TEST REPORT

Applicant:	SIMCom Wireless Solutions Limited
Address:	SIMCom Headquarters Building, Building 3, No.289 Linhong Road, Changning District, Shanghai,China
Equipment Type:	LTE Wireless Data Module
Model Name:	SIM8918NA
Brand Name:	SIMCom
FCC ID:	2AJYU-8XRA002
ISED Number:	23761-8XRA002
Test Standard:	47 CFR Part 2 RSS-Gen Issue 5 (Others refer to chapter 3.1)
Sample Receipt Date:	Oct. 23, 2023
Test Date:	Oct. 23, 2023 - Oct. 26, 2023
Date of Issue:	Dec. 18, 2023

ISSUED BY:

Kunshan Balun Communications Technology Co., Ltd.

Tested by: Yang Wenting **Checked by:** Huang Chengkun **Approved by:** Zhang Yanqing (Laboratory Manager)

Revision History

Version	Issue Date	Revisions Content
Rev. 01	Dec. 18, 2023	Initial Issue

TABLE OF CONTENTS

1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Kunshan Balun Communications Technology Co., Ltd.
Address	Room 101, Building 5, No. 1689, Zizhu Road, Yushan, Kunshan,Jiangsu, China

1.2 Test Location

Name	Kunshan Balun Communications Technology Co., Ltd.
Location	Room 101, Building 5, No. 1689, Zizhu Road, Yushan, Kunshan, Jiangsu, China
Accreditation Certificate	The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are CN0142. The laboratory is a testing organization accredited by FCC as an accredited testing laboratory. The designation number is CN1352.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	SIMCom Wireless Solutions Limited
Address	SIMCom Headquarters Building, Building 3, No.289 Linhong Road, Changning District, Shanghai,China

2.2 Manufacturer Information

Manufacturer	SIMCom Wireless Solutions Limited
Address	SIMCom Headquarters Building, Building 3, No.289 Linhong Road, Changning District, Shanghai,China

2.3 Factory Information

Factory	N/A
Address	N/A

2.4 Measurement Uncertainty

FCC Part Section	ISED Part Section	Test Description	Uncertainty
2.1046	RSS-Gen 6.12 RSS-130 4.4 RSS-132 5.4 RSS-133 6.4 RSS-139 6.5 RSS-195 5.5 RSS-199 4.4	Conducted RF Output Power	0.68dB
2.1046 22.913 24.232 27.50 90.635(b)	RSS-Gen 6.12 RSS-130 4.4 RSS-132 5.4 RSS-133 6.4 RSS-139 6.5 RSS-195 5.5 RSS-199 4.4	Effective (Isotropic) Radiated Power	2.50dB

FCC Part Section	ISED Part Section	Test Description	Uncertainty
2.1046 24.232(d) 27.50(d)	RSS-130 4.4 RSS-132 5.4 RSS-133 6.4 RSS-139 6.5 RSS-195 5.5 RSS-199 4.4	Peak to Average Radio	0.4dB
2.1049 22.917 24.238 27.53	RSS-Gen 6.7	Occupied Bandwidth	30kHz
2.1055 22.355 24.235 27.54 90.213	RSS-Gen 6.11 RSS-130 4.3 RSS-132 5.3 RSS-133 6.3 RSS-139 6.4 RSS-195 5.4 RSS-199 4.3	Frequency Stability	12Hz
2.1051 22.917 24.238 27.53 90.691	RSS-Gen 6.13 RSS-130 4.6 RSS-132 5.5 RSS-133 6.5 RSS-139 6.6 RSS-195 5.6 RSS-199 4.5	Spurious Emission at Antenna Terminals	2.56dB
2.1051 22.917 24.238 27.53 90.691	RSS-130 4.6 RSS-132 5.5 RSS-133 6.5 RSS-139 6.6 RSS-195 5.6 RSS-199 4.5	Band Edge	2.56dB

FCC Part Section	ISED Part Section	Test Description	Uncertainty
2.1053 22.917 24.238 27.53 90.691	RSS-Gen 6.13 RSS-130 4.6 RSS-132 5.5 RSS-133 6.5 RSS-139 6.6 RSS-195 5.6 RSS-199 4.5	Field Strength of Spurious Radiation	4.55dB
N/A	RSS-Gen 7 RSS-133 6.6	Receiver Spurious Emissions 30 MHz-1 GHz 1 GHz-18 GHz 18 GHz-40 GHz	4.30dB 4.81dB 5.71dB
N/A	RSS-Gen 8.8	AC Power-line Conducted Emissions	3.23dB

2.5 General Description for Equipment under Test (EUT)

EUT Name	LTE Wireless Data Module
Model Name Under Test	SIM8918NA
Series Model Name	N/A
Description of Model name differentiation	N/A
Sample No.	SC-EC2390773-S01
Hardware Version	8XR000-SIM8918_V1.03
Software Version	SIM8918B01V01
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.6 Technical Information

Note: The information provided by the applicant, except for The Max RF Output Power (EIRP/ERP).

All Network and Wireless connectivity for EUT	3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network LTE FDD Band 2/4/5/7/12/13/17/25/26/66/71 Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40) 5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80) U-NII-1/2A/2C/3, GPS, GLONASS
About the Product	The equipment is LTE Wireless Data Module, intended for used with information technology equipment.

The requirement for the following technical information of the EUT was tested in this report:

Operating Bands	FDD LTE Band 26	
Modulation Type	LTE	QPSK
		16QAM
TX Frequency Range	FDD LTE Band 26: 814 MHz ~ 849 MHz	
Rx Frequency Range	FDD LTE Band 26: 859 MHz ~ 894 MHz	
Power Class	FDD LTE Band 26: 3	
Antenna Type	PIFA Antenna	
Antenna Gain	FDD LTE Band 26: 1.40 dBi	
The Max RF Output Power (EIRP/ERP)	FDD LTE Band 26 (part90): 23.20 dBm FDD LTE Band 26 (part22): 23.32 dBm	

Note 1: The EUT information are declared by manufacturer. For more detailed features description, please refer to the manufacturer's specifications or user's manual.

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22 Subpart H	Cellular Radiotelephone Service
3	47 CFR Part 90 Subpart S	Regulations Governing Licensing and Use of Frequencies in the 806-824, 851-869, 896-901, and 935-940 MHz Bands
4	RSS-Gen Issue5	General Requirements and Information for the Certification of Radio Apparatus
5	RSS-132 Issue4	Cellular Telephone Systems Operating in the Bands 824-849 MHz and 869-894 MHz
6	ANSI C63.26-2015	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services
7	KDB 971168 D01 v03	Measurement Guidance for Certification of Licensed Digital Transmitters

3.2 Test Verdict

No.	Test Description	FCC Part No.	ISED Part No.	Test Result	Test Verdict
1	Conducted RF Output Power	2.1046	RSS-Gen 6.12 RSS-132 5.4	Reporting only (ANNEX A.1)	Pass
2	Effective (Isotropic) Radiated Power	2.1046 22.913 90.635(b)	RSS-Gen 6.12 RSS-132 5.4	ANNEX A.1	Pass
3	Peak to Average Radio	2.1046	RSS-132 5.4	ANNEX A.2	Pass
4	Occupied Bandwidth	2.1049 22.917 90.209	RSS-Gen 6.7	ANNEX A.3	Pass
5	Frequency Stability	2.1055 22.355 90.213	RSS-Gen 6.11 RSS-132 5.3	ANNEX A.4	Pass
6	Spurious Emission at Antenna Terminals	2.1051 22.917 90.691	RSS-Gen 6.13 RSS-132 5.5	ANNEX A.5	Pass
7	Band Edge	2.1051 22.917 90.691	RSS-132 5.5	ANNEX A.6	Pass
8	Field Strength of Spurious Radiation	2.1053 22.917 90.691	RSS-Gen 6.13 RSS-132 5.5	ANNEX A.7	Pass
9	AC Power-line Conducted Emissions	N/A	RSS-Gen 8.8	ANNEX A.9	Pass

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

During the measurement, the environmental conditions were within the listed ranges:

Relative Humidity		20% to 75%
Atmospheric Pressure		98 kPa to 102 kPa
Test Voltage of the EUT	NV (Normal Voltage)	DC 3.9 V
	LV (Low Voltage)	DC 3.4 V
	HV (High Voltage)	DC 4.4 V
Test Temperature of the EUT	NT (Normal Temperature)	15 °C to 35 °C
	LT (Low Temperature)	-35 °C
	HT (High Temperature)	+75 °C

4.2 Test Equipment and Test Software List

Description	Manufacturer	Model	Device number	Software /Firmware Version	Cal. Date	Cal. Due
Conducted Test System						
Wideband Radio Communication Tester	R&S	CMW 500	BK-EMC-L064	V3.7.110	2023.04.10	2024.04.09
Spectrum Analyzer	Agilent	E4440A	BK-EMC-L027	A.11.21	2022.11.02	2023.11.01
Spectrum Analyzer	Keysight	N9010B	BK-EMC-L099	A.29.04	2023.08.04	2024.08.03
Temperature Chamber	ESPEC	ECT	BK-EMC-L068	NA	2022.11.03	2023.11.02
DC Power Supply	ITECH	IT6863A	BK-EMC-L113	NA	2023.10.19	2024.10.18
Vector Signal Generator	Agilent	E4438C	BK-EMC-L028	C.05.76	2022.11.02	2023.11.01
Analog Signal Generator	Keysight	N5173B	BK-EMC-L074	B.01.90	2022.11.02	2023.11.01
Test Software	BALUN	BL410R	N/A	V2.1.1.488	N/A	N/A
Radiated Test System						
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9163	BK-EMC-L008	NA	2021.12.30	2024.12.29
Test Antenna-Horn	Schwarzbeck	BBHA 9120D	BK-EMC-L044	NA	2022.10.08	2025.10.07
Anechoic Chamber	YIHENG	9m*6m*	BK-EMC-	NA	2022.07.22	2025.07.21

Description	Manufacturer	Model	Device number	Software /Firmware Version	Cal. Date	Cal. Due
		6m	L001			
EMI Receiver	KEYSIGHT	N9038A	BK-EMC-L127	A.21.06	2023.02.04	2024.02.03
Wideband Radio Communication Tester	R&S	CMW 500	BK-EMC-L094	V3.7.172	2023.03.09	2024.03.08
Test Software	BALUN	BL410-E	N/A	V21.919	N/A	N/A

4.4 Test Configurations

LTE Band	Bandwidth (MHz)						Modulation Type		RB#			Test Channel		
	1.4	3	5	10	15	20	QPSK	16-QAM	1	Half	Full	LCH	MCH	HCH
Effective (Isotropic) Radiated Power														
26(Part90)	v	v	v	v	--	n	v	v	v	v	v	v	v	v
26(Part22)	v	v	v	v	v	n	v	v	v	v	v	v	v	v
Peak to Average Ratio														
26(Part90)	--	--	--	v	--	n	v	v	v	--	v	--	v	--
26(Part22)	--	--	--	--	v	n	v	v	v	--	v	v	v	v
Occupied Bandwidth														
26(Part90)	v	v	v	v	--	n	v	v	--	--	v	v	v	v
26(Part22)	v	v	v	v	v	n	v	v	--	--	v	v	v	v
Frequency Stability														
26(Part90)	--	--	--	v	--	n	v	v	--	--	v	v	v	v
26(Part22)	--	--	--	v	--	n	v	v	--	--	v	--	v	--
Spurious Emission at Antenna Terminals														
26(Part90)	v	v	v	v	--	n	v	v	v	--	--	v	v	v
26(Part22)	v	v	v	v	v	n	v	v	v	--	--	v	v	v
Band Edge														
26(Part90)	v	v	v	v	--	n	v	v	v	--	v	v	--	v
26(Part22)	v	v	v	v	v	n	v	v	v	--	v	v	--	v
Field Strength of Spurious Radiation														
26(Part90)	v	v	v	v	--	n	v	--	v	--	--	--	v	--
26(Part22)	v	v	v	v	v	n	v	--	v	--	--	--	v	--

