TEST REPORT

No. I18N00673-LTE

for

Spectralink Corp

GSM Quad-band/UMTS five-band/LTE/CA Mobile phone

Model Name: 9653

FCC ID: IYG96XX

with

Hardware Version: PIO

Software Version: vF03

Issued Date: 2018-07-03

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 SAICT.

Test Laboratory:

Designation Number: CN1210

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I18N00673-LTE	Rev.0	1st edition	2018-07-03

CONTENTS

1. Test Laboratory

1.1. Testing Location

Company Name:	Shenzhen Academy of Information and Communications Technology
Address:	Building G, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian District, Shenzhen, Guangdong, P. R. China
Postal Code:	518026
Telephone:	+86(0)755-33322000
Fax:	+86(0)755-33322001

1.2. Testing Environment

Normal Temperature:	15-35℃
Relative Humidity:	20-75%

1.3. Project data

Testing Start Date:	2018-05-14
Testing End Date:	2018-06-13

1.4. Signature

Lai Minghua
(Prepared this test report)

Huang Qiuqin
(Reviewed this test report)

Zhang Hao
(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	Spectralink Corp
Address /Post:	2560 55th Street Boulder, CO 80301 USA
Contact Person:	Andrew Duncan
Contact Email	Andrew.duncan@spectralink.com
Telephone:	+1 720-925-0480
Fax:	/

2.2. Manufacturer Information

Company Name:	Spectralink Corp
Address /Post:	2560 55th Street Boulder, CO 80301 USA
Contact Person:	Andrew Duncan
Contact Email	Andrew.duncan@spectralink.com
Telephone:	+1 720-925-0480
Fax:	/

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

3.1. About EUT

Description	GSM Quad-band/UMTS five-band/LTE/CA	Mobile phone
Model Name	9653	
FCC ID	IYG96XX	
Frequency Bands	LTE Band 2,4,5,7,12,13,25,26,38,66	
Antenna	Integrated	
Extreme vol. Limits	3.5VDC to 4.4VDC (nominal: 3.7VDC)	
Extreme temp. Tolerance	-20°C to +50°C	

3.2. Internal Identification of EUT used during the test

EUT ID*	IMEI	HW Version	SW Version	Sample Arrival Date
UT03aa	359940090001540	PIO	vF03	2018-05-14

*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	Charger

AE1

Model	/
Manufacturer	/
Capacitance	/

AE2

Model	/
Manufacturer	/

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

3.4. General Description

The Equipment Under Test (EUT) is a model TD-LTE mobile phone with integrated antenna. It consists of normal options: lithium battery, charger. Manual and specifications of the EUT were provided to fulfil the test.

4. Reference Documents

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

Reference	Title	Version
FCC Part 22	PUBLIC MOBILE SERVICES	10-1-17 Edition
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	10-1-17 Edition
FCC Part 2	FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS	10-1-17 Edition
FCC Part 27	MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES	10-1-17 Edition
FCC Part 90	PRIVATE LAND MOBILE RADIO SERVICES	10-1-17 Edition
ANSI/TIA-603-E	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	2016
ANSI C63.26	American National Standard of Procedures for Compliance Testing of Licensed Transmitters Used in Licensed Radio Service	2015
KDB 971168 D01	Measurement Guidance for Certification of Licensed Digital Transmitters	v03

5. LABORATORY ENVIRONMENT

Control room / conducted chamber did not exceed following limits along the EMC 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 EMC 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
Uniformity of field strength	Between 0 and 6 dB, from 80 to 4000 MHz

Semi-anechoic chamber 2 / Fully-anechoic chamber 3 (10 meters×6.7 meters×6.15 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ˚C**,** Max. = 30 ˚C
Relative humidity	Min. = 35 %**,** Max. = 60 %
Shielding effectiveness	> 100 dB
Electrical insulation	>2 MΩ
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	**<±**3.5 dB, 3 m distance
Site voltage standing-wave ratio (S_{VSWR})	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz

6. SUMMARY OF TEST RESULTS

Abbreviations used in this clause:		
Verdict Column	P	Pass
	F	Fail
	NA	Not applicable
	NM	Not measured
Location Column	A/B/C/D	The test is performed in test location A, B, C or D which are described in section 1.1 of this report

LTE Band 2

Items	Test Name	Clause in FCC rules	Section in this report	Verdict
1	Output Power	2.1046/24.232	A.1	P
2	Field Strength of Spurious Radiation	2.1053/24.238	A.2	P
3	Frequency Stability	2.1055/24.235	A.3	P
4	Occupied Bandwidth	2.1049/24.238	A.4	P
5	Emission Bandwidth	2.1049/24.238	A.5	P
6	Band Edge Compliance	2.1051/24.238	A.6	P
7	Conducted Spurious Emission	2.1051/24.238	A.7	P
8	Peak to Average Power Ratio	24.232/KDB971168 D01(5.7.1)	A.8	P

LTE Band 4

Items	Test Name	Clause in FCC rules	Section in this report	Verdict
1	Output Power	2.1046/27.50(d)	A.1	P
2	Field Strength of Spurious Radiation	2.1053/27.53(h)	A.2	P
3	Frequency Stability	2.1055/27.54	A.3	P
4	Occupied Bandwidth	2.1049/27.53(g)	A.4	P
5	Emission Bandwidth	2.1049/27.53(g)	A.5	P
6	Band Edge Compliance	2.1051/27.53(h)	A.6	P
7	Conducted Spurious Emission	2.1051/27.53(h)	A.7	P
8	Peak to Average Power Ratio	27.50(d)/KDB971168 D01(5.7.1)	A.8	P

LTE Band 5

Items	Test Name	Clause in FCC rules	Section in this report	Verdict
1	Output Power	2.1046/22.913	A.1	P
2	Field Strength of Spurious Radiation	2.1053/22.917	A.2	P
3	Frequency Stability	2.1055/22.355	A.3	P
4	Occupied Bandwidth	2.1049/22.917	A.4	P
5	Emission Bandwidth	2.1049/22.917	A.5	P
6	Band Edge Compliance	2.1051/22.917	A.6	P
7	Conducted Spurious Emission	2.1051/22.917	A.7	P

LTE Band 7

Items	Test Name	Clause in FCC rules	Section in this report	Verdict
1	Output Power	2.1046/27.50(h)	A.1	P
2	Field Strength of Spurious Radiation	2.1053/27.53(m)	A.2	P
3	Frequency Stability	2.1055/27.54	A.3	P
4	Occupied Bandwidth	2.1049/27.53(m)	A.4	P
5	Emission Bandwidth	2.1049/27.53(m)	A.5	P
6	Band Edge Compliance	2.1051/27.53(m)	A.6	P
7	Conducted Spurious Emission	2.1051/27.53(m)	A.7	P
8	Peak to Average Power Ratio	27.50(a)/KDB971168 D01(5.7.1)	A.8	P

LTE Band 12

Items	Test Name	Clause in FCC rules	Section in this report	Verdict
1	Output Power	2.1046/27.50(c)	A.1	P
2	Field Strength of Spurious Radiation	2.1053/27.53(g)	A.2	P
3	Frequency Stability	2.1055/27.54	A.3	P
4	Occupied Bandwidth	2.1049/27.53(g)	A.4	P
5	Emission Bandwidth	2.1049/27.53(g)	A.5	P
6	Band Edge Compliance	2.1051/27.53(g)	A.6	P
7	Conducted Spurious Emission	2.1051/27.53(g)	A.7	P
8	Peak to Average Power Ratio	27.50(a)/KDB971168 D01(5.7.1)	A.8	P

LTE Band 13

Items	Test Name	Clause in FCC rules	Section in this report	Verdict
1	Output Power	2.1046/27.50(b)	A.1	P
2	Field Strength of Spurious Radiation	2.1053/27.53(c)	A.2	P
3	Frequency Stability	2.1055/27.54	A.3	P
4	Occupied Bandwidth	2.1049/27.53(c)	A.4	P
5	Emission Bandwidth	2.1049/27.53(c)	A.5	P
6	Band Edge Compliance	2.1051/27.53(c)	A.6	P
7	Conducted Spurious Emission	2.1051/27.53(c)	A.7	P
8	Peak to Average Power Ratio	27.50(a)/KDB971168 D01(5.7.1)	A.8	P

LTE Band 25

Items	Test Name	Clause in FCC rules	Section in this report	Verdict
1	Output Power	2.1046/24.232	A.1	P
2	Field Strength of Spurious Radiation	2.1053/24.238	A.2	P
3	Frequency Stability	2.1055/24.235	A.3	P
4	Occupied Bandwidth	2.1049/24.238	A.4	P
5	Emission Bandwidth	2.1049/24.238	A.5	P
6	Band Edge Compliance	2.1051/24.238	A.6	P
7	Conducted Spurious Emission	2.1051/24.238	A.7	P
8	Peak to Average Power Ratio	24.232/KDB971168 D01(5.7.1)	A.8	P

LTE Band 26(Part 22)

Items	Test Name	Clause in FCC rules	Section in this report	Verdict
1	Output Power	2.1046/22.913	A.1	P
2	Field Strength of Spurious Radiation	2.1053/22.917	A.2	P
3	Frequency Stability	2.1055/22.355	A.3	P
4	Occupied Bandwidth	2.1049/22.917	A.4	P
5	Emission Bandwidth	2.1049/22.917	A.5	P
6	Band Edge Compliance	2.1051/22.917	A.6	P
7	Conducted Spurious Emission	2.1051/22.917	A.7	P

LTE Band 26(Part 90)

Items	Test Name	Clause in FCC rules	Section in this report	Verdict
1	Output Power	2.1046/90.635	A.1	P
2	Field Strength of Spurious Radiation	2.1053/90.691	A.2	P
3	Frequency Stability	2.1055/90.213	A.3	P
4	Occupied Bandwidth	2.1049/90.1215	A.4	P
5	Emission Bandwidth	2.1049/90.1215	A.5	P
6	Band Edge Compliance	2.1051/90.691	A.6	P
7	Conducted Spurious Emission	2.1051/90.691	A.7	P

LTE Band 38

Items	Test Name	Clause in FCC rules	Section inthis report	Verdict
1	Output Power	2.1046/27.50(h)	A.1	P
2	Field Strength of Spurious Radiation	2.1053/27.53(m)	A.2	P
3	Frequency Stability	2.1055/27.54	A.3	P
4	Occupied Bandwidth	2.1049/27.53(m)	A.4	P
5	Emission Bandwidth	2.1049/27.53(m)	A.5	P
6	Band Edge Compliance	2.1051/27.53(m)	A.6	P
7	Conducted Spurious Emission	2.1051/27.53(m)	A.7	P
8	Peak to Average Power Ratio	27.50(a)/KDB971168 D01(5.7.1)	A.8	P

LTE Band 66

Items	Test Name	Clause in FCC rules	Section in this report	Verdict
1	Output Power	2.1046/27.50(d)	A.1	P
2	Field Strength of Spurious Radiation	2.1053/27.53(h)	A.2	P
3	Frequency Stability	2.1055/27.54	A.3	P
4	Occupied Bandwidth	2.1049/27.53(h)	A.4	P
5	Emission Bandwidth	2.1049/27.53(h)	A.5	P
6	Band Edge Compliance	2.1051/27.53(h)	A.6	P
7	Conducted Spurious Emission	2.1051/27.53(h)	A.7	P
8	Peak to Average Power Ratio	27.50(a)/KDB971168 D01(5.7.1)	A.8	P

7. Test Equipments Utilized

NO.	Description	TYPE	Manufacture	series number	CAL DUE DATE
1	Test Receiver	ESR7	R&S	101676	2018-11-29
2	BiLog Antenna	VULB9163	Schwarzbeck	9163 329	2020-02-27
3	Horn Antenna	3117	ETS-lindgren	00066577	2019-04-05
4	Horn Antenna	QSH-SL-18-26-S-20	Q-par	17013	2020-01-15
5	Antenna	SBA 9113	Schwarzbeck	814	/
6	Antenna	SBA 9112	Schwarzbeck	302	/
7	Antenna	QWH-SL-18-40-K-SG	Q-par	15979	2020-01-16
8	preamplifier	83017A	Agilent	MY39501110	/
9	Signal Generator	SMB100A	R&S	179725	2018-11-29
10	Fully Anechoic Chamber	FACT3-2.0	ETS-Lindgren	1285	2019-11-27
11	Spectrum Analyzer	FSV40	R&S	101192	2019-05-22
12	Universal Radio Communication Tester	CMW500	R&S	152499	2018-07-19
13	Universal Radio Communication Tester	CMW500	R&S	129146	2019-04-24
14	Spectrum Analyzer	FSU	R&S	200679	2018-12-13
15	Temperature Chamber	SH-241	ESPECs	92007516	2018-11-14
16	DC Power Supply	U3606A	Agilent Technologies	MY50450012	2018-11-14

Test software

Item	Name	Vesion
Radiated	EMC32	Version 10.01.00

ANNEX A: MEASUREMENT RESULTS

A.1 OUTPUT POWER

Reference

FCC: CFR Part 2.1046, 22.913, 24.232, 27.50, 90.635

A.1.1 Summary

During the process of testing, the EUT was controlled via Rhode & Schwarz Digital Radio Communication tester (CMW500) to ensure max power transmission and proper modulation.

This result contains peak output power and ERP/EIRP measurements for the EUT.

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.

These measurements were done at 3 frequencies (bottom, middle and top of operational frequency range) for each bandwidth.

A.1.2.2 Measurement result

LTE band 2

Bandwidth	RB size/offset	Frequency (MHz)	Power(dBm)	
			QPSK	16QAM
1.4MHz	1 RB high	1909.3	23.12	22.25
		1880.0	23.30	22.35
		1850.7	23.34	22.46
	1 RB low	1909.3	23.09	22.22
		1880.0	23.28	22.33
		1850.7	23.37	22.45
	50% RB mid	1909.3	23.28	22.61
		1880.0	23.35	22.58
		1850.7	23.51	22.81
	100% RB	1909.3	22.07	21.14
		1880.0	22.33	21.32
		1850.7	22.36	21.40
3MHz	1 RB high	1908.5	23.15	22.21
		1880.0	23.27	22.47
		1851.5	23.37	22.49
	1 RB low	1908.5	23.18	22.28
		1880.0	23.34	22.49
		1851.5	23.40	22.53
	50% RB mid	1908.5	22.22	21.40
		1880.0	22.39	21.48
		1851.5	22.45	21.65

	100% RB	1908.5	22.21	21.37
		1880.0	22.36	21.43
		1851.5	22.44	21.60
5MHz	1 RB high	1907.5	23.15	22.28
		1880.0	23.31	22.60
		1852.5	23.40	22.55
	1 RB low	1907.5	23.18	22.28
		1880.0	23.39	22.62
		1852.5	23.41	22.58
	50% RB mid	1907.5	22.26	21.51
		1880.0	22.36	21.56
		1852.5	22.49	21.76
	100% RB	1907.5	22.26	21.42
		1880.0	22.34	21.46
		1852.5	22.47	21.64
10MHz	1 RB high	1905.0	23.17	22.20
		1880.0	23.33	22.53
		1855.0	23.43	22.56
	1 RB low	1905.0	23.22	22.28
		1880.0	23.47	22.61
		1855.0	23.48	22.59
	50% RB mid	1905.0	22.27	21.37
		1880.0	22.40	21.46
		1855.0	22.48	21.67
	100% RB	1905.0	22.23	21.34
		1880.0	22.39	21.43
		1855.0	22.46	21.62
15MHz	1 RB high	1902.5	23.15	22.62
		1880.0	23.16	22.47
		1857.5	23.37	22.81
	1 RB low	1902.5	23.20	22.76
		1880.0	23.36	22.52
		1857.5	23.40	22.86
	50% RB mid	1902.5	22.28	21.41
		1880.0	22.37	21.53
		1857.5	22.43	21.63
	100% RB	1902.5	22.35	21.45
		1880.0	22.38	21.45
		1857.5	22.43	21.58

20MHz	1 RB high	1900.0	23.13	22.74
		1880.0	23.25	22.63
		1860.0	23.44	22.98
	1 RB low	1900.0	23.05	22.83
		1880.0	23.40	22.63
		1860.0	23.38	23.01
	50% RB mid	1900.0	22.26	21.42
		1880.0	22.37	21.50
		1860.0	22.32	21.46
	100% RB	1900.0	22.28	21.33
		1880.0	22.36	21.41
		1860.0	22.45	21.54

Note: Expanded measurement uncertainty is U = 0.488 dB, k = 1.96

LTE band 4

Bandwidth	RB size/offset	Frequency (MHz)	Power(dBm)	
			QPSK	16QAM
1.4MHz	1 RB high	1754.3	23.13	22.29
		1732.5	23.23	22.29
		1710.7	23.18	22.27
	1 RB low	1754.3	23.14	22.28
		1732.5	23.23	22.27
		1710.7	23.16	22.27
	50% RB mid	1754.3	23.38	22.69
		1732.5	23.36	22.61
		1710.7	23.34	22.58
	100% RB	1754.3	22.20	21.20
		1732.5	22.26	21.25
		1710.7	22.17	21.20
3MHz	1 RB high	1753.5	23.20	22.31
		1732.5	23.27	22.43
		1711.5	23.21	22.32
	1 RB low	1753.5	23.20	22.37
		1732.5	23.30	22.46
		1711.5	23.23	22.36
	50% RB mid	1753.5	22.31	21.53
		1732.5	22.35	21.50
		1711.5	22.33	21.52
	100% RB	1753.5	22.28	21.47
		1732.5	22.34	21.44
		1711.5	22.26	21.42
5MHz	1 RB high	1752.5	23.24	22.39
		1732.5	23.29	22.62
		1712.5	23.18	22.36
	1 RB low	1752.5	23.20	22.43
		1732.5	23.32	22.59
		1712.5	23.21	22.34
	50% RB mid	1752.5	22.36	21.58
		1732.5	22.40	21.57
		1712.5	22.31	21.55
	100% RB	1752.5	22.32	21.50
		1732.5	22.37	21.48
		1712.5	22.29	21.46
10MHz	1 RB high	1750.0	23.21	22.31
		1732.5	23.22	22.49

		1715.0	23.19	22.29
	1 RB low	1750.0	23.24	22.38
		1732.5	23.25	22.45
		1715.0	23.29	22.30
	50% RB mid	1750.0	22.37	21.63
		1732.5	22.40	21.47
		1715.0	22.32	21.48
	100% RB	1750.0	22.37	21.55
		1732.5	22.38	21.42
		1715.0	22.31	21.47
15MHz	1 RB high	1747.5	23.16	22.75
		1732.5	23.23	22.51
		1717.5	23.24	22.71
	1 RB low	1747.5	23.25	22.76
		1732.5	23.27	22.45
		1717.5	23.21	22.68
	50% RB mid	1747.5	22.35	21.52
		1732.5	22.39	21.48
		1717.5	22.27	21.44
	100% RB	1747.5	22.33	21.56
		1732.5	22.42	21.58
		1717.5	22.31	21.43
20MHz	1 RB high	1745.0	23.17	22.91
		1732.5	23.29	22.60
		1720.0	23.25	22.86
	1 RB low	1745.0	23.18	22.87
		1732.5	23.28	22.56
		1720.0	23.14	22.81
	50% RB mid	1745.0	22.37	21.59
		1732.5	22.37	21.51
		1720.0	22.39	21.56
	100% RB	1745.0	22.39	21.48
		1732.5	22.36	21.44
		1720.0	22.39	21.51

Note: Expanded measurement uncertainty is U = 0.488 dB, k = 1.96

LTE band 5

Bandwidth	RB size/offset	Frequency (MHz)	Power(dBm)	
			QPSK	16QAM
1.4MHz	1 RB high	848.3	23.24	22.17
		836.5	23.05	22.10
		824.7	23.04	21.98
	1 RB low	848.3	23.23	22.18
		836.5	23.04	22.07
		824.7	23.05	21.99
	50% RB mid	848.3	23.12	22.41
		836.5	23.13	22.36
		824.7	23.06	22.14
	100% RB	848.3	22.23	21.38
		836.5	22.04	21.07
		824.7	22.08	21.00
3MHz	1 RB high	847.5	23.35	22.24
		836.5	23.12	22.25
		825.5	23.12	22.03
	1 RB low	847.5	23.32	22.36
		836.5	23.17	22.30
		825.5	23.15	22.08
	50% RB mid	847.5	22.34	21.36
		836.5	22.16	21.26
		825.5	22.09	21.13
	100% RB	847.5	22.30	21.27
		836.5	22.09	21.16
		825.5	22.03	21.10
5MHz	1 RB high	846.5	23.31	22.29
		836.5	23.19	22.30
		826.5	23.20	22.21
	1 RB low	846.5	23.25	22.29
		836.5	23.15	22.26
		826.5	23.13	22.12
	50% RB mid	846.5	22.34	21.52
		836.5	22.17	21.27
		826.5	22.19	21.20
	100% RB	846.5	22.23	21.32
		836.5	22.12	21.19
		826.5	22.13	21.07
10MHz	1 RB high	844.0	23.31	22.21
		836.5	23.16	22.33

		829.0	23.20	22.14
	1 RB low	844.0	23.33	22.29
		836.5	23.14	22.22
		829.0	23.13	22.06
	50% RB mid	844.0	22.29	21.36
		836.5	22.17	21.30
		829.0	22.15	21.16
	100% RB	844.0	22.28	21.32
		836.5	22.19	21.23
		829.0	22.15	21.13

Note: Expanded measurement uncertainty is U = 0.488dB, k = 1.96

LTE band 7

Bandwidth	RB size/offset	Frequency (MHz)	Power(dBm)	
			QPSK	16QAM
5MHz	1 RB high	2567.5	23.20	22.44
		2535.0	23.18	22.47
		2502.5	23.15	22.72
	1 RB low	2567.5	23.18	22.37
		2535.0	23.20	22.45
		2502.5	23.25	22.83
	50% RB mid	2567.5	22.20	21.36
		2535.0	22.20	21.31
		2502.5	22.25	21.29
	100% RB	2567.5	22.20	21.29
		2535.0	22.19	21.22
		2502.5	22.20	21.19
10MHz	1 RB high	2565.0	23.24	22.31
		2535.0	23.22	22.37
		2505.0	23.21	22.27
	1 RB low	2565.0	23.17	22.35
		2535.0	23.21	22.33
		2505.0	23.25	22.21
	50% RB mid	2565.0	22.20	21.33
		2535.0	22.25	21.26
		2505.0	22.29	21.37
	100% RB	2565.0	22.19	21.27
		2535.0	22.22	21.18
		2505.0	22.26	21.32
15MHz	1 RB high	2562.5	23.23	22.35
		2535.0	23.21	22.40
		2507.5	23.20	22.68
	1 RB low	2562.5	23.18	22.39
		2535.0	23.21	22.35
		2507.5	23.27	22.57
	50% RB mid	2562.5	22.22	21.37
		2535.0	22.22	21.34
		2507.5	22.22	21.35
	100% RB	2562.5	22.21	21.25
		2535.0	22.26	21.21
		2507.5	22.32	21.27
20MHz	1 RB high	2560.0	23.40	22.50

		2535.0	23.23	22.47
		2510.0	23.19	22.60
	1 RB low	2560.0	23.32	22.57
		2535.0	23.23	22.43
		2510.0	23.25	22.49
	50% RB mid	2560.0	22.39	21.44
		2535.0	22.22	21.25
		2510.0	22.27	21.36
	100% RB	2560.0	22.18	21.31
		2535.0	22.19	21.25
		2510.0	22.18	21.17

Note: Expanded measurement uncertainty is U = 0.488 dB, k = 1.96

LTE band 12

Bandwidth	RB size/offset	Frequency (MHz)	Power(dBm)	
			QPSK	16QAM
1.4MHz	1 RB high	715.3	23.07	22.23
		707.5	23.07	22.16
		699.7	23.00	22.15
	1 RB low	715.3	23.02	22.26
		707.5	23.07	22.20
		699.7	23.01	22.12
	50% RB mid	715.3	23.15	22.40
		707.5	23.14	22.29
		699.7	23.18	22.42
	100% RB	715.3	22.10	21.07
		707.5	22.13	21.07
		699.7	22.02	21.08
3MHz	1 RB high	714.5	23.13	22.29
		707.5	23.14	22.22
		700.5	23.06	22.22
	1 RB low	714.5	23.14	22.39
		707.5	23.16	22.28
		700.5	23.10	22.23
	50% RB mid	714.5	22.16	21.36
		707.5	22.20	21.21
		700.5	22.13	21.34
	100% RB	714.5	22.15	21.26
		707.5	22.11	21.13
		700.5	22.11	21.29
5MHz	1 RB high	713.5	23.14	22.46
		707.5	23.14	22.43
		701.5	23.16	22.31
	1 RB low	713.5	23.05	22.44
		707.5	23.17	22.44
		701.5	23.11	22.25
	50% RB mid	713.5	22.22	21.45
		707.5	22.20	21.28
		701.5	22.16	21.42
	100% RB	713.5	22.08	21.22
		707.5	22.17	21.18
		701.5	22.25	21.40
10MHz	1 RB high	711.0	23.09	22.15

		707.5	23.03	22.25
		704.0	23.13	22.13
	1 RB low	711.0	23.16	22.14
		707.5	23.04	22.30
		704.0	23.09	22.21
	50% RB mid	711.0	22.14	21.24
		707.5	22.19	21.20
		704.0	22.24	21.31
	100% RB	711.0	22.15	21.20
		707.5	22.13	21.18
		704.0	22.18	21.26

Note: Expanded measurement uncertainty is U = 0.488 dB, k = 1.96

LTE band 13

Bandwidth	RB size/offset	Frequency (MHz)	Power(dBm)	
			QPSK	16QAM
5MHz	1 RB high	784.5	23.05	22.27
		782.0	23.07	22.29
		779.5	22.96	21.96
	1 RB low	784.5	22.98	22.26
		782.0	23.05	22.35
		779.5	22.98	21.88
	50% RB mid	784.5	22.03	21.19
		782.0	22.15	21.37
		779.5	22.14	21.40
	100% RB	784.5	21.96	21.10
		782.0	22.08	21.22
		779.5	22.14	21.29
10MHz	1 RB high	782.0	23.13	22.22
	1 RB low	782.0	23.01	22.16
	50% RB mid	782.0	22.11	21.24
	100% RB	782.0	22.08	21.19

Note: Expanded measurement uncertainty is U = 0.488 dB, k = 1.96

LTE band 25

Bandwidth	RB size/offset	Frequency (MHz)	Power(dBm)	
			QPSK	16QAM
1.4MHz	1 RB high	1914.3	23.27	22.14
		1882.5	23.17	22.32
		1850.7	23.32	22.46
	1 RB low	1914.3	23.18	22.16
		1882.5	23.16	22.32
		1850.7	23.33	22.46
	50% RB mid	1914.3	23.09	22.31
		1882.5	23.27	22.56
		1850.7	23.49	22.81
	100% RB	1914.3	22.27	21.15
		1882.5	22.15	21.21
		1850.7	22.29	21.35
3MHz	1 RB high	1913.5	23.35	22.19
		1882.5	23.21	22.43
		1851.5	23.33	22.47
	1 RB low	1913.5	23.16	22.24
		1882.5	23.27	22.44
		1851.5	23.36	22.49
	50% RB mid	1913.5	22.28	21.35
		1882.5	22.30	21.47
		1851.5	22.41	21.62
	100% RB	1913.5	22.23	21.31
		1882.5	22.26	21.43
		1851.5	22.39	21.56
5MHz	1 RB high	1912.5	23.31	22.41
		1882.5	23.25	22.63
		1852.5	23.32	22.52
	1 RB low	1912.5	23.16	22.52
		1882.5	23.32	22.61
		1852.5	23.39	22.53
	50% RB mid	1912.5	22.26	21.51
		1882.5	22.34	21.58
		1852.5	22.43	21.74
	100% RB	1912.5	22.24	21.40
		1882.5	22.34	21.51
		1852.5	22.46	21.64
10MHz	1 RB high	1910.0	23.29	22.17

		1882.5	23.27	22.51
		1855.0	23.37	22.48
	1 RB low	1910.0	23.21	22.23
		1882.5	23.44	22.56
		1855.0	23.48	22.57
	50% RB mid	1910.0	22.26	21.41
		1882.5	22.35	21.50
		1855.0	22.47	21.66
	100% RB	1910.0	22.24	21.37
		1882.5	22.36	21.48
		1855.0	22.46	21.61
15MHz	1 RB high	1907.5	23.23	22.45
		1882.5	23.14	22.43
		1857.5	23.33	22.80
	1 RB low	1907.5	23.19	22.65
		1882.5	23.34	22.47
		1857.5	23.39	22.88
	50% RB mid	1907.5	22.23	21.39
		1882.5	22.33	21.51
		1857.5	22.41	21.63
	100% RB	1907.5	22.26	21.36
		1882.5	22.45	21.51
		1857.5	22.38	21.47
20MHz	1 RB high	1905.0	23.17	22.62
		1882.5	23.22	22.60
		1860.0	23.32	22.90
	1 RB low	1905.0	23.08	22.86
		1882.5	23.38	22.56
		1860.0	23.32	23.01
	50% RB mid	1905.0	22.25	21.41
		1882.5	22.37	21.50
		1860.0	22.43	21.60
	100% RB	1905.0	22.27	21.35
		1882.5	22.36	21.45
		1860.0	22.49	21.54

Note: Expanded measurement uncertainty is U = 0.488 dB, k = 1.96

LTE band 26(Part 22)

Bandwidth	RB size/offset	Frequency (MHz)	Power(dBm)	
			QPSK	16QAM
1.4MHz	1 RB high	848.3	23.07	22.03
		836.5	23.09	22.18
		824.7	23.09	22.03
	1 RB low	848.3	23.05	22.06
		836.5	23.11	22.16
		824.7	23.08	22.01
	50% RB mid	848.3	23.09	22.28
		836.5	23.17	22.41
		824.7	23.05	22.21
	100% RB	848.3	22.10	21.04
		836.5	22.14	21.12
		824.7	22.14	21.04
3MHz	1 RB high	847.5	23.17	22.10
		836.5	23.17	22.33
		825.5	23.21	22.08
	1 RB low	847.5	23.16	22.20
		836.5	23.10	22.25
		825.5	23.22	22.17
	50% RB mid	847.5	22.14	21.27
		836.5	22.22	21.34
		825.5	22.17	21.19
	100% RB	847.5	22.14	21.25
		836.5	22.05	21.14
		825.5	22.09	21.13
5MHz	1 RB high	846.5	23.19	22.37
		836.5	23.20	22.48
		826.5	23.23	22.23
	1 RB low	846.5	23.23	22.50
		836.5	23.15	22.41
		826.5	23.21	22.19
	50% RB mid	846.5	22.25	21.41
		836.5	22.23	21.42
		826.5	22.15	21.28
	100% RB	846.5	22.19	21.32
		836.5	22.12	21.22
		826.5	22.23	21.26
10MHz	1 RB high	844.0	23.16	22.22
		836.5	23.13	22.30

