

FCC TEST REPORT (PART 24)

Applicant:	Xiaomi Communications Co., Ltd.
Address:	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

Manufacturer or Supplier:	Xiaomi Communications Co., Ltd.
Address:	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085
Product:	Mobile Phone
Brand Name:	Redmi
Model Name:	24094RAD4G
FCC ID:	2AFZZRAD4G
Date of tests:	Jul. 12, 2024 ~ Aug. 05, 2024

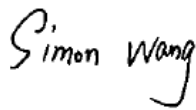
The tests have been carried out according to the requirements of the following standard:

- FCC PART 24, Subpart E**
 FCC PART 2
 ANSI/TIA/EIA-603-D
 ANSI/TIA/EIA-603-E
 ANSI C63.26-2015

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Simon Wang
Engineer / Mobile Department

Approved by Luke Lu
Manager / Mobile Department



Date: Aug. 05, 2024



Date: Aug. 05, 2024

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TABLE OF CONTENTS

RELEASE CONTROL RECORD	4
1 SUMMARY OF TEST RESULTS	5
1.1 MEASUREMENT UNCERTAINTY	6
1.2 TEST SITE AND INSTRUMENTS	7
2 GENERAL INFORMATION	8
2.1 GENERAL DESCRIPTION OF EUT	8
2.2 CONFIGURATION OF SYSTEM UNDER TEST	11
2.3 DESCRIPTION OF SUPPORT UNITS	12
2.4 TEST ITEM AND TEST CONFIGURATION.....	12
2.5 EUT OPERATING CONDITIONS	15
2.6 GENERAL DESCRIPTION OF APPLIED STANDARDS	15
3 TEST TYPES AND RESULTS	16
3.1 OUTPUT POWER MEASUREMENT	16
3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT	16
3.1.2 TEST PROCEDURES	16
3.1.3 TEST SETUP	17
3.1.4 TEST RESULTS	17
3.2 FREQUENCY STABILITY MEASUREMENT	39
3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT	39
3.2.2 TEST PROCEDURE	39
3.2.3 TEST SETUP	39
3.2.4 TEST RESULTS	40
3.3 OCCUPIED BANDWIDTH MEASUREMENT.....	41
3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT	41
3.3.2 TEST SETUP	41
3.3.3 TEST PROCEDURES.....	41
3.3.4 TEST RESULTS	42
3.4 BAND EDGE MEASUREMENTC	43
3.4.1 LIMITS OF BAND EDGE MEASUREMENT	43
3.4.2 TEST SETUP	43
3.4.3 TEST PROCEDURES.....	44
3.4.4. TEST RESULTS	45
3.5 CONDUCTED SPURIOUS EMISSIONS.....	46
3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT	46
3.5.2 TEST PROCEDURE	46
3.5.3 TEST SETUP	46
3.5.4 TEST RESULTS	47
3.6 RADIATED EMISSION MEASUREMENT	48
3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT	48
3.6.2 TEST PROCEDURES.....	48



**BUREAU
VERITAS**

Test Report No.: W7L-240618W001RF06

3.6.3 DEVIATION FROM TEST STANDARD	48
3.6.4 TEST SETUP	49
3.6.5 TEST RESULTS	51
3.7 PEAK TO AVERAGE RATIO.....	89
3.7.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT	89
3.7.2 TEST SETUP	89
3.7.3 TEST PROCEDURES	89
3.7.4 TEST RESULTS	90
4 PHOTOGRAPHS OF THE TEST CONFIGURATION.....	91
5 INFORMATION ON THE TESTING LABORATORIES	92
6 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB.....	93
7 APPENDIX	94
GSM 1900.....	94
WCDMA BAND2	110
LTE BAND 2	122



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VERITAS**

Test Report No.: W7L-240618W001RF06

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-240618W001RF06	Original release	Aug. 05, 2024



1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 24 & Part 2		
STANDARD SECTION	TEST TYPE	RESULT
§2.1046	Conducted Output Power	Compliance
§24.232(c)	Equivalent Isotropic Radiated Power	Compliance
§2.1055 §24.235	Frequency Stability	Compliance
§2.1049	Occupied Bandwidth	Compliance
§24.232(d)	Peak to average ratio	Compliance
§24.238(a)(b)	Band Edge Measurements	Compliance
§2.1051 §24.238(a)(b)	Conducted Spurious Emissions	Compliance
§2.1053 §24.238(a)(b)	Radiated Spurious Emissions	Compliance

NOTE:

The worst-case scenario for all measurements is based on an engineering evaluation made on different modulations. Then, QPSK and 16QAM were observed as the worst mode to LTE bands respectively and set for all conducted and radiated. Output power measurements were measured on QPSK, 16QAM, and 64QAM modulations, and tests other than output power are performed only in worse-case QPSK and 16QAM modulations.



1.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	UNCERTAINTY
Frequency Stability	$\pm 76.97\text{Hz}$
Radiated emissions (9KHz~30MHz)	$\pm 2.68\text{dB}$
Radiated emissions & Radiated Power (30MHz~1GHz)	$\pm 4.98\text{dB}$
Radiated emissions & Radiated Power (1GHz ~6GHz)	$\pm 4.70\text{dB}$
Radiated emissions (6GHz ~18GHz)	$\pm 4.60\text{dB}$
Radiated emissions (18GHz ~40GHz)	$\pm 4.12\text{dB}$
Conducted emissions	$\pm 4.01\text{dB}$
Occupied Channel Bandwidth	$\pm 43.58\text{KHz}$
Conducted Output power	$\pm 2.06\text{dB}$
Band Edge Measurements	$\pm 4.70\text{dB}$
Peak to average ratio	$\pm 0.76\text{dB}$

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



1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Mar. 28,24	Mar. 27,25
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.10,24	May.09,25
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.03,23	Sep.02,24
Bilog Antenna	ETS-LINDGRE N	3143B	00161965	Feb. 18,24	Feb. 17,25
Horn Antenna	ETS-LINDGRE N	3117	00168692	Feb. 18,24	Feb. 17,25
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K- SG/QMS-00361	15433	Sep.04, 23	Sep.03, 24
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 14,24	Feb. 13,25
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May. 06,24	May. 05,25
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.10,24	May.09,25
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 17,24	Feb.16,25
3m Semi-anechoic Chamber	ETS-LINDGRE N	9m*6m*6m	Euroshieldpn- CT0001143-121 6	Nov. 14,23	Nov. 13,26
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	JS1120	3.1.36	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	50HF-010-SMA	May. 06,24	May. 05,25
Power Meter	Anritsu	ML2495A	1506002	Feb. 14,24	Feb. 13,25
Power Sensor	Anritsu	MA2411B	1339352	Feb. 14,24	Feb. 13,25
Temperature Chamber	ESPEC	SH-242	93000855	May. 06,24	May. 05,25
MXG Analog Microvave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 14,24	Feb. 13,25
Base station R&S CMW500	Rohde&Schwa rz	CMW500	153085	May.10,24	May.09,25
DC Source	Kikusui/JP	PMX18-5A	N/A	Aug. 11,23	Aug. 10,24

- NOTE:**
1. The calibration interval of the above test instruments is 12 months or 36 months, and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
 2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
 3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Site Registration No. is 525120; The Designation No. is CN1171.



