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, Part 27 Subpart Q
CLASSIFICATION	:	Licensed Non-Broadcast Station Transmitter (TNB)
TEST DATE(S)	:	Oct. 20, 2023 ~ Nov. 02, 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 C63.26-2015 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

ACCREDITED Cert #5145.02

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

TABLE OF CONTENTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG3O1704A	Rev. 01	Initial issue of report	Dec. 04, 2023

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	—	Report Only	-
3.5	§27.50 (k)(4)	Peak-to-Average Ratio	<13dB	PASS	
3.6	§27.50 (k)(2)	EIRP	EIRP < 1640W	PASS	-
3.7	§2.1049	Occupied Bandwidth	—	Report Only	-
3.8	§2.1051 §27.53 (n)(2)	Conducted Band Edge Measurement	-13dBm/MHz	PASS	-
3.9	§2.1051 §27.53 (n)(2)	Conducted Spurious Emission	-13dBm/MHz	PASS	-
3.10	§2.1055 §27.54	Frequency Stability Temperature & Voltage	Within the band	PASS	-
4.4	§2.1053 §27.53 (n)(2)	Radiated Spurious Emission	-13dBm/MHz	PASS	Under limit 19.52 dB at 6984.00 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 Product Feature of Equipment Under Test

Product Feature	
Equipment	CAT12 outdoor CPE
Brand Name	smawave
Model Name	SRE410
FCC ID	2AU8HSRE410-EUD
IMEI Code	Conducted/ Radiation: 862165041897446
HW Version	V1.0
SW Version	OCB12FW_Codium_CBSD_V10.20

1.4 Product Specification of Equipment Under Test

Product Feature	
Tx/Rx Frequency	LTE Band 42: 3450 MHz ~ 3550 MHz
Bandwidth	5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	**<Ant.0>** LTE Band 42 : 24.56 dBm **<Ant.2>** LTE Band 42B: 23.98 dBm LTE Band 42C: 24.10 dBm LTE Band 42A-42A: 22.16 dBm **<MIMO Ant.0+2>** LTE Band 42 UL MIMO: 23.15 dBm
Antenna Gain	<Ant.0> LTE Band 42 : 15.61 dBi <Ant.2> LTE Band 42 : 15.64 dBi
Type of Modulation	QPSK / 16QAM / 64QAM

Note:

1. The maximum EIRP is calculated from max output power and antenna gain, only the maximum EIRP is shown in the report, Ant.0 for LTE Band 42 and Ant.2 for LTE Band 42B/ 42C/ 42A-42A.

2. LTE Band 42 supports UL_MIMO mode, the MIMO mode is completely uncorrelated, so the directional gain is selected the maximum gain among all antennas. The conducted BE/Spurious are tested at single antenna port and add 10*log(NANT) according to KDB 662911 D01.
3. Verify that the power of LTE Band 42A-42A is lower than LTE Band 42C, so only the conducted test results of LTE Band 42C were full tested and shown in this report.

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Maximum EIRP Power and Emission Designator

LTE Band 42		QPSK		16QAM/64QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5	3452.5 ~ 3547.5	10.1859	4M47G7D	9.6917	4M50W7D
10	3455 ~ 3545	9.8175	9M05G7D	9.7499	8M99W7D
15	3457.5 ~ 3542.5	10.3039	13M4G7D	10.1625	13M4W7D
20	3460 ~ 3540	10.3992	17M9G7D	10.2094	17M9W7D

LTE Band 42 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	3452.5 ~ 3547.5	7.3053	4M52G7D	6.8952	4M51W7D
10	3455 ~ 3545	7.3819	9M07G7D	6.7648	9M09W7D
15	3457.5 ~ 3542.5	7.2294	13M5G7D	6.9668	13M4W7D
20	3460 ~ 3540	7.5753	17M9G7D	7.0071	17M9W7D

LTE Band 42B_CA	QPSK		16QAM/64QAM	
BW (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10MHz+10MHz	8.5310	19M3G7D	9.1622	19M3W7D
10MHz+5MHz	8.4140	13M9G7D	8.6099	13M9W7D
5MHz+10MHz	8.9331	13M9G7D	9.0991	13M9W7D
5MHz+5MHz	8.8308	9M37G7D	8.9125	9M25W7D

LTE Band 42C_CA	QPSK		16QAM/64QAM	
BW (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
20MHz+20MHz	9.0782	37M6G7D	9.4189	37M7W7D
20MHz+15MHz	8.3560	32M7G7D	8.1096	32M6W7D
20MHz+10MHz	8.9743	28M2G7D	9.0782	27M9W7D
20MHz+5MHz	9.0991	23M3G7D	9.1201	23M2W7D
15MHz+20MHz	8.5310	32M5G7D	8.5901	32M9W7D
10MHz+20MHz	8.4528	27M9G7D	8.4918	28M1W7D
5MHz+20MHz	8.0910	23M2G7D	8.5310	23M2W7D

Note: All modulations have been tested, and only the worst test results of PSK & QAM are shown in the report.

1.7 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

1.8 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

1.9 Applied Standards

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

- 47 CFR Part 2, Part 27 Subpart Q
- ANSI C63.26-2015
- FCC KDB 971168 Power Meas License Digital Systems D01 v03r01
- 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.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission. (Y Plane)

Test Cases	Band	Bandwidth (MHz)	Modulation	RB #	Test Channel
		eg. 5M, 10M, 15M, 20M	eg. QPSK, 16QAM, 64QAM	1RB, Partial RB, Full RB	L/M/H
Max. Output Power	LTE Band 42	All supported Bandwidth	QPSK, 16QAM, 64QAM	1RB, Full RB	L, M, H
Peak-to-Average Ratio	LTE Band 42	20M	QPSK, 16QAM, 64QAM	Full RB	M
E.I.R.P	LTE Band 42	All supported Bandwidth	QPSK, 16QAM, 64QAM	1RB, Full RB	L, M, H
26dB and 99% Bandwidth	LTE Band 42	All supported Bandwidth	QPSK, 16QAM	Full RB	M
Conducted Band Edge	LTE Band 42	All supported Bandwidth	QPSK, 16QAM, 64QAM	1RB, Full RB	L, H
Conducted Spurious Emission	LTE Band 42	All supported Bandwidth	QPSK	1RB	L, M, H
Frequency Stability	LTE Band 42	5M	QPSK	1RB	M
Radiated Spurious Emission	LTE Band 42	Worst case from maximum power			M

Note:
1. 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.
2. All test items are based on engineering evaluation.

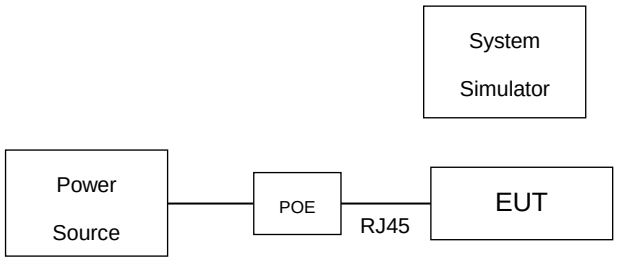
Test Cases	Band	Bandwidth (MHz)	Modulation	RB #	Test Channel
		eg. 10+10M, 10+5M, 5+10M, 5+5M	eg. QPSK, 16QAM, 64QAM	1RB, Partial RB, Full RB	L/M/H
Max. Output Power	LTE B42B	All supported Bandwidth	QPSK, 16QAM, 64QAM	1RB, Full RB	L, M, H
E.I.R.P	LTE B42B	All supported Bandwidth	QPSK, 16QAM, 64QAM	1RB, Full RB	L, M, H
26dB and 99% Bandwidth	LTE B42B	All supported Bandwidth	QPSK, 16QAM	Full RB	M
Conducted Band Edge	LTE B42B	All supported Bandwidth	QPSK, 16QAM, 64QAM	1RB, Full RB	L, H
Conducted Spurious Emission	LTE B42B	All supported Bandwidth	QPSK	1RB	L, M, H
Frequency Stability	LTE B42B	10+10M	QPSK	1RB	M
Radiated Spurious Emission	LTE B42B	Worst case from maximum power			M

Note:
1. 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.
2. All test items are based on engineering evaluation.

Test Cases	Band	Bandwidth (MHz)	Modulation	RB #	Test Channel
		eg. 20+20M, 20+15M, 15+20M, 20+10M, 10+20M, 20+5M, 5+20M	eg. QPSK, 16QAM, 64QAM	1RB, Partial RB, Full RB	L/M/H
Max. Output Power	LTE B42C	All supported Bandwidth	QPSK, 16QAM, 64QAM	1RB, Full RB	L, M, H
E.I.R.P	LTE B42C	All supported Bandwidth	QPSK, 16QAM, 64QAM	1RB, Full RB	L, M, H
26dB and 99% Bandwidth	LTE B42C	All supported Bandwidth	QPSK, 16QAM	Full RB	M
Conducted Band Edge	LTE B42C	All supported Bandwidth	QPSK, 16QAM, 64QAM	1RB, Full RB	L, H
Conducted Spurious Emission	LTE B42C	All supported Bandwidth	QPSK	1RB	L, M, H
Frequency Stability	LTE B42C	20+20M	QPSK	1RB	M
Radiated Spurious Emission	LTE B42C	Worst case from maximum power			M
	LTE B42A-42A	Worst case from maximum power			M

Note:
1. 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.
2. 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 and system

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.	LTE Base Station	Anritsu	MT8820C	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 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.

Offset = RF cable loss.

Following shows an offset computation example with cable loss 7.0 dB.

Example :

Offset(dB) = RF cable loss(dB).

= 7.0 (dB)

2.5 Frequency List of Low/Middle/High Channels

LTE Band 42 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	42190	42590	42990
	Frequency	3460	3500	3540
15	Channel	42165	42590	43015
	Frequency	3457.5	3500	3542.5
10	Channel	42140	42590	43040
	Frequency	3455	3500	3545
5	Channel	42115	42590	43065
	Frequency	3452.5	3500	3547.5

LTE Band 42B_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
10 + 10	PCC	Channel	42140	42540	42941
		Frequency	3455	3495.05	3535.1
	SCC	Channel	42239	42639	43040
		Frequency	3464.9	3504.95	3545
10 + 5	PCC	Channel	42140	42566	42993
		Frequency	3455	3497.65	3540.3
	SCC	Channel	42212	42638	43065
		Frequency	3462.2	3504.85	3547.5
5 + 10	PCC	Channel	42115	42542	42968
		Frequency	3452.5	3495.15	3537.8
	SCC	Channel	42187	42614	43040
		Frequency	3459.7	3502.35	3545
5 + 5	PCC	Channel	42115	42566	43017
		Frequency	3452.5	3497.6	3542.7
	SCC	Channel	42163	42614	43065
		Frequency	3457.3	3502.4	3547.5

LTE Band 42C_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
20 + 20	PCC	Channel	42190	42590	42792
		Frequency	3460	3500	3520.2
	SCC	Channel	42388	42788	42990
		Frequency	3479.8	3519.8	3540
20 + 15	PCC	Channel	42190	42590	42844
		Frequency	3460	3500	3525.4
	SCC	Channel	42361	42761	43015
		Frequency	3477.1	3517.1	3542.5
15 + 20	PCC	Channel	42165	42590	42819
		Frequency	3457.5	3500	3522.9
	SCC	Channel	42336	42761	42990
		Frequency	3474.6	3517.1	3540
20 + 10	PCC	Channel	42190	42590	42896
		Frequency	3460	3500	3530.6
	SCC	Channel	42334	42734	43040
		Frequency	3474.4	3514.4	3545
10 + 20	PCC	Channel	42140	42590	42846
		Frequency	3455	3500	3525.6
	SCC	Channel	42284	42734	42990
		Frequency	3469.4	3514.4	3540
20 + 5	PCC	Channel	42190	42590	42948
		Frequency	3460	3500	3535.8
	SCC	Channel	42307	42707	43065
		Frequency	3471.7	3511.7	3547.5
5 + 20	PCC	Channel	42115	42590	42873
		Frequency	3452.5	3500	3528.3
	SCC	Channel	42232	42707	42990
		Frequency	3464.2	3511.7	3540

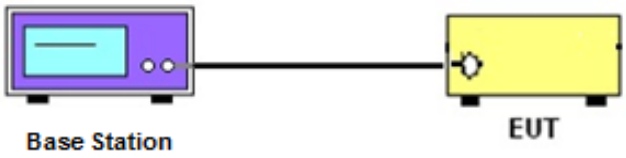
3 Conducted Test Items

3.1 Measuring Instruments

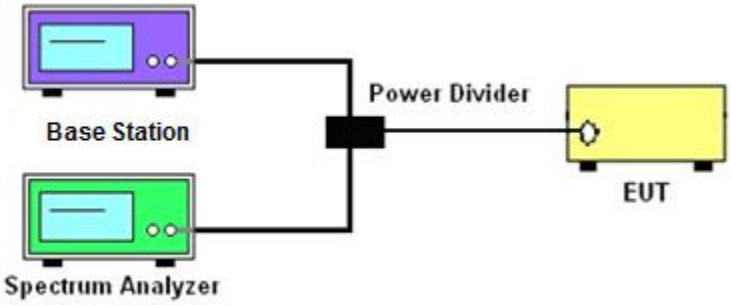
See list of measuring instruments of this test report.

3.2 Test Setup

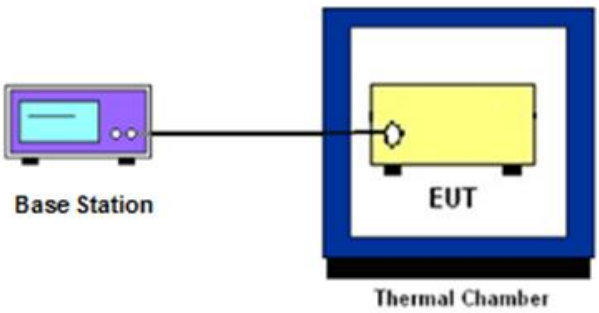
3.2.1 Conducted Output Power



3.2.2 Peak-to-Average Ratio, Occupied / 26dB Bandwidth, Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power Measurement

3.4.1 Description of the Conducted Output Power Measurement

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

3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

3.5 Peak-to-Average Ratio

3.5.1 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.

3.5.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.

3.6 EIRP

3.6.1 Description of EIRP Limit

§ 27.50 (k)(2)

Fixed devices are limited to 1640 Watt EIRP.

3.6.2 Test Procedures

1. According to KDB 412172 D01 Power Approach,
2. 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

3.7 Occupied Bandwidth

3.7.1 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.

3.7.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.4
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. 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.
4. 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.
5. Set the detection mode to peak, and the trace mode to max hold.
6. 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)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. 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.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.8 Conducted Band Edge Measurement

3.8.1 Description of Conducted Band Edge Measurement

§ 27.53 (n)(2)

in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.

Compliance with this paragraph is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.

3.8.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured.
4. Set RBW ≥ 1% EBW but limited to a maximum of 200 kHz in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz and 5 MHz removed from the band edge, set RBW ≥ 500KHz.
6. Beyond the 5 MHz removed from the band edge, set RBW = 1MHz.
7. Set spectrum analyzer with RMS detector.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
9. Checked that all the results comply with the emission limit line.

3.9 Conducted Spurious Emission Measurement

3.9.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges shall not exceed −13 dBm/MHz.

It is measured by means of a calibrated spectrum analyzer and scanned from 30MHz up to a frequency including its 10^{th} harmonic.

3.9.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. 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.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
7. Set spectrum analyzer with RMS detector.
8. Taking the record of maximum spurious emission.
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
10. Checked that all the results comply with the emission limit line.

3.10 Frequency Stability Measurement

3.10.1 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.

3.10.2 Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26 section 5.6.4
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. 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.
4. 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.

3.10.3 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5.
2. The EUT was placed in a temperature chamber at 20±5°C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

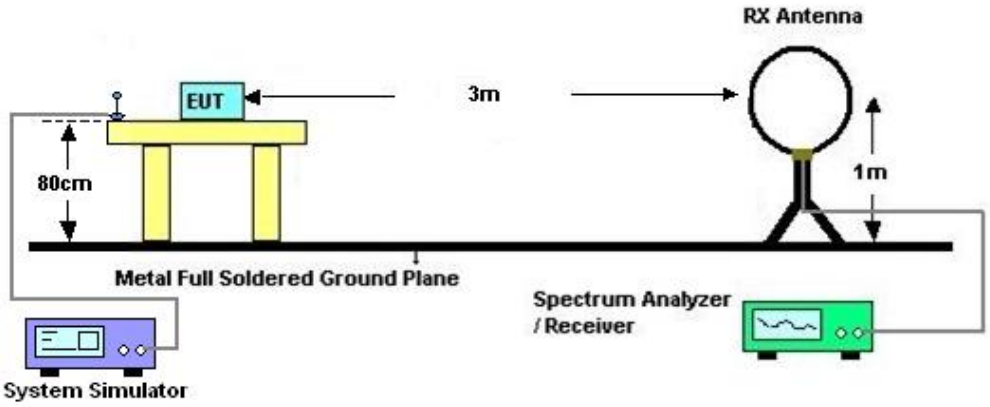
4 Radiated Test Items

4.1 Measuring Instruments

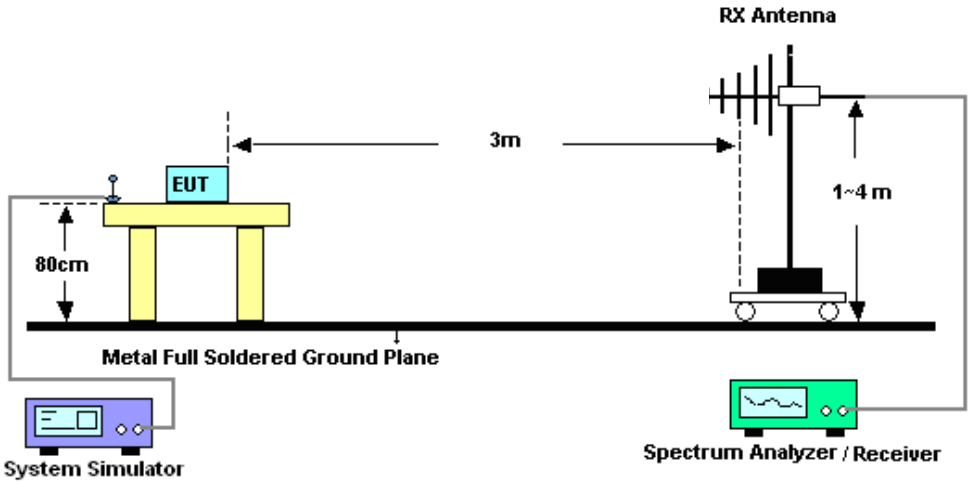
See list of measuring instruments of this test report.

4.2 Test Setup

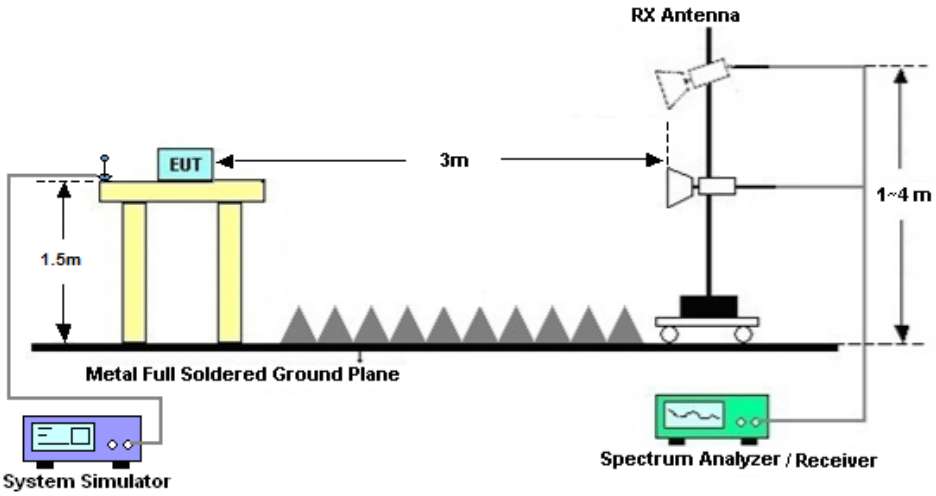
4.2.1 For radiated test below 30MHz



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 Measurement

4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26. The power of any emission outside of the authorized operating frequency ranges shall not exceed −13 dBm/MHz.

