



TEST REPORT

No. I21Z61621-WMD03

for

TCL Communication Ltd.

GSM/UMTS/LTE Mobile phone

Model Name: A509DL

FCC ID: 2ACCJH131

with

Hardware Version: PIO

Software Version: vL73

Issued Date: 2021-09-29

Note:

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

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

Test Laboratory:

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I21Z61621-WMD03	Rev.0	1 st edition	2021-09-02
I21Z61621-WMD03	Rev.1	2 nd edition Delete the data of initial model.	2021-09-14
I21Z61621-WMD03	Rev.2	3 rd edition Update the results in A.1.	2021-09-29

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

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1. Test Laboratory

1.1. Introduction & Accreditation

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

1.2. Testing Location

Location 1: CTTL (huayuan North Road)

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

Location 2: CTTL(Shouxiang)

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

1.3. Testing Environment

Normal Temperature: 15-35°C
Relative Humidity: 20-75%

1.4. Project Data

Testing Start Date: 2020-11-24
Testing End Date: 2021-09-29

1.5. Signature



Dong Yuan
(Prepared this test report)



Zhou Yu
(Reviewed this test report)



Zhao Hui Lin
Deputy Director of the laboratory
(Approved this test report)



2. Client Information

2.1. Applicant Information

Company Name: TCL Communication Ltd.
Address /Post: 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
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Email: zhizhou.gong@tcl.com
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2.2. Manufacturer Information

Company Name: TCL Communication Ltd
Address /Post: 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
Contact: Gong Zhizhou
Email: zhizhou.gong@tcl.com
Telephone: 0086-755-36611722
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3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	GSM/UMTS/LTE Mobile phone
Model Name	A509DL
FCC ID	2ACCJH131
Antenna	Embedded
Output power	26.07dBm maximum EIRP measured for LTE Band 41
Extreme vol. Limits	3.5VDC to 4.4VDC (nominal: 3.85VDC)
Extreme temp. Tolerance	-10°C to +55°C

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

3.2. Internal Identification of EUT used during the test

EUT ID*	IMEI	HW Version	SW Version	Date of receipt
UT16a	015858000011746	PIO	vL73	2021-08-13
UT13a	015858000011852	PIO	vL73	2021-08-18

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

3.3. Internal Identification of AE used during the test

AE ID*	Description
AE1	Battery
AE2	Battery
AE1	
Model	CAB2880000C7
Manufacturer	VEKEN
Capacitance	3000mAh
AE2	
Model	CAB2880001C1
Manufacturer	BYD
Capacitance	3000mAh

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

4. Reference Documents

4.1. Documents supplied by applicant

EUT parameters are supplied by the client or manufacturer, which are the bases of testing.

4.2. Reference Documents for testing

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

Reference	Title	Version
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	10-1-20 Edition
FCC Part 22	PUBLIC MOBILE SERVICES	10-1-20 Edition
FCC Part 27	MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES	10-1-20 Edition
FCC Part 90	PRIVATE LAND MOBILE RADIO SERVICES	10-1-20 Edition
ANSI/TIA-603-E	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	2016
ANSI C63.26	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services	2015
KDB 971168 D01	MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS	v03r01

5. Laboratory Environment

Fully-anechoic chamber FAC-3 (9 meters×6.5 meters×4 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 15 %, Max. = 75 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 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 6000 MHz

6. Summary Of Test Result

LTE Band 12

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	27.53	P

LTE Band 13

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	27.53	P

LTE Band 25(2)

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	24.232	P
2	Emission Limit	24.238	P

LTE Band 26(814MHz~824MHz)

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	90.635	P
2	Emission Limit	90.691	P

LTE Band 26(824MHz~849MHz)(5)

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	22.913	P
2	Emission Limit	22.917	P

LTE Band 41

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	27.53	P
3	Band Edge Compliance	27.53	P

LTE Band 66(4)

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	27.53	P

LTE Band 71

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	27.53	P

Terms used in Verdict column

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

LTE Band 25, Band 66 and Band 26 overlaps the entire frequency range of LTE Band 2, Band 4 and Band 5. Therefore, test data provided in this report covers Band 2, Band 4, Band 5 as well as Band 25, Band 66, Band 26.

LTE Band 41 is tested by power class 2.

Explanation of worst-case configuration

The worst-case scenario for all measurements is based on the conducted output power measurement investigation results. The test results shown in the following sections represent the worst case emission.

The Equipment Under Test (EUT) is a Class 2 Permissive Change to A509DL (FCC ID: 2ACCJH131), Output Power and Emission Limit are tested, Band Edge Compliance of LTE Band 41 is tested.

For detail differences between two models please refer the Declaration of Changes document.

7. Test Equipment Utilized

Description	Type	Series Number	Manufacture	Cal Due Date	Calibration Interval
Wideband Radio Communication Tester	CMW500	159082	R&S	2021-12-17	1 year
Spectrum Analyzer	FSU	200030	R&S	2022-06-02	1 year
Radio Communication Analyzer	MT8821C	6201763159	Anritsu	2022-08-09	1 year
Climate Chamber	SH-242	93008556	ESPEC	2023-12-23	3 years
Test Receiver	E4440A	MY48250642	Agilent	2022-03-04	1 year
Universal Radio Communication Tester	CMW500	143008	R&S	2021-12-01	1 year
EMI Antenna	VULB9163	9163-235	Schwarzbeck	2022-04-07	1 year
Signal Generator	N5183A	MY49060052	Agilent	2022-07-11	1 year
EMI Antenna	3117	00058889	ETS-Lindgren	2021-09-22	1 year
EMI Antenna	3117	00119021	ETS-Lindgren	2022-01-14	1 year

Note: The test dates were before the calibration due dates of equipment used (the EMI Antenna which series number is 3117).

Annex A: Measurement Results

A.1 Output Power

A.1.1 Summary

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

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

A.1.2 Conducted

A.1.2.1 Method of Measurements

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

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 12

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)		
			QPSK	16QAM	64QAM
1.4MHz	1 RB high	715.3	24.44	23.69	22.61
		707.5	24.41	23.63	22.56
		699.7	24.41	23.58	22.62
	1 RB low	715.3	24.39	23.63	22.60
		707.5	24.45	23.68	22.60
		699.7	24.40	23.62	22.62
	50% RB mid	715.3	24.61	23.48	22.66
		707.5	24.57	23.55	22.66
		699.7	24.59	23.57	22.70
	100% RB	715.3	23.57	22.58	21.61
		707.5	23.55	22.64	21.56
		699.7	23.58	22.66	21.56
3MHz	1 RB high	714.5	24.46	23.68	22.63
		707.5	24.40	23.57	22.64
		700.5	24.44	23.63	22.49
	1 RB low	714.5	24.46	23.75	22.62
		707.5	24.47	23.72	22.61
		700.5	24.47	23.68	22.58
	50% RB mid	714.5	23.48	22.57	21.56
		707.5	23.52	22.57	21.51
		700.5	23.50	22.57	21.60
	100% RB	714.5	23.47	22.47	21.47

		707.5	23.49	22.51	21.53
		700.5	23.51	22.51	21.53
5MHz	1 RB high	713.5	24.33	23.52	22.53
		707.5	24.34	23.58	22.50
		701.5	24.35	23.60	22.53
	1 RB low	713.5	24.34	23.51	22.56
		707.5	24.42	23.59	22.51
		701.5	24.36	23.63	22.60
	50% RB mid	713.5	23.54	22.51	21.56
		707.5	23.53	22.55	21.60
		701.5	23.56	22.53	21.58
	100% RB	713.5	23.50	22.50	21.53
		707.5	23.48	22.50	21.50
		701.5	23.52	22.53	21.55
10MHz	1 RB high	711.0	24.41	23.68	22.61
		707.5	24.41	23.57	22.64
		704.0	24.38	23.62	22.59
	1 RB low	711.0	24.48	23.67	22.66
		707.5	24.45	23.68	22.56
		704.0	24.49	23.64	22.68
	50% RB mid	711.0	23.57	22.56	21.59
		707.5	23.57	22.57	21.57
		704.0	23.59	22.58	21.58
	100% RB	711.0	23.56	22.56	21.61
		707.5	23.57	22.56	21.58
		704.0	23.54	22.52	21.56

LTE band 13

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)		
			QPSK	16QAM	64QAM
5MHz	1 RB high	784.5	24.30	23.02	22.29
		782.0	24.28	22.92	22.51
		779.5	23.80	23.14	22.48
	1 RB low	784.5	24.31	23.05	22.32
		782.0	23.99	23.11	22.53
		779.5	23.80	22.90	22.37
	50% RB mid	784.5	23.45	22.35	21.52
		782.0	23.14	22.21	21.55
		779.5	22.99	22.01	21.54
	100% RB	784.5	23.42	22.41	21.46
		782.0	23.27	22.07	21.48
		779.5	22.98	22.05	21.46
10MHz	1 RB high	782.0	24.34	23.18	22.28
	1 RB low	782.0	24.18	23.13	22.16
	50% RB mid	782.0	23.33	22.24	21.53
	100% RB	782.0	23.23	22.44	21.52

LTE band 25

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)		
			QPSK	16QAM	64QAM
1.4MHz	1 RB high	1914.3	24.29	23.03	21.89
		1882.5	24.00	23.04	21.88
		1850.7	23.96	23.01	21.88
	1 RB low	1914.3	24.12	23.00	21.93
		1882.5	23.99	22.98	21.88
		1850.7	24.03	22.99	21.93
	50% RB mid	1914.3	24.07	23.19	21.98
		1882.5	24.10	23.24	22.03
		1850.7	24.10	23.26	22.05
	100% RB	1914.3	23.21	22.25	21.22
		1882.5	23.13	22.24	21.17
		1850.7	23.12	22.29	21.18
3MHz	1 RB high	1913.5	24.43	23.03	21.88
		1882.5	24.13	23.07	21.95
		1851.5	24.09	23.06	21.91
	1 RB low	1913.5	24.16	23.12	22.01
		1882.5	24.12	23.10	21.99
		1851.5	24.14	23.11	21.99
	50% RB mid	1913.5	23.17	22.21	21.06
		1882.5	23.10	22.16	21.03
		1851.5	23.10	22.18	21.04
	100% RB	1913.5	23.13	22.08	21.18
		1882.5	23.07	22.04	21.13
		1851.5	23.06	22.05	21.10
5MHz	1 RB high	1912.5	24.19	22.98	22.06
		1882.5	23.94	23.01	22.14
		1852.5	23.91	23.01	22.07
	1 RB low	1912.5	23.99	23.02	22.15
		1882.5	23.97	23.01	22.11
		1852.5	23.99	23.06	22.14
	50% RB mid	1912.5	23.11	22.21	21.13
		1882.5	23.07	22.13	21.09
		1852.5	23.03	22.11	21.10
	100% RB	1912.5	23.12	22.08	21.12
		1882.5	23.03	21.99	21.03
		1852.5	23.05	22.00	21.05
10MHz	1 RB high	1910.0	24.31	23.02	21.89
		1882.5	24.09	23.08	21.95
		1855.0	24.03	23.05	21.92
	1 RB low	1910.0	24.14	23.06	21.93

