FCC TEST REPORT

(PART 27)

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:	23053RN02L
FCC ID:	2AFZZRN02L
Date of tests:	Mar. 06, 2023 ~ Mar. 29, 2023

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

☒ **FCC Part 27** ☒ **ANSI/TIA/EIA-603-D**
☒ **FCC Part 2** ☒ **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
Simon Wang Date: Mar. 29, 2023	Luke Lu Date: Mar. 29, 2023

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/ and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-P23030003RF07	Original release	Mar. 29, 2023

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 27 & PART 2			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**TEST LAB***
§2.1046	Conducted Output Power	Compliance	A
§27.50(d)(4) §27.50(h)(2)	Equivalent Isotropically Radiated Power (Band 4) (Band 38) (Band 41) (Band 66)	Compliance	A
§2.1055 §27.54	Frequency Stability	Compliance	A
§2.1049	Occupied Bandwidth	Compliance	A
§2.1051 §27.53(h) §27.53(m)(4)(6)	Conducted Band Edge Measurements (Band 4) (Band 38) (Band 41) (Band 66)	Compliance	A
§2.1051 §27.53(h) §27.53(m)(4)(6)	Conducted Spurious Emissions (Band 4) (Band 38) (Band 41) (Band 66)	Compliance	A
§2.1053 §27.53(h) §27.53(m)(4)(6)	Radiated Spurious Emissions (Band 4) (Band 38) (Band 41) ((Band 66)	Compliance	B
NA	Peak to average ratio	Compliance	A

***Test Lab Information Reference**

Lab A:

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

Lab Address:

No.B102, Dazu 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;

Lab B:

Huarui 7Layers High Technology (Suzhou) Co., Ltd.

Lab Address:

Tower N, Innovation Center, 88 Zhuyi Road, High-tech District, Suzhou City, Anhui Province

Accredited Test Lab Cert 6613.01

The FCC Site Registration No. is 434559; The Designation No. is CN1325.

1.1 MEASREMENT 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	±76.97Hz
Radiated emissions (9KHz~30MHz)	±2.68dB
Radiated emissions & Radiated Power (30MHz~1GHz)	±4.98dB
Radiated emissions & Radiated Power (1GHz ~6GHz)	±4.70dB
Radiated emissions (6GHz ~18GHz)	±4.60dB
Radiated emissions (18GHz ~40GHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Conducted Output power	±2.06dB
Band Edge Measurements	±4.70dB

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-00361	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-CT0001143-1216	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	May. 07,22	May. 06,23
Temperature Chamber	ESPEC	SH-242	93000855	May. 12,22	May. 11,23
MXG Analog Microvave 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.

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.30,22	Aug.29,24
Pre-Amplifier	R&S	SCU08F1	101028	Sep.16,22	Sep.15,24
Vector Signal Generator	R&S	SMBV100B	102176	Feb.16,22	Feb.15,24
Signal Generator	R&S	SMB100A	182185	Feb.16,22	Feb.15,24
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-01Chamber	Nov.25,22	Nov.24,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-02Chamber	Nov.25,22	Nov.24,25
EMI TEST Receiver	R&S	ESR26	101734	Feb.25,22	Feb.24,24
EMI TEST Receiver	R&S	ESW44	101973	Feb.25,22	Feb.24,24
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Feb.28,22	Feb.27,24
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.22,22	Aug.21,24
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Feb.23,22	Feb.22,24
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.22,22	Aug.21,24
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.23,22	Feb.22,24
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.27,22	Jun.26,24
Test Software	EMC32	EMC32	N/A	N/A	N/A
Test Software	ELEKTRA	ELEKTRA4.32	N/A	N/A	N/A
Open Switch and Control Unit	R&S	OSP220	101964	Oct.01,22	Sep.30,24
DC Source	HYELEC	HY3010B	551016	Aug.31,22	Aug.30,24
Hygrothermograph	DELI	20210528	SZ014	Sep.06,22	Sep.05,24
PC	LENOVO	E14	HRSW0024	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-7.00M	N/A	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-4.00M	N/A	N/A	N/A
CABLE	R&S	W13.02	N/A	Oct.31,22	Apr.29,23
CABLE	R&S	W12.14	N/A	Oct.31,22	Apr.29,23
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Oct.31,22	Apr.29,23
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Oct.31,22	Apr.29,23
Temperature Chamber	votsch	VT4002	58566078100050	May.31,22	May.30,24

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 434559; The Designation No. is CN1325.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Mobile Phone	
BRAND NAME	Redmi	
MODEL NAME	23053RN02L	
NOMINAL VOLTAGE	5V/9V/10V/12Vdc(adapter or host equipment) 3.8Vdc (Li-ion, battery)	
MODULATION TECHNOLOGY	**LTE**	QPSK, 16QAM, 64QAM
FREQUENCY RANGE	**LTE Band 4 Channel Bandwidth: 1.4MHz**	1710.7MHz ~ 1754.3MHz
	LTE Band 4 Channel Bandwidth: 3MHz	1711.5MHz ~ 1753.5MHz
	LTE Band 4 Channel Bandwidth: 5MHz	1712.5MHz ~ 1752.5MHz
	LTE Band 4 Channel Bandwidth: 10MHz	1715MHz ~ 1750MHz
	LTE Band 4 Channel Bandwidth: 15MHz	1717.5MHz ~ 1747.5 MHz
	LTE Band 4 Channel Bandwidth: 20MHz	1720MHz ~ 1745MHz
	LTE Band 38 Channel Bandwidth: 5MHz	2572.5MHz ~ 2617.5MHz
	LTE Band 38 Channel Bandwidth: 10MHz	2575MHz ~ 2615MHz
	LTE Band 38 Channel Bandwidth: 15MHz	2577.5MHz ~ 2612.5MHz
	LTE Band 38 Channel Bandwidth: 20MHz	2580MHz ~ 2610MHz
	LTE Band 41 Channel Bandwidth: 5MHz	2498.5MHz ~ 2687.5MHz
	LTE Band 41 Channel Bandwidth: 10MHz	2501MHz ~ 2685MHz
	LTE Band 41 Channel Bandwidth: 15MHz	2503.5MHz ~ 2682.5MHz
	LTE Band 41 Channel Bandwidth: 20MHz	2506MHz ~ 2680MHz
	LTE Band 66 Channel Bandwidth: 1.4MHz	1710.7MHz ~ 1779.3MHz
	LTE Band 66 Channel Bandwidth: 3MHz	1711.5MHz ~ 1778.5MHz
	LTE Band 66 Channel Bandwidth: 5MHz	1712.5MHz ~ 1777.5MHz

