FCC RF Test Report

APPLICANT	:	**Smawave Technology Co. ,Ltd**
EQUIPMENT	:	**CAT12 outdoor CPE**
BRAND NAME	:	**smawave**
MODEL NAME	:	**SRE410**
FCC ID	:	**2AU8HSRE410-EUD**
STANDARD	:	**47 CFR Part 2, 96**
CLASSIFICATION	:	**Citizens Band End User Devices (CBE)**
EQUIPMENT TYPE	:	**End User Equipment**
TEST DATE(S)	:	**Oct. 20, 2023 ~ Nov. 03, 2023**

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia

Sporton International Inc. (Kunshan)
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

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History of this test report

Report No.	Version	Description	Issued Date
FG3O1704B	01	Initial issue of report	Dec. 04, 2023

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.3	§2.1046	Conducted Output Power	Reporting only	-
3.4	§96.41	Peak-to-Average Ratio	Not Applicable	Not applicable for End User Devices
3.5	§96.41	Maximum E.I.R.P	Pass	-
		Maximum Power Spectral Density	Not Applicable	Not applicable for End User Devices
3.6	§2.1049 §96.41	Occupied Bandwidth	Reporting only	-
3.7	§2.1051 §96.41	Conducted Band Edge Measurement Adjacent Channel Leakage Ratio	Pass	-
3.8	§2.1051 §96.41	Conducted Spurious Emission	Pass	
3.9	§2.1055	Frequency Stability for Temperature & Voltage	Pass	-
4.4	§2.1051 §96.41	Radiated Spurious Emission	Pass	Under limit 1.61 dB at 7236.000 MHz

Conformity Assessment Condition:
1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account. 2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”
Disclaimer:
The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

1 General Description

1.1 Applicant

Smawave Technology Co. ,Ltd
3/F, Building 8, 1001 North Qinzhou Road，Xuhui District, Shanghai, China

1.2 Manufacturer

Smawave Technology Co. ,Ltd
3/F, Building 8, 1001 North Qinzhou Road，Xuhui District, Shanghai, China

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	CAT12 outdoor CPE
Brand Name	smawave
Model Name	SRE410
FCC ID	2AU8HSRE410-EUD
Tx Frequency	LTE Band 42 : 3550 MHz ~ 3600 MHz LTE Band 43 : 3600 MHz ~ 3700 MHz LTE Band 48 : 3550 MHz ~ 3700 MHz
Rx Frequency	LTE Band 42 : 3550 MHz ~ 3600 MHz LTE Band 43 : 3600 MHz ~ 3700 MHz LTE Band 48 : 3550 MHz ~ 3700 MHz
Bandwidth	5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	<Ant. 0> LTE Band 42: 6.11 dBm LTE Band 43: 5.60 dBm LTE Band 48: 6.88 dBm <Ant. 2>: LTE Band 42: 6.05 dBm LTE Band 42B: 6.53 dBm LTE Band 42C: 6.43 dBm LTE Band 43: 5.86 dBm LTE Band 43B: 7.26 dBm LTE Band 43C: 6.74 dBm LTE Band 48: 7.16 dBm LTE Band 48B: 7.32 dBm LTE Band 48C: 7.27 dBm LTE Band 48A-48A: 7.24 dBm <Ant. 0+2> LTE Band 42: 6.04 dBm LTE Band 43: 6.25 dBm LTE Band 48: 6.81 dBm
Antenna Gain	Ant 0:LTE Band 42/43/48: 15.61 dBi Ant 2:LTE Band 42/43/48: 15.64 dBi
Type of Modulation	QPSK / 16QAM / 64QAM
IMEI Code	Conducted/Radiation: 862165041897446
HW Version	V1.0
SW Version	OCB12FW_Codium_CBSD_V10.20

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. The maximum EIRP is calculated from max output power and antenna gain, only the maximum EIRP of Ant. 0 for LTE Band 42, Ant. 2 for LTE Band 42B/43/43B/48/48B/48C and Ant.(0+2) for LTE Band 42/43/48_UL MIMO is shown in the report.
3. LTE Band 42/43/48 support UL MIMO mode for Ant 0&Ant 2, the MIMO mode is completely uncorrelated, so the directional gain is selected the maximum gain among all antennas.
4. For B42/B43/B48 UL MIMO mode, the conducted BE/Spurious are tested at single antenna port and add 10*log(NANT) according to KDB 662911 D01.
5. Verify that the power of LTE Band 48A-48A is lower than LTE Band 48C, so only the conducted test results of LTE Band 48C were full tested and shown in this report.

1.4 Maximum EIRP Power and Emission Designator

LTE Band 42B_CA		QPSK		16QAM/64QAM	
BW (MHz) Frequency (MHz)		Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5MHz+5MHz		0.1585	9M31G7D	0.1545	9M27W7D
5MHz+10MHz		0.1629	13M9G7D	0.1578	13M9W7D
10MHz+5MHz		0.1600	13M9G7D	0.1622	13M9W7D
10MHz+10MHz		0.1648	18M7G7D	0.1626	18M7W7D
LTE Band 43B_CA		QPSK		16QAM/64QAM	
BW (MHz) Frequency (MHz)		Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5MHz+5MHz		0.1936	9M33G7D	0.1945	9M37W7D
5MHz+10MHz		0.1945	13M9G7D	0.1928	13M9W7D
10MHz+5MHz		0.1905	13M9G7D	0.1914	14M0W7D
10MHz+10MHz		0.1950	18M7G7D	0.1923	18M7W7D
LTE Band 48		QPSK		16QAM/64QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5	3552.5~3697.5	0.1439	4M51G7D	0.1432	4M52W7D
10	3555~3695	0.1618	8M99G7D	0.1592	9M07W7D
15	3557.5~3692.5	0.1663	13M5G7D	0.1660	13M4W7D
20	3560~3690	0.1905	17M8G7D	0.1706	17M9W7D

LTE Band 48 UL MIMO		QPSK		16QAM/64QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5	3552.5~3697.5	0.1664	4M50G7D	0.1590	4M51W7D
10	3555~3695	0.1751	9M03G7D	0.1653	9M05W7D
15	3557.5~3692.5	0.1710	13M4G7D	0.1665	13M5W7D
20	3560~3690	0.1757	17M9G7D	0.1646	17M9W7D

LTE Band 48B_CA	QPSK		16QAM/64QAM	
BW (MHz) Frequency (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10MHz+10MHz	0.1977	18M8G7D	0.1977	18M7W7D
LTE Band 48C_CA	**QPSK**		**16QAM/64QAM**	
BW (MHz) Frequency (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5MHz+20MHz	0.1941	23M2G7D	0.1950	23M3W7D
10MHz+20MHz	0.1888	28M1G7D	0.1941	28M1W7D
15MHz+20MHz	0.1905	32M7G7D	0.1919	32M9W7D
20MHz+5MHz	0.1786	23M1G7D	0.1807	23M2W7D
20MHz+10MHz	0.1888	28M1G7D	0.1897	28M2W7D
20MHz+15MHz	0.1905	32M8G7D	0.1879	32M9W7D
20MHz+20MHz	0.1954	37M7G7D	0.1954	37M6W7D

Note:

1. LTE Band 48 overlaps the entire frequency range of LTE Band 42/43. Therefore, the test results provided in this report covers LTE Band 48 as well as LTE Band 42/43 (Included uplink CA mode).
2. LTE Band 42B/43B (5MHz+5MHz), (5MHz+10MHz), (10MHz+5MHz) has assessed to test.
3. All modulations have been tested, only the worst test results of PSK & QAM are shown in the report.

1.5 Testing Site

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH04-KS TH01-KS	CN1257	314309

1.6 Test Software

Item	Site	Manufacture	Name	Version
1.	TH01-KS	SPORTON	FCC LTE_Ver2.0 Auto_china_210503	2.0
2.	03CH04-KS	AUDIX	E3	210616

1.7 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ANSI C63.26-2015
- 47 CFR Part 2, 96
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 940660 D01 Part 96 CBRS v03
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	48	-	-	v	v	v	v	v	v	v	v		v	v	v	v
Adjacent Channel Leakage Ratio	48	-	-	v	v	v	v	v	v	v	v		v	v	v	v
26dB and 99% Bandwidth	48	-	-	v	v	v	v	v	v				v		v	
Conducted Band Edge	48	-	-	v	v	v	v	v	v	v	v		v	v	v	v
Conducted Spurious Emission	48	-	-	v	v	v	v	v			v			v	v	v
E.I.R.P	48	-	-	v	v	v	v	v	v	v	v		v	v	v	v
Frequency Stability	48	-	-		v			v			v				v	
Radiated Spurious Emission	48	Worst Case													v	
Remark	1. The mark "**v** " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.															

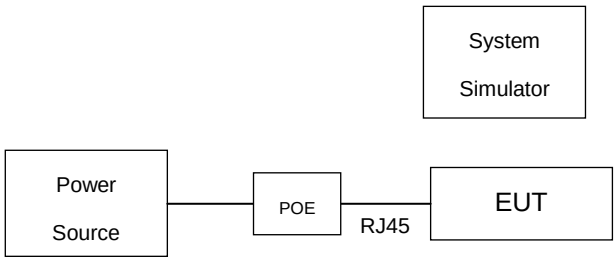
Test Items	Band	Bandwidth (MHz)								Modulation			RB #			Test Channel		
		20+20	20+15	15+20	20+10	10+20	10+10	20+5	5+20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	48C	v	v	v	v	v	-	v	v	v	v	v	v		v	v	v	v
	48B	-	-	-	-	-	v	-	-	v	v	v	v		v	v	v	v
Adjacent Channel Leakage Ratio	48C	v	v	v	v	v	-	v	v	v	v	v	v		v	v	v	v
	48B	-	-	-	-	-	v	-	-	v	v	v	v		v	v	v	v
26dB and 99% Bandwidth	48C	v	v	v	v	v	-	v	v	v	v				v		v	
	48B	-	-	-	-	-	v	-	-	v	v				v		v	
Conducted Band Edge	48C	v	v	v	v	v	-	v	v	v	v	v	v		v	v	v	v
	48B	-	-	-	-	-	v	-	-	v	v	v	v		v	v	v	v
Conducted Spurious Emission	48C	v	v	v	v	v	-	v	v	v			v			v	v	v
	48B	-	-	-	-	-	v	-	-	v			v			v	v	v
E.I.R.P	48C	v	v	v	v	v	-	v	v	v	v	v	v		v	v	v	v
	48B	-	-	-	-	-	v	-	-	v	v	v	v		v	v	v	v
Frequency Stability	48C	v					-			v			v				v	
	48B	-	-	-	-	-	v	-	-	v			v				v	
Radiated Spurious Emission	48C	Worst Case															v	
	48B	Worst Case															v	
	48A-48A	Worst Case															v	

Note

1. The mark "**v** " means that this configuration is chosen for testing
2. The mark "-" means that this bandwidth is not supported.
3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.
4. All test items are based on engineering evaluation.

Test Items	Band	Bandwidth (MHz)				Modulation			RB #			Test Channel		
		5+5	5+10	10+5	10+10	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	42B	v	v	v	-	v	v	v	v		v	v	v	v
	43B	v	v	v	-	v	v	v	v		v	v	v	v
Adjacent Channel Leakage Ratio	42B	v	v	v	-	v	v	v	v		v	v	v	v
	43B	v	v	v	-	v	v	v	v		v	v	v	v
26dB and 99% Bandwidth	42B	v	v	v	-	v	v				v		v	
	43B	v	v	v	-	v	v				v		v	
Conducted Band Edge	42B	v	v	v	-	v	v	v	v		v	v	v	v
	43B	v	v	v	-	v	v	v	v		v	v	v	v
Conducted Spurious Emission	42B	v	v	v	-	v			v			v	v	v
	43B	v	v	v	-	v			v			v	v	v
E.I.R.P	42B	v	v	v	v	v	v	v	v		v	v	v	v
	43B	v	v	v	v	v	v	v	v		v	v	v	v
Frequency Stability	42B			v	-	v			v				v	
	43B	v			-	v			v				v	
Radiated Spurious Emission	42B	Worst Case											v	
	43B	Worst Case											v	
Note	1. The mark "**v** " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. All test items are based on engineering evaluation.													

2.2 Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

2.3 Support Unit used in test configuration

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Power Supply	GWINSTEK	PSS-2002	N/A	N/A	Unshielded, 1.8 m
2.	Base Station	Anritsu	MT8820/8821	N/A	N/A	Unshielded, 1.8 m

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 0.5 dB and 10dB attenuator.

Example :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 0.5 + 10 = 10.5 (dB)

2.5 Frequency List of Low/Middle/High Channels

LTE Band 48 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
20	Channel	55340	55990	56640
	Frequency	3560.0	3625.0	3690.0
15	Channel	55315	55990	56665
	Frequency	3557.5	3625.0	3692.5
10	Channel	55290	55990	56690
	Frequency	3555.0	3625.0	3695.0
5	Channel	55265	55990	56715
	Frequency	3552.5	3625.0	3697.5

LTE Band 42 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
20	Channel	43190	43340	43490
	Frequency	3560	3575	3590
15	Channel	43165	43340	43515
	Frequency	3557.5	3575	3592.5
10	Channel	43140	43340	43540
	Frequency	3555	3575	3595
5	Channel	43115	43340	43565
	Frequency	3552.5	3575	3597.5

LTE Band 43 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
20	Channel	43690	44090	44490
	Frequency	3610	3650	3690
15	Channel	43665	44090	44515
	Frequency	3607.5	3650	3692.5
10	Channel	43640	44090	44540
	Frequency	3605	3650	3695
5	Channel	43615	44090	44565
	Frequency	3602.5	3650	3697.5

LTE Band 48C_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
5 + 20	PCC	Channel	55273	55898	56523
		Frequency	3553.3	3615.8	3678.3
	SCC	Channel	55390	56015	56640
		Frequency	3565	3627.5	3690
20 + 5	PCC	Channel	55340	55965	56590
		Frequency	3560	3622.5	3685
	SCC	Channel	55457	56082	56707
		Frequency	3571.7	3634.2	3696.7
10 + 20	PCC	Channel	55295	55896	56496
		Frequency	3555.5	3615.6	3675.6
	SCC	Channel	55439	56040	56640
		Frequency	3569.9	3630	3690
20 + 10	PCC	Channel	55340	55941	56541
		Frequency	3560	3620.1	3680.1
	SCC	Channel	55484	56085	56685
		Frequency	3574.4	3634.5	3694.5
15 + 20	PCC	Channel	55318	55893	56469
		Frequency	3557.8	3615.3	3672.9
	SCC	Channel	55489	56064	56640
		Frequency	3574.9	3632.4	3690
20 + 15	PCC	Channel	55340	55916	56491
		Frequency	3560	3617.6	3675.1
	SCC	Channel	55511	56087	56662
		Frequency	3577.1	3634.7	3692.2
20 +20	PCC	Channel	55340	55891	56442
		Frequency	3560	3615.1	3670.2
	SCC	Channel	55538	56089	56640
		Frequency	3579.8	3634.9	3690

LTE Band 42C_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
20 + 20	PCC	Channel	43190	43340	43292
		Frequency	3560	3575	3570.2
	SCC	Channel	43388	43538	43490
		Frequency	3579.8	3594.8	3590
20 + 15	PCC	Channel	43190	43340	43344
		Frequency	3560	3575	3575.4
	SCC	Channel	43361	43511	43515
		Frequency	3577.1	3592.1	3592.5
15 + 20	PCC	Channel	43165	43340	43319
		Frequency	3557.5	3575	3572.9
	SCC	Channel	43336	43511	43490
		Frequency	3574.6	3592.1	3590
20 + 10	PCC	Channel	43190	43340	43396
		Frequency	3560	3575	3580.6
	SCC	Channel	43334	43484	43540
		Frequency	3574.4	3589.4	3595
10 + 20	PCC	Channel	43140	43340	43346
		Frequency	3555	3575	3575.6
	SCC	Channel	43284	43484	43490
		Frequency	3569.4	3589.4	3590
20 + 5	PCC	Channel	43190	43340	43448
		Frequency	3560	3575	3585.8
	SCC	Channel	43307	43457	43565
		Frequency	3571.7	3586.7	3597.5
5 + 20	PCC	Channel	43115	43340	43373
		Frequency	3552.5	3575	3578.3
	SCC	Channel	43232	43457	43490
		Frequency	3564.2	3586.7	3590

LTE Band 43C_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
5 + 20	PCC	Channel	43615	44090	44373
		Frequency	3602.5	3650	3678.3
	SCC	Channel	43732	44207	44490
		Frequency	3614.2	3661.7	3690
20 +20	PCC	Channel	43690	44090	44490
		Frequency	3610	3650	3690
	SCC	Channel	43888	44288	44688
		Frequency	3629.8	3669.8	3709.8

LTE Band 42B_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
10 + 10	PCC	Channel	43140	43290	43441
		Frequency	3555	3570.05	3585.1
	SCC	Channel	43239	43389	43540
		Frequency	3564.9	3579.95	3595
10 + 5	PCC	Channel	43140	43317	43493
		Frequency	3555	3572.7	3590.3
	SCC	Channel	43212	43389	43565
		Frequency	3562.2	3579.9	3597.5
5 + 10	PCC	Channel	43115	43292	43468
		Frequency	3552.5	3570.2	3587.8
	SCC	Channel	43187	43364	43540
		Frequency	3559.7	3577.4	3595
5 + 5	PCC	Channel	43115	43316	43517
		Frequency	3552.5	3572.6	3592.7
	SCC	Channel	43163	43364	43565
		Frequency	3557.3	3577.4	3597.5

LTE Band 43B_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
10 + 10	PCC	Channel	43640	44040	44441
		Frequency	3605	3645.05	3685.1
	SCC	Channel	43739	44139	44540
		Frequency	3614.9	3654.95	3695
10 + 5	PCC	Channel	43640	44066	44493
		Frequency	3605	3647.65	3690.3
	SCC	Channel	43712	44138	44565
		Frequency	3612.2	3654.85	3697.5
5 + 10	PCC	Channel	43615	44042	44468
		Frequency	3602.5	3645.15	3687.8
	SCC	Channel	43687	44114	44540
		Frequency	3609.7	3652.35	3695
5 + 5	PCC	Channel	43615	44066	44517
		Frequency	3602.5	3647.6	3692.7
	SCC	Channel	43663	44114	44565
		Frequency	3607.3	3652.4	3697.5

LTE Band 48B_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
10 + 10	PCC	Channel	55290	55941	56591
		Frequency	3555	3620.1	3685.1
	SCC	Channel	55389	56039	56690
		Frequency	3564.9	3629.9	3695

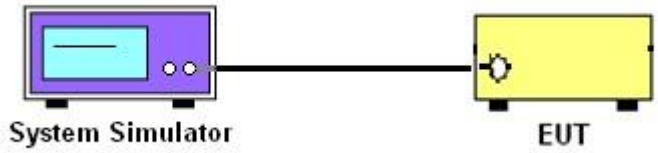
3 Conducted Test Items

3.1 Measuring Instruments

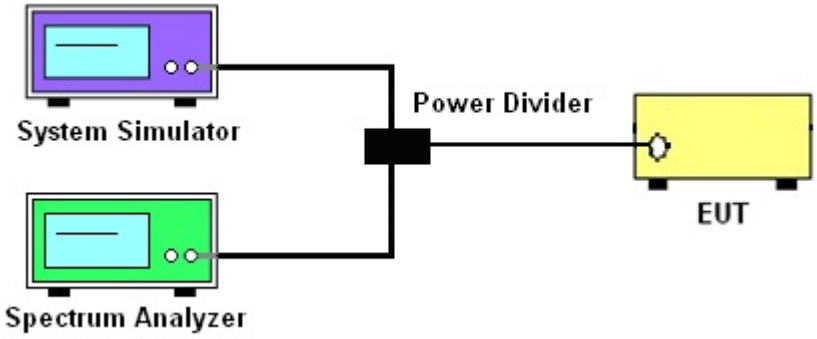
See list of measuring instruments of this test report.