		829.0	23.15	22.11
	1 RB low	844.0	23.14	22.33
		836.5	23.19	22.28
		829.0	23.25	22.17
	50% RB mid	844.0	22.10	21.24
		836.5	22.14	21.22
		829.0	22.19	21.19
	100% RB	844.0	22.11	21.16
		836.5	22.07	21.17
		829.0	22.19	21.18
15MHz	1 RB high	841.5	23.15	22.46
		836.5	23.20	22.35
		831.5	23.10	22.29
	1 RB low	841.5	23.17	22.53
		836.5	23.26	22.30
		831.5	23.19	22.27
	50% RB mid	841.5	22.17	21.31
		836.5	22.15	21.24
		831.5	22.19	21.30
	100% RB	841.5	22.09	21.16
		836.5	22.11	21.23
		831.5	22.16	21.18

Note: Expanded measurement uncertainty is U = 0.488 dB, k = 1.96

LTE band 26(Part 90)

Bandwidth	RB size/offset	Frequency (MHz)	Power(dBm)	
			QPSK	16QAM
1.4MHz	1 RB high	823.3	23.08	22.16
		819.0	23.09	22.23
		814.7	23.09	22.22
	1 RB low	823.3	23.12	22.17
		819.0	23.12	22.26
		814.7	23.25	22.20
	50% RB mid	823.3	23.05	22.25
		819.0	23.17	22.42
		814.7	23.19	22.41
	100% RB	823.3	22.11	21.03
		819.0	22.10	21.08
		814.7	22.22	21.16
3MHz	1 RB high	822.5	23.22	22.27
		819.0	23.27	22.40
		815.5	23.19	22.74
	1 RB low	822.5	23.16	22.32
		819.0	23.23	22.37
		815.5	23.31	22.73
	50% RB mid	822.5	22.18	21.27
		819.0	22.20	21.31
		815.5	22.28	21.37
	100% RB	822.5	22.10	21.18
		819.0	22.29	21.37
		815.5	22.25	21.32
5MHz	1 RB high	821.5	23.24	22.43
		819.0	23.30	22.54
		816.5	23.21	22.52
	1 RB low	821.5	23.11	22.41
		819.0	23.27	22.51
		816.5	23.33	22.54
	50% RB mid	821.5	22.21	21.36
		819.0	22.35	21.52
		816.5	22.25	21.45
	100% RB	821.5	22.21	21.28
		819.0	22.33	21.42
		816.5	22.22	21.34
10MHz	1 RB high	819.0	23.27	22.36
	1 RB low	819.0	23.30	22.41

	50% RB mid	819.0	22.36	21.41
	100% RB	819.0	22.31	21.37

Note: Expanded measurement uncertainty is U = 0.488 dB, k = 1.96

LTE band 38

Bandwidth	RB size/offset	Frequency (MHz)	Power(dBm)	
			QPSK	16QAM
5MHz	1 RB high	2617.5	23.02	22.09
		2595.0	23.07	22.21
		2572.5	23.28	22.56
	1 RB low	2617.5	22.99	22.13
		2595.0	23.09	22.18
		2572.5	23.25	22.59
	50% RB mid	2617.5	22.02	20.98
		2595.0	22.11	21.16
		2572.5	22.30	21.32
	100% RB	2617.5	21.95	20.96
		2595.0	22.07	21.12
		2572.5	22.25	21.30
10MHz	1 RB high	2615.0	23.04	21.97
		2595.0	23.15	22.20
		2575.0	23.31	22.29
	1 RB low	2615.0	23.01	22.04
		2595.0	23.09	22.05
		2575.0	23.16	22.35
	50% RB mid	2615.0	22.05	21.03
		2595.0	22.12	21.14
		2575.0	22.27	21.31
	100% RB	2615.0	22.01	21.04
		2595.0	22.09	21.14
		2575.0	22.24	21.31
15MHz	1 RB high	2612.5	23.06	22.06
		2595.0	23.11	22.19
		2577.5	23.20	22.39
	1 RB low	2612.5	23.12	22.14
		2595.0	23.09	22.08
		2577.5	23.24	22.56
	50% RB mid	2612.5	22.05	21.13
		2595.0	22.08	21.20
		2577.5	22.19	21.26
	100% RB	2612.5	21.98	21.03
		2595.0	22.13	21.11
		2577.5	22.25	21.31
20MHz	1 RB high	2610.0	23.01	22.05

		2595.0	23.05	22.14
		2580.0	23.12	22.14
	1 RB low	2610.0	23.05	22.15
		2595.0	23.09	22.11
		2580.0	23.23	22.33
	50% RB mid	2610.0	22.08	21.08
		2595.0	22.13	21.19
		2580.0	22.14	21.13
	100% RB	2610.0	22.08	21.06
		2595.0	22.11	21.16
		2580.0	22.22	21.29

Note: Expanded measurement uncertainty is U = 0.488 dB, k = 1.96

LTE band 66

Bandwidth	RB size/offset	Frequency (MHz)	Power(dBm)	
			QPSK	16QAM
1.4MHz	1 RB high	1779.3	23.11	22.30
		1745.0	23.19	22.40
		1710.7	23.03	22.18
	1 RB low	1779.3	23.09	22.30
		1745.0	23.19	22.44
		1710.7	23.08	22.18
	50% RB mid	1779.3	23.29	22.60
		1745.0	23.40	22.74
		1710.7	23.23	22.51
	100% RB	1779.3	22.13	21.14
		1745.0	22.15	21.25
		1710.7	22.10	21.11
3MHz	1 RB high	1778.5	23.05	22.15
		1745.0	23.14	22.40
		1711.5	22.99	22.10
	1 RB low	1778.5	23.06	22.21
		1745.0	23.10	22.38
		1711.5	23.05	22.14
	50% RB mid	1778.5	22.25	21.44
		1745.0	22.29	21.56
		1711.5	22.19	21.38
	100% RB	1778.5	22.22	21.37
		1745.0	22.25	21.45
		1711.5	22.18	21.36
5MHz	1 RB high	1777.5	23.01	22.17
		1745.0	23.10	22.52
		1712.5	22.92	22.14
	1 RB low	1777.5	23.02	22.22
		1745.0	23.13	22.50
		1712.5	23.02	22.13
	50% RB mid	1777.5	22.28	21.58
		1745.0	22.35	21.62
		1712.5	22.21	21.47
	100% RB	1777.5	22.21	21.42
		1745.0	22.29	21.49
		1712.5	22.12	21.31
10MHz	1 RB high	1775.0	23.13	22.24
		1745.0	23.17	22.48

		1715.0	23.07	22.17
	1 RB low	1775.0	23.19	22.29
		1745.0	23.23	22.50
		1715.0	23.14	22.22
	50% RB mid	1775.0	22.25	21.43
		1745.0	22.29	21.49
		1715.0	22.12	21.32
	100% RB	1775.0	22.28	21.43
		1745.0	22.32	21.46
		1715.0	22.14	21.30
15MHz	1 RB high	1772.5	23.15	22.40
		1745.0	23.22	22.51
		1717.5	23.09	22.55
	1 RB low	1772.5	23.25	22.48
		1745.0	23.26	22.49
		1717.5	23.14	22.58
	50% RB mid	1772.5	22.24	21.45
		1745.0	22.28	21.46
		1717.5	22.11	21.30
	100% RB	1772.5	22.25	21.33
		1745.0	22.12	21.27
		1717.5	22.09	21.24
20MHz	1 RB high	1770.0	23.16	22.82
		1745.0	23.31	22.66
		1720.0	23.29	22.51
	1 RB low	1770.0	23.14	22.79
		1745.0	23.32	22.57
		1720.0	23.16	22.45
	50% RB mid	1770.0	22.28	21.41
		1745.0	22.33	21.47
		1720.0	22.15	21.23
	100% RB	1770.0	22.32	21.46
		1745.0	22.35	21.49
		1720.0	22.16	21.33

Note: Expanded measurement uncertainty is U = 0.488 dB, k = 1.96

A.1.3 Radiated

A.1.3.1 Description

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

Rule Part 24.232(b) specifies, "Mobile/portable stations are limited to 2 watts e.i.r.p. Peak power" and 24.232(c) specifies that "Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage."

Rule Part 27.50(d) specifies “Fixed, mobile, and portable (handheld) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP”.

Rule Part 27.50(h)(2) specifies “Mobile stations are limited to 2.0 watts EIRP.”.

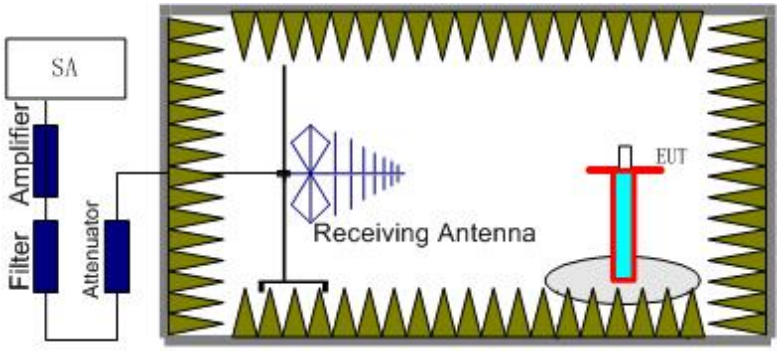
Rule Part 27.50(c) specifies “Portable stations (hand-held de-vices) are limited to 3 watts ERP.”.

Rule Part 27.50(a)(3) specifies “For mobile and portable stations transmitting in the 2305–2315 MHz band or the 2350–2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth.”

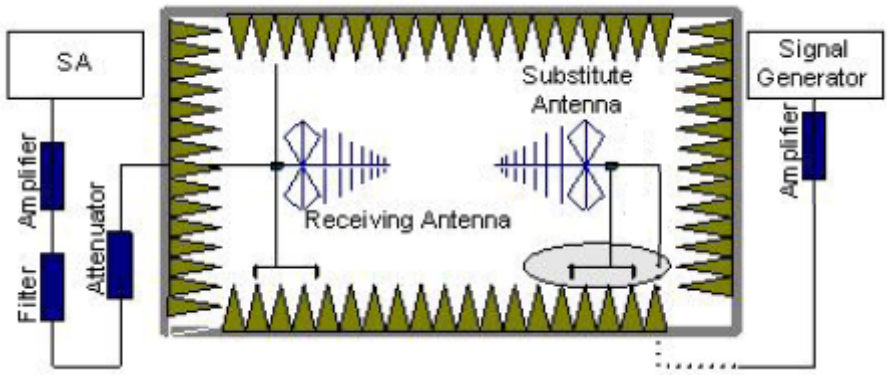
A.1.3.2 Method of Measurement

The measurements procedures in TIA-603-E-2016 are used.

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 transmit frequencies in three channels (High, Middle, Low) 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. An amplifier should be connected to the Signal Source output port. And the cable should be connected between the amplifier and the substitution antenna.
   The cable loss (P_{cl}), the substitution antenna Gain (G_a) and the amplifier Gain (P_{Ag}) should be recorded after test.
   The measurement results are obtained as described below:
   Power (EIRP) = $P_{Mea} - P_{Ag} - P_{cl} + G_a$
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.1.3.3 Measurement result

LTE Band 2- EIRP 24. 232(b)

Limits: ≤33dBm (2W)

LTE Band 2_1.4MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1850.70	-9.86	-29.40	0.15	19.69	33.00	H
1880.00	-8.76	-29.30	0.25	20.79	33.00	H
1909.30	-8.59	-29.30	0.35	21.06	33.00	H

LTE Band 2_3MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1851.50	-10.25	-29.40	0.15	19.30	33.00	H
1880.00	-9.36	-29.30	0.25	20.19	33.00	H
1908.50	-8.74	-29.30	0.35	20.91	33.00	H

LTE Band 2_5MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1852.50	-10.15	-29.40	0.15	19.40	33.00	H
1880.00	-9.47	-29.30	0.25	20.08	33.00	H
1907.50	-8.71	-29.30	0.35	20.94	33.00	H

LTE Band 2_10MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1855.00	-10.23	-29.40	0.15	19.32	33.00	H
1880.00	-9.38	-29.30	0.25	20.17	33.00	H
1905.00	-9.51	-29.30	0.35	20.14	33.00	H

LTE Band 2_15MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1857.50	-10.54	-29.40	0.15	19.01	33.00	H
1880.00	-9.85	-29.30	0.25	19.70	33.00	H
1902.50	-10.59	-29.30	0.35	19.06	33.00	H

LTE Band 2_20 MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1860.00	-10.50	-29.40	0.15	19.05	33.00	H
1880.00	-10.17	-29.30	0.25	19.38	33.00	H
1900.00	-10.73	-29.30	0.35	18.92	33.00	H

LTE Band 2_1.4MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1850.70	-10.13	-29.40	0.15	19.42	33.00	H
1880.00	-9.20	-29.30	0.25	20.35	33.00	H
1909.30	**-8.35**	**-29.30**	**0.35**	**21.31**	**33.00**	**H**

LTE Band 2_3MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1851.50	-10.14	-29.40	0.15	19.41	33.00	H
1880.00	-9.26	-29.30	0.25	20.29	33.00	H
1908.50	-8.49	-29.30	0.35	21.16	33.00	H

LTE Band 2_5MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1852.50	-9.82	-29.40	0.15	19.73	33.00	H
1880.00	-9.27	-29.30	0.25	20.28	33.00	H
1907.50	-8.53	-29.30	0.35	21.12	33.00	H

LTE Band 2_10MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1855.00	-9.53	-29.40	0.15	20.02	33.00	H
1880.00	-9.20	-29.30	0.25	20.35	33.00	H
1905.00	-9.13	-29.30	0.35	20.52	33.00	H

LTE Band 2_15MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1857.50	-9.83	-29.40	0.15	19.72	33.00	H
1880.00	-9.29	-29.30	0.25	20.26	33.00	H
1902.50	-9.87	-29.30	0.35	19.78	33.00	H

LTE Band 2_20 MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1860.00	-9.97	-29.40	0.15	19.58	33.00	H
1880.00	-9.47	-29.30	0.25	20.08	33.00	H
1900.00	-10.09	-29.30	0.35	19.56	33.00	H

Peak EIRP (dBm)=P_{Mea}(-8.35dBm)-(P_{cl}+P_{Ag})(-29.30dB)+G_a(0.35dB) =21.31dBm

LTE Band 4- EIRP 27.50(d)

Limits: ≤30dBm (1W)

LTE Band 4_1.4MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1710.70	-9.13	-29.60	0.39	20.86	30.00	H
1732.50	-7.87	-29.60	0.27	22.00	30.00	H
1754.30	-7.16	-29.50	0.17	22.52	30.00	H

LTE Band 4_3MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1711.50	-9.42	-29.60	0.39	20.57	30.00	H
1732.50	-8.33	-29.60	0.27	21.54	30.00	H
1753.50	-7.83	-29.50	0.17	21.85	30.00	H

LTE Band 4_5MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1712.50	-9.56	-29.60	0.39	20.43	30.00	H
1732.50	-8.24	-29.60	0.27	21.63	30.00	H
1752.50	-7.82	-29.50	0.17	21.85	30.00	H

LTE Band 4_10MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1715.00	-10.73	-29.60	0.39	19.27	30.00	H
1732.50	-9.54	-29.60	0.27	20.33	30.00	H
1750.50	-8.51	-29.50	0.17	21.16	30.00	H

LTE Band 4_15MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1717.50	-11.53	-29.60	0.39	18.46	30.00	H
1732.50	-10.40	-29.60	0.27	19.47	30.00	H
1747.50	-10.39	-29.50	0.17	19.28	30.00	H

LTE Band 4_20MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1720.00	-11.62	-29.60	0.39	18.37	30.00	H
1732.50	-10.86	-29.60	0.27	19.02	30.00	H
1745.00	-11.36	-29.50	0.17	18.31	30.00	H

LTE Band 4_1.4MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1710.70	-8.41	-29.60	0.39	21.58	30.00	H
1732.50	-7.17	-29.60	0.27	22.70	30.00	H
1754.30	**-6.81**	**-29.50**	**0.17**	**22.86**	**30.00**	**H**

LTE Band 4_3MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1711.50	-9.19	-29.60	0.39	20.80	30.00	H
1732.50	-7.78	-29.60	0.27	22.09	30.00	H
1753.50	-7.24	-29.50	0.17	22.43	30.00	H

LTE Band 4_5MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1712.50	-9.10	-29.60	0.39	20.89	30.00	H
1732.50	-7.72	-29.60	0.27	22.15	30.00	H
1752.50	-7.31	-29.50	0.17	22.36	30.00	H

LTE Band 4_10MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1715.00	-10.03	-29.60	0.39	19.96	30.00	H
1732.50	-8.75	-29.60	0.27	21.12	30.00	H
1750.50	-8.66	-29.50	0.17	21.01	30.00	H

LTE Band 4_15MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1717.50	-9.93	-29.60	0.39	20.06	30.00	H
1732.50	-9.89	-29.60	0.27	19.99	30.00	H
1747.50	-9.80	-29.50	0.17	19.87	30.00	H

LTE Band 4_20MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1720.00	-10.79	-29.60	0.39	19.20	30.00	H
1732.50	-10.25	-29.60	0.27	19.62	30.00	H
1745.00	-10.20	-29.50	0.17	19.47	30.00	H

Peak EIRP (dBm)=P_{Mea}(-6.81dBm)-(P_{cl}+P_{Ag})(-29.50dB)+G_a(0.17dB) =22.86dBm

LTE Band 5- ERP 22.913(a)

Limits: ≤38.45dBm (7W)

LTE Band 5_1.4MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
824.70	-11.54	-33.60	0.28	2.15	20.20	38.45	V
836.50	-10.92	-33.50	0.25	2.15	20.68	38.45	V
848.30	-11.12	-33.50	0.21	2.15	20.44	38.45	V

LTE Band 5_3MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
825.50	-11.63	-33.60	0.28	2.15	20.10	38.45	V
836.50	-10.92	-33.50	0.25	2.15	20.68	38.45	V
847.50	-11.44	-33.50	0.21	2.15	20.12	38.45	V

LTE Band 5_5MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
826.50	-11.98	-33.60	0.28	2.15	19.75	38.45	V
836.50	-10.98	-33.50	0.25	2.15	20.62	38.45	V
846.50	-11.39	-33.50	0.21	2.15	20.18	38.45	V

LTE Band 5_10MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
829.00	-11.74	-33.60	0.28	2.15	19.99	38.45	V
836.50	-11.12	-33.50	0.25	2.15	20.48	38.45	V
844.00	-10.96	-33.50	0.21	2.15	20.60	38.45	V

LTE Band 5_1.4MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
824.70	-11.47	-33.60	0.28	2.15	20.26	38.45	V
836.50	-10.95	-33.50	0.25	2.15	20.65	38.45	V
848.30	-11.24	-33.50	0.21	2.15	20.32	38.45	V

LTE Band 5_3MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
825.50	-11.63	-33.60	0.28	2.15	20.10	38.45	V
836.50	-10.85	-33.50	0.25	2.15	20.75	38.45	V
847.50	-11.46	-33.50	0.21	2.15	20.10	38.45	V

LTE Band 5_5MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
826.50	-11.63	-33.60	0.28	2.15	20.10	38.45	V
836.50	**-10.54**	**-33.50**	**0.25**	**2.15**	**21.07**	**38.45**	**V**
846.50	-11.41	-33.50	0.21	2.15	20.15	38.45	V

LTE Band 5_10MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
829.00	-11.98	-33.60	0.28	2.15	19.76	38.45	V
836.50	-12.28	-33.50	0.25	2.15	19.32	38.45	V
844.00	-10.96	-33.50	0.21	2.15	20.60	38.45	V

Peak ERP (dBm)=P_{Mea}(-10.54dBm)-(P_{cl}+P_{Ag})(-33.50dB)+G_a(0.25dB) -2.15dB =21.07dBm

LTE Band 7- EIRP 27.50(h)(2)

Limits: ≤33 dBm (2W)

LTE Band 7_5MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
2502.50	-3.38	-28.70	0.59	25.91	33.00	H
2535.00	-2.86	-28.60	0.45	26.19	33.00	H
2567.50	-3.33	-28.60	0.38	25.65	33.00	H

LTE Band 7_10MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
2505.00	-4.11	-28.70	0.59	25.18	33.00	H
2535.00	-3.73	-28.60	0.45	25.32	33.00	H
2565.00	-3.94	-28.60	0.38	25.04	33.00	H

LTE Band 7_15MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
2507.50	-4.83	-28.70	0.59	24.46	33.00	H
2535.00	-4.55	-28.60	0.45	24.50	33.00	H
2562.50	-4.26	-28.60	0.38	24.72	33.00	H

LTE Band 7_20MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
2510.00	-5.39	-28.70	0.59	23.91	33.00	H
2535.00	-5.02	-28.60	0.45	24.03	33.00	H
2560.00	-4.40	-28.60	0.38	24.58	33.00	H

LTE Band 7_5MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
2502.50	-3.23	-28.70	0.59	26.06	33.00	H
2535.00	**-2.67**	**-28.60**	**0.45**	**26.38**	**33.00**	**H**
2567.50	-3.16	-28.60	0.38	25.82	33.00	H

LTE Band 7_10MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
2505.00	-3.61	-28.70	0.59	25.68	33.00	H
2535.00	-3.35	-28.60	0.45	25.70	33.00	H
2565.00	-3.64	-28.60	0.38	25.34	33.00	H

LTE Band 7_15MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
2507.50	-4.41	-28.70	0.59	24.88	33.00	H
2535.00	-4.18	-28.60	0.45	24.87	33.00	H
2562.50	-3.61	-28.60	0.38	25.37	33.00	H

LTE Band 7_20MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
2510.00	-5.02	-28.70	0.59	24.28	33.00	H
2535.00	-4.52	-28.60	0.45	24.53	33.00	H
2560.00	-3.89	-28.60	0.38	25.09	33.00	H

Peak EIRP (dBm)=P_{Mea}(-2.67dBm)-(P_{cl}+P_{Ag})(-28.60dB)+G_a(0.45dB) -2.15dB =26.38dBm

LTE Band 12 - ERP 27.50(c)(10)

Limits: ≤34.77dBm (3W)

LTE Band 12_1.4MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
699.70	-15.49	-34.80	1.02	2.15	18.18	34.77	V
707.50	-17.01	-34.70	1.14	2.15	16.68	34.77	V
715.30	-16.17	-34.70	1.10	2.15	17.48	34.77	V

LTE Band 12_3MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
700.50	-15.42	-34.80	1.02	2.15	18.25	34.77	V
707.50	-17.01	-34.70	1.14	2.15	16.69	34.77	V
714.50	-16.39	-34.70	1.10	2.15	17.26	34.77	V

LTE Band 12_5MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
701.50	**-14.73**	**-34.80**	**1.02**	**2.15**	**18.94**	**34.77**	**V**
707.50	-16.25	-34.70	1.14	2.15	17.44	34.77	V
713.50	-15.50	-34.70	1.10	2.15	18.15	34.77	V

LTE Band 12_10MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
704.00	-16.89	-34.80	1.02	2.15	16.78	34.77	V
707.50	-17.55	-34.70	1.14	2.15	16.14	34.77	V
711.00	-17.20	-34.70	1.10	2.15	16.45	34.77	V

LTE Band 12_1.4MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
699.70	-15.05	-34.80	1.02	2.15	18.62	34.77	V
707.50	-17.24	-34.70	1.14	2.15	16.45	34.77	V
715.30	-16.07	-34.70	1.10	2.15	17.58	34.77	V

LTE Band 12_3MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
700.50	-14.89	-34.80	1.02	2.15	18.79	34.77	V
707.50	-17.11	-34.70	1.14	2.15	16.58	34.77	V
714.50	-15.75	-34.70	1.10	2.15	17.90	34.77	V

LTE Band 12_5MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
701.50	-14.74	-34.80	1.02	2.15	18.93	34.77	V
707.50	-16.32	-34.70	1.14	2.15	17.37	34.77	V
713.50	-15.49	-34.70	1.10	2.15	18.16	34.77	V

LTE Band 12_10MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
704.00	-17.05	-34.80	1.02	2.15	16.62	34.77	V
707.50	-17.55	-34.70	1.14	2.15	16.14	34.77	V
711.00	-17.01	-34.70	1.10	2.15	16.64	34.77	V

Peak ERP (dBm)=P_{Mea}(-12.69dBm)-(P_{cl}+P_{Ag})(-34.80dB)+G_a(1.02dB) -2.15dB =18.94dBm

LTE Band 13- ERP 27.50(b)(10)

Limits: ≤34.77dBm (3W)

LTE Band 13_5MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
779.50	-16.37	-34.00	0.28	2.15	15.76	34.77	V
782.00	-15.96	-34.00	0.25	2.15	16.14	34.77	V
784.50	-15.69	-34.10	0.26	2.15	16.52	34.77	V

LTE Band 13_10MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
782.00	-16.80	-34.00	0.28	2.15	15.33	34.77	V
782.00	-16.77	-34.00	0.25	2.15	15.33	34.77	V
782.00	-16.78	-34.00	0.26	2.15	15.33	34.77	V

LTE Band 13_5MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
779.50	-16.16	-34.00	0.28	2.15	15.97	34.77	V
782.00	-15.85	-34.00	0.25	2.15	16.26	34.77	V
784.50	**-15.36**	**-34.10**	**0.26**	**2.15**	**16.86**	**34.77**	**V**

LTE Band 13_10MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
782.00	-16.39	-34.00	0.28	2.15	15.74	34.77	V
782.00	-16.36	-34.00	0.25	2.15	15.74	34.77	V
782.00	-16.37	-34.00	0.26	2.15	15.74	34.77	V

Peak ERP (dBm)=P_{Mea}(-15.36dBm)-(P_{cl}+P_{Ag})(-34.10dB)+G_a(0.26dB) -2.15dB =16.86dBm

LTE Band 25- EIRP 24. 232(c)

Limits: ≤33dBm (2W)

LTE Band 25_1.4MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1850.70	-10.78	-29.40	0.15	18.78	33.00	H
1882.50	-9.09	-29.30	0.25	20.46	33.00	H
1914.30	-7.95	-29.30	0.35	21.70	33.00	H

LTE Band 25_3MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1851.50	-10.83	-29.40	0.15	18.72	33.00	H
1882.50	-9.18	-29.30	0.25	20.37	33.00	H
1913.50	-7.46	-29.30	0.35	22.19	33.00	H

LTE Band 25_5MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1852.50	-10.54	-29.40	0.15	19.01	33.00	H
1882.50	-9.21	-29.30	0.25	20.34	33.00	H
1912.50	-7.43	-29.30	0.35	22.22	33.00	H

LTE Band 25_10MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1855.00	-10.98	-29.40	0.15	18.57	33.00	H
1882.00	-9.69	-29.30	0.25	19.86	33.00	H
1910.00	-8.22	-29.30	0.35	21.43	33.00	H

LTE Band 25_15MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1857.50	-11.22	-29.40	0.15	18.33	33.00	H
1882.50	-10.52	-29.30	0.25	19.03	33.00	H
1907.50	-9.63	-29.30	0.35	20.02	33.00	H

LTE Band 25_20 MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1860.00	-11.03	-29.40	0.15	18.52	33.00	H
1882.50	-10.87	-29.30	0.25	18.68	33.00	H
1905.00	-10.22	-29.30	0.35	19.43	33.00	H

LTE Band 25_1.4MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1850.70	-10.63	-29.40	0.15	18.92	33.00	H
1882.50	-9.09	-29.30	0.25	20.46	33.00	H
1914.30	-7.56	-29.30	0.35	22.09	33.00	H

LTE Band 25_3MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1851.50	-10.62	-29.40	0.15	18.93	33.00	H
1882.50	-9.06	-29.30	0.25	20.49	33.00	H
1913.50	**-6.98**	**-29.30**	**0.35**	**22.67**	**33.00**	**H**

LTE Band 25_5MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1852.50	-10.29	-29.40	0.15	19.26	33.00	H
1882.50	-9.07	-29.30	0.25	20.48	33.00	H
1912.50	-7.05	-29.30	0.35	22.60	33.00	H

LTE Band 25_10MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1855.00	-10.22	-29.40	0.15	19.33	33.00	H
1882.00	-9.49	-29.30	0.25	20.06	33.00	H
1910.00	-7.94	-29.30	0.35	21.71	33.00	H

LTE Band 25_15MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1857.50	-10.44	-29.40	0.15	19.11	33.00	H
1882.50	-10.08	-29.30	0.25	19.47	33.00	H
1907.50	-8.65	-29.30	0.35	21.00	33.00	H

LTE Band 25_20 MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1860.00	-10.36	-29.40	0.15	19.19	33.00	H
1882.50	-9.97	-29.30	0.25	19.58	33.00	H
1905.00	-9.55	-29.30	0.35	20.10	33.00	H

Peak EIRP (dBm)=P_{Mea}(-6.89dBm)-(P_{cl}+P_{Ag})(-29.30dB)+G_a(0.35dB) =22.67dBm

LTE Band 26(Part 22)- ERP 22.913(a)

Limits: ≤38.45dBm (7W)

LTE Band 26(Part 22)_1.4MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
824.70	-11.63	-33.60	0.28	2.15	20.10	38.45	V
836.50	-10.85	-33.50	0.25	2.15	20.75	38.45	V
848.30	-11.37	-33.50	0.21	2.15	20.19	38.45	V

LTE Band 26(Part 22)_3MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
825.50	-11.65	-33.60	0.28	2.15	20.08	38.45	V
836.50	-11.08	-33.50	0.25	2.15	20.52	38.45	V
847.50	-11.47	-33.50	0.21	2.15	20.09	38.45	V

LTE Band 26(Part 22)_5MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
826.50	-11.85	-33.60	0.28	2.15	19.88	38.45	V
836.50	-11.61	-33.50	0.25	2.15	19.99	38.45	V
846.50	-11.78	-33.50	0.21	2.15	19.78	38.45	V

LTE Band 26(Part 22)_10MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
829.00	-12.38	-33.60	0.28	2.15	19.35	38.45	V
836.50	-12.61	-33.50	0.25	2.15	18.99	38.45	V
844.00	-12.58	-33.50	0.21	2.15	18.98	38.45	V

LTE Band 26(Part 22)_15MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
831.50	-12.63	-33.60	0.28	2.15	19.10	38.45	V
836.50	-12.74	-33.50	0.25	2.15	18.86	38.45	V
841.50	-12.73	-33.50	0.21	2.15	18.83	38.45	V

