TEST REPORT

No. I20Z62335-WMD04

for

TCL Communication Ltd.

5G NR/LTE/WCDMA/GSM mobile phone

Model Name: T810S

FCC ID: 2ACCJN050

with

Hardware Version: 03

Software Version: v3.0.3CD0

Issued Date: 2021-02-07

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S.Government.

Test Laboratory:

CTTL, Telecommunication Technology Labs, CAICT

No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191.

Tel: +86(0)10-62304633-2512, Fax: +86(0)10-62304633-2504

Email: cttl_terminals@caict.ac.cn, website: www.caict.ac.cn

REPORT HISTORY

Report Number	Revision	Description	Issue Date
I20Z62335-WMD04	Rev.0	1st edition	2021-02-07

Note: the latest revision of the test report supersedes all previous version.

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1. Test Laboratory

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP) with lab code 600118-0 and is also an FCC accredited test laboratory (CN5017), and ISED accredited test laboratory (CN0066). The detail accreditation scope can be found on NVLAP website.

1.2. Testing Location

Location 1: CTTL (huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191

Location 2: CTTL(Shouxiang)

Address: No. 51 Shouxiang Science Building, Xueyuan Road, Haidian District, Beijing, P. R. China 100191

1.3. Testing Environment

Normal Temperature: 15-35℃

Relative Humidity: 20-75%

1.4. Project Data

Testing Start Date: 2020-12-26

Testing End Date: 2021-01-28

1.5. Signature

Dong Yuan

(Prepared this test report)

Zhou Yu

(Reviewed this test report)

Zhao Hui Lin

Deputy Director of the laboratory

(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	TCL Communication Ltd.
Address /Post:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
Contact:	Gong Zhizhou
Email:	zhizhou.gong@tcl.com
Telephone:	0086-755-36611722
Fax:	0086-755-36612000-81722

2.2. Manufacturer Information

Company Name:	TCL Communication Ltd.
Address /Post:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
Contact:	Gong Zhizhou
Email:	zhizhou.gong@tcl.com
Telephone:	0086-755-36611722
Fax:	0086-755-36612000-81722

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	5G NR/LTE/WCDMA/GSM mobile phone
Model Name	T810S
FCC ID	2ACCJN050
Antenna	Embedded
Output power	21.5dBm maximum EIRP measured for CA_41
Extreme vol. Limits	3.5VDC to 4.4VDC (nominal: 3.85VDC)
Extreme temp. Tolerance	-10°C to +55°C

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of CTTL.

3.2. Internal Identification of EUT used during the test

EUT ID*	IMEI	HW Version	SW Version	Date of receipt
UT22a	015920000201253	03	v3.0.3CD0	2020-12-25
UT21a	015920000201154	03	v3.0.3CD0	2020-12-28

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE used during the test

AE ID*	Description
AE1	Battery
AE2	Battery

AE1

Model	TLp043D1
Manufacturer	BYD
Capacitance	4360mAh

AE2

Model	TLp043D7
Manufacturer	VEKEN
Capacitance	4360mAh

*AE ID: is used to identify the test sample in the lab internally.

4. Reference Documents

4.1. Documents supplied by applicant

EUT parameters, referring to Annex A for detailed information, is supplied by the client or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 22	PUBLIC MOBILE SERVICES	10-1-19 Edition
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	10-1-19 Edition
FCC Part 27	MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES	10-1-19 Edition
ANSI/TIA-603-E	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	2016
ANSI C63.26	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services	2015
KDB 971168 D01	MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS	v03r01

5. Laboratory Environment

Control room / conducted chamber did not exceed following limits along the radiated testing:

Temperature	Min. = 15 ˚C, Max. = 35 ˚C
Relative humidity	Min. =20 %, Max. = 80 %
Shielding effectiveness	> 110 dB
Electrical insulation	>2 MΩ
Ground system resistance	< 0.5 Ω

Fully-anechoic chamber 2 (8.6 meters×6.1 meters×3.85 meters) did not exceed following limits along the radiated testing:

Temperature	Min. = 15 ˚C, Max. = 30 ˚C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	>2 MΩ
Ground system resistance	< 1 Ω
Site voltage standing-wave ratio (S_{VSWR})	Between 0 and 6 dB, from 1GHz to 18GHz

6. Summary Of Test Result

LTE Band 2

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	24.232	P
2	Emission Limit	2.1051/24.238	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	24.238	P
6	Band Edge Compliance	24.238	P
7	Conducted Spurious Emission	24.238	P
8	Peak-to-Average Power Ratio	24.232	P

LTE Band 4

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	27.53	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	27.53	P
6	Band Edge Compliance	27.53	P
7	Conducted Spurious Emission	27.53	P
8	Peak-to-Average Power Ratio	27.50	P

LTE Band 5

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	22.913	P
2	Emission Limit	22.917	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	22.917	P
6	Band Edge Compliance	22.917	P
7	Conducted Spurious Emission	22.917	P

LTE Band 7

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	27.53	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	27.53	P
6	Band Edge Compliance	27.53	P
7	Conducted Spurious Emission	27.53	P
8	Peak-to-Average Power Ratio	27.50	P

LTE Band 12

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	2.1051/27.53	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	27.53	P
6	Band Edge Compliance	27.53	P
7	Conducted Spurious Emission	27.53	P
8	Peak-to-Average Power Ratio	27.50	P

LTE Band 41

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	2.1051/27.53	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	27.53	P
6	Band Edge Compliance	27.53	P
7	Conducted Spurious Emission	27.53	P
8	Peak-to-Average Power Ratio	27.50	P

Terms used in Verdict column

P	Pass. The EUT complies with the essential requirements in the standard.
NP	Not Performed. The test was not performed by CTTL.
NA	Not Applicable.The test was not applicable.
BR	Re-use test data from basic model report.
F	Fail. The EUT does not comply with the essential requirements in the standard.

LTE Band 41 is tested by power class 3.

Explanation of worst-case configuration

The worst-case scenario for all measurements is based on the conducted output power measurement investigation results. Output power was measured on QPSK,16QAM and 64QAM modulations. It was found that QPSK was the worst case. All testing was performed using QPSK modulations to represent the worst case unless otherwise stated. The test results shown in the following sections represent the worst case emission.

7. Test Equipment Utilized

Description	Type	Series Number	Manufacture	Cal Due Date	Calibration Interval
Wideband Radio Communication Tester	CMW500	159082	R&S	2021-12-17	1 year
Spectrum Analyzer	FSU	200030	R&S	2021-06-01	1 year
Radio Communication Analyzer	MT8821C	6201763159	Anritsu	2021-08-12	1 year
Climate Chamber	SH-242	93008556	ESPEC	2023-12-23	3 years
EMI Antenna	9117	167	Schwarzbeck	2021-08-19	3 years
EMI Antenna	3117	00119021	ETS-Lindgren	2021-02-06	1 year
EMI Antenna	3117	00119024	ETS-Lindgren	2021-05-08	1 year
Signal Generator	N5183A	MY49060052	Agilent	2021-07-01	1 year
Test Receiver	E4440A	MY48250642	Agilent	2021-03-12	1 year
Universal Radio Communication Tester	CMW500	143008	R&S	2022-01-01	1 year
EMI Antenna	VULB9163	9163-301	Schwarzbeck	2021-08-04	1 year
Power Amplifier	5S1G4	0341863	AR	/	

Annex A: Measurement Results

A.1 Output Power

A.1.1 Summary

During the process of testing, the EUT was controlled via communication tester to ensure max power transmission and proper modulation.

In all cases, output power is within the specified limits.

A.1.2 Conducted

A.1.2.1 Method of Measurements

The EUT was set up for the max output power with pseudo random data modulation.

A.1.2.2 Measurement Result

LTE CA_2A-4A

PCC Power (dBm)								SCC Power (dBm)							
LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offeset	QPSK	16QAM	64QAM	LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offeset	QPSK	16QAM	64QAM
2	1.4	1880	1	0	22.68	22.35	21.34	4	5	1732.5	1	24	17.77	19.42	20.80
			1	5	22.75	22.45	21.25				1	0	17.37	19.26	20.72
			6	0	22.01	21.15	20.12				25	0	19.57	20.83	20.20
2	1.4	1880	1	0	22.99	21.28	21.36	4	10	1732.5	1	49	18.16	21.41	21.44
			1	5	22.62	22.37	21.36				1	0	17.46	19.57	20.87
			6	0	21.94	21.23	20.14				50	0	19.55	21.07	20.38
2	1.4	1880	1	0	22.89	22.43	21.37	4	15	1732.5	1	74	16.95	19.77	21.01
			1	5	22.88	22.43	21.30				1	0	16.01	19.73	20.49
			6	0	22.05	21.22	20.17				75	0	19.35	20.79	20.13
2	1.4	1880	1	0	22.67	22.63	21.40	4	20	1732.5	1	99	17.60	20.07	21.15
			1	5	22.81	22.27	21.26				1	0	16.25	19.24	20.65
			6	0	22.03	21.20	20.17				100	0	19.39	20.84	20.23
2	3	1880	1	0	22.99	22.78	21.57	4	5	1732.5	1	24	17.71	20.01	21.30
			1	14	22.93	22.49	21.43				1	0	17.04	19.51	20.96
			15	0	22.09	21.27	20.24				25	0	19.57	21.05	20.49
2	3	1880	1	0	22.94	22.81	21.60	4	10	1732.5	1	49	16.95	19.91	21.23
			1	14	22.91	22.61	21.39				1	0	16.83	19.35	20.93
			15	0	21.91	21.13	20.22				50	0	19.85	21.02	20.50
2	3	1880	1	0	23.08	22.68	21.58	4	15	1732.5	1	74	17.08	20.14	21.12
			1	14	22.91	22.35	21.42				1	0	16.55	18.99	20.61
			15	0	22.08	21.24	20.27				75	0	19.29	20.81	20.14
2	3	1880	1	0	22.98	22.70	21.62	4	20	1732.5	1	99	17.75	19.92	21.09
			1	14	22.80	22.66	21.39				1	0	16.94	19.38	20.65
			15	0	22.01	21.21	20.24				100	0	19.40	20.81	20.18
2	5	1880	1	0	22.97	22.91	21.57	4	5	1732.5	1	24	17.91	19.66	21.16
			1	24	22.90	22.17	21.35				1	0	16.36	19.61	20.89
			25	0	22.16	21.18	20.26				25	0	19.70	21.00	20.45
2	5	1880	1	0	22.94	22.95	21.58	4	10	1732.5	1	49	18.14	19.89	21.29
			1	24	22.93	22.47	21.34				1	0	16.48	19.41	20.70
			25	0	22.01	21.20	20.27				50	0	19.75	20.96	20.35
2	5	1880	1	0	23.10	22.55	21.66	4	15	1732.5	1	74	17.35	19.87	21.06
			1	24	22.94	22.35	22.32				1	0	16.26	19.58	20.43
			25	0	22.14	21.15	22.14				75	0	19.38	20.77	19.20
2	5	1880	1	0	22.92	22.79	21.65	4	20	1732.5	1	99	18.05	20.17	21.07
			1	24	22.92	22.43	21.28				1	0	16.52	19.68	20.54
			25	0	22.12	21.18	20.24				100	0	19.32	20.80	20.12
2	10	1880	1	0	23.18	22.71	21.64	4	20	1732.5	1	99	17.84	19.87	21.05
			1	49	22.82	22.58	21.42				1	0	16.74	19.25	20.53

			50	0	22.16	21.26	20.34				100	0	19.49	20.77	20.16
2	15	1880	1	0	22.97	22.93	21.62	4	20	1732.5	1	99	17.77	19.64	21.08
			1	74	22.64	21.98	21.28				1	0	16.73	19.58	20.62
			75	0	21.99	22.05	20.04				100	0	19.35	20.77	20.19
2	20	1880	1	0	23.33	22.75	21.71	4	20	1732.5	1	99	16.82	20.17	20.94
			1	99	22.97	22.45	21.40				1	0	16.03	19.68	20.59
			100	0	22.08	21.04	20.10				100	0	19.26	20.79	20.17

LTE CA_2A-5A

PCC Power (dBm)								SCC Power (dBm)							
LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offeset	QPSK	16QAM	64QAM	LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offeset	QPSK	16QAM	64QAM
2	5	1880	1	0	23.24	22.98	21.96	5	5	1732.5	1	24	16.30	18.37	19.62
			1	24	23.04	23.01	21.75				1	0	16.27	18.18	19.28
			25	0	22.47	21.59	20.58				25	0	18.27	19.40	18.85
2	5	1880	1	0	23.61	22.97	21.86	5	10	1732.5	1	49	15.12	18.46	19.67
			1	24	23.39	22.60	21.69				1	0	15.95	18.27	19.45
			25	0	22.44	21.57	20.63				50	0	18.18	19.43	18.85
2	10	1880	1	0	23.33	22.98	21.93	5	10	1732.5	1	49	15.76	18.10	19.73
			1	49	23.09	22.50	21.70				1	0	15.85	17.62	19.24
			50	0	22.37	21.57	20.62				50	0	18.22	19.44	18.92
2	15	1880	1	0	23.21	23.14	21.70	5	10	1732.5	1	49	16.35	18.71	19.71
			1	74	22.99	22.59	21.34				1	0	15.24	18.29	19.29
			75	0	22.44	21.39	20.47				50	0	17.79	19.45	18.88
2	20	1880	1	0	23.13	22.67	21.71	5	10	1732.5	1	49	15.54	18.20	19.58
			1	99	22.74	22.43	21.32				1	0	15.66	17.75	19.10
			100	0	22.18	21.35	20.35				50	0	17.84	19.38	18.71

LTE CA_2A-7A

PCC Power (dBm)								SCC Power (dBm)							
LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offeset	QPSK	16QAM	64QAM	LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offeset	QPSK	16QAM	64QAM
2	5	1880	1	0	22.98	22.63	21.46	7	5	2535	1	24	16.84	18.73	19.64
			1	24	22.62	22.22	21.36				1	0	16.67	18.76	19.56
			25	0	21.91	21.03	20.00				25	0	18.68	19.61	18.64
2	5	1880	1	0	22.75	22.22	21.29	7	10	2535	1	49	16.50	18.70	19.63
			1	24	22.71	22.18	21.37				1	0	16.36	18.84	19.57
			25	0	21.96	21.08	20.08				50	0	18.66	19.67	18.70
2	5	1880	1	0	22.67	22.34	21.30	7	15	2535	1	74	15.43	18.67	19.39
			1	24	22.78	22.50	21.24				1	0	15.75	18.45	19.28
			25	0	21.80	20.98	20.01				75	0	18.66	19.51	18.49
2	5	1880	1	0	22.82	22.56	21.23	7	20	2535	1	99	15.63	18.86	19.38
			1	24	22.82	22.52	21.34				1	0	15.80	18.50	19.27
			25	0	21.90	21.04	20.02				100	0	18.89	19.54	18.55
2	10	1880	1	0	22.78	22.32	21.29	7	20	2535	1	99	15.70	18.44	19.36
			1	49	22.60	22.34	21.35				1	0	15.58	18.82	19.38
			50	0	21.94	20.96	20.04				100	0	18.47	19.46	18.51
2	15	1880	1	0	22.78	22.27	21.04	7	20	2535	1	99	15.87	18.98	19.37
			1	74	22.56	22.59	21.19				1	0	16.70	18.63	19.41
			75	0	21.79	20.91	19.93				100	0	18.60	19.43	18.55
2	20	1880	1	0	22.92	22.29	20.93	7	20	2535	1	99	15.53	18.63	19.38
			1	99	22.90	22.55	21.05				1	0	15.88	18.33	19.03
			100	0	21.94	21.06	19.99				100	0	18.75	19.41	18.42

LTE CA_2A-12A

PCC Power (dBm)								SCC Power (dBm)							
LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offeset	QPSK	16QAM	64QAM	LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offeset	QPSK	16QAM	64QAM
2	5	1880	1	0	23.38	23.10	22.05	12	3	707.5	1	14	18.95	21.06	21.90
			1	24	23.27	22.90	21.78				1	0	18.85	21.52	21.93
			25	0	22.45	21.57	20.53				15	0	21.20	21.91	20.92
2	10	1880	1	0	23.44	23.12	21.89	12	3	707.5	1	14	18.65	21.22	21.91
			1	49	23.05	22.67	21.61				1	0	18.27	20.97	21.99
			50	0	22.47	21.62	20.60				15	0	21.04	21.95	20.90
2	15	1880	1	0	23.29	22.87	21.83	12	3	707.5	1	14	18.83	21.37	21.89
			1	74	22.91	22.85	21.52				1	0	18.53	21.30	22.00
			75	0	22.42	21.52	20.47				15	0	21.19	21.93	20.89
2	20	1880	1	0	23.55	23.27	21.81	12	3	707.5	1	14	18.41	21.36	21.95
			1	99	23.00	22.56	21.47				1	0	19.25	21.17	21.96
			100	0	22.44	21.49	20.47				15	0	21.22	21.99	20.94
2	5	1880	1	0	23.57	23.00	22.02	12	5	707.5	1	24	18.10	21.19	22.81
			1	24	23.10	22.84	21.79				1	0	18.31	21.29	22.01
			25	0	22.52	21.57	20.60				25	0	21.20	21.86	20.95
2	5	1880	1	0	23.39	23.30	21.92	12	10	707.5	1	49	18.33	20.85	22.41
			1	24	23.16	22.80	21.71				1	0	19.36	21.52	22.07
			25	0	22.58	21.63	20.57				50	0	21.18	21.89	20.92
2	10	1880	1	0	23.49	23.05	21.95	12	10	707.5	1	49	18.76	20.93	21.93
			1	49	23.36	22.99	21.72				1	0	19.10	21.23	22.04
			50	0	22.55	21.55	20.60				50	0	21.16	21.88	20.95
2	15	1880	1	0	23.46	22.95	21.79	12	10	707.5	1	49	18.88	20.98	21.84
			1	74	23.14	22.56	21.50				1	0	18.56	21.49	22.09
			75	0	22.38	21.49	20.47				50	0	21.13	21.92	20.94
2	20	1880	1	0	23.24	22.87	21.65	12	10	707.5	1	49	19.04	20.89	21.82
			1	99	23.02	22.36	21.31				1	0	18.80	21.59	22.16
			100	0	22.32	21.35	20.37				50	0	21.07	21.95	20.91

LTE CA_4A-5A

PCC Power (dBm)								SCC Power (dBm)							
LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offeset	QPSK	16QAM	64QAM	LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offeset	QPSK	16QAM	64QAM
4	5	1732.5	1	0	22.78	22.20	21.10	5	5	836.5	1	24	16.11	18.27	19.51
			1	24	22.46	22.27	21.15				1	0	15.44	18.14	19.18
			25	0	21.80	20.82	19.82				25	0	17.97	19.29	18.72
4	10	1732.5	1	0	22.70	22.35	21.30	5	5	836.5	1	24	15.66	18.41	19.59
			1	49	22.48	22.25	21.12				1	0	15.81	20.95	19.45
			50	0	21.81	20.87	19.88				25	0	17.76	19.29	18.70
4	10	1732.5	1	0	23.01	22.57	21.27	5	10	836.5	1	49	15.19	18.37	19.79
			1	49	22.72	22.20	20.99				1	0	16.03	17.93	19.36
			50	0	21.69	20.88	19.85				50	0	17.79	19.33	18.75
4	15	1732.5	1	0	22.91	22.38	21.19	5	10	836.5	1	49	15.56	18.49	19.65
			1	74	22.47	22.03	20.97				1	0	15.19	18.27	21.06
			75	0	21.72	20.68	19.74				50	0	18.20	19.36	18.77
4	20	1732.5	1	0	22.86	22.02	21.16	5	10	836.5	1	49	14.99	18.24	19.73
			1	99	22.18	21.98	20.75				1	0	15.76	17.96	19.25
			100	0	21.53	20.70	19.72				50	0	18.16	19.39	18.75

LTE CA_4A-7A

PCC Power (dBm)								SCC Power (dBm)							
LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offeset	QPSK	16QAM	64QAM	LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offeset	QPSK	16QAM	64QAM
4	5	1732.5	1	0	22.68	22.48	21.27	7	5	2535	1	24	16.75	18.76	19.52
			1	24	22.82	22.61	21.38				1	0	16.25	18.96	19.51
			25	0	21.82	20.95	19.99				25	0	18.63	19.56	18.55
4	5	1732.5	1	0	22.75	22.45	21.27	7	10	2535	1	49	16.19	19.06	19.56
			1	24	22.73	22.5	21.35				1	0	16.71	18.57	19.55
			25	0	21.95	21.03	20.01				50	0	18.88	19.5	18.65
4	5	1732.5	1	0	22.9	22.33	21.37	7	15	2535	1	74	15.51	18.85	19.33
			1	24	22.96	22.75	21.48				1	0	15.95	18.75	19.36
			25	0	21.95	21.03	20.05				75	0	18.66	19.48	18.51
4	5	1732.5	1	0	22.78	22.36	21.35	7	20	2535	1	99	16.31	19.08	19.4
			1	24	23.03	22.74	23.02				1	0	15.4	18.36	15.44
			25	0	21.93	21.07	20.02				100	0	18.77	19.51	18.56
4	10	1732.5	1	0	22.82	22.27	21.22	7	20	2535	1	99	16.66	19.01	19.36
			1	49	22.93	22.46	21.46				1	0	15.36	18.67	19.3
			50	0	21.95	21.04	20.05				100	0	18.83	19.53	18.51
4	15	1732.5	1	0	22.61	22.18	21.07	7	20	2535	1	99	15.84	18.72	19.4
			1	74	22.96	22.45	21.25				1	0	15.53	18.62	19.24
			75	0	21.76	20.87	19.89				100	0	18.77	18.49	18.56
4	20	1732.5	1	0	22.72	22.07	21.11	7	20	2535	1	99	16.53	18.46	19.31
			1	99	23.07	22.31	21.6				1	0	15.22	18.44	19
			100	0	21.71	20.89	19.91				100	0	18.43	19.34	18.4