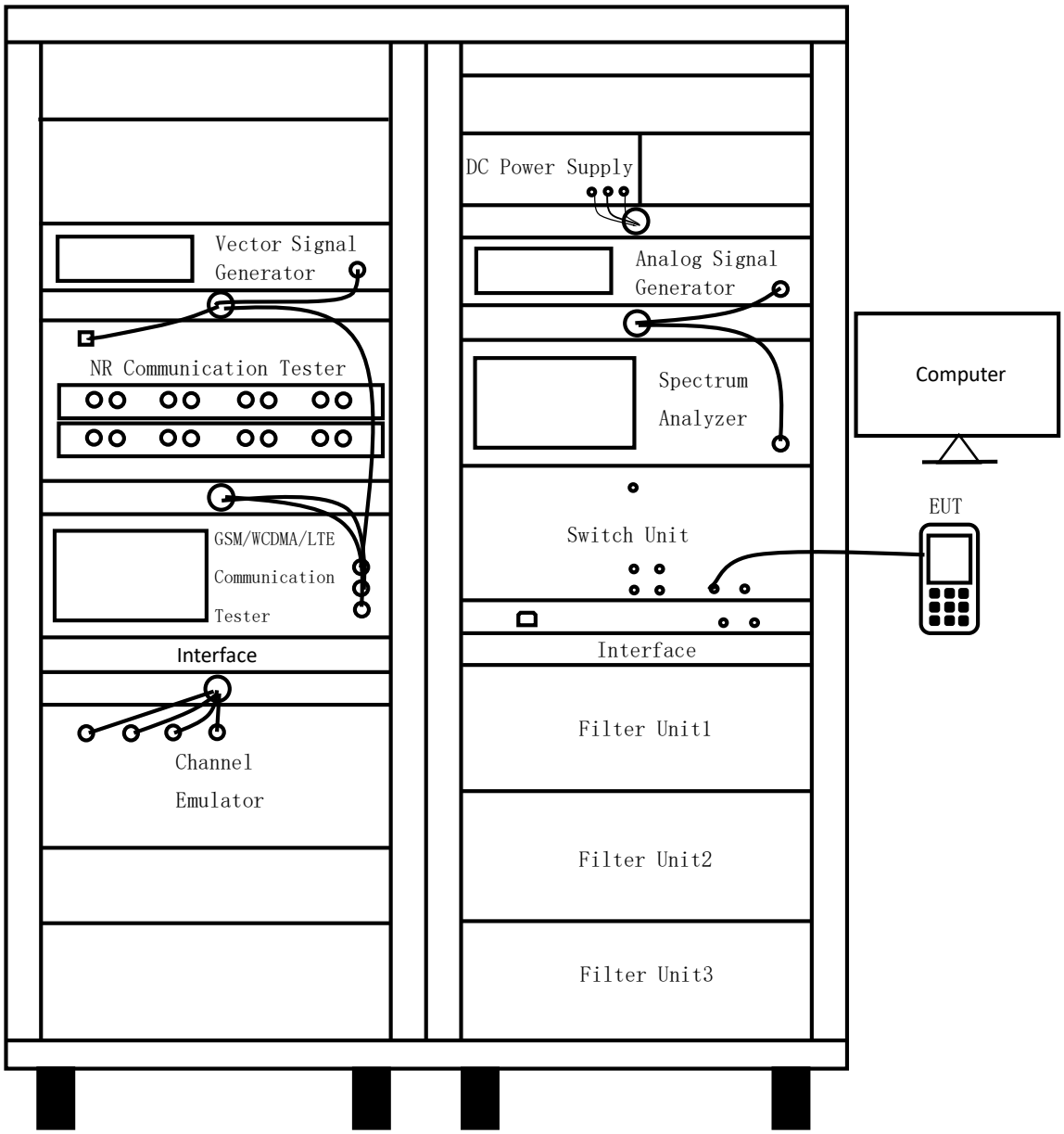
Note 1: The mark “v” means that this configuration is chosen for testing.
Note 2: The mark “n” means that this bandwidth is not supported.

Test Mode	UL Channel	Channel Bandwidth (MHz)	UL Channel No.	UL Frequency (MHz)
LTE Band 26 (Part90)	Low Range	1.4	26697	814.7
		3	26705	815.5
		5	26715	816.5
		10	---	---
	Middle Range	1.4/3/5/10	26740	819
	High Range	1.4	26783	823.3
		3	26775	822.5
		5	26765	821.5
		10	---	---
LTE Band 26 (Part22)	Low Range	1.4	26797	824.7
		3	26805	825.5

Test Mode	UL Channel	Channel Bandwidth (MHz)	UL Channel No.	UL Frequency (MHz)
		5	26815	826.5
		10	26840	829
		15	26865	831.5
	Middle Range	1.4/3/5/10/15	26915	836.5
	High Range	1.4	27033	848.3
		3	27025	847.5
		5	27015	846.5
		10	26990	844
		15	26965	841.5

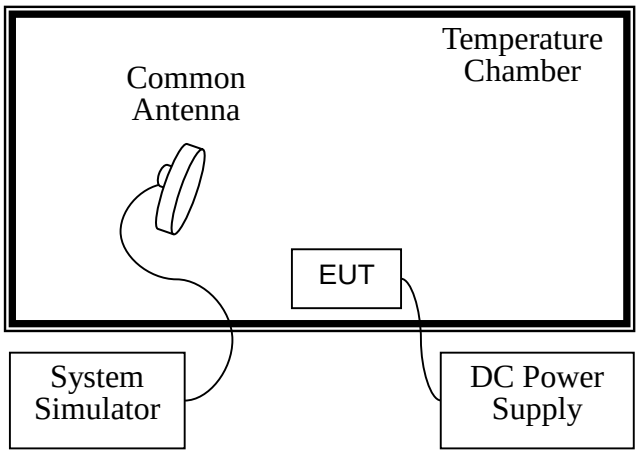
4.5 Test Setup

4.5.1 For Antenna Port Test



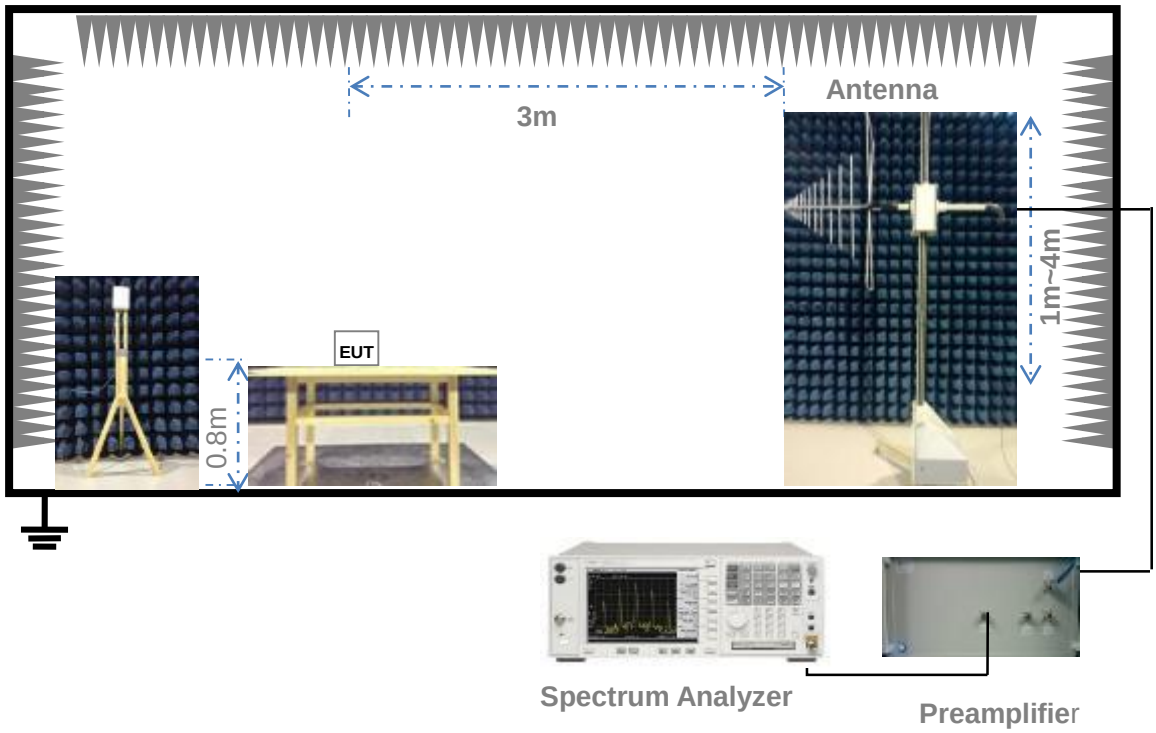
(Diagram 1)

4.5.2 For Frequency Stability Test



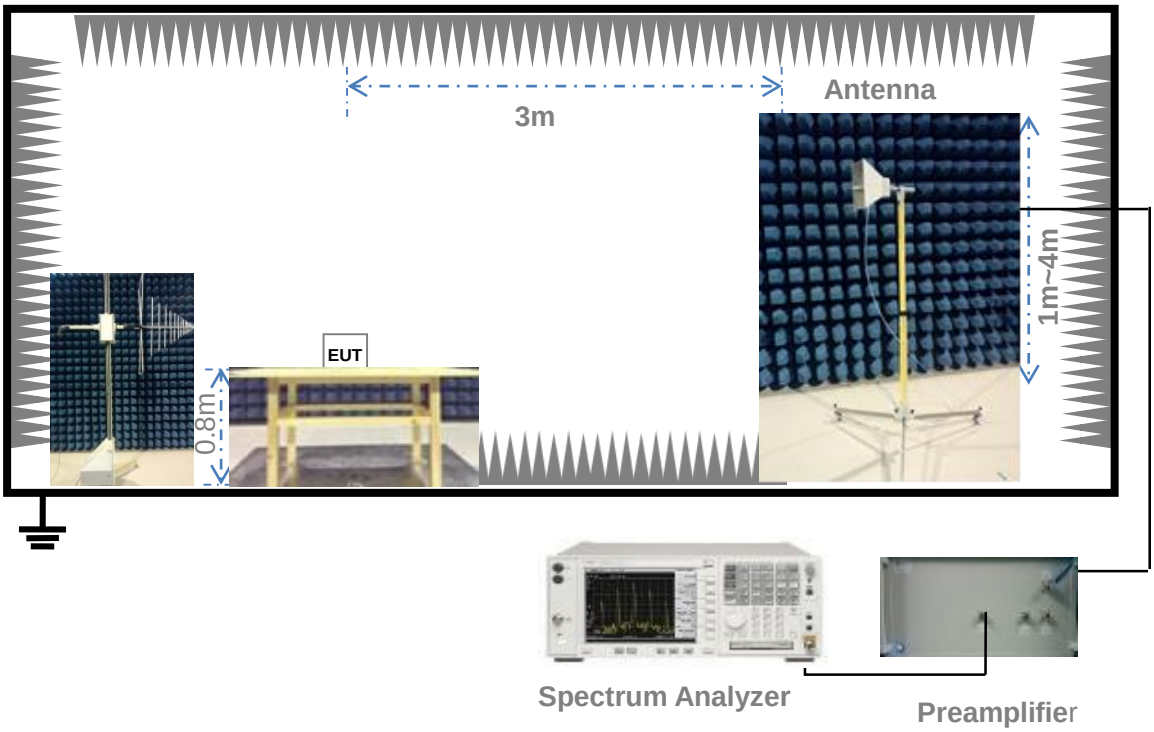
(Diagram 2)

4.5.3 For Radiated Test (30 MHz ~ 1 GHz)



(Diagram 3)

4.5.4 For Radiated Test (Above 1 GHz)



(Diagram 4)

5 TEST ITEMS

5.1 Transmitter Radiated Power (EIRP/ERP)

5.1.1 Limit

FCC § 2.1046 & 22.913(a) & 90.635(b)

According to FCC section 22.913(a) (5), the Effective Radiated Power (ERP) of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

According to FCC section 90.635(b), the maximum output power of the transmitter for mobile stations is 100 watts (20dBW).

RSS-Gen § 6.12 & RSS-132 § 5.4

According to RSS-132 § 5.4, the Effective Radiated Power (ERP) for mobile equipment shall not exceed 7 watts.