FREQUENCY RANGE	LTE Band 66 Channel Bandwidth: 10MHz	1715MHz ~ 1775MHz
	LTE Band 66 Channel Bandwidth: 15MHz	1717.5MHz ~ 1772.5MHz
	LTE Band 66 Channel Bandwidth: 20MHz	1720MHz ~ 1770MHz
MAX. EIRP POWER	LTE Band 4 Channel Bandwidth: 1.4MHz	210.86mW
	LTE Band 4 Channel Bandwidth: 3MHz	211.35mW
	LTE Band 4 Channel Bandwidth: 5MHz	211.35mW
	LTE Band 4 Channel Bandwidth: 10MHz	210.86mW
	LTE Band 4 Channel Bandwidth: 15MHz	213.3mW
	LTE Band 4 Channel Bandwidth: 20MHz	203.8mW
	LTE Band 38 Channel Bandwidth: 5MHz	564.94mW
	LTE Band 38 Channel Bandwidth: 10MHz	561.05mW
	LTE Band 38 Channel Bandwidth: 15MHz	567.54mW
	LTE Band 38 Channel Bandwidth: 20MHz	578.1mW
	LTE Band 41 Channel Bandwidth: 5MHz	1142.88mW
	LTE Band 41 Channel Bandwidth: 10MHz	1137.63mW
	LTE Band 41 Channel Bandwidth: 15MHz	1129.8mW
	LTE Band 41 Channel Bandwidth: 20MHz	1156.11mW
	LTE Band 66 Channel Bandwidth: 1.4MHz	225.94mW
	LTE Band 66 Channel Bandwidth: 3MHz	225.42mW
	LTE Band 66 Channel Bandwidth: 5MHz	224.91mW
	LTE Band 66 Channel Bandwidth: 10MHz	224.91mW
	LTE Band 66 Channel Bandwidth: 15MHz	223.87mW

	LTE Band 66 Channel Bandwidth: 20MHz	226.46mW
EMISSION DESIGNATOR	**LTE Band 41 Channel Bandwidth: 5MHz**	QPSK: 4M50G7D
		16QAM: 4M49W7D
		64QAM: 4M51W7D
	LTE Band 41 Channel Bandwidth: 10MHz	QPSK: 8M98G7D
		16QAM: 8M98W7D
		64QAM: 8M99W7D
	LTE Band 41 Channel Bandwidth: 15MHz	QPSK: 13M5G7D
		16QAM: 13M5W7D
		64QAM: 13M5W7D
	LTE Band 41 Channel Bandwidth: 20MHz	QPSK: 17M9G7D
		16QAM: 17M9W7D
		64QAM: 18M0W7D
	LTE Band 66 Channel Bandwidth: 1.4MHz	QPSK: 1M09G7D
		16QAM: 1M09W7D
		64QAM: 1M09W7D
	LTE Band 66 Channel Bandwidth: 3MHz	QPSK: 2M69G7D
		16QAM: 2M69W7D
		64QAM: 2M70W7D
	LTE Band 66 Channel Bandwidth: 5MHz	QPSK: 4M50G7D
		16QAM: 4M51W7D
		64QAM: 4M51W7D
	LTE Band 66 Channel Bandwidth: 10MHz	QPSK: 9M00G7D
		16QAM: 8M99W7D
		64QAM: 8M99W7D
	LTE Band 66 Channel Bandwidth: 15MHz	QPSK: 13M5G7D
		16QAM: 13M5W7D
		64QAM: 13M5W7D
	LTE Band 66 Channel Bandwidth: 20MHz	QPSK: 18M0G7D
		16QAM: 18M0W7D
		64QAM: 17M9W7D

ANTENNA TYPE	ANT 0: IFA Antenna with -1.04dBi gain for LTE4 IFA Antenna with 0.96dBi gain for LTE38 IFA Antenna with 0.96dBi gain for LTE41 IFA Antenna with -0.91dBi gain for LTE66 ANT 4: IFA Antenna with -2.26dBi gain for LTE4 IFA Antenna with 2.21dBi gain for LTE38 IFA Antenna with 5.21dBi gain for LTE41 IFA Antenna with -2.19dBi gain for LTE66
HW VERSION	P1.1
SW VERSION	MIUI14
IMEI	867866060030240 867866060047483 867866060047491
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 ℃
EXTREME VOLTAGE	3.5V - 4.2V

NOTE:

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

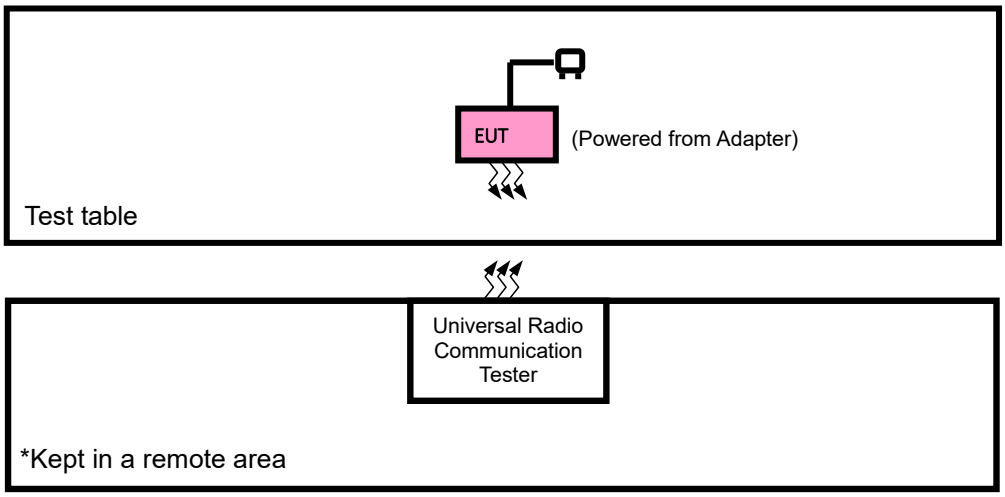
The EUT incorporates a SISO function. Physically, the EUT provides two completed transmitter and one receiver.

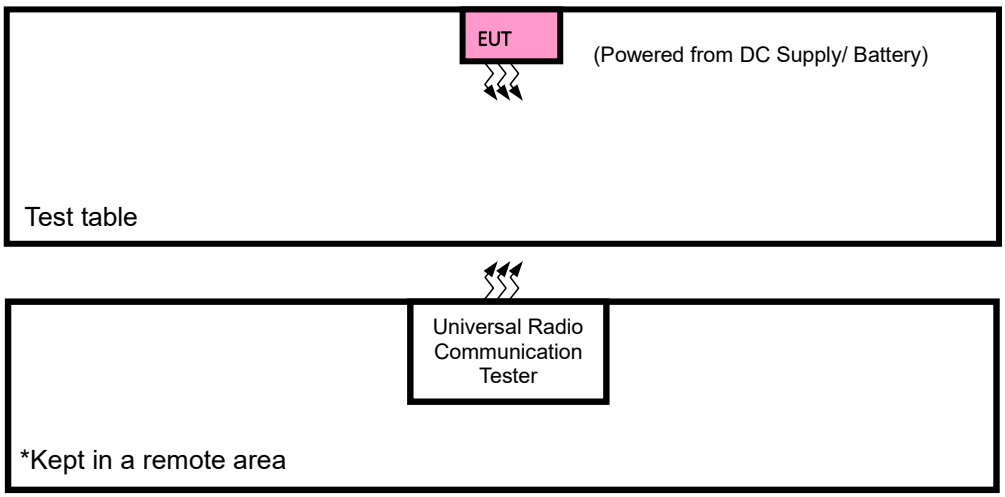
MODULATION MODE	TX FUNCTION
LTE	2TX/2RX

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	LONG WEI	PS-6403D	010934269	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.8m

