



Test Report No.: W7L-P22110036RF06



FCC TEST REPORT (PART 27)

Applicant:	i.safe MOBILE GmbH
Address:	i_Park Tauberfranken 10 97922 Lauda-Koenigshofen Germany

Manufacturer or Supplier:	i.safe MOBILE GmbH
Address:	i_Park Tauberfranken 10 97922 Lauda-Koenigshofen Germany
Product:	Smartphone
Brand Name:	i.safe MOBILE
Model Name:	M540A01
Marketing Name:	IS540.1,IS540.M1,IS540.2,IS540.RG
FCC ID:	2AACZ-M540A01
Date of tests:	Nov. 24, 2022 ~ Feb. 07, 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
Date: Feb. 07, 2023	Date: Feb. 07, 2023

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-P22110036RF06	Original release	Feb. 07, 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(b)(10) §27.50(c)(10)	Effective Radiated Power (Band 12) (Band 13) (Band 17) (Band 71)	Compliance	A
§27.50(d)(4) §27.50(h)(2) §27.50(a)(3)	Equivalent Isotropically Radiated Power (WCMDA Band 4)(Band 7)(Band 30)	Compliance	A
§2.1055 §27.54	Frequency Stability	Compliance	A
§2.1049	Occupied Bandwidth	Compliance	A
§2.1051 §27.53(c)(2)(4) §27.53(g) §27.53(h) §27.53(m)(4)(6) §27.53(a)(4)	Conducted Band Edge Measurements (WCMDA Band 4) (Band 7) (Band 12) (Band 13) (Band 17) (Band 30) (Band 71)	Compliance	A
§2.1051 §27.53(c)(2)(4) §27.53(g) §27.53(h) §27.53(m)(4)(6) §27.53(a)(4)	Conducted Spurious Emissions (WCMDA Band 4)(Band 7) (Band 12) (Band 13) (Band 17) (Band 30) (Band 71)	Compliance	A
§2.1053 §27.53(c)(2)(4) §27.53(f) §27.53(g) §27.53(h) §27.53(m)(4)(6) §27.53(a)(4)	Radiated Spurious Emissions (WCMDA Band 4)(Band 7) (Band 12) (Band 13) (Band 17) (Band 30) (Band 71)	Compliance	A/B
NA	Peak to average ratio	Compliance	A



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***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 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	±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. 21,22	Feb. 20,23
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.15,22	May.14,23
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.04,22	Sep.03,23
Bilog Antenna	ETS-LINDGRE N	3143B	00161965	Mar. 06,22	Mar. 05,23
Horn Antenna	ETS-LINDGRE N	3117	00168692	Mar. 06,22	Mar. 05,23
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K- SG/QMS-00361	15433	Aug. 24, 22	Aug. 23, 23
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 15,22	Feb. 14,23
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. 21,22	Feb.20,23
3m Semi-anechoic Chamber	ETS-LINDGRE N	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	1505	May. 07,22	May. 06,23
Power Meter	Anritsu	ML2495A	1506002	Feb. 22,22	Feb. 21,23
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. 18,22	Feb. 17,23
Base station R&S CMW500	Rohde&Schwa rz	CMW500	153085	May.12,22	May.11,23
DC Source	Kikusui/JP	PMX18-5A	0000001	Aug. 24,22	Aug. 23,23

- 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.



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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	Smartphone	
BRAND NAME	i.safe MOBILE	
MODEL NAME	M540A01	
MARKETING NAME	IS540.1,IS540.M1,IS540.2,IS540.RG	
NOMINAL VOLTAGE	5.0Vdc(adapter or host equipment) 3.7Vdc (Li-ion, battery)	
MODULATION TECHNOLOGY	WCDMA IV	BPSK, QPSK
	LTE	QPSK, 16QAM, 64QAM
FREQUENCY RANGE	WCDMA IV	1712.4MHz ~ 1752.6MHz
	LTE Band 7 Channel Bandwidth: 5MHz	2502.5MHz ~ 2567.5MHz
	LTE Band 7 Channel Bandwidth: 10MHz	2505MHz ~ 2565MHz
	LTE Band 7 Channel Bandwidth: 15MHz	2507.5MHz ~ 2562.5MHz
	LTE Band 7 Channel Bandwidth: 20MHz	2510MHz ~ 2560MHz
	LTE Band 12 Channel Bandwidth: 1.4MHz	699.7MHz ~ 715.3MHz
	LTE Band 12 Channel Bandwidth: 3MHz	700.5MHz ~ 714.5MHz
	LTE Band 12 Channel Bandwidth: 5MHz	701.5MHz ~ 713.5MHz
	LTE Band 12 Channel Bandwidth: 10MHz	704MHz ~ 711MHz
	LTE Band 13 Channel Bandwidth: 5MHz	779.5MHz ~ 784.5MHz
	LTE Band 13 Channel Bandwidth: 10MHz	782MHz
	LTE Band 17 Channel Bandwidth: 5MHz	706.5MHz ~ 713.5MHz
	LTE Band 17 Channel Bandwidth: 10MHz	709MHz ~ 711 MHz
	LTE Band 30 Channel Bandwidth: 5MHz	2307.5MHz ~ 2312.5MHz
	LTE Band 30 Channel Bandwidth: 10MHz	2310MHz
	LTE Band 71 Channel Bandwidth: 5MHz	665.5MHz ~ 695.5MHz
LTE Band 71 Channel Bandwidth: 10MHz	668MHz ~ 693MHz	