		1882.5	24.09	23.03	21.94	
		1855.0	24.14	23.08	21.96	
		1910.0	23.04	22.21	21.13	
	50% RB mid	1882.5	23.05	22.24	21.12	
		1855.0	23.03	22.21	21.10	
		1910.0	23.14	22.16	21.14	
		1882.5	23.09	22.11	21.09	
100% RB	1855.0	23.09	22.14	21.09		
	1910.0	23.14	22.16	21.14		
	1882.5	23.09	22.11	21.09		
15MHz	1 RB high	1907.5	24.16	23.23	22.26	
		1882.5	24.00	23.36	22.35	
		1857.5	24.01	23.37	22.35	
	1 RB low	1907.5	24.09	23.46	22.42	
		1882.5	24.02	23.33	22.35	
		1857.5	24.10	23.42	22.40	
	50% RB mid	1907.5	23.12	22.10	21.02	
		1882.5	23.12	22.12	21.07	
		1857.5	23.13	22.08	21.05	
	100% RB	1907.5	23.12	22.06	21.10	
		1882.5	23.11	22.05	21.09	
		1857.5	23.12	22.08	21.12	
	20MHz	1 RB high	1905.0	24.01	23.40	21.87
			1882.5	23.96	23.50	21.90
			1860.0	23.90	23.46	21.84
1 RB low		1905.0	23.97	23.49	21.91	
		1882.5	23.93	23.46	21.86	
		1860.0	23.98	23.48	21.89	
50% RB mid		1905.0	22.79	22.12	20.78	
		1882.5	22.90	22.08	20.88	
		1860.0	23.00	22.08	21.05	
100% RB		1905.0	22.90	21.87	20.93	
		1882.5	22.94	21.94	20.95	
		1860.0	23.10	22.06	21.12	

LTE band 26(814MHz~824MHz)

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)		
			QPSK	16QAM	64QAM
1.4MHz	1 RB high	823.3	24.03	23.14	22.08
		819.0	24.10	23.19	22.13
		814.7	24.10	23.03	21.92
	1 RB low	823.3	24.00	23.10	22.06
		819.0	24.10	23.18	22.15
		814.7	24.10	23.02	21.93
	50% RB mid	823.3	24.06	23.22	22.17
		819.0	24.19	23.30	22.09
		814.7	24.11	23.25	22.02
	100% RB	823.3	23.02	21.94	21.36
		819.0	23.11	22.29	21.23
		814.7	23.13	22.25	21.19
3MHz	1 RB high	822.5	24.09	23.07	21.94
		819.0	24.10	23.07	21.93
		815.5	24.20	23.13	21.99
	1 RB low	822.5	24.08	23.07	21.96
		819.0	24.17	23.17	22.04
		815.5	24.22	23.16	22.07
	50% RB mid	822.5	23.04	22.12	21.03
		819.0	23.09	22.15	21.05
		815.5	23.16	22.12	21.07
	100% RB	822.5	23.05	22.05	21.11
		819.0	23.10	22.06	21.14
		815.5	23.08	22.05	21.14
5MHz	1 RB high	821.5	24.02	23.11	22.15
		819.0	24.00	23.05	22.15
		816.5	24.12	23.17	22.28
	1 RB low	821.5	24.08	23.14	22.22
		819.0	24.06	23.10	22.17
		816.5	24.11	23.14	22.19
	50% RB mid	821.5	23.12	22.13	21.18
		819.0	23.13	22.24	21.22
		816.5	23.15	22.21	21.24
	100% RB	821.5	23.10	22.07	21.16
		819.0	23.12	22.11	21.19
		816.5	23.15	22.10	21.21
10MHz	1 RB high	819.0	24.14	23.10	21.99
	1 RB low	819.0	24.24	23.15	22.00
	50% RB mid	819.0	23.17	22.29	21.30



	100% RB	819.0	23.22	22.25	21.59
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LTE band 26(824MHz~849MHz)

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)		
			QPSK	16QAM	64QAM
1.4MHz	1 RB high	848.3	23.98	22.93	22.28
		836.5	23.95	22.94	22.31
		824.7	23.99	23.02	21.95
	1 RB low	848.3	23.96	22.94	22.23
		836.5	23.95	22.97	22.30
		824.7	24.02	23.02	21.94
	50% RB mid	848.3	24.03	23.04	22.29
		836.5	24.04	23.07	22.24
		824.7	24.08	23.22	22.19
	100% RB	848.3	23.02	22.12	21.00
		836.5	23.03	22.13	21.03
		824.7	23.05	21.99	21.38
3MHz	1 RB high	847.5	24.07	23.03	21.88
		836.5	24.10	23.07	21.89
		825.5	24.16	23.15	21.98
	1 RB low	847.5	24.06	23.04	21.93
		836.5	24.10	23.09	22.00
		825.5	24.17	23.15	22.06
	50% RB mid	847.5	22.99	22.08	21.08
		836.5	23.02	22.13	21.10
		825.5	23.05	22.18	21.15
	100% RB	847.5	22.99	21.99	21.04
		836.5	23.04	22.09	21.11
		825.5	23.02	22.06	21.10
5MHz	1 RB high	846.5	24.00	23.22	22.08
		836.5	24.01	23.25	22.12
		826.5	24.09	23.31	22.18
	1 RB low	846.5	24.00	23.27	22.12
		836.5	23.98	23.23	22.07
		826.5	24.06	23.31	22.17
	50% RB mid	846.5	22.95	22.15	20.94
		836.5	23.03	22.21	21.02
		826.5	23.10	22.25	21.09
	100% RB	846.5	22.99	22.03	21.00
		836.5	23.08	22.12	21.10
		826.5	23.08	22.16	21.07
10MHz	1 RB high	844.0	24.07	23.20	22.16
		836.5	24.10	23.21	22.17
		829.0	24.09	23.20	22.14
	1 RB low	844.0	24.07	23.20	22.14

		836.5	24.07	23.17	22.14
		829.0	24.08	23.21	22.16
		844.0	23.02	22.19	21.18
	50% RB mid	836.5	23.03	22.18	21.15
		829.0	23.18	22.17	21.28
		844.0	23.10	22.12	21.18
	100% RB	836.5	23.13	22.15	21.20
829.0		23.14	22.18	21.23	
841.5		24.06	23.13	22.06	
15MHz	1 RB high	836.5	24.04	23.16	22.11
		831.5	24.02	23.39	22.36
		841.5	24.02	23.16	22.08
	1 RB low	836.5	24.06	23.16	22.12
		831.5	24.03	23.39	22.37
		841.5	23.18	22.21	21.21
	50% RB mid	836.5	23.15	22.16	21.19
		831.5	23.14	22.20	21.15
		841.5	23.25	22.25	21.25
	100% RB	836.5	23.19	22.17	21.19
		831.5	23.11	22.12	21.11

LTE band 41

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)		
			QPSK	16QAM	64QAM
5MHz	1 RB high	2687.5	26.26	25.42	24.72
		2593.0	26.49	25.61	24.89
		2498.5	26.16	25.11	24.15
	1 RB low	2687.5	26.28	25.47	24.74
		2593.0	26.48	25.61	24.89
		2498.5	26.15	25.11	24.12
	50% RB mid	2687.5	25.35	24.50	23.26
		2593.0	25.52	24.63	23.36
		2498.5	25.28	24.24	23.19
	100% RB	2687.5	25.34	24.33	23.21
		2593.0	25.50	24.47	23.34
		2498.5	25.24	24.21	23.19
10MHz	1 RB high	2685.0	26.25	25.47	24.20
		2593.0	26.56	25.55	24.46
		2501.0	26.40	25.36	24.25
	1 RB low	2685.0	26.37	25.54	24.27
		2593.0	26.50	25.56	24.43
		2501.0	26.31	25.32	24.17
	50% RB mid	2685.0	25.47	24.48	23.35
		2593.0	25.63	24.56	23.44
		2501.0	25.33	24.31	23.21
	100% RB	2685.0	25.44	24.44	23.35
		2593.0	25.53	24.59	23.49
		2501.0	25.26	24.28	23.18
15MHz	1 RB high	2682.5	26.30	25.43	24.43
		2593.0	26.48	25.58	24.60
		2503.5	26.30	25.40	24.41
	1 RB low	2682.5	26.40	25.51	24.52
		2593.0	26.54	25.64	24.66
		2503.5	26.27	25.35	24.37
	50% RB mid	2682.5	25.54	24.45	23.39
		2593.0	25.64	24.62	23.50
		2503.5	25.48	24.38	23.31
	100% RB	2682.5	25.49	24.46	23.44
		2593.0	25.65	24.60	23.55
		2503.5	25.40	24.35	23.33
20MHz	1 RB high	2680.0	26.30	25.45	24.45
		2593.0	26.48	25.65	24.61
		2506.0	26.28	25.24	24.51
	1 RB low	2680.0	26.42	25.56	24.57



		2593.0	26.49	25.66	24.65
		2506.0	26.18	25.17	24.43
	50% RB mid	2680.0	25.49	24.48	23.45
		2593.0	25.51	24.63	23.48
		2506.0	25.33	24.37	23.30
	100% RB	2680.0	25.45	24.42	23.44
		2593.0	25.52	24.49	23.51
		2506.0	25.29	24.27	23.26

LTE band 66

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)		
			QPSK	16QAM	64QAM
1.4MHz	1 RB high	1779.3	24.04	23.05	22.35
		1745.0	24.15	23.13	22.05
		1710.7	24.13	23.12	22.01
	1 RB low	1779.3	24.05	23.06	22.35
		1745.0	24.11	23.12	22.03
		1710.7	24.13	23.11	22.00
	50% RB mid	1779.3	24.12	23.27	22.20
		1745.0	24.24	23.44	22.19
		1710.7	24.18	23.36	22.15
	100% RB	1779.3	23.18	22.05	21.43
		1745.0	23.21	22.36	21.27
		1710.7	23.23	22.33	21.28
3MHz	1 RB high	1778.5	24.14	23.08	21.97
		1745.0	24.23	23.18	22.03
		1711.5	24.24	23.21	22.05
	1 RB low	1778.5	24.21	23.15	22.05
		1745.0	24.24	23.23	22.14
		1711.5	24.26	23.24	22.10
	50% RB mid	1778.5	23.14	22.25	21.11
		1745.0	23.21	22.29	21.17
		1711.5	23.27	22.30	21.19
	100% RB	1778.5	23.12	22.11	21.17
		1745.0	23.21	22.17	21.21
		1711.5	23.20	22.19	21.26
5MHz	1 RB high	1777.5	24.03	23.07	22.20
		1745.0	24.09	23.14	22.23
		1712.5	24.15	23.20	22.28
	1 RB low	1777.5	24.10	23.08	22.19
		1745.0	24.12	23.19	22.26
		1712.5	24.16	23.21	22.29
	50% RB mid	1777.5	23.17	22.23	21.20
		1745.0	23.21	22.27	21.26
		1712.5	23.27	22.25	21.33
	100% RB	1777.5	23.15	22.12	21.15
		1745.0	23.16	22.12	21.20
		1712.5	23.20	22.14	21.20
10MHz	1 RB high	1775.0	24.12	23.08	21.96
		1745.0	24.16	23.12	21.99
		1715.0	24.20	23.14	22.03
	1 RB low	1775.0	24.15	23.06	21.95

		1745.0	24.20	23.19	22.09
		1715.0	24.18	23.17	22.05
		1775.0	23.16	22.29	21.19
	50% RB mid	1745.0	23.25	22.34	21.35
		1715.0	23.25	22.31	21.34
		1775.0	23.18	22.21	21.18
	100% RB	1745.0	23.23	22.25	21.27
1715.0		23.21	22.21	21.25	
1775.0		23.21	22.21	21.25	
15MHz	1 RB high	1772.5	24.08	23.35	22.37
		1745.0	24.07	23.38	22.39
		1717.5	24.14	23.49	22.48
	1 RB low	1772.5	24.18	23.38	22.37
		1745.0	24.16	23.52	22.51
		1717.5	24.18	23.48	22.49
	50% RB mid	1772.5	23.30	22.19	21.14
		1745.0	23.28	22.25	21.25
		1717.5	23.34	22.21	21.27
	100% RB	1772.5	23.30	22.20	21.24
		1745.0	23.30	22.24	21.29
		1717.5	23.24	22.18	21.21
20MHz	1 RB high	1770.0	23.97	23.46	21.90
		1745.0	24.02	23.53	21.93
		1720.0	24.08	23.61	21.99
	1 RB low	1770.0	24.03	23.46	21.87
		1745.0	24.05	23.58	21.95
		1720.0	24.05	23.59	21.96
	50% RB mid	1770.0	23.03	22.11	21.06
		1745.0	23.20	22.23	21.23
		1720.0	23.17	22.18	21.18
	100% RB	1770.0	23.09	22.08	21.12
		1745.0	23.23	22.21	21.26
		1720.0	23.05	22.06	21.07

