



FCC RADIO TEST REPORT

FCC ID : A4RG025I
Equipment : Phone
Model Name : G025I, G025H
Applicant : Google LLC
1600 Amphitheatre Parkway,
Mountain View, California, 94043 USA
Standard : FCC 47 CFR Part 2, 90(R)

The product was received on May 12, 2020 and testing was started from May 25, 2020 and completed on Jul. 01, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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Appendix A. Test Results of Conducted Test

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History of this test report

| Report No. | Version | Description | Issued Date |
|--------------|---------|---|---------------|
| FG022521-04E | 01 | Initial issue of report | Jul. 09, 2020 |
| FG022521-04E | 02 | Revising the remark description in summary. | Jul. 23, 2020 |
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Summary of Test Result

| Report Clause | Ref Std. Clause | Test Items | Result (PASS/FAIL) | Remark |
|---------------|--|--|--------------------|--|
| 3.2 | §2.1046 | Conducted Output Power | Reporting only | - |
| | §90.542 (a)(7) | Effective Radiated Power | Pass | - |
| - | - | Peak-to-Average Ratio | Not Required | - |
| - | §2.1049 | Occupied Bandwidth | Not Required | - |
| - | §2.1053 §90.543 (e)(2) | Conducted Band Edge Measurement | Not Required | - |
| - | §2.1051 §90.210 (n) | Emission Mask | Not Required | - |
| - | §2.1053 §90.543 (e)(3) | Conducted Spurious Emission | Not Required | - |
| - | §2.1055 §90.539 (e) | Frequency Stability Temperature & Voltage | Not Required | - |
| 4.2 | §2.1053 §90.543 (e)(3) §90.543 (f) | Radiated Spurious Emission | Pass | Under limit 18.76 dB at 1592.000 MHz for Primary Antenna Under limit 16.18 dB at 1592.000 MHz for ASDIV Antenna |

Remark:

- Not required means after assessing, test items are not necessary to carry out.
- This is a variant report which can be referred Product Equality Declaration. After spot-checking the tests, the parent test results were worse than variant test results, thus this test report was reuse parent test data, all the test cases were performed on original report which can be referred to Sporton Report Number FG022521-02E.

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Wii Chang

Report Producer: Yimin Ho



1 General Description

1.1 Product Feature of Equipment Under Test

| Product Feature | |
|---------------------------------|--|
| Equipment | Phone |
| Model Name | G025I, G025H |
| FCC ID | A4RG025I |
| EUT supports Radios application | GSM/EGPRS/WCDMA/HSPA/LTE/5G NR/NFC/GNSS WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE |

Remark: The above EUT's information was declared by manufacturer.

| EUT Information List | |
|----------------------|------------------------------|
| S/N | Performed Test Item |
| 04271FQCB00019 | Conducted Measurement ERP |
| 04241FQCB00338 | Radiated Spurious Emission |

1.2 Product Specification of Equipment Under Test

| Product Specification subjective to this standard | |
|---|--|
| Tx Frequency | 790.5 ~ 795.5 MHz |
| Rx Frequency | 760.5 ~ 765.5 MHz |
| Bandwidth | 5MHz / 10MHz |
| Maximum Output Power to Antenna | <Primary Antenna> 24.49 dBm <ASDIV Antenna> 24.23 dBm |
| Antenna Type | <Primary Antenna>: PIFA Antenna <ASDIV Antenna>: PIFA Antenna |
| Type of Modulation | QPSK / 16QAM / 64QAM |

<Primary Antenna>

| Radio Tech | Band Number | Antenna name | Gain |
|------------|-------------|--------------|------|
| LTE | B14 | Ant 0 | -3.9 |

<ASDIV Antenna>

| Radio Tech | Band Number | Antenna name | Gain |
|------------|-------------|--------------|------|
| LTE | B14 | Ant 1 | -5.4 |



1.3 Modification of EUT

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

1.4 Testing Site

| | |
|---------------------------|---|
| Test Site | SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory |
| Test Site Location | No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978 |
| Test Site No. | Sporton Site No. |
| | TH05-HY |
| Test Engineer | Luffy Lin |
| Temperature | 22~24°C |
| Relative Humidity | 51~55% |

Note: The test site complies with ANSI C63.4 2014 requirement.

| | |
|---------------------------|---|
| Test Site | SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory |
| Test Site Location | No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855 |
| Test Site No. | Sporton Site No. |
| | 03CH13-HY |
| Test Engineer | Daniel Lee, Jacky Hung and Wilson Wu |
| Temperature | 21.5~23.5°C |
| Relative Humidity | 49.5~55.5% |

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: TW1190 and TW0007



1.5 Applied Standards

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

- ♦ ANSI C63.26-2015
- ♦ FCC 47 CFR Part 2, Part 90(R)
- ♦ ANSI / TIA-603-E
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01

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.
3. The TAF code is not including all the FCC KDB listed without accreditation.



