FCC RF Test Report

For

IK511US

Test Standards:	FCC 47 CFR Part 2, 96
Product Name:	TCL LINKPORT IK511
Model Name:	IK511US
Additional Model:	N/A
Brand Name:	TCL
FCC ID:	2ACCJSCD004
Classification:	Citizens Band End User Devices (CBE)
Report No.:	EC2505073RF01
Tested Date:	2025-04-17 to 2025-05-30
Issued Date:	2025-05-30
Prepared By:	Laxy Ruan / Engineer
Approved By:	Tiny Yang / RF Manager

Testing Laboratory:

Hunan Ecloud Testing Technology Co., Ltd.

Building A1, Changsha E Center, No. 18 Xiangtai Avenue, Liuyang Economic and Technological Development Zone, Hunan, P.R.C

Tel.: +86-731-89634887 Fax.: +86-731-89634887

www.hn-ecloud.com

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	2025-05-30	Valid	Original Report

TABLE OF CONTENTS

Summary of Test Result

Report Section	Standard Section	Description	Result	Remark
4.1	§2.1046	Conducted Output Power	PASS	-
	§96.41(b)	Equivalent Isotropically Radiated Power (B42/B48)		
4.2	§2.1055	Frequency Stability	PASS	-
4.3	§96.41(g)	Peak-to-average Ratio	PASS	-
4.4	§2.1049	Occupied Bandwidth	PASS	-
4.5	§2.1051 §96.41(e)	Conducted Band Edge Measurement (B42/B48)	PASS	-
4.6	§2.1051 §96.41(e)	Conducted Spurious Emissions (B42/B48)	PASS	-
4.7	§96.41(e)	Adjacent Channel Leakage Ratio (ACLR)	PASS	-
4.8	§2.1053 §96.41(e)	Radiated Spurious Emissions (B42/B48)	PASS	-

1 Test Laboratory

1.1 Test Facility

CNAS (Accreditation Number: L11138)

Hunan Ecloud Testing Technology Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS).

FCC (Designation Number: CN1244, Test Firm Registration Number: 793308)

Hunan Ecloud Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

ISED (CAB Identifier: CN0012, ISED# : 24347)

Hunan Ecloud Testing Technology Co., Ltd. has been listed on the Wireless Device Testing Laboratories list of innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements.

A2LA (Certificate Code: 4895.01)

Hunan Ecloud Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

2 General Description

2.1 Applicant

TCL Communication Ltd.

5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong

2.2 Manufacturer

TCL Communication Ltd.

5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong

2.3 Product Feature of Equipment Under Test

Product Feature	
Product Name	TCL LINKPORT IK511
Model Name	IK511US
Additional Model	N/A
Difference Description	N/A
Nominal Voltage	DC 5V
HW Version	V3.0
SW Version	IK511USV1_ZZ_01.00_01
Sample No.	2505073R-1/1
Sample Received Date	2025-04-17

Note:

1. The above EUT information is declared by manufacturer. Our laboratory is not responsible for the information provided by the manufacturer.
2. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2.4 Product Specification of Equipment Under Test

Standards-related Product Specification		
Modulation Technology	QPSK, 16QAM, 64QAM, 256QAM	
Operation Band	LTE Band 42	
	LTE Band 48	
Tx Frequency	LTE Band 42	3552.5 MHz ~ 3597.5MHz
	LTE Band 48	3552.5MHz ~ 3697.5MHz
Rx Frequency	LTE Band 42	3552.5 MHz ~ 3597.5MHz
	LTE Band 48	3552.5MHz ~ 3697.5MHz
Channel Bandwidth	LTE Band 42	5MHz, 10MHz, 15MHz, 20MHz
	LTE Band 48	5MHz, 10MHz, 15MHz, 20MHz
Maximum E.I.R.P.	LTE Band 42	198.61mW
	LTE Band 48	194.54mW
Antenna Type/ Gain	LTE Band 42	Fixed Internal Antenna with 2.0dBi gain
	LTE Band 48	Fixed Internal Antenna with 2.4dBi gain

Note:

1. The above EUT information is declared by manufacturer. Our laboratory is not responsible for the information provided by the manufacturer.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

2.5 Test Location

All tests were performed at:

Building A1, Changsha E Centre, No. 18 Xiangtai Avenue, Liuyang Economic and Technological Development Zone, Hunan, P.R.C.

Telephone: +86 (0) 731 8963 4887 Fax:+86 (0) 731 8963 4887

No tests were sub-contracted.

2.6 Modification of EUT

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

2.7 Applicable Standards

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

- FCC 47 CFR Part 2, 96
- FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- FCC KDB 414788 D01 Radiated Test Site v01r01
- FCC KDB 940660 D01 Part 96 CBRS Eqpt v03
- ANSI/TIA-603-E-2016
- ANSI C63.26-2015

Note:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B recorded in a separate test report.