FREQUENCY RANGE	LTE Band 71 Channel Bandwidth: 15MHz	670.5MHz ~ 690.5MHz
	LTE Band 71 Channel Bandwidth: 20MHz	673MHz ~ 688MHz
MAX. EIRP POWER	WCDMA IV	236.05mW
	LTE Band 7 Channel Bandwidth: 5MHz	146.55mW
	LTE Band 7 Channel Bandwidth: 10MHz	145.21mW
	LTE Band 7 Channel Bandwidth: 15MHz	146.89mW
	LTE Band 7 Channel Bandwidth: 20MHz	147.91mW
	LTE Band 12 Channel Bandwidth: 1.4MHz	59.16mW
	LTE Band 12 Channel Bandwidth: 3MHz	59.16mW
	LTE Band 12 Channel Bandwidth: 5MHz	59.7mW
	LTE Band 12 Channel Bandwidth: 10MHz	59.84mW
	LTE Band 13 Channel Bandwidth: 5MHz	56.1mW
	LTE Band 13 Channel Bandwidth: 10MHz	56.23mW
	LTE Band 17 Channel Bandwidth: 5MHz	63.68mW
	LTE Band 17 Channel Bandwidth: 10MHz	63.83mW
	LTE Band 30 Channel Bandwidth: 5MHz	112.98mW
	LTE Band 30 Channel Bandwidth: 10MHz	114.02mW
	LTE Band 71 Channel Bandwidth: 5MHz	22.96mW
	LTE Band 71 Channel Bandwidth: 10MHz	23.17mW
	LTE Band 71 Channel Bandwidth: 15MHz	23.07mW
	LTE Band 71 Channel Bandwidth: 20MHz	23.39mW
	EMISSION DESIGNATOR	WCDMA IV

EMISSION DESIGNATOR	LTE Band 7 Channel Bandwidth: 5MHz	QPSK: 4M50G7D
		16QAM: 4M50W7D
		64QAM: 4M50W7D
	LTE Band 7 Channel Bandwidth: 10MHz	QPSK: 8M99G7D
		16QAM: 8M98W7D
		64QAM: 8M98W7D
	LTE Band 7 Channel Bandwidth: 15MHz	QPSK: 13M5G7D
		16QAM: 13M5W7D
		64QAM: 13M5W7D
	LTE Band 7 Channel Bandwidth: 20MHz	QPSK: 18M0G7D
		16QAM: 17M9W7D
		64QAM: 17M9W7D
	LTE Band 12 Channel Bandwidth: 1.4MHz	QPSK: 1M14G7D
		16QAM: 1M09W7D
		64QAM: 1M09W7D
	LTE Band 12 Channel Bandwidth: 3MHz	QPSK: 2M70G7D
		16QAM: 2M69W7D
		64QAM: 2M70W7D
	LTE Band 12 Channel Bandwidth: 5MHz	QPSK: 4M52G7D
		16QAM: 4M51W7D
		64QAM: 4M51W7D
	LTE Band 12 Channel Bandwidth: 10MHz	QPSK: 8M98G7D
		16QAM: 8M96W7D
		64QAM: 8M95W7D
LTE Band 13 Channel Bandwidth: 5MHz	QPSK: 4M51G7D	
	16QAM: 4M51W7D	
	64QAM: 4M51W7D	
LTE Band 13 Channel Bandwidth: 10MHz	QPSK: 8M94G7D	
	16QAM: 8M92W7D	
	64QAM: 8M92W7D	

EMISSION DESIGNATOR	LTE Band 30 Channel Bandwidth: 5MHz	QPSK: 4M51G7D
		16QAM: 4M51W7D
		64QAM: 4M50W7D
	LTE Band 30 Channel Bandwidth: 10MHz	QPSK: 9M01G7D
		16QAM: 8M99W7D
		64QAM: 8M99W7D
	LTE Band 71 Channel Bandwidth: 5MHz	QPSK: 4M51G7D
		16QAM: 4M51W7D
		64QAM: 4M50W7D
	LTE Band 71 Channel Bandwidth: 10MHz	QPSK: 8M99G7D
		16QAM: 8M98W7D
		64QAM: 8M99W7D
LTE Band 71 Channel Bandwidth: 15MHz	QPSK: 13M4G7D	
	16QAM: 13M5W7D	
	64QAM: 13M5W7D	
CLTE Band 71 Channel Bandwidth: 20MHz	QPSK: 17M9G7D	
	16QAM: 17M9W7D	
	64QAM: 17M9W7D	
ANTENNA TYPE	PIFA Antenna with 0.4dBi gain for WCDMA IV PIFA Antenna with -1.5dBi gain for LTE7 PIFA Antenna with -2.5dBi gain for LTE12 PIFA Antenna with -3dBi gain for LTE13 PIFA Antenna with -2.5dBi gain for LTE17 PIFA Antenna with -2.8dBi gain for LTE30 PIFA Antenna with -7dBi gain for LTE71	
HW VERSION	V02	
SW VERSION	IS540_ROW_00.00_1_20221017	
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	-10-50 °C	
EXTREME VOLTAGE	3.6V - 4.2V	

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.