LTE CA_4A-12A

PCC Power (dBm)								SCC Power (dBm)							
LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offeset	QPSK	16QAM	64QAM	LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offeset	QPSK	16QAM	64QAM
4	1.4	1732.5	1	0	22.63	22.29	21.10	12	5	707.5	1	24	18.61	21.05	21.95
			1	5	22.48	22.11	21.10				1	0	18.98	21.05	22.03
			6	0	21.67	20.87	19.87				25	0	21.34	21.97	20.99
4	1.4	1732.5	1	0	22.63	22.48	21.07	12	10	707.5	1	49	18.30	20.98	21.90
			1	5	22.47	22.11	21.14				1	0	19.18	21.66	22.14
			6	0	21.76	20.91	19.83				50	0	21.06	21.94	20.91
4	3	1732.5	1	0	22.74	22.44	21.19	12	5	707.5	1	24	18.09	21.10	21.87
			1	14	22.49	22.07	21.24				1	0	19.21	21.42	21.96
			15	0	21.86	20.87	19.94				25	0	21.08	21.92	20.96
4	5	1732.5	1	0	22.63	22.22	21.32	12	3	707.5	1	14	19.30	20.99	22.05
			1	24	22.52	22.57	21.18				1	0	19.25	21.28	22.03
			25	0	21.76	20.97	19.90				15	0	21.36	21.97	20.98
4	5	1732.5	1	0	22.87	22.65	21.32	12	5	707.5	1	24	18.01	21.13	22.01
			1	24	22.65	22.23	21.18				1	0	18.85	21.31	22.04
			25	0	21.74	20.97	19.89				25	0	21.38	22.00	21.00
4	5	1732.5	1	0	22.63	22.30	21.33	12	10	707.5	1	49	19.05	21.41	21.86
			1	24	22.81	22.33	21.35				1	0	18.20	21.20	22.19
			25	0	21.85	20.94	19.91				50	0	21.17	22.03	20.98
4	10	1732.5	1	0	22.85	22.36	21.20	12	3	707.5	1	14	18.46	20.98	21.96
			1	49	22.47	22.15	21.07				1	0	19.18	21.43	22.06
			50	0	21.82	20.96	19.87				15	0	21.22	22.02	20.97
4	10	1732.5	1	0	22.85	22.39	21.20	12	10	707.5	1	49	18.69	21.36	21.90
			1	49	22.60	21.96	21.01				1	0	18.83	21.53	22.14
			50	0	21.78	20.94	19.89				50	0	21.39	22.02	21.02
4	15	1732.5	1	0	22.64	22.33	21.26	12	3	707.5	1	14	19.26	21.45	21.96
			1	74	22.54	22.13	20.79				1	0	18.27	21.22	22.00
			75	0	21.63	20.74	19.76				15	0	21.35	21.98	21.02
4	15	1732.5	1	0	22.82	22.42	21.20	12	10	707.5	1	49	18.57	21.56	22.02
			1	74	22.42	21.97	20.85				1	0	18.90	21.12	22.14
			75	0	21.72	20.72	19.71				50	0	21.06	21.99	20.90
4	20	1732.5	1	0	22.65	22.62	22.37	12	3	707.5	1	14	19.55	21.41	21.19
			1	99	22.22	21.99	21.78				1	0	19.21	21.45	21.21
			100	0	21.64	20.77	20.75				15	0	21.30	21.97	20.96
4	20	1732.5	1	0	22.83	22.47	22.27	12	10	707.5	1	49	18.44	21.16	21.04
			1	99	22.35	22.07	21.73				1	0	18.76	21.10	20.98
			100	0	21.67	20.72	20.75				50	0	21.17	21.95	20.94

LTE CA_5A-7A

PCC Power (dBm)								SCC Power (dBm)							
LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offeset	QPSK	16QAM	64QAM	LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offeset	QPSK	16QAM	64QAM
5	1.4	836.5	1	0	24.01	23.54	22.50	7	10	2535	1	49	17.11	19.70	20.64
			1	5	23.95	23.81	22.54				1	0	17.64	19.71	20.66
			6	0	23.05	22.37	21.23				50	0	19.93	20.60	19.66
5	1.4	836.5	1	0	23.91	23.43	22.47	7	15	2535	1	74	17.52	19.87	20.44
			1	5	23.92	23.51	22.47				1	0	17.64	19.70	20.29
			6	0	23.06	22.40	21.31				75	0	19.96	20.58	19.50
5	1.4	836.5	1	0	24.16	23.57	22.52	7	20	2535	1	99	16.42	19.97	20.46
			1	5	23.94	23.59	22.62				1	0	17.61	19.64	20.32
			6	0	23.20	22.36	21.32				100	0	19.62	20.58	19.53
5	3	836.5	1	0	23.94	23.46	22.65	7	10	2535	1	49	17.98	20.19	20.76
			1	14	24.26	23.70	22.66				1	0	17.20	19.93	19.81
			15	0	23.32	22.31	21.36				50	0	19.81	20.70	19.78
5	3	836.5	1	0	23.92	23.71	22.52	7	15	2535	1	74	17.85	20.02	20.44
			1	14	24.32	23.79	22.67				1	0	16.46	19.39	20.38
			15	0	23.33	22.38	21.38				75	0	19.67	20.57	19.56
5	3	836.5	1	0	23.93	23.82	22.64	7	20	2535	1	99	17.65	19.79	20.47
			1	14	24.06	23.79	22.74				1	0	17.59	19.62	20.20
			15	0	23.15	22.33	21.40				100	0	19.87	20.59	19.52
5	5	836.5	1	0	24.23	23.65	22.58	7	10	2535	1	49	16.84	19.90	20.70
			1	24	24.12	23.97	22.75				1	0	17.84	19.70	20.74
			25	0	23.23	22.40	21.37				50	0	20.06	20.73	19.74
5	5	836.5	1	0	24.14	23.74	22.63	7	15	2535	1	74	16.84	20.19	20.46
			1	24	24.29	23.88	22.74				1	0	16.95	19.66	20.27
			25	0	23.34	22.43	21.41				75	0	19.70	20.58	19.62
5	5	836.5	1	0	24.15	23.68	22.67	7	20	2535	1	99	16.86	19.96	20.45
			1	24	24.28	23.63	22.80				1	0	17.12	19.74	20.28
			25	0	23.37	22.38	21.38				100	0	19.68	20.58	19.52
5	10	836.5	1	0	24.04	23.58	22.39	7	20	2535	1	99	16.98	19.73	20.34
			1	49	24.41	23.97	22.88				1	0	16.38	19.76	20.24
			50	0	23.34	22.37	21.41				100	0	19.84	20.51	19.51

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Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB		SCC RB		Conducted Power(dBm)
				Size	Offset	Size	Offset	
5MHz/ 20MHz	2583.8	2595.5	QPSK	1	24	1	0	23.79
				25	0	100	0	21.89
			16QAM	1	24	1	0	23.33
				25	0	100	0	20.96
			64QAM	1	24	1	0	22.19
				25	0	100	0	20.97
20MHz/ 5MHz	2590.5	2602.2	QPSK	1	99	1	0	23.75
				100	0	25	0	21.93
			16QAM	1	99	1	0	23.34
				100	0	25	0	21.02
			64QAM	1	99	1	0	22.24
				100	0	25	0	20.94
10MHz/ 15MHz	2585.9	2597.9	QPSK	1	49	1	0	23.73
				50	0	75	0	21.91
			16QAM	1	49	1	0	23.34
				50	0	75	0	20.99
			64QAM	1	49	1	0	22.17
				50	0	75	0	20.94
15MHz/ 10MHz	2588.1	2600.1	QPSK	1	74	1	0	23.70
				75	0	50	0	21.91
			16QAM	1	74	1	0	23.29
				75	0	50	0	20.98
			64QAM	1	74	1	0	22.18
				75	0	50	0	20.95
10MHz/ 20MHz	2583.6	2598.0	QPSK	1	49	1	0	23.76
				50	0	100	0	21.92
			16QAM	1	49	1	0	23.35
				50	0	100	0	21.01
			64QAM	1	49	1	0	22.19
				50	0	100	0	20.98
20MHz/ 10MHz	2588.1	2602.5	QPSK	1	99	1	0	23.71
				100	0	50	0	21.93
			16QAM	1	99	1	0	23.32
				100	0	50	0	20.97
			64QAM	1	99	1	0	22.15
				100	0	50	0	20.99
15MHz/ 15MHz	2585.5	2600.5	QPSK	1	74	1	0	23.67
				75	0	75	0	21.93
			16QAM	1	74	1	0	23.29
				75	0	75	0	20.98

			64QAM	1	74	1	0	22.15
				75	0	75	0	20.96
15MHz/ 20MHz	2583.3	2600.4	QPSK	1	74	1	0	23.65
				75	0	100	0	21.91
			16QAM	1	74	1	0	23.28
				75	0	100	0	20.97
			64QAM	1	74	1	0	22.12
				75	0	100	0	20.93
20MHz/ 15MHz	2585.6	2602.7	QPSK	1	99	1	0	23.64
				100	0	75	0	21.92
			16QAM	1	99	1	0	23.26
				100	0	75	0	20.98
			64QAM	1	99	1	0	22.11
				100	0	75	0	20.97
20MHz/ 20MHz	2583.1	2602.9	QPSK	1	99	1	0	23.68
				100	0	100	0	21.82
			16QAM	1	99	1	0	23.26
				100	0	100	0	20.91
			64QAM	1	99	1	0	22.09
				100	0	100	0	20.89

A.1.3 Radiated

A.1.3.1 Description

This is the test for the maximum radiated power from the EUT.

FDD Band 2: Part 24.232(c) specifies "Mobile and portable stations are limited to 2 watts EIRP".

FDD Band 5: Part 22.913(a) specifies "The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts".

FDD Band 12/71: Part 27.50(c) specifies "Portable stations (hand-held devices) in the 600 MHz uplink band and the 698–746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP".

FDD Band 4/66: Part 27.50(d) specifies "Fixed, mobile, and portable (handheld) 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".

A.1.3.2 Method of Measurement

According to KDB 412172 D01 and ANSI C63.26 the relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation as follows:

ERP or EIRP = $P_T + G_T - L_C$, ERP = EIRP -2.15, where

ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively
(expressed in the same units as P_{Mea} , e.g., dBm or dBW)

P_T = transmitter output power in dBm;

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

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

Disclaimer: The antenna gain provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.

A.1.3.3 Measurement result

LTE CA_2A-4A

PCC Power (dBm)								EIRP(dBm) (GT – LC = -2.3)			SCC Power (dBm)								EIRP(dBm) (GT – LC = -1.9)		
LTE Band	BW (MHz)	Frequency(MHz)	RB No	RB offset	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	LTE Band	BW (MHz)	Frequency (MHz)	RB No	RB offset	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
2	1.4	1880	1	0	22.68	22.35	21.34	20.4	20.1	19.0	4	5	1732.5	1	24	17.77	19.42	20.8	15.9	17.5	18.9
			1	5	22.75	22.45	21.25	20.5	20.2	19.0				1	0	17.37	19.26	20.72	15.5	17.4	18.8
			6	0	22.01	21.15	20.12	19.7	18.9	17.8				25	0	19.57	20.83	20.2	17.7	18.9	18.3
2	1.4	1880	1	0	22.99	21.28	21.36	20.7	19.0	19.1	4	10	1732.5	1	49	18.16	21.41	21.44	16.3	19.5	19.5
			1	5	22.62	22.37	21.36	20.3	20.1	19.1				1	0	17.46	19.57	20.87	15.6	17.7	19.0
			6	0	21.94	21.23	20.14	19.6	18.9	17.8				50	0	19.55	21.07	20.38	17.7	19.2	18.5
2	1.4	1880	1	0	22.89	22.43	21.37	20.6	20.1	19.1	4	15	1732.5	1	74	16.95	19.77	21.01	15.1	17.9	19.1
			1	5	22.88	22.43	21.3	20.6	20.1	19.0				1	0	16.01	19.73	20.49	14.1	17.8	18.6
			6	0	22.05	21.22	20.17	19.8	18.9	17.9				75	0	19.35	20.79	20.13	17.5	18.9	18.2
2	1.4	1880	1	0	22.67	22.63	21.4	20.4	20.3	19.1	4	20	1732.5	1	99	17.6	20.07	21.15	15.7	18.2	19.3
			1	5	22.81	22.27	21.26	20.5	20.0	19.0				1	0	16.25	19.24	20.65	14.4	17.3	18.8
			6	0	22.03	21.2	20.17	19.7	18.9	17.9				100	0	19.39	20.84	20.23	17.5	18.9	18.3
2	3	1880	1	0	22.99	22.78	21.57	20.7	20.5	19.3	4	5	1732.5	1	24	17.71	20.01	21.3	15.8	18.1	19.4
			1	14	22.93	22.49	21.43	20.6	20.2	19.1				1	0	17.04	19.51	20.96	15.1	17.6	19.1
			15	0	22.09	21.27	20.24	19.8	19.0	17.9				25	0	19.57	21.05	20.49	17.7	19.2	18.6
2	3	1880	1	0	22.94	22.81	21.6	20.6	20.5	19.3	4	10	1732.5	1	49	16.95	19.91	21.23	15.1	18.0	19.3
			1	14	22.91	22.61	21.39	20.6	20.3	19.1				1	0	16.83	19.35	20.93	14.9	17.5	19.0
			15	0	21.91	21.13	20.22	19.6	18.8	17.9				50	0	19.85	21.02	20.5	18.0	19.1	18.6
2	3	1880	1	0	23.08	22.68	21.58	20.8	20.4	19.3	4	15	1732.5	1	74	17.08	20.14	21.12	15.2	18.2	19.2
			1	14	22.91	22.35	21.42	20.6	20.1	19.1				1	0	16.55	18.99	20.61	14.7	17.1	18.7
			15	0	22.08	21.24	20.27	19.8	18.9	18.0				75	0	19.29	20.81	20.14	17.4	18.9	18.2
2	3	1880	1	0	22.98	22.7	21.62	20.7	20.4	19.3	4	20	1732.5	1	99	17.75	19.92	21.09	15.9	18.0	19.2
			1	14	22.8	22.66	21.39	20.5	20.4	19.1				1	0	16.94	19.38	20.65	15.0	17.5	18.8
			15	0	22.01	21.21	20.24	19.7	18.9	17.9				100	0	19.4	20.81	20.18	17.5	18.9	18.3
2	5	1880	1	0	22.97	22.91	21.57	20.7	20.6	19.3	4	5	1732.5	1	24	17.91	19.66	21.16	16.0	17.8	19.3
			1	24	22.9	22.17	21.35	20.6	19.9	19.1				1	0	16.36	19.61	20.89	14.5	17.7	19.0
			25	0	22.16	21.18	20.26	19.9	18.9	18.0				25	0	19.7	21	20.45	17.8	19.1	18.6
2	5	1880	1	0	22.94	22.95	21.58	20.6	20.7	19.3	4	10	1732.5	1	49	18.14	19.89	21.29	16.2	18.0	19.4
			1	24	22.93	22.47	21.34	20.6	20.2	19.0				1	0	16.48	19.41	20.7	14.6	17.5	18.8
			25	0	22.01	21.2	20.27	19.7	18.9	18.0				50	0	19.75	20.96	20.35	17.9	19.1	18.5
2	5	1880	1	0	23.1	22.55	21.66	20.8	20.3	19.4	4	15	1732.5	1	74	17.35	19.87	21.06	15.5	18.0	19.2
			1	24	22.94	22.35	22.32	20.6	20.1	20.0				1	0	16.26	19.58	20.43	14.4	17.7	18.5

			25	0	22.14	21.15	22.14	19.8	18.9	19.8				75	0	19.38	20.77	19.2	17.5	18.9	17.3
2	5	1880	1	0	22.92	22.79	21.65	20.6	20.5	19.4	4	20	1732.5	1	99	18.05	20.17	21.07	16.2	18.3	19.2
			1	24	22.92	22.43	21.28	20.6	20.1	19.0				1	0	16.52	19.68	20.54	14.6	17.8	18.6
			25	0	22.12	21.18	20.24	19.8	18.9	17.9				100	0	19.32	20.8	20.12	17.4	18.9	18.2
2	10	1880	1	0	23.18	22.71	21.64	20.9	20.4	19.3	4	20	1732.5	1	99	17.84	19.87	21.05	15.9	18.0	19.2
			1	49	22.82	22.58	21.42	20.5	20.3	19.1				1	0	16.74	19.25	20.53	14.8	17.4	18.6
			50	0	22.16	21.26	20.34	19.9	19.0	18.0				100	0	19.49	20.77	20.16	17.6	18.9	18.3
2	15	1880	1	0	22.97	22.93	21.62	20.7	20.6	19.3	4	20	1732.5	1	99	17.77	19.64	21.08	15.9	17.7	19.2
			1	74	22.64	21.98	21.28	20.3	19.7	19.0				1	0	16.73	19.58	20.62	14.8	17.7	18.7
			75	0	21.99	22.05	20.04	19.7	19.8	17.7				100	0	19.35	20.77	20.19	17.5	18.9	18.3
2	20	1880	1	0	23.33	22.75	21.71	21.0	20.5	19.4	4	20	1732.5	1	99	16.82	20.17	20.94	14.9	18.3	19.0
			1	99	22.97	22.45	21.4	20.7	20.2	19.1				1	0	16.03	19.68	20.59	14.1	17.8	18.7
			100	0	22.08	21.04	20.1	19.8	18.7	17.8				100	0	19.26	20.79	20.17	17.4	18.9	18.3

LTE CA_2A-5A

PCC Power (dBm)								EIRP(dBm) (GT – LC = -2.3)			SCC Power (dBm)							ERP(dBm) (GT – LC = -3.7)		
B	BW MHz	Frequency(MHz)	RB No	RB off.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	B	BW MHz	Frequency(MHz)	RB No	RB off.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
2	5	1880	1	0	23.24	22.98	21.96	20.9	20.7	19.7	5	5	1732.5	1	24	16.3	18.37	19.62	10.5	12.5	13.8
			1	24	23.04	23.01	21.75	20.7	20.7	19.5				1	0	16.27	18.18	19.28	10.4	12.3	13.4
			25	0	22.47	21.59	20.58	20.2	19.3	18.3				25	0	18.27	19.4	18.85	12.4	13.6	13.0
2	5	1880	1	0	23.61	22.97	21.86	21.3	20.7	19.6	5	10	1732.5	1	49	15.12	18.46	19.67	9.3	12.6	13.8
			1	24	23.39	22.6	21.69	21.1	20.3	19.4				1	0	15.95	18.27	19.45	10.1	12.4	13.6
			25	0	22.44	21.57	20.63	20.1	19.3	18.3				50	0	18.18	19.43	18.85	12.3	13.6	13.0
2	10	1880	1	0	23.33	22.98	21.93	21.0	20.7	19.6	5	10	1732.5	1	49	15.76	18.1	19.73	9.9	12.3	13.9
			1	49	23.09	22.5	21.7	20.8	20.2	19.4				1	0	15.85	17.62	19.24	10.0	11.8	13.4
			50	0	22.37	21.57	20.62	20.1	19.3	18.3				50	0	18.22	19.44	18.92	12.4	13.6	13.1
2	15	1880	1	0	23.21	23.14	21.7	20.9	20.8	19.4	5	10	1732.5	1	49	16.35	18.71	19.71	10.5	12.9	13.9
			1	74	22.99	22.59	21.34	20.7	20.3	19.0				1	0	15.24	18.29	19.29	9.4	12.4	13.4
			75	0	22.44	21.39	20.47	20.1	19.1	18.2				50	0	17.79	19.45	18.88	11.9	13.6	13.0
2	20	1880	1	0	23.13	22.67	21.71	20.8	20.4	19.4	5	10	1732.5	1	49	15.54	18.2	19.58	9.7	12.4	13.7
			1	99	22.74	22.43	21.32	20.4	20.1	19.0				1	0	15.66	17.75	19.1	9.8	11.9	13.3
			100	0	22.18	21.35	20.35	19.9	19.1	18.1				50	0	17.84	19.38	18.71	12.0	13.5	12.9

