

# VARIANT FCC TEST REPORT

## (PART 27)

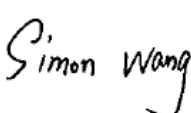
|            |                                                                                          |
|------------|------------------------------------------------------------------------------------------|
| Applicant: | Shanghai Tricheer Technology Co.,Ltd.                                                    |
| Address:   | Rm 907,Building 1,Lane 399,Shengxia Road,China (shanghai) Pilot Free Trade Zone,Shanghai |

|                           |                                                                                          |
|---------------------------|------------------------------------------------------------------------------------------|
| Manufacturer or Supplier: | Shanghai Tricheer Technology Co.,Ltd.                                                    |
| Address:                  | Rm 907,Building 1,Lane 399,Shengxia Road,China (shanghai) Pilot Free Trade Zone,Shanghai |
| Product:                  | LTE USB Modem                                                                            |
| Brand Name:               | +F                                                                                       |
| Model Name:               | FS040U                                                                                   |
| FCC ID:                   | 2ANKMFS040U                                                                              |
| Date of tests:            | Aug. 29, 2023 ~ Sep. 07, 2023                                                            |

The tests have been carried out according to the requirements of the following standard:

- ☒ **FCC Part 27**    ☒ **ANSI/TIA/EIA-603-D**  
☒ **FCC Part 2**    ☒ **ANSI/TIA/EIA-603-E**    ☒ **ANSI C63.26-2015**

**CONCLUSION:** The submitted sample was found to COMPLY with the test requirement

|                                                                                                            |                                                                                                             |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Prepared by Simon Wang<br>Engineer / Mobile Department                                                     | Approved by Luke Lu<br>Manager / Mobile Department                                                          |
| <br>Date: Sep. 07, 2023 | <br>Date: Sep. 07, 2023 |

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## RELEASE CONTROL RECORD

| ISSUE NO.         | REASON FOR CHANGE                                                                                                                                                                                                                                                  | DATE ISSUED   |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| RF170802W002-2    | Original release                                                                                                                                                                                                                                                   | Aug. 31, 2017 |
| W7L-P23080026RF02 | Base on the original report change component, address and update standard, this report verifies power and RSE worse case data. The verified power data is lower than the original power data. So this report only updates conducted power and RSE worse case data. | Sep. 07, 2023 |

## 1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC Part 27 & Part 2 |                                         |            |
|----------------------------------------|-----------------------------------------|------------|
| STANDARD SECTION                       | TEST TYPE AND LIMIT                     | RESULT     |
| 2.1046<br>27.50(h)(2)                  | Equivalent Isotropically Radiated Power | See note   |
| 2.1046<br>27.50(h)(2)                  | Conducted Output Power                  | Compliance |
| 2.1055<br>27.54                        | Frequency Stability                     | See note   |
| 2.1049                                 | Occupied Bandwidth                      | See note   |
| 27.50(d)(5)                            | Peak to average ratio                   | See note   |
| 2.1051<br>27.53(m)(4)(6)               | Band Edge Measurements                  | See note   |
| 2.1051<br>27.53(m)(4)(6)               | Conducted Spurious Emissions            | See note   |
| 2.1053<br>27.53(m)(4)(6)               | Radiated Spurious Emissions             | Compliance |

**Note:** please refer to the original report RF170802W002-2

## 1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

| MEASUREMENT                                      | UNCERTAINTY |
|--------------------------------------------------|-------------|
| Radiated emissions (9KHz~30MHz)                  | ±2.68dB     |
| Radiated emissions & Radiated Power (30MHz~1GHz) | ±4.98dB     |
| Radiated emissions & Radiated Power (1GHz ~6GHz) | ±4.70dB     |
| Radiated emissions (6GHz ~18GHz)                 | ±4.60dB     |
| Radiated emissions (18GHz ~40GHz)                | ±4.12dB     |
| Conducted Output power                           | ±2.06dB     |