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 was found when positioned on Y-plane for EIRP and X-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

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

LTE BAND 4 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	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 4 are covered by LTE Band 66, Because it is a subset of LTE Band 66 with the same output power and supported bandwidths, So the conducted test data and RSE test data please refer to LTE Band 66

LTE BAND 38 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	37775 to 38225	37775, 38000, 38225	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		37800 to 38200	37800, 38000, 38200	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0RB Offset
		37825 to 38175	37825, 38000, 38175	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		37850 to38150	37850, 38000, 38150	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 38 are covered by LTE Band 41, Because it is a subset of LTE Band 41 with the same output power and supported bandwidths, So the conducted test data and RSE test data please refer to LTE Band 41

LTE BAND 41 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	39675 to 41565	39675, 40620, 41565	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		39700 to 41540	39700, 40620,41540	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0RB Offset
		39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	39750 to 41490	39750, 41490	20MHz	QPSK	1 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	39675 to 41565	39675, 40620, 41565	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		39700 to 41540	39700, 40620,41540	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
		39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM, 64QAM	75 RB / 0 RB Offset
		39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 100 RB / 0 RB Offset
A	BAND EDGE	39675 to 41565	39675	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
			41565	5MHz	QPSK, 16QAM, 64QAM	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		39700 to 41540	39700	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
			41540	10MHz	QPSK, 16QAM, 64QAM	1 RB / 49 RB Offset

						50 RB / 0 RB Offset
		39725 to 41515	39725	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
						75 RB / 0 RB Offset
			41515	15MHz	QPSK, 16QAM, 64QAM	1 RB / 74 RB Offset
						75 RB / 0 RB Offset
		39750 to 41490	39750	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
						100 RB / 0 RB Offset
			41490	20MHz	QPSK, 16QAM, 64QAM	1 RB / 99 RB Offset
						100 RB / 0 RB Offset
A	CONDCUDETED EMISSION	39675 to 41565	39675, 40620, 41565	5MHz	QPSK	1 RB / 0 RB Offset
		39700 to 41540	39700, 40620,41540	10MHz	QPSK	1 RB / 0RB Offset
		39725 to 41515	39725, 40620, 41515	15MHz	QPSK	1 RB / 0 RB Offset
		39750 to 41490	39750, 40620, 41490	20MHz	QPSK	1 RB / 0 RB Offset
A	RADIATED EMISSION	39675 to 41565	40620	5MHz	QPSK	1 RB / 0 RB Offset
		39700 to 41540	40620	10MHz	QPSK	1 RB / 0RB Offset
		39725 to 41515	40620	15MHz	QPSK	1 RB / 0 RB Offset
		39750 to 41490	39750, 40620, 41490	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.

LTE BAND 66 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	131979 to 132665	131979,132322,132665	1.4MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		131987 to 132657	131987,132322,132657	3MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		131997 to 132647	131997,132322,132647	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		132022 to 132622	132022,132322,132622	10MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		132047 to 132597	132047,132322,132597	15MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		132072 to 132572	132072,132322,132572	20MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	132072 to 132572	132072,132322,132572	20MHz	QPSK	100 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	131979 to 132665	131979,132322,132665	1.4MHz	QPSK,16QAM,64QAM	6 RB / 0 RB Offset
		131987 to 132657	131987,132322,132657	3MHz	QPSK,16QAM,64QAM	15 RB / 0 RB Offset
		131997 to 132647	131997,132322,132647	5MHz	QPSK,16QAM,64QAM	25 RB / 0 RB Offset
		132022 to 132622	132022,132322,132622	10MHz	QPSK,16QAM,64QAM	50 RB / 0 RB Offset
		132047 to 132597	132047,132322,132597	15MHz	QPSK,16QAM,64QAM	75 RB / 0 RB Offset
		132072 to 132572	132072,132322,132572	20MHz	QPSK,16QAM,64QAM	100 RB / 0 RB Offset
A	BAND EDGE	131979 to 132322	131979	1.4MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
						6 RB / 0 RB Offset
			132322	1.4MHz	QPSK,16QAM, 64QAM	1 RB / 5 RB Offset
						6 RB / 0 RB Offset
		131987 to 132657	131987	3MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
						15 RB / 0 RB Offset
			132657	3MHz	QPSK,16QAM, 64QAM	1 RB / 14 RB Offset
						15 RB / 0 RB Offset
		131997 to 132647	131997	5MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
			132647	5MHz	QPSK,16QAM, 64QAM	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		132022 to 132622	132022	10MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
			132622	10MHz	QPSK,16QAM, 64QAM	1 RB / 49 RB Offset
						50 RB / 0 RB Offset
		132047 to 132597	132047	15MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
						75 RB / 0 RB Offset
			132597	15MHz	QPSK,16QAM, 64QAM	1 RB / 74 RB Offset
						75 RB / 0 RB Offset
		132072 to 132572	132072	20MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
						100 RB / 0 RB Offset
			132572	20MHz	QPSK,16QAM, 64QAM	1 RB / 99 RB Offset
						100 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	132072 to 132572	132072,132322,132572	20MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset 100 RB / 0 RB Offset
A	CONDCUDETED EMISSION	131979 to 132665	131979,132322,132665	1.4MHz	QPSK	1 RB / 0 RB Offset
		131987 to 132657	131987,132322,132657	3MHz	QPSK	1 RB / 0 RB Offset

		131997 to 132647	131997,132322,132647	5MHz	QPSK	1 RB / 0 RB Offset
		132022 to 132622	132022,132322,132622	10MHz	QPSK	1 RB / 0 RB Offset
		132047 to 132597	132047,132322,132597	15MHz	QPSK	1 RB / 0 RB Offset
		132072 to 132572	132072,132322,132572	20MHz	QPSK	1 RB / 0 RB Offset
A	RADIATED EMISSION	131979 to 132665	132322	1.4MHz	QPSK	1 RB / 0 RB Offset
		131987 to 132657	132322	3MHz	QPSK	1 RB / 0 RB Offset
		131997 to 132647	132322	5MHz	QPSK	1 RB / 0 RB Offset
		132022 to 132622	132022,132322,132622	10MHz	QPSK	1 RB / 0 RB Offset
		132047 to 132597	132322	15MHz	QPSK	1 RB / 0 RB Offset
		132072 to 132572	132322	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
ERP&EIRP	23deg. C, 70%RH	DC 5V/9V/10V/12V By Adapter	Jace Hu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.5/3.8/4.2By DC Source	James Fu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 5V/9V/10V/12V By Adapter	James Fu
BAND EDGE	23deg. C, 70%RH	DC 5V/9V/10V/12V By Adapter	James Fu
CONDCUDETED EMISSION	23deg. C, 70%RH	DC 5V/9V/10V/12V By Adapter	James Fu
RADIATED EMISSION	23deg. C, 70%RH	DC 5V/9V/10V/12V By Adapter	Jace Hu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 5V/9V/10V/12V By Adapter	James Fu

2.5 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 27

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

The radiated peak output power shall be according to the specific rule Part 27.50(h)(2) that “User stations are limited to 2 watts” and 27.50(i) specific that “Peak transmit power must be measure over any interval of continuous transmission using instrumentation calibration in terms of rms-equivalent voltage.”