LTE Band 26(Part 22)_1.4MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
824.70	-11.35	-33.60	0.28	2.15	20.39	38.45	V
836.50	**-10.62**	**-33.50**	**0.25**	**2.15**	**20.98**	**38.45**	**V**
848.30	-11.07	-33.50	0.21	2.15	20.49	38.45	V

LTE Band 26(Part 22)_3MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
825.50	-11.41	-33.60	0.28	2.15	20.33	38.45	V
836.50	-10.81	-33.50	0.25	2.15	20.79	38.45	V
847.50	-11.10	-33.50	0.21	2.15	20.46	38.45	V

LTE Band 26(Part 22)_5MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
826.50	-11.58	-33.60	0.28	2.15	20.15	38.45	V
836.50	-11.25	-33.50	0.25	2.15	20.35	38.45	V
846.50	-11.57	-33.50	0.21	2.15	19.99	38.45	V

LTE Band 26(Part 22)_10MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
829.00	-12.18	-33.60	0.28	2.15	19.55	38.45	V
836.50	-12.14	-33.50	0.25	2.15	19.46	38.45	V
844.00	-12.20	-33.50	0.21	2.15	19.36	38.45	V

LTE Band 26(Part 22)_15MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
831.50	-12.44	-33.60	0.28	2.15	19.29	38.45	V
836.50	-12.59	-33.50	0.25	2.15	19.01	38.45	V
841.50	-12.58	-33.50	0.21	2.15	18.98	38.45	V

Peak ERP (dBm)=P_{Mea}(-10.62dBm)-(P_{cl}+P_{Ag})(-33.50dB)+G_a(0.25dB) -2.15=20.98dBm

LTE Band 26(Part 90)- ERP 90.637(c)(2)

Limits: ≤44.77dBm (30W)

LTE Band 26(Part 90)_1.4MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
814.70	-12.26	-33.60	0.28	2.15	19.47	44.77	V
819.00	-11.23	-33.50	0.25	2.15	20.38	44.77	V
823.30	**-10.59**	**-33.50**	**0.21**	**2.15**	**20.97**	**44.77**	**V**

LTE Band 26(Part 90)_3MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
815.50	-12.34	-33.60	0.28	2.15	19.39	44.77	V
819.00	-11.31	-33.50	0.25	2.15	20.29	44.77	V
822.50	-10.99	-33.50	0.21	2.15	20.57	44.77	V

LTE Band 26(Part 90)_5MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
816.50	-12.54	-33.60	0.28	2.15	19.19	44.77	V
819.00	-11.57	-33.50	0.25	2.15	20.03	44.77	V
821.50	-11.33	-33.50	0.21	2.15	20.23	44.77	V

LTE Band 26(Part 90)_10MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
819.00	-12.43	-33.60	0.28	2.15	19.30	44.77	V
819.00	-12.30	-33.50	0.25	2.15	19.30	44.77	V
819.00	-12.26	-33.50	0.21	2.15	19.30	44.77	V

LTE Band 26(Part 90)_1.4MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
814.70	-12.04	-33.60	0.28	2.15	19.69	44.77	V
819.00	-11.04	-33.50	0.25	2.15	20.56	44.77	V
823.30	-10.55	-33.50	0.21	2.15	21.01	44.77	V

LTE Band 26(Part 90)_3MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
815.50	-12.24	-33.60	0.28	2.15	19.49	44.77	V
819.00	-11.14	-33.50	0.25	2.15	20.46	44.77	V
822.50	-10.95	-33.50	0.21	2.15	20.61	44.77	V

LTE Band 26(Part 90)_5MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
816.50	-12.38	-33.60	0.28	2.15	19.35	44.77	V
819.00	-11.61	-33.50	0.25	2.15	19.99	44.77	V
821.50	-11.05	-33.50	0.21	2.15	20.51	44.77	V

LTE Band 26(Part 90)_10MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	Correction (dB)	ERP(dBm)	Limit(dBm)	Polarization
819.00	-12.13	-33.60	0.28	2.15	19.60	44.77	V
819.00	-12.00	-33.50	0.25	2.15	19.60	44.77	V
819.00	-11.96	-33.50	0.21	2.15	19.60	44.77	V

Peak ERP (dBm)=P_{Mea}(-10.59dBm)-(P_{cl}+P_{Ag})(-33.50dB)+G_a(0.21dB) -2.15 =20.97dBm

LTE Band 38- EIRP 27.50(h)(2)

Limits: ≤33dBm (2W)

LTE Band 38_5MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
2572.50	-2.44	-28.60	0.38	26.54	33.00	H
2595.00	-2.33	-28.60	0.31	26.58	33.00	H
2617.50	-3.75	-28.60	0.30	25.16	33.00	H

LTE Band 38_10MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
2575.00	-3.03	-28.60	0.38	25.96	33.00	H
2595.00	-2.53	-28.60	0.31	26.38	33.00	H
2615.00	-4.01	-28.60	0.30	24.89	33.00	H

LTE Band 38_15MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
2577.50	-5.00	-28.60	0.38	23.98	33.00	H
2595.00	-4.29	-28.60	0.31	24.63	33.00	H
2612.50	-4.42	-28.60	0.30	24.48	33.00	H

LTE Band 38_20 MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
2580.00	-5.02	-28.60	0.38	23.96	33.00	H
2595.00	-4.66	-28.60	0.31	24.25	33.00	H
2610.00	-5.07	-28.60	0.30	23.83	33.00	H

LTE Band 38_5MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
2572.50	**-2.00**	**-28.60**	**0.38**	**26.98**	**33.00**	**H**
2595.00	-2.44	-28.60	0.31	26.47	33.00	H
2617.50	-3.74	-28.60	0.30	25.16	33.00	H

LTE Band 38_10MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
2575.00	-3.24	-28.60	0.38	25.74	33.00	H
2595.00	-3.03	-28.60	0.31	25.88	33.00	H
2615.00	-3.73	-28.60	0.30	25.17	33.00	H

LTE Band 38_15MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
2577.50	-4.38	-28.60	0.38	24.60	33.00	H
2595.00	-3.30	-28.60	0.31	25.61	33.00	H
2612.50	-3.81	-28.60	0.30	25.09	33.00	H

LTE Band 38_20 MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
2580.00	-4.65	-28.60	0.38	24.33	33.00	H
2595.00	-4.41	-28.60	0.31	24.51	33.00	H
2610.00	-4.44	-28.60	0.30	24.46	33.00	H

Peak EIRP (dBm)=P_{Mea}(-2.00dBm)-(P_{cl}+P_{Ag})(-28.60dB)+G_a(0.38dB) =26.98dBm

LTE Band 66- EIRP 27.50(d)

Limits: ≤30dBm (1W)

LTE Band 66_1.4MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1710.70	-11.00	-29.60	0.38	18.98	33.00	H
1745.00	-10.02	-29.50	0.31	19.79	33.00	H
1779.30	-8.29	-29.50	0.30	21.51	33.00	H

LTE Band 66_3MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1711.50	-11.16	-29.60	0.38	18.83	33.00	H
1745.00	-10.34	-29.50	0.31	19.48	33.00	H
1778.50	-8.53	-29.50	0.30	21.27	33.00	H

LTE Band 66_5MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1712.50	-11.28	-29.60	0.38	18.70	33.00	H
1745.00	-10.43	-29.50	0.31	19.38	33.00	H
1777.50	-8.40	-29.50	0.30	21.40	33.00	H

LTE Band 66_10MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1715.00	-12.56	-29.60	0.38	17.43	33.00	H
1745.00	-11.56	-29.50	0.31	18.25	33.00	H
1775.00	-9.79	-29.50	0.30	20.01	33.00	H

LTE Band 66_15MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1717.50	-12.79	-29.60	0.38	17.19	33.00	H
1745.00	-12.02	-29.50	0.31	17.79	33.00	H
1772.53	-10.66	-29.50	0.30	19.14	33.00	H

LTE Band 66_20MHz_QPSK

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1720.00	-13.19	-29.60	0.38	16.80	33.00	H
1745.00	-12.56	-29.50	0.31	17.25	33.00	H
1770.00	-11.70	-29.50	0.30	18.10	33.00	H

LTE Band 66_1.4MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1710.70	-10.91	-29.60	0.38	19.07	33.00	H
1745.00	-9.97	-29.50	0.31	19.84	33.00	H
1779.30	-8.17	-29.50	0.30	21.63	33.00	H

LTE Band 66_3MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1711.50	-11.13	-29.60	0.38	18.85	33.00	H
1745.00	-10.23	-29.50	0.31	19.58	33.00	H
1778.50	-8.33	-29.50	0.30	21.48	33.00	H

LTE Band 66_5MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1712.50	-10.98	-29.60	0.38	19.01	33.00	H
1745.00	-10.12	-29.50	0.31	19.69	33.00	H
1777.50	**-7.90**	**-29.50**	**0.30**	**21.90**	**33.00**	**H**

LTE Band 66_10MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1715.00	-10.72	-28.60	0.38	18.26	33.00	H
1745.00	-9.50	-28.60	0.31	19.41	33.00	H
1775.00	-7.79	-28.60	0.30	21.11	33.00	H

LTE Band 66_15MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1717.50	-12.25	-29.60	0.38	17.73	33.00	H
1745.00	-11.39	-29.50	0.31	18.42	33.00	H
1772.53	-9.94	-29.50	0.30	19.86	33.00	H

LTE Band 66_20MHz_16QAM

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)+ P_{Ag}(dB)	Ga Antenna Gain(dBi)	EIRP(dBm)	Limit(dBm)	Polarization
1720.00	-12.17	-29.60	0.38	17.81	33.00	H
1745.00	-11.72	-29.50	0.31	18.09	33.00	H
1770.00	-10.88	-29.50	0.30	18.92	33.00	H

Peak EIRP (dBm)=P_{Mea}(-7.90dBm)-(P_{cl}+P_{Ag})(-29.50dB)+G_a(0.30dB) =21.90dBm

ANALYZER SETTINGS:

RBW = VBW = 8MHz for occupied bandwidths equal to or less than 5MHz.

RBW = VBW = 20MHz for occupied bandwidths equal to or greater than 10MHz.

Note: The maximum value of expanded measurement uncertainty for this test item is *U* = 4.92dB(30MHz-3GHz)/4.88dB(3GHz-18GHz)/5.66dB(18GHz-40GHz), *k* = 2

A.2 FIELD STRENGTH OF SPURIOUS RADIATION

Reference

FCC: CFR 2.1053, 22.917, 24.238, 27.53, 90.691.

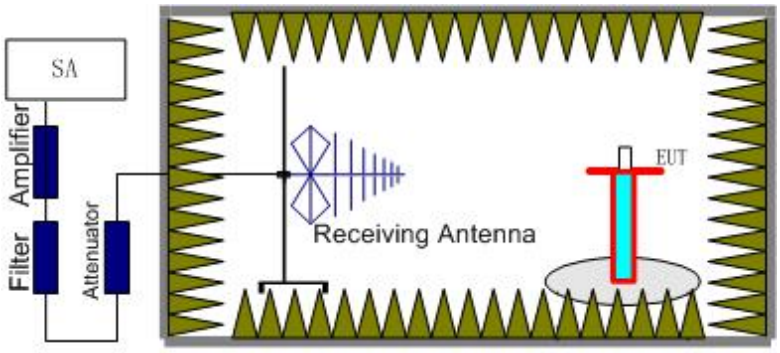
A.2.1 Measurement Method

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

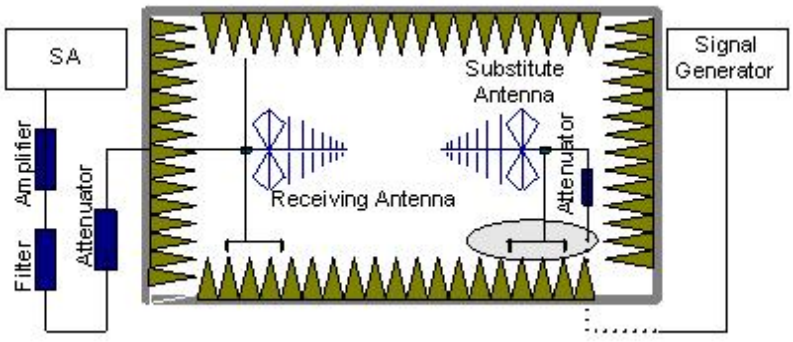
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment, which is the transmitted carrier. The resolution bandwidth is set 1MHz as outlined in Part 22.917, 24.238, Part 27.53(h). The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of the LTE Bands 2, 4, 5, 7,12,13,25,26,38,66

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, an 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 Results

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of the LTE Bands 2, 4, 5, 7,12,13,25,26,38,66. 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 the LTE Bands 2, 4, 5, 7,12,13,25,26,38,66 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.

LTE Band 2, 1.4MHz, QPSK, Channel 18607

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit（dBm）	Polarization
16796.4	-35.38	2.90	-0.26	-38.54	-13.00	H
17200	-35.43	2.90	-1.01	-39.34	-13.00	H
17411.3	-34.33	3.20	-1.08	-38.61	-13.00	H
17601	-35.28	3.20	-1.01	-39.49	-13.00	H
17774.3	-34.20	3.20	-0.75	-38.15	-13.00	H
17920.6	-33.08	3.20	-0.64	-36.92	-13.00	H

LTE Band 2, 1.4MHz, QPSK, Channel 18900

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit（dBm）	Polarization
16801	-36.13	2.90	-0.26	-39.29	-13.00	H
17351.6	-35.49	2.90	-0.98	-39.37	-13.00	H
17424.5	-34.10	3.20	-1.08	-38.38	-13.00	H
17609.5	-34.59	3.20	-1.01	-38.80	-13.00	H
17774.9	-34.78	3.20	-0.75	-38.73	-13.00	H
17923.2	-33.54	3.20	-0.64	-37.38	-13.00	H

LTE Band 2, 1.4MHz, QPSK, Channel 19193

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit（dBm）	Polarization
16735.4	-35.94	2.90	-0.26	-39.10	-13.00	H
16919.8	-35.66	2.90	-0.50	-39.06	-13.00	V
17204.6	-34.35	2.90	-1.01	-38.26	-13.00	H
17417.9	-33.96	3.20	-1.08	-38.24	-13.00	H
17835.3	-33.99	3.20	-0.84	-38.03	-13.00	H
17917.3	-34.01	3.20	-0.64	-37.85	-13.00	H

LTE Band 2, 1.4MHz, 16QAM, Channel 18607

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit（dBm）	Polarization
16724.3	-34.45	2.90	-0.26	-37.61	-13.00	H
16805.6	-33.92	2.90	-0.26	-37.08	-13.00	H
17388.4	-33.41	2.90	-0.98	-37.29	-13.00	H
17595.8	-33.39	3.20	-0.81	-37.40	-13.00	H
17757.2	-32.85	3.20	-0.75	-36.80	-13.00	H
17927.8	-32.69	3.20	-0.64	-36.53	-13.00	H

LTE Band 2, 1.4MHz, 16QAM, Channel 18900

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit（dBm）	Polarization
16821.4	-35.34	2.90	-0.26	-38.50	-13.00	V
17129.2	-34.67	2.90	-0.79	-38.36	-13.00	H
17367.4	-34.37	2.90	-0.98	-38.25	-13.00	H
17412.7	-34.08	3.20	-1.08	-38.36	-13.00	H
17788	-33.65	3.20	-0.75	-37.60	-13.00	H
17904.8	-33.13	3.20	-0.64	-36.97	-13.00	H

LTE Band 2, 1.4MHz, 16QAM, Channel 19193

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit（dBm）	Polarization
17162.6	-34.11	2.90	-0.79	-37.80	-13.00	H
17218.4	-34.80	2.90	-1.01	-38.71	-13.00	H
17449.4	-33.04	3.20	-1.08	-37.32	-13.00	H
17599	-34.01	3.20	-0.81	-38.02	-13.00	H
17733.6	-33.59	3.20	-0.75	-37.54	-13.00	H
17922.6	-33.48	3.20	-0.64	-37.32	-13.00	H

Note: The maximum value of expanded measurement uncertainty for this test item is U = 4.92dB(30MHz-3GHz)/4.88dB(3GHz-18GHz)/5.66dB(18GHz-40GHz), k = 2

LTE Band 4, 1.4MHz QPSK, Channel 19957

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16797.8	-35.55	2.90	-0.26	-38.71	-13.00	H
17194.1	-35.37	2.90	-0.79	-39.06	-13.00	H
17407.4	-34.23	3.20	-1.08	-38.51	-13.00	H
17624.6	-35.07	3.20	-1.01	-39.28	-13.00	H
17776.2	-34.21	3.20	-0.75	-38.16	-13.00	H
17906.8	-33.05	3.20	-0.64	-36.89	-13.00	H

LTE Band 4, 1.4MHz, QPSK, Channel 20175

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16734.8	-36.08	2.90	-0.26	-39.24	-13.00	H
16805.6	-36.25	2.90	-0.26	-39.41	-13.00	H
17204	-34.84	2.90	-1.01	-38.75	-13.00	H
17454.7	-34.56	3.20	-1.08	-38.84	-13.00	H
17790.7	-34.86	3.20	-0.75	-38.81	-13.00	H
17906.2	-33.24	3.20	-0.64	-37.08	-13.00	H

LTE Band 4, 1.4MHz, QPSK, Channel 20393

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16798.4	-35.55	2.90	-0.26	-38.71	-13.00	V
16963.8	-35.64	2.90	-0.50	-39.04	-13.00	H
17457.3	-34.62	3.20	-1.08	-38.90	-13.00	H
17593.8	-34.91	3.20	-0.81	-38.92	-13.00	H
17780.2	-33.97	3.20	-0.75	-37.92	-13.00	H
17904.2	-33.85	3.20	-0.64	-37.69	-13.00	H

LTE Band 4, 1.4MHz, 16QAM, Channel 19957

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
17175.1	-34.76	2.90	-0.79	-38.45	-13.00	H
17300.4	-34.51	2.90	-0.98	-38.39	-13.00	H
17399.5	-34.13	2.90	-0.98	-38.01	-13.00	V
17620.7	-35.02	3.20	-1.01	-39.23	-13.00	H
17772.9	-34.13	3.20	-0.75	-38.08	-13.00	H
17926.5	-33.51	3.20	-0.64	-37.35	-13.00	H

LTE Band 4, 1.4MHz, 16QAM, Channel 20175

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16791.2	-35.95	2.90	-0.26	-39.11	-13.00	H
17294.5	-33.96	2.90	-1.01	-37.87	-13.00	H
17418.6	-34.27	3.20	-1.08	-38.55	-13.00	H
17613.5	-34.78	3.20	-1.01	-38.99	-13.00	H
17785.4	-33.71	3.20	-0.75	-37.66	-13.00	H
17919.9	-33.57	3.20	-0.64	-37.41	-13.00	H

LTE Band 4, 1.4MHz, 16QAM, Channel 20393

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
17196.8	-34.43	2.90	-0.79	-38.12	-13.00	H
17367.4	-35.38	2.90	-0.98	-39.26	-13.00	H
17447.4	-34.24	3.20	-1.08	-38.52	-13.00	H
17620	-35.02	3.20	-1.01	-39.23	-13.00	H
17763.8	-34.59	3.20	-0.75	-38.54	-13.00	H
17920.6	-33.97	3.20	-0.64	-37.81	-13.00	H

Note: The maximum value of expanded measurement uncertainty for this test item is U = 4.92dB(30MHz-3GHz)/4.88dB(3GHz-18GHz)/5.66dB(18GHz-40GHz), k = 2

LTE Band 5, 1.4MHz, QPSK, Channel 20407

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
2597.5000	-21.59	1.00	-20.19	-44.93	-13.00	V
9939.4444	-39.74	2.20	-0.40	-44.49	-13.00	V
12413.8333	-38.48	2.40	1.30	-41.73	-13.00	H
15630.1111	-32.81	2.60	0.79	-36.77	-13.00	H
16623.1667	-31.42	2.90	-0.13	-36.60	-13.00	V
17923.6111	-31.84	3.20	-1.01	-38.20	-13.00	V

LTE Band 5, 1.4MHz, QPSK, Channel 20525

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
1763.5000	-14.00	1.00	-31.57	-48.72	-13.00	V
6880.5000	-39.88	1.80	-2.85	-46.68	-13.00	H
9766.5000	-39.99	2.20	-0.71	-45.05	-13.00	V
13425.8333	-37.88	2.50	1.67	-40.86	-13.00	V
15670.4444	-33.69	2.60	0.79	-37.65	-13.00	V
16591.3889	-31.60	2.90	0.08	-36.57	-13.00	V

LTE Band 5, 1.4MHz, QPSK, Channel 20643

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
9946.1667	-37.70	2.90	-0.40	-43.15	-13.00	V
13411.1667	-37.42	2.50	1.67	-40.40	-13.00	V
14671.2778	-34.37	2.60	1.08	-38.04	-13.00	V
15624.0000	-33.45	2.60	0.79	-37.41	-13.00	V
16685.5000	-31.71	2.90	-0.13	-36.89	-13.00	V
17875.3333	-32.06	3.20	-0.84	-38.25	-13.00	V

LTE Band 5, 1.4MHz, 16QAM, Channel 20407

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
2929.0000	-24.59	1.00	-14.98	-42.72	-13.00	H
7509.0556	-40.12	1.80	-2.57	-46.64	-13.00	V
9923.5556	-39.92	2.20	-0.40	-44.67	-13.00	V
13417.8889	-37.62	2.50	1.67	-40.60	-13.00	V
15642.9444	-32.99	2.60	0.79	-36.95	-13.00	V
17493.3889	-31.10	3.20	-1.08	-37.53	-13.00	V

LTE Band 5, 1.4MHz, 16QAM, Channel 20525

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
9954.1111	-39.52	2.20	-0.40	-44.27	-13.00	V
13411.1667	-36.89	2.50	1.67	-39.87	-13.00	V
14704.2778	-36.37	2.60	0.99	-40.13	-13.00	H
15625.8333	-32.55	2.60	0.79	-36.51	-13.00	V
16667.7778	-31.84	2.90	-0.13	-37.02	-13.00	V
17990.8333	-32.15	3.20	-0.64	-38.14	-13.00	V

LTE Band 5, 1.4MHz, 16QAM, Channel 20643

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
9961.4444	-40.01	2.20	-0.40	-44.76	-13.00	V
12391.2222	-38.25	2.40	1.17	-41.63	-13.00	H
13445.3889	-37.96	2.50	1.67	-40.94	-13.00	V
15590.3889	-33.49	2.60	0.83	-37.41	-13.00	V
16693.4444	-32.01	2.90	-0.13	-37.19	-13.00	V
17701.1667	-29.86	3.20	-0.75	-35.96	-13.00	V

Note: The maximum value of expanded measurement uncertainty for this test item is U = 4.92dB(30MHz-3GHz)/4.88dB(3GHz-18GHz)/5.66dB(18GHz-40GHz), k = 2

LTE Band 7, 5 MHz, QPSK, Channel 20775

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit（dBm）	Polarization
16801	-35.12	2.90	-0.26	-38.28	-25.00	H
17215.1	-34.39	2.90	-1.01	-38.30	-25.00	H
17393	-33.75	2.90	-0.98	-37.63	-25.00	H
17606.3	-34.54	3.20	-1.01	-38.75	-25.00	H
17785.4	-33.96	3.20	-0.75	-37.91	-25.00	H
17850.4	-32.13	3.20	-0.84	-36.17	-25.00	H

LTE Band 7, 5 MHz, QPSK, Channel 21100

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit（dBm）	Polarization
16856.8	-35.28	2.90	-0.26	-38.44	-25.00	V
17198.1	-34.65	2.90	-0.79	-38.34	-25.00	H
17369.3	-34.74	2.90	-0.98	-38.62	-25.00	H
17445.5	-34.61	3.20	-1.08	-38.89	-25.00	H
17794.6	-34.20	3.20	-0.75	-38.15	-25.00	V
17925.2	-33.31	3.20	-0.64	-37.15	-25.00	H

LTE Band 7, 5 MHz, QPSK, Channel 21425

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit（dBm）	Polarization
16799.7	-35.80	2.90	-0.26	-38.96	-25.00	H
17203.3	-34.95	2.90	-1.01	-38.86	-25.00	H
17436.3	-33.98	3.20	-1.08	-38.26	-25.00	H
17603	-34.86	3.20	-1.01	-39.07	-25.00	H
17796.6	-33.95	3.20	-0.75	-37.90	-25.00	V
17928.5	-33.31	3.20	-0.64	-37.15	-25.00	H

LTE Band 7, 5 MHz, 16QAM, Channel 20775

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit（dBm）	Polarization
16780.7	-35.51	2.90	-0.26	-38.67	-25.00	H
17207.3	-34.77	2.90	-1.01	-38.68	-25.00	H
17259.1	-35.11	2.90	-1.01	-39.02	-25.00	H
17389.7	-34.46	2.90	-0.98	-38.34	-25.00	H
17797.9	-34.04	3.20	-0.75	-37.99	-25.00	H
17910.1	-32.77	3.20	-0.64	-36.61	-25.00	H

LTE Band 7, 5 MHz, 16QAM, Channel 21100

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit（dBm）	Polarization
16749.2	-35.74	2.90	-0.26	-38.90	-25.00	H
17189.5	-35.11	2.90	-0.79	-38.80	-25.00	H
17328	-34.89	2.90	-0.98	-38.77	-25.00	H
17629.2	-34.71	3.20	-1.01	-38.92	-25.00	H
17784.8	-34.48	3.20	-0.75	-38.43	-25.00	H
17923.2	-33.68	3.20	-0.64	-37.52	-25.00	H

LTE Band 7, 5 MHz, 16QAM, Channel 21425

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit（dBm）	Polarization
16742.6	-35.74	2.90	-0.26	-38.90	-25.00	V
16812.8	-35.89	2.90	-0.26	-39.05	-25.00	H
17304.4	-34.92	2.90	-0.98	-38.80	-25.00	H
17370	-34.85	2.90	-0.98	-38.73	-25.00	H
17774.9	-33.50	3.20	-0.75	-37.45	-25.00	H
17931.1	-33.11	3.20	-0.64	-36.95	-25.00	H

Note: The maximum value of expanded measurement uncertainty for this test item is U = 4.92dB(30MHz-3GHz)/4.88dB(3GHz-18GHz)/5.66dB(18GHz-40GHz), k = 2

LTE Band 12, 1.4MHz, QPSK, Channel 23017

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
6749	-37.35	1.80	-2.82	-44.12	-13.00	V
6932	-37.31	1.80	-2.87	-44.13	-13.00	V
7025	-36.88	1.80	-2.85	-43.68	-13.00	V
7065	-36.95	1.80	-2.85	-43.75	-13.00	V
7832	-37.54	1.80	-2.45	-43.94	-13.00	H
8101	-37.40	1.80	-2.15	-43.50	-13.00	H

LTE Band 12, 1.4MHz, QPSK, Channel 23095

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
7031	-35.93	1.80	-2.85	-42.73	-13.00	V
7667	-37.44	1.80	-2.58	-43.97	-13.00	H
7684	-37.54	1.80	-2.58	-44.07	-13.00	V
7815	-37.77	1.80	-2.45	-44.17	-13.00	V
8238	-38.28	1.80	-1.90	-44.13	-13.00	V
8781	-38.30	2.00	-1.63	-44.08	-13.00	H

LTE Band 12, 1.4MHz, QPSK, Channel 23173

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
6797	-36.71	1.80	-2.82	-43.48	-13.00	V
7019	-37.34	1.80	-2.85	-44.14	-13.00	H
7642	-37.48	1.80	-2.58	-44.01	-13.00	H
7786	-37.47	1.80	-2.53	-43.95	-13.00	V
8312	-38.14	1.80	-2.04	-44.13	-13.00	V
8795	-37.89	2.00	-1.63	-43.67	-13.00	H

LTE Band 12, 1.4MHz, 16QAM, Channel 23017

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
6713	-37.58	1.80	-2.82	-44.35	-13.00	V
6730	-37.58	1.80	-2.82	-44.35	-13.00	V
6804	-37.23	1.80	-2.85	-44.03	-13.00	V
7036	-37.37	1.80	-2.85	-44.18	-13.00	V
7063	-36.63	1.80	-2.85	-43.43	-13.00	V
8300	-38.11	1.80	-2.04	-44.10	-13.00	H

LTE Band 12, 1.4MHz 16QAM, Channel 23095

Frequency(MHz)	PMea(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
6720	-37.37	1.80	-2.82	-44.14	-13.00	V
7017	-37.46	1.80	-2.85	-44.26	-13.00	V
7108	-37.47	1.80	-2.77	-44.19	-13.00	H
7173	-37.84	1.80	-2.77	-44.56	-13.00	V
7587	-37.89	1.80	-2.57	-44.41	-13.00	H
7702	-37.92	1.80	-2.53	-44.40	-13.00	H

LTE Band 12, 1.4MHz, 16QAM, Channel 23173

Frequency(MHz)	PMea(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
6649	-37.37	1.80	-2.85	-44.17	-13.00	V
6889	-36.89	1.80	-2.85	-43.69	-13.00	V
7001	-37.45	1.80	-2.85	-44.25	-13.00	V
7065	-37.41	1.80	-2.85	-44.21	-13.00	V
7352	-37.58	1.80	-2.65	-44.18	-13.00	V
8087	-38.25	1.80	-2.18	-44.38	-13.00	H

Note: The maximum value of expanded measurement uncertainty for this test item is U = 4.92dB(30MHz-3GHz)/4.88dB(3GHz-18GHz)/5.66dB(18GHz-40GHz), k = 2

LTE Band 13, 5 MHz, QPSK, Channel 23205

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
6677	-36.57	1.80	-2.85	-43.37	-13.00	H
7007	-36.66	1.80	-2.85	-43.46	-13.00	V
7676	-36.59	1.80	-2.58	-43.12	-13.00	H
8309	-36.88	1.80	-2.04	-42.87	-13.00	V
8539	-37.26	2.00	-1.77	-43.18	-13.00	V
9412	-37.98	2.10	-0.86	-43.09	-13.00	V

LTE Band 13, 5 MHz, QPSK, Channel 23230

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
7043	-36.11	1.80	-2.85	-42.91	-13.00	V
7110	-37.01	1.80	-2.77	-43.73	-13.00	V
8246	-37.79	1.80	-1.90	-43.64	-13.00	V
8299	-37.72	1.80	-1.90	-43.57	-13.00	V
8784	-37.62	2.00	-1.63	-43.40	-13.00	V
9432	-38.52	2.10	-0.86	-43.63	-13.00	V

LTE Band 13, 5 MHz, QPSK, Channel 23255

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
7066	-37.01	1.80	-2.85	-43.81	-13.00	V
7295	-36.40	1.80	-2.77	-43.12	-13.00	V
8061	-37.58	1.80	-2.18	-43.71	-13.00	V
8307	-37.02	1.80	-2.04	-43.01	-13.00	H
9399	-38.28	2.10	-1.12	-43.65	-13.00	V
9448	-38.21	2.10	-0.86	-43.32	-13.00	V