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

## 1.2 TEST SITE AND INSTRUMENTS

| Equipment                                   | Manufacturer      | Model No.                       | Serial No.                          | Last Cal.   | Next Cal.  |
|---------------------------------------------|-------------------|---------------------------------|-------------------------------------|-------------|------------|
| MXE EMI Receiver                            | KEYSIGHT          | N9038A-544                      | MY54450026                          | Mar. 28,23  | Mar. 27,24 |
| EXA Signal Analyzer                         | KEYSIGHT          | N9010A-544                      | MY54510355                          | May.10,23   | May.09,24  |
| Loop Antenna                                | Schwarzbeck       | FMZB 1519B                      | 00173                               | Sep.03,22   | Sep.02,23  |
| Loop Antenna                                | Schwarzbeck       | FMZB 1519B                      | 00173                               | Sep.02,23   | Sep.01,24  |
| Bilog Antenna                               | ETS-LINDGRE<br>N  | 3143B                           | 00161965                            | Feb. 18,23  | Feb. 17,24 |
| Horn Antenna                                | ETS-LINDGRE<br>N  | 3117                            | 00168692                            | Feb. 18,23  | Feb. 17,24 |
| Horn Antenna<br>(18GHz-40GHz)               | N/A               | QWH-SL-18-40-K-<br>SG/QMS-00361 | 15433                               | Sep.04, 22  | Sep.03, 23 |
| Horn Antenna<br>(18GHz-40GHz)               | N/A               | QWH-SL-18-40-K-<br>SG/QMS-00361 | 15433                               | Sep.03, 23  | Sep.02, 24 |
| Radio Communication<br>Analyzer             | ANRITSU           | MT8820C                         | 6201465426                          | Feb. 14,23  | Feb. 13,24 |
| Signal Pre-Amplifier                        | EMSI              | EMC 9135                        | 980249                              | May. 06,23  | May. 05,24 |
| Signal Pre-Amplifier                        | EMSI              | EMC 012645B                     | 980257                              | May.10,23   | May.09,24  |
| Signal Pre-Amplifier                        | EMSI              | EMC 184045B                     | 980259                              | Feb. 17,23  | Feb.16,24  |
| 3m<br>Semi-anechoic<br>Chamber              | ETS-LINDGRE<br>N  | 9m*6m*6m                        | Euroshieldpn-<br>CT0001143-121<br>6 | May. 22, 23 | May. 21,26 |
| Test Software                               | E3                | V 9.160323                      | N/A                                 | N/A         | N/A        |
| Test Software                               | JS1120            | 3.1.36                          | N/A                                 | N/A         | N/A        |
| 10dB Attenuator                             | JFW/USA           | 50HF-010-SMA                    | 50HF-010-SMA                        | May. 06,23  | May. 05,24 |
| Power Meter                                 | Anritsu           | ML2495A                         | 1506002                             | Feb. 14,23  | Feb. 13,24 |
| Power Sensor                                | Anritsu           | MA2411B                         | 1339352                             | Feb. 14,23  | Feb. 13,24 |
| Temperature Chamber                         | ESPEC             | SH-242                          | 93000855                            | May. 06,23  | May. 05,24 |
| MXG<br>Analog Microwave<br>Signal Generator | KEYSIGHT          | N5183A                          | MY50143024                          | Feb. 14,23  | Feb. 13,24 |
| Base station R&S<br>CMW500                  | Rohde&Schwa<br>rz | CMW500                          | 153085                              | May.10,23   | May.09,24  |
| DC Source                                   | Kikusui/JP        | PMX18-5A                        | N/A                                 | Aug. 11,23  | Aug. 10,24 |
| Test Software                               | ADT               | ADT_Radiated_V<br>7.6.15.9.2    | N/A                                 | N/A         | N/A        |

- NOTE:** 1. The calibration interval of the above test instruments is 12 months or 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 525120; The Designation No. is CN1171.

## 2 GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

|                              |                                         |                       |
|------------------------------|-----------------------------------------|-----------------------|
| <b>PRODUCT</b>               | LTE USB Modem                           |                       |
| <b>MODEL NAME</b>            | FS040U                                  |                       |
| <b>POWER SUPPLY</b>          | DC 5V (host equipment)                  |                       |
| <b>MODULATION TECHNOLOGY</b> | LTE Band 41                             | QPSK, 16QAM           |
| <b>FREQUENCY RANGE</b>       | LTE Band 41<br>Channel Bandwidth: 5MHz  | 2498.5MHz ~ 2687.5MHz |
|                              | LTE Band 41<br>Channel Bandwidth: 10MHz | 2501.0MHz ~ 2685.0MHz |
|                              | LTE Band 41<br>Channel Bandwidth: 15MHz | 2503.5MHz ~ 2682.5MHz |
|                              | LTE Band 41<br>Channel Bandwidth: 20MHz | 2506.0MHz ~ 2680.0MHz |
| <b>EMISSION DESIGNATOR</b>   | LTE Band 41<br>Channel Bandwidth: 5MHz  | QPSK: 4M48G7D         |
|                              |                                         | 16QAM: 4M47W7D        |
|                              | LTE Band 41<br>Channel Bandwidth: 10MHz | QPSK: 8M91G7D         |
|                              |                                         | 16QAM: 8M93W7D        |
|                              | LTE Band 41<br>Channel Bandwidth: 15MHz | QPSK: 13M4G7D         |
|                              |                                         | 16QAM: 13M4W7D        |
|                              | LTE Band 41<br>Channel Bandwidth: 20MHz | QPSK: 17M9G7D         |
|                              |                                         | 16QAM: 17M8W7D        |
| <b>MAX. EIRP POWER</b>       | LTE Band 41<br>Channel Bandwidth: 5MHz  | 248mW                 |
|                              | LTE Band 41<br>Channel Bandwidth: 10MHz | 261mW                 |
|                              | LTE Band 41<br>Channel Bandwidth: 15MHz | 262mW                 |
|                              | LTE Band 41<br>Channel Bandwidth: 20MHz | 230mW                 |
| <b>ANTENNA TYPE</b>          | Fixed Internal Antenna with 2dBi        |                       |
| <b>HW VERSION</b>            | LWDM132A                                |                       |
| <b>SW VERSION</b>            | LWDJC02.1.0_M132                        |                       |
| <b>I/O PORTS</b>             | Refer to user's manual                  |                       |
| <b>DATA CABLE</b>            | N/A                                     |                       |