LTE band 71

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)		
			QPSK	16QAM	64QAM
5MHz	1 RB high	695.5	24.06	23.14	22.27
		680.5	24.05	23.15	22.29
		665.5	24.09	23.20	22.27
	1 RB low	695.5	24.06	23.18	22.28
		680.5	24.12	23.20	22.32
		665.5	24.09	23.14	22.21
	50% RB mid	695.5	23.22	22.34	21.26
		680.5	23.23	22.32	21.26
		665.5	23.19	22.30	21.35
	100% RB	695.5	23.20	22.17	21.25
		680.5	23.20	22.18	21.26
		665.5	23.17	22.13	21.25
10MHz	1 RB high	693.0	24.15	23.15	22.06
		680.5	24.16	23.18	22.06
		668.0	24.15	23.14	22.01
	1 RB low	693.0	24.14	23.15	22.05
		680.5	24.14	23.17	22.10
		668.0	24.17	23.12	22.00
	50% RB mid	693.0	23.24	22.38	21.34
		680.5	23.18	22.36	21.31
		668.0	23.31	22.36	21.41
	100% RB	693.0	23.27	22.30	21.30
		680.5	23.24	22.29	21.27
		668.0	23.25	22.30	21.28
15MHz	1 RB high	690.5	24.10	23.48	22.47
		680.5	24.12	23.53	22.52
		670.5	24.08	23.51	22.52
	1 RB low	690.5	24.06	23.44	22.48
		680.5	24.13	23.51	22.55
		670.5	24.12	23.44	22.44
	50% RB mid	690.5	23.31	22.25	21.24
		680.5	23.27	22.24	21.24
		670.5	23.34	22.26	21.32
	100% RB	690.5	23.24	22.24	21.26
		680.5	23.25	22.24	21.29
		670.5	23.30	22.28	21.31
20MHz	1 RB high	688.0	24.06	23.64	22.00
		680.5	24.06	23.64	22.02
		673.0	24.02	23.60	21.98
	1 RB low	688.0	24.05	23.62	21.97



		680.5	24.06	23.61	22.02
		673.0	24.02	23.54	21.91
	50% RB mid	688.0	23.22	22.24	21.29
		680.5	23.23	22.26	21.28
		673.0	23.24	22.27	21.30
	100% RB	688.0	23.19	22.20	21.22
		680.5	23.17	22.18	21.22
		673.0	23.19	22.22	21.23

LTE Band 12

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)			ERP(dBm)(Gt-Lc =-4.8)		
			QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1.4MHz	1 RB high	715.3	24.44	23.69	22.61	17.49	16.74	15.66
		707.5	24.41	23.63	22.56	17.46	16.68	15.61
		699.7	24.41	23.58	22.62	17.46	16.63	15.67
	1 RB low	715.3	24.39	23.63	22.60	17.44	16.68	15.65
		707.5	24.45	23.68	22.60	17.5	16.73	15.65
		699.7	24.40	23.62	22.62	17.45	16.67	15.67
	50% RB mid	715.3	24.61	23.48	22.66	17.66	16.53	15.71
		707.5	24.57	23.55	22.66	17.62	16.6	15.71
		699.7	24.59	23.57	22.70	17.64	16.62	15.75
	100% RB	715.3	23.57	22.58	21.61	16.62	15.63	14.66
		707.5	23.55	22.64	21.56	16.6	15.69	14.61
		699.7	23.58	22.66	21.56	16.63	15.71	14.61
3MHz	1 RB high	714.5	24.46	23.68	22.63	17.51	16.73	15.68
		707.5	24.40	23.57	22.64	17.45	16.62	15.69
		700.5	24.44	23.63	22.49	17.49	16.68	15.54
	1 RB low	714.5	24.46	23.75	22.62	17.51	16.8	15.67
		707.5	24.47	23.72	22.61	17.52	16.77	15.66
		700.5	24.47	23.68	22.58	17.52	16.73	15.63
	50% RB mid	714.5	23.48	22.57	21.56	16.53	15.62	14.61
		707.5	23.52	22.57	21.51	16.57	15.62	14.56
		700.5	23.50	22.57	21.60	16.55	15.62	14.65
	100% RB	714.5	23.47	22.47	21.47	16.52	15.52	14.52
		707.5	23.49	22.51	21.53	16.54	15.56	14.58
		700.5	23.51	22.51	21.53	16.56	15.56	14.58
5MHz	1 RB high	713.5	24.33	23.52	22.53	17.38	16.57	15.58
		707.5	24.34	23.58	22.50	17.39	16.63	15.55
		701.5	24.35	23.60	22.53	17.4	16.65	15.58
	1 RB low	713.5	24.34	23.51	22.56	17.39	16.56	15.61
		707.5	24.42	23.59	22.51	17.47	16.64	15.56
		701.5	24.36	23.63	22.60	17.41	16.68	15.65
	50% RB mid	713.5	23.54	22.51	21.56	16.59	15.56	14.61
		707.5	23.53	22.55	21.60	16.58	15.6	14.65
		701.5	23.56	22.53	21.58	16.61	15.58	14.63
	100% RB	713.5	23.50	22.50	21.53	16.55	15.55	14.58
		707.5	23.48	22.50	21.50	16.53	15.55	14.55
		701.5	23.52	22.53	21.55	16.57	15.58	14.6
10MHz	1 RB high	711.0	24.41	23.68	22.61	17.46	16.73	15.66
		707.5	24.41	23.57	22.64	17.46	16.62	15.69
		704.0	24.38	23.62	22.59	17.43	16.67	15.64
	1 RB low	711.0	24.48	23.67	22.66	17.53	16.72	15.71

		707.5	24.45	23.68	22.56	17.5	16.73	15.61
		704.0	24.49	23.64	22.68	17.54	16.69	15.73
	50% RB mid	711.0	23.57	22.56	21.59	16.62	15.61	14.64
		707.5	23.57	22.57	21.57	16.62	15.62	14.62
		704.0	23.59	22.58	21.58	16.64	15.63	14.63
	100% RB	711.0	23.56	22.56	21.61	16.61	15.61	14.66
		707.5	23.57	22.56	21.58	16.62	15.61	14.63
		704.0	23.54	22.52	21.56	16.59	15.57	14.61

LTE Band 13

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)			ERP(dBm)(Gt-Lc =-4.4)		
			QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
5MHz	1 RB high	784.5	24.30	23.02	22.29	17.75	16.47	15.74
		782.0	24.28	22.92	22.51	17.73	16.37	15.96
		779.5	23.80	23.14	22.48	17.25	16.59	15.93
	1 RB low	784.5	24.31	23.05	22.32	17.76	16.5	15.77
		782.0	23.99	23.11	22.53	17.44	16.56	15.98
		779.5	23.80	22.90	22.37	17.25	16.35	15.82
	50% RB mid	784.5	23.45	22.35	21.52	16.9	15.8	14.97
		782.0	23.14	22.21	21.55	16.59	15.66	15
		779.5	22.99	22.01	21.54	16.44	15.46	14.99
	100% RB	784.5	23.42	22.41	21.46	16.87	15.86	14.91
		782.0	23.27	22.07	21.48	16.72	15.52	14.93
		779.5	22.98	22.05	21.46	16.43	15.5	14.91
10MHz	1 RB high	782.0	24.34	23.18	22.28	17.79	16.63	15.73
	1 RB low	782.0	24.18	23.13	22.16	17.63	16.58	15.61
	50% RB mid	782.0	23.33	22.24	21.53	16.78	15.69	14.98
	100% RB	782.0	23.23	22.44	21.52	16.68	15.89	14.97

LTE Band 25

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)			EIRP(dBm)(Gt-Lc =-1.3)		
			QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1.4MHz	1 RB high	1914.3	24.29	23.03	21.89	22.99	21.73	20.59
		1882.5	24.00	23.04	21.88	22.7	21.74	20.58
		1850.7	23.96	23.01	21.88	22.66	21.71	20.58
	1 RB low	1914.3	24.12	23.00	21.93	22.82	21.7	20.63
		1882.5	23.99	22.98	21.88	22.69	21.68	20.58
		1850.7	24.03	22.99	21.93	22.73	21.69	20.63
	50% RB mid	1914.3	24.07	23.19	21.98	22.77	21.89	20.68
		1882.5	24.10	23.24	22.03	22.8	21.94	20.73
		1850.7	24.10	23.26	22.05	22.8	21.96	20.75
	100% RB	1914.3	23.21	22.25	21.22	21.91	20.95	19.92
		1882.5	23.13	22.24	21.17	21.83	20.94	19.87
		1850.7	23.12	22.29	21.18	21.82	20.99	19.88
3MHz	1 RB high	1913.5	24.43	23.03	21.88	23.13	21.73	20.58
		1882.5	24.13	23.07	21.95	22.83	21.77	20.65
		1851.5	24.09	23.06	21.91	22.79	21.76	20.61
	1 RB low	1913.5	24.16	23.12	22.01	22.86	21.82	20.71
		1882.5	24.12	23.10	21.99	22.82	21.8	20.69
		1851.5	24.14	23.11	21.99	22.84	21.81	20.69
	50% RB mid	1913.5	23.17	22.21	21.06	21.87	20.91	19.76
		1882.5	23.10	22.16	21.03	21.8	20.86	19.73
		1851.5	23.10	22.18	21.04	21.8	20.88	19.74
	100% RB	1913.5	23.13	22.08	21.18	21.83	20.78	19.88
		1882.5	23.07	22.04	21.13	21.77	20.74	19.83
		1851.5	23.06	22.05	21.10	21.76	20.75	19.8
5MHz	1 RB high	1912.5	24.19	22.98	22.06	22.89	21.68	20.76
		1882.5	23.94	23.01	22.14	22.64	21.71	20.84
		1852.5	23.91	23.01	22.07	22.61	21.71	20.77
	1 RB low	1912.5	23.99	23.02	22.15	22.69	21.72	20.85
		1882.5	23.97	23.01	22.11	22.67	21.71	20.81
		1852.5	23.99	23.06	22.14	22.69	21.76	20.84
	50% RB mid	1912.5	23.11	22.21	21.13	21.81	20.91	19.83
		1882.5	23.07	22.13	21.09	21.77	20.83	19.79
		1852.5	23.03	22.11	21.10	21.73	20.81	19.8
	100% RB	1912.5	23.12	22.08	21.12	21.82	20.78	19.82
		1882.5	23.03	21.99	21.03	21.73	20.69	19.73
		1852.5	23.05	22.00	21.05	21.75	20.7	19.75
10MHz	1 RB high	1910.0	24.31	23.02	21.89	23.01	21.72	20.59
		1882.5	24.09	23.08	21.95	22.79	21.78	20.65
		1855.0	24.03	23.05	21.92	22.73	21.75	20.62
	1 RB low	1910.0	24.14	23.06	21.93	22.84	21.76	20.63

