

FCC TEST REPORT

(PART 24)

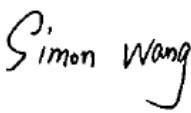
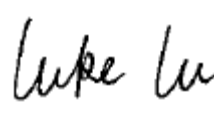
Applicant:	Thundercomm Technology Co., Ltd
Address:	No. 107, Middle Datagu Road, Xiantao Street, Yubei District, Chongqing, China, 401122

Manufacturer or Supplier:	Thundercomm Technology Co., Ltd
Address:	No. 107, Middle Datagu Road, Xiantao Street, Yubei District, Chongqing, China, 401122
Product:	TurboX CM2290-NA
Brand Name:	TURBOX
Model Name:	TurboX CM2290-NA
FCC ID:	2AOHHCM2290NA
Date of tests:	Apr. 07, 2023 ~ Apr. 26, 2023

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: Apr. 26, 2023	Date: Apr. 26, 2023

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-P23030025RF05	Original release	Apr. 26, 2023

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	TEST LAB*
§2.1046	Conducted Output Power	Compliance	A
§24.232(c)	Equivalent Isotropic Radiated Power	Compliance	A
§2.1055 §24.235	Frequency Stability	Compliance	A
§2.1049	Occupied Bandwidth	Compliance	A
§24.232(d)	Peak to average ratio	Compliance	A
§24.238(a)(b)	Band Edge Measurements	Compliance	A
§2.1051 §24.238(a)(b)	Conducted Spurious Emissions	Compliance	A
§2.1053 §24.238(a)(b)	Radiated Spurious Emissions	Compliance	A

*Test Lab Information Reference

Lab A:

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

Lab Address:

No.B102, Dazhu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

Accredited Test Lab Cert 3939.01

The FCC Site Registration No. : 525120; Designation No. : CN1171;

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	Feb. 17,23	Feb. 16,24
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.14,22	May.13,23
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.03,22	Sep.02,23
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Mar. 05,23	Mar. 04,24
Horn Antenna	ETS-LINDGREN	3117	00168692	Mar. 05,23	Mar. 04,24
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40- K-SG/QMS-003 61	15433	Sep.04, 22	Sep.03, 23
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 14,23	Feb. 13,24
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May.12,22	May.11,23
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.12,22	May.11,23
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 17,23	Feb.16,24
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn- CT0001143-121 6	May. 19,20	May. 18,23
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	N/A	May. 12,22	May. 11,23
Power Meter	Anritsu	ML2495A	1506002	Feb. 14,23	Feb. 13,24
Power Sensor	Anritsu	MA2411B	1339352	Feb. 14,23	Feb. 13,24
Temperature Chamber	ESPEC	SH-242	93000855	May. 12,22	May. 11,23
MXG Analog Microwave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 14,23	Feb. 13,24
Base station R&S CMW500	Rohde&Schwarz	CMW500	153085	May.12,22	May.11,23
DC Source	Kikusui/JP	PMX18-5A	N/A	Aug. 12,22	Aug. 11,23

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	TurboX CM2290-NA	
BRAND NAME	TURBOX	
MODEL NAME	TurboX CM2290-NA	
NOMINAL VOLTAGE	EUT 4.0V	
MODULATION TYPE	LTE Band 2/25: QPSK, 16QAM, 64QAM	
FREQUENCY RANGE	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
	LTE Band 25 Channel Bandwidth: 1.4MHz	1850.7MHz ~ 1914.3MHz
	LTE Band 25 Channel Bandwidth: 3MHz	1851.5MHz ~ 1913.5MHz
	LTE Band 25 Channel Bandwidth: 5MHz	1852.5MHz ~ 1912.5MHz
	LTE Band 25 Channel Bandwidth: 10MHz	1855.0MHz ~ 1910.0MHz
	LTE Band 25 Channel Bandwidth: 15MHz	1857.5MHz ~ 1907.5MHz
	LTE Band 25 Channel Bandwidth: 20MHz	1860.0MHz ~ 1905.0MHz
MAX. EIRP POWER	LTE Band 2 Channel Bandwidth: 1.4MHz	619.44mW
	LTE Band 2 Channel Bandwidth: 3MHz	619.44mW
	LTE Band 2 Channel Bandwidth: 5MHz	619.44mW
	LTE Band 2 Channel Bandwidth: 10MHz	613.76mW
	LTE Band 2 Channel Bandwidth: 15MHz	620.87mW



