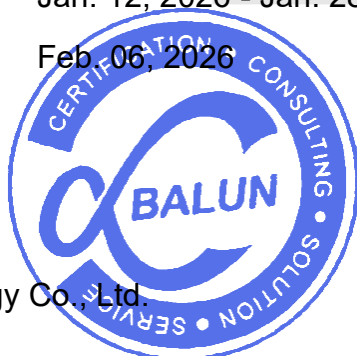


TEST REPORT

Applicant: TCL Communication Ltd.
Address: 5/F, Building 22E, 22 Science Park East Avenue,
Hong Kong SciencePark, Shatin, NT, Hong Kong
Equipment Type: Mobile Hot Spot
Model Name: MW513U
Brand Name: TCL
FCC ID: 2ACCJB183
Test Standard: 47 CFR Part 2
(Others refer to chapter 3.1)
Sample Arrival Date: Jan. 08, 2026
Test Date: Jan. 12, 2026 - Jan. 28, 2026
Date of Issue: Feb. 06, 2026

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

**Tested by:** Liu Juren**Checked by:** Lu Jiamin**Approved by:** Tolan Tu

(Testing Director)

*Liu Juren**Lu Jiamin**Tolan Tu*

Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Feb. 06, 2026</u>	<u>Initial Issue</u>

TABLE OF CONTENTS

1	GENERAL INFORMATION.....	4
1.1	Test Laboratory	4
1.2	Test Location	4
2	PRODUCT INFORMATION	5
2.1	Applicant Information	5
2.2	Manufacturer Information.....	5
2.3	General Description for Equipment under Test (EUT).....	5
2.4	Technical Information	6
3	SUMMARY OF TEST RESULTS	11
3.1	Test Standards	11
3.2	Test Verdict	12
4	GENERAL TEST CONFIGURATIONS	14
4.1	Test Environments.....	14
4.2	Test Equipment List.....	14
4.3	Test Configurations.....	16
5	TEST ITEMS	24
5.1	Transmitter Radiated Power (EIRP/ERP)	24
5.2	Peak to Average Ratio	29
5.3	Occupied Bandwidth.....	32
5.4	Frequency Stability	34
5.5	Spurious Emission at Antenna Terminals	37
5.6	Band Edge.....	45
5.7	Field Strength of Spurious Radiation	53
ANNEX A	TEST RESULTS	61
A.1	Transmitter Radiated Power (EIRP/ERP)	61

A.2	Peak to Average Ratio	198
A.3	Occupied Bandwidth	198
A.4	Frequency Stability	198
A.5	Spurious Emission at Antenna Terminals	199
A.6	Band Edge	199
A.7	Field Strength of Spurious Radiation	200
ANNEX B	TEST SETUP PHOTOS	201
ANNEX C	EUT EXTERNAL PHOTOS	201
ANNEX D	EUT INTERNAL PHOTOS	201

1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☐ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	☒ 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	TCL Communication Ltd.
Address	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong SciencePark, Shatin, NT, Hong Kong

2.2 Manufacturer Information

Manufacturer	TCL Communication Ltd.
Address	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong SciencePark, Shatin, NT, Hong Kong

2.3 General Description for Equipment under Test (EUT)

EUT Name	Mobile Hot Spot
Model Name Under Test	MW513U
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	V4.0
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

The following is the EUT information provided by the applicant in this report.

All Network and Wireless connectivity for EUT	4G Network LTE FDD Band 1/2/3/4/5/7/12/13/20/28/46/66 LTE TDD Band 48 LTE CA Frequency Band: CA_2A-2A, CA_2A-4A, CA_2A-5A, CA_2A-13A, CA_2A-46A, CA_2A-48A, CA_2A-66A, CA_4A-4A, CA_4A-5A, CA_4A-13A, CA_4A-46A, CA_4A-48A, CA_5A-5A, CA_5A-46A, CA_5A-48A, CA_5A-66A, CA_5B, CA_13A-46A, CA_13A-48A, CA_13A-66A, CA_46A-66A, CA_48A-66A, CA_48C, CA_66A-66A, CA_66B, CA_66C, CA_2A-2A-4A, CA_2A-2A-5A, CA_2A-2A-13A, CA_2A-2A-66A, CA_2A-4A-4A, CA_2A-4A-5A, CA_2A-4A-13A, CA_2A-5A-46A, CA_2A-5A-48A, CA_2A-5A-66A, CA_2A-5B, CA_2A-13A-46A, CA_2A-13A-48A, CA_2A-13A-66A, CA_2A-46A-46A, CA_2A-46A-66A, CA_2A-46C, CA_2A-48A-48A, CA_2A-48A-66A, CA_2A-48C, CA_2A-66A-66A, CA_2A-66B, CA_2A-66C, CA_4A-4A-5A, CA_4A-4A-13A, CA_4A-5B, CA_4A-46A-46A, CA_4A-46C, CA_4A-48C, CA_5A-5A-66A, CA_5A-46A-66A, CA_5A-46C, CA_5A-48A-66A, CA_5A-66A-66A, CA_5A-66B, CA_5A-66C, CA_5B-46A, CA_5B-66A, CA_13A-46A-66A, CA_13A-46C, CA_13A-48A-48A, CA_13A-48A-66A, CA_13A-48C, CA_13A-66A-66A, CA_13A-66B, CA_13A-66C, CA_46A-46A-66A, CA_46C-66A, CA_48A-48A-66A, CA_48A-66A-66A, CA_48A-66B, CA_48A-66C, CA_48C-66A, CA_48D, CA_66A-66A-66A, CA_66A-66C, CA_2A-2A-4A-4A, CA_2A-2A-4A-5A, CA_2A-2A-5A-66A, CA_2A-2A-13A-66A, CA_2A-2A-46C, CA_2A-2A-66A-66A, CA_2A-2A-66B, CA_2A-2A-66C, CA_2A-4A-4A-5A, CA_2A-4A-5B, CA_2A-5A-46C, CA_2A-5A-66A-66A, CA_2A-5A-66B, CA_2A-5A-66C, CA_2A-5B-66A, CA_2A-13A-46C, CA_2A-13A-48C, CA_2A-13A-66A-66A, CA_2A-13A-66B, CA_2A-13A-66C, CA_2A-46A-46C, CA_2A-46C-66A, CA_2A-46D, CA_2A-48A-48C, CA_2A-48C-66A, CA_2A-48D, CA_2A-48D-66A, CA_2A-66A-66A-66A, CA_4A-4A-5B, CA_4A-46A-46C, CA_4A-46D, CA_4A-48D, CA_5A-5A-66A-66A, CA_5A-5A-66B, CA_5A-5A-66C, CA_5A-46C-66A, CA_5A-46D, CA_5A-48D, CA_5B-46C, CA_5B-66A-66A, CA_5B-66B, CA_5B-66C, CA_13A-46C-66A, CA_13A-46D, CA_13A-48A-48C, CA_13A-48A-66B, CA_13A-48A-66C, CA_13A-48C-66A, CA_13A-48D, CA_46A-46C-66A, CA_46D-66A, CA_48A-48A-66A-66A, CA_48A-48A-66B, CA_48A-48A-66C, CA_48A-48C-66A, CA_48C-66A-66A, CA_48C-66B, CA_48C-66C, CA_48D-66A, CA_48E, CA_2A-2A-5A-66A-66A, CA_2A-2A-5A-66B, CA_2A-2A-5A-66C, CA_2A-2A-13A-66A-66A, CA_2A-2A-46D, CA_2A-5A-46D, CA_2A-5B-66A-66A, CA_2A-5B-66B, CA_2A-5B-66C, CA_2A-13A-46D, CA_2A-13A-48D, CA_2A-13A-66A-66B, CA_2A-46A-46d, CA_2A-46D-66A, CA_2A-46E, CA_2A-48A-48D, CA_2A-48C-48C, CA_2A-48D-66A, CA_2A-48E, CA_4A-46A-46D, CA_4A-48E, CA_5A-
---	--

	46D-66A, CA_5A-46E, CA_5B-46D, CA_13A-46D-66A, CA_13A-46E, CA_13A-48A-48D, CA_13A-48C-48C, CA_13A-48D-66A, CA_13A-48E, CA_46A-46D-66A, CA_46D-66A-66A, CA_46E-66A, CA_48A-48C-66B, CA_48A-48C-66C, CA_48A-48D-66A, CA_48A-48E, CA_48C-48C-66A, CA_48C-48D, CA_48E-66A 5G Network SA: NR n2/5/48/66/77/78/257/260/261 UL MIMO: n77 UL MIMO/78 UL MIMO NSA(EN-DC): DC_2A-5A_n2A, DC_2A-5B_n2A, DC_2A-13A_n2A, DC_2A-66A_n2A, DC_2A-66A-66A_n2A, DC_5A_n2A, DC_5A-5A_n2A, DC_5A-5A-66A_n2A, DC_5A-5A-66A-66A_n2A, DC_5A-66A_n2A, DC_5A-66A-66A_n2A, DC_5A-66B_n2A, DC_5B_n2A, DC_5B-66A_n2A, DC_5B-66A-66A_n2A, DC_13A_n2A, DC_13A-46A_n2A, DC_13A-48A_n2A, DC_13A-48D_n2A, DC_13A-48E_n2A, DC_13A-66A_n2A, DC_13A-66A-66A_n2A, DC_13A-66B_n2A, DC_13A-66C_n2A, DC_48A-66A_n2A, DC_48C-66A_n2A, DC_48D-66A_n2A, DC_48E-66A_n2A, DC_66A_n2A, DC_66A-66A_n2A, DC_66A-66A-66A_n2A, DC_66B_n2A, DC_66C_n2A, DC_5A_n2A-n77A, DC_13A_n2A-n77A, DC_66A_n2A-n77A, DC_66A-66A_n2A-n77A, DC_2A_n5A, DC_2A-2A_n5A, DC_2A-2A-66A_n5A, DC_2A-2A-66A-66A_n5A, DC_2A-5A_n5A, DC_2A-46D_n5A, DC_2A-46E_n5A, DC_2A-48A_n5A, DC_2A-48C_n5A, DC_2A-48D_n5A, DC_2A-48E_n5A, DC_2A-66A_n5A, DC_2A-66A-66A_n5A, DC_2A-66B_n5A, DC_5A-66A_n5A, DC_5A-66A-66A_n5A, DC_46A-66A_n5A, DC_48A_n5A, DC_48A-66A_n5A, DC_48C_n5A, DC_48C-66A_n5A, DC_48D_n5A, DC_48D-66A_n5A, DC_48E_n5A, DC_48E-66A_n5A, DC_66A_n5A, DC_66A-66A_n5A, DC_66B_n5A, DC_66C_n5A, DC_2A_n5A-n77A, DC_2A-2A_n5A-n77A, DC_66A_n5A-n77A, DC_66A-66A_n5A-n77A, DC_2A_n66A, DC_2A-2A_n66A, DC_2A-2A-5A_n66A, DC_2A-2A-13A_n66A, DC_2A-2A-66A_n66A, DC_2A-2A-66A-66A_n66A, DC_2A-5A_n66A, DC_2A-5B_n66A, DC_2A-13A_n66A, DC_2A-46A_n66A, DC_2A-48A_n66A, DC_2A-48C_n66A, DC_2A-48D_n66A, DC_2A-48E_n66A, DC_2A-66A_n66A, DC_2A-66A-66A_n66A, DC_5A_n66A, DC_5A-5A_n66A, DC_5A-5A-66A_n66A, DC_5A-46A_n66A, DC_5A-66A_n66A, DC_5B_n66A, DC_5B-66A_n66A, DC_13A_n66A, DC_13A-46A_n66A, DC_13A-48A_n66A, DC_13A-48D_n66A, DC_13A-48E_n66A, DC_13A-66A_n66A, DC_2A_n66A-n77A, DC_2A-2A_n66A-n77A, DC_5A_n66A-n77A, DC_13A_n66A-n77A, DC_2A_n77A, DC_2A-2A_n77A, DC_2A-2A-5A_n77A, DC_2A-2A-13A_n77A, DC_2A-2A-66A_n77A, DC_2A-2A-66A-66A_n77A, DC_2A-5A_n77A, DC_2A-13A_n77A, DC_2A-66A_n77A, DC_2A-66A-66A_n77A, DC_13A_n77A, DC_13A-66A_n77A, DC_13A-66A-66A_n77A, DC_5A_n77A, DC_5A-66A_n77A, DC_5A-66A-66A_n77A, DC_66A_n77A, DC_66A-66A_n77A, DC_66A-66A-
--	--

	66A_n77A, DC_2A_n5A-n77A, DC_2A_n66A-n77A, DC_2A-2A_n5A-n77A, DC_2A-2A_n66A-n77A, DC_5A_n2A-n77A, DC_5A_n66A-n77A, DC_13A_n2A-n77A, DC_13A_n66A-n77A, DC_66A_n2A-n77A, DC_66A_n5A-n77A, DC_66A-66A_n2A-n77A, DC_66A-66A_n5A-n77A, DC_1A_n257A, DC_3A_n257A, DC_5A_n257A, DC_7A_n257A, DC_2A_n260A, DC_2A_n260I, DC_2A-2A-66A_n260A, DC_2A-5A_n260A, DC_2A-5A_n260I, DC_2A-13A_n260A, DC_2A-13A_n260I, DC_2A-66A_n260A, DC_2A-66A_n260I, DC_2A-66A-66A_n260A, DC_2A-66A-66A_n260I, DC_5A_n260A, DC_5A_n260I, DC_5A-66A_n260A, DC_5A-66A_n260I, DC_5A-66A-66A_n260A, DC_5A-66A-66A_n260I, DC_13A_n260A, DC_13A_n260I, DC_13A-66A_n260A, DC_13A-66A_n260I, DC_13A-66A-66A_n260A, DC_13A-66A-66A_n260I, DC_48A_n260A, DC_48A_n260I, DC_66A_n260A, DC_66A_n260I, DC_66A-66A_n260A, DC_66A-66A_n260I, DC_2A_n261(2G), DC_2A_n261A, DC_2A_n261I, DC_2A-2A_n261A, DC_2A-2A_n261I, DC_2A-2A-13A_n261A, DC_2A-2A-13A_n261I, DC_2A-2A-66A_n261A, DC_2A-2A-66A_n261I, DC_2A-5A_n261(2G), DC_2A-5A_n261A, DC_2A-5A_n261I, DC_2A-13A_n261(2G), DC_2A-13A_n261A, DC_2A-13A_n261I, DC_2A-46A_n261A, DC_2A-46A_n261I, DC_2A-66A_n261(2G), DC_2A-66A_n261A, DC_2A-66A_n261I, DC_2A-66A-66A_n261(2G), DC_2A-66A-66A_n261A, DC_2A-66A-66A_n261I, DC_5A_n261(2G), DC_5A_n261A, DC_5A_n261I, DC_5A-66A_n261(2G), DC_5A-66A_n261A, DC_5A-66A_n261I, DC_5A-66A-66A_n261(2G), DC_5A-66A-66A_n261A, DC_5A-66A-66A_n261I, DC_13A_n261(2G), DC_13A_n261A, DC_13A_n261I, DC_13A-46A_n261A, DC_13A-46A_n261I, DC_13A-66A_n261(2G), DC_13A-66A_n261A, DC_13A-66A_n261I, DC_13A-66A-66A_n261(2G), DC_13A-66A-66A_n261A, DC_13A-66A-66A_n261I, DC_46A-66A_n261A, DC_46A-66A_n261I, DC_48A_n261(2G), DC_48A_n261A, DC_48A_n261I, DC_66A_n261(2G), DC_66A_n261A, DC_66A_n261I, DC_66A-66A_n261(2G), DC_66A-66A_n261A, DC_66A-66A_n261I, DC_2A_n260G, DC_5A_n260G, DC_13A_n260G, DC_48A_n260G, DC_66A_n260G, DC_2A_n261G, DC_5A_n261G, DC_13A_n261G, DC_48A_n261G, DC_66A_n261G NR-DC Frequency Band: DC_n2A_n260A, DC_n2A_n260G, DC_n2A_n261A, DC_n2A_n261G, DC_n5A_n260A, DC_n5A_n260G, DC_n5A_n261A, DC_n5A_n261G, DC_n66A_n260A, DC_n66A_n260G, DC_n66A_n261A, DC_n66A_n261G, DC_n48A_n260A, DC_n48A_n260G, DC_n48A_n261A, DC_n48A_n261G, DC_n77A_n260A, DC_n77A_n260G, DC_n77A_n261A, DC_n77A_n261G NR CA Frequency Band: CA_n2(2A), CA_n2A-n5A, CA_n2A-n66A, CA_n5(2A), CA_n5A-n66A, CA_n5B, CA_n66(2A), CA_n66B,
--	--

	CA_n48(2A), CA_n48B, CA_n48C, CA_n77C, CA_n2A-n48A, CA_n2A-n77A, CA_n5A-n48A, CA_n5A-n77A, CA_n48A-n66A, CA_n66A-n77A WIFI 802.11a, 802.11b, 802.11g, 802.11n(HT20/40), 802.11ac(VHT20/40/80/160), 802.11ax(HE20/40/80/160)
About the Product	The equipment is Mobile Hot Spot, intended for used with information technology equipment.