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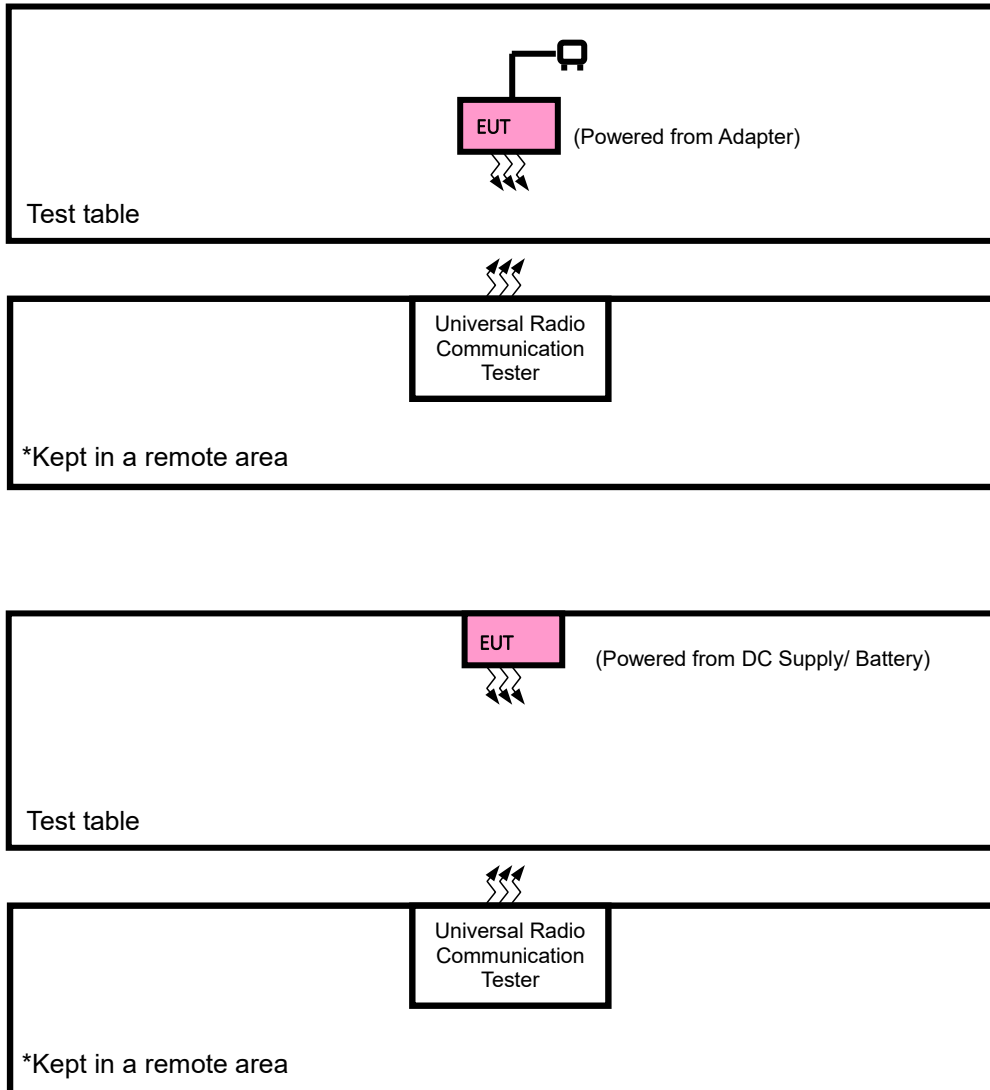
MODULATION MODE	TX FUNCTION
WCDMA	1TX/1RX
LTE	1TX/1RX

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

List of Accessory:

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
Battery	N/A	FPR Connectivity Technology Inc.	MBP540A01	Capacity: 3.7Vdc, 4400mAh
AC Adapter	N/A	SHENZHEN SHI YINGYUAN POWER SUPPLY TECHNOLOGY CO., LTD.	ICP12-050-2000B	I/P: 100-240Vac, 0.3A, O/P: 5.0Vdc, 2A
USB Cable 1	N/A	Winpower Technology Co., LTD	PROTECTOR 2.0	Signal Line, 1.0meter
USB Cable 2	N/A	Winpower Technology Co., LTD	USB2.0	Signal Line, 1.0meter

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 WCDMA or LTE link
B	EUT + DC Supply with WCDMA or LTE link

WCDMA MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
A	EIRP	1312 to 1513	1312, 1413, 1513	WCDMA
B	FREQUENCY STABILITY	1312 to 1513	1312, 1413, 1513	WCDMA
A	OCCUPIED BANDWIDTH	1312 to 1513	1312, 1413, 1513	WCDMA
A	BAND EDGE	1312 to 1513, 1312, 1413, 1513	1312, 1513	WCDMA
A	PEAK TO AVERAGE RATIO	1312 to 1513	1312, 1413, 1513	WCDMA
A	CONDUCTED EMISSION	1312 to 1513	1312, 1413, 1513	WCDMA
A	RADIATED EMISSION	1312 to 1513	1312, 1413, 1513	WCDMA