2 Test Configuration of Equipment Under Test

2.1 Test Mode

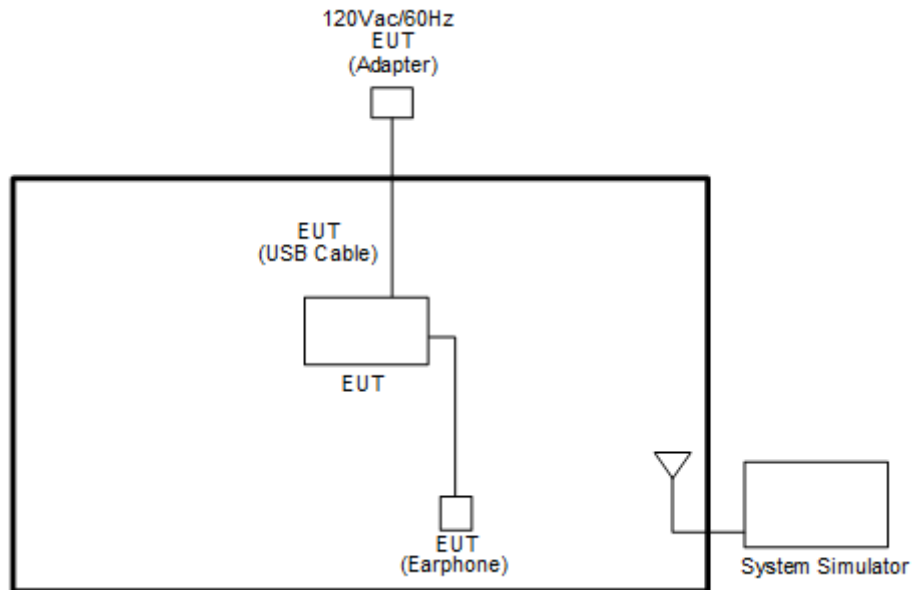
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Primary Antenna: Z Plane without Accessory; ASDIV Antenna: Z Plane with Accessory) were recorded in this report.

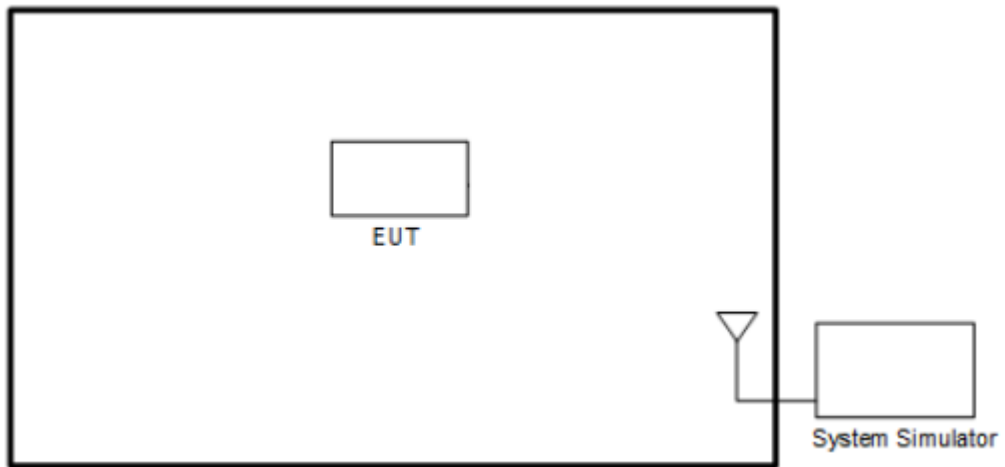
| Conducted Test Cases | Band | Bandwidth (MHz) | | | | | | Modulation | | | RB # | | | Test Channel | | |
|----------------------------|--|-----------------|---|---|----|----|----|------------|-------|-------|------|------|------|--------------|---|---|
| | | 1.4 | 3 | 5 | 10 | 15 | 20 | QPSK | 16QAM | 64QAM | 1 | Half | Full | L | M | H |
| Max. Output Power | 14 | - | - | V | V | - | - | V | V | V | V | V | V | V | V | V |
| E.R.P | 14 | - | - | V | V | - | - | V | V | V | V | | | V | V | V |
| Radiated Spurious Emission | 14 | Worst Case | | | | | | | | | | | | | V | |
| Remark | <ol style="list-style-type: none"> The mark "v " means that this configuration is chosen for testing The mark "- " means that this bandwidth is not supported. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. All the radiated test cases were performed with Adapter 1 and USB Cable 1. The radiated spurious emissions measurement in 1559-1610 MHz were wideband emissions. | | | | | | | | | | | | | | | |