The following is the technical information of the EUT tested frequency bands in this report.

Operating Bands	LTE FDD Band 2/4/5/7/12/13/66 LTE CA Frequency Band: CA_5B, CA_66B, CA_66C SA: n2/n5/n66/n77/n78 UL MIMO: n77 UL MIMO/78 UL MIMO	
Modulation Type	LTE	QPSK
		16QAM
		64QAM
		256QAM
	NR	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM
Antenna Type	Embedded Antenna	
Antenna Gain	LTE Band 2: 2.30 dBi (ANT1), 1.00 dBi (ANT2), 0.41 dBi (ANT3), 1.20 dBi (ANT4) LTE Band 4: 2.60 dBi (ANT1), 0.30 dBi (ANT2), 2.10 dBi (ANT3), 1.10 dBi (ANT4) LTE Band 5: -0.10 dBi (ANT1), -2.40 dBi (ANT3) LTE Band 7: 2.10 dBi (ANT1), 1.70 dBi (ANT3) LTE Band 12: 0.51 dBi (ANT1), -4.80 dBi (ANT3) LTE Band 13: 0.60 dBi (ANT1), -4.80 dBi (ANT3) LTE Band 66: 2.60 dBi (ANT1), 0.30 dBi (ANT2), 2.10 dBi (ANT3), 1.10 dBi (ANT4) NR Band n2: 2.30 dBi (ANT1), 1.00 dBi (ANT2), 0.41 dBi (ANT3), 1.20 dBi (ANT4) NR Band n5: -0.10 dBi (ANT1), -2.40 dBi (ANT3) NR Band n66: 2.60 dBi (ANT1), 0.30 dBi (ANT2), 2.10 dBi (ANT3), 1.10 dBi (ANT4) NR Band n77: -0.70 dBi (ANT5), 2.30 dBi (ANT6), 1.70 dBi (ANT7), 0.20 dBi (ANT8)	
The Max RF Output Power (EIRP/ERP)	LTE Band 2: 25.07 dBm LTE Band 4: 25.36 dBm LTE Band 5: 20.93 dBm LTE Band 7: 25.64 dBm	

		LTE Band 12: 21.23 dBm LTE Band 13: 21.78 dBm LTE Band 66: 25.50 dBm CA_5B: 21.78 dBm CA_66B: 25.76 dBm CA_66C: 25.63 dBm NR Band n2: 24.82 dBm NR Band n5: 20.88 dBm NR Band n66: 25.09 dBm NR Band n77 UL MIMO (3450-3550MHz): 25.42 dBm NR Band n77 UL MIMO (3700-3980MHz): 25.10 dBm NR Band n77 (3450-3550MHz): 28.41 dBm NR Band n77 (3700-3980MHz): 28.38 dBm	
SCS and Channel Bandwidths		n2_SCS 15kHz: 5 MHz, 10 MHz, 15 MHz, 20 MHz n5_SCS 15kHz: 5 MHz, 10 MHz, 15 MHz, 20 MHz n66_SCS 15kHz: 5 MHz, 10 MHz, 15 MHz, 20 MHz, 30 MHz, 40 MHz n77_SCS 30kHz: 10 MHz, 15 MHz, 20 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 70 MHz, 80 MHz, 90 MHz, 100 MHz n78_SCS 30kHz: 10 MHz, 15 MHz, 20 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 70 MHz, 80 MHz, 90 MHz, 100 MHz	
Band	Power Class	Tx Frequency Range	Rx Frequency Range
LTE B2	3	1850 MHz ~ 1910 MHz	1930 MHz ~ 1990 MHz
LTE B4	3	1710 MHz ~ 1755 MHz	2110 MHz ~ 2155 MHz
LTE B5	3	824 MHz ~ 849 MHz	869 MHz ~ 894 MHz
LTE B7	3	2500 MHz ~ 2570 MHz	2620 MHz ~ 2690 MHz
LTE B12	3	699 MHz ~ 716 MHz	729 MHz ~ 746 MHz
LTE B13	3	777 MHz ~ 787 MHz	746 MHz ~ 756 MHz
LTE B66	3	1710 MHz ~ 1780 MHz	2110 MHz ~ 2180 MHz
NR n2	3	1850 MHz ~ 1910 MHz	1930 MHz ~ 1990 MHz
NR n5	3	824 MHz ~ 849 MHz	869 MHz ~ 894 MHz
NR n66	3	1710 MHz ~ 1780 MHz	2110 MHz ~ 2200 MHz
NR n77	2&3	3450MHz ~ 3550MHz	3450MHz ~ 3550MHz
		3700MHz ~ 3980MHz	3700MHz ~ 3980MHz
NR n78	2&3	3450MHz ~ 3550MHz	3450MHz ~ 3550MHz
		3700MHz ~ 3800MHz	3700MHz ~ 3800MHz

Note1: The EUT information provided by the applicant, except for The Max RF Conducted Power. For more detailed band specifications and features description, please refer to the manufacturer's specifications or user's manual.

Note 2: n77 covers the n78 frequency range, and the data provided in this report covers both n77 and n78 frequency ranges.

Note 3: This report presents the worst configuration based on the original report.

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 24 Subpart E	Broadband PCS
4	47 CFR Part 27	Miscellaneous Wireless Communications Services
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.	Test Result	Test Verdict
1	Conducted RF Output Power	2.1046	Reporting only (ANNEX A.1)	Pass
2	Effective (Isotropic) Radiated Power	2.1046 22.913 24.232 27.50	ANNEX A.1	Pass
3	Peak to Average Ratio	2.1046 24.232(d) 27.50(d)	ANNEX A.2	Pass
4	Occupied Bandwidth	2.1049 22.917 24.238 27.53	ANNEX A.3	Pass
5	Frequency Stability	2.1055 22.355 24.235 27.54	ANNEX A.4	Pass
6	Spurious Emission at Antenna Terminals	2.1051 22.917 24.238 27.53	ANNEX A.5	Pass
7	Band Edge	2.1051 22.917 24.238 27.53	ANNEX A.6	Pass
8	Field Strength of Spurious Radiation	2.1053 22.917 24.238 27.53	ANNEX A.7	Pass

Note 1: Compared with the EUT of test report No. I22Z60940-WMD01&I22Z60940-WMD02, the changes of the EUT of this report as below:

1. Replace the following components

Reference locaiton	Quantity	Component Name	Difference
U2101	1	Memory	Different Brand Name Different model name
U7101	1	Proximity Sensor	Same brand Different model

No.	Test Description	FCC Part No.	Test Result	Test Verdict
			name	
U4401	1	RF switch	Same brand, same series	
U4402,U4601	2	RF switch	Same brand, same series	
L3201,L3202,L3203,L3204,L3205,L3206,L3207	7	Power Inductor	Different Brand Name	
FL4405,FL4604	2	SAW Filter	Same brand, same series	
U1101	1	Proximity Sensor	Same brand Different model Name	

2.The specifications of the replaced components remain unchanged and do not affect the RF performance.

3.No change of schematic and PCB Layout.

4.No change in radio parameters has occurred.

Other hardware circuit and software are the same as EUT referred in test report No. I22Z60940-WMD01&I22Z60940-WMD02.

Therefore, Only the Effective (Isotropic) Radiated Power was retested and the worst case of Field Strength of Spurious Radiation was verified in this report, other test results refer to report No. I22Z60940-WMD01, which was issued by CTTL-Telecommunication Technology Labs, CAICT on Jul. 27, 2022 and I22Z60940-WMD02, which was issued by CTTL-Telecommunication Technology Labs, CAICT on Jul. 29, 2022.

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

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

Relative Humidity		25% to 75%
Atmospheric Pressure		98 kPa to 102 kPa
Test Voltage of the EUT	NV (Normal Voltage)	3.8V
	LV (Low Voltage)	3.4V
	HV (High Voltage)	4.4V
Test Temperature of the EUT	NT (Normal Temperature)	15 °C to 35 °C
	LT (Low Temperature)	-30 °C
	HT (High Temperature)	50°C

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Version	Cal. Date	Cal. Due
2/3/4/5G RF Test System						
BL410 Test Software	BALUN	BL410R	N/A	3.0.1.536	N/A	N/A
CMUgo Test Software	R&S	CMUgo	N/A	V2.0.1	N/A	N/A
UCTS Test Software	Anritsu	UCTS	N/A	V 6.21.1105.0	N/A	N/A
Temperature Chamber	OK	OK-TH-100C	OK2022110401	N/A	2025-09-15	2026-09-14
Universal Radio Communication Tester	R&S	CMU 200	119280	V5.13	2025-10-20	2026-10-19
Wideband Radio Communication Tester	R&S	CMW 500	120598	V3.7.172	2025-08-13	2026-08-12
Radio Communication Test Station	Anritsu	MT8821C	6201588572	40.10S #017	2025-04-30	2026-04-29
Radio Communication Test Station	Anritsu	MT8000A	6261940329	Ver.8.60.4.0	2025-10-20	2026-10-19
5G Wireless Test Platform	Starpont	SP9500-CTS	20395	C1.0.7.30+SP1	2025-12-25	2026-12-24
Spectrum Analyzer	R&S	FSV40	101544	2.30.SP4	2025-10-30	2026-10-29
DC Power Supply	ITECH	IT6863A	800014020757 120008	N/A	2025-07-28	2026-07-27
Spectrum Analyzer	Agilent	E4440A	MY46181663	A.11.21	2025-07-15	2026-07-14
Radiated Test System						
Radiated Test System Test Software	BALUN	BL410-E	N/A	V22.4	N/A	N/A

Wideband Radio Communication Tester	R&S	CMW 500	120598	V3.7.172	2025-08-13	2026-08-12
5G Wireless Test Platform	Keysight	E7515B UXM	MY59321617	15.26.12.816 1	2025-07-15	2026-07-14
Spectrum Analyzer	R&S	FSV40	101544	2.30.SP4	2025-10-30	2026-10-29
Test Antenna-Horn(18-40 GHz)	A-INFO	LB-180400KF	J211060273	N/A	2024-06-15	2027-06-14
Test Antenna-Bi-Log(30 MHz-3 GHz)	Schwarzbeck	VULB 9163	01414	N/A	2023-11-03	2026-11-02
Test Antenna-Horn(1-18 GHz)	Schwarzbeck	BBHA 9120D	02459	N/A	2023-10-26	2026-10-25
Anechoic Chamber	YIHENG	C8-966	N/A	N/A	2024-05-15	2027-05-11
EMI Receiver	Keysight	N9038A	MY55330121	A.20.03	2025-04-16	2026-04-15

4.3 Test Configurations

LTE Band	Bandwidth (MHz)						Modulation Type				RB#			Test Channel		
	1.4	3	5	10	15	20	QPS K	16-QAM	64-QAM	256-QAM	1	Half	Full	LCH	MCH	HCH
Effective (Isotropic) Radiated Power																
2	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
4	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
5	v	v	v	v	n	n	v	v	v	v	v	v	v	v	v	v
7	n	n	v	v	v	v	v	v	v	v	v	v	v	v	v	v
12	v	v	v	v	n	n	v	v	v	v	v	v	v	v	v	v
13	n	n	v	v	n	n	v	v	v	v	v	v	v	v	v	v
66	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Field Strength of Spurious Radiation																
7	Worst case															
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 2	Low Range	1.4	18607	1850.7
		3	18615	1851.5
		5	18625	1852.5
		10	18650	1855
		15	18675	1857.5
		20	18700	1860
	Middle Range	1.4/3/5/10/15/20	18900	1880
	High Range	1.4	19193	1909.3
		3	19185	1908.5
		5	19175	1907.5
		10	19150	1905
		15	19125	1902.5
		20	19100	1900
LTE Band 4	Low Range	1.4	19957	1710.7
		3	19965	1711.5
		5	19975	1712.5
		10	20000	1715
		15	20025	1717.5
		20	20050	1720
	Middle Range	1.4/3/5/10/15/20	20175	1732.5
	High Range	1.4	20393	1754.3

Test Mode	UL Channel	Channel Bandwidth (MHz)	UL Channel No.	UL Frequency (MHz)
		3	20385	1753.5
		5	20375	1752.5
		10	20350	1750
		15	20325	1747.5
		20	20300	1745
LTE Band 5	Low Range	1.4	20407	824.7
		3	20415	825.5
		5	20425	826.5
		10	20450	829
	Middle Range	1.4/3/5/10	20525	836.5
	High Range	1.4	20643	848.3
		3	20635	847.5
		5	20625	846.5
		10	20600	844
LTE Band 7	Low Range	5	20775	2502.5
		10	20800	2505
		15	20825	2507.5
		20	20850	2510
	Middle Range	5/10/15/20	21100	2535
	High Range	5	21425	2567.5
		10	21400	2565
		15	21375	2562.5
		20	21350	2560
LTE Band 12	Low Range	1.4	23017	699.7
		3	23025	700.5
		5	23035	701.5
		10	23060	704
	Middle Range	1.4/3/5/10	23095	707.5
	High Range	1.4	23173	715.3
		3	23165	714.5
		5	23155	713.5
		10	23130	711
LTE Band 13	Low Range	5	23205	779.5
		10	23230	782
	Middle Range	5/10	23230	782
		5	23255	784.5
		10	23230	782
LTE Band 66	Low Range	1.4	131979	1710.7
		3	131987	1711.5
		5	131997	1712.5
		10	132022	1715

Test Mode	UL Channel	Channel Bandwidth (MHz)	UL Channel No.	UL Frequency (MHz)
		15	132047	1717.5
		20	132072	1720
	Middle Range	1.4/3/5/10/15/20	132322	1745
	High Range	1.4	132665	1779.3
		3	132657	1778.5
		5	132647	1777.5
		10	132622	1775
		15	132597	1772.5
		20	132572	1770