LTE BAND 7 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDT H	MODULATION	MODE		
A	EIRP	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset		
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0RB Offset		
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset		
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset		
B	FREQUENCY STABILITY	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset		
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset		
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM, 64QAM	75 RB / 0 RB Offset		
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB Offset		
A	OCCUPIED BANDWIDTH	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset		
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset		
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM, 64QAM	75 RB / 0 RB Offset		
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB Offset		
A	PEAK TO AVERAGE RATIO	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 25 RB / 0 RB Offset		
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 50 RB / 0 RB Offset		
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 75 RB / 0 RB Offset		
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 100 RB / 0 RB Offset		
A	BAND EDGE	20775 to 21425	20775	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 25 RB / 0 RB Offset		
			21425	5MHz	QPSK, 16QAM, 64QAM	1 RB / 24 RB Offset 25 RB / 0 RB Offset		
		20800 to 21400	20800	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 50 RB / 0 RB Offset		
			21400	10MHz	QPSK, 16QAM, 64QAM	1 RB / 49 RB Offset 50 RB / 0 RB Offset		
		20825 to 21375	20825	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 75 RB / 0 RB Offset		
			21375	15MHz	QPSK, 16QAM, 64QAM	1 RB / 74 RB Offset 75 RB / 0 RB Offset		
		20850 to 21350	20850	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 100 RB / 0 RB Offset		
			21350	20MHz	QPSK, 16QAM, 64QAM	1 RB / 99 RB Offset 100 RB / 0 RB Offset		
		A	CONDCUDED EMISSION	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
				20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0RB Offset
				20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
				20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	20775 to 21425	20775, 21100, 21425	5MHz	QPSK	1 RB / 0 RB Offset		
		20800 to 21400	21100	10MHz	QPSK	1 RB / 0 RB Offset		
		20825 to 21375	21100	15MHz	QPSK	1 RB / 0 RB Offset		
		20850 to 21350	21100	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 12 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE		
A	ERP	23017 to 23173	23017, 23095 , 23173	1.4MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset		
		23025 to 23165	23025, 23095 ,23165	3MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset		
		23035 to 23155	23035, 23095 ,23155	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset		
		23060 to 23130	23060, 23095 ,23130	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset		
B	FREQUENCY STABILITY	23017 to 23173	23017, 23095 , 23173	1.4MHz	QPSK, 16QAM, 64QAM	6 RB / 0 RB Offset		
		23025 to 23165	23025, 23095 ,23165	3MHz	QPSK, 16QAM, 64QAM	15 RB / 0 RB Offset		
		23035 to 23155	23035, 23095 ,23155	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset		
		23060 to 23130	23060, 23095 ,23130	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset		
A	OCCUPIED BANDWIDTH	23017 to 23173	23017, 23095 , 23173	1.4MHz	QPSK, 16QAM, 64QAM	6 RB / 0 RB Offset		
		23025 to 23165	23025, 23095 ,23165	3MHz	QPSK, 16QAM, 64QAM	15 RB / 0 RB Offset		
		23035 to 23155	23035, 23095 ,23155	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset		
		23060 to 23130	23060, 23095 ,23130	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset		
A	PEAK TO AVERAGE RATIO	23017 to 23173	23017, 23095 , 23173	1.4MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 6 RB / 0 RB Offset		
		23025 to 23165	23025, 23095 ,23165	3MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 15 RB / 0 RB Offset		
		23035 to 23155	23035, 23095 ,23155	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 25 RB / 0 RB Offset		
		23060 to 23130	23060, 23095 ,23130	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 50 RB / 0 RB Offset		
A	BAND EDGE	23017 to 23173	23017	1.4MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 6 RB / 0 RB Offset		
			23173	1.4MHz	QPSK, 16QAM, 64QAM	1 RB / 5 RB Offset 6 RB / 0 RB Offset		
		23025 to 23165	23025	3MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 15 RB / 0 RB Offset		
			23165	3MHz	QPSK, 16QAM, 64QAM	1 RB / 14 RB Offset 15 RB / 0 RB Offset		
		23035 to 23155	23035	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 25 RB / 0 RB Offset		
			23155	5MHz	QPSK, 16QAM, 64QAM	1 RB / 24 RB Offset 25 RB / 0 RB Offset		
		23060 to 23130	23060	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 50 RB / 0 RB Offset		
			23130	10MHz	QPSK, 16QAM, 64QAM	1 RB / 49 RB Offset 50 RB / 0 RB Offset		
		A	CONDCUDED EMISSION	23017 to 23173	23017, 23095 , 23173	1.4MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
				23025 to 23165	23025, 23095 ,23165	3MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
				23035 to 23155	23035, 23095 ,23155	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
				23060 to 23130	23060, 23095 ,23130	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	23017 to 23173	23095	1.4MHz	QPSK	1 RB / 0 RB Offset		
		23025 to 23165	23095	3MHz	QPSK	1 RB / 0 RB Offset		
		23035 to 23155	23095	5MHz	QPSK	1 RB / 0 RB Offset		
		23060 to 23130	23060, 23095 ,23130	10MHz	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.



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LTE BAND 13 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	ERP	23205 to 23255	20025, 20175, 20325	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		23230	23230	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	23205 to 23255	20025, 20325	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		23230	23230	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	23205 to 23255	20025, 20175, 20325	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		23230	23230	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	23205 to 23255	20025, 20175, 20325	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 25 RB / 0 RB Offset
		23230	23230	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 50 RB / 0 RB Offset
A	BAND EDGE	23205 to 23255	23250	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 25 RB / 0 RB Offset
			23255	5MHz	QPSK, 16QAM, 64QAM	1 RB / 24 RB Offset 25 RB / 0 RB Offset
		23230	23230	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
						1 RB / 49 RB Offset
						50 RB / 0 RB Offset
						50 RB / 0 RB Offset
A	CONDCUDED EMISSION	23205 to 23255	20025, 20175, 20325	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		23230	23230	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	23205 to 23255	23230	5MHz	QPSK	1 RB / 0 RB Offset
		23230	23230	10MHz	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.



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LTE BAND 17 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	ERP	23755 to 23825	23755, 23790, 23825	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		23780 to 23800	23780, 23790, 23800	10MHz	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 17 are covered by LTE Band 12, Because it is a subset of LTE Band 12 with the same output power and supported bandwidths, So the conducted test data and RSE test data please refer to LTE Band 12

LTE BAND 30

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	ERP	27685 to 27735	27685, 27710, 27735	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		27710	27710	10MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	27685 to 27735	27685, 27735	5MHz	QPSK,16QAM,64QAM	25 RB / 0 RB Offset
		27710	27710	10MHz	QPSK,16QAM,64QAM	50 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	27685 to 27735	27685, 27710, 27735	5MHz	QPSK,16QAM,64QAM	25 RB / 0 RB Offset
		27710	27710	10MHz	QPSK,16QAM,64QAM	50 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	27685 to 27735	27685, 27710, 27735	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset 25 RB / 0 RB Offset
		27710	27710	10MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset 50 RB / 0 RB Offset
A	BAND EDGE	27685 to 27735	27685	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset 25 RB / 0 RB Offset
			27735	5MHz	QPSK,16QAM,64QAM	1 RB / 24 RB Offset 25 RB / 0 RB Offset
		27710	27710	10MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
						1 RB / 49 RB Offset
						/
A	CONDCUDED EMISSION	27685 to 27735	27685, 27710, 27735	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		27710	27710	10MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	27685 to 27735	27685, 27710, 27735	5MHz	QPSK	1 RB / 0 RB Offset
		27710	27710	10MHz	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.