5.1.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description is used for conducted test, and the section 4.4.3 and 4.4.4 (Diagram 3, 4) test setup description is used for radiated test. The photo of test setup please refer to ANNEX B.

5.1.3 Test Procedure

Description of the Conducted Output Power Measurement

The EUT is coupled to the SS with attenuator through power splitter; the RF load attached to EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. A system simulator is used to establish communication with the EUT, and its parameters are set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The relevant equation for determining the conducted measured value is:

Conducted Output Power Value (dBm) = Measured Value (dBm) + Path Loss (dB)

where:
Conducted Output Power Value = final conducted measured value in the conducted power test, in dBm;
Measured Value = measured conducted power received by spectrum analyzer or power meter, in dBm;
Path Loss = signal attenuation in the connecting cable between the transmitter and spectrum analyzer or power meter, including external cable loss, in dB;

During the test, the data of Path Loss (dB) is added in the spectrum analyzer or power meter, so Measured Value (dBm) is the final values which contains the data of Path Loss (dB).

For example:

In the conducted output power test, when measured value for GSM850 is 24.7 dBm, and path loss is 8.5 dB, then final conducted output power value is:

Conducted Output Power Value (dBm) = 24.7 dBm + 8.5 dB = 33.2 dBm

Description of the Transmitter Radiated Power Measurement

In many cases, the RF output power limits for licensed digital transmission devices is specified in terms of effective radiated power (ERP) or equivalent isotropic radiated power (EIRP). Typically, ERP is specified when the operating frequency is less than or equal to 1 GHz and EIRP is specified when the operating frequency is greater than 1 GHz. Both are determined by adding the transmit antenna gain to the conducted RF output power with the primary difference between the two being that when determining the ERP, the transmit antenna gain is referenced to a dipole antenna (i.e., dBd) whereas when determining the EIRP, the transmit antenna gain is referenced to an isotropic antenna (dBi).

Final measurement calculation as below:

The relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

ERP/EIRP = P_{Meas} + GT − LC

where:
ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as P_{Meas}, typically dBW or dBm);
P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;
GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);
dBd (ERP)=dBi (EIRP) -2.15 dB
LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

For example:
In the EIRP test, when P_{Meas} value for GSM1900 is 30.2 dBm, LC is 0.6 dB, and GT is -3.4 dB, then final EIRP value is:
EIRP for GSM1900 = 30.2 dBm - 3.4 dBi - 0.6 dB = 26.2 dBm

The relevant equation for determining the ERP/EIRP from the radiated RF output power is:
ERP/EIRP (dBm) = SA Read Value (dBm) + Correction Factor (dB)

where:
ERP/EIRP = effective or equivalent radiated power, in dBm;
SA Read Value = measured transmitter power received by EMI receiver or spectrum analyzer, in dBm;
Correction Factor = total correction factor including cable loss, in dB;

During the test, the data of Correction Factor (dB) is added in the EMI receiver or spectrum analyzer, so SA Read Value (dBm) is the final values which contains the data of Correction Factor (dB).

For example:

In the ERP test, when SA read value for GSM850 is 21dBm, and correction factor is 8dB, then final ERP value for GSM850 is:

ERP (dBm) = 21dBm + 8dB = 29dBm

5.1.4 Test Result

Please refer to ANNEX A.1.

5.2 Peak to Average Ratio

5.2.1 Limit

FCC § 2.1046

RSS-132 § 5.4

In addition, when the transmitter power is measured in terms of average value, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time using a signal corresponding to the highest PAPR during periods of continuous transmission.

5.2.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description is used for this test. The photo of test setup please refer to ANNEX B.

5.2.3 Test Procedure

Here the lowest, middle and highest channels are selected to perform testing to verify the peak-to-average ratio.

According to KDB 971168 D01, there is CCDF procedure for PAPR:

a) Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;

b) Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;

c) Set the number of counts to a value that stabilizes the measured CCDF curve;

d) Set the measurement interval as follows:

1) for continuous transmissions, set to 1 ms,

2) for burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.

e) Record the maximum PAPR level associated with a probability of 0.1%.

Alternate procedure for PAPR:

Use one of the procedures presented in 4.1 to measure the total peak power and record as P_{Pk}. Use one of the applicable procedures presented 4.2 to measure the total average power and record as P_{Avg}. Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:

PAPR (dB) = P_{Pk} (dBm) - P_{Avg} (dBm).

5.2.4 Test Result

Please refer to ANNEX A.2.

5.3 Occupied Bandwidth

5.3.1 Limit

FCC § 2.1049

RSS-Gen § 6.7

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.

Many of the individual rule parts specify a relative OBW in lieu of the 99% OBW. In such cases, the OBW is defined as the width of the signal between two points, one below the carrier center frequency and on above the carrier center frequency, outside of which all emissions are attenuated by at least X dB below the transmitter power, where the value of X is typically specified as 26.

5.3.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description is used for this test. The photo of test setup please refer to ANNEX B.

5.3.3 Test Procedure

The following procedure shall be used for measuring power bandwidth.

a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (i.e., two to five times the anticipated OBW).

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.

c) Set the reference level of the instrument as required to keep the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least 10log (OBW / RBW) below the reference level.

d) NOTE—Steps a) through c) may require iteration to adjust within the specified tolerances.

e) For -26 dB OBW, the dynamic range of the spectrum analyzer at the selected RBW shall be at least 10dB below the target “-X dB down” requirement, e.g. -26 dB OBW, the spectrum analyzer noise floor at the selected RBW shall be 36dB below the reference value.

f) Set the detection mode to peak, and the trace mode to max hold.

g) For 99% OBW, use the 99 % power bandwidth function of the spectrum analyzer (if available) and report the measured bandwidth.

If the instrument does not have a 99 % power bandwidth function, the trace data points are to be recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at

the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99 % power bandwidth is the difference between these two frequencies.

h) For -26 dB OBW, determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).

Determine the “-X dB down amplitude” as equal to (reference value -X). Alternatively, this calculation can be performed by the analyzer by using the marker-delta function.

Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below “-X dB down amplitude” determined in step g). If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.

i) The OBW shall be reported by providing plot(s) of the measuring instrument display. The frequency and amplitude axes and scale shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

j) Change variable modulations, coding, or channel bandwidth settings, then repeat above test procedures.

5.3.4 Test Result

Please refer to ANNEX A.3.

5.4 Frequency Stability

5.4.1 Limit

FCC § 2.1055 & 22.355 & 90.213

RSS-Gen § 6.11 & RSS-132 § 5.3

The frequency stability shall be measured with variation of ambient temperature as follows:

(1) The temperature is varied from -30°C to +50°C.

(2) Frequency measurements shall be made at the extremes of the specified temperature range and at intervals of not more than 10°C through the range.

The frequency stability shall be measured with variation of primary supply voltage as follows:

(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than carried battery equipment.

(2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating and point which shall be specified by the manufacture.

(3) The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

RSS-Gen § 6.11

For licensed devices, the following measurement conditions apply:

(a) at the temperatures of -30°C (-22°F), +20°C (+68°F) and +50°C (+122°F), and at the manufacturer's rated supply voltage
(b) at the temperature of +20°C (+68°F) and at ±15% of the manufacturer's rated supply voltage

FCC § 22.355

Except as otherwise provided in this part, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table C-1 of this section.

Table C-1—Frequency Tolerance for Transmitters in the Public Mobile Services

Frequency range (MHz)	Base, fixed (ppm)	Mobile > 3 watts (ppm)	Mobile ≤ 3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929	5.0	n/a	n/a
929 to 960	1.5	n/a	n/a
2110 to 2220	10.0	n/a	n/a

FCC § 90.213

The frequency stability shall not depart from the reference frequency in excess of ±2.5ppm for mobile stations.

RSS-132 § 5.3

The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations and ±1.5 ppm for base stations.

5.4.2 Test Setup

The section 4.4.2 (Diagram 2) test setup description is used for this test. The photo of test setup please refer to ANNEX B.

5.4.3 Test Procedure

1. The EUT is placed in a temperature chamber.

2. The temperature is set to 25°C and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured.

3. The temperature is increased by not more than 10 degrees, allowed to stabilize and soak, and then repeat the frequency error measurement.

4. Repeat procedure 3 until +50°C and -30°C is reached.

5. Change supply voltage, and repeat measurement until extreme voltage is reached.

5.4.4 Test Result

Please refer to ANNEX A.4.

5.5 Spurious Emission at Antenna Terminals

5.5.1 Limit

FCC § 2.1051 & 22.917(a) & 90.691

RSS-Gen § 6.13 & RSS-132 § 5.5

In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

FCC § 22.917(a) & RSS-132 § 5.5

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. This is calculated to be -13 dBm.

FCC § 90.691

(a) Out-of-band emission requirement shall apply only to the “outer” channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 $Log_{10}(f/6.1)$ decibels or 50 + 10 $Log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + $10Log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

5.5.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.5.3 Test Procedure

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. On any frequency outside a licensee’s

frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log(P) dB. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency blocks a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

1. The EUT is coupled to the system simulator and spectrum analyzer; the RF load attached to EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

2. CMW500 is used to establish communication with the EUT, and its parameters are set to force the EUT transmitting at maximum output power.

3. The RF output of the transmitter is connected to the input of the spectrum analyzer through sufficient attenuation.

4. Spurious emissions are tested with 0.001MHz RBW for frequency less than 150kHz, 0.01MHz RBW for frequency less than 30MHz, 0.1MHz RBW for frequency less than 1GHz, and 1MHz RBW for frequency above 1GHz. And sweep point number are at least 401, referring to following formula.

Sweep point number = Span/RBW

VBW=3*RBW

Detector Mode=mean or average power

5. Record the frequencies and levels of spurious emissions.

5.5.4 Test Result

Please refer to ANNEX A.5.

5.6 Band Edge

5.6.1 Limit

FCC § 2.1051 & 22.917(a) & 90.691

In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

FCC § 22.917(a)

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. This is calculated to be -13 dBm.

RSS-132 § 5.5

(i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated below the transmitter output power P (dBW) by at least 43 + 10 log(p) dB.
(ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated below the transmitter output power P (dBW) by at least 43 + 10 log(p) dB. If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

FCC § 90.691

(a) Out-of-band emission requirement shall apply only to the “outer” channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 $Log_{10}(f/6.1)$ decibels or 50 + 10 $Log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + $10Log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

5.6.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description was used for this test. The photo of test setup please

refer to ANNEX B.

5.6.3 Test Procedure

The EUT, which is powered by the Battery, is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50 Ohm; the path loss as the factor is calibrated to correct the reading.

1.The EUT is coupled to the system simulator and spectrum analyzer; the RF load attached to EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

2. CMW500 is used to establish communication with the EUT, and its parameters are set to force the EUT transmitting at maximum output power.

3. The RF output of the transmitter is connected to the input of the spectrum analyzer through sufficient attenuation.

4. The center of the spectrum analyzer was set to block edge frequency.

5. Band edge are tested with 1%*cBW (RBW), and sweep point number referred to following formula.

Sweep point number = 2*Span/RBW

VBW=3RBW

6. Record the frequencies and levels of spurious emissions.

For mobile and portable stations, on all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment. Since it was not possible to set the resolution bandwidth to 6.25 kHz with the available equipment, a bandwidth of 10 kHz was used instead to show compliance. By using a 10 kHz bandwidth on the spectrum analyzer.

10*log(10 kHz / 6.25 kHz) = 2.04 dB
Limit Line = -35 dBm + 2.04 dB = -32.96dBm

5.6.4 Test Result

Please refer to ANNEX A.6.

5.7 Field Strength of Spurious Radiation

5.7.1 Limit

FCC § 2.1053 & 22.917(a) & 90.691

FCC § 22.917(a)

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. This is calculated to be -13 dBm.

FCC § 90.691

(a) Out-of-band emission requirement shall apply only to the “outer” channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 $Log_{10}(f/6.1)$ decibels or 50 + 10 $Log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + $10Log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

RSS-132 § 5.5

(i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated below the transmitter output power P (dBW) by at least 43 + 10 log(p) dB.
(ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated below the transmitter output power P (dBW) by at least 43 + 10 log(p) dB. If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

5.7.2 Test Setup

The section 4.4.3 and 4.4.4 (Diagram 3, 4) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.7.3 Test Procedure

1. On a test site, the EUT shall be placed at 80cm height on a turn table, and in the position close to normal use as declared by the applicant.

