



## RADIO TEST REPORT

For

Shenzhen Huafurui Technology Co., Ltd.

Smartphone

Test Model: KINGKONG ES PRO

Prepared for : Shenzhen Huafurui Technology Co., Ltd.  
Address : Unit 601-03, 6/F, Block A, Building 1, Ganfeng Technology Building, No. 993 Jiaxian Road, Xiangjiaotang Community, Bantian Street, Longgang District, Shenzhen, P.R. China

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.  
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Date of receipt of test sample : May 21, 2024  
Number of tested samples : 2  
Sample No. : A240520136-1, A240520136-2  
Serial number : Prototype  
Date of Test : May 21, 2024 ~ June 07, 2024  
Date of Report : August 03, 2026



| <b>RADIO TEST REPORT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ETSI EN 301 908-1 V15.2.1 (2023-01)&amp;ETSI EN 301 908-2 V13.1.1 (2020-06)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                |
| <b>Report Reference No.</b> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>LCSA07276088EI</b>                                                                                                                                                                                          |
| <b>Date of Issue</b> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | August 03, 2026                                                                                                                                                                                                |
| <b>Testing Laboratory Name</b> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Shenzhen LCS Compliance Testing Laboratory Ltd.</b>                                                                                                                                                         |
| <b>Address</b> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Room 101/201, Building A, and Room 101/301, Building C,<br>Juji Industrial Park, Yabianxueziwei, Shajing Subdistrict,<br>Bao'an District, Shenzhen, Guangdong, China                                           |
| <b>Testing Location/ Procedure</b> ....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Full application of Harmonised standards <input checked="" type="checkbox"/><br>Partial application of Harmonised standards <input type="checkbox"/><br>Other standard testing method <input type="checkbox"/> |
| <b>Applicant's Name</b> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Shenzhen Huafurui Technology Co., Ltd.</b>                                                                                                                                                                  |
| <b>Address</b> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Unit 601-03, 6/F, Block A, Building 1, Ganfeng Technology<br>Building, No. 993 Jiaxian Road, Xiangjiaotang Community,<br>Bantian Street, Longgang District, Shenzhen, P.R. China                               |
| <b>Test Specification</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                |
| <b>Standard</b> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ETSI EN 301 908-1 V15.2.1 (2023-01)<br>ETSI EN 301 908-2 V13.1.1 (2020-06)                                                                                                                                     |
| <b>Test Report Form No</b> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | LCSEMC-1.0                                                                                                                                                                                                     |
| <b>TRF Originator</b> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Shenzhen LCS Compliance Testing Laboratory Ltd.                                                                                                                                                                |
| <b>Master TRF</b> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Dated 2017-06                                                                                                                                                                                                  |
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| <b>Test Item Description</b> ..... : <b>Smartphone</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                |
| <b>Trade Mark</b> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CUBOT                                                                                                                                                                                                          |
| <b>Test Model</b> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | KINGKONG ES PRO                                                                                                                                                                                                |
| <b>Ratings</b> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Please Refer to Page 6                                                                                                                                                                                         |
| <b>Result</b> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Positive</b>                                                                                                                                                                                                |

**Compiled by:**

Ling Zhu/ Administrator

**Supervised by:**

Jack Liu/ Technique principal

**Approved by:**

Gavin Liang/ Manager



## RADIO -- TEST REPORT

|                                  |                                  |
|----------------------------------|----------------------------------|
| Test Report No. : LCSA07276088EI | August 03, 2026<br>Date of issue |
|----------------------------------|----------------------------------|

|                          |                                                                                                                                                                              |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Model.....          | : KINGKONG ES PRO                                                                                                                                                            |
| EUT.....                 | : Smartphone                                                                                                                                                                 |
| <b>Applicant.....</b>    | <b>: Shenzhen Huafurui Technology Co., Ltd.</b>                                                                                                                              |
| Address.....             | : Unit 601-03, 6/F, Block A, Building 1, Ganfeng Technology Building, No. 993 Jiaxian Road, Xiangjiaotang Community, Bantian Street, Longgang District, Shenzhen, P.R. China |
| Telephone.....           | : /                                                                                                                                                                          |
| Fax.....                 | : /                                                                                                                                                                          |
| <b>Manufacturer.....</b> | <b>: Shenzhen Huafurui Technology Co., Ltd.</b>                                                                                                                              |
| Address.....             | : Unit 601-03, 6/F, Block A, Building 1, Ganfeng Technology Building, No. 993 Jiaxian Road, Xiangjiaotang Community, Bantian Street, Longgang District, Shenzhen, P.R. China |
| Telephone.....           | : /                                                                                                                                                                          |
| Fax.....                 | : /                                                                                                                                                                          |
| <b>Factory.....</b>      | <b>: Shenzhen Huafurui Technology Co., Ltd.</b>                                                                                                                              |
| Address.....             | : Unit 601-03, 6/F, Block A, Building 1, Ganfeng Technology Building, No. 993 Jiaxian Road, Xiangjiaotang Community, Bantian Street, Longgang District, Shenzhen, P.R. China |
| Telephone.....           | : /                                                                                                                                                                          |
| Fax.....                 | : /                                                                                                                                                                          |

|             |          |
|-------------|----------|
| Test Result | Positive |
|-------------|----------|

The test report merely corresponds to the test sample.  
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.



## Revision History

| Report Version | Issue Date      | Revision Content | Revised By |
|----------------|-----------------|------------------|------------|
| 000            | August 03, 2026 | Initial Issue    | ---        |
|                |                 |                  |            |
|                |                 |                  |            |

Note: At the customer's request, the revised report was submitted to LCSA07276088EI applicant by quoting the test data of LCSA05204088EI original report.

Test Model: KINGKONG ES  
Software Version: CUBOT\_KINGKONG ES PRO\_E081\_V01  
Change to  
Test Model: KINGKONG ES PRO  
Software Version: CUBOT\_KINGKONG ES PRO\_E083\_V01



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## 1. GENERAL INFORMATION

### 1.1. Product Description for Equipment Under Test (EUT)

|                     |                                                                                                                                                                                                                   |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EUT                 | : Smartphone                                                                                                                                                                                                      |
| Test Model          | : KINGKONG ES PRO                                                                                                                                                                                                 |
| Ratings             | : Input: DC 5V, 2000mA<br>Adapter1 Model: HJ-0502000W2-EU<br>For AC Adapter Input: 100-240V~, 50/60Hz, 0.3A<br>Adapter Output: 5.0V=2.0A<br>Output Power: 10W<br>DC 3.87V by Rechargeable Li-ion Battery, 5100mAh |
| Hardware Version    | : Q16-MB-V2.0                                                                                                                                                                                                     |
| Software Version    | : CUBOT_KINGKONG ES PRO_E083_V01                                                                                                                                                                                  |
| Bluetooth           | :                                                                                                                                                                                                                 |
| Frequency Range     | : 2402MHz~2480MHz                                                                                                                                                                                                 |
| Channel Number      | : 79 channels for Bluetooth V5.0 (BDR/EDR)<br>40 channels for Bluetooth V5.0 (BT LE/ BT 2LE)                                                                                                                      |
| Channel Spacing     | : 1MHz for Bluetooth V5.0 (BDR/EDR)<br>2MHz for Bluetooth V5.0 (BT LE/ BT 2LE)                                                                                                                                    |
| Modulation Type     | : GFSK, $\pi/4$ -DQPSK, 8-DPSK for Bluetooth V5.0 (BDR/EDR)<br>GFSK for Bluetooth V5.0 (BT LE/ BT 2LE)                                                                                                            |
| Bluetooth Version   | : V5.0                                                                                                                                                                                                            |
| Antenna Description | : PIFA Antenna, 2.64dBi(Max.)                                                                                                                                                                                     |
| WIFI(2.4G Band)     | :                                                                                                                                                                                                                 |
| Frequency Range     | : 2412MHz~2472MHz                                                                                                                                                                                                 |
| Channel Spacing     | : 5MHz                                                                                                                                                                                                            |
| Channel Number      | : 13 Channel for 20MHz bandwidth(2412~2472MHz)<br>9 channels for 40MHz bandwidth(2422~2462MHz)                                                                                                                    |
| Modulation Type     | : 802.11b: DSSS (CCK, DQPSK, DBPSK)<br>802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)                                                                                                                                 |
| Antenna Description | : PIFA Antenna, 2.64dBi(Max.)                                                                                                                                                                                     |
| WIFI(5.2G Band)     | :                                                                                                                                                                                                                 |
| Frequency Range     | : 5180MHz~5240MHz                                                                                                                                                                                                 |
| Channel Number      | : 4 channels for 20MHz bandwidth(5180~5240MHz)<br>2 channels for 40MHz bandwidth(5190~5230MHz)<br>1 channels for 80MHz bandwidth(5210MHz)                                                                         |
| Modulation Type     | : 802.11a/n: OFDM (64QAM, 16QAM, QPSK, BPSK)<br>802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)                                                                                                                 |
| Antenna Description | : PIFA Antenna, 5.40dBi(Max.)                                                                                                                                                                                     |
| WIFI(5.8G Band)     | :                                                                                                                                                                                                                 |



Frequency Range : 5745MHz~5825MHz  
Channel Number : 5 channels for 20MHz bandwidth(5745~5825MHz)  
2 channels for 40MHz bandwidth(5755~5795MHz)  
1 channels for 80MHz bandwidth(5775MHz)  
Modulation Type : 802.11a/n: OFDM (64QAM, 16QAM, QPSK, BPSK)  
802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)  
Antenna Description : PIFA Antenna, 5.40dBi(Max.)

**2G**

Support Band : ☒ GSM 900 (EU-Band) ☒ DCS 1800 (EU-Band)  
☒ GSM 850 (U.S.-Band) ☒ PCS 1900 (U.S.-Band)  
Release Version : R99  
GPRS Class : Class 12  
EGPRS Class : Class 12  
Uplink : GSM 900: 880MHz~915MHz  
DCS 1800: 1710MHz~1785MHz  
Downlink : GSM 900: 925MHz~960MHz  
DCS 1800: 1805MHz~1880MHz  
Type Of Modulation : GMSK for GSM/GPRS; GMSK/8PSK for EGPRS  
Antenna Description : PIFA Antenna  
0.03dBi (max.) For GSM 900  
-2.58dBi (max.) For DCS 1800  
Power Class : GSM 900: Level 5, DCS 1800: Level 0  
EGPRS 900: Level 8, EGPRS 1800: Level 2

**3G**

Support Band : ☒ WCDMA Band I (EU-Band)  
☒ WCDMA Band VIII (EU-Band)  
Release Version : R9  
Uplink : WCDMA Band I: 1920MHz~1980MHz  
WCDMA Band VIII: 880MHz~915MHz  
Downlink : WCDMA Band I: 2110MHz~2170MHz  
WCDMA Band VIII: 925MHz~960MHz  
Type Of Modulation : QPSK/16QAM  
Antenna Description : PIFA Antenna  
-2.31dBi (max.) For WCDMA Band I  
0.03dBi (max.) For WCDMA Band VIII  
Power Class : Level 3

**LTE**

Support Band : ☒ E-UTRA Band 1(EU-Band)  
☒ E-UTRA Band 3(EU-Band)  
☒ E-UTRA Band 7(EU-Band)  
☒ E-UTRA Band 8(EU-Band)  
☒ E-UTRA Band 20(EU-Band)