Test Mode	Channel Bandwidth (MHz)	UL Channel	UL Channel No.	UL Frequency (MHz)
NR Band n2	5	Low Range	370500	1852.5
		Middle Range	376000	1880
		High Range	381500	1907.5
	10	Low Range	371000	1855
		Middle Range	376000	1880
		High Range	381000	1905
	15	Low Range	371500	1857.5
		Middle Range	376000	1880
		High Range	380500	1902.5
	20	Low Range	372000	1860
		Middle Range	376000	1880
		High Range	380000	1900

Test Mode	Channel Bandwidth (MHz)	UL Channel	UL Channel No.	UL Frequency (MHz)
NR Band n5	5	Low Range	165300	826.5
		Middle Range	167300	836.5
		High Range	169300	846.5
	10	Low Range	165800	829
		Middle Range	167300	836.5
		High Range	168300	844
	15	Low Range	166300	831.5
		Middle Range	167300	836.5
		High Range	168300	841.5
	20	Low Range	166800	834
		Middle Range	167300	836.5
		High Range	167800	839

Test Mode	Channel Bandwidth (MHz)	UL Channel	UL Channel No.	UL Frequency (MHz)
NR Band n66	5	Low Range	342500	1712.5
		Middle Range	349000	1745
		High Range	355500	1777.5
	10	Low Range	343000	1715
		Middle Range	349000	1745
		High Range	355000	1775
	15	Low Range	343500	1717.5
		Middle Range	349000	1745
		High Range	354500	1772.5
	20	Low Range	344000	1720
		Middle Range	349000	1745
		High Range	354000	1770
	30	Low Range	345000	1725
		Middle Range	349000	1745
		High Range	353000	1765
	40	Low Range	346000	1730
		Middle Range	349000	1745
		High Range	352000	1760

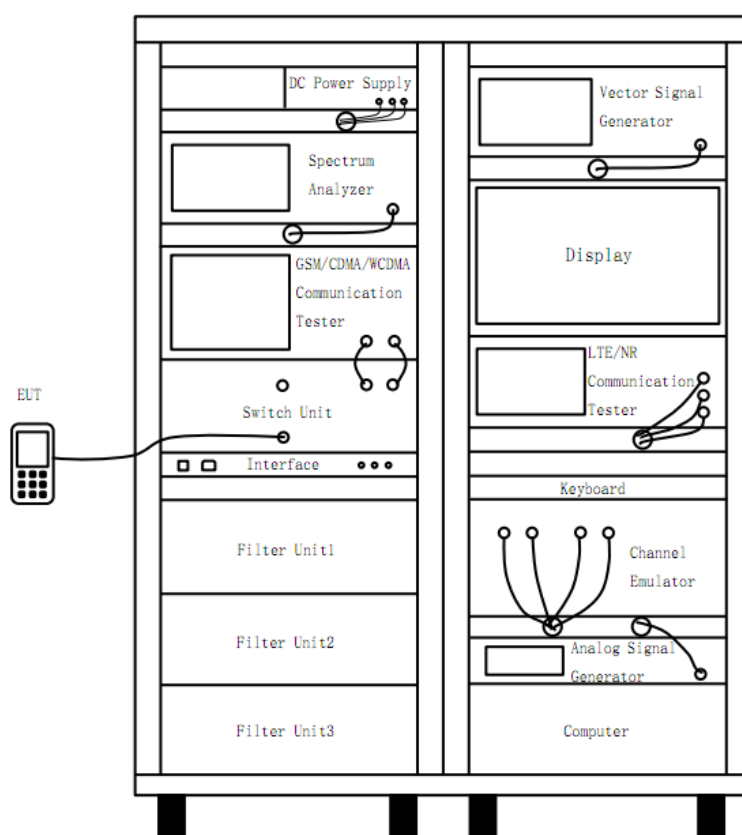
Test Mode	Channel Bandwidth (MHz)	UL Channel	UL Channel No.	UL Frequency (MHz)
NR Band n77(3450-3550 MHz)	10	Low Range	630334	3455.01
		Middle Range	633332	3499.98
		High Range	636332	3544.98
	15	Low Range	630500	3457.5
		Middle Range	633332	3499.98
		High Range	636166	3542.49
	20	Low Range	630668	3460.02
		Middle Range	633332	3499.98
		High Range	636000	3540
	25	Low Range	630834	3462.51
		Middle Range	633332	3499.98
		High Range	635832	3537.48
	30	Low Range	631000	3465
		Middle Range	633332	3499.98
		High Range	635666	3534.99
	40	Low Range	631334	3470.01
		Middle Range	633332	3499.98
		High Range	635332	3529.98
	50	Low Range	631668	3475.02

Test Mode	Channel Bandwidth (MHz)	UL Channel	UL Channel No.	UL Frequency (MHz)
		Middle Range	633332	3499.98
		High Range	635000	3525
		Low Range	632000	3480
	60	Middle Range	633332	3499.98
		High Range	634666	3519.99
		Low Range	632334	3485.01
	70	Middle Range	633332	3499.98
		High Range	634332	3514.98
		Low Range	632668	3490.02
	80	Middle Range	633332	3499.98
		High Range	634000	3510
		Low Range	633000	3495
	90	Middle Range	633332	3499.98
		High Range	633666	3504.99
		Low Range	633332	3499.98
	100	Middle Range	633332	3499.98
		High Range	633332	3499.98
		Low Range	633332	3499.98
NR Band n77(3700-3980 MHz)	10	Low Range	647000	3705
		Middle Range	656000	3840
		High Range	665000	3975
	15	Low Range	647168	3707.52
		Middle Range	656000	3840
		High Range	664832	3972.48
	20	Low Range	647334	3710.01
		Middle Range	656000	3840
		High Range	664666	3969.99
	25	Low Range	647500	3712.5
		Middle Range	656000	3840
		High Range	664500	3967.5
	30	Low Range	647668	3715.02
		Middle Range	656000	3840
		High Range	664332	3964.98
	40	Low Range	648000	3720
		Middle Range	656000	3840
		High Range	664000	3960
	50	Low Range	648334	3725.01
		Middle Range	656000	3840
		High Range	663666	3954.99
	60	Low Range	648668	3730.02
		Middle Range	656000	3840
		High Range	663332	3949.98

Test Mode	Channel Bandwidth (MHz)	UL Channel	UL Channel No.	UL Frequency (MHz)
	70	Low Range	649000	3735
		Middle Range	656000	3840
		High Range	663000	3945
	80	Low Range	649334	3740.01
		Middle Range	656000	3840
		High Range	662666	3939.99
	90	Low Range	649668	3745.02
		Middle Range	656000	3840
		High Range	662332	3934.98
	100	Low Range	650000	3750
		Middle Range	656000	3840
		High Range	662000	3930

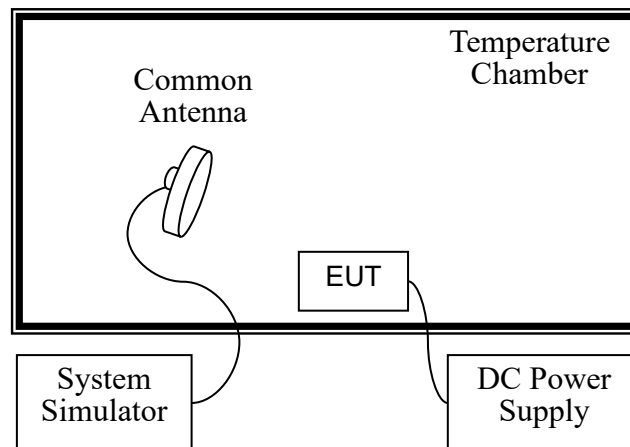
Test Setup

4.3.1 For Antenna Port Test



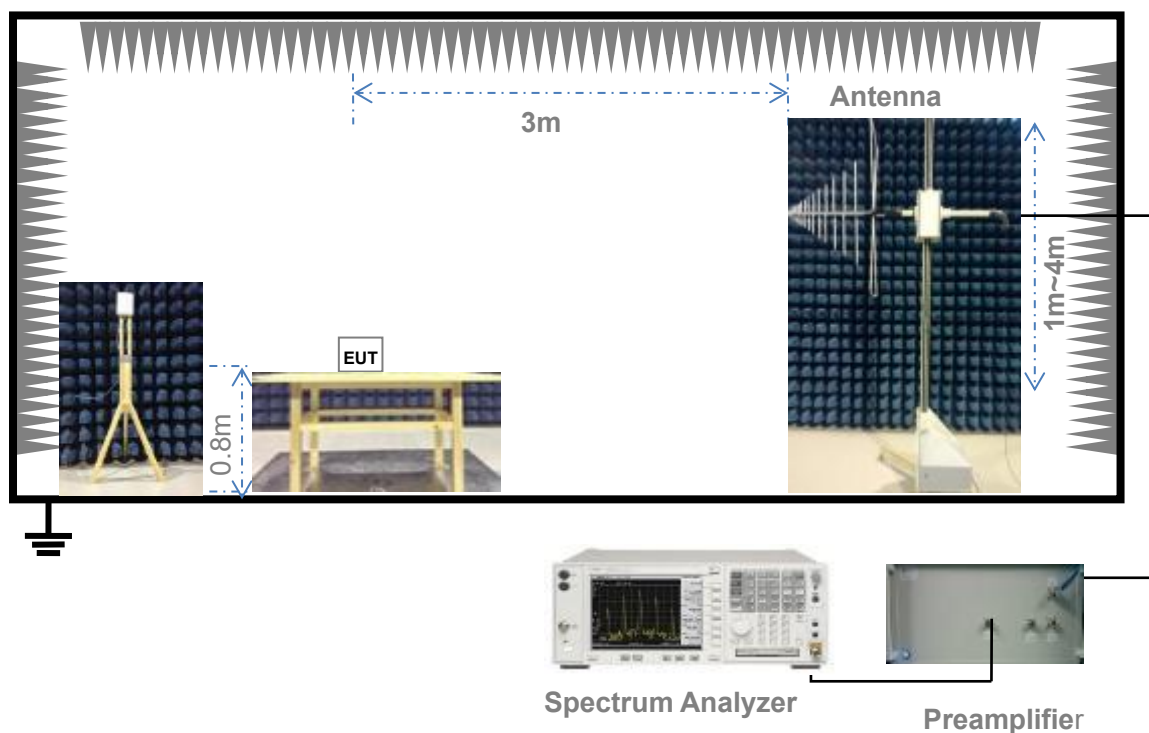
(Diagram 1)

4.3.2 For Frequency Stability Test



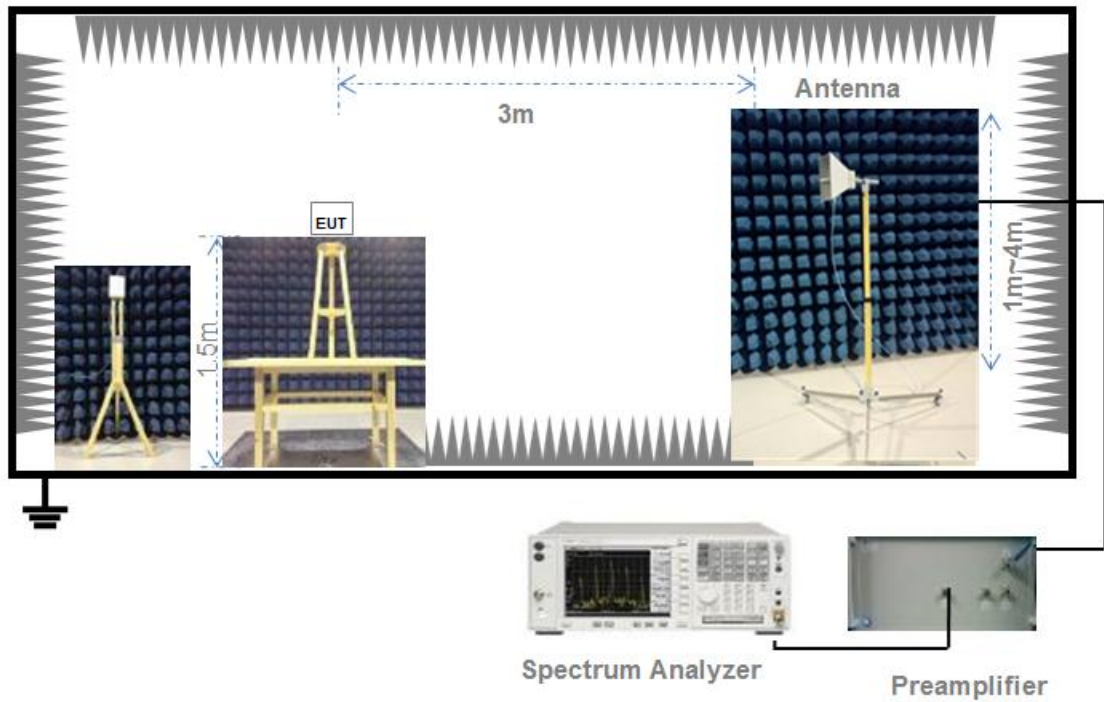
(Diagram 2)

4.3.3 For Radiated Test (30 MHz ~ 1 GHz)



(Diagram 3)

4.3.4 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) & 24.232(c) & 27.50(a) & 27.50(b) & 27.50(c) & 27.50(d) & 27.50(h) & 27.50(j) & 27.50(k) & 90.635(b) & 90.542(a) & 96.41(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 24.232(c), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

According to FCC section 27.50(a) (3), for mobile and portable stations transmitting in the 2305-2315MHz band or the 2350-2360MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth. For mobile and portable stations using time division duplexing (TDD) technology, the duty cycle must not exceed 38 percent in the 2305-2315 MHz and 2350-2360 MHz bands.

FCC section 27.50(b) (10), portable stations (hand-held devices) transmitting in the 746-757MHz, 776-788MHz, and 805-806MHz bands are limited to 3 watts ERP.

FCC section 27.50(c) (10), portable stations (hand-held devices) in the 600MHz uplink band and the 698-746MHz band, and fixed and mobile stations in the 600MHz uplink band are limited to 3 watts ERP.

FCC section 27.50(d) (4), fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP. Fixed stations operating in the 1710-1755 MHz band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

(7) Fixed, mobile, and portable (hand-held) stations operating in the 2000-2020 MHz band are limited to 2 watts EIRP.

And FCC section 27.50(h) (2), for mobile and other user stations, mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

FCC section 27.50(j) (3), for mobile, and portable (hand-held) stations operating in the 3700-3980 MHz band are limited to 1 watt EIRP.

FCC section 27.50(k) (3), Mobile devices are limited to 1Watt (30 dBm) EIRP in the 3450-3550 MHz band.

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

According to FCC section 90.542(a) (7), portable stations (hand-held devices) transmitting in the 758-768 MHz band and the 788-798 MHz band are limited to 3 watts ERP.

FCC section 96.41(b), the maximum effective isotropic radiated power (EIRP) and maximum Power Spectral Density (PSD) of any CBSD and End User Device must comply with the limits shown in the table in this paragraph below:

Device	Maximum EIRP (dBm/10 megahertz)	Maximum PSD (dBm/MHz)
End User Device	23	N/A
Category A CBSD	30	20
Category B CBSD ^{note1}	47	37
Note1: Category B CBSDs will only be authorized for use after an ESC is approved and commercially deployed consistent with §§ 96.15 and 96.67.		

RSS-Gen § 6.12 & RSS-130 § 4.6 & RSS-132 § 5.4 & RSS-133 § 6.4 & RSS-139 § 6.5 & RSS-195 § 5.5 & RSS-199 § 5.5 & RSS-140 § 4.3 & RSS-192 § 5.5 & RSS-197 § 5.6

According to RSS-130 § 4.6.3, The e.r.p. shall not exceed 30 watts for mobile equipment and outdoor fixed subscriber equipment. The e.r.p. shall not exceed 3 watts for portable equipment and indoor fixed subscriber equipment.