2.2 Connection Diagram of Test System

<EUT with Accessory>



<EUT without Accessory>



2.3 Support Unit used in test configuration and system

| Item | Equipment | Trade Name | Model No. | FCC ID | Data Cable | Power Cord |
|------|------------------|------------|-----------|--------|------------|-------------------|
| 1. | System Simulator | Anritsu | MT8821C | N/A | N/A | Unshielded, 1.8 m |



2.4 Frequency List of Low/Middle/High Channels

| LTE Band 14 Channel and Frequency List | | | | |
|--|------------------------|--------|--------|---------|
| BW [MHz] | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 10 | Channel | - | 23330 | - |
| | Frequency | - | 793 | - |
| 5 | Channel | 23305 | 23330 | 23355 |
| | Frequency | 790.5 | 793 | 795.5 |

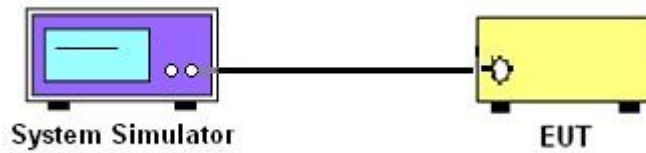
3 Conducted Test Items

3.1 Measuring Instruments

See list of measuring instruments of this test report.

3.1.1 Test Setup

3.1.2 Conducted Output Power



3.1.3 Test Result of Conducted Test

Please refer to Appendix A.



3.2 Conducted Output Power Measurement and ERP

3.2.1 Description of the Conducted Output Power Measurement and ERP Measurement

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

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 14.

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$, $ERP = EIRP - 2.15$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.2.2 Test Procedures

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

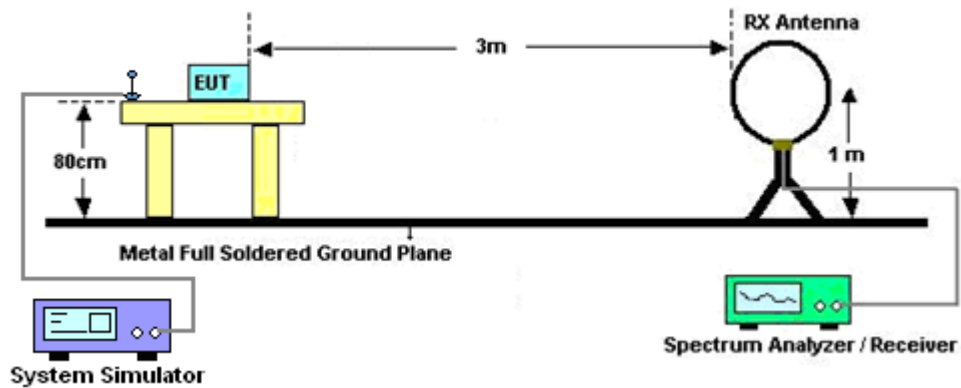
4 Radiated Test Items

4.1 Measuring Instruments

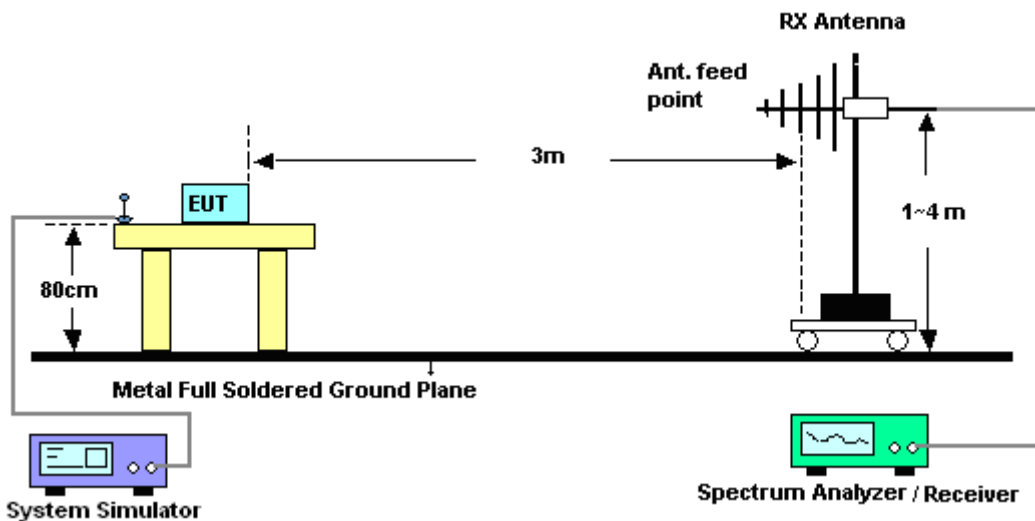
See list of measuring instruments of this test report.