☒ E-UTRA Band 28(EU-Band)  
☒ E-UTRA Band 41(EU-Band)  
LTE Release Version : R9  
FDD Band : Uplink: E-UTRA Band 1: 1920MHz~1980MHz  
E-UTRA Band 3: 1710MHz~1785MHz  
E-UTRA Band 7: 2500MHz~2570MHz  
E-UTRA Band 8: 880MHz~915MHz  
E-UTRA Band 20: 832MHz~862MHz  
E-UTRA Band 28: 703MHz~748MHz  
Downlink: E-UTRA Band 1: 2110MHz~2170MHz  
E-UTRA Band 3: 1805MHz~1880MHz  
E-UTRA Band 7: 2620MHz~2690MHz  
E-UTRA Band 8: 925MHz~960MHz  
E-UTRA Band 20: 791MHz~821MHz  
E-UTRA Band 28: 758MHz~803MHz  
TDD Band : E-UTRA Band 41: 2500MHz~2690MHz  
Type Of Modulation : QPSK/16QAM  
Antenna Description : PIFA Antenna  
-2.31dBi (max.) For E-UTRA Band 1  
2.93dBi (max.) For E-UTRA Band 3  
-1.67dBi (max.) For E-UTRA Band 7  
0.03dBi (max.) For E-UTRA Band 8  
-6.25dBi (max.) For E-UTRA Band 20  
0.03dBi (max.) For E-UTRA Band 28  
-1.67dBi (max.) For E-UTRA Band 41  
Power Class : Class 3  
GPS Receiver :  
Receive Frequency : 1575.42MHz  
Channel Number : 1  
Antenna Description : PIFA Antenna, 0dBi(Max.)  
GLONASS Receiver :  
Receive Frequency : 1602.5625MHz  
Channel Number : 1  
Antenna Description : PIFA Antenna, 0dBi(Max.)  
Galileo Receiver :  
Receive Frequency : 1589.74MHz  
Channel Number : 1  
Antenna Description : PIFA Antenna, 0dBi(Max.)



## 1.2. Support Equipment List

| Manufacturer                        | Description      | Model            | Serial Number | Certificate |
|-------------------------------------|------------------|------------------|---------------|-------------|
| ShenZhen HuaJin Electronics CO.,LTD | AC Power Adapter | HJ-0502000 W2-EU | ---           | CE          |

## 1.3. External I/O

| I/O Port Description | Quantity | Cable                       |
|----------------------|----------|-----------------------------|
| Type-C USB Port      | 1        | USB Cable: 0.8m, unshielded |

## 1.4. Objective

| Standard Referenced | Standard Title                                                                                                                     | Standard Version  |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| ETSI EN 301 908-1   | IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 1: Introduction and common requirements; Release 15  | V15.2.1 (2023-01) |
| ETSI EN 301 908-2   | IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 2: CDMA Direct Spread (UTRA FDD) User Equipment (UE) | V13.1.1 (2020-06) |

The objective is to determine compliance with ETSI EN 301 908-1 V15.2.1 (2023-01) & ETSI EN 301 908-2 V13.1.1 (2020-06).

## 1.5. Test Conditions

| Conditions                                             | Temperature | Voltage  |
|--------------------------------------------------------|-------------|----------|
| Normal                                                 | 21-25°C     | DC 3.87V |
| Low extreme Temperature/Low extreme Voltage (TL/VL);   | -20°C       | DC 3.48V |
| Low extreme Temperature/High extreme Voltage (TL/VH);  | -20°C       | DC 4.45V |
| High extreme Temperature/Low extreme Voltage (TH/VL);  | 45°C        | DC 3.48V |
| High extreme Temperature/High extreme Voltage (TH/VH). | 45°C        | DC 4.45V |

Note1: For all conditions, the humidity range is:40-75%, the pressure range is 86-106kPa. The High Voltage DC 4.45V and Low Voltage DC 3.48V was declared by manufacturer



## 1.6. Description Of Test Mode

### 1. WCDMA Band I

- 1). Low Channel Operation(9612Channel)
- 2). Middle Channel Operation(9750Channel)
- 3). High Channel Operation(9888Channel)

### 2. WCDMA Band VIII

- 1). Low Channel Operation(2713Channel)
- 2). Middle Channel Operation(2788Channel)
- 3). High Channel Operation(2862Channel)

## 1.7. Measurement Uncertainty (95% confidence levels, k=2)

| Test Item                     |   | Uncertainty          |
|-------------------------------|---|----------------------|
| Radio Frequency               | : | $0.9 \times 10^{-4}$ |
| Total RF Power, Conducted     | : | 1.0 dB               |
| RF Power Density, Conducted   | : | 1.8 dB               |
| Spurious Emissions, Conducted | : | 1.8 dB               |
| All Emissions, Radiated       | : | 3.1 dB               |
| Temperature                   | : | 0.5°C                |
| Humidity                      | : | 1 %                  |
| DC And Low Frequency Voltages | : | 1 %                  |

## 1.8. Description of Test Facility

NVLAP Accreditation Code is 600167-0.

FCC Designation Number is CN5024.

CAB identifier is CN0071.

CNAS Registration Number is L4595.



## 2. SYSTEM TEST CONFIGURATION

### 2.1. Justification

N/A

### 2.2. EUT Exercise Software

N/A

### 2.3. Special Accessories

The special accessories were supplied by Shenzhen LCS Compliance Testing Laboratory Ltd.

### 2.4. Block Diagram/Schematics

Please refer to the related document.

### 2.5. Equipment Modifications

Shenzhen LCS Compliance Testing Laboratory Ltd. has not done any modification on the EUT.

### 2.6. Test Setup

Please refer to the test setup photo.



### 3. SUMMARY OF TEST RESULTS

|                        |   |               |
|------------------------|---|---------------|
| Test Engineer          | : | Paddi Chen    |
| Temperature/ Humidity: | : | 23.0°C/ 53.0% |

| Reference Clause No.<br>(ETSI EN 301 908-2) | Description of Test Items                               | WCDMA Band VIII | WCDMA Band I |
|---------------------------------------------|---------------------------------------------------------|-----------------|--------------|
|                                             |                                                         | Result          | Result       |
| 4.2.2                                       | Transmitter maximum output power                        |                 |              |
|                                             | Normal                                                  | Pass            | Pass         |
|                                             | TL/VL                                                   | Pass            | Pass         |
|                                             | TL/VH                                                   | Pass            | Pass         |
|                                             | TH/VL                                                   | Pass            | Pass         |
|                                             | TH/VH                                                   | Pass            | Pass         |
|                                             | Transmitter maximum output power for HSDPA & HSUPA      |                 |              |
|                                             | Normal                                                  | Pass            | Pass         |
|                                             | TL/VL                                                   | Pass            | Pass         |
|                                             | TL/VH                                                   | Pass            | Pass         |
|                                             | TH/VL                                                   | Pass            | Pass         |
|                                             | TH/VH                                                   | Pass            | Pass         |
| 4.2.3                                       | Transmitter spectrum emission mask                      |                 |              |
|                                             | Normal                                                  | Pass            | Pass         |
|                                             | Transmitter spectrum emission mask for HSDPA & HSUPA    |                 |              |
|                                             | Normal                                                  | Pass            | Pass         |
| 4.2.4                                       | Transmitter spurious emissions                          |                 |              |
|                                             | Normal                                                  | Pass            | Pass         |
|                                             | Transmitter spurious emission for HSDPA & HSUPA         |                 |              |
|                                             | Normal                                                  | Pass            | Pass         |
| 4.2.5                                       | Transmitter minimum output power                        |                 |              |
|                                             | Normal                                                  | Pass            | Pass         |
|                                             | TL/VL                                                   | Pass            | Pass         |
|                                             | TL/VH                                                   | Pass            | Pass         |
|                                             | TH/VL                                                   | Pass            | Pass         |
|                                             | TH/VH                                                   | Pass            | Pass         |
| 4.2.6                                       | Receiver Adjacent Channel Selectivity (ACS)             |                 |              |
|                                             | NT / NV                                                 | Pass            | Pass         |
|                                             | Receiver Adjacent Channel Selectivity for HSDPA & HSUPA |                 |              |
|                                             | NT / NV                                                 | Pass            | Pass         |
| 4.2.7                                       | Receiver blocking characteristics                       |                 |              |
|                                             | Normal                                                  | Pass            | Pass         |
| 4.2.8                                       | Receiver spurious response                              |                 |              |
|                                             | Normal                                                  | Pass            | Pass         |
| 4.2.9                                       | Receiver intermodulation characteristics                |                 |              |



|        |                                                                           |      |      |
|--------|---------------------------------------------------------------------------|------|------|
|        | Normal                                                                    | Pass | Pass |
| 4.2.10 | Receiver spurious emissions                                               |      |      |
|        | Normal                                                                    | Pass | Pass |
| 4.2.11 | Out-of-synchronization handling of output power                           |      |      |
|        | Normal                                                                    | Pass | Pass |
| 4.2.12 | Transmitter Adjacent Channel Leakage power Ratio (ACLR)                   |      |      |
|        | Normal                                                                    | Pass | Pass |
|        | TL/VL                                                                     | Pass | Pass |
|        | TL/VH                                                                     | Pass | Pass |
|        | TH/VL                                                                     | Pass | Pass |
|        | TH/VH                                                                     | Pass | Pass |
|        | Transmitter Adjacent Channel Leakage power Ratio (ACLR) for HSDPA & HSUPA |      |      |
|        | Normal                                                                    | Pass | Pass |
|        | TL/VL                                                                     | Pass | Pass |
|        | TL/VH                                                                     | Pass | Pass |
|        | TH/VL                                                                     | Pass | Pass |
|        | TH/VH                                                                     | Pass | Pass |
| 4.2.13 | Receiver Reference Sensitivity level                                      |      |      |
|        | Normal                                                                    | Pass | Pass |
|        | TL/VL                                                                     | Pass | Pass |
|        | TL/VH                                                                     | Pass | Pass |
|        | TH/VL                                                                     | Pass | Pass |
|        | TH/VH                                                                     | Pass | Pass |
|        | Receiver Reference Sensitivity level for HSDPA & HSUPA                    |      |      |
|        | Normal                                                                    | Pass | Pass |
|        | TL/VL                                                                     | Pass | Pass |
|        | TL/VH                                                                     | Pass | Pass |
|        | TH/VL                                                                     | Pass | Pass |
|        | TH/VH                                                                     | Pass | Pass |

| Reference Clause No.<br>(ETSI EN 301 908-1) | Description of Test Items             | WCDMA Band VIII | WCDMA Band I |
|---------------------------------------------|---------------------------------------|-----------------|--------------|
|                                             |                                       | Result          | Result       |
| 4.2.2                                       | Radiated emissions (UE)               |                 |              |
|                                             | Normal                                | Pass            | Pass         |
| 4.2.4                                       | Control and monitoring functions (UE) |                 |              |
|                                             | Normal                                | Pass            | Pass         |

\*\*\*Note:

**Result:** Describes test result of Test Case.

**Pass:** Test Case passed on specified conformance test platform.

**Normal(TN/VN):** Normal temperature – 25°C; Normal voltage. – DC 3.87V

**TH:** High extreme Temperature – +45°C

**VH:** High extreme Voltage – DC 4.45V

**TL:** Low extreme Temperature – -20°C

**VL:** Low extreme Voltage – DC 3.48V

**N/A:** Not applicable.

**—:** Not test.



#### 4. LIST OF MEASURING EQUIPMENT

| Item | Equipment                           | Manufacturer      | Model No.  | Serial No.  | Cal Date   | Due Date   |
|------|-------------------------------------|-------------------|------------|-------------|------------|------------|
| 1    | LTE Test Software                   | Tonscend          | JS1120-1   | N/A         | N/A        | N/A        |
| 2    | RF Control Unit                     | Tonscend          | JS0806-1   | 158060009   | 2023-10-18 | 2024-10-17 |
| 3    | MXA Signal Analyzer                 | Agilent           | N9020A     | MY51250905  | 2023-10-18 | 2024-10-17 |
| 4    | DC Power Supply                     | Agilent           | E3642A     | N/A         | 2023-10-18 | 2024-10-17 |
| 5    | MXG Vector Signal Generator         | Agilent           | N5182A     | MY47071151  | 2023-06-09 | 2024-06-08 |
| 6    | PSG Analog Signal Generator         | Agilent           | E8257D     | MY4520521   | 2023-06-09 | 2024-06-08 |
| 7    | Temperature & Humidity Chamber      | GUANGZHOU GOGNWEN | GDS-100    | 70932       | 2023-10-05 | 2024-10-04 |
| 8    | EMI Test Software                   | Farad             | EZ         | /           | N/A        | N/A        |
| 9    | 3m Full Anechoic Chamber            | MRDIANZI          | FAC-3M     | MR009       | 2022-08-17 | 2025-08-16 |
| 10   | Positioning Controller              | Max-Full          | MF7802BS   | MF780208586 | N/A        | N/A        |
| 11   | Active Loop Antenna                 | SCHWARZBECK       | FMZB 1519B | 00005       | 2021-08-29 | 2024-08-28 |
| 12   | By-log Antenna                      | SCHWARZBECK       | VULB9163   | 9163-470    | 2021-09-12 | 2024-09-11 |
| 13   | Horn Antenna                        | SCHWARZBECK       | BBHA 9120D | 9120D-1925  | 2021-09-05 | 2024-09-04 |
| 14   | Broadband Horn Antenna              | SCHWARZBECK       | BBHA 9170  | 791         | 2021-08-29 | 2024-08-28 |
| 15   | Broadband Preamplifier              | SCHWARZBECK       | BBV9719    | 9719-025    | 2021-08-29 | 2024-08-28 |
| 16   | EMI Test Receiver                   | R&S               | ESR 7      | 101181      | 2023-08-15 | 2024-08-14 |
| 17   | RS SPECTRUM ANALYZER                | R&S               | FSP40      | 100503      | 2023-07-17 | 2024-07-16 |
| 18   | Low-frequency amplifier             | SchwarzZBECK      | BBV9745    | 00253       | 2023-10-18 | 2024-10-17 |
| 19   | High-frequency amplifier            | JS Denki Pte      | PA0118-43  | JSPA21009   | 2023-10-18 | 2024-10-17 |
| 20   | WIDEBAND RADIO COMMUNICATION TESTER | R&S               | CMW 500    | 103818      | 2023-06-09 | 2024-06-08 |
| 21   | RF Filter                           | Micro-Tronics     | BRC50718   | 017         | 2023-10-18 | 2024-10-17 |
| 22   | RF Filter                           | Micro-Tronics     | BRC50719   | 011         | 2023-10-18 | 2024-10-17 |
| 23   | RF Filter                           | Micro-Tronics     | BRC50720   | 011         | 2023-10-18 | 2024-10-17 |
| 24   | RF Filter                           | Micro-Tronics     | BRC50721   | 013         | 2023-10-18 | 2024-10-17 |
| 25   | RF Filter                           | Micro-Tronics     | BRM50702   | 195         | 2023-08-15 | 2024-08-14 |
| 26   | 6dB Attenuator                      | /                 | 100W/6dB   | 1172040     | 2023-06-09 | 2024-06-08 |
| 27   | 3dB Attenuator                      | /                 | 2N-3dB     | /           | 2023-10-18 | 2024-10-17 |



## 5. PHOTOGRAPHS OF TEST SETUP

Please refer to separated files Appendix D for Photographs of Test Setup\_RF.

## 6. PHOTOGRAPHS OF THE EUT

Please refer to separated files Appendix C for Photographs of The EUT.



## Annex A

### Transmitter maximum output power

The worst test result of maximum output power for WCDMA Band I

| Test Condition   |               | Measure Result (dBm) |                     |                   | Nominal Output Power (dBm) | Conclusion |
|------------------|---------------|----------------------|---------------------|-------------------|----------------------------|------------|
| Temperature (°C) | Voltage (Vdc) | Low Channel 9612     | Middle Channel 9750 | High Channel 9888 |                            |            |
| TL               | VL            | 22.70                | 22.69               | 22.68             | 24                         | Pass       |
|                  | VN            | 23.18                | 23.17               | 23.21             |                            | Pass       |
|                  | VH            | 23.09                | 23.07               | 23.07             |                            | Pass       |
| TN               | VL            | 23.57                | 23.50               | 23.48             |                            | Pass       |
|                  | VN            | 23.51                | 23.58               | 23.54             |                            | Pass       |
|                  | VH            | 22.96                | 23.00               | 23.03             |                            | Pass       |
| TH               | VL            | 23.06                | 23.08               | 23.03             |                            | Pass       |
|                  | VN            | 22.76                | 22.71               | 22.66             |                            | Pass       |
|                  | VH            | 22.99                | 22.98               | 23.01             |                            | Pass       |

The worst test result of maximum output power for WCDMA Band I (HSUPA)

| Test Condition   |               | Measure Result (dBm) |                     |                   | Nominal Output Power (dBm) | Conclusion |
|------------------|---------------|----------------------|---------------------|-------------------|----------------------------|------------|
| Temperature (°C) | Voltage (Vdc) | Low Channel 9612     | Middle Channel 9750 | High Channel 9888 |                            |            |
| TL               | VL            | 21.46                | 21.49               | 21.57             | 24                         | Pass       |
|                  | VN            | 22.15                | 22.14               | 22.07             |                            | Pass       |
|                  | VH            | 21.96                | 21.92               | 21.94             |                            | Pass       |
| TN               | VL            | 22.07                | 22.16               | 22.14             |                            | Pass       |
|                  | VN            | 22.31                | 22.34               | 22.29             |                            | Pass       |
|                  | VH            | 22.01                | 21.99               | 22.05             |                            | Pass       |
| TH               | VL            | 21.81                | 21.80               | 21.85             |                            | Pass       |
|                  | VN            | 21.95                | 21.95               | 21.94             |                            | Pass       |
|                  | VH            | 21.65                | 21.56               | 21.60             |                            | Pass       |

The worst test result of maximum output power for WCDMA Band I (HSDPA)

| Test Condition   |               | Measure Result (dBm) |                     |                   | Nominal Output Power (dBm) | Conclusion |
|------------------|---------------|----------------------|---------------------|-------------------|----------------------------|------------|
| Temperature (°C) | Voltage (Vdc) | Low Channel 9612     | Middle Channel 9750 | High Channel 9888 |                            |            |
| TL               | VL            | 21.90                | 21.96               | 21.96             | 24                         | Pass       |
|                  | VN            | 22.18                | 22.24               | 22.20             |                            | Pass       |
|                  | VH            | 21.88                | 21.89               | 21.88             |                            | Pass       |
| TN               | VL            | 22.26                | 22.31               | 22.33             |                            | Pass       |
|                  | VN            | 22.67                | 22.70               | 22.66             |                            | Pass       |
|                  | VH            | 22.08                | 22.04               | 22.00             |                            | Pass       |
| TH               | VL            | 22.06                | 22.05               | 22.08             |                            | Pass       |
|                  | VN            | 21.69                | 21.67               | 21.66             |                            | Pass       |
|                  | VH            | 21.56                | 21.55               | 21.59             |                            | Pass       |



The worst test result of maximum output power for WCDMA Band VIII

| Test Condition   |               | Measure Result (dBm) |                     |                   | Nominal Output Power (dBm) | Conclusion |
|------------------|---------------|----------------------|---------------------|-------------------|----------------------------|------------|
| Temperature (°C) | Voltage (Vdc) | Low Channel 2713     | Middle Channel 2788 | High Channel 2862 |                            |            |
| TL               | VL            | 22.54                | 22.58               | 22.51             | 24                         | Pass       |
|                  | VN            | 22.92                | 22.92               | 22.96             |                            | Pass       |
|                  | VH            | 23.01                | 23.04               | 23.00             |                            | Pass       |
| TN               | VL            | 23.02                | 23.04               | 23.02             |                            | Pass       |
|                  | VN            | 23.56                | 23.51               | 23.48             |                            | Pass       |
|                  | VH            | 23.19                | 23.14               | 23.17             |                            | Pass       |
| TH               | VL            | 22.97                | 22.93               | 22.97             |                            | Pass       |
|                  | VN            | 22.78                | 22.86               | 22.79             |                            | Pass       |
|                  | VH            | 22.99                | 22.92               | 22.95             |                            | Pass       |

The worst test result of maximum output power for WCDMA Band VIII (HSUPA)

| Test Condition   |               | Measure Result (dBm) |                     |                   | Nominal Output Power (dBm) | Conclusion |
|------------------|---------------|----------------------|---------------------|-------------------|----------------------------|------------|
| Temperature (°C) | Voltage (Vdc) | Low Channel 2713     | Middle Channel 2788 | High Channel 2862 |                            |            |
| TL               | VL            | 21.74                | 21.73               | 21.68             | 24                         | Pass       |
|                  | VN            | 21.92                | 21.90               | 21.86             |                            | Pass       |
|                  | VH            | 21.82                | 21.81               | 21.80             |                            | Pass       |
| TN               | VL            | 22.68                | 22.73               | 22.67             |                            | Pass       |
|                  | VN            | 21.98                | 21.96               | 21.95             |                            | Pass       |
|                  | VH            | 22.09                | 22.11               | 22.04             |                            | Pass       |
| TH               | VL            | 21.71                | 21.70               | 21.71             |                            | Pass       |
|                  | VN            | 21.59                | 21.62               | 21.61             |                            | Pass       |
|                  | VH            | 22.08                | 22.12               | 22.14             |                            | Pass       |

The worst test result of maximum output power for WCDMA Band VIII (HSDPA)