According to RSS-132 § 5.4, the Effective Radiated Power (ERP) for mobile equipment shall not exceed 11.5 watts.

According to RSS-133 § 6.4 (SRSP 510), mobile stations and hand-held portables are limited to 2 watts maximum EIRP.

According to RSS-139 § 6.5, the EIRP for mobile and portable transmitters shall not exceed 1 watt.

According to RSS-195 § 5.5, the EIRP of mobile or portable equipment transmitting in the band 2305-2315MHz or the band 2350-2360MHz, employing 3GPP LTE standards, shall not exceed 250mW within 5MHz bandwidth. For other technologies, the EIRP shall not exceed 50mW within any 1MHz bandwidth.

According to RSS-199 § 5.5, Subscriber equipment other than fixed subscriber equipment shall not exceed an e.i.r.p of 2W per channel bandwidth.

According to RSS-140 § 4.3, the equivalent radiated power (e.r.p.) for control and mobile equipment shall not exceed 30 W. The e.r.p. for portable equipment including handheld devices shall not exceed 3 W.

According to RSS-192 § 5.5, for Subscriber equipment other than fixed subscriber equipment(Non-SAS), the EIRP shall not exceed 30dBm/channel bandwidth.

According to RSS-197 § 5.6, The maximum e.i.r.p. density of mobile equipment shall not exceed 40 mW in any 1 MHz bandwidth.

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:

$$\text{Conducted Output Power Value (dBm)} = \text{Measured Value (dBm)} + \text{Path Loss (dB)}$$

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:

$$\text{Conducted Output Power Value (dBm)} = 24.7 \text{ dBm} + 8.5 \text{ dB} = 33.2 \text{ dBm}$$

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:

$$\text{ERP/EIRP} = P_{\text{Meas}} + \text{GT} - \text{LC}$$

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:

$$\text{EIRP for GSM1900} = 30.2 \text{ dBm} - 3.4 \text{ dBi} - 0.6 \text{ dB} = 26.2 \text{ dBm}$$

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

$$\text{ERP/EIRP (dBm)} = \text{SA Read Value (dBm)} + \text{Correction Factor (dB)}$$

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:

$$\text{ERP (dBm)} = 21\text{dBm} + 8\text{dB} = 29\text{dBm}$$

5.1.4 Test Result

Please refer to ANNEX A.1.

5.2 Peak to Average Ratio

5.2.1 Limit

FCC § 2.1046 & 24.232(d) & 27.50(d) & 27.50(j) & 27.50(k)

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.

According to FCC section 24.232(d), power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with 24.232 (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of § 24.51. 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.

FCC section 24.232(e), peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

According to FCC section 27.50(d) (5) & 27.50(j) & 27.50(k), in measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13dB.

RSS-130 § 4.6 & RSS-132 § 5.4 & RSS-133 § 6.4 & RSS-139 § 6.5 & RSS-195 § 5.5

& RSS-199 § 5.5 & RSS-140 § 4.3 & RSS-192 §5.5 & RSS-197 § 5.6

According to RSS-130 § 4.6.1, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

According to RSS-132 § 5.4, 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.

According to RSS-133 § 6.4, the transmitter's peak-to-average power ratio (PAPR) 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.

According to RSS-139 § 5.5, the peak to average power ratio (PAPR) of the equipment shall not exceed 13 dB for more than 0.1% of the time, using a signal that corresponds to the highest PAPR during periods of continuous transmission.

According to RSS-140 § 4.3, the peak to average power ratio (PAPR) of the equipment shall not exceed 13 dB for more than 0.1% of the time, using a signal that corresponds to the highest PAPR during periods of continuous transmission.

According to RSS-192 § 5.5, the peak to average power ratio (PAPR) of the equipment shall not exceed 13 dB for more than 0.1% of the time, using a signal that corresponds to the highest PAPR during periods of continuous transmission.

According to RSS-195 § 5.5.1, the PAPR of the transmitter output power of base and fixed station equipment shall not exceed 13 dB for more than 0.1% of the time, using a signal that corresponds to the highest PAPR during periods of continuous transmission.

According to RSS-199 § 5.5, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use 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 $\geq$ 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 $10\log(\text{OBW} / \text{RBW})$ 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 & 24.235 & 27.54 & 90.213

RSS-Gen § 6.11 & RSS-130 § 4.5 & RSS-132 § 5.3 & RSS-133 § 6.3 & RSS-139 § 6.4 & RSS-195 § 5.4 & RSS-199 § 5.4 & RSS-140 § 4.2 & RSS-192 § 5.4 & RSS-197 § 5.3

RSS-Gen § 6.11

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.

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 § 24.235

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

FCC § 27.54

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

FCC § 90.213

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

RSS-130 § 4.5

The frequency stability shall be sufficient to ensure that the occupied bandwidth remains within each frequency block range when tested at the temperature and supply voltage variations specified in RSS-Gen.

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.

RSS-133 § 6.3

The carrier frequency shall not depart from the reference frequency in excess of ± 2.5 ppm for mobile stations and ± 1.0 ppm for base stations.

RSS-139 § 6.4

The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block when tested to the temperature and supply voltage variations specified in RSS-Gen.

RSS-195 § 5.4

The applicant shall ensure frequency stability by showing that the occupied bandwidth is maintained within the range of the operating frequency blocks when testing under the temperature and supply voltage variations specified for the frequency stability measurement in RSS-Gen.

RSS-199 § 5.4

The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block when tested to the temperature and supply voltage variations specified in RSS-Gen.

RSS-140 § 4.2

The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block when tested at the temperature and supply voltage variations specified in RSS-Gen.

RSS-192 § 5.4

The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block when tested at the temperature and supply voltage variations specified in RSS-Gen.

RSS-197 § 5.3

The transmitter frequency stability limit shall be determined as follows:

- a. The frequency offset shall be measured according to the procedure described in RSS-Gen and recorded;
- b. Using a resolution bandwidth of 1% of the occupied bandwidth, a reference point at the unwanted emission level specified in Section 5.7 on the emission mask of the lowest and highest channel shall be selected, and the frequency at these points shall be recorded as f_L and f_H respectively.

The applicant shall ensure frequency stability by showing that f_L minus the frequency offset and f_H plus the frequency offset shall be within the 3650-3700 MHz band..

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) & 24.238(a) & 27.53(a) & 27.53(c) & 27.53(f) & 27.53(g) & 27.53(h) & 27.53(l) & 27.53(m) & 27.53(n) & 90.691 & 90.543 & 96.41(e)

RSS-Gen § 6.13 & RSS-130 § 4.7 & RSS-132 § 5.5 & RSS-133 § 6.5 & RSS-139 § 6.6 & RSS-195 § 5.6 & RSS-199 § 5.6 & RSS-140 § 4.4 & RSS-192 § 5.6 & RSS-197 § 5.7

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) & 24.238(a) & RSS-132 § 5.5 & RSS-133 § 6.5

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 § 27.53(a) (4)

For mobile and portable stations operating in the 2305-2315MHz and 2350-2360MHz bands:

(1) By a factor of not less than: $43 + 10 \log(P)$ dB on all frequencies between 2305 and 2320MHz and on all frequencies between 2345 and 2360MHz that are outside the licensed band(s) of operation, not less than $55 + 10 \log(P)$ dB on all frequencies between 2320 and 2324MHz and on all frequencies between 2341 and 2345MHz, not less than $61 + 10 \log(P)$ dB on all frequencies between 2324 and 2328MHz and on all frequencies between 2337 and 2341MHz, and not less than $67 + 10 \log(P)$ dB on all frequencies between 2328 and 2337MHz.

(2) By a factor of not less than $43 + 10 \log(P)$ dB on all frequencies between 2300 and 2305MHz, $55 + 10 \log(P)$ dB on all frequencies between 2296 and 2300MHz, $61 + 10 \log(P)$ dB on all frequencies between 2292 and 2296MHz, $67 + 10 \log(P)$ dB on all frequencies between 2288 and 2292MHz, and $70 + 10 \log(P)$ dB below 2288MHz.

(3) By a factor of not less than $43 + 10 \log(P)$ dB on all frequencies between 2360 and 2365MHz, and not less than $70 + 10 \log(P)$ dB above 2365MHz.

FCC § 27.53(c)

For operations in the 746–758 MHz band and the 776–788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(1) On any frequency outside the 746–758 MHz band, the power of any emission shall be attenuated outside the

band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;

(2) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the

band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;

(3) On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations;

(4) 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, for mobile and portable stations;

(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater.

However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth

of at least 30 kHz may be employed;

(6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

FCC § 27.53(f)

For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to - 70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

FCC § 27.53(g)

For operations in the 600MHz band and the 698-746MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43+10*\log(P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC § 27.53(h) (1) & RSS-139 § 6.6

Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB.

FCC § 27.53(l) (2)

For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

FCC § 27.53(m) (4) & RSS-199 § 4.5

For mobile digital stations (BRS and EBS stations), the attenuation factor shall be not less than:

- 40+10logP dB (-10 dBm, 100 nW) on all frequencies between the channel edge and 5 MHz from the channel edge.
- 43+10logP dB (-13 dBm, 50 nW) on all frequencies between 5 MHz and X MHz from the channel edge,
- 55+10logP dB (-25 dBm, 3 nW) on all frequencies more than X MHz from the channel edge, where X is the greater of 6 MHz or the actual emission bandwidth (26 dB).

In addition, the attenuation factor shall not be less than $43 + 10 \log(P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log(P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

FCC § 27.53(n) (2)

For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

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 $43 + 10 \log_{10}(P)$ 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 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.

FCC § 90.543

(e) For operations in the 758–768 MHz and the 788–798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than $76 + 10 \log(P)$ dB in a 6.25 kHz band segment, for base and fixed stations.
- (2) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (3) On any frequency between 775–788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log(P)$ dB.
- (4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.
- (f) For operations in the 758–775 MHz and 788–805 MHz bands, all emissions including harmonics in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

FCC § 96.41(e)

The conducted power of any emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed -13 dBm/MHz within 0-10 megahertz above the upper SAS-assigned channel edge and within 0-10 megahertz below the lower SAS-assigned channel edge. At all frequencies greater than 10 megahertz above the upper SAS assigned channel edge and less than 10 MHz below the lower SAS assigned channel edge, the conducted power of any emission shall not exceed -25 dBm/MHz. The conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz.

Compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and 1 MHz or greater for frequencies greater than 1 GHz. However, 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 emission are attenuated at least 26 dB below the transmitter power.

RSS-132 § 5.5 & RSS-133 § 6.5

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.

RSS-139 § 6.6

Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

RSS-199 § 5.6

For mobile digital stations (BRS and EBS stations), the attenuation factor shall be not less than:

- $40+10\log P$ dB (–10 dBm, 100 nW) on all frequencies between the channel edge and 5 MHz from the channel edge.
- $43+10\log P$ dB (–13 dBm, 50 nW) on all frequencies between 5 MHz and X MHz from the channel edge,
- $55+10\log P$ dB (–25 dBm, 3 nW) on all frequencies more than X MHz from the channel edge, where X is the greater of 6 MHz or the actual emission bandwidth (26 dB).

In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

RSS-130 § 4.7

The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least $43 + 10\log_{10}(P)$ (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

In addition to the limit outlined above, equipment operating in the frequency bands 746-756 MHz and 777-787 MHz shall also comply with the following restrictions:

- The power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least:
 - $76 + 10 \log_{10} p$ (watts), dB, for base and fixed equipment and
 - $65 + 10 \log_{10} p$ (watts), dB, for mobile and portable equipment
- The e.i.r.p. in the band 1559-1610 MHz shall not exceed –70 dBW/MHz for wideband signal and –80 dBW for discrete emission with bandwidth less than 700 Hz.

RSS-195 § 5.6

The power of any emission outside the frequency range(s) in which the equipment operates shall be attenuated below the transmitter power, P (dBW), by the amount indicated in table below and graphically represented in figure below, where p is the transmitter output power measured in watts.

Frequency (MHz)	Attenuation (dB)	Frequency (MHz)	Attenuation (dB)
<2200	$43+10 \log_{10} (p)$	2324-2328	$61+10 \log_{10} (p)$
2200-2288	$70+10 \log_{10} (p)$	2328-2337	$67+10 \log_{10} (p)$
2288-2292	$67+10 \log_{10} (p)$	2337-2341	$61+10 \log_{10} (p)$

2292-2296	$61+10 \log_{10} (p)$	2341-2345	$55+10 \log_{10} (p)$
2296-2300	$55+10 \log_{10} (p)$	2345-2360	$43+10 \log_{10} (p)$ ^{Note}
2300-2305	$43+10 \log_{10} (p)$	2360-2365	$43+10 \log_{10} (p)$
2305-2320	$43+10 \log_{10} (p)$ ^{Note}	2365-2395	$70+10 \log_{10} (p)$
2320-2324	$55+10 \log_{10} (p)$	> 2395	$43+10 \log_{10} (p)$

Note: Measured at the edges of the highest and lowest frequency range(s) in which the equipment is designed to operate. See section 5.2 for the permitted frequency ranges for various equipment types.

RSS-140 § 4.4

The power of any unwanted emission outside the bands 758-768 MHz and 788-798 MHz shall be attenuated below the transmitter output power P in dBW as follows, where p is the transmitter output power in watts:

For any frequency between 769-775 MHz and 799-806 MHz:

$76 + 10 \log (p)$, dB in a 6.25 kHz band for fixed and base station equipment

$65 + 10 \log (p)$, dB in a 6.25 kHz band for mobile and portable/hand-held equipment

For any frequency between 775-788 MHz, above 806 MHz, and below 758 MHz: $43 + 10 \log (p)$, dB in a bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency bands 758-768 MHz and 788-798 MHz, a resolution bandwidth of 30 kHz may be employed.

In addition, the equivalent isotropically radiated power (e.i.r.p.) of all emissions, including harmonics in the band 1559-1610 MHz, shall not exceed -70 dBW/MHz for wideband emissions, and -80 dBW/kHz for discrete emissions of less than 700 Hz bandwidth.

RSS-192 § 5.6.3

For the unwanted emissions shall not exceed:

wSubscriber equipment shall have the TRP or conducted power (per antenna), where applicable, of unwanted emission not exceeding the following:

- the limits in table below
- a limit of -30 dBm/MHz in the frequency range greater than $(B+5)$ MHz from the edge of the frequency band

Frequency block group (B)	Offset frequency from the edge of the frequency block group (MHz)			
	0-1	1-5	5-B	>B
10 MHz, 20MHz, 30 MHz and 40 MHz	-13 dBm/1% of B	-10 dBm/MHz	-13 dBm/MHz	-25 dBm/MHz

> 40 MHz	-13 dBm/400 kHz	-10 dBm/MHz	-13 dBm/MHz	-25 dBm/MHz
----------	-----------------	-------------	-------------	-------------

RSS-197 § 5.7

The unwanted emissions shall be measured at the frequencies of the highest and lowest channel of all bandwidths and types of modulation that the equipment can operate with a resolution bandwidth of 1 MHz or less, but at least 1% of the occupied bandwidth of the transmitter, provided that the measured power is integrated over a 1 MHz bandwidth.

The power of any emissions outside the frequency band 3650-3700 MHz shall be attenuated below the channel transmitter power P (dBW) by $43 + 10 \log(p)$, where p is measured in watts.