3.2 Test Setup

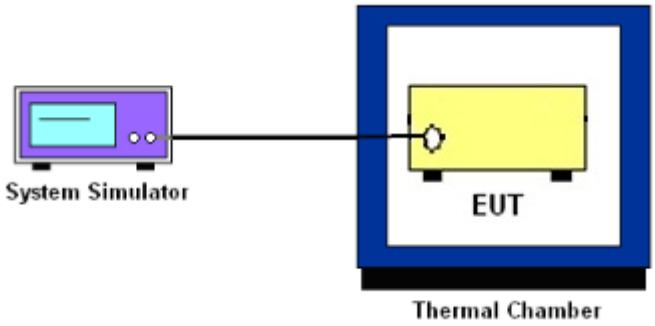
3.2.1 Conducted Output Power / ACLR



3.2.2 26dB & 99% Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.2.4 Test Result of Conducted Test

Please refer to Appendix A.

3.3 Conducted Output Power

3.3.1 Description of the Conducted Output Power Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

3.3.2 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through the system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.

3.4 Peak-to-Average Ratio

3.4.1 Description of the PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.4.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.2.6

1. The EUT was connected to spectrum and system simulator via a power divider.
2. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
3. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
4. Record the deviation as Peak to Average Ratio

3.5 EIRP

3.5.1 Description of the EIRP Measurement

EIRP limits for CBRS equipment as below table:

Device		Maximum EIRP (dBm/10 MHz)	Maximum PSD (dBm/MHz)
Applied	**End User Device**	23	N/A
☐	**Category A CBSD**	30	20
☐	**Category B CBSD**	47	37

Remark: The worst case EIRP shown in this section is found with LTE operating only using 1RB. As such, the EIRP/10MHz and full channel EIRP values will be identical since 1RB is fully contained within all available channel bandwidths for LTE Band 48 (i.e. 5, 10, 15, 20MHz)

3.5.2 Test Procedures for EIRP

1. Establishing a communications link with the call box (Base station) to measure the Maximum conducted power, the parameters were set to force the EUT transmitting at maximum output power level. Use the average power measurement function to measure total channel power of each channel bandwidth (per ANSI C63.26-2015 Section 5.2.1)

2. Determining ERP and/or EIRP from conducted RF output power measurements (Per ANSI C63.26-2015 Section 5.2.5.5)

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

   P_T = transmitter output power in dBm

   G_T = gain of the transmitting antenna in dBi

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

3.6 Occupied Bandwidth

3.6.1 Description of Occupied Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

3.6.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.4.3 (26dB) and Section 5.4.4 (99OB)

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
3. The nominal resolution bandwidth (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.
4. Set the detection mode to peak, and the trace mode to max hold.
5. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace. (this is the reference value)
6. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
7. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “–X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
8. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

Part 96.41 (e) (1) (ii)

For End User Devices the emission limits outside the fundamental are as follows:

Within 0 MHz to B MHz above and below the assigned channel ≤ −13 dBm/MHz

Greater than B MHz above and below the assigned channel ≤ −25 dBm/MHz

where B is the bandwidth in megahertz of the assigned channel or multiple contiguous channels of the End User Device.

Notwithstanding the emission limits in this paragraph, the Adjacent Channel Leakage Ratio for End User Devices shall be at least 30 dB.

Part 96.41 (e) (2)

For CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed −25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz

3.7.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured.
3. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Beyond the 1 MHz band from the band edge, RBW=1MHz was used
5. Offset has included the duty factor for LTE Band 48. Duty factor =10 log (1/x), where x is the measured duty cycle.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

96.41 (e)(2)

The conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

3.8.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
6. Set spectrum analyzer with RMS detector.
7. Taking the record of maximum spurious emission.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
9. The limit line is −40dBm/MHz.

3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block.

3.9.2 Test Procedures for Temperature Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.9.3 Test Procedures for Voltage Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was placed in a temperature chamber at 25±5° C and connected with the system simulator.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

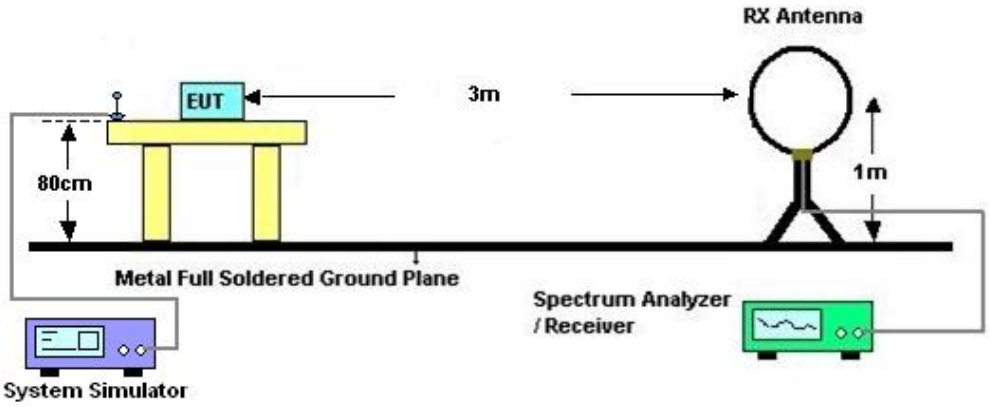
4 Radiated Test Items

4.1 Measuring Instruments

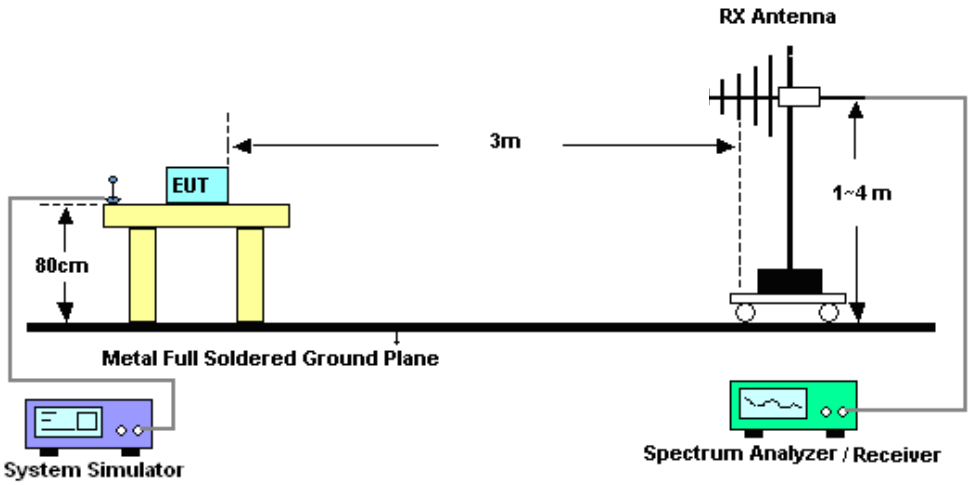
See list of measuring instruments of this test report.

4.2 Test Setup

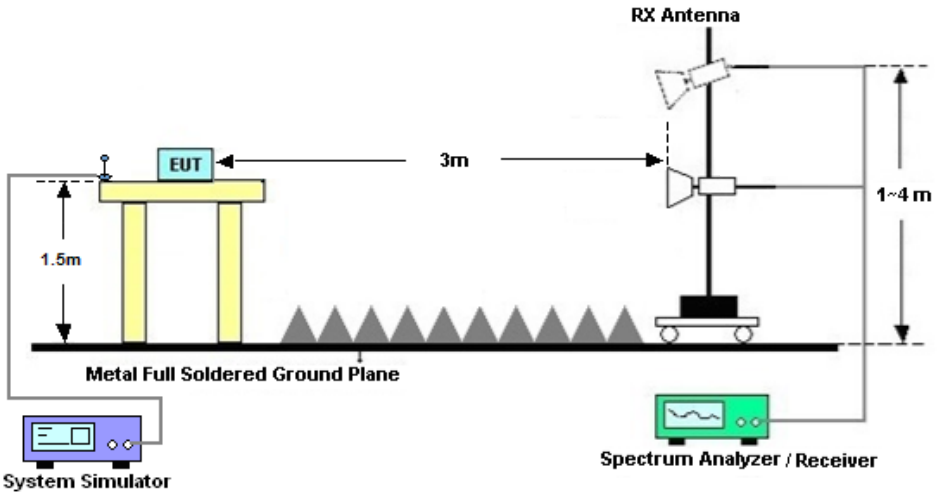
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

Please refer to Appendix B.

4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission Measurement

The radiated spurious emission was measured by substitution method according to ANSI C63.26-2015.

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least -40dBm / MHz.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.4.2 Test Procedures

1. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
5. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
   Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
   EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
   ERP (dBm) = EIRP - 2.15
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
   The limit line is −40dBm/MHz

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 11, 2023	Oct. 20, 2023~ Nov. 03, 2023	Oct. 10, 2024	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Oct. 20, 2023~ Nov. 03, 2023	NCR	Conducted (TH01-KS)
Temperature &humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 06, 2023	Oct. 20, 2023~ Nov. 03, 2023	Jul. 05, 2024	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 10, 2023	Nov. 01, 2023	Oct. 09, 2024	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 15, 2023	Nov. 01, 2023	Oct. 14, 2024	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Apr. 09, 2023	Nov. 01, 2023	Apr. 08, 2024	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1284	1GHz~18GHz	Oct. 10, 2023	Nov. 01, 2023	Oct. 09, 2024	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 08, 2023	Nov. 01, 2023	Jan. 07, 2024	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	380827	9KHz-1GHz	Jul. 06, 2023	Nov. 01, 2023	Jul. 05, 2024	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 05, 2023	Nov. 01, 2023	Jan. 04, 2024	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 10, 2023	Nov. 01, 2023	Oct. 09, 2024	Radiation (03CH04-KS)
Amplifier	Agilent	8449B	3008A02370	1Ghz-18Ghz	Oct. 10, 2023	Nov. 01, 2023	Oct. 09, 2024	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Nov. 01, 2023	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Nov. 01, 2023	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Nov. 01, 2023	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 Measurement Uncertainty

Uncertainty of Conducted Measurement

Conducted Spurious Emission & Bandedge	**±2.26 dB**
Occupied Channel Bandwidth	**±0.1%**
Conducted Power	**±0.46 dB**
Peak to Average Ratio	**±0.46 dB**
Frequency Stability	**±0.4ppm**

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.82dB**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.56dB**

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.54dB**

---------- THE END ----------

Appendix A. Test Results of Conducted Test

Test Engineer :	Simle Wang	Temperature :	22~23℃
		Relative Humidity :	40~42%

Conducted Output Power(Average power)

LTE Band 42B_CA (Ant.2):

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP(W)			EIRP(W)		
Channel				L	M	H		L	M	H	L	M	H
10+10	QPSK	1RB01RBMAX		6.25	6.19	6.48	15.64	21.89	21.83	22.12	0.1545	0.1524	0.1629
	QPSK	1RBMAX1RB0		6.11	6.08	6.13	15.64	21.75	21.72	21.77	0.1496	0.1486	0.1503
	QPSK	FULL		6.26	6.41	6.53	15.64	21.90	22.05	22.17	0.1549	0.1603	0.1648
	16QAM	1RB01RBMAX		6.28	6.33	6.47	15.64	21.92	21.97	22.11	0.1556	0.1574	0.1626
	16QAM	1RBMAX1RB0		6.06	6.12	6.24	15.64	21.70	21.76	21.88	0.1479	0.1500	0.1542
	16QAM	FULL		6.06	6.31	6.44	15.64	21.70	21.95	22.08	0.1479	0.1567	0.1614
	64QAM	1RB01RBMAX		5.91	5.88	5.96	15.64	21.55	21.52	21.60	0.1429	0.1419	0.1445
	64QAM	1RBMAX1RB0		5.86	5.80	5.76	15.64	21.50	21.44	21.40	0.1413	0.1393	0.1380
	64QAM	FULL		6.32	6.40	6.29	15.64	21.96	22.04	21.93	0.1570	0.1600	0.1560
10+5	QPSK	1RB01RBMAX		6.12	6.09	6.36	15.64	21.76	21.73	22.00	0.1500	0.1489	0.1585
	QPSK	1RBMAX1RB0		6.07	6.05	6.14	15.64	21.71	21.69	21.78	0.1483	0.1476	0.1507
	QPSK	FULL		6.15	6.33	6.40	15.64	21.79	21.97	22.04	0.1510	0.1574	0.1600
	16QAM	1RB01RBMAX		6.20	6.22	6.44	15.64	21.84	21.86	22.08	0.1528	0.1535	0.1614
	16QAM	1RBMAX1RB0		6.18	6.15	6.22	15.64	21.82	21.79	21.86	0.1521	0.1510	0.1535
	16QAM	FULL		6.18	6.36	6.46	15.64	21.82	22.00	22.10	0.1521	0.1585	0.1622
	64QAM	1RB01RBMAX		5.79	5.81	6.06	15.64	21.43	21.45	21.70	0.1390	0.1396	0.1479
	64QAM	1RBMAX1RB0		5.79	5.76	5.83	15.64	21.43	21.40	21.47	0.1390	0.1380	0.1403
	64QAM	FULL		6.21	6.34	6.22	15.64	21.85	21.98	21.86	0.1531	0.1578	0.1535
5+10	QPSK	1RB01RBMAX		6.16	6.20	6.30	15.64	21.80	21.84	21.94	0.1514	0.1528	0.1563
	QPSK	1RBMAX1RB0		6.15	6.05	6.13	15.64	21.79	21.69	21.77	0.1510	0.1476	0.1503
	QPSK	FULL		6.32	6.48	6.41	15.64	21.96	22.12	22.05	0.1570	0.1629	0.1603
	16QAM	1RB01RBMAX		6.23	6.09	6.16	15.64	21.87	21.73	21.80	0.1538	0.1489	0.1514
	16QAM	1RBMAX1RB0		6.24	6.18	6.11	15.64	21.88	21.82	21.75	0.1542	0.1521	0.1496
	16QAM	FULL		6.26	6.34	6.20	15.64	21.90	21.98	21.84	0.1549	0.1578	0.1528
	64QAM	1RB01RBMAX		5.86	5.93	6.01	15.64	21.50	21.57	21.65	0.1413	0.1435	0.1462
	64QAM	1RBMAX1RB0		5.79	5.86	5.88	15.64	21.43	21.50	21.52	0.1390	0.1413	0.1419
	64QAM	FULL		6.28	6.24	6.18	15.64	21.92	21.88	21.82	0.1556	0.1542	0.1521
5+5	QPSK	1RB01RBMAX		6.33	6.31	6.19	15.64	21.97	21.95	21.83	0.1574	0.1567	0.1524
	QPSK	1RBMAX1RB0		6.28	6.09	6.20	15.64	21.92	21.73	21.84	0.1556	0.1489	0.1528
	QPSK	FULL		6.36	6.25	6.26	15.64	22.00	21.89	21.90	0.1585	0.1545	0.1549
	16QAM	1RB01RBMAX		5.86	5.90	5.78	15.64	21.50	21.54	21.42	0.1413	0.1426	0.1387
	16QAM	1RBMAX1RB0		5.82	5.84	5.90	15.64	21.46	21.48	21.54	0.1400	0.1406	0.1426
	16QAM	FULL		6.22	6.25	6.13	15.64	21.86	21.89	21.77	0.1535	0.1545	0.1503
	64QAM	1RB01RBMAX		5.90	5.78	5.85	15.64	21.54	21.42	21.49	0.1426	0.1387	0.1409
	64QAM	1RBMAX1RB0		5.81	5.80	5.93	15.64	21.45	21.44	21.57	0.1396	0.1393	0.1435

	64QAM	FULL	6.24	6.15	6.23	15.64	21.88	21.79	21.87	0.1542	0.1510	0.1538

LTE Band 43B_CA (Ant.2):