2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Mobile Phone	
BRAND NAME	Redmi	
MODEL NAME	24094RAD4G	
NOMINAL VOLTAGE	5/5~11Vdc(adapter or host equipment) 3.91Vdc (Li-ion, battery)	
MODULATION TYPE	GSM/GPRS: GMSK EDGE: 8PSK WCDMA: BPSK, QPSK LTE Band 2: QPSK, 16QAM, 64QAM	
FREQUENCY RANGE	GSM, EDGE	1850.2MHz ~ 1909.8MHz
	WCDMA	1852.4MHz ~ 1907.6MHz
	LTE Band 2 Channel Bandwidth: 1.4MHz	1850.7MHz ~ 1909.3MHz
	LTE Band 2 Channel Bandwidth: 3MHz	1851.5MHz ~ 1908.5MHz
	LTE Band 2 Channel Bandwidth: 5MHz	1852.5MHz ~ 1907.5MHz
	LTE Band 2 Channel Bandwidth: 10MHz	1855.0MHz ~ 1905.0MHz
	LTE Band 2 Channel Bandwidth: 15MHz	1857.5MHz ~ 1902.5MHz
	LTE Band 2 Channel Bandwidth: 20MHz	1860.0MHz ~ 1900.0MHz
	MAX. EIRP POWER	GSM
EDGE		311.89mW
WCDMA		225.42mW
LTE Band 2 Channel Bandwidth: 1.4MHz		226.99mW
LTE Band 2 Channel Bandwidth: 3MHz		230.67mW
LTE Band 2 Channel Bandwidth: 5MHz		228.56mW
LTE Band 2 Channel Bandwidth: 10MHz		231.74mW
LTE Band 2 Channel Bandwidth: 15MHz		232.27mW



	LTE Band 2 Channel Bandwidth: 20MHz	234.42mW
EMISSION DESIGNATOR	GSM	247KGXW
	EDGE	255KG7W
	WCDMA	4M14F9W
	LTE Band 2 Channel Bandwidth: 1.4MHz	QPSK: 1M09G7D
		16QAM: 1M10W7D
	LTE Band 2 Channel Bandwidth: 3MHz	QPSK: 2M69G7D
		16QAM: 2M70W7D
	LTE Band 2 Channel Bandwidth: 5MHz	QPSK: 4M51G7D
		16QAM: 4M50W7D
	LTE Band 2 Channel Bandwidth: 10MHz	QPSK: 9M00G7D
16QAM: 9M01W7D		
LTE Band 2 Channel Bandwidth: 15MHz	QPSK: 13M5G7D	
	16QAM: 13M5W7D	
LTE Band 2 Channel Bandwidth: 20MHz	QPSK: 18M0G7D	
	16QAM: 18M0W7D	
ANTENNA TYPE	ANT 4(UP): PIFA Antenna with 0.4dBi gain for GSM1900/ WCDMA II/LTE B2 ANT 1(DOWN): PIFA Antenna with -0.6dBi gain for GSM1900/ WCDMA II/LTE B2	
HW VERSION	13510017P	
SW VERSION	Xiaomi HyperOS 1.0	
IMEI	861781070039865	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	USB cable1: non-shielded cable, with w/o ferrite core, 1.0 meter USB cable2: non-shielded cable, with w/o ferrite core, 1.0 meter	
EXTREME TEMPERATURE	0-40 °C	
EXTREME VOLTAGE	3.7V - 4.3V	

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.



2. Physically, the EUT provides two completed transmitter and two receiver.

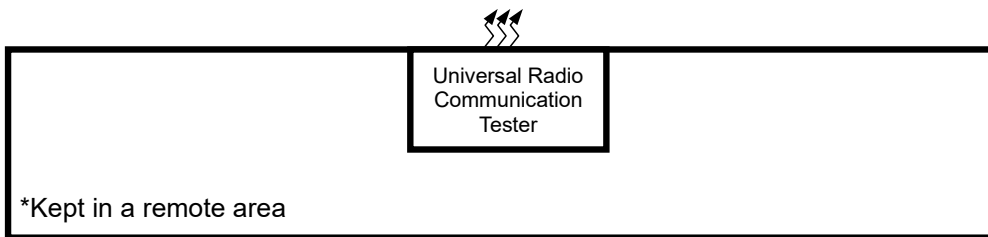
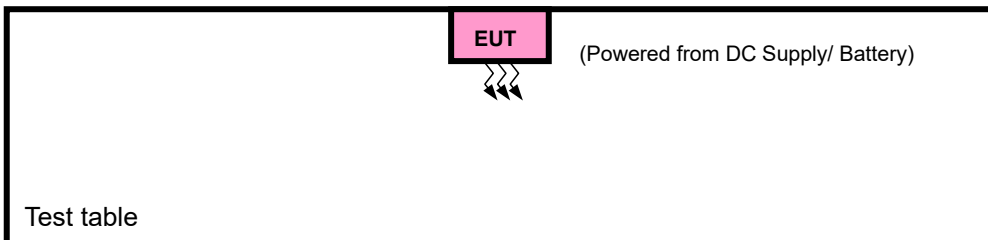
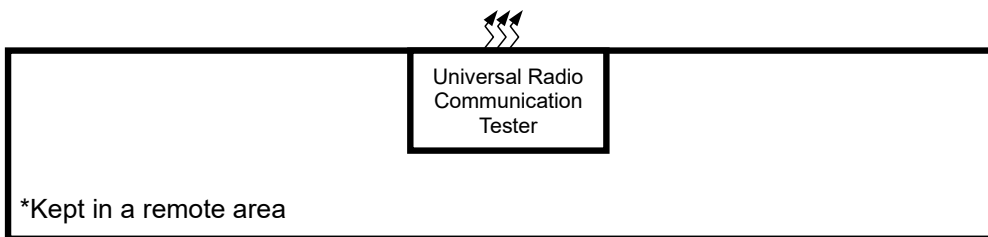
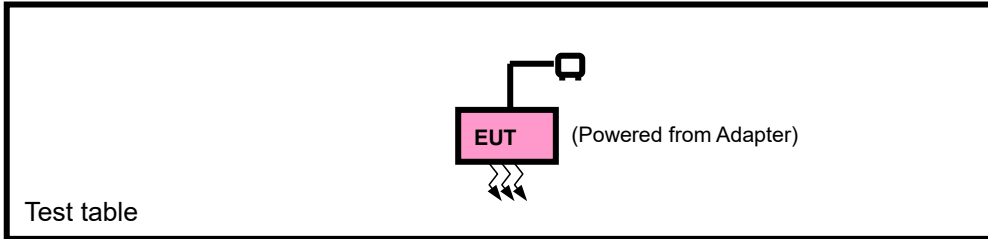
MODULATION MODE	TX FUNCTION
GSM/GPRS/EDGE	SISO 2TX
WCDMA	SISO 2TX
LTE	SISO 2TX

3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in the test report.
4. Antenna gain and EUT conducted cable loss are provided by the customer, and the laboratory will record the results based on these items that involve these two parameters.