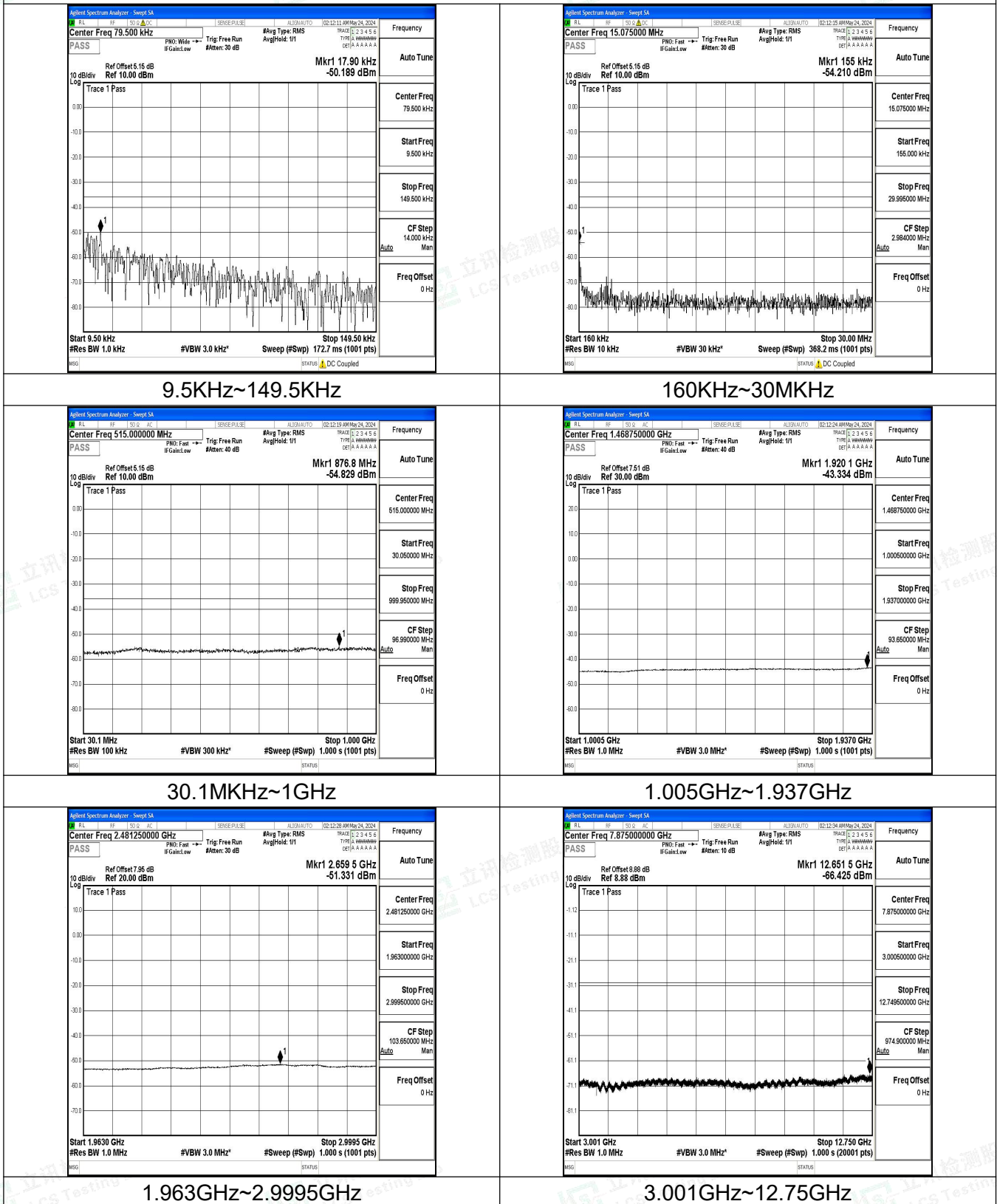
| Test Condition   |               | Measure Result (dBm) |                     |                   | Nominal Output Power (dBm) | Conclusion |
|------------------|---------------|----------------------|---------------------|-------------------|----------------------------|------------|
| Temperature (°C) | Voltage (Vdc) | Low Channel 2713     | Middle Channel 2788 | High Channel 2862 |                            |            |
| TL               | VL            | 22.21                | 22.21               | 22.18             | 24                         | Pass       |
|                  | VN            | 21.88                | 21.94               | 21.96             |                            | Pass       |
|                  | VH            | 22.06                | 22.04               | 22.04             |                            | Pass       |
| TN               | VL            | 22.52                | 22.55               | 22.55             |                            | Pass       |
|                  | VN            | 22.10                | 22.04               | 22.00             |                            | Pass       |
|                  | VH            | 21.89                | 21.98               | 22.02             |                            | Pass       |
| TH               | VL            | 22.10                | 22.05               | 22.06             |                            | Pass       |
|                  | VN            | 21.60                | 21.60               | 21.58             |                            | Pass       |
|                  | VH            | 21.87                | 21.96               | 21.90             |                            | Pass       |

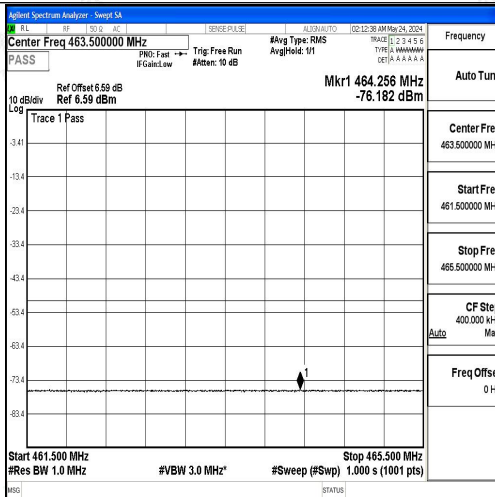


## Transmitter spurious emissions

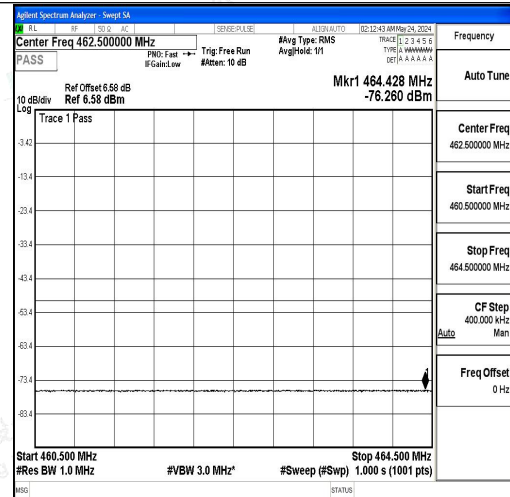
(Note: Only Record The Worst Test Result.)