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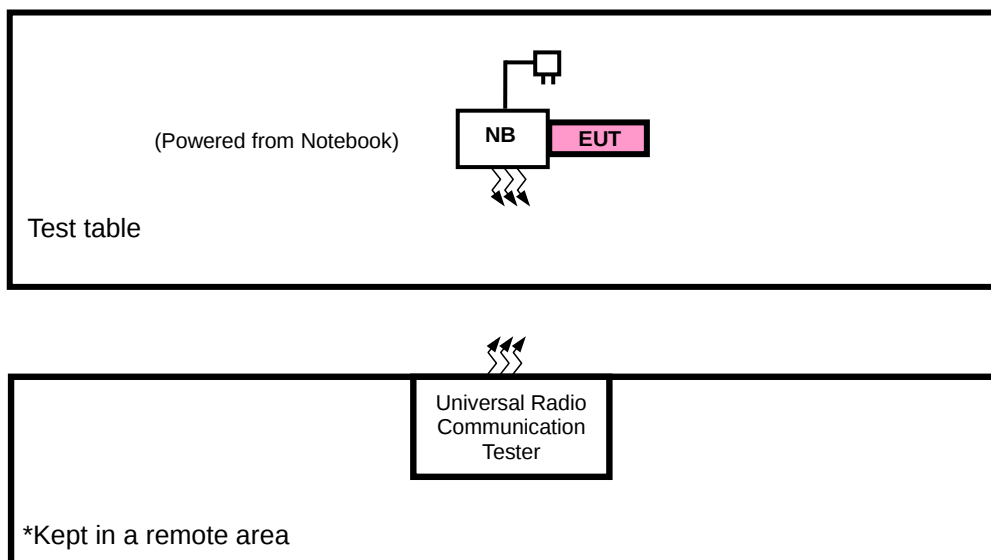
### NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

| MODULATION MODE | TX FUNCTION |
|-----------------|-------------|
| LTE             | 1TX/1RX     |

3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

## 2.2 CONFIGURATION OF SYSTEM UNDER TEST FOR RADIATION EMISSION



## 2.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| NO. | PRODUCT  | BRAND | MODEL NO. | SERIAL NO. | FCC ID |
|-----|----------|-------|-----------|------------|--------|
| 1   | Notebook | DELL  | E6420     | 9H12FS1    | N/A    |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS |
|-----|-----------------------------------------------------|
| 1   | NA                                                  |

## 2.4 TEST ITEM AND TEST CONFIGURATION

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case was found when positioned on Y-plane for EIRP and X-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

| EUT<br>CONFIGURE<br>MODE | DESCRIPTION                    |
|--------------------------|--------------------------------|
| A                        | LTE link (Powered By Notebook) |

**LTE BAND 41 MODE**

| EUT CONFIGURE MODE | TEST ITEM         | AVAILABLE CHANNEL | TESTED CHANNEL      | CHANNEL BANDWIDTH | MODULATION | MODE               |
|--------------------|-------------------|-------------------|---------------------|-------------------|------------|--------------------|
| A                  | EIRP              | 39675 to 41565    | 39675, 40620, 41565 | 5MHz              | QPSK,16QAM | 1 RB / 0 RB Offset |
|                    |                   | 39700 to 41540    | 39700, 40620,41540  | 10MHz             | QPSK,16QAM | 1 RB / 0RB Offset  |
|                    |                   | 39725 to 41515    | 39725, 40620, 41515 | 15MHz             | QPSK,16QAM | 1 RB / 0 RB Offset |
|                    |                   | 39750 to 41490    | 39750, 40620, 41490 | 20MHz             | QPSK,16QAM | 1 RB / 0 RB Offset |
| A                  | RADIATED EMISSION | 39675 to 41565    | 41565               | 5MHz              | QPSK       | 1 RB / 0 RB Offset |

**Note:** This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.



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**TEST CONDITION:**

| TEST ITEM         | ENVIRONMENTAL CONDITIONS | INPUT POWER      | TESTED BY |
|-------------------|--------------------------|------------------|-----------|
| ERP&EIRP          | 23deg. C, 70%RH          | DC 5V By Adapter | Jace Hu   |
| RADIATED EMISSION | 23deg. C, 70%RH          | DC5V By Adapter  | Jace Hu   |