LTE CA_2A-7A

PCC Power (dBm)								EIRP(dBm) (GT – LC = -2.3)			SCC Power (dBm)								EIRP(dBm) (GT – LC = -2.5)		
B	BW MHz	Frequency(MHz)	RB No	RB off.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	B	BW MHz	Frequency(MHz)	RB No	RB off.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
2	5	1880	1	0	22.98	22.63	21.46	20.7	20.3	19.2	7	5	2535	1	24	16.84	18.73	19.64	14.3	16.2	17.1
			1	24	22.62	22.22	21.36	20.3	19.9	19.1				1	0	16.67	18.76	19.56	14.2	16.3	17.1
			25	0	21.91	21.03	20	19.6	18.7	17.7				25	0	18.68	19.61	18.64	16.2	17.1	16.1
2	5	1880	1	0	22.75	22.22	21.29	20.5	19.9	19.0	7	10	2535	1	49	16.5	18.7	19.63	14.0	16.2	17.1
			1	24	22.71	22.18	21.37	20.4	19.9	19.1				1	0	16.36	18.84	19.57	13.9	16.3	17.1
			25	0	21.96	21.08	20.08	19.7	18.8	17.8				50	0	18.66	19.67	18.7	16.2	17.2	16.2
2	5	1880	1	0	22.67	22.34	21.3	20.4	20.0	19.0	7	15	2535	1	74	15.43	18.67	19.39	12.9	16.2	16.9
			1	24	22.78	22.5	21.24	20.5	20.2	18.9				1	0	15.75	18.45	19.28	13.3	16.0	16.8
			25	0	21.8	20.98	20.01	19.5	18.7	17.7				75	0	18.66	19.51	18.49	16.2	17.0	16.0
2	5	1880	1	0	22.82	22.56	21.23	20.5	20.3	18.9	7	20	2535	1	99	15.63	18.86	19.38	13.1	16.4	16.9
			1	24	22.82	22.52	21.34	20.5	20.2	19.0				1	0	15.8	18.5	19.27	13.3	16.0	16.8
			25	0	21.9	21.04	20.02	19.6	18.7	17.7				100	0	18.89	19.54	18.55	16.4	17.0	16.1
2	10	1880	1	0	22.78	22.32	21.29	20.5	20.0	19.0	7	20	2535	1	99	15.7	18.44	19.36	13.2	15.9	16.9
			1	49	22.6	22.34	21.35	20.3	20.0	19.1				1	0	15.58	18.82	19.38	13.1	16.3	16.9
			50	0	21.94	20.96	20.04	19.6	18.7	17.7				100	0	18.47	19.46	18.51	16.0	17.0	16.0
2	15	1880	1	0	22.78	22.27	21.04	20.5	20.0	18.7	7	20	2535	1	99	15.87	18.98	19.37	13.4	16.5	16.9
			1	74	22.56	22.59	21.19	20.3	20.3	18.9				1	0	16.7	18.63	19.41	14.2	16.1	16.9
			75	0	21.79	20.91	19.93	19.5	18.6	17.6				100	0	18.6	19.43	18.55	16.1	16.9	16.1
2	20	1880	1	0	22.92	22.29	20.93	20.6	20.0	18.6	7	20	2535	1	99	15.53	18.63	19.38	13.0	16.1	16.9
			1	99	22.9	22.55	21.05	20.6	20.3	18.8				1	0	15.88	18.33	19.03	13.4	15.8	16.5
			100	0	21.94	21.06	19.99	19.6	18.8	17.7				100	0	18.75	19.41	18.42	16.3	16.9	15.9

LTE CA_2A-12A

PCC Power (dBm)								EIRP(dBm) (GT – LC = -2.3)			SCC Power (dBm)								ERP(dBm) (GT – LC = -3.5)		
B	BW MHz	Frequency(MHz)	RB No	RB off.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	B	BW MHz	Frequency(MHz)	RB No	RB off.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
2	5	1880	1	0	23.38	23.1	22.05	21.1	20.8	19.8	12	3	707.5	1	14	18.95	21.06	21.9	13.3	15.4	16.3
			1	24	23.27	22.9	21.78	21.0	20.6	19.5				1	0	18.85	21.52	21.93	13.2	15.9	16.3
			25	0	22.45	21.57	20.53	20.2	19.3	18.2				15	0	21.2	21.91	20.92	15.6	16.3	15.3
2	10	1880	1	0	23.44	23.12	21.89	21.1	20.8	19.6	12	3	707.5	1	14	18.65	21.22	21.91	13.0	15.6	16.3
			1	49	23.05	22.67	21.61	20.8	20.4	19.3				1	0	18.27	20.97	21.99	12.6	15.3	16.3
			50	0	22.47	21.62	20.6	20.2	19.3	18.3				15	0	21.04	21.95	20.9	15.4	16.3	15.3
2	15	1880	1	0	23.29	22.87	21.83	21.0	20.6	19.5	12	3	707.5	1	14	18.83	21.37	21.89	13.2	15.7	16.2
			1	74	22.91	22.85	21.52	20.6	20.6	19.2				1	0	18.53	21.3	22	12.9	15.7	16.4
			75	0	22.42	21.52	20.47	20.1	19.2	18.2				15	0	21.19	21.93	20.89	15.5	16.3	15.2
2	20	1880	1	0	23.55	23.27	21.81	21.3	21.0	19.5	12	3	707.5	1	14	18.41	21.36	21.95	12.8	15.7	16.3
			1	99	23	22.56	21.47	20.7	20.3	19.2				1	0	19.25	21.17	21.96	13.6	15.5	16.3
			100	0	22.44	21.49	20.47	20.1	19.2	18.2				15	0	21.22	21.99	20.94	15.6	16.3	15.3
2	5	1880	1	0	23.57	23	22.02	21.3	20.7	19.7	12	5	707.5	1	24	18.1	21.19	22.81	12.5	15.5	17.2
			1	24	23.1	22.84	21.79	20.8	20.5	19.5				1	0	18.31	21.29	22.01	12.7	15.6	16.4
			25	0	22.52	21.57	20.6	20.2	19.3	18.3				25	0	21.2	21.86	20.95	15.6	16.2	15.3
2	5	1880	1	0	23.39	23.3	21.92	21.1	21.0	19.6	12	10	707.5	1	49	18.33	20.85	22.41	12.7	15.2	16.8
			1	24	23.16	22.8	21.71	20.9	20.5	19.4				1	0	19.36	21.52	22.07	13.7	15.9	16.4
			25	0	22.58	21.63	20.57	20.3	19.3	18.3				50	0	21.18	21.89	20.92	15.5	16.2	15.3
2	10	1880	1	0	23.49	23.05	21.95	21.2	20.8	19.7	12	10	707.5	1	49	18.76	20.93	21.93	13.1	15.3	16.3
			1	49	23.36	22.99	21.72	21.1	20.7	19.4				1	0	19.1	21.23	22.04	13.5	15.6	16.4
			50	0	22.55	21.55	20.6	20.3	19.3	18.3				50	0	21.16	21.88	20.95	15.5	16.2	15.3
2	15	1880	1	0	23.46	22.95	21.79	21.2	20.7	19.5	12	10	707.5	1	49	18.88	20.98	21.84	13.2	15.3	16.2
			1	74	23.14	22.56	21.5	20.8	20.3	19.2				1	0	18.56	21.49	22.09	12.9	15.8	16.4
			75	0	22.38	21.49	20.47	20.1	19.2	18.2				50	0	21.13	21.92	20.94	15.5	16.3	15.3
2	20	1880	1	0	23.24	22.87	21.65	20.9	20.6	19.4	12	10	707.5	1	49	19.04	20.89	21.82	13.4	15.2	16.2
			1	99	23.02	22.36	21.31	20.7	20.1	19.0				1	0	18.8	21.59	22.16	13.2	15.9	16.5
			100	0	22.32	21.35	20.37	20.0	19.1	18.1				50	0	21.07	21.95	20.91	15.4	16.3	15.3

LTE CA_4A-5A

PCC Power (dBm)								EIRP(dBm) (GT – LC = -1.9)			SCC Power (dBm)								ERP(dBm) (GT – LC = -3.7)		
B	BW MHz	Frequency(MHz)	RB No	RB off.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	B	BW MHz	Frequency(MHz)	RB No	RB off.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
4	5	1732.5	1	0	22.78	22.2	21.1	20.9	20.3	19.2	5	5	836.5	1	24	16.11	18.27	19.51	10.3	12.4	13.7
			1	24	22.46	22.27	21.15	20.6	20.4	19.3				1	0	15.44	18.14	19.18	9.6	12.3	13.3
			25	0	21.8	20.82	19.82	19.9	18.9	17.9				25	0	17.97	19.29	18.72	12.1	13.4	12.9
4	10	1732.5	1	0	22.7	22.35	21.3	20.8	20.5	19.4	5	5	836.5	1	24	15.66	18.41	19.59	9.8	12.6	13.7
			1	49	22.48	22.25	21.12	20.6	20.4	19.2				1	0	15.81	20.95	19.45	10.0	15.1	13.6
			50	0	21.81	20.87	19.88	19.9	19.0	18.0				25	0	17.76	19.29	18.7	11.9	13.4	12.9
4	10	1732.5	1	0	23.01	22.57	21.27	21.1	20.7	19.4	5	10	836.5	1	49	15.19	18.37	19.79	9.3	12.5	13.9
			1	49	22.72	22.2	20.99	20.8	20.3	19.1				1	0	16.03	17.93	19.36	10.2	12.1	13.5
			50	0	21.69	20.88	19.85	19.8	19.0	18.0				50	0	17.79	19.33	18.75	11.9	13.5	12.9
4	15	1732.5	1	0	22.91	22.38	21.19	21.0	20.5	19.3	5	10	836.5	1	49	15.56	18.49	19.65	9.7	12.6	13.8
			1	74	22.47	22.03	20.97	20.6	20.1	19.1				1	0	15.19	18.27	21.06	9.3	12.4	15.2
			75	0	21.72	20.68	19.74	19.8	18.8	17.8				50	0	18.2	19.36	18.77	12.4	13.5	12.9
4	20	1732.5	1	0	22.86	22.02	21.16	21.0	20.1	19.3	5	10	836.5	1	49	14.99	18.24	19.73	9.1	12.4	13.9
			1	99	22.18	21.98	20.75	20.3	20.1	18.9				1	0	15.76	17.96	19.25	9.9	12.1	13.4
			100	0	21.53	20.7	19.72	19.6	18.8	17.8				50	0	18.16	19.39	18.75	12.3	13.5	12.9

LTE CA_4A-7A

PCC Power (dBm)								EIRP(dBm) (GT – LC = -1.9)			SCC Power (dBm)								EIRP(dBm) (GT – LC = -2.5)		
B	BW MHz	Frequency(MHz)	RB No	RB off.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	B	BW MHz	Frequency(MHz)	RB No	RB off.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
4	5	1732.5	1	0	22.68	22.48	21.27	20.8	20.6	19.4	7	5	2535	1	24	16.75	18.76	19.52	14.3	16.3	17.0
			1	24	22.82	22.61	21.38	20.9	20.7	19.5				1	0	16.25	18.96	19.51	13.8	16.5	17.0
			25	0	21.82	20.95	19.99	19.9	19.1	18.1				25	0	18.63	19.56	18.55	16.1	17.1	16.1
4	5	1732.5	1	0	22.75	22.45	21.27	20.9	20.6	19.4	7	10	2535	1	49	16.19	19.06	19.56	13.7	16.6	17.1
			1	24	22.73	22.5	21.35	20.8	20.6	19.5				1	0	16.71	18.57	19.55	14.2	16.1	17.1
			25	0	21.95	21.03	20.01	20.1	19.1	18.1				50	0	18.88	19.5	18.65	16.4	17.0	16.2
4	5	1732.5	1	0	22.9	22.33	21.37	21.0	20.4	19.5	7	15	2535	1	74	15.51	18.85	19.33	13.0	16.4	16.8
			1	24	22.96	22.75	21.48	21.1	20.9	19.6				1	0	15.95	18.75	19.36	13.5	16.3	16.9
			25	0	21.95	21.03	20.05	20.1	19.1	18.2				75	0	18.66	19.48	18.51	16.2	17.0	16.0
4	5	1732.5	1	0	22.78	22.36	21.35	20.9	20.5	19.5	7	20	2535	1	99	16.31	19.08	19.4	13.8	16.6	16.9
			1	24	23.03	22.74	23.02	21.1	20.8	21.1				1	0	15.4	18.36	15.44	12.9	15.9	12.9
			25	0	21.93	21.07	20.02	20.0	19.2	18.1				100	0	18.77	19.51	18.56	16.3	17.0	16.1
4	10	1732.5	1	0	22.82	22.27	21.22	20.9	20.4	19.3	7	20	2535	1	99	16.66	19.01	19.36	14.2	16.5	16.9
			1	49	22.93	22.46	21.46	21.0	20.6	19.6				1	0	15.36	18.67	19.3	12.9	16.2	16.8
			50	0	21.95	21.04	20.05	20.1	19.1	18.2				100	0	18.83	19.53	18.51	16.3	17.0	16.0
4	15	1732.5	1	0	22.61	22.18	21.07	20.7	20.3	19.2	7	20	2535	1	99	15.84	18.72	19.4	13.3	16.2	16.9
			1	74	22.96	22.45	21.25	21.1	20.6	19.4				1	0	15.53	18.62	19.24	13.0	16.1	16.7
			75	0	21.76	20.87	19.89	19.9	19.0	18.0				100	0	18.77	18.49	18.56	16.3	16.0	16.1
4	20	1732.5	1	0	22.72	22.07	21.11	20.8	20.2	19.2	7	20	2535	1	99	16.53	18.46	19.31	14.0	16.0	16.8
			1	99	23.07	22.31	21.6	21.2	20.4	19.7				1	0	15.22	18.44	19	12.7	15.9	16.5
			100	0	21.71	20.89	19.91	19.8	19.0	18.0				100	0	18.43	19.34	18.4	15.9	16.8	15.9

LTE CA_4A-12A

PCC Power (dBm)								EIRP(dBm) (GT – LC = -1.9)			SCC Power (dBm)								ERP(dBm) (GT – LC = -3.5)		
B	BW MHz	Frequency(MHz)	RB No	RB off.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	B	BW MHz	Frequency(MHz)	RB No	RB off.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
4	1.4	1732.5	1	0	22.63	22.29	21.1	20.7	20.4	19.2	12	5	707.5	1	24	18.61	21.05	21.95	13.0	15.4	16.3
			1	5	22.48	22.11	21.1	20.6	20.2	19.2				1	0	18.98	21.05	22.03	13.3	15.4	16.4
			6	0	21.67	20.87	19.87	19.8	19.0	18.0				25	0	21.34	21.97	20.99	15.7	16.3	15.3
4	1.4	1732.5	1	0	22.63	22.48	21.07	20.7	20.6	19.2	12	10	707.5	1	49	18.3	20.98	21.9	12.7	15.3	16.3
			1	5	22.47	22.11	21.14	20.6	20.2	19.2				1	0	19.18	21.66	22.14	13.5	16.0	16.5
			6	0	21.76	20.91	19.83	19.9	19.0	17.9				50	0	21.06	21.94	20.91	15.4	16.3	15.3
4	3	1732.5	1	0	22.74	22.44	21.19	20.8	20.5	19.3	12	5	707.5	1	24	18.09	21.1	21.87	12.4	15.5	16.2
			1	14	22.49	22.07	21.24	20.6	20.2	19.3				1	0	19.21	21.42	21.96	13.6	15.8	16.3
			15	0	21.86	20.87	19.94	20.0	19.0	18.0				25	0	21.08	21.92	20.96	15.4	16.3	15.3
4	5	1732.5	1	0	22.63	22.22	21.32	20.7	20.3	19.4	12	3	707.5	1	14	19.3	20.99	22.05	13.7	15.3	16.4
			1	24	22.52	22.57	21.18	20.6	20.7	19.3				1	0	19.25	21.28	22.03	13.6	15.6	16.4
			25	0	21.76	20.97	19.9	19.9	19.1	18.0				15	0	21.36	21.97	20.98	15.7	16.3	15.3
4	5	1732.5	1	0	22.87	22.65	21.32	21.0	20.8	19.4	12	5	707.5	1	24	18.01	21.13	22.01	12.4	15.5	16.4
			1	24	22.65	22.23	21.18	20.8	20.3	19.3				1	0	18.85	21.31	22.04	13.2	15.7	16.4
			25	0	21.74	20.97	19.89	19.8	19.1	18.0				25	0	21.38	22	21	15.7	16.4	15.4
4	5	1732.5	1	0	22.63	22.3	21.33	20.7	20.4	19.4	12	10	707.5	1	49	19.05	21.41	21.86	13.4	15.8	16.2
			1	24	22.81	22.33	21.35	20.9	20.4	19.5				1	0	18.2	21.2	22.19	12.6	15.6	16.5
			25	0	21.85	20.94	19.91	20.0	19.0	18.0				50	0	21.17	22.03	20.98	15.5	16.4	15.3
4	10	1732.5	1	0	22.85	22.36	21.2	21.0	20.5	19.3	12	3	707.5	1	14	18.46	20.98	21.96	12.8	15.3	16.3
			1	49	22.47	22.15	21.07	20.6	20.3	19.2				1	0	19.18	21.43	22.06	13.5	15.8	16.4
			50	0	21.82	20.96	19.87	19.9	19.1	18.0				15	0	21.22	22.02	20.97	15.6	16.4	15.3
4	10	1732.5	1	0	22.85	22.39	21.2	21.0	20.5	19.3	12	10	707.5	1	49	18.69	21.36	21.9	13.0	15.7	16.3
			1	49	22.6	21.96	21.01	20.7	20.1	19.1				1	0	18.83	21.53	22.14	13.2	15.9	16.5
			50	0	21.78	20.94	19.89	19.9	19.0	18.0				50	0	21.39	22.02	21.02	15.7	16.4	15.4
4	15	1732.5	1	0	22.64	22.33	21.26	20.7	20.4	19.4	12	3	707.5	1	14	19.26	21.45	21.96	13.6	15.8	16.3
			1	74	22.54	22.13	20.79	20.6	20.2	18.9				1	0	18.27	21.22	22	12.6	15.6	16.4
			75	0	21.63	20.74	19.76	19.7	18.8	17.9				15	0	21.35	21.98	21.02	15.7	16.3	15.4
4	15	1732.5	1	0	22.82	22.42	21.2	20.9	20.5	19.3	12	10	707.5	1	49	18.57	21.56	22.02	12.9	15.9	16.4
			1	74	22.42	21.97	20.85	20.5	20.1	19.0				1	0	18.9	21.12	22.14	13.3	15.5	16.5
			75	0	21.72	20.72	19.71	19.8	18.8	17.8				50	0	21.06	21.99	20.9	15.4	16.3	15.3
4	20	1732.5	1	0	22.65	22.62	22.37	20.8	20.7	20.5	12	3	707.5	1	14	19.55	21.41	21.19	13.9	15.8	15.5
			1	99	22.22	21.99	21.78	20.3	20.1	19.9				1	0	19.21	21.45	21.21	13.6	15.8	15.6
			100	0	21.64	20.77	20.75	19.7	18.9	18.9				15	0	21.3	21.97	20.96	15.7	16.3	15.3
4	20	1732.5	1	0	22.83	22.47	22.27	20.9	20.6	20.4	12	10	707.5	1	49	18.44	21.16	21.04	12.8	15.5	15.4
			1	99	22.35	22.07	21.73	20.5	20.2	19.8				1	0	18.76	21.1	20.98	13.1	15.5	15.3
			100	0	21.67	20.72	20.75	19.8	18.8	18.9				50	0	21.17	21.95	20.94	15.5	16.3	15.3