2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST





2.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	DC source	Kikusui/JP	PMX18-5A	0000001	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.0m

2.4 TEST ITEM AND TEST CONFIGURATION

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case in EIRP and radiated emission was found when positioned on X-plane for GSM/EDGE/ WCDMA/ LTE. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + Adapter with GSM or WCDMA or LTE link
B	EUT + DC source with GSM or WCDMA or LTE link

GSM MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
A	EIRP	512 to 810	512, 661, 810	GSM, EDGE
B	FREQUENCY STABILITY	512 to 810	512, 661, 810	GSM, EDGE
A	OCCUPIED BANDWIDTH	512 to 810	512, 661, 810	GSM, EDGE
A	PEAK TO AVERAGE RATIO	512 to 810	512, 661, 810	GSM, EDGE
A	BAND EDGE	512 to 810	512, 810	GSM, EDGE
A	CONDUCTED EMISSION	512 to 810	512, 661, 810	GSM, EDGE
A	RADIATED EMISSION	512 to 810	512, 661, 810	GSM, EDGE



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Test Report No.: W7L-240618W001RF06

WCDMA

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
A	EIRP	9262 to 9538	9262, 9400, 9538	WCDMA
B	FREQUENCY STABILITY	9262 to 9538	9262, 9400, 9538	WCDMA
A	OCCUPIED BANDWIDTH	9262 to 9538	9262, 9400, 9538	WCDMA
A	PEAK TO AVERAGE RATIO	9262 to 9538	9262, 9400, 9538	WCDMA
A	BAND EDGE	9262 to 9538	9262, 9538	WCDMA
A	CONDCUDED EMISSION	9262 to 9538	9262, 9400, 9538	WCDMA
A	RADIATED EMISSION	9262 to 9538	9262, 9400, 9538	WCDMA

LTE BAND 2 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
		18615 to 19185	18615, 18900, 19185	3MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
		18625 to 19175	18625, 18900, 19175	5MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
		18650 to 19150	18650, 18900, 19150	10MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
		18675 to 19125	18675, 18900, 19125	15MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
		18700 to 19100	18700, 18900, 19100	20MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	18700 to 19100	18700, 18900, 19100	20MHz	QPSK	100 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK,16QAM	6 RB / 0 RB Offset
		18615 to 19185	18615, 18900, 19185	3MHz	QPSK,16QAM	15 RB / 0 RB Offset
		18625 to 19175	18625, 18900, 19175	5MHz	QPSK,16QAM	25 RB / 0 RB Offset
		18650 to 19150	18650, 18900, 19150	10MHz	QPSK,16QAM	50 RB / 0 RB Offset
		18675 to 19125	18675, 18900, 19125	15MHz	QPSK,16QAM	75 RB / 0 RB Offset
		18700 to 19100	18700, 18900, 19100	20MHz	QPSK,16QAM	100 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	18700 to 19100	18700, 18900, 19100	20MHz	QPSK,16QAM	1 RB / 0 RB Offset 100 RB / 0 RB Offset



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VERITAS

Test Report No.: W7L-240618W001RF06

A	BAND EDGE	18607 to 19193	18607	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
			19193	1.4MHz	QPSK, 16QAM	6 RB / 0 RB Offset
		18615 to 19185	18615	3MHz	QPSK, 16QAM	1 RB / 5 RB Offset
			19185	3MHz	QPSK, 16QAM	6 RB / 0 RB Offset
		18625 to 19175	18625	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
			19175	5MHz	QPSK, 16QAM	15 RB / 0 RB Offset
		18650 to 19150	18625	5MHz	QPSK, 16QAM	1 RB / 14 RB Offset
			19175	5MHz	QPSK, 16QAM	15 RB / 0 RB Offset
		18675 to 19125	18625	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
			19175	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
		18700 to 19100	18650	10MHz	QPSK, 16QAM	1 RB / 24 RB Offset
			19150	10MHz	QPSK, 16QAM	25 RB / 0 RB Offset
		18675 to 19125	18650	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
			19150	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
		18700 to 19100	18675	15MHz	QPSK, 16QAM	1 RB / 49 RB Offset
			19125	15MHz	QPSK, 16QAM	50 RB / 0 RB Offset
18700 to 19100	18675	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset		
	19125	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset		
18700 to 19100	18700	20MHz	QPSK, 16QAM	1 RB / 74 RB Offset		
	19100	20MHz	QPSK, 16QAM	75 RB / 0 RB Offset		
A	CONDCUDETED EMISSION	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK	1 RB / 0 RB Offset
		18615 to 19185	18615, 18900, 19185	3MHz	QPSK	1 RB / 0 RB Offset
		18625 to 19175	18625, 18900, 19175	5MHz	QPSK	1 RB / 0 RB Offset
		18650 to 19150	18650, 18900, 19150	10MHz	QPSK	1 RB / 0 RB Offset
		18675 to 19125	18675, 18900, 19125	15MHz	QPSK	1 RB / 0 RB Offset
		18700 to 19100	18700, 18900, 19100	20MHz	QPSK	1 RB / 0 RB Offset
A	RADIATED EMISSION	18607 to 19193	18900	1.4MHz	QPSK	1 RB / 0 RB Offset
		18615 to 19185	18900	3MHz	QPSK	1 RB / 0 RB Offset
		18625 to 19175	18900	5MHz	QPSK	1 RB / 0 RB Offset
		18650 to 19150	18650, 18900, 19150	10MHz	QPSK	1 RB / 0 RB Offset
		18675 to 19125	18900	15MHz	QPSK	1 RB / 0 RB Offset
		18700 to 19100	18900	20MHz	QPSK	1 RB / 0 RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.



TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
EIRP	25deg. C, 57%RH	DC 5/5~11V By Adapter	Jace Hu
FREQUENCY STABILITY	25deg. C, 57%RH	DC 3.7/3.91/4.3 By DC Source	James Fu
OCCUPIED BANDWIDTH	23deg. C, 61%RH	DC 5/5~11V By Adapter	James Fu
PEAK TO AVERAGE RATIO	23deg. C, 61%RH	DC 5/5~11V By Adapter	James Fu
BAND EDGE	23deg. C, 61%RH	DC 5/5~11V By Adapter	James Fu
CONDCUDED EMISSION	23deg. C, 61%RH	DC 5/5~11V By Adapter	James Fu
RADIATED EMISSION	23deg. C, 70%RH	DC 5/5~11V By Adapter	Jace Hu

2.5 EUT OPERATING CONDITIONS

The EUT makes a call to the communication simulator. The communication simulator station system controlled an EUT to export maximum output power under transmission mode and specific channel frequency.

2.6 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is an RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2

FCC 47 CFR Part 24

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

NOTE: All test items have been performed and recorded as per the above standards.



3 TEST TYPES AND RESULTS

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Mobile and portable stations are limited to 2 watts EIRP.