LTE Band 13, 5 MHz, 16QAM, Channel 23205

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
7045	-36.52	1.80	-2.85	-43.32	-13.00	V
7067	-35.45	1.80	-2.85	-42.25	-13.00	V
8529	-37.41	2.00	-1.77	-43.33	-13.00	V
9259	-37.90	2.10	-1.16	-43.31	-13.00	V
9310	-37.77	2.10	-1.12	-43.14	-13.00	V
9919	-38.72	2.20	-0.40	-43.47	-13.00	V

LTE Band 13, 5 MHz, 16QAM, Channel 23230

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
6754	-36.52	1.80	-2.82	-43.29	-13.00	V
7024	-36.38	1.80	-2.85	-43.18	-13.00	V
7113	-36.98	1.80	-2.77	-43.70	-13.00	H
8051	-37.69	1.80	-2.18	-43.82	-13.00	V
8164	-37.60	1.80	-2.15	-43.70	-13.00	H
8295	-38.15	1.80	-1.90	-44.00	-13.00	H

LTE Band 13, 5 MHz, 16QAM, Channel 23255

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
6753	-36.65	1.80	-2.82	-43.42	-13.00	V
7115	-37.12	1.80	-2.77	-43.84	-13.00	V
7644	-36.87	1.80	-2.58	-43.40	-13.00	H
8057	-37.17	1.80	-2.18	-43.30	-13.00	H
8161	-37.64	1.80	-2.15	-43.74	-13.00	H
8357	-37.91	1.80	-2.04	-43.90	-13.00	H

Note: The maximum value of expanded measurement uncertainty for this test item is U = 4.92dB(30MHz-3GHz)/4.88dB(3GHz-18GHz)/5.66dB(18GHz-40GHz), k = 2

LTE Band 25, 1.4MHz, QPSK, Channel 26047

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16835.8	-34.43	2.90	-0.26	-37.59	-13.00	V
17194.1	-34.45	2.90	-0.79	-38.14	-13.00	H
17400.8	-32.92	3.20	-1.08	-37.20	-13.00	V
17600.3	-34.03	3.20	-1.01	-38.24	-13.00	H
17792	-33.30	3.20	-0.75	-37.25	-13.00	V
17912.7	-32.74	3.20	-0.64	-36.58	-13.00	H

LTE Band 25, 1.4MHz, QPSK, Channel 26365

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16745.3	-34.97	2.90	-0.26	-38.13	-13.00	V
16788.6	-35.41	2.90	-0.26	-38.57	-13.00	H
17305.7	-34.58	2.90	-0.98	-38.46	-13.00	H
17427.8	-34.01	3.20	-1.08	-38.29	-13.00	H
17773.6	-33.98	3.20	-0.75	-37.93	-13.00	H
17917.3	-33.52	3.20	-0.64	-37.36	-13.00	H

LTE Band 25, 1.4MHz, QPSK, Channel 26683

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16809.6	-35.61	2.90	-0.26	-38.77	-13.00	H
17208.6	-33.75	2.90	-1.01	-37.66	-13.00	H
17455.3	-34.63	3.20	-1.08	-38.91	-13.00	H
17625.9	-34.53	3.20	-1.01	-38.74	-13.00	H
17810.3	-34.46	3.20	-0.84	-38.50	-13.00	H
17935.7	-34.07	3.20	-0.64	-37.91	-13.00	H

LTE Band 25, 1.4MHz, 16QAM, Channel 26047

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16814.8	-35.31	2.90	-0.26	-38.47	-13.00	H
17198.1	-34.64	2.90	-0.79	-38.33	-13.00	H
17269.6	-34.74	2.90	-1.01	-38.65	-13.00	H
17452	-34.17	3.20	-1.08	-38.45	-13.00	H
17777.5	-34.36	3.20	-0.75	-38.31	-13.00	H
17919.9	-33.47	3.20	-0.64	-37.31	-13.00	H

LTE Band 25, 1.4MHz, 16QAM, Channel 26365

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16806.9	-35.36	2.90	-0.26	-38.52	-13.00	H
17195.4	-35.20	2.90	-0.79	-38.89	-13.00	H
17279.4	-35.61	2.90	-1.01	-39.52	-13.00	H
17449.4	-34.54	3.20	-1.08	-38.82	-13.00	H
17778.2	-34.41	3.20	-0.75	-38.36	-13.00	H
17923.9	-32.09	3.20	-0.64	-35.93	-13.00	H

LTE Band 25, 1.4MHz, 16QAM, Channel 26683

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16819.4	-36.14	2.90	-0.26	-39.30	-13.00	H
17211.2	-35.66	2.90	-1.01	-39.57	-13.00	H
17254.5	-35.21	2.90	-1.01	-39.12	-13.00	H
17372.6	-34.92	2.90	-0.98	-38.80	-13.00	H
17748	-34.41	3.20	-0.75	-38.36	-13.00	H
17914	-33.62	3.20	-0.64	-37.46	-13.00	H

Note: The maximum value of expanded measurement uncertainty for this test item is U = 4.92dB(30MHz-3GHz)/4.88dB(3GHz-18GHz)/5.66dB(18GHz-40GHz), k = 2

LTE Band 26(Part22), 1.4MHz, QPSK, Channel 27033

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
9940.0556	-38.80	2.90	-0.40	-44.25	-13.00	V
11113.3889	-38.94	2.40	0.51	-42.98	-13.00	V
14723.8333	-35.40	2.60	0.99	-39.16	-13.00	V
15699.1667	-34.29	2.60	0.79	-38.25	-13.00	V
17093.1111	-32.61	2.90	-0.79	-38.45	-13.00	V
17996.3333	-32.19	3.20	-0.64	-38.18	-13.00	H

LTE Band 26(Part22), 1.4MHz, QPSK, Channel 26915

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
5416.5000	-42.61	1.80	-2.28	-48.84	-13.00	H
6638.0000	-40.10	1.80	-2.85	-46.90	-13.00	V
9946.7778	-38.64	2.90	-0.40	-44.09	-13.00	V
11106.0556	-38.72	2.40	0.51	-42.76	-13.00	H
15653.3333	-32.92	2.60	0.79	-36.88	-13.00	H
17996.9444	-31.90	3.20	-0.64	-37.89	-13.00	H

LTE Band 26(Part22), 1.4MHz, QPSK, Channel 26797

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
9144.3889	-38.93	2.90	-1.36	-45.34	-13.00	H
13403.8333	-37.97	2.50	1.67	-40.95	-13.00	V
14656.6111	-36.30	2.60	1.08	-39.97	-13.00	H
15658.8333	-33.31	2.60	0.79	-37.27	-13.00	H
16680.6111	-31.55	2.90	-0.13	-36.73	-13.00	V
17698.7222	-31.55	3.20	-1.01	-37.91	-13.00	V

LTE Band 26(Part22), 1.4MHz, 16QAM, Channel 27033

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
5500.0000	-42.21	1.80	-2.64	-48.80	-13.00	V
6630.0000	-39.41	1.80	-2.85	-46.21	-13.00	V
9930.2778	-39.49	2.20	-0.40	-44.24	-13.00	V
13411.1667	-38.50	2.50	1.67	-41.48	-13.00	H
15650.2778	-32.22	2.60	0.79	-36.18	-13.00	V
16663.5000	-31.75	2.90	-0.13	-36.93	-13.00	V

LTE Band 26(Part22), 1.4MHz, 16QAM, Channel 26915

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
9129.7222	-38.98	2.10	-1.36	-44.59	-13.00	V
13416.6667	-38.24	2.50	1.67	-41.22	-13.00	V
15646.0000	-33.01	2.60	0.79	-36.97	-13.00	V
16684.8889	-31.51	2.90	-0.13	-36.69	-13.00	H
17066.2222	-31.19	2.90	-0.79	-37.03	-13.00	V
17682.8333	-31.86	3.20	-1.01	-38.22	-13.00	H

LTE Band 26(Part22), 1.4MHz, 16QAM, Channel 26797

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
9347.2778	-39.99	2.10	-1.12	-45.36	-13.00	V
9946.7778	-39.11	2.20	-0.40	-43.86	-13.00	V
12863.6111	-39.06	2.40	1.51	-42.10	-13.00	V
15624.0000	-32.98	2.60	0.79	-36.94	-13.00	V
16588.9444	-32.48	2.90	0.08	-37.45	-13.00	H
17995.7222	-31.47	3.20	-0.64	-37.46	-13.00	V

Note: The maximum value of expanded measurement uncertainty for this test item is U = 4.92dB(30MHz-3GHz)/4.88dB(3GHz-18GHz)/5.66dB(18GHz-40GHz), k = 2

LTE Band 26(Part90), 1.4MHz, QPSK, Channel 26783

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
12706.5556	-37.74	2.40	1.54	-40.75	-13.00	V
13422.1667	-38.52	2.50	1.67	-41.50	-13.00	V
14657.8333	-35.46	2.60	1.08	-39.13	-13.00	V
15636.8333	-33.15	2.60	0.79	-37.11	-13.00	H
16590.7778	-33.12	2.90	0.08	-38.09	-13.00	V
17717.0556	-32.89	3.20	-0.75	-38.99	-13.00	H

LTE Band 26(Part90), 1.4MHz, QPSK, Channel 26740

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
9957.1667	-39.37	2.90	-0.40	-44.82	-13.00	V
11108.5000	-38.88	2.40	0.51	-42.92	-13.00	V
13417.8889	-37.81	2.50	1.67	-40.79	-13.00	V
15630.1111	-32.42	2.60	0.79	-36.38	-13.00	H
16649.4444	-31.32	2.90	-0.13	-36.50	-13.00	V
17842.9444	-32.46	3.20	-0.84	-38.65	-13.00	V

LTE Band 26(Part90), 1.4MHz, QPSK, Channel 26697

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
6879.0000	-39.63	1.80	-2.85	-46.43	-13.00	H
9933.3333	-39.04	2.90	-0.40	-44.49	-13.00	V
13414.8333	-37.73	2.50	1.67	-40.71	-13.00	V
15631.9444	-32.19	2.60	0.79	-36.15	-13.00	V
16662.2778	-32.03	2.90	-0.13	-37.21	-13.00	V
17988.3889	-32.09	3.20	-0.64	-38.08	-13.00	V

LTE Band 26(Part90), 1.4MHz, 16QAM, Channel 26783

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
6871.5000	-40.00	1.80	-2.85	-46.80	-13.00	H
10095.8889	-40.96	2.40	-0.13	-45.64	-13.00	H
13460.0556	-38.00	2.50	1.67	-40.98	-13.00	V
15652.1111	-32.64	2.60	0.79	-36.60	-13.00	V
17071.1111	-31.28	2.90	-0.79	-37.12	-13.00	H
17828.8889	-32.02	3.20	-0.84	-38.21	-13.00	V

LTE Band 26(Part90), 1.4MHz, 16QAM, Channel 26740

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
9952.8889	-39.65	2.20	-0.40	-44.40	-13.00	V
13420.3333	-38.06	2.50	1.67	-41.04	-13.00	V
13523.6111	-36.71	2.50	1.64	-39.72	-13.00	H
15638.0556	-33.53	2.60	0.79	-37.49	-13.00	V
17066.8333	-31.37	2.90	-0.79	-37.21	-13.00	V
17693.8333	-32.06	3.20	-1.01	-38.42	-13.00	V

LTE Band 26(Part90), 1.4MHz, 16QAM, Channel 26697

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak ERP(dBm)	Limit （dBm）	Polarization
4731.0000	-44.62	1.80	-1.55	-50.12	-13.00	V
6631.5000	-40.37	1.80	-2.85	-47.17	-13.00	V
9943.1111	-39.39	2.20	-0.40	-44.14	-13.00	V
12789.6667	-38.47	2.40	1.54	-41.48	-13.00	V
15650.8889	-32.06	2.60	0.79	-36.02	-13.00	V
16680.0000	-31.69	2.90	-0.13	-36.87	-13.00	V

Note: The maximum value of expanded measurement uncertainty for this test item is U = 4.92dB(30MHz-3GHz)/4.88dB(3GHz-18GHz)/5.66dB(18GHz-40GHz), k = 2

LTE Band 38, 5 MHz, QPSK, Channel 37775

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
17198.7	-35.50	2.90	-0.79	-39.19	-25.00	H
17259.1	-34.59	2.90	-1.01	-38.50	-25.00	H
17447.4	-34.43	3.20	-1.08	-38.71	-25.00	H
17597.7	-34.87	3.20	-0.81	-38.88	-25.00	H
17797.2	-34.27	3.20	-0.75	-38.22	-25.00	H
17901.6	-33.79	3.20	-0.64	-37.63	-25.00	H

LTE Band 38, 5 MHz, QPSK, Channel 38000

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16810.2	-35.16	2.90	-0.26	-38.32	-25.00	H
17211.2	-35.32	2.90	-1.01	-39.23	-25.00	H
17448.1	-34.32	3.20	-1.08	-38.60	-25.00	H
17537.3	-35.38	3.20	-0.81	-39.39	-25.00	H
17774.3	-34.25	3.20	-0.75	-38.20	-25.00	H
17848.4	-33.44	3.20	-0.64	-37.28	-25.00	H

LTE Band 38, 5 MHz, QPSK, Channel 38225

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16793.8	-35.45	2.90	-0.26	-38.61	-25.00	H
17212.5	-35.22	2.90	-1.01	-39.13	-25.00	H
17474.3	-34.44	3.20	-1.08	-38.72	-25.00	H
17599.7	-35.42	3.20	-0.81	-39.43	-25.00	H
17750	-33.86	3.20	-0.75	-37.81	-25.00	H
17919.3	-33.45	3.20	-0.64	-37.29	-25.00	H

LTE Band 38, 5 MHz, 16QAM, Channel 37775

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16808.3	-36.04	2.90	-0.26	-39.20	-25.00	H
17194.1	-35.36	2.90	-0.79	-39.05	-25.00	H
17441.5	-35.08	3.20	-1.08	-39.36	-25.00	H
17614.8	-33.92	3.20	-1.01	-38.13	-25.00	H
17801.8	-34.26	3.20	-0.84	-38.30	-25.00	H
17973.8	-33.50	3.20	-0.64	-37.34	-25.00	H

LTE Band 38, 5 MHz, 16QAM, Channel 38000

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16797.1	-35.90	2.90	-0.26	-39.06	-25.00	V
17214.5	-34.39	2.90	-1.01	-38.30	-25.00	H
17274.2	-35.22	2.90	-1.01	-39.13	-25.00	H
17418.6	-34.62	3.20	-1.08	-38.90	-25.00	H
17835.9	-33.96	3.20	-0.84	-38.00	-25.00	H
17925.8	-33.74	3.20	-0.64	-37.58	-25.00	H

LTE Band 38, 5 MHz, 16QAM, Channel 38225

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
17196.1	-35.15	2.90	-0.79	-38.84	-25.00	H
17280.1	-35.39	2.90	-1.01	-39.30	-25.00	H
17423.8	-34.57	3.20	-1.08	-38.85	-25.00	H
17629.2	-35.18	3.20	-1.01	-39.39	-25.00	H
17838.6	-34.13	3.20	-0.84	-38.17	-25.00	H
17927.8	-34.04	3.20	-0.64	-37.88	-25.00	H

Note: The maximum value of expanded measurement uncertainty for this test item is U = 4.92dB(30MHz-3GHz)/4.88dB(3GHz-18GHz)/5.66dB(18GHz-40GHz), k = 2

LTE Band 66, 1.4MHz QPSK, Channel 131979

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16749.8	-35.39	2.90	-0.26	-38.55	-13.00	V
16799.7	-35.18	2.90	-0.26	-38.34	-13.00	H
17347.7	-34.55	2.90	-0.98	-38.43	-13.00	H
17433.7	-34.58	3.20	-1.08	-38.86	-13.00	H
17772.9	-33.32	3.20	-0.75	-37.27	-13.00	H
17919.3	-34.18	3.20	-0.64	-38.02	-13.00	H

LTE Band 66, 1.4MHz, QPSK, Channel 132322

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
17189.5	-34.58	2.90	-0.79	-38.27	-13.00	H
17239.4	-35.20	2.90	-1.01	-39.11	-13.00	H
17435	-34.29	3.20	-1.08	-38.57	-13.00	H
17611.5	-34.36	3.20	-1.01	-38.57	-13.00	H
17791.3	-33.74	3.20	-0.75	-37.69	-13.00	H
17927.2	-32.79	3.20	-0.64	-36.63	-13.00	H

LTE Band 66, 1.4MHz, QPSK, Channel 132665

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16791.8	-36.11	2.90	-0.26	-39.27	-13.00	H
17194.1	-35.21	2.90	-0.79	-38.90	-13.00	H
17278.1	-35.03	2.90	-1.01	-38.94	-13.00	H
17414.6	-34.54	3.20	-1.08	-38.82	-13.00	H
17778.8	-34.71	3.20	-0.75	-38.66	-13.00	H
17916.7	-33.55	3.20	-0.64	-37.39	-13.00	H

LTE Band 66, 1.4MHz, 16QAM, Channel 131979

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16796.4	-36.30	2.90	-0.26	-39.46	-13.00	V
17192.2	-35.61	2.90	-0.79	-39.30	-13.00	H
17317.5	-35.25	2.90	-0.98	-39.13	-13.00	H
17424.5	-34.09	3.20	-1.08	-38.37	-13.00	H
17592.5	-35.33	3.20	-0.81	-39.34	-13.00	H
17794.6	-34.19	3.20	-0.75	-38.14	-13.00	V

LTE Band 66, 1.4MHz, 16QAM, Channel 132322

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
17202.7	-35.79	2.90	-1.01	-39.70	-13.00	H
17369.3	-35.18	2.90	-0.98	-39.06	-13.00	H
17440.2	-34.46	3.20	-1.08	-38.74	-13.00	V
17599	-35.51	3.20	-0.81	-39.52	-13.00	H
17771.6	-33.83	3.20	-0.75	-37.78	-13.00	V
17938.3	-33.69	3.20	-0.64	-37.53	-13.00	H

LTE Band 66, 1.4MHz, 16QAM, Channel 132665

Frequency(MHz)	P_{Mea}(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
16703.9	33.91	2.90	-0.26	-38.79	-13.00	H
17206.6	34.45	2.90	-1.01	-38.92	-13.00	H
17275.5	34.77	2.90	-1.01	-38.79	-13.00	H
17396.3	33.82	2.90	-0.98	-39.24	-13.00	H
17786.7	33.59	3.20	-0.75	-38.41	-13.00	H
17908.1	32.86	3.20	-0.64	-37.87	-13.00	H

Note: The maximum value of expanded measurement uncertainty for this test item is U = 4.92dB(30MHz-3GHz)/4.88dB(3GHz-18GHz)/5.66dB(18GHz-40GHz), k = 2

A.3 FREQUENCY STABILITY

Reference

FCC: CFR Part 2.1055, 22.355, 24.235, 27.54, 90.213.

A.3.1 Method of Measurement

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 R&S CMW500 DIGITAL RADIO COMMUNICATION TESTER.

1. Measure the carrier frequency at room temperature.
2. Subject the EUT to overnight soak at -20℃.
3. With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on middle channel, 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 -20℃ 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 centre 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 +50℃ to -20℃. 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.

A.3.2 Measurement Limit

According to the JTC standard the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. 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 between 3.5VDC and 4.4VDC, with a nominal voltage of 3.7VDC. 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. These voltages represent a tolerance from -5.4% to 10.8%. For the purposes of measuring frequency stability these voltage limits are to be used.

A.4.3 Measurement results

LTE Band 2, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.5	22	25	0.012	0.013
3.7	11	18	0.006	0.010
4.4	30	9	0.016	0.005

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
-20°	6	18	0.003	0.010
-10°	15	31	0.008	0.016
0°	3	22	0.002	0.012
10°	14	19	0.007	0.010
20°	24	17	0.013	0.009
30°	9	25	0.005	0.013
40°	3	18	0.002	0.010
50°	16	2	0.009	0.001

Expanded measurement uncertainty is 10 Hz, k = 2

LTE Band 4, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.5	-10	-11	0.006	0.006
3.7	2	8	0.001	0.005
4.4	18	22	0.010	0.013

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
-20°	25	-6	0.014	0.003
-10°	8	11	0.005	0.006
0°	17	-24	0.010	0.014
10°	22	18	0.013	0.010
20°	26	25	0.015	0.014
30°	31	39	0.018	0.023
40°	9	49	0.005	0.028
50°	18	8	0.010	0.005

Expanded measurement uncertainty is 10Hz, k = 2

LTE Band 5, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.5	36	-2	0.043	0.002
3.7	11	12	0.013	0.014
4.4	-15	-7	0.018	0.008

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
-20°	-6	18	0.007	0.022
-10°	11	25	0.013	0.030
0°	-24	11	0.029	0.013
10°	18	6	0.022	0.007
20°	25	8	0.030	0.010
30°	39	11	0.047	0.013
40°	49	-3	0.059	0.004
50°	8	-9	0.010	0.011

Expanded measurement uncertainty is 10Hz, *k* = 2

LTE Band 7, 5MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.5	14	22	0.006	0.009
3.7	6	35	0.002	0.014
4.4	3	-6	0.001	0.002

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
-20°	8	33	0.003	0.013
-10°	4	21	0.002	0.008
0°	4	18	0.002	0.007
10°	3	9	0.001	0.004
20°	12	15	0.005	0.006
30°	9	28	0.004	0.011
40°	7	49	0.003	0.019
50°	13	44	0.005	0.017

Expanded measurement uncertainty is 10Hz, k = 2

LTE Band 12, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.5	15	14	0.021	0.020
3.7	18	24	0.025	0.034
4.4	22	25	0.031	0.035

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
-20°	-3	15	0.004	0.021
-10°	17	-3	0.024	0.004
0°	-8	-9	0.011	0.013
10°	12	-15	0.017	0.021
20°	15	-11	0.021	0.016
30°	29	5	0.041	0.007
40°	37	7	0.052	0.010
50°	51	14	0.072	0.020

Expanded measurement uncertainty is 10Hz, k = 2

LTE Band 13, 5MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.5	8	8	0.010	0.010
3.7	15	14	0.019	0.018
4.4	29	9	0.037	0.012

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
-20°	26	31	0.033	0.040
-10°	15	16	0.019	0.020
0°	9	9	0.012	0.012
10°	4	27	0.005	0.035
20°	15	24	0.019	0.031
30°	11	11	0.014	0.014
40°	24	7	0.031	0.009
50°	38	25	0.049	0.032

Expanded measurement uncertainty is 10Hz, k = 2

LTE Band 25, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.5	14	9	0.007	0.005
3.7	9	17	0.005	0.009
4.4	28	5	0.015	0.003

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
-20°	5	23	0.003	0.012
-10°	-1	24	0.001	0.013
0°	2	-2	0.001	0.001
10°	-16	5	0.008	0.003
20°	21	21	0.011	0.011
30°	17	13	0.009	0.007
40°	18	3	0.010	0.002
50°	22	22	0.012	0.012

Expanded measurement uncertainty is 10Hz, k = 2

LTE Band 26(Part 22), 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.5	19	-19	0.023	0.023
3.7	5	-6	0.006	0.007
4.4	12	-3	0.014	0.004

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
-20°	12	-5	0.014	0.006
-10°	-4	16	0.005	0.019
0°	15	28	0.018	0.033
10°	17	-9	0.020	0.011
20°	22	-11	0.026	0.013
30°	16	17	0.019	0.020
40°	-3	22	0.004	0.026
50°	1	13	0.001	0.016

Expanded measurement uncertainty is 10Hz, k = 2

LTE Band 26(Part 90), 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage	Frequency error (Hz)		Frequency error (ppm)	
(V)	QPSK	16QAM	QPSK	16QAM
3.5	11	0.015	0.013	12
3.7	2	0.020	0.002	16
4.4	25	0.031	0.031	25

Frequency Error vs Temperature

Temperature	Frequency error (Hz)		Frequency error (ppm)	
(℃)	QPSK	16QAM	QPSK	16QAM
-20°	-4	38	0.005	0.046
-10°	-18	14	0.022	0.017
0°	-26	9	0.032	0.011
10°	-31	16	0.038	0.020
20°	-16	5	0.020	0.006
30°	-2	7	0.002	0.009
40°	-7	23	0.009	0.028
50°	-18	18	0.022	0.022

Expanded measurement uncertainty is 10Hz, k = 2

LTE Band 38, 5MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage	Frequency error (Hz)		Frequency error (ppm)	
(V)	QPSK	16QAM	QPSK	16QAM
3.5	22	9	0.008	0.003
3.7	5	15	0.002	0.006
4.4	14	-2	0.005	0.001

Frequency Error vs Temperature

Temperature	Frequency error (Hz)		Frequency error (ppm)	
(℃)	QPSK	16QAM	QPSK	16QAM
-20°	26	5	0.010	0.002
-10°	38	41	0.015	0.016
0°	17	36	0.007	0.014
10°	41	29	0.016	0.011
20°	15	35	0.006	0.013
30°	13	22	0.005	0.008
40°	28	19	0.011	0.007
50°	37	38	0.014	0.015

Expanded measurement uncertainty is 10Hz, k = 2

LTE Band 66, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.5	3	-5	0.002	0.003
3.7	15	-18	0.009	0.010
4.4	22	-3	0.013	0.002

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
-20°	15	-14	0.009	0.008
-10°	14	-15	0.008	0.009
0°	16	6	0.009	0.003
10°	3	2	0.002	0.001
20°	-1	1	0.001	0.001
30°	-10	-11	0.006	0.006
40°	25	-8	0.014	0.005
50°	38	-16	0.022	0.009

Expanded measurement uncertainty is 10Hz, k = 2

A.4 OCCUPIED BANDWIDTH

Reference

FCC: CFR Part 2.1049, 22.917, 24.238, 27.53, 90.1215.

A.4.1 Occupied Bandwidth Results

Occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of the US Cellular/PCS frequency bands. The table below lists the measured 99% BW. Spectrum analyzer plots are included on the following pages.

The measurement method is from KDB 971168 4.2:

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 (i.e., two to five times the OBW).

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.

c) Set the reference level of the instrument as required to keep the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least 10log (OBW / RBW) below the reference level.