3 Test Configuration of Equipment Under Test

3.1 Test Item and Test Configuration

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

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

Radiated emissions were investigated from 30 MHz to 10th harmonic.

Test modes are chosen to be reported as the worst case configuration below:

Test Items	Band	Bandwidth(MHz)						Modulation				RB#			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64 QAM	256 QAM	1	Half	Full	L	M	H
Max. Output Power and E.R.P./ E.I.R.P.	42	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	48	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Peak-to-Average Ratio	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	48	-	-	●	●	●	●	●	●	●	●	●	-	●	●	●	●
26dB and 99% Bandwidth	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	48	-	-	●	●	●	●	●	●	●	●	-	-	●	-	●	-
Adjacent Channel Leakage Ratio	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	48	-	-	●	●	●	●	●	●	●	●	●	-	●	●	●	●
Conducted Band Edge	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	48	-	-	●	●	●	●	●	-	-	-	●	-	●	●	●	●
Conducted Spurious Emission	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	48	-	-	●	●	●	●	●	-	-	-	●	-	-	●	●	●
Frequency Stability	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	48	-	-	-	-	-	●	●	-	-	-	-	-	●	●	●	●

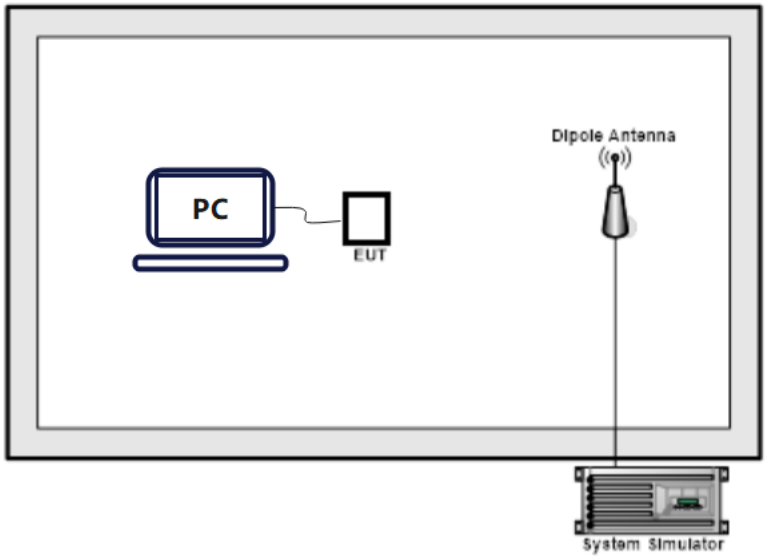
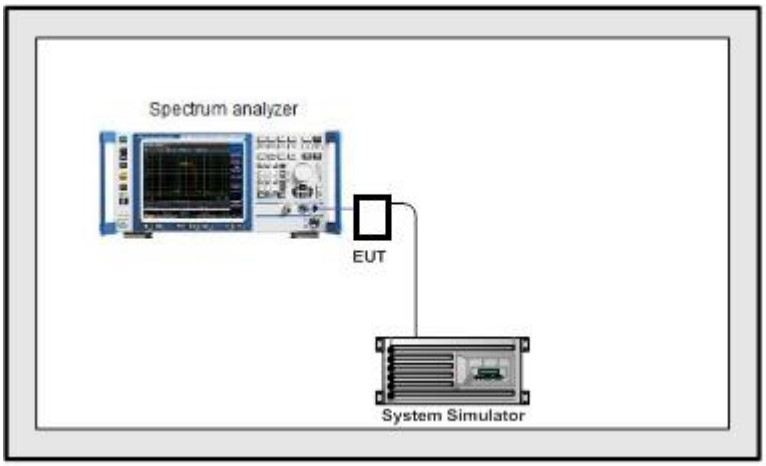
Test Items	Band	Bandwidth(MHz)						Modulation				RB#			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64 QAM	256 QAM	1	Half	Full	L	M	H
Radiated Spurious Emission	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	48	-	-	●	●	●	●	●	-	-	-	●	-	-	●	●	●
Note	1. The mark " ●"means that this configuration is chosen for testing. 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. For the setting 1RB#0 has the highest power, conducted spurious emissions and radiated spurious emission only reported this worst case condition.																

