FCC RF Test Report

APPLICANT	**: Xiaomi Communications Co., Ltd.**
EQUIPMENT	**: Mobile Phone**
BRAND NAME	**: Redmi**
MODEL NAME	**: 22041219G**
FCC ID	**: 2AFZZ1219G**
STANDARD	**: 47 CFR Part 2, Part 27 Subpart Q**
CLASSIFICATION	**: PCS Licensed Transmitter Held to Ear (PCE)**
TEST DATE(S)	**: Feb. 15, 2022 ~ Feb. 23, 2022**

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

Reviewed by: Jason Jia / Supervisor

Alex Wang

Approved by: Alex Wang / Manager

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

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG211901E	Rev. 01	Initial issue of report	Mar. 17, 2022

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)(3)	EIRP	EIRP < 1W (30dBm)	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 29.81 dB at 6732.00 MHz

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Applicant

Xiaomi Communications Co., Ltd.
#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.2 Manufacturer

Xiaomi Communications Co., Ltd.
#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	Redmi
Model Name	22041219G
FCC ID	2AFZZ1219G
IMEI Code	Conducted: 868424060022301/868424060022319 Radiation: 868424060038679/868424060038661
HW Version	P2
SW Version	MIUI 13
EUT Stage	Identical Prototype

1.4 Product Specification of Equipment Under Test

Product Feature	
Tx/Rx Frequency	5G NR n77: 3450 MHz ~ 3550 MHz 5G NR n78: 3450 MHz ~ 3550 MHz
Bandwidth	**For SCS 15kHz:** 10MHz / 15MHz / 20MHz / / 40MHz / 50MHz **For SCS 30kHz:** 10MHz / 15MHz / 20MHz / / 40MHz / 50MHz / 60MHz / 80MHz / 90MHz / 100MHz
Antenna Gain	**<Ant. 2>** 5G NR n77 : -2.06 dBi 5G NR n78 : -2.43 dBi **<Ant. 3>** 5G NR n77 : -0.98 dBi 5G NR n78 : -1.47 dBi **<Ant. 5>** 5G NR n77 : -1.49 dBi 5G NR n78 : -3.35 dBi **<Ant. 6>** 5G NR n77 : -0.60 dBi 5G NR n78 : -0.63 dBi

Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

Remark:

1. The maximum EIRP is calculated from max output power and max antenna gain, only the maximum EIRP of Antenna 3 is shown in the report.
2. 5G NR n77/n78 supports HPUE mode for SA mode.
3. 5G NR bands support SA and NSA mode. The whole testing has assessed SA mode for n77 by referring to the higher conducted power for conducted test items.
4. 5G NR band n77/n78 support SCS 15kHz and SCS 30kHz. According to the maximum power, SCS 15kHz covers SCS 30kHz for BW 10/15/20/40/50MHz.
5. The EN-DC mode combination could be referred to the product spec.

1.5 Modification of EUT

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

1.6 Maximum EIRP and Emission Designator

For SCS 15kHz:

5G NR n77 SA		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	**Frequency Range (MHz)**	**Maximum EIRP(W)**	**Emission Designator (99%OBW)**	**Maximum EIRP(W)**	**Emission Designator (99%OBW)**
50	3475.005 ~ 3525.00	0.4571	40M2G7D	0.3296	48M0W7D
5G NR n78 SA		**PI/2 BPSK / QPSK**		**16QAM / 64QAM / 256QAM**	
BW (MHz)	**Frequency Range (MHz)**	**Maximum EIRP(W)**	**Emission Designator (99%OBW)**	**Maximum EIRP(W)**	**Emission Designator (99%OBW)**
50	3475.005 ~ 3525.00	0.4064	40M2G7D	0.3034	48M0W7D

For SCS 30kHz:

5G NR n77 SA		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
100	3500.01 ~ 3500.01	0.4436	96M7G7D	0.2917	95M5W7D
5G NR n78 SA		**PI/2 BPSK / QPSK**		**16QAM / 64QAM / 256QAM**	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
100	3500.01 ~ 3500.01	0.3793	96M7G7D	0.2685	95M5W7D

Remark:

1. 5G NR Band n77 overlaps the entire frequency range of Band n78. Therefore, the conducted test results provided in this report covers Band n77 as well as Band n78.
2. All modulations have been tested, only the maximum bandwidth and the worst modulation test results 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 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH02-KS TH01-KS	CN1257	314309

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH02-KS	AUDIX	E3	6.2009-8-24a

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.

