       | 0         |        | 21.20  | 21.37  | 21.56   |
| 1.4                                     | 1       | 0         | 16-QAM | 21.58  | 21.75  | 21.95   |
| 1.4                                     | 1       | 3         |        | 21.63  | 21.71  | 21.96   |
| 1.4                                     | 1       | 5         |        | 21.49  | 21.82  | 22.04   |
| 1.4                                     | 3       | 0         |        | 21.52  | 21.53  | 21.65   |
| 1.4                                     | 3       | 1         |        | 21.52  | 21.55  | 21.61   |
| 1.4                                     | 3       | 3         |        | 21.17  | 21.55  | 21.74   |
| 1.4                                     | 6       | 0         |        | 20.10  | 20.40  | 20.60   |



## Appendix B. Test Results of Radiated Test

| LTE Band 26 / 1.4MHz / QPSK / RB Size 1 Offset 0 |                      |                |                  |                         |                         |                          |                            |                             |                       |
|--------------------------------------------------|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel                                          | Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |
| Lowest                                           | 1628.14              | -60.36         | -13              | -47.36                  | -71.06                  | -63.59                   | 3.98                       | 9.36                        | H                     |
|                                                  | 2442.21              | -59.06         | -13              | -46.06                  | -74.08                  | -62.61                   | 4.85                       | 10.55                       | H                     |
|                                                  | 3256.28              | -64.26         | -13              | -51.26                  | -81.41                  | -69.19                   | 5.50                       | 12.58                       | H                     |
|                                                  | 1628.14              | -66.09         | -13              | -53.09                  | -76.34                  | -69.32                   | 3.98                       | 9.36                        | V                     |
|                                                  | 2442.21              | -62.73         | -13              | -49.73                  | -77.76                  | -66.28                   | 4.85                       | 10.55                       | V                     |
|                                                  | 3256.28              | -64.12         | -13              | -51.12                  | -81.40                  | -69.05                   | 5.50                       | 12.58                       | V                     |
| Middle                                           | 1636.74              | -63.16         | -13              | -50.16                  | -73.88                  | -66.41                   | 4.00                       | 9.40                        | H                     |
|                                                  | 2455.11              | -57.03         | -13              | -44.03                  | -72.03                  | -60.60                   | 4.88                       | 10.60                       | H                     |
|                                                  | 3273.48              | -64.06         | -13              | -51.06                  | -81.18                  | -68.99                   | 5.52                       | 12.60                       | H                     |
|                                                  | 1636.74              | -62.26         | -13              | -49.26                  | -72.53                  | -65.51                   | 4.00                       | 9.40                        | V                     |
|                                                  | 2455.11              | -57.64         | -13              | -44.64                  | -72.61                  | -61.21                   | 4.88                       | 10.60                       | V                     |
|                                                  | 3273.48              | -64.25         | -13              | -51.25                  | -81.47                  | -69.18                   | 5.52                       | 12.60                       | V                     |
| Highest                                          | 1695.34              | -62.69         | -13              | -49.69                  | -73.19                  | -65.86                   | 4.10                       | 9.42                        | H                     |
|                                                  | 2543.01              | -60.19         | -13              | -47.19                  | -75.09                  | -63.77                   | 4.90                       | 10.63                       | H                     |
|                                                  | 3390.68              | -64.86         | -13              | -51.86                  | -81.39                  | -69.78                   | 5.55                       | 12.62                       | H                     |
|                                                  | 1695.34              | -64.17         | -13              | -51.17                  | -74.47                  | -67.34                   | 4.10                       | 9.42                        | V                     |
|                                                  | 2543.01              | -60.69         | -13              | -47.69                  | -75.49                  | -64.27                   | 4.90                       | 10.63                       | V                     |
|                                                  | 3390.68              | -65.01         | -13              | -52.01                  | -81.57                  | -69.93                   | 5.55                       | 12.62                       | V                     |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 26 / 3MHz / QPSK / RB Size 1 Offset 0 |                   |             |               |                   |                   |                    |                      |                       |                    |
|------------------------------------------------|-------------------|-------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel                                        | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest                                         | 1628.3            | -65.13      | -13           | -52.13            | -75.83            | -68.36             | 3.98                 | 9.36                  | H                  |
|                                                | 2442.45           | -60.46      | -13           | -47.46            | -75.48            | -64.01             | 4.85                 | 10.55                 | H                  |
|                                                | 3256.6            | -64.35      | -13           | -51.35            | -81.50            | -69.28             | 5.50                 | 12.58                 | H                  |
|                                                | 1628.3            | -64.61      | -13           | -51.61            | -74.86            | -67.84             | 3.98                 | 9.36                  | V                  |
|                                                | 2442.45           | -59.22      | -13           | -46.22            | -74.25            | -62.77             | 4.85                 | 10.55                 | V                  |
|                                                | 3256.6            | -64.03      | -13           | -51.03            | -81.31            | -68.96             | 5.50                 | 12.58                 | V                  |
| Middle                                         | 1635.3            | -66.68      | -13           | -53.68            | -77.40            | -69.93             | 4.00                 | 9.40                  | H                  |
|                                                | 2452.95           | -64.71      | -13           | -51.71            | -79.73            | -68.28             | 4.88                 | 10.60                 | H                  |
|                                                | 3270.6            | -64.04      | -13           | -51.04            | -81.16            | -68.97             | 5.52                 | 12.60                 | H                  |