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TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP&EIRP	23deg. C, 70%RH	DC 5V By Adapter	Jace Hu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.6V/3.7V/4.2V By DC Supply	James Fu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC5V By Adapter	James Fu
BAND EDGE	23deg. C, 70%RH	DC 5V By Adapter	James Fu
CONDCUDETED EMISSION	23deg. C, 70%RH	DC5V By Adapter	James Fu
RADIATED EMISSION	23deg. C, 70%RH	DC5V By Adapter	Jace Hu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC5V By Adapter	James Fu



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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

According to the specific rule Part 27.50(b)(10) and 27.50(c)(10) Fixed, mobile, and Portable stations (hand-held devices) transmitting in the 698-746 MHz, 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth. For mobile and portable stations using time division duplexing (TDD) technology, the duty cycle must not exceed 38 percent in the 2305-2315 MHz and 2350-2360 MHz bands. Mobile and portable stations using FDD technology are restricted to transmitting in the 2305-2315 MHz band. Power averaging shall not include intervals in which the transmitter is off.

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



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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:

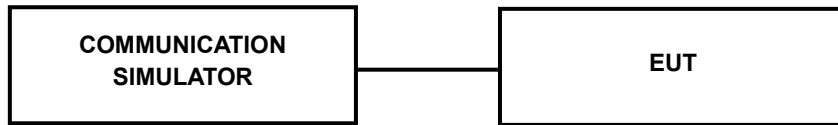
- a. The EUT was set up for the maximum power with LTE link data modulation and link up with simulator.
- b. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.



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3.1.3 TEST SETUP

CONDUCTED POWER MEASUREMENT:



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



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3.1.4 TEST RESULTS

AVERAGE CONDUCTED OUTPUT POWER (dBm)

Band	WCDMA IV		
	1312	1413	1513
Channel	1712.4	1732.6	1752.6
Frequency (MHz)	1712.4	1732.6	1752.6
RMC 12.2K	23.24	23.26	23.33
HSDPA Subtest-1	22.22	22.25	22.29
HSDPA Subtest-2	22.20	22.23	22.27
HSDPA Subtest-3	21.68	21.71	21.82
HSDPA Subtest-4	21.73	21.74	21.78
DC-HSDPA Subtest-1	22.23	22.22	22.30
DC-HSDPA Subtest-2	22.16	22.19	22.31
DC-HSDPA Subtest-3	21.71	21.75	21.77
DC-HSDPA Subtest-4	21.70	21.71	21.81
HSUPA Subtest-1	19.68	19.74	19.80
HSUPA Subtest-2	19.72	19.68	19.82
HSUPA Subtest-3	19.66	19.72	19.78
HSUPA Subtest-4	19.71	19.70	19.81
HSUPA Subtest-5	22.23	22.21	22.25

LTE Band 7

Band/BW	Modulation	RB Size	RB Offset	Low CH 20775	Mid CH 21100	High CH 21425
				Frequency 2502.5 MHz	Frequency 2535 MHz	Frequency 2567.5 MHz
7/5	QPSK	1	0	23.04	22.96	22.83
		1	12	23.05	23.05	22.96
		1	24	23.16	23.06	23.07
		12	0	22.16	22.09	22.01
		12	6	22.25	22.19	22.21
		12	13	22.27	22.21	22.18
		25	0	22.25	22.17	22.15
	16QAM	1	0	22.11	22.01	21.99
		1	12	22.01	22.03	21.91
		1	24	22.18	22.11	22.11
		12	0	21.21	21.09	21.06
		12	6	21.27	21.21	21.23
		12	13	21.30	21.29	21.12
		25	0	21.24	21.22	21.16
	64QAM	1	0	21.33	21.21	21.15
		1	12	21.37	21.33	21.27
		1	24	21.44	21.35	21.31
		12	0	20.24	20.21	20.07
		12	6	20.26	20.26	20.20
		12	13	20.34	20.28	20.15
		25	0	20.31	20.23	20.22

Band/BW	Modulation	RB Size	RB Offset	Low CH 20800	Mid CH 21100	High CH 21400
				Frequency 2505 MHz	Frequency 2535 MHz	Frequency 2565 MHz
7/ 10	QPSK	1	0	23.02	22.93	22.86
		1	24	23.11	22.98	23.00
		1	49	23.12	23.07	23.03
		25	0	22.20	22.03	22.05
		25	12	22.24	22.20	22.18
		25	25	22.32	22.17	22.21
		50	0	22.25	22.18	22.12
	16QAM	1	0	22.13	21.99	22.05
		1	24	22.06	22.03	21.89
		1	49	22.20	22.08	22.07
		25	0	21.26	21.10	21.09
		25	12	21.32	21.18	21.24
		25	25	21.30	21.27	21.13
		50	0	21.30	21.15	21.17
	64QAM	1	0	21.29	21.22	21.18
		1	24	21.42	21.28	21.27
		1	49	21.46	21.33	21.34
		25	0	20.24	20.15	20.08
		25	12	20.33	20.25	20.14
		25	25	20.33	20.25	20.17
		50	0	20.36	20.19	20.23