2. The test antenna shall be oriented initially for vertical polarization located 3 m from EUT to correspond to

the fundamental frequency of the transmitter.

3. The output of the test antenna shall be connected to the measuring receiver and the peak detector is used

for the measurement.

4. During the measurement of the EUT, the resolution bandwidth was to 1 MHz and the average bandwidth

was set to 1 MHz.

5. The transmitter shall be switched on; the measuring receiver shall be tuned to the frequency of the

transmitter under test.

6. The test antenna shall be raised and lowered through the specified range of height until the maximum

signal level is detected by the measuring receiver.

7. The transmitter shall be rotated through 360° in the horizontal plane, until the maximum signal level is

detected by the measuring receiver.

8. The test antenna shall be raised and lowered again through the specified range of height until the

maximum signal level is detected by the measuring receiver.

9. The maximum signal level detected by the measuring receiver shall be noted.

10. The EUT was replaced by half-wave dipole (824 ~ 849 MHz) or horn antenna (1 850 ~ 1 910 MHz) connected to a signal generator.

11. In necessary, the input attenuator setting on the measuring receiver shall be adjusted in order to increase

the sensitivity of the measuring receiver.

12. The test antenna shall be raised and lowered through the specified range of height to ensure that the

maximum signal is received.

13. The input signal to the substitution antenna shall be adjusted to the level that produces a level

detected by the measuring received, which is equal to the level noted while the transmitter radiated

power was measured, corrected for the change of input attenuator setting of the measuring receiver.

14. The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any

change of input attenuator setting of the measuring receiver.

15. The measurement shall be repeated with the test antenna and the substitution antenna orientated for

horizontal polarization.

Final measurement calculation as below:

The relevant equation for determining the ERP/EIRP from the radiated RF output power is:

ERP/EIRP (dBm) = SA Read Value (dBm) + Correction Factor (dB)

where:
ERP/EIRP = effective or equivalent radiated power, in dBm;
SA Read Value = measured transmitter power received by EMI receiver or spectrum analyzer, in dBm;
Correction Factor = total correction factor including cable loss, in dB;

During the test, the data of Correction Factor (dB) is added in the EMI receiver or spectrum analyzer, so SA Read Value (dBm) is the final values which contains the data of Correction Factor (dB).

For example:

In the ERP test, when SA read value for GSM850 is 21dBm, and correction factor is 8dB, then final ERP value for GSM850 is:

ERP (dBm) = 21dBm + 8dB = 29dBm

5.7.4 Test Result

Please refer to ANNEX A.7.

5.8 AC Power-line Conducted Emissions

5.8.1 Limit

RSS-Gen § 8.8

For AC power-line conducted emissions, both quasi-peak and average detectors having the characteristics specified in CAN/CSA-CISPR 16-1-1:15 for the 150 kHz to 30 MHz frequency range shall be employed.

Unless stated otherwise in the applicable RSS, for radio apparatus that are designed to be connected to the public utility AC power network, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the range 150 kHz to 30 MHz shall not exceed the limits in table 3, as measured using a 50 μH / 50 Ω line impedance stabilization network. This requirement applies for the radio frequency voltage measured between each power line and the ground terminal of each AC power-line mains cable of the EUT.

For an EUT that connects to the AC power lines indirectly, through another device, the requirement for compliance with the limits in table 3 shall apply at the terminals of the AC power-line mains cable of a representative support device, while it provides power to the EUT. The lower limit applies at the boundary between the frequency ranges. The device used to power the EUT shall be representative of typical applications.

Table 3 –AC power-line conducted emissions limits

Frequency (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56[Note1]	56 to 46 [Note1]
0.5 - 5	56	46
5 - 30	60	50

Note 1: The level decreases linearly with the logarithm of the frequency.

5.8.2 Test Setup

The section 4.4.5 (Diagram 5) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.8.3 Test Procedure

The test employing the methods of measurement described in the publication referenced in Section 3(b) (ANSI C63.4);

The EUT is connected to the power mains through a LISN which provides 50 Ω/50 μH of coupling impedance for the measuring instrument. The test frequency range is from 150 kHz to 30 MHz. The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; the emission levels that are more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed.

Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

5.8.4 Test Result

Please refer to ANNEX A.8.

ANNEX A TEST RESULTS

A.1 Transmitter Radiated Power (EIRP/ERP)