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

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 determing the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

ERP or EIRP = $P_{Meas} + G_T – L_C$

Where:

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

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

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

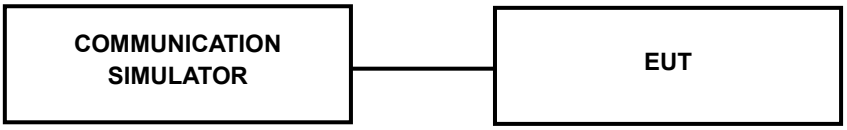
L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

CONDUCTED POWER MEASUREMENT:

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

3.1.3 TEST SETUP

CONDUCTED POWER MEASUREMENT:



For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.1.4 TEST RESULTS

AVERAGE CONDUCTED OUTPUT POWER (dBm)

Ant 0

LTE Band 4

Band/BW	Modulation	RB Size	RB Offset	Low CH 19957	Mid CH 20175	High CH 20393
				Frequency 1710.7 MHz	Frequency 1732.5 MHz	Frequency 1754.3 MHz
4/ 1.4	QPSK	1	0	24.20	24.19	24.11
		1	2	24.27	24.28	24.20
		1	5	24.00	23.99	23.96
		3	0	24.22	24.22	24.21
		3	1	24.22	24.25	24.10
		3	3	24.22	24.19	24.13
		6	0	23.22	23.22	23.12
	16QAM	1	0	23.21	23.21	23.17
		1	2	23.31	23.32	23.28
		1	5	23.06	23.00	23.05
		3	0	23.15	23.21	23.11
		3	1	23.19	23.26	23.17
		3	3	23.20	23.18	23.10
		6	0	22.17	22.27	22.14
	64QAM	1	0	22.26	22.26	22.22
		1	2	22.35	22.42	22.36
		1	5	22.22	22.18	22.09
		3	0	22.20	22.24	22.15
		3	1	22.29	22.37	22.21
		3	3	22.26	22.20	22.25
		6	0	21.28	21.24	21.22

Band/BW	Modulation	RB Size	RB Offset	Low CH 19965	Mid CH 20175	High CH 20385
				Frequency 1711.5 MHz	Frequency 1732.5 MHz	Frequency 1753.5 MHz
4/ 3	QPSK	1	0	24.15	24.18	24.08
		1	7	24.23	24.29	24.20
		1	14	23.94	24.04	23.95
		8	0	23.20	23.29	23.21
		8	3	23.19	23.22	23.10
		8	7	23.19	23.26	23.17
		15	0	23.18	23.23	23.10
	16QAM	1	0	23.24	23.20	23.21
		1	7	23.25	23.36	23.25
		1	14	23.08	23.02	23.04
		8	0	22.17	22.19	22.11
		8	3	22.21	22.19	22.20
		8	7	22.23	22.21	22.03
		15	0	22.18	22.21	22.13
	64QAM	1	0	22.32	22.25	22.22
		1	7	22.38	22.42	22.34
		1	14	22.22	22.18	22.10
		8	0	21.20	21.26	21.18
		8	3	21.33	21.31	21.26
		8	7	21.23	21.24	21.21
		15	0	21.30	21.21	21.26

Band/BW	Modulation	RB Size	RB Offset	Low CH 19975	Mid CH 20175	High CH 20375
				Frequency 1712.5 MHz	Frequency 1732.5 MHz	Frequency 1752.5 MHz
4/ 5	QPSK	1	0	24.16	24.17	24.12
		1	12	24.26	24.29	24.17
		1	24	23.94	24.05	23.96
		12	0	23.24	23.25	23.22
		12	6	23.17	23.25	23.13
		12	13	23.20	23.22	23.17
		25	0	23.15	23.26	23.09
	16QAM	1	0	23.24	23.20	23.20
		1	12	23.25	23.34	23.22
		1	24	23.05	23.06	23.00
		12	0	22.12	22.21	22.14
		12	6	22.21	22.20	22.17
		12	13	22.17	22.18	22.09
		25	0	22.15	22.27	22.13
	64QAM	1	0	22.25	22.30	22.22
		1	12	22.39	22.39	22.33
		1	24	22.16	22.25	22.09
		12	0	21.24	21.25	21.15
		12	6	21.29	21.37	21.24
		12	13	21.27	21.23	21.18
		25	0	21.26	21.27	21.24

Band/BW	Modulation	RB Size	RB Offset	Low CH 20000	Mid CH 20175	High CH 20350
				Frequency 1715 MHz	Frequency 1732.5 MHz	Frequency 1750 MHz
4/ 10	QPSK	1	0	24.13	24.21	24.08
		1	24	24.27	24.28	24.20
		1	49	24.00	23.99	23.96
		25	0	23.22	23.22	23.21
		25	12	23.22	23.25	23.10
		25	25	23.20	23.19	23.13
		50	0	23.20	23.22	23.12
	16QAM	1	0	23.24	23.21	23.17
		1	24	23.27	23.32	23.28
		1	49	23.09	23.00	23.05
		25	0	22.11	22.22	22.11
		25	12	22.25	22.19	22.21
		25	25	22.16	22.19	22.06
		50	0	22.20	22.23	22.17
	64QAM	1	0	22.31	22.24	22.19
		1	24	22.37	22.36	22.39
		1	49	22.23	22.24	22.03
		25	0	21.23	21.22	21.17
		25	12	21.34	21.33	21.25
		25	25	21.26	21.20	21.20
		50	0	21.31	21.23	21.25

Band/BW	Modulation	RB Size	RB Offset	Low CH 20025	Mid CH 20175	High CH 20325
				Frequency 1717.5 MHz	Frequency 1732.5 MHz	Frequency 1747.5 MHz
4/ 15	QPSK	1	0	24.17	24.22	24.07
		1	37	24.28	24.33	24.18
		1	74	23.96	24.01	24.00
		36	0	23.27	23.28	23.18
		36	19	23.15	23.20	23.16
		36	39	23.26	23.23	23.16
		75	0	23.20	23.27	23.08
	16QAM	1	0	23.22	23.23	23.20
		1	37	23.27	23.38	23.27
		1	74	23.09	23.00	23.05
		36	0	22.11	22.22	22.11
		36	19	22.24	22.21	22.20
		36	39	22.23	22.18	22.03
		75	0	22.17	22.26	22.15
	64QAM	1	0	22.31	22.24	22.19
		1	37	22.37	22.36	22.39
		1	74	22.23	22.24	22.03
		36	0	21.21	21.22	21.17
		36	19	21.33	21.38	21.23
		36	39	21.29	21.20	21.25
		75	0	21.30	21.21	21.26