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP(W)			EIRP(W)		
Channel				L	M	H		L	M	H	L	M	H
10+10	QPSK	1RB01RBMAX		7.16	7.26	7.13	15.64	22.80	22.90	22.77	0.1905	0.1950	0.1892
	QPSK	1RBMAX1RB0		6.80	6.97	7.05	15.64	22.44	22.61	22.69	0.1754	0.1824	0.1858
	QPSK	FULL		6.88	7.16	7.12	15.64	22.52	22.80	22.76	0.1786	0.1905	0.1888
	16QAM	1RB01RBMAX		6.93	6.87	6.80	15.64	22.57	22.51	22.44	0.1807	0.1782	0.1754
	16QAM	1RBMAX1RB0		6.79	6.89	6.83	15.64	22.43	22.53	22.47	0.1750	0.1791	0.1766
	16QAM	FULL		7.05	7.19	7.20	15.64	22.69	22.83	22.84	0.1858	0.1919	0.1923
	64QAM	1RB01RBMAX		6.68	6.73	6.91	15.64	22.32	22.37	22.55	0.1706	0.1726	0.1799
	64QAM	1RBMAX1RB0		6.55	6.70	6.82	15.64	22.19	22.34	22.46	0.1656	0.1714	0.1762
	64QAM	FULL		6.90	6.98	7.12	15.64	22.54	22.62	22.76	0.1795	0.1828	0.1888
10+5	QPSK	1RB01RBMAX		6.59	7.01	6.62	15.64	22.23	22.65	22.26	0.1671	0.1841	0.1683
	QPSK	1RBMAX1RB0		6.69	7.16	6.73	15.64	22.33	22.80	22.37	0.1710	0.1905	0.1726
	QPSK	FULL		6.76	7.10	6.70	15.64	22.40	22.74	22.34	0.1738	0.1879	0.1714
	16QAM	1RB01RBMAX		6.67	7.14	6.68	15.64	22.31	22.78	22.32	0.1702	0.1897	0.1706
	16QAM	1RBMAX1RB0		6.71	7.18	6.69	15.64	22.35	22.82	22.33	0.1718	0.1914	0.1710
	16QAM	FULL		6.79	7.09	6.69	15.64	22.43	22.73	22.33	0.1750	0.1875	0.1710
	64QAM	1RB01RBMAX		6.35	6.84	6.54	15.64	21.99	22.48	22.18	0.1581	0.1770	0.1652
	64QAM	1RBMAX1RB0		6.31	6.81	6.52	15.64	21.95	22.45	22.16	0.1567	0.1758	0.1644
	64QAM	FULL		6.78	7.08	6.68	15.64	22.42	22.72	22.32	0.1746	0.1871	0.1706
5+10	QPSK	1RB01RBMAX		7.02	6.98	6.73	15.64	22.66	22.62	22.37	0.1845	0.1828	0.1726
	QPSK	1RBMAX1RB0		7.17	7.09	6.84	15.64	22.81	22.73	22.48	0.1910	0.1875	0.1770
	QPSK	FULL		7.25	7.04	6.95	15.64	22.89	22.68	22.59	0.1945	0.1854	0.1816
	16QAM	1RB01RBMAX		7.13	6.97	6.68	15.64	22.77	22.61	22.32	0.1892	0.1824	0.1706
	16QAM	1RBMAX1RB0		7.21	7.01	6.73	15.64	22.85	22.65	22.37	0.1928	0.1841	0.1726
	16QAM	FULL		7.16	7.08	6.93	15.64	22.80	22.72	22.57	0.1905	0.1871	0.1807
	64QAM	1RB01RBMAX		7.04	6.92	6.73	15.64	22.68	22.56	22.37	0.1854	0.1803	0.1726
	64QAM	1RBMAX1RB0		6.93	6.88	6.72	15.64	22.57	22.52	22.36	0.1807	0.1786	0.1722
	64QAM	FULL		7.17	7.09	6.92	15.64	22.81	22.73	22.56	0.1910	0.1875	0.1803
5+5	QPSK	1RB01RBMAX		7.05	7.23	6.78	15.64	22.69	22.87	22.42	0.1858	0.1936	0.1746
	QPSK	1RBMAX1RB0		6.93	7.07	6.66	15.64	22.57	22.71	22.30	0.1807	0.1866	0.1698
	QPSK	FULL		7.06	7.13	6.95	15.64	22.70	22.77	22.59	0.1862	0.1892	0.1816
	16QAM	1RB01RBMAX		7.12	7.16	6.80	15.64	22.76	22.80	22.44	0.1888	0.1905	0.1754
	16QAM	1RBMAX1RB0		7.01	7.25	6.75	15.64	22.65	22.89	22.39	0.1841	0.1945	0.1734
	16QAM	FULL		7.02	7.13	6.94	15.64	22.66	22.77	22.58	0.1845	0.1892	0.1811
	64QAM	1RB01RBMAX		6.72	6.98	6.56	15.64	22.36	22.62	22.20	0.1722	0.1828	0.1660
	64QAM	1RBMAX1RB0		6.61	6.94	6.55	15.64	22.25	22.58	22.19	0.1679	0.1811	0.1656
	64QAM	FULL		7.02	6.98	6.92	15.64	22.66	22.62	22.56	0.1845	0.1828	0.1803

LTE Band 48 (Ant.2):

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				55340	55990	56640			
Frequency (MHz)				3560	3625	3690	L	M	H
20	QPSK	1	0	6.16	6.50	6.71	0.1514	0.1637	0.1718
20	QPSK	1	99	6.98	7.16	6.69	0.1828	0.1905	0.1710
20	QPSK	100	0	6.44	6.78	6.60	0.1614	0.1746	0.1675
20	16QAM	1	0	5.91	6.45	6.68	0.1429	0.1618	0.1706
20	64QAM	1	0	5.45	6.04	6.53	0.1285	0.1472	0.1648
Channel				55315	55990	56665	L	M	H
Frequency (MHz)				3557.5	3625	3692.5			
15	QPSK	1	0	5.92	6.39	6.57	0.1432	0.1596	0.1663
15	16QAM	1	0	5.91	6.34	6.56	0.1429	0.1578	0.1660
Channel				55290	55990	56690	L	M	H
Frequency (MHz)				3555	3625	3695			
10	QPSK	1	0	5.94	6.45	6.42	0.1439	0.1618	0.1607
10	16QAM	1	0	5.92	6.33	6.38	0.1432	0.1574	0.1592
Channel				55265	55990	56715	L	M	H
Frequency (MHz)				3552.5	3625	3697.5			
5	QPSK	1	0	5.44	5.94	5.82	0.1282	0.1439	0.1400
5	16QAM	1	0	5.38	5.92	5.81	0.1265	0.1432	0.1396

LTE Band 48_UL MIMO (Ant.0+2):

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP	EIRP	EIRP
Channel				55340	55990	56640		L	M	H
Frequency (MHz)				3560	3625	3690				
20	QPSK	1	0	6.42	6.36	6.52	15.64	0.1605	0.1584	0.1643
20	QPSK	1	99	6.72	6.49	6.77	15.64	0.1723	0.1633	0.1741
20	QPSK	100	0	6.61	6.36	6.81	15.64	0.1679	0.1584	0.1757
20	16QAM	1	0	6.46	6.16	6.52	15.64	0.1621	0.1513	0.1646
20	64QAM	1	0	6.15	5.96	6.33	15.64	0.1510	0.1446	0.1572
Channel				55315	55990	56665	Gain	L	M	H
Frequency (MHz)				3557.5	3625	3692.5				
15	QPSK	1	0	6.34	6.41	6.53	15.64	0.1578	0.1602	0.1647
15	16QAM	1	0	6.19	6.37	6.58	15.64	0.1525	0.1588	0.1665
15	QPSK	1	74	6.60	6.69	6.61	15.64	0.1673	0.1710	0.1678
15	QPSK	75	0	6.32	6.34	6.31	15.64	0.1571	0.1577	0.1566
Channel				55290	55990	56690	Gain	L	M	H
Frequency (MHz)				3555	3625	3695				
10	QPSK	1	0	6.41	6.56	6.58	15.64	0.1604	0.1658	0.1665
10	16QAM	1	0	6.24	6.54	6.43	15.64	0.1540	0.1653	0.1609
10	QPSK	1	49	6.57	6.79	6.72	15.64	0.1662	0.1751	0.1723
10	QPSK	50	0	6.27	6.54	6.43	15.64	0.1553	0.1652	0.1611
Channel				55265	55990	56715	Gain	L	M	H
Frequency (MHz)				3552.5	3625	3697.5				
5	QPSK	1	0	6.46	6.37	6.32	15.64	0.1622	0.1588	0.1571
5	16QAM	1	0	6.38	6.33	6.25	15.64	0.1590	0.1575	0.1544
5	QPSK	1	24	6.57	6.41	6.51	15.64	0.1664	0.1603	0.1639
5	QPSK	25	0	6.43	6.45	6.53	15.64	0.1609	0.1618	0.1646

LTE Band 48B_CA (Ant.2):

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP(W)			EIRP(W)		
Channel				L	M	H		L	M	H	L	M	H
10+10	QPSK	1RB01RBMAX		7.21	7.16	7.25	15.64	22.85	22.80	22.89	0.1928	0.1905	0.1945
	QPSK	1RBMAX1RB0		7.24	7.32	7.32	15.64	22.88	22.96	22.96	0.1941	0.1977	0.1977
	QPSK	FULL		7.16	7.24	7.31	15.64	22.80	22.88	22.95	0.1905	0.1941	0.1972
	16QAM	1RB01RBMAX		7.16	7.14	7.18	15.64	22.80	22.78	22.82	0.1905	0.1897	0.1914
	16QAM	1RBMAX1RB0		7.32	7.24	7.29	15.64	22.96	22.88	22.93	0.1977	0.1941	0.1963
	16QAM	FULL		7.21	7.21	7.26	15.64	22.85	22.85	22.90	0.1928	0.1928	0.1950
	64QAM	1RB01RBMAX		7.02	7.23	7.06	15.64	22.66	22.87	22.70	0.1845	0.1936	0.1862
	64QAM	1RBMAX1RB0		6.92	7.21	7.13	15.64	22.56	22.85	22.77	0.1803	0.1928	0.1892
	64QAM	FULL		7.13	7.14	7.16	15.64	22.77	22.78	22.80	0.1892	0.1897	0.1905

LTE Band 48C_CA (Ant.2):

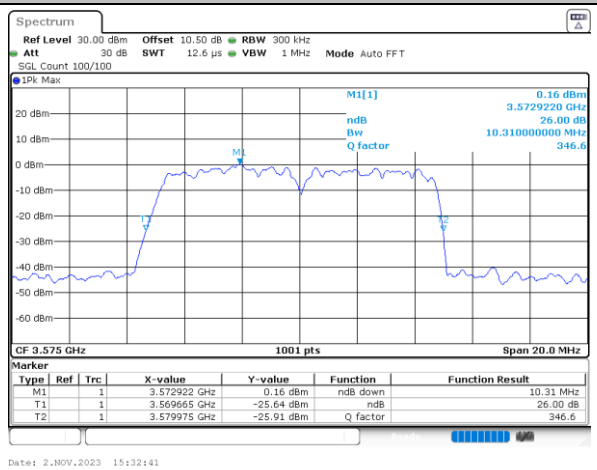
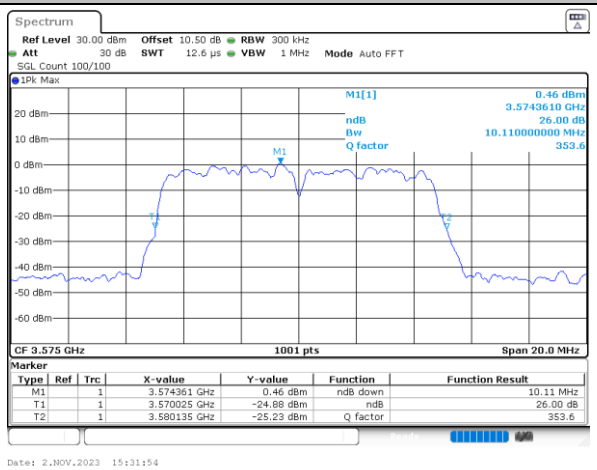
Combination 20MHz+20MHz (100RB+100RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
L	QPSK	1	Max	1	0	7.15	0.1901
M	QPSK	1	Max	1	0	7.08	0.1871
H	QPSK	1	Max	1	0	7.27	0.1954
L	16QAM	1	Max	1	0	7.27	0.1954
M	16QAM	1	Max	1	0	7.04	0.1854
H	16QAM	1	Max	1	0	7.13	0.1892
L	64QAM	1	Max	1	0	7.00	0.1837
M	64QAM	1	Max	1	0	6.76	0.1738
H	64QAM	1	Max	1	0	7.01	0.1841
Combination 20MHz+15MHz (100RB+75RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	7.16	0.1905
L	16QAM	1	Max	1	0	7.10	0.1879
Combination 15MHz+20MHz (100RB+75RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	7.16	0.1905
L	16QAM	1	Max	1	0	7.19	0.1919
Combination 20MHz+10MHz (100RB+50RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	7.12	0.1888
L	16QAM	1	Max	1	0	7.14	0.1897
Combination 10MHz+20MHz (50RB+100RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	7.12	0.1888
L	16QAM	1	Max	1	0	7.24	0.1941
Combination 20MHz+5MHz (100RB+25RB)							

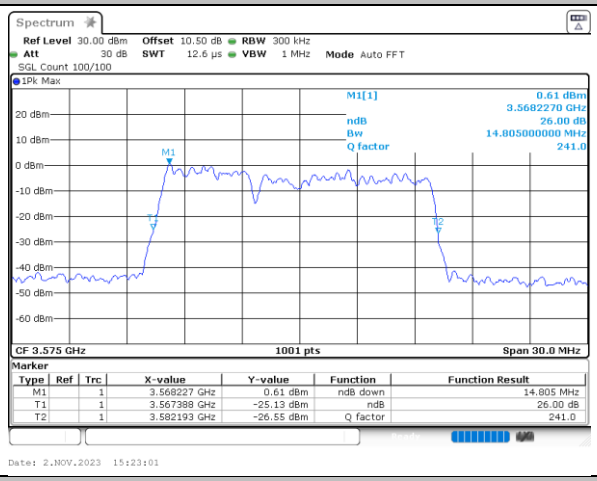
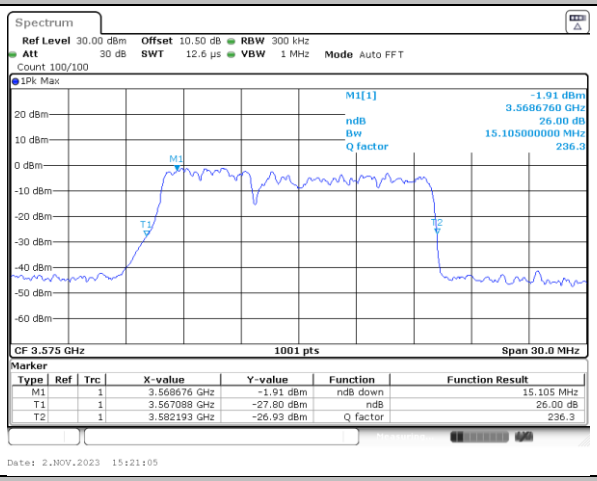
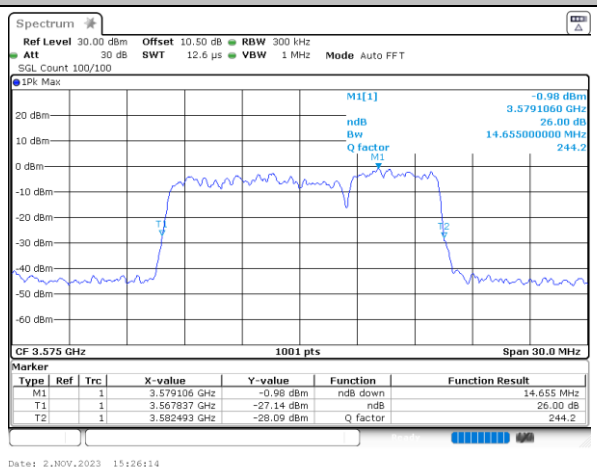
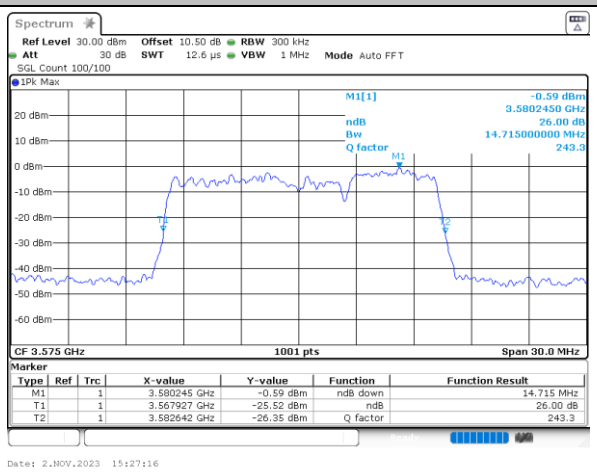
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	6.88	0.1786
L	16QAM	1	Max	1	0	6.93	0.1807
Combination 5MHz+20MHz (25RB+100RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	7.24	0.1941
L	16QAM	1	Max	1	0	7.26	0.1950

LTE Band 42B

26dB Bandwidth

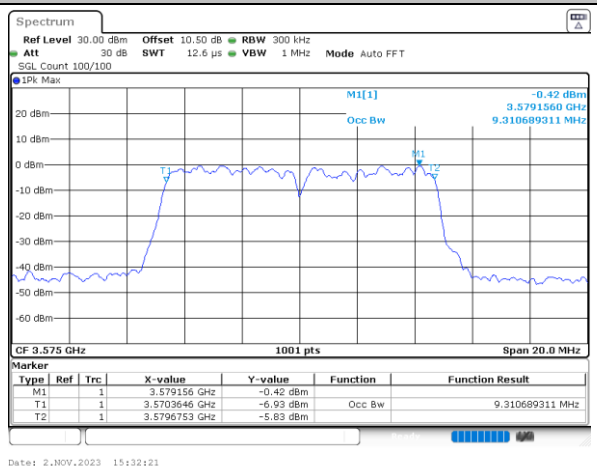
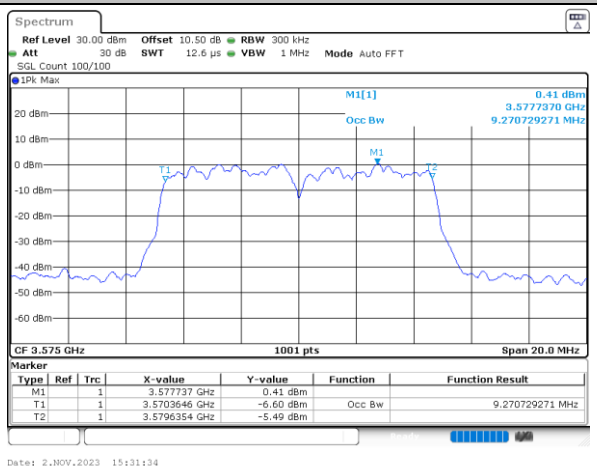
Mode	LTE Band 42B : 26dB BW(MHz)	
Mod.	QPSK	16QAM
BW	5MHz+5MHz	5MHz+5MHz
Middle CH	10.31	10.11
BW	5MHz+10MHz	5MHz+10MHz
Middle CH	14.81	15.11
BW	10MHz+5MHz	10MHz+5MHz
Middle CH	14.66	14.72

