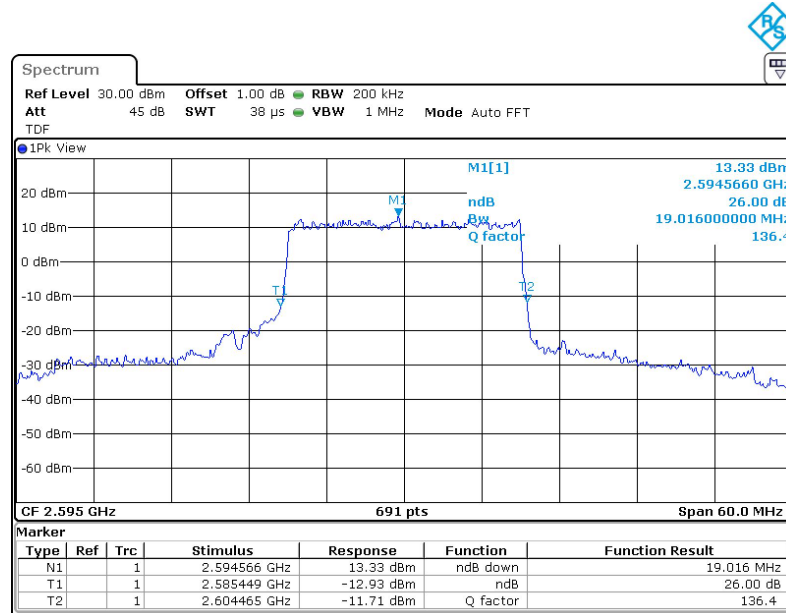


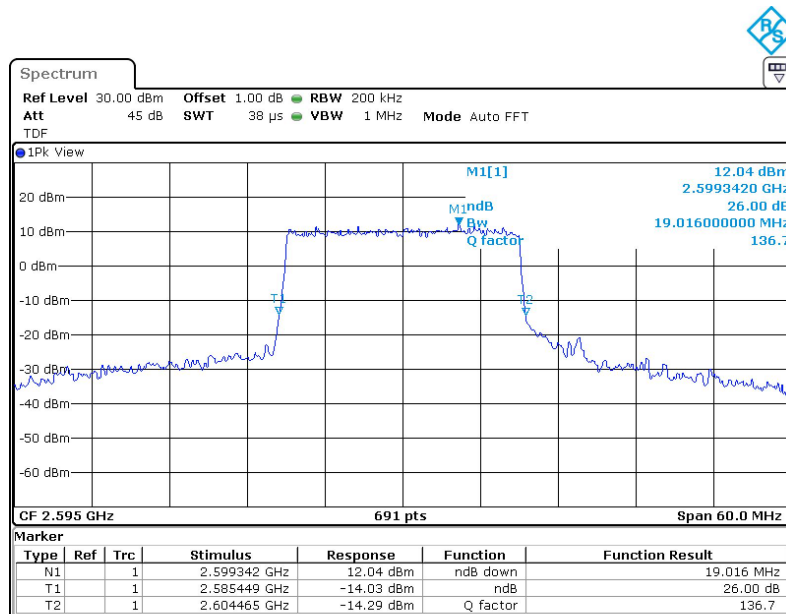
LTE band 38,20MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
2595	19.016	19.016

LTE band 38 , 20MHz Bandwidth,MID,QPSK (-26dBc BW)



LTE band 38 , 20MHz Bandwidth,MID,16QAM (-26dBc BW)



### Chongqing Academy of Information and Communication Technology

Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336  
 Tel: 0086-23-88069965 FAX:0086-23-88608777

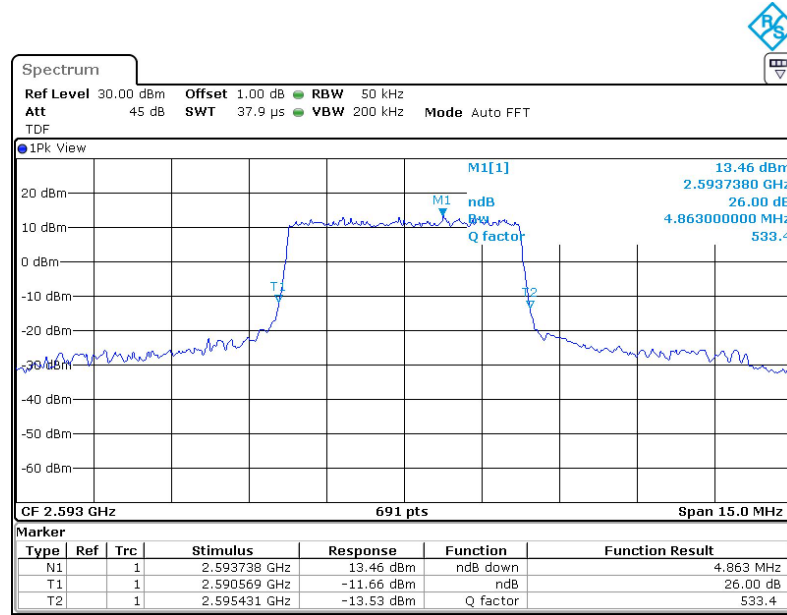


Report No.: I23W00020-LTE RF

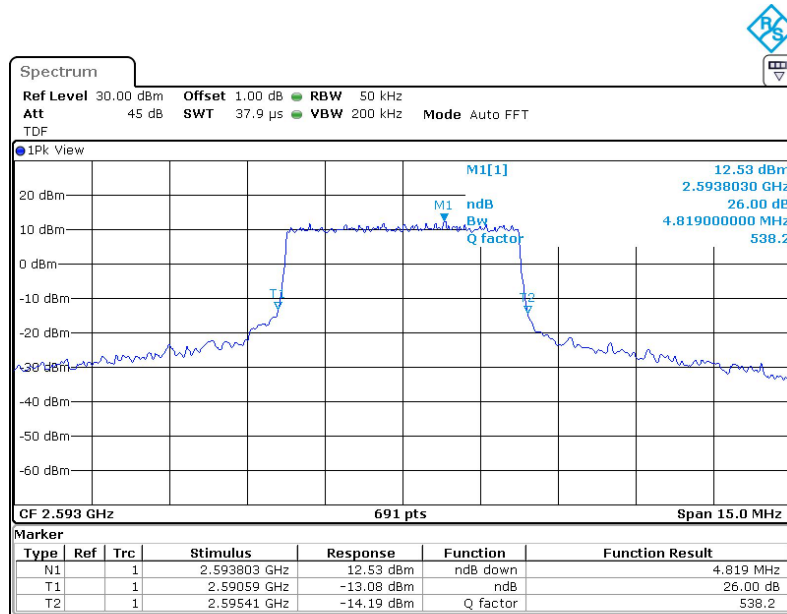
LTE band 41,5MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
2593	4.863	4.819

LTE band 41 , 5MHz Bandwidth,MID,QPSK (-26dBc BW)



LTE band 41 , 5MHz Bandwidth,MID,16QAM (-26dBc BW)



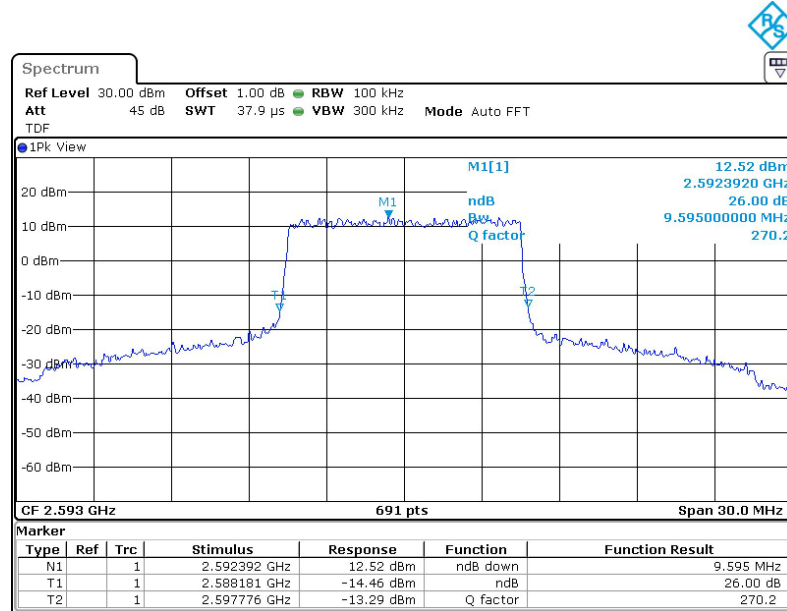
## Chongqing Academy of Information and Communication Technology

Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336  
Tel: 0086-23-88069965 FAX:0086-23-88608777

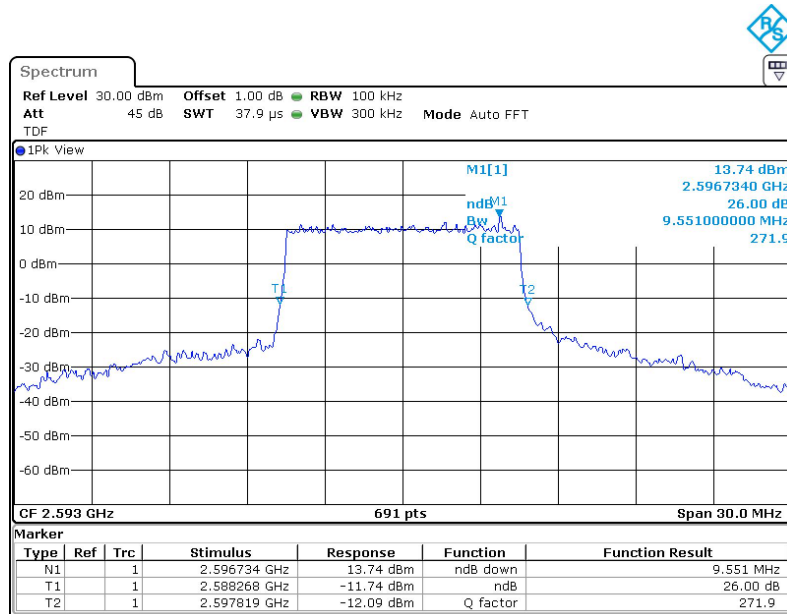
LTE band 41,10MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
2593	9.595	9.551

LTE band 41 , 10MHz Bandwidth,MID,QPSK (-26dBc BW)



LTE band 41 , 10MHz Bandwidth,MID,16QAM (-26dBc BW)