LTE Mode Test Data

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE BAND26 (Part90)										
1.4 MHz	LCH	QPSK	RB1#0	23.88	1.4	-0.75	23.13	0.21	100.0	Pass
			RB1#3	23.95	1.4	-0.75	23.20	0.21	100.0	Pass
			RB1#5	23.92	1.4	-0.75	23.17	0.21	100.0	Pass
			RB3#0	23.72	1.4	-0.75	22.97	0.20	100.0	Pass
			RB3#2	23.81	1.4	-0.75	23.06	0.20	100.0	Pass
			RB3#3	23.77	1.4	-0.75	23.02	0.20	100.0	Pass
			RB6#0	22.77	1.4	-0.75	22.02	0.16	100.0	Pass
		16-QAM	RB1#0	22.82	1.4	-0.75	22.07	0.16	100.0	Pass
			RB1#3	22.79	1.4	-0.75	22.04	0.16	100.0	Pass
			RB1#5	22.86	1.4	-0.75	22.11	0.16	100.0	Pass
			RB3#0	22.54	1.4	-0.75	21.79	0.15	100.0	Pass
			RB3#2	22.63	1.4	-0.75	21.88	0.15	100.0	Pass
			RB3#3	22.51	1.4	-0.75	21.76	0.15	100.0	Pass
			RB6#0	21.41	1.4	-0.75	20.66	0.12	100.0	Pass
	MCH	QPSK	RB1#0	23.75	1.4	-0.75	23.00	0.20	100.0	Pass
			RB1#3	23.76	1.4	-0.75	23.01	0.20	100.0	Pass
			RB1#5	23.60	1.4	-0.75	22.85	0.19	100.0	Pass
			RB3#0	23.79	1.4	-0.75	23.04	0.20	100.0	Pass
			RB3#2	23.84	1.4	-0.75	23.09	0.20	100.0	Pass
			RB3#3	23.78	1.4	-0.75	23.03	0.20	100.0	Pass
			RB6#0	22.80	1.4	-0.75	22.05	0.16	100.0	Pass
		16-QAM	RB1#0	22.87	1.4	-0.75	22.12	0.16	100.0	Pass
			RB1#3	22.85	1.4	-0.75	22.10	0.16	100.0	Pass
			RB1#5	22.71	1.4	-0.75	21.96	0.16	100.0	Pass
			RB3#0	22.36	1.4	-0.75	21.61	0.14	100.0	Pass
			RB3#2	22.30	1.4	-0.75	21.55	0.14	100.0	Pass
			RB3#3	22.23	1.4	-0.75	21.48	0.14	100.0	Pass
			RB6#0	21.50	1.4	-0.75	20.75	0.12	100.0	Pass
	HCH	QPSK	RB1#0	23.78	1.4	-0.75	23.03	0.20	100.0	Pass
			RB1#3	23.76	1.4	-0.75	23.01	0.20	100.0	Pass
			RB1#5	23.53	1.4	-0.75	22.78	0.19	100.0	Pass
			RB3#0	23.72	1.4	-0.75	22.97	0.20	100.0	Pass
			RB3#2	23.82	1.4	-0.75	23.07	0.20	100.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE BAND26 (Part90)										
			RB3#3	23.75	1.4	-0.75	23.00	0.20	100.0	Pass
			RB6#0	22.80	1.4	-0.75	22.05	0.16	100.0	Pass
		16-QAM	RB1#0	22.78	1.4	-0.75	22.03	0.16	100.0	Pass
			RB1#3	22.80	1.4	-0.75	22.05	0.16	100.0	Pass
			RB1#5	22.64	1.4	-0.75	21.89	0.15	100.0	Pass
			RB3#0	22.74	1.4	-0.75	21.99	0.16	100.0	Pass
			RB3#2	22.76	1.4	-0.75	22.01	0.16	100.0	Pass
			RB3#3	22.69	1.4	-0.75	21.94	0.16	100.0	Pass
			RB6#0	21.77	1.4	-0.75	21.02	0.13	100.0	Pass
3 MHz	LCH	QPSK	RB1#0	23.90	1.4	-0.75	23.15	0.21	100.0	Pass
			RB1#7	23.87	1.4	-0.75	23.12	0.21	100.0	Pass
			RB1#14	23.66	1.4	-0.75	22.91	0.20	100.0	Pass
			RB8#0	22.96	1.4	-0.75	22.21	0.17	100.0	Pass
			RB8#4	22.82	1.4	-0.75	22.07	0.16	100.0	Pass
			RB8#7	22.70	1.4	-0.75	21.95	0.16	100.0	Pass
			RB15#0	22.82	1.4	-0.75	22.07	0.16	100.0	Pass
		16-QAM	RB1#0	22.81	1.4	-0.75	22.06	0.16	100.0	Pass
			RB1#7	22.79	1.4	-0.75	22.04	0.16	100.0	Pass
			RB1#14	22.70	1.4	-0.75	21.95	0.16	100.0	Pass
			RB8#0	21.87	1.4	-0.75	21.12	0.13	100.0	Pass
			RB8#4	21.97	1.4	-0.75	21.22	0.13	100.0	Pass
			RB8#7	21.96	1.4	-0.75	21.21	0.13	100.0	Pass
			RB15#0	21.95	1.4	-0.75	21.20	0.13	100.0	Pass
	MCH	QPSK	RB1#0	23.82	1.4	-0.75	23.07	0.20	100.0	Pass
			RB1#7	23.65	1.4	-0.75	22.90	0.19	100.0	Pass
			RB1#14	23.56	1.4	-0.75	22.81	0.19	100.0	Pass
			RB8#0	22.84	1.4	-0.75	22.09	0.16	100.0	Pass
			RB8#4	22.82	1.4	-0.75	22.07	0.16	100.0	Pass
			RB8#7	22.65	1.4	-0.75	21.90	0.15	100.0	Pass
			RB15#0	22.83	1.4	-0.75	22.08	0.16	100.0	Pass
		16-QAM	RB1#0	22.84	1.4	-0.75	22.09	0.16	100.0	Pass
			RB1#7	22.78	1.4	-0.75	22.03	0.16	100.0	Pass
			RB1#14	22.72	1.4	-0.75	21.97	0.16	100.0	Pass
			RB8#0	21.71	1.4	-0.75	20.96	0.12	100.0	Pass
			RB8#4	21.97	1.4	-0.75	21.22	0.13	100.0	Pass
			RB8#7	21.87	1.4	-0.75	21.12	0.13	100.0	Pass
			RB15#0	21.81	1.4	-0.75	21.06	0.13	100.0	Pass
	HCH	QPSK	RB1#0	23.78	1.4	-0.75	23.03	0.20	100.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE BAND26 (Part90)										
			RB1#7	23.73	1.4	-0.75	22.98	0.20	100.0	Pass
			RB1#14	23.60	1.4	-0.75	22.85	0.19	100.0	Pass
			RB8#0	22.81	1.4	-0.75	22.06	0.16	100.0	Pass
			RB8#4	22.83	1.4	-0.75	22.08	0.16	100.0	Pass
			RB8#7	22.80	1.4	-0.75	22.05	0.16	100.0	Pass
			RB15#0	22.88	1.4	-0.75	22.13	0.16	100.0	Pass
		16-QAM	RB1#0	22.90	1.4	-0.75	22.15	0.16	100.0	Pass
			RB1#7	22.78	1.4	-0.75	22.03	0.16	100.0	Pass
			RB1#14	22.67	1.4	-0.75	21.92	0.16	100.0	Pass
			RB8#0	21.51	1.4	-0.75	20.76	0.12	100.0	Pass
			RB8#4	21.55	1.4	-0.75	20.80	0.12	100.0	Pass
			RB8#7	21.50	1.4	-0.75	20.75	0.12	100.0	Pass
			RB15#0	21.68	1.4	-0.75	20.93	0.12	100.0	Pass
5 MHz	LCH	QPSK	RB1#0	23.59	1.4	-0.75	22.84	0.19	100.0	Pass
			RB1#13	23.61	1.4	-0.75	22.86	0.19	100.0	Pass
			RB1#24	23.49	1.4	-0.75	22.74	0.19	100.0	Pass
			RB12#0	22.71	1.4	-0.75	21.96	0.16	100.0	Pass
			RB12#6	22.77	1.4	-0.75	22.02	0.16	100.0	Pass
			RB12#13	22.83	1.4	-0.75	22.08	0.16	100.0	Pass
			RB25#0	22.73	1.4	-0.75	21.98	0.16	100.0	Pass
		16-QAM	RB1#0	22.69	1.4	-0.75	21.94	0.16	100.0	Pass
			RB1#13	22.78	1.4	-0.75	22.03	0.16	100.0	Pass
			RB1#24	22.22	1.4	-0.75	21.47	0.14	100.0	Pass
			RB12#0	21.56	1.4	-0.75	20.81	0.12	100.0	Pass
			RB12#6	21.71	1.4	-0.75	20.96	0.12	100.0	Pass
			RB12#13	21.66	1.4	-0.75	20.91	0.12	100.0	Pass
			RB25#0	21.90	1.4	-0.75	21.15	0.13	100.0	Pass
	MCH	QPSK	RB1#0	23.38	1.4	-0.75	22.63	0.18	100.0	Pass
			RB1#13	23.66	1.4	-0.75	22.91	0.20	100.0	Pass
			RB1#24	23.37	1.4	-0.75	22.62	0.18	100.0	Pass
			RB12#0	22.83	1.4	-0.75	22.08	0.16	100.0	Pass
			RB12#6	22.85	1.4	-0.75	22.10	0.16	100.0	Pass
			RB12#13	22.70	1.4	-0.75	21.95	0.16	100.0	Pass
			RB25#0	22.73	1.4	-0.75	21.98	0.16	100.0	Pass
		16-QAM	RB1#0	22.62	1.4	-0.75	21.87	0.15	100.0	Pass
			RB1#13	22.56	1.4	-0.75	21.81	0.15	100.0	Pass
			RB1#24	22.29	1.4	-0.75	21.54	0.14	100.0	Pass
			RB12#0	21.63	1.4	-0.75	20.88	0.12	100.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE BAND26 (Part90)										
			RB12#6	21.67	1.4	-0.75	20.92	0.12	100.0	Pass
			RB12#13	21.51	1.4	-0.75	20.76	0.12	100.0	Pass
			RB25#0	21.76	1.4	-0.75	21.01	0.13	100.0	Pass
	HCH	QPSK	RB1#0	23.48	1.4	-0.75	22.73	0.19	100.0	Pass
			RB1#13	23.70	1.4	-0.75	22.95	0.20	100.0	Pass
			RB1#24	23.63	1.4	-0.75	22.88	0.19	100.0	Pass
			RB12#0	22.63	1.4	-0.75	21.88	0.15	100.0	Pass
			RB12#6	22.91	1.4	-0.75	22.16	0.16	100.0	Pass
			RB12#13	22.73	1.4	-0.75	21.98	0.16	100.0	Pass
			RB25#0	22.82	1.4	-0.75	22.07	0.16	100.0	Pass
		16-QAM	RB1#0	22.77	1.4	-0.75	22.02	0.16	100.0	Pass
			RB1#13	22.74	1.4	-0.75	21.99	0.16	100.0	Pass
			RB1#24	22.20	1.4	-0.75	21.45	0.14	100.0	Pass
			RB12#0	21.54	1.4	-0.75	20.79	0.12	100.0	Pass
			RB12#6	21.74	1.4	-0.75	20.99	0.13	100.0	Pass
			RB12#13	21.71	1.4	-0.75	20.96	0.12	100.0	Pass
			RB25#0	21.66	1.4	-0.75	20.91	0.12	100.0	Pass
10 MHz	MCH	QPSK	RB1#0	23.77	1.4	-0.75	23.02	0.20	100.0	Pass
			RB1#25	23.91	1.4	-0.75	23.16	0.21	100.0	Pass
			RB1#49	23.84	1.4	-0.75	23.09	0.20	100.0	Pass
			RB25#0	22.81	1.4	-0.75	22.06	0.16	100.0	Pass
			RB25#13	22.81	1.4	-0.75	22.06	0.16	100.0	Pass
			RB25#25	22.88	1.4	-0.75	22.13	0.16	100.0	Pass
			RB50#0	22.90	1.4	-0.75	22.15	0.16	100.0	Pass
		16-QAM	RB1#0	22.77	1.4	-0.75	22.02	0.16	100.0	Pass
			RB1#25	23.20	1.4	-0.75	22.45	0.18	100.0	Pass
			RB1#49	22.91	1.4	-0.75	22.16	0.16	100.0	Pass
			RB25#0	21.72	1.4	-0.75	20.97	0.13	100.0	Pass
			RB25#13	21.85	1.4	-0.75	21.10	0.13	100.0	Pass
			RB25#25	21.82	1.4	-0.75	21.07	0.13	100.0	Pass
			RB50#0	21.83	1.4	-0.75	21.08	0.13	100.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE BAND26 (Part22)										
1.4 MHz	LCH	QPSK	RB1#0	23.55	1.4	-0.75	22.80	0.19	7.0	Pass
			RB1#3	23.48	1.4	-0.75	22.73	0.19	7.0	Pass
			RB1#5	23.66	1.4	-0.75	22.91	0.20	7.0	Pass
			RB3#0	23.59	1.4	-0.75	22.84	0.19	7.0	Pass
			RB3#2	23.61	1.4	-0.75	22.86	0.19	7.0	Pass
			RB3#3	23.56	1.4	-0.75	22.81	0.19	7.0	Pass
			RB6#0	22.74	1.4	-0.75	21.99	0.16	7.0	Pass
		16-QAM	RB1#0	22.51	1.4	-0.75	21.76	0.15	7.0	Pass
			RB1#3	22.56	1.4	-0.75	21.81	0.15	7.0	Pass
			RB1#5	22.71	1.4	-0.75	21.96	0.16	7.0	Pass
			RB3#0	22.85	1.4	-0.75	22.10	0.16	7.0	Pass
			RB3#2	22.80	1.4	-0.75	22.05	0.16	7.0	Pass
			RB3#3	22.74	1.4	-0.75	21.99	0.16	7.0	Pass
			RB6#0	21.78	1.4	-0.75	21.03	0.13	7.0	Pass
	MCH	QPSK	RB1#0	23.83	1.4	-0.75	23.08	0.20	7.0	Pass
			RB1#3	23.76	1.4	-0.75	23.01	0.20	7.0	Pass
			RB1#5	23.81	1.4	-0.75	23.06	0.20	7.0	Pass
			RB3#0	23.73	1.4	-0.75	22.98	0.20	7.0	Pass
			RB3#2	23.75	1.4	-0.75	23.00	0.20	7.0	Pass
			RB3#3	23.91	1.4	-0.75	23.16	0.21	7.0	Pass
			RB6#0	22.70	1.4	-0.75	21.95	0.16	7.0	Pass
		16-QAM	RB1#0	22.73	1.4	-0.75	21.98	0.16	7.0	Pass
			RB1#3	22.54	1.4	-0.75	21.79	0.15	7.0	Pass
			RB1#5	22.66	1.4	-0.75	21.91	0.16	7.0	Pass
			RB3#0	22.32	1.4	-0.75	21.57	0.14	7.0	Pass
			RB3#2	22.44	1.4	-0.75	21.69	0.15	7.0	Pass
			RB3#3	22.37	1.4	-0.75	21.62	0.15	7.0	Pass
			RB6#0	21.72	1.4	-0.75	20.97	0.13	7.0	Pass
	HCH	QPSK	RB1#0	23.63	1.4	-0.75	22.88	0.19	7.0	Pass
			RB1#3	23.57	1.4	-0.75	22.82	0.19	7.0	Pass
			RB1#5	23.67	1.4	-0.75	22.92	0.20	7.0	Pass
			RB3#0	23.87	1.4	-0.75	23.12	0.21	7.0	Pass