3.1.2 TEST PROCEDURES

EIRP MEASUREMENT:

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

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_{\text{T}} - L_{\text{C}}$$

Where:

ERP or EIRP = effective radiated power or equivalent isotopically radiated power, respectively

(expressed in the same units as P_{Meas} , typically dBW or dBm);

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

G_{T} = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

L_{C} = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

CONDUCTED POWER MEASUREMENT:

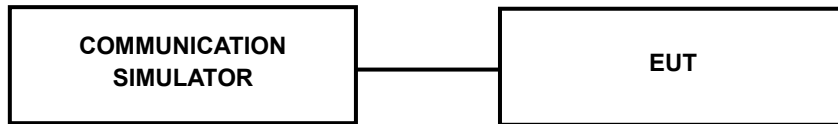
The EUT was set up for the maximum power with WCDMA link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.



3.1.3 TEST SETUP

EIRP / ERP Measurement:

CONDUCTED POWER MEASUREMENT:



3.1.4 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

Ant 4(UP):

Band	GSM1900		
Channel	512	661	810
Frequency (MHz)	1850.2	1880	1909.8
GSM	28.57	28.56	28.63
GPRS (GMSK, 1Tx-slot)	28.53	28.58	28.62
GPRS (GMSK, 2Tx-slot)	26.05	26.15	26.27
GPRS (GMSK, 3Tx-slot)	24.48	24.60	24.76
GPRS (GMSK, 4Tx-slot)	22.81	23.00	23.22
EDGE (8PSK, 1Tx-slot)	24.68	24.43	24.26
EDGE (8PSK, 2Tx-slot)	22.38	22.15	21.98
EDGE (8PSK, 3Tx-slot)	20.37	20.20	20.27
EDGE (8PSK, 4Tx-slot)	19.45	19.31	19.39

Band	WCDMA II		
Channel	9262	9400	9538
Frequency (MHz)	1852.4	1880	1907.6
RMC 12.2K	23.11	23.13	23.05
HSDPA Subtest-1	22.13	22.13	21.97
HSDPA Subtest-2	22.14	22.13	21.93
HSDPA Subtest-3	21.62	21.52	21.48
HSDPA Subtest-4	21.60	21.52	21.39
DC-HSDPA Subtest-1	22.08	22.16	21.93
DC-HSDPA Subtest-2	22.06	21.97	21.99
DC-HSDPA Subtest-3	21.67	21.46	21.40
DC-HSDPA Subtest-4	21.68	21.63	21.65
HSUPA Subtest-1	20.69	20.50	20.41
HSUPA Subtest-2	20.62	20.31	20.27
HSUPA Subtest-3	21.04	20.87	20.91
HSUPA Subtest-4	19.71	19.74	19.47
HSUPA Subtest-5	21.19	21.03	20.98



**BUREAU
VERITAS**

Test Report No.: W7L-240618W001RF06

LTE BAND 2

Band/BW	Modulation	RB Size	RB Offset	Low CH 18607	Mid CH 18900	High CH 19193
				Frequency 1850.7 MHz	Frequency 1880 MHz	Frequency 1909.3 MHz
2/ 1.4	QPSK	1	0	22.87	23.04	22.89
		1	2	22.88	23.01	22.90
		1	5	22.96	23.04	22.87
		3	0	22.87	22.98	22.92
		3	1	22.79	22.84	22.73
		3	3	22.62	22.82	22.74
		6	0	21.97	22.08	21.91
	16QAM	1	0	22.00	22.07	22.11
		1	2	22.13	22.39	22.22
		1	5	22.23	22.25	22.23
		3	0	21.69	21.92	21.84
		3	1	21.76	21.96	21.73
		3	3	21.79	21.96	21.67
		6	0	20.93	21.07	20.88
	64QAM	1	0	20.92	21.02	21.00
		1	2	21.20	21.23	21.11
		1	5	21.05	21.06	21.00
		3	0	20.68	21.13	21.01
		3	1	20.85	20.97	20.88
		3	3	21.07	21.15	20.85
		6	0	20.09	20.19	20.02



Band/BW	Modulation	RB Size	RB Offset	Low CH 18615	Mid CH 18900	High CH 19185
				Frequency 1851.5 MHz	Frequency 1880 MHz	Frequency 1908.5 MHz
2/3	QPSK	1	0	22.90	23.04	22.96
		1	7	22.88	23.10	22.90
		1	14	23.00	22.99	22.90
		8	0	22.06	22.14	21.97
		8	3	22.01	22.09	21.89
		8	7	21.80	22.03	21.93
		15	0	21.97	22.07	21.99
	16QAM	1	0	21.99	22.13	22.16
		1	7	22.25	22.33	22.26
		1	14	22.19	22.17	22.21
		8	0	20.81	21.07	21.01
		8	3	20.87	21.11	20.98
		8	7	20.95	21.04	20.91
		15	0	20.85	21.01	20.89
	64QAM	1	0	20.90	21.03	20.98
		1	7	21.16	21.22	21.11
		1	14	21.09	21.10	21.02
		8	0	19.85	20.25	20.14
		8	3	20.05	20.16	20.16
		8	7	20.21	20.31	20.11
		15	0	20.11	20.20	20.07



**BUREAU
VERITAS**

Test Report No.: W7L-240618W001RF06

Band/BW	Modulation	RB Size	RB Offset	Low CH 18625	Mid CH 18900	High CH 19175
				Frequency 1852.5 MHz	Frequency 1880 MHz	Frequency 1907.5 MHz
2 / 5	QPSK	1	0	22.92	23.06	22.86
		1	12	22.87	23.08	22.98
		1	24	22.86	22.96	22.90
		12	0	21.98	22.07	21.99
		12	6	22.04	22.16	21.96
		12	13	21.88	22.10	21.91
		25	0	21.88	22.02	21.98
	16QAM	1	0	22.03	22.07	22.24
		1	12	22.26	22.38	22.25
		1	24	22.21	22.28	22.17
		12	0	20.84	21.11	21.02
		12	6	20.95	21.07	21.03
		12	13	20.94	21.07	20.88
		25	0	20.92	21.06	20.92
	64QAM	1	0	21.01	21.06	20.95
		1	12	21.15	21.20	21.08
		1	24	21.00	21.05	20.98
		12	0	19.92	20.29	20.20
		12	6	20.11	20.19	20.16
		12	13	20.16	20.36	20.08
		25	0	20.10	20.25	20.11



**BUREAU
VERITAS**

Test Report No.: W7L-240618W001RF06

Band/BW	Modulation	RB Size	RB Offset	Low CH 18650	Mid CH 18900	High CH 19150
				Frequency 1855 MHz	Frequency 1880 MHz	Frequency 1905 MHz
2/ 10	QPSK	1	0	22.91	23.11	22.86
		1	24	22.90	23.03	22.96
		1	49	22.91	22.97	22.84
		25	0	21.97	22.06	21.97
		25	12	21.95	22.10	21.92
		25	25	21.86	22.03	21.85
		50	0	21.94	22.08	21.94
	16QAM	1	0	21.98	22.11	22.14
		1	24	22.24	22.29	22.19
		1	49	22.33	22.24	22.11
		25	0	20.79	21.04	20.99
		25	12	20.98	21.02	21.00
		25	25	21.00	21.17	20.86
		50	0	20.84	21.01	20.97
	64QAM	1	0	20.91	21.01	20.92
		1	24	21.09	21.22	21.09
		1	49	21.03	21.12	20.93
		25	0	19.88	20.29	20.23
		25	12	20.02	20.22	20.09
		25	25	20.19	20.26	20.04
		50	0	20.09	20.30	20.02