4.1.1 Test Setup

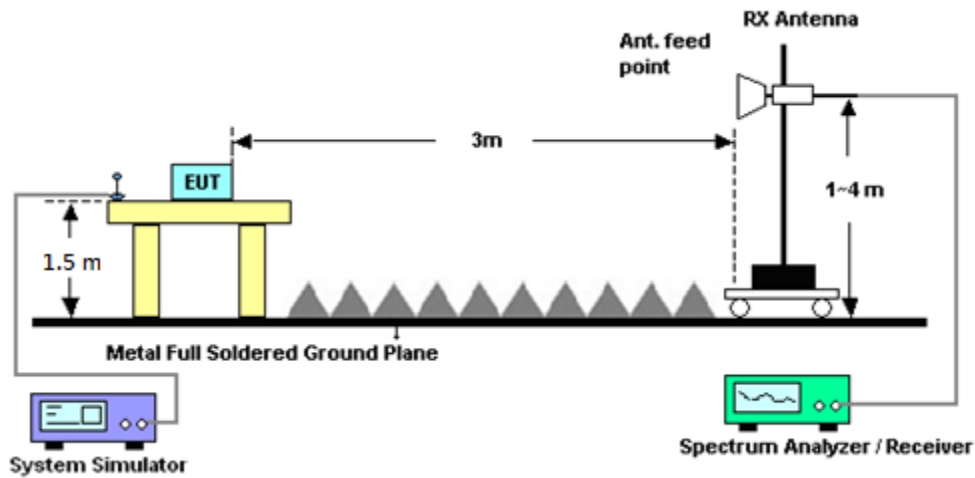
For radiated emissions below 30MHz



For radiated test from 30MHz to 1GHz



For radiated test above 1GHz



4.1.2 Test Result of Radiated Test

Please refer to Appendix B.

Note:

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.



4.2 Radiated Spurious Emission

4.2.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E. 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 $43 + 10 \log (P)$ dB.

For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.2.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI / TIA-603-E Section 2.2.12.

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. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
11. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)