### Chongqing Academy of Information and Communication Technology

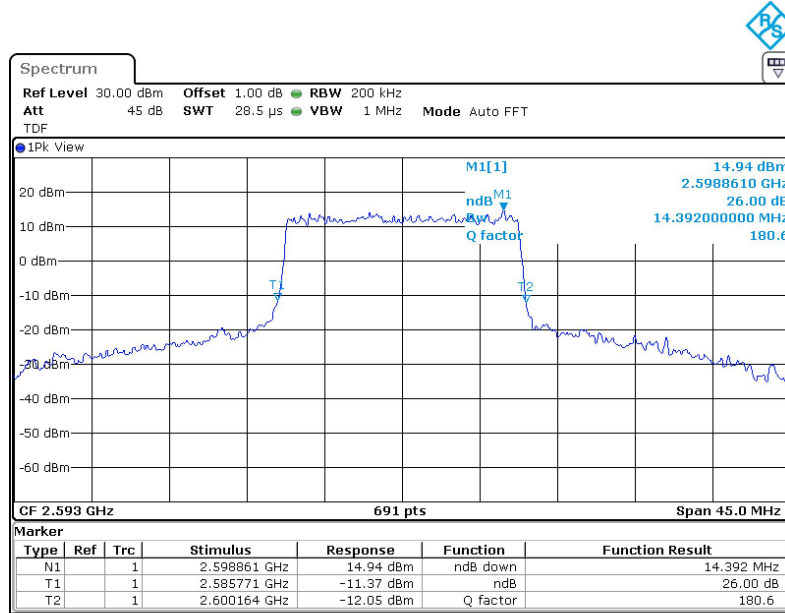
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336  
 Tel: 0086-23-88069965 FAX:0086-23-88608777



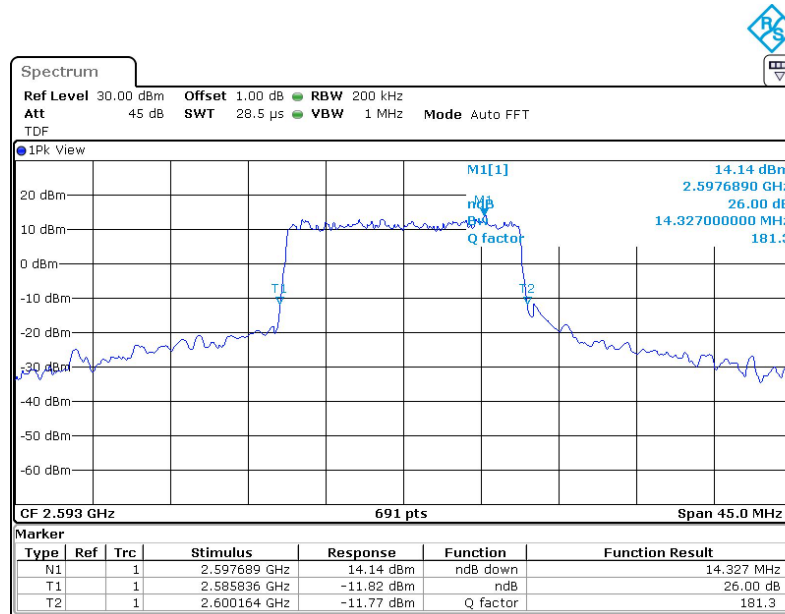
LTE band 41,15MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
2593	14.392	14.327

LTE band 41 , 15MHz Bandwidth,MID,QPSK (-26dBc BW)



LTE band 41 , 15MHz Bandwidth,MID,16QAM (-26dBc BW)



### Chongqing Academy of Information and Communication Technology

Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336  
Tel: 0086-23-88069965 FAX:0086-23-88608777

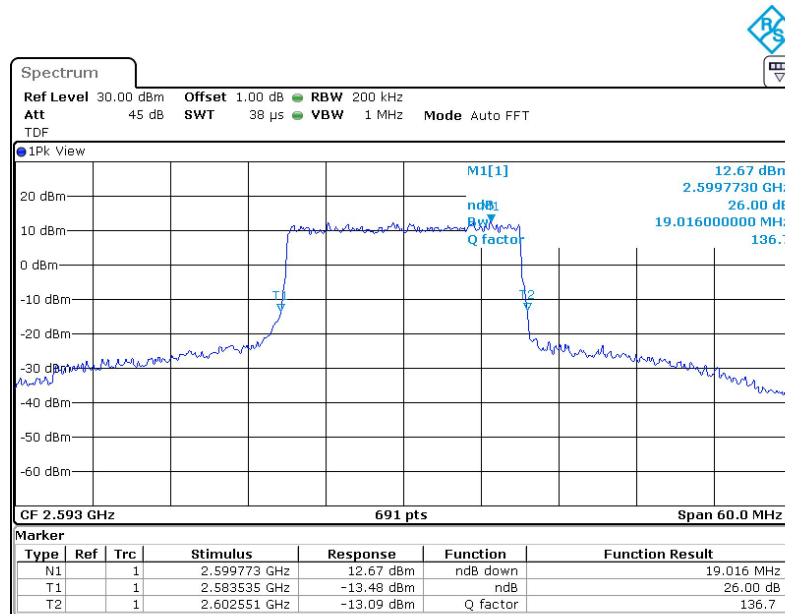


Report No.: I23W00020-LTE RF

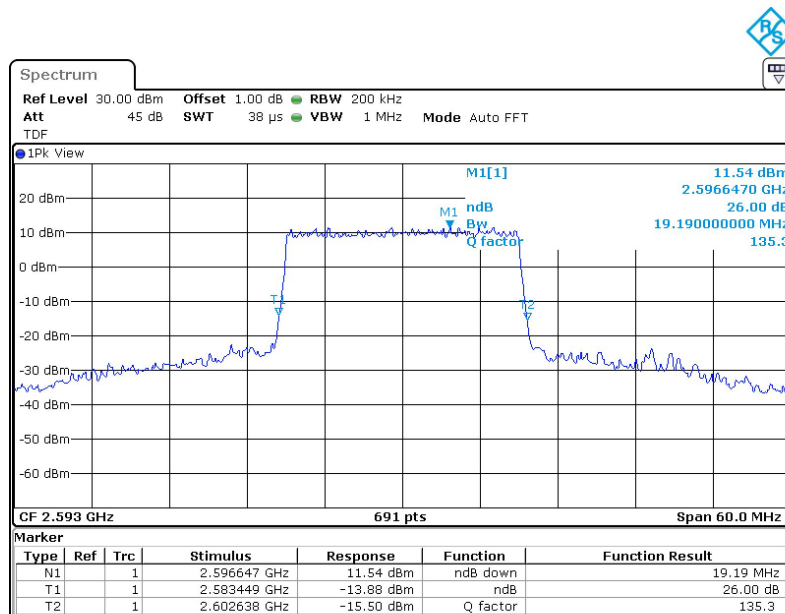
LTE band 41,20MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
2593	19.016	19.190

LTE band 41 , 20MHz Bandwidth,MID,QPSK (-26dBc BW)



LTE band 41 , 20MHz Bandwidth,MID,16QAM (-26dBc BW)



### Chongqing Academy of Information and Communication Technology

Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336  
Tel: 0086-23-88069965 FAX:0086-23-88608777

## 6.6. Frequency Stability

<b>Specifications:</b>	CFR FCC Part 2.1055/24.235
<b>DUT Serial Number:</b>	S3
<b>Test conditions:</b>	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
<b>Test Results:</b>	Pass

### 6.6.1. Method of Measurement and test procedures

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a “call mode”. This is accomplished with the use of R&S CMW500 DIGITAL RADIO COMMUNICATION TESTER.

- 1.Measure the carrier frequency at room temperature.
- 2.Subject the EUT to overnight soak at -10°C.
- 3.With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on middle channel for LTE band 7. Measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
- 4.Repeat the above measurements at 10°C increments from -10°C to +50°C. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
- 5.Re-measure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments re-measuring carrier frequency at each voltage. Pause at nominal voltage for 1.5 hours unpowered, to allow any self-heating to stabilize, before continuing.
- 6.Subject the EUT to overnight soak at +50°C.
- 7.With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on the centre channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
- 8.Repeat the above measurements at 10 °C decrements from +50°C to -10°C. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
- 9.At all temperature levels hold the temperature to +/- 0.5°C during the measurement procedure.

### 6.6.2. Measurement Limit

According to the JTC standard the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. As this transceiver is considered "Hand carried, battery powered equipment" Section 2.1055(d) (2) applies. This requires that the lower voltage for frequency stability testing be specified by the manufacturer. This transceiver is specified to operate with an input voltage of between 3.6VDC and 4.35VDC, with a nominal voltage of 3.8VDC. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from overstress. For the purposes of measuring frequency stability these voltage limits are to be used.

## Chongqing Academy of Information and Communication Technology

Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336  
Tel: 0086-23-88069965 FAX:0086-23-88608777

**Measurement Uncertainty:**

Item	Uncertainty
Expanded Uncertainty	1.54 Hz (k=2)

**6.6.3. Test Setup**



**6.6.4. Test results**

LTE band 2, 20MHz bandwidth QPSK(worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(°C)	Voltage(V)	Offset(Hz)	Frequency error(ppm)
20	3.85		
50		-3.21	0.0017
40		-4.56	0.0024
30		-3.75	0.0020
10		-2.70	0.0014
0		-1.69	0.0009
-10		-2.52	0.0013
-20		-3.18	0.0017
-30		-1.54	0.0008

Frequency Error vs Voltage

Voltage(V)	Temperature(°C)	Offset(Hz)	Frequency error(ppm)
3.6	20	0.30	0.0002
4.4		-0.02	0.0000

LTE band 4, 20MHz bandwidth QPSK(worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(°C)	Voltage(V)	Offset(Hz)	Frequency error(ppm)
20	3.85		
50		1.02	0.0006
40		2.30	0.0013
30		2.69	0.0016
10		4.80	0.0028
0		5.01	0.0029

**Chongqing Academy of Information and Communication Technology**

Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336  
 Tel: 0086-23-88069965 FAX:0086-23-88608777



-10		4.17	0.0024
-20		4.00	0.0023
-30		4.06	0.0023

## Frequency Error vs Voltage

Voltage(V)	Temperature(°C)	Offset(Hz)	Frequency error(ppm)
3.6	20	2.48	0.0014
4.4		0.91	0.0005

LTE band 5, 10MHz bandwidth QPSK(worst case of all bandwidths)

## Frequency Error vs Temperature

Temperature(°C)	Voltage(V)	Offset(Hz)	Frequency error(ppm)
20	3.85		
50		2.79	0.0033
40		2.98	0.0036
30		2.41	0.0029
10		3.10	0.0037
0		2.90	0.0035
-10		2.42	0.0029
-20		1.53	0.0018
-30		1.64	0.0020

## Frequency Error vs Voltage

Voltage(V)	Temperature(°C)	Offset(Hz)	Frequency error(ppm)
3.6	20	1.11	0.0013
4.4		1.69	0.0020