### The Worst Test Result of Spurious Emissions for Band I (Middle Channel, Traffic)

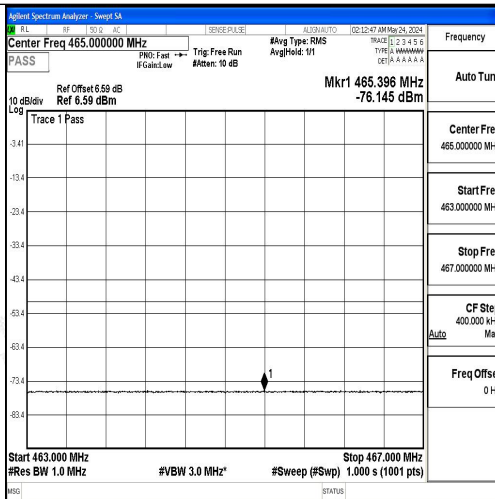


**The Worst Test Result of Spurious Emissions for Band I (Middle Channel, Traffic)**

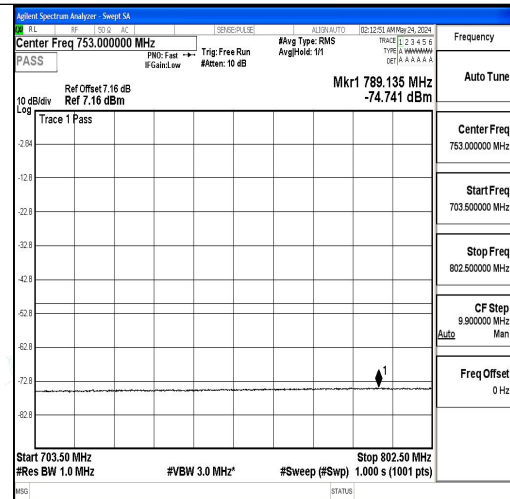
461.5MHz~465.5MHz



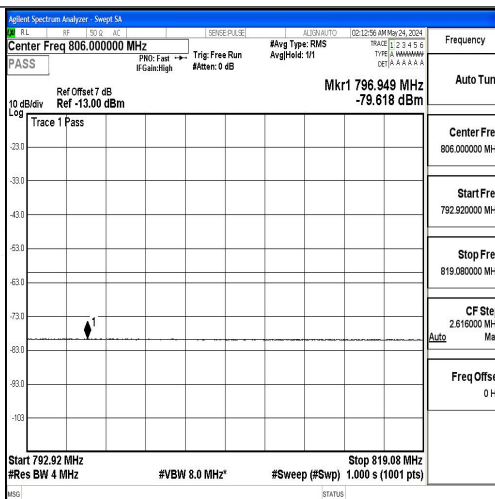
460.5MHz~464.5MHz



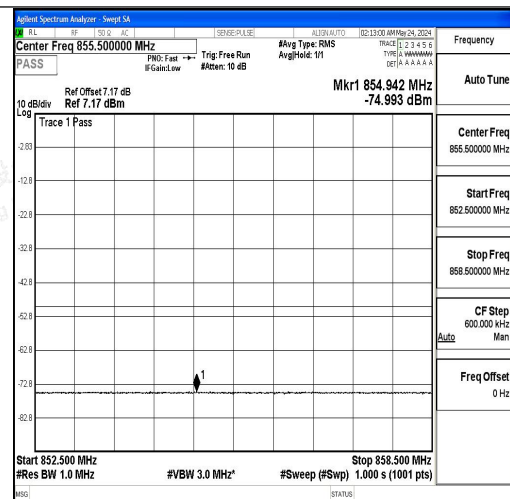
463MHz~467MHz



703.5MHz~802.5MHz



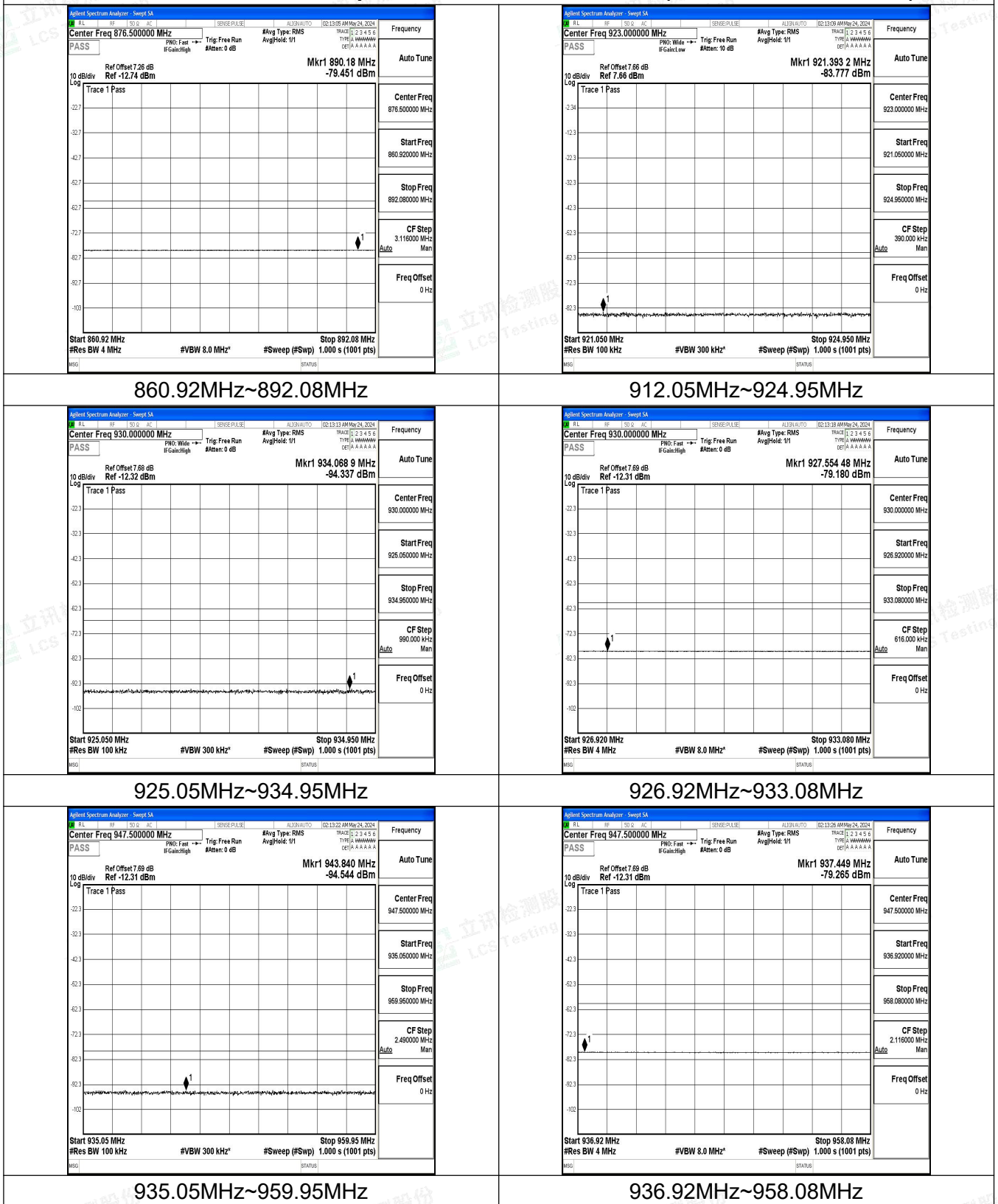
792.92MHz~819.08MHz

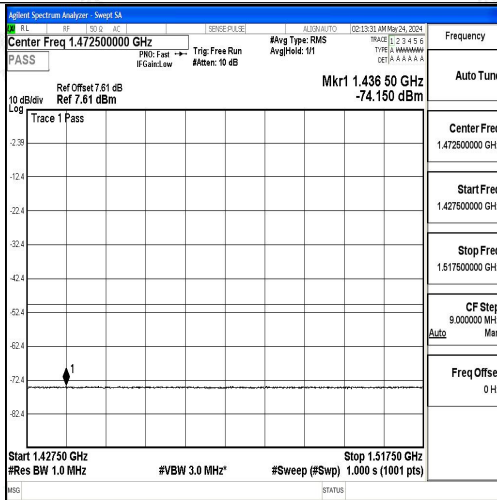


852.5MHz~858.5MHz

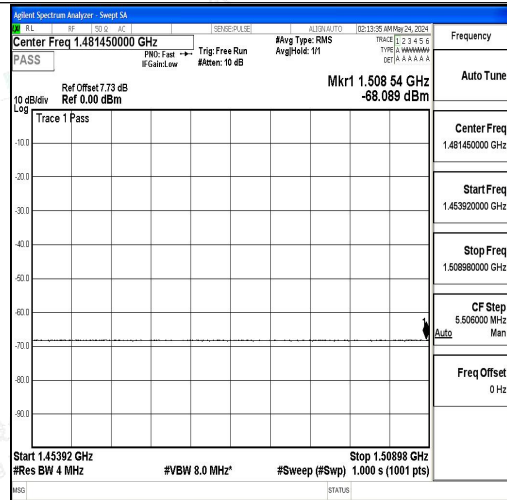


### The Worst Test Result of Spurious Emissions for Band I (Middle Channel, Traffic)

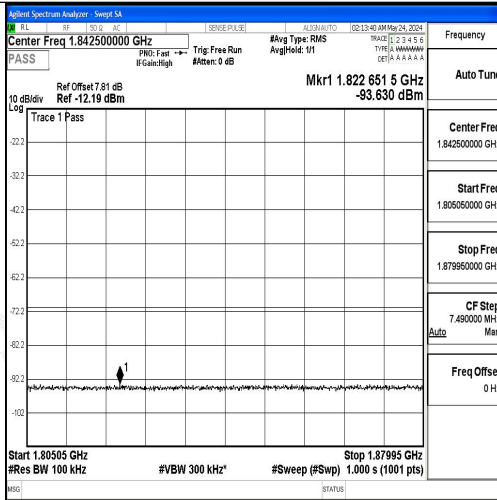


**The Worst Test Result of Spurious Emissions for Band I (Middle Channel, Traffic)**

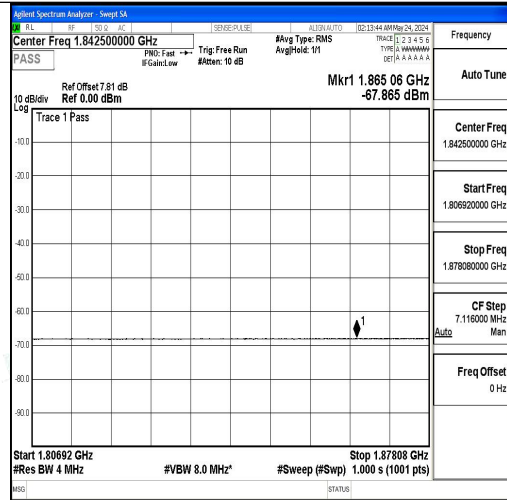
1.4275GHz~1.5175GHz



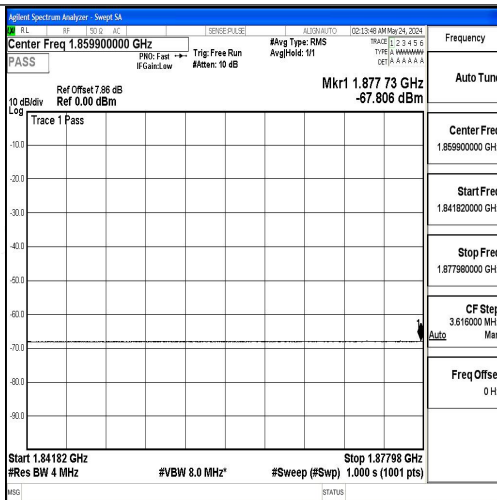
1.45392GHz~1.50898GHz



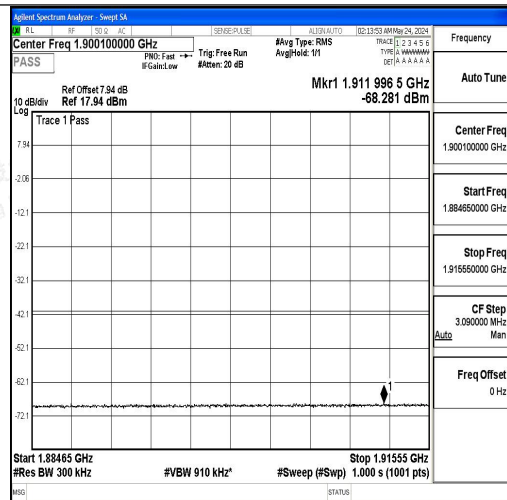
1.80505GHz~1.87995GHz



1.80692GHz~1.87808GHz



1.84182GHz~1.87798GHz



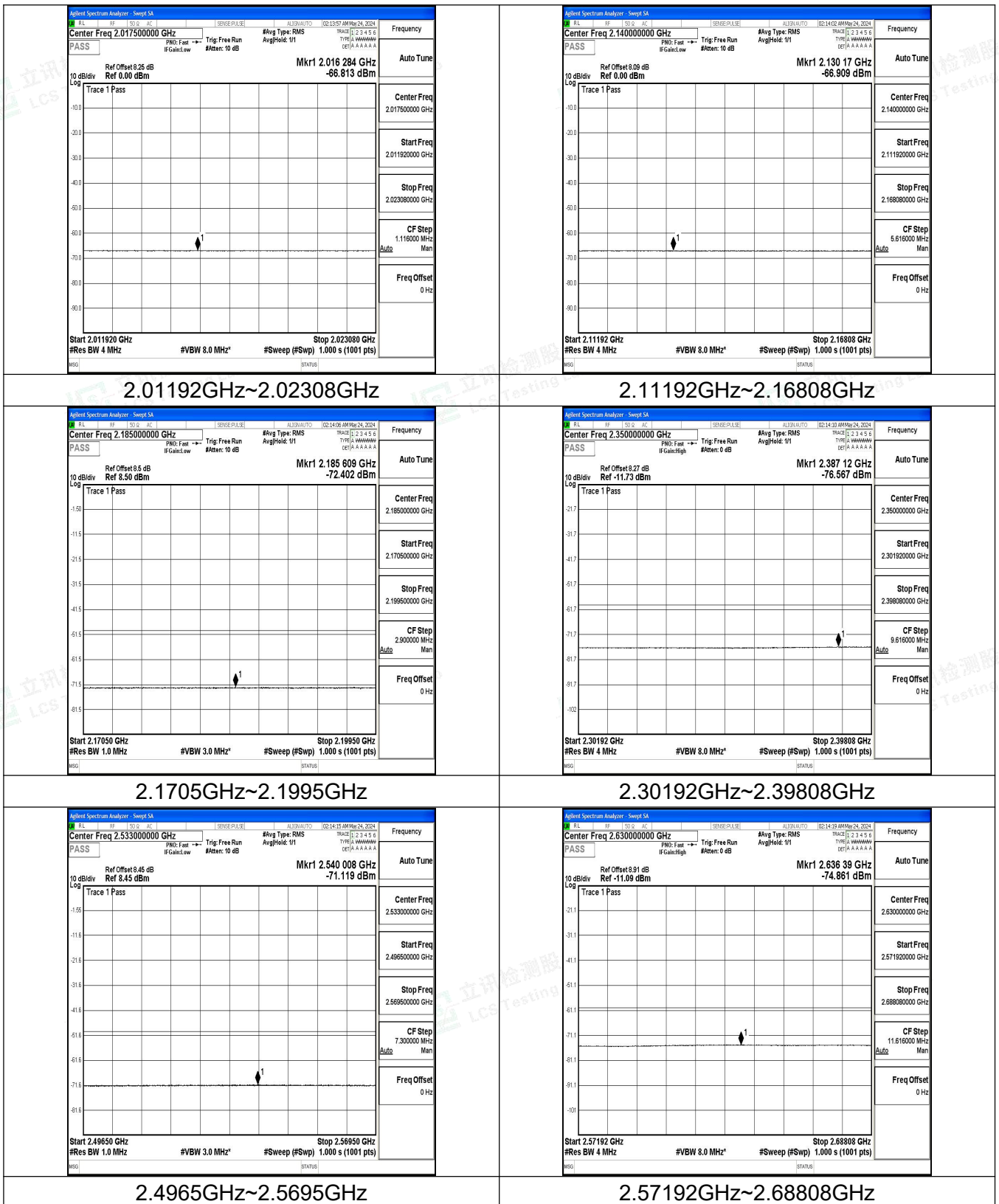
1.88465GHz~1.91555GHz

**The Worst Test Result of Spurious Emissions for Band I (Middle Channel, Traffic)**

Shenzhen LCS Compliance Testing Laboratory Ltd.