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	LTE Band 2 Channel Bandwidth: 20MHz	622.3mW
	LTE Band 25 Channel Bandwidth: 1.4MHz	555.9mW
	LTE Band 25 Channel Bandwidth: 3MHz	552.08mW
	LTE Band 25 Channel Bandwidth: 5MHz	555.9mW
	LTE Band 25 Channel Bandwidth: 10MHz	559.76mW
	LTE Band 25 Channel Bandwidth: 15MHz	559.76mW
	LTE Band 25 Channel Bandwidth: 20MHz	561.05mW
EMISSION DESIGNATOR	LTE Band 25 Channel Bandwidth: 1.4MHz	QPSK: 1M09G7D
		16QAM: 1M09W7D
		64QAM: 1M09W7D
	LTE Band 25 Channel Bandwidth: 3MHz	QPSK: 2M70G7D
		16QAM: 2M69W7D
		64QAM: 2M70W7D
	LTE Band 25 Channel Bandwidth: 5MHz	QPSK: 4M50G7D
		16QAM: 4M50W7D
		64QAM: 4M50W7D
	LTE Band 25 Channel Bandwidth: 10MHz	QPSK: 8M98G7D
		16QAM: 8M96W7D
		64QAM: 8M99W7D
	LTE Band 25 Channel Bandwidth: 15MHz	QPSK: 13M4G7D
		16QAM: 13M4W7D
		64QAM: 13M4W7D
	LTE Band 25 Channel Bandwidth: 20MHz	QPSK: 18M0G7D
		16QAM: 17M9W7D
		64QAM: 18M0W7D
ANTENNA TYPE	Flex Antenna with 4.8dBi gain for LTE B2/ LTE B25	
HW VERSION	V06	
SW VERSION	FlatBuild_Turbox-CM2290_cm2290_la1.0.1.v.userdebug.20230301.1952	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	N/A	



EXTREME TEMPERATURE	-25-75 °C
EXTREME VOLTAGE	3.4V - 4.35V

NOTE:

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

The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

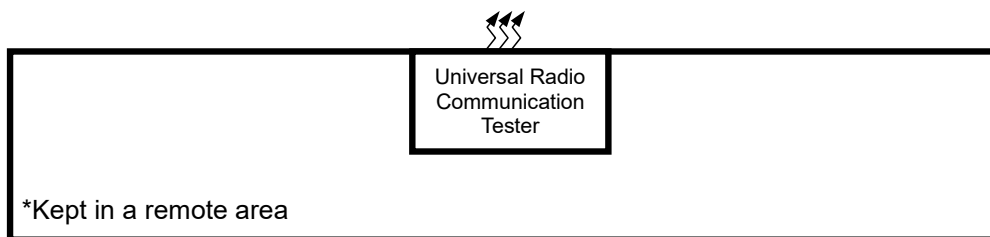
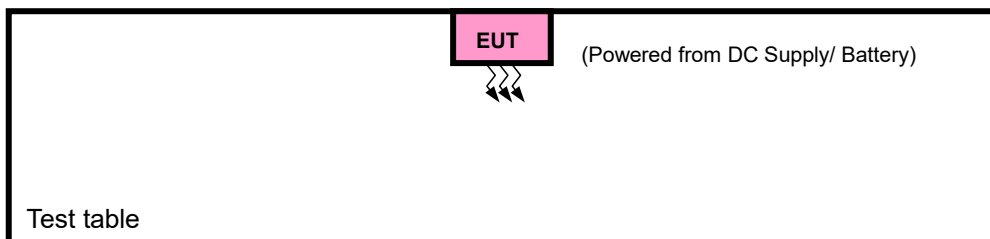
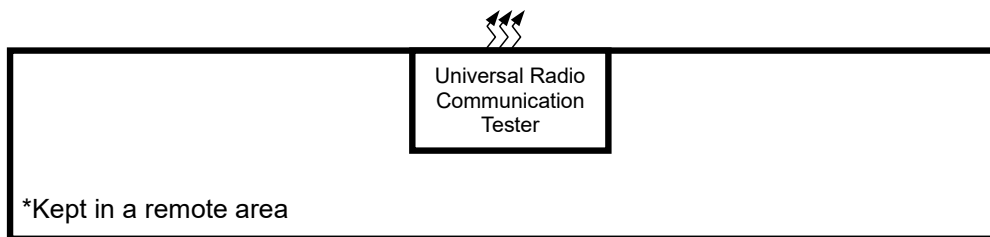
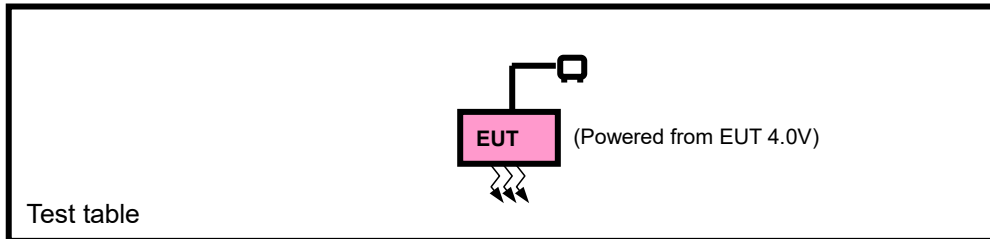
MODULATION MODE	TX FUNCTION
LTE	1TX/1RX

2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.