Band/BW	Modulation	RB Size	RB Offset	Low CH 18675	Mid CH 18900	High CH 19125
				Frequency 1857.5 MHz	Frequency 1880 MHz	Frequency 1902.5 MHz
2/ 15	QPSK	1	0	22.93	23.00	22.86
		1	37	22.91	23.04	22.90
		1	74	22.89	23.03	22.88
		36	0	22.00	22.12	21.98
		36	19	21.95	22.16	22.01
		36	39	21.81	22.04	21.95
		75	0	21.92	22.13	21.95
	16QAM	1	0	22.04	22.17	22.21
		1	37	22.14	22.35	22.21
		1	74	22.28	22.20	22.11
		36	0	20.85	21.12	21.05
		36	19	20.96	21.13	20.92
		36	39	20.97	21.15	20.85
		75	0	20.93	21.11	20.89
	64QAM	1	0	21.02	20.99	20.94
		1	37	21.15	21.22	21.03
		1	74	21.03	21.10	20.99
		36	0	19.96	20.25	20.23
		36	19	20.13	20.19	20.10
		36	39	20.22	20.29	20.12
		75	0	20.04	20.31	20.11



Band/BW	Modulation	RB Size	RB Offset	Low CH 18700	Mid CH 18900	High CH 19100
				Frequency 1860 MHz	Frequency 1880 MHz	Frequency 1900 MHz
2/ 20	QPSK	1	0	22.94	23.12	22.98
		1	50	23.02	23.16	23.04
		1	99	23.01	23.05	22.96
		50	0	22.08	22.19	22.12
		50	25	22.05	22.17	22.03
		50	50	21.93	22.14	21.96
		100	0	21.99	22.16	22.04
	16QAM	1	0	22.12	22.21	22.26
		1	50	22.28	22.43	22.32
		1	99	22.34	22.31	22.26
		50	0	20.91	21.16	21.06
		50	25	21.01	21.15	21.05
		50	50	21.05	21.18	20.99
		100	0	20.99	21.14	21.01
	64QAM	1	0	21.03	21.12	21.06
		1	50	21.23	21.25	21.12
		1	99	21.12	21.14	21.07
		50	0	19.99	20.33	20.25
		50	25	20.15	20.26	20.18
		50	50	20.29	20.37	20.15
		100	0	20.17	20.32	20.14



Ant 1(DOWN):

Band	GSM1900		
Channel	512	661	810
Frequency (MHz)	1850.2	1880	1909.8
GSM	29.80	29.76	29.71
GPRS (GMSK, 1Tx-slot)	29.90	29.89	29.78
GPRS (GMSK, 2Tx-slot)	27.44	27.47	27.43
GPRS (GMSK, 3Tx-slot)	25.82	25.88	25.93
GPRS (GMSK, 4Tx-slot)	24.08	24.27	24.43
EDGE (8PSK, 1Tx-slot)	25.54	25.37	25.21
EDGE (8PSK, 2Tx-slot)	23.21	22.94	22.89
EDGE (8PSK, 3Tx-slot)	21.26	21.10	21.06
EDGE (8PSK, 4Tx-slot)	19.73	19.69	19.45

Band	WCDMA II		
Channel	9262	9400	9538
Frequency (MHz)	1852.4	1880	1907.6
RMC 12.2K	23.93	24.04	23.96
HSDPA Subtest-1	22.14	22.32	22.16
HSDPA Subtest-2	22.32	22.37	22.07
HSDPA Subtest-3	21.68	21.72	21.82
HSDPA Subtest-4	21.78	21.61	21.99
DC-HSDPA Subtest-1	22.24	22.15	22.28
DC-HSDPA Subtest-2	22.09	22.34	22.29
DC-HSDPA Subtest-3	21.59	21.70	21.69
DC-HSDPA Subtest-4	21.61	21.87	21.78
HSUPA Subtest-1	20.71	20.52	20.85
HSUPA Subtest-2	20.77	20.39	20.77
HSUPA Subtest-3	21.11	21.06	21.37
HSUPA Subtest-4	19.71	20.03	20.15
HSUPA Subtest-5	21.33	21.29	21.52



**BUREAU
VERITAS**

Test Report No.: W7L-240618W001RF06

LTE BAND 2

Band/BW	Modulation	RB Size	RB Offset	Low CH 18607	Mid CH 18900	High CH 19193
				Frequency 1850.7 MHz	Frequency 1880 MHz	Frequency 1909.3 MHz
2/ 1.4	QPSK	1	0	23.83	24.12	23.95
		1	2	23.95	24.16	24.02
		1	5	23.97	24.14	24.11
		3	0	23.89	23.98	24.02
		3	1	23.95	24.03	24.01
		3	3	23.95	23.92	23.86
		6	0	23.09	23.28	23.22
	16QAM	1	0	22.98	23.28	23.28
		1	2	23.32	23.42	23.33
		1	5	23.33	23.36	23.35
		3	0	22.67	23.06	22.86
		3	1	22.83	22.99	22.84
		3	3	22.84	23.09	22.88
		6	0	22.00	22.13	21.98
	64QAM	1	0	21.97	22.26	22.18
		1	2	22.02	22.30	22.13
		1	5	22.24	22.28	22.19
		3	0	21.96	22.10	22.10
		3	1	22.06	22.21	21.95
		3	3	22.21	22.19	22.05
		6	0	21.12	21.30	21.13



**BUREAU
VERITAS**

Test Report No.: W7L-240618W001RF06

Band/BW	Modulation	RB Size	RB Offset	Low CH 18615	Mid CH 18900	High CH 19185
				Frequency 1851.5 MHz	Frequency 1880 MHz	Frequency 1908.5 MHz
2 / 3	QPSK	1	0	23.91	24.14	24.09
		1	7	23.94	24.23	24.12
		1	14	24.03	24.14	24.09
		8	0	23.06	23.13	23.09
		8	3	23.14	23.31	23.20
		8	7	23.09	23.18	22.98
		15	0	23.01	23.31	23.11
	16QAM	1	0	23.04	23.21	23.28
		1	7	23.25	23.47	23.20
		1	14	23.26	23.42	23.40
		8	0	21.83	22.13	22.01
		8	3	22.05	22.23	21.99
		8	7	22.13	22.34	22.07
		15	0	22.01	22.14	21.99
	64QAM	1	0	21.92	22.24	22.30
		1	7	22.02	22.27	22.17
		1	14	22.22	22.37	22.08
		8	0	21.22	21.27	21.30
		8	3	21.34	21.44	21.16
		8	7	21.40	21.38	21.29
		15	0	21.19	21.28	21.17