	50% RB mid	1882.5	24.09	23.03	21.94	22.79	21.73	20.64	
		1855.0	24.14	23.08	21.96	22.84	21.78	20.66	
		1910.0	23.04	22.21	21.13	21.74	20.91	19.83	
	100% RB	1882.5	23.05	22.24	21.12	21.75	20.94	19.82	
		1855.0	23.03	22.21	21.10	21.73	20.91	19.8	
		1910.0	23.14	22.16	21.14	21.84	20.86	19.84	
	15MHz	1 RB high	1907.5	24.16	23.23	22.26	22.86	21.93	20.96
			1882.5	24.00	23.36	22.35	22.7	22.06	21.05
			1857.5	24.01	23.37	22.35	22.71	22.07	21.05
1 RB low		1907.5	24.09	23.46	22.42	22.79	22.16	21.12	
		1882.5	24.02	23.33	22.35	22.72	22.03	21.05	
		1857.5	24.10	23.42	22.40	22.8	22.12	21.1	
50% RB mid		1907.5	23.12	22.10	21.02	21.82	20.8	19.72	
		1882.5	23.12	22.12	21.07	21.82	20.82	19.77	
		1857.5	23.13	22.08	21.05	21.83	20.78	19.75	
100% RB		1907.5	23.12	22.06	21.10	21.82	20.76	19.8	
		1882.5	23.11	22.05	21.09	21.81	20.75	19.79	
		1857.5	23.12	22.08	21.12	21.82	20.78	19.82	
20MHz		1 RB high	1905.0	24.01	23.40	21.87	22.71	22.1	20.57
			1882.5	23.96	23.50	21.90	22.66	22.2	20.6
			1860.0	23.90	23.46	21.84	22.6	22.16	20.54
		1 RB low	1905.0	23.97	23.49	21.91	22.67	22.19	20.61
			1882.5	23.93	23.46	21.86	22.63	22.16	20.56
			1860.0	23.98	23.48	21.89	22.68	22.18	20.59
	50% RB mid	1905.0	22.79	22.12	20.78	21.49	20.82	19.48	
		1882.5	22.90	22.08	20.88	21.6	20.78	19.58	
		1860.0	23.00	22.08	21.05	21.7	20.78	19.75	
	100% RB	1905.0	22.90	21.87	20.93	21.6	20.57	19.63	
		1882.5	22.94	21.94	20.95	21.64	20.64	19.65	
		1860.0	23.10	22.06	21.12	21.8	20.76	19.82	

LTE Band 26(814MHz~824MHz)

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)			ERP(dBm)(Gt-Lc =-4.6)		
			QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1.4MHz	1 RB high	823.3	24.03	23.14	22.08	17.28	16.39	15.33
		819.0	24.10	23.19	22.13	17.35	16.44	15.38
		814.7	24.10	23.03	21.92	17.35	16.28	15.17
	1 RB low	823.3	24.00	23.10	22.06	17.25	16.35	15.31
		819.0	24.10	23.18	22.15	17.35	16.43	15.4
		814.7	24.10	23.02	21.93	17.35	16.27	15.18
	50% RB mid	823.3	24.06	23.22	22.17	17.31	16.47	15.42
		819.0	24.19	23.30	22.09	17.44	16.55	15.34
		814.7	24.11	23.25	22.02	17.36	16.5	15.27
	100% RB	823.3	23.02	21.94	21.36	16.27	15.19	14.61
		819.0	23.11	22.29	21.23	16.36	15.54	14.48
		814.7	23.13	22.25	21.19	16.38	15.5	14.44
3MHz	1 RB high	822.5	24.09	23.07	21.94	17.34	16.32	15.19
		819.0	24.10	23.07	21.93	17.35	16.32	15.18
		815.5	24.20	23.13	21.99	17.45	16.38	15.24
	1 RB low	822.5	24.08	23.07	21.96	17.33	16.32	15.21
		819.0	24.17	23.17	22.04	17.42	16.42	15.29
		815.5	24.22	23.16	22.07	17.47	16.41	15.32
	50% RB mid	822.5	23.04	22.12	21.03	16.29	15.37	14.28
		819.0	23.09	22.15	21.05	16.34	15.4	14.3
		815.5	23.16	22.12	21.07	16.41	15.37	14.32
	100% RB	822.5	23.05	22.05	21.11	16.3	15.3	14.36
		819.0	23.10	22.06	21.14	16.35	15.31	14.39
		815.5	23.08	22.05	21.14	16.33	15.3	14.39
5MHz	1 RB high	821.5	24.02	23.11	22.15	17.27	16.36	15.4
		819.0	24.00	23.05	22.15	17.25	16.3	15.4
		816.5	24.12	23.17	22.28	17.37	16.42	15.53
	1 RB low	821.5	24.08	23.14	22.22	17.33	16.39	15.47
		819.0	24.06	23.10	22.17	17.31	16.35	15.42
		816.5	24.11	23.14	22.19	17.36	16.39	15.44
	50% RB mid	821.5	23.12	22.13	21.18	16.37	15.38	14.43
		819.0	23.13	22.24	21.22	16.38	15.49	14.47
		816.5	23.15	22.21	21.24	16.4	15.46	14.49
	100% RB	821.5	23.10	22.07	21.16	16.35	15.32	14.41
		819.0	23.12	22.11	21.19	16.37	15.36	14.44
		816.5	23.15	22.10	21.21	16.4	15.35	14.46
10MHz	1 RB high	819.0	24.14	23.10	21.99	17.39	16.35	15.24
	1 RB low	819.0	24.24	23.15	22.00	17.49	16.4	15.25
	50% RB mid	819.0	23.17	22.29	21.30	16.42	15.54	14.55



	100% RB	819.0	23.22	22.25	21.59	16.47	15.5	14.84
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LTE Band 26(824MHz~849MHz)

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)			ERP(dBm)(Gt-Lc =-4.6)		
			QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1.4MHz	1 RB high	848.3	23.98	22.93	22.28	17.23	16.18	15.53
		836.5	23.95	22.94	22.31	17.2	16.19	15.56
		824.7	23.99	23.02	21.95	17.24	16.27	15.2
	1 RB low	848.3	23.96	22.94	22.23	17.21	16.19	15.48
		836.5	23.95	22.97	22.30	17.2	16.22	15.55
		824.7	24.02	23.02	21.94	17.27	16.27	15.19
	50% RB mid	848.3	24.03	23.04	22.29	17.28	16.29	15.54
		836.5	24.04	23.07	22.24	17.29	16.32	15.49
		824.7	24.08	23.22	22.19	17.33	16.47	15.44
	100% RB	848.3	23.02	22.12	21.00	16.27	15.37	14.25
		836.5	23.03	22.13	21.03	16.28	15.38	14.28
		824.7	23.05	21.99	21.38	16.3	15.24	14.63
3MHz	1 RB high	847.5	24.07	23.03	21.88	17.32	16.28	15.13
		836.5	24.10	23.07	21.89	17.35	16.32	15.14
		825.5	24.16	23.15	21.98	17.41	16.4	15.23
	1 RB low	847.5	24.06	23.04	21.93	17.31	16.29	15.18
		836.5	24.10	23.09	22.00	17.35	16.34	15.25
		825.5	24.17	23.15	22.06	17.42	16.4	15.31
	50% RB mid	847.5	22.99	22.08	21.08	16.24	15.33	14.33
		836.5	23.02	22.13	21.10	16.27	15.38	14.35
		825.5	23.05	22.18	21.15	16.3	15.43	14.4
	100% RB	847.5	22.99	21.99	21.04	16.24	15.24	14.29
		836.5	23.04	22.09	21.11	16.29	15.34	14.36
		825.5	23.02	22.06	21.10	16.27	15.31	14.35
5MHz	1 RB high	846.5	24.00	23.22	22.08	17.25	16.47	15.33
		836.5	24.01	23.25	22.12	17.26	16.5	15.37
		826.5	24.09	23.31	22.18	17.34	16.56	15.43
	1 RB low	846.5	24.00	23.27	22.12	17.25	16.52	15.37
		836.5	23.98	23.23	22.07	17.23	16.48	15.32
		826.5	24.06	23.31	22.17	17.31	16.56	15.42
	50% RB mid	846.5	22.95	22.15	20.94	16.2	15.4	14.19
		836.5	23.03	22.21	21.02	16.28	15.46	14.27
		826.5	23.10	22.25	21.09	16.35	15.5	14.34
	100% RB	846.5	22.99	22.03	21.00	16.24	15.28	14.25
		836.5	23.08	22.12	21.10	16.33	15.37	14.35
		826.5	23.08	22.16	21.07	16.33	15.41	14.32
10MHz	1 RB high	844.0	24.07	23.20	22.16	17.32	16.45	15.41
		836.5	24.10	23.21	22.17	17.35	16.46	15.42
		829.0	24.09	23.20	22.14	17.34	16.45	15.39
	1 RB low	844.0	24.07	23.20	22.14	17.32	16.45	15.39

		836.5	24.07	23.17	22.14	17.32	16.42	15.39
		829.0	24.08	23.21	22.16	17.33	16.46	15.41
		844.0	23.02	22.19	21.18	16.27	15.44	14.43
	50% RB mid	836.5	23.03	22.18	21.15	16.28	15.43	14.4
		829.0	23.18	22.17	21.28	16.43	15.42	14.53
		844.0	23.10	22.12	21.18	16.35	15.37	14.43
	100% RB	836.5	23.13	22.15	21.20	16.38	15.4	14.45
		829.0	23.14	22.18	21.23	16.39	15.43	14.48
		844.0	23.10	22.12	21.18	16.35	15.37	14.43
15MHz	1 RB high	841.5	24.06	23.13	22.06	17.31	16.38	15.31
		836.5	24.04	23.16	22.11	17.29	16.41	15.36
		831.5	24.02	23.39	22.36	17.27	16.64	15.61
	1 RB low	841.5	24.02	23.16	22.08	17.27	16.41	15.33
		836.5	24.06	23.16	22.12	17.31	16.41	15.37
		831.5	24.03	23.39	22.37	17.28	16.64	15.62
	50% RB mid	841.5	23.18	22.21	21.21	16.43	15.46	14.46
		836.5	23.15	22.16	21.19	16.4	15.41	14.44
		831.5	23.14	22.20	21.15	16.39	15.45	14.4
	100% RB	841.5	23.25	22.25	21.25	16.5	15.5	14.5
		836.5	23.19	22.17	21.19	16.44	15.42	14.44
		831.5	23.11	22.12	21.11	16.36	15.37	14.36