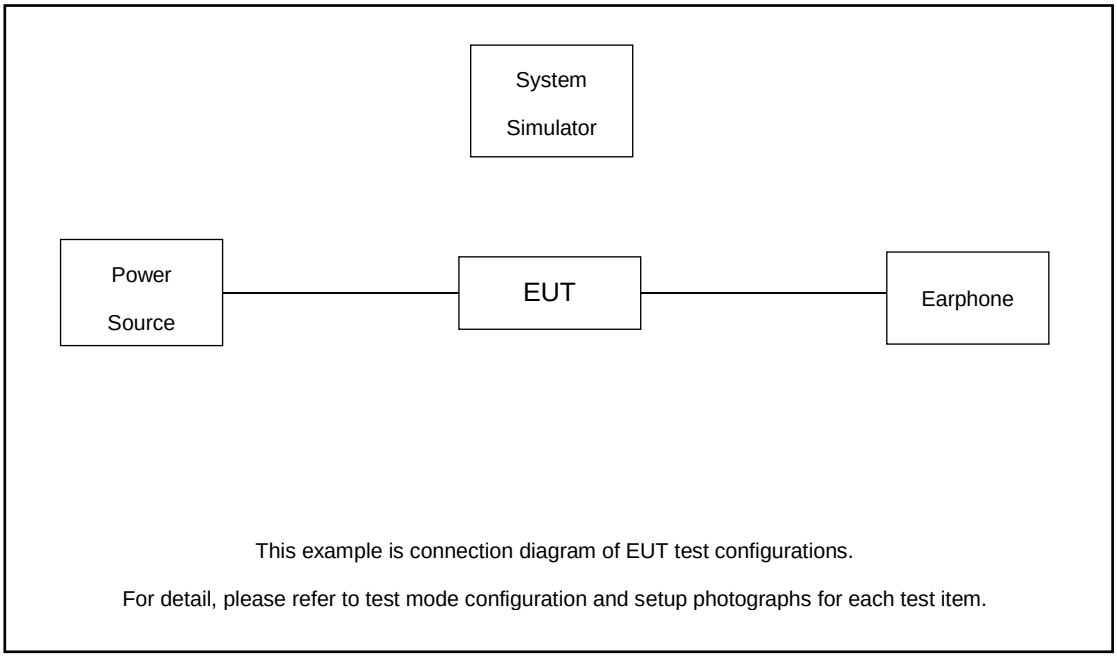
Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

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	5G n77	10M, 15M, 20M, 40M, 50M, 60M, 80M, 90M, 100M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L, M, H
	5G n78	10M, 15M, 20M, 40M, 50M, 60M, 80M, 90M, 100M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L, M, H
Peak-to-Average Ratio	5G n77	50M, 100M	QPSK, 16QAM, 64QAM	Full RB	M
E.I.R.P	5G n77	10M, 15M, 20M, 40M, 50M, 60M, 80M, 90M, 100M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L, M, H
	5G n78	10M, 15M, 20M, 40M, 50M, 60M, 80M, 90M, 100M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L, M, H
26dB and 99% Bandwidth	5G n77	50M, 100M	QPSK, 16QAM	Full RB	M
Conducted Band Edge	5G n77	10M, 15M, 20M, 40M, 50M, 60M, 80M, 90M, 100M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Full RB	L, H
Conducted Spurious Emission	5G n77	10M, 15M, 20M, 40M, 50M, 60M, 80M, 90M, 100M	QPSK	1RB	L, M, H
Frequency Stability	5G n77	50M, 100M	QPSK	1RB	L, H
Radiated Spurious Emission	5G n77	Worst case from maximum power			L, M, H

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. 5G NR n77 overlaps the entire frequency range of n78, Therefore, the test results provided in this report covers n77 as well as n78.
3. Frequency Stability：Normal Voltage = 3.87V ； Low Voltage =3.6V.； High Voltage =4.45V

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.	DC Power Supply	GW	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
3.	NR Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m
4.	Earphone	MI	EM023	N/A	N/A	N/A

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 3.49 dB and 10dB attenuator.

Example :

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

= 3.49 + 10 = 13.49 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G n77/n78 Channel and Frequency List for SCS 15kHz				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
50	Channel	631667	633334	635000
	Frequency	3475.005	3500.01	3525.00
40	Channel	631334	633334	635333
	Frequency	3470.01	3500.01	3529.995
20	Channel	630667	633334	636000
	Frequency	3460.005	3500.01	3540.00
15	Channel	630500	633334	636166
	Frequency	3457.50	3500.01	3542.49
10	Channel	630334	633334	636333
	Frequency	3455.01	3500.01	3545.995

5G n77/n78 Channel and Frequency List for SCS 30kHz				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
100	Channel	-	633334	-
	Frequency	-	3500.01	-
90	Channel	633000	633334	633668
	Frequency	3495.00	3500.01	3505.02
80	Channel	632668	633334	634000
	Frequency	3490.02	3500.01	3510.00
60	Channel	632000	633334	634668
	Frequency	3480.00	3500.01	3520.02
50	Channel	631668	633334	635000
	Frequency	3475.02	3500.01	3525.00
40	Channel	631334	633334	635334
	Frequency	3470.01	3500.01	3530.01
20	Channel	630668	633334	636000
	Frequency	3460.02	3500.01	3540.00
15	Channel	630500	633334	636168
	Frequency	3457.50	3500.01	3542.52
10	Channel	630334	633334	636334
	Frequency	3455.01	3500.01	3545.01