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

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. 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.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. 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
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

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. 01, 2023	Oct. 10, 2024	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Oct. 20, 2023~ Nov. 01, 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. 01, 2023	Jul. 05, 2024	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 10, 2023	Nov. 02, 2023	Oct. 09, 2024	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 15, 2023	Nov. 02, 2023	Oct. 14, 2024	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Apr. 09, 2023	Nov. 02, 2023	Apr. 08, 2024	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1284	1GHz~18GHz	Oct. 10, 2023	Nov. 02, 2023	Oct. 09, 2024	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 08, 2023	Nov. 02, 2023	Jan. 07, 2024	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	380827	9KHz-1GHz	Jul. 06, 2023	Nov. 02, 2023	Jul. 05, 2024	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 05, 2023	Nov. 02, 2023	Jan. 04, 2024	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 10, 2023	Nov. 02, 2023	Oct. 09, 2024	Radiation (03CH04-KS)
Amplifier	Agilent	8449B	3008A02370	1Ghz-18Ghz	Oct. 10, 2023	Nov. 02, 2023	Oct. 09, 2024	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Nov. 02, 2023	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Nov. 02, 2023	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Nov. 02, 2023	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

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) and EIRP

LTE Band 42 – Ant.0:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				42190	42590	42990			
Frequency (MHz)				3460	3500	3540	L	M	H
20	QPSK	1	0	24.56	23.74	23.82	10.3992	8.6099	8.7700
20	QPSK	1	99	24.52	23.68	23.76	10.3039	8.4918	8.6497
20	QPSK	100	0	24.46	23.62	23.72	10.1625	8.3753	8.5704
20	16QAM	1	0	24.48	23.72	23.81	10.2094	8.5704	8.7498
20	64QAM	1	0	24.17	23.34	23.51	9.5060	7.8524	8.1658
Channel				42165	42590	43015	EIRP(W)		
Frequency (MHz)				3457.5	3500	3542.5	L	M	H
15	QPSK	1	0	24.52	23.71	23.81	10.3039	8.5507	8.7498
15	16QAM	1	0	24.46	23.59	23.72	10.1625	8.3176	8.5704
Channel				42140	42590	43040	EIRP(W)		
Frequency (MHz)				3455	3500	3545	L	M	H
10	QPSK	1	0	24.31	23.56	23.58	9.8175	8.2604	8.2985
10	16QAM	1	0	24.28	23.52	23.53	9.7499	8.1846	8.2035
Channel				42115	42590	43065	EIRP(W)		
Frequency (MHz)				3452.5	3500	3547.5	L	M	H
5	QPSK	1	0	24.47	23.66	23.62	10.1859	8.4528	8.3753
5	16QAM	1	0	24.25	23.58	23.58	9.6917	8.2985	8.2985

LTE Band 42 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(W)		
Channel				42190	42590	42990		L	M	H
Frequency (MHz)				3460	3500	3540				
20	QPSK	1	0	22.98	23.11	23.15	15.64	7.2767	7.4910	7.5753
20	QPSK	1	99	22.90	22.86	23.00	15.64	7.1428	7.0819	7.3084
20	QPSK	100	0	22.80	22.73	22.91	15.64	6.9870	6.8704	7.1614
20	16QAM	1	0	22.58	22.80	22.82	15.64	6.6396	6.9833	7.0071
20	64QAM	1	0	22.25	22.33	22.43	15.64	6.1456	6.2702	6.4050
Channel				42165	42590	43015	Gain	L	M	H
Frequency (MHz)				3457.5	3500	3542.5				
15	QPSK	1	0	22.80	22.86	22.95	15.64	6.9758	7.0848	7.2294
15	16QAM	1	0	22.44	22.51	22.79	15.64	6.4246	6.5275	6.9668
15	QPSK	1	74	22.66	22.66	22.83	15.64	6.7573	6.7659	7.0349
15	QPSK	75	0	22.56	22.53	22.64	15.64	6.6091	6.5669	6.7226
Channel				42140	42590	43040	Gain	L	M	H
Frequency (MHz)				3455	3500	3545				
10	QPSK	1	0	22.76	22.92	23.04	15.64	6.9203	7.1827	7.3819
10	16QAM	1	0	22.34	22.61	22.66	15.64	6.2821	6.6836	6.7648
10	QPSK	1	49	22.69	22.78	22.84	15.64	6.8020	6.9567	7.0506
10	QPSK	50	0	22.36	22.60	22.44	15.64	6.3100	6.6634	6.4302
Channel				42115	42590	43065	Gain	L	M	H
Frequency (MHz)				3452.5	3500	3547.5				
5	QPSK	1	0	22.66	22.94	23.00	15.64	6.7635	7.2167	7.3053
5	16QAM	1	0	22.30	22.52	22.75	15.64	6.2238	6.5484	6.8952
5	QPSK	1	24	22.56	22.75	22.70	15.64	6.6035	6.8961	6.8311
5	QPSK	25	0	22.50	22.61	22.62	15.64	6.5111	6.6814	6.6991

LTE Band 42B – Ant.2:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP(dBm)			EIRP(W)		
Channel				L	M	H		L	M	H	L	M	H
10+10	QPSK	1RB01RBMAX		23.50	23.59	23.59	15.64	39.14	39.23	39.23	8.2035	8.3753	8.3753
	QPSK	1RBMAX1RB0		23.29	23.57	23.59	15.64	38.93	39.21	39.23	7.8163	8.3368	8.3753
	QPSK	FULL		23.39	23.38	23.67	15.64	39.03	39.02	39.31	7.9983	7.9799	8.5310
	16QAM	1RB01RBMAX		23.53	23.56	23.98	15.64	39.17	39.20	39.62	8.2604	8.3176	9.1622
	16QAM	1RBMAX1RB0		23.66	23.52	23.57	15.64	39.30	39.16	39.21	8.5114	8.2414	8.3368
	16QAM	FULL		23.45	23.45	23.71	15.64	39.09	39.09	39.35	8.1096	8.1096	8.6099
	64QAM	1RB01RBMAX		23.54	23.55	23.57	15.64	39.18	39.19	39.21	8.2794	8.2985	8.3368
	64QAM	1RBMAX1RB0		23.30	23.51	23.64	15.64	38.94	39.15	39.28	7.8343	8.2224	8.4723
	64QAM	FULL		23.42	23.36	23.69	15.64	39.06	39.00	39.33	8.0538	7.9433	8.5704
10+5	QPSK	1RB01RBMAX		23.00	23.27	18.28	15.64	38.64	38.91	33.92	7.3114	7.7804	2.4660
	QPSK	1RBMAX1RB0		22.97	23.03	23.40	15.64	38.61	38.67	39.04	7.2611	7.3621	8.0168
	QPSK	FULL		23.18	23.26	23.61	15.64	38.82	38.90	39.25	7.6208	7.7625	8.4140
	16QAM	1RB01RBMAX		23.12	23.23	18.43	15.64	38.76	38.87	34.07	7.5162	7.7090	2.5527
	16QAM	1RBMAX1RB0		23.15	23.01	23.50	15.64	38.79	38.65	39.14	7.5683	7.3282	8.2035
	16QAM	FULL		23.31	23.25	23.70	15.64	38.95	38.89	39.34	7.8524	7.7446	8.5901
	64QAM	1RB01RBMAX		22.71	23.22	18.00	15.64	38.35	38.86	33.64	6.8391	7.6913	2.3121
	64QAM	1RBMAX1RB0		22.67	22.97	23.07	15.64	38.31	38.61	38.71	6.7764	7.2611	7.4302
	64QAM	FULL		23.32	23.22	23.71	15.64	38.96	38.86	39.35	7.8705	7.6913	8.6099
5+10	QPSK	1RB01RBMAX		16.51	23.28	23.81	15.64	32.15	38.92	39.45	1.6406	7.7983	8.8105
	QPSK	1RBMAX1RB0		23.11	23.47	23.71	15.64	38.75	39.11	39.35	7.4989	8.1470	8.6099
	QPSK	FULL		23.47	23.52	23.87	15.64	39.11	39.16	39.51	8.1470	8.2414	8.9331
	16QAM	1RB01RBMAX		16.56	23.26	23.95	15.64	32.20	38.90	39.59	1.6596	7.7625	9.0991
	16QAM	1RBMAX1RB0		23.26	23.46	23.83	15.64	38.90	39.10	39.47	7.7625	8.1283	8.8512
	16QAM	FULL		23.51	23.49	23.90	15.64	39.15	39.13	39.54	8.2224	8.1846	8.9950
	64QAM	1RB01RBMAX		16.16	23.14	23.56	15.64	31.80	38.78	39.20	1.5136	7.5509	8.3176
	64QAM	1RBMAX1RB0		22.81	23.48	23.42	15.64	38.45	39.12	39.06	6.9984	8.1658	8.0538
	64QAM	FULL		23.47	23.42	23.90	15.64	39.11	39.06	39.54	8.1470	8.0538	8.9950
5+5	QPSK	1RB01RBMAX		16.09	23.09	18.36	15.64	31.73	38.73	34.00	1.4894	7.4645	2.5119
	QPSK	1RBMAX1RB0		22.93	23.12	23.50	15.64	38.57	38.76	39.14	7.1945	7.5162	8.2035
	QPSK	FULL		23.27	23.40	23.82	15.64	38.91	39.04	39.46	7.7804	8.0168	8.8308
	16QAM	1RB01RBMAX		16.17	23.06	18.47	15.64	31.81	38.70	34.11	1.5171	7.4131	2.5763
	16QAM	1RBMAX1RB0		23.04	23.11	23.59	15.64	38.68	38.75	39.23	7.3790	7.4989	8.3753
	16QAM	FULL		23.30	23.38	23.86	15.64	38.94	39.02	39.50	7.8343	7.9799	8.9125
	64QAM	1RB01RBMAX		15.78	23.05	18.00	15.64	31.42	38.69	33.64	1.3868	7.3961	2.3121
	64QAM	1RBMAX1RB0		22.62	23.10	23.18	15.64	38.26	38.74	38.82	6.6988	7.4817	7.6208
	64QAM	FULL		23.33	23.36	23.78	15.64	38.97	39.00	39.42	7.8886	7.9433	8.7498

LTE Band 42C – Ant.2:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP(dBm)			EIRP(W)		
Channel				L	M	H		L	M	H	L	M	H
20+20	QPSK	1RB01RBMAX		23.45	23.55	23.60	15.64	39.09	39.19	39.24	8.1096	8.2985	8.3946
	QPSK	1RBMAX1RB0		23.66	23.62	23.94	15.64	39.30	39.26	39.58	8.5114	8.4333	9.0782
	QPSK	FULL		23.67	23.68	23.78	15.64	39.31	39.32	39.42	8.5310	8.5507	8.7498
	16QAM	1RB01RBMAX		23.40	23.47	23.52	15.64	39.04	39.11	39.16	8.0168	8.1470	8.2414
	16QAM	1RBMAX1RB0		23.89	23.88	24.10	15.64	39.53	39.52	39.74	8.9743	8.9536	9.4189
	16QAM	FULL		23.73	23.61	23.72	15.64	39.37	39.25	39.36	8.6497	8.4140	8.6298
	64QAM	1RB01RBMAX		23.33	23.46	23.41	15.64	38.97	39.10	39.05	7.8886	8.1283	8.0353
	64QAM	1RBMAX1RB0		23.42	23.72	23.45	15.64	39.06	39.36	39.09	8.0538	8.6298	8.1096
	64QAM	FULL		23.44	23.40	23.55	15.64	39.08	39.04	39.19	8.0910	8.0168	8.2985
20+15	QPSK	1RB01RBMAX		22.84	22.98	22.91	15.64	38.48	38.62	38.55	7.0469	7.2778	7.1614
	QPSK	1RBMAX1RB0		23.24	23.01	23.40	15.64	38.88	38.65	39.04	7.7268	7.3282	8.0168
	QPSK	FULL		23.35	23.11	23.58	15.64	38.99	38.75	39.22	7.9250	7.4989	8.3560
	16QAM	1RB01RBMAX		22.93	22.94	23.11	15.64	38.57	38.58	38.75	7.1945	7.2111	7.4989
	16QAM	1RBMAX1RB0		23.45	22.95	23.15	15.64	39.09	38.59	38.79	8.1096	7.2277	7.5683
	16QAM	FULL		23.41	23.18	23.42	15.64	39.05	38.82	39.06	8.0353	7.6208	8.0538
	64QAM	1RB01RBMAX		22.50	22.53	23.08	15.64	38.14	38.17	38.72	6.5163	6.5615	7.4473
	64QAM	1RBMAX1RB0		22.86	22.72	22.66	15.64	38.50	38.36	38.30	7.0795	6.8549	6.7608
	64QAM	FULL		23.24	22.98	23.21	15.64	38.88	38.62	38.85	7.7268	7.2778	7.6736
20+10	QPSK	1RB01RBMAX		23.68	23.70	23.72	15.64	39.32	39.34	39.36	8.5507	8.5901	8.6298
	QPSK	1RBMAX1RB0		23.78	23.79	23.89	15.64	39.42	39.43	39.53	8.7498	8.7700	8.9743
	QPSK	FULL		23.80	23.88	23.67	15.64	39.44	39.52	39.31	8.7902	8.9536	8.5310
	16QAM	1RB01RBMAX		23.71	23.60	23.77	15.64	39.35	39.24	39.41	8.6099	8.3946	8.7297
	16QAM	1RBMAX1RB0		23.75	23.73	23.93	15.64	39.39	39.37	39.57	8.6896	8.6497	9.0573
	16QAM	FULL		23.76	23.91	23.81	15.64	39.40	39.55	39.45	8.7096	9.0157	8.8105
	64QAM	1RB01RBMAX		23.49	23.89	23.59	15.64	39.13	39.53	39.23	8.1846	8.9743	8.3753
	64QAM	1RBMAX1RB0		23.61	23.94	23.76	15.64	39.25	39.58	39.40	8.4140	9.0782	8.7096
	64QAM	FULL		23.51	23.62	23.77	15.64	39.15	39.26	39.41	8.2224	8.4333	8.7297
20+5	QPSK	1RB01RBMAX		23.58	23.41	18.39	15.64	39.22	39.05	34.03	8.3560	8.0353	2.5293
	QPSK	1RBMAX1RB0		23.78	23.42	23.76	15.64	39.42	39.06	39.40	8.7498	8.0538	8.7096
	QPSK	FULL		23.86	23.95	23.89	15.64	39.50	39.59	39.53	8.9125	9.0991	8.9743
	16QAM	1RB01RBMAX		23.73	23.94	18.59	15.64	39.37	39.58	34.23	8.6497	9.0782	2.6485
	16QAM	1RBMAX1RB0		23.96	23.91	23.95	15.64	39.60	39.55	39.59	9.1201	9.0157	9.0991
	16QAM	FULL		23.85	23.88	23.92	15.64	39.49	39.52	39.56	8.8920	8.9536	9.0365
	64QAM	1RB01RBMAX		23.28	23.45	18.04	15.64	38.92	39.09	33.68	7.7983	8.1096	2.3335
	64QAM	1RBMAX1RB0		23.66	23.42	23.56	15.64	39.30	39.06	39.20	8.5114	8.0538	8.3176
	64QAM	FULL		23.87	23.87	23.80	15.64	39.51	39.51	39.44	8.9331	8.9331	8.7902
15+20	QPSK	1RB01RBMAX		22.89	22.80	23.22	15.64	38.53	38.44	38.86	7.1285	6.9823	7.6913
	QPSK	1RBMAX1RB0		23.04	23.59	22.84	15.64	38.68	39.23	38.48	7.3790	8.3753	7.0469
	QPSK	FULL		23.11	23.67	23.20	15.64	38.75	39.31	38.84	7.4989	8.5310	7.6560
	16QAM	1RB01RBMAX		23.18	23.62	23.58	15.64	38.82	39.26	39.22	7.6208	8.4333	8.3560
	16QAM	1RBMAX1RB0		23.54	23.70	23.23	15.64	39.18	39.34	38.87	8.2794	8.5901	7.7090
	16QAM	FULL		23.07	23.67	23.25	15.64	38.71	39.31	38.89	7.4302	8.5310	7.7446
	64QAM	1RB01RBMAX		22.82	23.23	23.21	15.64	38.46	38.87	38.85	7.0146	7.7090	7.6736
	64QAM	1RBMAX1RB0		23.16	23.02	22.87	15.64	38.80	38.66	38.51	7.5858	7.3451	7.0958
	64QAM	FULL		23.10	23.11	23.21	15.64	38.74	38.75	38.85	7.4817	7.4989	7.6736

10+20	QPSK	1RB01RBMAX	22.83	23.11	23.05	15.64	38.47	38.75	38.69	7.0307	7.4989	7.3961
	QPSK	1RBMAX1RB0	22.69	23.56	22.81	15.64	38.33	39.20	38.45	6.8077	8.3176	6.9984
	QPSK	FULL	23.00	23.63	23.13	15.64	38.64	39.27	38.77	7.3114	8.4528	7.5336
	16QAM	1RB01RBMAX	23.24	23.59	23.48	15.64	38.88	39.23	39.12	7.7268	8.3753	8.1658
	16QAM	1RBMAX1RB0	23.21	23.65	23.28	15.64	38.85	39.29	38.92	7.6736	8.4918	7.7983
	16QAM	FULL	23.03	23.10	23.19	15.64	38.67	38.74	38.83	7.3621	7.4817	7.6384
	64QAM	1RB01RBMAX	22.80	23.02	23.04	15.64	38.44	38.66	38.68	6.9823	7.3451	7.3790
	64QAM	1RBMAX1RB0	22.76	22.89	22.88	15.64	38.40	38.53	38.52	6.9183	7.1285	7.1121
	64QAM	FULL	22.98	23.14	23.22	15.64	38.62	38.78	38.86	7.2778	7.5509	7.6913
5+20	QPSK	1RB01RBMAX	17.61	23.02	23.01	15.64	33.25	38.66	38.65	2.1135	7.3451	7.3282
	QPSK	1RBMAX1RB0	22.76	23.01	22.82	15.64	38.40	38.65	38.46	6.9183	7.3282	7.0146
	QPSK	FULL	23.05	23.44	23.18	15.64	38.69	39.08	38.82	7.3961	8.0910	7.6208
	16QAM	1RB01RBMAX	18.05	23.24	23.11	15.64	33.69	38.88	38.75	2.3388	7.7268	7.4989
	16QAM	1RBMAX1RB0	22.85	23.13	22.90	15.64	38.49	38.77	38.54	7.0632	7.5336	7.1450
	16QAM	FULL	23.11	23.48	23.28	15.64	38.75	39.12	38.92	7.4989	8.1658	7.7983
	64QAM	1RB01RBMAX	17.58	23.08	22.86	15.64	33.22	38.72	38.50	2.0989	7.4473	7.0795
	64QAM	1RBMAX1RB0	22.49	23.19	22.55	15.64	38.13	38.83	38.19	6.5013	7.6384	6.5917
	64QAM	FULL	23.10	23.67	23.25	15.64	38.74	39.31	38.89	7.4817	8.5310	7.7446

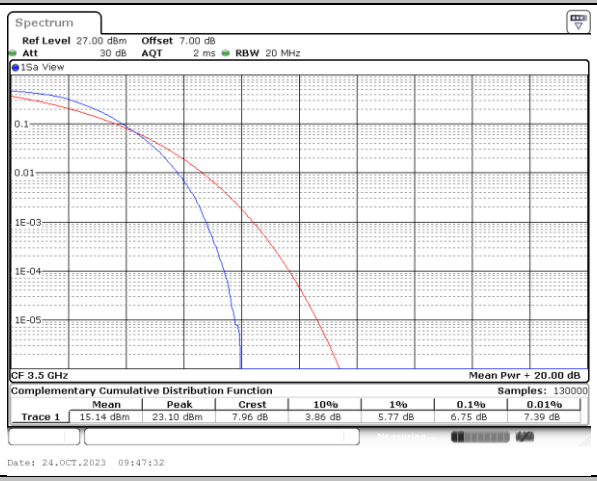
LTE Band 42

Peak-to-Average Ratio

Mode	LTE Band 42 / 20MHz			
Mod.	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB			Result
Middle CH	6.75	6.17	6.20	PASS