LTE Band 41

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)			EIRP(dBm)(Gt-Lc =-0.35)		
			QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
5MHz	1 RB high	2687.5	26.26	25.42	24.72	25.91	25.07	24.37
		2593.0	26.49	25.61	24.89	26.14	25.26	24.54
		2498.5	26.16	25.11	24.15	25.81	24.76	23.8
	1 RB low	2687.5	26.28	25.47	24.74	25.93	25.12	24.39
		2593.0	26.48	25.61	24.89	26.13	25.26	24.54
		2498.5	26.15	25.11	24.12	25.8	24.76	23.77
	50% RB mid	2687.5	25.35	24.50	23.26	25	24.15	22.91
		2593.0	25.52	24.63	23.36	25.17	24.28	23.01
		2498.5	25.28	24.24	23.19	24.93	23.89	22.84
	100% RB	2687.5	25.34	24.33	23.21	24.99	23.98	22.86
		2593.0	25.50	24.47	23.34	25.15	24.12	22.99
		2498.5	25.24	24.21	23.19	24.89	23.86	22.84
10MHz	1 RB high	2685.0	26.25	25.47	24.20	25.9	25.12	23.85
		2593.0	26.56	25.55	24.46	26.21	25.2	24.11
		2501.0	26.40	25.36	24.25	26.05	25.01	23.9
	1 RB low	2685.0	26.37	25.54	24.27	26.02	25.19	23.92
		2593.0	26.50	25.56	24.43	26.15	25.21	24.08
		2501.0	26.31	25.32	24.17	25.96	24.97	23.82
	50% RB mid	2685.0	25.47	24.48	23.35	25.12	24.13	23
		2593.0	25.63	24.56	23.44	25.28	24.21	23.09
		2501.0	25.33	24.31	23.21	24.98	23.96	22.86
	100% RB	2685.0	25.44	24.44	23.35	25.09	24.09	23
		2593.0	25.53	24.59	23.49	25.18	24.24	23.14
		2501.0	25.26	24.28	23.18	24.91	23.93	22.83
15MHz	1 RB high	2682.5	26.30	25.43	24.43	25.95	25.08	24.08
		2593.0	26.48	25.58	24.60	26.13	25.23	24.25
		2503.5	26.30	25.40	24.41	25.95	25.05	24.06
	1 RB low	2682.5	26.40	25.51	24.52	26.05	25.16	24.17
		2593.0	26.54	25.64	24.66	26.19	25.29	24.31
		2503.5	26.27	25.35	24.37	25.92	25	24.02
	50% RB mid	2682.5	25.54	24.45	23.39	25.19	24.1	23.04
		2593.0	25.64	24.62	23.50	25.29	24.27	23.15
		2503.5	25.48	24.38	23.31	25.13	24.03	22.96
	100% RB	2682.5	25.49	24.46	23.44	25.14	24.11	23.09
		2593.0	25.65	24.60	23.55	25.3	24.25	23.2
		2503.5	25.40	24.35	23.33	25.05	24	22.98
20MHz	1 RB high	2680.0	26.30	25.45	24.45	25.95	25.1	24.1
		2593.0	26.48	25.65	24.61	26.13	25.3	24.26
		2506.0	26.28	25.24	24.51	25.93	24.89	24.16
	1 RB low	2680.0	26.42	25.56	24.57	26.07	25.21	24.22



		2593.0	26.49	25.66	24.65	26.14	25.31	24.3
		2506.0	26.18	25.17	24.43	25.83	24.82	24.08
	50% RB mid	2680.0	25.49	24.48	23.45	25.14	24.13	23.1
		2593.0	25.51	24.63	23.48	25.16	24.28	23.13
		2506.0	25.33	24.37	23.30	24.98	24.02	22.95
	100% RB	2680.0	25.45	24.42	23.44	25.1	24.07	23.09
		2593.0	25.52	24.49	23.51	25.17	24.14	23.16
		2506.0	25.29	24.27	23.26	24.94	23.92	22.91

LTE Band 66

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)			EIRP(dBm)(Gt-Lc =-1.4)		
			QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1.4MHz	1 RB high	1779.3	24.04	23.05	22.35	22.64	21.65	20.95
		1745.0	24.15	23.13	22.05	22.75	21.73	20.65
		1710.7	24.13	23.12	22.01	22.73	21.72	20.61
	1 RB low	1779.3	24.05	23.06	22.35	22.65	21.66	20.95
		1745.0	24.11	23.12	22.03	22.71	21.72	20.63
		1710.7	24.13	23.11	22.00	22.73	21.71	20.6
	50% RB mid	1779.3	24.12	23.27	22.20	22.72	21.87	20.8
		1745.0	24.24	23.44	22.19	22.84	22.04	20.79
		1710.7	24.18	23.36	22.15	22.78	21.96	20.75
	100% RB	1779.3	23.18	22.05	21.43	21.78	20.65	20.03
		1745.0	23.21	22.36	21.27	21.81	20.96	19.87
		1710.7	23.23	22.33	21.28	21.83	20.93	19.88
3MHz	1 RB high	1778.5	24.14	23.08	21.97	22.74	21.68	20.57
		1745.0	24.23	23.18	22.03	22.83	21.78	20.63
		1711.5	24.24	23.21	22.05	22.84	21.81	20.65
	1 RB low	1778.5	24.21	23.15	22.05	22.81	21.75	20.65
		1745.0	24.24	23.23	22.14	22.84	21.83	20.74
		1711.5	24.26	23.24	22.10	22.86	21.84	20.7
	50% RB mid	1778.5	23.14	22.25	21.11	21.74	20.85	19.71
		1745.0	23.21	22.29	21.17	21.81	20.89	19.77
		1711.5	23.27	22.30	21.19	21.87	20.9	19.79
	100% RB	1778.5	23.12	22.11	21.17	21.72	20.71	19.77
		1745.0	23.21	22.17	21.21	21.81	20.77	19.81
		1711.5	23.20	22.19	21.26	21.8	20.79	19.86
5MHz	1 RB high	1777.5	24.03	23.07	22.20	22.63	21.67	20.8
		1745.0	24.09	23.14	22.23	22.69	21.74	20.83
		1712.5	24.15	23.20	22.28	22.75	21.8	20.88
	1 RB low	1777.5	24.10	23.08	22.19	22.7	21.68	20.79
		1745.0	24.12	23.19	22.26	22.72	21.79	20.86
		1712.5	24.16	23.21	22.29	22.76	21.81	20.89
	50% RB mid	1777.5	23.17	22.23	21.20	21.77	20.83	19.8
		1745.0	23.21	22.27	21.26	21.81	20.87	19.86
		1712.5	23.27	22.25	21.33	21.87	20.85	19.93
	100% RB	1777.5	23.15	22.12	21.15	21.75	20.72	19.75
		1745.0	23.16	22.12	21.20	21.76	20.72	19.8
		1712.5	23.20	22.14	21.20	21.8	20.74	19.8
10MHz	1 RB high	1775.0	24.12	23.08	21.96	22.72	21.68	20.56
		1745.0	24.16	23.12	21.99	22.76	21.72	20.59
		1715.0	24.20	23.14	22.03	22.8	21.74	20.63
	1 RB low	1775.0	24.15	23.06	21.95	22.75	21.66	20.55

	50% RB mid	1745.0	24.20	23.19	22.09	22.8	21.79	20.69	
		1715.0	24.18	23.17	22.05	22.78	21.77	20.65	
		1775.0	23.16	22.29	21.19	21.76	20.89	19.79	
	100% RB	1745.0	23.25	22.34	21.35	21.85	20.94	19.95	
		1715.0	23.25	22.31	21.34	21.85	20.91	19.94	
		1775.0	23.18	22.21	21.18	21.78	20.81	19.78	
	15MHz	1 RB high	1772.5	24.08	23.35	22.37	22.68	21.95	20.97
			1745.0	24.07	23.38	22.39	22.67	21.98	20.99
			1717.5	24.14	23.49	22.48	22.74	22.09	21.08
1 RB low		1772.5	24.18	23.38	22.37	22.78	21.98	20.97	
		1745.0	24.16	23.52	22.51	22.76	22.12	21.11	
		1717.5	24.18	23.48	22.49	22.78	22.08	21.09	
50% RB mid		1772.5	23.30	22.19	21.14	21.9	20.79	19.74	
		1745.0	23.28	22.25	21.25	21.88	20.85	19.85	
		1717.5	23.34	22.21	21.27	21.94	20.81	19.87	
100% RB		1772.5	23.30	22.20	21.24	21.9	20.8	19.84	
		1745.0	23.30	22.24	21.29	21.9	20.84	19.89	
		1717.5	23.24	22.18	21.21	21.84	20.78	19.81	
20MHz		1 RB high	1770.0	23.97	23.46	21.90	22.57	22.06	20.5
			1745.0	24.02	23.53	21.93	22.62	22.13	20.53
			1720.0	24.08	23.61	21.99	22.68	22.21	20.59
		1 RB low	1770.0	24.03	23.46	21.87	22.63	22.06	20.47
			1745.0	24.05	23.58	21.95	22.65	22.18	20.55
			1720.0	24.05	23.59	21.96	22.65	22.19	20.56
	50% RB mid	1770.0	23.03	22.11	21.06	21.63	20.71	19.66	
		1745.0	23.20	22.23	21.23	21.8	20.83	19.83	
		1720.0	23.17	22.18	21.18	21.77	20.78	19.78	
	100% RB	1770.0	23.09	22.08	21.12	21.69	20.68	19.72	
		1745.0	23.23	22.21	21.26	21.83	20.81	19.86	
		1720.0	23.05	22.06	21.07	21.65	20.66	19.67	

LTE Band 71

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)			ERP(dBm)(Gt-Lc =-5.7)		
			QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
5MHz	1 RB high	695.5	24.06	23.14	22.27	16.21	15.29	14.42
		680.5	24.05	23.15	22.29	16.2	15.3	14.44
		665.5	24.09	23.20	22.27	16.24	15.35	14.42
	1 RB low	695.5	24.06	23.18	22.28	16.21	15.33	14.43
		680.5	24.12	23.20	22.32	16.27	15.35	14.47
		665.5	24.09	23.14	22.21	16.24	15.29	14.36
	50% RB mid	695.5	23.22	22.34	21.26	15.37	14.49	13.41
		680.5	23.23	22.32	21.26	15.38	14.47	13.41
		665.5	23.19	22.30	21.35	15.34	14.45	13.5
	100% RB	695.5	23.20	22.17	21.25	15.35	14.32	13.4
		680.5	23.20	22.18	21.26	15.35	14.33	13.41
		665.5	23.17	22.13	21.25	15.32	14.28	13.4
10MHz	1 RB high	693.0	24.15	23.15	22.06	16.3	15.3	14.21
		680.5	24.16	23.18	22.06	16.31	15.33	14.21
		668.0	24.15	23.14	22.01	16.3	15.29	14.16
	1 RB low	693.0	24.14	23.15	22.05	16.29	15.3	14.2
		680.5	24.14	23.17	22.10	16.29	15.32	14.25
		668.0	24.17	23.12	22.00	16.32	15.27	14.15
	50% RB mid	693.0	23.24	22.38	21.34	15.39	14.53	13.49
		680.5	23.18	22.36	21.31	15.33	14.51	13.46
		668.0	23.31	22.36	21.41	15.46	14.51	13.56
	100% RB	693.0	23.27	22.30	21.30	15.42	14.45	13.45
		680.5	23.24	22.29	21.27	15.39	14.44	13.42
		668.0	23.25	22.30	21.28	15.4	14.45	13.43
15MHz	1 RB high	690.5	24.10	23.48	22.47	16.25	15.63	14.62
		680.5	24.12	23.53	22.52	16.27	15.68	14.67
		670.5	24.08	23.51	22.52	16.23	15.66	14.67
	1 RB low	690.5	24.06	23.44	22.48	16.21	15.59	14.63
		680.5	24.13	23.51	22.55	16.28	15.66	14.7
		670.5	24.12	23.44	22.44	16.27	15.59	14.59
	50% RB mid	690.5	23.31	22.25	21.24	15.46	14.4	13.39
		680.5	23.27	22.24	21.24	15.42	14.39	13.39
		670.5	23.34	22.26	21.32	15.49	14.41	13.47
	100% RB	690.5	23.24	22.24	21.26	15.39	14.39	13.41
		680.5	23.25	22.24	21.29	15.4	14.39	13.44
		670.5	23.30	22.28	21.31	15.45	14.43	13.46
20MHz	1 RB high	688.0	24.06	23.64	22.00	16.21	15.79	14.15
		680.5	24.06	23.64	22.02	16.21	15.79	14.17
		673.0	24.02	23.60	21.98	16.17	15.75	14.13
	1 RB low	688.0	24.05	23.62	21.97	16.2	15.77	14.12



		680.5	24.06	23.61	22.02	16.21	15.76	14.17
		673.0	24.02	23.54	21.91	16.17	15.69	14.06
	50% RB mid	688.0	23.22	22.24	21.29	15.37	14.39	13.44
		680.5	23.23	22.26	21.28	15.38	14.41	13.43
		673.0	23.24	22.27	21.30	15.39	14.42	13.45
	100% RB	688.0	23.19	22.20	21.22	15.34	14.35	13.37
		680.5	23.17	22.18	21.22	15.32	14.33	13.37
		673.0	23.19	22.22	21.23	15.34	14.37	13.38