|                                                | 1635.3            | -67.39      | -13           | -54.39            | -77.66            | -70.64             | 4.00                 | 9.40                  | V                  |
|                                                | 2452.95           | -64.29      | -13           | -51.29            | -79.32            | -67.86             | 4.88                 | 10.60                 | V                  |
|                                                | 3270.6            | -64.30      | -13           | -51.30            | -81.52            | -69.23             | 5.52                 | 12.60                 | V                  |
| Highest                                        | 1692.3            | -64.97      | -13           | -51.97            | -75.47            | -68.14             | 4.10                 | 9.42                  | H                  |
|                                                | 2538.45           | -61.41      | -13           | -48.41            | -76.35            | -64.99             | 4.90                 | 10.63                 | H                  |
|                                                | 3384.6            | -65.14      | -13           | -52.14            | -81.81            | -70.06             | 5.55                 | 12.62                 | H                  |
|                                                | 1692.3            | -65.89      | -13           | -52.89            | -76.19            | -69.06             | 4.10                 | 9.42                  | V                  |
|                                                | 2538.45           | -62.01      | -13           | -49.01            | -76.83            | -65.59             | 4.90                 | 10.63                 | V                  |
|                                                | 3384.6            | -64.96      | -13           | -51.96            | -81.66            | -69.88             | 5.55                 | 12.62                 | V                  |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| LTE Band 26 / 5MHz / QPSK / RB Size 1 Offset 0 |                   |             |               |                   |                   |                    |                      |                       |                    |
|------------------------------------------------|-------------------|-------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel                                        | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest                                         | 1628.5            | -64.39      | -13           | -51.39            | -75.09            | -67.62             | 3.98                 | 9.36                  | H                  |
|                                                | 2442.75           | -62.40      | -13           | -49.40            | -77.42            | -65.95             | 4.85                 | 10.55                 | H                  |
|                                                | 3257              | -64.35      | -13           | -51.35            | -81.50            | -69.28             | 5.50                 | 12.58                 | H                  |
|                                                | 1628.5            | -63.98      | -13           | -50.98            | -74.23            | -67.21             | 3.98                 | 9.36                  | V                  |
|                                                | 2442.75           | -62.27      | -13           | -49.27            | -77.30            | -65.82             | 4.85                 | 10.55                 | V                  |
|                                                | 3257              | -64.26      | -13           | -51.26            | -81.54            | -69.19             | 5.50                 | 12.58                 | V                  |
| Middle                                         | 1633.5            | -67.39      | -13           | -54.39            | -78.11            | -70.64             | 4.00                 | 9.40                  | H                  |
|                                                | 2450.25           | -64.43      | -13           | -51.43            | -79.45            | -68.00             | 4.88                 | 10.60                 | H                  |
|                                                | 3267              | -64.21      | -13           | -51.21            | -81.36            | -69.14             | 5.52                 | 12.60                 | H                  |
|                                                | 1633.5            | -68.27      | -13           | -55.27            | -78.54            | -71.52             | 4.00                 | 9.40                  | V                  |
|                                                | 2450.25           | -61.54      | -13           | -48.54            | -76.57            | -65.11             | 4.88                 | 10.60                 | V                  |
|                                                | 3267              | -63.90      | -13           | -50.90            | -81.18            | -68.83             | 5.52                 | 12.60                 | V                  |
| Highest                                        | 1688.5            | -64.40      | -13           | -51.40            | -74.79            | -67.57             | 4.10                 | 9.42                  | H                  |
|                                                | 2532.75           | -59.77      | -13           | -46.77            | -74.71            | -63.35             | 4.90                 | 10.63                 | H                  |
|                                                | 3377              | -64.87      | -13           | -51.87            | -81.54            | -69.79             | 5.55                 | 12.62                 | H                  |
|                                                | 1688.5            | -64.48      | -13           | -51.48            | -74.66            | -67.65             | 4.10                 | 9.42                  | V                  |
|                                                | 2532.75           | -60.13      | -13           | -47.13            | -74.95            | -63.71             | 4.90                 | 10.63                 | V                  |
|                                                | 3377              | -64.55      | -13           | -51.55            | -81.25            | -69.47             | 5.55                 | 12.62                 | V                  |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 26 / 10MHz / QPSK / RB Size 1 Offset 0 |                      |                |                  |                         |                         |                          |                            |                             |                       |
|-------------------------------------------------|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel                                         | Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |
| Middle                                          | 1629                 | -61.20         | -13              | -48.20                  | -71.90                  | -64.45                   | 4.00                       | 9.40                        | H                     |
|                                                 | 2443.5               | -53.62         | -13              | -40.62                  | -68.64                  | -57.19                   | 4.88                       | 10.60                       | H                     |
|                                                 | 3258                 | -64.14         | -13              | -51.14                  | -81.29                  | -69.07                   | 5.52                       | 12.60                       | H                     |
|                                                 | 1629                 | -65.03         | -13              | -52.03                  | -75.28                  | -68.28                   | 4.00                       | 9.40                        | V                     |
|                                                 | 2443.5               | -58.72         | -13              | -45.72                  | -73.75                  | -62.29                   | 4.88                       | 10.60                       | V                     |
|                                                 | 3258                 | -64.04         | -13              | -51.04                  | -81.32                  | -68.97                   | 5.52                       | 12.60                       | V                     |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.