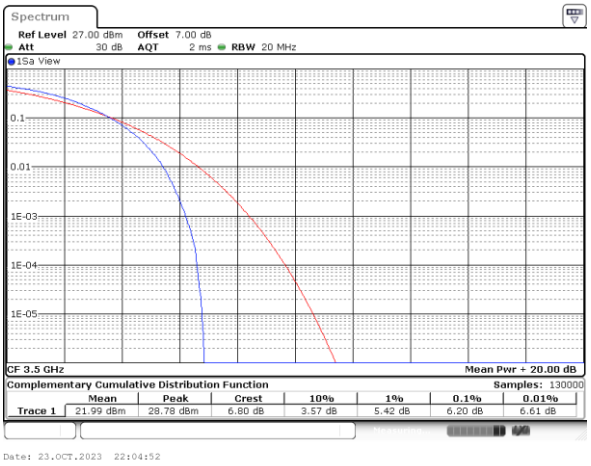
LTE Band 42 / 20MHz / Full RB / Middle Channel

QPSK



16QAM

64QAM

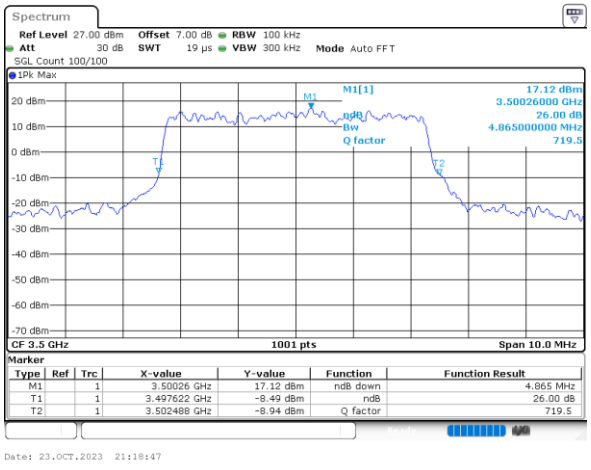


26dB Bandwidth

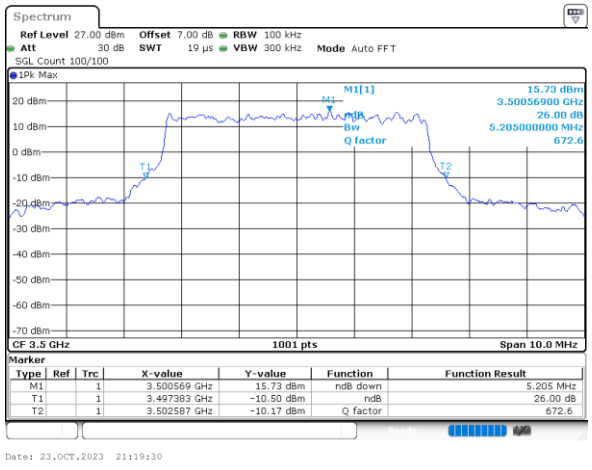
Mode	LTE Band 42 : 26dB BW(MHz)							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	4.87	5.21	9.77	9.79	14.42	14.33	18.98	18.98

LTE Band 42 / Middle channel / Full RB/5M

QPSK

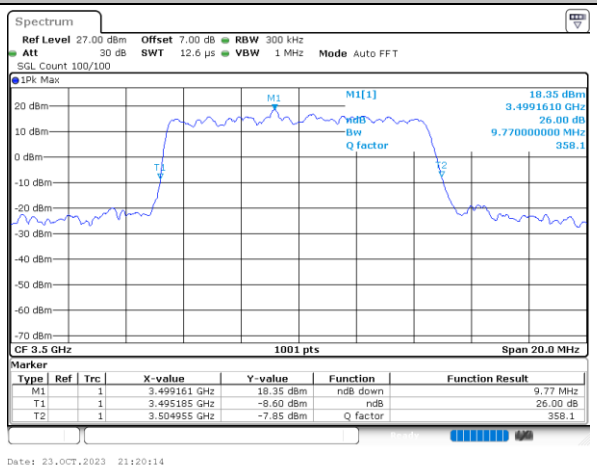


16QAM

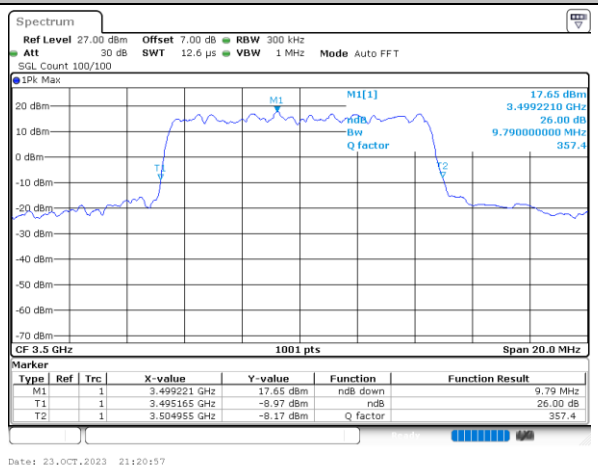


LTE Band 42 / Middle channel / Full RB/10M

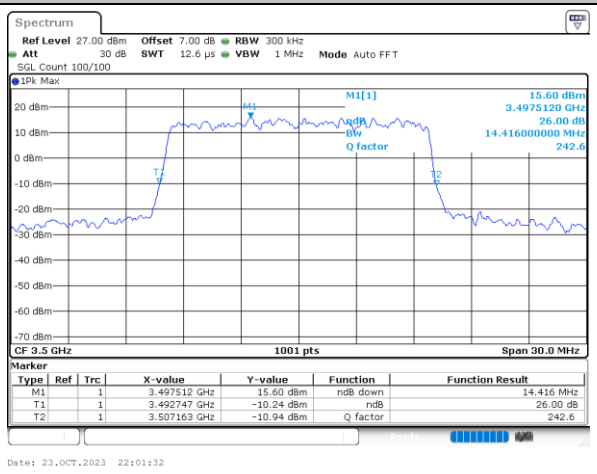
QPSK

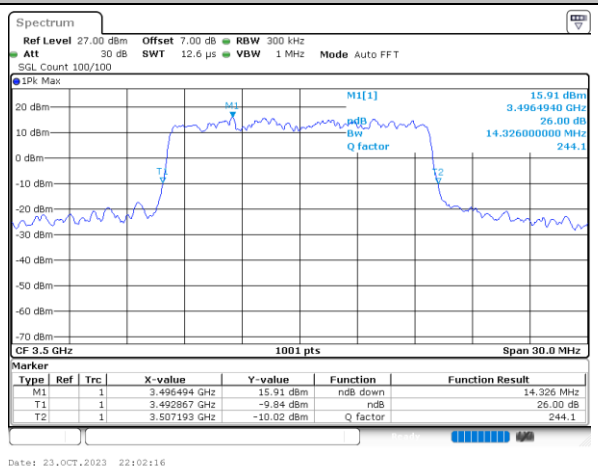


16QAM

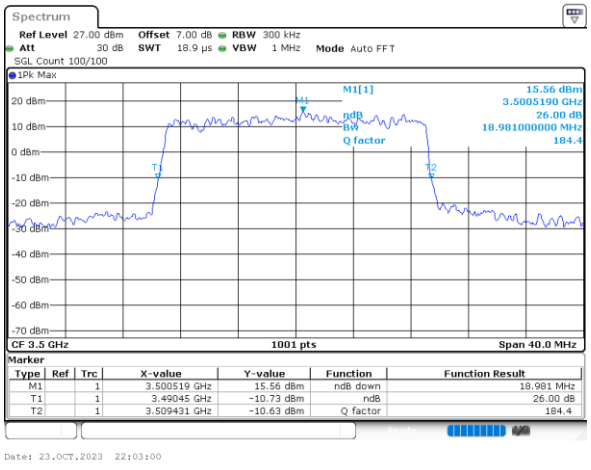


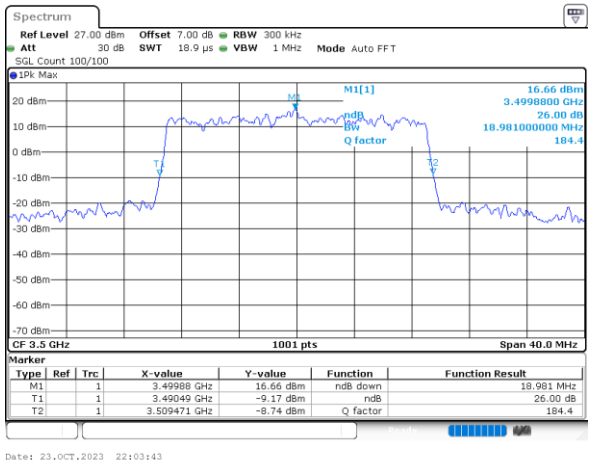
LTE Band 42 / Middle channel / Full RB/15M	
QPSK	16QAM





LTE Band 42 / Middle channel / Full RB/20M	
QPSK	16QAM



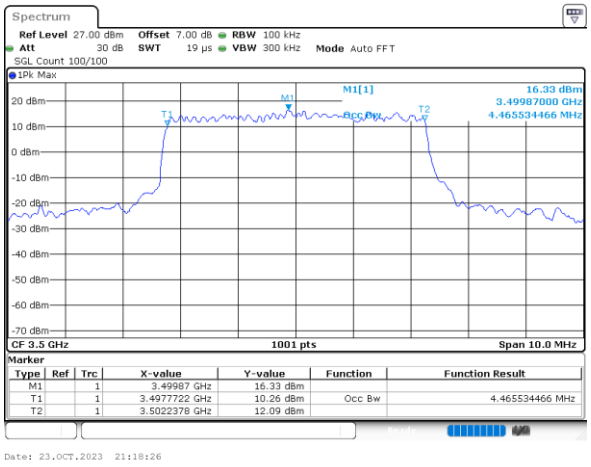


Occupied Bandwidth

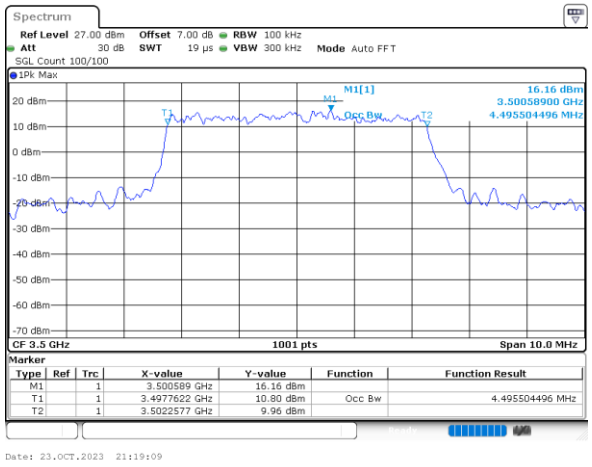
Mode	LTE Band 42 : 99%OBW(MHz)							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	4.47	4.50	9.05	8.99	13.43	13.40	17.90	17.90

LTE Band 42 / Middle channel / Full RB/5M

QPSK

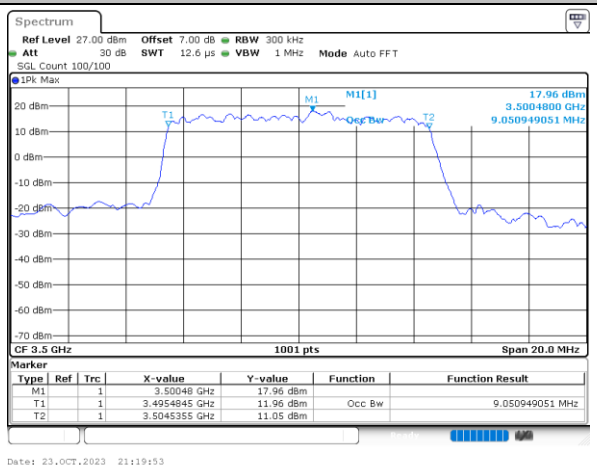


16QAM

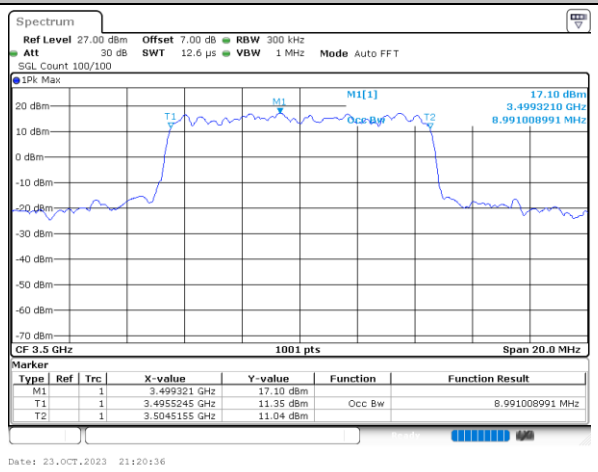


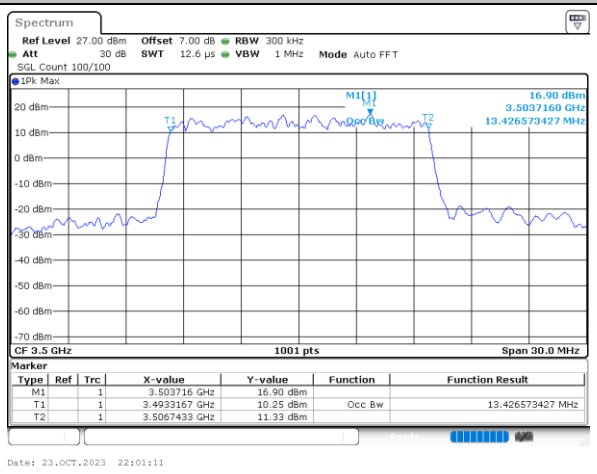
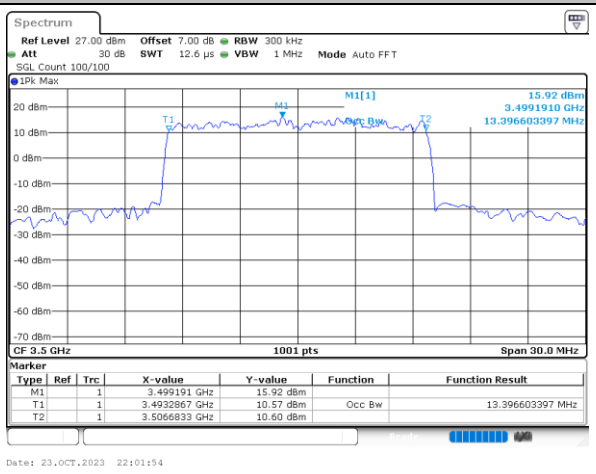
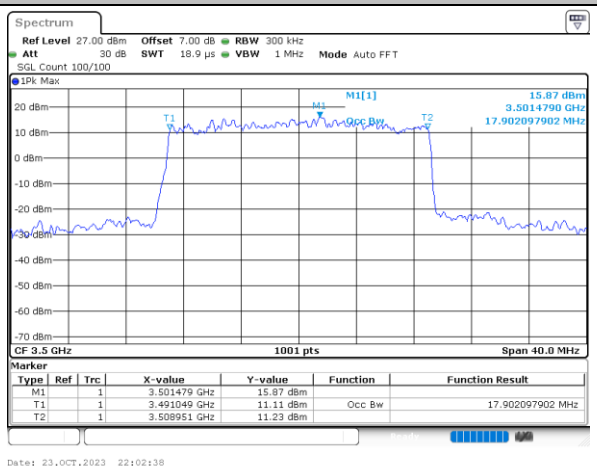
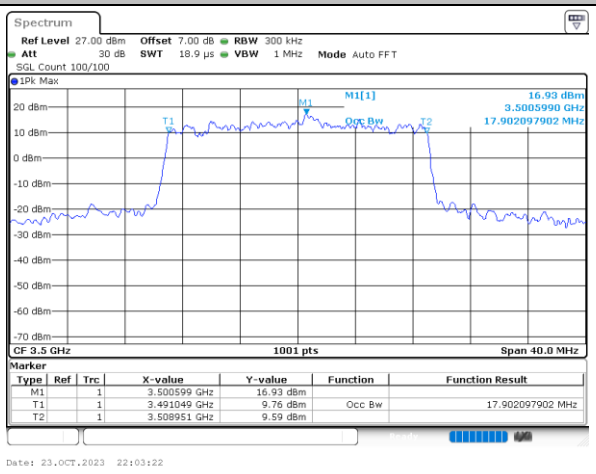
LTE Band 42 / Middle channel / Full RB/10M

QPSK



16QAM



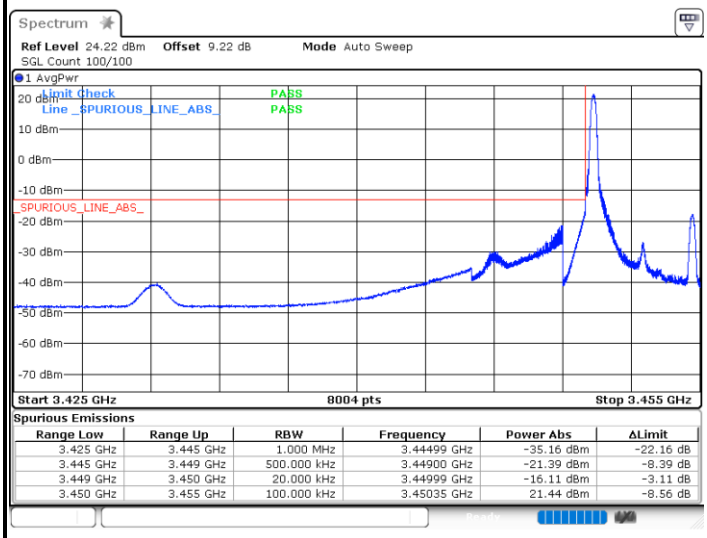
LTE Band 42 / Middle channel / Full RB/15M	
QPSK	16QAM
	
LTE Band 42 / Middle channel / Full RB/20M	
QPSK	16QAM
	

Conducted Band Edge

LTE Band 42 / 5MHz

QPSK

Lowest Channel / 1RB0

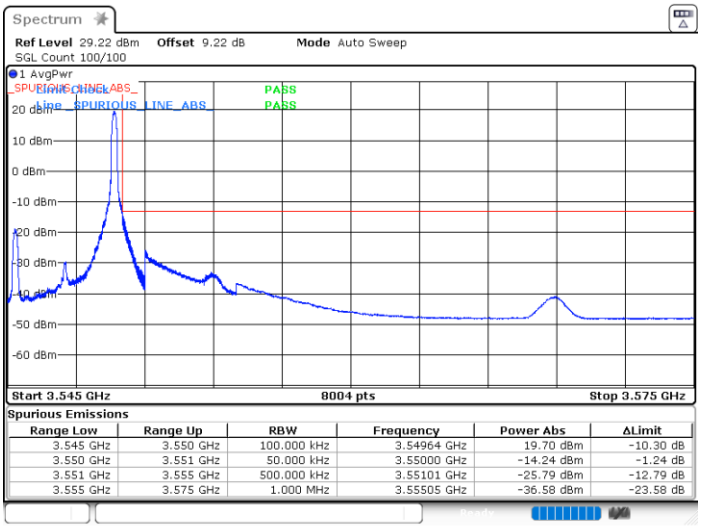


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44499 GHz	-35.16 dBm	-22.16 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44900 GHz	-21.39 dBm	-8.39 dB
3.449 GHz	3.450 GHz	20.000 kHz	3.44999 GHz	-16.11 dBm	-3.11 dB
3.450 GHz	3.455 GHz	100.000 kHz	3.45035 GHz	21.44 dBm	-8.56 dB

Date: 23.OCT.2023 21:10:26

Highest Channel / 1RBmax

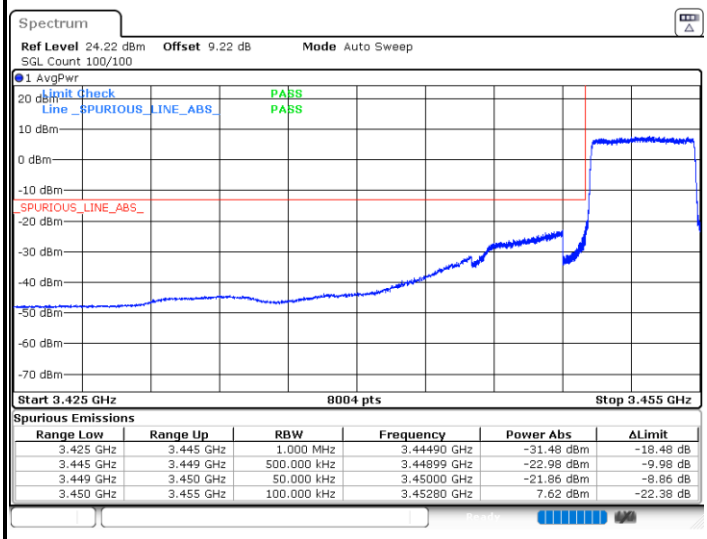


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.545 GHz	3.550 GHz	100.000 kHz	3.54964 GHz	19.70 dBm	-10.30 dB
3.550 GHz	3.551 GHz	50.000 kHz	3.55000 GHz	-14.24 dBm	-1.24 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55101 GHz	-25.79 dBm	-12.79 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55505 GHz	-36.58 dBm	-23.58 dB