**BUREAU
VERITAS**

Test Report No.: W7L-240618W001RF06

Band/BW	Modulation	RB Size	RB Offset	Low CH 18625	Mid CH 18900	High CH 19175
				Frequency 1852.5 MHz	Frequency 1880 MHz	Frequency 1907.5 MHz
2 / 5	QPSK	1	0	23.94	24.04	24.09
		1	12	23.96	24.19	24.09
		1	24	23.91	24.09	23.99
		12	0	23.14	23.24	23.11
		12	6	23.26	23.28	23.14
		12	13	23.15	23.13	23.00
		25	0	22.99	23.29	23.15
	16QAM	1	0	23.04	23.33	23.22
		1	12	23.24	23.45	23.29
		1	24	23.22	23.31	23.34
		12	0	21.85	22.24	22.06
		12	6	22.13	22.15	22.05
		12	13	22.07	22.23	22.07
		25	0	22.05	22.14	21.97
	64QAM	1	0	21.92	22.27	22.29
		1	12	22.08	22.25	22.23
		1	24	22.18	22.33	22.14
		12	0	21.20	21.36	21.25
		12	6	21.30	21.33	21.29
		12	13	21.37	21.40	21.17
		25	0	21.22	21.38	21.12



**BUREAU
VERITAS**

Test Report No.: W7L-240618W001RF06

Band/BW	Modulation	RB Size	RB Offset	Low CH 18650	Mid CH 18900	High CH 19150
				Frequency 1855 MHz	Frequency 1880 MHz	Frequency 1905 MHz
2/ 10	QPSK	1	0	23.90	24.09	23.98
		1	24	23.98	24.25	24.10
		1	49	23.91	24.03	23.97
		25	0	23.13	23.12	23.23
		25	12	23.16	23.24	23.14
		25	25	23.15	23.15	22.97
		50	0	23.01	23.23	23.14
	16QAM	1	0	22.98	23.26	23.23
		1	24	23.30	23.40	23.25
		1	49	23.23	23.43	23.40
		25	0	21.81	22.24	22.09
		25	12	22.05	22.19	21.98
		25	25	22.13	22.23	22.02
		50	0	22.06	22.09	22.04
	64QAM	1	0	21.87	22.25	22.24
		1	24	22.08	22.27	22.16
		1	49	22.24	22.24	22.19
		25	0	21.25	21.28	21.26
		25	12	21.33	21.35	21.25
		25	25	21.42	21.36	21.26
		50	0	21.18	21.40	21.17



Band/BW	Modulation	RB Size	RB Offset	Low CH 18675	Mid CH 18900	High CH 19125
				Frequency 1857.5 MHz	Frequency 1880 MHz	Frequency 1902.5 MHz
2/ 15	QPSK	1	0	23.86	24.04	23.98
		1	37	24.00	24.26	24.04
		1	74	23.90	24.02	23.97
		36	0	23.09	23.24	23.22
		36	19	23.21	23.19	23.24
		36	39	23.09	23.16	22.96
		75	0	23.09	23.25	23.12
	16QAM	1	0	23.02	23.30	23.25
		1	37	23.26	23.47	23.28
		1	74	23.33	23.35	23.33
		36	0	21.91	22.21	22.03
		36	19	22.02	22.11	22.08
		36	39	22.15	22.34	22.09
		75	0	22.06	22.15	21.98
	64QAM	1	0	21.85	22.24	22.22
		1	37	22.06	22.30	22.18
		1	74	22.23	22.31	22.09
		36	0	21.24	21.32	21.29
		36	19	21.35	21.43	21.29
		36	39	21.39	21.34	21.19
		75	0	21.08	21.30	21.16



Band/BW	Modulation	RB Size	RB Offset	Low CH 18700	Mid CH 18900	High CH 19100
				Frequency 1860 MHz	Frequency 1880 MHz	Frequency 1900 MHz
2/ 20	QPSK	1	0	23.98	24.18	24.10
		1	50	24.09	24.30	24.15
		1	99	24.04	24.17	24.12
		50	0	23.17	23.25	23.24
		50	25	23.27	23.33	23.28
		50	50	23.23	23.27	23.10
		100	0	23.11	23.32	23.23
	16QAM	1	0	23.11	23.36	23.32
		1	50	23.36	23.54	23.35
		1	99	23.36	23.45	23.46
		50	0	21.93	22.27	22.16
		50	25	22.14	22.25	22.11
		50	50	22.16	22.36	22.17
		100	0	22.11	22.20	22.08
	64QAM	1	0	22.00	22.29	22.31
		1	50	22.15	22.36	22.27
		1	99	22.26	22.39	22.22
		50	0	21.27	21.40	21.34
		50	25	21.36	21.47	21.30
		50	50	21.44	21.49	21.31
		100	0	21.23	21.42	21.20



BUREAU
VERITAS

Test Report No.: W7L-240618W001RF06

EIRP POWER (dBm)

Ant 4(UP):

GSM 1900						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
512	1850.2	28.57	-0.4	28.17	656.15	2
661	1880	28.58	-0.4	28.18	657.66	2
810	1909.8	28.63	-0.4	28.23	665.27	2

EDGE 1900						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
512	1850.2	24.68	-0.4	24.28	267.92	2
661	1880	24.43	-0.4	24.03	252.93	2
810	1909.8	24.26	-0.4	23.86	243.22	2

WCDMA II						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
9262	1852.4	23.11	0.4	23.51	224.39	2
9400	1880	23.13	0.4	23.53	225.42	2
9538	1907.6	23.05	0.4	23.45	221.31	2

LTE B2 1.4M QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18607	1850.7	22.96	0.4	23.36	216.77	2
18900	1880	23.04	0.4	23.44	220.8	2
19193	1909.3	22.92	0.4	23.32	214.78	2

LTE B2 1.4M 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18607	1850.7	22.23	0.4	22.63	183.23	2
18900	1880	22.39	0.4	22.79	190.11	2
19193	1909.3	22.23	0.4	22.63	183.23	2

LTE B2 1.4M 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18607	1850.7	21.2	0.4	21.6	144.54	2
18900	1880	21.23	0.4	21.63	145.55	2
19193	1909.3	21.11	0.4	21.51	141.58	2



LTE B2 3M QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18615	1851.5	23	0.4	23.4	218.78	2
18900	1880	23.1	0.4	23.5	223.87	2
19185	1908.5	22.96	0.4	23.36	216.77	2

LTE B2 3M 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18615	1851.5	22.25	0.4	22.65	184.08	2
18900	1880	22.33	0.4	22.73	187.5	2
19185	1908.5	22.26	0.4	22.66	184.5	2

LTE B2 3M 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18615	1851.5	21.16	0.4	21.56	143.22	2
18900	1880	21.22	0.4	21.62	145.21	2
19185	1908.5	21.11	0.4	21.51	141.58	2

LTE B2 5M QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18625	1852.5	22.92	0.4	23.32	214.78	2
18900	1880	23.08	0.4	23.48	222.84	2
19175	1907.5	22.98	0.4	23.38	217.77	2

LTE B2 5M 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18625	1852.5	22.26	0.4	22.66	184.5	2
18900	1880	22.38	0.4	22.78	189.67	2
19175	1907.5	22.25	0.4	22.65	184.08	2