LTE band 7, 20MHz bandwidth QPSK(worst case of all bandwidths)

## Frequency Error vs Temperature

Temperature(°C)	Voltage(V)	Offset(Hz)	Frequency error(ppm)
20	3.85		
50		-4.57	0.0018
40		-1.73	0.0007
30		-3.85	0.0015
10		-3.58	0.0014
0		-3.08	0.0012
-10		-0.62	0.0002
-20		-3.62	0.0014
-30		-3.90	0.0015

## Frequency Error vs Voltage

Voltage(V)	Temperature(°C)	Offset(Hz)	Frequency error(ppm)
3.6	20	-3.73	0.0015
4.4		-3.58	0.0014

LTE band 38, 20MHz bandwidth QPSK(worst case of all bandwidths)

## Frequency Error vs Temperature

Temperature(°C)	Voltage(V)	Offset(Hz)	Frequency error(ppm)
-----------------	------------	------------	----------------------

**Chongqing Academy of Information and Communication Technology**

Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336  
 Tel: 0086-23-88069965 FAX:0086-23-88608777





20	3.85		
50		-0.57	0.0002
40		-2.66	0.0010
30		-1.33	0.0005
10		0.55	0.0002
0		-1.67	0.0006
-10		0.65	0.0002
-20		-2.68	0.0010
-30		-0.78	0.0003

Frequency Error vs Voltage

Voltage(V)	Temperature(°C)	Offset(Hz)	Frequency error(ppm)
3.6	20	-1.54	0.0006
4.4		-0.14	0.0001

LTE band 41, 20MHz bandwidth QPSK(worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(°C)	Voltage(V)	Offset(Hz)	Frequency error(ppm)
20	3.85		
50		2.65	0.0010
40		5.91	0.0023
30		0.52	0.0002
10		2.09	0.0008
0		-2.32	0.0009
-10		-0.68	0.0003
-20		1.39	0.0005
-30		-0.95	0.0004

Frequency Error vs Voltage

Voltage(V)	Temperature(°C)	Offset(Hz)	Frequency error(ppm)
3.6	20	0.53	0.0002
4.4		1.26	0.0005

### Chongqing Academy of Information and Communication Technology

Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336  
Tel: 0086-23-88069965 FAX:0086-23-88608777

## 6.7. Conducted Spurious Emission

<b>Specifications:</b>	FCC Part 2.1053/22.917(a)/24.238(a)/ 27.53(h)/ 2.1057
<b>DUT Serial Number:</b>	S3
<b>Test conditions:</b>	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
<b>Test Results:</b>	Pass

### Measurement Uncertainty:

Item	Uncertainty
Expanded Uncertainty	9kHz < f ≤ 4GHz, 0.71 dB (k=2)
	4GHz ≤ f < 12.75GHz, 0.74 dB (k=2)
	12.75GHz ≤ f < 26GHz, 2.70 dB (k=2)

### 6.7.1. Measurement Method

The following steps outline the procedure used to measure the conducted emissions from the EUT.

1. Determine frequency range for measurements: From CFR 2.1057 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency. For the mobile station equipment tested, this equates to a frequency range of 13 MHz to 9 GHz, data taken from 10 MHz to 25 GHz.
2. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.
3. The number of sweep points of spectrum analyzer is set to 30001 which is greater than span/RBW.

Part 27.53(g), 27.53(h), 27.53(m) specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

The specification that emissions shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log(P)$  dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

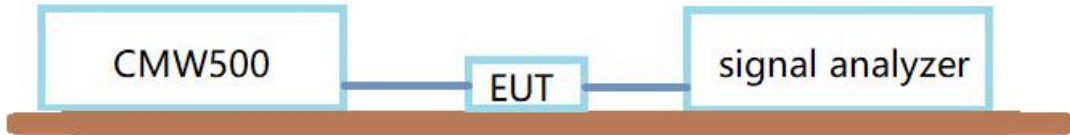
Part 27.53(m)(4) specifies for mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log(P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log(P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log(P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than  $43 + 10 \log(P)$  dB on all frequencies between

## Chongqing Academy of Information and Communication Technology

Address: No. 8, Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China, 401336  
Tel: 0086-23-88069965 FAX: 0086-23-88608777

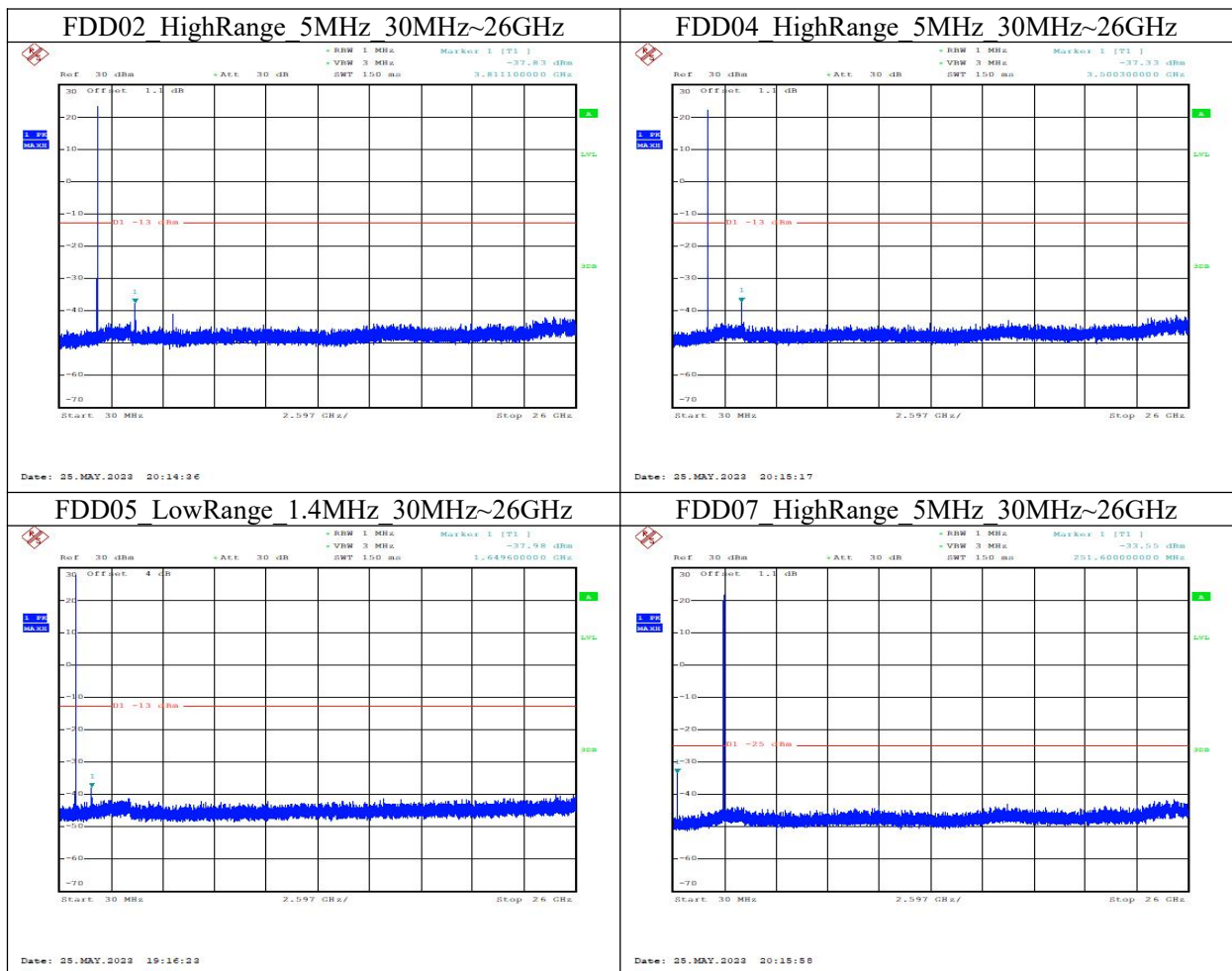
2490.5 MHz and 2496 MHz and  $55 + 10 \log(P)$  dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

### 6.7.2. Test Setup



### 6.7.3. Measurement result

Note: peak above the limit line is the carrier frequency.

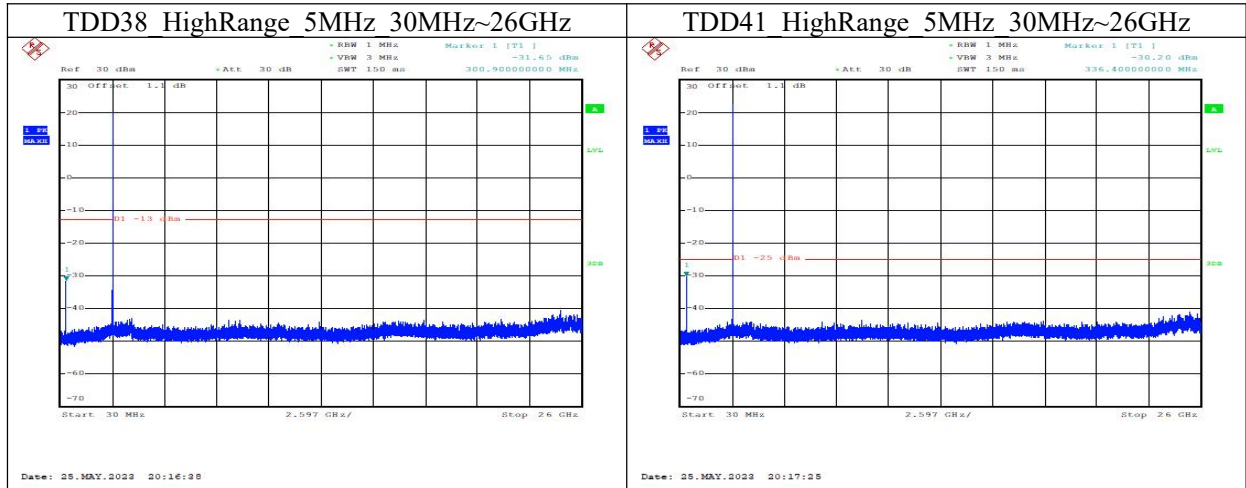


## Chongqing Academy of Information and Communication Technology

Address: No. 8, Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China, 401336  
 Tel: 0086-23-88069965 FAX: 0086-23-88608777



Report No.: I23W00020-LTE RF



### Chongqing Academy of Information and Communication Technology

Address: No. 8, Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China, 401336  
Tel: 0086-23-88069965    FAX: 0086-23-88608777

### 6.8. Band Edge Compliance

<b>Specifications:</b>	FCC Part 22.917(a)/24.238(a)/ 27.53(h)
<b>DUT Serial Number:</b>	S3
<b>Test conditions:</b>	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
<b>Test Results:</b>	Pass

#### Measurement Uncertainty:

Item	Uncertainty
Expanded Uncertainty	9kHz < f ≤ 4GHz, 0.71 dB (k=2)
	4GHz ≤ f < 12.75GHz, 0.74 dB (k=2)
	12.75GHz ≤ f < 26GHz, 2.70 dB (k=2)

#### 6.8.1. Measurement limit

Part 27.53(g),27.53(h), 27.53(m) state that on any frequency outside frequency band of the US Cellular/PCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least 43+10Log (P) dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dm.