Add: Room 101/201, Building A, and Room 101/301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Subdistrict, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

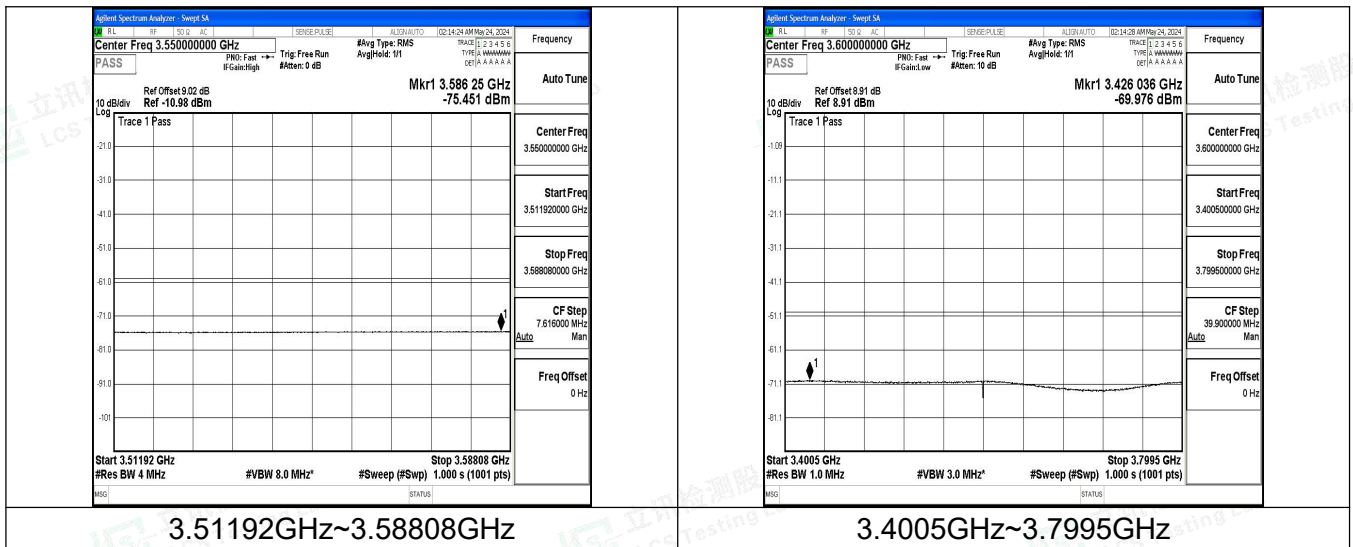


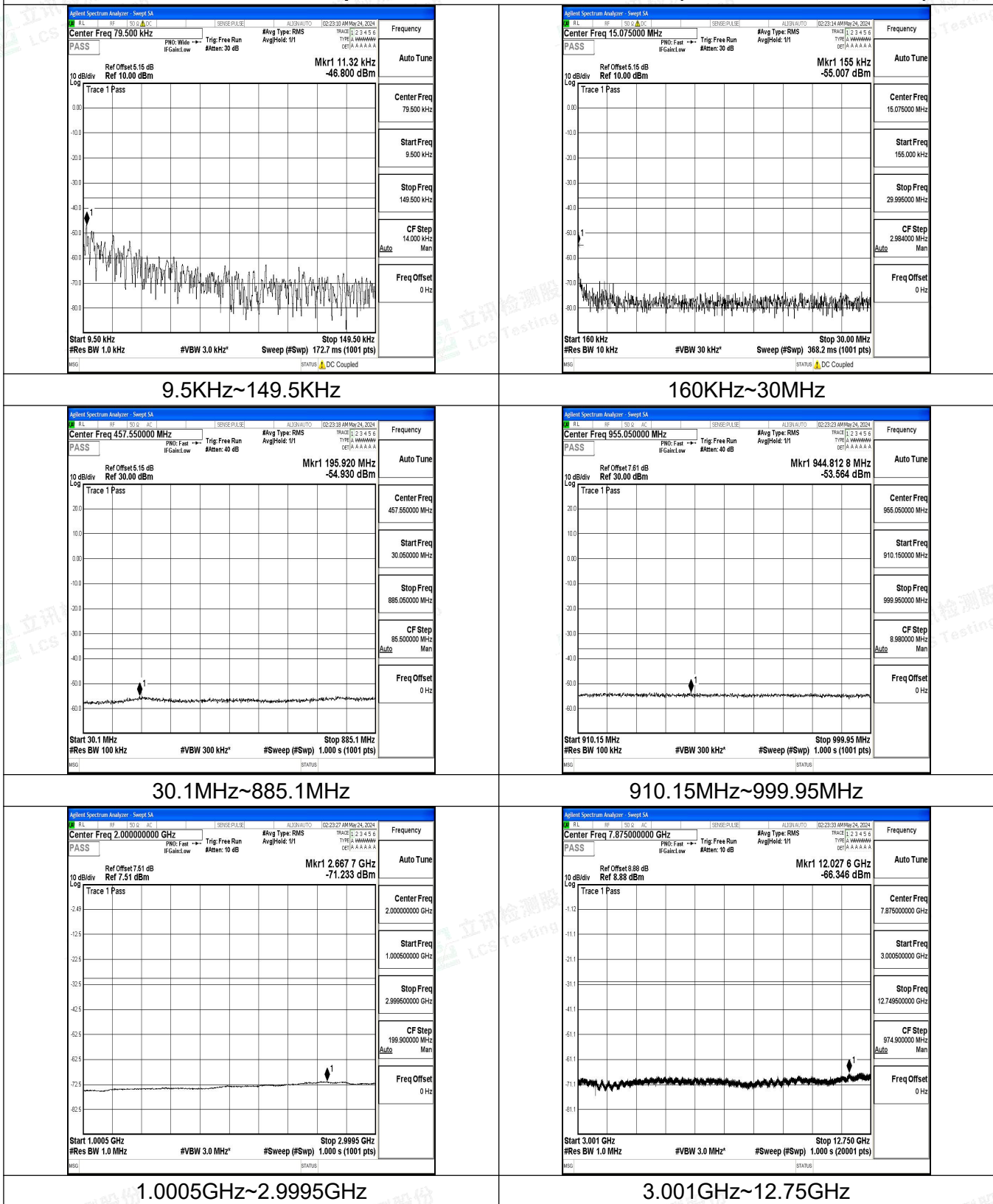
### The Worst Test Result of Spurious Emissions for Band I (Middle Channel, Traffic)

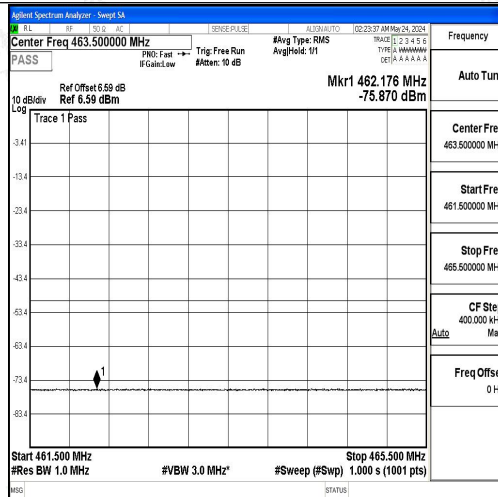
Shenzhen LCS Compliance Testing Laboratory Ltd.

Add: Room 101/201, Building A, and Room 101/301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Subdistrict, Bao'an District, Shenzhen, Guangdong, China

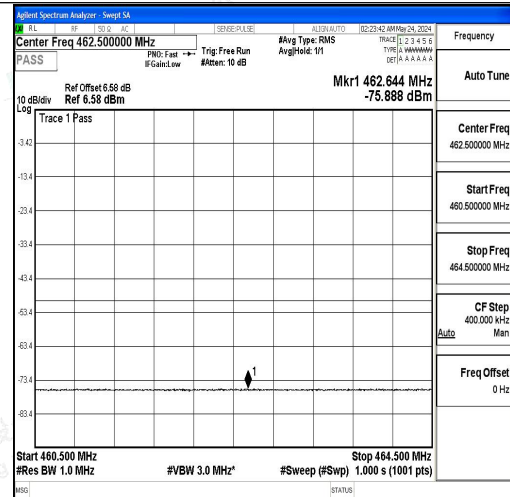
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com



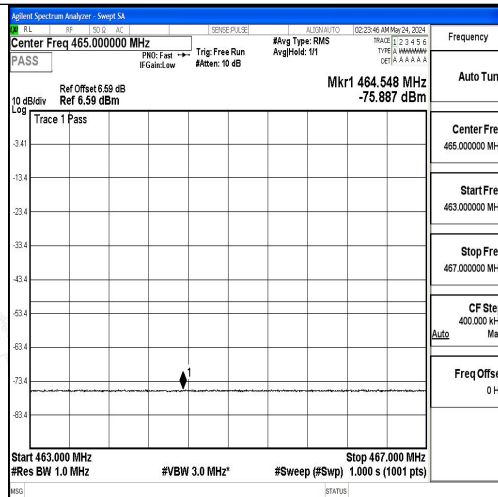
**The Worst Test Result of Spurious Emissions for Band VIII (Middle Channel, Traffic)**