A.2 Emission Limit

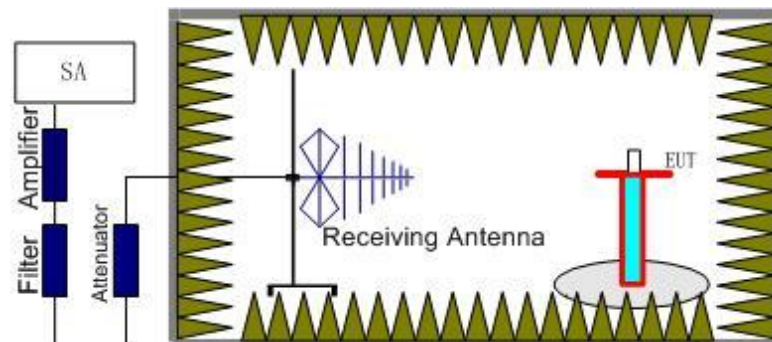
A.2.1 Measurement Method

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

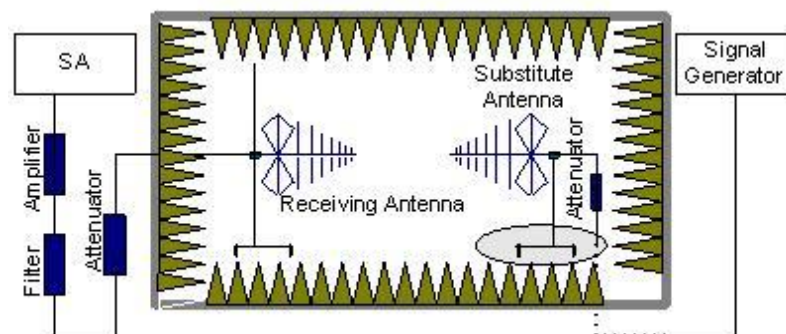
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment, which is the transmitted carrier. The resolution bandwidth is set 1MHz. The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and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

The procedure of radiated spurious emissions is as follows:

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



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



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

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

4. The Path loss (P_{pl}) between the Signal Source with the Substitution Antenna and the Substitution Antenna Gain (G_a) should be recorded after test.

An amplifier should be connected in for the test.

The Path loss (P_{pl}) is the summation of the cable loss and the gain of the amplifier.

The measurement results are obtained as described below:

$$\text{Power (EIRP)} = P_{Mea} - P_{pl} + G_a$$

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, $ERP = EIRP - 2.15\text{dB}$.

A.2.2 Measurement Limit

Part 22.917, Part 24.238 and Part 27.53(h) specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

Part 27.53(m) specifies for mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log(P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log(P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log(P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log(P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log(P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Part 27.53(c) states for operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following: (1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB; (2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB; (4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.

Part 27.53(f) states for operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals.

Part 27.53(g) states for operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the



transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

Part 90.691 states that out-of-band emission requirement shall apply only to the "outer" channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows: For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $116 \log_{10}(f/6.1)$ decibels or $50 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz. For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

A.2.3 Measurement Results

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

LTE Band 12, 1.4MHz, QPSK, Channel 23017

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1400.01	-48.15	3.24	4.98	2.15	-48.56	-13.00	35.56	H
2099.00	-43.63	4.19	4.90	2.15	-45.07	-13.00	32.07	V
2811.00	-51.74	4.93	6.66	2.15	-52.16	-13.00	39.16	H
3510.02	-54.47	5.54	8.21	2.15	-53.95	-13.00	40.95	H
4189.02	-54.64	6.18	9.09	2.15	-53.88	-13.00	40.88	V
4900.01	-52.13	6.73	9.80	2.15	-51.21	-13.00	38.21	H

LTE Band 12, 1.4MHz, QPSK, Channel 23095

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1415.01	-38.27	3.25	5.06	2.15	-38.61	-13.00	25.61	H
2123.00	-47.14	4.21	4.97	2.15	-48.53	-13.00	35.53	H
2839.00	-52.72	4.95	6.71	2.15	-53.11	-13.00	40.11	V
3538.02	-54.97	5.70	8.25	2.15	-54.57	-13.00	41.57	H
4246.02	-54.83	6.24	9.15	2.15	-54.07	-13.00	41.07	H
4958.01	-53.98	6.68	9.86	2.15	-52.95	-13.00	39.95	H

LTE Band 12, 1.4MHz, QPSK, Channel 23173

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1431.01	-44.94	3.28	5.14	2.15	-45.23	-13.00	32.23	H
2146.00	-48.83	4.24	5.04	2.15	-50.18	-13.00	37.18	V
2864.00	-52.60	4.96	6.76	2.15	-52.95	-13.00	39.95	V
3567.02	-53.57	6.00	8.29	2.15	-53.43	-13.00	40.43	V
4281.02	-54.87	6.21	9.18	2.15	-54.05	-13.00	41.05	H
5020.01	-54.35	6.57	9.93	2.15	-53.14	-13.00	40.14	V

LTE Band 13, 5MHz, QPSK, Channel 23205

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1569.47	-69.55	3.48	5.37	0.00	-69.81	-40.00	29.81	H
2354.16	-36.30	4.46	5.66	2.15	-37.25	-13.00	24.25	H
3149.02	-52.98	5.37	7.36	2.15	-53.14	-13.00	40.14	H
3923.52	-53.40	6.12	8.79	2.15	-52.88	-13.00	39.88	V
4712.52	-53.65	6.51	9.61	2.15	-52.70	-13.00	39.70	H
5500.01	-54.24	7.06	10.60	2.15	-52.85	-13.00	39.85	H

LTE Band 13, 5MHz, QPSK, Channel 23230

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1564.46	-69.29	3.48	5.38	0.00	-69.54	-40.00	29.54	H
2346.70	-37.35	4.45	5.64	2.15	-38.31	-13.00	25.31	H
3128.52	-52.28	5.40	7.31	2.15	-52.52	-13.00	39.52	H
3911.02	-48.34	6.12	8.78	2.15	-47.83	-13.00	34.83	V
4693.52	-53.89	6.50	9.59	2.15	-52.95	-13.00	39.95	H
5472.01	-54.46	6.95	10.56	2.15	-53.00	-13.00	40.00	V

LTE Band 13, 5MHz, QPSK, Channel 23255

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1559.32	-70.12	3.47	5.39	0.00	-70.35	-40.00	30.35	H
2338.98	-37.00	4.44	5.62	2.15	-37.97	-13.00	24.97	H
3121.52	-53.56	5.39	7.29	2.15	-53.81	-13.00	40.81	H
3898.52	-50.51	6.11	8.76	2.15	-50.01	-13.00	37.01	V
4678.52	-52.78	6.49	9.58	2.15	-51.84	-13.00	38.84	H
5451.51	-53.98	6.88	10.53	2.15	-52.48	-13.00	39.48	H

LTE Band 25, 1.4MHz, QPSK, Channel 26047

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
7782.01	-52.16	8.31	12.43	-48.04	-13.00	35.04	V
9357.01	-39.35	9.09	13.31	-35.13	-13.00	22.13	V
11594.01	-49.42	9.80	13.08	-46.14	-13.00	33.14	V
13021.01	-47.50	10.56	13.53	-44.53	-13.00	31.53	H
15465.00	-43.88	11.49	13.72	-41.65	-13.00	28.65	H
16703.00	-41.88	11.74	13.68	-39.94	-13.00	26.94	H

LTE Band 25, 1.4MHz, QPSK, Channel 26365

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5654.02	-50.58	7.27	10.57	-47.28	-13.00	34.28	V
9419.01	-47.86	9.13	13.35	-43.64	-13.00	30.64	V
11259.01	-50.21	9.75	13.15	-46.81	-13.00	33.81	V
13222.01	-48.18	10.52	13.81	-44.89	-13.00	31.89	V
15025.00	-46.00	11.25	13.98	-43.27	-13.00	30.27	H
16940.00	-42.96	12.15	13.78	-41.33	-13.00	28.33	H

LTE Band 25, 1.4MHz, QPSK, Channel 26683

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5749.02	-50.08	7.27	10.55	-46.80	-13.00	33.80	V
7662.01	-50.94	8.25	12.33	-46.86	-13.00	33.86	H
11517.01	-49.66	9.81	13.10	-46.37	-13.00	33.37	V
13414.01	-47.76	10.58	14.08	-44.26	-13.00	31.26	V
15349.00	-45.49	11.33	13.79	-43.03	-13.00	30.03	H
17241.00	-43.64	12.36	14.33	-41.67	-13.00	28.67	V

LTE Band 26(814MHz~824MHz), 1.4MHz, QPSK, Channel 26697

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5721.01	-52.89	7.30	10.56	2.15	-51.78	-13.00	38.78	V
6501.01	-52.55	7.52	11.00	2.15	-51.22	-13.00	38.22	V
7331.01	-51.94	8.10	12.00	2.15	-50.19	-13.00	37.19	H
8159.01	-52.12	8.43	12.73	2.15	-49.97	-13.00	36.97	V
8952.00	-51.46	9.03	13.09	2.15	-49.55	-13.00	36.55	V
9772.00	-51.48	8.97	13.13	2.15	-49.47	-13.00	36.47	V

LTE Band 26(814MHz~824MHz), 1.4MHz, QPSK, Channel 26740

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1638.01	-57.25	3.56	5.25	2.15	-57.71	-13.00	44.71	H
2458.00	-52.13	4.58	5.97	2.15	-52.89	-13.00	39.89	H
3256.02	-53.66	5.28	7.61	2.15	-53.48	-13.00	40.48	V
4076.02	-54.67	6.04	8.98	2.15	-53.88	-13.00	40.88	V
4921.01	-54.67	6.73	9.82	2.15	-53.73	-13.00	40.73	V
5722.01	-52.97	7.30	10.56	2.15	-51.86	-13.00	38.86	V

LTE Band 26(814MHz~824MHz), 1.4MHz, QPSK, Channel 26783

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
2471.00	-49.32	4.59	6.01	2.15	-50.05	-13.00	37.05	H
3222.02	-49.60	5.27	7.53	2.15	-49.49	-13.00	36.49	V
7504.01	-51.46	8.38	12.20	2.15	-49.79	-13.00	36.79	H
8350.00	-50.69	8.65	12.88	2.15	-48.61	-13.00	35.61	V
8950.00	-50.18	9.02	13.09	2.15	-48.26	-13.00	35.26	V
9965.00	-50.12	9.15	12.93	2.15	-48.49	-13.00	35.49	V

LTE Band 26(824MHz~849MHz), 1.4MHz, QPSK, Channel 26797

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1668.01	-56.95	3.58	5.20	2.15	-57.48	-13.00	44.48	V
2475.00	-49.39	4.60	6.03	2.15	-50.11	-13.00	37.11	H
3315.02	-54.49	5.29	7.76	2.15	-54.17	-13.00	41.17	V
4130.02	-55.15	6.05	9.03	2.15	-54.32	-13.00	41.32	V
4943.01	-54.83	6.70	9.84	2.15	-53.84	-13.00	40.84	V
5771.01	-53.29	7.23	10.55	2.15	-52.12	-13.00	39.12	V

LTE Band 26(824MHz~849MHz), 1.4MHz, QPSK, Channel 26915

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1678.01	-51.66	3.58	5.18	2.15	-52.21	-13.00	39.21	V
2510.00	-49.70	4.63	6.12	2.15	-50.36	-13.00	37.36	H
3334.02	-48.54	5.30	7.80	2.15	-48.19	-13.00	35.19	H
4196.02	-54.37	6.20	9.10	2.15	-53.62	-13.00	40.62	V
5036.01	-54.77	6.59	9.95	2.15	-53.56	-13.00	40.56	V
5857.01	-53.19	7.26	10.53	2.15	-52.07	-13.00	39.07	V