			RB3#2	23.74	1.4	-0.75	22.99	0.20	7.0	Pass
			RB3#3	23.76	1.4	-0.75	23.01	0.20	7.0	Pass
			RB6#0	22.83	1.4	-0.75	22.08	0.16	7.0	Pass
		16-QAM	RB1#0	22.58	1.4	-0.75	21.83	0.15	7.0	Pass
			RB1#3	22.57	1.4	-0.75	21.82	0.15	7.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE BAND26 (Part22)										
			RB1#5	22.45	1.4	-0.75	21.70	0.15	7.0	Pass
			RB3#0	22.59	1.4	-0.75	21.84	0.15	7.0	Pass
			RB3#2	22.53	1.4	-0.75	21.78	0.15	7.0	Pass
			RB3#3	22.55	1.4	-0.75	21.80	0.15	7.0	Pass
			RB6#0	21.60	1.4	-0.75	20.85	0.12	7.0	Pass
3 MHz	LCH	QPSK	RB1#0	23.72	1.4	-0.75	22.97	0.20	7.0	Pass
			RB1#7	23.80	1.4	-0.75	23.05	0.20	7.0	Pass
			RB1#14	23.84	1.4	-0.75	23.09	0.20	7.0	Pass
			RB8#0	22.77	1.4	-0.75	22.02	0.16	7.0	Pass
			RB8#4	22.80	1.4	-0.75	22.05	0.16	7.0	Pass
			RB8#7	23.02	1.4	-0.75	22.27	0.17	7.0	Pass
			RB15#0	22.83	1.4	-0.75	22.08	0.16	7.0	Pass
		16-QAM	RB1#0	22.82	1.4	-0.75	22.07	0.16	7.0	Pass
			RB1#7	22.75	1.4	-0.75	22.00	0.16	7.0	Pass
			RB1#14	22.90	1.4	-0.75	22.15	0.16	7.0	Pass
			RB8#0	21.99	1.4	-0.75	21.24	0.13	7.0	Pass
			RB8#4	21.96	1.4	-0.75	21.21	0.13	7.0	Pass
			RB8#7	22.06	1.4	-0.75	21.31	0.14	7.0	Pass
			RB15#0	22.02	1.4	-0.75	21.27	0.13	7.0	Pass
	MCH	QPSK	RB1#0	23.58	1.4	-0.75	22.83	0.19	7.0	Pass
			RB1#7	23.62	1.4	-0.75	22.87	0.19	7.0	Pass
			RB1#14	23.65	1.4	-0.75	22.90	0.19	7.0	Pass
			RB8#0	22.73	1.4	-0.75	21.98	0.16	7.0	Pass
			RB8#4	22.71	1.4	-0.75	21.96	0.16	7.0	Pass
			RB8#7	22.70	1.4	-0.75	21.95	0.16	7.0	Pass
			RB15#0	22.75	1.4	-0.75	22.00	0.16	7.0	Pass
		16-QAM	RB1#0	22.76	1.4	-0.75	22.01	0.16	7.0	Pass
			RB1#7	22.69	1.4	-0.75	21.94	0.16	7.0	Pass
			RB1#14	22.76	1.4	-0.75	22.01	0.16	7.0	Pass
			RB8#0	21.78	1.4	-0.75	21.03	0.13	7.0	Pass
			RB8#4	21.76	1.4	-0.75	21.01	0.13	7.0	Pass
			RB8#7	21.68	1.4	-0.75	20.93	0.12	7.0	Pass
			RB15#0	21.80	1.4	-0.75	21.05	0.13	7.0	Pass
	HCH	QPSK	RB1#0	23.79	1.4	-0.75	23.04	0.20	7.0	Pass
			RB1#7	23.72	1.4	-0.75	22.97	0.20	7.0	Pass
			RB1#14	23.70	1.4	-0.75	22.95	0.20	7.0	Pass
			RB8#0	22.82	1.4	-0.75	22.07	0.16	7.0	Pass
			RB8#4	22.75	1.4	-0.75	22.00	0.16	7.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE BAND26 (Part22)										
			RB8#7	22.76	1.4	-0.75	22.01	0.16	7.0	Pass
			RB15#0	22.77	1.4	-0.75	22.02	0.16	7.0	Pass
		16-QAM	RB1#0	22.90	1.4	-0.75	22.15	0.16	7.0	Pass
			RB1#7	22.76	1.4	-0.75	22.01	0.16	7.0	Pass
			RB1#14	22.51	1.4	-0.75	21.76	0.15	7.0	Pass
			RB8#0	21.92	1.4	-0.75	21.17	0.13	7.0	Pass
			RB8#4	21.66	1.4	-0.75	20.91	0.12	7.0	Pass
			RB8#7	21.61	1.4	-0.75	20.86	0.12	7.0	Pass
			RB15#0	21.55	1.4	-0.75	20.80	0.12	7.0	Pass
5 MHz	LCH	QPSK	RB1#0	23.27	1.4	-0.75	22.52	0.18	7.0	Pass
			RB1#13	23.90	1.4	-0.75	23.15	0.21	7.0	Pass
			RB1#24	23.59	1.4	-0.75	22.84	0.19	7.0	Pass
			RB12#0	22.82	1.4	-0.75	22.07	0.16	7.0	Pass
			RB12#6	22.90	1.4	-0.75	22.15	0.16	7.0	Pass
			RB12#13	22.74	1.4	-0.75	21.99	0.16	7.0	Pass
			RB25#0	22.85	1.4	-0.75	22.10	0.16	7.0	Pass
		16-QAM	RB1#0	22.42	1.4	-0.75	21.67	0.15	7.0	Pass
			RB1#13	22.78	1.4	-0.75	22.03	0.16	7.0	Pass
			RB1#24	22.44	1.4	-0.75	21.69	0.15	7.0	Pass
			RB12#0	21.74	1.4	-0.75	20.99	0.13	7.0	Pass
			RB12#6	21.76	1.4	-0.75	21.01	0.13	7.0	Pass
			RB12#13	21.68	1.4	-0.75	20.93	0.12	7.0	Pass
			RB25#0	21.72	1.4	-0.75	20.97	0.13	7.0	Pass
	MCH	QPSK	RB1#0	23.30	1.4	-0.75	22.55	0.18	7.0	Pass
			RB1#13	23.49	1.4	-0.75	22.74	0.19	7.0	Pass
			RB1#24	23.47	1.4	-0.75	22.72	0.19	7.0	Pass
			RB12#0	22.64	1.4	-0.75	21.89	0.15	7.0	Pass
			RB12#6	22.69	1.4	-0.75	21.94	0.16	7.0	Pass
			RB12#13	22.71	1.4	-0.75	21.96	0.16	7.0	Pass
			RB25#0	22.77	1.4	-0.75	22.02	0.16	7.0	Pass
		16-QAM	RB1#0	22.34	1.4	-0.75	21.59	0.14	7.0	Pass
			RB1#13	22.87	1.4	-0.75	22.12	0.16	7.0	Pass
			RB1#24	22.15	1.4	-0.75	21.40	0.14	7.0	Pass
			RB12#0	21.46	1.4	-0.75	20.71	0.12	7.0	Pass
			RB12#6	21.75	1.4	-0.75	21.00	0.13	7.0	Pass
			RB12#13	21.52	1.4	-0.75	20.77	0.12	7.0	Pass
			RB25#0	21.72	1.4	-0.75	20.97	0.13	7.0	Pass
	HCH	QPSK	RB1#0	23.59	1.4	-0.75	22.84	0.19	7.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE BAND26 (Part22)										
			RB1#13	23.59	1.4	-0.75	22.84	0.19	7.0	Pass
			RB1#24	23.39	1.4	-0.75	22.64	0.18	7.0	Pass
			RB12#0	22.69	1.4	-0.75	21.94	0.16	7.0	Pass
			RB12#6	22.71	1.4	-0.75	21.96	0.16	7.0	Pass
			RB12#13	22.61	1.4	-0.75	21.86	0.15	7.0	Pass
			RB25#0	22.69	1.4	-0.75	21.94	0.16	7.0	Pass
		16-QAM	RB1#0	22.49	1.4	-0.75	21.74	0.15	7.0	Pass
			RB1#13	22.25	1.4	-0.75	21.50	0.14	7.0	Pass
			RB1#24	22.16	1.4	-0.75	21.41	0.14	7.0	Pass
			RB12#0	21.72	1.4	-0.75	20.97	0.13	7.0	Pass
			RB12#6	21.65	1.4	-0.75	20.90	0.12	7.0	Pass
			RB12#13	21.54	1.4	-0.75	20.79	0.12	7.0	Pass
			RB25#0	21.56	1.4	-0.75	20.81	0.12	7.0	Pass
10 MHz	LCH	QPSK	RB1#0	23.71	1.4	-0.75	22.96	0.20	7.0	Pass
			RB1#25	23.85	1.4	-0.75	23.10	0.20	7.0	Pass
			RB1#49	23.57	1.4	-0.75	22.82	0.19	7.0	Pass
			RB25#0	22.78	1.4	-0.75	22.03	0.16	7.0	Pass
			RB25#13	22.75	1.4	-0.75	22.00	0.16	7.0	Pass
			RB25#25	22.67	1.4	-0.75	21.92	0.16	7.0	Pass
			RB50#0	22.66	1.4	-0.75	21.91	0.16	7.0	Pass
		16-QAM	RB1#0	22.46	1.4	-0.75	21.71	0.15	7.0	Pass
			RB1#25	23.02	1.4	-0.75	22.27	0.17	7.0	Pass
			RB1#49	22.57	1.4	-0.75	21.82	0.15	7.0	Pass
			RB25#0	21.54	1.4	-0.75	20.79	0.12	7.0	Pass
			RB25#13	21.54	1.4	-0.75	20.79	0.12	7.0	Pass
			RB25#25	21.65	1.4	-0.75	20.90	0.12	7.0	Pass
			RB50#0	21.83	1.4	-0.75	21.08	0.13	7.0	Pass
	MCH	QPSK	RB1#0	23.55	1.4	-0.75	22.80	0.19	7.0	Pass
			RB1#25	24.07	1.4	-0.75	23.32	0.21	7.0	Pass
			RB1#49	23.69	1.4	-0.75	22.94	0.20	7.0	Pass
			RB25#0	22.66	1.4	-0.75	21.91	0.16	7.0	Pass
			RB25#13	22.74	1.4	-0.75	21.99	0.16	7.0	Pass
			RB25#25	22.72	1.4	-0.75	21.97	0.16	7.0	Pass
			RB50#0	22.67	1.4	-0.75	21.92	0.16	7.0	Pass
		16-QAM	RB1#0	22.68	1.4	-0.75	21.93	0.16	7.0	Pass
			RB1#25	22.73	1.4	-0.75	21.98	0.16	7.0	Pass
			RB1#49	22.25	1.4	-0.75	21.50	0.14	7.0	Pass
			RB25#0	21.56	1.4	-0.75	20.81	0.12	7.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE BAND26 (Part22)										
			RB25#13	21.62	1.4	-0.75	20.87	0.12	7.0	Pass
			RB25#25	21.62	1.4	-0.75	20.87	0.12	7.0	Pass
			RB50#0	21.75	1.4	-0.75	21.00	0.13	7.0	Pass
	HCH	QPSK	RB1#0	23.79	1.4	-0.75	23.04	0.20	7.0	Pass
			RB1#25	23.92	1.4	-0.75	23.17	0.21	7.0	Pass
			RB1#49	23.55	1.4	-0.75	22.80	0.19	7.0	Pass
			RB25#0	22.76	1.4	-0.75	22.01	0.16	7.0	Pass
			RB25#13	22.70	1.4	-0.75	21.95	0.16	7.0	Pass
			RB25#25	22.72	1.4	-0.75	21.97	0.16	7.0	Pass
			RB50#0	22.69	1.4	-0.75	21.94	0.16	7.0	Pass
		16-QAM	RB1#0	22.88	1.4	-0.75	22.13	0.16	7.0	Pass
			RB1#25	22.76	1.4	-0.75	22.01	0.16	7.0	Pass
			RB1#49	22.40	1.4	-0.75	21.65	0.15	7.0	Pass
			RB25#0	21.75	1.4	-0.75	21.00	0.13	7.0	Pass
			RB25#13	21.75	1.4	-0.75	21.00	0.13	7.0	Pass
			RB25#25	21.67	1.4	-0.75	20.92	0.12	7.0	Pass
			RB50#0	21.62	1.4	-0.75	20.87	0.12	7.0	Pass
	LCH	QPSK	RB1#0	23.51	1.4	-0.75	22.76	0.19	7.0	Pass
			RB1#38	23.69	1.4	-0.75	22.94	0.20	7.0	Pass
			RB1#74	23.65	1.4	-0.75	22.90	0.19	7.0	Pass
			RB36#0	22.65	1.4	-0.75	21.90	0.15	7.0	Pass
			RB36#19	22.68	1.4	-0.75	21.93	0.16	7.0	Pass
			RB36#39	22.67	1.4	-0.75	21.92	0.16	7.0	Pass
			RB75#0	22.63	1.4	-0.75	21.88	0.15	7.0	Pass
		16-QAM	RB1#0	22.60	1.4	-0.75	21.85	0.15	7.0	Pass
			RB1#38	23.37	1.4	-0.75	22.62	0.18	7.0	Pass
			RB1#74	22.60	1.4	-0.75	21.85	0.15	7.0	Pass
			RB36#0	21.51	1.4	-0.75	20.76	0.12	7.0	Pass
			RB36#19	21.44	1.4	-0.75	20.69	0.12	7.0	Pass
			RB36#39	21.52	1.4	-0.75	20.77	0.12	7.0	Pass
			RB75#0	21.61	1.4	-0.75	20.86	0.12	7.0	Pass
	MCH	QPSK	RB1#0	23.67	1.4	-0.75	22.92	0.20	7.0	Pass
			RB1#38	23.69	1.4	-0.75	22.94	0.20	7.0	Pass
			RB1#74	23.51	1.4	-0.75	22.76	0.19	7.0	Pass
			RB36#0	22.74	1.4	-0.75	21.99	0.16	7.0	Pass
			RB36#19	22.70	1.4	-0.75	21.95	0.16	7.0	Pass
			RB36#39	22.76	1.4	-0.75	22.01	0.16	7.0	Pass
			RB75#0	22.64	1.4	-0.75	21.89	0.15	7.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE BAND26 (Part22)										
15 MHz		16-QAM	RB1#0	22.89	1.4	-0.75	22.14	0.16	7.0	Pass
			RB1#38	22.80	1.4	-0.75	22.05	0.16	7.0	Pass
			RB1#74	22.17	1.4	-0.75	21.42	0.14	7.0	Pass
			RB36#0	21.68	1.4	-0.75	20.93	0.12	7.0	Pass
			RB36#19	21.69	1.4	-0.75	20.94	0.12	7.0	Pass
			RB36#39	21.74	1.4	-0.75	20.99	0.13	7.0	Pass
			RB75#0	21.72	1.4	-0.75	20.97	0.13	7.0	Pass
	HCH	QPSK	RB1#0	23.56	1.4	-0.75	22.81	0.19	7.0	Pass
			RB1#38	23.59	1.4	-0.75	22.84	0.19	7.0	Pass
			RB1#74	23.46	1.4	-0.75	22.71	0.19	7.0	Pass
			RB36#0	22.73	1.4	-0.75	21.98	0.16	7.0	Pass
			RB36#19	22.75	1.4	-0.75	22.00	0.16	7.0	Pass
			RB36#39	22.75	1.4	-0.75	22.00	0.16	7.0	Pass
			RB75#0	22.73	1.4	-0.75	21.98	0.16	7.0	Pass
		16-QAM	RB1#0	23.19	1.4	-0.75	22.44	0.18	7.0	Pass
			RB1#38	23.43	1.4	-0.75	22.68	0.19	7.0	Pass
			RB1#74	23.26	1.4	-0.75	22.51	0.18	7.0	Pass
			RB36#0	21.54	1.4	-0.75	20.79	0.12	7.0	Pass
			RB36#19	21.70	1.4	-0.75	20.95	0.12	7.0	Pass
			RB36#39	21.62	1.4	-0.75	20.87	0.12	7.0	Pass
			RB75#0	21.69	1.4	-0.75	20.94	0.12	7.0	Pass