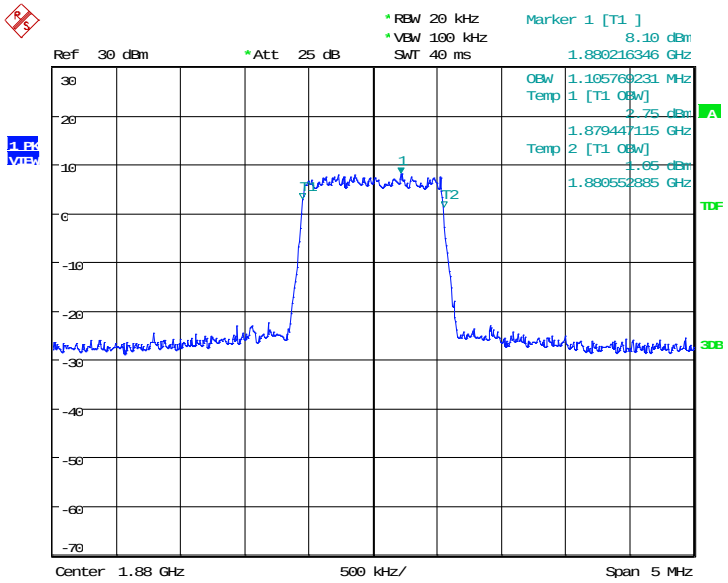
d) Set the detection mode to peak, and the trace mode to max hold.

e) Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

LTE band 2, 1.4MHz (99%)

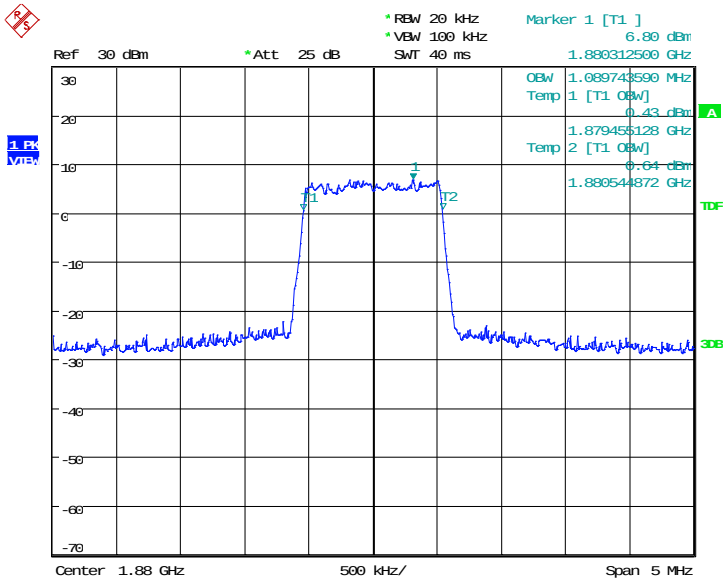
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1880.0	QPSK	16QAM
	1105.77	1089.74

LTE band 2, 1.4MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 07:57:58

LTE band 2, 1.4MHz Bandwidth, 16QAM (99% BW)

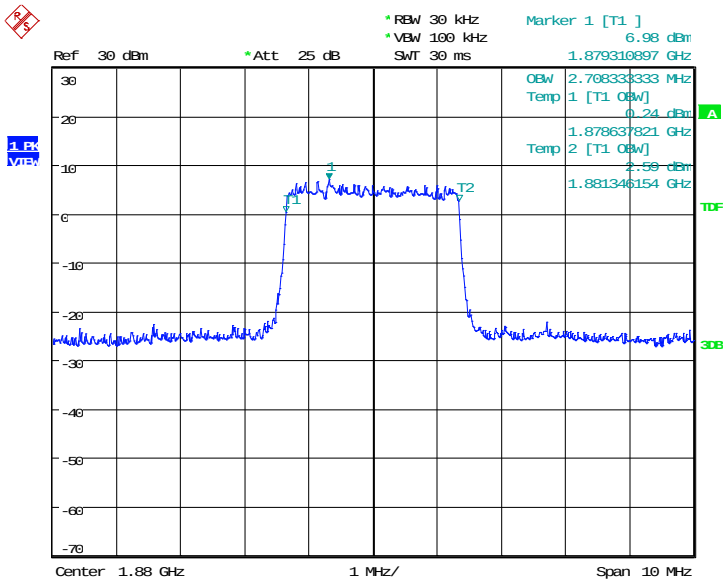


Date: 17.MAY.2018 07:58:11

LTE band 2, 3MHz (99%)

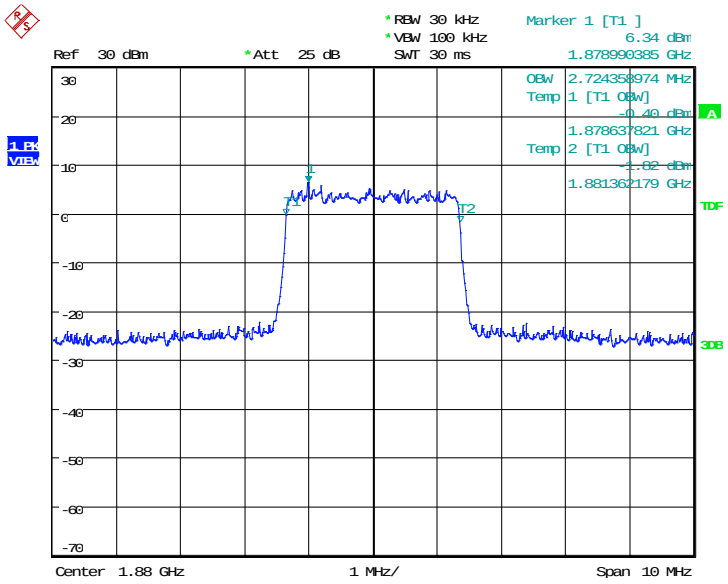
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1880.0	QPSK	16QAM
	2708.33	2724.36

LTE band 2, 3MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 08:05:42

LTE band 2, 3MHz Bandwidth, 16QAM (99% BW)

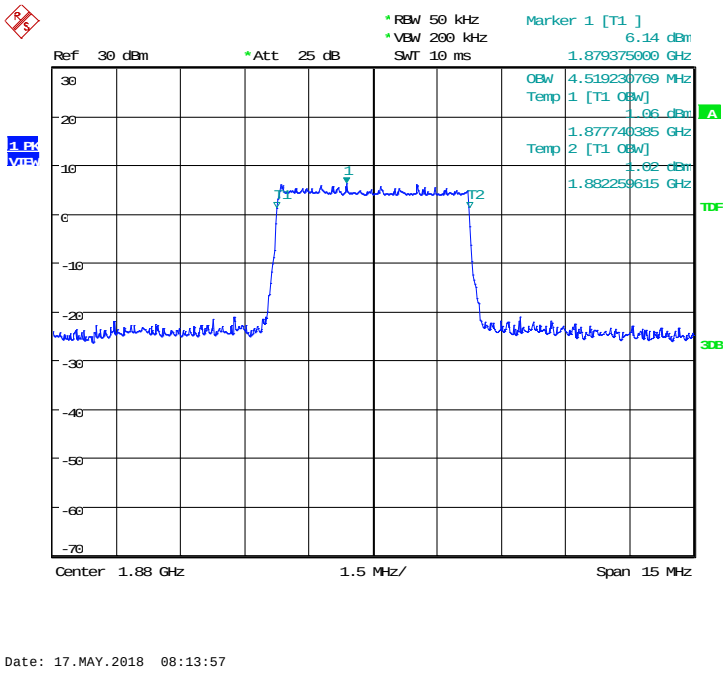


Date: 17.MAY.2018 08:05:56

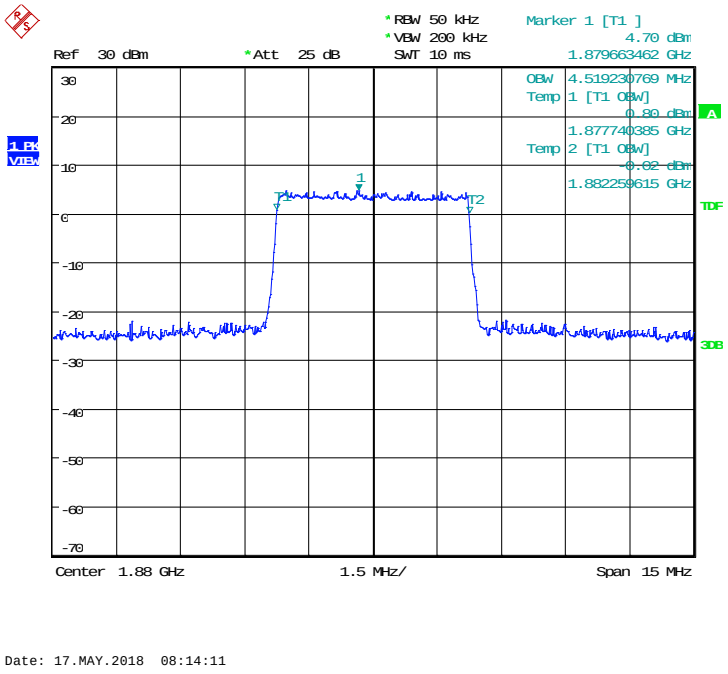
LTE band 2, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1880.0	QPSK	16QAM
	4519.23	4519.23

LTE band 2, 5MHz Bandwidth, QPSK (99% BW)



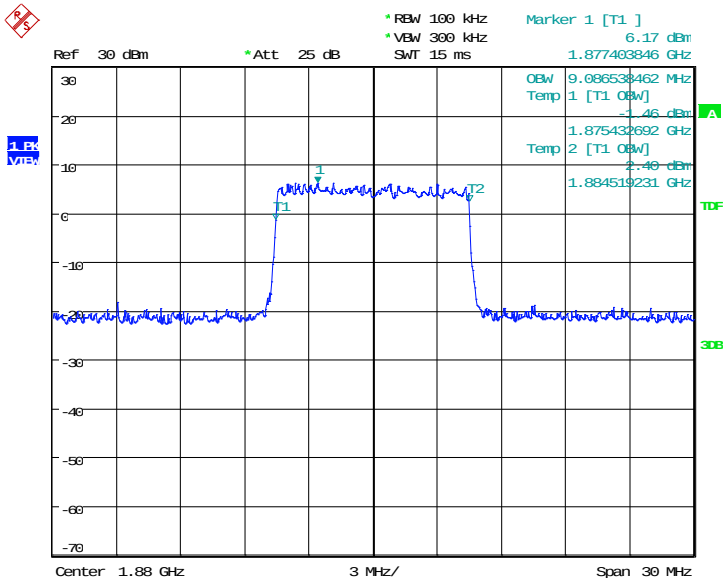
LTE band 2, 5MHz Bandwidth,16QAM (99% BW)



LTE band 2, 10MHz (99%)

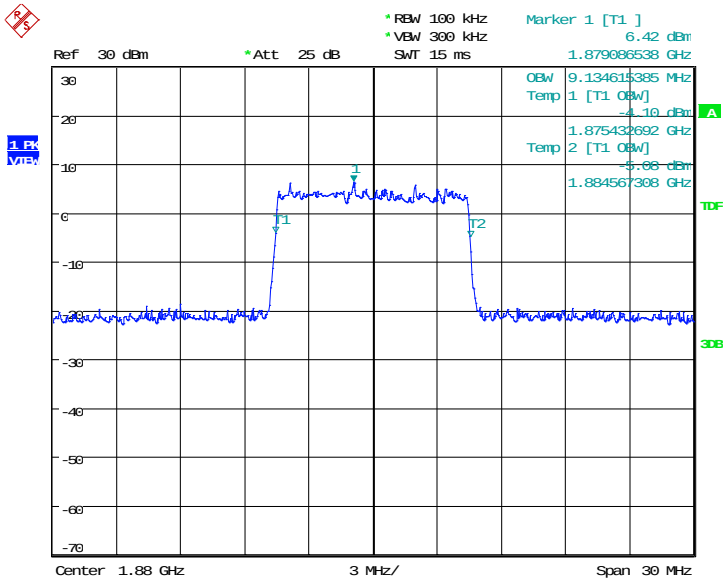
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1880.0	QPSK	16QAM
	9086.54	9134.62

LTE band 2, 10MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 08:21:43

LTE band 2, 10MHz Bandwidth, 16QAM (99% BW)

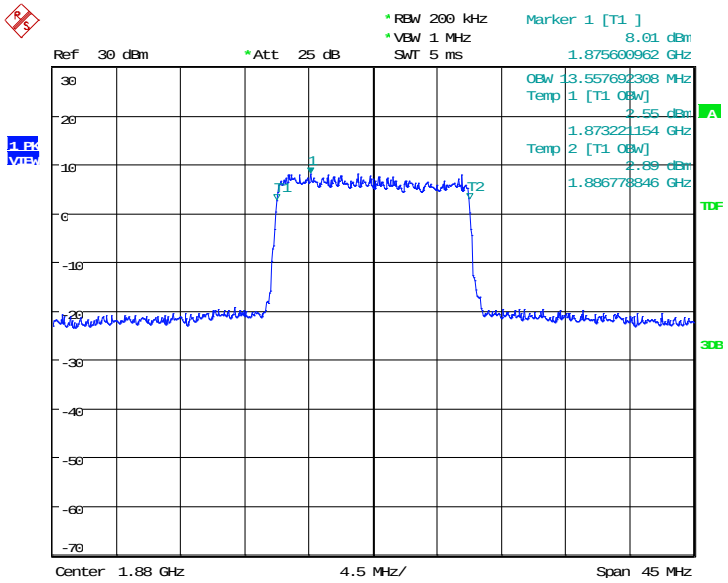


Date: 17.MAY.2018 08:21:57

LTE band 2, 15MHz (99%)

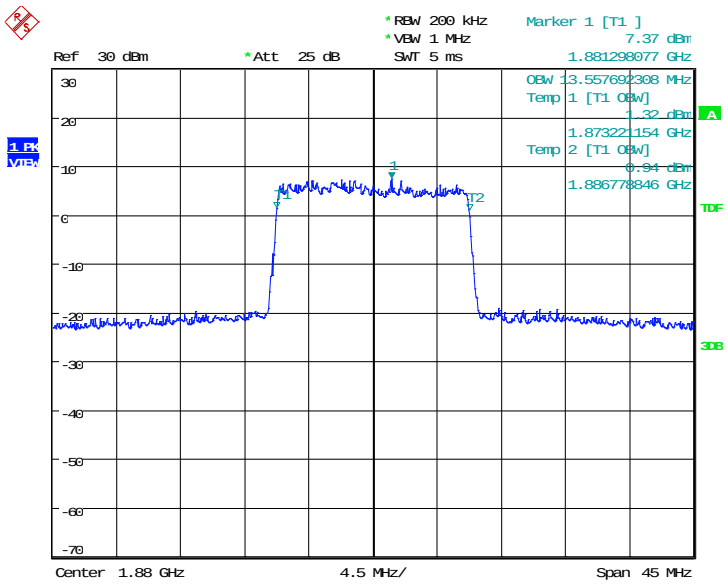
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1880.0	QPSK	16QAM
	13557.69	13557.69

LTE band 2, 15MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 08:32:06

LTE band 2, 15MHz Bandwidth, 16QAM (99% BW)

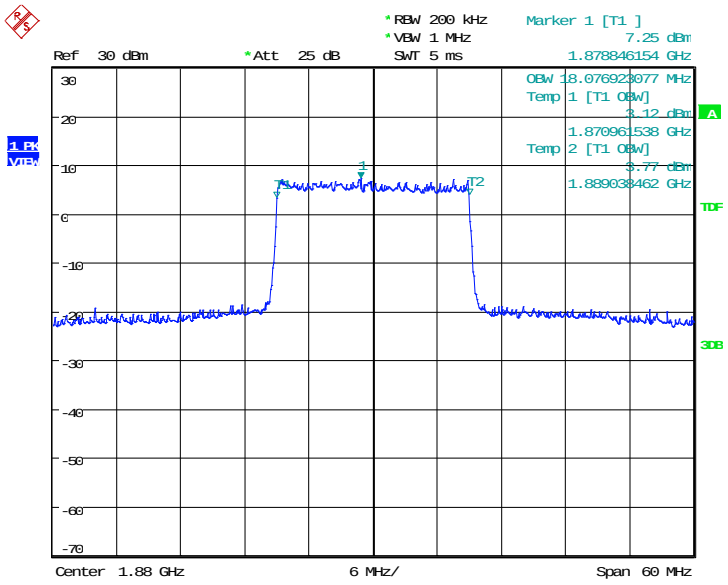


Date: 17.MAY.2018 08:32:19

LTE band 2, 20MHz (99%)

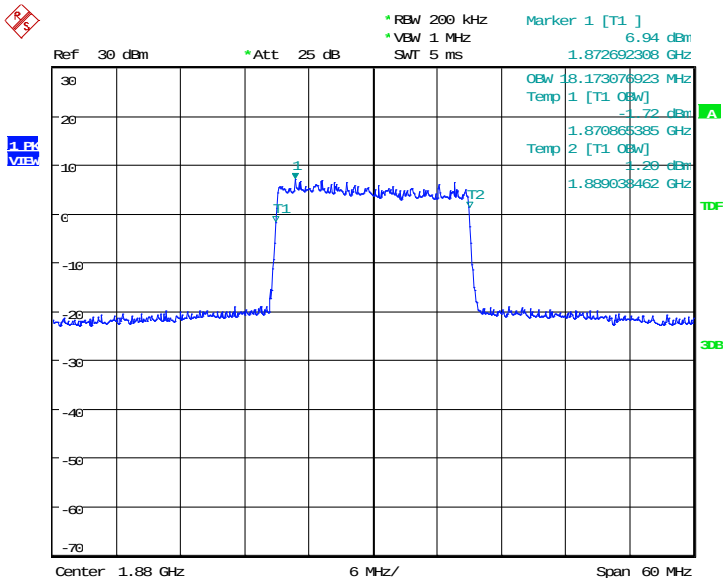
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1880.0	QPSK	16QAM
	18076.92	18173.08

LTE band 2, 20MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 08:45:32

LTE band 2, 20MHz Bandwidth, 16QAM (99% BW)

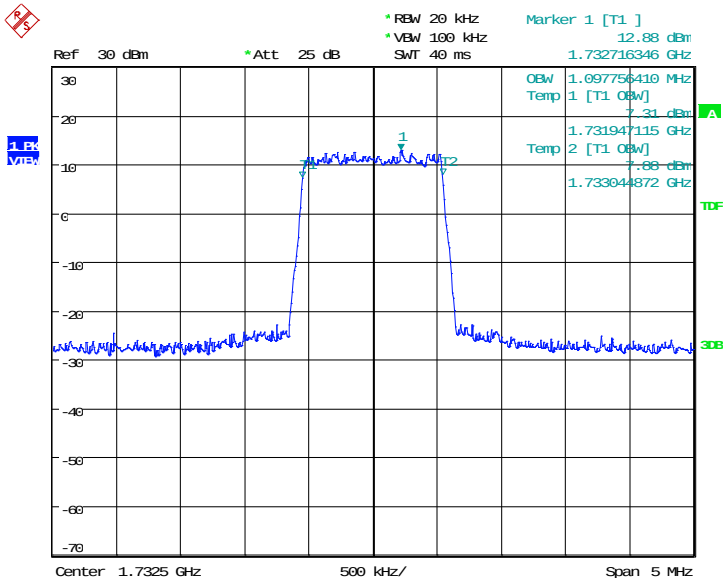


Date: 17.MAY.2018 08:45:46

LTE band 4, 1.4MHz (99%)

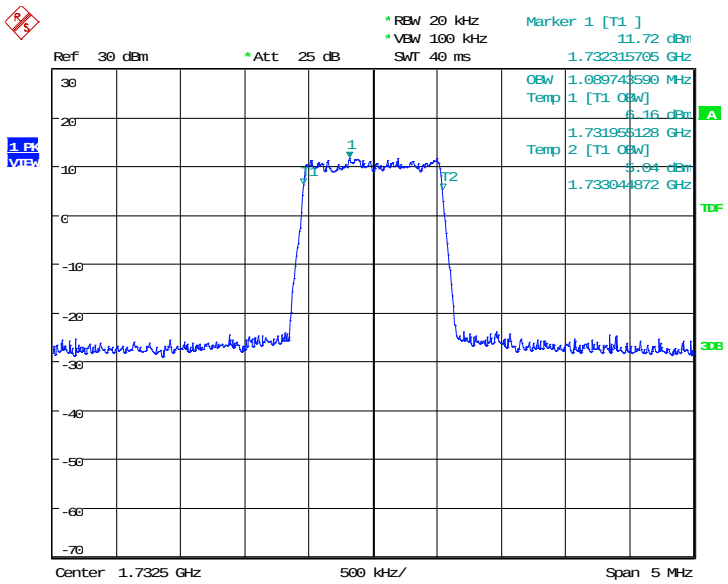
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1732.5	QPSK	16QAM
	1097.76	1089.74

LTE band 4, 1.4MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 08:53:54

LTE band 4, 1.4MHz Bandwidth, 16QAM (99% BW)

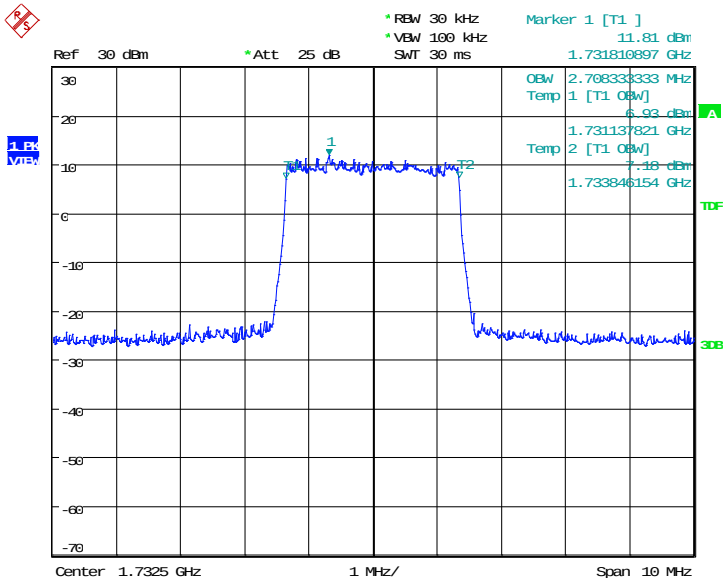


Date: 17.MAY.2018 08:54:08

LTE band 4, 3MHz (99%)

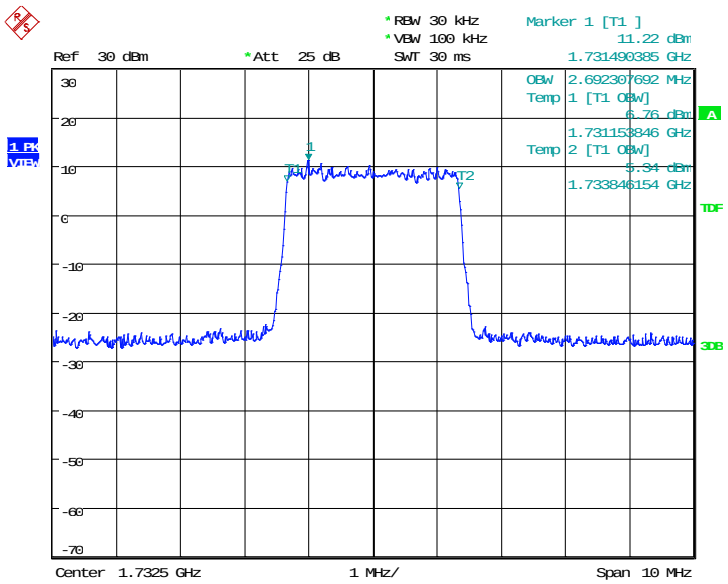
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1732.5	QPSK	16QAM
	2708.33	2692.31

LTE band 4, 3MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 09:01:39

LTE band 4, 3MHz Bandwidth, 16QAM (99% BW)

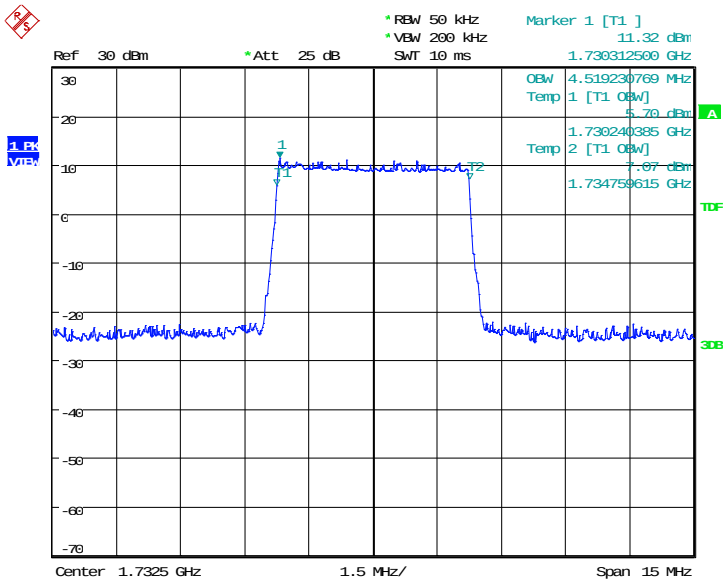


Date: 17.MAY.2018 09:01:53

LTE band 4, 5MHz (99%)

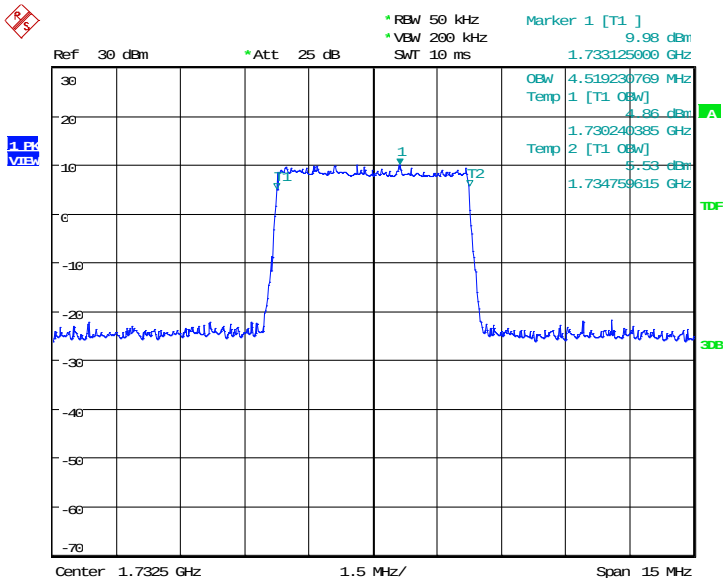
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1732.5	QPSK	16QAM
	4519.23	4519.23

LTE band 4, 5MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 09:09:26

LTE band 4, 5MHz Bandwidth,16QAM (99% BW)

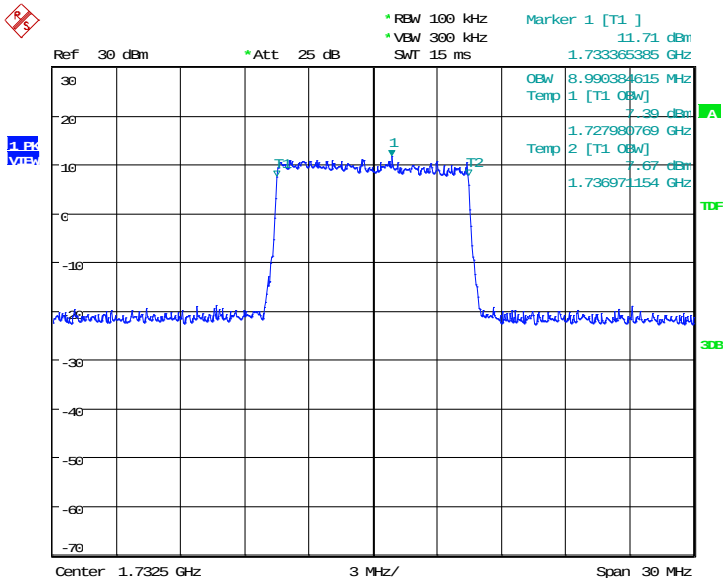


Date: 17.MAY.2018 09:09:40

LTE band 4, 10MHz (99%)

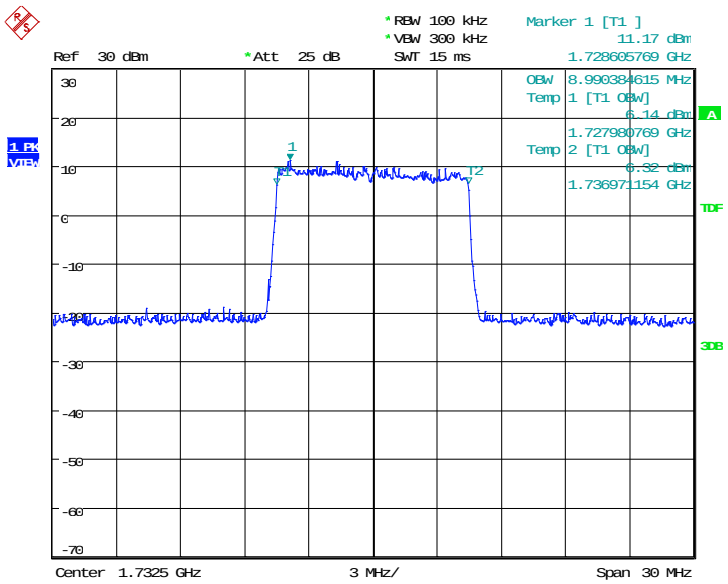
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1732.5	QPSK	16QAM
	8990.38	8990.38

LTE band 4, 10MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 09:17:11

LTE band 4, 10MHz Bandwidth, 16QAM (99% BW)

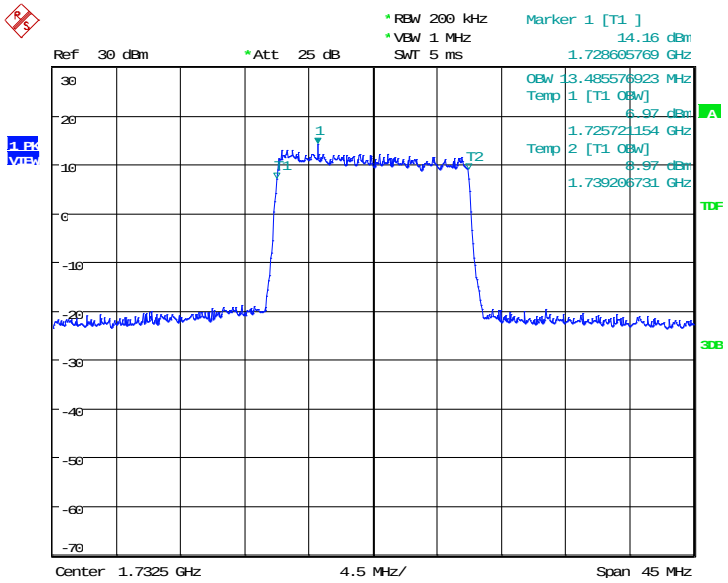


Date: 17.MAY.2018 09:17:25

LTE band 4, 15MHz (99%)

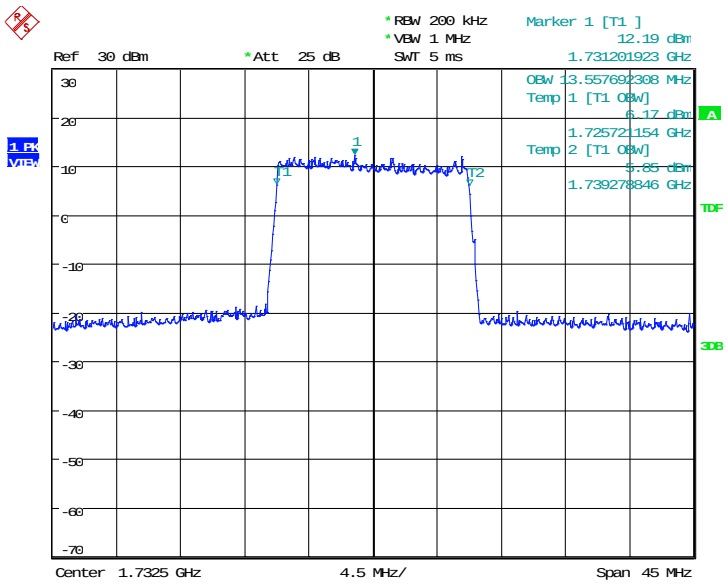
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1732.5	QPSK	16QAM
	13485.58	13557.69

LTE band 4, 15MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 09:25:34

LTE band 4, 15MHz Bandwidth, 16QAM (99% BW)

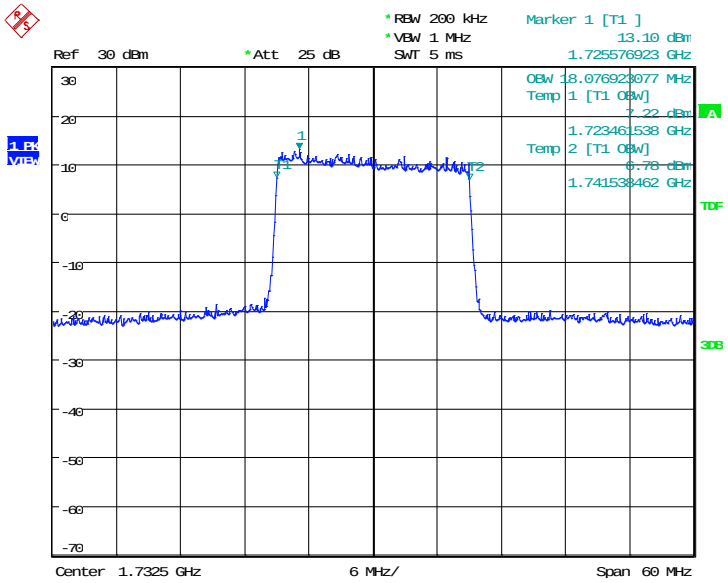


Date: 17.MAY.2018 09:25:48

LTE band 4, 20MHz (99%)

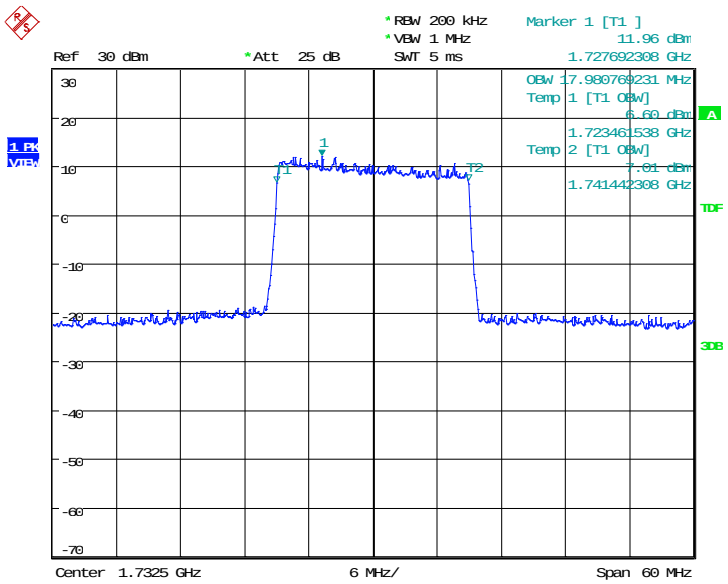
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1732.5	QPSK	16QAM
	18076.92	17980.77