Date: 20.OCT.2023 22:32:59

Lowest Channel / FullRB

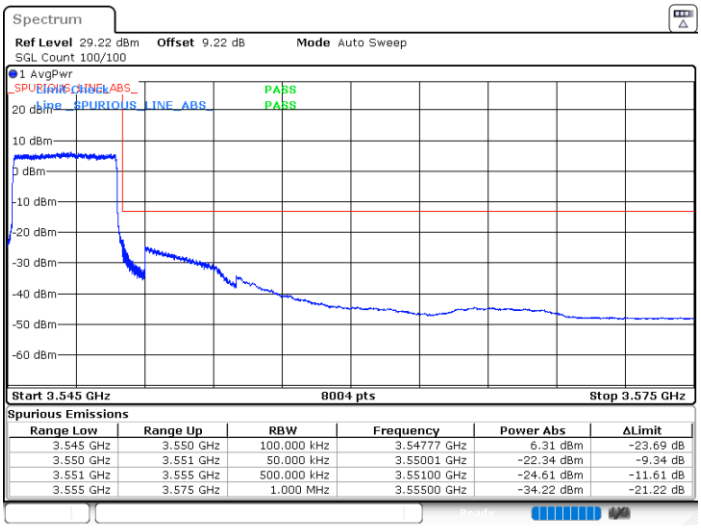


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44490 GHz	-31.48 dBm	-18.48 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44899 GHz	-22.98 dBm	-9.98 dB
3.449 GHz	3.450 GHz	50.000 kHz	3.45000 GHz	-21.86 dBm	-8.86 dB
3.450 GHz	3.455 GHz	100.000 kHz	3.45280 GHz	7.62 dBm	-22.38 dB

Date: 20.OCT.2023 20:12:03

Highest Channel / FullRB



Spurious Emissions

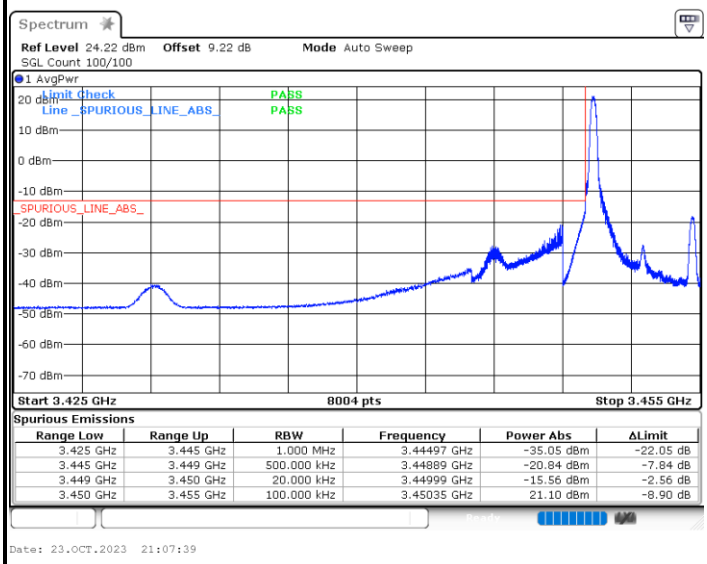
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.545 GHz	3.550 GHz	100.000 kHz	3.54777 GHz	6.31 dBm	-23.69 dB
3.550 GHz	3.551 GHz	50.000 kHz	3.55001 GHz	-22.34 dBm	-9.34 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55100 GHz	-24.61 dBm	-11.61 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55500 GHz	-34.22 dBm	-21.22 dB

Date: 20.OCT.2023 20:28:35

LTE Band 42 / 5MHz

16QAM

Lowest Channel / 1RB0

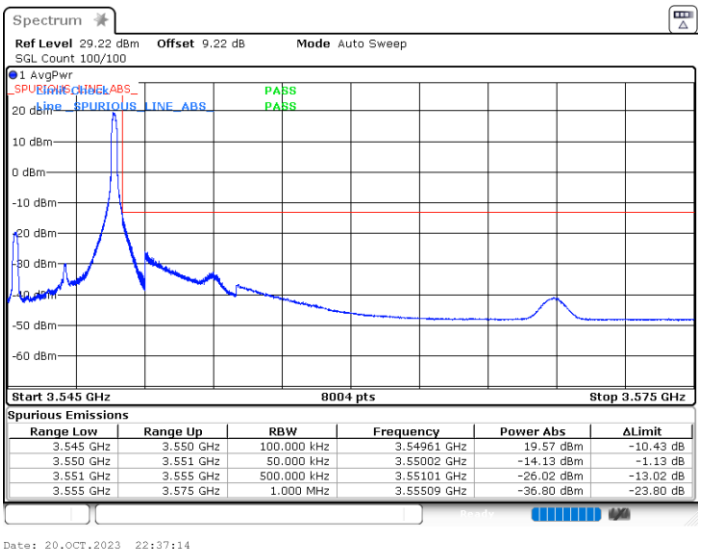


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44497 GHz	-35.05 dBm	-22.05 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44889 GHz	-20.84 dBm	-7.84 dB
3.449 GHz	3.450 GHz	20.000 kHz	3.44999 GHz	-15.56 dBm	-2.56 dB
3.450 GHz	3.455 GHz	100.000 kHz	3.45035 GHz	21.10 dBm	-8.90 dB

Date: 23.OCT.2023 21:07:39

Highest Channel / 1RBmax

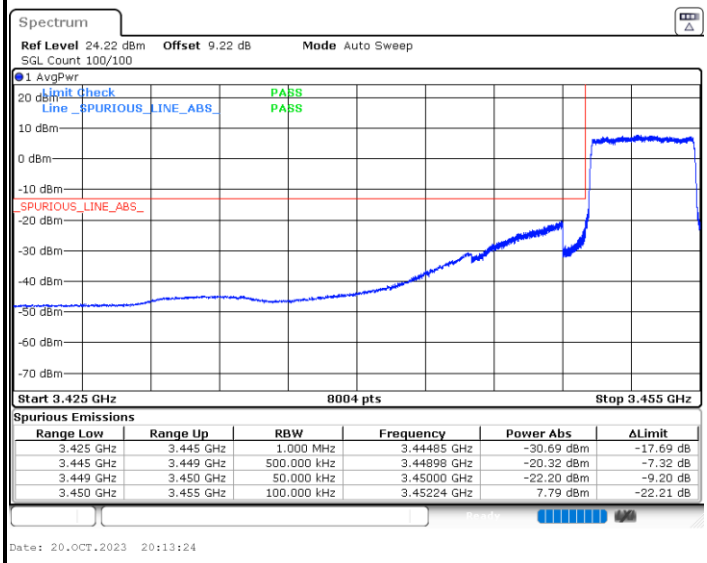


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.545 GHz	3.550 GHz	100.000 kHz	3.54961 GHz	19.57 dBm	-10.43 dB
3.550 GHz	3.551 GHz	50.000 kHz	3.55002 GHz	-14.13 dBm	-1.13 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55101 GHz	-26.02 dBm	-13.02 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55509 GHz	-36.80 dBm	-23.80 dB

Date: 20.OCT.2023 22:37:14

Lowest Channel / FullRB

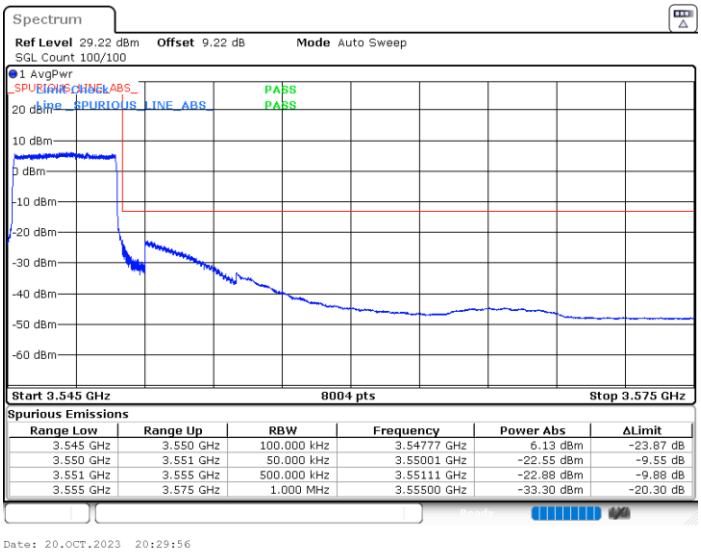


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44485 GHz	-30.69 dBm	-17.69 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44898 GHz	-20.32 dBm	-7.32 dB
3.449 GHz	3.450 GHz	50.000 kHz	3.45000 GHz	-22.20 dBm	-9.20 dB
3.450 GHz	3.455 GHz	100.000 kHz	3.45224 GHz	7.79 dBm	-22.21 dB

Date: 20.OCT.2023 20:13:24

Highest Channel / FullRB

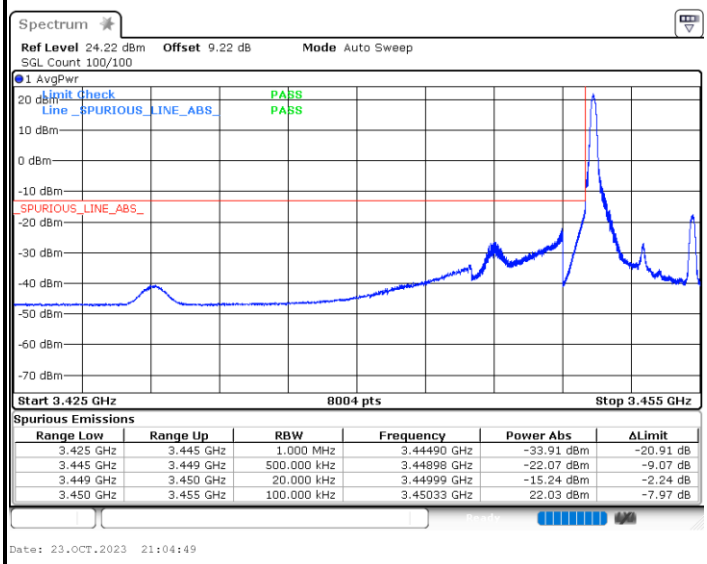


Spurious Emissions

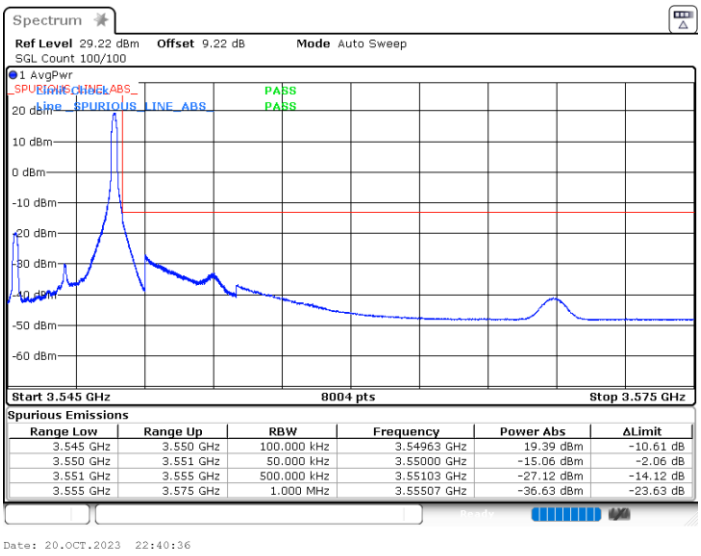
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.545 GHz	3.550 GHz	100.000 kHz	3.54777 GHz	6.13 dBm	-23.87 dB
3.550 GHz	3.551 GHz	50.000 kHz	3.55001 GHz	-22.55 dBm	-9.55 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55111 GHz	-22.88 dBm	-9.88 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55500 GHz	-33.30 dBm	-20.30 dB

Date: 20.OCT.2023 20:29:56

LTE Band 42 / 5MHz	
64QAM	
Lowest Channel / 1RB0	Highest Channel / 1RBmax

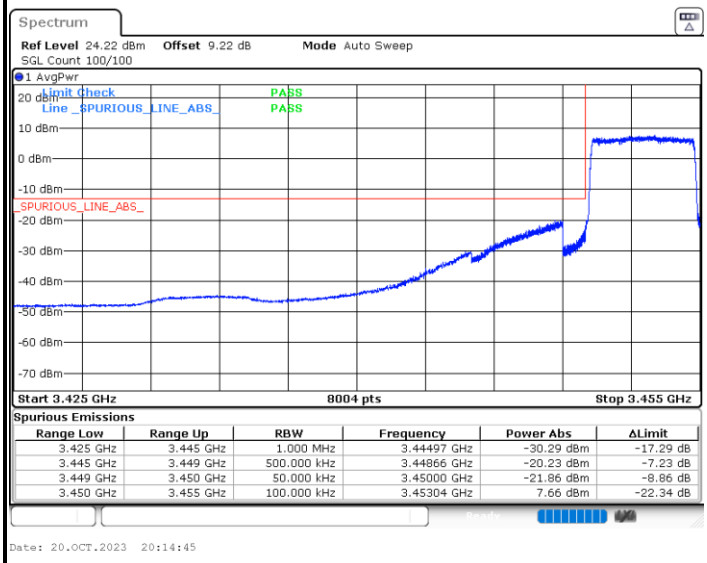


Date: 23.OCT.2023 21:04:49

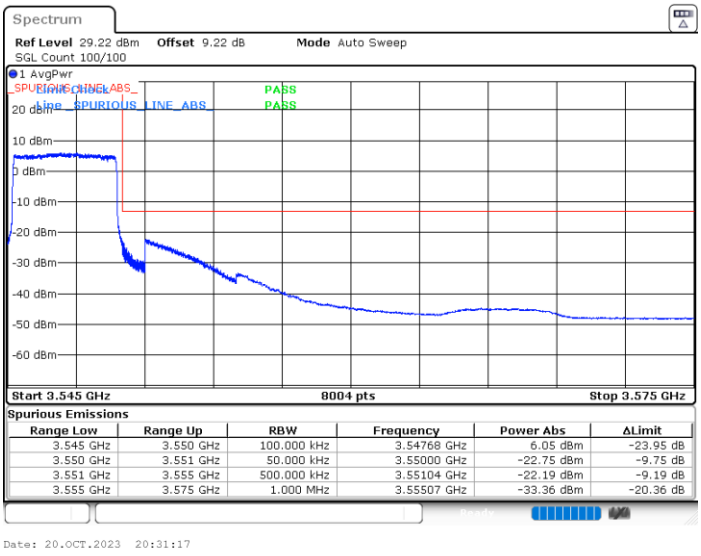


Date: 20.OCT.2023 22:40:36

Lowest Channel / FullRB	Highest Channel / FullRB



Date: 20.OCT.2023 20:14:45

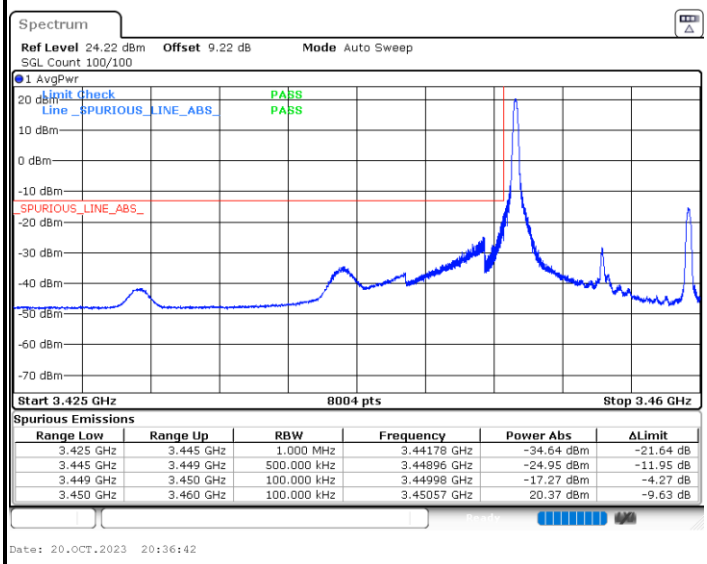


Date: 20.OCT.2023 20:31:17

LTE Band 42 / 10MHz

QPSK

Lowest Channel / 1RB0

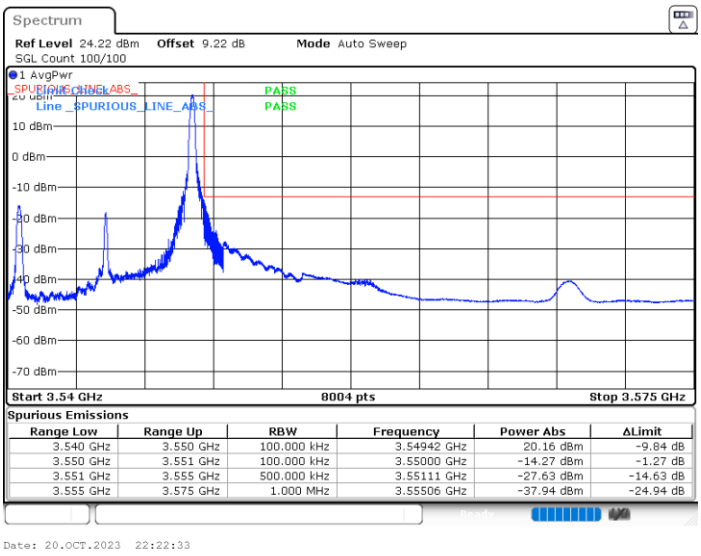


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44178 GHz	-34.64 dBm	-21.64 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44896 GHz	-24.95 dBm	-11.95 dB
3.449 GHz	3.450 GHz	100.000 kHz	3.44998 GHz	-17.27 dBm	-4.27 dB
3.450 GHz	3.460 GHz	100.000 kHz	3.45057 GHz	20.37 dBm	-9.63 dB

Date: 20.OCT.2023 20:36:42

Highest Channel / 1RBmax

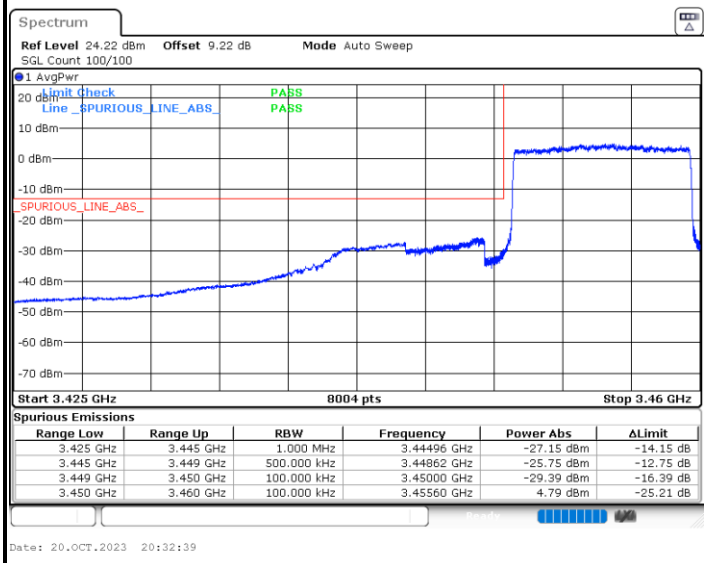


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.540 GHz	3.550 GHz	100.000 kHz	3.54942 GHz	20.16 dBm	-9.84 dB
3.550 GHz	3.551 GHz	100.000 kHz	3.55000 GHz	-14.27 dBm	-1.27 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55111 GHz	-27.63 dBm	-14.63 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55506 GHz	-37.94 dBm	-24.94 dB