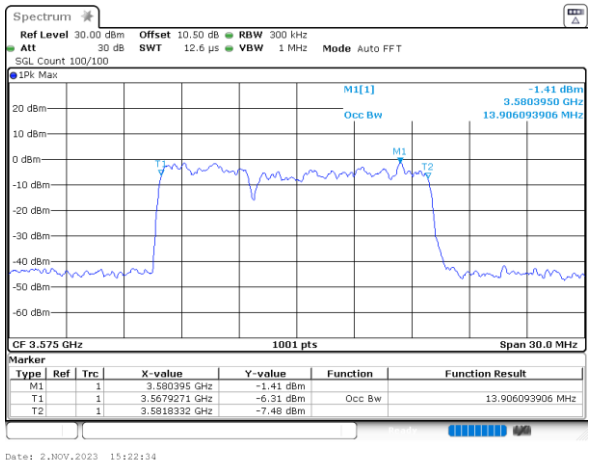
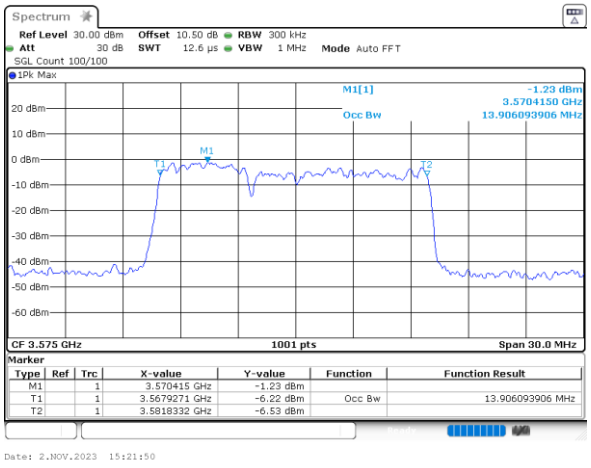
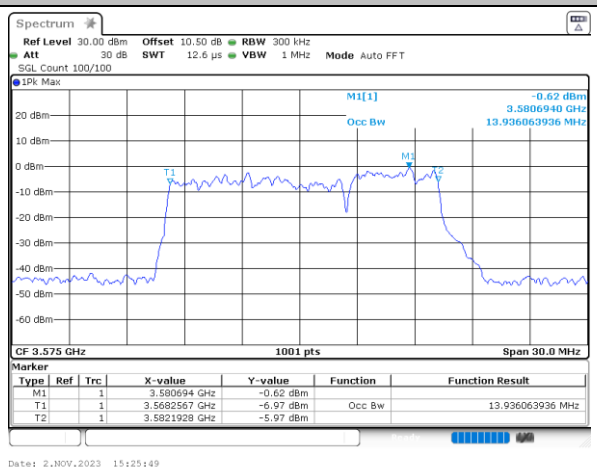
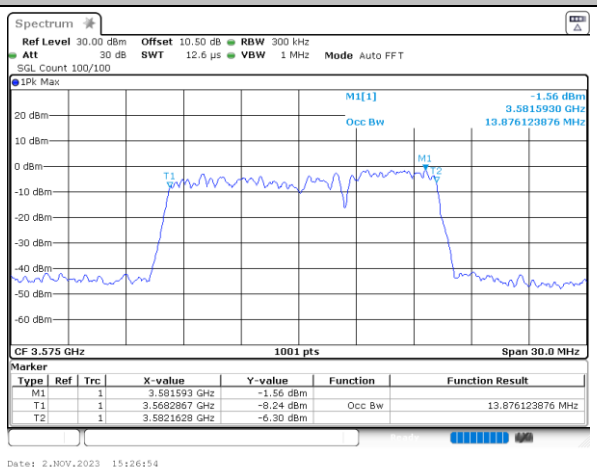
LTE Band 42B	
QPSK	16QAM
Middle Channel / 5MHz+5MHz	Middle Channel / 5MHz+5MHz
	

QPSK	16QAM
Middle Channel / 5MHz+10MHz	Middle Channel / 5MHz+10MHz
	
QPSK	16QAM
Middle Channel / 10MHz+5MHz	Middle Channel / 10MHz+5MHz
	

Occupied Bandwidth

Mode	LTE Band 42B : 99%OBW(MHz)	
Mod.	QPSK	16QAM
BW	5MHz+5MHz	5MHz+5MHz
Middle CH	9.31	9.27
BW	5MHz+10MHz	5MHz+10MHz
Middle CH	13.91	13.91
BW	10MHz+5MHz	10MHz+5MHz
Middle CH	13.94	13.88

LTE Band 42B	
QPSK	16QAM
Middle Channel / 5MHz+5MHz	Middle Channel / 5MHz+5MHz
	

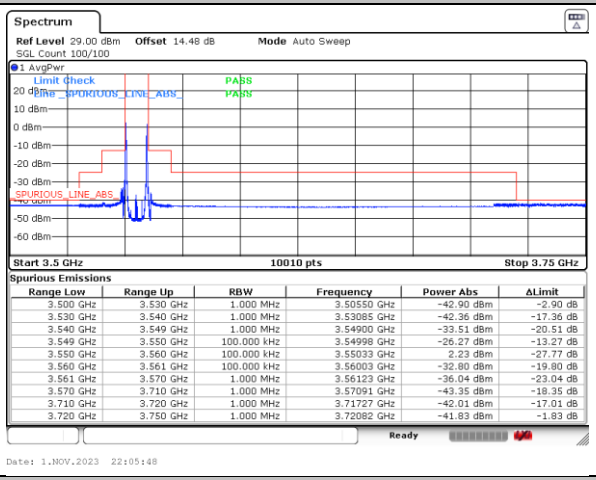
QPSK	16QAM
Middle Channel / 5MHz+10MHz	Middle Channel / 5MHz+10MHz
	
QPSK	16QAM
Middle Channel / 10MHz+5MHz	Middle Channel / 10MHz+5MHz
	

Conducted Band Edge

LTE Band 42B / 5MHz+5MHz

QPSK

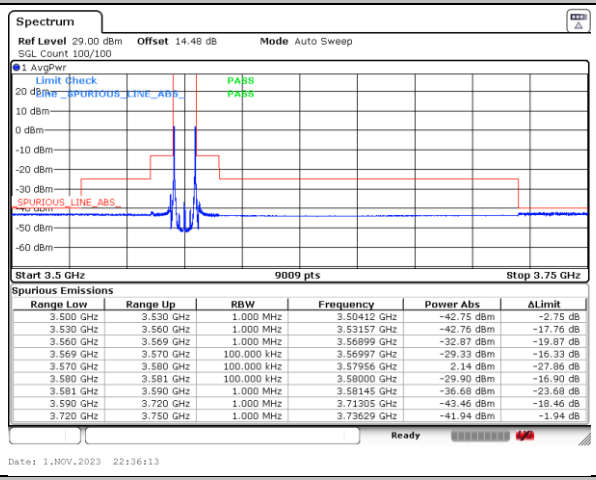
Lowest Band Edge / 1RB0 and 1RB24



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.50550 GHz	-42.90 dBm	-2.90 dB
3.530 GHz	3.540 GHz	1.000 MHz	3.53085 GHz	-42.36 dBm	-17.36 dB
3.540 GHz	3.549 GHz	1.000 MHz	3.54900 GHz	-33.51 dBm	-20.51 dB
3.549 GHz	3.550 GHz	100.000 kHz	3.54998 GHz	-26.27 dBm	-13.27 dB
3.550 GHz	3.560 GHz	100.000 kHz	3.55033 GHz	2.23 dBm	-27.77 dB
3.560 GHz	3.561 GHz	100.000 kHz	3.56003 GHz	-32.80 dBm	-19.80 dB
3.561 GHz	3.570 GHz	1.000 MHz	3.56123 GHz	-36.04 dBm	-23.04 dB
3.570 GHz	3.710 GHz	1.000 MHz	3.57091 GHz	-43.35 dBm	-18.35 dB
3.710 GHz	3.720 GHz	1.000 MHz	3.71727 GHz	-42.01 dBm	-17.01 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.72082 GHz	-41.83 dBm	-1.83 dB

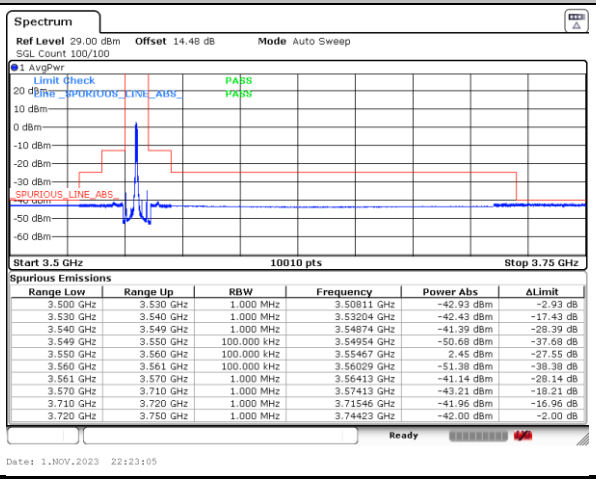
Middle Band Edge / 1RB0 and 1RB24



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.50412 GHz	-42.75 dBm	-2.75 dB
3.530 GHz	3.560 GHz	1.000 MHz	3.53157 GHz	-42.76 dBm	-17.76 dB
3.560 GHz	3.569 GHz	1.000 MHz	3.56899 GHz	-32.87 dBm	-19.87 dB
3.569 GHz	3.570 GHz	100.000 kHz	3.56997 GHz	-29.33 dBm	-16.33 dB
3.570 GHz	3.580 GHz	100.000 kHz	3.57956 GHz	2.14 dBm	-27.86 dB
3.580 GHz	3.581 GHz	100.000 kHz	3.58000 GHz	-29.90 dBm	-16.90 dB
3.581 GHz	3.590 GHz	1.000 MHz	3.58145 GHz	-36.68 dBm	-23.68 dB
3.590 GHz	3.720 GHz	1.000 MHz	3.71305 GHz	-43.46 dBm	-18.46 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.73629 GHz	-41.94 dBm	-1.94 dB

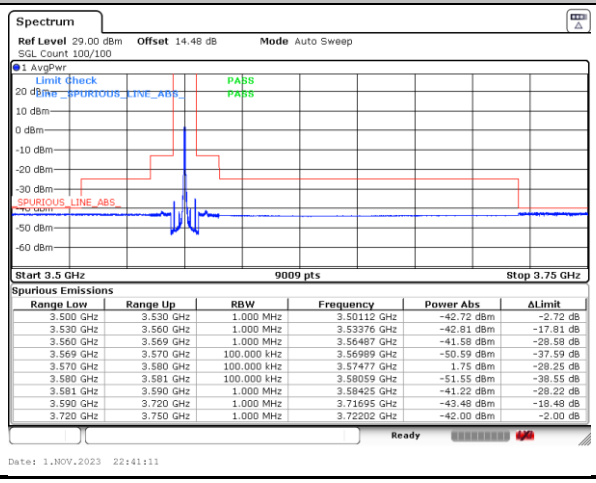
Lowest Band Edge / 1RB24 and 1RB0



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.50811 GHz	-42.93 dBm	-2.93 dB
3.530 GHz	3.540 GHz	1.000 MHz	3.53204 GHz	-42.43 dBm	-17.43 dB
3.540 GHz	3.549 GHz	1.000 MHz	3.54874 GHz	-41.39 dBm	-28.39 dB
3.549 GHz	3.550 GHz	100.000 kHz	3.54954 GHz	-50.68 dBm	-37.68 dB
3.550 GHz	3.560 GHz	100.000 kHz	3.55467 GHz	2.45 dBm	-27.55 dB
3.560 GHz	3.561 GHz	100.000 kHz	3.56029 GHz	-51.38 dBm	-38.38 dB
3.561 GHz	3.570 GHz	1.000 MHz	3.56413 GHz	-41.14 dBm	-28.14 dB
3.570 GHz	3.710 GHz	1.000 MHz	3.57413 GHz	-43.21 dBm	-18.21 dB
3.710 GHz	3.720 GHz	1.000 MHz	3.71546 GHz	-41.96 dBm	-16.96 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.74423 GHz	-42.00 dBm	-2.00 dB

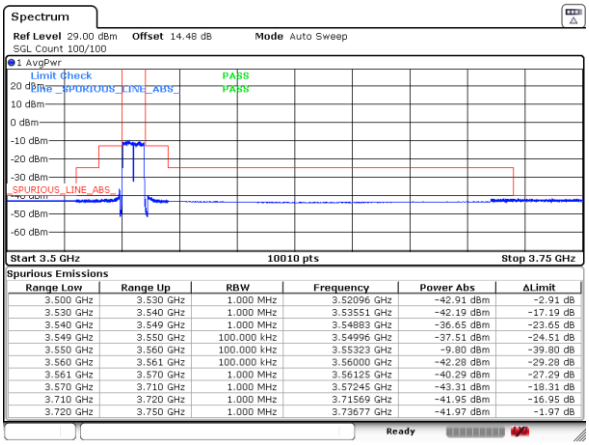
Middle Band Edge / 1RB24 and 1RB0



Spurious Emissions

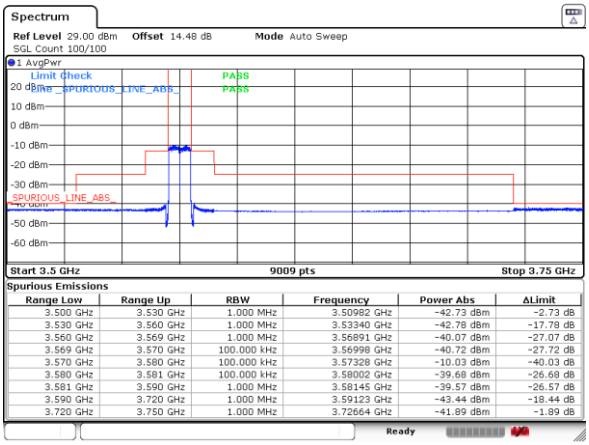
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.50112 GHz	-42.72 dBm	-2.72 dB
3.530 GHz	3.560 GHz	1.000 MHz	3.53376 GHz	-42.81 dBm	-17.81 dB
3.560 GHz	3.569 GHz	1.000 MHz	3.56487 GHz	-41.58 dBm	-28.58 dB
3.569 GHz	3.570 GHz	100.000 kHz	3.56989 GHz	-50.59 dBm	-37.59 dB
3.570 GHz	3.580 GHz	100.000 kHz	3.57477 GHz	1.75 dBm	-28.25 dB
3.580 GHz	3.581 GHz	100.000 kHz	3.58059 GHz	-51.55 dBm	-38.55 dB
3.581 GHz	3.590 GHz	1.000 MHz	3.58425 GHz	-41.22 dBm	-28.22 dB
3.590 GHz	3.720 GHz	1.000 MHz	3.71695 GHz	-43.48 dBm	-18.48 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.72202 GHz	-42.00 dBm	-2.00 dB

Lowest Band Edge / Full RB	Middle Band Edge / Full RB



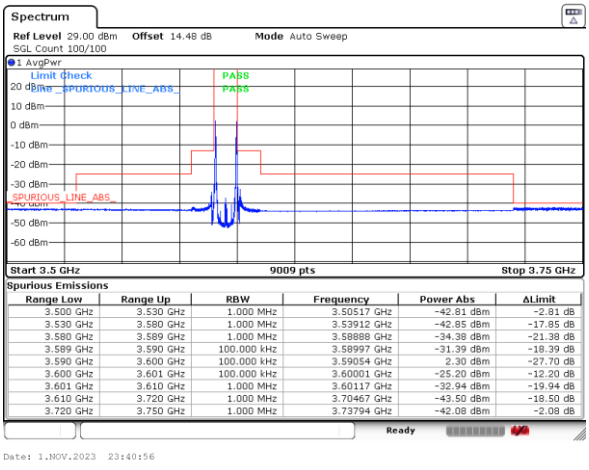
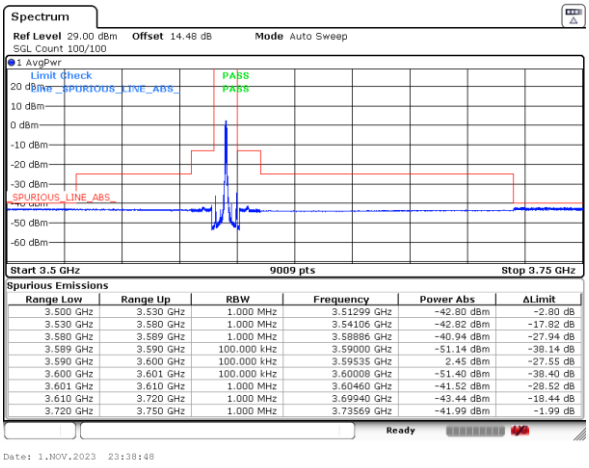
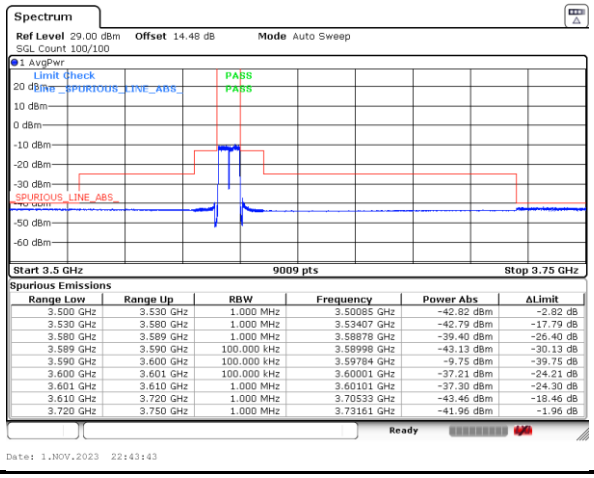
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.52096 GHz	-42.91 dBm	-2.91 dB
3.530 GHz	3.540 GHz	1.000 MHz	3.53551 GHz	-42.19 dBm	-17.19 dB
3.540 GHz	3.549 GHz	1.000 MHz	3.54883 GHz	-36.65 dBm	-23.65 dB
3.549 GHz	3.550 GHz	100.000 kHz	3.54996 GHz	-37.51 dBm	-24.51 dB
3.550 GHz	3.560 GHz	100.000 kHz	3.55323 GHz	-9.80 dBm	-39.80 dB
3.560 GHz	3.561 GHz	100.000 kHz	3.56000 GHz	-42.28 dBm	-29.28 dB
3.561 GHz	3.570 GHz	1.000 MHz	3.56125 GHz	-40.29 dBm	-27.29 dB
3.570 GHz	3.710 GHz	1.000 MHz	3.57245 GHz	-43.31 dBm	-18.31 dB
3.710 GHz	3.720 GHz	1.000 MHz	3.71569 GHz	-41.95 dBm	-16.95 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.73677 GHz	-41.97 dBm	-1.97 dB