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## 2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC 47 CFR Part 2**

**FCC 47 CFR Part 27**

**KDB 971168 D01 Power Meas License Digital Systems v03r01**

**ANSI/TIA/EIA-603-D**

**ANSI/TIA/EIA-603-E**

**ANSI C63.26-2015**

**NOTE:** All test items have been performed and recorded as per the above standards.

### 3 TEST TYPES AND RESULTS

#### 3.1 OUTPUT POWER MEASUREMENT

##### 3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

The radiated peak output power shall be according to the specific rule Part 27.50(h)(2) that “User stations are limited to 2 watts” and 27.50(i) specific that “Peak transmit power must be measure over any interval of continuous transmission using instrumentation calibration in terms of rms-equivalent voltage.”

##### 3.1.2 TEST PROCEDURES

###### EIRP MEASUREMENT:

Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_{\text{T}} - L_{\text{C}}$$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively  
(expressed in the same units as  $P_{\text{Meas}}$ , typically dBW or dBm);

$P_{\text{Meas}}$  = measured transmitter output power or PSD, in dBm or dBW;

$G_{\text{T}}$  = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

$L_{\text{C}}$  = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

###### CONDUCTED POWER MEASUREMENT:

- a. The EUT was set up for the maximum power with LTE link data modulation and link up with simulator.
- b. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

### 3.1.3 TEST SETUP

#### CONDUCTED POWER MEASUREMENT:



For the actual test configuration, please refer to the attached file (Test Setup Photo).

### 3.1.4 TEST RESULTS

#### CONDUCTED OUTPUT POWER (dBm)

LTE Band 41

| Band/BW | Modulation | RB Size | RB Offset | Low CH (39675)         | Mid CH (40620)       | High CH (41565)        |
|---------|------------|---------|-----------|------------------------|----------------------|------------------------|
|         |            |         |           | Frequency (2498.5) MHz | Frequency (2593) MHz | Frequency (2687.5) MHz |
| 41/ 5   | QPSK       | 1       | 0         | 20.51                  | 20.86                | 21.25                  |
|         |            | 1       | 12        | 20.71                  | 20.95                | 21.35                  |
|         |            | 1       | 24        | 20.26                  | 20.67                | 21.13                  |
|         |            | 12      | 0         | 19.38                  | 19.69                | 20.12                  |
|         |            | 12      | 6         | 19.39                  | 19.65                | 20.05                  |
|         |            | 12      | 13        | 19.38                  | 19.63                | 20.10                  |
|         |            | 25      | 0         | 19.35                  | 19.71                | 20.06                  |
|         | 16QAM      | 1       | 0         | 19.04                  | 19.48                | 19.93                  |
|         |            | 1       | 12        | 19.21                  | 19.61                | 20.07                  |
|         |            | 1       | 24        | 19.05                  | 19.32                | 19.69                  |
|         |            | 12      | 0         | 18.36                  | 18.73                | 19.03                  |
|         |            | 12      | 6         | 18.62                  | 19.04                | 19.36                  |
|         |            | 12      | 13        | 18.62                  | 18.96                | 19.37                  |
|         |            | 25      | 0         | 18.58                  | 18.93                | 19.27                  |

| Band/BW | Modulation | RB Size | RB Offset | Low CH (39700)       | Mid CH (40620)       | High CH (41540)      |
|---------|------------|---------|-----------|----------------------|----------------------|----------------------|
|         |            |         |           | Frequency (2501) MHz | Frequency (2593) MHz | Frequency (2685) MHz |
| 41/ 10  | QPSK       | 1       | 0         | 20.51                | 20.91                | 21.21                |
|         |            | 1       | 24        | 20.73                | 21.03                | 21.36                |
|         |            | 1       | 49        | 20.27                | 20.66                | 21.12                |
|         |            | 25      | 0         | 19.34                | 19.79                | 20.15                |
|         |            | 25      | 12        | 19.39                | 19.68                | 20.14                |
|         |            | 25      | 25        | 19.42                | 19.62                | 20.00                |
|         |            | 50      | 0         | 19.43                | 19.65                | 19.98                |
|         | 16QAM      | 1       | 0         | 19.04                | 19.51                | 19.90                |
|         |            | 1       | 24        | 19.24                | 19.63                | 20.03                |
|         |            | 1       | 49        | 19.11                | 19.40                | 19.74                |
|         |            | 25      | 0         | 18.33                | 18.75                | 19.11                |
|         |            | 25      | 12        | 18.56                | 19.02                | 19.38                |
|         |            | 25      | 25        | 18.66                | 19.03                | 19.37                |
|         |            | 50      | 0         | 18.54                | 18.90                | 19.38                |