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.

$$\text{Sweep point number} = \text{Span/RBW}$$

$$\text{VBW} = 3 * \text{RBW}$$

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) & 24.238(a) & 27.53(a) & 27.53(c) & 27.53(f) & 27.53(g) & 27.53(h) & 27.53(l) & 27.53(m) & 27.53(n) & 90.691 & 90.543 & 96.41(e)

RSS-Gen § 6.13 & RSS-130 § 4.7 & RSS-132 § 5.5 & RSS-133 § 6.5 & RSS-139 § 6.6 & RSS-195 § 5.6 & RSS-199 § 5.6 & RSS-140 § 4.4 & RSS-192 § 5.6 & RSS-197 § 5.7

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) & 24.238(a) & RSS-132 § 5.5 & RSS-133 § 6.5

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 § 27.53(a) (4)

For mobile and portable stations operating in the 2305-2315MHz and 2350-2360MHz bands:

(1) By a factor of not less than: $43 + 10 \log(P)$ dB on all frequencies between 2305 and 2320MHz and on all frequencies between 2345 and 2360MHz that are outside the licensed band(s) of operation, not less than $55 + 10 \log(P)$ dB on all frequencies between 2320 and 2324MHz and on all frequencies between 2341 and 2345MHz, not less than $61 + 10 \log(P)$ dB on all frequencies between 2324 and 2328MHz and on all frequencies between 2337 and 2341MHz, and not less than $67 + 10 \log(P)$ dB on all frequencies between 2328 and 2337MHz.

(2) By a factor of not less than $43 + 10 \log(P)$ dB on all frequencies between 2300 and 2305MHz, $55 + 10 \log(P)$ dB on all frequencies between 2296 and 2300MHz, $61 + 10 \log(P)$ dB on all frequencies between 2292 and 2296MHz, $67 + 10 \log(P)$ dB on all frequencies between 2288 and 2292MHz, and $70 + 10 \log(P)$ dB below 2288MHz.

(3) By a factor of not less than $43 + 10 \log(P)$ dB on all frequencies between 2360 and 2365MHz, and not less than $70 + 10 \log(P)$ dB above 2365MHz.

FCC § 27.53(c)

For operations in the 746–758 MHz band and the 776–788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(1) On any frequency outside the 746–758 MHz band, the power of any emission shall be attenuated outside the

band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;

(2) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the

band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;

(3) On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations;

(4) 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, for mobile and portable stations;

(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater.

However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth

of at least 30 kHz may be employed;

(6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

FCC § 27.53(f)

For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to - 70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

FCC § 27.53(g)

For operations in the 600MHz band and the 698-746MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43+10*\log(P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC § 27.53(h) (1) & RSS-139 § 6.6

Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB.

FCC § 27.53(l) (2)

For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

FCC § 27.53(m) (4) & RSS-199 § 4.5

For mobile digital stations (BRS and EBS stations), the attenuation factor shall be not less than:

- $40 + 10 \log P$ dB (-10 dBm, 100 nW) on all frequencies between the channel edge and 5 MHz from the channel edge.
- $43 + 10 \log P$ dB (-13 dBm, 50 nW) on all frequencies between 5 MHz and X MHz from the channel edge,
- $55 + 10 \log P$ dB (-25 dBm, 3 nW) on all frequencies more than X MHz from the channel edge, where X is the greater of 6 MHz or the actual emission bandwidth (26 dB).

In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

FCC § 27.53(n) (2)

For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

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 $43 + 10 \log_{10}(P)$ 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 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.

FCC § 90.543

(e) For operations in the 758–768 MHz and the 788–798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than $76 + 10 \log(P)$ dB in a 6.25 kHz band segment, for base and fixed stations.
- (2) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (3) On any frequency between 775–788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log(P)$ dB.
- (4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.
- (f) For operations in the 758–775 MHz and 788–805 MHz bands, all emissions including harmonics in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

FCC § 96.41(e)

The conducted power of any emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed -13 dBm/MHz within 0-10 megahertz above the upper SAS-assigned channel edge and within 0-10 megahertz below the lower SAS-assigned channel edge. At all frequencies greater than 10 megahertz above the upper SAS assigned channel edge and less than 10 MHz below the lower SAS assigned channel edge, the conducted power of any emission shall not exceed -25 dBm/MHz. The conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz.

Compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and 1 MHz or greater for frequencies greater than 1 GHz. However, 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 emission are attenuated at least 26 dB below the transmitter power.

RSS-132 § 5.5 & RSS-133 § 6.5

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.

RSS-139 § 6.6

Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

RSS-199 § 5.6

For mobile digital stations (BRS and EBS stations), the attenuation factor shall be not less than:

- $40+10\log P$ dB (-10 dBm, 100 nW) on all frequencies between the channel edge and 5 MHz from the channel edge.
- $43+10\log P$ dB (-13 dBm, 50 nW) on all frequencies between 5 MHz and X MHz from the channel edge,
- $55+10\log P$ dB (-25 dBm, 3 nW) on all frequencies more than X MHz from the channel edge, where X is the greater of 6 MHz or the actual emission bandwidth (26 dB).

In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

RSS-130 § 4.7

The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least $43 + 10\log_{10}(P)$ (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

In addition to the limit outlined above, equipment operating in the frequency bands 746 - 756 MHz and 777 - 787 MHz shall also comply with the following restrictions:

- (a) The power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763 - 775 MHz and 793 - 806 MHz shall be attenuated below the transmitter power, P (dBW), by at least:
 - (i) $76 + 10 \log_{10} p$ (watts), dB, for base and fixed equipment and
 - (ii) $65 + 10 \log_{10} p$ (watts), dB, for mobile and portable equipment
- (b) The e.i.r.p. in the band 1559 - 1610 MHz shall not exceed -70 dBW/MHz for wideband signal and -80 dBW for discrete emission with bandwidth less than 700 Hz.

RSS-195 § 5.6

The power of any emission outside the frequency range(s) in which the equipment operates shall be attenuated below the transmitter power, P (dBW), by the amount indicated in table below and graphically represented in figure below, where p is the transmitter output power measured in watts.

Frequency (MHz)	Attenuation (dB)	Frequency (MHz)	Attenuation (dB)
<2200	$43+10 \log_{10} (p)$	2324 - 2328	$61+10 \log_{10} (p)$
2200 - 2288	$70+10 \log_{10} (p)$	2328 - 2337	$67+10 \log_{10} (p)$
2288 - 2292	$67+10 \log_{10} (p)$	2337 - 2341	$61+10 \log_{10} (p)$

2292-2296	$61+10 \log_{10} (p)$	2341-2345	$55+10 \log_{10} (p)$
2296-2300	$55+10 \log_{10} (p)$	2345-2360	$43+10 \log_{10} (p)$ ^{Note}
2300-2305	$43+10 \log_{10} (p)$	2360-2365	$43+10 \log_{10} (p)$
2305-2320	$43+10 \log_{10} (p)$ ^{Note}	2365-2395	$70+10 \log_{10} (p)$
2320-2324	$55+10 \log_{10} (p)$	> 2395	$43+10 \log_{10} (p)$
Note: Measured at the edges of the highest and lowest frequency range(s) in which the equipment is designed to operate. See section 5.2 for the permitted frequency ranges for various equipment types.			

RSS-140 § 4.4

The power of any unwanted emission outside the bands 758-768 MHz and 788-798 MHz shall be attenuated below the transmitter output power P in dBW as follows, where p is the transmitter output power in watts:

For any frequency between 769-775 MHz and 799-806 MHz:

$76 + 10 \log (p)$, dB in a 6.25 kHz band for fixed and base station equipment

$65 + 10 \log (p)$, dB in a 6.25 kHz band for mobile and portable/hand-held equipment

For any frequency between 775-788 MHz, above 806 MHz, and below 758 MHz: $43 + 10 \log (p)$, dB in a bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency bands 758-768 MHz and 788-798 MHz, a resolution bandwidth of 30 kHz may be employed.

In addition, the equivalent isotropically radiated power (e.i.r.p.) of all emissions, including harmonics in the band 1559-1610 MHz, shall not exceed -70 dBW/MHz for wideband emissions, and -80 dBW/kHz for discrete emissions of less than 700 Hz bandwidth.

RSS-192 § 5.6.3

For the unwanted emissions shall not exceed:

wSubscriber equipment shall have the TRP or conducted power (per antenna), where applicable, of unwanted emission not exceeding the following:

- c. the limits in table below
- d. a limit of -30 dBm/MHz in the frequency range greater than $(B+5)$ MHz from the edge of the frequency band

Frequency block group (B)	Offset frequency from the edge of the frequency block group (MHz)			
	0-1	1-5	5-B	>B
10 MHz, 20MHz, 30 MHz and 40 MHz	-13 dBm/1% of B	-10 dBm/MHz	-13 dBm/MHz	-25 dBm/MHz

> 40 MHz	-13 dBm/400 kHz	-10 dBm/MHz	-13 dBm/MHz	-25 dBm/MHz
----------	-----------------	-------------	-------------	-------------

RSS-197 § 5.7

The unwanted emissions shall be measured at the frequencies of the highest and lowest channel of all bandwidths and types of modulation that the equipment can operate with a resolution bandwidth of 1 MHz or less, but at least 1% of the occupied bandwidth of the transmitter, provided that the measured power is integrated over a 1 MHz bandwidth.

The power of any emissions outside the frequency band 3650-3700 MHz shall be attenuated below the channel transmitter power P (dBW) by $43 + 10 \log(p)$, where p is measured in watts.

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 50 Ohm; 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.

$$\text{Sweep point number} = 2 * \text{Span} / \text{RBW}$$

$$\text{VBW} = 3 \text{RBW}$$

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.

$$10 * \log(10 \text{ kHz} / 6.25 \text{ kHz}) = 2.04 \text{ dB}$$

$$\text{Limit Line} = -35 \text{ dBm} + 2.04 \text{ dB} = -32.96 \text{ dBm}$$

5.6.4 Test Result

Please refer to ANNEX A.6.

5.7 Field Strength of Spurious Radiation

5.7.1 Limit

FCC § 2.1051 & 22.917(a) & 24.238(a) & 27.53(a) & 27.53(c) & 27.53(f) & 27.53(g) & 27.53(h) & 27.53(l) & 27.53(m) & 27.53(n) & 90.691 & 90.543 & 96.41(e)

RSS-Gen § 6.13 & RSS-130 § 4.7 & RSS-132 § 5.5 & RSS-133 § 6.5 & RSS-139 § 6.6 & RSS-195 § 5.6 & RSS-199 § 5.6 & RSS-140 § 4.4 & RSS-192 § 5.6 & RSS-197 § 5.7

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) & 24.238(a) & RSS-132 § 5.5 & RSS-133 § 6.5

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 § 27.53(a) (4)

For mobile and portable stations operating in the 2305-2315MHz and 2350-2360MHz bands:

(1) By a factor of not less than: $43 + 10 \log(P)$ dB on all frequencies between 2305 and 2320MHz and on all frequencies between 2345 and 2360MHz that are outside the licensed band(s) of operation, not less than $55 + 10 \log(P)$ dB on all frequencies between 2320 and 2324MHz and on all frequencies between 2341 and 2345MHz, not less than $61 + 10 \log(P)$ dB on all frequencies between 2324 and 2328MHz and on all frequencies between 2337 and 2341MHz, and not less than $67 + 10 \log(P)$ dB on all frequencies between 2328 and 2337MHz.

(2) By a factor of not less than $43 + 10 \log(P)$ dB on all frequencies between 2300 and 2305MHz, $55 + 10 \log(P)$ dB on all frequencies between 2296 and 2300MHz, $61 + 10 \log(P)$ dB on all frequencies between 2292 and 2296MHz, $67 + 10 \log(P)$ dB on all frequencies between 2288 and 2292MHz, and $70 + 10 \log(P)$ dB below 2288MHz.

(3) By a factor of not less than $43 + 10 \log(P)$ dB on all frequencies between 2360 and 2365MHz, and not less than $70 + 10 \log(P)$ dB above 2365MHz.

FCC § 27.53(c)

For operations in the 746–758 MHz band and the 776–788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(1) On any frequency outside the 746–758 MHz band, the power of any emission shall be attenuated outside the

band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;

(2) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the

band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;

(3) On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations;

(4) 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, for mobile and portable stations;

(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater.

However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth

of at least 30 kHz may be employed;

(6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

FCC § 27.53(f)

For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to - 70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

FCC § 27.53(g)

For operations in the 600MHz band and the 698-746MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43+10*\log(P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC § 27.53(h) (1) & RSS-139 § 6.6

Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB.

FCC § 27.53(l) (2)

For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

FCC § 27.53(m) (4) & RSS-199 § 4.5

For mobile digital stations (BRS and EBS stations), the attenuation factor shall be not less than:

- $40 + 10 \log P$ dB (-10 dBm, 100 nW) on all frequencies between the channel edge and 5 MHz from the channel edge.
- $43 + 10 \log P$ dB (-13 dBm, 50 nW) on all frequencies between 5 MHz and X MHz from the channel edge,
- $55 + 10 \log P$ dB (-25 dBm, 3 nW) on all frequencies more than X MHz from the channel edge, where X is the greater of 6 MHz or the actual emission bandwidth (26 dB).

In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

FCC § 27.53(n) (2)

For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

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 $43 + 10 \log_{10}(P)$ 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 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.

FCC § 90.543

(e) For operations in the 758–768 MHz and the 788–798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than $76 + 10 \log(P)$ dB in a 6.25 kHz band segment, for base and fixed stations.
- (2) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (3) On any frequency between 775–788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log(P)$ dB.
- (4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.
- (f) For operations in the 758–775 MHz and 788–805 MHz bands, all emissions including harmonics in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

FCC § 96.41(e)

The conducted power of any emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed -13 dBm/MHz within 0-10 megahertz above the upper SAS-assigned channel edge and within 0-10 megahertz below the lower SAS-assigned channel edge. At all frequencies greater than 10 megahertz above the upper SAS assigned channel edge and less than 10 MHz below the lower SAS assigned channel edge, the conducted power of any emission shall not exceed -25 dBm/MHz. The conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz.

Compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and 1 MHz or greater for frequencies greater than 1 GHz. However, 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 emission are attenuated at least 26 dB below the transmitter power.

RSS-132 § 5.5 & RSS-133 § 6.5

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.

RSS-139 § 6.6

Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

RSS-199 § 5.6

For mobile digital stations (BRS and EBS stations), the attenuation factor shall be not less than:

- $40+10\log P$ dB (-10 dBm, 100 nW) on all frequencies between the channel edge and 5 MHz from the channel edge.
- $43+10\log P$ dB (-13 dBm, 50 nW) on all frequencies between 5 MHz and X MHz from the channel edge,
- $55+10\log P$ dB (-25 dBm, 3 nW) on all frequencies more than X MHz from the channel edge, where X is the greater of 6 MHz or the actual emission bandwidth (26 dB).

In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

RSS-130 § 4.7

The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least $43 + 10\log_{10}(P)$ (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

In addition to the limit outlined above, equipment operating in the frequency bands 746 - 756 MHz and 777 - 787 MHz shall also comply with the following restrictions:

- (a) The power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763 - 775 MHz and 793 - 806 MHz shall be attenuated below the transmitter power, P (dBW), by at least:
 - (i) $76 + 10 \log_{10} p$ (watts), dB, for base and fixed equipment and
 - (ii) $65 + 10 \log_{10} p$ (watts), dB, for mobile and portable equipment
- (b) The e.i.r.p. in the band 1559 - 1610 MHz shall not exceed -70 dBW/MHz for wideband signal and -80 dBW for discrete emission with bandwidth less than 700 Hz.