LTE B2 5M 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18625	1852.5	21.15	0.4	21.55	142.89	2
18900	1880	21.2	0.4	21.6	144.54	2
19175	1907.5	21.08	0.4	21.48	140.6	2

LTE B2 10M QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18650	1855	22.91	0.4	23.31	214.29	2
18900	1880	23.11	0.4	23.51	224.39	2
19150	1905	22.96	0.4	23.36	216.77	2

LTE B2 10M 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18650	1855	22.33	0.4	22.73	187.5	2
18900	1880	22.29	0.4	22.69	185.78	2
19150	1905	22.19	0.4	22.59	181.55	2

LTE B2 10M 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18650	1855	21.09	0.4	21.49	140.93	2
18900	1880	21.22	0.4	21.62	145.21	2
19150	1905	21.09	0.4	21.49	140.93	2

LTE B2 15M QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18675	1857.5	22.93	0.4	23.33	215.28	2
18900	1880	23.04	0.4	23.44	220.8	2
19125	1902.5	22.9	0.4	23.3	213.8	2



Test Report No.: W7L-240618W001RF06

LTE B2 15M 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18675	1857.5	22.28	0.4	22.68	185.35	2
18900	1880	22.35	0.4	22.75	188.36	2
19125	1902.5	22.21	0.4	22.61	182.39	2

LTE B2 15M 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18675	1857.5	21.15	0.4	21.55	142.89	2
18900	1880	21.22	0.4	21.62	145.21	2
19125	1902.5	21.03	0.4	21.43	139	2

LTE B2 20M QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18700	1860	23.02	0.4	23.42	219.79	2
18900	1880	23.16	0.4	23.56	226.99	2
19100	1900	23.04	0.4	23.44	220.8	2

LTE B2 20M 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18700	1860	22.34	0.4	22.74	187.93	2
18900	1880	22.43	0.4	22.83	191.87	2
19100	1900	22.32	0.4	22.72	187.07	2

LTE B2 20M 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18700	1860	21.23	0.4	21.63	145.55	2
18900	1880	21.25	0.4	21.65	146.22	2
19100	1900	21.12	0.4	21.52	141.91	2

REMARKS: EIRP Output Power (dBm) = EIRP (dBm) -2.15(dB).



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GSM 1900						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
512	1850.2	29.9	-0.6	29.3	851.14	2
661	1880	29.89	-0.6	29.29	849.18	2
810	1909.8	29.78	-0.6	29.18	827.94	2

EDGE 1900						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
512	1850.2	25.54	-0.6	24.94	311.89	2
661	1880	25.37	-0.6	24.77	299.92	2
810	1909.8	25.21	-0.6	24.61	289.07	2

WCDMA II						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
9262	1852.4	23.93	-0.6	23.33	215.28	2
9400	1880	24.04	-0.6	23.44	220.8	2
9538	1907.6	23.96	-0.6	23.36	216.77	2

LTE B2 1.4M QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18607	1850.7	23.97	-0.6	23.37	217.27	2
18900	1880	24.16	-0.6	23.56	226.99	2
19193	1909.3	24.11	-0.6	23.51	224.39	2

LTE B2 1.4M 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18607	1850.7	23.33	-0.6	22.73	187.5	2
18900	1880	23.42	-0.6	22.82	191.43	2
19193	1909.3	23.35	-0.6	22.75	188.36	2

LTE B2 1.4M 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18607	1850.7	22.24	-0.6	21.64	145.88	2
18900	1880	22.3	-0.6	21.7	147.91	2
19193	1909.3	22.19	-0.6	21.59	144.21	2



LTE B2 3M QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18615	1851.5	24.03	-0.6	23.43	220.29	2
18900	1880	24.23	-0.6	23.63	230.67	2
19185	1908.5	24.12	-0.6	23.52	224.91	2

LTE B2 3M 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18615	1851.5	23.26	-0.6	22.66	184.5	2
18900	1880	23.47	-0.6	22.87	193.64	2
19185	1908.5	23.4	-0.6	22.8	190.55	2

LTE B2 3M 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18615	1851.5	22.22	-0.6	21.62	145.21	2
18900	1880	22.37	-0.6	21.77	150.31	2
19185	1908.5	22.3	-0.6	21.7	147.91	2

LTE B2 5M QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18625	1852.5	23.96	-0.6	23.36	216.77	2
18900	1880	24.19	-0.6	23.59	228.56	2
19175	1907.5	24.09	-0.6	23.49	223.36	2

LTE B2 5M 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18625	1852.5	23.24	-0.6	22.64	183.65	2
18900	1880	23.45	-0.6	22.85	192.75	2
19175	1907.5	23.34	-0.6	22.74	187.93	2



LTE B2 5M 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18625	1852.5	22.18	-0.6	21.58	143.88	2
18900	1880	22.33	-0.6	21.73	148.94	2
19175	1907.5	22.29	-0.6	21.69	147.57	2

LTE B2 10M QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18650	1855	23.98	-0.6	23.38	217.77	2
18900	1880	24.25	-0.6	23.65	231.74	2
19150	1905	24.1	-0.6	23.5	223.87	2

LTE B2 10M 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18650	1855	23.3	-0.6	22.7	186.21	2
18900	1880	23.43	-0.6	22.83	191.87	2
19150	1905	23.4	-0.6	22.8	190.55	2

LTE B2 10M 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18650	1855	22.24	-0.6	21.64	145.88	2
18900	1880	22.27	-0.6	21.67	146.89	2
19150	1905	22.24	-0.6	21.64	145.88	2

LTE B2 15M QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18675	1857.5	24	-0.6	23.4	218.78	2
18900	1880	24.26	-0.6	23.66	232.27	2
19125	1902.5	24.04	-0.6	23.44	220.8	2

LTE B2 15M 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18675	1857.5	23.33	-0.6	22.73	187.5	2
18900	1880	23.47	-0.6	22.87	193.64	2
19125	1902.5	23.33	-0.6	22.73	187.5	2

LTE B2 15M 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18675	1857.5	22.23	-0.6	21.63	145.55	2
18900	1880	22.31	-0.6	21.71	148.25	2
19125	1902.5	22.22	-0.6	21.62	145.21	2

LTE B2 20M QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18700	1860	24.09	-0.6	23.49	223.36	2
18900	1880	24.3	-0.6	23.7	234.42	2
19100	1900	24.15	-0.6	23.55	226.46	2

LTE B2 20M 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18700	1860	23.36	-0.6	22.76	188.8	2
18900	1880	23.54	-0.6	22.94	196.79	2
19100	1900	23.46	-0.6	22.86	193.2	2

LTE B2 20M 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Lmit (W)
18700	1860	22.26	-0.6	21.66	146.55	2
18900	1880	22.39	-0.6	21.79	151.01	2
19100	1900	22.31	-0.6	21.71	148.25	2

REMARKS: EIRP Output Power (dBm) = EIRP (dBm) -2.15(dB).