LTE CA_5A-7A

PCC Power (dBm)								ERP(dBm) (GT – LC = -3.7)			SCC Power (dBm)								EIRP(dBm) (GT – LC = -2.5)		
B	BW MHz	Frequency(MHz)	RB No	RB off.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	B	BW MHz	Frequency(MHz)	RB No	RB off.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
5	1.4	836.5	1	0	24.01	23.54	22.5	18.2	17.7	16.7	7	10	2535	1	49	17.11	19.7	20.64	14.6	17.2	18.1
			1	5	23.95	23.81	22.54	18.1	18.0	16.7				1	0	17.64	19.71	20.66	15.1	17.2	18.2
			6	0	23.05	22.37	21.23	17.2	16.5	15.4				50	0	19.93	20.6	19.66	17.4	18.1	17.2
5	1.4	836.5	1	0	23.91	23.43	22.47	18.1	17.6	16.6	7	15	2535	1	74	17.52	19.87	20.44	15.0	17.4	17.9
			1	5	23.92	23.51	22.47	18.1	17.7	16.6				1	0	17.64	19.7	20.29	15.1	17.2	17.8
			6	0	23.06	22.4	21.31	17.2	16.6	15.5				75	0	19.96	20.58	19.5	17.5	18.1	17.0
5	1.4	836.5	1	0	24.16	23.57	22.52	18.3	17.7	16.7	7	20	2535	1	99	16.42	19.97	20.46	13.9	17.5	18.0
			1	5	23.94	23.59	22.62	18.1	17.7	16.8				1	0	17.61	19.64	20.32	15.1	17.1	17.8
			6	0	23.2	22.36	21.32	17.4	16.5	15.5				100	0	19.62	20.58	19.53	17.1	18.1	17.0
5	3	836.5	1	0	23.94	23.46	22.65	18.1	17.6	16.8	7	10	2535	1	49	17.98	20.19	20.76	15.5	17.7	18.3
			1	14	24.26	23.7	22.66	18.4	17.9	16.8				1	0	17.2	19.93	19.81	14.7	17.4	17.3
			15	0	23.32	22.31	21.36	17.5	16.5	15.5				50	0	19.81	20.7	19.78	17.3	18.2	17.3
5	3	836.5	1	0	23.92	23.71	22.52	18.1	17.9	16.7	7	15	2535	1	74	17.85	20.02	20.44	15.4	17.5	17.9
			1	14	24.32	23.79	22.67	18.5	17.9	16.8				1	0	16.46	19.39	20.38	14.0	16.9	17.9
			15	0	23.33	22.38	21.38	17.5	16.5	15.5				75	0	19.67	20.57	19.56	17.2	18.1	17.1
5	3	836.5	1	0	23.93	23.82	22.64	18.1	18.0	16.8	7	20	2535	1	99	17.65	19.79	20.47	15.2	17.3	18.0
			1	14	24.06	23.79	22.74	18.2	17.9	16.9				1	0	17.59	19.62	20.2	15.1	17.1	17.7
			15	0	23.15	22.33	21.4	17.3	16.5	15.6				100	0	19.87	20.59	19.52	17.4	18.1	17.0
5	5	836.5	1	0	24.23	23.65	22.58	18.4	17.8	16.7	7	10	2535	1	49	16.84	19.9	20.7	14.3	17.4	18.2
			1	24	24.12	23.97	22.75	18.3	18.1	16.9				1	0	17.84	19.7	20.74	15.3	17.2	18.2
			25	0	23.23	22.4	21.37	17.4	16.6	15.5				50	0	20.06	20.73	19.74	17.6	18.2	17.2
5	5	836.5	1	0	24.14	23.74	22.63	18.3	17.9	16.8	7	15	2535	1	74	16.84	20.19	20.46	14.3	17.7	18.0
			1	24	24.29	23.88	22.74	18.4	18.0	16.9				1	0	16.95	19.66	20.27	14.5	17.2	17.8
			25	0	23.34	22.43	21.41	17.5	16.6	15.6				75	0	19.7	20.58	19.62	17.2	18.1	17.1
5	5	836.5	1	0	24.15	23.68	22.67	18.3	17.8	16.8	7	20	2535	1	99	16.86	19.96	20.45	14.4	17.5	18.0
			1	24	24.28	23.63	22.8	18.4	17.8	17.0				1	0	17.12	19.74	20.28	14.6	17.2	17.8
			25	0	23.37	22.38	21.38	17.5	16.5	15.5				100	0	19.68	20.58	19.52	17.2	18.1	17.0
5	10	836.5	1	0	24.04	23.58	22.39	18.2	17.7	16.5	7	20	2535	1	99	16.98	19.73	20.34	14.5	17.2	17.8
			1	49	24.41	23.97	22.88	18.6	18.1	17.0				1	0	16.38	19.76	20.24	13.9	17.3	17.7
			50	0	23.34	22.37	21.41	17.5	16.5	15.6				100	0	19.84	20.51	19.51	17.3	18.0	17.0

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Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB		SCC RB		Conducted Power(dBm)	EIRP(dBm) (GT – LC = -2.3)
				Size	Offset	Size	Offset		
5MHz/ 20MHz	2583.8	2595.5	QPSK	1	24	1	0	23.79	21.5
				25	0	100	0	21.89	19.6
			16QAM	1	24	1	0	23.33	21.0
				25	0	100	0	20.96	18.7
			64QAM	1	24	1	0	22.19	19.9
				25	0	100	0	20.97	18.7
20MHz/ 5MHz	2590.5	2602.2	QPSK	1	99	1	0	23.75	21.5
				100	0	25	0	21.93	19.6
			16QAM	1	99	1	0	23.34	21.0
				100	0	25	0	21.02	18.7
			64QAM	1	99	1	0	22.24	19.9
				100	0	25	0	20.94	18.6
10MHz/ 15MHz	2585.9	2597.9	QPSK	1	49	1	0	23.73	21.4
				50	0	75	0	21.91	19.6
			16QAM	1	49	1	0	23.34	21.0
				50	0	75	0	20.99	18.7
			64QAM	1	49	1	0	22.17	19.9
				50	0	75	0	20.94	18.6
15MHz/ 10MHz	2588.1	2600.1	QPSK	1	74	1	0	23.7	21.4
				75	0	50	0	21.91	19.6
			16QAM	1	74	1	0	23.29	21.0
				75	0	50	0	20.98	18.7
			64QAM	1	74	1	0	22.18	19.9
				75	0	50	0	20.95	18.7
10MHz/ 20MHz	2583.6	2598	QPSK	1	49	1	0	23.76	21.5
				50	0	100	0	21.92	19.6
			16QAM	1	49	1	0	23.35	21.1
				50	0	100	0	21.01	18.7
			64QAM	1	49	1	0	22.19	19.9
				50	0	100	0	20.98	18.7
20MHz/ 10MHz	2588.1	2602.5	QPSK	1	99	1	0	23.71	21.4
				100	0	50	0	21.93	19.6
			16QAM	1	99	1	0	23.32	21.0
				100	0	50	0	20.97	18.7
			64QAM	1	99	1	0	22.15	19.9
				100	0	50	0	20.99	18.7
15MHz/	2585.5	2600.5	QPSK	1	74	1	0	23.67	21.4

15MHz				75	0	75	0	21.93	19.6
			16QAM	1	74	1	0	23.29	21.0
				75	0	75	0	20.98	18.7
			64QAM	1	74	1	0	22.15	19.9
				75	0	75	0	20.96	18.7
15MHz/ 20MHz	2583.3	2600.4	QPSK	1	74	1	0	23.65	21.4
				75	0	100	0	21.91	19.6
			16QAM	1	74	1	0	23.28	21.0
				75	0	100	0	20.97	18.7
			64QAM	1	74	1	0	22.12	19.8
				75	0	100	0	20.93	18.6
20MHz/ 15MHz	2585.6	2602.7	QPSK	1	99	1	0	23.64	21.3
				100	0	75	0	21.92	19.6
			16QAM	1	99	1	0	23.26	21.0
				100	0	75	0	20.98	18.7
			64QAM	1	99	1	0	22.11	19.8
				100	0	75	0	20.97	18.7
20MHz/ 20MHz	2583.1	2602.9	QPSK	1	99	1	0	23.68	21.4
				100	0	100	0	21.82	19.5
			16QAM	1	99	1	0	23.26	21.0
				100	0	100	0	20.91	18.6
			64QAM	1	99	1	0	22.09	19.8
				100	0	100	0	20.89	18.6

A.2 Emission Limit

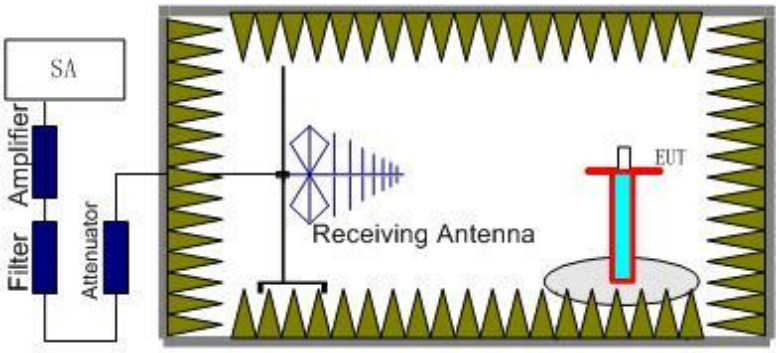
A.2.1 Measurement Method

The measurements procedures in TIA-603E-2016 are used. This measurement is carried out in fully anechoic chamber FAC-3.

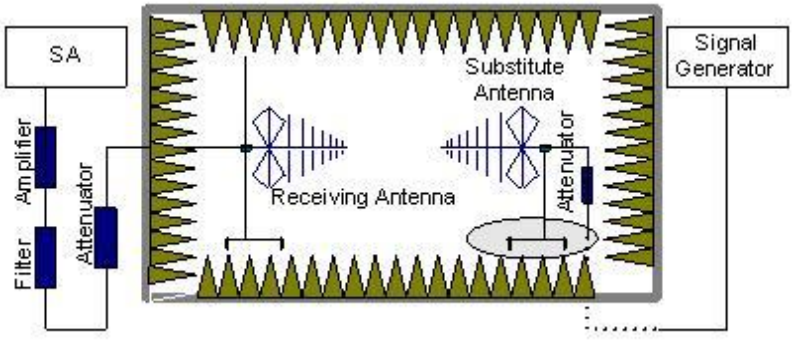
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment, which is the transmitted carrier. The resolution bandwidth is set 1MHz. The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of each LTE Band.

The procedure of radiated spurious emissions is as follows:

1. EUT was placed on a 1.5-meter-high non-conductive stand at a 3-meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.5m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT through 360 and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic were measured with peak detector.



2. The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (Pr).
3. The EUT shall be replaced by a substitution antenna. The test setup refers to figure below.



In the chamber, a substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere

with the radiation pattern of the antenna. A power (P_{Mea}) is applied to the input of the substitution antenna. Adjust the level of the signal generator output until the value of the receiver reaches the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.

4. The Path loss (P_{pl}) between the Signal Source with the Substitution Antenna and the Substitution Antenna Gain (G_a) should be recorded after test.
   An amplifier should be connected in for the test.
   The Path loss (P_{pl}) is the summation of the cable loss and the gain of the amplifier.
   The measurement results are obtained as described below:
   Power (EIRP)=P_{Mea} - P_{pl} + G_a
5. This value is EIRP since the measurement is calibrated using an antenna of known gain (unit: dBi) and known input power.
6. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP - 2.15dB.

A.2.2 Measurement Limit

Part 22.917, Part 24.238 and Part 27.53(h) specify that 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.
Part 27.53(g) states for operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

LTE Band 7/41: RSS-199 4.5 specifies " for mobile subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least:
55 + 10 log10 p at X MHz and beyond from the channel edges
55 + 10 log10 p at or below 2490.5 MHz."

A.2.3 Measurement Results

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of each LTE Band. It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of each LTE Band into any of the other blocks. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this. The range of evaluated frequency is from 30MHz to 26GHz.

LTE CA_2A-4A 20MHz, QPSK, Channel 18700

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3720.02	-47.29	6.38	8.51	-45.16	-13.00	32.16	H
5583.02	-45.06	7.22	10.58	-41.70	-13.00	28.70	H
7436.01	-53.42	8.22	12.12	-49.52	-13.00	36.52	V
9318.01	-53.84	9.13	13.29	-49.68	-13.00	36.68	H
11168.01	-50.78	9.54	13.17	-47.15	-13.00	34.15	V
13040.01	-47.21	10.65	13.56	-44.30	-13.00	31.30	H

LTE CA_2A-4A 20MHz, QPSK, Channel 18900

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3760.02	-50.73	6.26	8.56	-48.43	-13.00	35.43	H
5642.02	-41.68	7.27	10.57	-38.38	-13.00	25.38	V
7478.01	-53.70	8.33	12.17	-49.86	-13.00	36.86	H
9410.01	-53.75	9.09	13.35	-49.49	-13.00	36.49	V
11250.01	-50.49	9.70	13.15	-47.04	-13.00	34.04	V
13179.01	-47.68	10.59	13.75	-44.52	-13.00	31.52	V

LTE CA_2A-4A 20MHz, QPSK, Channel 19100

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3800.02	-50.17	6.14	8.62	-47.69	-13.00	34.69	H
5702.02	-50.27	7.29	10.56	-47.00	-13.00	34.00	V
7587.01	-54.45	8.03	12.27	-50.21	-13.00	37.21	V
9474.01	-52.91	9.41	13.38	-48.94	-13.00	35.94	V
11384.01	-50.50	10.05	13.12	-47.43	-13.00	34.43	V
13284.01	-47.95	10.57	13.90	-44.62	-13.00	31.62	V

LTE CA_2A 20MHz -5A 10MHz, QPSK, Channel 18700

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3720.02	-48.47	6.38	8.51	-46.34	-13.00	33.34	H
5581.02	-40.30	7.21	10.58	-36.93	-13.00	23.93	V
7462.01	-54.13	8.29	12.15	-50.27	-13.00	37.27	V
9330.01	-53.17	9.12	13.30	-48.99	-13.00	35.99	V
11111.01	-50.93	9.79	13.18	-47.54	-13.00	34.54	V
13067.01	-46.92	10.78	13.59	-44.11	-13.00	31.11	V

LTE CA_2A 20MHz -5A 10MHz, QPSK, Channel 18900

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3760.02	-51.00	6.26	8.56	-48.70	-13.00	35.70	H
5642.02	-38.60	7.27	10.57	-35.30	-13.00	22.30	V
7477.01	-53.20	8.33	12.17	-49.36	-13.00	36.36	V
9446.01	-53.48	9.27	13.37	-49.38	-13.00	36.38	V
11258.01	-50.60	9.75	13.15	-47.20	-13.00	34.20	V
13190.01	-47.13	10.54	13.77	-43.90	-13.00	30.90	V

LTE CA_2A 20MHz -5A 10MHz, QPSK, Channel 19100

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3800.02	-50.86	6.14	8.62	-48.38	-13.00	35.38	H
5699.02	-42.01	7.29	10.56	-38.74	-13.00	25.74	V
7559.01	-52.56	8.15	12.25	-48.46	-13.00	35.46	V
9481.01	-52.82	9.45	13.39	-48.88	-13.00	35.88	V
11376.01	-50.42	10.05	13.12	-47.35	-13.00	34.35	V
13331.01	-47.54	10.58	13.96	-44.16	-13.00	31.16	H

LTE CA_2A-7A 20MHz, QPSK, Channel 18700

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3720.02	-47.30	6.38	8.51	-45.17	-13.00	32.17	H
5584.02	-46.46	7.22	10.58	-43.10	-13.00	30.10	H
7447.01	-53.52	8.25	12.14	-49.63	-13.00	36.63	V
9257.01	-53.15	9.06	13.25	-48.96	-13.00	35.96	V
11169.01	-51.10	9.54	13.17	-47.47	-13.00	34.47	V
13062.01	-48.02	10.76	13.59	-45.19	-13.00	32.19	H

LTE CA_2A-7A 20MHz, QPSK, Channel 18900

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3760.02	-48.97	6.26	8.56	-46.67	-13.00	33.67	H
5642.02	-46.58	7.27	10.57	-43.28	-13.00	30.28	V
7541.01	-53.51	8.22	12.23	-49.50	-13.00	36.50	V
9442.01	-52.31	9.25	13.37	-48.19	-13.00	35.19	V
11245.01	-50.54	9.67	13.15	-47.06	-13.00	34.06	V
13163.01	-47.09	10.66	13.73	-44.02	-13.00	31.02	V

LTE CA_2A-7A 20MHz, QPSK, Channel 19100

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3800.02	-50.77	6.14	8.62	-48.29	-13.00	35.29	H
5702.02	-50.20	7.29	10.56	-46.93	-13.00	33.93	V
7605.01	-54.48	8.00	12.28	-50.20	-13.00	37.20	H
9530.01	-53.38	9.43	13.37	-49.44	-13.00	36.44	V
11361.01	-50.41	10.04	13.13	-47.32	-13.00	34.32	V
13309.01	-48.08	10.58	13.93	-44.73	-13.00	31.73	V

LTE CA_2A-12A 20MHz, QPSK, Channel 18700

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3720.02	-50.50	6.38	8.51	-48.37	-13.00	35.37	H
5582.02	-40.54	7.22	10.58	-37.18	-13.00	24.18	V
7464.01	-53.84	8.29	12.16	-49.97	-13.00	36.97	V
9257.01	-53.42	9.06	13.25	-49.23	-13.00	36.23	H
11191.01	-50.54	9.44	13.16	-46.82	-13.00	33.82	V
13029.01	-47.80	10.60	13.54	-44.86	-13.00	31.86	V

LTE CA_2A-12A 20MHz, QPSK, Channel 18900

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3760.02	-51.53	6.26	8.56	-49.23	-13.00	36.23	H
5639.02	-38.68	7.27	10.57	-35.38	-13.00	22.38	V
7559.01	-53.34	8.15	12.25	-49.24	-13.00	36.24	H
9383.01	-53.36	9.05	13.33	-49.08	-13.00	36.08	V
11270.01	-50.68	9.82	13.15	-47.35	-13.00	34.35	V
13128.01	-47.23	10.81	13.68	-44.36	-13.00	31.36	V

LTE CA_2A-12A 20MHz, QPSK, Channel 19100

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3800.02	-52.12	6.14	8.62	-49.64	-13.00	36.64	H
5702.02	-42.52	7.29	10.56	-39.25	-13.00	26.25	V
7601.01	-53.54	7.98	12.28	-49.24	-13.00	36.24	V
9486.01	-53.09	9.47	13.39	-49.17	-13.00	36.17	V
11369.01	-50.21	10.04	13.13	-47.12	-13.00	34.12	V
13346.01	-47.77	10.57	13.98	-44.36	-13.00	31.36	H

LTE CA_4A 20MHz -5A 10MHz, QPSK, Channel 19957

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3440.02	-59.90	5.41	8.06	-57.25	-13.00	44.25	H
5163.02	-51.13	6.90	10.13	-47.90	-13.00	34.90	V
6883.01	-59.34	7.78	11.46	-55.66	-13.00	42.66	V
8637.01	-64.47	8.44	13.03	-59.88	-13.00	46.88	V
10329.01	-61.95	9.69	13.03	-58.61	-13.00	45.61	V
12049.01	-59.77	10.20	13.02	-56.95	-13.00	43.95	V

LTE CA_4A 20MHz -5A 10MHz, QPSK, Channel 20175

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3465.02	-59.42	5.46	8.12	-56.76	-13.00	43.76	H
5201.02	-46.39	6.96	10.18	-43.17	-13.00	30.17	V
6933.01	-57.37	7.78	11.52	-53.63	-13.00	40.63	V
8625.01	-64.55	8.46	13.03	-59.98	-13.00	46.98	V
10370.01	-61.83	9.75	13.05	-58.53	-13.00	45.53	V
12150.01	-59.64	10.20	13.06	-56.78	-13.00	43.78	V

LTE CA_4A 20MHz -5A 10MHz, QPSK, Channel 20393

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490.02	-59.00	5.50	8.18	-56.32	-13.00	43.32	H
5238.02	-46.63	7.00	10.23	-43.40	-13.00	30.40	V
6983.01	-58.14	8.17	11.58	-54.73	-13.00	41.73	V
8755.01	-64.64	8.53	13.05	-60.12	-13.00	47.12	V
10500.01	-61.59	9.65	13.10	-58.14	-13.00	45.14	V
12192.01	-59.69	10.08	13.08	-56.69	-13.00	43.69	V

LTE CA_4A-7A 20MHz, QPSK, Channel 19957

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3440.02	-60.68	5.41	8.06	-58.03	-13.00	45.03	H
5163.02	-57.17	6.90	10.13	-53.94	-13.00	40.94	V
6883.01	-59.43	7.78	11.46	-55.75	-13.00	42.75	V
8623.01	-64.53	8.46	13.02	-59.97	-13.00	46.97	V
10369.01	-61.82	9.75	13.05	-58.52	-13.00	45.52	V
12052.01	-59.79	10.20	13.02	-56.97	-13.00	43.97	V

LTE CA_4A-7A 20MHz, QPSK, Channel 20175

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3465.02	-60.44	5.46	8.12	-57.78	-13.00	44.78	H
5202.02	-45.96	6.96	10.18	-42.74	-13.00	29.74	V
6933.01	-56.97	7.78	11.52	-53.23	-13.00	40.23	V
8628.01	-64.42	8.46	13.03	-59.85	-13.00	46.85	V
10388.01	-61.78	9.78	13.06	-58.50	-13.00	45.50	V
12177.01	-59.69	10.13	13.07	-56.75	-13.00	43.75	V

LTE CA_4A-7A 20MHz, QPSK, Channel 20393

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490.02	-60.81	5.50	8.18	-58.13	-13.00	45.13	H
5238.02	-48.51	7.00	10.23	-45.28	-13.00	32.28	V
6983.01	-57.88	8.17	11.58	-54.47	-13.00	41.47	V
8749.01	-64.65	8.51	13.05	-60.11	-13.00	47.11	V
10491.01	-61.62	9.67	13.10	-58.19	-13.00	45.19	V
12174.01	-59.64	10.13	13.07	-56.70	-13.00	43.70	V