5 List of Measuring Equipment

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Test Date | Due Date | Remark |
|-------------------|-------------------|-------------------------------------|----------------|----------------------------------|------------------|---------------------------------|---------------|--------------------------|
| Amplifier | Sonoma-Instrument | 310 N | 187282 | 9KHz~1GHz | Dec. 17, 2019 | Jun. 17, 2020~ Jun. 23, 2020 | Dec. 16, 2020 | Radiation (03CH13-HY) |
| Bilog Antenna | TESEQ | CBL 6111D&00800 N1D01N-06 | 40103&07 | 30MHz to 1GHz | Apr. 29, 2020 | Jun. 17, 2020~ Jun. 23, 2020 | Apr. 28, 2021 | Radiation (03CH13-HY) |
| Bilog Antenna | TESEQ | CBL 6111D&00800 N1D01N-06 | 41912 & 07 | 30MHz to 1GHz | Apr. 29, 2020 | Jun. 17, 2020~ Jun. 23, 2020 | Apr. 28, 2021 | Radiation (03CH13-HY) |
| Horn Antenna | SCHWARZBECK | BBHA 9120 D | 9120D-124 1 | 1GHz ~ 18GHz | Jul. 02, 2019 | Jun. 17, 2020~ Jun. 23, 2020 | Jul. 01, 2020 | Radiation (03CH13-HY) |
| Horn Antenna | SCHWARZBECK | BBHA 9120 D | 9120D-152 2 | 1GHz ~ 18GHz | Sept. 19, 2019 | Jun. 17, 2020~ Jun. 23, 2020 | Sep. 18, 2020 | Radiation (03CH13-HY) |
| Preamplifier | MITEQ | AMF-7D-0010 1800-30-10P | 1590074 | 1GHz~18GHz | May 19, 2020 | Jun. 17, 2020~ Jun. 23, 2020 | May 18, 2021 | Radiation (03CH13-HY) |
| Preamplifier | Keysight | 83017A | MY532701 47 | 1GHz~26.5GHz | Oct. 28, 2019 | Jun. 17, 2020~ Jun. 23, 2020 | Oct. 27, 2020 | Radiation (03CH13-HY) |
| Signal Generator | Rohde & Schwarz | SMF100A | 101107 | 100kHz~40GHz | Aug. 27, 2019 | Jun. 17, 2020~ Jun. 23, 2020 | Aug. 26, 2020 | Radiation (03CH13-HY) |
| Spectrum Analyzer | Keysight | N9010A | MY553705 26 | 10Hz~44GHz | Mar. 20, 2020 | Jun. 17, 2020~ Jun. 23, 2020 | Mar. 19, 2021 | Radiation (03CH13-HY) |
| Controller | EMEC | EM1000 | N/A | Control Turn table & Ant Mast | N/A | Jun. 17, 2020~ Jun. 23, 2020 | N/A | Radiation (03CH13-HY) |
| Antenna Mast | EMEC | AM-BS-4500- B | N/A | 1m~4m | N/A | Jun. 17, 2020~ Jun. 23, 2020 | N/A | Radiation (03CH13-HY) |
| Turn Table | EMEC | TT2000 | N/A | 0~360 Degree | N/A | Jun. 17, 2020~ Jun. 23, 2020 | N/A | Radiation (03CH13-HY) |
| Software | Audix | E3 6.2009-8-24 | RK-00099 2 | N/A | N/A | Jun. 17, 2020~ Jun. 23, 2020 | N/A | Radiation (03CH13-HY) |
| RF Cable | HUBER + SUHNER | SUCOFLEX 126E | 0030/126E | 30M-18G | Feb. 12, 2020 | Jun. 17, 2020~ Jun. 23, 2020 | Feb. 21, 2021 | Radiation (03CH13-HY) |
| RF Cable | HUBER + SUHNER | SUCOFLEX 104 | 804793/4 | 30M-18G | Feb. 12, 2020 | Jun. 17, 2020~ Jun. 23, 2020 | Feb. 21, 2021 | Radiation (03CH13-HY) |
| Filter | Wainwright | WHKX12-270 0-3000-18000 -60SS | SN2 | 3GHz High Pass Filter | Jul. 14, 2019 | Jun. 17, 2020~ Jun. 23, 2020 | Jul. 13, 2020 | Radiation (03CH13-HY) |
| Filter | Wainwright | WHKX12-108 0-1200-15000 -60SS | SN3 | 1.2GHz High Pass Filter | Jul. 03, 2019 | Jun. 17, 2020~ Jun. 23, 2020 | Jul. 02, 2020 | Radiation (03CH13-HY) |
| Hygrometer | TECEPIL | DTM-303A | TP190075 | N/A | Apr. 23, 2020 | Jun. 17, 2020~ Jun. 23, 2020 | Apr. 22, 2021 | Radiation (03CH13-HY) |



| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Test Date | Due Date | Remark |
|---------------------------|-----------------|---|-----------------|-------------------|------------------|--------------------------------|---------------|------------------------|
| LTE Base Station | Anritsu | MT8821C | 626200253 41 | - | Oct. 24, 2019 | May 25, 2020~ Jul. 01, 2020 | Oct. 23, 2020 | Conducted (TH05-HY) |
| Spectrum Analyzer | Rohde & Schwarz | FSV40 | 101397 | 10Hz~40GHz | Nov. 15, 2019 | May 25, 2020~ Jul. 01, 2020 | Nov. 14, 2020 | Conducted (TH05-HY) |
| Temperature Chamber | ESPEC | SH-641 | 92013720 | -40°C~90°C | Sep. 02, 2019 | May 25, 2020~ Jul. 01, 2020 | Sep. 01, 2020 | Conducted (TH05-HY) |
| Programmable Power Supply | GW Instek | PSS-2005 | EL890094 | 1V~20V 0.5A~5A | Oct. 09, 2019 | May 25, 2020~ Jul. 01, 2020 | Oct. 08, 2020 | Conducted (TH05-HY) |
| Coupler | Warison | 20dB 25W SMA Directional Coupler | #A | 1-18GHz | Jan. 13, 2020 | May 25, 2020~ Jul. 01, 2020 | Jan. 12, 2021 | Conducted (TH05-HY) |