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 LTE. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + adapter with LTE link
B	EUT + DC source with LTE link

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

Note: 1.This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

2. LTE Band 2 are covered by LTE Band 25, Because it is a subset of LTE Band 25 with the same output power and supported bandwidths, So the conducted test data and RSE test data please refer to LTE Band 25

LTE BAND 25 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	26047 to 26683	26047, 26365, 26683	1.4MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
		26055 to 26675	26055, 26365, 26675	3MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
		26065 to 26665	26065, 26365, 26665	5MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
		26090 to 26640	26090, 26365, 26640	10MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
		26115 to 26615	26115, 26365, 26615	15MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
		26140 to 26590	26140, 26365, 26590	20MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	26140 to 26590	26140, 26365, 26590	20MHz	QPSK	100 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	26047 to 26683	26047, 26365, 26683	1.4MHz	QPSK,16QAM, 64QAM	6 RB / 0 RB Offset
		26055 to 26675	26055, 26365, 26675	3MHz	QPSK,16QAM, 64QAM	15 RB / 0 RB Offset
		26065 to 26665	26065, 26365, 26665	5MHz	QPSK,16QAM, 64QAM	25 RB / 0 RB Offset
		26090 to 26640	26090, 26365, 26640	10MHz	QPSK,16QAM, 64QAM	50 RB / 0 RB Offset
		26115 to 26615	26115, 26365, 26615	15MHz	QPSK,16QAM, 64QAM	75 RB / 0 RB Offset
		26140 to 26590	26140, 26365, 26590	20MHz	QPSK,16QAM, 64QAM	100 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	26140 to 26590	26140, 26365, 26590	20MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset 100 RB / 0 RB Offset

A	BAND EDGE	26047 to 26683	26047	1.4MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
			26683	1.4MHz	QPSK, 16QAM, 64QAM	6 RB / 0 RB Offset
		26055 to 26675	26055	3MHz	QPSK, 16QAM, 64QAM	1 RB / 5 RB Offset
			26675	3MHz	QPSK, 16QAM, 64QAM	6 RB / 0 RB Offset
		26065 to 26665	26065	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
			26665	5MHz	QPSK, 16QAM, 64QAM	15 RB / 0 RB Offset
		26090 to 26640	26090	10MHz	QPSK, 16QAM, 64QAM	1 RB / 14 RB Offset
			26640	10MHz	QPSK, 16QAM, 64QAM	15 RB / 0 RB Offset
		26115 to 26615	26115	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
			26615	15MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		26140 to 26590	26140	20MHz	QPSK, 16QAM, 64QAM	1 RB / 24 RB Offset
			26590	20MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		26047 to 26683	26047, 26365, 26683	1.4MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
			26055, 26365, 26675	3MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
		26065 to 26665	26065, 26365, 26665	5MHz	QPSK, 16QAM, 64QAM	1 RB / 49 RB Offset
			26090, 26365, 26640	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
A	CONDCUDED EMISSION	26047 to 26683	26047, 26365, 26683	1.4MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		26055 to 26675	26055, 26365, 26675	3MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		26065 to 26665	26065, 26365, 26665	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		26090 to 26640	26090, 26365, 26640	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		26115 to 26615	26115, 26365, 26615	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		26140 to 26590	26140, 26365, 26590	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	26047 to 26683	26047, 26365, 26683	1.4MHz	QPSK	1 RB / 0 RB Offset
		26055 to 26675	26365	3MHz	QPSK	1 RB / 0 RB Offset
		26065 to 26665	26365	5MHz	QPSK	1 RB / 0 RB Offset
		26090 to 26640	26365	10MHz	QPSK	1 RB / 0 RB Offset
		26115 to 26615	26365	15MHz	QPSK	1 RB / 0 RB Offset
		26140 to 26590	26365	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	EUT 4.0V	Jace Hu
FREQUENCY STABILITY	23deg. C, 61%RH	DC 3.4/4.0/4.35V By DC Source	James Fu
OCCUPIED BANDWIDTH	23deg. C, 61%RH	EUT 4.0V	James Fu
PEAK TO AVERAGE RATIO	23deg. C, 61%RH	EUT 4.0V	James Fu
BAND EDGE	23deg. C, 61%RH	EUT 4.0V	James Fu
CONDCUDED EMISSION	23deg. C, 61%RH	EUT 4.0V	James Fu
RADIATED EMISSION	23deg. C, 70%RH	EUT 4.0V	Jace Hu

2.5 EUT OPERATING CONDITIONS

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

2.6 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a 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:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_T - L_C$$

Where:

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

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

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

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

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

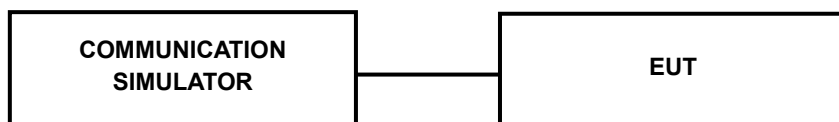
CONDUCTED POWER MEASUREMENT:

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)