LTE CA_4A 20MHz -12A 10MHz, QPSK, Channel 19957

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3440.02	-62.21	5.41	8.06	-59.56	-13.00	46.56	H
5163.02	-50.64	6.90	10.13	-47.41	-13.00	34.41	V
6883.01	-59.29	7.78	11.46	-55.61	-13.00	42.61	V
8643.01	-64.49	8.44	13.03	-59.90	-13.00	46.90	V
10369.01	-61.82	9.75	13.05	-58.52	-13.00	45.52	V
12050.01	-59.78	10.20	13.02	-56.96	-13.00	43.96	V

LTE CA_4A 20MHz -12A 10MHz, QPSK, Channel 20175

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3465.02	-58.83	5.46	8.12	-56.17	-13.00	43.17	H
5201.02	-45.43	6.96	10.18	-42.21	-13.00	29.21	V
6933.01	-57.59	7.78	11.52	-53.85	-13.00	40.85	V
8667.01	-64.56	8.40	13.03	-59.93	-13.00	46.93	V
10378.01	-61.85	9.77	13.05	-58.57	-13.00	45.57	V
12172.01	-59.69	10.14	13.07	-56.76	-13.00	43.76	V

LTE CA_4A 20MHz -12A 10MHz, QPSK, Channel 20393

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490.02	-62.45	5.50	8.18	-59.77	-13.00	46.77	H
5238.02	-47.32	7.00	10.23	-44.09	-13.00	31.09	V
6983.01	-57.65	8.17	11.58	-54.24	-13.00	41.24	V
8747.01	-64.80	8.50	13.05	-60.25	-13.00	47.25	V
10495.01	-61.62	9.66	13.10	-58.18	-13.00	45.18	V
12177.01	-59.58	10.13	13.07	-56.64	-13.00	43.64	V

LTE CA_5A 10MHz-7A 20MHz QPSK, Channel 20407

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1658.01	-59.15	3.57	5.22	2.15	-59.65	-13.00	46.65	H
2487.00	-52.78	4.61	6.06	2.15	-53.48	-13.00	40.48	V
3325.02	-54.49	5.30	7.78	2.15	-54.16	-13.00	41.16	H
4158.02	-55.43	6.11	9.06	2.15	-54.63	-13.00	41.63	H
4968.01	-53.16	6.66	9.87	2.15	-52.10	-13.00	39.10	V
5803.01	-53.49	7.19	10.54	2.15	-52.29	-13.00	39.29	H

LTE CA_5A 10MHz-7A 20MHz QPSK, Channel 20525

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1673.01	-59.77	3.58	5.19	2.15	-60.31	-13.00	47.31	H
2510.00	-50.76	4.63	6.12	2.15	-51.42	-13.00	38.42	V
3359.02	-54.49	5.33	7.86	2.15	-54.11	-13.00	41.11	H
4191.02	-54.08	6.19	9.09	2.15	-53.33	-13.00	40.33	V
5020.01	-53.73	6.57	9.93	2.15	-52.52	-13.00	39.52	H
5841.01	-53.32	7.21	10.53	2.15	-52.15	-13.00	39.15	H

LTE CA_5A 10MHz-7A 20MHz QPSK, Channel 20643

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1688.01	-58.60	3.59	5.16	2.15	-59.18	-13.00	46.18	H
2532.00	-48.99	4.65	6.16	2.15	-49.63	-13.00	36.63	V
3380.02	-53.99	5.34	7.91	2.15	-53.57	-13.00	40.57	V
4214.02	-54.59	6.24	9.11	2.15	-53.87	-13.00	40.87	H
5076.01	-53.10	6.70	10.01	2.15	-51.94	-13.00	38.94	V
5915.01	-53.10	7.44	10.52	2.15	-52.17	-13.00	39.17	V

LTE CA_band 41, 20MHz, 16QAM, Channel 39750

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5016.02	-56.13	6.58	9.92	-52.79	-25.00	27.79	V
7521.01	-53.89	8.31	12.22	-49.98	-25.00	24.98	H
10019.01	-53.21	9.23	12.91	-49.53	-25.00	24.53	H
12534.01	-49.96	10.27	13.22	-47.01	-25.00	22.01	V
15033.00	-45.52	11.26	13.98	-42.80	-25.00	17.80	H
17539.00	-44.43	12.87	14.95	-42.35	-25.00	17.35	V

LTE CA_band 41, 20MHz, 16QAM, Channel 40521

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
6485.02	-54.34	7.53	10.99	-50.88	-25.00	25.88	V
7779.01	-54.32	8.32	12.42	-50.22	-25.00	25.22	H
10328.01	-52.02	9.69	13.03	-48.68	-25.00	23.68	V
12909.01	-48.36	10.50	13.45	-45.41	-25.00	20.41	H
15504.00	-44.41	11.53	13.70	-42.24	-25.00	17.24	H
16802.00	-42.32	12.11	13.72	-40.71	-25.00	15.71	H

LTE CA_band 41, 20MHz, 16QAM, Channel 41292

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5308.02	-55.87	6.99	10.33	-52.53	-25.00	27.53	H
7968.01	-54.87	8.36	12.57	-50.66	-25.00	25.66	V
10629.01	-51.62	9.29	13.13	-47.78	-25.00	22.78	V
13284.01	-48.14	10.57	13.90	-44.81	-25.00	19.81	H
15974.00	-43.33	11.77	13.70	-41.40	-25.00	16.40	H
17284.00	-43.44	12.37	14.42	-41.39	-25.00	16.39	V

LTE CA_band 41, 20MHz, QPSK, Channel 41292

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5303.02	-55.43	6.99	10.32	-52.10	-25.00	27.10	H
7969.01	-55.11	8.36	12.58	-50.89	-25.00	25.89	V
10619.01	-51.62	9.28	13.12	-47.78	-25.00	22.78	V
13285.01	-48.30	10.57	13.90	-44.97	-25.00	19.97	H
15974.00	-43.55	11.77	13.70	-41.62	-25.00	16.62	H
17279.00	-43.72	12.37	14.41	-41.68	-25.00	16.68	V

A.3 Frequency Stability

A.3.1 Method of Measurement

Frequency stability is a measure of the frequency drift due to temperature and supply voltage variations, with reference to the frequency measured at +20 °C and rated supply voltage. Two reference points are established at the applicable unwanted emissions limit using a RBW equal to the RBW required by the unwanted emissions specification of the applicable regulatory standard. These reference points measured using the lowest and highest channel of operation shall be identified as F_L and F_H respectively.

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a “call mode”. This is accomplished with the use of CMW500.

1. Measure the carrier frequency at room temperature.
2. Subject the EUT to overnight soak at -30℃.
3. With the EUT, powered via nominal voltage, connected to the CMW500, and in a simulated call on middle channel for each LTE band, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
4. Repeat the above measurements at 10℃ increments from -30℃ to +50℃. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
5. Re-measure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments re-measuring carrier frequency at each voltage. Pause at nominal voltage for 1.5 hours unpowered, to allow any self-heating to stabilize, before continuing.
6. Subject the EUT to overnight soak at +50℃.
7. With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on the center channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
8. Repeat the above measurements at 10 ℃increments from -30℃ to +50℃. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
9. At all temperature levels hold the temperature to +/- 0.5℃ during the measurement procedure.

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. As this transceiver is considered "Hand carried, battery powered equipment" Section 2.1055(d)(2) applies. This requires that the lower voltage for frequency stability testing be specified by the manufacturer. This transceiver is specified to operate with an input voltage of the lower, higher and nominal voltage. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from overstress.

A.3.2 Measurement results

LTE Band 2@CA_2A-4A

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	1850.801	1909.199		
50				-2.64	0.0014
40				-2.28	0.0012
30				-2.12	0.0011
10				-0.65	0.0003
0				0.37	0.0002
-10				-0.36	0.0002
-20				0.81	0.0004
-30				0.43	0.0002

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	1850.801	1909.199	-0.24	0.0001
4.4				-0.49	0.0003

LTE Band 2@CA_2A-5A

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	1850.833	1909.199		
50				0.24	0.0001
40				1.54	0.0008
30				1.20	0.0006
10				-9.23	0.0049
0				0.37	0.0002
-10				-9.61	0.0051
-20				-0.53	0.0003
-30				-0.29	0.0002

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	1850.833	1909.199	-9.88	0.0053
4.4				-0.33	0.0002

LTE Band 2@CA_2A-7A

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	1850.833	1909.199		
50				-9.91	0.0053
40				-0.92	0.0005
30				-1.82	0.0010
10				-1.67	0.0009
0				-0.43	0.0002
-10				-9.53	0.0051
-20				-11.84	0.0063
-30				-10.67	0.0057

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	1850.833	1909.199	-10.81	0.0058
4.4				-11.23	0.0060

LTE Band 2@CA_2A-12A

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	1850.833	1909.199		
50				11.14	0.0059
40				8.65	0.0046
30				0.11	0.0001
10				0.07	0.0000
0				0.50	0.0003
-10				1.34	0.0007
-20				9.86	0.0052
-30				-1.02	0.0005

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	1850.833	1909.199	10.83	0.0058
4.4				9.97	0.0053

LTE Band 4@CA_2A-4A

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	1710.897	1754.231	1.12	0.0006
50				1.68	0.0010
40				1.79	0.0010
30				-0.89	0.0005
10				0.63	0.0004
0				-2.25	0.0013
-10				0.92	0.0005
-20				-0.27	0.0002
-30					

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	1710.897	1754.231	0.55	0.0003
4.4				-0.15	0.0001

LTE Band 4@CA_4A-5A

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	1710.865	1754.231	-7.68	0.0044
50				-9.07	0.0052
40				-7.85	0.0045
30				0.29	0.0002
10				-8.88	0.0051
0				-7.50	0.0043
-10				-0.37	0.0002
-20				0.36	0.0002
-30					

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	1710.865	1754.231	-9.78	0.0056
4.4				0.21	0.0001

LTE Band 4@CA_4A-7A

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	1710.865	1754.231		
50				-10.33	0.0060
40				-0.92	0.0005
30				0.50	0.0003
10				1.26	0.0007
0				-1.46	0.0008
-10				-1.60	0.0009
-20				-1.95	0.0011
-30				-9.83	0.0057

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	1710.865	1754.231	-0.67	0.0004
4.4				-0.82	0.0005

LTE Band 4@CA_4A-12A

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	1710.865	1754.199		
50				-12.47	0.0072
40				-0.96	0.0006
30				-11.29	0.0065
10				0.57	0.0003
0				-1.77	0.0010
-10				1.27	0.0007
-20				-1.17	0.0007
-30				-0.67	0.0004

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	1710.865	1754.199	-1.65	0.0010
4.4				-2.00	0.0012

LTE Band 5@CA_2A-5A

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	824.417	848.567		
50				-0.69	0.0008
40				-0.16	0.0002
30				-6.47	0.0077
10				0.03	0.0000
0				-0.87	0.0010
-10				-6.11	0.0073
-20				-7.65	0.0091
-30				-6.45	0.0077

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	824.417	848.567	1.29	0.0015
4.4				0.04	0.0000

LTE Band 5@CA_4A-5A

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	824.417	848.567		
50				1.62	0.0019
40				5.95	0.0071
30				7.35	0.0088
10				1.27	0.0015
0				0.80	0.0010
-10				1.19	0.0014
-20				1.23	0.0015
-30				6.81	0.0081

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	824.417	848.567	6.44	0.0077
4.4				6.32	0.0076

LTE Band 5@CA_5A-7A

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	824.417	848.567		
50				-0.87	0.0010
40				-1.00	0.0012
30				-1.54	0.0018
10				-1.22	0.0015
0				-0.20	0.0002
-10				-1.82	0.0022
-20				0.43	0.0005
-30				-0.43	0.0005

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	824.417	848.567	-2.37	0.0028
4.4				-0.24	0.0003

LTE Band 7@CA_2A-7A

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	2500.929	2569.103		
50				-1.14	0.0004
40				-0.92	0.0004
30				-0.92	0.0004
10				-0.43	0.0002
0				-0.11	0.0000
-10				11.59	0.0046
-20				-0.36	0.0001
-30				-1.92	0.0008

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	2500.929	2569.103	12.36	0.0049
4.4				-0.39	0.0002

LTE Band 7@CA_4A-7A

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	2500.929	2569.103		
50				10.59	0.0042
40				-0.49	0.0002
30				11.44	0.0045
10				-0.13	0.0001
0				-0.23	0.0001
-10				0.64	0.0003
-20				-1.87	0.0007
-30				-1.20	0.0005

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	2500.929	2569.103	-0.47	0.0002
4.4				0.73	0.0003

LTE Band 7@CA_5A-7A

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	2500.929	2569.103		
50				-0.73	0.0003
40				-0.70	0.0003
30				-1.99	0.0008
10				-0.97	0.0004
0				-0.79	0.0003
-10				-1.09	0.0004
-20				-2.06	0.0008
-30				-11.97	0.0047

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	2500.929	2569.103	-1.30	0.0005
4.4				-0.21	0.0001

LTE Band 12@CA_2A-12A

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	699.481	715.519	5.15	0.0073
50				-0.31	0.0004
40				0.37	0.0005
30				-0.03	0.0000
10				5.79	0.0082
0				0.29	0.0004
-10				5.26	0.0074
-20				0.74	0.0010
-30					

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	699.481	715.519	0.20	0.0003
4.4				0.10	0.0001

LTE Band 12@CA_4A-12A

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	699.481	715.519	-0.80	0.0011
50				4.03	0.0057
40				0.30	0.0004
30				-0.09	0.0001
10				-1.17	0.0017
0				-0.89	0.0013
-10				0.16	0.0002
-20				-0.73	0.0010
-30					

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	699.481	715.519	4.66	0.0066
4.4				-0.66	0.0009

LTE band 41_CA, 20MHz+20MHz bandwidth QPSK(worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	2496.913	2689.100	2.70	0.0010
50				-0.40	0.0002
40				1.30	0.0005
30				2.30	0.0009
10				0.10	0.0000
0				-1.40	0.0005
-10				2.60	0.0010
-20				1.70	0.0007
-30					

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.5	20	2496.913	2689.100	2.80	0.0011
4.4				-1.30	0.0005

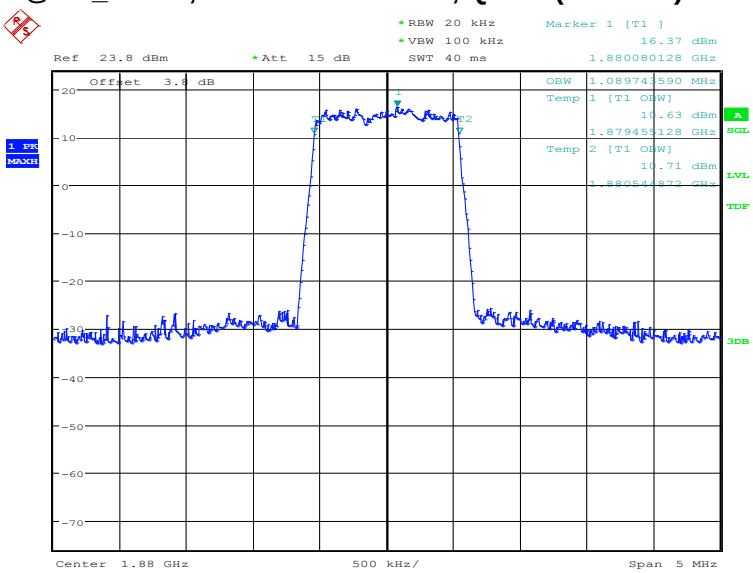
A.4 Occupied Bandwidth

Occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the mid frequencies frequency. The table below lists the measured 99% BW. Spectrum analyzer plots are included on the following pages.
The measurement method is from ANSI C63.26:
a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts.
b) The nominal IF filter 3 dB bandwidth (RBW) shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set ≥ 3 × RBW.
c) Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation.
d) Set the detection mode to peak, and the trace mode to max-hold.

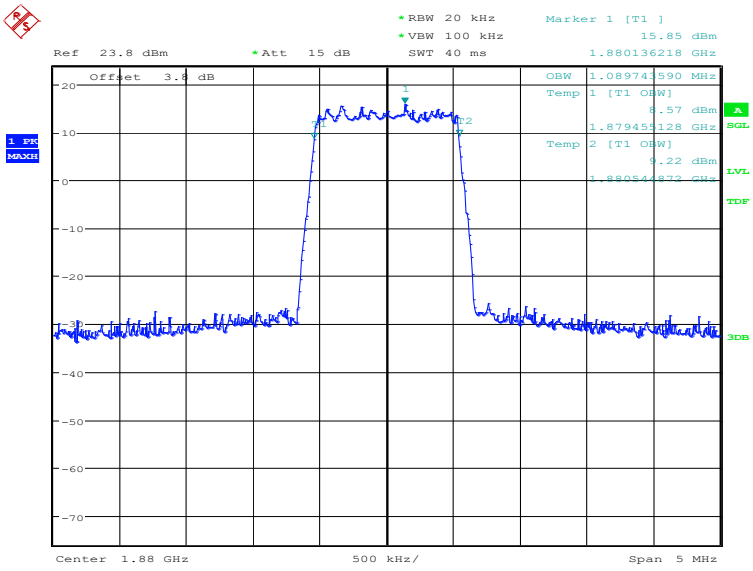
LTE Band 2@CA_2A-4A, 1.4MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	1089.74	1089.74

LTE Band 2@CA_2A-4A, 1.4MHz Bandwidth, QPSK (99% BW)



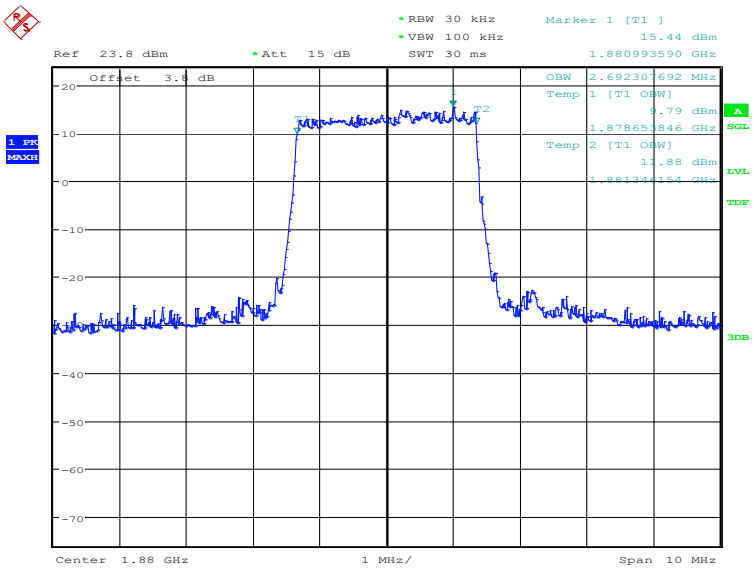
LTE Band 2@CA_2A-4A, 1.4MHz Bandwidth, 16QAM (99% BW)



LTE Band 2@CA_2A-4A, 3MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	2692.31	2692.31

LTE Band 2@CA_2A-4A, 3MHz Bandwidth, QPSK (99% BW)



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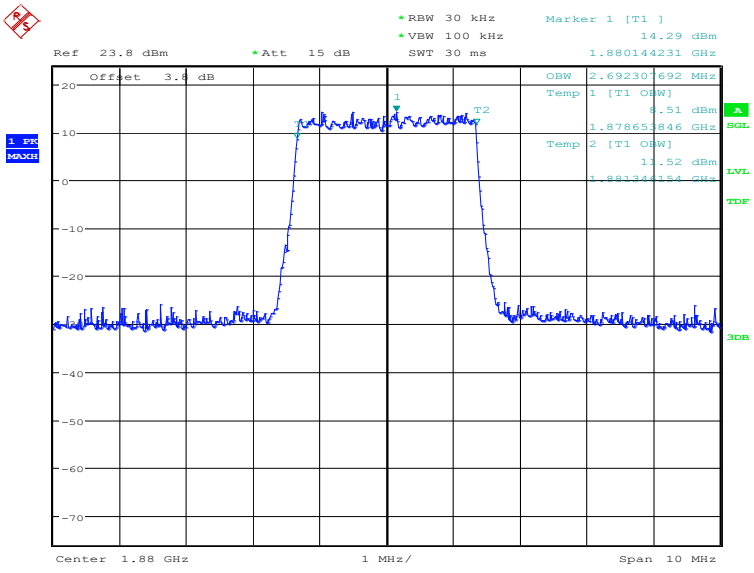
LTE Band 2@CA_2A-4A, 3MHz Bandwidth, 16QAM (99% BW)