Spurious Emissions

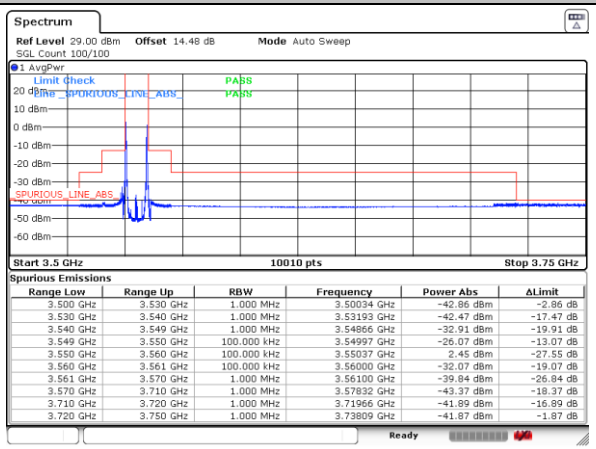
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.50982 GHz	-42.73 dBm	-2.73 dB
3.530 GHz	3.560 GHz	1.000 MHz	3.53340 GHz	-42.78 dBm	-17.78 dB
3.560 GHz	3.569 GHz	1.000 MHz	3.56891 GHz	-40.07 dBm	-27.07 dB
3.569 GHz	3.570 GHz	100.000 kHz	3.56998 GHz	-40.72 dBm	-27.72 dB
3.570 GHz	3.580 GHz	100.000 kHz	3.57328 GHz	-10.03 dBm	-40.03 dB
3.580 GHz	3.581 GHz	100.000 kHz	3.58002 GHz	-39.68 dBm	-26.68 dB
3.581 GHz	3.590 GHz	1.000 MHz	3.58145 GHz	-39.57 dBm	-26.57 dB
3.590 GHz	3.720 GHz	1.000 MHz	3.59123 GHz	-43.44 dBm	-18.44 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.72664 GHz	-41.89 dBm	-1.89 dB

LTE Band 42B / 5MHz+5MHz	
QPSK	
Highest Band Edge / 1RB0 and 1RB24	
	
Highest Band Edge / 1RB24 and 1RB0	
	
Highest Band Edge / Full RB	
	

LTE Band 42B / 5MHz+5MHz

16QAM

Lowest Band Edge / 1RB0 and 1RB24



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.50034 GHz	-42.86 dBm	-2.86 dB
3.530 GHz	3.540 GHz	1.000 MHz	3.53193 GHz	-42.47 dBm	-17.47 dB
3.540 GHz	3.549 GHz	1.000 MHz	3.54866 GHz	-32.91 dBm	-19.91 dB
3.549 GHz	3.550 GHz	100.000 kHz	3.54997 GHz	-26.07 dBm	-13.07 dB
3.550 GHz	3.560 GHz	100.000 kHz	3.55037 GHz	2.45 dBm	-27.55 dB
3.560 GHz	3.561 GHz	100.000 kHz	3.56000 GHz	-32.07 dBm	-19.07 dB
3.561 GHz	3.570 GHz	1.000 MHz	3.56100 GHz	-39.84 dBm	-26.84 dB
3.570 GHz	3.710 GHz	1.000 MHz	3.57832 GHz	-43.37 dBm	-18.37 dB
3.710 GHz	3.720 GHz	1.000 MHz	3.71966 GHz	-41.89 dBm	-16.89 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.73809 GHz	-41.87 dBm	-1.87 dB

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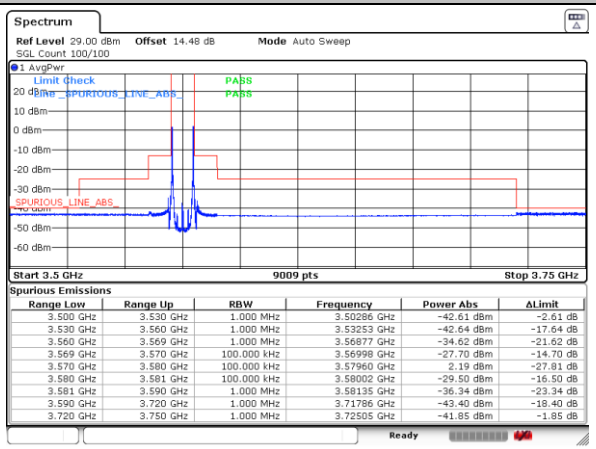
Middle Band Edge / 1RB0 and 1RB24



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.50286 GHz	-42.61 dBm	-2.61 dB
3.530 GHz	3.560 GHz	1.000 MHz	3.53253 GHz	-42.64 dBm	-17.64 dB
3.560 GHz	3.569 GHz	1.000 MHz	3.56877 GHz	-34.62 dBm	-21.62 dB
3.569 GHz	3.570 GHz	100.000 kHz	3.56998 GHz	-27.70 dBm	-14.70 dB
3.570 GHz	3.580 GHz	100.000 kHz	3.57960 GHz	2.19 dBm	-27.81 dB
3.580 GHz	3.581 GHz	100.000 kHz	3.58002 GHz	-29.50 dBm	-16.50 dB
3.581 GHz	3.590 GHz	1.000 MHz	3.58135 GHz	-36.34 dBm	-23.34 dB
3.590 GHz	3.720 GHz	1.000 MHz	3.71786 GHz	-43.40 dBm	-18.40 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.72505 GHz	-41.85 dBm	-1.85 dB

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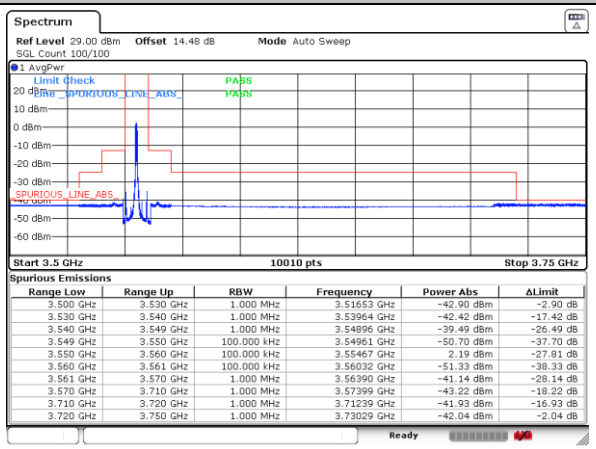
Lowest Band Edge / 1RB24 and 1RB0

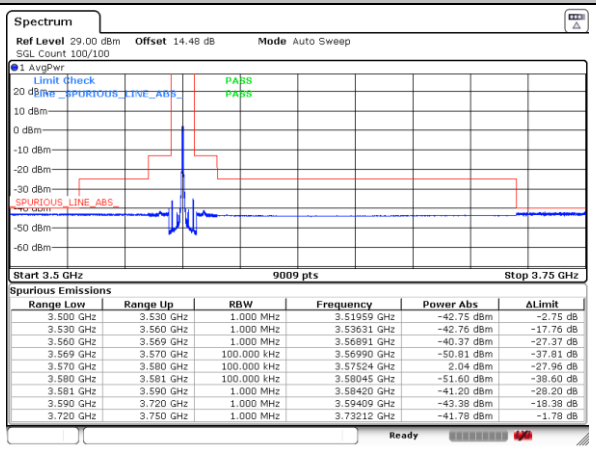


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.51653 GHz	-42.90 dBm	-2.90 dB
3.530 GHz	3.540 GHz	1.000 MHz	3.53964 GHz	-42.42 dBm	-17.42 dB
3.540 GHz	3.549 GHz	1.000 MHz	3.54896 GHz	-39.49 dBm	-26.49 dB
3.549 GHz	3.550 GHz	100.000 kHz	3.54961 GHz	-50.70 dBm	-37.70 dB
3.550 GHz	3.560 GHz	100.000 kHz	3.55467 GHz	2.19 dBm	-27.81 dB
3.560 GHz	3.561 GHz	100.000 kHz	3.56032 GHz	-51.33 dBm	-38.33 dB
3.561 GHz	3.570 GHz	1.000 MHz	3.56390 GHz	-41.14 dBm	-28.14 dB
3.570 GHz	3.710 GHz	1.000 MHz	3.57399 GHz	-43.22 dBm	-18.22 dB
3.710 GHz	3.720 GHz	1.000 MHz	3.71239 GHz	-41.93 dBm	-16.93 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.73029 GHz	-42.04 dBm	-2.04 dB

Date: 1.NOV.2023 22:24:54

Middle Band Edge / 1RB24 and 1RB0



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.51959 GHz	-42.75 dBm	-2.75 dB
3.530 GHz	3.560 GHz	1.000 MHz	3.53631 GHz	-42.76 dBm	-17.76 dB
3.560 GHz	3.569 GHz	1.000 MHz	3.56891 GHz	-40.37 dBm	-27.37 dB
3.569 GHz	3.570 GHz	100.000 kHz	3.56990 GHz	-50.81 dBm	-37.81 dB
3.570 GHz	3.580 GHz	100.000 kHz	3.57524 GHz	2.04 dBm	-27.96 dB
3.580 GHz	3.581 GHz	100.000 kHz	3.58045 GHz	-51.60 dBm	-38.60 dB
3.581 GHz	3.590 GHz	1.000 MHz	3.58420 GHz	-41.20 dBm	-28.20 dB
3.590 GHz	3.720 GHz	1.000 MHz	3.59409 GHz	-43.38 dBm	-18.38 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.73212 GHz	-41.78 dBm	-1.78 dB

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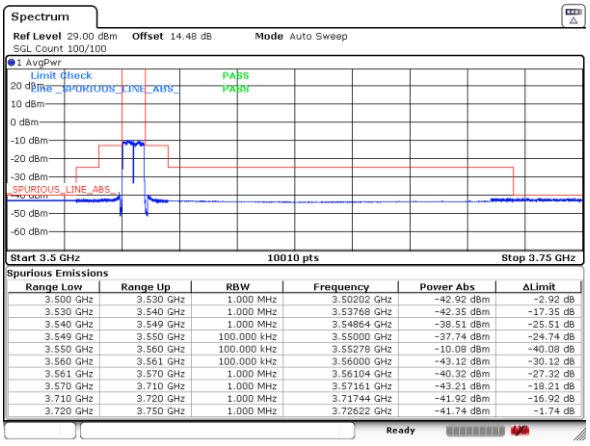
Lowest Band Edge / Full RB

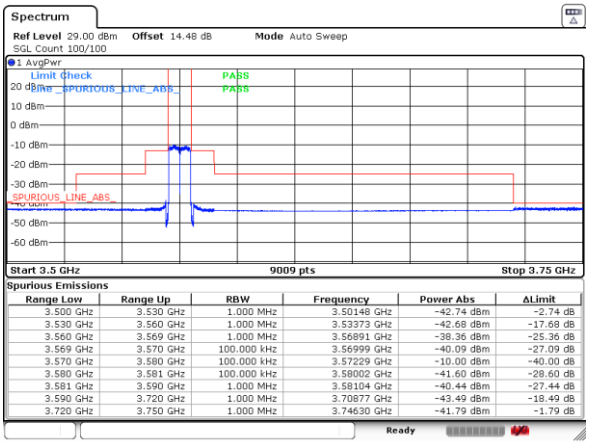


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.50202 GHz	-42.92 dBm	-2.92 dB
3.530 GHz	3.540 GHz	1.000 MHz	3.53768 GHz	-42.35 dBm	-17.35 dB
3.540 GHz	3.549 GHz	1.000 MHz	3.54864 GHz	-38.51 dBm	-25.51 dB
3.549 GHz	3.550 GHz	100.000 kHz	3.55000 GHz	-37.74 dBm	-24.74 dB
3.550 GHz	3.560 GHz	100.000 kHz	3.55278 GHz	-10.08 dBm	-40.08 dB
3.560 GHz	3.561 GHz	100.000 kHz	3.56000 GHz	-43.12 dBm	-30.12 dB
3.561 GHz	3.570 GHz	1.000 MHz	3.56104 GHz	-40.32 dBm	-27.32 dB
3.570 GHz	3.710 GHz	1.000 MHz	3.57161 GHz	-43.21 dBm	-18.21 dB
3.710 GHz	3.720 GHz	1.000 MHz	3.71744 GHz	-41.92 dBm	-16.92 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.72622 GHz	-41.74 dBm	-1.74 dB

Date: 1.NOV.2023 22:07:24

Middle Band Edge / Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.50148 GHz	-42.74 dBm	-2.74 dB
3.530 GHz	3.560 GHz	1.000 MHz	3.53373 GHz	-42.68 dBm	-17.68 dB
3.560 GHz	3.569 GHz	1.000 MHz	3.56891 GHz	-38.36 dBm	-25.36 dB
3.569 GHz	3.570 GHz	100.000 kHz	3.56999 GHz	-40.09 dBm	-27.09 dB
3.570 GHz	3.580 GHz	100.000 kHz	3.57229 GHz	-10.00 dBm	-40.00 dB
3.580 GHz	3.581 GHz	100.000 kHz	3.58002 GHz	-41.60 dBm	-28.60 dB
3.581 GHz	3.590 GHz	1.000 MHz	3.58104 GHz	-40.44 dBm	-27.44 dB
3.590 GHz	3.720 GHz	1.000 MHz	3.70877 GHz	-43.49 dBm	-18.49 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.74630 GHz	-41.79 dBm	-1.79 dB

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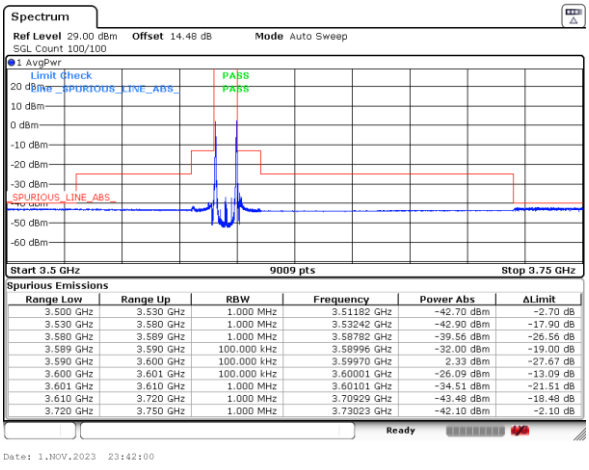
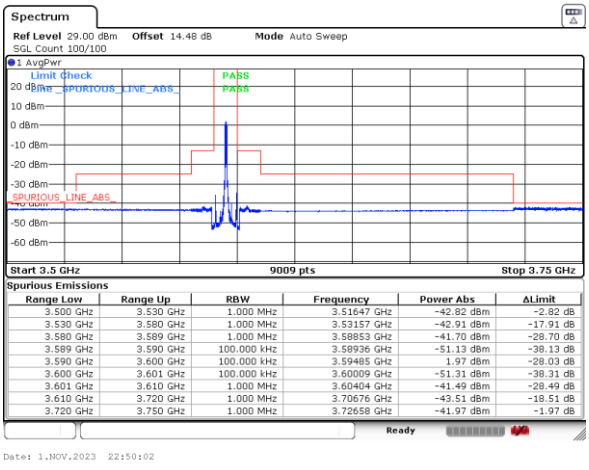
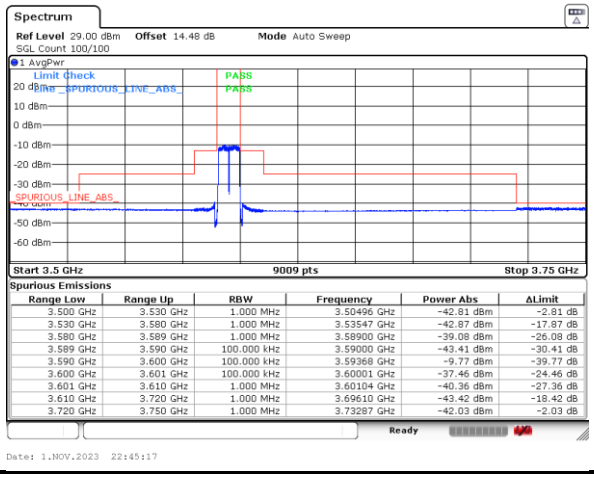
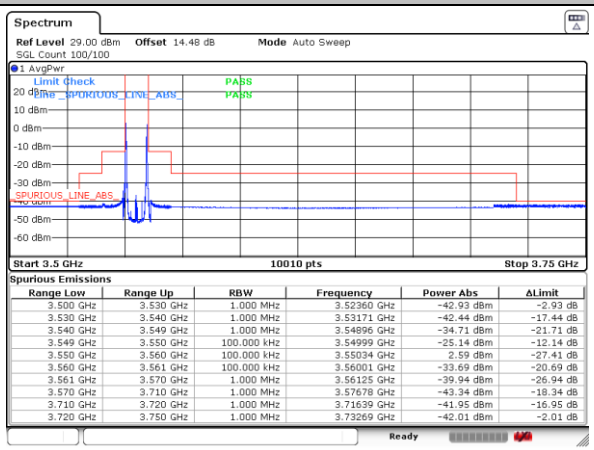
LTE Band 42B / 5MHz+5MHz	
16QAM	
Highest Band Edge / 1RB0 and 1RB24	
	