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	22.78	22.77	22.96
		1	2	22.95	22.83	23.12
		1	5	22.76	22.72	22.91
		3	0	22.32	22.24	22.52
		3	1	22.36	22.27	22.41
		3	3	22.27	22.19	22.45
		6	0	21.84	21.75	21.91
	16QAM	1	0	21.55	21.49	21.71
		1	2	21.76	21.64	21.92
		1	5	21.20	21.09	21.36
		3	0	21.17	21.11	21.35
		3	1	21.35	21.33	21.54
		3	3	21.17	21.17	21.38
		6	0	20.66	20.61	20.83
	64QAM	1	0	20.95	20.95	21.20
		1	2	21.16	21.18	21.30
		1	5	20.87	20.79	21.08
		3	0	20.33	20.29	20.46
		3	1	20.31	20.34	20.43
		3	3	20.25	20.18	20.46
		6	0	19.72	19.63	19.85



BUREAU
VERITAS

Test Report No.: W7L-P23030025RF05

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	22.77	22.76	22.99
		1	7	22.96	22.81	23.12
		1	14	22.73	22.71	22.95
		8	0	21.84	21.77	21.99
		8	3	21.79	21.78	21.94
		8	7	21.78	21.72	22.00
		15	0	21.79	21.79	21.88
	16QAM	1	0	21.53	21.51	21.74
		1	7	21.70	21.70	21.89
		1	14	21.23	21.09	21.35
		8	0	20.63	20.60	20.82
		8	3	20.87	20.82	21.03
		8	7	20.64	20.67	20.87
		15	0	20.66	20.56	20.83
	64QAM	1	0	20.95	20.95	21.20
		1	7	21.16	21.18	21.29
		1	14	20.81	20.86	21.08
		8	0	19.87	19.80	19.96
		8	3	19.79	19.85	19.97
		8	7	19.76	19.71	19.89
		15	0	19.70	19.66	19.87



BUREAU
VERITAS

Test Report No.: W7L-P23030025RF05

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	22.77	22.82	22.95
		1	12	22.91	22.84	23.12
		1	24	22.72	22.72	22.91
		12	0	21.81	21.77	22.02
		12	6	21.79	21.77	21.93
		12	13	21.74	21.76	21.99
		25	0	21.81	21.76	21.85
	16QAM	1	0	21.52	21.55	21.74
		1	12	21.73	21.67	21.90
		1	24	21.23	21.09	21.36
		12	0	20.63	20.62	20.85
		12	6	20.90	20.78	21.07
		12	13	20.69	20.65	20.84
		25	0	20.66	20.55	20.86
	64QAM	1	0	21.01	20.98	21.14
		1	12	21.19	21.12	21.29
		1	24	20.88	20.81	21.08
		12	0	19.86	19.83	19.97
		12	6	19.85	19.78	19.98
		12	13	19.72	19.72	19.92
		25	0	19.74	19.60	19.89



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	22.82	22.80	22.93
		1	24	22.94	22.86	23.08
		1	49	22.76	22.78	22.92
		25	0	21.82	21.77	22.03
		25	12	21.86	21.77	21.94
		25	25	21.74	21.70	21.99
		50	0	21.84	21.77	21.90
	16QAM	1	0	21.57	21.55	21.70
		1	24	21.74	21.67	21.92
		1	49	21.19	21.15	21.34
		25	0	20.69	20.58	20.89
		25	12	20.85	20.80	21.04
		25	25	20.68	20.66	20.87
		50	0	20.71	20.58	20.80
	64QAM	1	0	20.96	20.97	21.18
		1	24	21.22	21.13	21.30
		1	49	20.83	20.79	21.08
		25	0	19.90	19.83	19.96
		25	12	19.80	19.78	19.93
		25	25	19.78	19.75	19.93
		50	0	19.74	19.60	19.89



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	22.75	22.80	22.96
		1	37	22.96	22.81	23.13
		1	74	22.70	22.75	22.91
		36	0	21.85	21.76	22.02
		36	19	21.85	21.72	21.94
		36	39	21.76	21.69	21.99
		75	0	21.84	21.79	21.85
	16QAM	1	0	21.53	21.48	21.70
		1	37	21.75	21.66	21.92
		1	74	21.23	21.10	21.32
		36	0	20.65	20.58	20.88
		36	19	20.91	20.76	21.08
		36	39	20.63	20.68	20.84
		75	0	20.70	20.55	20.87
	64QAM	1	0	20.96	20.95	21.21
		1	37	21.23	21.18	21.30
		1	74	20.81	20.80	21.08
		36	0	19.90	19.81	20.01
		36	19	19.84	19.85	19.93
		36	39	19.76	19.71	19.95
		75	0	19.75	19.62	19.88