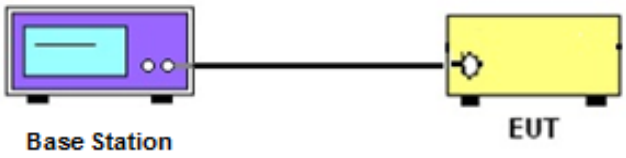
3 Conducted Test Items

3.1 Measuring Instruments

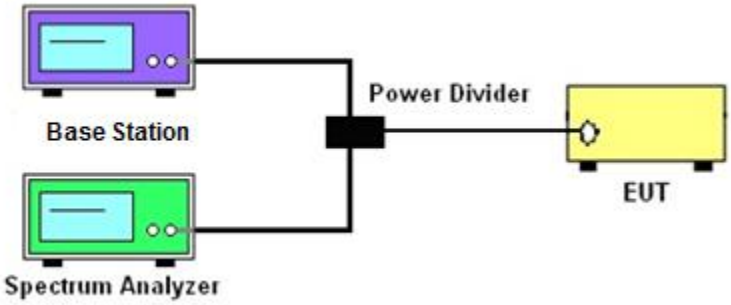
See list of measuring instruments of this test report.

3.2 Test Setup

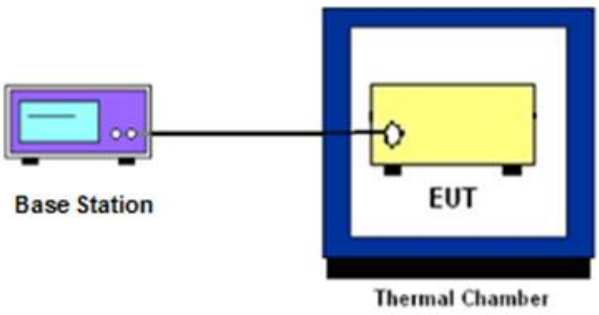
3.2.1 Conducted Output Power



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 5.2.6 (PAPR).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set EUT in maximum power output.
4. Set the RBW = 1MHz, VBW = 3MHz, Detector = Peak, Trace mode = max hold, Set span ≥ 2 × OBW in spectrum analyzer.
5. Set the RBW = 1MHz, VBW = 3MHz, Detector = power averaging, Trace mode = max hold, Set span ≥ 2 × OBW in spectrum analyzer.
6. Add [10 log (1/duty cycle)] to the measured maximum power level to compute the average power during continuous transmission.
7. PAPR (dB) = P_{Pk} (dBm) − P_{Avg} (dBm)
   where
   PAPR peak-to-average power ratio, in dB
   P_{Pk} measured peak power level, in dBm
   P_{Avg} measured average power level, in dBm
8. Record the deviation as Peak to Average Ratio.

3.6 EIRP

3.6.1 Description of EIRP Limit

§ 27.50 (k)(3)

Mobile devices are limited to 1Watt (30 dBm) EIRP. Mobile devices operating in these bands must employ a means for limiting power to the minimum necessary for successful communications

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)

For mobile operations 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 9 kHz 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.

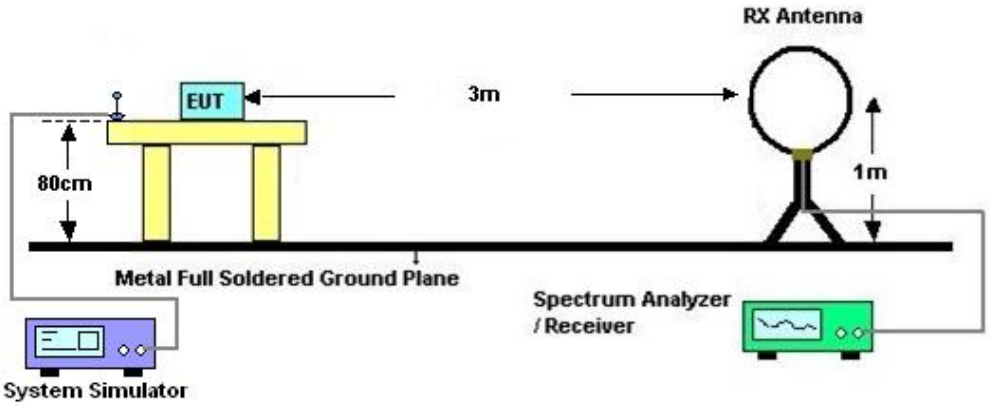
4 Radiated Test Items

4.1 Measuring Instruments

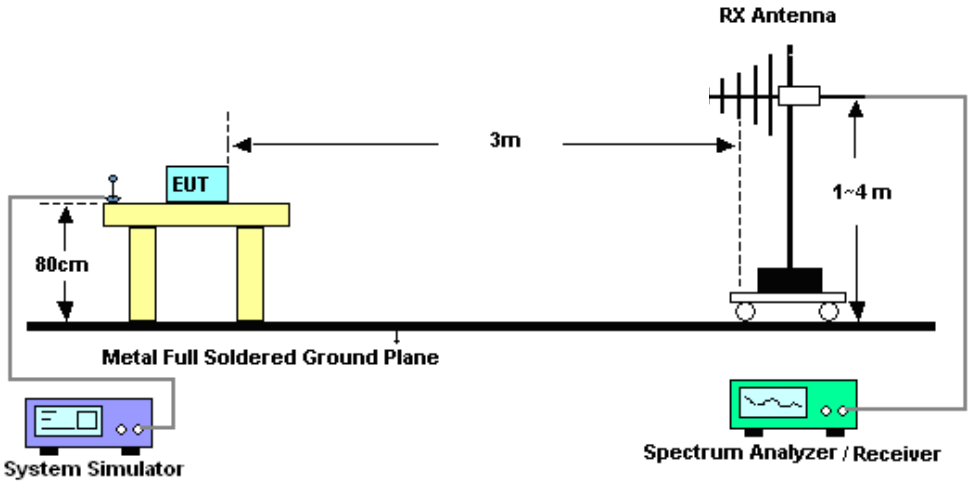
See list of measuring instruments of this test report.