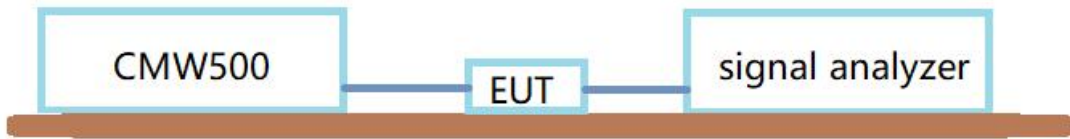
According to KDB 971168 6, a relaxation of the reference bandwidth is often provided for measurements within a specified frequency range at the edge of the authorized frequency block/band. This is often implemented by permitting the use of a narrower RBW (typically limited to a minimum RBW of 1% of the OBW) for measuring the out-of-band emissions without a requirement to integrate the result over the full reference bandwidth.

Part 27.53(m) states that for mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

## Chongqing Academy of Information and Communication Technology

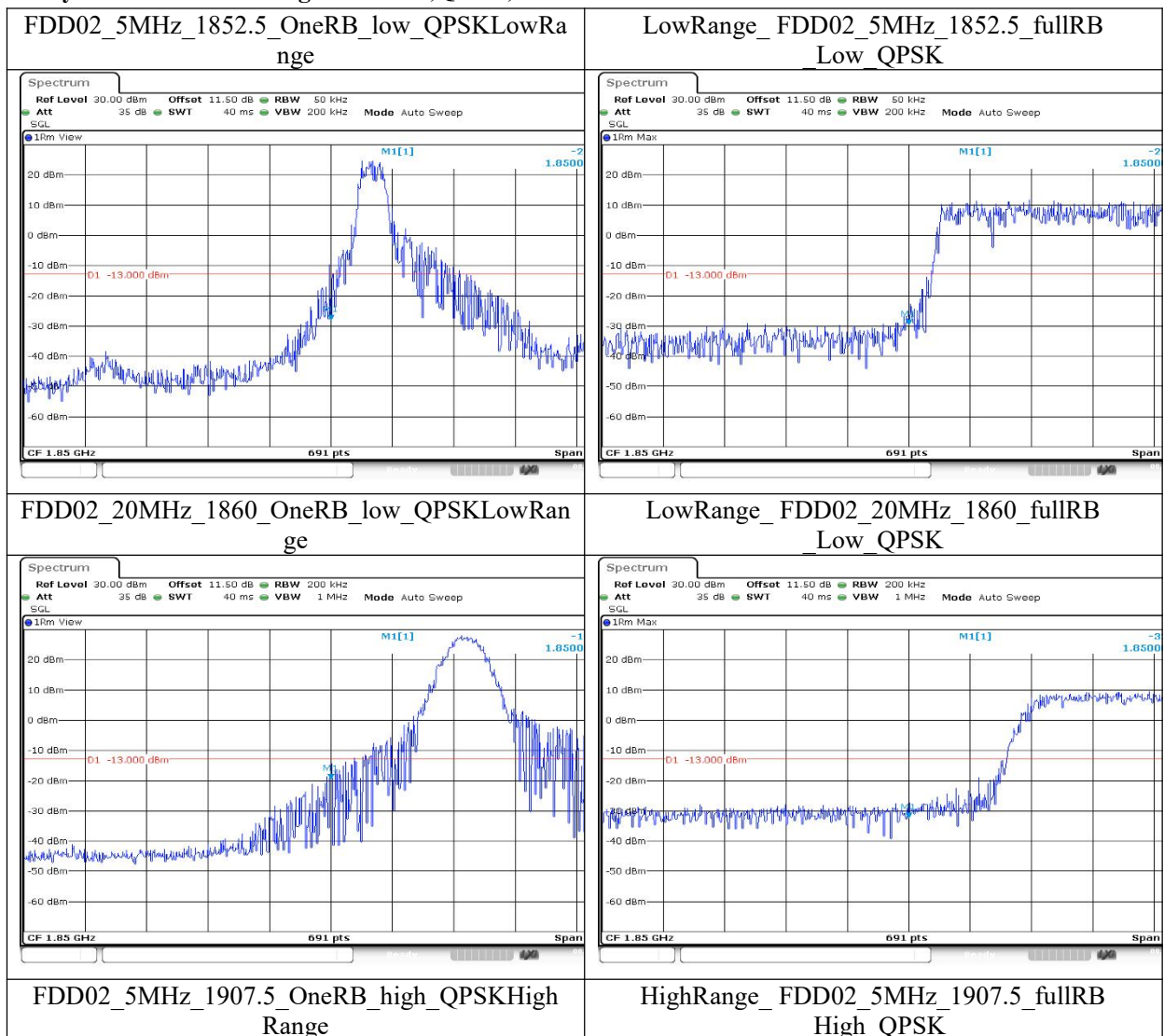
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336  
Tel: 0086-23-88069965 FAX:0086-23-88608777

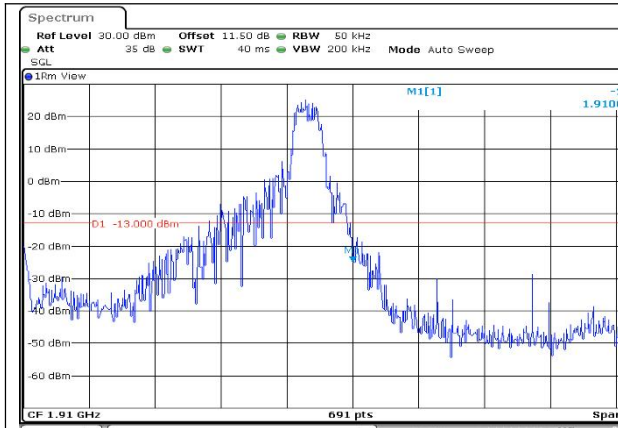
### 6.8.2. Test Setup



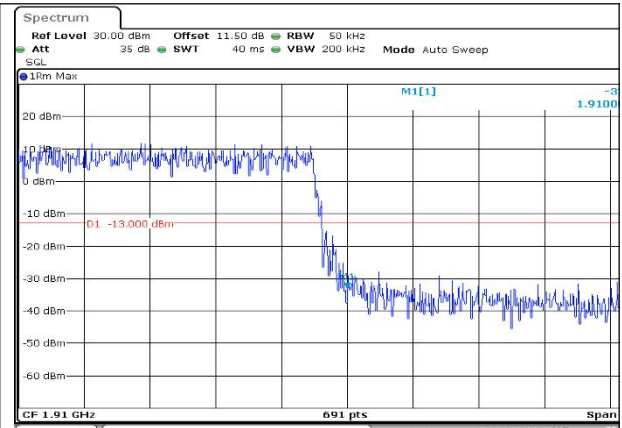
### 6.8.3. Measurement result

Only worst case result is given below, QPSK,

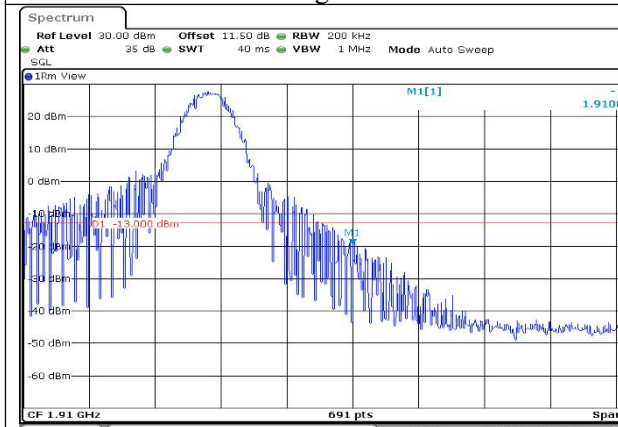




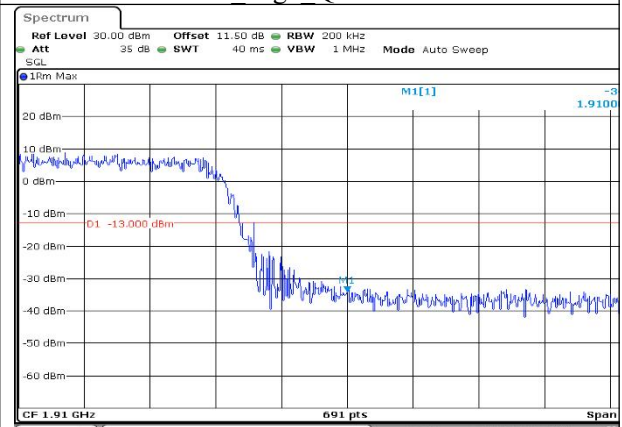
FDD02\_20MHz\_1900\_OneRB\_high\_QPSKHighRange



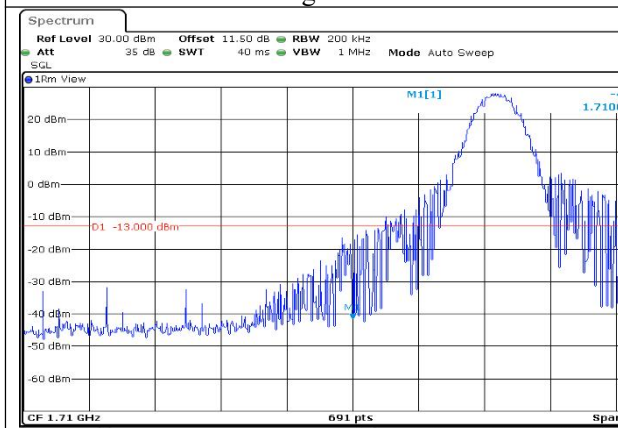
HighRange\_FDD02\_20MHz\_1900\_fullRB High QPSK