**The Worst Test Result of Spurious Emissions for Band VIII (Middle Channel, Traffic)**

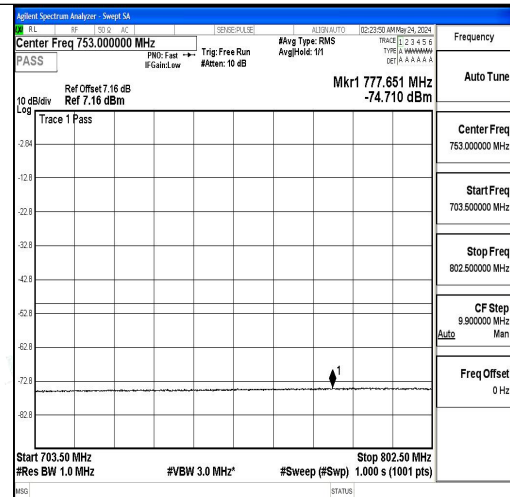
461.5MHz~465.5MHz



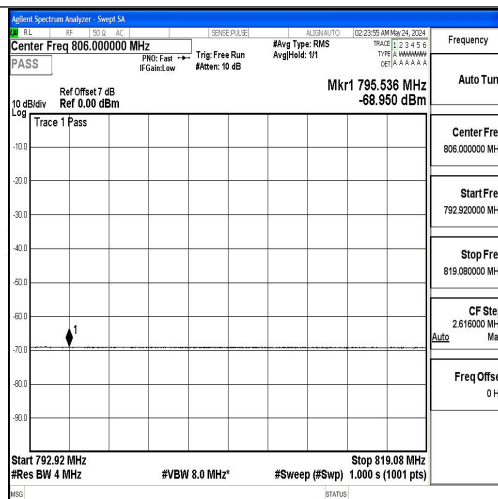
460.5MHz~464.5MHz



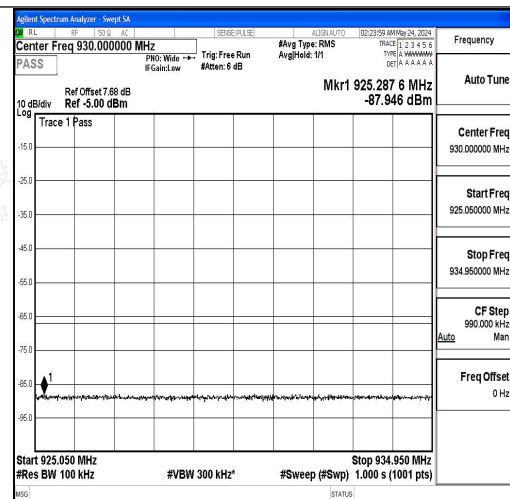
463MHz~467MHz



703.5MHz~802.5MHz



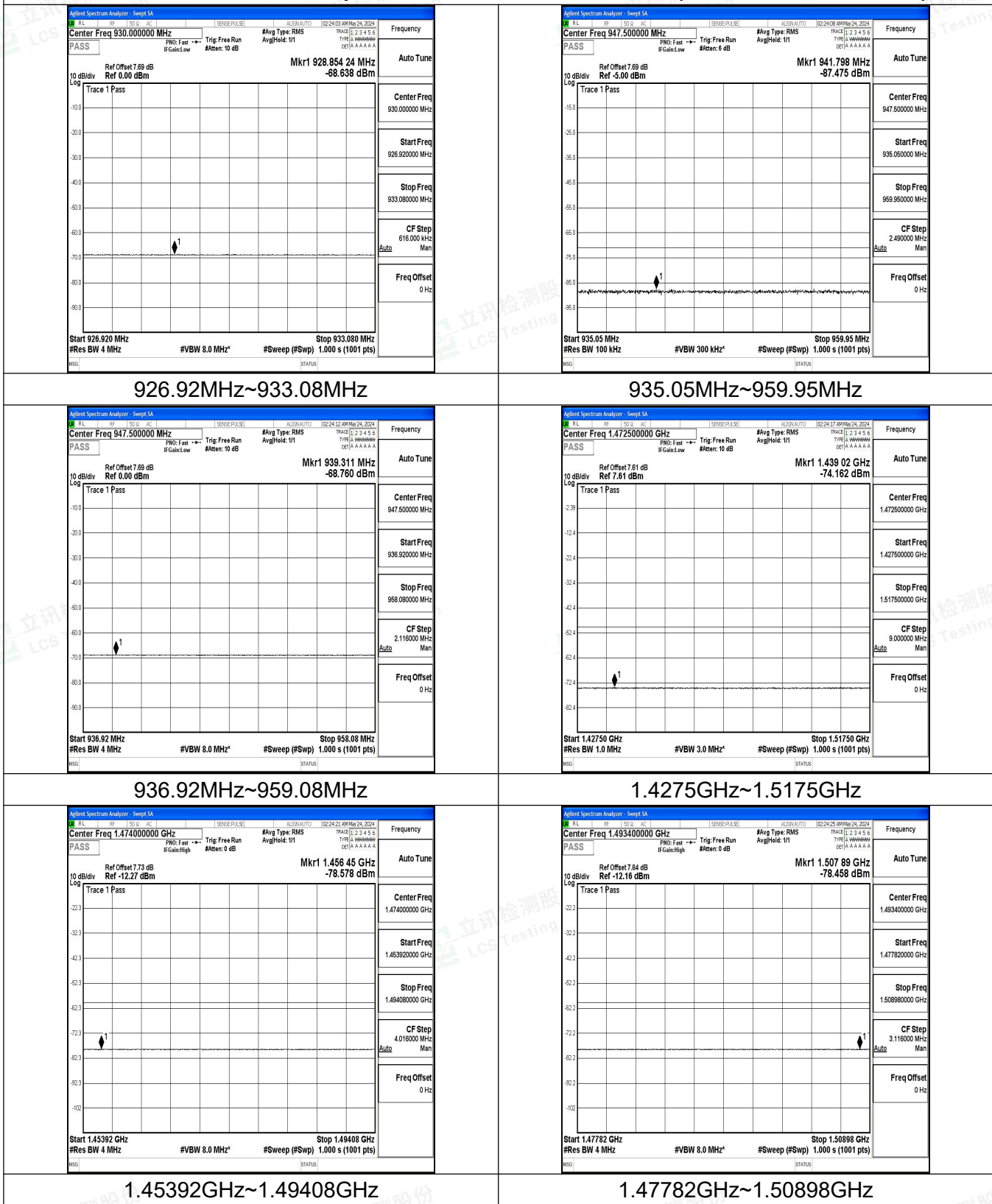
792.92MHz~819.08MHz

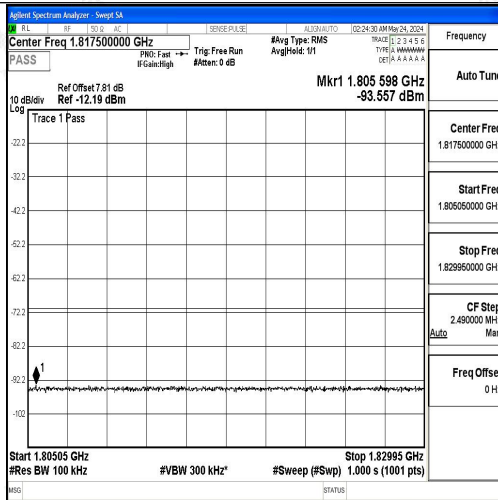


952.05MHz~934.95MHz

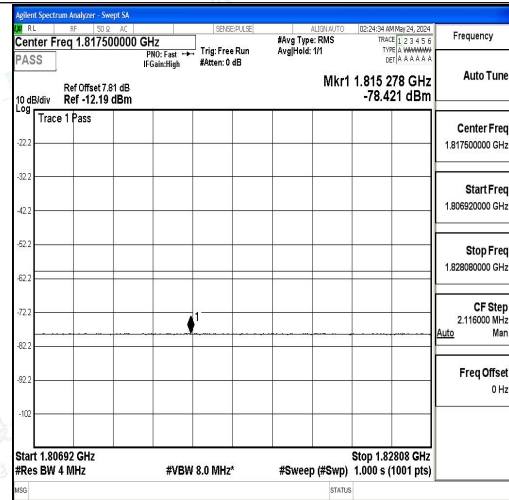


### The Worst Test Result of Spurious Emissions for Band VIII (Middle Channel, Traffic)

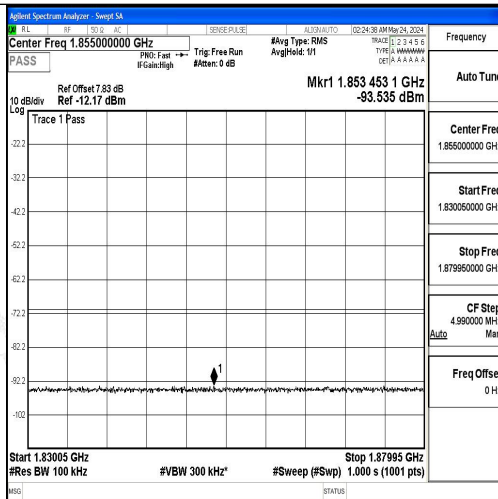


**The Worst Test Result of Spurious Emissions for Band VIII (Middle Channel, Traffic)**

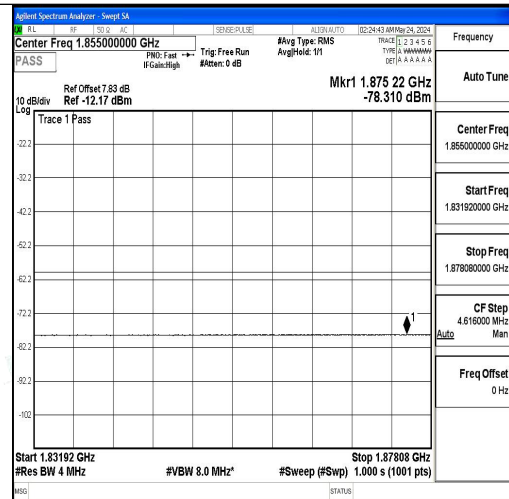
1.80505GHz~1.82995GHz



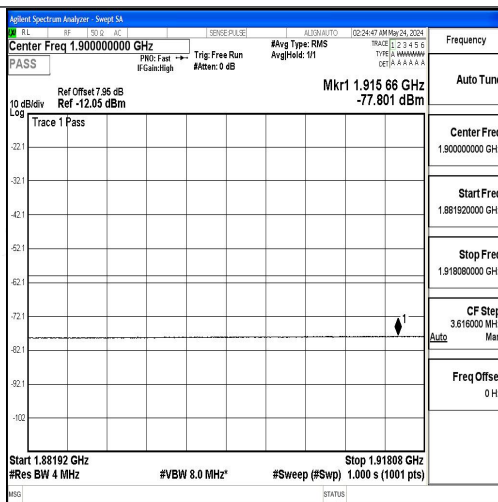
1.80692GHz~1.82808GHz



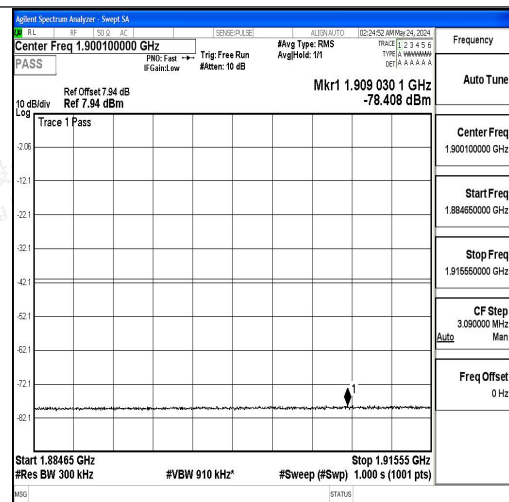
1.83005GHz~1.87995GHz



1.83192GHz~1.87808GHz



1.88192GHz~1.91808GHz



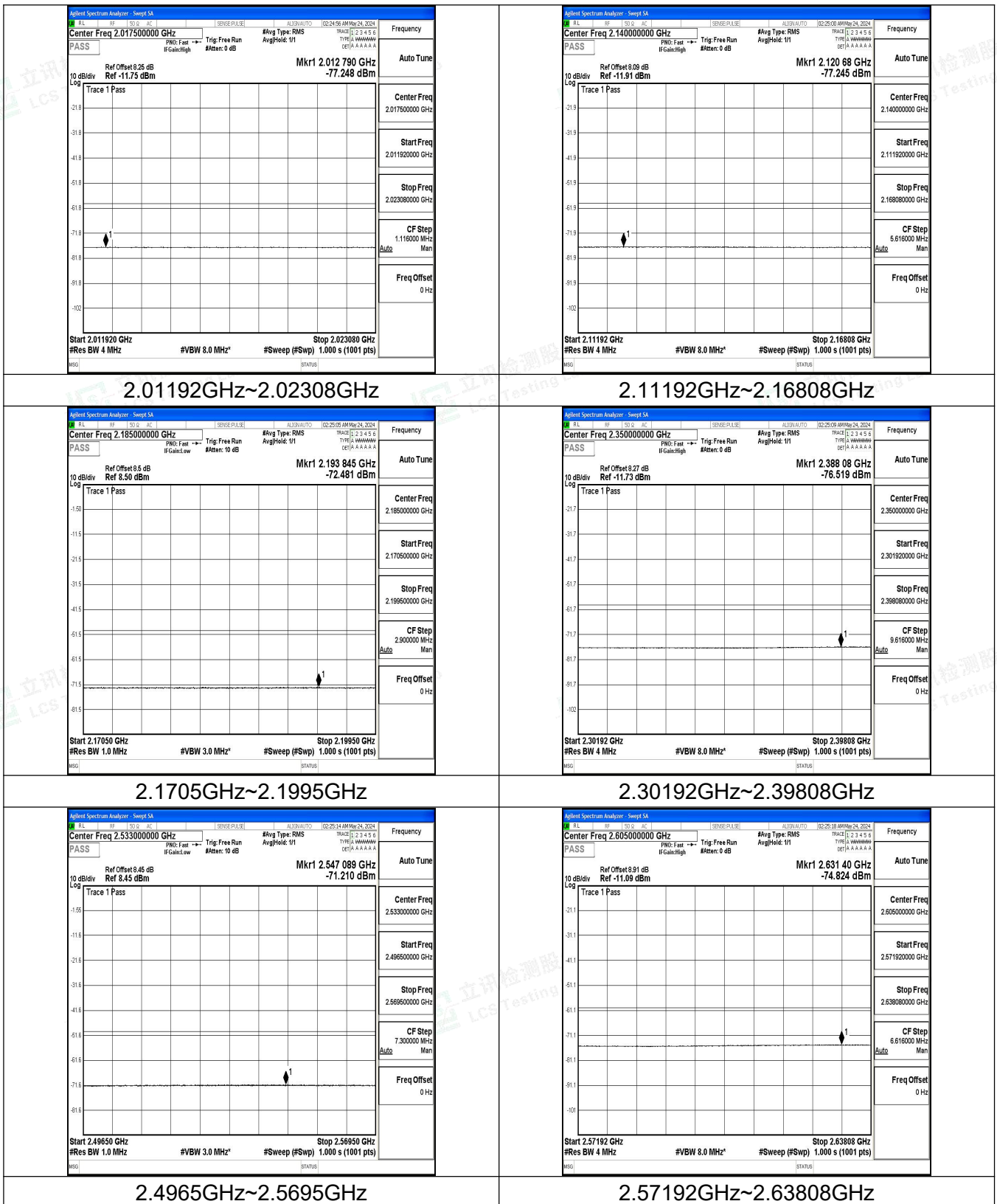
1.88465GHz~1.91555GHz

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Shenzhen LCS Compliance Testing Laboratory Ltd.

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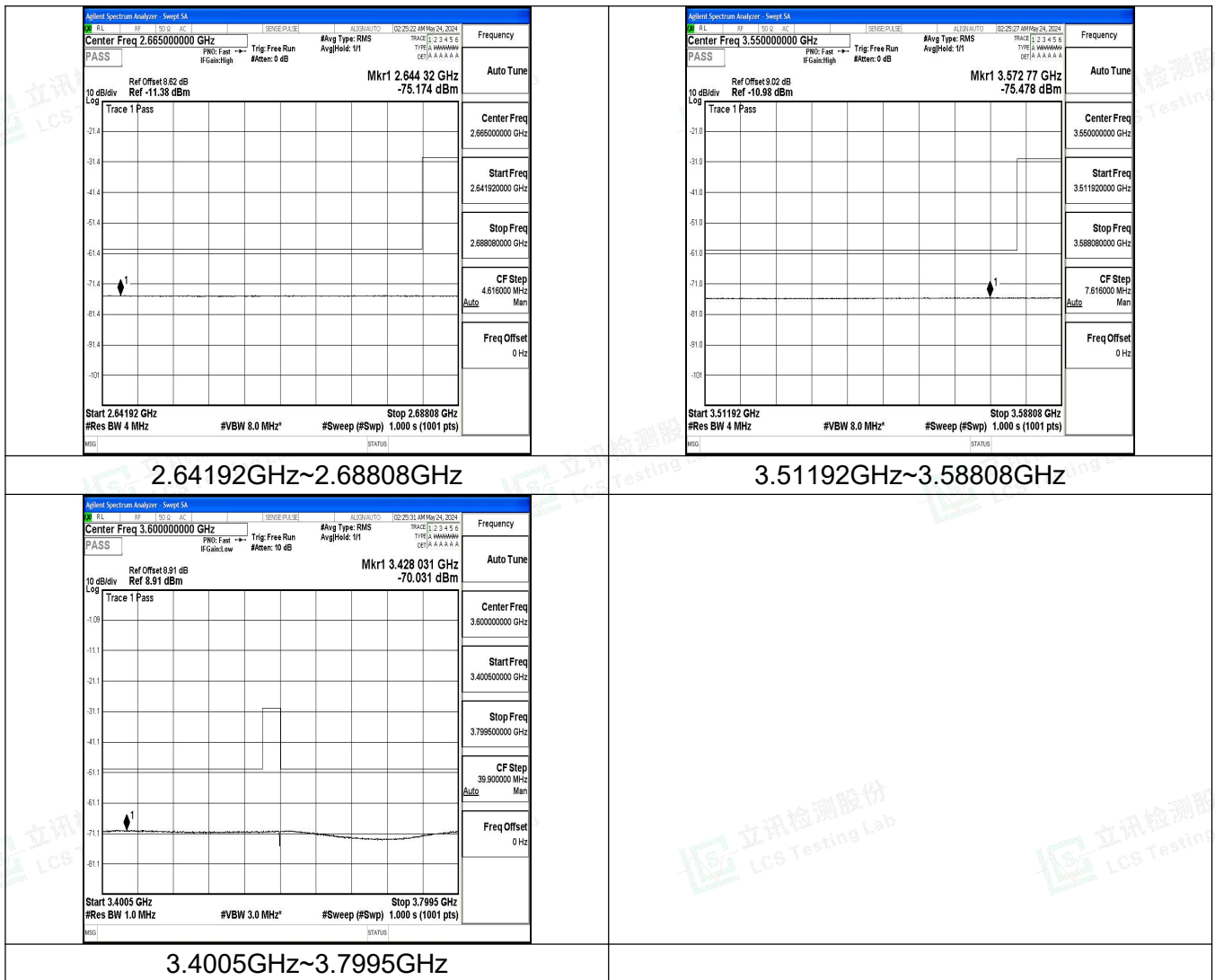


### The Worst Test Result of Spurious Emissions for Band VIII (Middle Channel, Traffic)

Shenzhen LCS Compliance Testing Laboratory Ltd.

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## Transmitter spurious emissions

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## Radiated spurious emissions - MS allocated a channel(Worst Case)

| WCDMA Band I: Middle Channel, Normal condition |                            |            |             |             |
|------------------------------------------------|----------------------------|------------|-------------|-------------|
| Frequency<br>(MHz)                             | Radiated Spurious Emission |            | Limit (dBm) | Test Result |
|                                                | Polarization               | Level(dBm) |             |             |
| 50.44                                          | Horizontal                 | -71.18     | -36.00      | Pass        |
| 970.92                                         | H                          | -70.37     | -36.00      |             |
| 3821.33                                        | H                          | -65.18     | -30.00      |             |
| 5732.34                                        | H                          | -50.61     | -30.00      |             |
| 7644.42                                        | H                          | -55.54     | -30.00      |             |
| WCDMA Band I: Middle Channel, Normal condition |                            |            |             |             |
| Frequency<br>(MHz)                             | Radiated Spurious Emission |            | Limit (dBm) | Test Result |
|                                                | Polarization               | Level(dBm) |             |             |
| 50.41                                          | Vertical                   | -74.60     | -36.00      | Pass        |
| 882.52                                         | V                          | -80.45     | -36.00      |             |
| 3823.55                                        | V                          | -63.96     | -30.00      |             |
| 5730.11                                        | V                          | -54.95     | -30.00      |             |
| 7641.98                                        | V                          | -58.24     | -30.00      |             |

| WCDMA Band VIII: Middle Channel, Normal condition |                            |            |             |             |
|---------------------------------------------------|----------------------------|------------|-------------|-------------|
| Frequency<br>(MHz)                                | Radiated Spurious Emission |            | Limit (dBm) | Test Result |
|                                                   | Polarization               | Level(dBm) |             |             |
| 52.16                                             | Horizontal                 | -78.89     | -36.00      | Pass        |
| 786.55                                            | H                          | -78.67     | -36.00      |             |
| 1284.00                                           | H                          | -66.33     | -30.00      |             |
| 2580.38                                           | H                          | -55.05     | -30.00      |             |
| 3504.17                                           | H                          | -59.64     | -30.00      |             |
| WCDMA Band VIII: Middle Channel, Normal condition |                            |            |             |             |
| Frequency<br>(MHz)                                | Radiated Spurious Emission |            | Limit (dBm) | Test Result |