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	22.83	22.84	23.01
		1	50	22.98	22.89	23.14
		1	99	22.78	22.79	22.96
		50	0	21.88	21.82	22.04
		50	25	21.87	21.79	21.99
		50	50	21.82	21.77	22.01
		100	0	21.85	21.81	21.93
	16QAM	1	0	21.60	21.56	21.76
		1	50	21.78	21.72	21.94
		1	99	21.25	21.17	21.37
		50	0	20.71	20.66	20.90
		50	25	20.93	20.84	21.09
		50	50	20.71	20.72	20.89
		100	0	20.72	20.63	20.88
	64QAM	1	0	21.02	21.00	21.22
		1	50	21.24	21.20	21.35
		1	99	20.89	20.87	21.10
		50	0	19.91	19.85	20.04
		50	25	19.87	19.86	19.99
		50	50	19.80	19.76	19.97
		100	0	19.76	19.68	19.90



**BUREAU
VERITAS**

Test Report No.: W7L-P23030025RF05

LTE BAND 25

Band/BW	Modulation	RB Size	RB Offset	Low CH 26047	Mid CH 26365	High CH 26683
				Frequency 1850.7 MHz	Frequency 1882.5 MHz	Frequency 1914.3 MHz
25/ 1.4	QPSK	1	0	22.65	22.57	22.59
		1	2	22.64	22.52	22.55
		1	5	22.43	22.31	22.44
		3	0	22.35	22.22	22.29
		3	1	22.18	22.06	22.11
		3	3	22.05	21.93	22.07
		6	0	21.63	21.58	21.61
	16QAM	1	0	21.40	21.33	21.40
		1	2	21.50	21.45	21.52
		1	5	20.70	20.63	20.68
		3	0	21.15	21.05	21.09
		3	1	21.18	21.19	21.19
		3	3	21.12	20.93	21.05
		6	0	20.59	20.51	20.59
	64QAM	1	0	20.88	20.83	20.77
		1	2	21.35	21.23	21.36
		1	5	20.83	20.75	20.76
		3	0	20.12	20.00	20.09
		3	1	20.26	20.15	20.24
		3	3	20.07	19.90	20.08
		6	0	19.69	19.56	19.71



BUREAU
VERITAS

Test Report No.: W7L-P23030025RF05

Band/BW	Modulation	RB Size	RB Offset	Low CH 26055	Mid CH 26365	High CH 26675
				Frequency 1851.5 MHz	Frequency 1882.5 MHz	Frequency 1913.5 MHz
25/ 3	QPSK	1	0	22.60	22.52	22.62
		1	7	22.62	22.55	22.59
		1	14	22.36	22.35	22.40
		8	0	21.82	21.78	21.82
		8	3	21.66	21.59	21.55
		8	7	21.52	21.50	21.56
		15	0	21.62	21.58	21.62
	16QAM	1	0	21.46	21.26	21.44
		1	7	21.46	21.46	21.48
		1	14	20.73	20.59	20.71
		8	0	20.70	20.53	20.56
		8	3	20.70	20.63	20.72
		8	7	20.63	20.49	20.49
		15	0	20.62	20.49	20.61
	64QAM	1	0	20.93	20.79	20.81
		1	7	21.35	21.29	21.30
		1	14	20.85	20.72	20.80
		8	0	19.62	19.52	19.62
		8	3	19.76	19.65	19.75
		8	7	19.54	19.47	19.57
		15	0	19.69	19.56	19.72

Band/BW	Modulation	RB Size	RB Offset	Low CH 26065	Mid CH 26365	High CH 26665
				Frequency 1852.5 MHz	Frequency 1882.5 MHz	Frequency 1912.5 MHz
25/ 5	QPSK	1	0	22.58	22.58	22.62
		1	12	22.65	22.55	22.60
		1	24	22.38	22.35	22.41
		12	0	21.83	21.74	21.82
		12	6	21.62	21.62	21.58
		12	13	21.58	21.43	21.56
		25	0	21.59	21.57	21.58
	16QAM	1	0	21.42	21.32	21.39
		1	12	21.47	21.45	21.51
		1	24	20.70	20.58	20.68
		12	0	20.65	20.55	20.59
		12	6	20.68	20.69	20.68
		12	13	20.56	20.50	20.55
		25	0	20.63	20.52	20.59
	64QAM	1	0	20.86	20.84	20.81
		1	12	21.36	21.26	21.29
		1	24	20.81	20.78	20.78
		12	0	19.62	19.54	19.62
		12	6	19.70	19.72	19.74
		12	13	19.55	19.43	19.57
		25	0	19.65	19.62	19.70



Band/BW	Modulation	RB Size	RB Offset	Low CH 26090	Mid CH 26365	High CH 26640
				Frequency 1855 MHz	Frequency 1882.5 MHz	Frequency 1910 MHz
25/ 10	QPSK	1	0	22.60	22.51	22.65
		1	24	22.68	22.58	22.53
		1	49	22.37	22.29	22.40
		25	0	21.87	21.73	21.82
		25	12	21.68	21.57	21.58
		25	25	21.54	21.43	21.56
		50	0	21.65	21.55	21.65
	16QAM	1	0	21.40	21.30	21.40
		1	24	21.52	21.42	21.52
		1	49	20.68	20.61	20.68
		25	0	20.69	20.54	20.59
		25	12	20.74	20.64	20.69
		25	25	20.58	20.43	20.55
		50	0	20.66	20.55	20.59
	64QAM	1	0	20.89	20.77	20.77
		1	24	21.39	21.25	21.35
		1	49	20.81	20.72	20.79
		25	0	19.62	19.52	19.62
		25	12	19.75	19.67	19.74
		25	25	19.59	19.42	19.57
		50	0	19.69	19.57	19.68