LTE band 4, 20MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 09:34:00

LTE band 4, 20MHz Bandwidth, 16QAM (99% BW)

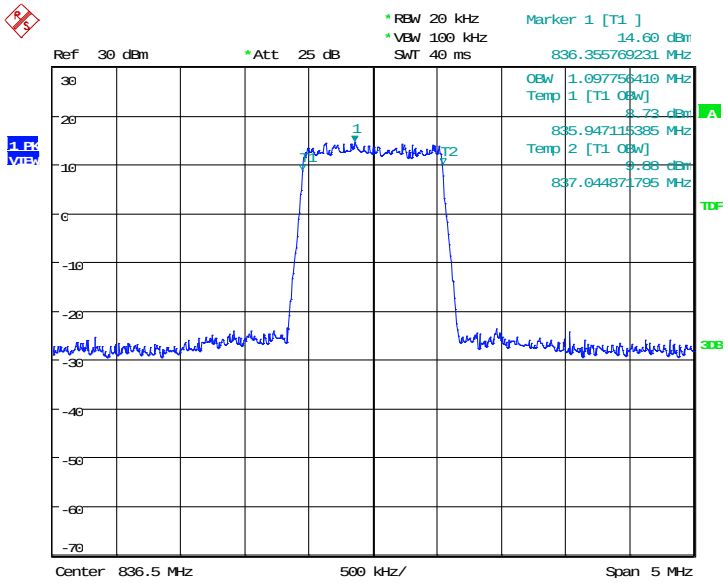


Date: 17.MAY.2018 09:34:14

LTE band 5, 1.4MHz (99%)

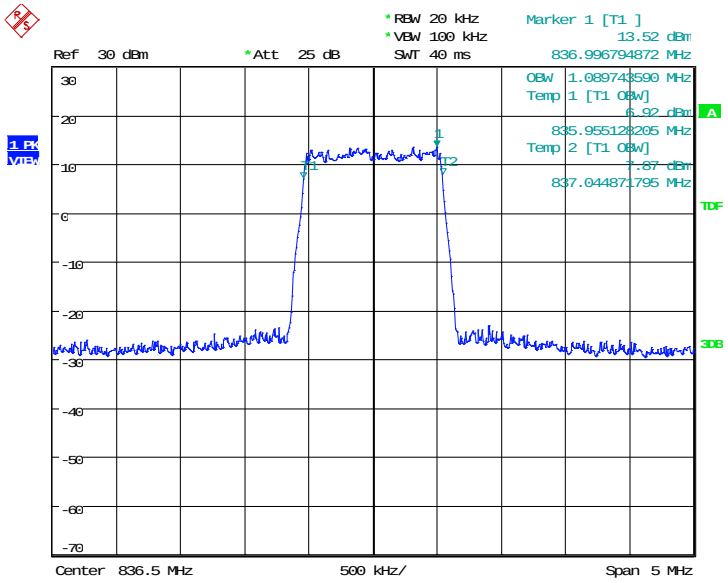
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
836.5	QPSK	16QAM
	1097.76	1089.74

LTE band 5, 1.4MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 07:26:43

LTE band 5, 1.4MHz Bandwidth, 16QAM (99% BW)

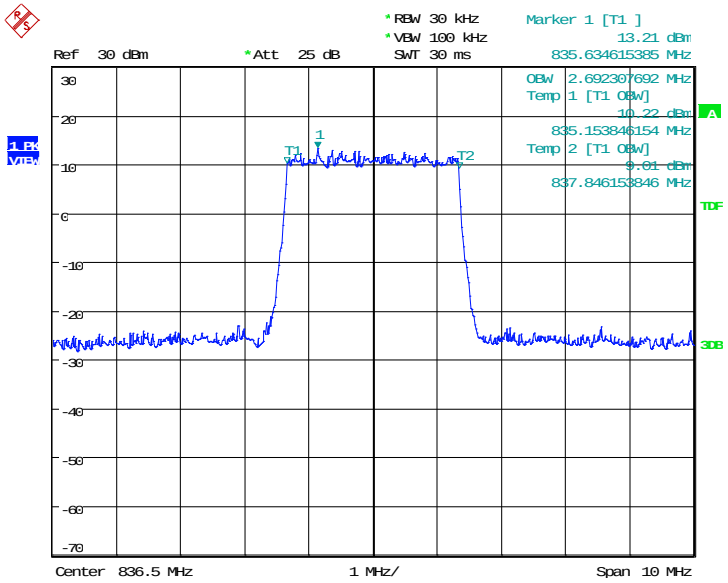


Date: 17.MAY.2018 07:26:56

LTE band 5, 3MHz (99%)

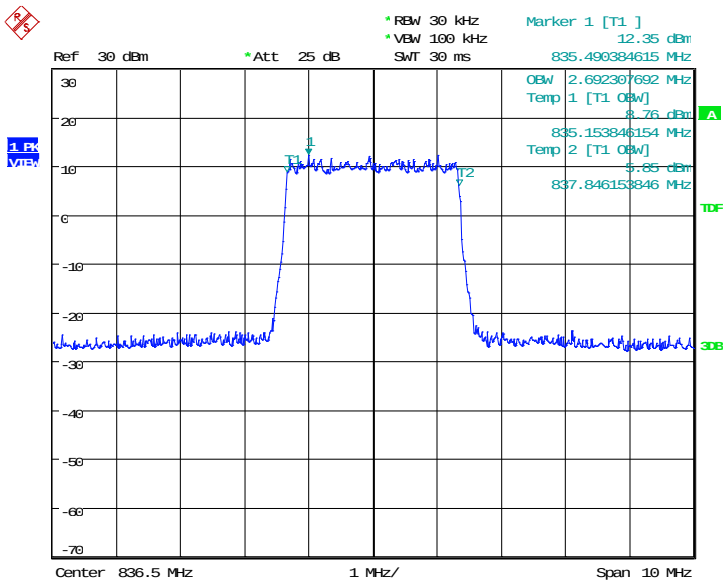
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
836.5	QPSK	16QAM
	2692.31	2692.31

LTE band 5, 3MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 07:34:30

LTE band 5, 3MHz Bandwidth, 16QAM (99% BW)

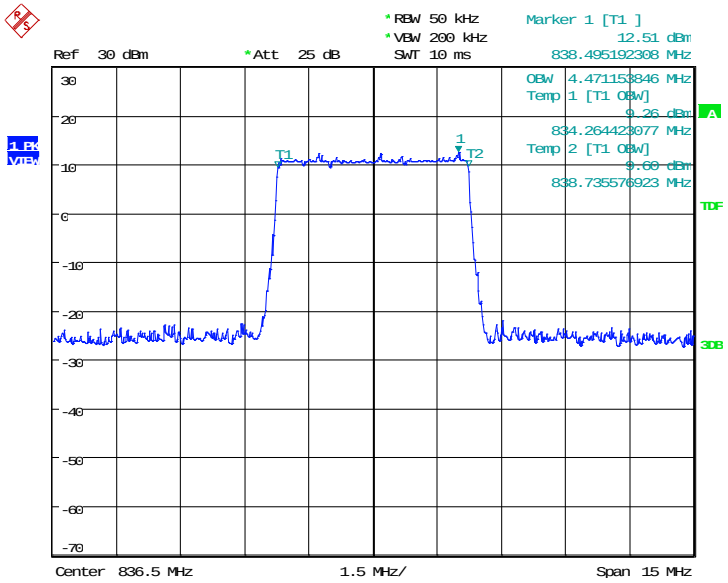


Date: 17.MAY.2018 07:34:44

LTE band 5, 5MHz (99%)

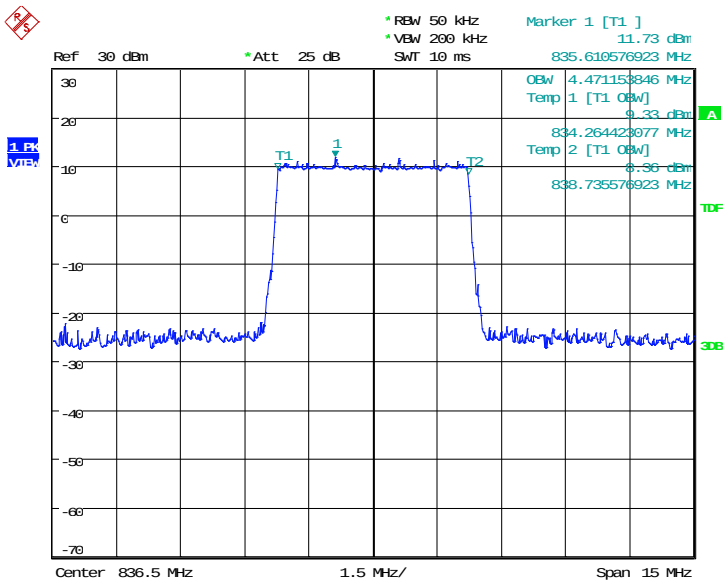
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
836.5	QPSK	16QAM
	4471.15	4471.15

LTE band 5, 5MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 07:42:18

LTE band 5, 5MHz Bandwidth,16QAM (99% BW)

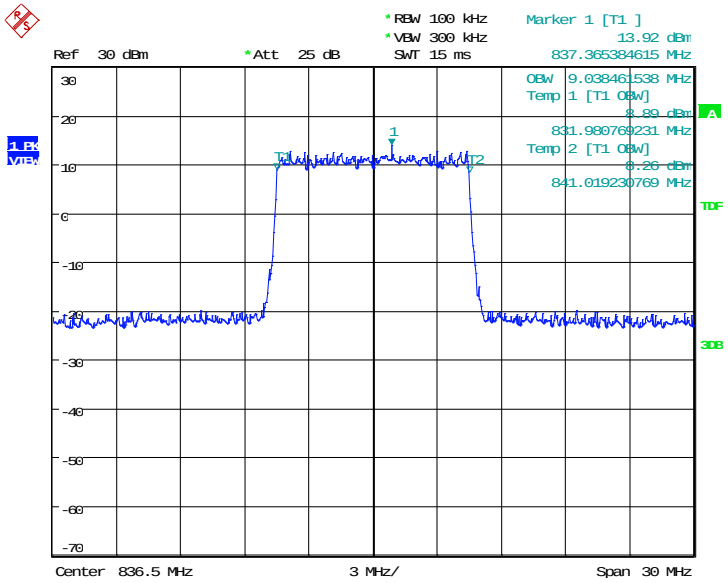


Date: 17.MAY.2018 07:42:31

LTE band 5, 10MHz (99%)

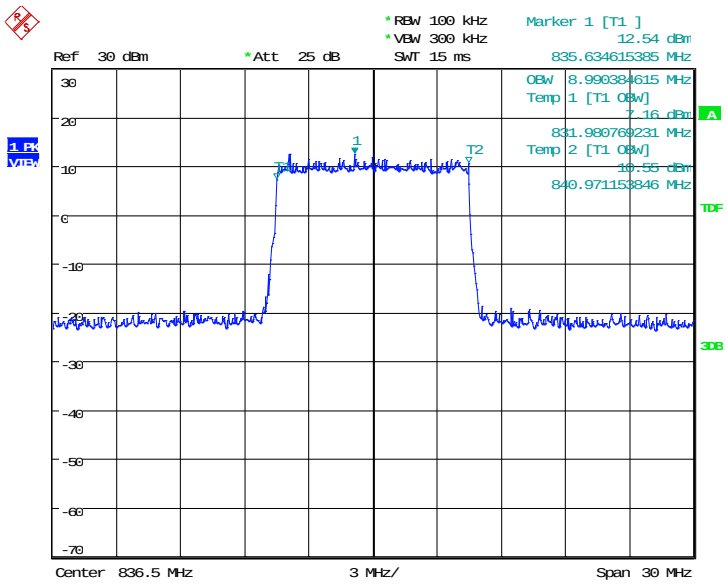
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
836.5	QPSK	16QAM
	9038.46	8990.38

LTE band 5, 10MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 07:50:03

LTE band 5, 10MHz Bandwidth, 16QAM (99% BW)

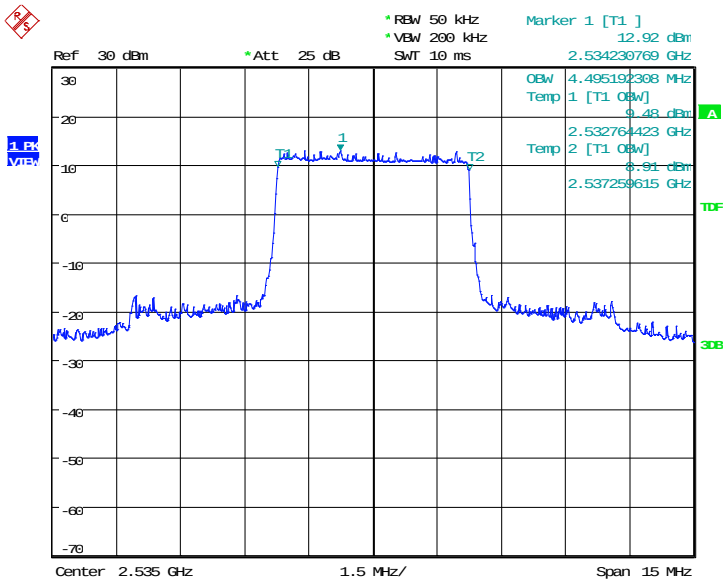


Date: 17.MAY.2018 07:50:16

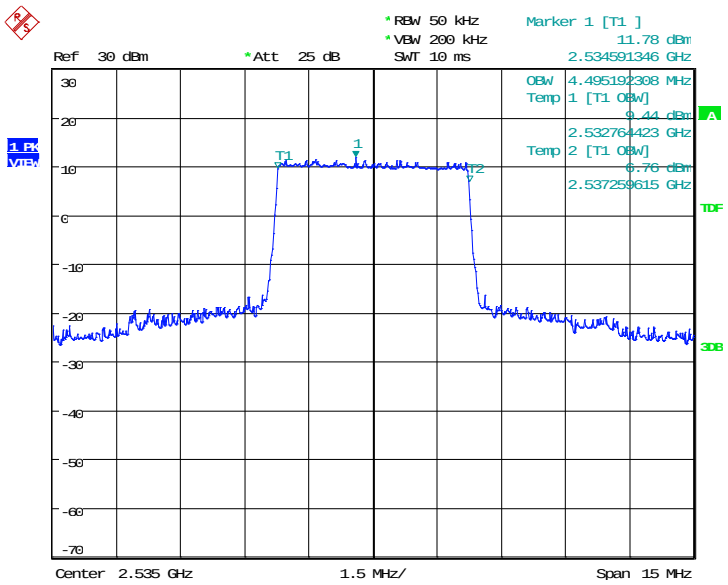
LTE band 7, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
2535.0	QPSK	16QAM
	4495.19	4495.19

LTE band 7, 5MHz Bandwidth, QPSK (99% BW)



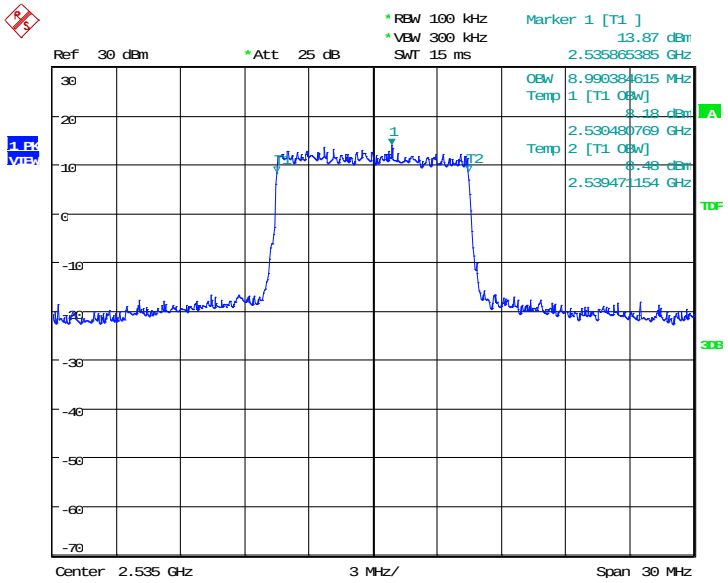
LTE band 7, 5MHz Bandwidth,16QAM (99% BW)



LTE band 7, 10MHz (99%)

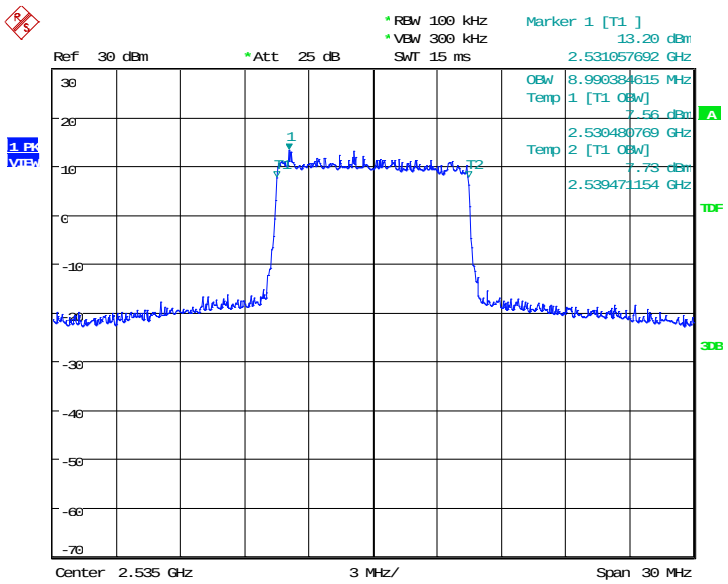
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
2535.0	QPSK	16QAM
	8990.38	8990.38

LTE band 7, 10MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 05:50:58

LTE band 7, 10MHz Bandwidth, 16QAM (99% BW)

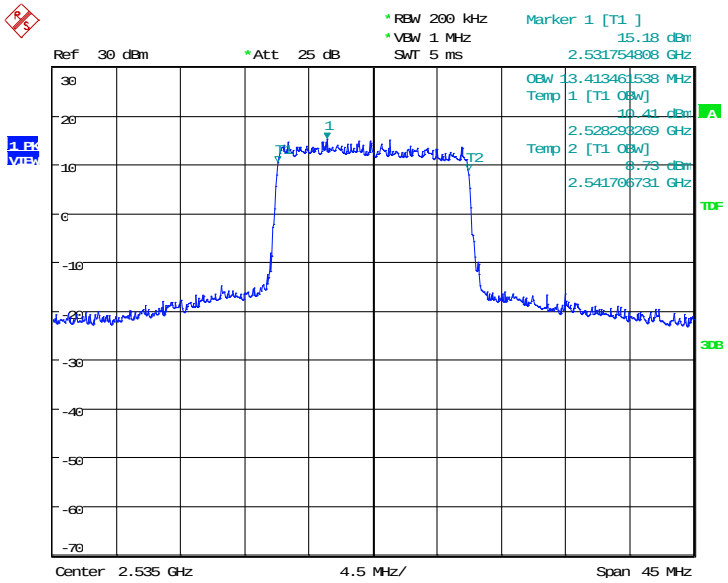


Date: 17.MAY.2018 05:51:11

LTE band 7, 15MHz (99%)

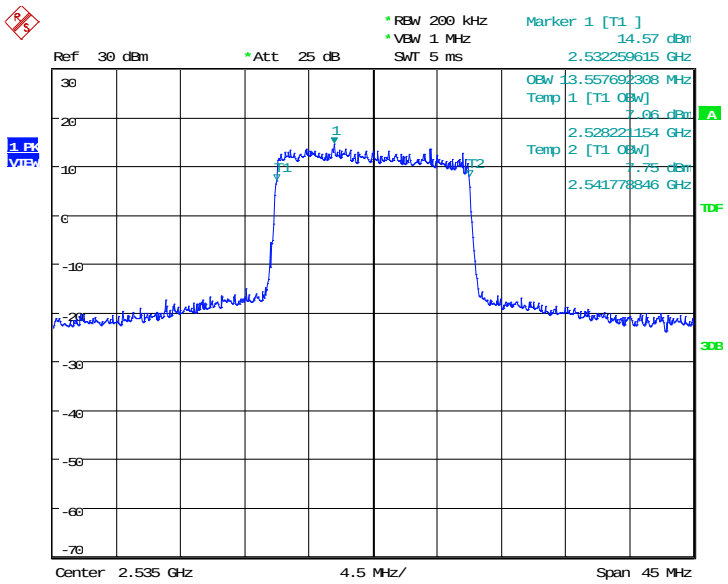
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
2535.0	QPSK	16QAM
	13413.46	13557.69

LTE band 7, 15MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 05:59:23

LTE band 7, 15MHz Bandwidth, 16QAM (99% BW)

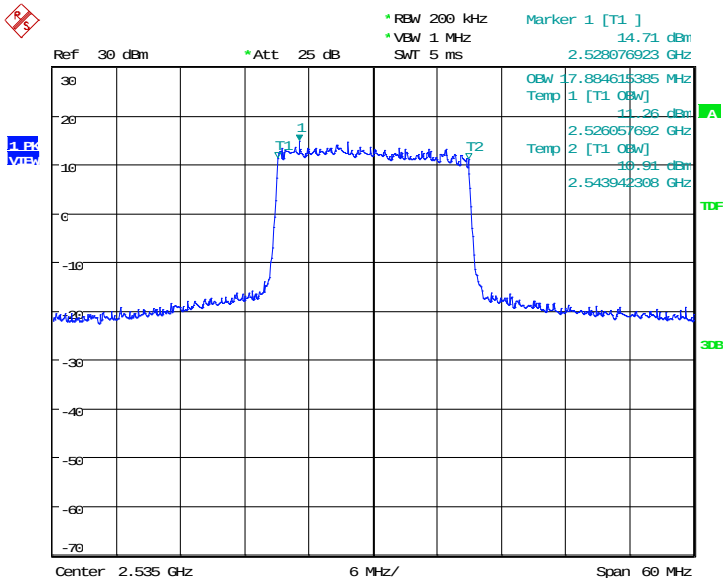


Date: 17.MAY.2018 05:59:37

LTE band 7, 20MHz (99%)

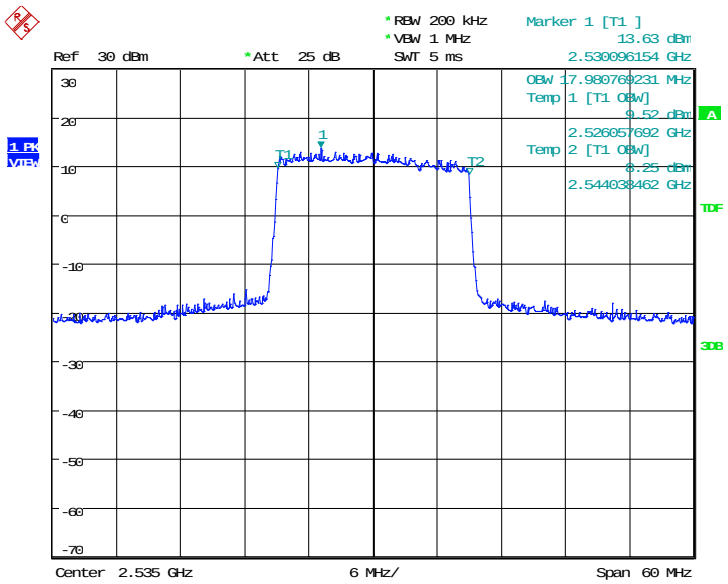
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
2535.0	QPSK	16QAM
	17884.62	17980.77

LTE band 7, 20MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 06:07:49

LTE band 7, 20MHz Bandwidth, 16QAM (99% BW)

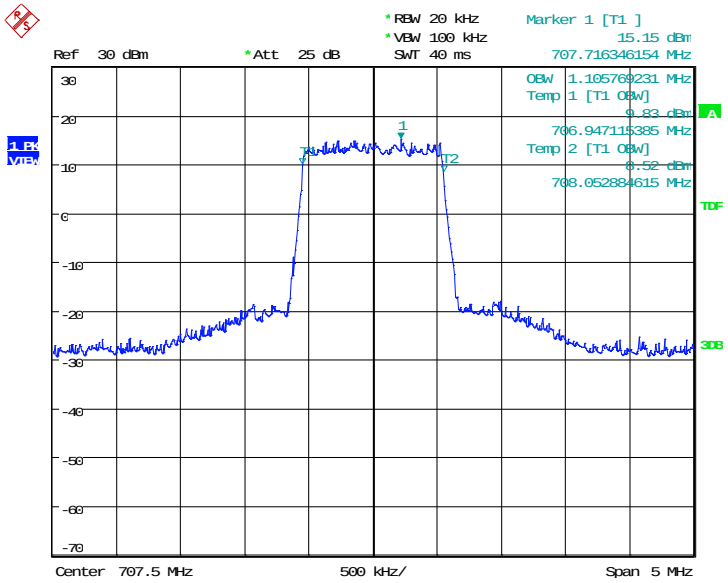


Date: 17.MAY.2018 06:08:03

LTE band 12, 1.4MHz (99%)

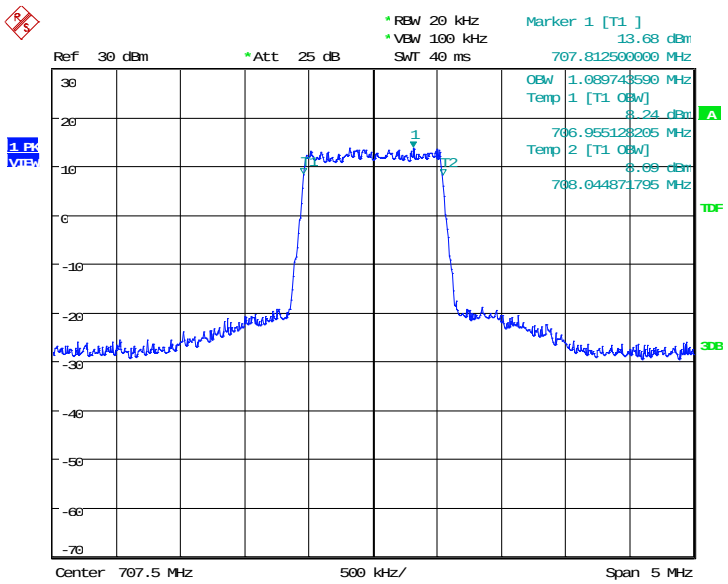
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
707.5	QPSK	16QAM
	1105.77	1089.74

LTE band 12, 1.4MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 09:41:53

LTE band 12, 1.4MHz Bandwidth, 16QAM (99% BW)

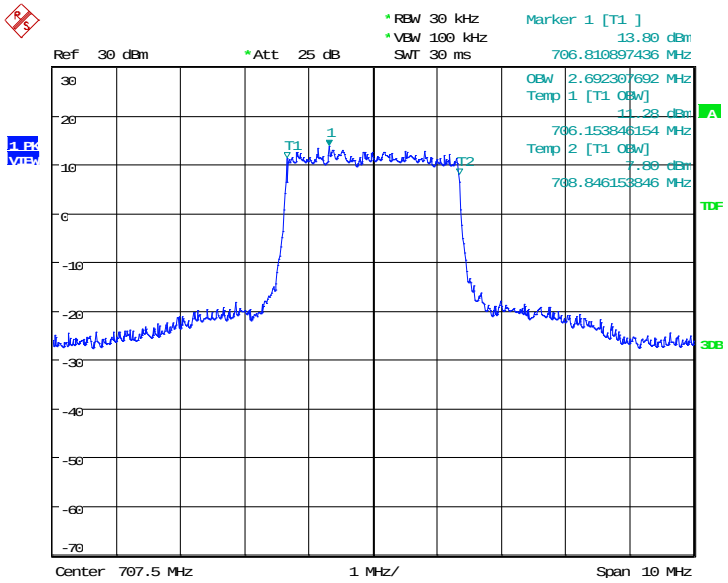


Date: 17.MAY.2018 09:42:07

LTE band 12, 3MHz (99%)

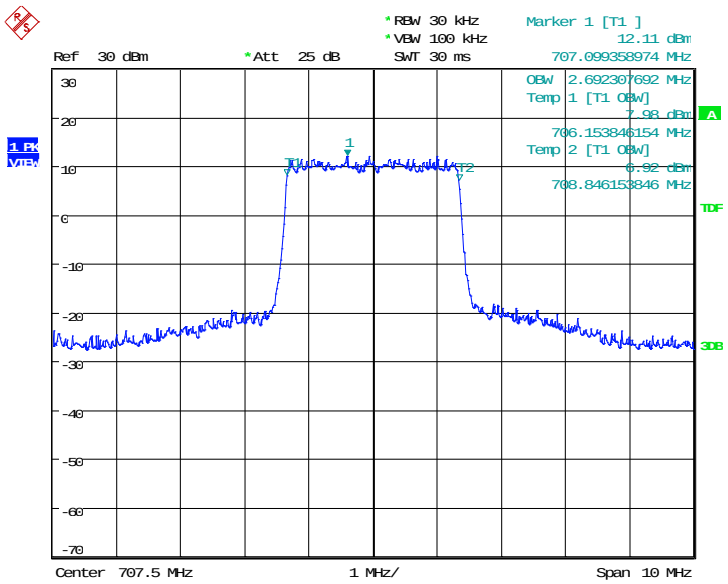
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
707.5	QPSK	16QAM
	2692.31	2692.31

LTE band 12, 3MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 09:49:40

LTE band 12, 3MHz Bandwidth, 16QAM (99% BW)

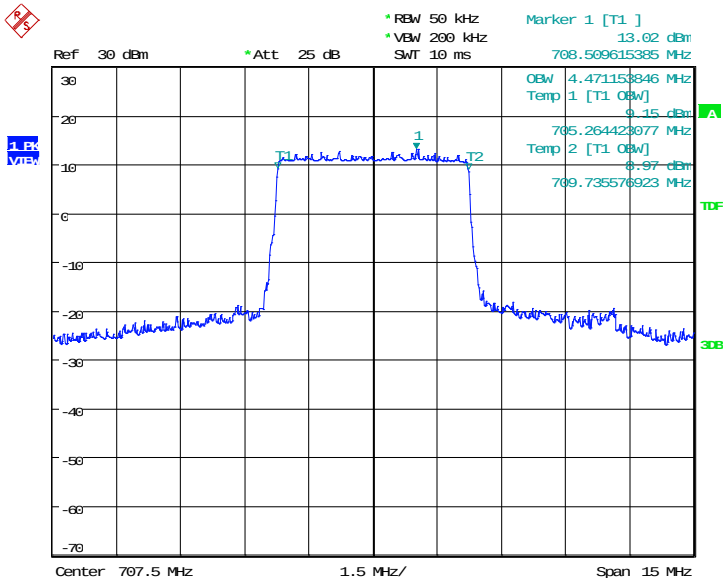


Date: 17.MAY.2018 09:49:54

LTE band 12, 5MHz (99%)