|                                                   | Polarization               | Level(dBm) |             |             |
| 56.79                                             | Vertical                   | -79.27     | -36.00      | Pass        |
| 875.49                                            | V                          | -73.27     | -36.00      |             |
| 1281.33                                           | V                          | -61.66     | -30.00      |             |
| 2583.63                                           | V                          | -57.39     | -30.00      |             |
| 3501.58                                           | V                          | -60.44     | -30.00      |             |



## Radiated spurious emissions - MS in Idle Mode(Worst Case)

| WCDMA Band I: Middle Channel, Normal condition |                            |            |             |             |
|------------------------------------------------|----------------------------|------------|-------------|-------------|
| Frequency<br>(MHz)                             | Radiated Spurious Emission |            | Limit (dBm) | Test Result |
|                                                | Polarization               | Level(dBm) |             |             |
| 53.31                                          | Horizontal                 | -78.00     | -57.00      | Pass        |
| 831.91                                         | H                          | -78.71     | -57.00      |             |
| 1793.24                                        | H                          | -63.17     | -47.00      |             |
| 2702.41                                        | H                          | -55.50     | -47.00      |             |
| 3618.59                                        | H                          | -55.79     | -47.00      |             |
| WCDMA Band I: Middle Channel, Normal condition |                            |            |             |             |
| Frequency<br>(MHz)                             | Radiated Spurious Emission |            | Limit (dBm) | Test Result |
|                                                | Polarization               | Level(dBm) |             |             |
| 58.27                                          | Vertical                   | -79.56     | -57.00      | Pass        |
| 859.01                                         | V                          | -78.41     | -57.00      |             |
| 1792.20                                        | V                          | -61.96     | -47.00      |             |
| 2704.68                                        | V                          | -51.06     | -47.00      |             |
| 3620.11                                        | V                          | -55.44     | -47.00      |             |

| WCDMA Band VIII: Middle Channel, Normal condition |                            |            |             |             |
|---------------------------------------------------|----------------------------|------------|-------------|-------------|
| Frequency<br>(MHz)                                | Radiated Spurious Emission |            | Limit (dBm) | Test Result |
|                                                   | Polarization               | Level(dBm) |             |             |
| 55.29                                             | Horizontal                 | -77.38     | -57.00      | Pass        |
| 957.15                                            | H                          | -78.63     | -57.00      |             |
| 1692.92                                           | H                          | -66.53     | -47.00      |             |
| 2677.42                                           | H                          | -57.86     | -47.00      |             |
| 3249.20                                           | H                          | -54.21     | -47.00      |             |
| WCDMA Band VIII: Middle Channel, Normal condition |                            |            |             |             |
| Frequency<br>(MHz)                                | Radiated Spurious Emission |            | Limit (dBm) | Test Result |
|                                                   | Polarization               | Level(dBm) |             |             |
| 53.52                                             | Vertical                   | -79.65     | -57.00      | Pass        |
| 966.50                                            | V                          | -78.32     | -57.00      |             |
| 1692.06                                           | V                          | -61.76     | -47.00      |             |
| 2672.87                                           | V                          | -58.42     | -47.00      |             |
| 3248.96                                           | V                          | -51.82     | -47.00      |             |

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