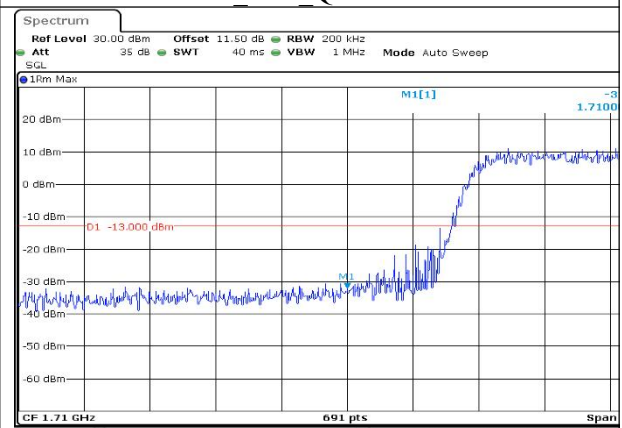
FDD04\_20MHz\_1720\_OneRB\_low\_QPSKLowRange



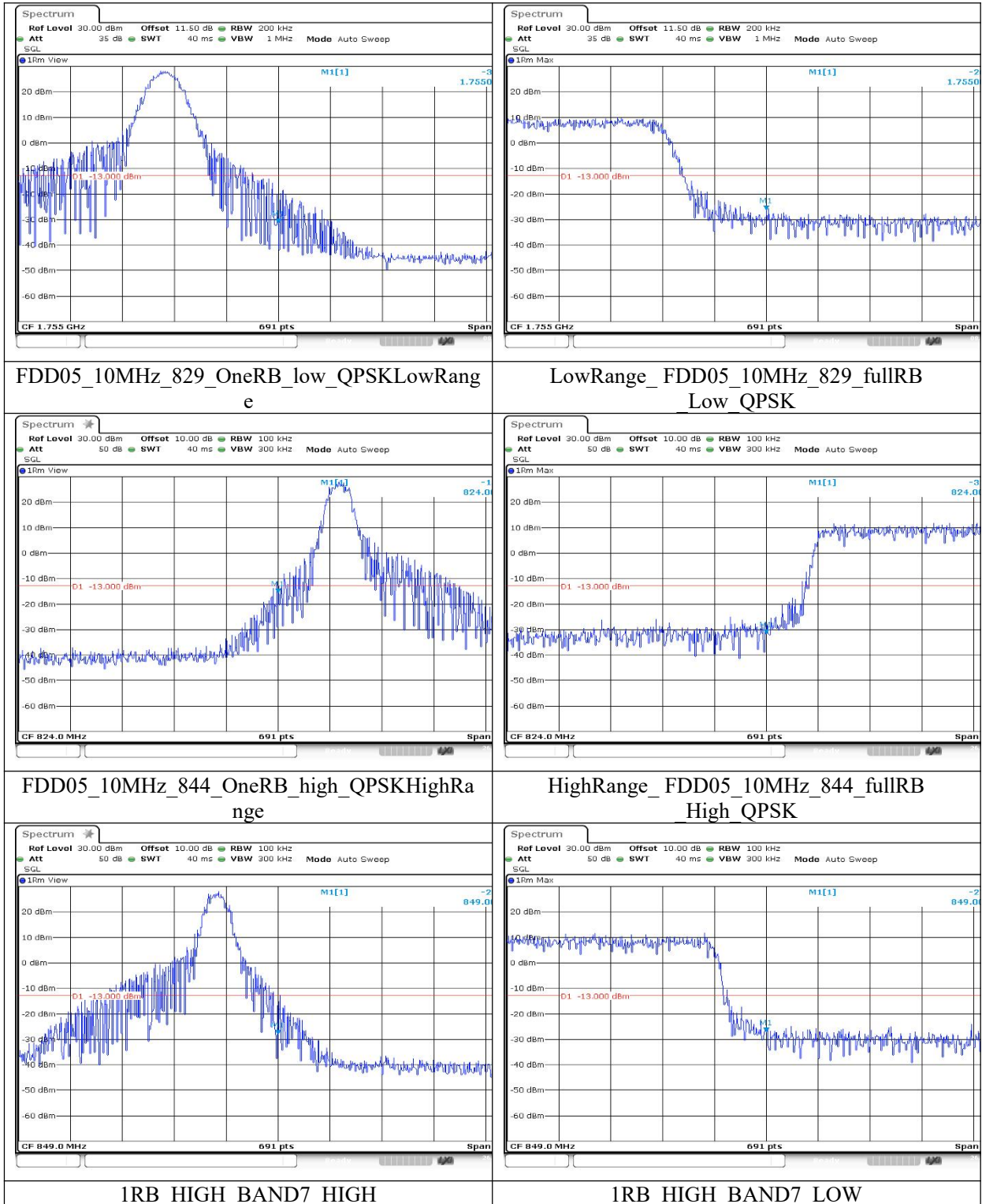
LowRange\_FDD04\_20MHz\_1720\_fullRB Low QPSK



FDD04\_20MHz\_1745\_OneRB\_high\_QPSKHighRange



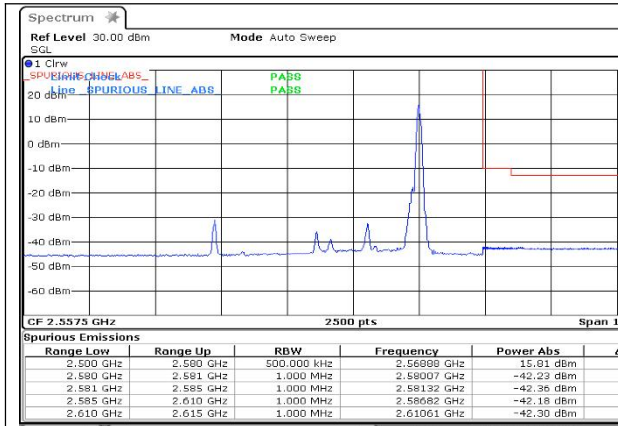
HighRange\_FDD04\_20MHz\_1745\_fullRB High QPSK



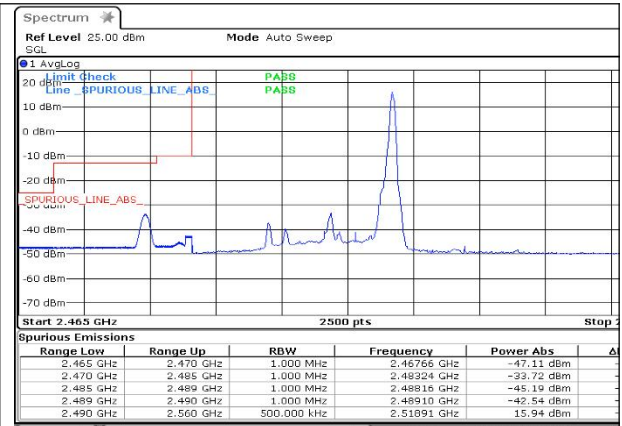
### Chongqing Academy of Information and Communication Technology

Address: No. 8, Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China, 401336  
 Tel: 0086-23-88069965 FAX: 0086-23-88608777