6 Uncertainty of Evaluation

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

| | |
|---|------|
| Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$) | 3.21 |
|---|------|

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

| | |
|---|------|
| Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$) | 3.24 |
|---|------|



Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

<Primary Antenna>

| LTE Band 14 Maximum Average Power [dBm] | | | | | | |
|---|---------|-----------|--------|--------|--------|---------|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 10 | 1 | 0 | QPSK | | 24.44 | |
| 10 | 1 | 25 | | | 24.49 | |
| 10 | 1 | 49 | | | 24.32 | |
| 10 | 25 | 0 | | | 23.51 | |
| 10 | 25 | 12 | | | 23.50 | |
| 10 | 25 | 25 | | | 23.48 | |
| 10 | 50 | 0 | | | 23.42 | |
| 10 | 1 | 0 | 16-QAM | | 23.87 | |
| 10 | 1 | 25 | | | 23.84 | |
| 10 | 1 | 49 | | | 23.71 | |
| 10 | 25 | 0 | | | 22.44 | |
| 10 | 25 | 12 | | | 22.54 | |
| 10 | 25 | 25 | | | 22.55 | |
| 10 | 50 | 0 | | | 22.44 | |
| 10 | 1 | 0 | 64-QAM | | 22.75 | |
| 10 | 1 | 25 | | | 22.58 | |
| 10 | 1 | 49 | | | 22.65 | |
| 10 | 25 | 0 | | | 21.50 | |
| 10 | 25 | 12 | | | 21.33 | |
| 10 | 25 | 25 | | | 21.48 | |
| 10 | 50 | 0 | | | 21.55 | |
| 5 | 1 | 0 | QPSK | 24.48 | 24.40 | 24.42 |
| 5 | 1 | 12 | | 24.48 | 24.48 | 24.47 |
| 5 | 1 | 24 | | 24.47 | 24.44 | 24.42 |
| 5 | 12 | 0 | | 23.54 | 23.49 | 23.41 |
| 5 | 12 | 7 | | 23.60 | 23.52 | 23.47 |
| 5 | 12 | 13 | | 23.50 | 23.55 | 23.45 |
| 5 | 25 | 0 | | 23.59 | 23.48 | 23.43 |
| 5 | 1 | 0 | 16-QAM | 23.74 | 23.78 | 23.68 |
| 5 | 1 | 12 | | 23.78 | 23.80 | 23.80 |
| 5 | 1 | 24 | | 23.80 | 23.72 | 23.71 |
| 5 | 12 | 0 | | 22.51 | 22.57 | 22.48 |
| 5 | 12 | 7 | | 22.62 | 22.60 | 22.49 |
| 5 | 12 | 13 | | 22.59 | 22.55 | 22.51 |
| 5 | 25 | 0 | | 22.57 | 22.52 | 22.50 |
| 5 | 1 | 0 | 64-QAM | 22.71 | 22.62 | 22.36 |
| 5 | 1 | 12 | | 22.78 | 22.24 | 22.53 |
| 5 | 1 | 24 | | 22.33 | 22.27 | 22.70 |
| 5 | 12 | 0 | | 21.61 | 21.28 | 21.18 |
| 5 | 12 | 7 | | 21.68 | 21.24 | 21.54 |
| 5 | 12 | 13 | | 21.36 | 21.23 | 21.61 |
| 5 | 25 | 0 | | 21.64 | 21.16 | 21.49 |