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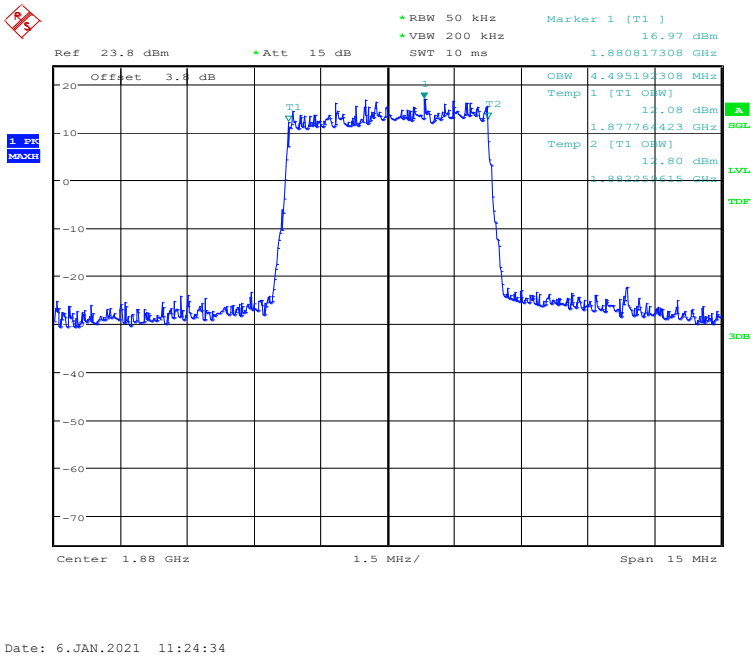
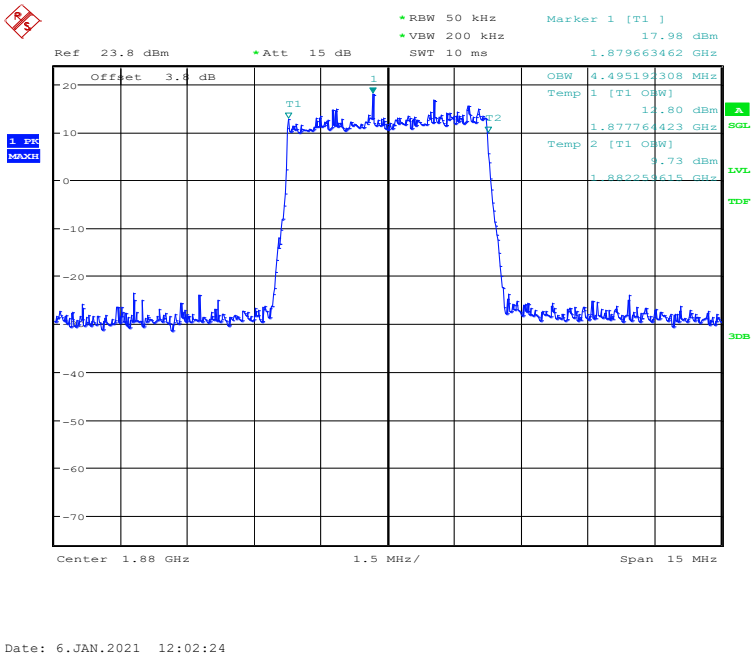
LTE Band 2@CA_2A-4A, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	4495.19	4495.19

LTE Band 2@CA_2A-4A, 5MHz Bandwidth, QPSK (99% BW)



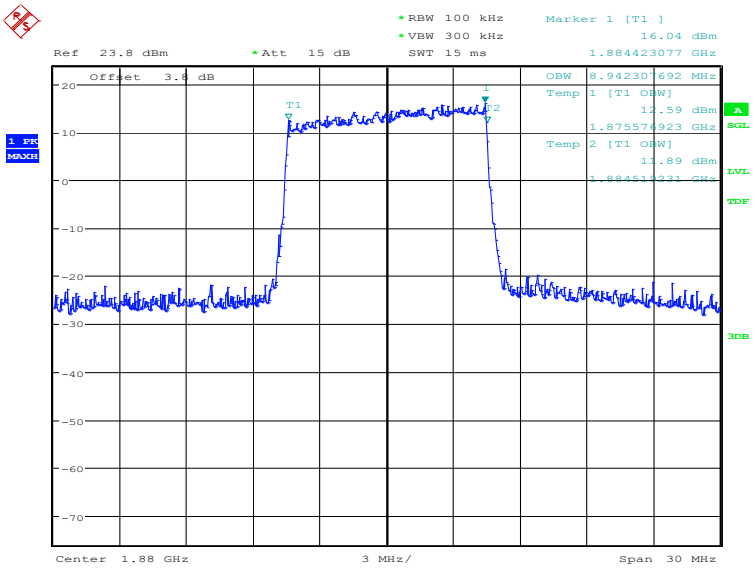
LTE Band 2@CA_2A-4A, 5MHz Bandwidth, 16QAM (99% BW)



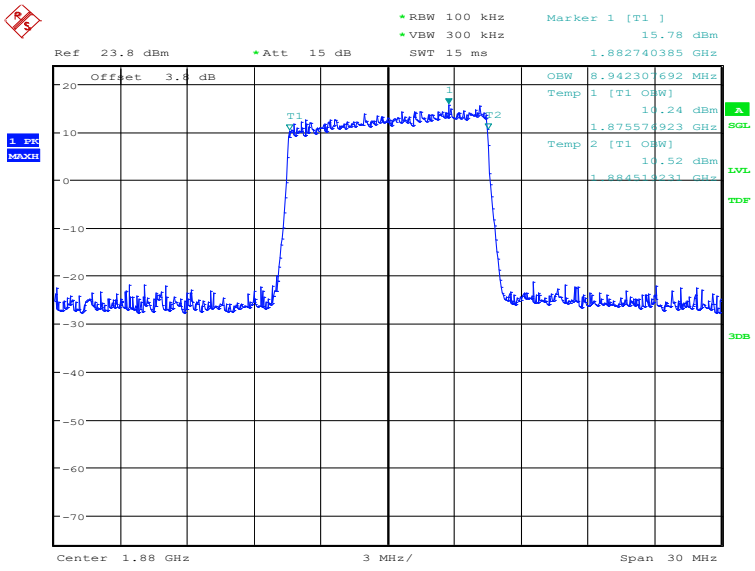
LTE Band 2@CA_2A-4A, 10MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	8942.31	8942.31

LTE Band 2@CA_2A-4A, 10MHz Bandwidth, QPSK (99% BW)



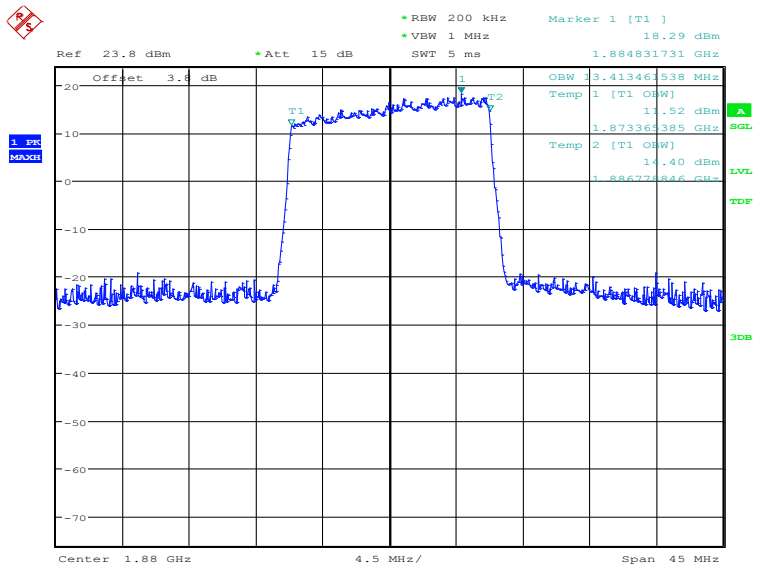
LTE Band 2@CA_2A-4A, 10MHz Bandwidth, 16QAM (99% BW)



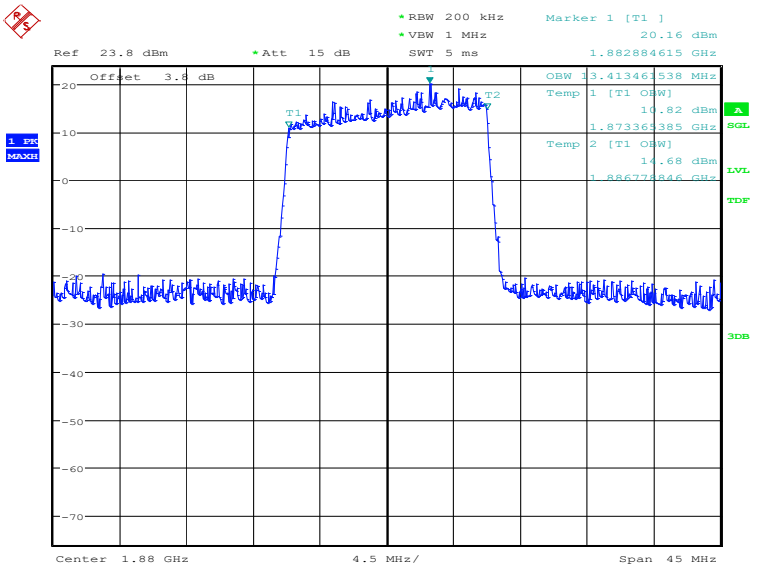
LTE Band 2@CA_2A-4A, 15MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	13413.46	13413.46

LTE Band 2@CA_2A-4A, 15MHz Bandwidth, QPSK (99% BW)



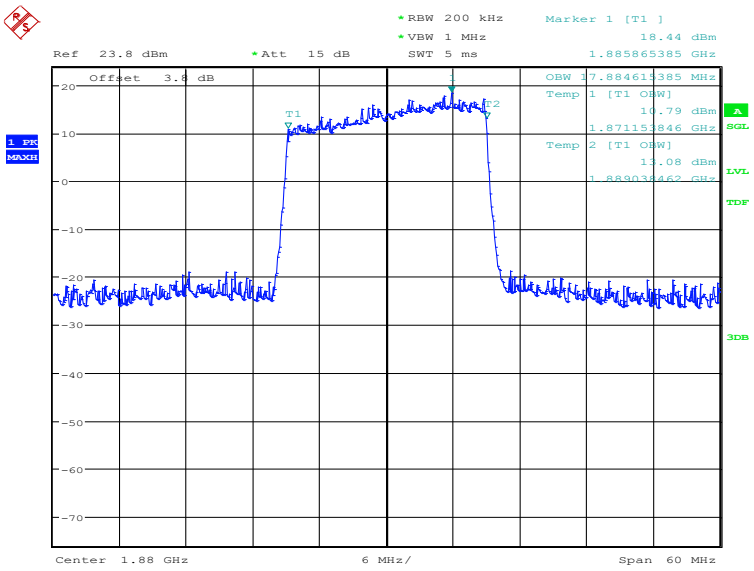
LTE Band 2@CA_2A-4A, 15MHz Bandwidth, 16QAM (99% BW)



LTE Band 2@CA_2A-4A, 20MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	17884.62	17884.62

LTE Band 2@CA_2A-4A, 20MHz Bandwidth, QPSK (99% BW)



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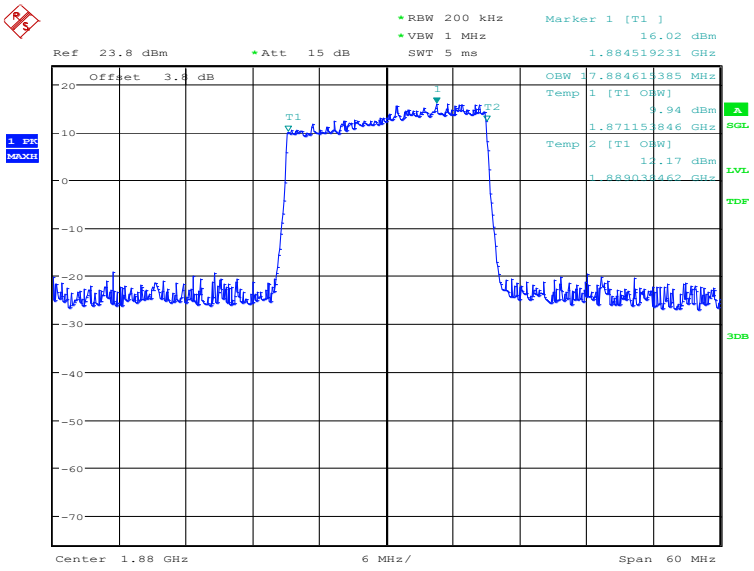
LTE Band 2@CA_2A-4A, 20MHz Bandwidth, 16QAM (99% BW)



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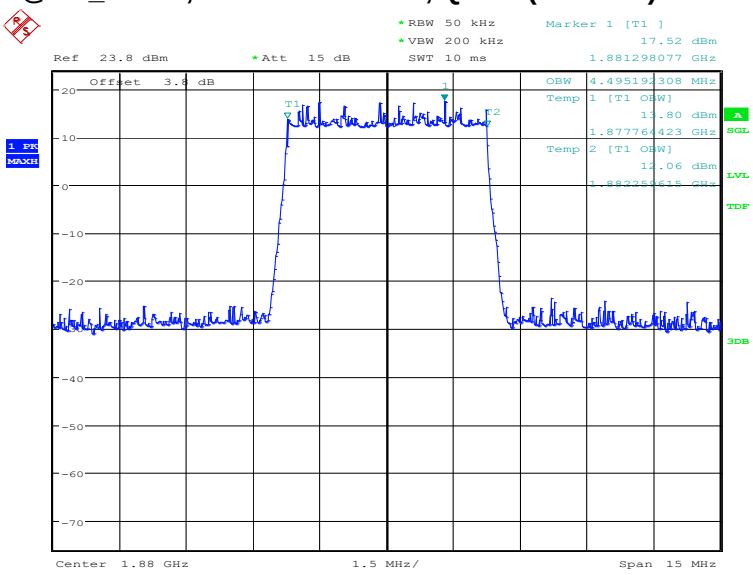
LTE band 2@CA_2A-5A, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	4495.19	4471.15

LTE band 2@CA_2A-5A, 5MHz Bandwidth, QPSK (99% BW)



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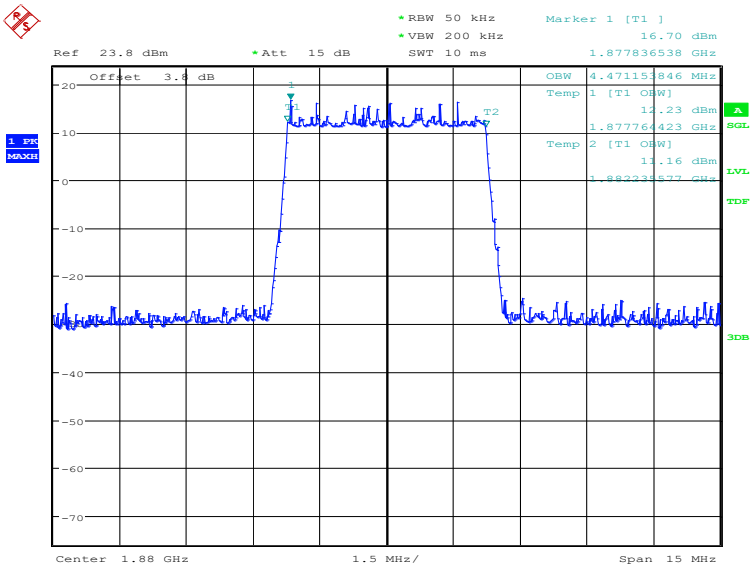
LTE band 2@CA_2A-5A, 5MHz Bandwidth, 16QAM (99% BW)



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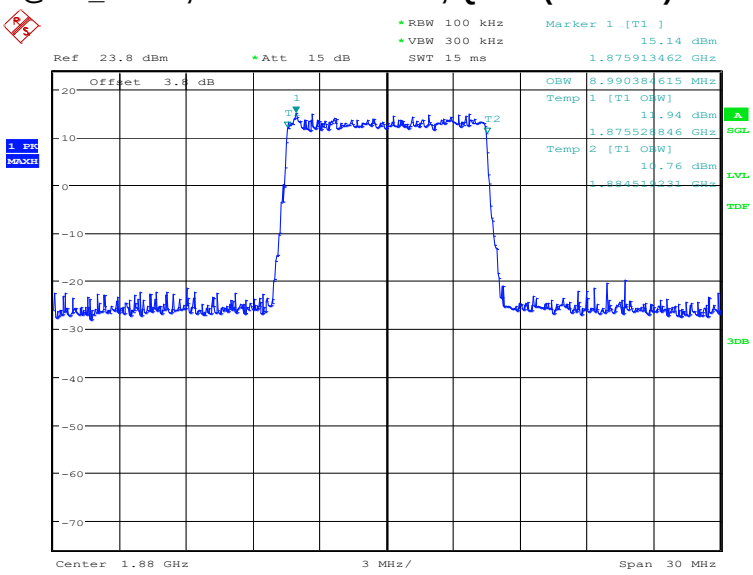
LTE band 2@CA_2A-5A, 10MHz (99%)

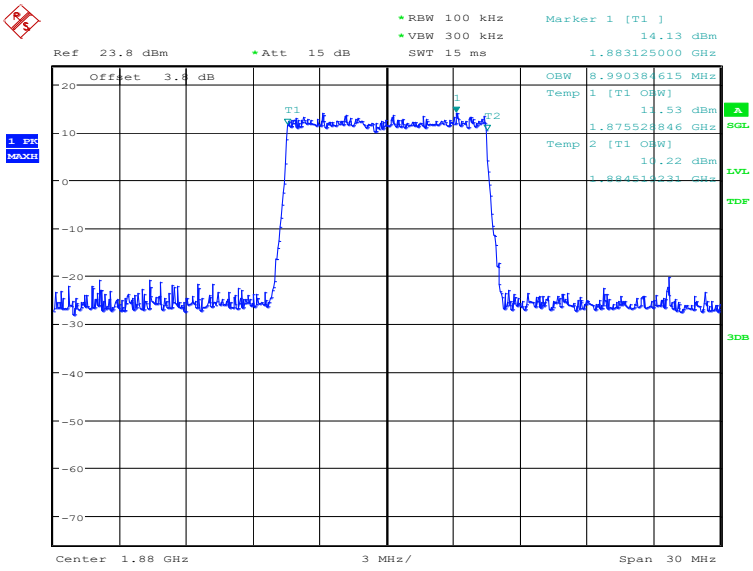
Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	8990.38	8990.38

LTE band 2@CA_2A-5A, 10MHz Bandwidth, QPSK (99% BW)



Date: 6.JAN.2021 20:34:59

LTE band 2@CA_2A-5A, 10MHz Bandwidth, 16QAM (99% BW)

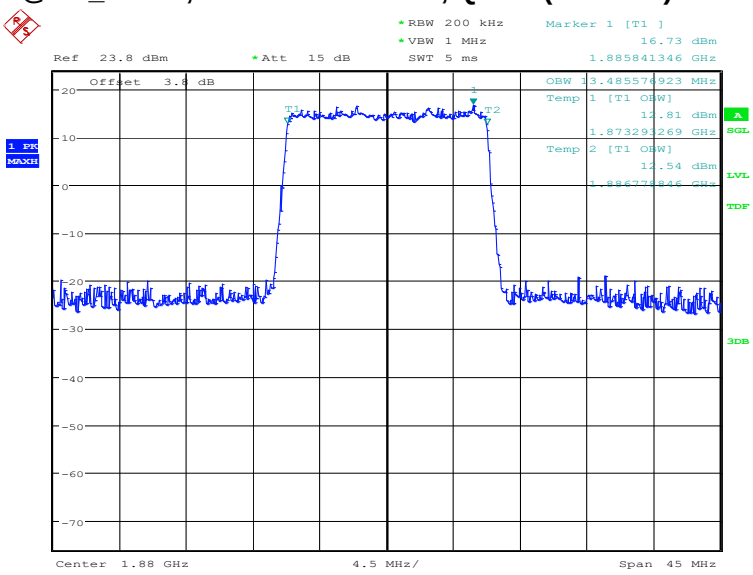


Date: 6.JAN.2021 20:35:37

LTE band 2@CA_2A-5A, 15MHz (99%)

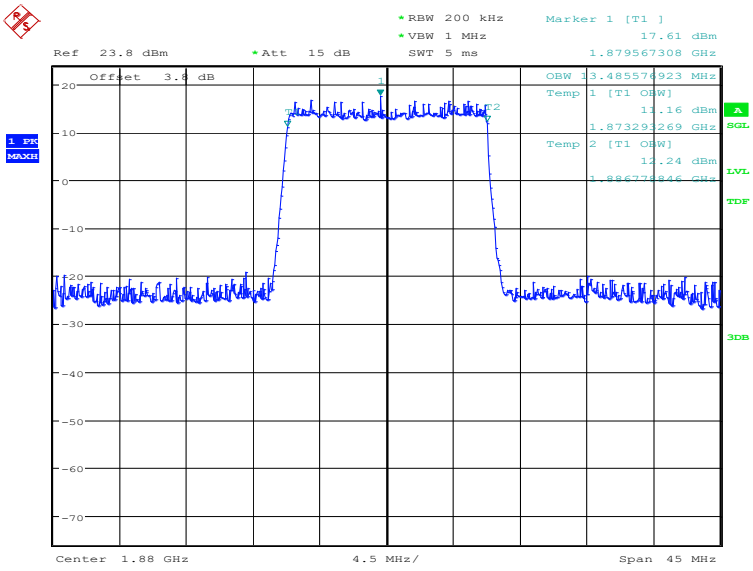
Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	13485.58	13485.58