3.2 Frequency List of Low/Middle/High Channels

LTE Band 42 Channel	Bandwidth [MHz]	N_{UL}	Frequency of Uplink [MHz]	N_{DL}	Frequency of Downlink [MHz]
Low Range	5	43115	3552.5	43115	3552.5
	10	43140	3555	43140	3555
	15	43165	3557.5	43165	3557.5
	20	43190	3560	43190	3560
Middle Range	5/10/15/20	43340	3575	43340	3575
High Range	5	43565	3597.5	43565	3597.5
	10	43540	3595	43540	3595
	15	43515	3592.5	43515	3592.5
	20	43490	3590	43490	3590

LTE Band 48 Channel	Bandwidth[MHz]	N_{UL}	Frequency of Uplink [MHz]	N_{DL}	Frequency of Downlink [MHz]
Low Range	5	55265	3552.5	55265	3552.5
	10	55290	3555.0	55290	3555.0
	15	55315	3557.5	55315	3557.5
	20	55340	3560.0	55340	3560.0
Middle Range	5/10/15/20	55990	3625.0	55990	3625.0
High Range	5	56715	3697.5	56715	3697.5
	10	56690	3695.0	56690	3695.0
	15	56665	3692.5	56665	3692.5
	20	56640	3690.0	56640	3690.0

3.3 Connection Diagram of Test System

Radiated Setup

Conducted Setup


Note: This example is connection diagram of EUT test configurations. For detail, please refer to test mode configuration and setup photographs for each test item.

3.4 Support Unit Used In Test Configuration

N/A

3.5 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

The following shows an offset computation example with RF cable loss 4.5 dB and a 10dB attenuator.

Example :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB)

= 4.5 + 10 = 14.5 (dB).

3.6 Test Condition

Test Item	Environmental Condition	Input Power	Test Engineer
Conducted Output Power and E.I.R.P.	20 ~ 25 deg. C, 55 ~ 70% RH	DC 5V	Laxy Ruan
Frequency Stability	20 deg. C, 55 ~ 70% RH	DC 4.75V/5V/5.25V	Laxy Ruan
	-30 ~ 50 deg. C, 55 ~ 70% RH	DC 5V	
Peak-to-average Ratio	20 ~ 25 deg. C, 55 ~ 70% RH	DC 5V	Laxy Ruan
99% Occupied Bandwidth and 26dB Bandwidth	20 ~ 25 deg. C, 55 ~ 70% RH	DC 5V	Laxy Ruan
Adjacent Channel Leakage Ratio (ACLR)	20 ~ 25 deg. C, 55 ~ 70% RH	DC 5V	Laxy Ruan
Conducted Band Edge Measurement	20 ~ 25 deg. C, 55 ~ 70% RH	DC 5V	Laxy Ruan
Conducted Spurious Emissions	20 ~ 25 deg. C, 55 ~ 70% RH	DC 5V	Laxy Ruan
Radiated Spurious Emissions	20 ~ 25 deg. C, 55 ~ 70% RH	DC 5V	Jack Liu

Note: The voltage information is declared by manufacturer. Our laboratory is not responsible for the information provided by the manufacturer.

4 Test Types and Results

4.1 Conducted Output Power and E.I.R.P.

4.1.1 Limit

§96.41(b) - The maximum effective isotropic radiated power (EIRP) of any End User Device are limited to 23dBm/10MHz.

4.1.2 Test Procedures

Conducted Output Power Measurement

1. The testing follows ANSI C63.26-2015 section 5.2.4.5.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. Set EUT to transmit at maximum output power.
4. Set span to 2 x to 3 x the OBW.
5. Set RBW = 1% to 5% of the OBW, VBW ≥ 3 x RBW.
6. Number of sweep points ≥ 2 x Span/RBW.
7. Detector = power averaging (rms).
8. Use the channel power function of the spectrum analyzer and set channel integrated bandwidth to 10MHz.
9. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple.
10. If the signal's duty cycle < 98%, add 10 log (1/duty cycle) to the measured power level to compute the average power during continuous transmission.
11. Record the maximum average power level.

ERP/EIRP Measurement

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

ERP or EIRP = $P_{Meas} + G_T – L_C$

Where:

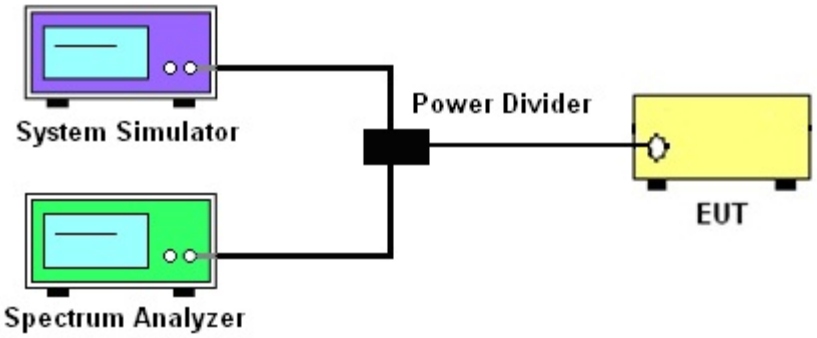
ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, typically dBW or dBm);

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

G_T = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

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

4.1.3 Test Setup



4.1.4 Test Results

Please refer to Appendix C~D of this test report.