LTE Band 26(824MHz~849MHz), 1.4MHz, QPSK, Channel 27033

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1697.01	-58.93	3.60	5.15	2.15	-59.53	-13.00	46.53	V
2545.00	-48.23	4.66	6.18	2.15	-48.86	-13.00	35.86	H
3412.02	-55.80	5.37	7.99	2.15	-55.33	-13.00	42.33	H
4251.02	-54.53	6.24	9.15	2.15	-53.77	-13.00	40.77	H
5083.01	-54.03	6.72	10.02	2.15	-52.88	-13.00	39.88	V
5934.01	-53.06	7.47	10.51	2.15	-52.17	-13.00	39.17	V

LTE Band 41, 5MHz, QPSK, Channel 39675

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
4998.02	-46.12	6.61	9.90	-42.83	-25.00	17.83	H
7496.01	-30.69	8.38	12.20	-26.87	-25.00	1.87	V
9997.01	-44.25	9.18	12.90	-40.53	-25.00	15.53	V
12491.01	-49.38	10.20	13.20	-46.38	-25.00	21.38	V
14988.00	-46.12	11.21	14.01	-43.32	-25.00	18.32	H
17493.00	-44.54	12.71	14.88	-42.37	-25.00	17.37	H

LTE Band 41, 5MHz, QPSK, Channel 40620

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5190.02	-42.32	6.94	10.17	-39.09	-25.00	14.09	V
7782.01	-35.79	8.31	12.43	-31.67	-25.00	6.67	V
9063.01	-52.73	9.03	13.14	-48.62	-25.00	23.62	V
10388.01	-43.92	9.78	13.06	-40.64	-25.00	15.64	H
11693.01	-49.82	9.62	13.06	-46.38	-25.00	21.38	V
12975.01	-47.12	10.48	13.49	-44.11	-25.00	19.11	V

LTE Band 41, 5MHz, QPSK, Channel 41565

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5378.02	-39.75	6.88	10.43	-36.20	-25.00	11.20	V
8064.01	-32.68	8.32	12.65	-28.35	-25.00	3.35	H
10754.01	-47.20	9.44	13.15	-43.49	-25.00	18.49	V
13429.01	-47.33	10.59	14.10	-43.82	-25.00	18.82	H
16138.00	-42.64	11.81	13.67	-40.78	-25.00	15.78	H
17461.00	-43.52	12.64	14.81	-41.35	-25.00	16.35	V

LTE Band 66, 1.4MHz QPSK, Channel 131979

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3422.02	-63.88	5.38	8.01	-61.25	-13.00	48.25	V
5139.02	-62.72	6.86	10.09	-59.49	-13.00	46.49	H
6877.01	-64.88	7.79	11.45	-61.22	-13.00	48.22	V
8606.01	-64.74	8.48	13.02	-60.20	-13.00	47.20	V
10319.01	-62.26	9.67	13.03	-58.90	-13.00	45.90	V
12020.01	-60.23	10.11	13.01	-57.33	-13.00	44.33	V

LTE Band 66, 1.4MHz, QPSK, Channel 132322

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490.02	-66.23	5.50	8.18	-63.55	-13.00	50.55	H
5235.02	-62.36	7.00	10.23	-59.13	-13.00	46.13	V
6982.01	-64.60	8.16	11.58	-61.18	-13.00	48.18	V
8748.01	-64.64	8.50	13.05	-60.09	-13.00	47.09	V
10491.01	-62.07	9.67	13.10	-58.64	-13.00	45.64	V
12178.01	-59.91	10.12	13.07	-56.96	-13.00	43.96	V

LTE Band 66, 1.4MHz, QPSK, Channel 132665

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3601.02	-65.99	6.35	8.34	-64.00	-13.00	51.00	V
5341.02	-62.04	6.95	10.38	-58.61	-13.00	45.61	V
7151.01	-64.87	8.18	11.78	-61.27	-13.00	48.27	V
8900.01	-63.97	8.85	13.08	-59.74	-13.00	46.74	V
10676.01	-61.80	9.30	13.14	-57.96	-13.00	44.96	V
12510.01	-59.76	10.20	13.21	-56.75	-13.00	43.75	V

LTE Band 71, 5MHz, QPSK, Channel 133147

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1323.01	-49.91	3.14	4.58	2.15	-50.62	-13.00	37.62	V
1997.01	-31.94	4.04	4.61	2.15	-33.52	-13.00	20.52	H
2666.00	-50.11	4.76	6.40	2.15	-50.62	-13.00	37.62	V
3329.02	-50.66	5.30	7.79	2.15	-50.32	-13.00	37.32	H
3994.02	-53.10	6.07	8.89	2.15	-52.43	-13.00	39.43	H
4685.02	-52.21	6.49	9.59	2.15	-51.26	-13.00	38.26	V

LTE Band 71, 5MHz, QPSK, Channel 133297

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1358.01	-49.81	3.18	4.76	2.15	-50.38	-13.00	37.38	H
2042.00	-31.04	4.14	4.73	2.15	-32.60	-13.00	19.60	H
2723.00	-52.78	4.81	6.50	2.15	-53.24	-13.00	40.24	V
3403.02	-53.21	5.36	7.97	2.15	-52.75	-13.00	39.75	H
4088.02	-52.66	6.04	8.99	2.15	-51.86	-13.00	38.86	H
4749.02	-54.61	6.57	9.65	2.15	-53.68	-13.00	40.68	H

LTE Band 71, 5MHz, QPSK, Channel 133447

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1389.01	-42.29	3.22	4.92	2.15	-42.74	-13.00	29.74	V
2087.00	-36.96	4.18	4.86	2.15	-38.43	-13.00	25.43	H
2779.00	-51.48	4.88	6.60	2.15	-51.91	-13.00	38.91	V
3498.02	-54.16	5.52	8.20	2.15	-53.63	-13.00	40.63	H
4144.02	-53.98	6.08	9.04	2.15	-53.17	-13.00	40.17	H
4871.01	-52.99	6.72	9.77	2.15	-52.09	-13.00	39.09	H

Note1: The measurement results showed here are worst cases.

Note2: The maximum value of expanded measurement uncertainty for this test item is $U = 5.16$ dB, $k = 2$.

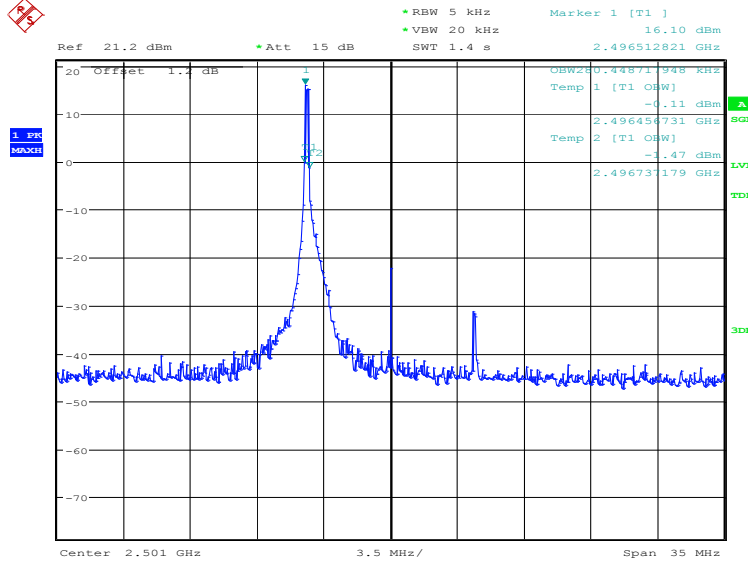
A.3 Band Edge Compliance

A.3.1 Measurement limit

Part 27.53(m) specifies for mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

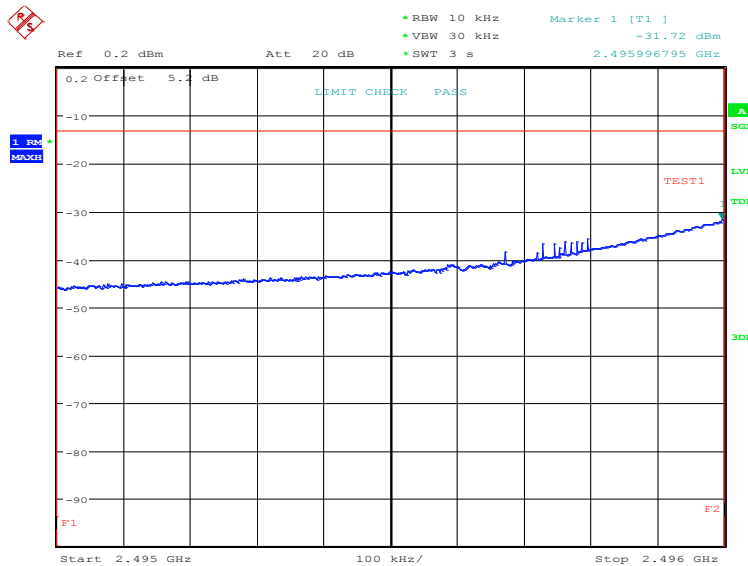
The spectrum analyzer readings are corrected by $[10 \log (1/\text{duty cycle})]$ for the non-continuous transmitting scenario.

A.3.2 Measurement result
Only the worst case result is given below
LTE band 41
OBW: 1RB-low_offset

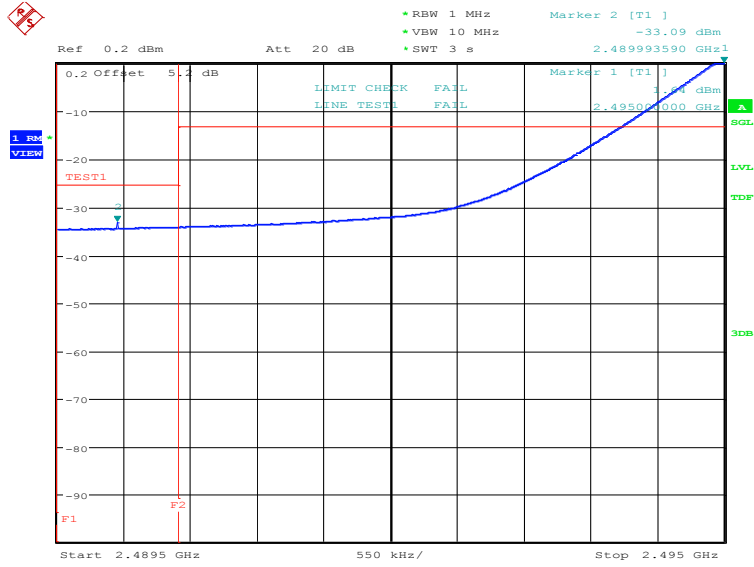


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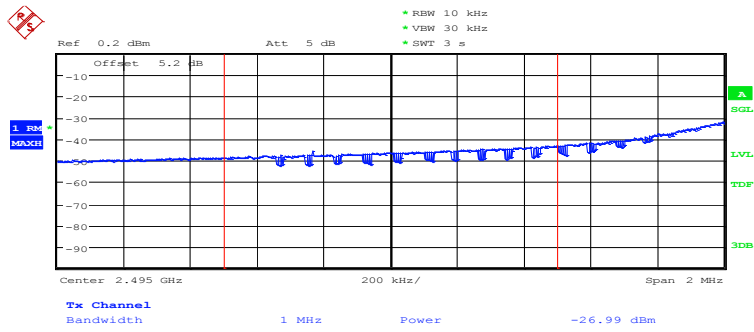
LOW BAND EDGE BLOCK-1RB-low_offset