Date: 20.OCT.2023 22:22:33

Lowest Channel / FullRB

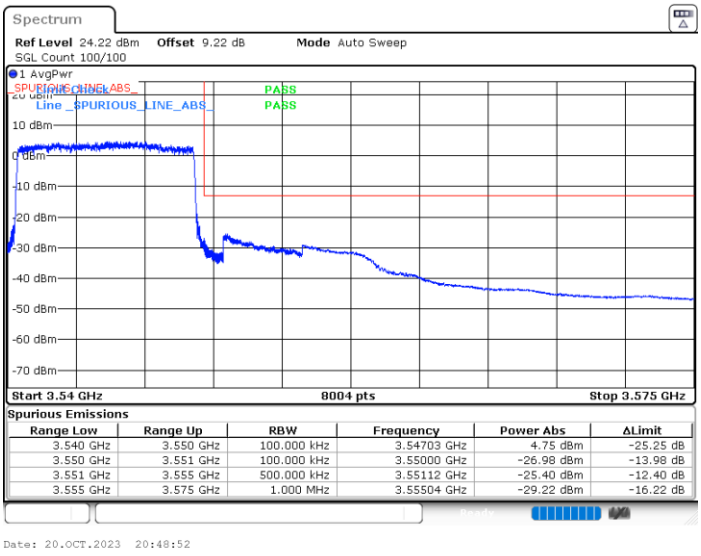


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44496 GHz	-27.15 dBm	-14.15 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44862 GHz	-25.75 dBm	-12.75 dB
3.449 GHz	3.450 GHz	100.000 kHz	3.45000 GHz	-29.39 dBm	-16.39 dB
3.450 GHz	3.460 GHz	100.000 kHz	3.45560 GHz	4.79 dBm	-25.21 dB

Date: 20.OCT.2023 20:32:39

Highest Channel / FullRB



Spurious Emissions

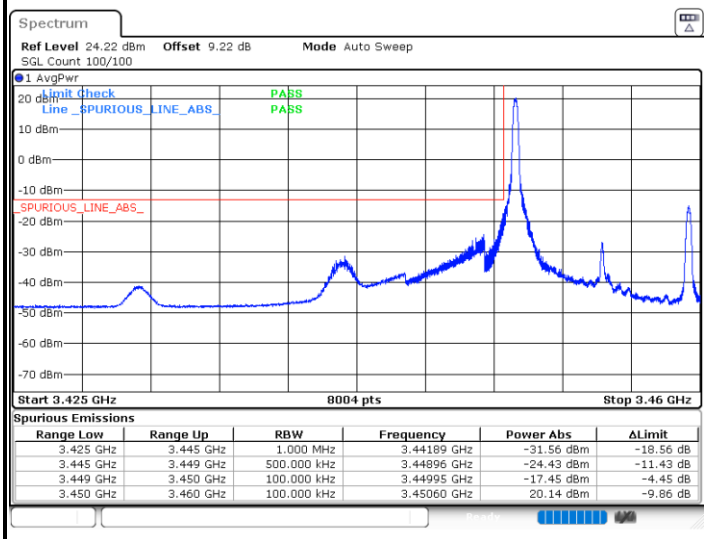
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.540 GHz	3.550 GHz	100.000 kHz	3.54703 GHz	4.75 dBm	-25.25 dB
3.550 GHz	3.551 GHz	100.000 kHz	3.55000 GHz	-26.98 dBm	-13.98 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55112 GHz	-25.40 dBm	-12.40 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55504 GHz	-29.22 dBm	-16.22 dB

Date: 20.OCT.2023 20:48:52

LTE Band 42 / 10MHz

16QAM

Lowest Channel / 1RB0

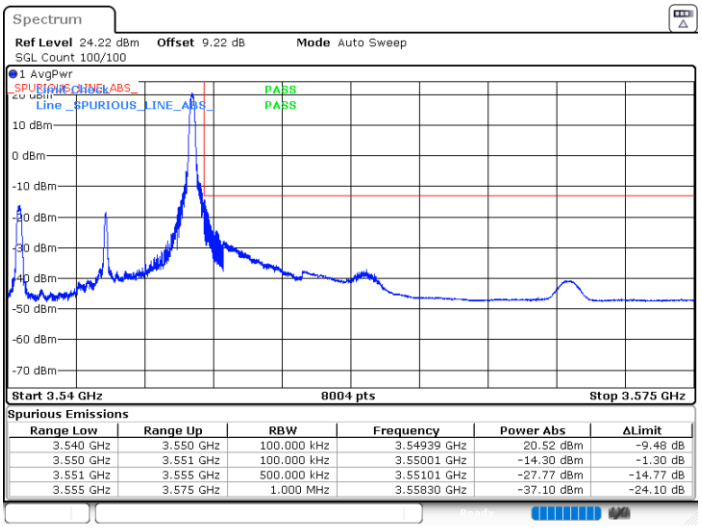


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44189 GHz	-31.56 dBm	-18.56 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44896 GHz	-24.43 dBm	-11.43 dB
3.449 GHz	3.450 GHz	100.000 kHz	3.44995 GHz	-17.45 dBm	-4.45 dB
3.450 GHz	3.460 GHz	100.000 kHz	3.45060 GHz	20.14 dBm	-9.86 dB

Date: 20.OCT.2023 20:38:03

Highest Channel / 1RBmax

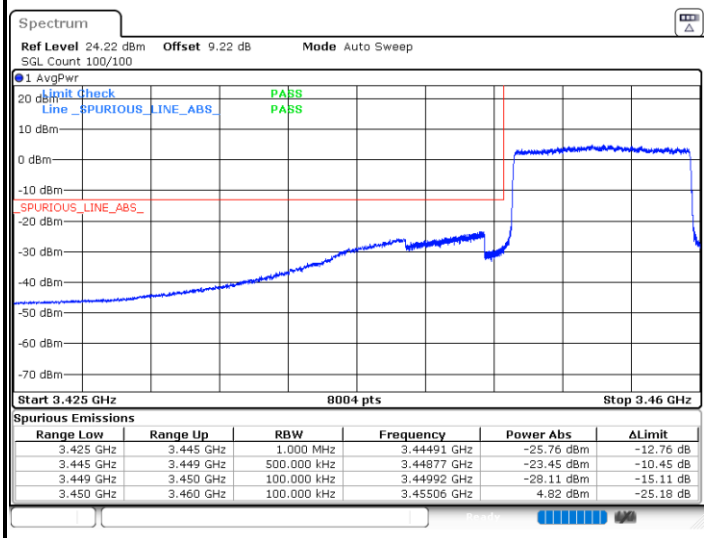


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.540 GHz	3.550 GHz	100.000 kHz	3.54939 GHz	20.52 dBm	-9.48 dB
3.550 GHz	3.551 GHz	100.000 kHz	3.55001 GHz	-14.30 dBm	-1.30 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55101 GHz	-27.77 dBm	-14.77 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55830 GHz	-37.10 dBm	-24.10 dB

Date: 20.OCT.2023 22:20:44

Lowest Channel / FullRB

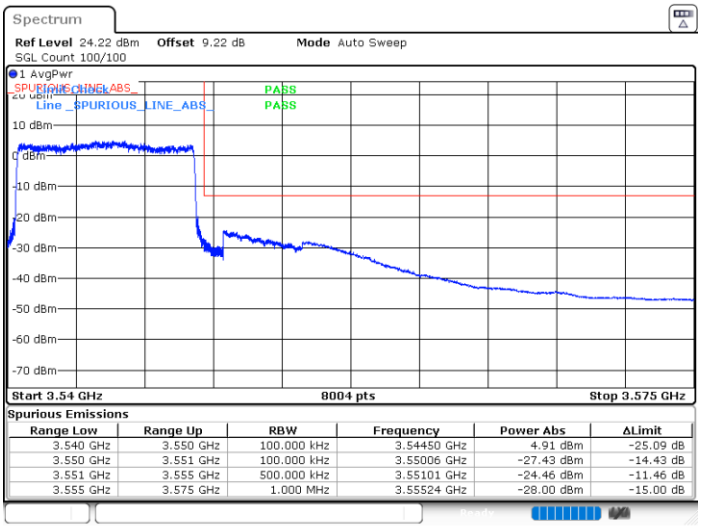


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44491 GHz	-25.76 dBm	-12.76 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44877 GHz	-23.45 dBm	-10.45 dB
3.449 GHz	3.450 GHz	100.000 kHz	3.44992 GHz	-28.11 dBm	-15.11 dB
3.450 GHz	3.460 GHz	100.000 kHz	3.45506 GHz	4.82 dBm	-25.18 dB

Date: 20.OCT.2023 20:34:00

Highest Channel / FullRB



Spurious Emissions

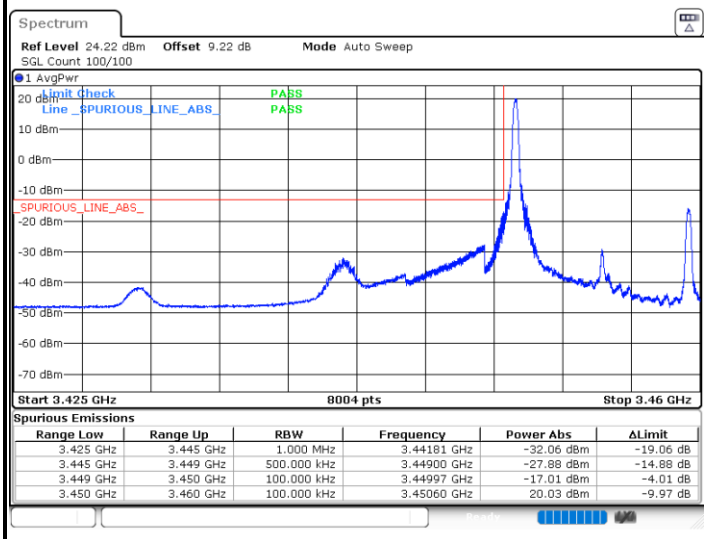
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.540 GHz	3.550 GHz	100.000 kHz	3.54450 GHz	4.91 dBm	-25.09 dB
3.550 GHz	3.551 GHz	100.000 kHz	3.55006 GHz	-27.43 dBm	-14.43 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55101 GHz	-24.46 dBm	-11.46 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55524 GHz	-28.00 dBm	-15.00 dB

Date: 20.OCT.2023 20:50:14

LTE Band 42 / 10MHz

64QAM

Lowest Channel / 1RB0

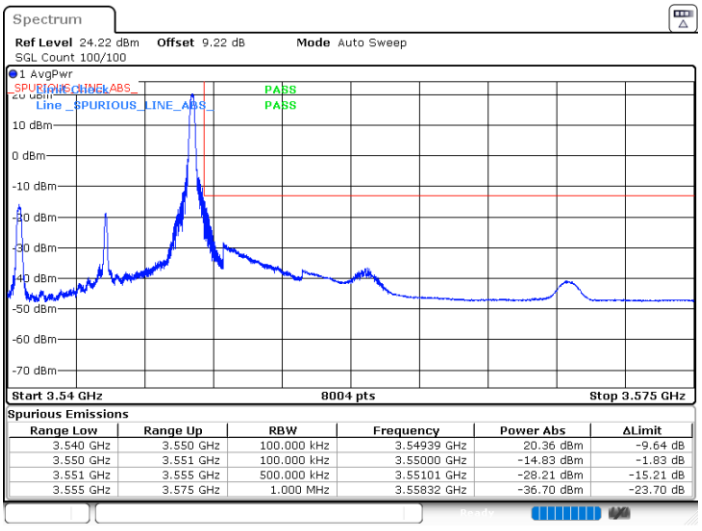


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44181 GHz	-32.06 dBm	-19.06 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44900 GHz	-27.88 dBm	-14.88 dB
3.449 GHz	3.450 GHz	100.000 kHz	3.44997 GHz	-17.01 dBm	-4.01 dB
3.450 GHz	3.460 GHz	100.000 kHz	3.45060 GHz	20.03 dBm	-9.97 dB

Date: 20.OCT.2023 20:39:25

Highest Channel / 1RBmax

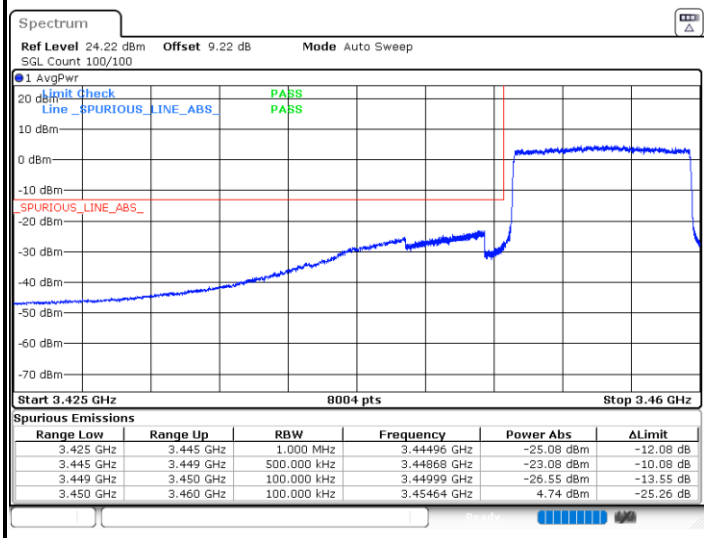


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.540 GHz	3.550 GHz	100.000 kHz	3.54939 GHz	20.36 dBm	-9.64 dB
3.550 GHz	3.551 GHz	100.000 kHz	3.55000 GHz	-14.83 dBm	-1.83 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55101 GHz	-28.21 dBm	-15.21 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55832 GHz	-36.70 dBm	-23.70 dB

Date: 20.OCT.2023 22:21:40

Lowest Channel / FullRB

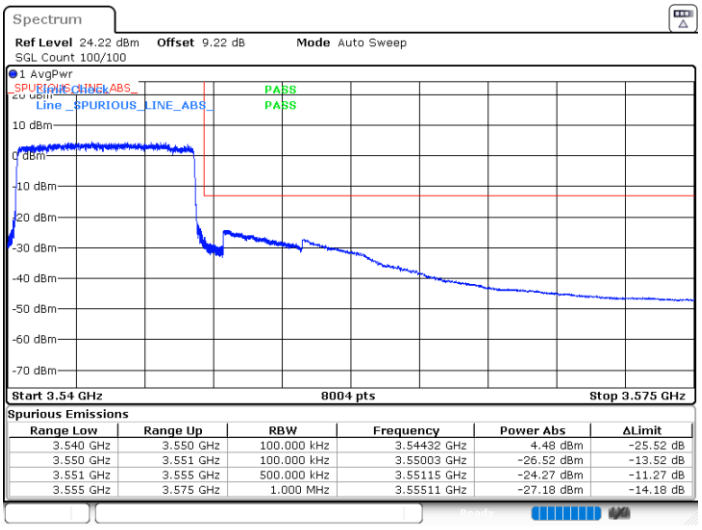


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44496 GHz	-25.08 dBm	-12.08 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44868 GHz	-23.08 dBm	-10.08 dB
3.449 GHz	3.450 GHz	100.000 kHz	3.44999 GHz	-26.55 dBm	-13.55 dB
3.450 GHz	3.460 GHz	100.000 kHz	3.45464 GHz	4.74 dBm	-25.26 dB

Date: 20.OCT.2023 20:35:21

Highest Channel / FullRB



Spurious Emissions

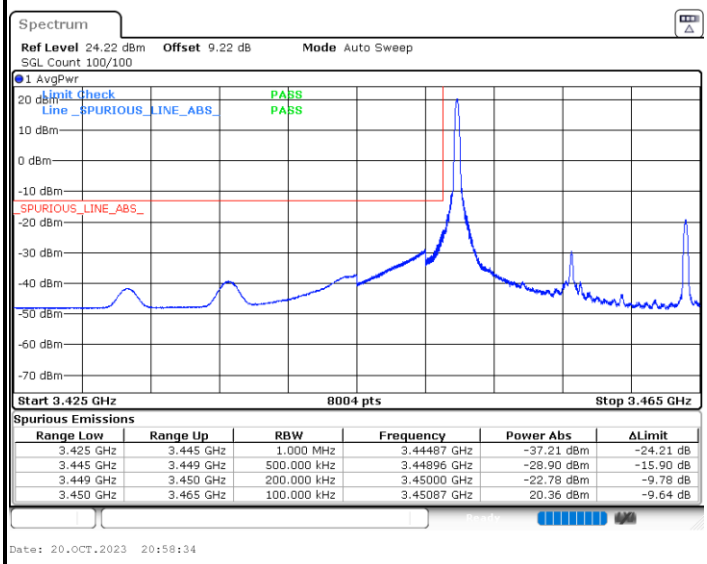
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.540 GHz	3.550 GHz	100.000 kHz	3.54432 GHz	4.48 dBm	-25.52 dB
3.550 GHz	3.551 GHz	100.000 kHz	3.55003 GHz	-26.52 dBm	-13.52 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55115 GHz	-24.27 dBm	-11.27 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55511 GHz	-27.18 dBm	-14.18 dB

Date: 20.OCT.2023 20:51:35

LTE Band 42 / 15MHz

QPSK

Lowest Channel / 1RB0

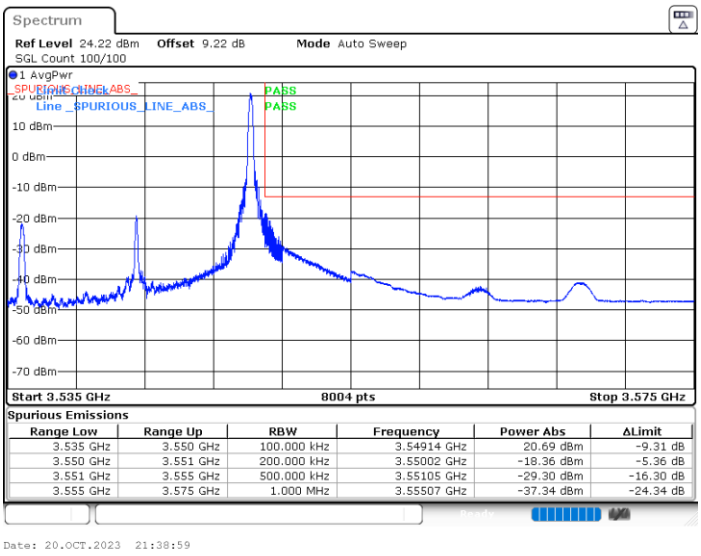


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44487 GHz	-37.21 dBm	-24.21 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44896 GHz	-28.90 dBm	-15.90 dB
3.449 GHz	3.450 GHz	200.000 kHz	3.45000 GHz	-22.78 dBm	-9.78 dB
3.450 GHz	3.465 GHz	100.000 kHz	3.45087 GHz	20.36 dBm	-9.64 dB

Date: 20.OCT.2023 20:58:34

Highest Channel / 1RBmax

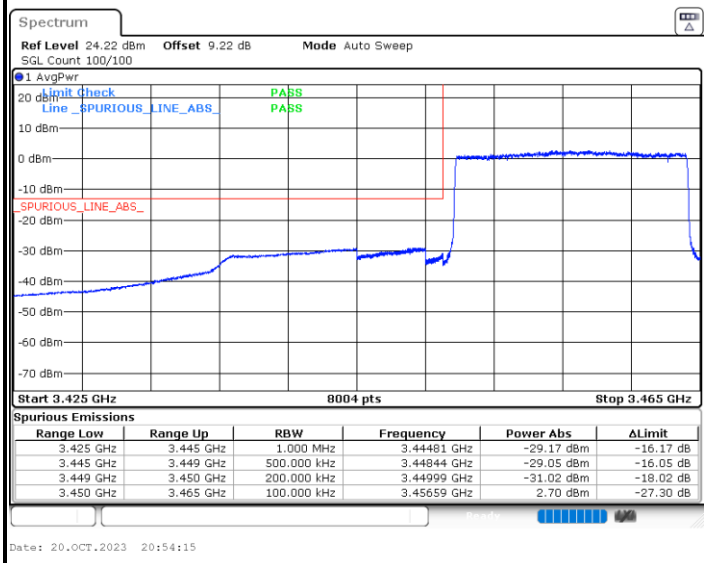


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.535 GHz	3.550 GHz	100.000 kHz	3.54914 GHz	20.69 dBm	-9.31 dB
3.550 GHz	3.551 GHz	200.000 kHz	3.55002 GHz	-18.36 dBm	-5.36 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55105 GHz	-29.30 dBm	-16.30 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55507 GHz	-37.34 dBm	-24.34 dB