Band/BW	Modulation	RB Size	RB Offset	Low CH 26115	Mid CH 26365	High CH 26615
				Frequency 1857.5 MHz	Frequency 1882.5 MHz	Frequency 1907.5 MHz
25/ 15	QPSK	1	0	22.60	22.54	22.66
		1	37	22.68	22.58	22.56
		1	74	22.36	22.30	22.44
		36	0	21.89	21.75	21.81
		36	19	21.67	21.63	21.57
		36	39	21.56	21.46	21.56
		75	0	21.61	21.61	21.63
	16QAM	1	0	21.46	21.26	21.44
		1	37	21.46	21.46	21.48
		1	74	20.73	20.59	20.71
		36	0	20.71	20.55	20.53
		36	19	20.70	20.68	20.70
		36	39	20.62	20.44	20.52
		75	0	20.61	20.49	20.65
	64QAM	1	0	20.93	20.83	20.75
		1	37	21.33	21.23	21.31
		1	74	20.85	20.79	20.77
		36	0	19.68	19.48	19.66
		36	19	19.72	19.70	19.72
		36	39	19.60	19.40	19.58
		75	0	19.63	19.57	19.71



Band/BW	Modulation	RB Size	RB Offset	Low CH 26140	Mid CH 26365	High CH 26590
				Frequency 1860 MHz	Frequency 1882.5 MHz	Frequency 1905 MHz
25/ 20	QPSK	1	0	22.66	22.59	22.67
		1	50	22.69	22.60	22.61
		1	99	22.44	22.37	22.46
		50	0	21.90	21.79	21.84
		50	25	21.70	21.64	21.63
		50	50	21.60	21.51	21.58
		100	0	21.67	21.63	21.66
	16QAM	1	0	21.48	21.34	21.45
		1	50	21.54	21.50	21.53
		1	99	20.76	20.65	20.73
		50	0	20.72	20.60	20.61
		50	25	20.76	20.71	20.74
		50	50	20.64	20.51	20.57
		100	0	20.67	20.57	20.67
	64QAM	1	0	20.94	20.85	20.83
		1	50	21.40	21.31	21.37
		1	99	20.87	20.80	20.81
		50	0	19.70	19.56	19.67
		50	25	19.78	19.73	19.76
		50	50	19.62	19.48	19.59
		100	0	19.71	19.64	19.73



**BUREAU
VERITAS**

Test Report No.: W7L-P23030025RF05

EIRP POWER (dBm)

LTE BAND 2

CHANNEL BANDWIDTH: 1.4MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18607	1850.7	22.95	4.8	27.75	595.66	2
18900	1880.0	22.83	4.8	27.63	579.43	2
19193	1909.3	23.12	4.8	27.92	619.44	2

CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18607	1850.7	21.76	4.8	26.56	452.9	2
18900	1880.0	21.64	4.8	26.44	440.55	2
19193	1909.3	21.92	4.8	26.72	469.89	2

CHANNEL BANDWIDTH: 1.4MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18607	1850.7	21.16	4.8	25.96	394.46	2
18900	1880.0	21.18	4.8	25.98	396.28	2
19193	1908.3	21.3	4.8	26.1	407.38	2

CHANNEL BANDWIDTH: 3MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18615	1851.5	22.96	4.8	27.76	597.04	2
18900	1880.0	22.81	4.8	27.61	576.77	2
19185	1908.5	23.12	4.8	27.92	619.44	2

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18615	1851.5	21.7	4.8	26.5	446.68	2
18900	1880.0	21.7	4.8	26.5	446.68	2
19185	1908.5	21.89	4.8	26.69	466.66	2

CHANNEL BANDWIDTH: 3MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18615	1851.5	21.16	4.8	25.96	394.46	2
18900	1880.0	21.18	4.8	25.98	396.28	2
19185	1908.5	21.29	4.8	26.09	406.44	2



BUREAU
VERITAS

Test Report No.: W7L-P23030025RF05

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18625	1852.5	22.91	4.8	27.71	590.2	2
18900	1880.0	22.84	4.8	27.64	580.76	2
19175	1907.5	23.12	4.8	27.92	619.44	2

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18625	1852.5	21.73	4.8	26.53	449.78	2
18900	1880.0	21.67	4.8	26.47	443.61	2
19175	1907.5	21.9	4.8	26.7	467.74	2