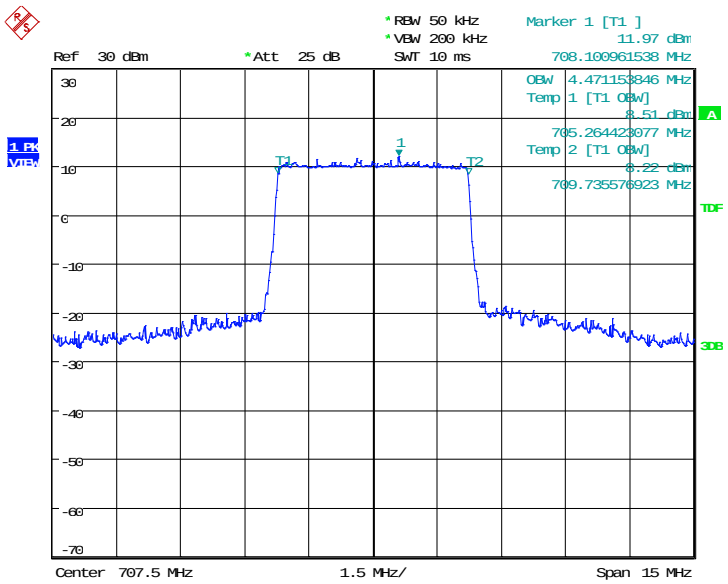
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
707.5	QPSK	16QAM
	4471.15	4471.15

LTE band 12, 5MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 09:57:25

LTE band 12, 5MHz Bandwidth,16QAM (99% BW)

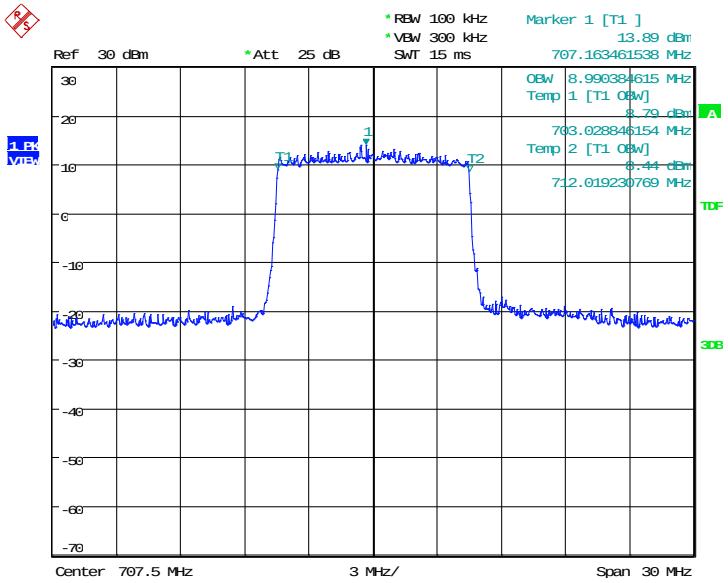


Date: 17.MAY.2018 09:57:39

LTE band 12, 10MHz (99%)

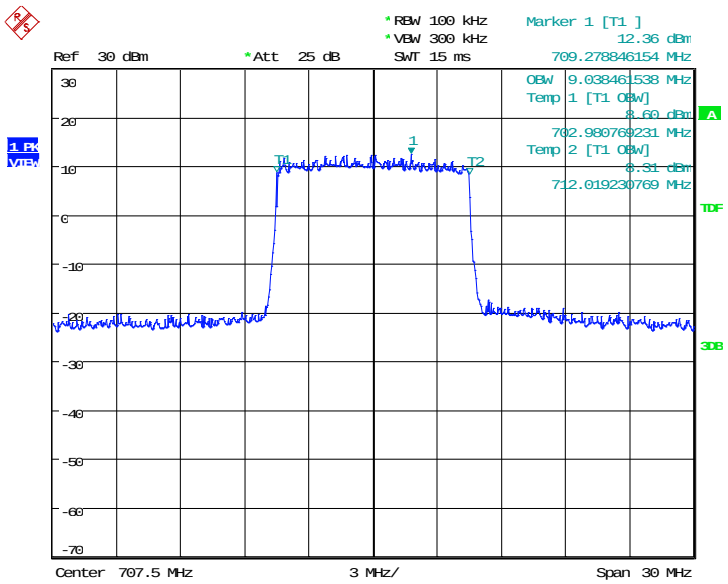
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
707.5	QPSK	16QAM
	8990.38	9038.46

LTE band 12, 10MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 10:17:56

LTE band 12, 10MHz Bandwidth, 16QAM (99% BW)

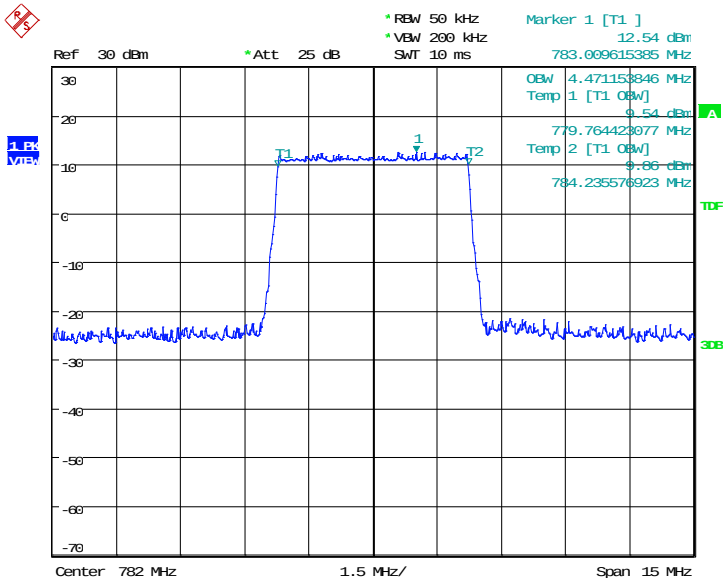


Date: 17.MAY.2018 10:18:10

LTE band 13, 5MHz (99%)

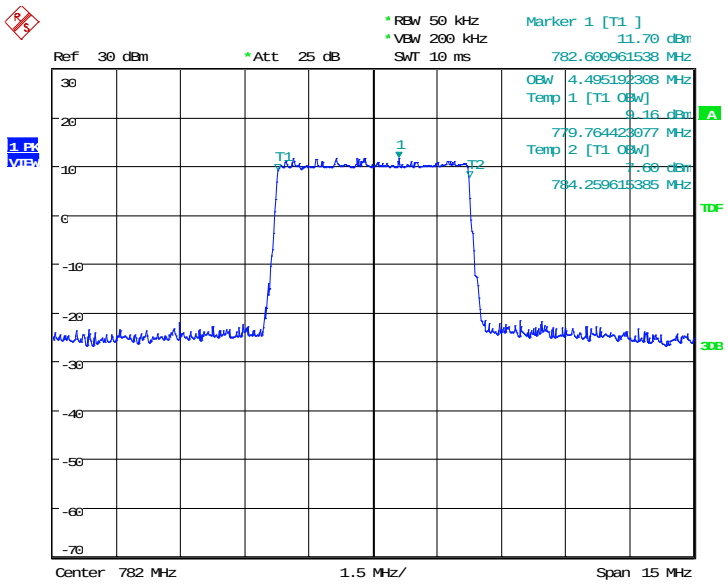
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
782.0	QPSK	16QAM
	4471.15	4495.19

LTE band 13, 5MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 06:15:49

LTE band 13, 5MHz Bandwidth,16QAM (99% BW)

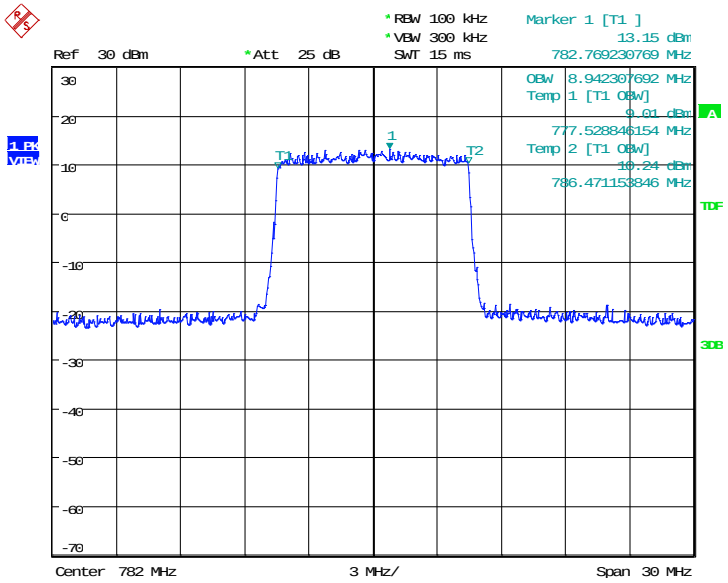


Date: 17.MAY.2018 06:16:03

LTE band 13, 10MHz (99%)

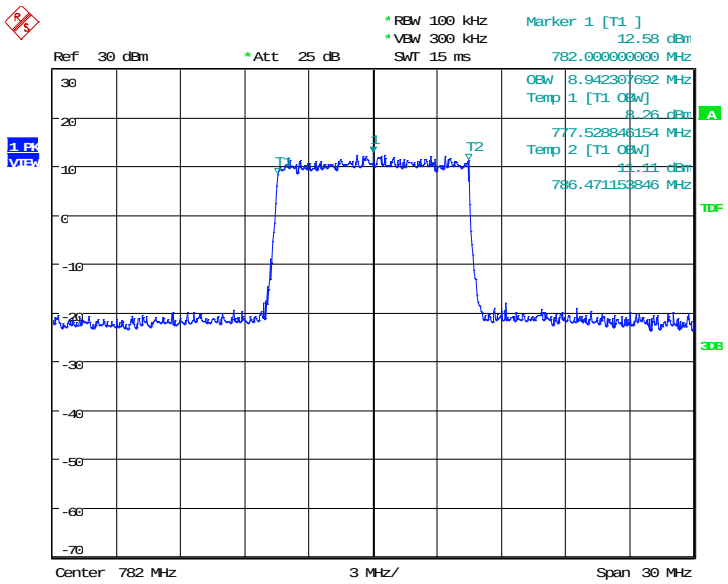
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
782.0	QPSK	16QAM
	8942.31	8942.31

LTE band 13, 10MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 06:23:36

LTE band 13, 10MHz Bandwidth, 16QAM (99% BW)

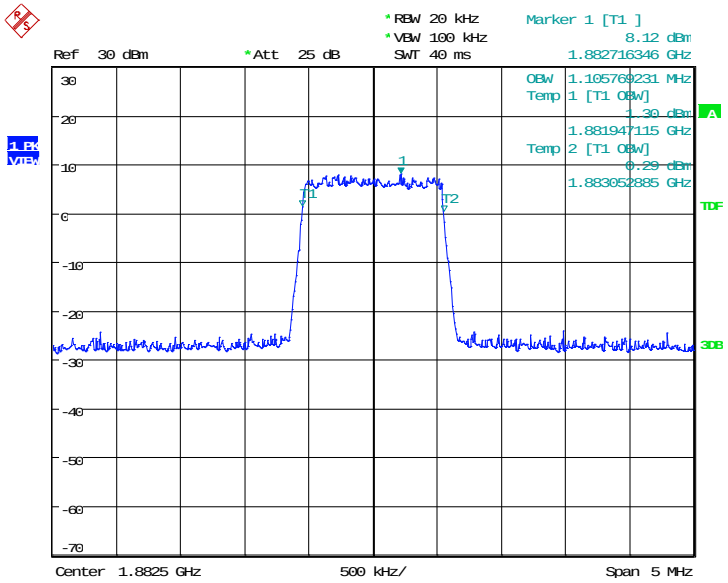


Date: 17.MAY.2018 06:23:50

LTE band 25, 1.4MHz (99%)

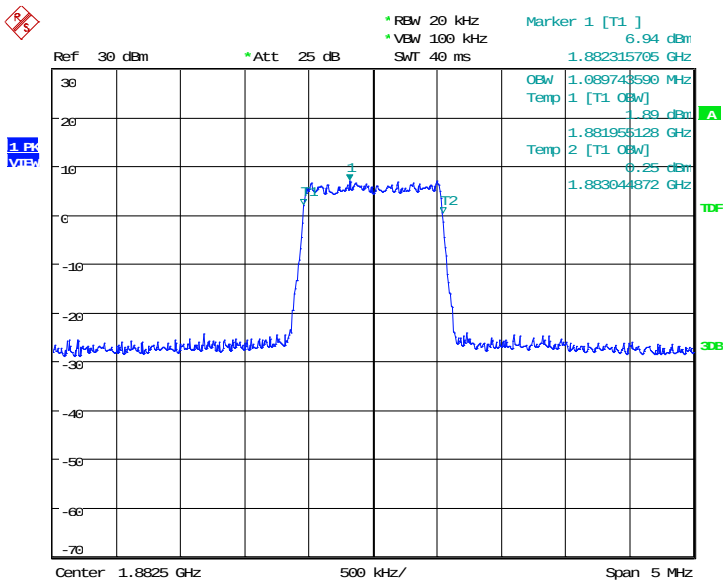
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1882.5	QPSK	16QAM
	1105.77	1089.74

LTE band 25, 1.4MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 10:34:26

LTE band 25, 1.4MHz Bandwidth, 16QAM (99% BW)

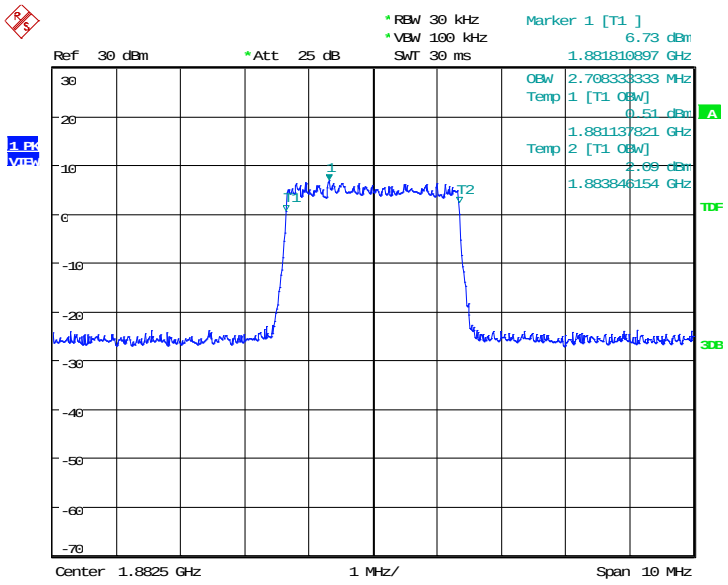


Date: 17.MAY.2018 10:34:40

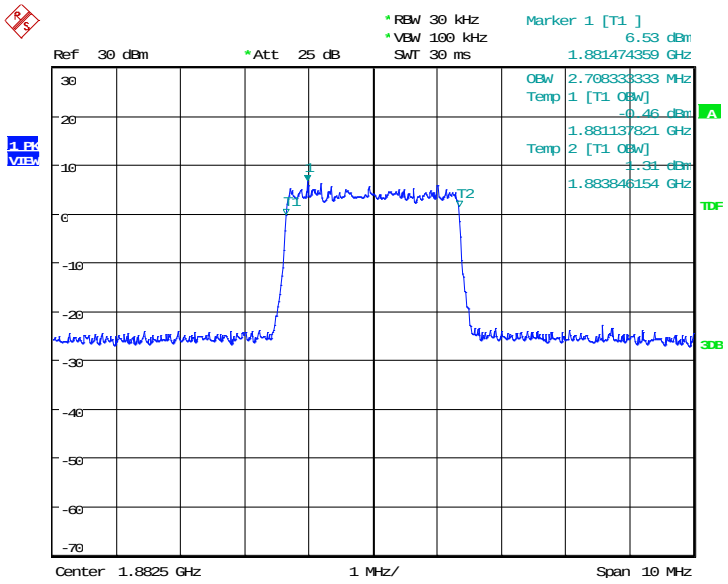
LTE band25, 3MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1882.5	QPSK	16QAM
	2708.33	2708.33

LTE band 25, 3MHz Bandwidth, QPSK (99% BW)



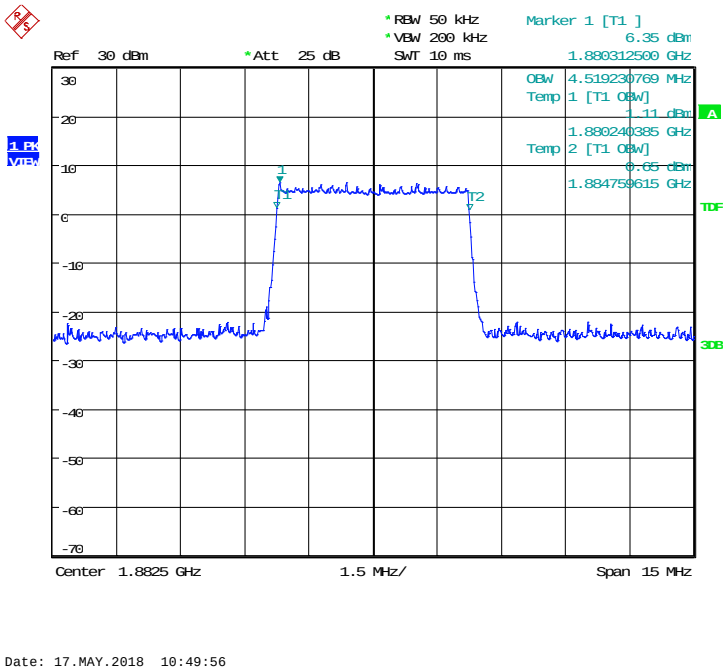
LTE band 25, 3MHz Bandwidth, 16QAM (99% BW)



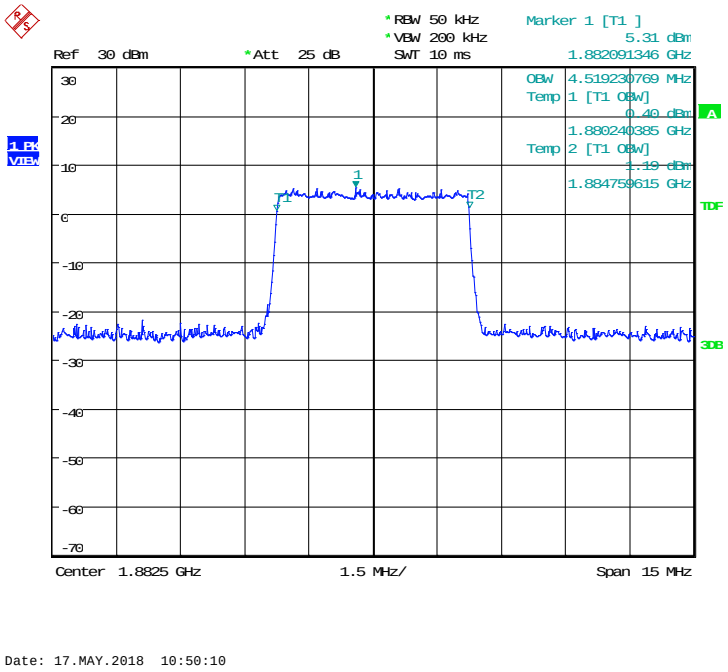
LTE band 25, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1882.5	QPSK	16QAM
	4519.23	4519.23

LTE band 25, 5MHz Bandwidth, QPSK (99% BW)



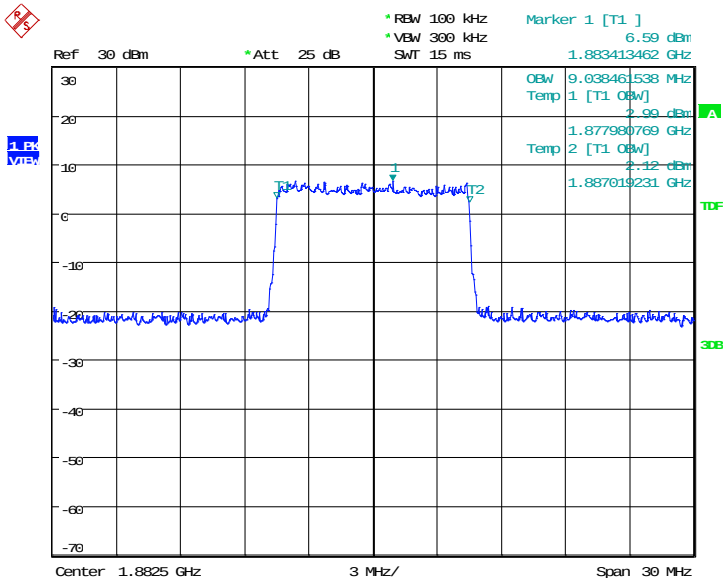
LTE band 25, 5MHz Bandwidth,16QAM (99% BW)



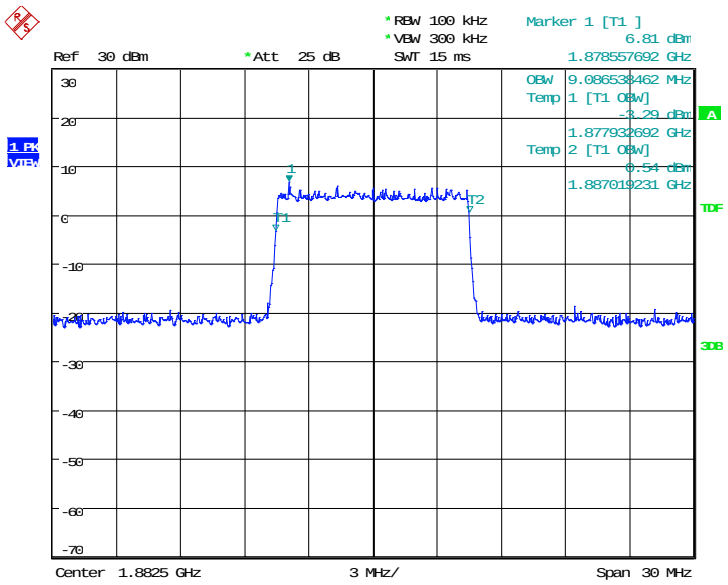
LTE band 25, 10MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1882.5	QPSK	16QAM
	9038.46	9086.54

LTE band 25, 10MHz Bandwidth, QPSK (99% BW)



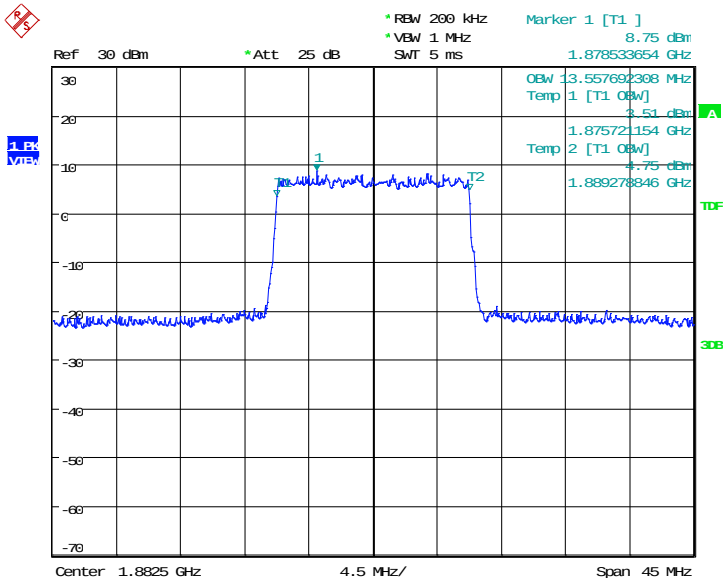
LTE band 25, 10MHz Bandwidth, 16QAM (99% BW)



LTE band 25, 15MHz (99%)

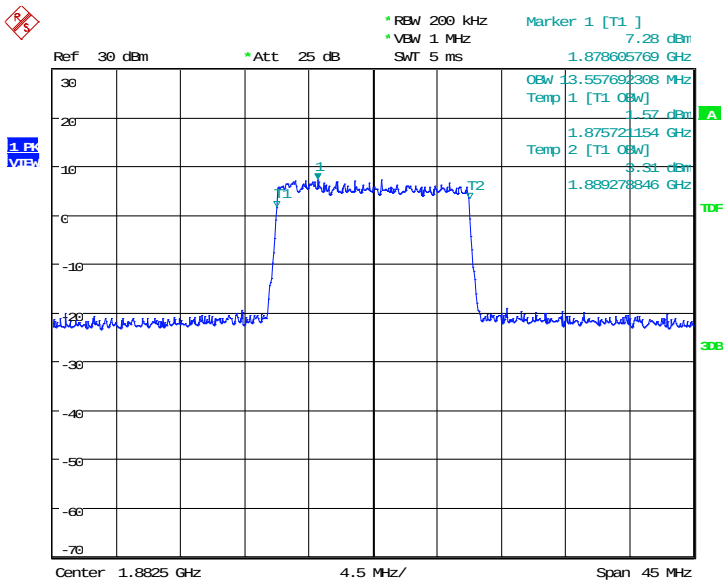
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1882.5	QPSK	16QAM
	13557.69	13557.69

LTE band 25, 15MHz Bandwidth, QPSK (99% BW)



Date: 18.MAY.2018 07:15:29

LTE band 25, 15MHz Bandwidth, 16QAM (99% BW)

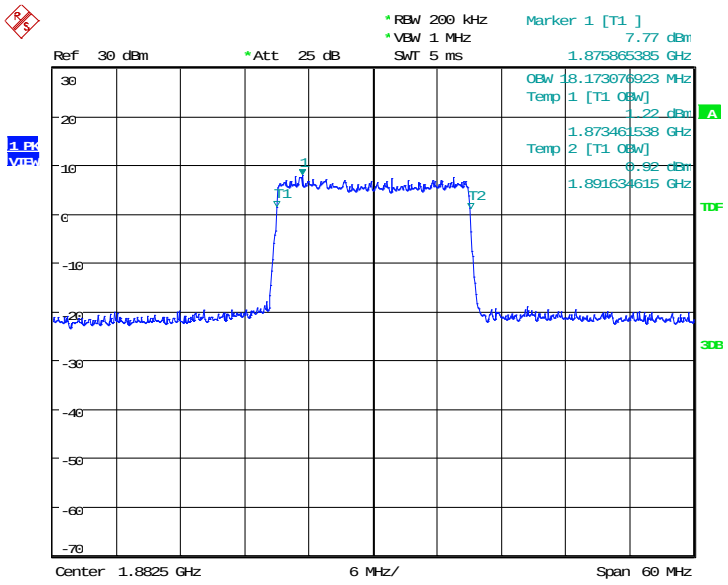


Date: 18.MAY.2018 07:15:43

LTE band 25, 20MHz (99%)

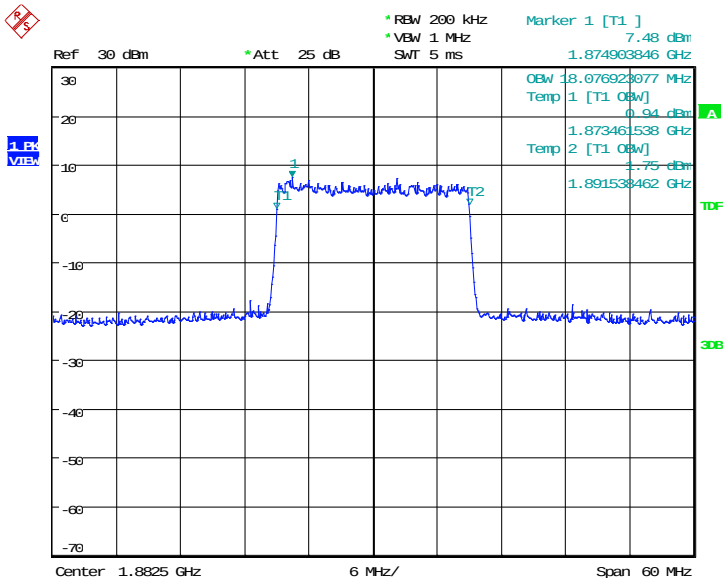
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1882.5	QPSK	16QAM
	18173.08	18076.92

LTE band 25, 20MHz Bandwidth, QPSK (99% BW)



Date: 18.MAY.2018 07:32:36

LTE band 25, 20MHz Bandwidth, 16QAM (99% BW)

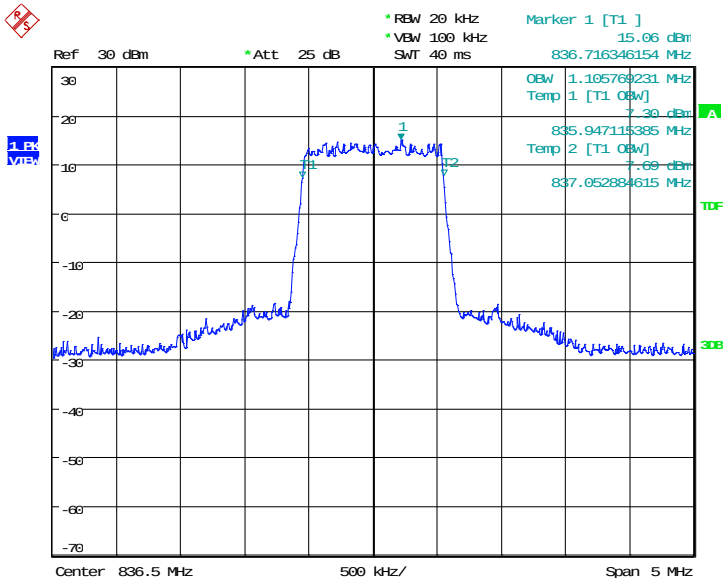


Date: 18.MAY.2018 07:32:50

LTE band 26(Part 22), 1.4MHz (99%)