4.2 Frequency Stability

4.2.1 Limit

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

4.2.2 Test Condition

Temp. = −30° to +50°C

Voltage = (85% - 115%)

Unless otherwise specified, vary primary supply voltage from 85% to 115% of the nominal value for other than hand carried battery equipment.

For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.

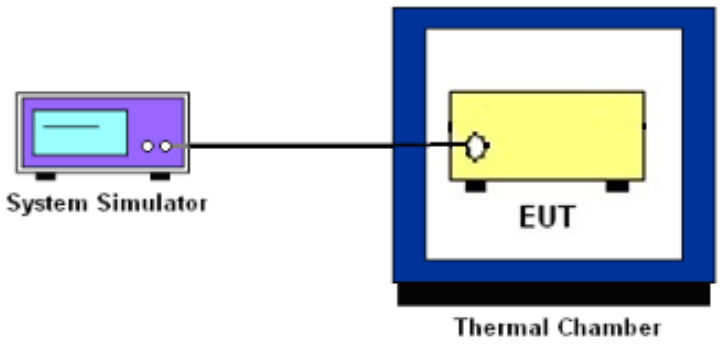
4.2.3 Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26-2015 section 5.6.4.
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C steps up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

4.2.4 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26-2015 section 5.6.5.
2. The EUT was placed in a temperature chamber at 20±5° C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
4. Record the maximum frequency change.

4.2.5 Test Setup



4.2.6 Test Results

Please refer to Appendix C~D of this test report.

4.3 Peak-to-average Ratio

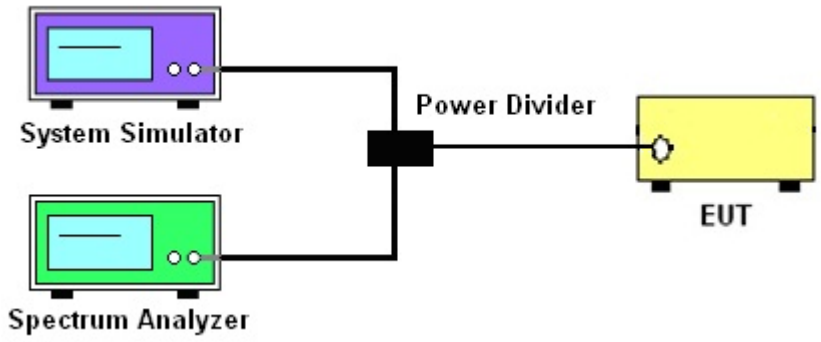
4.3.1 Limit

In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

4.3.2 Test Procedures

1. The testing follows ANSI C63.26-2015 Section 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. Set EUT to transmit at maximum output power.
4. The signal analyzer's CCDF measurement profile is enabled.
5. Frequency = carrier center frequency.
6. Set resolution/measurement bandwidth ≥ OBW or specified reference bandwidth.
7. Set the number of counts to a value that stabilizes the measured CCDF curve.
8. Set the CCDF (Complementary Cumulative Distribution Function) option of the spectrum analyzer.
9. Record the maximum PAPR level associated with a probability of 0.1%.

4.3.3 Test Setup



4.3.4 Test Results

Please refer to Appendix C~D of this test report.

4.4 99% Occupied Bandwidth and 26dB Bandwidth

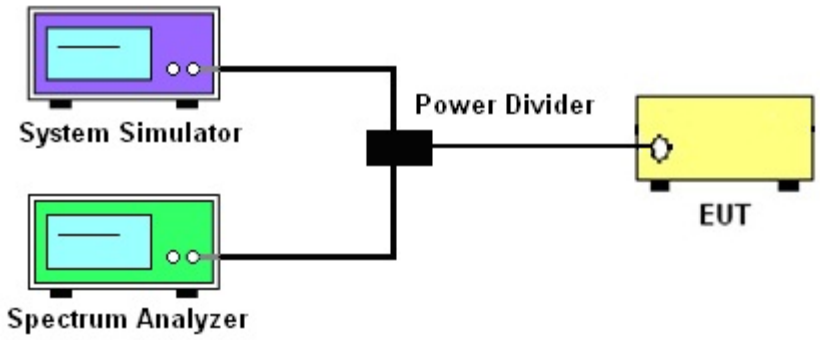
4.4.1 Limit

For reporting purposes only.