Highest Band Edge / 1RB24 and 1RB0	
	
Highest Band Edge / Full RB	
	

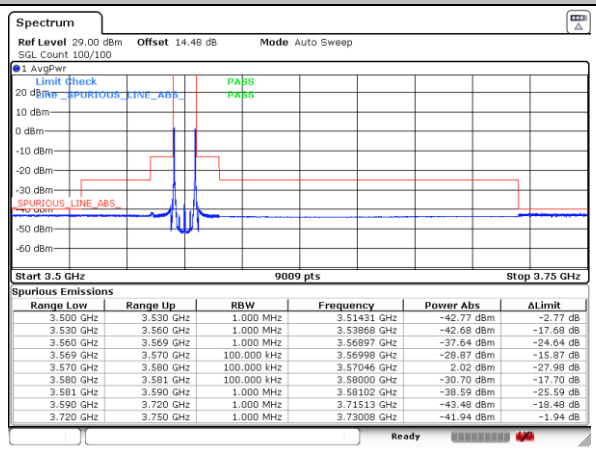
LTE Band 42B / 5MHz+5MHz

64QAM

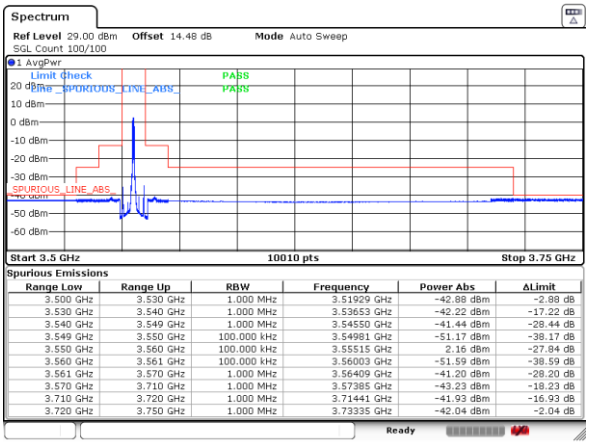
Lowest Band Edge / 1RB0 and 1RB24



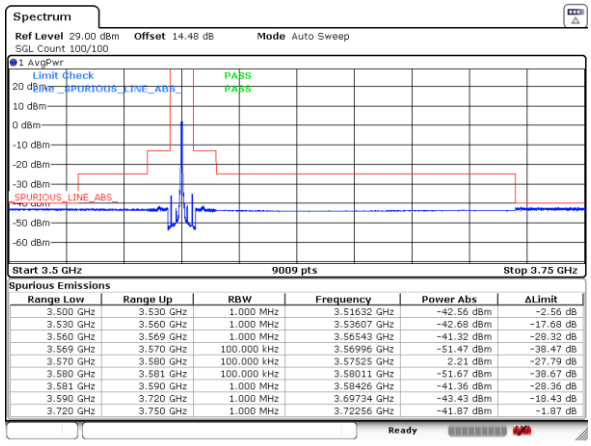
Middle Band Edge / 1RB0 and 1RB24



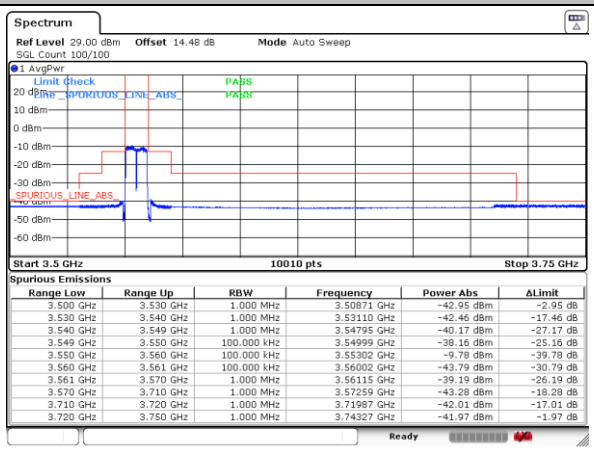
Lowest Band Edge / 1RB24 and 1RB0



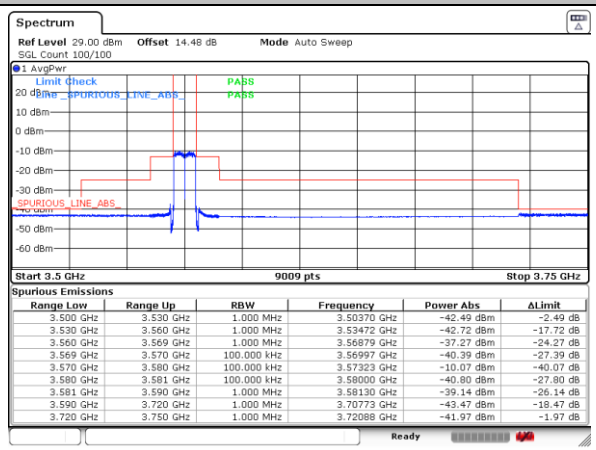
Middle Band Edge / 1RB24 and 1RB0



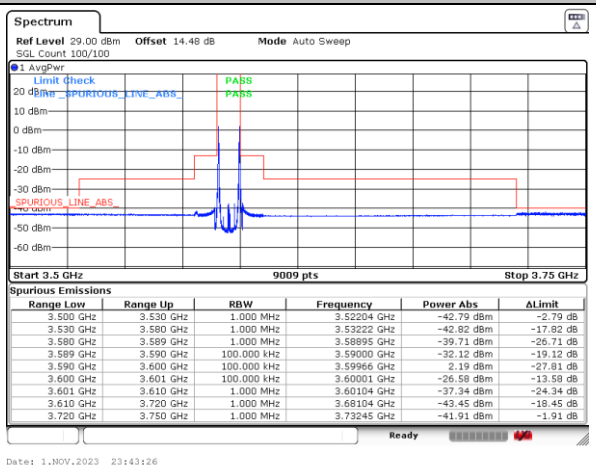
Lowest Band Edge / Full RB



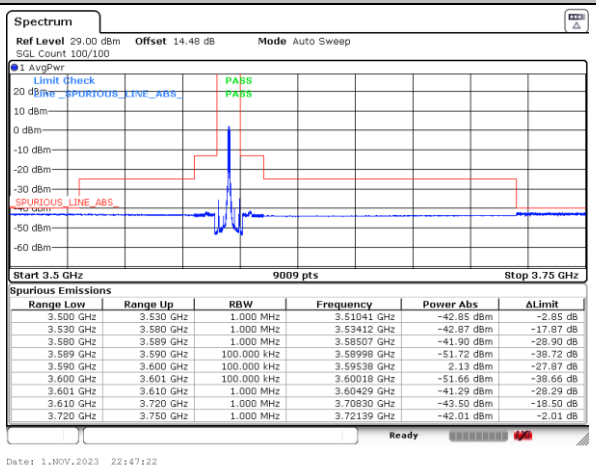
Middle Band Edge / Full RB



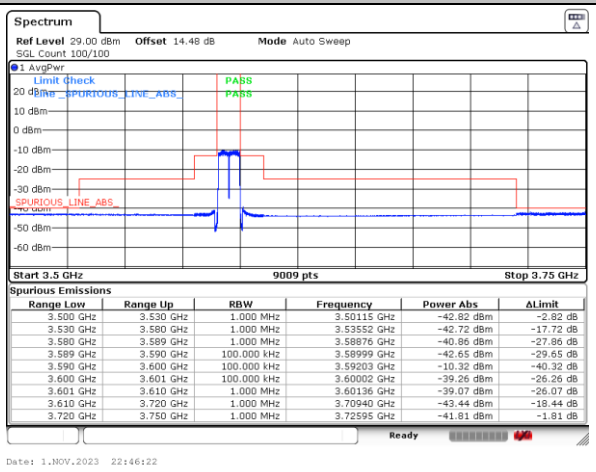
LTE Band 42B / 5MHz+5MHz	
64QAM	
Highest Band Edge / 1RB0 and 1RB24	



Highest Band Edge / 1RB24 and 1RB0	



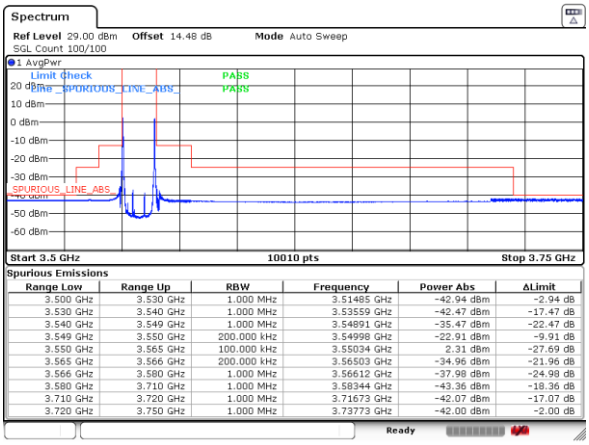
Highest Band Edge / Full RB	



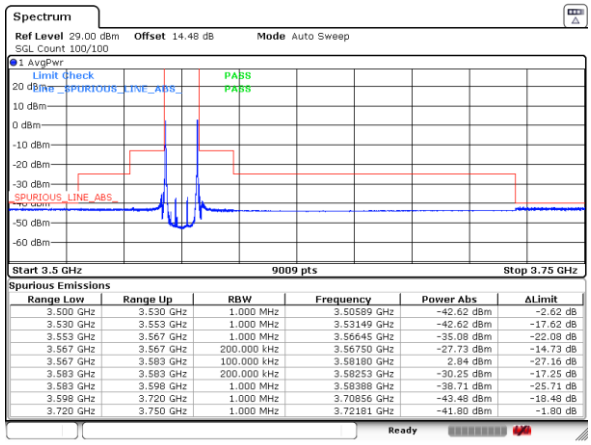
LTE Band 42B / 5MHz+10MHz

QPSK

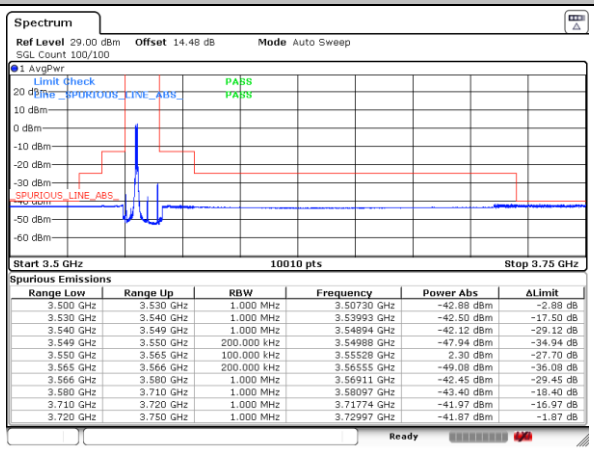
Lowest Band Edge / 1RB0 and 1RB49



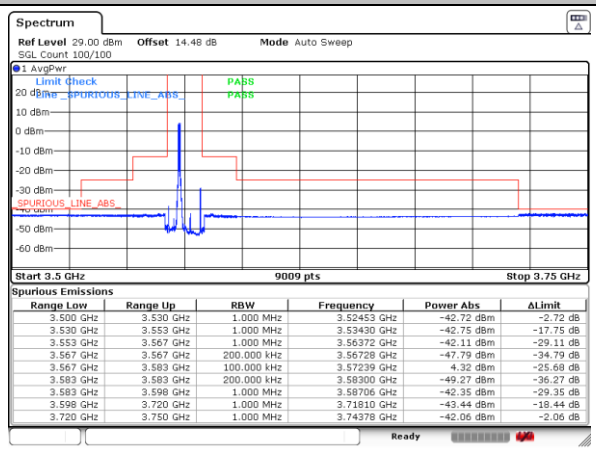
Middle Band Edge / 1RB0 and 1RB49



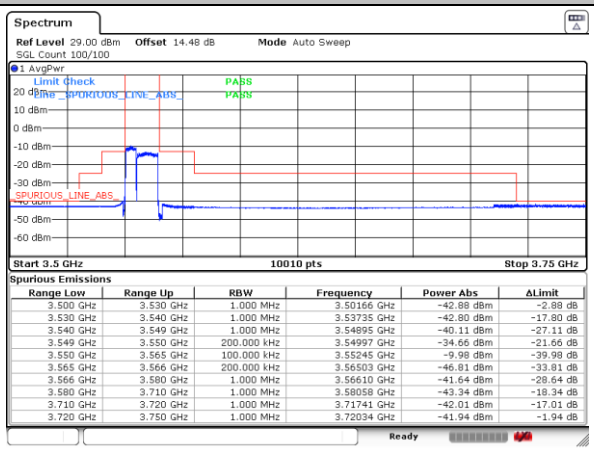
Lowest Band Edge / 1RB24 and 1RB0



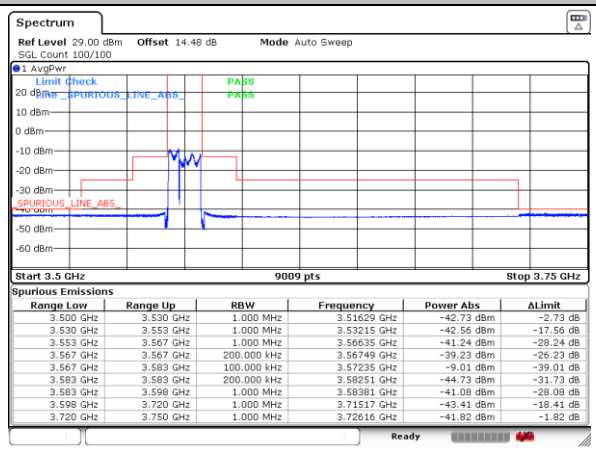
Middle Band Edge / 1RB24 and 1RB0



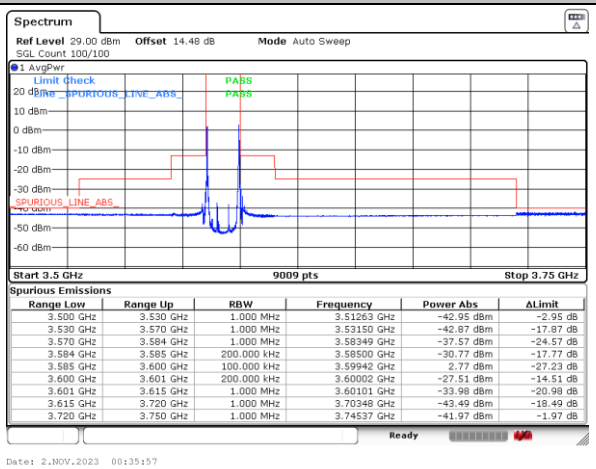
Lowest Band Edge / Full RB



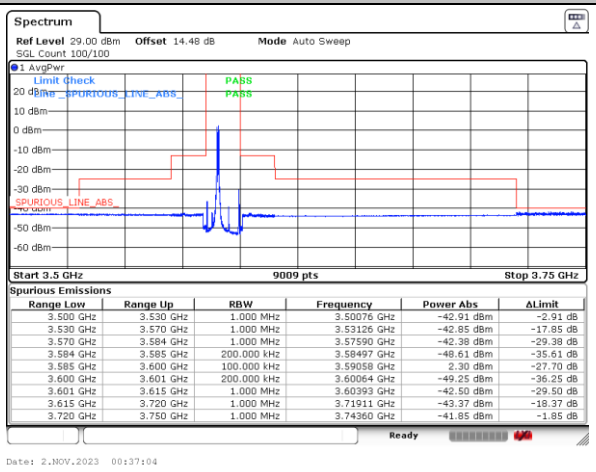
Middle Band Edge / Full RB



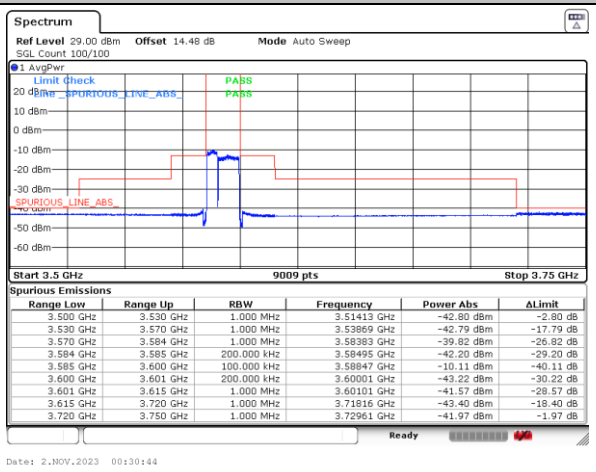
LTE Band 42B / 5MHz+10MHz	
QPSK	
Highest Band Edge / 1RB0 and 1RB49	