LTE band 2@CA_2A-5A, 15MHz Bandwidth, QPSK (99% BW)



Date: 6.JAN.2021 20:36:18

LTE band 2@CA_2A-5A, 15MHz Bandwidth, 16QAM (99% BW)

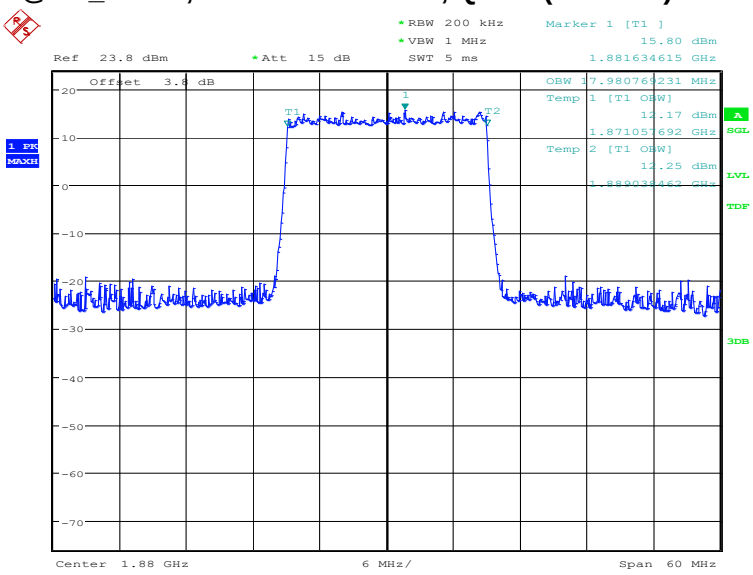


Date: 6.JAN.2021 20:36:56

LTE band 2@CA_2A-5A, 20MHz (99%)

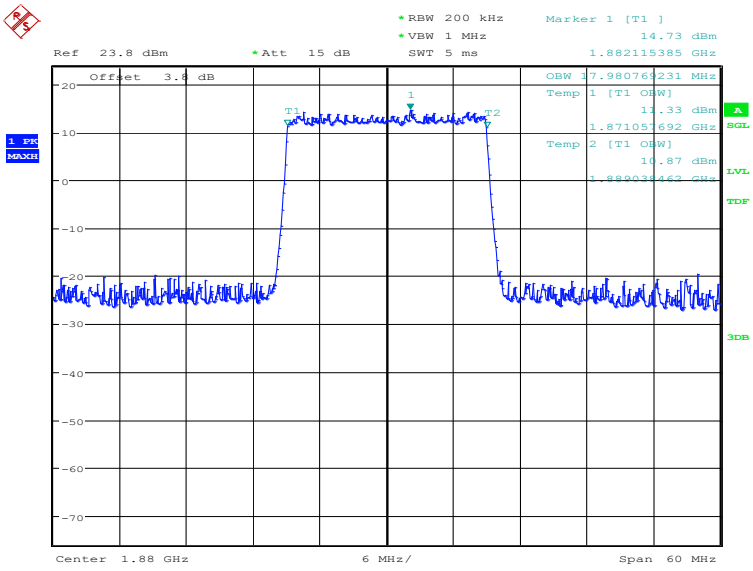
Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	17980.77	17980.77

LTE band 2@CA_2A-5A, 20MHz Bandwidth, QPSK (99% BW)



Date: 6.JAN.2021 20:37:37

LTE band 2@CA_2A-5A, 20MHz Bandwidth, 16QAM (99% BW)

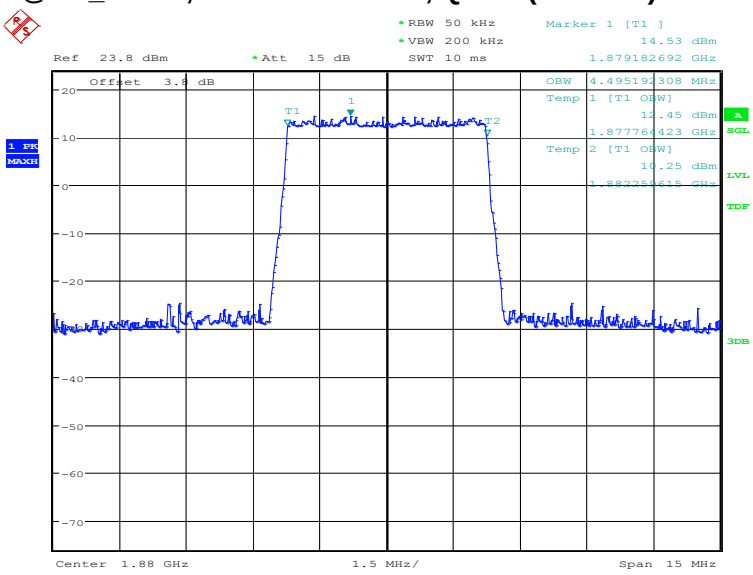


Date: 6.JAN.2021 20:38:15

LTE band 2@CA_2A-7A, 5MHz (99%)

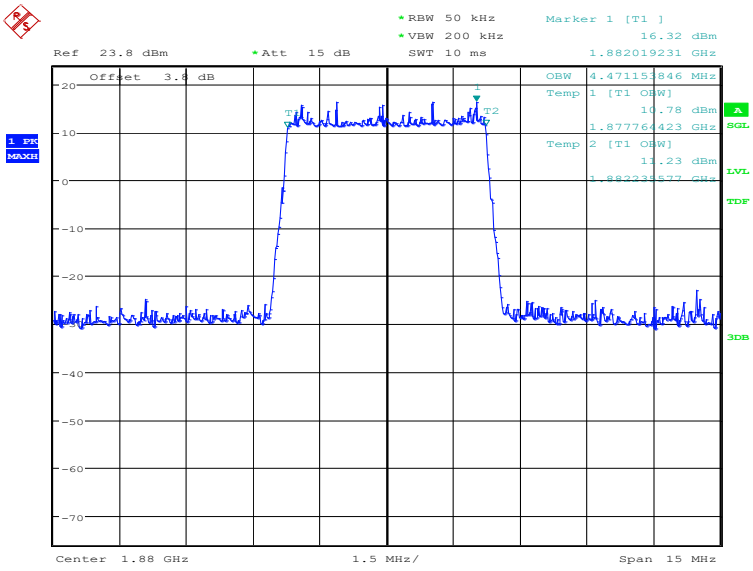
Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	4495.19	4471.15

LTE band 2@CA_2A-7A, 5MHz Bandwidth, QPSK (99% BW)



Date: 7.JAN.2021 08:59:31

LTE band 2@CA_2A-7A, 5MHz Bandwidth, 16QAM (99% BW)

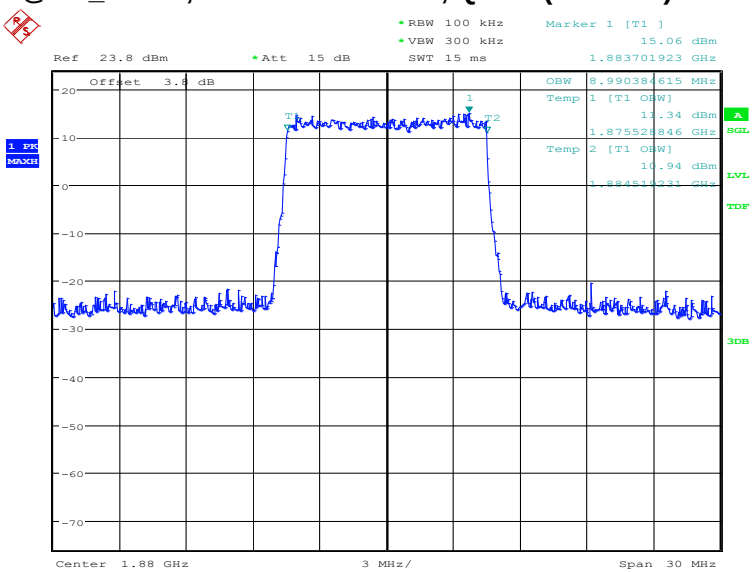


Date: 7.JAN.2021 09:00:10

LTE band 2@CA_2A-7A, 10MHz (99%)

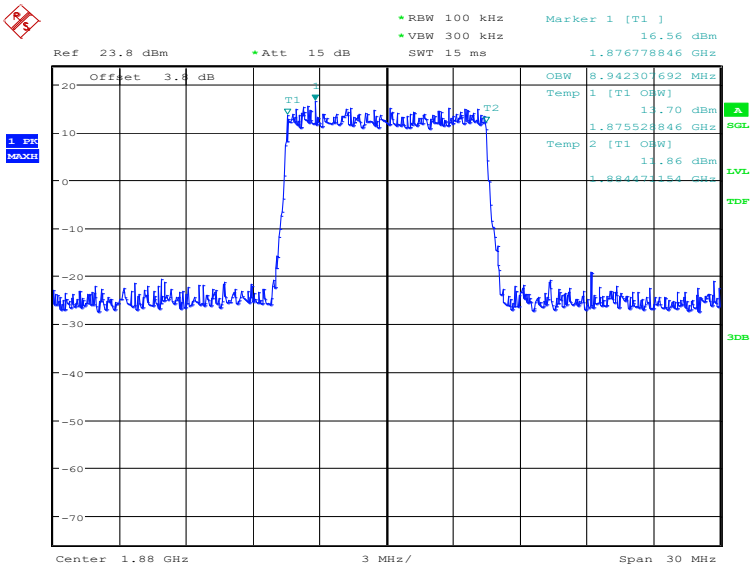
Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	8990.38	8942.31

LTE band 2@CA_2A-7A, 10MHz Bandwidth, QPSK (99% BW)



Date: 7.JAN.2021 09:00:51

LTE band 2@CA_2A-7A, 10MHz Bandwidth, 16QAM (99% BW)

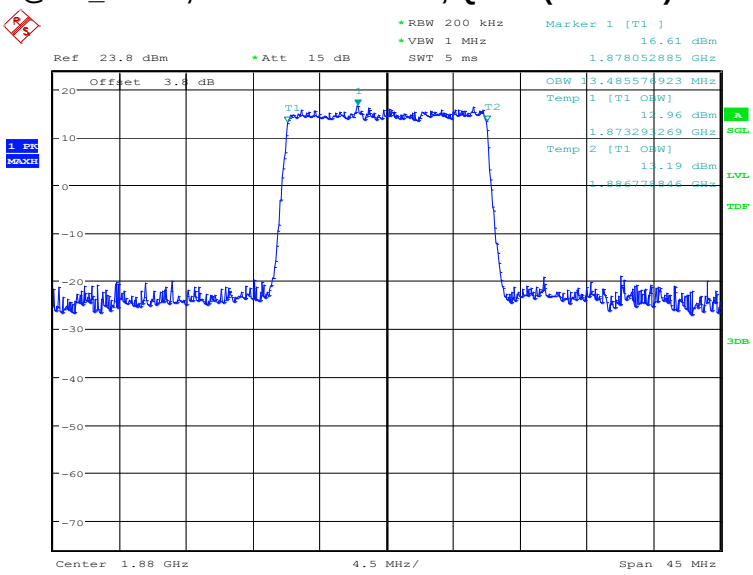


Date: 7.JAN.2021 09:01:30

LTE band 2@CA_2A-7A, 15MHz (99%)

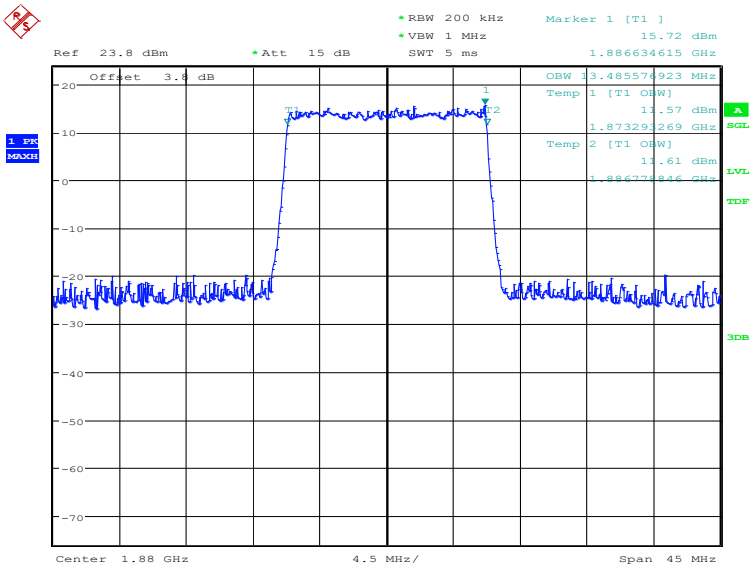
Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	13485.58	13485.58

LTE band 2@CA_2A-7A, 15MHz Bandwidth, QPSK (99% BW)



Date: 7.JAN.2021 09:02:11

LTE band 2@CA_2A-7A, 15MHz Bandwidth, 16QAM (99% BW)

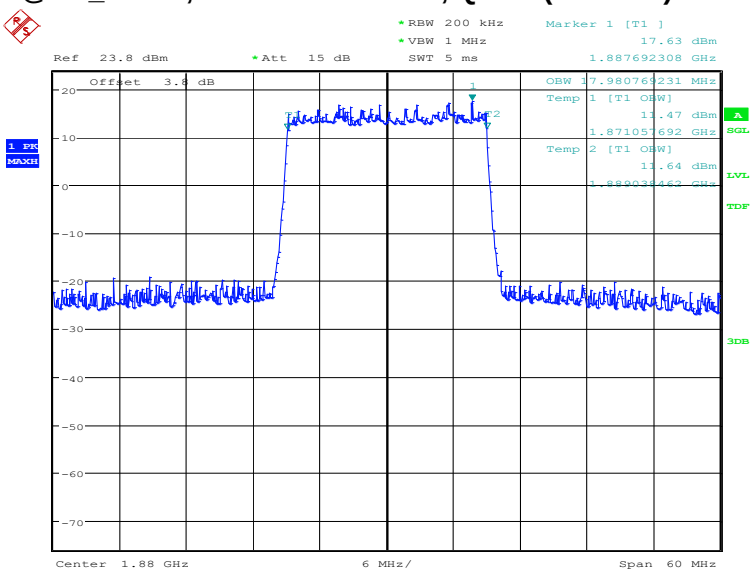


Date: 7.JAN.2021 09:02:49

LTE band 2@CA_2A-7A, 20MHz (99%)

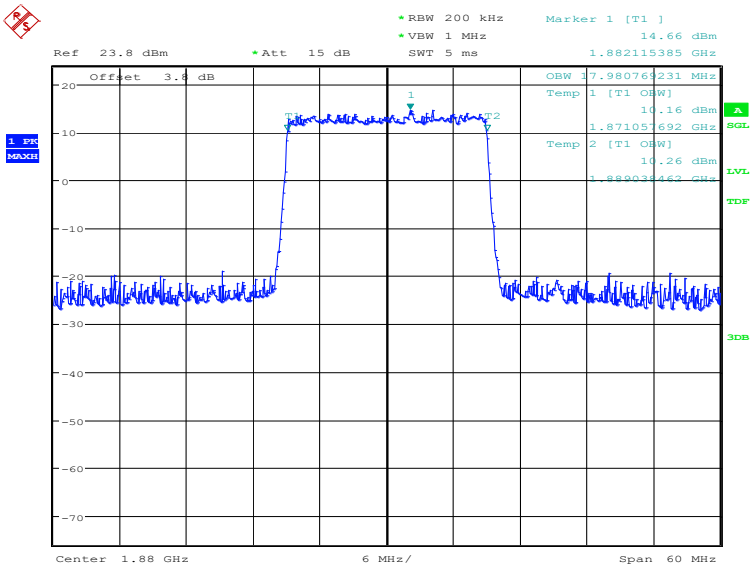
Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	17980.77	17980.77

LTE band 2@CA_2A-7A, 20MHz Bandwidth, QPSK (99% BW)



Date: 7.JAN.2021 09:03:31

LTE band 2@CA_2A-7A, 20MHz Bandwidth, 16QAM (99% BW)

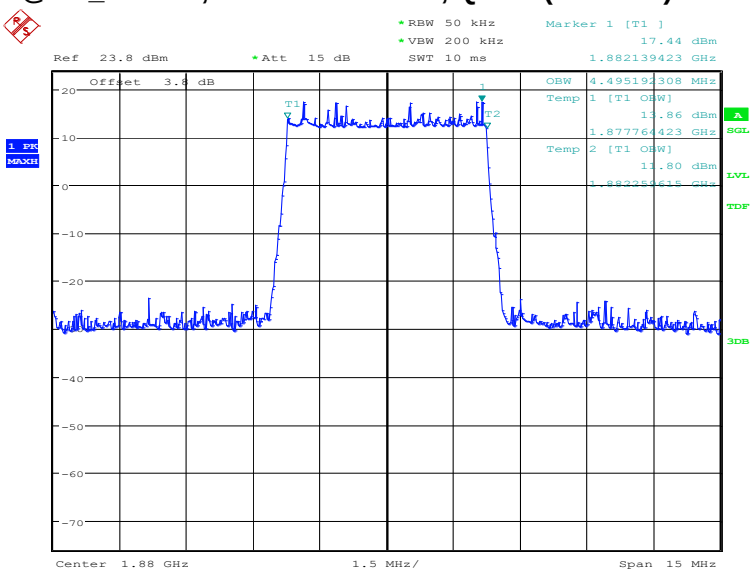


Date: 7.JAN.2021 09:04:09

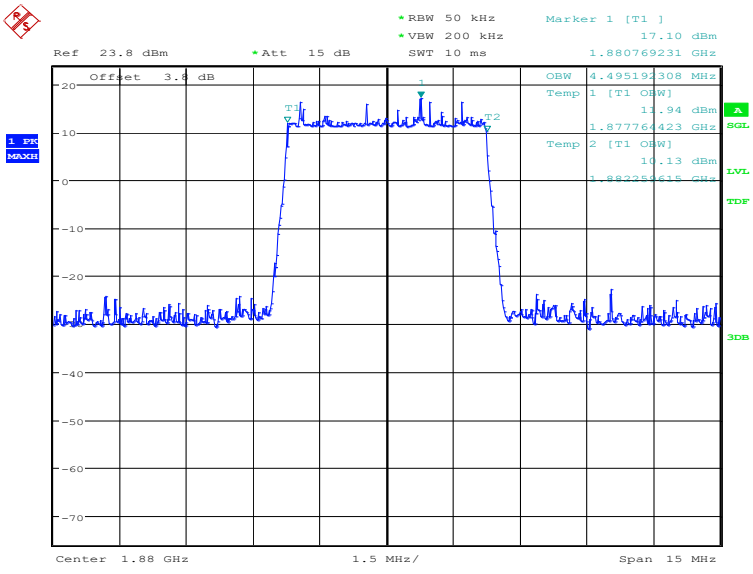
LTE band 2@CA_2A-12A, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	4495.19	4495.19

LTE band 2@CA_2A-12A, 5MHz Bandwidth, QPSK (99% BW)



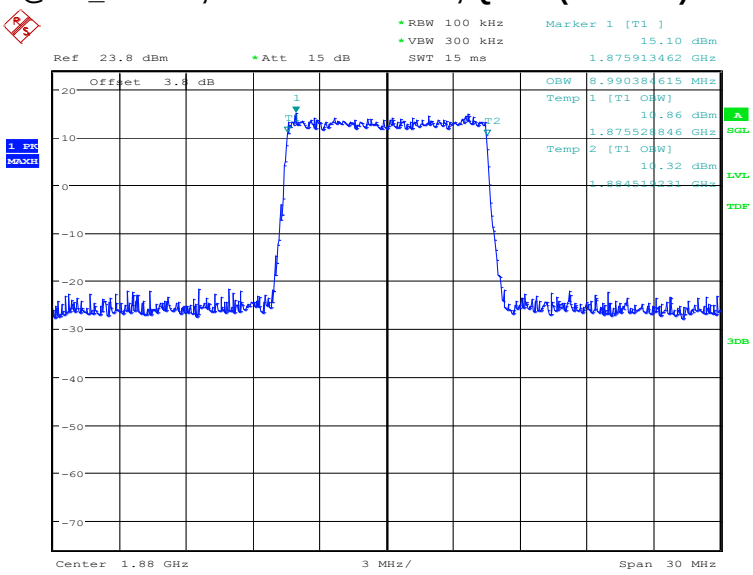
LTE band 2@CA_2A-12A, 5MHz Bandwidth, 16QAM (99% BW)