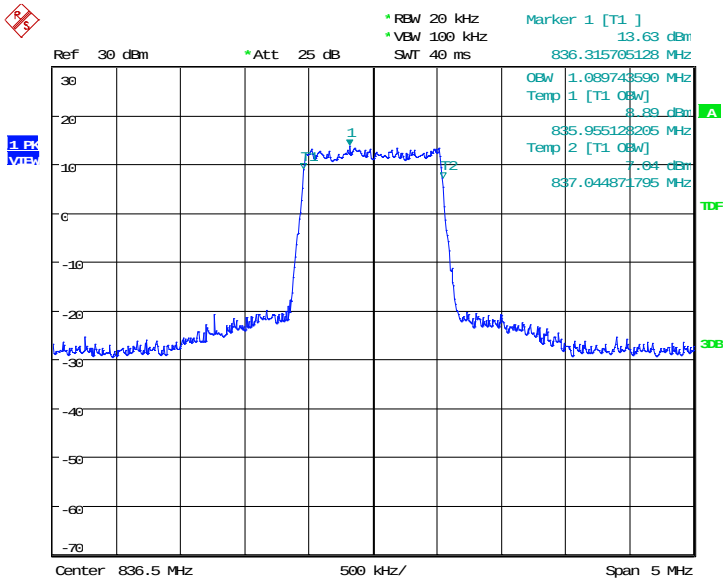
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
836.5	QPSK	16QAM
	1105.77	1089.74

LTE band 26(Part 22), 1.4MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 11:34:13

LTE band 26(Part 22), 1.4MHz Bandwidth, 16QAM (99% BW)

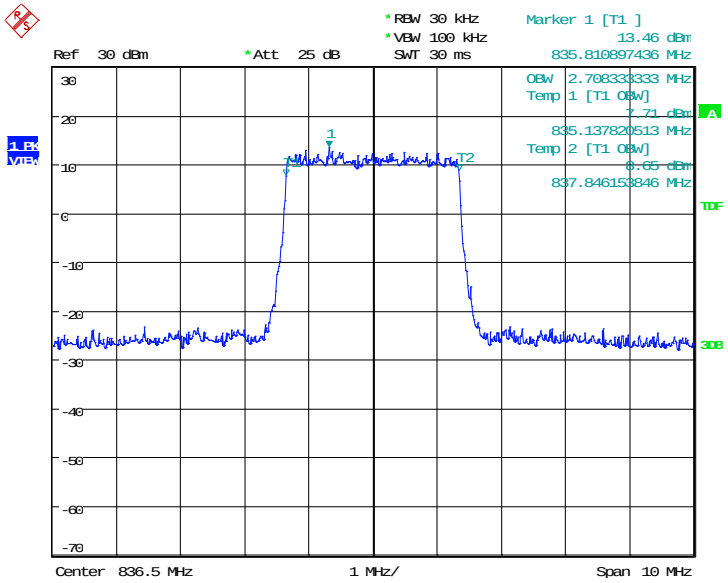


Date: 17.MAY.2018 11:34:26

LTE band 26(Part 22), 3MHz (99%)

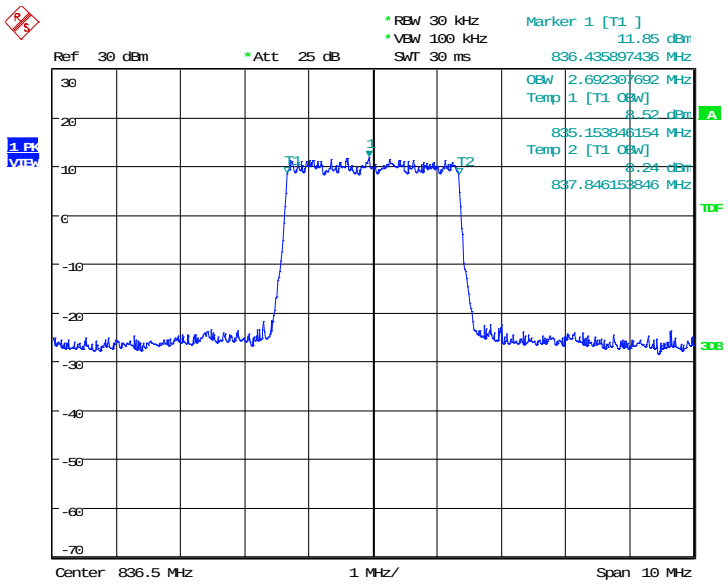
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
836.5	QPSK	16QAM
	2708.33	2692.31

LTE band 26(Part 22), 3MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 12:17:48

LTE band 26(Part 22), 3MHz Bandwidth, 16QAM (99% BW)

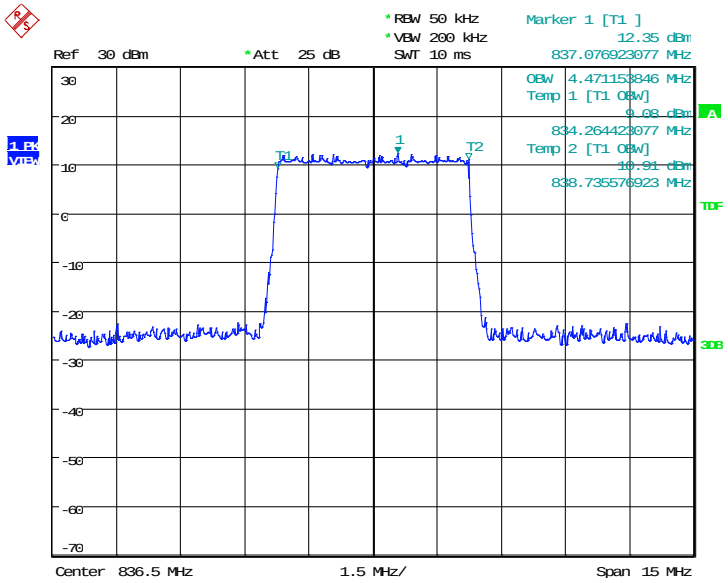


Date: 17.MAY.2018 12:18:02

LTE band 26(Part 22), 5MHz (99%)

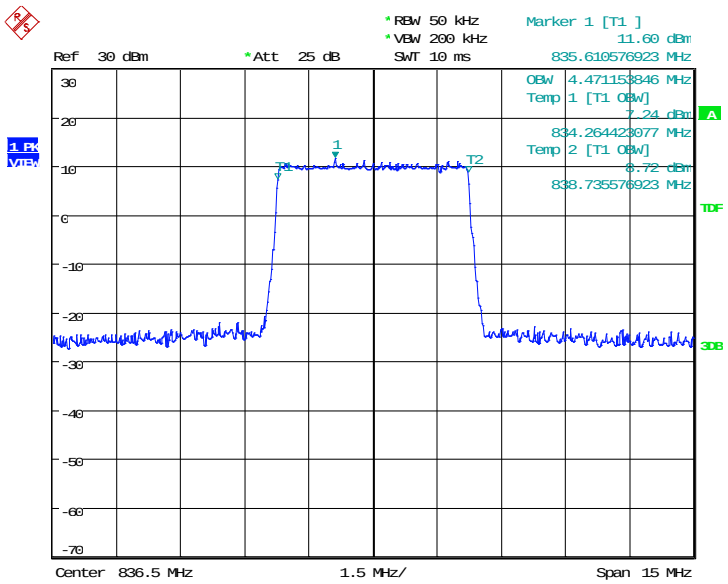
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
836.5	QPSK	16QAM
	4471.15	4471.15

LTE band 26(Part 22), 5MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 12:26:43

LTE band 26(Part 22), 5MHz Bandwidth,16QAM (99% BW)

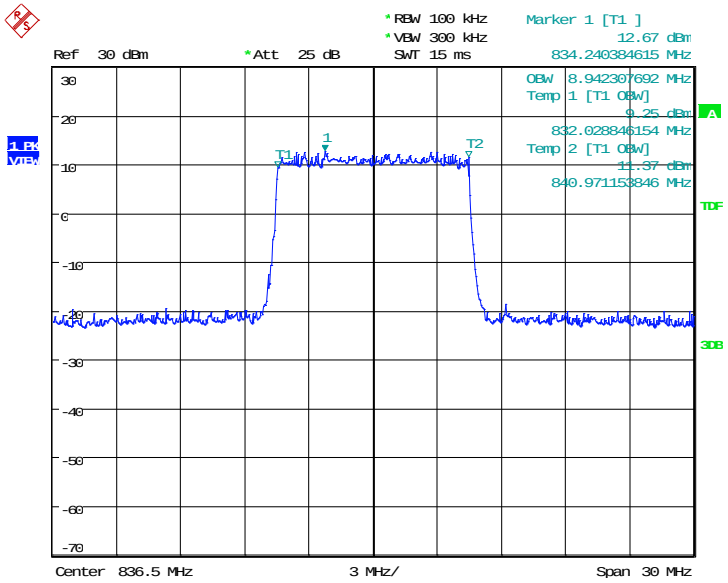


Date: 17.MAY.2018 12:26:57

LTE band 26(Part 22), 10MHz (99%)

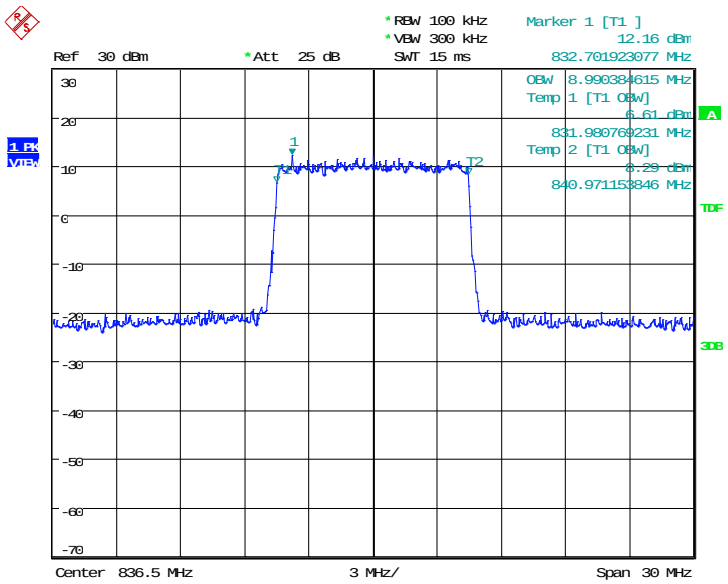
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
836.5	QPSK	16QAM
	8942.31	8990.38

LTE band 26(Part 22), 10MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 12:35:39

LTE band 26(Part 22), 10MHz Bandwidth, 16QAM (99% BW)

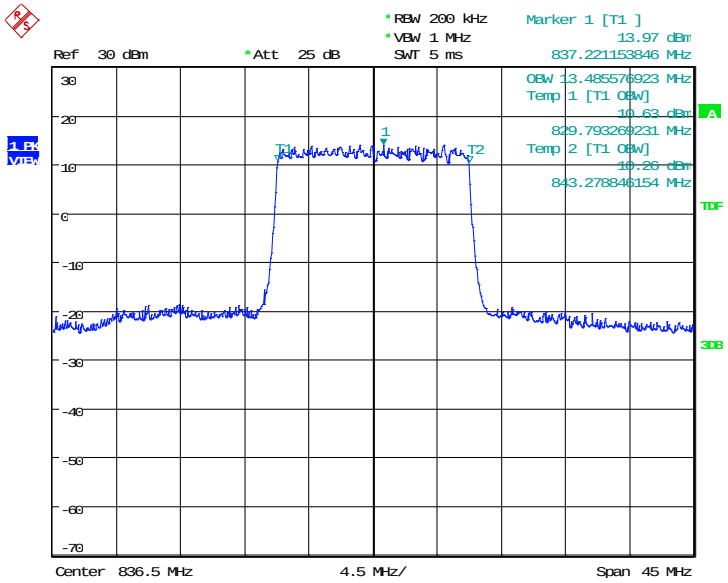


Date: 17.MAY.2018 12:35:53

LTE band 26(Part 22), 15MHz (99%)

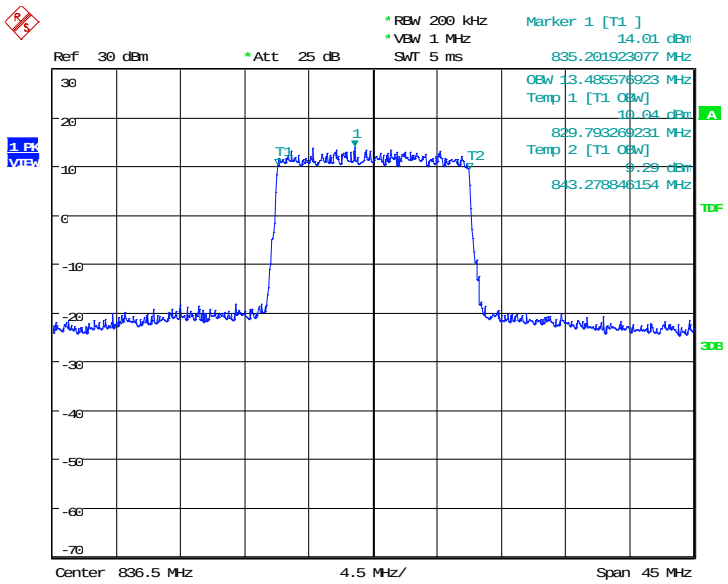
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
836.5	QPSK	16QAM
	13485.58	13485.58

LTE band 26(Part 22), 15MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 12:45:12

LTE band 26(Part 22), 15MHz Bandwidth, 16QAM (99% BW)

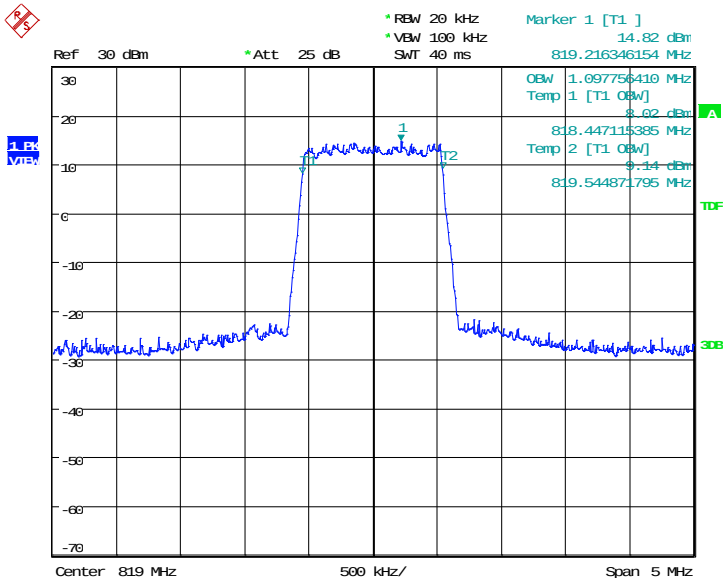


Date: 17.MAY.2018 12:45:26

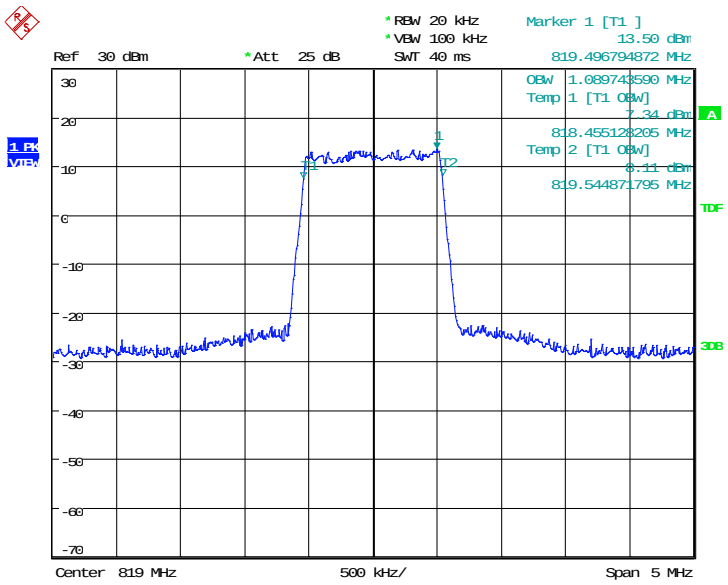
LTE band 26(Part 90), 1.4MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
819.0	QPSK	16QAM
	1097.76	1089.74

LTE band 26(Part 90), 1.4MHz Bandwidth, QPSK (99% BW)



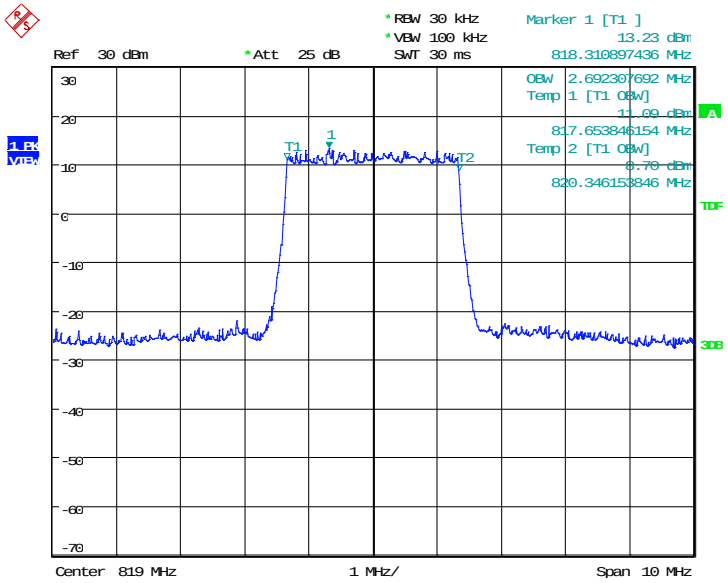
LTE band 26(Part 90), 1.4MHz Bandwidth, 16QAM (99% BW)



LTE band 26(Part 90), 3MHz (99%)

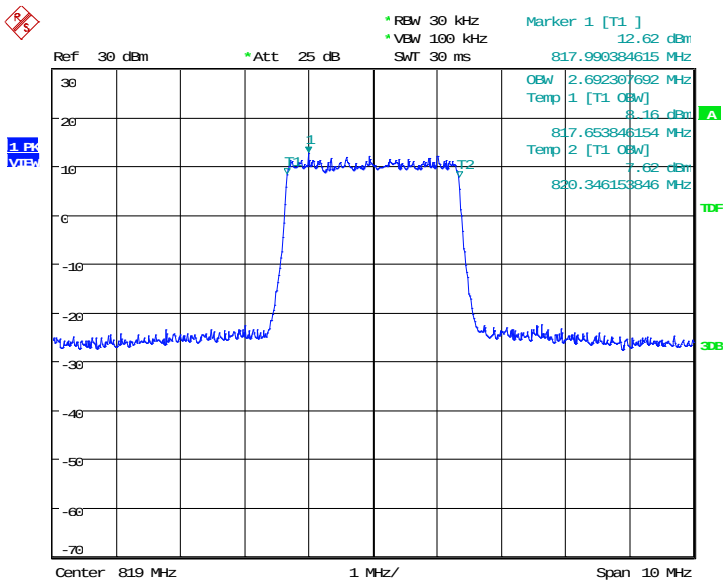
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
819.0	QPSK	16QAM
	2692.31	2692.31

LTE band 26(Part 90), 3MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 13:03:10

LTE band 26(Part 90), 3MHz Bandwidth, 16QAM (99% BW)

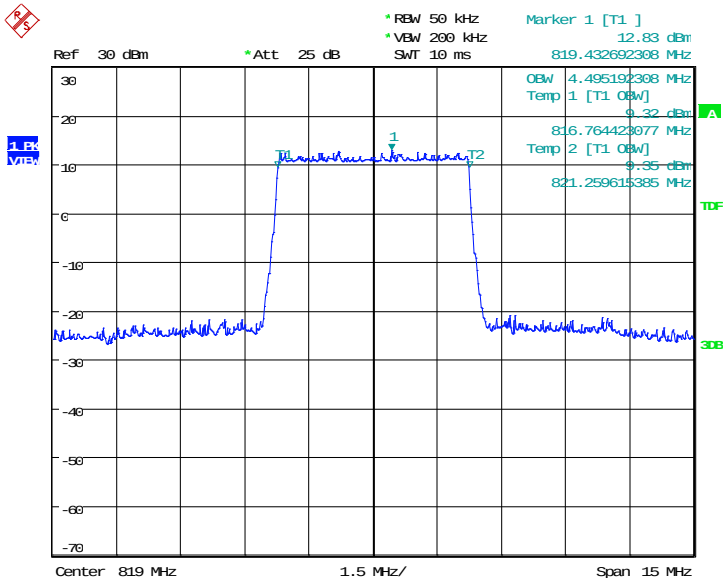


Date: 17.MAY.2018 13:03:24

LTE band 26(Part 90), 5MHz (99%)

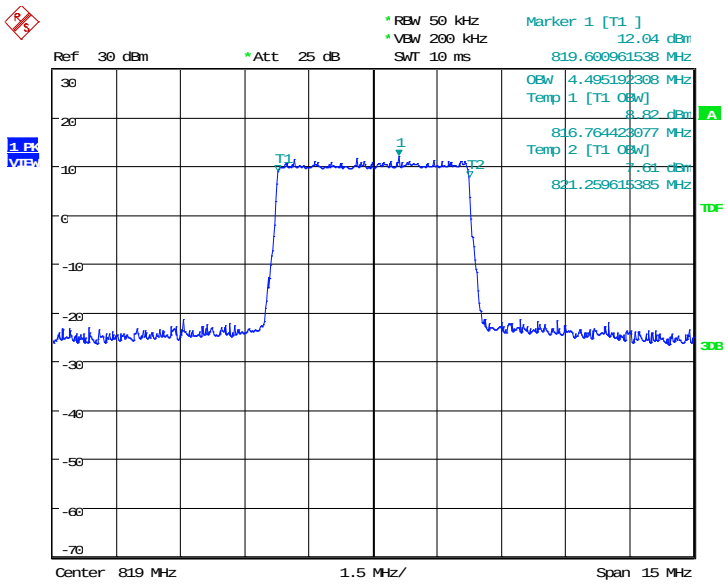
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
819.0	QPSK	16QAM
	4495.19	4495.19

LTE band 26, 5MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 13:12:03

LTE band 26, 5MHz Bandwidth,16QAM (99% BW)

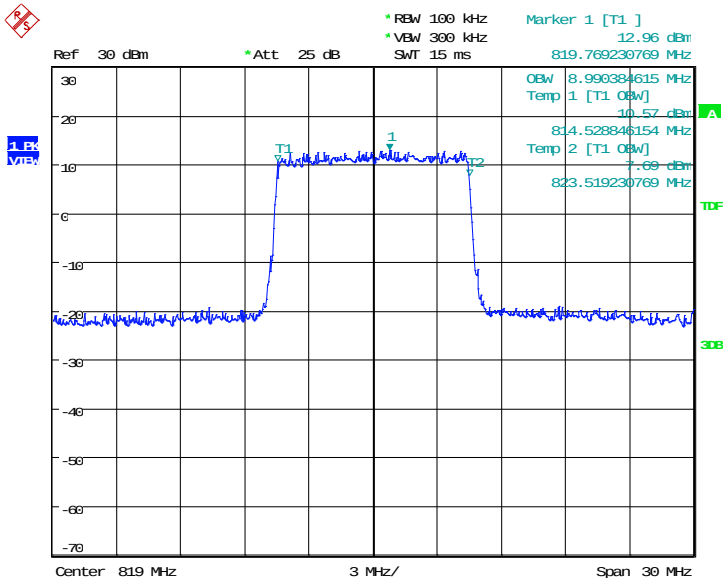


Date: 17.MAY.2018 13:12:17

LTE band 26(Part 90), 10MHz (99%)

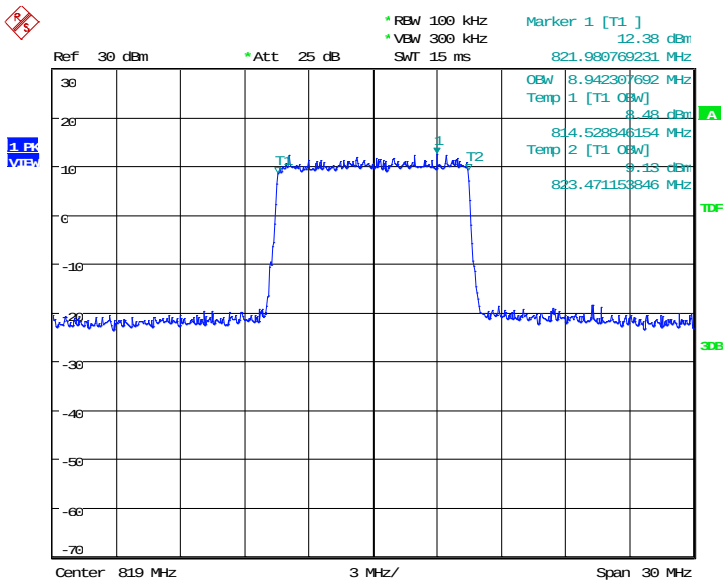
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
819.0	QPSK	16QAM
	8990.38	8942.31

LTE band 26(Part 90), 10MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 13:20:59

LTE band 26(Part 90), 10MHz Bandwidth, 16QAM (99% BW)

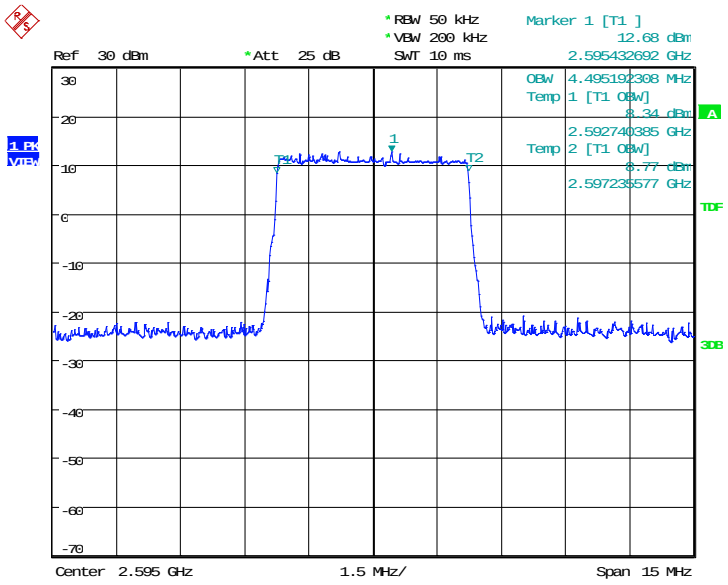


Date: 17.MAY.2018 13:21:13

LTE band 38, 5MHz (99%)

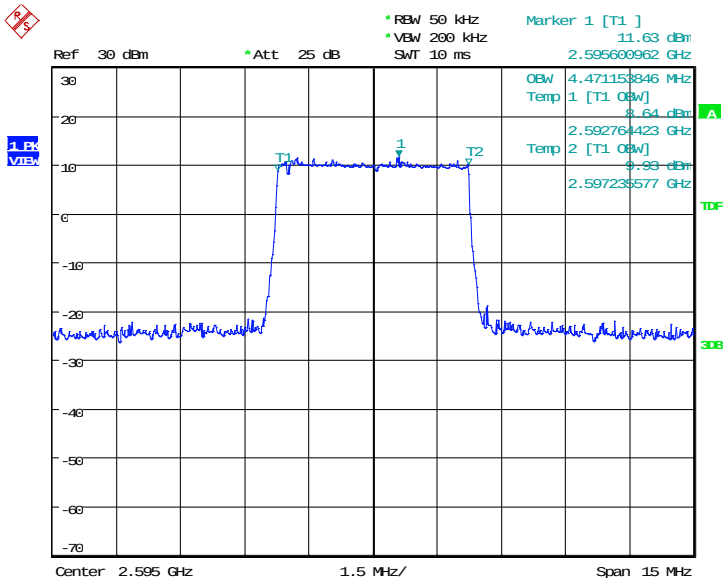
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
2595.0	QPSK	16QAM
	4495.19	4471.15

LTE band 38, 5MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 06:31:30

LTE band 38, 5MHz Bandwidth,16QAM (99% BW)

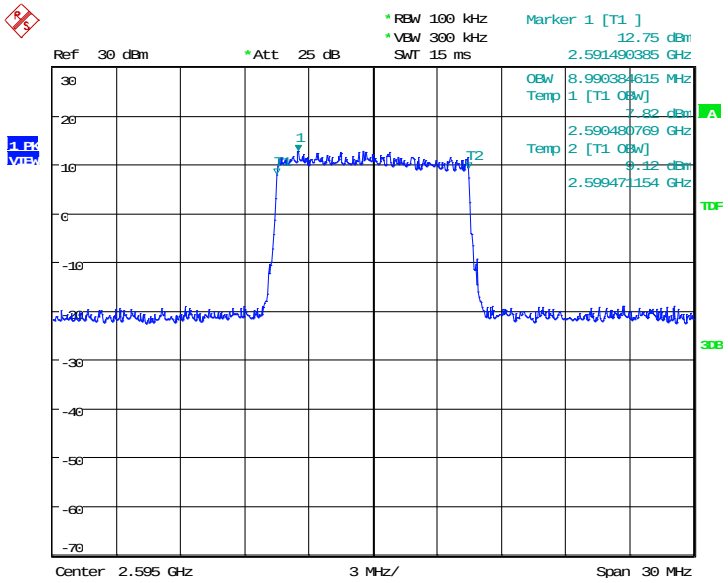


Date: 17.MAY.2018 06:31:44

LTE band 38, 10MHz (99%)

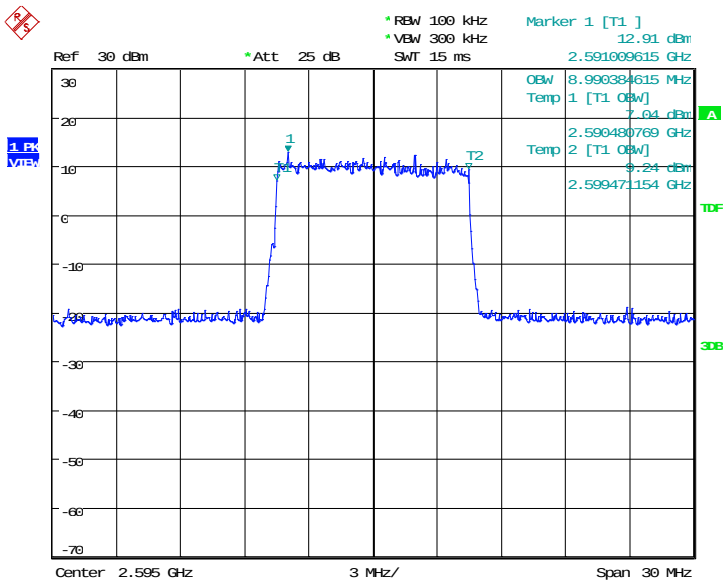
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
2595.0	QPSK	16QAM
	8990.38	8990.38

LTE band 38, 10MHz Bandwidth, QPSK (99% BW)



Date: 17.MAY.2018 06:39:18

LTE band 38, 10MHz Bandwidth, 16QAM (99% BW)



Date: 17.MAY.2018 06:39:32