Date: 20.OCT.2023 21:38:59

Lowest Channel / FullRB

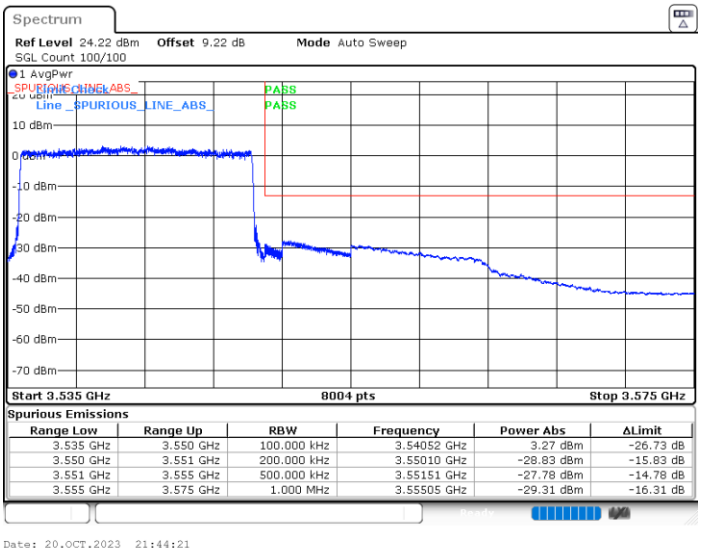


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44481 GHz	-29.17 dBm	-16.17 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44844 GHz	-29.05 dBm	-16.05 dB
3.449 GHz	3.450 GHz	200.000 kHz	3.44999 GHz	-31.02 dBm	-18.02 dB
3.450 GHz	3.465 GHz	100.000 kHz	3.45659 GHz	2.70 dBm	-27.30 dB

Date: 20.OCT.2023 20:54:15

Highest Channel / FullRB



Spurious Emissions

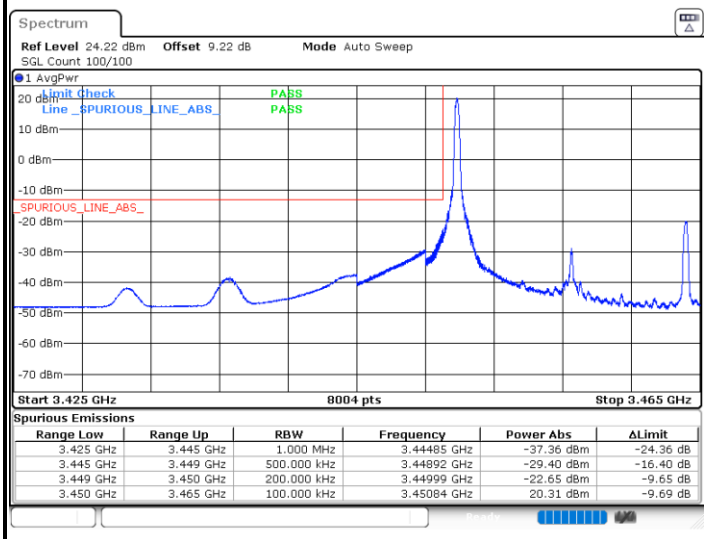
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.535 GHz	3.550 GHz	100.000 kHz	3.54052 GHz	3.27 dBm	-26.73 dB
3.550 GHz	3.551 GHz	200.000 kHz	3.55010 GHz	-28.83 dBm	-15.83 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55151 GHz	-27.78 dBm	-14.78 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55505 GHz	-29.31 dBm	-16.31 dB

Date: 20.OCT.2023 21:44:21

LTE Band 42 / 15MHz

16QAM

Lowest Channel / 1RB0

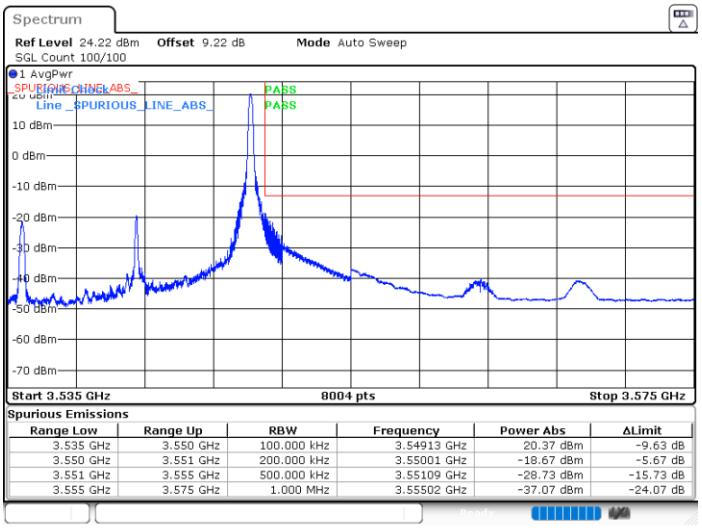


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44485 GHz	-37.36 dBm	-24.36 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44892 GHz	-29.40 dBm	-16.40 dB
3.449 GHz	3.450 GHz	200.000 kHz	3.44999 GHz	-22.65 dBm	-9.65 dB
3.450 GHz	3.465 GHz	100.000 kHz	3.45084 GHz	20.31 dBm	-9.69 dB

Date: 20.OCT.2023 20:59:58

Highest Channel / 1RBmax

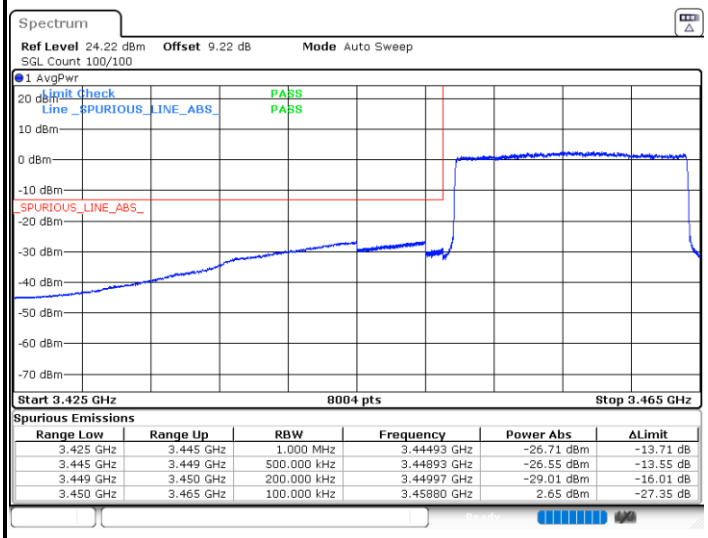


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.535 GHz	3.550 GHz	100.000 kHz	3.54913 GHz	20.37 dBm	-9.63 dB
3.550 GHz	3.551 GHz	200.000 kHz	3.55001 GHz	-18.67 dBm	-5.67 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55109 GHz	-28.73 dBm	-15.73 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55502 GHz	-37.07 dBm	-24.07 dB

Date: 20.OCT.2023 21:41:25

Lowest Channel / FullRB

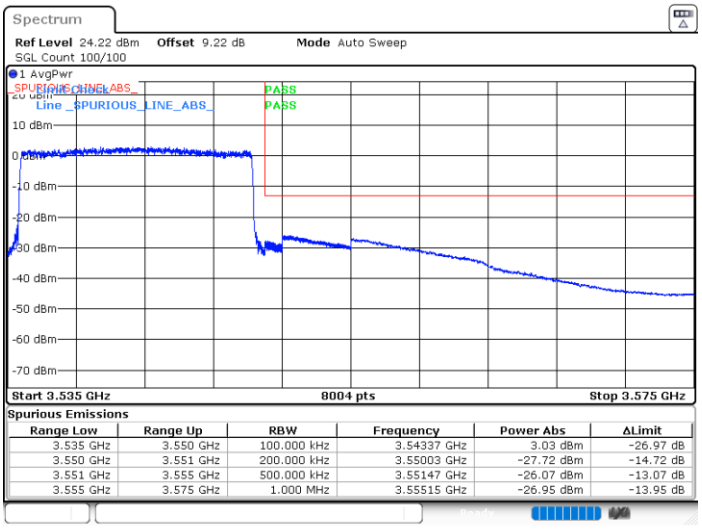


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44493 GHz	-26.71 dBm	-13.71 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44893 GHz	-26.55 dBm	-13.55 dB
3.449 GHz	3.450 GHz	200.000 kHz	3.44997 GHz	-29.01 dBm	-16.01 dB
3.450 GHz	3.465 GHz	100.000 kHz	3.45880 GHz	2.65 dBm	-27.35 dB

Date: 20.OCT.2023 20:55:40

Highest Channel / FullRB



Spurious Emissions

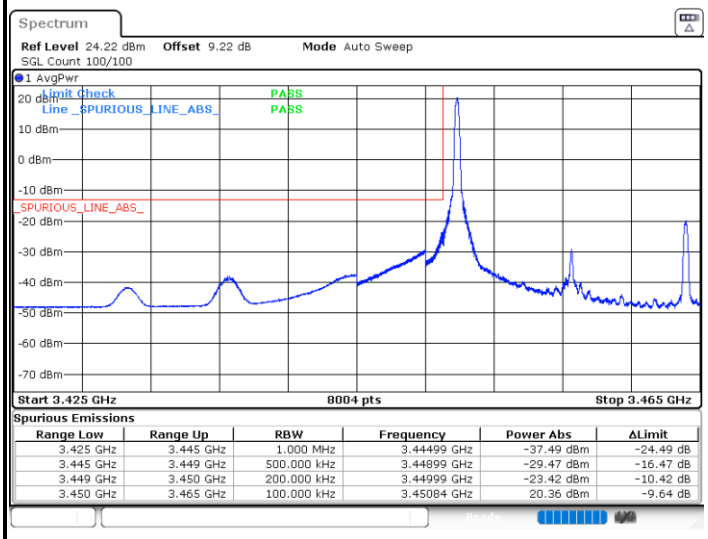
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.535 GHz	3.550 GHz	100.000 kHz	3.54337 GHz	3.03 dBm	-26.97 dB
3.550 GHz	3.551 GHz	200.000 kHz	3.55003 GHz	-27.72 dBm	-14.72 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55147 GHz	-26.07 dBm	-13.07 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55515 GHz	-26.95 dBm	-13.95 dB

Date: 20.OCT.2023 21:45:44

LTE Band 42 / 15MHz

64QAM

Lowest Channel / 1RB0

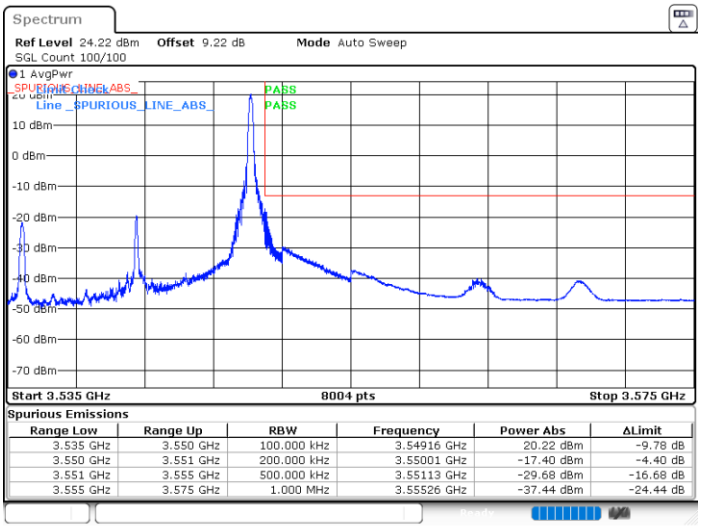


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44499 GHz	-37.49 dBm	-24.49 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44899 GHz	-29.47 dBm	-16.47 dB
3.449 GHz	3.450 GHz	200.000 kHz	3.44999 GHz	-23.42 dBm	-10.42 dB
3.450 GHz	3.465 GHz	100.000 kHz	3.45084 GHz	20.36 dBm	-9.64 dB

Date: 20.OCT.2023 21:01:22

Highest Channel / 1RBmax

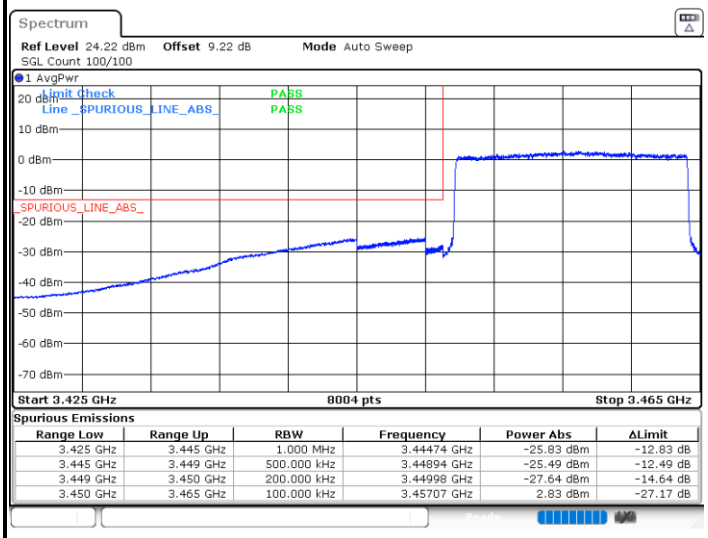


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.535 GHz	3.550 GHz	100.000 kHz	3.54916 GHz	20.22 dBm	-9.78 dB
3.550 GHz	3.551 GHz	200.000 kHz	3.55001 GHz	-17.40 dBm	-4.40 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55113 GHz	-29.68 dBm	-16.68 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55526 GHz	-37.44 dBm	-24.44 dB

Date: 20.OCT.2023 21:42:50

Lowest Channel / FullRB

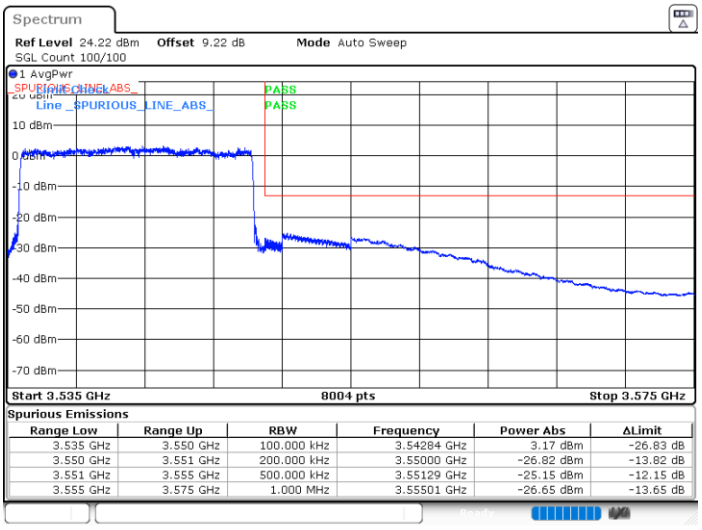


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44474 GHz	-25.83 dBm	-12.83 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44894 GHz	-25.49 dBm	-12.49 dB
3.449 GHz	3.450 GHz	200.000 kHz	3.44998 GHz	-27.64 dBm	-14.64 dB
3.450 GHz	3.465 GHz	100.000 kHz	3.45707 GHz	2.83 dBm	-27.17 dB

Date: 20.OCT.2023 20:57:05

Highest Channel / FullRB

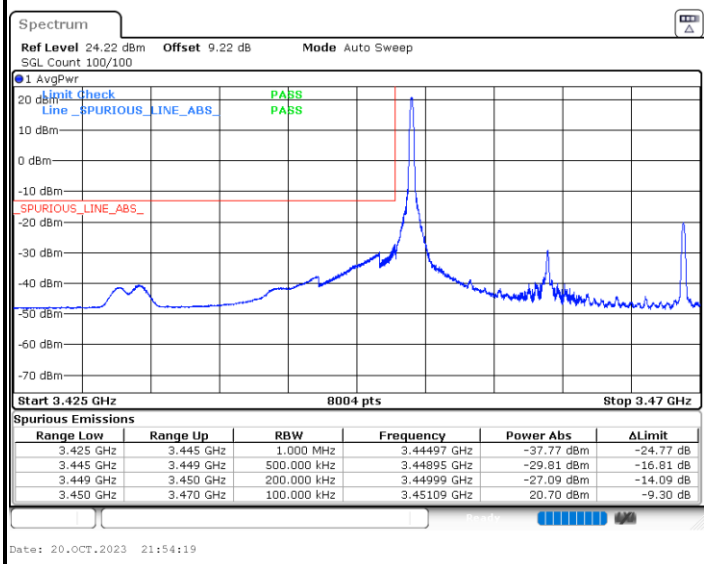


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.535 GHz	3.550 GHz	100.000 kHz	3.54284 GHz	3.17 dBm	-26.83 dB
3.550 GHz	3.551 GHz	200.000 kHz	3.55000 GHz	-26.82 dBm	-13.82 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55129 GHz	-25.15 dBm	-12.15 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55501 GHz	-26.65 dBm	-13.65 dB

Date: 20.OCT.2023 21:47:09

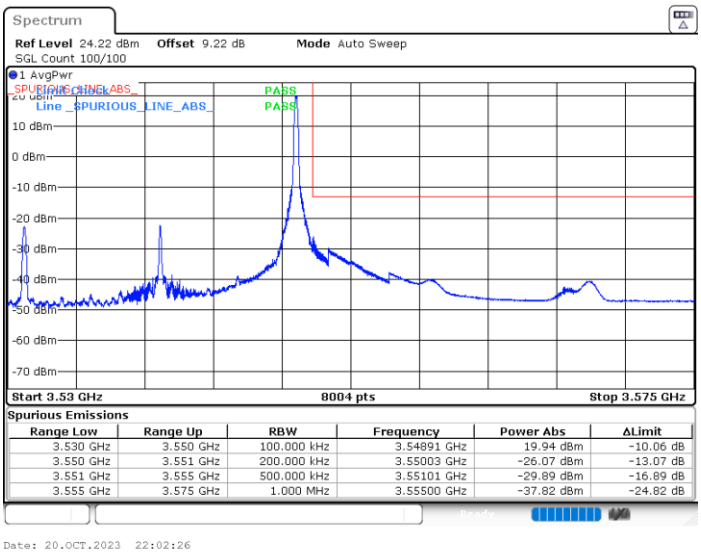
LTE Band 42 / 20MHz	
QPSK	
Lowest Channel / 1RB0	Highest Channel / 1RBmax



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44497 GHz	-37.77 dBm	-24.77 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44895 GHz	-29.81 dBm	-16.81 dB
3.449 GHz	3.450 GHz	200.000 kHz	3.44999 GHz	-27.09 dBm	-14.09 dB
3.450 GHz	3.470 GHz	100.000 kHz	3.45109 GHz	20.70 dBm	-9.30 dB

Date: 20.OCT.2023 21:54:19

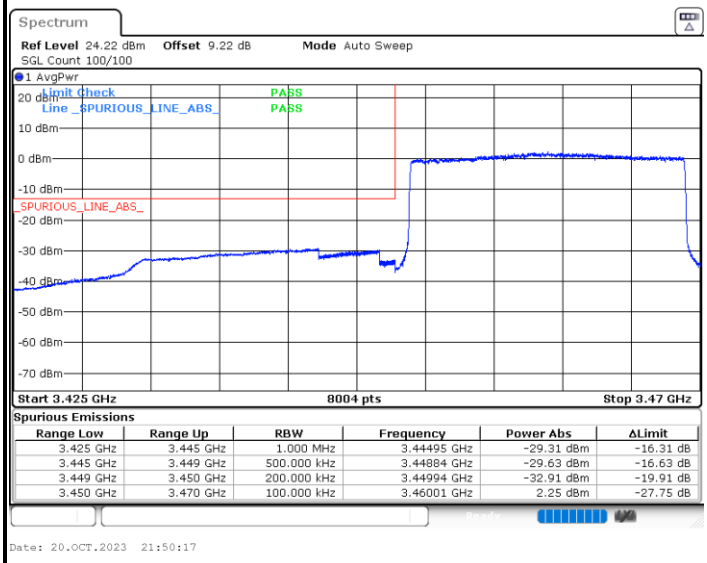


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.530 GHz	3.550 GHz	100.000 kHz	3.54891 GHz	19.94 dBm	-10.06 dB
3.550 GHz	3.551 GHz	200.000 kHz	3.55003 GHz	-26.07 dBm	-13.07 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55101 GHz	-29.89 dBm	-16.89 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55500 GHz	-37.82 dBm	-24.82 dB