A.2 Peak to Average Ratio

Note 1: For average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB. For GSM, GPRS and EGPRS, there are peak power to demonstrate compliance, PAR measurements are not required.

Note 2: Test plots please refer to the document “Annex No.: BL-EC23A0170-501 Data Part 1.pdf”.

LTE Mode Test Data

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Peak to Average Ratio (dB)	Limit (dB)	Refer to Plot[Note2]	Verdict
LTE Band 26 (Part90)	10 MHz	MCH	QPSK	RB1#0	5.16	13	1.1	Pass
				RB50#0	5.48	13	1.2	Pass
			16-QAM	RB1#0	6.09	13	1.3	Pass
				RB50#0	6.19	13	1.4	Pass
LTE Band 26 (Part22)	15 MHz	LCH	QPSK	RB1#0	5.52	13	2.1	Pass
				RB75#0	5.82	13	2.2	Pass
			16-QAM	RB1#0	6.50	13	2.3	Pass
				RB75#0	6.32	13	2.4	Pass
		MCH	QPSK	RB1#0	5.53	13	2.5	Pass
				RB75#0	5.78	13	2.6	Pass
			16-QAM	RB1#0	6.45	13	2.7	Pass
				RB75#0	6.28	13	2.8	Pass
		HCH	QPSK	RB1#0	5.22	13	2.9	Pass
				RB75#0	5.78	13	2.10	Pass
			16-QAM	RB1#0	6.32	13	2.11	Pass
				RB75#0	6.33	13	2.12	Pass

A.3 Occupied Bandwidth

Note 1: All modes were tested, but only the typical data were reported in this report.

Note 2: Test plots please refer to the document “Annex No.: BL-EC23A0170-501 Data Part 2.pdf”. LTE Mode Test Data

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
Band 26 (Part90)	1.4 MHz	LCH	QPSK	RB6#0	1.087	1.289	1.1
			16-QAM	RB6#0	1.094	1.296	1.2
		MCH	QPSK	RB6#0	1.094	1.288	1.3
			16-QAM	RB6#0	1.087	1.280	1.4
		HCH	QPSK	RB6#0	1.093	1.268	1.5
			16-QAM	RB6#0	1.091	1.279	1.6
	3 MHz	LCH	QPSK	RB15#0	2.699	2.973	1.7
			16-QAM	RB15#0	2.702	3.002	1.8
		MCH	QPSK	RB15#0	2.701	2.982	1.9
			16-QAM	RB15#0	2.698	2.983	1.10
		HCH	QPSK	RB15#0	2.703	2.982	1.11
			16-QAM	RB15#0	2.697	2.988	1.12
	5 MHz	LCH	QPSK	RB25#0	4.499	5.014	1.13
			16-QAM	RB25#0	4.491	4.914	1.14
		MCH	QPSK	RB25#0	4.493	4.963	1.15
			16-QAM	RB25#0	4.510	4.984	1.16
		HCH	QPSK	RB25#0	4.491	4.968	1.17
			16-QAM	RB25#0	4.504	4.990	1.18
	10 MHz	MCH	QPSK	RB50#0	8.959	9.878	1.19
			16-QAM	RB50#0	8.951	9.874	1.20

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
Band 26 (Part22)	1.4 MHz	LCH	QPSK	RB6#0	1.088	1.288	2.1
			16-QAM	RB6#0	1.095	1.296	2.2
		MCH	QPSK	RB6#0	1.088	1.292	2.3
			16-QAM	RB6#0	1.089	1.274	2.4
		HCH	QPSK	RB6#0	1.092	1.278	2.5
			16-QAM	RB6#0	1.092	1.281	2.6
	3 MHz	LCH	QPSK	RB15#0	2.700	2.979	2.7
			16-QAM	RB15#0	2.701	2.997	2.8
		MCH	QPSK	RB15#0	2.704	2.984	2.9
			16-QAM	RB15#0	2.698	2.982	2.10
		HCH	QPSK	RB15#0	2.698	2.981	2.11
			16-QAM	RB15#0	2.696	2.987	2.12
	5 MHz	LCH	QPSK	RB25#0	4.512	4.976	2.13
			16-QAM	RB25#0	4.494	4.980	2.14
		MCH	QPSK	RB25#0	4.496	5.005	2.15
			16-QAM	RB25#0	4.506	4.972	2.16
		HCH	QPSK	RB25#0	4.484	4.945	2.17
			16-QAM	RB25#0	4.486	5.004	2.18
	10 MHz	LCH	QPSK	RB50#0	8.967	9.946	2.19
			16-QAM	RB50#0	8.965	9.875	2.20
		MCH	QPSK	RB50#0	8.938	9.842	2.21
			16-QAM	RB50#0	8.949	9.874	2.22
		HCH	QPSK	RB50#0	8.953	9.839	2.23
			16-QAM	RB50#0	8.956	9.912	2.24
	15 MHz	LCH	QPSK	RB75#0	13.410	14.634	2.25
			16-QAM	RB75#0	13.418	14.557	2.26
		MCH	QPSK	RB75#0	13.389	14.566	2.27
			16-QAM	RB75#0	13.390	14.583	2.28
		HCH	QPSK	RB75#0	13.399	14.581	2.29
			16-QAM	RB75#0	13.414	14.595	2.30

A.4 Frequency Stability

LTE Band 26 (Part90) QPSK 10 MHz

Test Conditions		Frequency Deviation		Verdict
Power (VDC)	Temperature (°C)	MCH 819 MHz		
		Value (Hz)	Limits (Hz)	
3.9	-30	0.53	±2047.5	Pass
	-20	0.41		
	-10	0.53		
	0	0.49		
	+10	0.07		
	+20	1.20		
	+25	0.54		
	+30	-0.15		
	+40	0.89		
	+50	0.25		
3.4	+20	0.29		
4.4	+20	0.03		

LTE Band 26 (Part90) 16QAM 10 MHz

Test Conditions		Frequency Deviation		Verdict
Power (VDC)	Temperature (°C)	MCH 819 MHz		
		Value (Hz)	Limits (Hz)	
3.9	-30	0.50	±2047.5	Pass
	-20	0.01		
	-10	0.55		
	0	0.72		
	+10	0.66		
	+20	0.15		
	+25	0.03		
	+30	-0.69		
	+40	-0.05		
	+50	-0.09		
3.4	+20	0.12		
4.4	+20	0.01		

LTE Band 26 (Part22) QPSK 10 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 829 MHz		MCH 836.5 MHz		HCH 844 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.9	-30	3.11	±2072.5	0.18	±2091.25	1.26	±2110	Pass
	-20	2.00		0.43		1.69		
	-10	2.30		0.57		0.79		
	0	2.20		2.53		2.25		
	+10	2.30		-0.06		1.96		
	+20	0.70		0.29		0.88		
	+25	1.73		0.70		0.58		
	+30	1.10		0.24		1.48		
	+40	0.26		0.22		1.54		
	+50	1.50		0.19		0.58		
3.4	+20	0.69		0.36		0.33		
4.4	+20	0.74		0.27		0.45		

LTE Band 26 (Part22) 16QAM 10 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 829 MHz		MCH 836.5 MHz		HCH 844 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.9	-30	1.90	±2072.5	1.24	±2091.25	0.89	±2110	Pass
	-20	1.64		0.85		1.16		
	-10	1.62		0.93		0.75		
	0	2.01		2.15		2.32		
	+10	1.96		1.22		0.04		
	+20	0.94		-0.33		1.12		
	+25	0.84		0.53		0.22		
	+30	1.32		0.87		0.57		
	+40	0.48		1.11		1.00		
	+50	1.92		0.30		0.48		
3.4	+20	0.39		0.29		0.63		
4.4	+20	0.41		0.19		0.22		

A.5 Spurious Emission at Antenna Terminals

Note 1: All modes have been tested, and only the worst case data are shown here.

Note 2: The frequencies of verdict which are marked by "N/A" should be ignored because they are UE carrier frequency.

Note 3: Test plots please refer to the document “Annex No.: BL-EC23A0170-501 Data Part 3.pdf”.

LTE Mode Test Verdict

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
Band 26 (Part90)	1.4 MHz	LCH	QPSK	RB1#0	1.1	Pass
			16-QAM	RB1#0	1.2	Pass
		MCH	QPSK	RB1#0	1.3	Pass
			16-QAM	RB1#0	1.4	Pass
		HCH	QPSK	RB1#0	1.5	Pass
			16-QAM	RB1#0	1.6	Pass
	3 MHz	LCH	QPSK	RB1#0	1.7	Pass
			16-QAM	RB1#0	1.8	Pass
		MCH	QPSK	RB1#0	1.9	Pass
			16-QAM	RB1#0	1.10	Pass
		HCH	QPSK	RB1#0	1.11	Pass
			16-QAM	RB1#0	1.12	Pass
	5 MHz	LCH	QPSK	RB1#0	1.13	Pass
			16-QAM	RB1#0	1.14	Pass
		MCH	QPSK	RB1#0	1.15	Pass
			16-QAM	RB1#0	1.16	Pass
		HCH	QPSK	RB1#0	1.17	Pass
			16-QAM	RB1#0	1.18	Pass
	10 MHz	MCH	QPSK	RB1#0	1.19	Pass
			16-QAM	RB1#0	1.20	Pass

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
Band 26 (Part22)	1.4 MHz	LCH	QPSK	RB1#0	2.1	Pass
			16-QAM	RB1#0	2.2	Pass
		MCH	QPSK	RB1#0	2.3	Pass
			16-QAM	RB1#0	2.4	Pass
		HCH	QPSK	RB1#0	2.5	Pass
			16-QAM	RB1#0	2.6	Pass
	3 MHz	LCH	QPSK	RB1#0	2.7	Pass
			16-QAM	RB1#0	2.8	Pass
		MCH	QPSK	RB1#0	2.9	Pass
			16-QAM	RB1#0	2.10	Pass
		HCH	QPSK	RB1#0	2.11	Pass
			16-QAM	RB1#0	2.12	Pass
	5 MHz	LCH	QPSK	RB1#0	2.13	Pass
			16-QAM	RB1#0	2.14	Pass
		MCH	QPSK	RB1#0	2.15	Pass
			16-QAM	RB1#0	2.16	Pass
		HCH	QPSK	RB1#0	2.17	Pass
			16-QAM	RB1#0	2.18	Pass
	10 MHz	LCH	QPSK	RB1#0	2.19	Pass
			16-QAM	RB1#0	2.20	Pass
		MCH	QPSK	RB1#0	2.21	Pass
			16-QAM	RB1#0	2.22	Pass
		HCH	QPSK	RB1#0	2.23	Pass
			16-QAM	RB1#0	2.24	Pass
	15 MHz	LCH	QPSK	RB1#0	2.25	Pass
			16-QAM	RB1#0	2.26	Pass
		MCH	QPSK	RB1#0	2.27	Pass
			16-QAM	RB1#0	2.28	Pass
		HCH	QPSK	RB1#0	2.29	Pass
			16-QAM	RB1#0	2.30	Pass

A.6 Band Edge

Note 1: Test plots please refer to the document “Annex No.: BL-EC23A0170-501 Data Part 4.pdf”.