<ASDIV Antenna>

| LTE Band 14 Maximum Average Power [dBm] | | | | | | |
|---|---------|-----------|--------|--------|--------|---------|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 10 | 1 | 0 | QPSK | | 24.23 | |
| 10 | 1 | 25 | | | 24.12 | |
| 10 | 1 | 49 | | | 24.04 | |
| 10 | 25 | 0 | | | 23.11 | |
| 10 | 25 | 12 | | | 23.16 | |
| 10 | 25 | 25 | | | 23.16 | |
| 10 | 50 | 0 | | | 23.15 | |
| 10 | 1 | 0 | 16-QAM | - | 23.49 | - |
| 10 | 1 | 25 | | | 23.41 | |
| 10 | 1 | 49 | | | 23.37 | |
| 10 | 25 | 0 | | | 22.10 | |
| 10 | 25 | 12 | | | 22.09 | |
| 10 | 25 | 25 | | | 22.19 | |
| 10 | 50 | 0 | | | 22.16 | |
| 10 | 1 | 0 | 64-QAM | | 22.81 | |
| 10 | 1 | 25 | | | 22.86 | |
| 10 | 1 | 49 | | | 22.73 | |
| 10 | 25 | 0 | | | 21.72 | |
| 10 | 25 | 12 | | | 21.61 | |
| 10 | 25 | 25 | | | 21.67 | |
| 10 | 50 | 0 | | | 21.68 | |
| 5 | 1 | 0 | QPSK | 23.98 | 24.04 | 24.05 |
| 5 | 1 | 12 | | 24.14 | 24.19 | 24.14 |
| 5 | 1 | 24 | | 24.08 | 24.07 | 24.05 |
| 5 | 12 | 0 | | 23.13 | 23.12 | 23.08 |
| 5 | 12 | 7 | | 23.21 | 23.21 | 23.14 |
| 5 | 12 | 13 | | 23.14 | 23.16 | 23.12 |
| 5 | 25 | 0 | | 23.11 | 23.12 | 23.03 |
| 5 | 1 | 0 | 16-QAM | 23.40 | 23.37 | 23.34 |
| 5 | 1 | 12 | | 23.47 | 23.44 | 23.43 |
| 5 | 1 | 24 | | 23.45 | 23.34 | 23.39 |
| 5 | 12 | 0 | | 22.13 | 22.09 | 22.10 |
| 5 | 12 | 7 | | 22.24 | 22.13 | 22.18 |
| 5 | 12 | 13 | | 22.15 | 22.19 | 22.15 |
| 5 | 25 | 0 | | 22.17 | 22.07 | 22.08 |
| 5 | 1 | 0 | 64-QAM | 22.75 | 22.83 | 22.82 |
| 5 | 1 | 12 | | 22.89 | 22.72 | 22.82 |
| 5 | 1 | 24 | | 22.71 | 22.80 | 22.80 |
| 5 | 12 | 0 | | 21.63 | 21.70 | 21.65 |
| 5 | 12 | 7 | | 21.69 | 21.72 | 21.71 |
| 5 | 12 | 13 | | 21.75 | 21.67 | 21.65 |
| 5 | 25 | 0 | | 21.71 | 21.66 | 21.61 |



Appendix B. Test Results of ERP and Radiated Test

ERP

<Primary Antenna>

| LTE Band 14 / 5MHz (Average) (GT - LC = -3.9 dB) | | | | | | | |
|--|----------|------|--------|-------------|---------------|----------|--------|
| Channel | Mode | RB | | Conducted | | ERP | |
| | | Size | Offset | Power (dBm) | Power (Watts) | ERP(dBm) | ERP(W) |
| Lowest | QPSK | 1 | 0 | 24.48 | 0.2805 | 18.43 | 0.0697 |
| Middle | | 1 | 0 | 24.40 | 0.2754 | 18.35 | 0.0684 |
| Highest | | 1 | 0 | 24.42 | 0.2767 | 18.37 | 0.0687 |
| Lowest | 16QAM | 1 | 12 | 23.78 | 0.2388 | 17.73 | 0.0593 |
| Middle | | 1 | 12 | 23.80 | 0.2399 | 17.75 | 0.0596 |
| Highest | | 1 | 12 | 23.80 | 0.2399 | 17.75 | 0.0596 |
| Lowest | 64QAM | 1 | 12 | 22.78 | 0.1897 | 16.73 | 0.0471 |
| Middle | | 1 | 12 | 22.24 | 0.1675 | 16.19 | 0.0416 |
| Highest | | 1 | 12 | 22.53 | 0.1791 | 16.48 | 0.0445 |
| Limit | ERP < 3W | | | Result | | PASS | |

| LTE Band 14 / 10MHz (Average) (GT - LC = -3.9 dB) | | | | | | | |
|---|----------|------|--------|-------------|---------------|----------|--------|
| Channel | Mode | RB | | Conducted | | ERP | |
| | | Size | Offset | Power (dBm) | Power (Watts) | ERP(dBm) | ERP(W) |
| Lowest | QPSK | - | - | - | - | - | - |
| Middle | | 1 | 25 | 24.49 | 0.2812 | 18.44 | 0.0698 |
| Highest | | - | - | - | - | - | - |
| Lowest | 16QAM | - | - | - | - | - | - |
| Middle | | 1 | 0 | 23.87 | 0.2438 | 17.82 | 0.0605 |
| Highest | | - | - | - | - | - | - |
| Lowest | 64QAM | - | - | - | - | - | - |
| Middle | | 1 | 0 | 22.75 | 0.1884 | 16.70 | 0.0468 |
| Highest | | - | - | - | - | - | - |
| Limit | ERP < 3W | | | Result | | PASS | |