Date: 20.OCT.2023 22:02:26

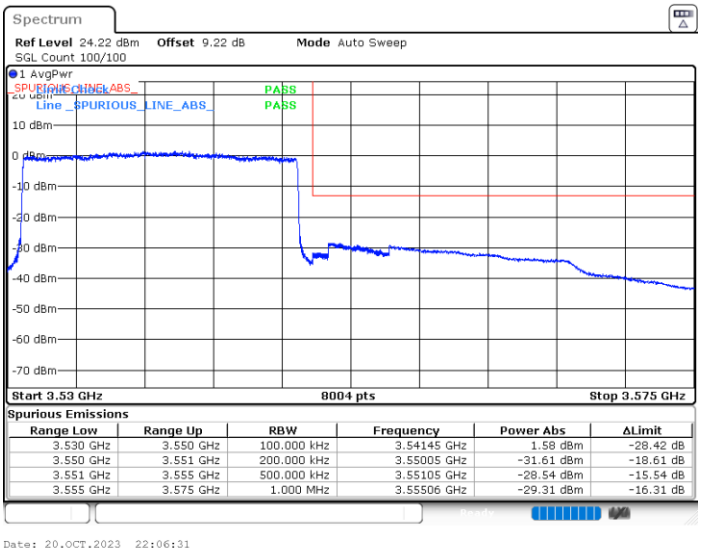
Lowest Channel / FullRB	Highest Channel / FullRB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44495 GHz	-29.31 dBm	-16.31 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44884 GHz	-29.63 dBm	-16.63 dB
3.449 GHz	3.450 GHz	200.000 kHz	3.44994 GHz	-32.91 dBm	-19.91 dB
3.450 GHz	3.470 GHz	100.000 kHz	3.46001 GHz	2.25 dBm	-27.75 dB

Date: 20.OCT.2023 21:50:17



Spurious Emissions

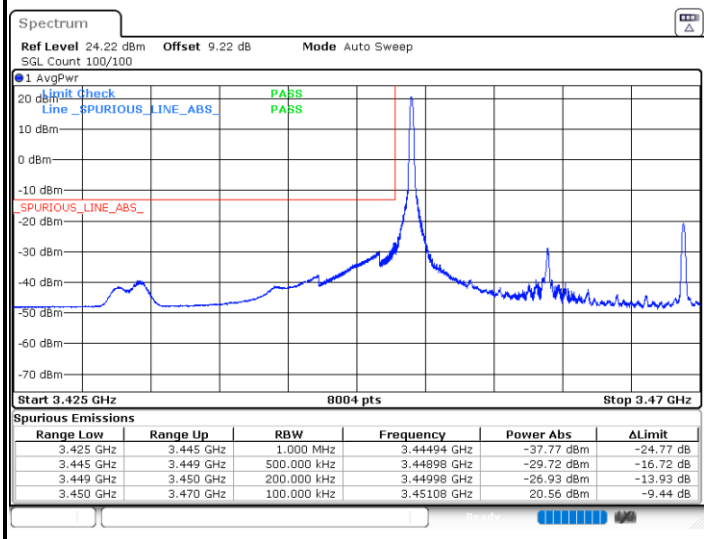
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.530 GHz	3.550 GHz	100.000 kHz	3.54145 GHz	1.58 dBm	-28.42 dB
3.550 GHz	3.551 GHz	200.000 kHz	3.55005 GHz	-31.61 dBm	-18.61 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55105 GHz	-28.54 dBm	-15.54 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55506 GHz	-29.31 dBm	-16.31 dB

Date: 20.OCT.2023 22:06:31

LTE Band 42 / 20MHz

16QAM

Lowest Channel / 1RB0

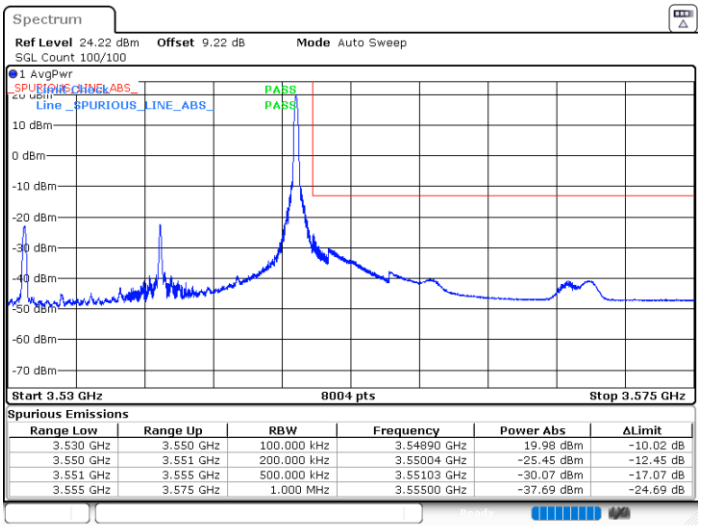


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44494 GHz	-37.77 dBm	-24.77 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44898 GHz	-29.72 dBm	-16.72 dB
3.449 GHz	3.450 GHz	200.000 kHz	3.44998 GHz	-26.93 dBm	-13.93 dB
3.450 GHz	3.470 GHz	100.000 kHz	3.45108 GHz	20.56 dBm	-9.44 dB

Date: 20.OCT.2023 21:55:41

Highest Channel / 1RBmax

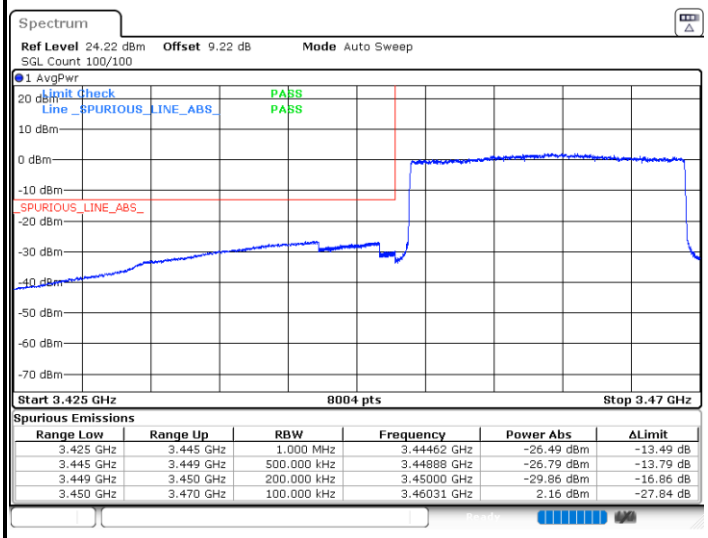


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.530 GHz	3.550 GHz	100.000 kHz	3.54890 GHz	19.98 dBm	-10.02 dB
3.550 GHz	3.551 GHz	200.000 kHz	3.55004 GHz	-25.45 dBm	-12.45 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55103 GHz	-30.07 dBm	-17.07 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55500 GHz	-37.69 dBm	-24.69 dB

Date: 20.OCT.2023 22:03:47

Lowest Channel / FullRB

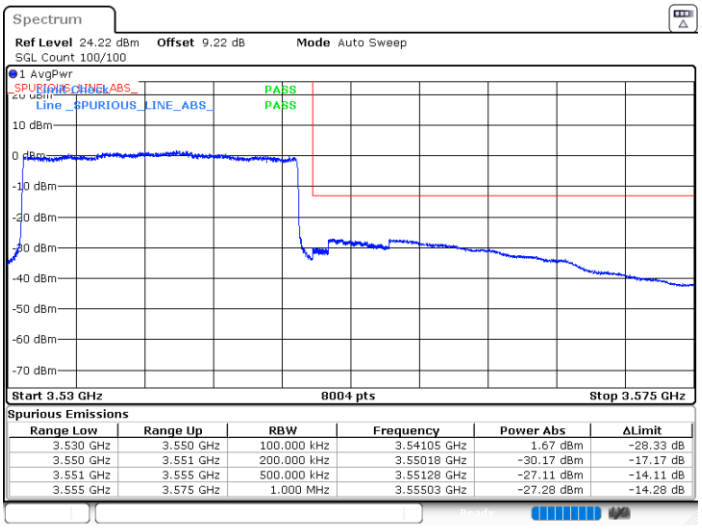


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.425 GHz	3.445 GHz	1.000 MHz	3.44462 GHz	-26.49 dBm	-13.49 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44888 GHz	-26.79 dBm	-13.79 dB
3.449 GHz	3.450 GHz	200.000 kHz	3.45000 GHz	-29.86 dBm	-16.86 dB
3.450 GHz	3.470 GHz	100.000 kHz	3.46031 GHz	2.16 dBm	-27.84 dB

Date: 20.OCT.2023 21:51:37

Highest Channel / FullRB

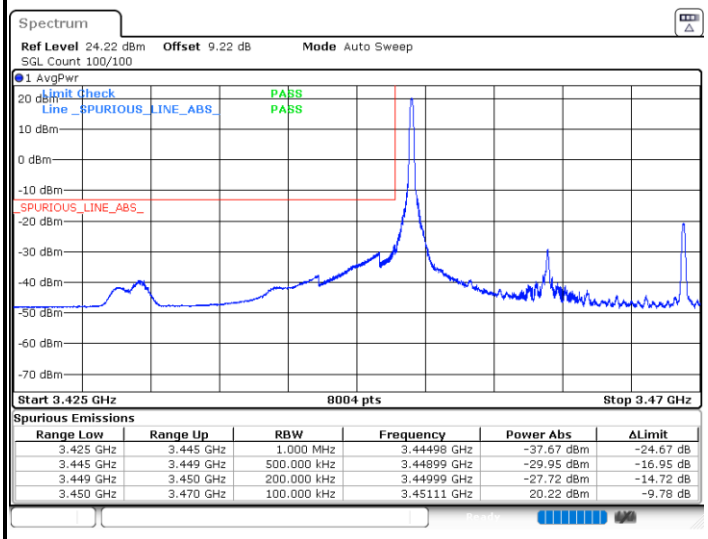


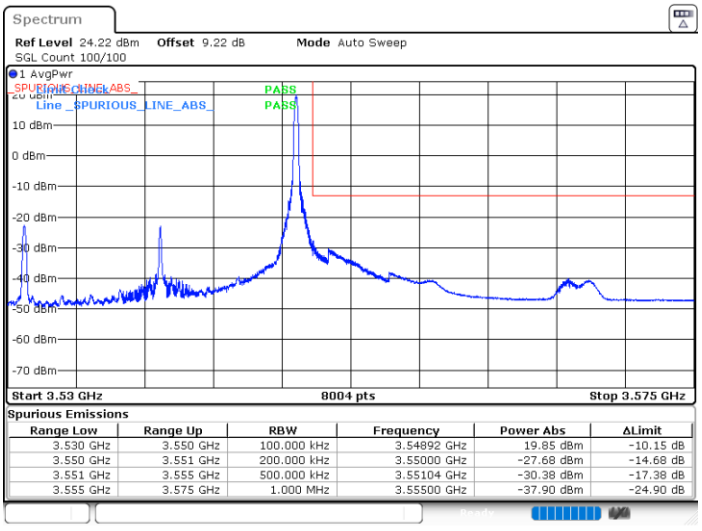
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.530 GHz	3.550 GHz	100.000 kHz	3.54105 GHz	1.67 dBm	-28.33 dB
3.550 GHz	3.551 GHz	200.000 kHz	3.55018 GHz	-30.17 dBm	-17.17 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55128 GHz	-27.11 dBm	-14.11 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55503 GHz	-27.28 dBm	-14.28 dB

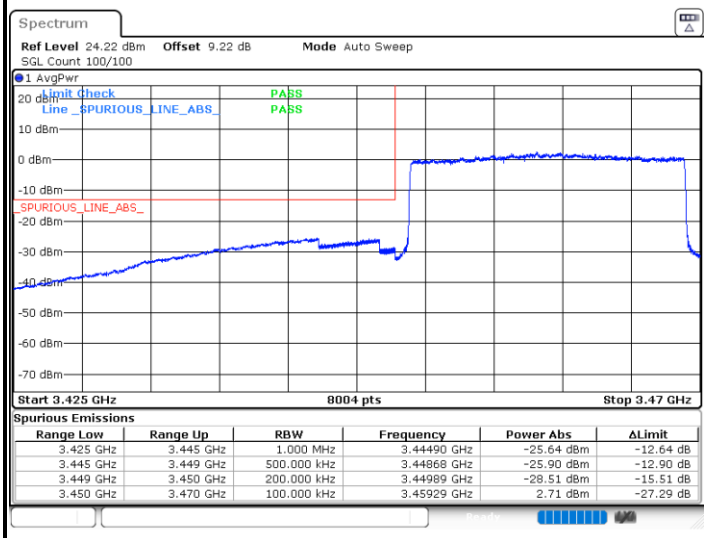
Date: 20.OCT.2023 22:07:52

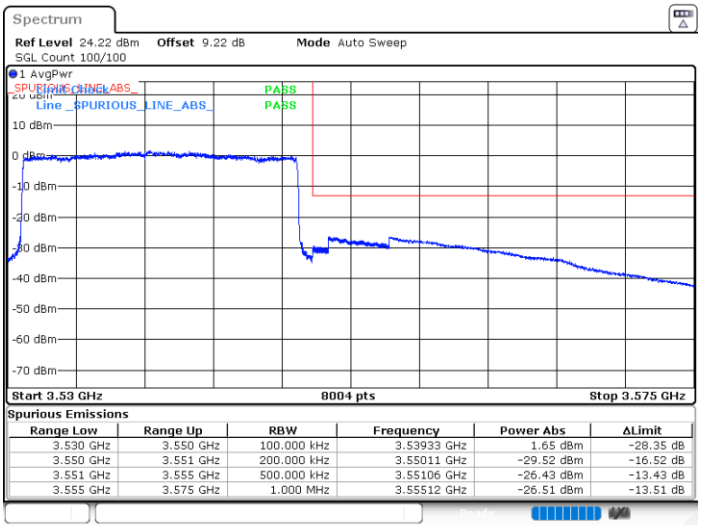
LTE Band 42 / 20MHz	
64QAM	
Lowest Channel / 1RB0	Highest Channel / 1RBmax





Lowest Channel / FullRB	Highest Channel / FullRB



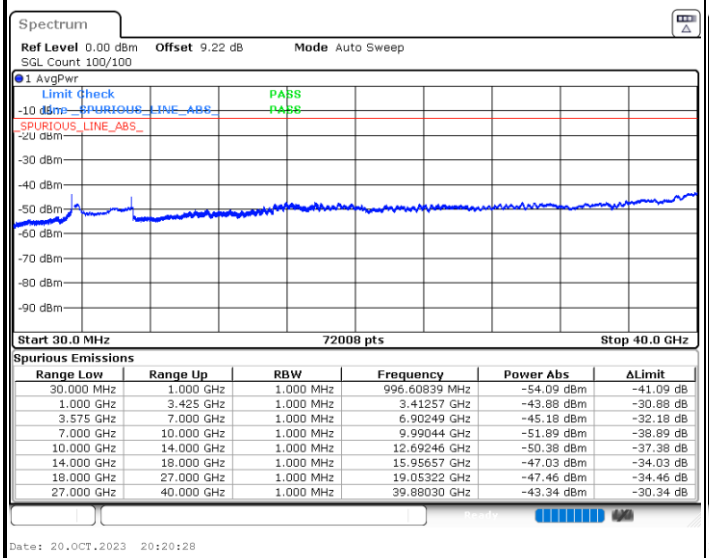


Conducted Spurious Emission

LTE Band 42/ 5MHz

QPSK / 1RB0

Lowest Channel

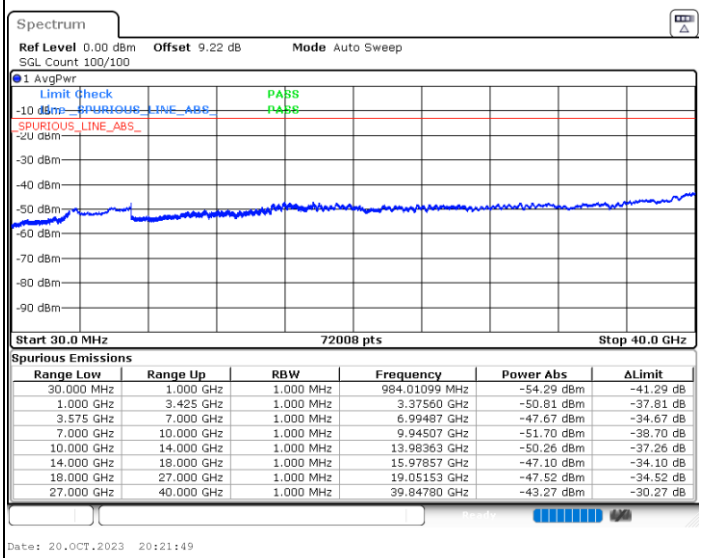


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	996.60839 MHz	-54.09 dBm	-41.09 dB
1.000 GHz	3.425 GHz	1.000 MHz	3.41257 GHz	-43.88 dBm	-30.88 dB
3.575 GHz	7.000 GHz	1.000 MHz	6.90249 GHz	-45.18 dBm	-32.18 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.99044 GHz	-51.89 dBm	-38.89 dB
10.000 GHz	14.000 GHz	1.000 MHz	12.69246 GHz	-50.38 dBm	-37.38 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.95657 GHz	-47.03 dBm	-34.03 dB
18.000 GHz	27.000 GHz	1.000 MHz	19.05322 GHz	-47.46 dBm	-34.46 dB
27.000 GHz	40.000 GHz	1.000 MHz	39.88030 GHz	-43.34 dBm	-30.34 dB

Date: 20.OCT.2023 20:20:28

Middle Channel

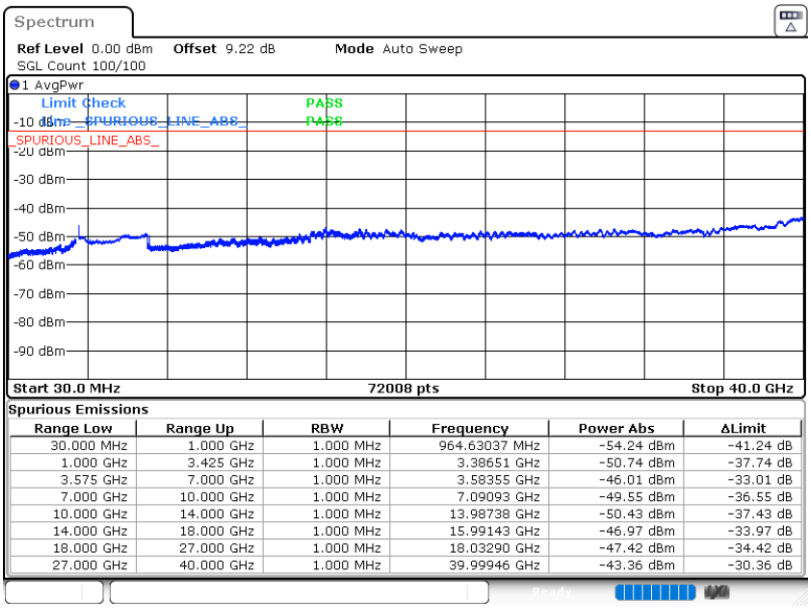


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	984.01099 MHz	-54.29 dBm	-41.29 dB
1.000 GHz	3.425 GHz	1.000 MHz	3.37560 GHz	-50.81 dBm	-37.81 dB
3.575 GHz	7.000 GHz	1.000 MHz	6.99487 GHz	-47.67 dBm	-34.67 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.94507 GHz	-51.70 dBm	-38.70 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.98363 GHz	-50.26 dBm	-37.26 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.97857 GHz	-47.10 dBm	-34.10 dB
18.000 GHz	27.000 GHz	1.000 MHz	19.05153 GHz	-47.52 dBm	-34.52 dB
27.000 GHz	40.000 GHz	1.000 MHz	39.84780 GHz	-43.27 dBm	-30.27 dB