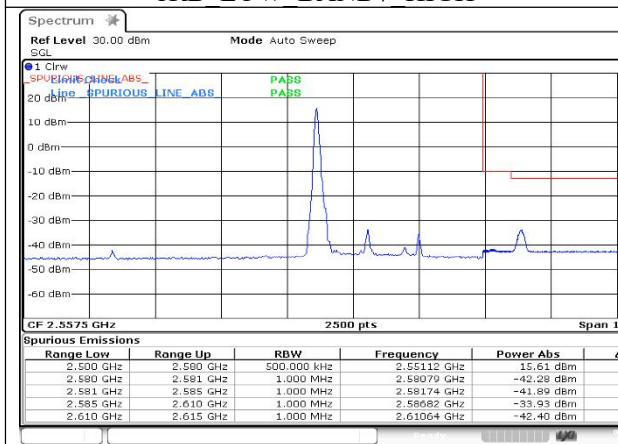




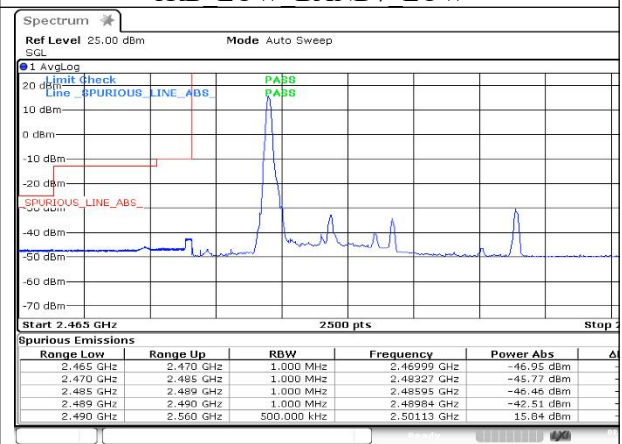
IRB LOW BAND7 HIGH



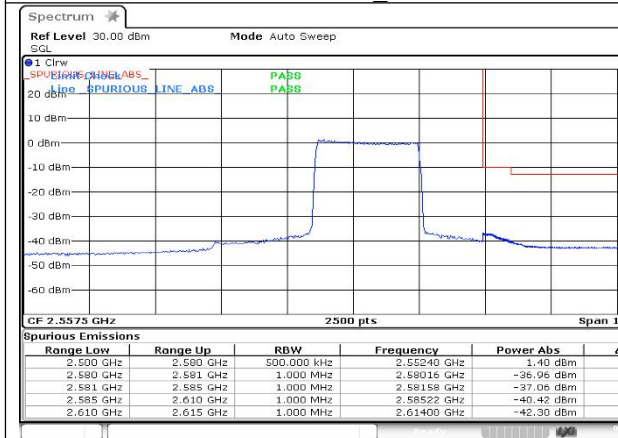
IRB LOW BAND7 LOW



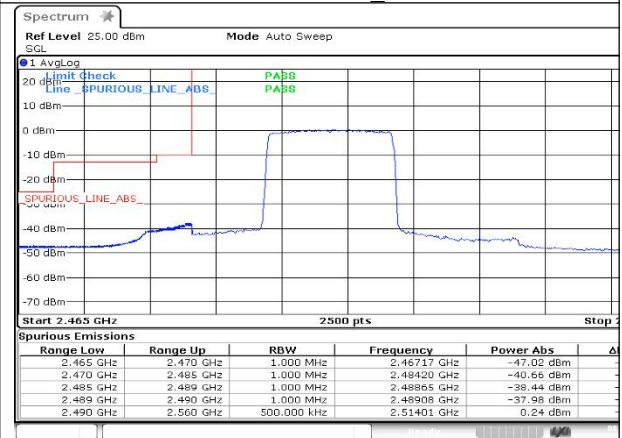
FULLRBBAND7 HIGH



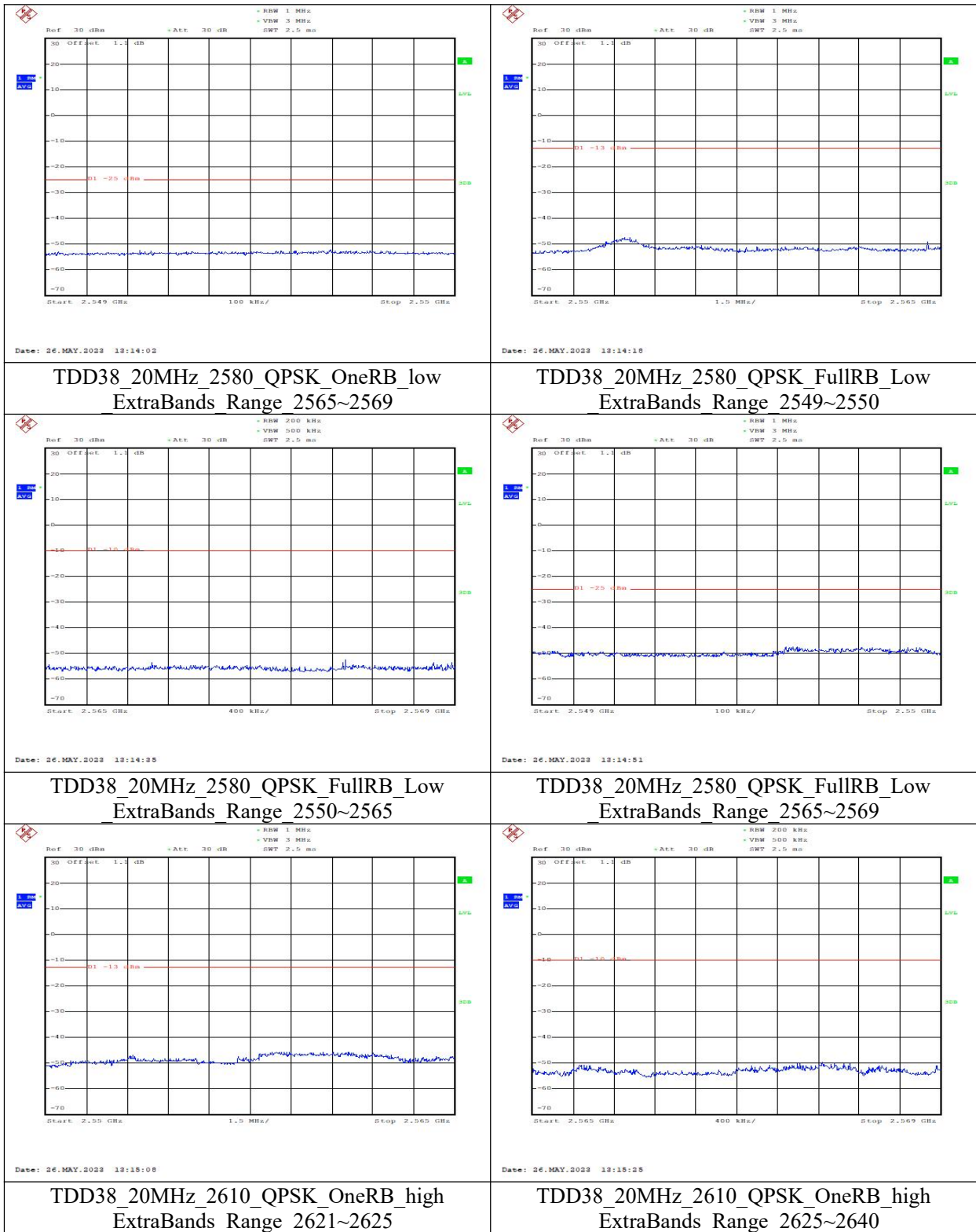
FULLRBBAND7 LOW



TDD38\_20MHz\_2580\_QPSK\_OneRB\_low  
ExtraBands Range 2549~2550

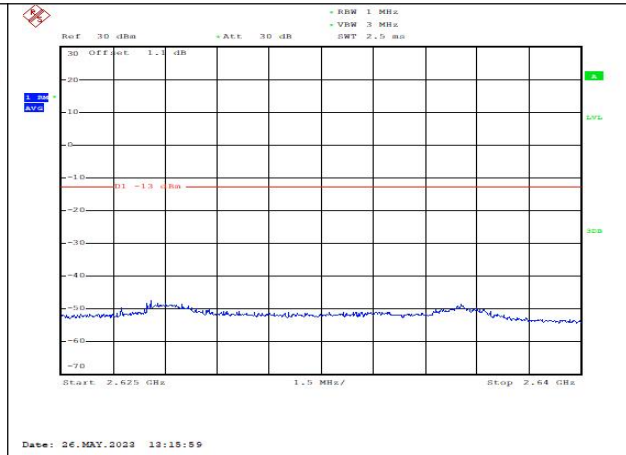
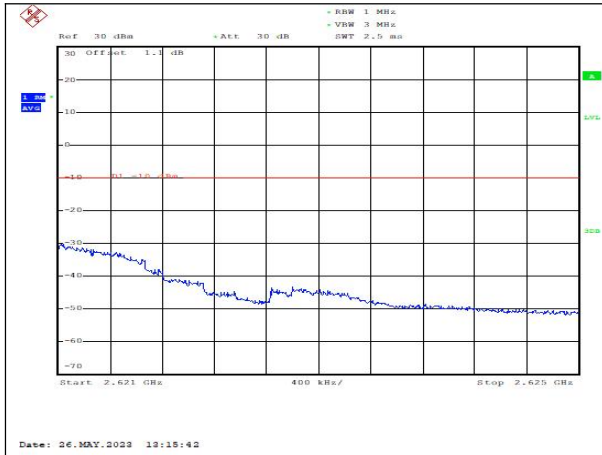


TDD38\_20MHz\_2580\_QPSK\_OneRB\_low  
ExtraBands Range 2550~2565



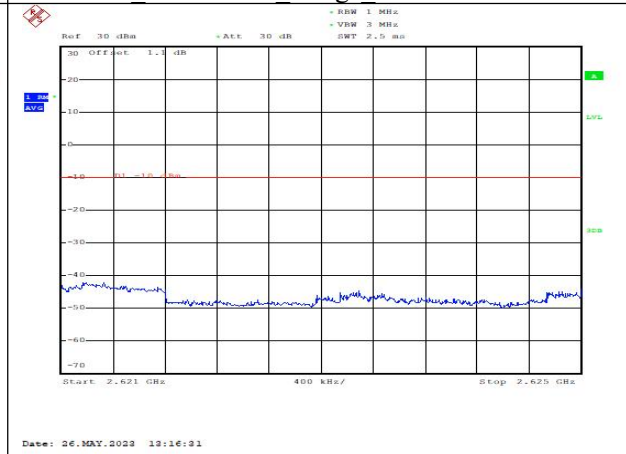
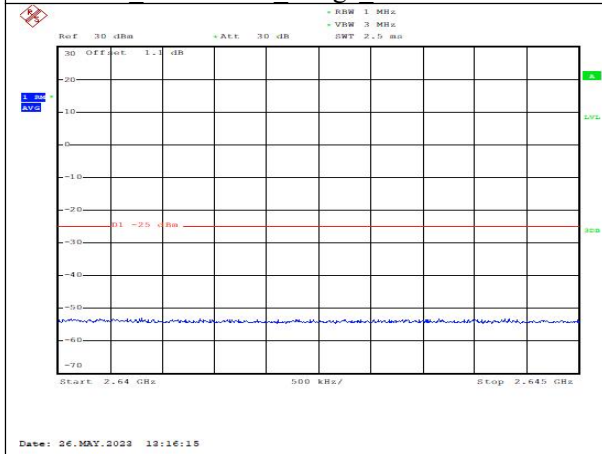
## Chongqing Academy of Information and Communication Technology

Address: No. 8, Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China, 401336  
Tel: 0086-23-88069965 FAX: 0086-23-88608777



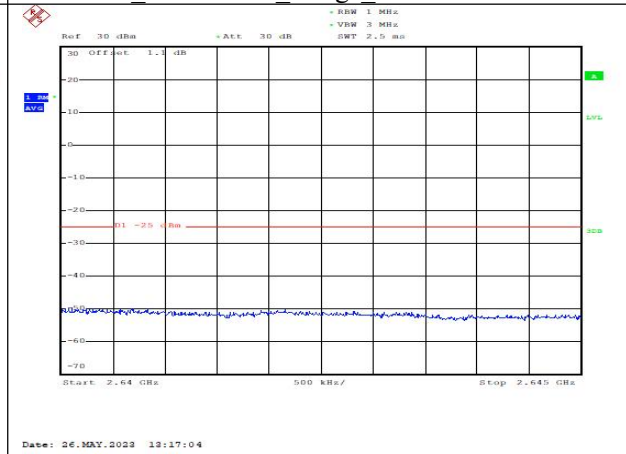
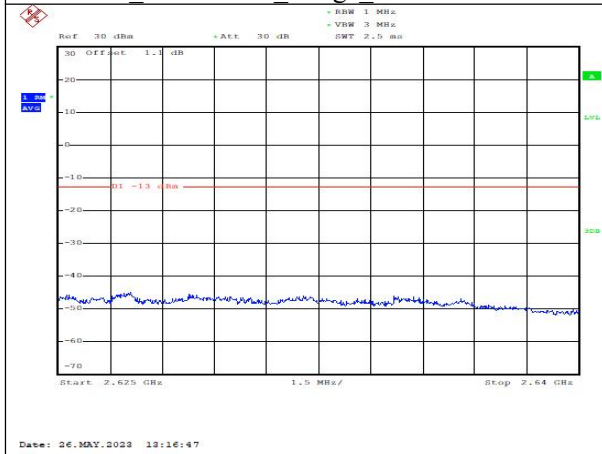
TDD38\_20MHz\_2610\_QPSK\_OneRB\_high  
ExtraBands Range 2640~2645