4.4.2 Test Procedures

1. The testing follows Sub clause 5.4.3 and Sub clause 5.4.4 of ANSI C63.26-2015.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth the bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
4. RBW = 1%~5% of the expected OBW, VBW ≥ 3 x RBW.
5. Set the detection mode to peak, and the trace mode to max hold.
6. 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).
7. Determine the "-26 dB down amplitude" as equal to (Reference Value – X).
8. 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 the "–X dB down amplitude" determined in step 6. 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.
9. Use the 99 % power bandwidth function of the spectrum analyzer and record the measured bandwidth.

4.4.3 Test Setup



4.4.4 Test Results

Please refer to Appendix C~D of this test report.

4.5 Conducted Band Edge Measurement

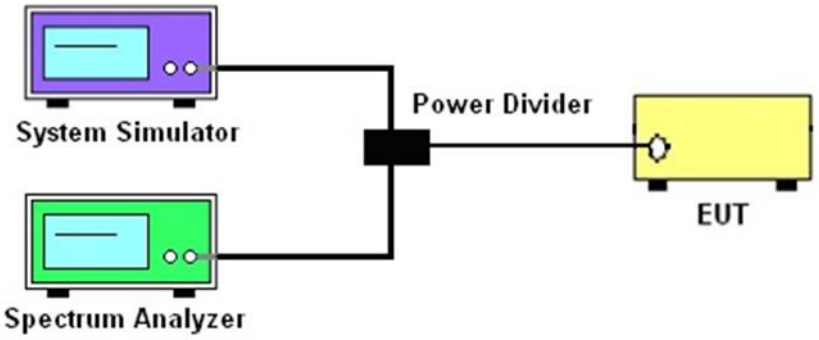
4.5.1 Limit

§96.41(e) - The conducted power of any End User Device emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed −13 dBm/MHz within 0 to B megahertz (where B is the bandwidth in megahertz of the assigned channel or multiple contiguous channels of the End User Device) above the upper CBSD-assigned channel edge and within 0 to B megahertz below the lower CBSD-assigned channel edge. At all frequencies greater than B megahertz above the upper CBSD assigned channel edge and less than B megahertz below the lower CBSD-assigned channel edge, the conducted power of any End User Device emission shall not exceed −25 dBm/MHz. For CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed −25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's authorized frequency channel, a resolution bandwidth of no less than one percent of the fundamental emission bandwidth may be employed.

4.5.2 Test Procedures

1. The testing follows ANSI C63.26-2015 Section 5.7.
2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
3. Start and stop frequency were set such that the band edge would be placed in the center of the plot.
4. Span was set large enough so as to capture all out of band emissions near the band edge.
5. Set the RBW as required by applicable regulations, VBW ≥ 3 × RBW.
6. Detector = RMS.
7. Number of sweep points ≥ 2 x Span/RBW.
8. The trace was allowed to stabilize.
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
10. Checked that all the results comply with the limit.

4.5.3 Test Setup



4.5.4 Test Results

Please refer to Appendix C~D of this test report.

4.6 Conducted Spurious Emissions

4.6.1 Limit

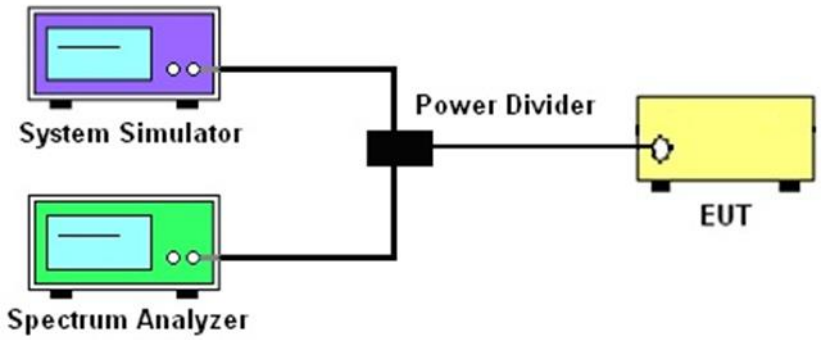
The power of any emission below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

The spectrum is scanned from 9 KHz up to a frequency including its 10th harmonic or to 40 GHz, whichever is lower.

4.6.2 Test Procedures

1. The testing follows ANSI C63.26-2015 section 5.7.
2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The conducted spurious emission for the whole frequency range was taken.
5. Set the RBW as required by applicable regulations, VBW ≥ 3 × RBW.
6. Detector = RMS.
7. Taking the record of maximum spurious emission.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
9. Checked that all the results comply with the limit.

4.6.3 Test Setup



4.6.4 Test Results

Please refer to Appendix C~D of this test report.