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Band/BW	Modulation	RB Size	RB Offset	Low CH 20825	Mid CH 21100	High CH 21375
				Frequency 2507.5 MHz	Frequency 2535 MHz	Frequency 2562.5 MHz
7/ 15	QPSK	1	0	23.07	22.99	22.80
		1	37	23.06	22.98	22.95
		1	74	23.17	23.05	23.06
		36	0	22.20	22.04	22.01
		36	19	22.26	22.16	22.21
		36	39	22.33	22.15	22.22
		75	0	22.19	22.21	22.12
	16QAM	1	0	22.17	21.99	22.06
		1	37	21.99	22.01	21.92
		1	74	22.22	22.10	22.11
		36	0	21.25	21.09	21.06
		36	19	21.28	21.18	21.23
		36	39	21.37	21.29	21.10
		75	0	21.27	21.15	21.12
	64QAM	1	0	21.36	21.20	21.21
		1	37	21.43	21.27	21.24
		1	74	21.42	21.32	21.37
		36	0	20.29	20.21	20.02
		36	19	20.27	20.19	20.16
		36	39	20.36	20.32	20.19
		75	0	20.35	20.17	20.24

Band/BW	Modulation	RB Size	RB Offset	Low CH 20850	Mid CH 21100	High CH 21350
				Frequency 2510 MHz	Frequency 2535 MHz	Frequency 2560 MHz
7/ 20	QPSK	1	0	23.08	23.01	22.88
		1	50	23.13	23.06	23.01
		1	99	23.20	23.11	23.08
		50	0	22.22	22.11	22.06
		50	25	22.32	22.24	22.23
		50	50	22.35	22.23	22.23
		100	0	22.27	22.25	22.17
	16QAM	1	0	22.19	22.07	22.07
		1	50	22.07	22.05	21.97
		1	99	22.25	22.16	22.13
		50	0	21.27	21.16	21.11
		50	25	21.34	21.26	21.25
		50	50	21.38	21.31	21.18
		100	0	21.32	21.23	21.18
	64QAM	1	0	21.37	21.26	21.23
		1	50	21.45	21.34	21.29
		1	99	21.48	21.40	21.39
		50	0	20.30	20.23	20.10
		50	25	20.34	20.27	20.22
		50	50	20.38	20.33	20.23
		100	0	20.37	20.25	20.25



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LTE Band 12

Band/BW	Modulation	RB Size	RB Offset	Low CH 23017	Mid CH 23095	High CH 23173
				Frequency 699.7 MHz	Frequency 707.5 MHz	Frequency 715.3 MHz
12/ 1.4	QPSK	1	0	22.24	22.21	22.30
		1	2	22.28	22.14	22.32
		1	5	22.33	22.20	22.37
		3	0	21.99	21.91	22.05
		3	1	22.03	22.04	22.02
		3	3	22.06	21.97	22.11
		6	0	21.26	21.20	21.29
	16QAM	1	0	21.49	21.44	21.57
		1	2	21.42	21.37	21.48
		1	5	21.57	21.43	21.64
		3	0	21.35	21.31	21.37
		3	1	21.37	21.43	21.43
		3	3	21.46	21.42	21.57
		6	0	20.23	20.21	20.28
	64QAM	1	0	20.47	20.46	20.60
		1	2	20.47	20.54	20.55
		1	5	20.60	20.56	20.69
		3	0	20.26	20.22	20.25
		3	1	20.26	20.32	20.35
		3	3	20.36	20.27	20.39
		6	0	19.33	19.31	19.38

Band/BW	Modulation	RB Size	RB Offset	Low CH 23025	Mid CH 23095	High CH 23165
				Frequency 700.5 MHz	Frequency 707.5 MHz	Frequency 714.5 MHz
12/ 3	QPSK	1	0	22.26	22.23	22.29
		1	7	22.24	22.15	22.32
		1	14	22.29	22.20	22.37
		8	0	21.28	21.24	21.35
		8	3	21.26	21.34	21.34
		8	7	21.33	21.34	21.45
		15	0	21.23	21.21	21.23
	16QAM	1	0	21.46	21.50	21.60
		1	7	21.39	21.40	21.46
		1	14	21.60	21.43	21.64
		8	0	20.31	20.32	20.37
		8	3	20.42	20.38	20.46
		8	7	20.48	20.40	20.53
		15	0	20.23	20.15	20.31
	64QAM	1	0	20.53	20.49	20.54
		1	7	20.50	20.48	20.54
		1	14	20.61	20.58	20.69
		8	0	19.29	19.26	19.26
		8	3	19.30	19.26	19.40
		8	7	19.33	19.31	19.35
		15	0	19.35	19.28	19.42

Band/BW	Modulation	RB Size	RB Offset	Low CH 23035	Mid CH 23095	High CH 23155
				Frequency 701.5 MHz	Frequency 707.5 MHz	Frequency 713.5 MHz
12/ 5	QPSK	1	0	22.27	22.18	22.30
		1	12	22.29	22.12	22.32
		1	24	22.30	22.19	22.41
		12	0	21.31	21.24	21.32
		12	6	21.26	21.35	21.35
		12	13	21.37	21.30	21.46
		25	0	21.21	21.24	21.26
	16QAM	1	0	21.47	21.46	21.60
		1	12	21.36	21.43	21.45
		1	24	21.60	21.43	21.63
		12	0	20.31	20.30	20.34
		12	6	20.39	20.42	20.42
		12	13	20.43	20.42	20.56
		25	0	20.23	20.16	20.28
	64QAM	1	0	20.47	20.46	20.60
		1	12	20.47	20.54	20.54
		1	24	20.54	20.63	20.69
		12	0	19.30	19.23	19.25
		12	6	19.24	19.33	19.39
		12	13	19.37	19.30	19.32
		25	0	19.31	19.34	19.40