TDD38\_20MHz\_2610\_QPSK\_FullRB\_High  
ExtraBands Range 2621~2625



TDD38\_20MHz\_2610\_QPSK\_FullRB\_High  
ExtraBands Range 2625~2640

TDD38\_20MHz\_2610\_QPSK\_FullRB\_High  
ExtraBands Range 2640~2645

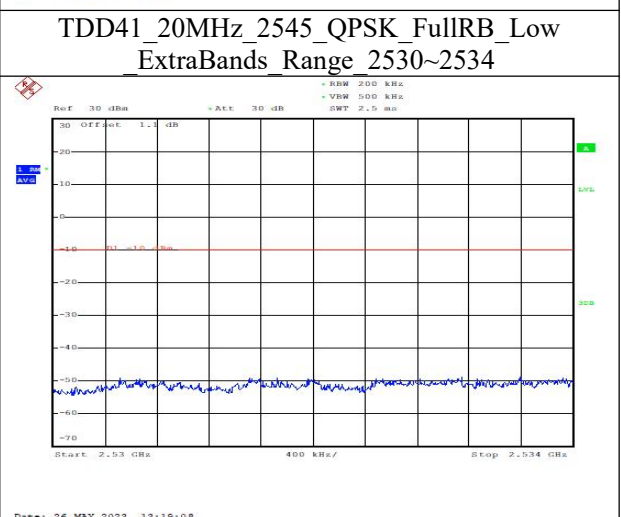
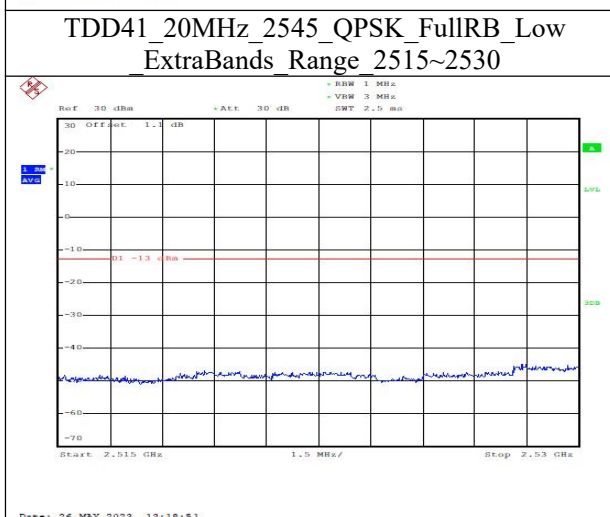
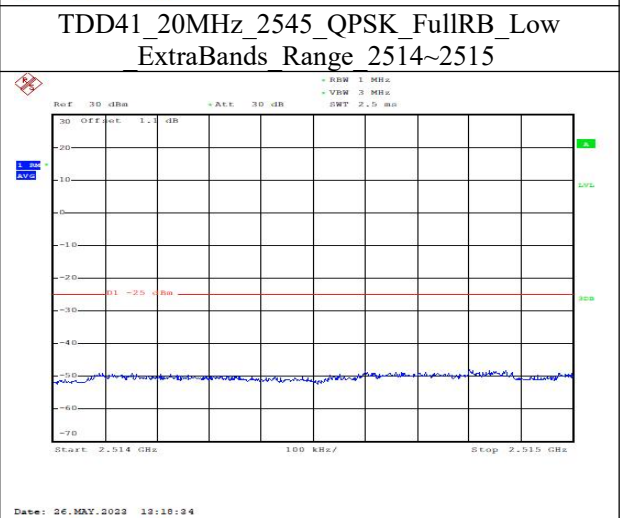
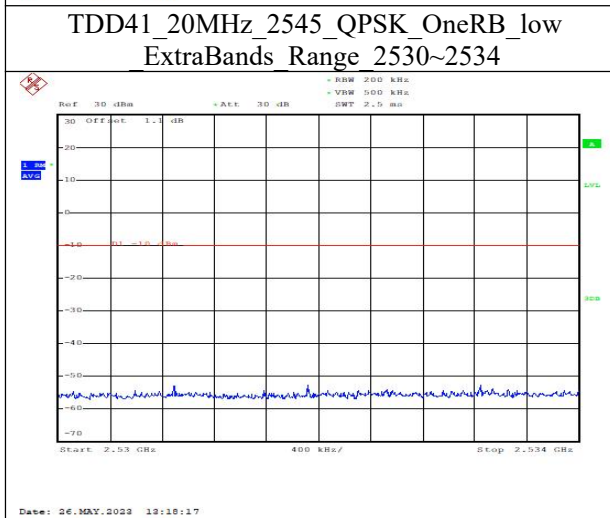
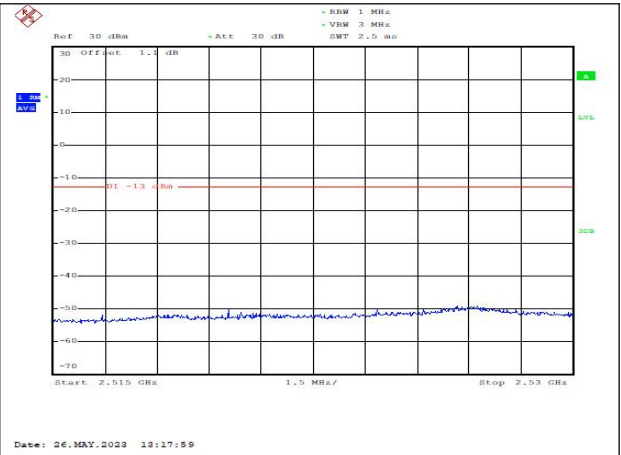
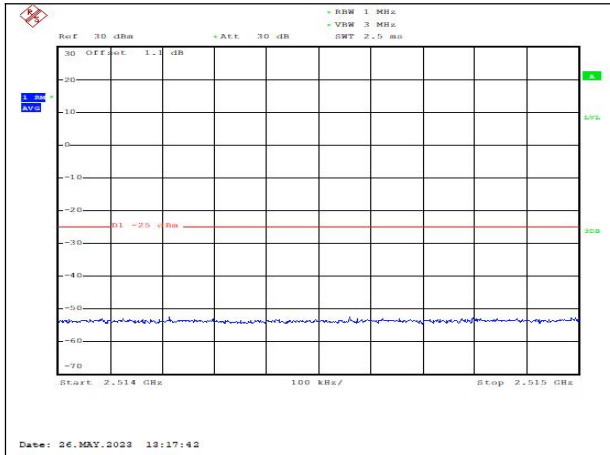


TDD41\_20MHz\_2545\_QPSK\_OneRB\_low  
ExtraBands Range 2514~2515

TDD41\_20MHz\_2545\_QPSK\_OneRB\_low  
ExtraBands Range 2515~2530

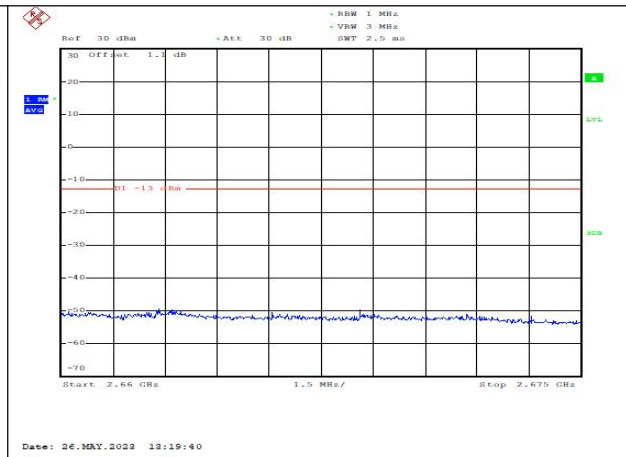
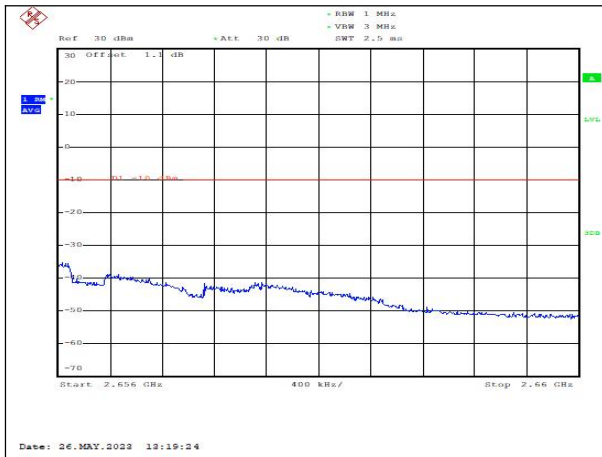
### Chongqing Academy of Information and Communication Technology

Address: No. 8, Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China, 401336  
Tel: 0086-23-88069965 FAX: 0086-23-88608777



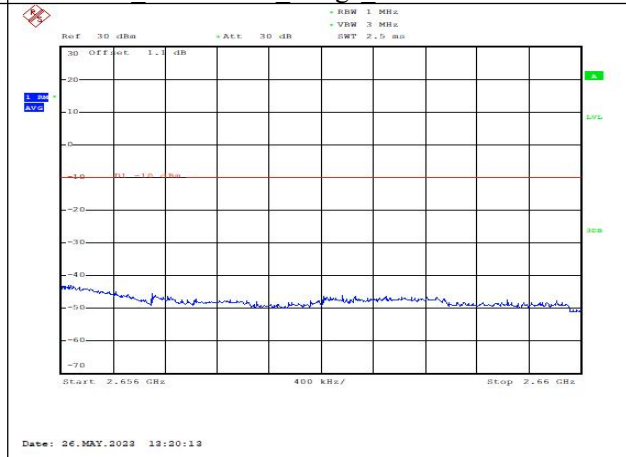
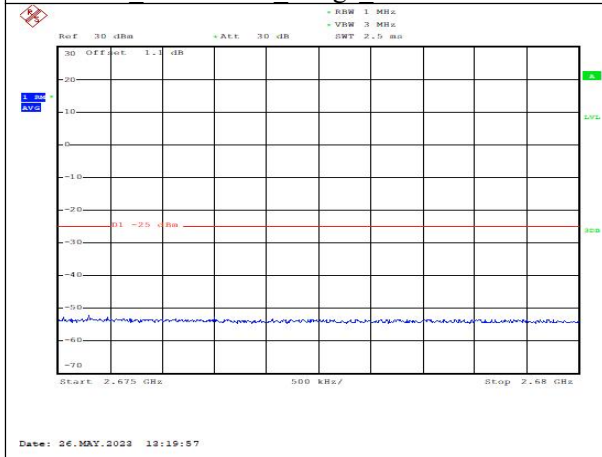
TDD41\_20MHz\_2645\_QPSK\_OneRB\_high ExtraBands Range 2656~2660