Date: 20.OCT.2023 20:21:49

Highest Channel



Spurious Emissions

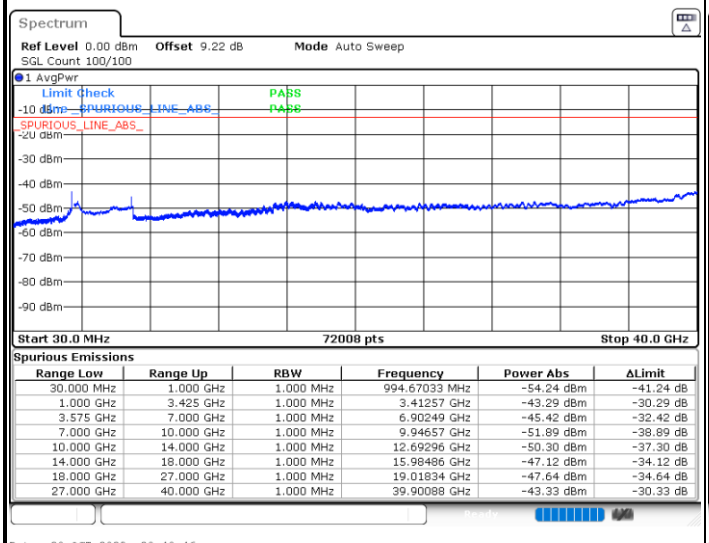
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	964.63037 MHz	-54.24 dBm	-41.24 dB
1.000 GHz	3.425 GHz	1.000 MHz	3.38651 GHz	-50.74 dBm	-37.74 dB
3.575 GHz	7.000 GHz	1.000 MHz	3.58355 GHz	-46.01 dBm	-33.01 dB
7.000 GHz	10.000 GHz	1.000 MHz	7.09093 GHz	-49.55 dBm	-36.55 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.98738 GHz	-50.43 dBm	-37.43 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.99143 GHz	-46.97 dBm	-33.97 dB
18.000 GHz	27.000 GHz	1.000 MHz	18.03290 GHz	-47.42 dBm	-34.42 dB
27.000 GHz	40.000 GHz	1.000 MHz	39.99946 GHz	-43.36 dBm	-30.36 dB

Date: 20.OCT.2023 20:23:10

LTE Band 42/ 10MHz

QPSK / 1RB0

Lowest Channel

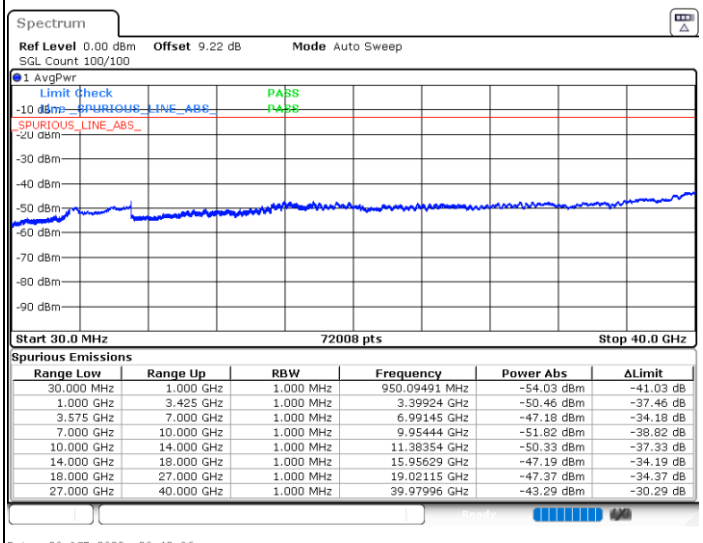


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	994.67033 MHz	-54.24 dBm	-41.24 dB
1.000 GHz	3.425 GHz	1.000 MHz	3.41257 GHz	-43.29 dBm	-30.29 dB
3.575 GHz	7.000 GHz	1.000 MHz	6.90249 GHz	-45.42 dBm	-32.42 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.94657 GHz	-51.89 dBm	-38.89 dB
10.000 GHz	14.000 GHz	1.000 MHz	12.69296 GHz	-50.30 dBm	-37.30 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.98486 GHz	-47.12 dBm	-34.12 dB
18.000 GHz	27.000 GHz	1.000 MHz	19.01834 GHz	-47.64 dBm	-34.64 dB
27.000 GHz	40.000 GHz	1.000 MHz	39.90088 GHz	-43.33 dBm	-30.33 dB

Date: 20.OCT.2023 20:40:46

Middle Channel

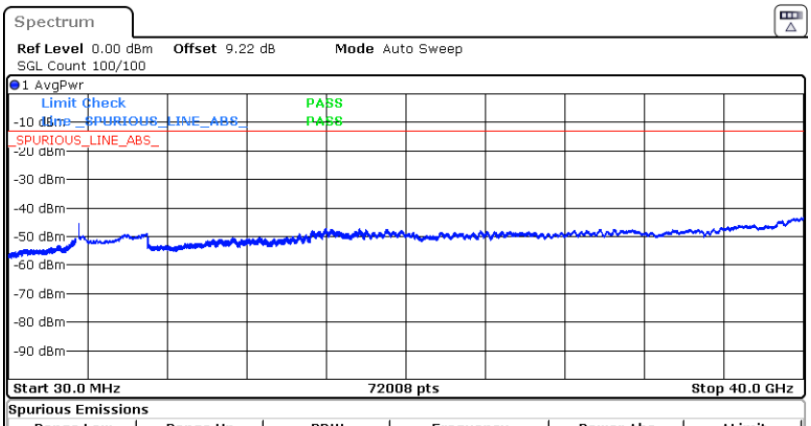


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	950.09491 MHz	-54.03 dBm	-41.03 dB
1.000 GHz	3.425 GHz	1.000 MHz	3.39924 GHz	-50.46 dBm	-37.46 dB
3.575 GHz	7.000 GHz	1.000 MHz	6.99145 GHz	-47.18 dBm	-34.18 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.95444 GHz	-51.82 dBm	-38.82 dB
10.000 GHz	14.000 GHz	1.000 MHz	11.38354 GHz	-50.33 dBm	-37.33 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.95629 GHz	-47.19 dBm	-34.19 dB
18.000 GHz	27.000 GHz	1.000 MHz	19.02115 GHz	-47.37 dBm	-34.37 dB
27.000 GHz	40.000 GHz	1.000 MHz	39.97996 GHz	-43.29 dBm	-30.29 dB

Date: 20.OCT.2023 20:42:06

Highest Channel



Spurious Emissions

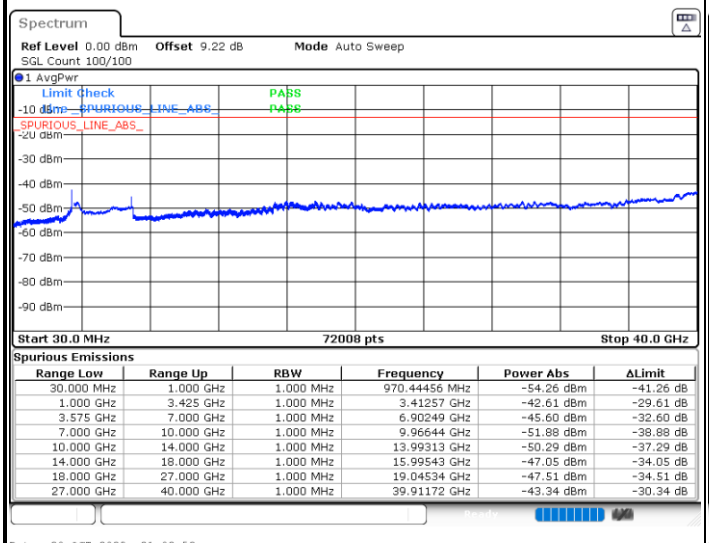
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	974.32068 MHz	-54.44 dBm	-41.44 dB
1.000 GHz	3.425 GHz	1.000 MHz	3.39924 GHz	-50.70 dBm	-37.70 dB
3.575 GHz	7.000 GHz	1.000 MHz	3.58013 GHz	-45.50 dBm	-32.50 dB
7.000 GHz	10.000 GHz	1.000 MHz	7.08118 GHz	-50.34 dBm	-37.34 dB
10.000 GHz	14.000 GHz	1.000 MHz	12.69721 GHz	-50.24 dBm	-37.24 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.99629 GHz	-47.21 dBm	-34.21 dB
18.000 GHz	27.000 GHz	1.000 MHz	19.00428 GHz	-47.56 dBm	-34.56 dB
27.000 GHz	40.000 GHz	1.000 MHz	39.98213 GHz	-43.31 dBm	-30.31 dB

Date: 20.OCT.2023 20:43:27

LTE Band 42/ 15MHz

QPSK / 1RB0

Lowest Channel

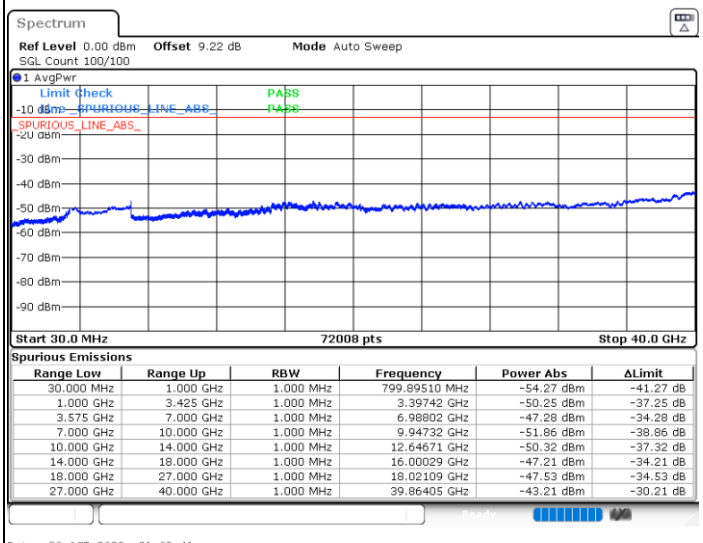


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	970.44456 MHz	-54.26 dBm	-41.26 dB
1.000 GHz	3.425 GHz	1.000 MHz	3.41257 GHz	-42.61 dBm	-29.61 dB
3.575 GHz	7.000 GHz	1.000 MHz	6.90249 GHz	-45.60 dBm	-32.60 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.96644 GHz	-51.88 dBm	-38.88 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.99313 GHz	-50.29 dBm	-37.29 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.99543 GHz	-47.05 dBm	-34.05 dB
18.000 GHz	27.000 GHz	1.000 MHz	19.04534 GHz	-47.51 dBm	-34.51 dB
27.000 GHz	40.000 GHz	1.000 MHz	39.91172 GHz	-43.34 dBm	-30.34 dB

Date: 20.OCT.2023 21:02:52

Middle Channel

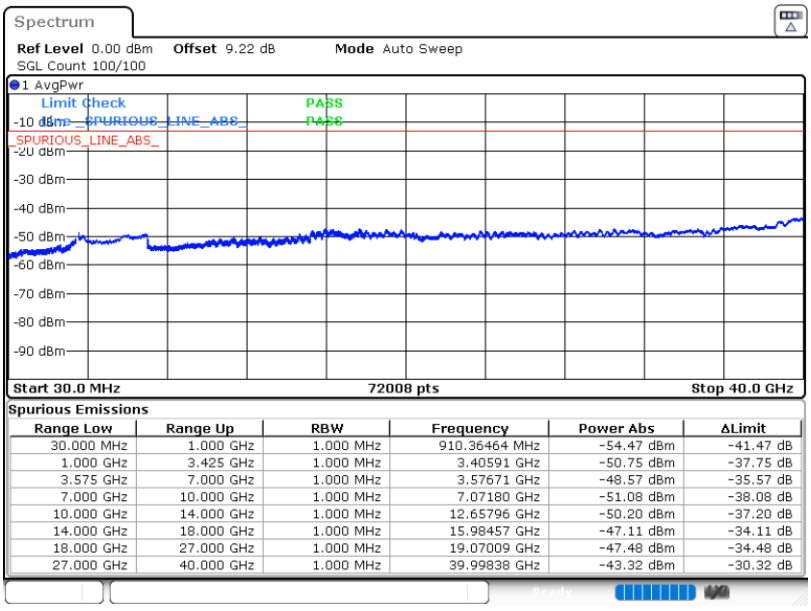


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	799.89510 MHz	-54.27 dBm	-41.27 dB
1.000 GHz	3.425 GHz	1.000 MHz	3.39742 GHz	-50.25 dBm	-37.25 dB
3.575 GHz	7.000 GHz	1.000 MHz	6.98802 GHz	-47.28 dBm	-34.28 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.94732 GHz	-51.86 dBm	-38.86 dB
10.000 GHz	14.000 GHz	1.000 MHz	12.64671 GHz	-50.32 dBm	-37.32 dB
14.000 GHz	18.000 GHz	1.000 MHz	16.00029 GHz	-47.21 dBm	-34.21 dB
18.000 GHz	27.000 GHz	1.000 MHz	18.02109 GHz	-47.53 dBm	-34.53 dB
27.000 GHz	40.000 GHz	1.000 MHz	39.86405 GHz	-43.21 dBm	-30.21 dB

Date: 20.OCT.2023 21:05:41

Highest Channel



Spurious Emissions

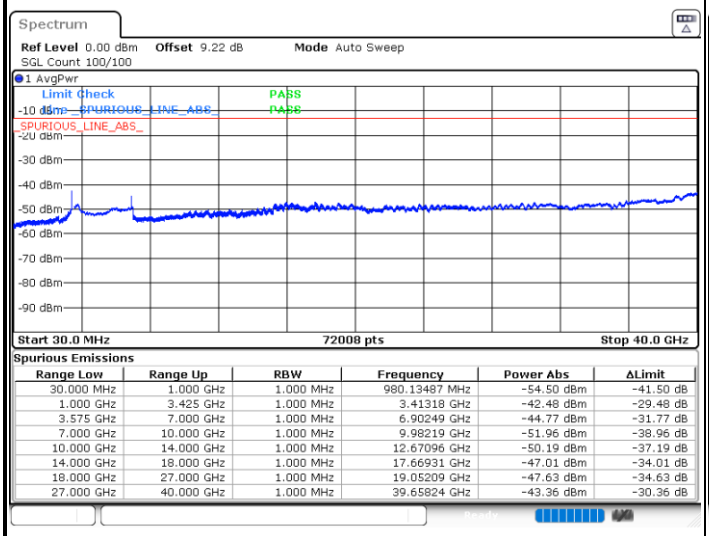
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	910.36464 MHz	-54.47 dBm	-41.47 dB
1.000 GHz	3.425 GHz	1.000 MHz	3.40591 GHz	-50.75 dBm	-37.75 dB
3.575 GHz	7.000 GHz	1.000 MHz	3.57671 GHz	-48.57 dBm	-35.57 dB
7.000 GHz	10.000 GHz	1.000 MHz	7.07180 GHz	-51.08 dBm	-38.08 dB
10.000 GHz	14.000 GHz	1.000 MHz	12.65796 GHz	-50.20 dBm	-37.20 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.98457 GHz	-47.11 dBm	-34.11 dB
18.000 GHz	27.000 GHz	1.000 MHz	19.07009 GHz	-47.48 dBm	-34.48 dB
27.000 GHz	40.000 GHz	1.000 MHz	39.99838 GHz	-43.32 dBm	-30.32 dB

Date: 20.OCT.2023 21:15:29

LTE Band 42/ 20MHz

QPSK / 1RB0

Lowest Channel

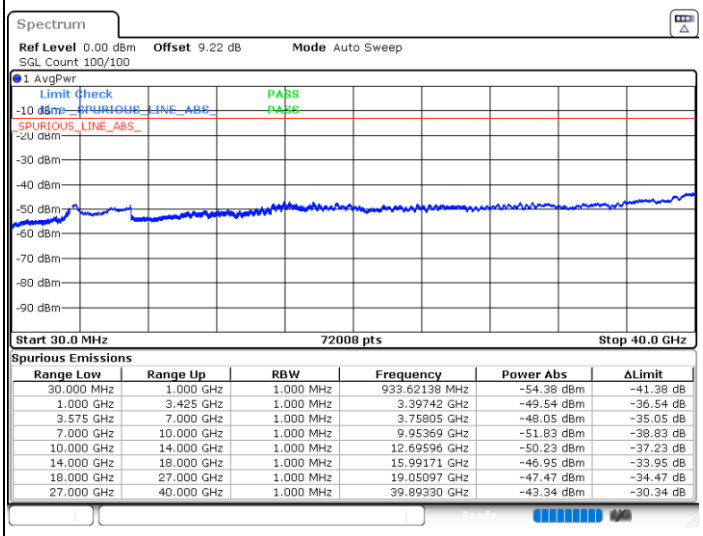


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	980.13487 MHz	-54.50 dBm	-41.50 dB
1.000 GHz	3.425 GHz	1.000 MHz	3.41318 GHz	-42.48 dBm	-29.48 dB
3.575 GHz	7.000 GHz	1.000 MHz	6.90249 GHz	-44.77 dBm	-31.77 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.98219 GHz	-51.96 dBm	-38.96 dB
10.000 GHz	14.000 GHz	1.000 MHz	12.67096 GHz	-50.19 dBm	-37.19 dB
14.000 GHz	18.000 GHz	1.000 MHz	17.66931 GHz	-47.01 dBm	-34.01 dB
18.000 GHz	27.000 GHz	1.000 MHz	19.05209 GHz	-47.63 dBm	-34.63 dB
27.000 GHz	40.000 GHz	1.000 MHz	39.65824 GHz	-43.36 dBm	-30.36 dB

Date: 20.OCT.2023 21:58:24

Middle Channel

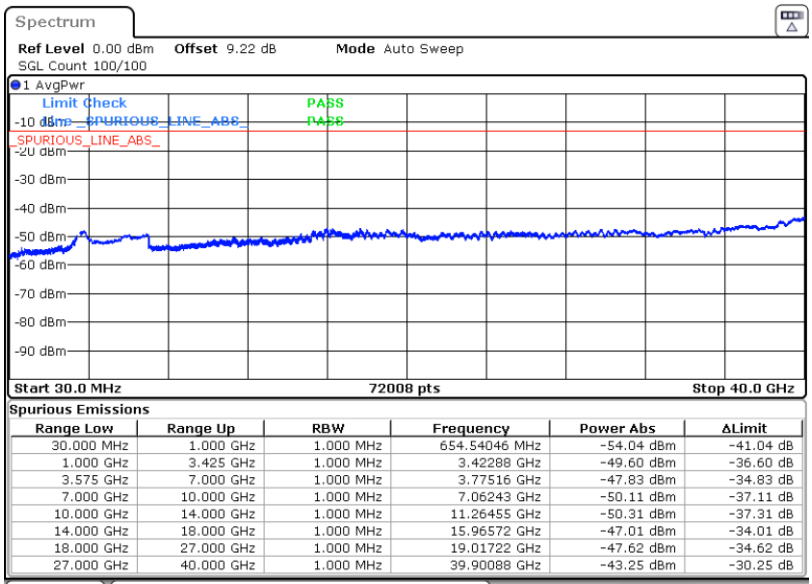


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	933.62138 MHz	-54.38 dBm	-41.38 dB
1.000 GHz	3.425 GHz	1.000 MHz	3.39742 GHz	-49.54 dBm	-36.54 dB
3.575 GHz	7.000 GHz	1.000 MHz	3.75805 GHz	-48.05 dBm	-35.05 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.95369 GHz	-51.83 dBm	-38.83 dB
10.000 GHz	14.000 GHz	1.000 MHz	12.69596 GHz	-50.23 dBm	-37.23 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.99171 GHz	-46.95 dBm	-33.95 dB
18.000 GHz	27.000 GHz	1.000 MHz	19.05097 GHz	-47.47 dBm	-34.47 dB
27.000 GHz	40.000 GHz	1.000 MHz	39.89330 GHz	-43.34 dBm	-30.34 dB

Date: 20.OCT.2023 21:59:44

Highest Channel



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	654.54046 MHz	-54.04 dBm	-41.04 dB
1.000 GHz	3.425 GHz	1.000 MHz	3.42288 GHz	-49.60 dBm	-36.60 dB
3.575 GHz	7.000 GHz	1.000 MHz	3.77516 GHz	-47.83 dBm	-34.83 dB
7.000 GHz	10.000 GHz	1.000 MHz	7.06243 GHz	-50.11 dBm	-37.11 dB
10.000 GHz	14.000 GHz	1.000 MHz	11.26455 GHz	-50.31 dBm	-37.31 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.96572 GHz	-47.01 dBm	-34.01 dB
18.000 GHz	27.000 GHz	1.000 MHz	19.01722 GHz	-47.62 dBm	-34.62 dB
27.000 GHz	40.000 GHz	1.000 MHz	39.90088 GHz	-43.25 dBm	-30.25 dB

Date: 20.OCT.2023 22:01:05

Frequency Stability

Test Conditions		LTE Band 42 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 5MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0021	PASS
40	Normal Voltage	0.0012	
30	Normal Voltage	0.0016	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0011	
0	Normal Voltage	0.0008	
-10	Normal Voltage	0.0019	
-20	Normal Voltage	0.0023	
-30	Normal Voltage	0.0018	
20	Maximum Voltage	0.0019	
20	Normal Voltage	0.0005	
20	Minimum Voltage	0.0013	

Note:

1. Normal Voltage =52 V ; Minimum Voltage =48 V ; Maximum Voltage =56 V
2. Note: The frequency fundamental emissions stay within the authorized frequency block.