| Band/BW | Modulation | RB Size | RB Offset | Low CH (39725)         | Mid CH (40620)       | High CH (41515)        |
|---------|------------|---------|-----------|------------------------|----------------------|------------------------|
|         |            |         |           | Frequency (2503.5) MHz | Frequency (2593) MHz | Frequency (2682.5) MHz |
| 41/ 15  | QPSK       | 1       | 0         | 20.55                  | 20.86                | 21.22                  |
|         |            | 1       | 37        | 20.66                  | 21.02                | 21.42                  |
|         |            | 1       | 74        | 20.23                  | 20.60                | 21.01                  |
|         |            | 36      | 0         | 19.32                  | 19.77                | 20.14                  |
|         |            | 36      | 19        | 19.42                  | 19.72                | 20.06                  |
|         |            | 36      | 39        | 19.34                  | 19.63                | 19.98                  |
|         |            | 75      | 0         | 19.45                  | 19.72                | 20.08                  |
|         | 16QAM      | 1       | 0         | 19.04                  | 19.41                | 19.84                  |
|         |            | 1       | 37        | 19.35                  | 19.63                | 20.10                  |
|         |            | 1       | 74        | 19.12                  | 19.31                | 19.77                  |
|         |            | 36      | 0         | 18.34                  | 18.70                | 19.01                  |
|         |            | 36      | 19        | 18.52                  | 18.95                | 19.36                  |
|         |            | 36      | 39        | 18.56                  | 18.95                | 19.41                  |
|         |            | 75      | 0         | 18.55                  | 18.89                | 19.33                  |

| Band/BW | Modulation | RB Size | RB Offset | Low CH (39750)       | Mid CH (40620)       | High CH (41490)      |
|---------|------------|---------|-----------|----------------------|----------------------|----------------------|
|         |            |         |           | Frequency (2506) MHz | Frequency (2593) MHz | Frequency (2680) MHz |
| 41/ 20  | QPSK       | 1       | 0         | 20.66                | 20.99                | 21.31                |
|         |            | 1       | 50        | 20.76                | 21.08                | <b>21.43</b>         |
|         |            | 1       | 99        | 20.37                | 20.75                | 21.14                |
|         |            | 50      | 0         | 19.46                | 19.81                | 20.16                |
|         |            | 50      | 25        | 19.52                | 19.75                | 20.18                |
|         |            | 50      | 50        | 19.47                | 19.76                | 20.13                |
|         |            | 100     | 0         | 19.46                | 19.76                | 20.12                |
|         | 16QAM      | 1       | 0         | 19.16                | 19.56                | 19.95                |
|         |            | 1       | 50        | 19.36                | 19.76                | 20.14                |
|         |            | 1       | 99        | 19.17                | 19.46                | 19.84                |
|         |            | 50      | 0         | 18.48                | 18.82                | 19.15                |
|         |            | 50      | 25        | 18.63                | 19.09                | 19.43                |
|         |            | 50      | 50        | 18.69                | 19.08                | 19.47                |
|         |            | 100     | 0         | 18.65                | 19.03                | 19.39                |

## 3.2 RADIATED EMISSION MEASUREMENT

### 3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Band41

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $55 + 10 \log_{10}(P)$  dB. The limit of emission is equal to -25dBm.

### 3.2.2 TEST PROCEDURES

- Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G.
- $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}.$
- E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,  
 $E.R.P \text{ power} = E.I.P.R \text{ power} - 2.15\text{dBi}.$

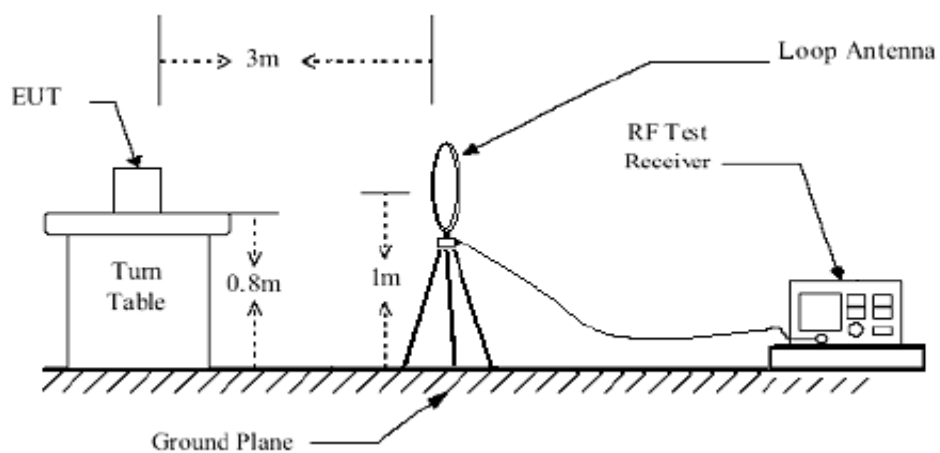
**NOTE:** The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