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

4.7 Adjacent Channel Leakage Ratio (ACLR)

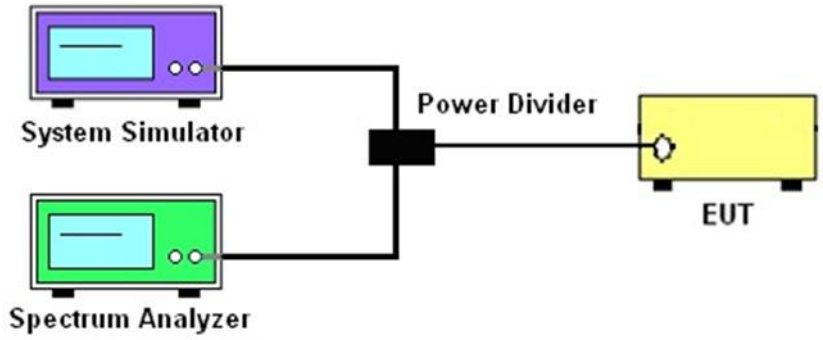
4.7.1 Limit

The Adjacent Channel Leakage Ratio for End User Devices shall be at least 30 dB.

4.7.2 Test Procedures

1. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
2. Frequency = carrier center frequency.
3. Set span to 3 x to 5 x the OBW.
4. Set RBW = 30KHz, VBW ≥ 3 x RBW.
5. Set the detection mode to power averaging (rms), and the trace mode to max hold.
6. Record the maximum ACLR level.

4.7.3 Test Setup



4.7.4 Test Results

Please refer to Appendix C~D of this test report.

4.8 Radiated Spurious Emissions

4.8.1 Limit

The power of any emission below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

The spectrum is scanned from 9 KHz up to a frequency including its 10th harmonic or to 40 GHz, whichever is lower.

4.8.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI/TIA-603-E-2016 Section 2.2.12.

Below 1GHz test procedure as below:

1. The EUT was powered ON and placed on a 80cm high table in the chamber. The antenna of the transmitter was extended to its maximum length.
2. Set the RBW as required by applicable regulations, VBW ≥ 3 × RBW, taking record of maximum spurious emission.
3. The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made.
4. Steps 1) to 3) were performed with the EUT and the receive antenna in both vertical and horizontal polarization.
5. The transmitter was then removed and replaced with another antenna. The center of the antenna was approximately at the same location as the center of the transmitter.
6. A signal at the disturbance was fed to the substitution antenna by means of a non-radiating cable. With both the substitution and the receive antennas horizontally polarized, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver. The level of the signal generator was adjusted until the measured field strength level in step 3) is obtained for this set of conditions.
7. The output power into the substitution antenna was then measured.
8. Steps 5) to 7) were repeated with both antennas polarized.
9. Calculate power in dBm by the following formula:

   ERP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBd)

   Where:

   Pg is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to Pg (dBm) – cable loss (dB).

10. The calculated ERP are then compared to the absolute spurious emission limit.

Above 1GHz test procedure as below:

1. The EUT was powered ON and placed on a 150cm high table in the chamber. The antenna of the transmitter was extended to its maximum length.
2. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.
3. The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made.
4. Steps 1) to 3) were performed with the EUT and the receive antenna in both vertical and horizontal polarization.
5. The transmitter was then removed and replaced with another antenna. The center of the antenna was approximately at the same location as the center of the transmitter.
6. A signal at the disturbance was fed to the substitution antenna by means of a non-radiating cable. With both the substitution and the receive antennas horizontally polarized, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver. The level of the signal generator was adjusted until the measured field strength level in step 3) is obtained for this set of conditions.
7. The output power into the substitution antenna was then measured.
8. Steps 5) to 7) were repeated with both antennas polarized.
9. Calculate power in dBm by the following formula:

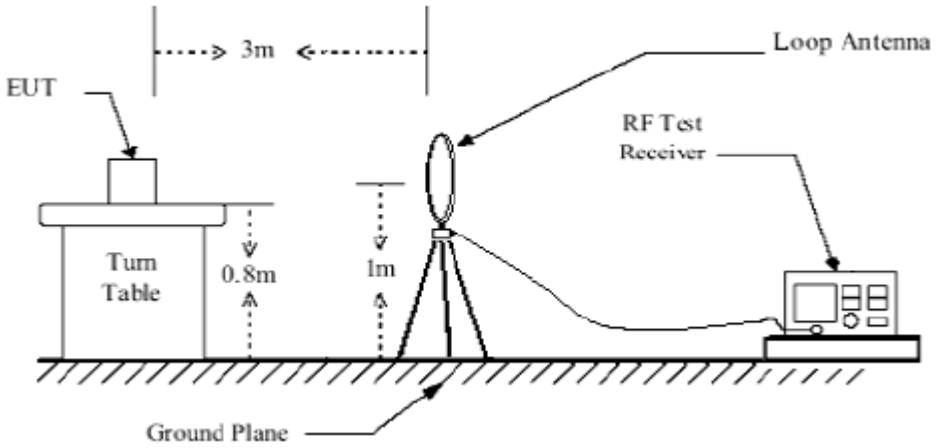
   EIRP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBi)