4.2 Test Setup

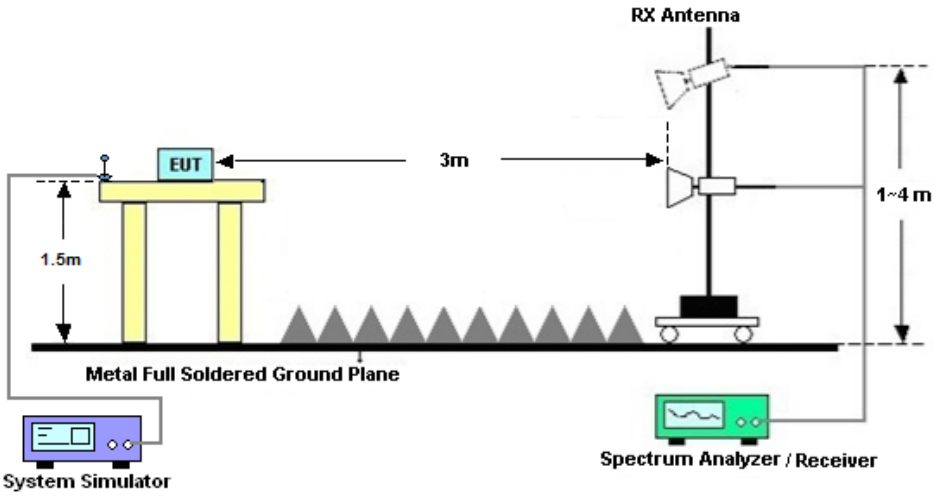
4.2.1 For radiated test below 30MHz



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/TIA-603-E.

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. 14, 2021	Feb. 16, 2022~ Feb. 23, 2022	Oct. 13, 2022	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	Aug. 26, 2021	Feb. 16, 2022~ Feb. 23, 2022	Aug. 25, 2022	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 12, 2021	Feb. 16, 2022~ Feb. 23, 2022	Jul. 11, 2022	Conducted (TH01-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz;Max 30dBm	Oct. 16, 2021	Feb. 15, 2022	Oct. 15, 2022	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55370528	10Hz-44G,MAX 30dB	Oct. 16, 2021	Feb. 15, 2022	Oct. 15, 2022	Radiation (03CH02-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 30, 2021	Feb. 15, 2022	Oct. 29, 2022	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6111D	44483	30MHz-1GHz	Dec. 22, 2021	Feb. 15, 2022	Dec. 21, 2022	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 30, 2021	Feb. 15, 2022	Oct. 29, 2022	Radiation (03CH02-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P	2025788	1Ghz-18Ghz	Jul. 30, 2021	Feb. 15, 2022	Jul. 29, 2023	Radiation (03CH02-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2022	Feb. 15, 2022	Jan. 04, 2023	Radiation (03CH02-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Apr. 13, 2021	Feb. 15, 2022	Apr. 12, 2022	Radiation (03CH02-KS)
Amplifier	Keysight	83017A	MY53270316	500MHz~26.5GHz	Oct. 16, 2021	Feb. 15, 2022	Oct. 15, 2022	Radiation (03CH02-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 05, 2022	Feb. 15, 2022	Jan. 04, 2023	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Feb. 15, 2022	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Feb. 15, 2022	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Feb. 15, 2022	NCR	Radiation (03CH02-KS)

NCR: No Calibration Required

6 Uncertainty of Evaluation

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 Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.5dB**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.1dB**

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

Appendix A. Test Results of Conducted Test

Test Engineer :	Lex Wu	Temperature :	22~23℃
		Relative Humidity :	40~42%

Conducted Output Power(Average power) and EIRP

For SCS 15kHz:

Band n77										
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP(W)		
Channel				631667	633334	635000		L	M	H
Frequency (MHz)				3475.005	3500.01	3525				
50	PI/2 BPSK	1	1	27.23	27.35	26.89	-0.98	0.4217	0.4335	0.3899
50	PI/2 BPSK	1	268	27.25	26.96	27.03	-0.98	0.4236	0.3963	0.4027
50	PI/2 BPSK	135	67	27.58	27.41	27.06	-0.98	0.4571	0.4395	0.4055
50	PI/2 BPSK	270	0	26.92	26.89	26.52	-0.98	0.3926	0.3899	0.3581
50	QPSK	1	1	27.32	27.26	26.82	-0.98	0.4305	0.4246	0.3837
50	QPSK	1	268	27.17	26.85	26.81	-0.98	0.4159	0.3864	0.3828
50	QPSK	135	67	27.41	27.32	27.05	-0.98	0.4395	0.4305	0.4046
50	QPSK	270	0	26.52	26.32	26.39	-0.98	0.3581	0.3420	0.3475
50	16QAM	1	1	26.16	26.16	25.74	-0.98	0.3296	0.3296	0.2992
50	64QAM	1	1	24.82	24.86	24.66	-0.98	0.2421	0.2443	0.2333
50	256QAM	1	1	22.41	22.35	22.12	-0.98	0.1390	0.1371	0.1300
Channel				631334	633334	635333	Gain	L	M	H
Frequency (MHz)				3470.01	3500.01	3529.995				
40	PI/2 BPSK	1	1	27.03	26.85	26.52	-0.98	0.4027	0.3864	0.3581
Channel				630667	633334	636000	Gain	L	M	H
Frequency (MHz)				3460.005	3500.01	3540				
20	PI/2 BPSK	1	1	27.55	27.41	27.03	-0.98	0.4539	0.4395	0.4027
Channel				630500	633334	636166	Gain	L	M	H
Frequency (MHz)				3457.5	3500.01	3542.49				
15	PI/2 BPSK	1	1	27.52	27.44	27.29	-0.98	0.4508	0.4426	0.4276
Channel				630334	633334	636333	Gain	L	M	H
Frequency (MHz)				3455.01	3500.01	3544.995				
10	PI/2 BPSK	1	1	27.34	27.33	25.13	-0.98	0.4325	0.4315	0.2600

Band n78										
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP(W)		
Channel				631667	633334	635000		L	M	H
Frequency (MHz)				3475.005	3500.01	3525				
50	PI/2 BPSK	1	1	27.56	27.36	26.65	-1.47	0.4064	0.3882	0.3296
50	PI/2 BPSK	1	268	27.22	27.01	27.13	-1.47	0.3758	0.3581	0.3681
50	PI/2 BPSK	135	67	27.53	27.44	27.12	-1.47	0.4036	0.3954	0.3673
50	PI/2 BPSK	270	0	27.11	26.44	26.53	-1.47	0.3664	0.3141	0.3206
50	QPSK	1	1	27.32	27.36	26.82	-1.47	0.3846	0.3882	0.3428
50	QPSK	1	268	27.13	27.03	27.06	-1.47	0.3681	0.3597	0.3622
50	QPSK	135	67	27.56	27.44	26.95	-1.47	0.4064	0.3954	0.3532
50	QPSK	270	0	26.56	26.41	25.93	-1.47	0.3228	0.3119	0.2793
50	16QAM	1	1	26.22	26.29	25.32	-1.47	0.2985	0.3034	0.2427
50	64QAM	1	1	25.06	24.96	24.12	-1.47	0.2286	0.2234	0.1841
50	256QAM	1	1	22.56	22.65	21.63	-1.47	0.1285	0.1312	0.1038
Channel				631334	633334	635333	Gain	L	M	H
Frequency (MHz)				3470.01	3500.01	3529.995				
40	PI/2 BPSK	1	1	27.05	26.96	26.44	-1.47	0.3614	0.3540	0.3141
Channel				630667	633334	636000	Gain	L	M	H
Frequency (MHz)				3460.005	3500.01	3540				
20	PI/2 BPSK	1	1	27.52	27.36	27.06	-1.47	0.4027	0.3882	0.3622
Channel				630500	633334	636166	Gain	L	M	H
Frequency (MHz)				3457.5	3500.01	3542.49				
15	PI/2 BPSK	1	1	27.52	27.44	27.36	-1.47	0.4027	0.3954	0.3882
Channel				630334	633334	636333	Gain	L	M	H
Frequency (MHz)				3455.01	3500.01	3544.995				
10	PI/2 BPSK	1	1	27.22	27.26	27.12	-1.47	0.3758	0.3793	0.3673

For SCS 30kHz:

Band n77										
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP(W)		
Channel					633334				M	
Frequency (MHz)					3500.01					
100	PI/2 BPSK	1	1		26.66		-0.98		0.3698	
100	PI/2 BPSK	1	137		27.45		-0.98		0.4436	
100	PI/2 BPSK	1	271		26.56		-0.98		0.3614	
100	PI/2 BPSK	135	0		26.82		-0.98		0.3837	
100	PI/2 BPSK	135	67		27.33		-0.98		0.4315	
100	PI/2 BPSK	135	138		26.59		-0.98		0.3639	
100	PI/2 BPSK	270	0		26.72		-0.98		0.3750	
100	QPSK	1	1		26.63		-0.98		0.3673	
100	QPSK	1	137		27.26		-0.98		0.4246	
100	QPSK	1	271		26.58		-0.98		0.3631	
100	QPSK	135	0		26.33		-0.98		0.3428	
100	QPSK	135	67		27.32		-0.98		0.4305	
100	QPSK	135	138		26.11		-0.98		0.3258	
100	QPSK	270	0		26.22		-0.98		0.3342	
100	16QAM	1	1		25.63		-0.98		0.2917	
100	64QAM	1	1		24.26		-0.98		0.2128	
100	256QAM	1	1		22.23		-0.98		0.1334	
Channel				633000	633334	633668	Gain	L	M	H
Frequency (MHz)				3495	3500.01	3505.02				
90	PI/2 BPSK	1	1	26.76	26.82	26.71	-0.98	0.3784	0.3837	0.3741
Channel				632668	633334	634000	Gain	L	M	H
Frequency (MHz)				3490.02	3500.01	3510				
80	PI/2 BPSK	1	1	26.96	26.93	26.89	-0.98	0.3963	0.3936	0.3899
Channel				632000	633334	634668	Gain	L	M	H
Frequency (MHz)				3480	3500.01	3520.02				
60	PI/2 BPSK	1	1	27.32	27.21	27.16	-0.98	0.4305	0.4198	0.4150
Channel				631668	633334	635000	Gain	L	M	H
Frequency (MHz)				3475.02	3500.01	3525				
50	PI/2 BPSK	1	1	27.26	27.39	26.92	-0.98	0.4246	0.4375	0.3926
Channel				631334	633334	635334	Gain	L	M	H
Frequency (MHz)				3470.01	3500.01	3530.01				
40	PI/2 BPSK	1	1	27.15	27.13	26.58	-0.98	0.4140	0.4121	0.3631
Channel				630668	633334	636000	Gain	L	M	H
Frequency (MHz)				3460.02	3500.01	3540				
20	PI/2 BPSK	1	1	27.44	27.36	27.13	-0.98	0.4426	0.4345	0.4121
Channel				630500	633334	636168	Gain	L	M	H
Frequency (MHz)				3457.5	3500.01	3542.52				
15	QPSK	1	1	27.36	27.30	27.24	-0.98	0.4345	0.4285	0.4227
Channel				630334	633334	636334	Gain	L	M	H
Frequency (MHz)				3455.01	3500.01	3545.01				
10	QPSK	1	1	27.35	27.22	27.01	-0.98	0.4335	0.4207	0.4009

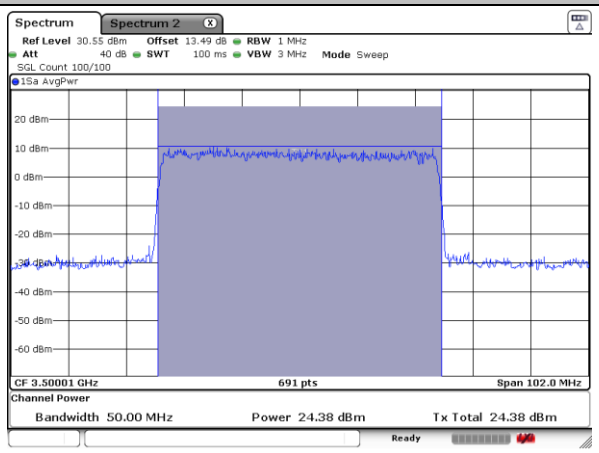
Band n78										
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP(W)		
Channel					633334				M	
Frequency (MHz)					3500.01					
100	PI/2 BPSK	1	1		26.68		-1.47		0.3319	
100	PI/2 BPSK	1	137		27.19		-1.47		0.3733	
100	PI/2 BPSK	1	271		26.72		-1.47		0.3350	
100	PI/2 BPSK	135	0		26.77		-1.47		0.3388	
100	PI/2 BPSK	135	67		27.23		-1.47		0.3767	
100	PI/2 BPSK	135	138		26.56		-1.47		0.3228	
100	PI/2 BPSK	270	0		26.68		-1.47		0.3319	
100	QPSK	1	1		26.66		-1.47		0.3304	
100	QPSK	1	137		27.13		-1.47		0.3681	
100	QPSK	1	271		26.72		-1.47		0.3350	
100	QPSK	135	0		26.56		-1.47		0.3228	
100	QPSK	135	67		27.26		-1.47		0.3793	
100	QPSK	135	138		26.08		-1.47		0.2891	
100	QPSK	270	0		26.16		-1.47		0.2944	
100	16QAM	1	1		25.76		-1.47		0.2685	
100	64QAM	1	1		24.16		-1.47		0.1858	
100	256QAM	1	1		22.26		-1.47		0.1199	
Channel				633000	633334	633668	Gain	L	M	H
Frequency (MHz)				3495	3500.01	3505.02				
90	PI/2 BPSK	1	1	26.77	26.66	26.69	-1.47	0.3388	0.3304	0.3327
Channel				632668	633334	634000	Gain	L	M	H
Frequency (MHz)				3490.02	3500.01	3510				
80	PI/2 BPSK	1	1	26.95	26.88	26.93	-1.47	0.3532	0.3475	0.3516
Channel				632000	633334	634668	Gain	L	M	H
Frequency (MHz)				3480	3500.01	3520.02				
60	PI/2 BPSK	1	1	27.18	27.13	27.06	-1.47	0.3724	0.3681	0.3622
Channel				631668	633334	635000	Gain	L	M	H
Frequency (MHz)				3475.02	3500.01	3525				
50	PI/2 BPSK	1	1	27.22	27.25	26.83	-1.47	0.3758	0.3784	0.3436
Channel				631334	633334	635334	Gain	L	M	H
Frequency (MHz)				3470.01	3500.01	3530.01				
40	PI/2 BPSK	1	1	27.03	27.06	26.38	-1.47	0.3597	0.3622	0.3097
Channel				630668	633334	636000	Gain	L	M	H
Frequency (MHz)				3460.02	3500.01	3540				
20	PI/2 BPSK	1	1	27.15	27.22	27.08	-1.47	0.3698	0.3758	0.3639
Channel				630500	633334	636168	Gain	L	M	H
Frequency (MHz)				3457.5	3500.01	3542.52				
15	PI/2 BPSK	1	1	27.41	27.36	24.25	-1.47	0.3926	0.3882	0.1897
Channel				630334	633334	636334	Gain	L	M	H
Frequency (MHz)				3455.01	3500.01	3545.01				
10	PI/2 BPSK	1	1	27.05	24.16	24.05	-1.47	0.3614	0.1858	0.1811