### 3.2.3 DEVIATION FROM TEST STANDARD

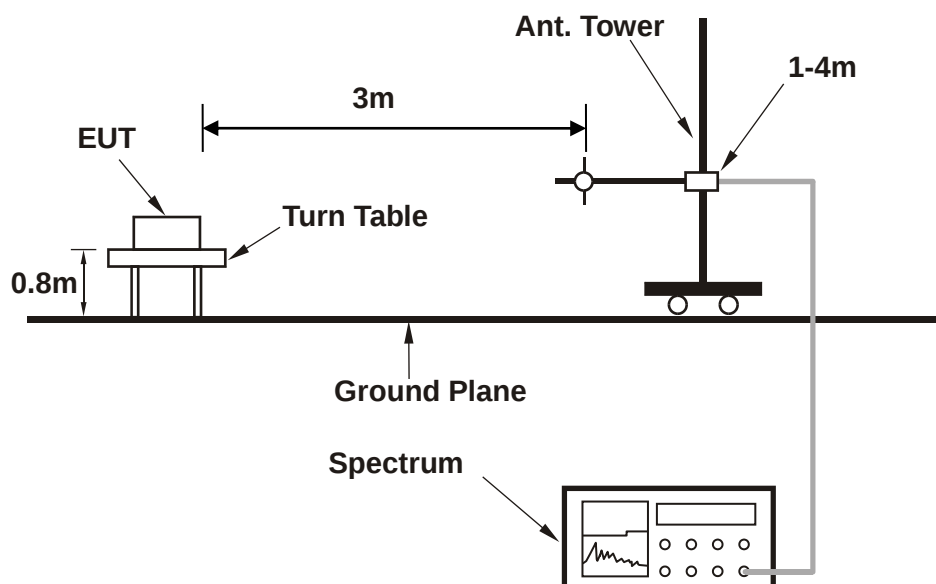
No deviation

### 3.2.4 TEST SETUP

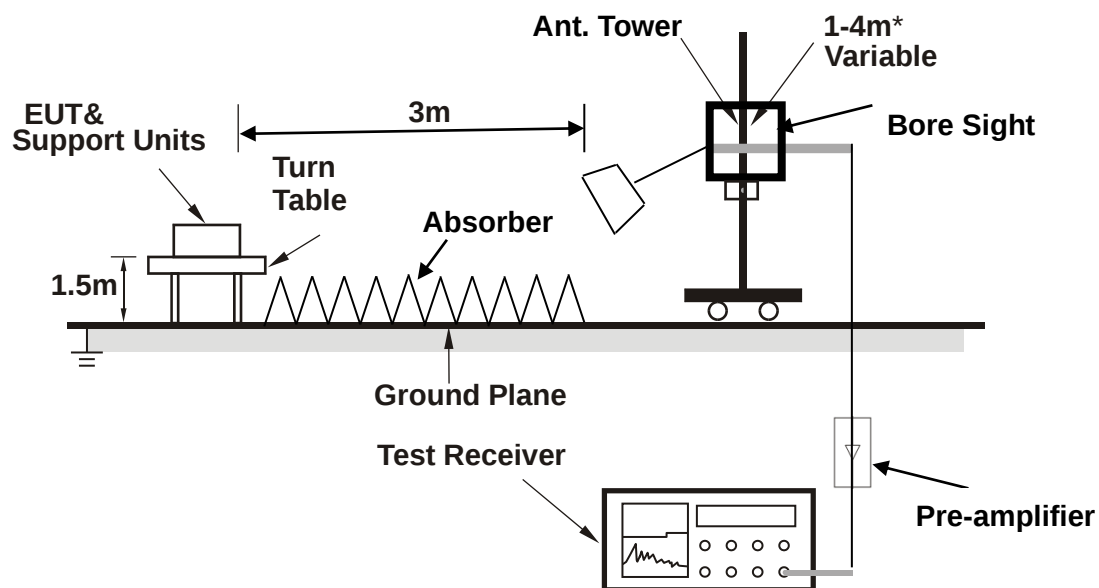
#### < Frequency Range below 30MHz >



#### < Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



**Note:** Above 1G is a directional antenna depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

### 3.2.5 TEST RESULTS

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

#### BELOW 1GHz WORST-CASE DATA

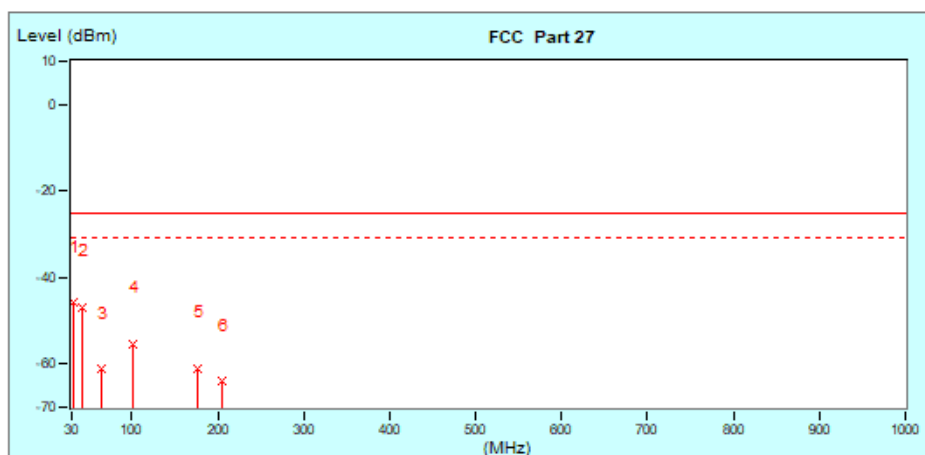
30 MHz – 1GHz data:

LTE Band 41

CHANNEL BANDWIDTH: 5MHz / QPSK

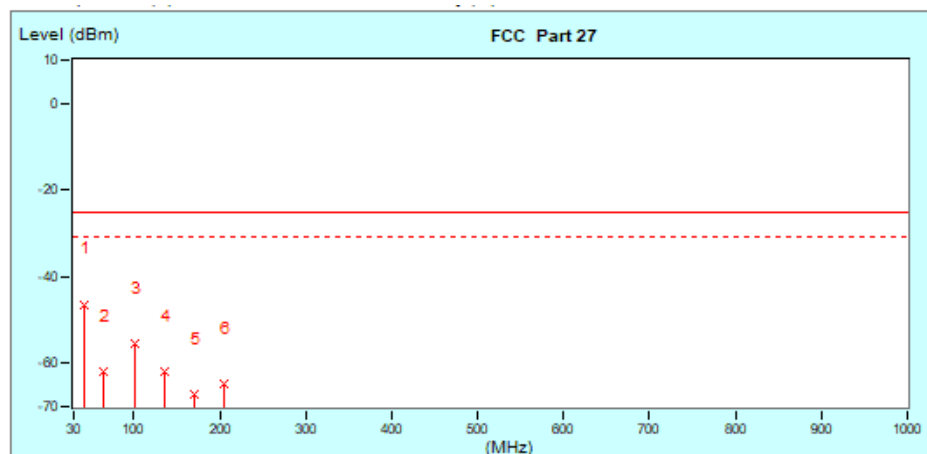
|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 41565 | FREQUENCY RANGE | Below 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

| No. | Frequency<br>MHz | Factor<br>dB | Reading<br>dBm | Emission<br>dBm | Limit<br>dBm | Margin<br>dB | Tower / Table |     |
|-----|------------------|--------------|----------------|-----------------|--------------|--------------|---------------|-----|
|     |                  |              |                |                 |              |              | cm            | deg |
| 1   | 32.42            | -1.23        | -44.52         | -45.75          | -25.00       | -20.75       | 100           | 0   |
| 2   | 43.08            | -8.68        | -38.14         | -46.82          | -25.00       | -21.82       | 100           | 0   |
| 3   | 65.37            | -12.42       | -48.81         | -61.23          | -25.00       | -36.23       | 100           | 0   |