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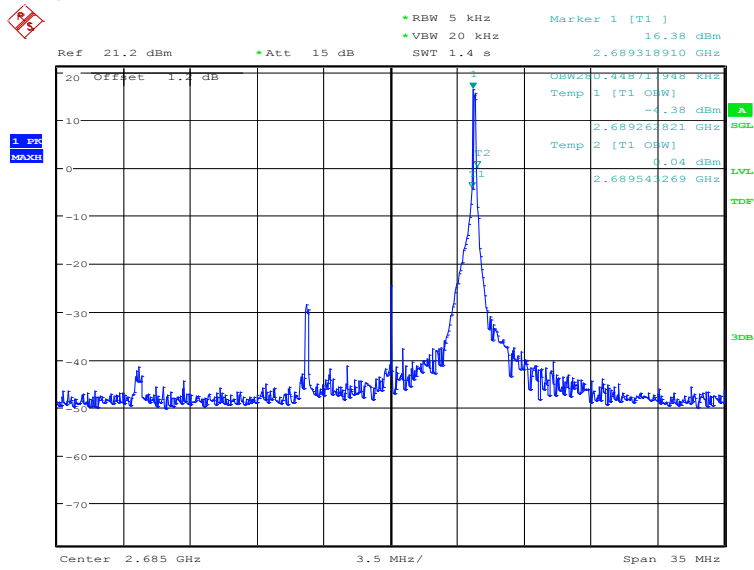


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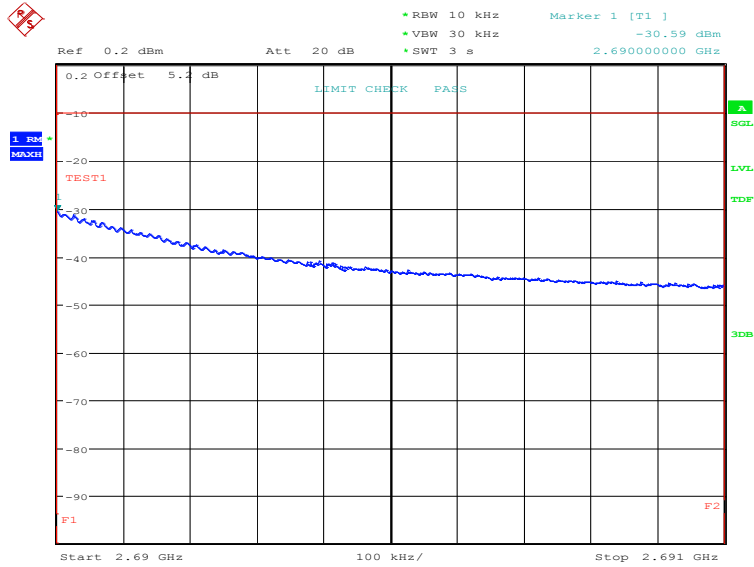
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OBW: 1RB-high_offset

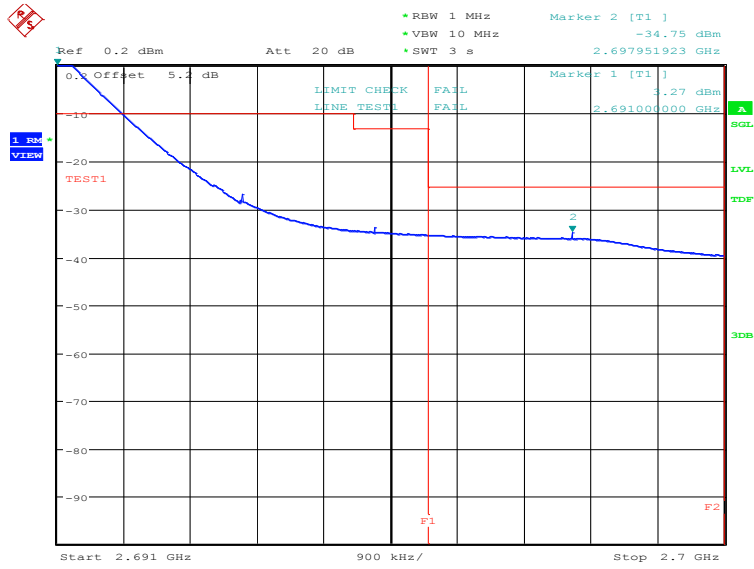


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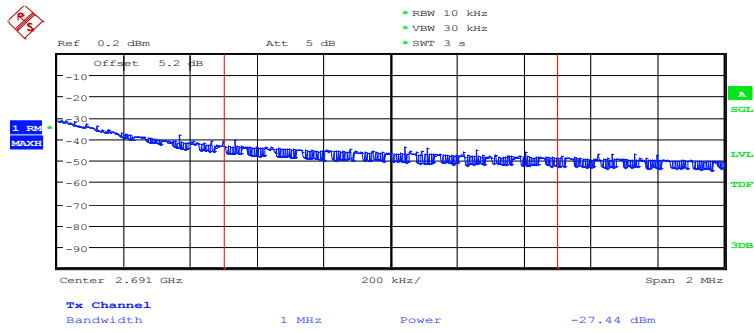
HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 24.AUG.2021 15:53:07

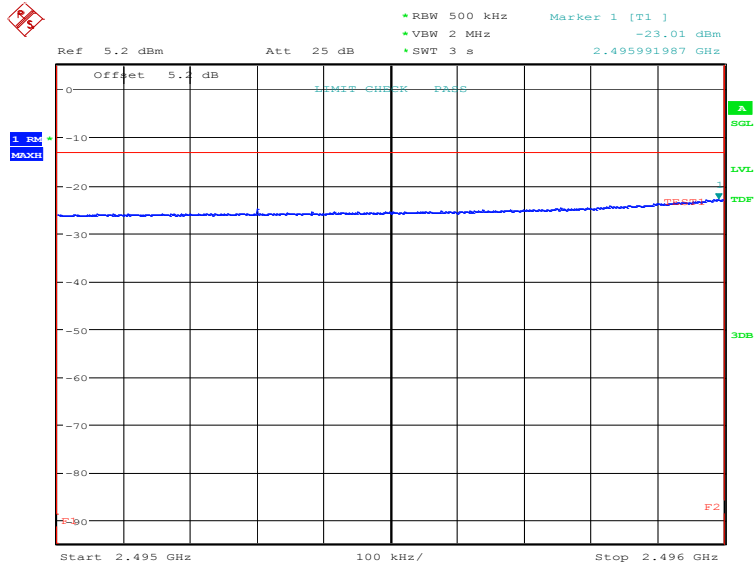


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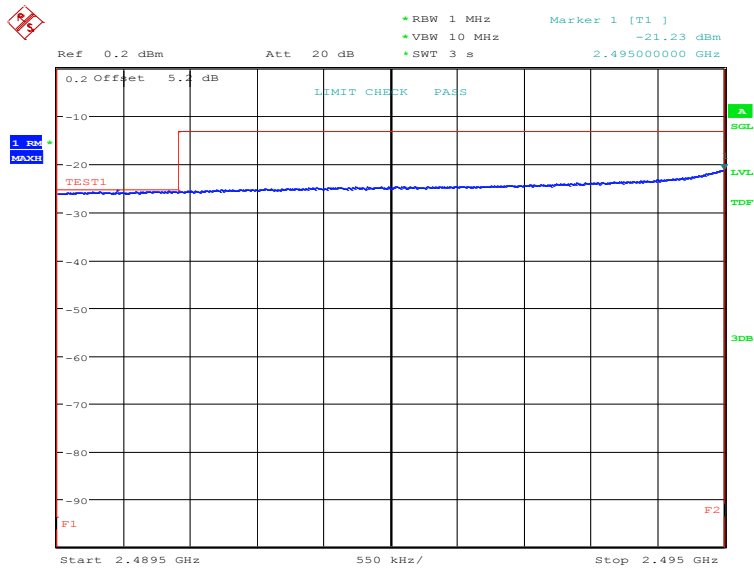


Date: 24.AUG.2021 15:54:09

LOW BAND EDGE BLOCK-20MHz-100%RB

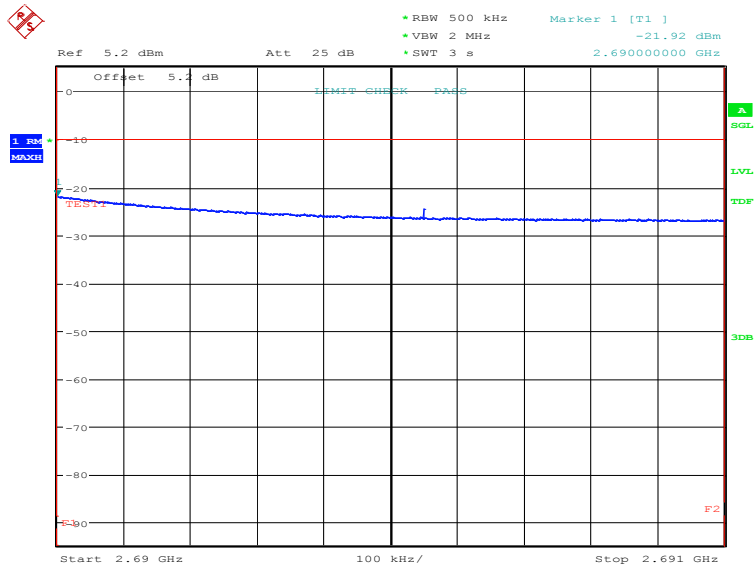


Date: 24.AUG.2021 16:01:33

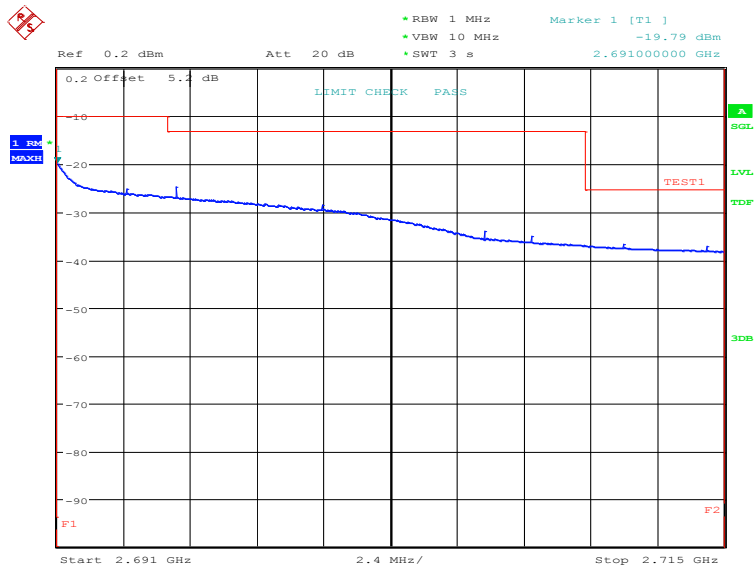


Date: 24.AUG.2021 16:02:11

HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 24.AUG.2021 15:55:06



Date: 24.AUG.2021 15:55:44

Annex B: Accreditation Certificate

<p>United States Department of Commerce National Institute of Standards and Technology</p>  	
<hr/> Certificate of Accreditation to ISO/IEC 17025:2017 <hr/>	
NVLAP LAB CODE: 600118-0	
Telecommunication Technology Labs, CAICT Beijing China	
<i>is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:</i>	
Electromagnetic Compatibility & Telecommunications	
<i>This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).</i>	
<hr/> 2020-09-29 through 2021-09-30 Effective Dates	 For the National Voluntary Laboratory Accreditation Program

END OF REPORT