Band/BW	Modulation	RB Size	RB Offset	Low CH 20050	Mid CH 20175	High CH 20300
				Frequency 1720 MHz	Frequency 1732.5 MHz	Frequency 1745 MHz
4/ 20	QPSK	1	0	24.21	24.25	24.13
		1	50	24.30	**24.34**	24.22
		1	99	24.02	24.06	24.01
		50	0	23.28	23.30	23.23
		50	25	23.23	23.27	23.18
		50	50	23.27	23.27	23.19
		100	0	23.23	23.28	23.14
	16QAM	1	0	23.26	23.28	23.22
		1	50	23.33	23.40	23.30
		1	99	23.11	23.08	23.06
		50	0	22.19	22.26	22.16
		50	25	22.27	22.27	22.22
		50	50	22.24	22.23	22.11
		100	0	22.23	22.29	22.19
	64QAM	1	0	22.33	22.31	22.24
		1	50	22.43	22.44	22.41
		1	99	22.24	22.26	22.11
		50	0	21.28	21.30	21.23
		50	25	21.35	21.39	21.27
		50	50	21.31	21.28	21.26
		100	0	21.32	21.29	21.27

LTE Band 38

Band/BW	Modulation	RB Size	RB Offset	Low CH 37775	Mid CH 38000	High CH 38225
				Frequency 2572.5 MHz	Frequency 2595 MHz	Frequency 2617.5MHz
38/ 5	QPSK	1	0	24.12	23.97	24.00
		1	12	24.29	24.14	24.08
		1	24	23.95	23.91	23.85
		12	0	23.08	22.97	22.87
		12	6	22.98	22.92	22.83
		12	13	22.97	22.87	22.86
		25	0	23.08	23.00	22.91
	16QAM	1	0	22.96	22.79	22.83
		1	12	23.12	22.99	22.96
		1	24	22.77	22.76	22.63
		12	0	22.07	21.94	21.96
		12	6	22.03	21.97	21.90
		12	13	22.00	21.90	21.89
		25	0	22.11	22.03	21.93
	64QAM	1	0	21.77	21.73	21.70
		1	12	22.06	21.95	21.78
		1	24	21.66	21.61	21.54
		12	0	21.20	21.05	20.98
		12	6	21.17	21.11	20.96
		12	13	21.11	21.08	20.93
		25	0	21.12	21.00	20.97

Band/BW	Modulation	RB Size	RB Offset	Low CH 37800	Mid CH 38000	High CH 38200
				Frequency 2575 MHz	Frequency 2595 MHz	Frequency 2615 MHz
38/ 10	QPSK	1	0	24.13	24.00	24.00
		1	24	24.27	24.17	24.08
		1	49	23.96	23.87	23.88
		25	0	23.04	23.00	22.83
		25	12	23.02	22.86	22.86
		25	25	22.96	22.86	22.80
		50	0	23.10	23.00	22.90
	16QAM	1	0	22.91	22.82	22.83
		1	24	23.14	22.98	22.99
		1	49	22.76	22.73	22.67
		25	0	22.06	21.97	21.92
		25	12	22.01	22.03	21.93
		25	25	22.03	21.90	21.83
		50	0	22.11	22.04	21.97
	64QAM	1	0	21.81	21.69	21.64
		1	24	22.04	21.98	21.83
		1	49	21.66	21.61	21.54
		25	0	21.17	21.05	21.04
		25	12	21.15	21.11	20.94
		25	25	21.17	21.01	20.93
		50	0	21.13	21.03	20.96

Band/BW	Modulation	RB Size	RB Offset	Low CH 37825	Mid CH 38000	High CH 38175
				Frequency 2577.5 MHz	Frequency 2595 MHz	Frequency 2612.5MHz
38/ 15	QPSK	1	0	24.14	23.99	23.99
		1	37	24.31	24.12	24.08
		1	74	23.97	23.84	23.88
		36	0	23.11	23.00	22.80
		36	19	22.97	22.86	22.82
		36	39	23.01	22.86	22.86
		75	0	23.14	22.95	22.91
	16QAM	1	0	22.92	22.79	22.83
		1	37	23.18	22.97	23.03
		1	74	22.75	22.74	22.64
		36	0	22.12	21.91	21.97
		36	19	22.01	22.00	21.90
		36	39	22.04	21.89	21.89
		75	0	22.17	21.98	21.94
	64QAM	1	0	21.79	21.66	21.70
		1	37	22.09	21.98	21.78
		1	74	21.69	21.54	21.50
		36	0	21.23	21.04	21.04
		36	19	21.22	21.11	20.91
		36	39	21.18	21.07	20.87
		75	0	21.17	20.98	20.94

Band/BW	Modulation	RB Size	RB Offset	Low CH 37850	Mid CH 38000	High CH 38150
				Frequency 2580 MHz	Frequency 2595 MHz	Frequency 2610 MHz
38/ 20	QPSK	1	0	24.17	24.05	24.01
		1	50	**24.33**	24.19	24.13
		1	99	24.03	23.92	23.90
		50	0	23.12	23.02	22.88
		50	25	23.04	22.94	22.88
		50	50	23.04	22.92	22.88
		100	0	23.16	23.02	22.96
	16QAM	1	0	22.98	22.87	22.85
		1	50	23.20	23.05	23.04
		1	99	22.83	22.78	22.69
		50	0	22.14	21.99	21.98
		50	25	22.09	22.04	21.95
		50	50	22.07	21.95	21.91
		100	0	22.19	22.05	21.99
	64QAM	1	0	21.85	21.74	21.72
		1	50	22.10	22.00	21.86
		1	99	21.74	21.62	21.56
		50	0	21.24	21.10	21.06
		50	25	21.23	21.13	20.99
		50	50	21.19	21.09	20.95
		100	0	21.19	21.05	20.99

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Band/BW	Modulation	RB Size	RB Offset	Low CH (39675) Frequency (2498.5)MHz	Mid CH (40620) Frequency (2593)MHz	High CH (41565) Frequency (2687.5)MHz
41/ 5	QPSK	1	0	24.07	24.01	23.75
		1	12	24.24	24.23	23.95
		1	24	23.92	23.95	23.61
		12	0	22.90	22.95	22.66
		12	6	22.95	22.95	22.63
		12	13	22.84	22.94	22.62
		25	0	23.03	23.03	22.77
	16QAM	1	0	22.86	22.89	22.63
		1	12	23.05	23.11	22.83
		1	24	22.78	22.82	22.51
		12	0	21.97	21.99	21.78
		12	6	21.91	21.95	21.69
		12	13	21.94	22.01	21.74
		25	0	22.07	22.02	21.81
	64QAM	1	0	21.67	21.75	21.48
		1	12	21.89	21.89	21.60
		1	24	21.60	21.71	21.46
		12	0	21.03	20.93	20.77
		12	6	20.92	21.00	20.72
		12	13	20.97	20.92	20.71
		25	0	20.99	21.04	20.70