RSS-195 § 5.6

The power of any emission outside the frequency range(s) in which the equipment operates shall be attenuated below the transmitter power, P (dBW), by the amount indicated in table below and graphically represented in figure below, where p is the transmitter output power measured in watts.

Frequency (MHz)	Attenuation (dB)	Frequency (MHz)	Attenuation (dB)
<2200	$43+10 \log_{10} (p)$	2324 - 2328	$61+10 \log_{10} (p)$
2200 - 2288	$70+10 \log_{10} (p)$	2328 - 2337	$67+10 \log_{10} (p)$
2288 - 2292	$67+10 \log_{10} (p)$	2337 - 2341	$61+10 \log_{10} (p)$

2292-2296	$61+10 \log_{10} (p)$	2341-2345	$55+10 \log_{10} (p)$
2296-2300	$55+10 \log_{10} (p)$	2345-2360	$43+10 \log_{10} (p)$ ^{Note}
2300-2305	$43+10 \log_{10} (p)$	2360-2365	$43+10 \log_{10} (p)$
2305-2320	$43+10 \log_{10} (p)$ ^{Note}	2365-2395	$70+10 \log_{10} (p)$
2320-2324	$55+10 \log_{10} (p)$	> 2395	$43+10 \log_{10} (p)$

Note: Measured at the edges of the highest and lowest frequency range(s) in which the equipment is designed to operate. See section 5.2 for the permitted frequency ranges for various equipment types.

RSS-140 § 4.4

The power of any unwanted emission outside the bands 758-768 MHz and 788-798 MHz shall be attenuated below the transmitter output power P in dBW as follows, where p is the transmitter output power in watts:

For any frequency between 769-775 MHz and 799-806 MHz:

$76 + 10 \log (p)$, dB in a 6.25 kHz band for fixed and base station equipment

$65 + 10 \log (p)$, dB in a 6.25 kHz band for mobile and portable/hand-held equipment

For any frequency between 775-788 MHz, above 806 MHz, and below 758 MHz: $43 + 10 \log (p)$, dB in a bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency bands 758-768 MHz and 788-798 MHz, a resolution bandwidth of 30 kHz may be employed.

In addition, the equivalent isotropically radiated power (e.i.r.p.) of all emissions, including harmonics in the band 1559-1610 MHz, shall not exceed -70 dBW/MHz for wideband emissions, and -80 dBW/kHz for discrete emissions of less than 700 Hz bandwidth.

RSS-192 § 5.6.3

For the unwanted emissions shall not exceed:

wSubscriber equipment shall have the TRP or conducted power (per antenna), where applicable, of unwanted emission not exceeding the following:

- e. the limits in table below
- f. a limit of -30 dBm/MHz in the frequency range greater than $(B+5)$ MHz from the edge of the frequency band

Frequency block group (B)	Offset frequency from the edge of the frequency block group (MHz)			
	0-1	1-5	5-B	>B
10 MHz, 20MHz, 30 MHz and 40 MHz	-13 dBm/1% of B	-10 dBm/MHz	-13 dBm/MHz	-25 dBm/MHz

> 40 MHz	-13 dBm/400 kHz	-10 dBm/MHz	-13 dBm/MHz	-25 dBm/MHz
----------	-----------------	-------------	-------------	-------------

RSS-197 § 5.7

The unwanted emissions shall be measured at the frequencies of the highest and lowest channel of all bandwidths and types of modulation that the equipment can operate with a resolution bandwidth of 1 MHz or less, but at least 1% of the occupied bandwidth of the transmitter, provided that the measured power is integrated over a 1 MHz bandwidth.

The power of any emissions outside the frequency band 3650-3700 MHz shall be attenuated below the channel transmitter power P (dBW) by $43 + 10 \log(p)$, where p is measured in watts.

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:

$$\text{ERP/EIRP (dBm)} = \text{SA Read Value (dBm)} + \text{Correction Factor (dB)}$$

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:

$$\text{ERP (dBm)} = 21\text{dBm} + 8\text{dB} = 29\text{dBm}$$

5.7.4 Test Result

Please refer to ANNEX A.7.