LTE Mode Test Verdict

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
Band 26 (Part90)	1.4 MHz	LCH	QPSK	RB1#0	1.1	Pass
				RB6#0	1.2	Pass
			16-QAM	RB1#0	1.3	Pass
				RB6#0	1.4	Pass
		HCH	QPSK	RB1#5	1.5	Pass
				RB6#0	1.6	Pass
			16-QAM	RB1#5	1.7	Pass
				RB6#0	1.8	Pass
	3 MHz	LCH	QPSK	RB1#0	1.9	Pass
				RB15#0	1.10	Pass
			16-QAM	RB1#0	1.11	Pass
				RB15#0	1.12	Pass
		HCH	QPSK	RB1#14	1.13	Pass
				RB15#0	1.14	Pass
			16-QAM	RB1#14	1.15	Pass
				RB15#0	1.16	Pass
	5 MHz	LCH	QPSK	RB1#0	1.17	Pass
				RB25#0	1.18	Pass
			16-QAM	RB1#0	1.19	Pass
				RB25#0	1.20	Pass
		HCH	QPSK	RB1#24	1.21	Pass
				RB25#0	1.22	Pass
			16-QAM	RB1#24	1.23	Pass
				RB25#0	1.24	Pass
	10 MHz	MCH	QPSK	RB1#0	1.25	Pass
				RB50#0	1.26	Pass
			16-QAM	RB1#0	1.27	Pass
				RB50#0	1.28	Pass
		MCH	QPSK	RB1#49	1.29	Pass
				RB50#0	1.30	Pass
			16-QAM	RB1#49	1.31	Pass
				RB50#0	1.32	Pass

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
Band 26 (Part22)	1.4 MHz	LCH	QPSK	RB1#0	2.1	Pass
				RB6#0	2.2	Pass
			16-QAM	RB1#0	2.3	Pass
				RB6#0	2.4	Pass
		HCH	QPSK	RB1#5	2.5	Pass
				RB6#0	2.6	Pass
			16-QAM	RB1#5	2.7	Pass
				RB6#0	2.8	Pass
	3 MHz	LCH	QPSK	RB1#0	2.9	Pass
				RB15#0	2.10	Pass
			16-QAM	RB1#0	2.11	Pass
				RB15#0	2.12	Pass
		HCH	QPSK	RB1#14	2.13	Pass
				RB15#0	2.14	Pass
			16-QAM	RB1#14	2.15	Pass
				RB15#0	2.16	Pass
	5 MHz	LCH	QPSK	RB1#0	2.17	Pass
				RB25#0	2.18	Pass
			16-QAM	RB1#0	2.19	Pass
				RB25#0	2.20	Pass
		HCH	QPSK	RB1#24	2.21	Pass
				RB25#0	2.22	Pass
			16-QAM	RB1#24	2.23	Pass
				RB25#0	2.24	Pass
	10 MHz	LCH	QPSK	RB1#0	2.25	Pass
				RB50#0	2.26	Pass
			16-QAM	RB1#0	2.27	Pass
				RB50#0	2.28	Pass
		HCH	QPSK	RB1#49	2.29	Pass
				RB50#0	2.30	Pass
			16-QAM	RB1#49	2.31	Pass
				RB50#0	2.32	Pass
	15 MHz	LCH	QPSK	RB1#0	2.33	Pass
				RB75#0	2.34	Pass
			16-QAM	RB1#0	2.35	Pass
				RB75#0	2.36	Pass
		HCH	QPSK	RB1#74	2.37	Pass
				RB75#0	2.38	Pass
			16-QAM	RB1#74	2.39	Pass
				RB75#0	2.40	Pass

A.7 Field Strength of Spurious Radiation

Note 1: All modes have been tested, and only the worst case data are shown here.

Note 2: The frequencies of verdict which are marked by "N/A" should be ignored because they are UE carrier frequency.

Note 3: Test plots please refer to the document “Annex No.: BL-EC23A0170-501 Data Part 5.pdf”.

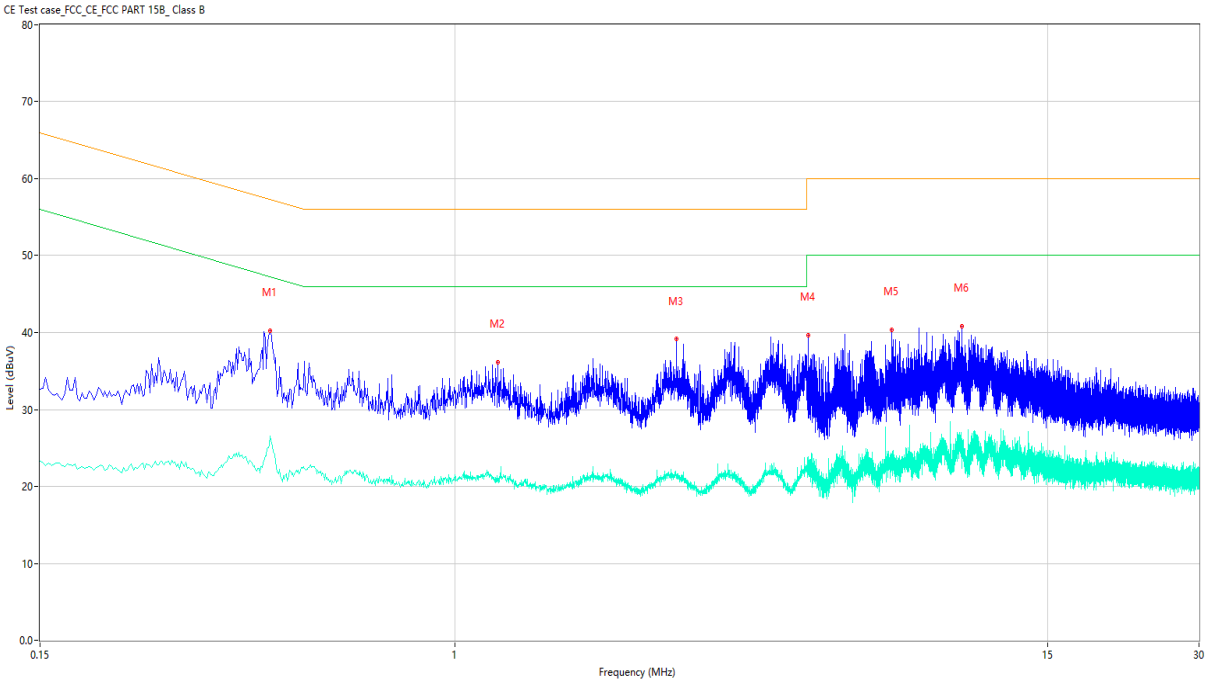
LTE Mode Test Verdict

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
Band 26 (Part90)	1.4 MHz	MCH	QPSK	RB1#0	1.1	Pass
	3 MHz	MCH	QPSK	RB1#0	1.2	Pass
	5 MHz	MCH	QPSK	RB1#0	1.3	Pass
	10 MHz	MCH	QPSK	RB1#0	1.4	Pass
Band 26 (Part22)	1.4 MHz	MCH	QPSK	RB1#0	2.1	Pass
	3 MHz	MCH	QPSK	RB1#0	2.2	Pass
	5 MHz	MCH	QPSK	RB1#0	2.3	Pass
	10 MHz	MCH	QPSK	RB1#0	2.4	Pass
	15 MHz	MCH	QPSK	RB1#0	2.5	Pass

A.8 AC Power-line Conducted Emissions

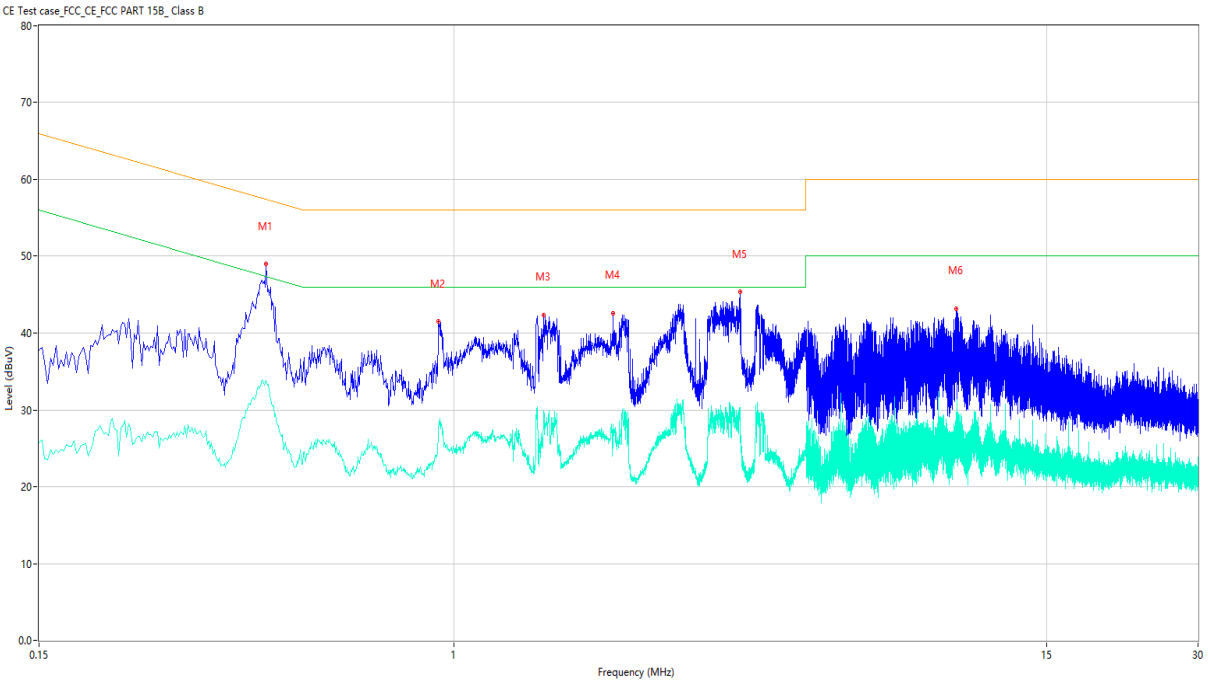
Note: Only the worst test results were recorded in this report.

L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.430	40.20	10.18	57.25	17.05	Peak	L	Pass
1**	0.430	26.53	10.18	47.25	20.72	AV	L	Pass
2	1.218	36.15	10.19	56.00	19.85	Peak	L	Pass
2**	1.218	21.03	10.19	46.00	24.97	AV	L	Pass
3	2.752	39.14	10.24	56.00	16.86	Peak	L	Pass
3**	2.752	21.54	10.24	46.00	24.46	AV	L	Pass
4	5.024	39.64	10.27	60.00	20.36	Peak	L	Pass
4**	5.024	23.75	10.27	50.00	26.25	AV	L	Pass
5	7.374	40.35	10.34	60.00	19.65	Peak	L	Pass
5**	7.374	23.87	10.34	50.00	26.13	AV	L	Pass
6	10.156	40.86	10.48	60.00	19.14	Peak	L	Pass
6**	10.156	25.52	10.48	50.00	24.48	AV	L	Pass

N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.424	48.96	10.17	57.37	8.41	Peak	N	Pass
1**	0.424	33.85	10.17	47.37	13.52	AV	N	Pass
2	0.932	41.47	10.18	56.00	14.53	Peak	N	Pass
2**	0.932	27.70	10.18	46.00	18.30	AV	N	Pass
3	1.506	42.36	10.20	56.00	13.64	Peak	N	Pass
3**	1.506	29.91	10.20	46.00	16.09	AV	N	Pass
4	2.068	42.59	10.21	56.00	13.41	Peak	N	Pass
4**	2.068	28.06	10.21	46.00	17.94	AV	N	Pass
5	3.696	45.33	10.25	56.00	10.67	Peak	N	Pass
5**	3.696	28.83	10.25	46.00	17.17	AV	N	Pass
6	9.936	43.15	10.49	60.00	16.85	Peak	N	Pass
6**	9.936	24.82	10.49	50.00	25.18	AV	N	Pass

ANNEX B TEST SETUP PHOTOS

Please refer to the document “BL-EC23A0170-501 AR.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer to the document “BL-EC23A0170-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer to the document “BL-EC23A0170-AI.PDF”.

Statement

1. The laboratory guarantees the scientificity, accuracy and impartiality of the test, and is responsible for all the information in the report, except the information provided by the customer. The customer is responsible for the impact of the information provided on the validity of the results.
2. The report without China inspection body and laboratory Mandatory Approval (CMA) mark has no effect of proving to the society.
3. For the report with CNAS mark or A2LA mark, the items marked with "☆" are not within the accredited scope.
4. This report is invalid if it is altered, without the signature of the testing and approval personnel, or without the “inspection and testing dedicated stamp” or test report stamp.
5. The test data and results are only valid for the tested samples provided by the customer.
6. This report shall not be partially reproduced without the written permission of the laboratory.
7. Any objection shall be raised to the laboratory within 30 days after receiving the report.

--END OF REPORT--