Band/BW	Modulation	RB Size	RB Offset	Low CH (39700)	Mid CH (40620)	High CH (41540)
				Frequency (2501)MHz	Frequency (2593)MHz	Frequency (2685)MHz
41/ 10	QPSK	1	0	24.04	24.01	23.73
		1	24	24.24	24.24	24.00
		1	49	23.89	23.91	23.59
		25	0	22.91	22.98	22.70
		25	12	23.01	22.95	22.69
		25	25	22.82	22.93	22.63
		50	0	23.08	23.00	22.77
	16QAM	1	0	22.86	22.85	22.63
		1	24	23.10	23.14	22.82
		1	49	22.78	22.79	22.48
		25	0	21.99	22.05	21.74
		25	12	21.95	22.00	21.68
		25	25	21.93	21.98	21.69
		50	0	22.11	22.06	21.74
	64QAM	1	0	21.66	21.72	21.51
		1	24	21.94	21.93	21.57
		1	49	21.66	21.68	21.41
		25	0	21.01	20.99	20.72
		25	12	20.99	20.94	20.74
		25	25	20.96	20.94	20.73
		50	0	21.04	21.05	20.72

Band/BW	Modulation	RB Size	RB Offset	Low CH (39725)	Mid CH (40620)	High CH (41515)
				Frequency (2503.5)MHz	Frequency (2593)MHz	Frequency (2682.5)MHz
41/ 15	QPSK	1	0	24.11	23.98	23.75
		1	37	24.22	24.19	24.00
		1	74	23.95	23.92	23.61
		36	0	22.88	22.99	22.72
		36	19	23.02	22.95	22.64
		36	39	22.80	22.93	22.66
		75	0	23.08	23.05	22.74
	16QAM	1	0	22.90	22.85	22.66
		1	37	23.09	23.14	22.77
		1	74	22.74	22.81	22.52
		36	0	22.03	22.06	21.79
		36	19	21.89	21.96	21.69
		36	39	21.98	22.01	21.74
		75	0	22.12	21.99	21.76
	64QAM	1	0	21.68	21.73	21.52
		1	37	21.95	21.90	21.57
		1	74	21.62	21.71	21.46
		36	0	21.06	20.93	20.76
		36	19	20.93	20.96	20.73
		36	39	20.99	20.96	20.73
		75	0	21.03	21.06	20.75

Band/BW	Modulation	RB Size	RB Offset	Low CH (39750)	Mid CH (40620)	High CH (41490)
				Frequency (2506)MHz	Frequency (2593)MHz	Frequency (2680)MHz
41/ 20	QPSK	1	0	24.12	24.06	23.81
		1	50	**24.26**	24.25	24.02
		1	99	23.97	23.96	23.67
		50	0	22.94	23.00	22.73
		50	25	23.03	23.00	22.71
		50	50	22.88	22.95	22.68
		100	0	23.09	23.08	22.79
	16QAM	1	0	22.93	22.91	22.68
		1	50	23.13	23.16	22.84
		1	99	22.80	22.84	22.56
		50	0	22.05	22.07	21.80
		50	25	21.97	22.01	21.74
		50	50	22.01	22.03	21.76
		100	0	22.13	22.07	21.82
	64QAM	1	0	21.74	21.77	21.53
		1	50	21.97	21.95	21.65
		1	99	21.68	21.73	21.47
		50	0	21.07	21.01	20.79
		50	25	21.00	21.02	20.77
		50	50	21.01	21.00	20.75
		100	0	21.05	21.07	20.78

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Band/BW	Modulation	RB Size	RB Offset	Low CH 131979 Frequency 1710.7MHz	Mid CH 132322 Frequency 1745MHz	High CH 132665 Frequency 1779.3MHz
66/ 1.4	QPSK	1	0	24.25	24.32	24.18
		1	2	24.42	24.40	24.38
		1	5	24.23	24.16	24.11
		3	0	24.39	24.38	24.38
		3	1	24.41	24.45	24.26
		3	3	24.34	24.37	24.29
		6	0	23.47	23.40	23.32
	16QAM	1	0	23.38	23.42	23.34
		1	2	23.57	23.50	23.48
		1	5	23.33	23.23	23.28
		3	0	23.36	23.38	23.28
		3	1	23.38	23.41	23.32
		3	3	23.39	23.32	23.29
		6	0	22.37	22.38	22.32
	64QAM	1	0	22.51	22.51	22.39
		1	2	22.55	22.57	22.47
		1	5	22.44	22.32	22.33
		3	0	22.42	22.46	22.30
		3	1	22.46	22.43	22.37
		3	3	22.36	22.36	22.33
		6	0	21.47	21.39	21.37

Band/BW	Modulation	RB Size	RB Offset	Low CH 131987	Mid CH 132322	High CH 132657
				Frequency 1711.5MHz	Frequency 1745MHz	Frequency 1778.5MHz
66/ 3	QPSK	1	0	24.27	24.31	24.22
		1	7	24.44	24.44	24.35
		1	14	24.17	24.16	24.14
		8	0	23.44	23.42	23.37
		8	3	23.39	23.46	23.28
		8	7	23.35	23.40	23.33
		15	0	23.42	23.44	23.31
	16QAM	1	0	23.41	23.41	23.38
		1	7	23.51	23.54	23.45
		1	14	23.35	23.25	23.27
		8	0	22.39	22.38	22.25
		8	3	22.40	22.39	22.33
		8	7	22.41	22.30	22.25
		15	0	22.37	22.32	22.35
	64QAM	1	0	22.57	22.54	22.33
		1	7	22.56	22.51	22.46
		1	14	22.44	22.39	22.31
		8	0	21.48	21.44	21.37
		8	3	21.50	21.37	21.42
		8	7	21.39	21.43	21.30
		15	0	21.48	21.43	21.36

Band/BW	Modulation	RB Size	RB Offset	Low CH 131997	Mid CH 132322	High CH 132647
				Frequency 1712.5MHz	Frequency 1745MHz	Frequency 1777.5MHz
66/ 5	QPSK	1	0	24.28	24.29	24.18
		1	12	24.43	24.38	24.38
		1	24	24.20	24.15	24.15
		12	0	23.41	23.41	23.35
		12	6	23.34	23.46	23.29
		12	13	23.35	23.40	23.34
		25	0	23.42	23.44	23.29
	16QAM	1	0	23.36	23.44	23.37
		1	12	23.51	23.56	23.45
		1	24	23.36	23.23	23.27
		12	0	22.32	22.37	22.25
		12	6	22.40	22.40	22.31
		12	13	22.36	22.32	22.28
		25	0	22.37	22.33	22.32
	64QAM	1	0	22.51	22.51	22.39
		1	12	22.55	22.57	22.46
		1	24	22.38	22.39	22.33
		12	0	21.46	21.47	21.30
		12	6	21.44	21.44	21.41
		12	13	21.37	21.39	21.26
		25	0	21.45	21.42	21.39

Band/BW	Modulation	RB Size	RB Offset	Low CH 132022 Frequency 1715MHz	Mid CH 132322 Frequency 1745MHz	High CH 132622 Frequency 1775MHz
66/ 10	QPSK	1	0	24.30	24.30	24.21
		1	24	24.43	24.38	24.39
		1	49	24.17	24.19	24.11
		25	0	23.42	23.40	23.38
		25	12	23.40	23.40	23.29
		25	25	23.33	23.37	23.33
		50	0	23.47	23.44	23.26
	16QAM	1	0	23.36	23.41	23.33
		1	24	23.56	23.52	23.48
		1	49	23.36	23.24	23.24
		25	0	22.34	22.35	22.31
		25	12	22.44	22.34	22.36
		25	25	22.35	22.33	22.25
		50	0	22.41	22.32	22.36
	64QAM	1	0	22.50	22.52	22.36
		1	24	22.60	22.53	22.50
		1	49	22.44	22.33	22.30
		25	0	21.44	21.44	21.36
		25	12	21.51	21.43	21.35
		25	25	21.36	21.36	21.28
		50	0	21.50	21.38	21.40