| 4   | 102.19           | -9.60        | -45.67         | -55.27          | -25.00       | -30.27       | 100           | 0   |
| 5   | 176.81           | -8.75        | -52.26         | -61.01          | -25.00       | -36.01       | 100           | 0   |
| 6   | 203.94           | -7.24        | -56.89         | -64.13          | -25.00       | -39.13       | 100           | 0   |



|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 41565 | FREQUENCY RANGE | Below 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

| No. | Frequency<br>MHz | Factor<br>dB | Reading<br>dBm | Emission<br>dBm | Limit<br>dBm | Margin<br>dB | Tower / Table<br>cm deg |   |
|-----|------------------|--------------|----------------|-----------------|--------------|--------------|-------------------------|---|
| * 1 | 43.08            | -8.68        | -37.72         | -46.40          | -25.00       | -21.40       | 100                     | 0 |
| 2   | 65.37            | -12.42       | -49.49         | -61.91          | -25.00       | -36.91       | 100                     | 0 |
| 3   | 101.22           | -9.85        | -45.73         | -55.58          | -25.00       | -30.58       | 100                     | 0 |
| 4   | 136.11           | -6.63        | -55.47         | -62.10          | -25.00       | -37.10       | 100                     | 0 |
| 5   | 170.99           | -8.48        | -58.72         | -67.20          | -25.00       | -42.20       | 100                     | 0 |
| 6   | 203.94           | -7.24        | -57.59         | -64.83          | -25.00       | -39.83       | 100                     | 0 |