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)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE BAND2									
1.4 MHz	LCH	QPSK	RB1#0	22.33	2.3	24.63	0.290	2.000	Pass
			RB1#3	22.41	2.3	24.71	0.296	2.000	Pass
			RB1#5	22.33	2.3	24.63	0.290	2.000	Pass
			RB3#0	22.53	2.3	24.83	0.304	2.000	Pass
			RB3#2	22.52	2.3	24.82	0.303	2.000	Pass
			RB3#3	22.46	2.3	24.76	0.299	2.000	Pass
			RB6#0	21.42	2.3	23.72	0.236	2.000	Pass
		16-QAM	RB1#0	21.7	2.3	24.00	0.251	2.000	Pass
			RB1#3	21.92	2.3	24.22	0.264	2.000	Pass
			RB1#5	21.87	2.3	24.17	0.261	2.000	Pass
			RB3#0	21.51	2.3	23.81	0.240	2.000	Pass
			RB3#2	21.64	2.3	23.94	0.248	2.000	Pass
			RB3#3	21.49	2.3	23.79	0.239	2.000	Pass
			RB6#0	20.59	2.3	22.89	0.195	2.000	Pass
		64QAM	RB1#0	20.57	2.3	22.87	0.194	2.000	Pass
			RB1#3	20.72	2.3	23.02	0.200	2.000	Pass
			RB1#5	20.65	2.3	22.95	0.197	2.000	Pass
			RB3#0	20.47	2.3	22.77	0.189	2.000	Pass
			RB3#2	20.51	2.3	22.81	0.191	2.000	Pass
			RB3#3	20.66	2.3	22.96	0.198	2.000	Pass
			RB6#0	19.58	2.3	21.88	0.154	2.000	Pass
		256QAM	RB1#0	17.56	2.3	19.86	0.097	2.000	Pass
			RB1#3	17.57	2.3	19.87	0.097	2.000	Pass
			RB1#5	17.65	2.3	19.95	0.099	2.000	Pass
			RB3#0	17.58	2.3	19.88	0.097	2.000	Pass
			RB3#2	17.55	2.3	19.85	0.097	2.000	Pass
			RB3#3	17.41	2.3	19.71	0.094	2.000	Pass
			RB6#0	17.49	2.3	19.79	0.095	2.000	Pass
	MCH	QPSK	RB1#0	22.38	2.3	24.68	0.294	2.000	Pass
			RB1#3	22.46	2.3	24.76	0.299	2.000	Pass
			RB1#5	22.43	2.3	24.73	0.297	2.000	Pass
			RB3#0	22.51	2.3	24.81	0.303	2.000	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE BAND2									
			RB3#2	22.45	2.3	24.75	0.299	2.000	Pass
			RB3#3	22.48	2.3	24.78	0.301	2.000	Pass
			RB6#0	21.45	2.3	23.75	0.237	2.000	Pass
		16-QAM	RB1#0	21.69	2.3	23.99	0.251	2.000	Pass
			RB1#3	21.91	2.3	24.21	0.264	2.000	Pass
			RB1#5	21.74	2.3	24.04	0.254	2.000	Pass
			RB3#0	21.58	2.3	23.88	0.244	2.000	Pass
			RB3#2	21.73	2.3	24.03	0.253	2.000	Pass
			RB3#3	21.63	2.3	23.93	0.247	2.000	Pass
			RB6#0	20.51	2.3	22.81	0.191	2.000	Pass
		64QAM	RB1#0	20.59	2.3	22.89	0.195	2.000	Pass
			RB1#3	20.68	2.3	22.98	0.199	2.000	Pass
			RB1#5	20.55	2.3	22.85	0.193	2.000	Pass
			RB3#0	20.56	2.3	22.86	0.193	2.000	Pass
			RB3#2	20.51	2.3	22.81	0.191	2.000	Pass
			RB3#3	20.64	2.3	22.94	0.197	2.000	Pass
			RB6#0	19.59	2.3	21.89	0.155	2.000	Pass
		256QAM	RB1#0	17.67	2.3	19.97	0.099	2.000	Pass
			RB1#3	17.64	2.3	19.94	0.099	2.000	Pass
			RB1#5	17.53	2.3	19.83	0.096	2.000	Pass
			RB3#0	17.63	2.3	19.93	0.098	2.000	Pass
			RB3#2	17.47	2.3	19.77	0.095	2.000	Pass
			RB3#3	17.6	2.3	19.90	0.098	2.000	Pass
			RB6#0	17.48	2.3	19.78	0.095	2.000	Pass
	HCH	QPSK	RB1#0	22.32	2.3	24.62	0.290	2.000	Pass
			RB1#3	22.42	2.3	24.72	0.296	2.000	Pass
			RB1#5	22.53	2.3	24.83	0.304	2.000	Pass
			RB3#0	22.46	2.3	24.76	0.299	2.000	Pass
			RB3#2	22.36	2.3	24.66	0.292	2.000	Pass
			RB3#3	22.38	2.3	24.68	0.294	2.000	Pass
			RB6#0	21.45	2.3	23.75	0.237	2.000	Pass
		16-QAM	RB1#0	21.75	2.3	24.05	0.254	2.000	Pass
			RB1#3	21.87	2.3	24.17	0.261	2.000	Pass
			RB1#5	21.79	2.3	24.09	0.256	2.000	Pass
			RB3#0	21.6	2.3	23.90	0.245	2.000	Pass
			RB3#2	21.57	2.3	23.87	0.244	2.000	Pass
			RB3#3	21.51	2.3	23.81	0.240	2.000	Pass
			RB6#0	20.56	2.3	22.86	0.193	2.000	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE BAND2									
		64QAM	RB1#0	20.81	2.3	23.11	0.205	2.000	Pass
			RB1#3	20.73	2.3	23.03	0.201	2.000	Pass
			RB1#5	20.56	2.3	22.86	0.193	2.000	Pass
			RB3#0	20.52	2.3	22.82	0.191	2.000	Pass
			RB3#2	20.6	2.3	22.90	0.195	2.000	Pass
			RB3#3	20.49	2.3	22.79	0.190	2.000	Pass
			RB6#0	19.41	2.3	21.71	0.148	2.000	Pass
		256QAM	RB1#0	17.52	2.3	19.82	0.096	2.000	Pass
			RB1#3	17.64	2.3	19.94	0.099	2.000	Pass
			RB1#5	17.54	2.3	19.84	0.096	2.000	Pass
			RB3#0	17.37	2.3	19.67	0.093	2.000	Pass
			RB3#2	17.6	2.3	19.90	0.098	2.000	Pass
			RB3#3	17.46	2.3	19.76	0.095	2.000	Pass
			RB6#0	17.47	2.3	19.77	0.095	2.000	Pass
3 MHz	LCH	QPSK	RB1#0	22.38	2.3	24.68	0.294	2.000	Pass
			RB1#7	22.51	2.3	24.81	0.303	2.000	Pass
			RB1#14	22.37	2.3	24.67	0.293	2.000	Pass
			RB8#0	21.56	2.3	23.86	0.243	2.000	Pass
			RB8#4	21.53	2.3	23.83	0.242	2.000	Pass
			RB8#7	21.51	2.3	23.81	0.240	2.000	Pass
			RB15#0	21.51	2.3	23.81	0.240	2.000	Pass
		16-QAM	RB1#0	21.66	2.3	23.96	0.249	2.000	Pass
			RB1#7	21.88	2.3	24.18	0.262	2.000	Pass
			RB1#14	21.89	2.3	24.19	0.262	2.000	Pass
			RB8#0	20.51	2.3	22.81	0.191	2.000	Pass
			RB8#4	20.58	2.3	22.88	0.194	2.000	Pass
			RB8#7	20.47	2.3	22.77	0.189	2.000	Pass
			RB15#0	20.46	2.3	22.76	0.189	2.000	Pass
		64QAM	RB1#0	20.45	2.3	22.75	0.188	2.000	Pass
			RB1#7	20.68	2.3	22.98	0.199	2.000	Pass
			RB1#14	20.63	2.3	22.93	0.196	2.000	Pass
			RB8#0	19.55	2.3	21.85	0.153	2.000	Pass
			RB8#4	19.6	2.3	21.90	0.155	2.000	Pass
			RB8#7	19.57	2.3	21.87	0.154	2.000	Pass
			RB15#0	19.57	2.3	21.87	0.154	2.000	Pass
		256QAM	RB1#0	17.71	2.3	20.01	0.100	2.000	Pass
			RB1#7	17.67	2.3	19.97	0.099	2.000	Pass
			RB1#14	17.38	2.3	19.68	0.093	2.000	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE BAND2									
			RB8#0	17.56	2.3	19.86	0.097	2.000	Pass
			RB8#4	17.59	2.3	19.89	0.097	2.000	Pass
			RB8#7	17.61	2.3	19.91	0.098	2.000	Pass
			RB15#0	17.56	2.3	19.86	0.097	2.000	Pass
	MCH	QPSK	RB1#0	22.51	2.3	24.81	0.303	2.000	Pass
			RB1#7	22.6	2.3	24.90	0.309	2.000	Pass
			RB1#14	22.49	2.3	24.79	0.301	2.000	Pass
			RB8#0	21.44	2.3	23.74	0.237	2.000	Pass
			RB8#4	21.55	2.3	23.85	0.243	2.000	Pass
			RB8#7	21.55	2.3	23.85	0.243	2.000	Pass
			RB15#0	21.43	2.3	23.73	0.236	2.000	Pass
		16-QAM	RB1#0	21.82	2.3	24.12	0.258	2.000	Pass
			RB1#7	21.92	2.3	24.22	0.264	2.000	Pass
			RB1#14	21.76	2.3	24.06	0.255	2.000	Pass
			RB8#0	20.6	2.3	22.90	0.195	2.000	Pass
			RB8#4	20.6	2.3	22.90	0.195	2.000	Pass
			RB8#7	20.58	2.3	22.88	0.194	2.000	Pass
			RB15#0	20.43	2.3	22.73	0.187	2.000	Pass
		64QAM	RB1#0	20.72	2.3	23.02	0.200	2.000	Pass
			RB1#7	20.87	2.3	23.17	0.207	2.000	Pass
			RB1#14	20.73	2.3	23.03	0.201	2.000	Pass
			RB8#0	19.49	2.3	21.79	0.151	2.000	Pass
			RB8#4	19.61	2.3	21.91	0.155	2.000	Pass
			RB8#7	19.55	2.3	21.85	0.153	2.000	Pass
			RB15#0	19.45	2.3	21.75	0.150	2.000	Pass
		256QAM	RB1#0	17.71	2.3	20.01	0.100	2.000	Pass
			RB1#7	17.68	2.3	19.98	0.100	2.000	Pass
			RB1#14	17.63	2.3	19.93	0.098	2.000	Pass
			RB8#0	17.52	2.3	19.82	0.096	2.000	Pass
			RB8#4	17.58	2.3	19.88	0.097	2.000	Pass
			RB8#7	17.54	2.3	19.84	0.096	2.000	Pass
			RB15#0	17.51	2.3	19.81	0.096	2.000	Pass
	HCH	QPSK	RB1#0	22.52	2.3	24.82	0.303	2.000	Pass
			RB1#7	22.52	2.3	24.82	0.303	2.000	Pass
			RB1#14	22.41	2.3	24.71	0.296	2.000	Pass
			RB8#0	21.5	2.3	23.80	0.240	2.000	Pass
			RB8#4	21.56	2.3	23.86	0.243	2.000	Pass
			RB8#7	21.51	2.3	23.81	0.240	2.000	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE BAND2									
		16-QAM	RB15#0	21.44	2.3	23.74	0.237	2.000	Pass
			RB1#0	21.88	2.3	24.18	0.262	2.000	Pass
			RB1#7	21.79	2.3	24.09	0.256	2.000	Pass
			RB1#14	21.78	2.3	24.08	0.256	2.000	Pass
			RB8#0	20.48	2.3	22.78	0.190	2.000	Pass
			RB8#4	20.58	2.3	22.88	0.194	2.000	Pass
			RB8#7	20.53	2.3	22.83	0.192	2.000	Pass
			RB15#0	20.58	2.3	22.88	0.194	2.000	Pass
		64QAM	RB1#0	20.54	2.3	22.84	0.192	2.000	Pass
			RB1#7	20.7	2.3	23.00	0.200	2.000	Pass
			RB1#14	20.58	2.3	22.88	0.194	2.000	Pass
			RB8#0	19.52	2.3	21.82	0.152	2.000	Pass
			RB8#4	19.59	2.3	21.89	0.155	2.000	Pass
			RB8#7	19.54	2.3	21.84	0.153	2.000	Pass
			RB15#0	19.53	2.3	21.83	0.152	2.000	Pass
		256QAM	RB1#0	17.71	2.3	20.01	0.100	2.000	Pass
			RB1#7	17.57	2.3	19.87	0.097	2.000	Pass
			RB1#14	17.5	2.3	19.80	0.095	2.000	Pass
			RB8#0	17.49	2.3	19.79	0.095	2.000	Pass
			RB8#4	17.55	2.3	19.85	0.097	2.000	Pass
			RB8#7	17.53	2.3	19.83	0.096	2.000	Pass
			RB15#0	17.57	2.3	19.87	0.097	2.000	Pass
5 MHz	LCH	QPSK	RB1#0	22.45	2.3	24.75	0.299	2.000	Pass
			RB1#13	22.57	2.3	24.87	0.307	2.000	Pass
			RB1#24	22.46	2.3	24.76	0.299	2.000	Pass
			RB12#0	21.6	2.3	23.90	0.245	2.000	Pass
			RB12#6	21.59	2.3	23.89	0.245	2.000	Pass
			RB12#13	21.54	2.3	23.84	0.242	2.000	Pass
			RB25#0	21.52	2.3	23.82	0.241	2.000	Pass
		16-QAM	RB1#0	21.6	2.3	23.90	0.245	2.000	Pass
			RB1#13	21.95	2.3	24.25	0.266	2.000	Pass
			RB1#24	21.9	2.3	24.20	0.263	2.000	Pass
			RB12#0	20.55	2.3	22.85	0.193	2.000	Pass
			RB12#6	20.61	2.3	22.91	0.195	2.000	Pass
			RB12#13	20.6	2.3	22.90	0.195	2.000	Pass
			RB25#0	20.58	2.3	22.88	0.194	2.000	Pass
		64QAM	RB1#0	20.63	2.3	22.93	0.196	2.000	Pass
			RB1#13	20.87	2.3	23.17	0.207	2.000	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE BAND2									
			RB1#24	20.79	2.3	23.09	0.204	2.000	Pass
			RB12#0	19.55	2.3	21.85	0.153	2.000	Pass
			RB12#6	19.58	2.3	21.88	0.154	2.000	Pass
			RB12#13	19.57	2.3	21.87	0.154	2.000	Pass
			RB25#0	19.57	2.3	21.87	0.154	2.000	Pass
		256QAM	RB1#0	17.64	2.3	19.94	0.099	2.000	Pass
			RB1#13	17.65	2.3	19.95	0.099	2.000	Pass
			RB1#24	17.69	2.3	19.99	0.100	2.000	Pass
			RB12#0	17.62	2.3	19.92	0.098	2.000	Pass
			RB12#6	17.66	2.3	19.96	0.099	2.000	Pass
			RB12#13	17.58	2.3	19.88	0.097	2.000	Pass
			RB25#0	17.59	2.3	19.89	0.097	2.000	Pass
	MCH	QPSK	RB1#0	22.52	2.3	24.82	0.303	2.000	Pass
			RB1#13	22.56	2.3	24.86	0.306	2.000	Pass
			RB1#24	22.54	2.3	24.84	0.305	2.000	Pass
			RB12#0	21.48	2.3	23.78	0.239	2.000	Pass
			RB12#6	21.51	2.3	23.81	0.240	2.000	Pass
			RB12#13	21.58	2.3	23.88	0.244	2.000	Pass
			RB25#0	21.47	2.3	23.77	0.238	2.000	Pass
		16-QAM	RB1#0	21.8	2.3	24.10	0.257	2.000	Pass
			RB1#13	22.06	2.3	24.36	0.273	2.000	Pass
			RB1#24	22.06	2.3	24.36	0.273	2.000	Pass
			RB12#0	20.51	2.3	22.81	0.191	2.000	Pass
			RB12#6	20.61	2.3	22.91	0.195	2.000	Pass
			RB12#13	20.65	2.3	22.95	0.197	2.000	Pass
			RB25#0	20.43	2.3	22.73	0.187	2.000	Pass
		64QAM	RB1#0	20.69	2.3	22.99	0.199	2.000	Pass
			RB1#13	20.82	2.3	23.12	0.205	2.000	Pass
			RB1#24	20.67	2.3	22.97	0.198	2.000	Pass
			RB12#0	19.43	2.3	21.73	0.149	2.000	Pass
			RB12#6	19.57	2.3	21.87	0.154	2.000	Pass
			RB12#13	19.51	2.3	21.81	0.152	2.000	Pass
			RB25#0	19.49	2.3	21.79	0.151	2.000	Pass
		256QAM	RB1#0	17.56	2.3	19.86	0.097	2.000	Pass
			RB1#13	17.6	2.3	19.90	0.098	2.000	Pass
			RB1#24	17.66	2.3	19.96	0.099	2.000	Pass
			RB12#0	17.53	2.3	19.83	0.096	2.000	Pass
			RB12#6	17.5	2.3	19.80	0.095	2.000	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE BAND2									
	HCH		RB12#13	17.55	2.3	19.85	0.097	2.000	Pass
			RB25#0	17.52	2.3	19.82	0.096	2.000	Pass
		QPSK	RB1#0	22.49	2.3	24.79	0.301	2.000	Pass
			RB1#13	22.5	2.3	24.80	0.302	2.000	Pass
			RB1#24	22.45	2.3	24.75	0.299	2.000	Pass
			RB12#0	21.49	2.3	23.79	0.239	2.000	Pass
			RB12#6	21.51	2.3	23.81	0.240	2.000	Pass
			RB12#13	21.45	2.3	23.75	0.237	2.000	Pass
			RB25#0	21.46	2.3	23.76	0.238	2.000	Pass
		16-QAM	RB1#0	21.77	2.3	24.07	0.255	2.000	Pass
			RB1#13	21.82	2.3	24.12	0.258	2.000	Pass
			RB1#24	21.71	2.3	24.01	0.252	2.000	Pass
			RB12#0	20.5	2.3	22.80	0.191	2.000	Pass
			RB12#6	20.47	2.3	22.77	0.189	2.000	Pass
			RB12#13	20.59	2.3	22.89	0.195	2.000	Pass
			RB25#0	20.56	2.3	22.86	0.193	2.000	Pass
		64QAM	RB1#0	20.64	2.3	22.94	0.197	2.000	Pass
			RB1#13	20.81	2.3	23.11	0.205	2.000	Pass
			RB1#24	20.7	2.3	23.00	0.200	2.000	Pass
			RB12#0	19.49	2.3	21.79	0.151	2.000	Pass
			RB12#6	19.54	2.3	21.84	0.153	2.000	Pass
			RB12#13	19.56	2.3	21.86	0.153	2.000	Pass
			RB25#0	19.47	2.3	21.77	0.150	2.000	Pass
		256QAM	RB1#0	17.55	2.3	19.85	0.097	2.000	Pass
			RB1#13	17.76	2.3	20.06	0.101	2.000	Pass
			RB1#24	17.59	2.3	19.89	0.097	2.000	Pass
			RB12#0	17.5	2.3	19.80	0.095	2.000	Pass
			RB12#6	17.57	2.3	19.87	0.097	2.000	Pass
			RB12#13	17.47	2.3	19.77	0.095	2.000	Pass
			RB25#0	17.52	2.3	19.82	0.096	2.000	Pass
10 MHz	LCH	QPSK	RB1#0	22.5	2.3	24.80	0.302	2.000	Pass
			RB1#25	22.49	2.3	24.79	0.301	2.000	Pass
			RB1#49	22.51	2.3	24.81	0.303	2.000	Pass
			RB25#0	21.44	2.3	23.74	0.237	2.000	Pass
			RB25#13	21.61	2.3	23.91	0.246	2.000	Pass
			RB25#25	21.55	2.3	23.85	0.243	2.000	Pass
			RB50#0	21.57	2.3	23.87	0.244	2.000	Pass
		16-QAM	RB1#0	21.67	2.3	23.97	0.249	2.000	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE BAND2									
			RB1#25	21.76	2.3	24.06	0.255	2.000	Pass
			RB1#49	21.87	2.3	24.17	0.261	2.000	Pass
			RB25#0	20.5	2.3	22.80	0.191	2.000	Pass
			RB25#13	20.6	2.3	22.90	0.195	2.000	Pass
			RB25#25	20.53	2.3	22.83	0.192	2.000	Pass
			RB50#0	20.55	2.3	22.85	0.193	2.000	Pass
		64QAM	RB1#0	20.68	2.3	22.98	0.199	2.000	Pass
			RB1#25	20.83	2.3	23.13	0.206	2.000	Pass
			RB1#49	20.67	2.3	22.97	0.198	2.000	Pass
			RB25#0	19.57	2.3	21.87	0.154	2.000	Pass
			RB25#13	19.58	2.3	21.88	0.154	2.000	Pass