Band/BW	Modulation	RB Size	RB Offset	Low CH 23060	Mid CH 23095	High CH 23130
				Frequency 704 MHz	Frequency 707.5 MHz	Frequency 711 MHz
12/ 10	QPSK	1	0	22.32	22.25	22.35
		1	24	22.31	22.20	22.34
		1	49	22.35	22.27	22.42
		25	0	21.35	21.29	21.37
		25	12	21.34	21.36	21.40
		25	25	21.41	21.35	21.47
		50	0	21.27	21.26	21.31
	16QAM	1	0	21.54	21.51	21.62
		1	24	21.44	21.45	21.50
		1	49	21.62	21.51	21.65
		25	0	20.39	20.36	20.42
		25	12	20.45	20.44	20.48
		25	25	20.50	20.47	20.58
		50	0	20.29	20.23	20.33
	64QAM	1	0	20.54	20.51	20.62
		1	24	20.55	20.56	20.60
		1	49	20.62	20.64	20.71
		25	0	19.34	19.28	19.33
		25	12	19.32	19.34	19.41
		25	25	19.41	19.35	19.40
		50	0	19.37	19.36	19.43



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LTE Band 13

Band/BW	Modulation	RB Size	RB Offset	Low CH 23205	Mid CH 23230	High CH 23255
				Frequency 779.5 MHz	Frequency 782.0 MHz	Frequency 784.5 MHz
13/ 5	QPSK	1	0	22.36	22.40	22.39
		1	12	22.63	22.57	22.64
		1	24	22.39	22.43	22.42
		12	0	21.71	21.68	21.72
		12	6	21.77	21.72	21.74
		12	13	21.70	21.68	21.74
		25	0	21.72	21.71	21.65
	16QAM	1	0	21.64	21.63	21.65
		1	12	21.81	21.78	21.82
		1	24	21.66	21.61	21.63
		12	0	20.65	20.63	20.69
		12	6	20.75	20.69	20.76
		12	13	20.66	20.70	20.69
		25	0	20.73	20.67	20.74
	64QAM	1	0	20.71	20.75	20.74
		1	12	20.99	20.96	21.00
		1	24	20.82	20.77	20.79
		12	0	19.71	19.69	19.75
		12	6	19.79	19.78	19.72
		12	13	19.68	19.65	19.67
		25	0	19.81	19.76	19.80

Band/BW	Modulation	RB Size	RB Offset	/	Mid CH 23230	/
				/	Frequency 782.0 MHz	/
13/ 10	QPSK	1	0	/	22.44	/
		1	24	/	22.65	/
		1	49	/	22.47	/
		25	0	/	21.74	/
		25	12	/	21.79	/
		25	25	/	21.76	/
		50	0	/	21.73	/
	16QAM	1	0	/	21.71	/
		1	24	/	21.84	/
		1	49	/	21.68	/
		25	0	/	20.71	/
		25	12	/	20.77	/
		25	25	/	20.74	/
		50	0	/	20.75	/
	64QAM	1	0	/	20.79	/
		1	24	/	21.02	/
		1	49	/	20.84	/
		25	0	/	19.77	/
		25	12	/	19.80	/
		25	25	/	19.73	/
		50	0	/	19.82	/



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LTE Band 17

Band/BW	Modulation	RB Size	RB Offset	Low CH 23755	Mid CH 23790	High CH 23825
				Frequency 706.5 MHz	Frequency 710 MHz	Frequency 713.5 MHz
17/5	QPSK	1	0	22.04	22.28	22.69
		1	12	22.07	22.26	21.69
		1	24	20.78	20.68	20.90
		12	0	21.37	21.49	21.28
		12	6	21.39	21.12	20.91
		12	13	20.64	20.20	19.90
		25	0	20.96	20.97	20.68
	16QAM	1	0	21.61	21.40	21.81
		1	12	21.57	21.41	20.95
		1	24	20.30	19.88	20.10
		12	0	20.37	20.46	20.33
		12	6	20.40	20.18	20.00
		12	13	19.76	19.19	18.97
		25	0	19.99	19.99	19.82
	64QAM	1	0	20.26	20.55	20.89
		1	12	20.19	20.56	20.08
		1	24	19.06	18.98	19.22
		12	0	19.35	19.46	19.24
		12	6	19.31	19.26	18.81
		12	13	18.68	18.27	17.83
		25	0	18.96	18.93	18.68

Band/BW	Modulation	RB Size	RB Offset	Low CH 23780	Mid CH 23790	High CH 23800
				Frequency 709 MHz	Frequency 710 MHz	Frequency 711 MHz
17/ 10	QPSK	1	0	22.08	22.33	22.70
		1	24	22.13	22.28	21.74
		1	49	20.85	20.73	20.92
		25	0	21.45	21.51	21.33
		25	12	21.41	21.20	20.93
		25	25	20.72	20.26	19.98
		50	0	21.02	20.99	20.74
	16QAM	1	0	21.68	21.45	21.83
		1	24	21.63	21.48	21.00
		1	49	20.37	19.93	20.12
		25	0	20.45	20.48	20.39
		25	12	20.48	20.19	20.02
		25	25	19.80	19.24	19.05
		50	0	20.07	20.00	19.84
	64QAM	1	0	20.30	20.60	20.97
		1	24	20.25	20.58	20.11
		1	49	19.12	19.05	19.27
		25	0	19.42	19.51	19.26
		25	12	19.39	19.28	18.87
		25	25	18.76	18.33	17.91
		50	0	19.00	18.98	18.76



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LTE Band 30

Band/BW	Modulation	RB Size	RB Offset	Low CH 27685	Mid CH 27710	High CH 27735
				2307.5 MHz	2310.0 MHz	2312.5 MHz
30/ 5	QPSK	1	0	23.33	23.32	23.32
		1	12	23.24	23.31	23.27
		1	24	23.18	23.17	23.21
		12	0	22.35	22.39	22.36
		12	6	22.31	22.33	22.36
		12	13	22.37	22.43	22.40
		25	0	22.35	22.29	22.35
	16QAM	1	0	22.60	22.62	22.60
		1	12	22.54	22.58	22.54
		1	24	22.56	22.58	22.61
		12	0	21.45	21.44	21.46
		12	6	21.46	21.48	21.51
		12	13	21.47	21.53	21.49
		25	0	21.39	21.46	21.45
	64QAM	1	0	21.70	21.69	21.66
		1	12	21.73	21.80	21.79
		1	24	21.84	21.83	21.80
		12	0	20.35	20.39	20.38
		12	6	20.34	20.41	20.40
		12	13	20.37	20.43	20.40
		25	0	20.43	20.37	20.43