BUREAU  
VERITAS

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## ABOVE 1GHz

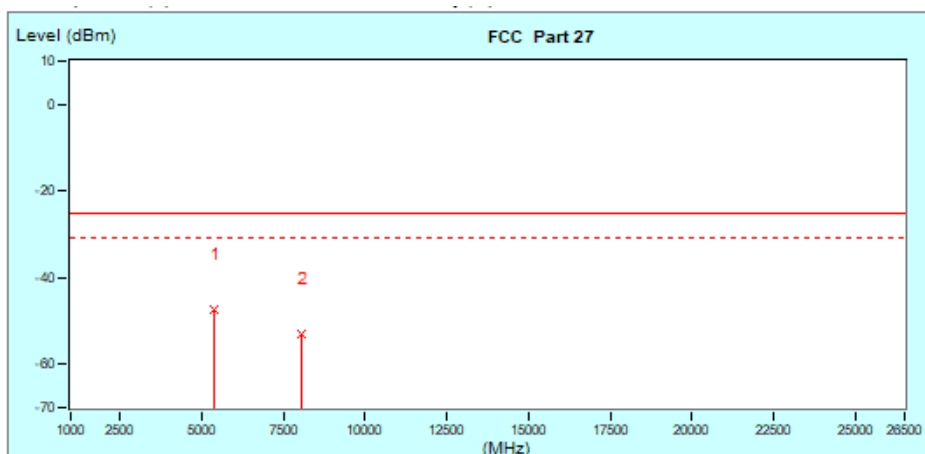
**Note:** For higher frequency, the emission is too low to be detected.

## LTE BAND 41

CHANNEL BANDWIDTH: 5MHz / QPSK

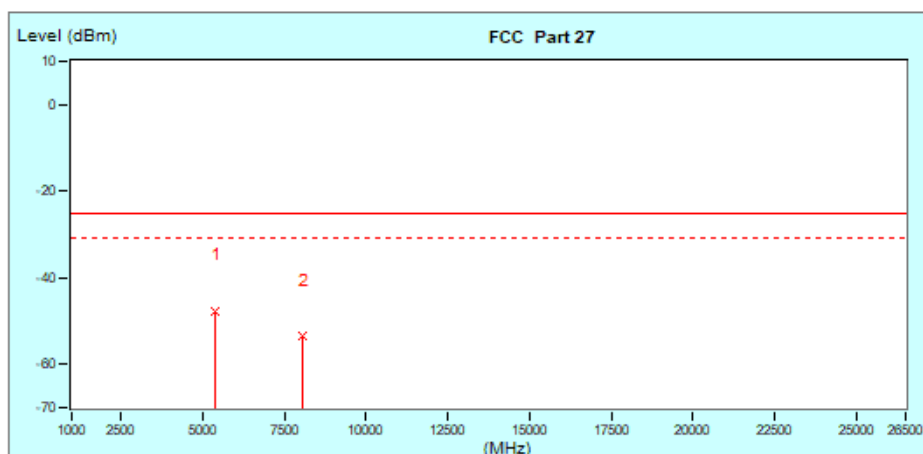
|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 41565 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60Hz  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

| No. | Frequency<br>MHz | Factor<br>dB | Reading<br>dBm | Emission<br>dBm | Limit<br>dBm | Margin<br>dB | Tower / Table<br>cm deg |   |
|-----|------------------|--------------|----------------|-----------------|--------------|--------------|-------------------------|---|
| * 1 | 5375.00 (PK)     | -49.18       | 1.85           | -47.33          | -25.00       | -22.33       | 100                     | 0 |
| 2   | 8062.50 (PK)     | -48.80       | -4.22          | -53.02          | -25.00       | -28.02       | 100                     | 0 |



|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 41565 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60Hz  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

| No. | Frequency<br>MHz | Factor<br>dB | Reading<br>dBm | Emission<br>dBm | Limit<br>dBm | Margin<br>dB | Tower / Table |     |
|-----|------------------|--------------|----------------|-----------------|--------------|--------------|---------------|-----|
|     |                  |              |                |                 |              |              | cm            | deg |
| 1   | 5375.00 (PK)     | -49.18       | 1.54           | -47.64          | -25.00       | -22.64       | 100           | 0   |
| 2   | 8062.50 (PK)     | -48.80       | -4.65          | -53.45          | -25.00       | -28.45       | 100           | 0   |





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## 4 INFORMATION ON THE TESTING LABORATORIES

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

**Shenzhen EMC/RF Lab:**

Tel: +86-755-88696566

Fax: +86-755-88696577

Email: [customerservice.sw@cn.bureauveritas.com](mailto:customerservice.sw@cn.bureauveritas.com)

Web Site: [www.adt.com.tw](http://www.adt.com.tw)

The address and road map of all our labs can be found in our web site also.



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## 5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

--END--