   Where:

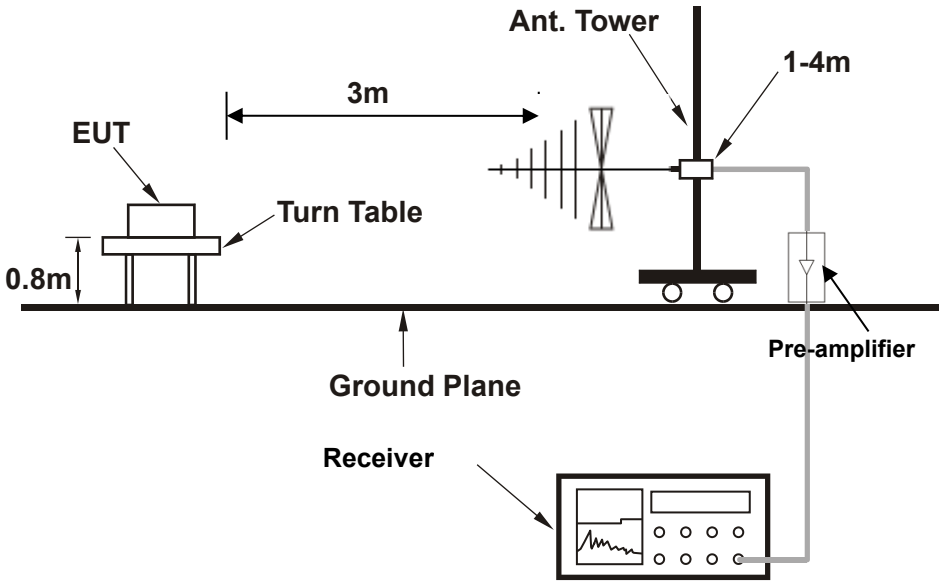
   Pg is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to Pg (dBm) – cable loss (dB).
10. The calculated EIRP are then compared to the absolute spurious emission limit.