			RB25#25	19.61	2.3	21.91	0.155	2.000	Pass
			RB50#0	19.53	2.3	21.83	0.152	2.000	Pass
		256QAM	RB1#0	17.69	2.3	19.99	0.100	2.000	Pass
			RB1#25	17.82	2.3	20.12	0.103	2.000	Pass
			RB1#49	17.7	2.3	20.00	0.100	2.000	Pass
			RB25#0	17.45	2.3	19.75	0.094	2.000	Pass
			RB25#13	17.6	2.3	19.90	0.098	2.000	Pass
			RB25#25	17.58	2.3	19.88	0.097	2.000	Pass
			RB50#0	17.62	2.3	19.92	0.098	2.000	Pass
	MCH	QPSK	RB1#0	22.42	2.3	24.72	0.296	2.000	Pass
			RB1#25	22.57	2.3	24.87	0.307	2.000	Pass
			RB1#49	22.49	2.3	24.79	0.301	2.000	Pass
			RB25#0	21.5	2.3	23.80	0.240	2.000	Pass
			RB25#13	21.44	2.3	23.74	0.237	2.000	Pass
			RB25#25	21.58	2.3	23.88	0.244	2.000	Pass
			RB50#0	21.47	2.3	23.77	0.238	2.000	Pass
		16-QAM	RB1#0	21.82	2.3	24.12	0.258	2.000	Pass
			RB1#25	21.85	2.3	24.15	0.260	2.000	Pass
			RB1#49	21.78	2.3	24.08	0.256	2.000	Pass
			RB25#0	20.47	2.3	22.77	0.189	2.000	Pass
			RB25#13	20.45	2.3	22.75	0.188	2.000	Pass
			RB25#25	20.59	2.3	22.89	0.195	2.000	Pass
			RB50#0	20.47	2.3	22.77	0.189	2.000	Pass
		64QAM	RB1#0	20.57	2.3	22.87	0.194	2.000	Pass
			RB1#25	20.73	2.3	23.03	0.201	2.000	Pass
			RB1#49	20.6	2.3	22.90	0.195	2.000	Pass
			RB25#0	19.36	2.3	21.66	0.147	2.000	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE BAND2									
		256QAM	RB25#13	19.5	2.3	21.80	0.151	2.000	Pass
			RB25#25	19.6	2.3	21.90	0.155	2.000	Pass
			RB50#0	19.46	2.3	21.76	0.150	2.000	Pass
			RB1#0	17.39	2.3	19.69	0.093	2.000	Pass
			RB1#25	17.7	2.3	20.00	0.100	2.000	Pass
			RB1#49	17.55	2.3	19.85	0.097	2.000	Pass
			RB25#0	17.46	2.3	19.76	0.095	2.000	Pass
			RB25#13	17.51	2.3	19.81	0.096	2.000	Pass
			RB25#25	17.52	2.3	19.82	0.096	2.000	Pass
			RB50#0	17.4	2.3	19.70	0.093	2.000	Pass
	HCH	QPSK	RB1#0	22.39	2.3	24.69	0.294	2.000	Pass
			RB1#25	22.51	2.3	24.81	0.303	2.000	Pass
			RB1#49	22.54	2.3	24.84	0.305	2.000	Pass
			RB25#0	21.48	2.3	23.78	0.239	2.000	Pass
			RB25#13	21.41	2.3	23.71	0.235	2.000	Pass
			RB25#25	21.53	2.3	23.83	0.242	2.000	Pass
			RB50#0	21.49	2.3	23.79	0.239	2.000	Pass
		16-QAM	RB1#0	21.76	2.3	24.06	0.255	2.000	Pass
			RB1#25	21.77	2.3	24.07	0.255	2.000	Pass
			RB1#49	21.88	2.3	24.18	0.262	2.000	Pass
			RB25#0	20.44	2.3	22.74	0.188	2.000	Pass
			RB25#13	20.5	2.3	22.80	0.191	2.000	Pass
			RB25#25	20.53	2.3	22.83	0.192	2.000	Pass
			RB50#0	20.41	2.3	22.71	0.187	2.000	Pass
		64QAM	RB1#0	20.51	2.3	22.81	0.191	2.000	Pass
			RB1#25	20.73	2.3	23.03	0.201	2.000	Pass
			RB1#49	20.7	2.3	23.00	0.200	2.000	Pass
			RB25#0	19.4	2.3	21.70	0.148	2.000	Pass
			RB25#13	19.46	2.3	21.76	0.150	2.000	Pass
			RB25#25	19.56	2.3	21.86	0.153	2.000	Pass
			RB50#0	19.43	2.3	21.73	0.149	2.000	Pass
		256QAM	RB1#0	17.43	2.3	19.73	0.094	2.000	Pass
			RB1#25	17.58	2.3	19.88	0.097	2.000	Pass
			RB1#49	17.52	2.3	19.82	0.096	2.000	Pass
			RB25#0	17.49	2.3	19.79	0.095	2.000	Pass
			RB25#13	17.51	2.3	19.81	0.096	2.000	Pass
			RB25#25	17.55	2.3	19.85	0.097	2.000	Pass
			RB50#0	17.51	2.3	19.81	0.096	2.000	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE BAND2									
15 MHz	LCH	QPSK	RB1#0	22.26	2.3	24.56	0.286	2.000	Pass
			RB1#38	22.38	2.3	24.68	0.294	2.000	Pass
			RB1#74	22.5	2.3	24.80	0.302	2.000	Pass
			RB36#0	21.3	2.3	23.60	0.229	2.000	Pass
			RB36#19	21.45	2.3	23.75	0.237	2.000	Pass
			RB36#39	21.44	2.3	23.74	0.237	2.000	Pass
			RB75#0	21.42	2.3	23.72	0.236	2.000	Pass
		16-QAM	RB1#0	21.63	2.3	23.93	0.247	2.000	Pass
			RB1#38	21.74	2.3	24.04	0.254	2.000	Pass
			RB1#74	21.6	2.3	23.90	0.245	2.000	Pass
			RB36#0	20.31	2.3	22.61	0.182	2.000	Pass
			RB36#19	20.43	2.3	22.73	0.187	2.000	Pass
			RB36#39	20.46	2.3	22.76	0.189	2.000	Pass
			RB75#0	20.41	2.3	22.71	0.187	2.000	Pass
		64QAM	RB1#0	20.39	2.3	22.69	0.186	2.000	Pass
			RB1#38	20.56	2.3	22.86	0.193	2.000	Pass
			RB1#74	20.54	2.3	22.84	0.192	2.000	Pass
			RB36#0	19.42	2.3	21.72	0.149	2.000	Pass
			RB36#19	19.45	2.3	21.75	0.150	2.000	Pass
			RB36#39	19.47	2.3	21.77	0.150	2.000	Pass
			RB75#0	19.43	2.3	21.73	0.149	2.000	Pass
		256QAM	RB1#0	17.32	2.3	19.62	0.092	2.000	Pass
			RB1#38	17.34	2.3	19.64	0.092	2.000	Pass
			RB1#74	17.36	2.3	19.66	0.092	2.000	Pass
			RB36#0	17.35	2.3	19.65	0.092	2.000	Pass
			RB36#19	17.36	2.3	19.66	0.092	2.000	Pass
			RB36#39	17.39	2.3	19.69	0.093	2.000	Pass
			RB75#0	17.36	2.3	19.66	0.092	2.000	Pass
	MCH	QPSK	RB1#0	22.3	2.3	24.60	0.288	2.000	Pass
			RB1#38	22.39	2.3	24.69	0.294	2.000	Pass
			RB1#74	22.4	2.3	24.70	0.295	2.000	Pass
			RB36#0	21.33	2.3	23.63	0.231	2.000	Pass
			RB36#19	21.35	2.3	23.65	0.232	2.000	Pass
			RB36#39	21.46	2.3	23.76	0.238	2.000	Pass
			RB75#0	21.4	2.3	23.70	0.234	2.000	Pass
		16-QAM	RB1#0	21.55	2.3	23.85	0.243	2.000	Pass
			RB1#38	21.77	2.3	24.07	0.255	2.000	Pass
			RB1#74	21.41	2.3	23.71	0.235	2.000	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE BAND2									
			RB36#0	20.4	2.3	22.70	0.186	2.000	Pass
			RB36#19	20.37	2.3	22.67	0.185	2.000	Pass
			RB36#39	20.46	2.3	22.76	0.189	2.000	Pass
			RB75#0	20.31	2.3	22.61	0.182	2.000	Pass
		64QAM	RB1#0	20.39	2.3	22.69	0.186	2.000	Pass
			RB1#38	20.62	2.3	22.92	0.196	2.000	Pass
			RB1#74	20.49	2.3	22.79	0.190	2.000	Pass
			RB36#0	19.38	2.3	21.68	0.147	2.000	Pass
			RB36#19	19.39	2.3	21.69	0.148	2.000	Pass
			RB36#39	19.4	2.3	21.70	0.148	2.000	Pass
			RB75#0	19.4	2.3	21.70	0.148	2.000	Pass
		256QAM	RB1#0	17.44	2.3	19.74	0.094	2.000	Pass
			RB1#38	17.5	2.3	19.80	0.095	2.000	Pass
			RB1#74	17.49	2.3	19.79	0.095	2.000	Pass
			RB36#0	17.29	2.3	19.59	0.091	2.000	Pass
			RB36#19	17.42	2.3	19.72	0.094	2.000	Pass
			RB36#39	17.51	2.3	19.81	0.096	2.000	Pass
			RB75#0	17.34	2.3	19.64	0.092	2.000	Pass
	HCH	QPSK	RB1#0	22.26	2.3	24.56	0.286	2.000	Pass
			RB1#38	22.47	2.3	24.77	0.300	2.000	Pass
			RB1#74	22.29	2.3	24.59	0.288	2.000	Pass
			RB36#0	21.42	2.3	23.72	0.236	2.000	Pass
			RB36#19	21.33	2.3	23.63	0.231	2.000	Pass
			RB36#39	21.42	2.3	23.72	0.236	2.000	Pass
			RB75#0	21.36	2.3	23.66	0.232	2.000	Pass
		16-QAM	RB1#0	21.63	2.3	23.93	0.247	2.000	Pass
			RB1#38	21.59	2.3	23.89	0.245	2.000	Pass
			RB1#74	21.51	2.3	23.81	0.240	2.000	Pass
			RB36#0	20.45	2.3	22.75	0.188	2.000	Pass
			RB36#19	20.46	2.3	22.76	0.189	2.000	Pass
			RB36#39	20.42	2.3	22.72	0.187	2.000	Pass
			RB75#0	20.39	2.3	22.69	0.186	2.000	Pass
		64QAM	RB1#0	20.56	2.3	22.86	0.193	2.000	Pass
			RB1#38	20.54	2.3	22.84	0.192	2.000	Pass
			RB1#74	20.52	2.3	22.82	0.191	2.000	Pass
			RB36#0	19.36	2.3	21.66	0.147	2.000	Pass
			RB36#19	19.45	2.3	21.75	0.150	2.000	Pass
			RB36#39	19.32	2.3	21.62	0.145	2.000	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE BAND2									
		256QAM	RB75#0	19.46	2.3	21.76	0.150	2.000	Pass
			RB1#0	17.53	2.3	19.83	0.096	2.000	Pass
			RB1#38	17.6	2.3	19.90	0.098	2.000	Pass
			RB1#74	17.48	2.3	19.78	0.095	2.000	Pass
			RB36#0	17.41	2.3	19.71	0.094	2.000	Pass
			RB36#19	17.43	2.3	19.73	0.094	2.000	Pass
			RB36#39	17.46	2.3	19.76	0.095	2.000	Pass
			RB75#0	17.46	2.3	19.76	0.095	2.000	Pass
20 MHz	LCH	QPSK	RB1#0	22.35	2.3	24.65	0.292	2.000	Pass
			RB1#50	22.4	2.3	24.70	0.295	2.000	Pass
			RB1#99	22.42	2.3	24.72	0.296	2.000	Pass
			RB50#0	21.33	2.3	23.63	0.231	2.000	Pass
			RB50#25	21.4	2.3	23.70	0.234	2.000	Pass
			RB50#50	21.31	2.3	23.61	0.230	2.000	Pass
			RB100#0	21.34	2.3	23.64	0.231	2.000	Pass
		16-QAM	RB1#0	21.59	2.3	23.89	0.245	2.000	Pass
			RB1#50	21.55	2.3	23.85	0.243	2.000	Pass
			RB1#99	21.41	2.3	23.71	0.235	2.000	Pass
			RB50#0	20.32	2.3	22.62	0.183	2.000	Pass
			RB50#25	20.41	2.3	22.71	0.187	2.000	Pass
			RB50#50	20.43	2.3	22.73	0.187	2.000	Pass
			RB100#0	20.34	2.3	22.64	0.184	2.000	Pass
		64QAM	RB1#0	20.67	2.3	22.97	0.198	2.000	Pass
			RB1#50	20.52	2.3	22.82	0.191	2.000	Pass
			RB1#99	20.45	2.3	22.75	0.188	2.000	Pass
			RB50#0	19.27	2.3	21.57	0.144	2.000	Pass
			RB50#25	19.42	2.3	21.72	0.149	2.000	Pass
			RB50#50	19.33	2.3	21.63	0.146	2.000	Pass
			RB100#0	19.36	2.3	21.66	0.147	2.000	Pass
		256QAM	RB1#0	17.52	2.3	19.82	0.096	2.000	Pass
			RB1#50	17.61	2.3	19.91	0.098	2.000	Pass
			RB1#99	17.33	2.3	19.63	0.092	2.000	Pass
			RB50#0	17.37	2.3	19.67	0.093	2.000	Pass
			RB50#25	17.39	2.3	19.69	0.093	2.000	Pass
			RB50#50	17.36	2.3	19.66	0.092	2.000	Pass
			RB100#0	17.37	2.3	19.67	0.093	2.000	Pass
	MCH	QPSK	RB1#0	22.3	2.3	24.60	0.288	2.000	Pass
			RB1#50	22.44	2.3	24.74	0.298	2.000	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE BAND2									
			RB1#99	22.27	2.3	24.57	0.286	2.000	Pass
			RB50#0	21.33	2.3	23.63	0.231	2.000	Pass
			RB50#25	21.35	2.3	23.65	0.232	2.000	Pass
			RB50#50	21.49	2.3	23.79	0.239	2.000	Pass
			RB100#0	21.43	2.3	23.73	0.236	2.000	Pass
		16-QAM	RB1#0	21.7	2.3	24.00	0.251	2.000	Pass
			RB1#50	21.65	2.3	23.95	0.248	2.000	Pass
			RB1#99	21.67	2.3	23.97	0.249	2.000	Pass
			RB50#0	20.39	2.3	22.69	0.186	2.000	Pass
			RB50#25	20.41	2.3	22.71	0.187	2.000	Pass
			RB50#50	20.49	2.3	22.79	0.190	2.000	Pass
			RB100#0	20.32	2.3	22.62	0.183	2.000	Pass
		64QAM	RB1#0	20.52	2.3	22.82	0.191	2.000	Pass
			RB1#50	20.47	2.3	22.77	0.189	2.000	Pass
			RB1#99	20.53	2.3	22.83	0.192	2.000	Pass
			RB50#0	19.4	2.3	21.70	0.148	2.000	Pass
			RB50#25	19.32	2.3	21.62	0.145	2.000	Pass
			RB50#50	19.51	2.3	21.81	0.152	2.000	Pass
			RB100#0	19.4	2.3	21.70	0.148	2.000	Pass
		256QAM	RB1#0	17.48	2.3	19.78	0.095	2.000	Pass
			RB1#50	17.47	2.3	19.77	0.095	2.000	Pass
			RB1#99	17.5	2.3	19.80	0.095	2.000	Pass
			RB50#0	17.41	2.3	19.71	0.094	2.000	Pass
			RB50#25	17.41	2.3	19.71	0.094	2.000	Pass
			RB50#50	17.42	2.3	19.72	0.094	2.000	Pass
			RB100#0	17.35	2.3	19.65	0.092	2.000	Pass
	HCH	QPSK	RB1#0	22.26	2.3	24.56	0.286	2.000	Pass
			RB1#50	22.77	2.3	25.07	0.321	2.000	Pass
			RB1#99	22.27	2.3	24.57	0.286	2.000	Pass
			RB50#0	21.32	2.3	23.62	0.230	2.000	Pass
			RB50#25	21.45	2.3	23.75	0.237	2.000	Pass
			RB50#50	21.43	2.3	23.73	0.236	2.000	Pass
			RB100#0	21.47	2.3	23.77	0.238	2.000	Pass
		16-QAM	RB1#0	21.76	2.3	24.06	0.255	2.000	Pass
			RB1#50	21.6	2.3	23.90	0.245	2.000	Pass
			RB1#99	21.54	2.3	23.84	0.242	2.000	Pass
			RB50#0	20.31	2.3	22.61	0.182	2.000	Pass
			RB50#25	20.46	2.3	22.76	0.189	2.000	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE BAND2									
			RB50#50	20.45	2.3	22.75	0.188	2.000	Pass
			RB100#0	20.49	2.3	22.79	0.190	2.000	Pass
		64QAM	RB1#0	20.56	2.3	22.86	0.193	2.000	Pass
			RB1#50	20.45	2.3	22.75	0.188	2.000	Pass
			RB1#99	20.62	2.3	22.92	0.196	2.000	Pass
			RB50#0	19.32	2.3	21.62	0.145	2.000	Pass
			RB50#25	19.38	2.3	21.68	0.147	2.000	Pass
			RB50#50	19.43	2.3	21.73	0.149	2.000	Pass
			RB100#0	19.39	2.3	21.69	0.148	2.000	Pass
		256QAM	RB1#0	17.28	2.3	19.58	0.091	2.000	Pass
			RB1#50	17.46	2.3	19.76	0.095	2.000	Pass
			RB1#99	17.56	2.3	19.86	0.097	2.000	Pass
			RB50#0	17.39	2.3	19.69	0.093	2.000	Pass
			RB50#25	17.42	2.3	19.72	0.094	2.000	Pass
			RB50#50	17.49	2.3	19.79	0.095	2.000	Pass
			RB100#0	17.34	2.3	19.64	0.092	2.000	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE BAND4									
1.4 MHz	LCH	QPSK	RB1#0	22.66	2.6	25.26	0.336	1.000	Pass
			RB1#3	22.75	2.6	25.35	0.343	1.000	Pass
			RB1#5	22.57	2.6	25.17	0.329	1.000	Pass
			RB3#0	22.65	2.6	25.25	0.335	1.000	Pass
			RB3#2	22.74	2.6	25.34	0.342	1.000	Pass
			RB3#3	22.62	2.6	25.22	0.333	1.000	Pass
			RB6#0	21.68	2.6	24.28	0.268	1.000	Pass
		16-QAM	RB1#0	21.92	2.6	24.52	0.283	1.000	Pass
			RB1#3	22.11	2.6	24.71	0.296	1.000	Pass
			RB1#5	22.05	2.6	24.65	0.292	1.000	Pass
			RB3#0	21.8	2.6	24.40	0.275	1.000	Pass
			RB3#2	21.74	2.6	24.34	0.272	1.000	Pass
			RB3#3	21.86	2.6	24.46	0.279	1.000	Pass
			RB6#0	20.7	2.6	23.30	0.214	1.000	Pass
		64QAM	RB1#0	20.87	2.6	23.47	0.222	1.000	Pass
			RB1#3	20.82	2.6	23.42	0.220	1.000	Pass
			RB1#5	20.9	2.6	23.50	0.224	1.000	Pass
			RB3#0	20.65	2.6	23.25	0.211	1.000	Pass
			RB3#2	20.86	2.6	23.46	0.222	1.000	Pass
			RB3#3	20.66	2.6	23.26	0.212	1.000	Pass
			RB6#0	19.61	2.6	22.21	0.166	1.000	Pass
		256QAM	RB1#0	17.68	2.6	20.28	0.107	1.000	Pass
			RB1#3	17.73	2.6	20.33	0.108	1.000	Pass
			RB1#5	17.72	2.6	20.32	0.108	1.000	Pass
			RB3#0	17.75	2.6	20.35	0.108	1.000	Pass
			RB3#2	17.68	2.6	20.28	0.107	1.000	Pass
			RB3#3	17.71	2.6	20.31	0.107	1.000	Pass
			RB6#0	17.72	2.6	20.32	0.108	1.000	Pass
	MCH	QPSK	RB1#0	22.55	2.6	25.15	0.327	1.000	Pass
			RB1#3	22.64	2.6	25.24	0.334	1.000	Pass
			RB1#5	22.66	2.6	25.26	0.336	1.000	Pass
			RB3#0	22.69	2.6	25.29	0.338	1.000	Pass
			RB3#2	22.71	2.6	25.31	0.340	1.000	Pass
			RB3#3	22.65	2.6	25.25	0.335	1.000	Pass
			RB6#0	21.6	2.6	24.20	0.263	1.000	Pass
		16-QAM	RB1#0	21.96	2.6	24.56	0.286	1.000	Pass
			RB1#3	22.02	2.6	24.62	0.290	1.000	Pass
			RB1#5	21.77	2.6	24.37	0.274	1.000	Pass