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18625	1852.5	21.19	4.8	25.99	397.19	2
18900	1880.0	21.12	4.8	25.92	390.84	2
19175	1907.5	21.29	4.8	26.09	406.44	2

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18650	1855.0	22.94	4.8	27.74	594.29	2
18900	1880.0	22.86	4.8	27.66	583.45	2
19150	1905.0	23.08	4.8	27.88	613.76	2

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18650	1855.0	21.74	4.8	26.54	450.82	2
18900	1880.0	21.67	4.8	26.47	443.61	2
19150	1905.0	21.92	4.8	26.72	469.89	2

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18650	1855.0	21.22	4.8	26.02	399.94	2
18900	1880.0	21.13	4.8	25.93	391.74	2
19150	1905.0	21.3	4.8	26.1	407.38	2

**CHANNEL BANDWIDTH: 15MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18675	1857.5	22.96	4.8	27.76	597.04	2
18900	1880.0	22.81	4.8	27.61	576.77	2
19125	1902.5	23.13	4.8	27.93	620.87	2

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18675	1857.5	21.75	4.8	26.55	451.86	2
18900	1880.0	21.66	4.8	26.46	442.59	2
19125	1902.5	21.92	4.8	26.72	469.89	2

CHANNEL BANDWIDTH: 15MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18675	1857.5	21.23	4.8	26.03	400.87	2
18900	1880.0	21.18	4.8	25.98	396.28	2
19125	1902.5	21.3	4.8	26.1	407.38	2

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18700	1860	22.98	4.8	27.78	599.79	2
18900	1880	22.89	4.8	27.69	587.49	2
19100	1900	23.14	4.8	27.94	622.3	2

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18700	1860	21.78	4.8	26.58	454.99	2
18900	1880	21.72	4.8	26.52	448.75	2
19100	1900	21.94	4.8	26.74	472.06	2

CHANNEL BANDWIDTH: 20MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18700	1860	21.24	4.8	26.04	401.79	2
18900	1880	21.2	4.8	26	398.11	2
19100	1900	21.35	4.8	26.15	412.1	2

**LTE BAND 25****CHANNEL BANDWIDTH: 1.4MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26047	1850.7	22.65	4.8	27.45	555.9	2
26365	1882.5	22.57	4.8	27.37	545.76	2
26683	1914.3	22.59	4.8	27.39	548.28	2

CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26047	1850.7	21.5	4.8	26.3	426.58	2
26365	1882.5	21.45	4.8	26.25	421.7	2
26683	1914.3	21.52	4.8	26.32	428.55	2

CHANNEL BANDWIDTH: 1.4MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26047	1850.7	21.35	4.8	26.15	412.1	2
26365	1882.5	21.23	4.8	26.03	400.87	2
26683	1914.3	21.36	4.8	26.16	413.05	2

CHANNEL BANDWIDTH: 3MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26055	1851.5	22.62	4.8	27.42	552.08	2
26365	1882.5	22.55	4.8	27.35	543.25	2
26675	1913.5	22.62	4.8	27.42	552.08	2

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26055	1851.5	21.46	4.8	26.26	422.67	2
26365	1882.5	21.46	4.8	26.26	422.67	2
26675	1913.5	21.48	4.8	26.28	424.62	2

CHANNEL BANDWIDTH: 3MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26047	1851.5	21.35	4.8	26.15	412.1	2
26365	1882.5	21.29	4.8	26.09	406.44	2
26683	1913.5	21.3	4.8	26.1	407.38	2



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CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26065	1852.5	22.65	4.8	27.45	555.9	2
26365	1882.5	22.58	4.8	27.38	547.02	2
26665	1912.5	22.62	4.8	27.42	552.08	2

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26065	1852.5	21.47	4.8	26.27	423.64	2
26365	1882.5	21.45	4.8	26.25	421.7	2
26665	1912.5	21.51	4.8	26.31	427.56	2

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26065	1852.5	21.36	4.8	26.16	413.05	2
26365	1882.5	21.26	4.8	26.06	403.65	2
26665	1912.5	21.29	4.8	26.09	406.44	2

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26090	1855	22.68	4.8	27.48	559.76	2
26365	1882.5	22.58	4.8	27.38	547.02	2
26640	1910	22.65	4.8	27.45	555.9	2

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26090	1855	21.52	4.8	26.32	428.55	2
26365	1882.5	21.42	4.8	26.22	418.79	2
26640	1910	21.52	4.8	26.32	428.55	2

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26090	1855	21.39	4.8	26.19	415.91	2
26365	1882.5	21.25	4.8	26.05	402.72	2
26640	1910	21.35	4.8	26.15	412.1	2

**CHANNEL BANDWIDTH: 15MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26115	1857.5	22.68	4.8	27.48	559.76	2
26365	1882.5	22.58	4.8	27.38	547.02	2
26615	1907.5	22.66	4.8	27.46	557.19	2

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26115	1857.5	21.46	4.8	26.26	422.67	2
26365	1882.5	21.46	4.8	26.26	422.67	2
26615	1907.5	21.48	4.8	26.28	424.62	2