FR1 n77 for SCS 15kHz

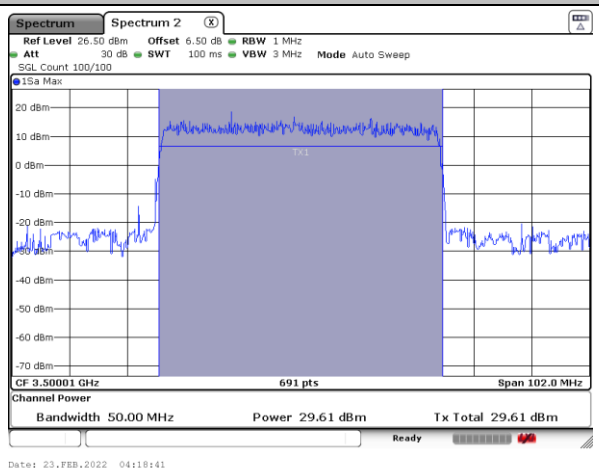
Peak-to-Average Ratio

Mode	FR1 n77 / 50MHz / DFT-s-OFDM				
Mod.	BPSK	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Result
Middle CH	5.23	5.22	5.44	5.39	PASS
Mod.	256QAM				
RB Size	Full RB				
Middle CH	5.34				

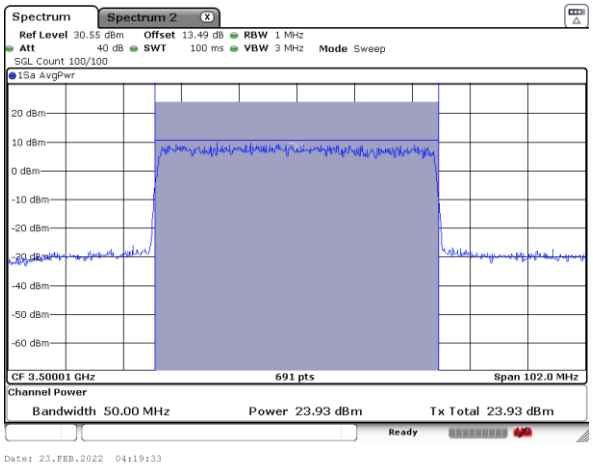