Highest Band Edge / 1RB24 and 1RB0	



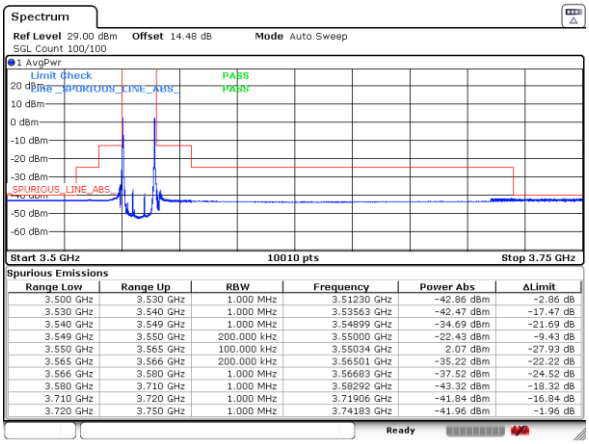
Highest Band Edge / Full RB	



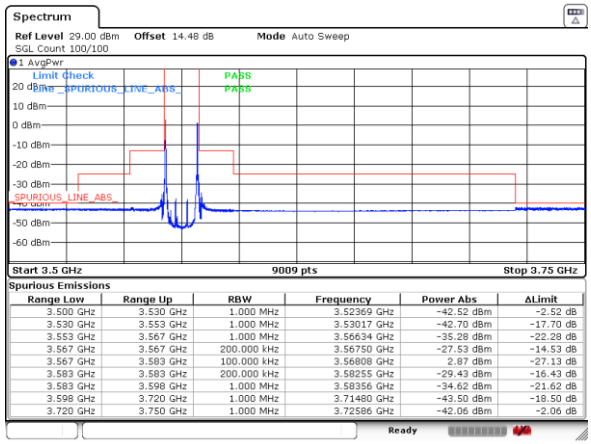
LTE Band 42B / 5MHz+10MHz

16QAM

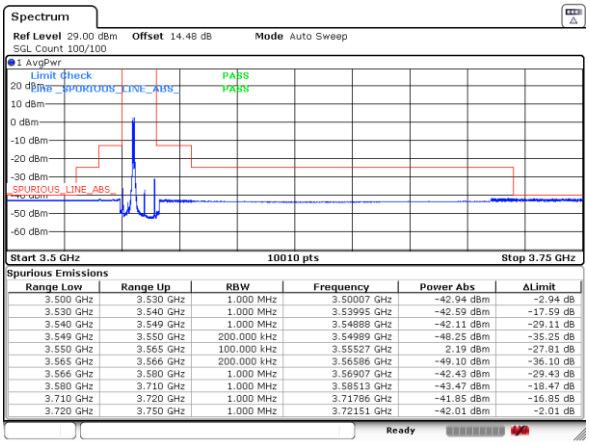
Lowest Band Edge / 1RB0 and 1RB49



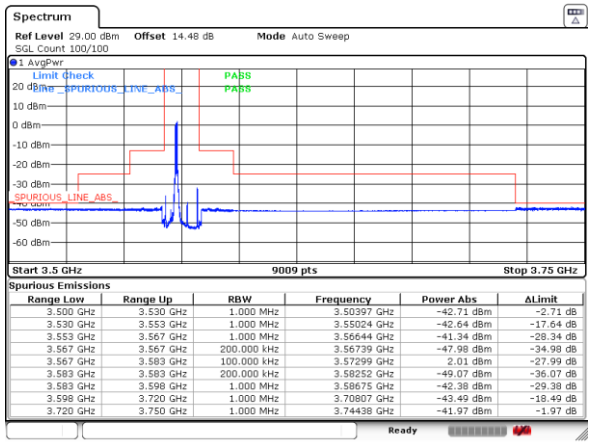
Middle Band Edge / 1RB0 and 1RB49



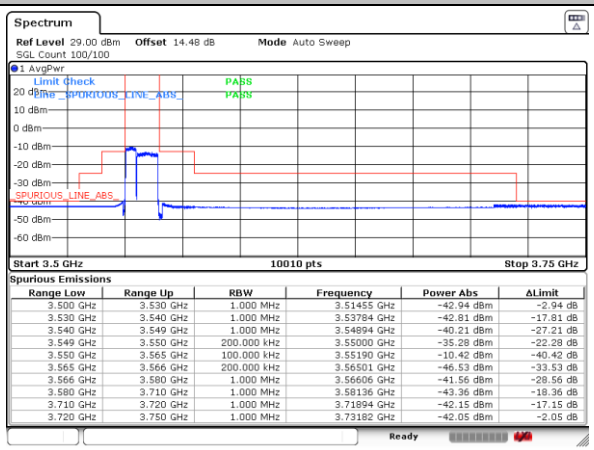
Lowest Band Edge / 1RB24 and 1RB0



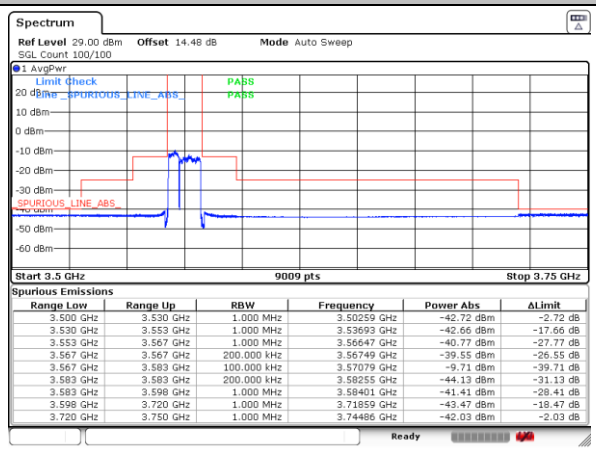
Middle Band Edge / 1RB424 and 1RB0



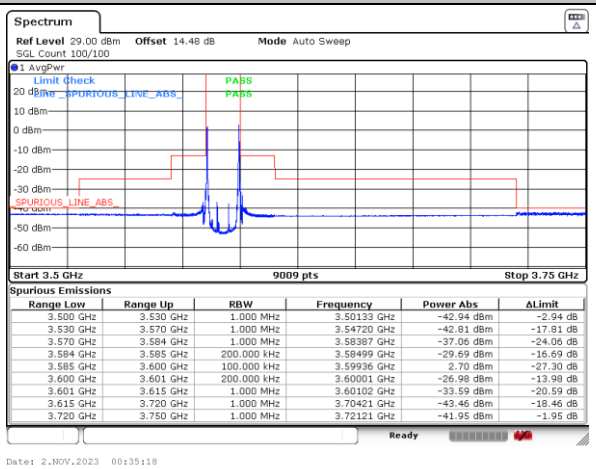
Lowest Band Edge / Full RB



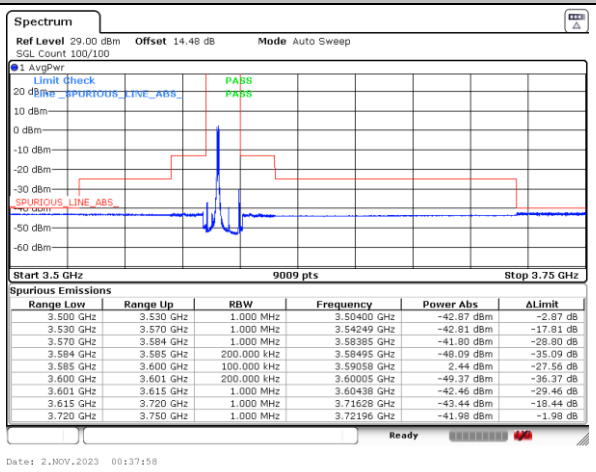
Middle Band Edge / Full RB



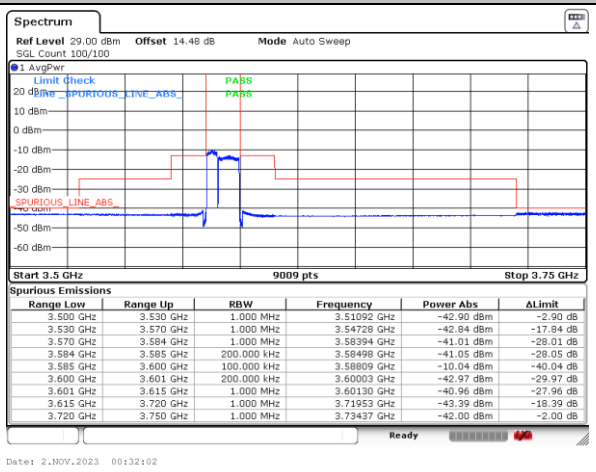
LTE Band 42B / 5MHz+10MHz	
16QAM	
Highest Band Edge / 1RB0 and 1RB49	



Highest Band Edge / 1RB24 and 1RB0	



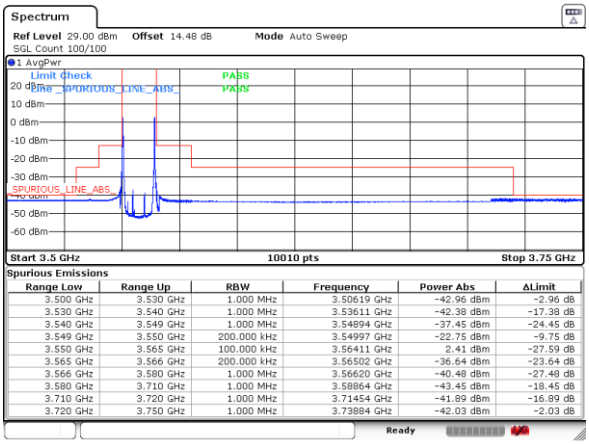
Highest Band Edge / Full RB	



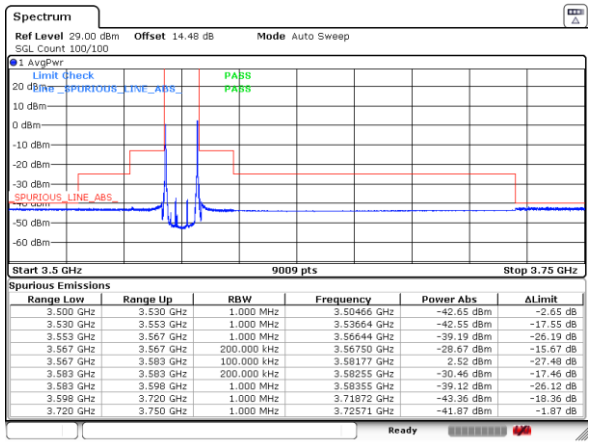
LTE Band 42B / 5MHz+10MHz

64QAM

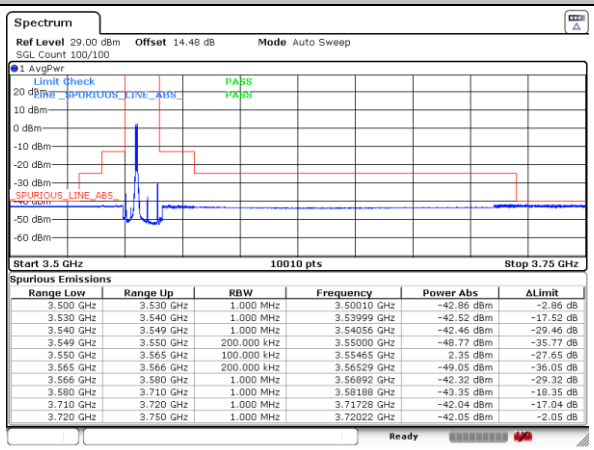
Lowest Band Edge / 1RB0 and 1RB49



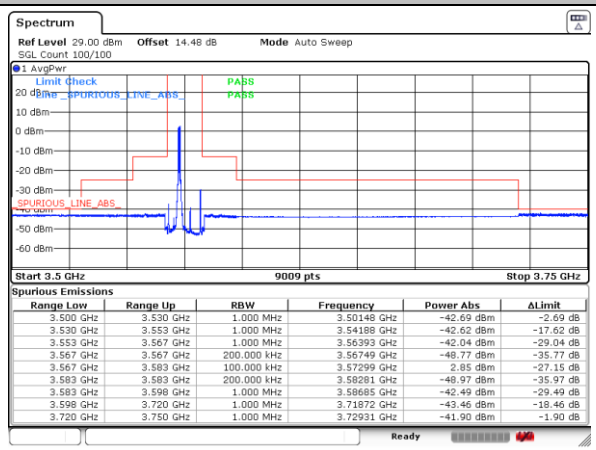
Middle Band Edge / 1RB0 and 1RB49



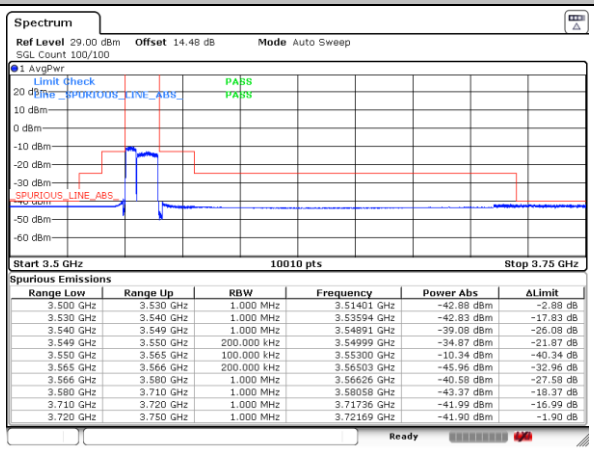
Lowest Band Edge / 1RB24 and 1RB0



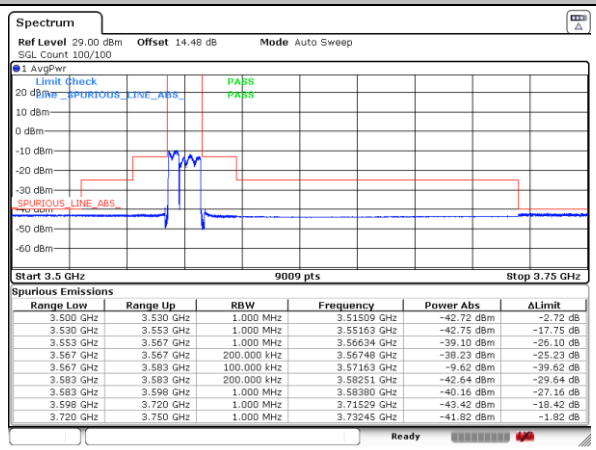
Middle Band Edge / 1RB24 and 1RB0



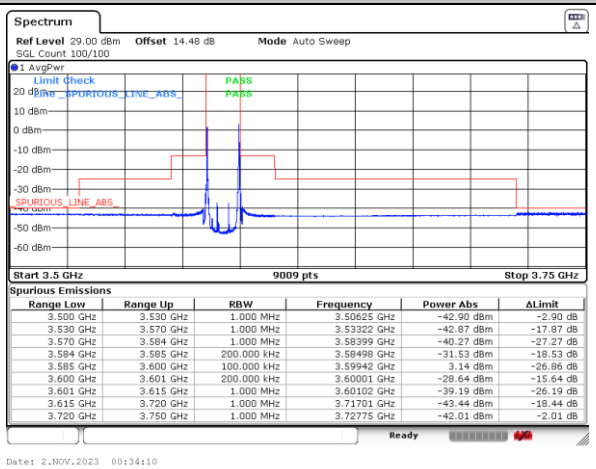
Lowest Band Edge / Full RB



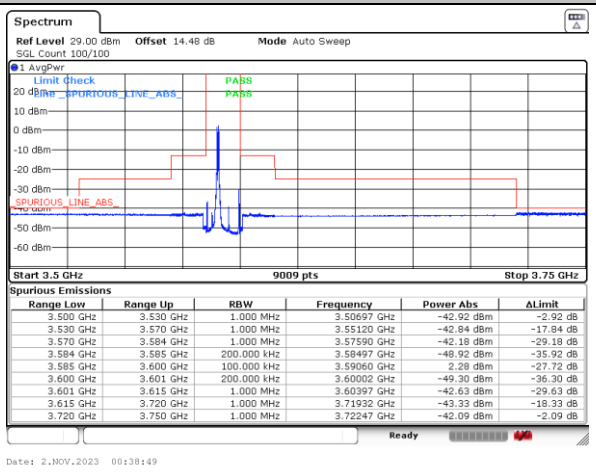
Middle Band Edge / Full RB



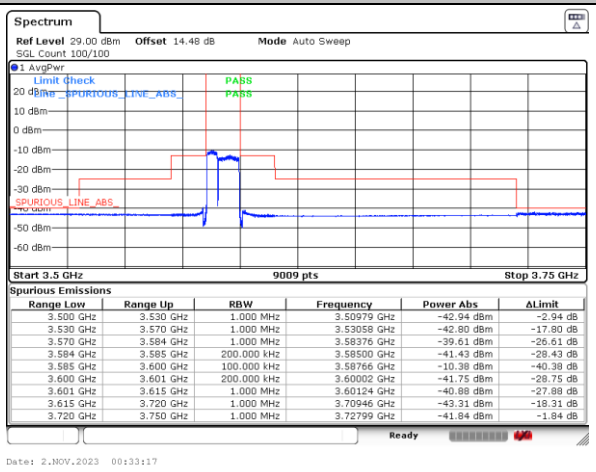
LTE Band 42B / 5MHz+10MHz	
64QAM	
Highest Band Edge / 1RB0 and 1RB49	



Highest Band Edge / 1RB24 and 1RB0	



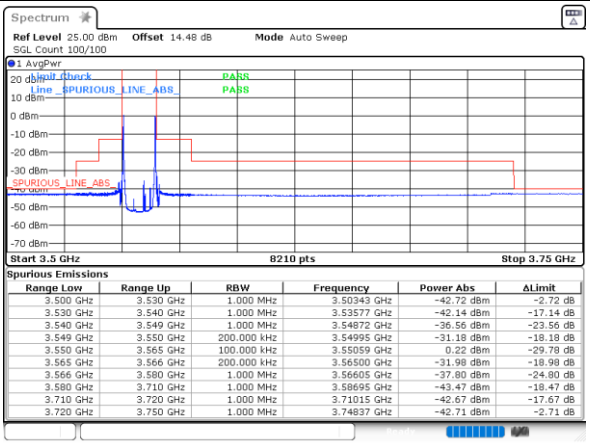
Highest Band Edge / Full RB	



LTE Band 42B / 10MHz+5MHz

QPSK

Lowest Band Edge / 1RB0 and 1RB24



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.50343 GHz	-42.72 dBm	-2.72 dB
3.530 GHz	3.540 GHz	1.000 MHz	3.53577 GHz	-42.14 dBm	-17.14 dB
3.540 GHz	3.549 GHz	1.000 MHz	3.54872 GHz	-36.56 dBm	-23.56 dB
3.549 GHz	3.550 GHz	200.000 kHz	3.54995 GHz	-31.18 dBm	-18.18 dB
3.550 GHz	3.565 GHz	100.000 kHz	3.55059 GHz	0.22 dBm	-29.78 dB
3.565 GHz	3.566 GHz	200.000 kHz	3.56500 GHz	-31.98 dBm	-18.98 dB
3.566 GHz	3.580 GHz	1.000 MHz	3.56605 GHz	-37.80 dBm	-24.80 dB
3.580 GHz	3.710 GHz	1.000 MHz	3.58695 GHz	-43.47 dBm	-18.47 dB
3.710 GHz	3.720 GHz	1.000 MHz	3.71015 GHz	-42.67 dBm	-17.67 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.74837 GHz	-42.71 dBm	-2.71 dB

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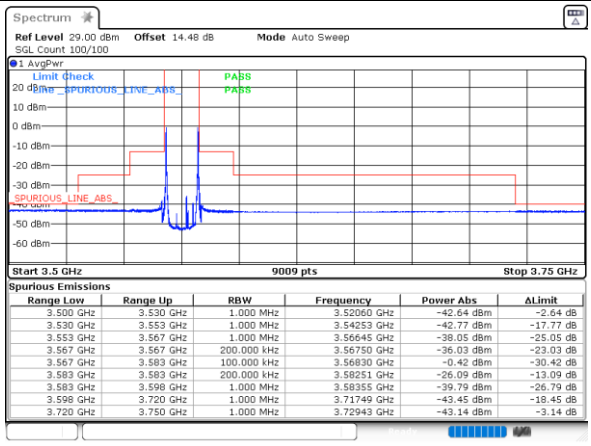
Middle Band Edge / 1RB0 and 1RB24



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.52060 GHz	-42.64 dBm	-2.64 dB
3.530 GHz	3.553 GHz	1.000 MHz	3.54253 GHz	-42.77 dBm	-17.77 dB
3.553 GHz	3.567 GHz	1.000 MHz	3.56645 GHz	-38.05 dBm	-25.05 dB
3.567 GHz	3.567 GHz	200.000 kHz	3.56750 GHz	-36.03 dBm	-23.03 dB
3.567 GHz	3.583 GHz	100.000 kHz	3.56830 GHz	-0.42 dBm	-30.42 dB
3.583 GHz	3.583 GHz	200.000 kHz	3.58251 GHz	-26.09 dBm	-13.09 dB
3.583 GHz	3.598 GHz	1.000 MHz	3.58355 GHz	-39.79 dBm	-26.79 dB
3.598 GHz	3.720 GHz	1.000 MHz	3.71749 GHz	-43.45 dBm	-18.45 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.72943 GHz	-43.14 dBm	-3.14 dB