4.8.3 Test Setup

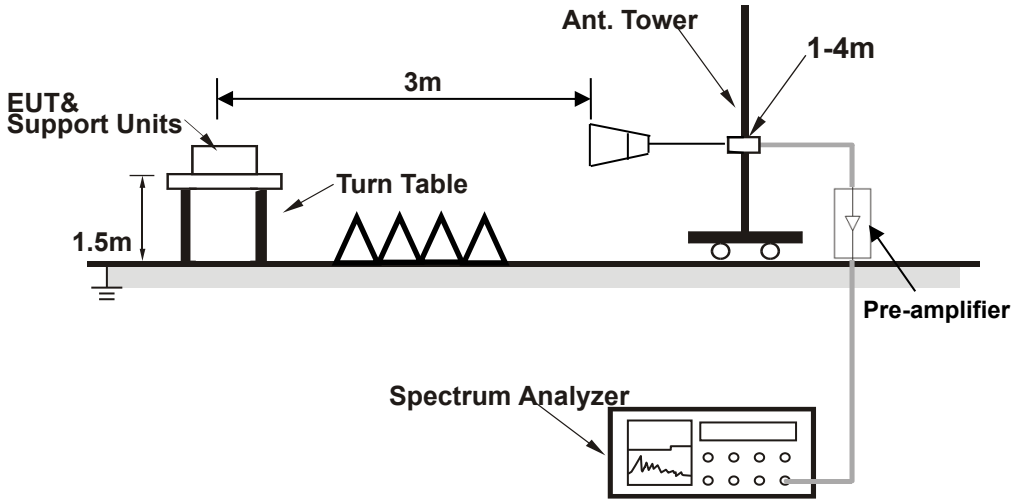
For radiated test below 30MHz



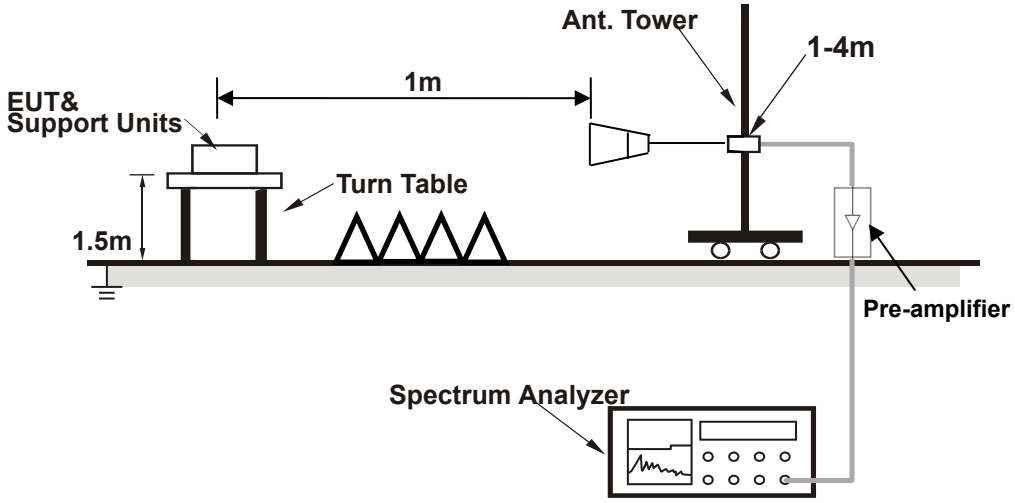
For radiated test from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



4.8.4 Test Results

Please refer to Appendix C~D of this test report.

Note:

1. The 9KHz~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not reported in the report.
2. For higher frequency(above 18GHz), the emission is too low to be detected.

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Due Date
Spectrum Analyzer	R&S	FSV40	101433	2024/12/17	2025/12/16
Spectrum Analyzer	Keysight	N9010A	MY56070788	2024/12/17	2025/12/16
Base Station	R&S	CMW500	164998	2024/12/17	2025/12/16
Base Station	Anritsu	MT8821C	6272498373	2025/04/24	2026/04/23
Thermal Chamber	Howkin	UHL-34	19111801	2024/12/16	2025/12/15
DC Power Supply	Keysight	E3642A	MY57486157	2024/12/16	2025/12/15
Power Divider	COM-MW	ZPD8-2M0-40G-1942	04223129	2024/07/05	2025/07/04
Filter Box	MWRFtest	MW500-SFCB	MW230227YUNP	N/A	N/A
RF Control Box	MWRFtest	MW500-RFCB	MW230228YUNP	N/A	N/A
Test Software	MWRFtest	MTS 8200 NR	V2.0.0.0	N/A	N/A
Spectrum Analyzer	R&S	FSV30	103728	2024/12/17	2025/12/16
Amplifier	Sonoma	310	363917	2024/12/17	2025/12/16
Amplifier	Schwarzbeck	BBV 9718	327	2024/12/17	2025/12/16
Amplifier	Narda	TTA1840-35-HG	2034380	2024/12/24	2025/12/23
Loop Antenna	Schwarzbeck	FMZB 1519 B	00051	2023/02/12	2026/02/11
Broadband Antenna	Schwarzbeck	VULB 9168	9168-757	2023/09/17	2026/09/16
Horn Antenna	Schwarzbeck	BBHA 9120 D	01677	2024/01/30	2027/01/29
Horn Antenna	Schwarzbeck	BBHA 9120 D	02420	2024/01/30	2027/01/29
Horn Antenna	COM-POWER	AH-1840	101117	2024/01/31	2027/01/30
Signal Generator	R&S	SMB100A	180717	2024/12/17	2025/12/16
Test Software	Audix	E3	6.111221a	N/A	N/A
Signal &Spectrum Analyzer	Rohde&Schwarz	FSV3044	101340	2023/06/12	2025/06/11

Note: N/A is not required for calibration.

6 Uncertainty of Evaluation

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

MEASUREMENT	UNCERTAINTY
Frequency Stability	± 356.7Hz
Radiated emissions & Radiated Power (30MHz~1GHz)	± 2.53 dB
Radiated emissions & Radiated Power (1GHz ~6GHz)	± 3.65 dB
Radiated emissions (6GHz ~18GHz)	± 3.65 dB
Radiated emissions (18GHz ~40GHz)	± 4.32 dB
Conducted emissions	± 2.18 dB
Occupied Channel Bandwidth	± 17.74 kHz
Conducted Output power	± 1.14 dB
Band Edge Measurements	± 2.25 dB

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

7 Photographs of Test Setup

Please refer to Appendix A of this test report.

8 Photographs of EUT

Please refer to Appendix B of this test report for EUT external photos.

Appendix : Test Results

Band	Test Results
LTE Band42	Please refer to Appendix C
LTE Band48	Please refer to Appendix D

Note: LTE Band48 and LTE Band42 have same mode and bandwidth, because LTE Band48 has higher output power, please refer to LTE Band48 conducted test data(except EIRP).

----------End of the report----------