Band/BW	Modulation	RB Size	RB Offset	Low CH 132047 Frequency 1717.5 MHz	Mid CH 132322 Frequency 1745MHz	High CH 132597 Frequency 1772.5 MHz
66/ 15	QPSK	1	0	24.27	24.34	24.17
		1	37	24.38	24.41	24.38
		1	74	24.19	24.16	24.11
		36	0	23.38	23.41	23.38
		36	19	23.34	23.45	23.28
		36	39	23.31	23.44	23.33
		75	0	23.44	23.41	23.26
	16QAM	1	0	23.35	23.48	23.37
		1	37	23.54	23.53	23.46
		1	74	23.36	23.23	23.28
		36	0	22.32	22.39	22.28
		36	19	22.43	22.36	22.35
		36	39	22.41	22.30	22.25
		75	0	22.37	22.32	22.35
	64QAM	1	0	22.57	22.54	22.33
		1	37	22.58	22.51	22.46
		1	74	22.45	22.34	22.33
		36	0	21.45	21.50	21.31
		36	19	21.50	21.37	21.42
		36	39	21.33	21.40	21.29
		75	0	21.49	21.36	21.41

Band/BW	Modulation	RB Size	RB Offset	Low CH 132072 Frequency 1720MHz	Mid CH 132322 Frequency 1745MHz	High CH 132572 Frequency 1770MHz
66/ 20	QPSK	1	0	24.33	24.36	24.23
		1	50	24.45	**24.46**	24.40
		1	99	24.25	24.23	24.16
		50	0	23.45	23.46	23.40
		50	25	23.42	23.47	23.34
		50	50	23.39	23.45	23.35
		100	0	23.48	23.46	23.34
	16QAM	1	0	23.43	23.49	23.39
		1	50	23.59	23.58	23.50
		1	99	23.38	23.31	23.29
		50	0	22.40	22.43	22.33
		50	25	22.46	22.42	22.37
		50	50	22.43	22.37	22.30
		100	0	22.43	22.40	22.37
	64QAM	1	0	22.58	22.56	22.41
		1	50	22.63	22.59	22.52
		1	99	22.46	22.40	22.35
		50	0	21.50	21.52	21.38
		50	25	21.52	21.45	21.43
		50	50	21.41	21.44	21.34
		100	0	21.51	21.44	21.42

Ant 4

LTE Band 4

Band/BW	Modulation	RB Size	RB Offset	Low CH 19957	Mid CH 20175	High CH 20393
				Frequency 1710.7 MHz	Frequency 1732.5 MHz	Frequency 1754.3 MHz
4/ 1.4	QPSK	1	0	24.11	24.11	24.07
		1	2	24.20	24.22	24.18
		1	5	23.89	23.89	23.90
		3	0	24.13	24.14	24.18
		3	1	24.14	24.18	24.06
		3	3	24.14	24.13	24.11
		6	0	23.14	23.15	23.09
	16QAM	1	0	23.28	23.29	23.29
		1	2	23.40	23.42	23.42
		1	5	23.16	23.11	23.20
		3	0	23.08	23.15	23.09
		3	1	23.12	23.20	23.15
		3	3	23.12	23.11	23.07
		6	0	22.04	22.15	22.06
	64QAM	1	0	22.25	22.26	22.26
		1	2	22.32	22.40	22.38
		1	5	22.17	22.14	22.09
		3	0	22.11	22.16	22.11
		3	1	22.19	22.28	22.16
		3	3	22.23	22.18	22.27
		6	0	21.19	21.16	21.18

Band/BW	Modulation	RB Size	RB Offset	Low CH 19965	Mid CH 20175	High CH 20385
				Frequency 1711.5 MHz	Frequency 1732.5 MHz	Frequency 1753.5 MHz
4/ 3	QPSK	1	0	24.04	24.08	24.02
		1	7	24.14	24.21	24.16
		1	14	23.81	23.92	23.87
		8	0	23.09	23.19	23.16
		8	3	23.09	23.13	23.04
		8	7	23.09	23.18	23.13
		15	0	23.08	23.14	23.05
	16QAM	1	0	23.29	23.26	23.31
		1	7	23.32	23.44	23.37
		1	14	23.16	23.11	23.17
		8	0	22.08	22.11	22.07
		8	3	22.12	22.11	22.16
		8	7	22.13	22.12	21.98
		15	0	22.03	22.07	22.03
	64QAM	1	0	22.29	22.23	22.24
		1	7	22.33	22.38	22.34
		1	14	22.15	22.12	22.08
		8	0	21.09	21.16	21.12
		8	3	21.21	21.20	21.19
		8	7	21.18	21.20	21.21
		15	0	21.19	21.11	21.20

Band/BW	Modulation	RB Size	RB Offset	Low CH 19975	Mid CH 20175	High CH 20375
				Frequency 1712.5 MHz	Frequency 1732.5 MHz	Frequency 1752.5 MHz
4/ 5	QPSK	1	0	24.04	24.06	24.05
		1	12	24.16	24.20	24.12
		1	24	23.80	23.92	23.87
		12	0	23.12	23.14	23.16
		12	6	23.06	23.15	23.06
		12	13	23.09	23.13	23.12
		25	0	23.04	23.16	23.03
	16QAM	1	0	23.28	23.25	23.29
		1	12	23.31	23.41	23.33
		1	24	23.12	23.14	23.12
		12	0	22.02	22.12	22.09
		12	6	22.11	22.11	22.12
		12	13	22.06	22.08	22.03
		25	0	21.99	22.12	22.02
	64QAM	1	0	22.21	22.27	22.23
		1	12	22.33	22.34	22.32
		1	24	22.08	22.18	22.06
		12	0	21.12	21.14	21.08
		12	6	21.16	21.25	21.16
		12	13	21.21	21.18	21.17
		25	0	21.14	21.16	21.17

Band/BW	Modulation	RB Size	RB Offset	Low CH 20000	Mid CH 20175	High CH 20350
				Frequency 1715 MHz	Frequency 1732.5 MHz	Frequency 1750 MHz
4/ 10	QPSK	1	0	24.05	24.14	24.05
		1	24	24.21	24.23	24.19
		1	49	23.90	23.90	23.91
		25	0	23.14	23.15	23.19
		25	12	23.15	23.19	23.07
		25	25	23.13	23.14	23.12
		50	0	23.13	23.16	23.10
	16QAM	1	0	23.32	23.30	23.30
		1	24	23.37	23.43	23.43
		1	49	23.20	23.12	23.21
		25	0	22.05	22.17	22.10
		25	12	22.19	22.14	22.20
		25	25	22.09	22.13	22.04
		50	0	22.08	22.12	22.10
	64QAM	1	0	22.31	22.25	22.24
		1	24	22.35	22.35	22.42
		1	49	22.19	22.21	22.04
		25	0	21.15	21.15	21.14
		25	12	21.25	21.25	21.21
		25	25	21.24	21.19	21.23
		50	0	21.23	21.16	21.22