CHANNEL BANDWIDTH: 15MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26115	1857.5	21.33	4.8	26.13	410.2	2
26365	1882.5	21.23	4.8	26.03	400.87	2
26615	1907.5	21.31	4.8	26.11	408.32	2

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26140	1860	22.69	4.8	27.49	561.05	2
26365	1882.5	22.6	4.8	27.4	549.54	2
26590	1905	22.67	4.8	27.47	558.47	2

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26140	1860	21.54	4.8	26.34	430.53	2
26365	1882.5	21.5	4.8	26.3	426.58	2
26590	1905	21.53	4.8	26.33	429.54	2

CHANNEL BANDWIDTH: 20MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
26140	1860	21.4	4.8	26.2	416.87	2
26365	1882.5	21.31	4.8	26.11	408.32	2
26590	1905	21.37	4.8	26.17	414	2

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



3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

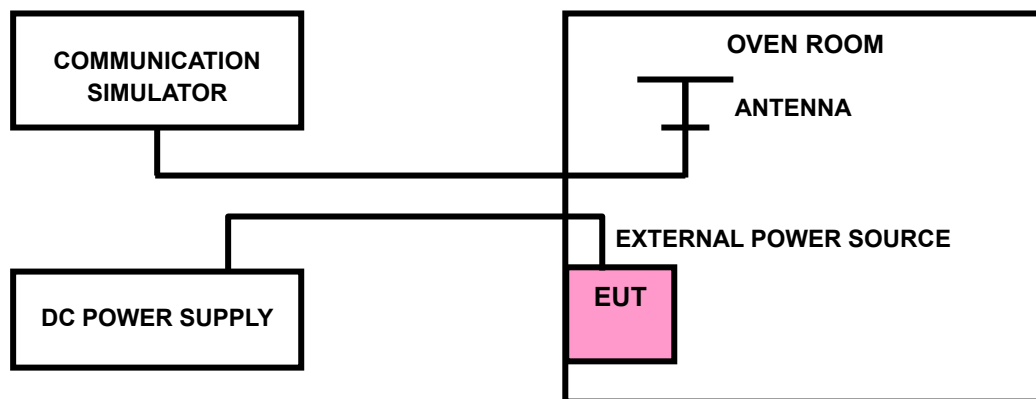
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

3.2.2 TEST PROCEDURE

- Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm 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 record the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ during the measurement testing. The 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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3.2.4 TEST RESULTS

Please Refer to Appendix Of this test report.

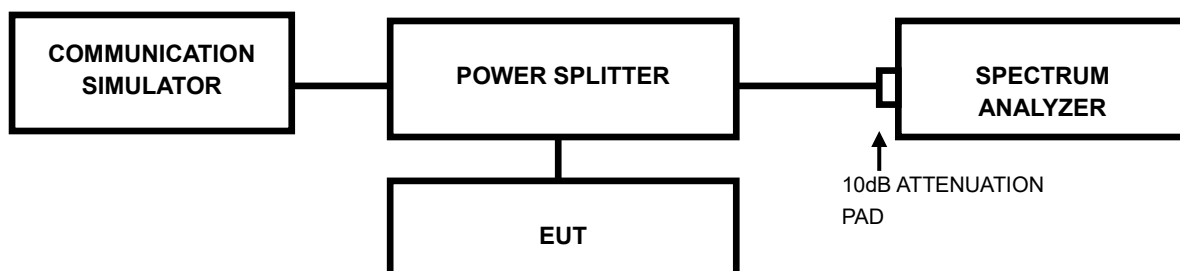


3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

The width of a frequency band 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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3.3.4 TEST RESULTS

Please Refer to Appendix Of this test report.

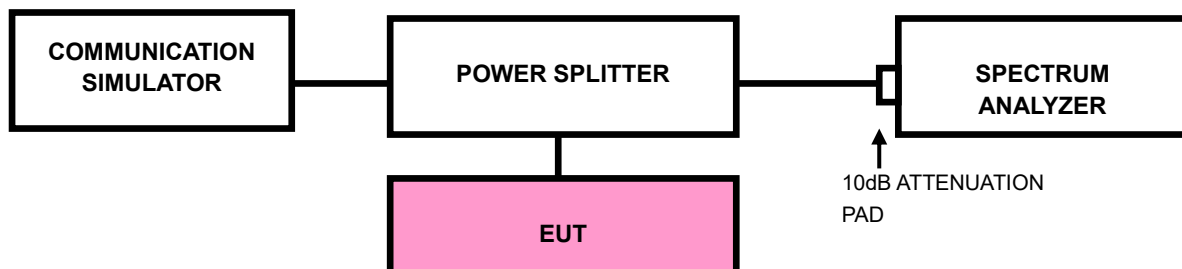


3.4 BAND EDGE MEASUREMENTC

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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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 equal to -13dBm .

3.5.2 TEST PROCEDURE

- The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- 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