3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

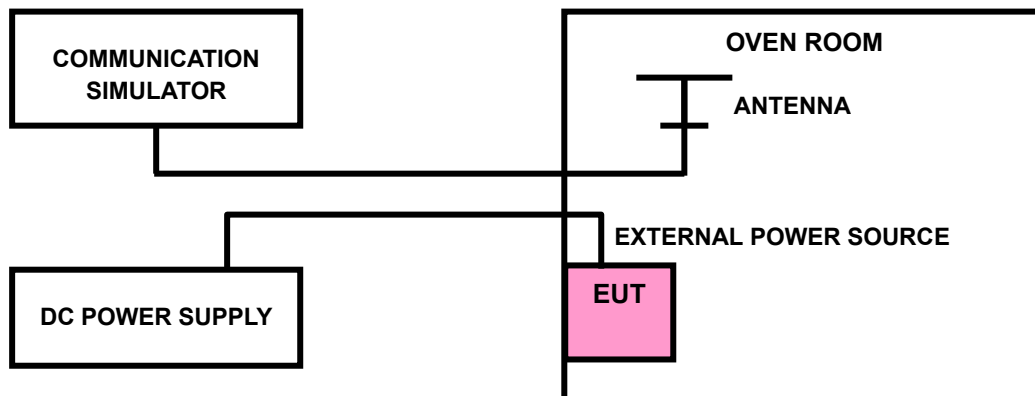
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

3.2.2 TEST PROCEDURE

- The device is placed in the oven room. The oven room could control the temperatures and humidity. Power warms up is at least 15 min and power applied should perform before recording frequency error.
- EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be recording the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be holding $\pm 0.5^{\circ}\text{C}$ during the measurement testing. Each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

NOTE: The frequency error was recorded frequency error from the communication simulator.

3.2.3 TEST SETUP





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Test Report No.: W7L-240618W001RF06

3.2.4 TEST RESULTS

Please Refer to Appendix Of this test report.

Note: LV = Low voltage (3.7V); NV = Normal voltage (3.91V); HV= High voltage (4.3V).
NT = Normal temperature (25°C)

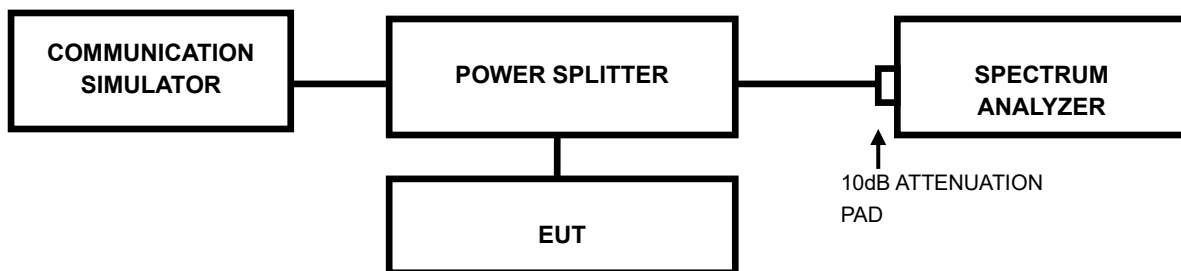


3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

The width of a frequency band is such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage. 0.5 % of the total mean power of a given emission.

3.3.2 TEST SETUP



3.3.3 TEST PROCEDURES

- The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.



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Test Report No.: W7L-240618W001RF06

3.3.4 TEST RESULTS

Please Refer to Appendix Of this test report.

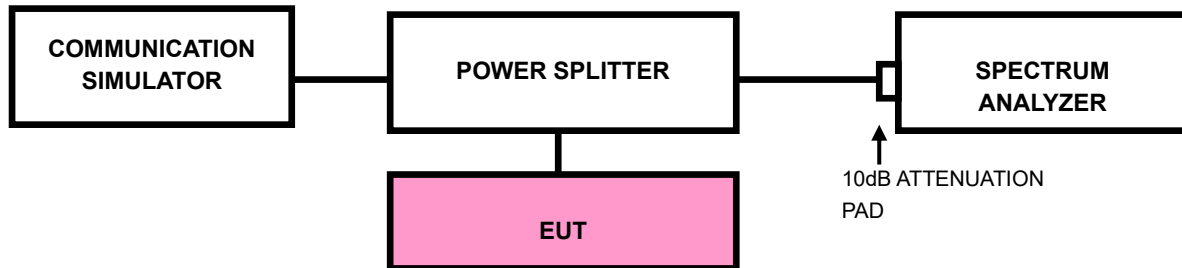


3.4 BAND EDGE MEASUREMENTC

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

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. 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.

3.4.2 TEST SETUP





3.4.3 TEST PROCEDURES

- a) All measurements were done at low and high operational frequency range.
- b) Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.
- c) Tune the analyzer to the nominal center frequency of the emission bandwidth (EBW)
- d) Set the resolution bandwidth (RBW) $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
- e) Beyond the 1MHz band from the band edge, RBW=1MHz was used.
- f) Set the video bandwidth (VBW) to $\geq 3 \times$ RBW.
- g) Select the average power (RMS) display detector.
- h) Set the number of measurement points to ≥ 1001 .
- i) Use auto-coupled sweep time.
- j) Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.
- k) The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 10KHz or 100KHz.
- l) Record the max trace plot into the test report.



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Test Report No.: W7L-240618W001RF06

3.4.4. TEST RESULTS

Please Refer to Appendix Of this test report.



3.5 CONDUCTED SPURIOUS EMISSIONS

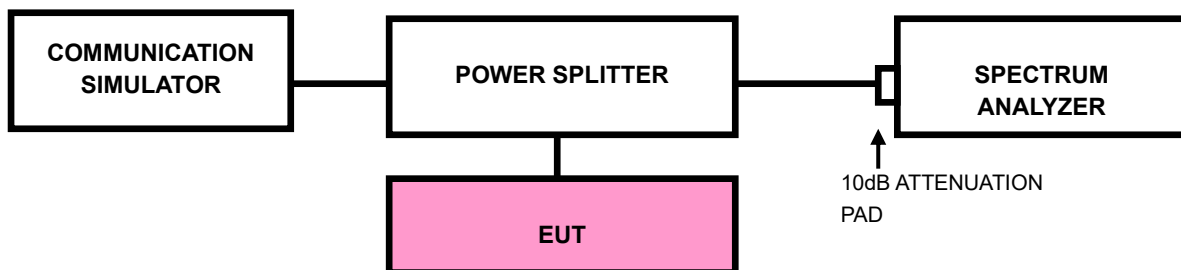
3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit is equal to -13dBm .

3.5.2 TEST PROCEDURE

- a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle, and high operational frequency range.
- b. Measuring frequency range is from 30MHz up to a frequency including its 10th harmonic. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.3 TEST SETUP





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Test Report No.: W7L-240618W001RF06

3.5.4 TEST RESULTS

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

Please Refer to Appendix Of this test report.



3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit is equal to -13dBm .

3.6.2 TEST PROCEDURES

- a. The substitute method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator exports the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved the receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value “ of step a. Record the power level of S.G
- c. $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$.

NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

3.6.3 DEVIATION FROM TEST STANDARD

No deviation