<ASDIV Antenna>

| LTE Band 14 / 5MHz (Average) (GT - LC = -5.4 dB) | | | | | | | |
|--|----------|------|--------|-------------|---------------|----------|--------|
| Channel | Mode | RB | | Conducted | | ERP | |
| | | Size | Offset | Power (dBm) | Power (Watts) | ERP(dBm) | ERP(W) |
| Lowest | QPSK | 1 | 12 | 24.14 | 0.2594 | 16.59 | 0.0456 |
| Middle | | 1 | 12 | 24.19 | 0.2624 | 16.64 | 0.0461 |
| Highest | | 1 | 12 | 24.14 | 0.2594 | 16.59 | 0.0456 |
| Lowest | 16QAM | 1 | 12 | 23.47 | 0.2223 | 15.92 | 0.0391 |
| Middle | | 1 | 12 | 23.44 | 0.2208 | 15.89 | 0.0388 |
| Highest | | 1 | 12 | 23.43 | 0.2203 | 15.88 | 0.0387 |
| Lowest | 64QAM | 1 | 12 | 22.89 | 0.1945 | 15.34 | 0.0342 |
| Middle | | 1 | 12 | 22.72 | 0.1871 | 15.17 | 0.0329 |
| Highest | | 1 | 12 | 22.82 | 0.1914 | 15.27 | 0.0337 |
| Limit | ERP < 3W | | | Result | | PASS | |

| LTE Band 14 / 10MHz (Average) (GT - LC = -5.4 dB) | | | | | | | |
|---|----------|------|--------|-------------|---------------|----------|--------|
| Channel | Mode | RB | | Conducted | | ERP | |
| | | Size | Offset | Power (dBm) | Power (Watts) | ERP(dBm) | ERP(W) |
| Lowest | QPSK | - | - | - | - | - | - |
| Middle | | 1 | 0 | 24.23 | 0.2649 | 16.68 | 0.0466 |
| Highest | | - | - | - | - | - | - |
| Lowest | 16QAM | - | - | - | - | - | - |
| Middle | | 1 | 0 | 23.49 | 0.2234 | 15.94 | 0.0393 |
| Highest | | - | - | - | - | - | - |
| Lowest | 64QAM | - | - | - | - | - | - |
| Middle | | 1 | 25 | 22.86 | 0.1932 | 15.31 | 0.0340 |
| Highest | | - | - | - | - | - | - |
| Limit | ERP < 3W | | | Result | | PASS | |



Radiated Spurious Emission

<Primary Antenna>

<Ant. 0>

LTE Band 14

| LTE Band 14 / 5MHz / QPSK | | | | | | | | | |
|---------------------------|-------------------|-------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| 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) |
| Highest | 1592 | -60.91 | -42.15 | -18.76 | -73.89 | -66.10 | 1.20 | 8.55 | H |
| | 2384 | -50.56 | -13 | -37.56 | -67.67 | -57.40 | 1.42 | 10.41 | H |
| | 3184 | -56.24 | -13 | -43.24 | -75.36 | -63.93 | 1.61 | 11.45 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1592 | -61.01 | -42.15 | -18.86 | -73.81 | -66.20 | 1.20 | 8.55 | V |
| | 2384 | -53.41 | -13 | -40.41 | -71.07 | -60.25 | 1.42 | 10.41 | V |
| | 3184 | -56.26 | -13 | -43.26 | -75.53 | -63.95 | 1.61 | 11.45 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

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



<ASDIV Antenna>

<Ant. 1>

LTE Band 14

| LTE Band 14 / 5MHz / QPSK | | | | | | | | | |
|---------------------------|-------------------|-------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| 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) |
| Highest | 1592 | -58.33 | -42.15 | -16.18 | -71.31 | -63.52 | 1.20 | 8.55 | H |
| | 2388 | -58.56 | -13 | -45.56 | -75.65 | -65.40 | 1.42 | 10.41 | H |
| | 3184 | -56.82 | -13 | -43.82 | -75.94 | -64.51 | 1.61 | 11.45 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1592 | -60.40 | -42.15 | -18.25 | -73.2 | -65.59 | 1.20 | 8.55 | V |
| | 2388 | -57.72 | -13 | -44.72 | -75.35 | -64.56 | 1.42 | 10.41 | V |
| | 3184 | -56.72 | -13 | -43.72 | -75.99 | -64.41 | 1.61 | 11.45 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

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

————THE END————