LTE band 2@CA_2A-12A, 10MHz (99%)

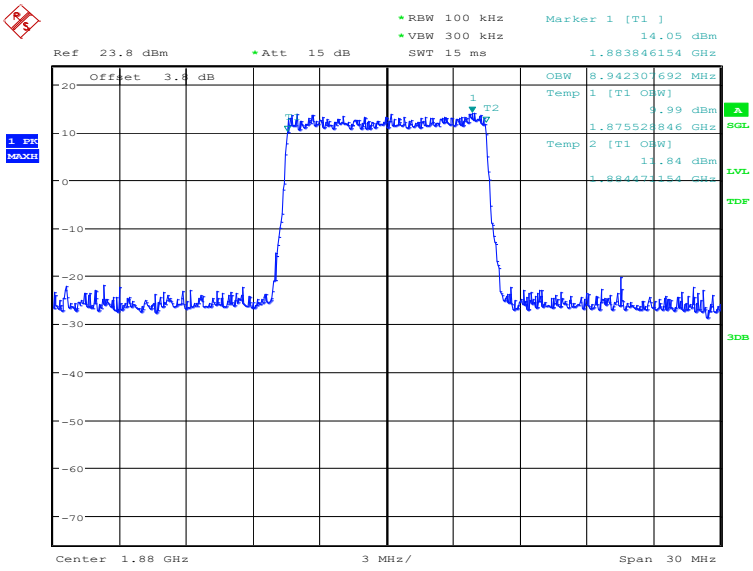
Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	8990.38	8942.31

LTE band 2@CA_2A-12A, 10MHz Bandwidth, QPSK (99% BW)



Date: 7.JAN.2021 14:11:05

LTE band 2@CA_2A-12A, 10MHz Bandwidth, 16QAM (99% BW)

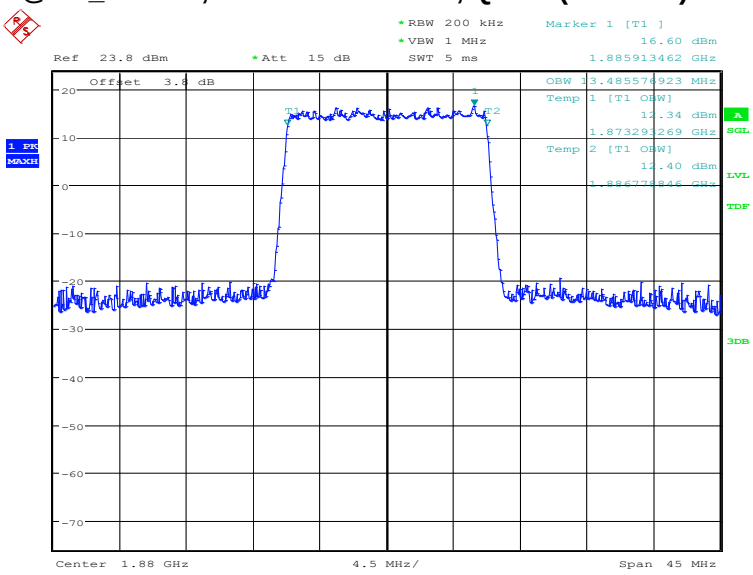


Date: 7.JAN.2021 14:11:43

LTE band 2@CA_2A-12A, 15MHz (99%)

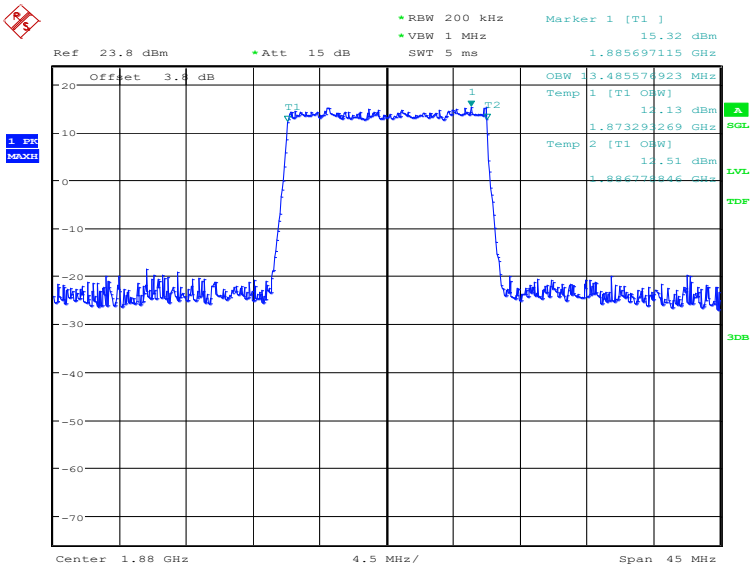
Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	13485.58	13485.58

LTE band 2@CA_2A-12A, 15MHz Bandwidth, QPSK (99% BW)



Date: 7.JAN.2021 14:12:24

LTE band 2@CA_2A-12A, 15MHz Bandwidth, 16QAM (99% BW)

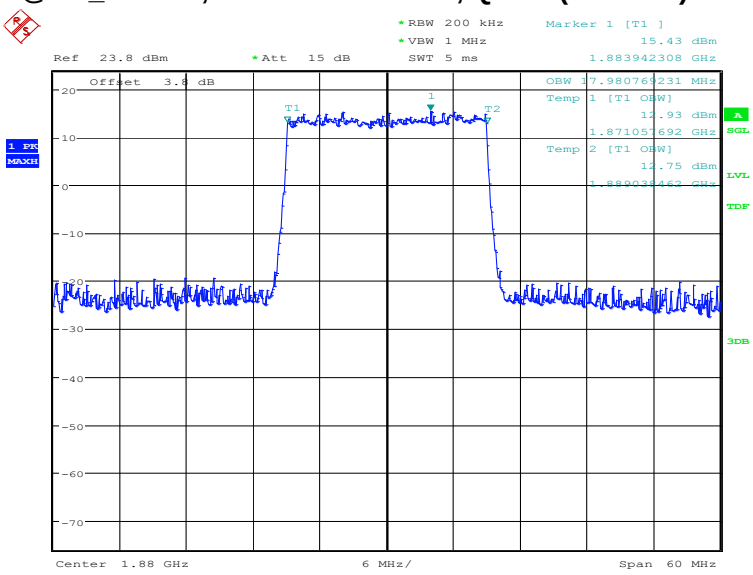


Date: 7.JAN.2021 14:13:03

LTE band 2@CA_2A-12A, 20MHz (99%)

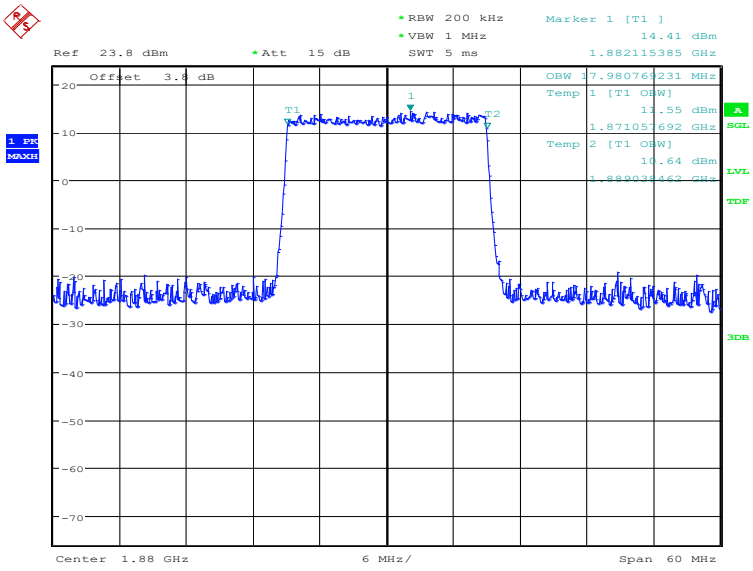
Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1880.0	QPSK	16QAM
	17980.77	17980.77

LTE band 2@CA_2A-12A, 20MHz Bandwidth, QPSK (99% BW)



Date: 7.JAN.2021 14:13:45

LTE band 2@CA_2A-12A, 20MHz Bandwidth, 16QAM (99% BW)

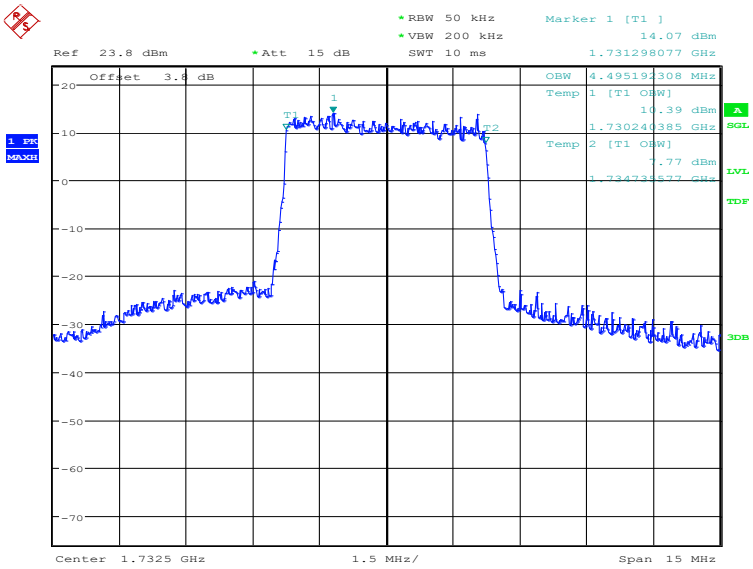


Date: 7.JAN.2021 14:14:23

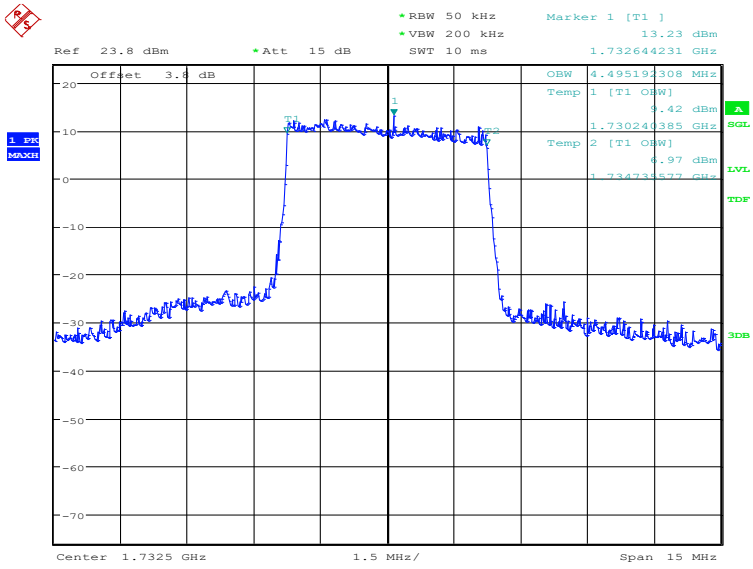
LTE Band 4@CA_2A-4A, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1732.5	QPSK	16QAM
	4495.19	4495.19

LTE Band 4@CA_2A-4A, 5MHz Bandwidth, QPSK (99% BW)



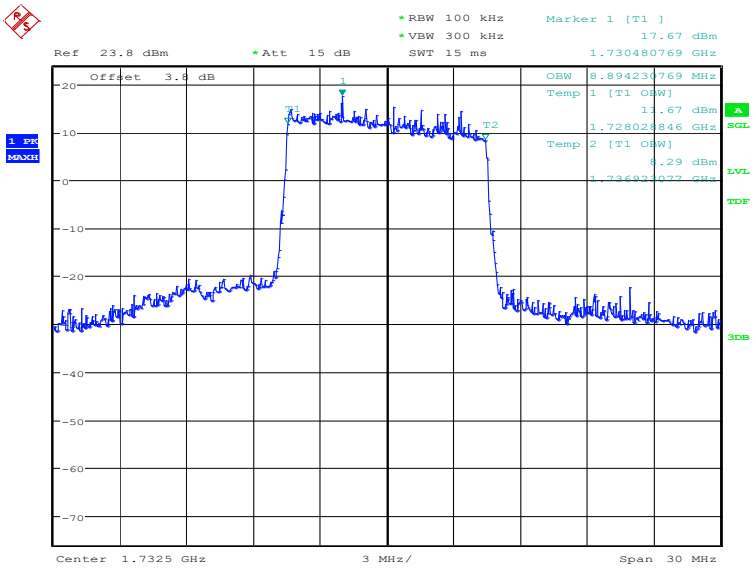
LTE Band 4@CA_2A-4A, 5MHz Bandwidth, 16QAM (99% BW)



LTE Band 4@CA_2A-4A, 10MHz (99%)

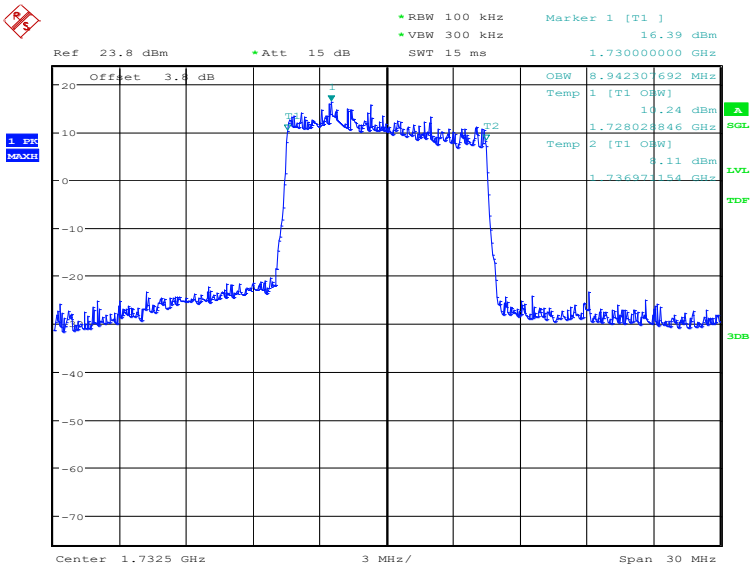
Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1732.5	QPSK	16QAM
	8894.23	8942.31

LTE Band 4@CA_2A-4A, 10MHz Bandwidth, QPSK (99% BW)



Date: 6.JAN.2021 14:02:20

LTE Band 4@CA_2A-4A, 10MHz Bandwidth, 16QAM (99% BW)

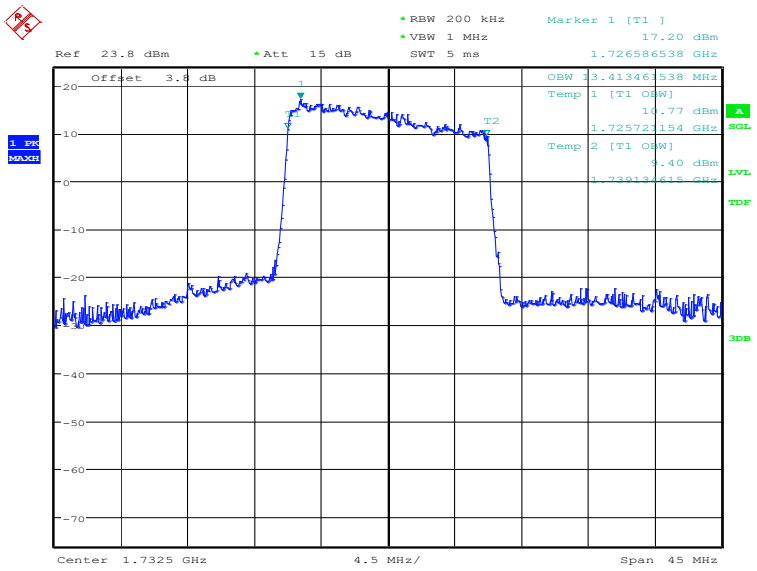


Date: 6.JAN.2021 14:03:05

LTE Band 4@CA_2A-4A, 15MHz (99%)

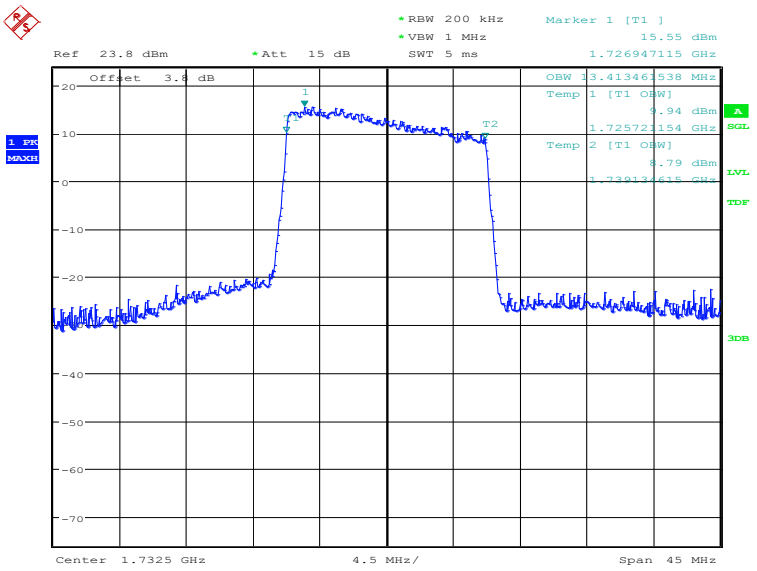
Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1732.5	QPSK	16QAM
	13413.46	13413.46

LTE Band 4@CA_2A-4A, 15MHz Bandwidth, QPSK (99% BW)



Date: 6.JAN.2021 14:08:55

LTE Band 4@CA_2A-4A, 15MHz Bandwidth, 16QAM (99% BW)

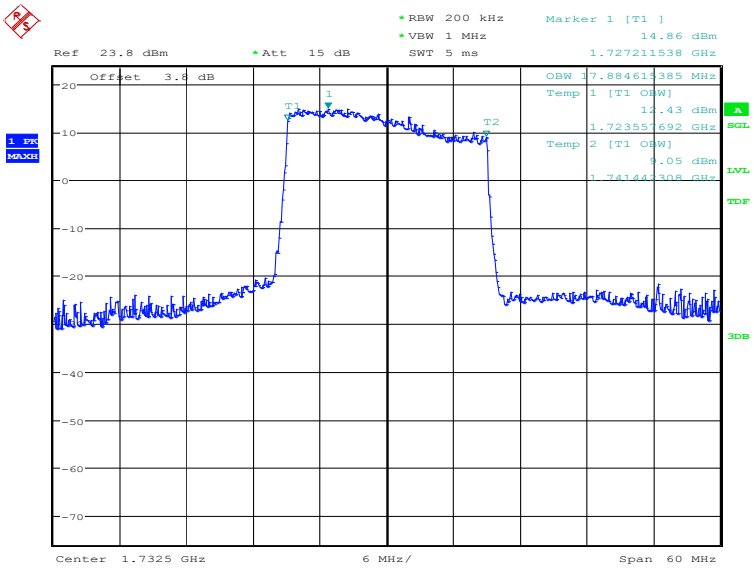


Date: 6.JAN.2021 14:09:39

LTE Band 4@CA_2A-4A, 20MHz (99%)

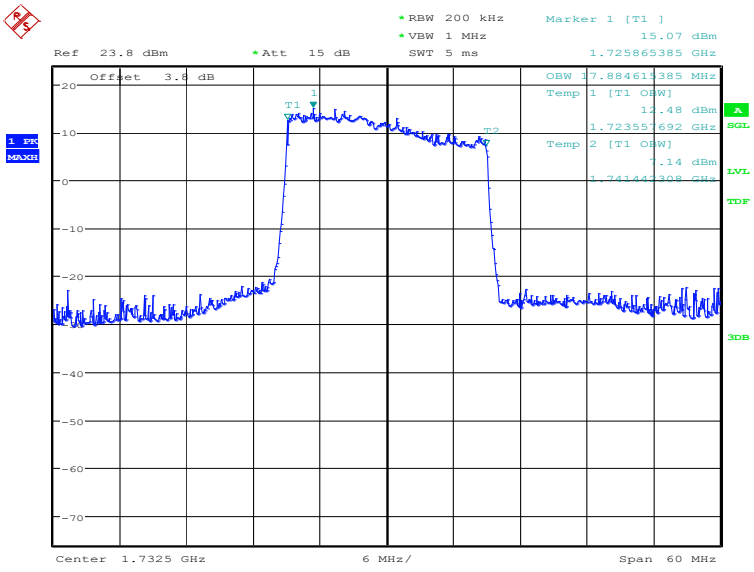
Frequency(MHz)	Occupied Bandwidth (99%) (kHz)	
1732.5	QPSK	16QAM
	17884.62	17884.62

LTE Band 4@CA_2A-4A, 20MHz Bandwidth, QPSK (99% BW)



Date: 6.JAN.2021 14:16:45

LTE Band 4@CA_2A-4A, 20MHz Bandwidth, 16QAM (99% BW)



Date: 6.JAN.2021 14:17:24