Band/BW	Modulation	RB Size	RB Offset	Low CH 20025	Mid CH 20175	High CH 20325
				Frequency 1717.5 MHz	Frequency 1732.5 MHz	Frequency 1747.5 MHz
4/ 15	QPSK	1	0	24.04	24.10	23.99
		1	37	24.17	24.23	24.12
		1	74	23.81	23.87	23.90
		36	0	23.14	23.16	23.11
		36	19	23.03	23.09	23.08
		36	39	23.14	23.13	23.10
		75	0	23.08	23.16	23.01
	16QAM	1	0	23.25	23.27	23.28
		1	37	23.32	23.44	23.37
		1	74	23.15	23.07	23.16
		36	0	22.00	22.12	22.05
		36	19	22.13	22.11	22.14
		36	39	22.11	22.07	21.96
		75	0	22.00	22.10	22.03
	64QAM	1	0	22.26	22.20	22.19
		1	37	22.30	22.30	22.37
		1	74	22.14	22.16	21.99
		36	0	21.08	21.10	21.09
		36	19	21.19	21.25	21.14
		36	39	21.22	21.14	21.23
		75	0	21.17	21.09	21.18

Band/BW	Modulation	RB Size	RB Offset	Low CH 20050	Mid CH 20175	High CH 20300
				Frequency 1720 MHz	Frequency 1732.5 MHz	Frequency 1745 MHz
4/ 20	QPSK	1	0	24.15	24.20	24.12
		1	50	24.26	**24.31**	24.23
		1	99	23.94	23.99	23.98
		50	0	23.22	23.25	23.23
		50	25	23.18	23.23	23.17
		50	50	23.22	23.24	23.20
		100	0	23.18	23.24	23.14
	16QAM	1	0	23.36	23.39	23.37
		1	50	23.45	23.53	23.47
		1	99	23.24	23.22	23.24
		50	0	22.15	22.23	22.17
		50	25	22.23	22.24	22.23
		50	50	22.19	22.19	22.11
		100	0	22.13	22.20	22.14
	64QAM	1	0	22.35	22.34	22.31
		1	50	22.43	22.45	22.46
		1	99	22.22	22.25	22.14
		50	0	21.22	21.25	21.22
		50	25	21.28	21.33	21.25
		50	50	21.31	21.29	21.31
		100	0	21.26	21.24	21.26

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Band/BW	Modulation	RB Size	RB Offset	Low CH 37775	Mid CH 38000	High CH 38225
				Frequency 2572.5 MHz	Frequency 2595 MHz	Frequency 2617.5MHz
38/ 5	QPSK	1	0	24.13	24.04	24.18
		1	12	24.31	24.27	24.25
		1	24	24.02	24.07	24.11
		12	0	23.12	23.14	23.08
		12	6	23.12	23.07	23.11
		12	13	23.07	23.06	23.10
		25	0	23.23	23.26	23.20
	16QAM	1	0	23.10	23.02	23.16
		1	12	23.28	23.21	23.27
		1	24	23.03	23.11	23.08
		12	0	22.12	22.12	22.17
		12	6	22.12	22.20	22.19
		12	13	22.15	22.11	22.14
		25	0	22.15	22.21	22.17
	64QAM	1	0	21.82	21.84	21.85
		1	12	22.16	22.16	22.05
		1	24	21.73	21.82	21.81
		12	0	21.18	21.12	21.15
		12	6	21.21	21.28	21.17
		12	13	21.23	21.21	21.19
		25	0	21.20	21.19	21.22

Band/BW	Modulation	RB Size	RB Offset	Low CH 37800	Mid CH 38000	High CH 38200
				Frequency 2575 MHz	Frequency 2595 MHz	Frequency 2615 MHz
38/ 10	QPSK	1	0	24.11	24.05	24.12
		1	24	24.28	24.25	24.23
		1	49	24.03	24.01	24.09
		25	0	23.09	23.12	23.02
		25	12	23.11	23.02	23.09
		25	25	23.07	23.04	23.05
		50	0	23.24	23.21	23.18
	16QAM	1	0	23.05	23.03	23.11
		1	24	23.29	23.20	23.28
		1	49	23.02	23.06	23.07
		25	0	22.12	22.10	22.12
		25	12	22.11	22.20	22.17
		25	25	22.15	22.09	22.09
		50	0	22.16	22.16	22.16
	64QAM	1	0	21.83	21.78	21.80
		1	24	22.13	22.14	22.06
		1	49	21.74	21.76	21.76
		25	0	21.15	21.10	21.16
		25	12	21.20	21.23	21.13
		25	25	21.24	21.15	21.14
		50	0	21.20	21.17	21.17

Band/BW	Modulation	RB Size	RB Offset	Low CH 37825	Mid CH 38000	High CH 38175
				Frequency 2577.5 MHz	Frequency 2595 MHz	Frequency 2612.5MHz
38/ 15	QPSK	1	0	24.13	24.05	24.12
		1	37	24.33	24.21	24.24
		1	74	24.05	23.99	24.10
		36	0	23.17	23.13	23.00
		36	19	23.07	23.03	23.06
		36	39	23.13	23.05	23.12
		75	0	23.29	23.17	23.20
	16QAM	1	0	23.07	23.01	23.12
		1	37	23.34	23.20	23.33
		1	74	23.02	23.08	23.05
		36	0	22.19	22.05	22.18
		36	19	22.12	22.18	22.15
		36	39	22.17	22.09	22.16
		75	0	22.23	22.11	22.14
	64QAM	1	0	21.82	21.76	21.87
		1	37	22.19	22.15	22.02
		1	74	21.78	21.70	21.73
		36	0	21.22	21.10	21.17
		36	19	21.28	21.24	21.11
		36	39	21.26	21.22	21.09
		75	0	21.25	21.13	21.16

Band/BW	Modulation	RB Size	RB Offset	Low CH 37850	Mid CH 38000	High CH 38150
				Frequency 2580 MHz	Frequency 2595 MHz	Frequency 2610 MHz
38/ 20	QPSK	1	0	24.22	24.17	24.20
		1	50	**24.41**	24.34	24.35
		1	99	24.17	24.13	24.18
		50	0	23.24	23.21	23.14
		50	25	23.20	23.17	23.18
		50	50	23.22	23.17	23.20
		100	0	23.37	23.30	23.31
	16QAM	1	0	23.19	23.15	23.20
		1	50	23.42	23.34	23.40
		1	99	23.16	23.18	23.16
		50	0	22.27	22.19	22.25
		50	25	22.26	22.28	22.26
		50	50	22.26	22.21	22.24
		100	0	22.31	22.24	22.25
	64QAM	1	0	21.94	21.90	21.95
		1	50	22.26	22.23	22.16
		1	99	21.89	21.84	21.85
		50	0	21.29	21.22	21.25
		50	25	21.35	21.32	21.25
		50	50	21.33	21.30	21.23
		100	0	21.33	21.26	21.27