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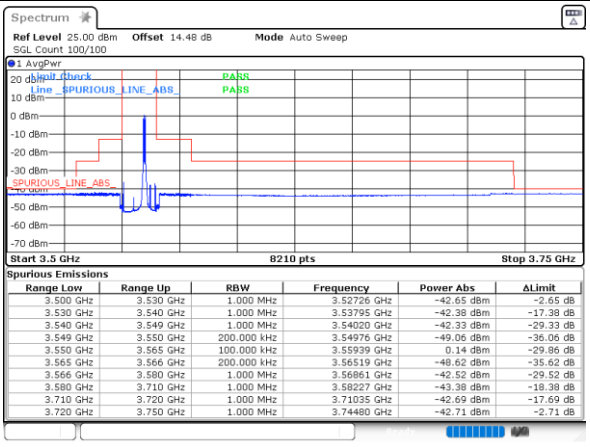
Lowest Band Edge / 1RB49 and 1RB0



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.52726 GHz	-42.65 dBm	-2.65 dB
3.530 GHz	3.540 GHz	1.000 MHz	3.53795 GHz	-42.38 dBm	-17.38 dB
3.540 GHz	3.549 GHz	1.000 MHz	3.54020 GHz	-42.33 dBm	-29.33 dB
3.549 GHz	3.550 GHz	200.000 kHz	3.54976 GHz	-49.06 dBm	-36.06 dB
3.550 GHz	3.565 GHz	100.000 kHz	3.55939 GHz	0.14 dBm	-29.86 dB
3.565 GHz	3.566 GHz	200.000 kHz	3.56519 GHz	-48.62 dBm	-35.62 dB
3.566 GHz	3.580 GHz	1.000 MHz	3.56861 GHz	-42.52 dBm	-29.52 dB
3.580 GHz	3.710 GHz	1.000 MHz	3.58227 GHz	-43.38 dBm	-18.38 dB
3.710 GHz	3.720 GHz	1.000 MHz	3.71035 GHz	-42.69 dBm	-17.69 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.74480 GHz	-42.71 dBm	-2.71 dB

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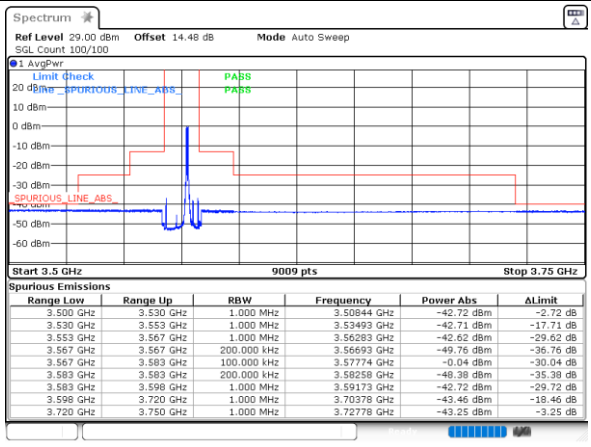
Middle Band Edge / 1RB49 and 1RB0



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.50844 GHz	-42.72 dBm	-2.72 dB
3.530 GHz	3.553 GHz	1.000 MHz	3.53493 GHz	-42.71 dBm	-17.71 dB
3.553 GHz	3.567 GHz	1.000 MHz	3.56283 GHz	-42.62 dBm	-29.62 dB
3.567 GHz	3.567 GHz	200.000 kHz	3.56693 GHz	-49.76 dBm	-36.76 dB
3.567 GHz	3.583 GHz	100.000 kHz	3.57774 GHz	-0.04 dBm	-30.04 dB
3.583 GHz	3.583 GHz	200.000 kHz	3.58258 GHz	-48.38 dBm	-35.38 dB
3.583 GHz	3.598 GHz	1.000 MHz	3.59173 GHz	-42.72 dBm	-29.72 dB
3.598 GHz	3.720 GHz	1.000 MHz	3.70378 GHz	-43.46 dBm	-18.46 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.72778 GHz	-43.25 dBm	-3.25 dB

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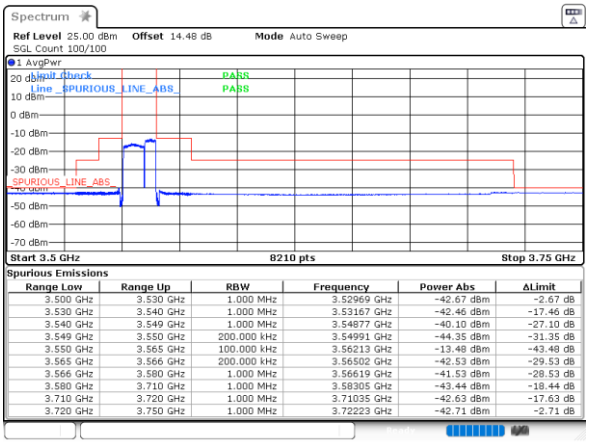
Lowest Band Edge / Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.52969 GHz	-42.67 dBm	-2.67 dB
3.530 GHz	3.540 GHz	1.000 MHz	3.53167 GHz	-42.46 dBm	-17.46 dB
3.540 GHz	3.549 GHz	1.000 MHz	3.54877 GHz	-40.10 dBm	-27.10 dB
3.549 GHz	3.550 GHz	200.000 kHz	3.54991 GHz	-44.35 dBm	-31.35 dB
3.550 GHz	3.565 GHz	100.000 kHz	3.56213 GHz	-13.48 dBm	-43.48 dB
3.565 GHz	3.566 GHz	200.000 kHz	3.56502 GHz	-42.53 dBm	-29.53 dB
3.566 GHz	3.580 GHz	1.000 MHz	3.56619 GHz	-41.53 dBm	-28.53 dB
3.580 GHz	3.710 GHz	1.000 MHz	3.58305 GHz	-43.44 dBm	-18.44 dB
3.710 GHz	3.720 GHz	1.000 MHz	3.71035 GHz	-42.63 dBm	-17.63 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.72223 GHz	-42.71 dBm	-2.71 dB

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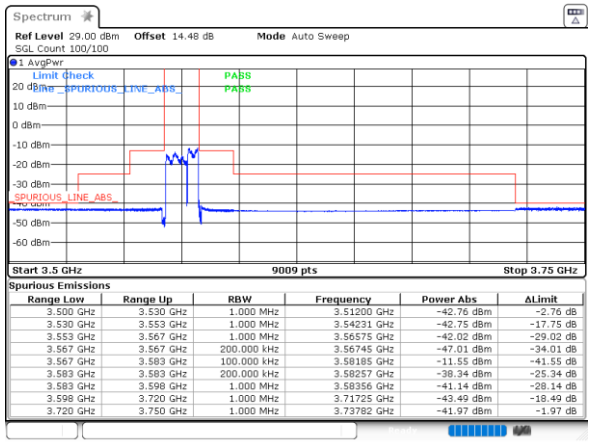
Middle Band Edge / Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.500 GHz	3.530 GHz	1.000 MHz	3.51200 GHz	-42.76 dBm	-2.76 dB
3.530 GHz	3.553 GHz	1.000 MHz	3.54231 GHz	-42.75 dBm	-17.75 dB
3.553 GHz	3.567 GHz	1.000 MHz	3.56575 GHz	-42.02 dBm	-29.02 dB
3.567 GHz	3.567 GHz	200.000 kHz	3.56745 GHz	-47.01 dBm	-34.01 dB
3.567 GHz	3.583 GHz	100.000 kHz	3.58185 GHz	-11.55 dBm	-41.55 dB
3.583 GHz	3.583 GHz	200.000 kHz	3.58257 GHz	-38.34 dBm	-25.34 dB
3.583 GHz	3.598 GHz	1.000 MHz	3.58356 GHz	-41.14 dBm	-28.14 dB
3.598 GHz	3.720 GHz	1.000 MHz	3.71725 GHz	-43.49 dBm	-18.49 dB
3.720 GHz	3.750 GHz	1.000 MHz	3.73782 GHz	-41.97 dBm	-1.97 dB

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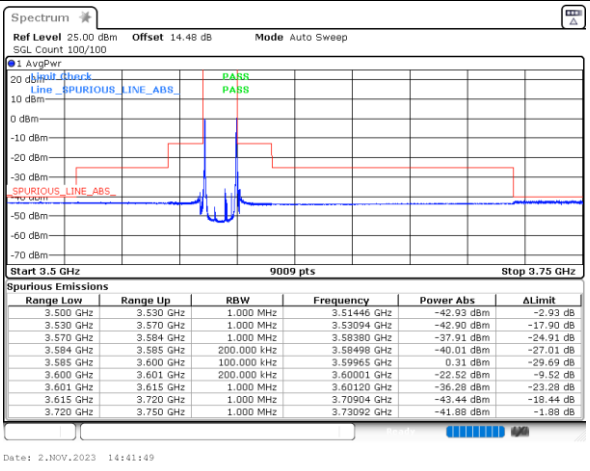
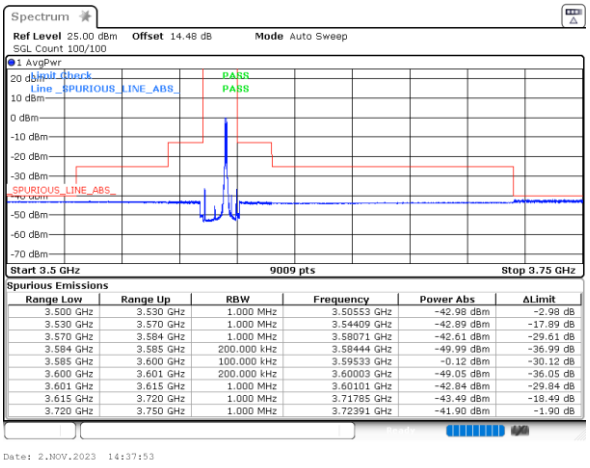
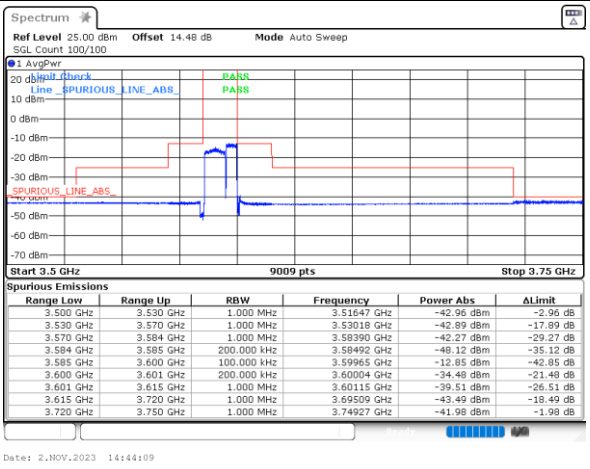
LTE Band 42B / 10MHz+5MHz	
QPSK	
Highest Band Edge / 1RB0 and 1RB24	



Highest Band Edge / 1RB49 and 1RB0	



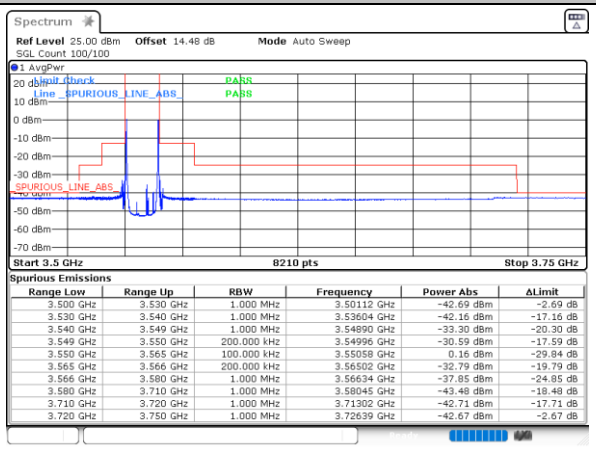
Highest Band Edge / Full RB	



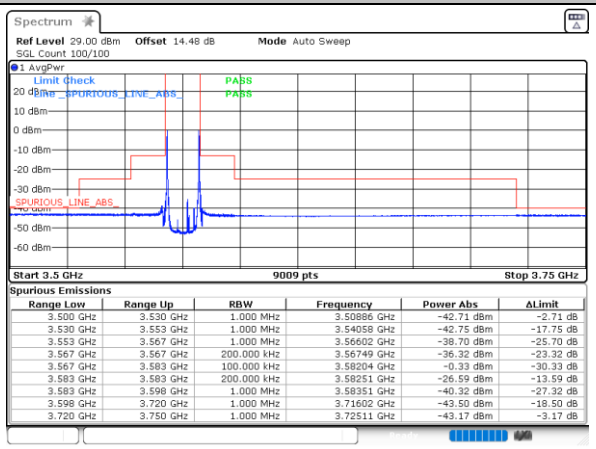
LTE Band 42B / 10MHz+5MHz

16QAM

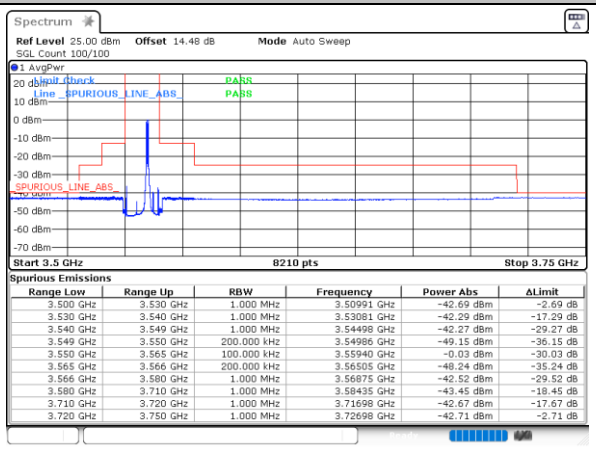
Lowest Band Edge / 1RB0 and 1RB24



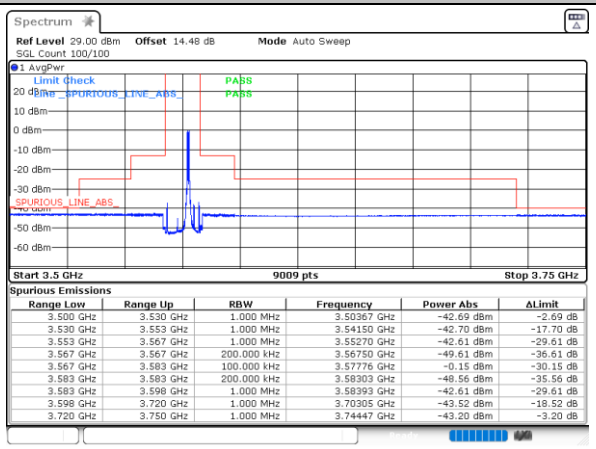
Middle Band Edge / 1RB0 and 1RB24



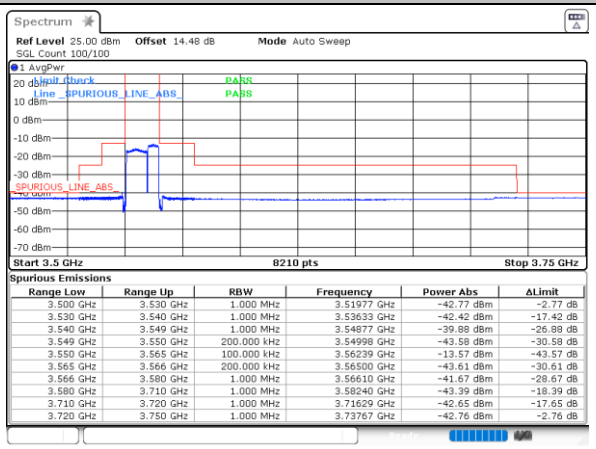
Lowest Band Edge / 1RB49 and 1RB0



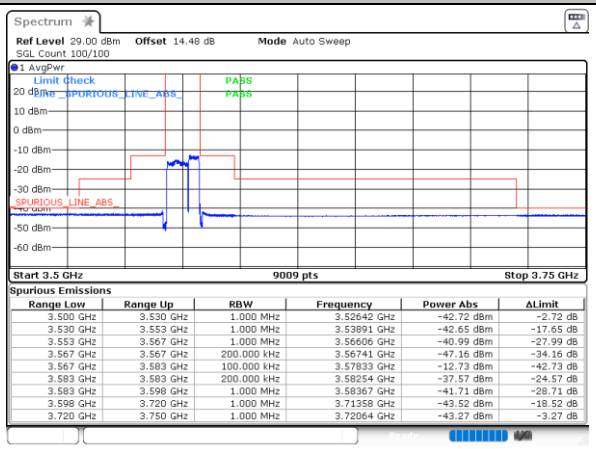
Middle Band Edge / 1RB49 and 1RB0

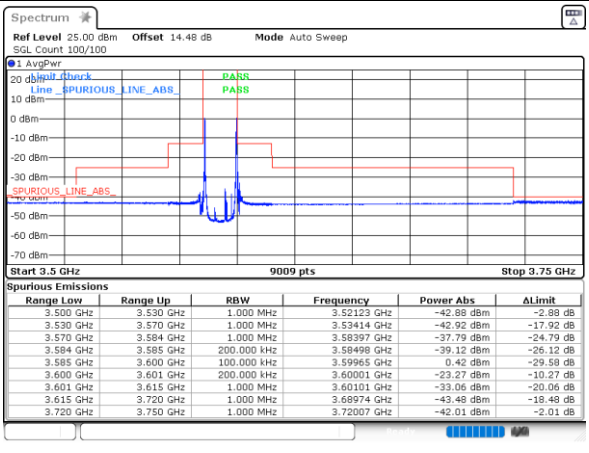
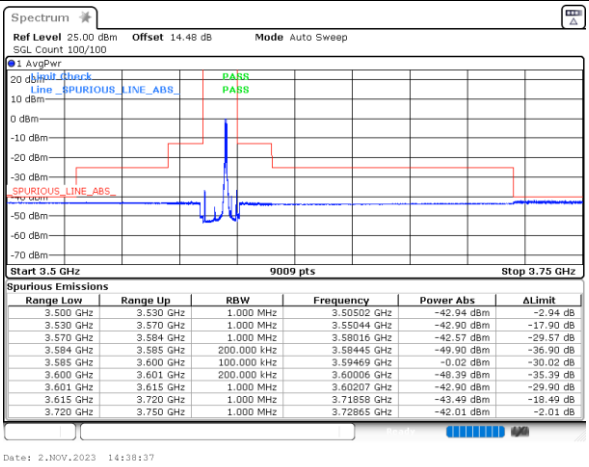


Lowest Band Edge / Full RB



Middle Band Edge / Full RB



LTE Band 42B / 10MHz+5MHz	
16QAM	
Highest Band Edge / 1RB0 and 1RB24	
	
Highest Band Edge / 1RB49 and 1RB0	
	
Highest Band Edge / Full RB