TDD41\_20MHz\_2645\_QPSK\_OneRB\_high ExtraBands Range 2660~2675



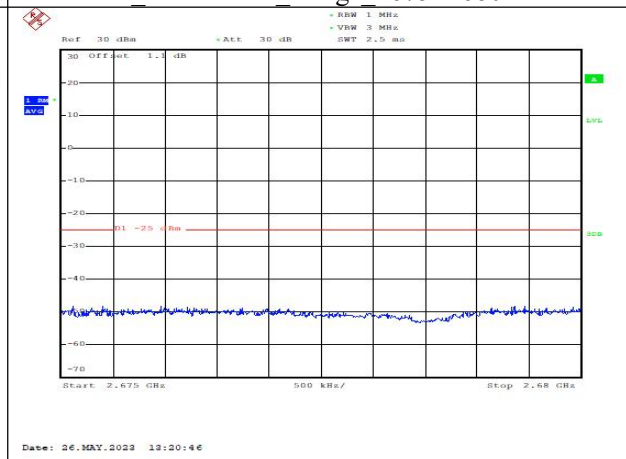
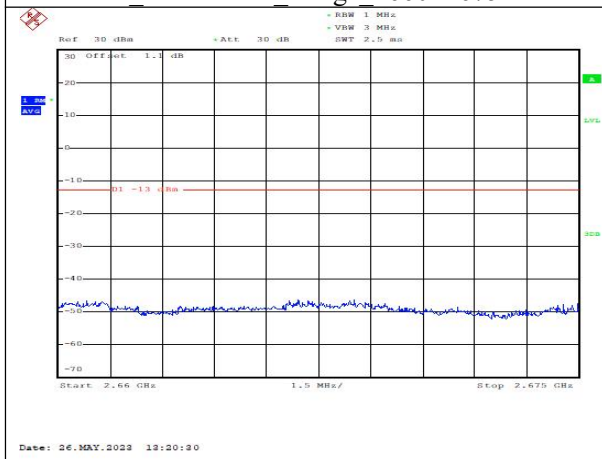
TDD41\_20MHz\_2645\_QPSK\_OneRB\_high  
ExtraBands Range 2675~2680

TDD41\_20MHz\_2645\_QPSK\_FullRB\_High  
ExtraBands Range 2656~2660



TDD41\_20MHz\_2645\_QPSK\_FullRB\_High  
ExtraBands Range 2660~2675

TDD41\_20MHz\_2645\_QPSK\_FullRB\_High  
ExtraBands Range 2675~2680



## 6.9. EMISSION LIMIT

<b>Specifications:</b>	FCC Part 2.1051/22.917/24.238/22.913/24.232
<b>DUT Serial Number:</b>	S8 S9
<b>Test conditions:</b>	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
<b>Test Results:</b>	Pass

### 6.9.1. Measurement Method

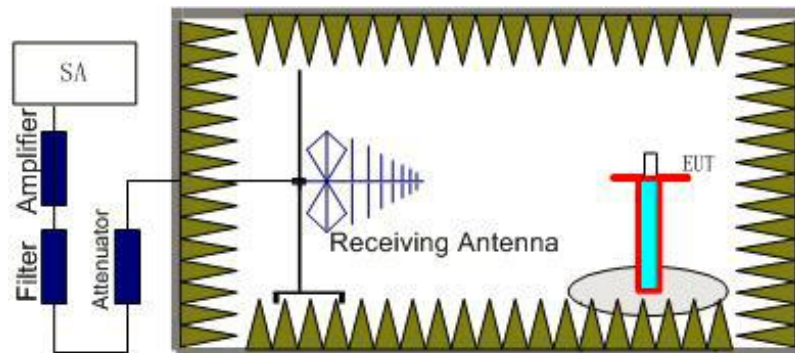
The measurements procedures in TIA-603E-2016 are used.

The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment. The resolution bandwidth is set as outlined in part 2.1051, part 27.53(g), part FCC Part 2.1051/22.917/24.238/22.913/24.232

The spectrum is scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of GSM

### 6.9.2. The procedure of radiated spurious emissions is as follows

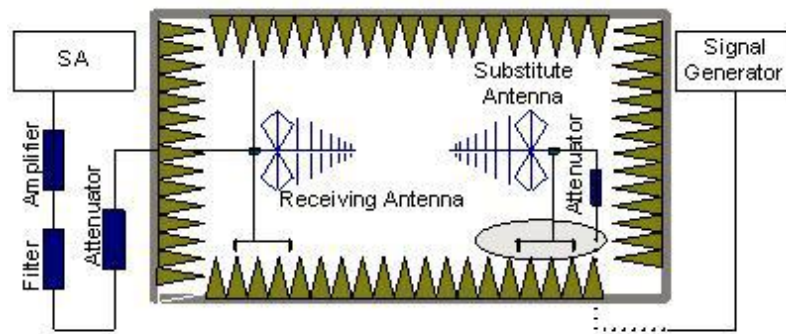
1. EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.5m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10thharmonic were measured with peak detector.



2. The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (Pr).
3. The EUT shall be replaced by a substitution antenna. The test setup refers to figure below.

## Chongqing Academy of Information and Communication Technology

Address: No. 8, Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China, 401336  
Tel: 0086-23-88069965 FAX: 0086-23-88608777



In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power ( $P_{Mea}$ ) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded ( $P_r$ ). The power of signal source ( $P_{Mea}$ ) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.

4. The Path loss ( $P_{pl}$ ) between the Signal Source with the Substitution Antenna and the Substitution Antenna Gain ( $G_a$ ) should be recorded after test.

A amplifier should be connected in for the test.

The Path loss ( $P_{pl}$ ) is the summation of the cable loss .

The measurement results are obtained as described below:

Power(EIRP)= $P_{Mea}$ -  $P_{pl}$ +  $G_a$

5. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.

6. ERP can be calculated from EIRP by subtracting the gain of the dipole,  $ERP = EIRP - 2.15\text{dBi}$

### 6.9.3. Measurement Limit

Part 24.238 and Part 22.917 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power ( $P$ ) by a factor of at least  $43 + 10 \log(P)$  dB.

The specification that emissions shall be attenuated below the transmitter power ( $P$ ) by at least  $43 + 10 \log(P)$  dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

Part 27.53(g),27.53(h), 27.53(m) state that on any frequency outside frequency band of the US Cellular/PCS spectrum, the power of any emission shall be attenuated below the transmitter power ( $P$ ), in

## Chongqing Academy of Information and Communication Technology

Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336  
Tel: 0086-23-88069965 FAX:0086-23-88608777



Watts) by at least  $43+10\log(P)$  dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.

According to KDB 971168 6, a relaxation of the reference bandwidth is often provided for measurements within a specified frequency range at the edge of the authorized frequency block/band. This is often implemented by permitting the use of a narrower RBW (typically limited to a minimum RBW of 1% of the OBW) for measuring the out-of-band emissions without a requirement to integrate the result over the full reference bandwidth.

Part 27.53(m) states that for mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log(P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log(P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log(P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that  $43 + 10 \log(P)$  dB on all frequencies between 2490.5 MHz and 2496 MHz and  $55 + 10 \log(P)$  dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

**Measurement Uncertainty:**

- 30MHz-150MHz 3.82 dB (k=2)
- 150MHz-1000MHz 3.97 dB (k=2)
- 1000MHz-3000MHz 3.09 dB (k=2)
- 3000MHz-6000MHz 3.29 dB (k=2)
- 6000MHz-18000MHz 3.91 dB (k=2)
- 18000MHz-26000MHz 4.60 dB (k=2)
- 26000MHz-40000MHz 4.77 dB (k=2)

**6.9.4. LTE Measurement Results**

BAND	Result	
B7	Low	Pass
	Middle	Pass
	High	Pass

Note: We only provided the worst mode on the report.

Mainly Supply  
RSE-LTE7-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
5000.8	-29.54	7.8	9.6	-27.74	-13	V

**Chongqing Academy of Information and Communication Technology**

Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336  
Tel: 0086-23-88069965 FAX:0086-23-88608777





Report No.: I23W00020-LTE RF

7501.2	-35.7	9.7	11.6	-33.8	-13	V
10001.6	-36.31	11.2	12.5	-35.01	-13	V
12279.2	-41.43	12.7	12.3	-41.83	-13	H
14444.0	-38.51	13.9	12.3	-40.11	-13	V
16764.5	-29.27	15.8	12.3	-32.77	-13	H

RSE-LTE7-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
5065.6	-25.24	7.8	9.6	-23.44	-13	V
7598.4	-34.99	9.7	11.6	-33.09	-13	V
10131.6	-37.33	11.3	12.5	-36.13	-13	V
12664.2	-38.07	12.7	12.3	-38.47	-13	V
15460.8	-33.79	14.5	12.3	-35.99	-13	H
17959.8	-29.09	16.4	12.3	-33.19	-13	V

RSE-LTE7-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
5130.4	-25.62	7.9	9.4	-24.12	-13	V
7696.0	-35.98	9.8	11.8	-33.98	-13	V
10261.6	-35.38	11.5	12.3	-34.58	-13	V
12827.0	-37.41	12.5	12.3	-37.61	-13	V
14902.5	-36.92	14.3	12.3	-38.92	-13	V
17049.8	-29.5	16.0	12.3	-33.2	-13	H

Chongqing Academy of Information and Communication Technology

Address: No. 8, Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China, 401336  
Tel: 0086-23-88069965 FAX:0086-23-88608777

**Secondary Supply**  
**RSE-LTE7-L**

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
5004.0	-36.54	7.8	9.6	-34.74	-13	V
7506.0	-35.62	9.7	11.6	-33.72	-13	V
10008.4	-41.71	11.2	12.5	-40.41	-13	V
12534.8	-42.83	12.7	12.3	-43.23	-13	H
15035.5	-38.54	14.4	12.3	-40.64	-13	V
17585.2	-31.1	15.5	12.3	-34.3	-13	H

**RSE-LTE7-M-Z**

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
5069.2	-32.32	7.8	9.6	-30.52	-13	V
7603.6	-36.61	9.7	11.6	-34.71	-13	V
10138.0	-43.51	11.3	12.5	-42.31	-13	V
12720.2	-40.82	12.7	12.3	-41.22	-13	H
15166.8	-36.32	14.5	12.3	-38.52	-13	V
17783.0	-30.45	16.0	12.3	-34.15	-13	V

**RSE-LTE7-H**

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
5134.0	-31.26	7.9	9.4	-29.76	-13	V
7700.8	-35.99	9.8	11.8	-33.99	-13	V
10268.0	-40.56	11.5	12.3	-39.76	-13	V
12758.8	-40.78	12.5	12.3	-40.98	-13	H
15368.0	-34.2	14.4	12.3	-36.3	-13	H
17769.0	-29.83	16.0	12.3	-33.53	-13	V

## Chongqing Academy of Information and Communication Technology

Address: No. 8, Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China, 401336  
 Tel: 0086-23-88069965 FAX: 0086-23-88608777



Report No.: I23W00020-LTE RF

## **Annex A EUT Photos**

See the document "I23W00020-External Photos".

See the document "I23W00020-Internal Photos".

**Chongqing Academy of Information and Communication Technology**

Address: No. 8, Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China, 401336

Tel: 0086-23-88069965

FAX: 0086-23-88608777



Report No.: I23W00020-LTE RF

## **Annex B Deviations from Prescribed Test Methods**

No deviation from Prescribed Test Methods.

**\*\*\*END OF REPORT\*\*\***

**Chongqing Academy of Information and Communication Technology**

Address: No. 8, Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China, 401336  
Tel: 0086-23-88069965 FAX: 0086-23-88608777