Band/BW	Modulation	RB Size	RB Offset	/	Mid CH 27710	/
				/	2310.0 MHz	/
30/ 10	QPSK	1	0	/	23.37	/
		1	24	/	23.32	/
		1	49	/	23.22	/
		25	0	/	22.41	/
		25	12	/	22.38	/
		25	25	/	22.45	/
		50	0	/	22.37	/
	16QAM	1	0	/	22.68	/
		1	24	/	22.60	/
		1	49	/	22.63	/
		25	0	/	21.51	/
		25	12	/	21.53	/
		25	25	/	21.55	/
		50	0	/	21.47	/
	64QAM	1	0	/	21.74	/
		1	24	/	21.81	/
		1	49	/	21.88	/
		25	0	/	20.41	/
		25	12	/	20.42	/
		25	25	/	20.45	/
		50	0	/	20.45	/



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LTE Band 71

Band/BW	Modulation	RB Size	RB Offset	Low CH 133147	Mid CH 133247	High CH 133447
				Frequency 665.5MHz	Frequency 675.5MHz	Frequency 695.5MHz
71/5	QPSK	1	0	22.65	22.76	22.66
		1	12	22.61	22.66	22.53
		1	24	22.66	22.76	22.72
		12	0	21.68	21.76	21.61
		12	6	21.51	21.72	21.47
		12	13	21.56	21.66	21.57
		25	0	21.48	21.68	21.48
	16QAM	1	0	22.05	22.13	22.07
		1	12	21.92	22.14	21.94
		1	24	22.14	22.17	22.11
		12	0	20.58	20.68	20.47
		12	6	20.52	20.71	20.50
		12	13	20.51	20.60	20.49
		25	0	20.45	20.54	20.46
	64QAM	1	0	20.92	21.05	20.86
		1	12	20.76	20.93	20.75
		1	24	20.84	21.04	20.84
		12	0	20.33	20.38	20.26
		12	6	20.10	20.28	20.13
		12	13	20.21	20.34	20.10
		25	0	20.18	20.37	20.19



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Band/BW	Modulation	RB Size	RB Offset	Low CH 133172	Mid CH 133272	High CH 133172
				Frequency 668MHz	Frequency 678MHz	Frequency 693MHz
71/ 10	QPSK	1	0	22.62	22.79	22.66
		1	24	22.61	22.66	22.54
		1	49	22.63	22.80	22.68
		25	0	21.69	21.75	21.64
		25	12	21.57	21.66	21.47
		25	25	21.54	21.63	21.56
		50	0	21.53	21.68	21.45
	16QAM	1	0	22.05	22.10	22.03
		1	24	21.97	22.10	21.97
		1	49	22.14	22.18	22.08
		25	0	20.60	20.66	20.53
		25	12	20.56	20.65	20.55
		25	25	20.50	20.61	20.46
		50	0	20.49	20.53	20.50
	64QAM	1	0	20.91	21.06	20.83
		1	24	20.81	20.89	20.79
		1	49	20.90	20.98	20.81
		25	0	20.31	20.35	20.32
		25	12	20.17	20.27	20.07
		25	25	20.20	20.31	20.12
		50	0	20.23	20.33	20.20



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Band/BW	Modulation	RB Size	RB Offset	Low CH 133197	Mid CH 133297	High CH 133397
				Frequency 670.5MHz	Frequency 680.5MHz	Frequency 690.5MHz
71/ 15	QPSK	1	0	22.64	22.78	22.70
		1	37	22.62	22.72	22.50
		1	74	22.63	22.77	22.71
		36	0	21.71	21.77	21.63
		36	19	21.56	21.72	21.46
		36	39	21.56	21.66	21.56
		75	0	21.48	21.68	21.50
	16QAM	1	0	22.10	22.10	22.08
		1	37	21.92	22.12	21.94
		1	74	22.13	22.19	22.11
		36	0	20.65	20.69	20.47
		36	19	20.52	20.70	20.52
		36	39	20.56	20.58	20.46
		75	0	20.45	20.53	20.49
	64QAM	1	0	20.98	21.08	20.80
		1	37	20.77	20.87	20.75
		1	74	20.90	21.04	20.82
		36	0	20.35	20.35	20.33
		36	19	20.11	20.21	20.09
		36	39	20.22	20.38	20.12
		75	0	20.18	20.36	20.18



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Band/BW	Modulation	RB Size	RB Offset	Low CH 133222	Mid CH 133322	High CH 133372
				Frequency 673MHz	Frequency 683MHz	Frequency 688MHz
71/ 20	QPSK	1	0	22.70	22.83	22.71
		1	50	22.63	22.74	22.55
		1	99	22.71	22.84	22.73
		50	0	21.72	21.81	21.66
		50	25	21.59	21.73	21.52
		50	50	21.60	21.71	21.58
		100	0	21.54	21.70	21.53
	16QAM	1	0	22.12	22.18	22.09
		1	50	22.00	22.16	21.99
		1	99	22.16	22.25	22.13
		50	0	20.66	20.74	20.55
		50	25	20.58	20.73	20.56
		50	50	20.58	20.65	20.51
		100	0	20.51	20.61	20.51
	64QAM	1	0	20.99	21.10	20.88
		1	50	20.84	20.95	20.81
		1	99	20.92	21.05	20.86
		50	0	20.37	20.43	20.34
		50	25	20.18	20.29	20.15
		50	50	20.25	20.39	20.18
		100	0	20.24	20.39	20.22