BPSK-Average



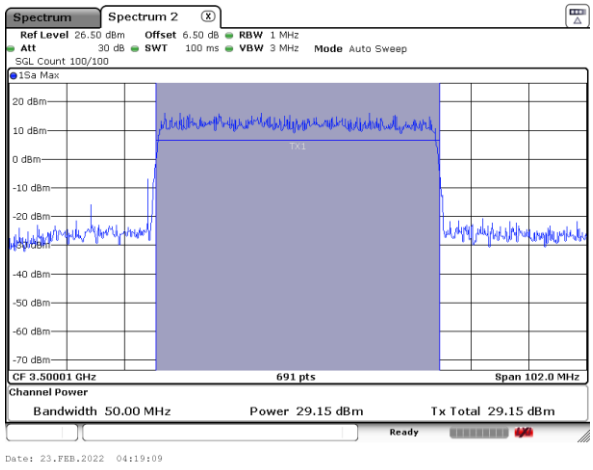
BPSK-Peak

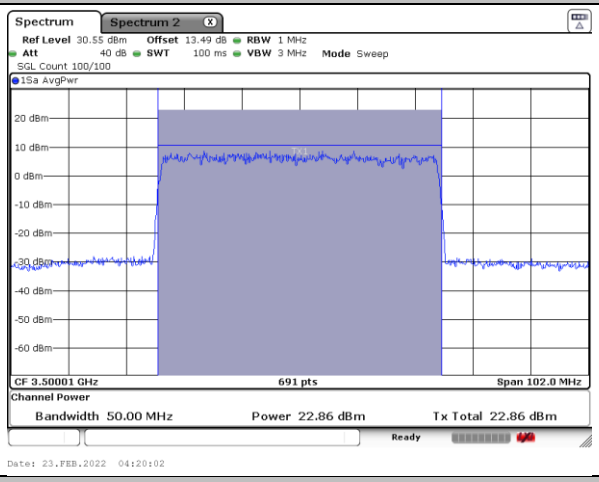
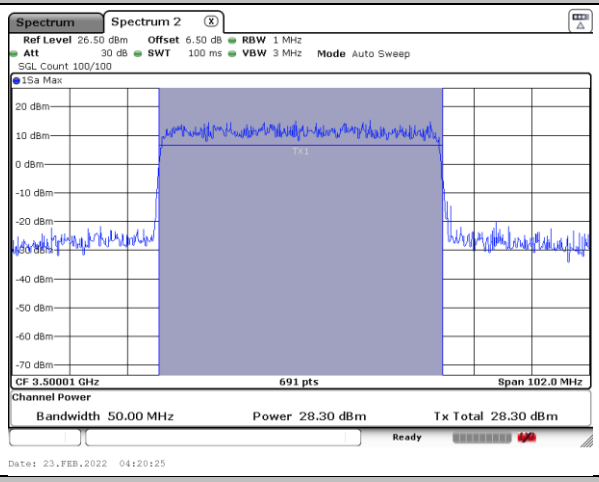
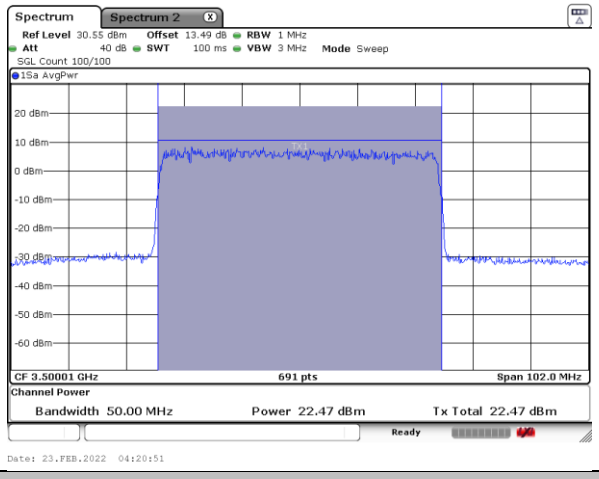
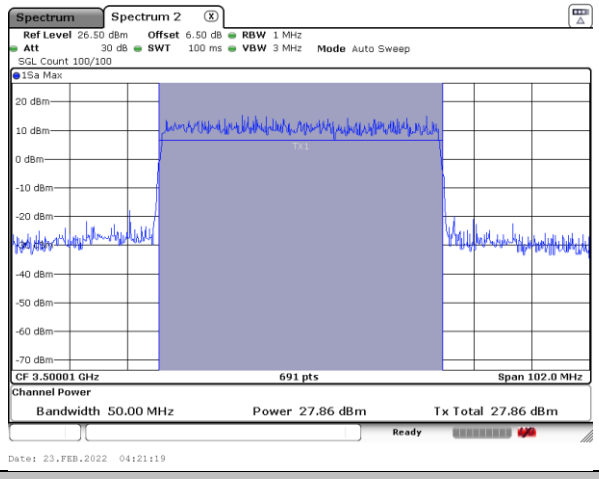
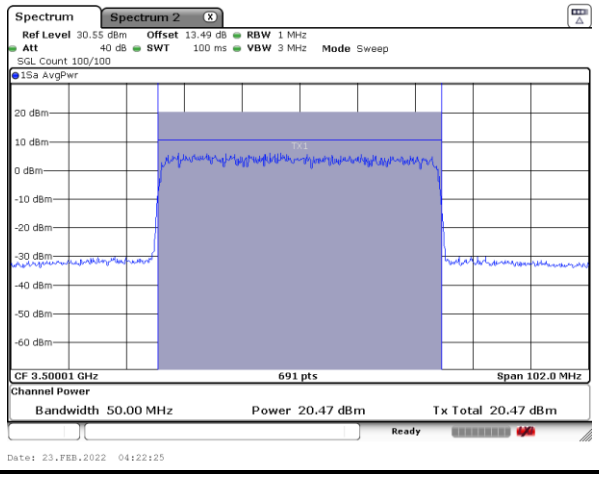
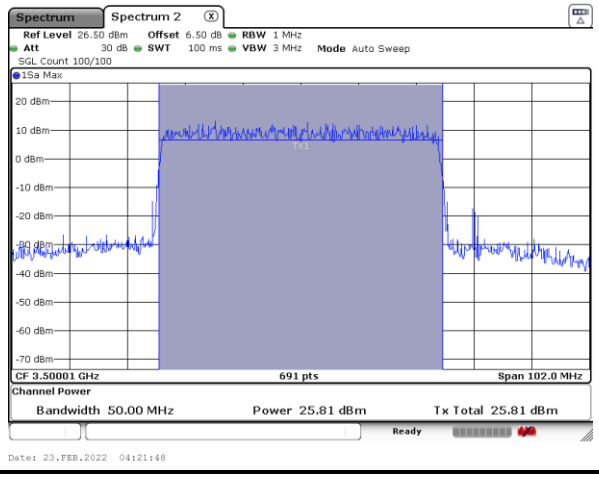


QPSK-Average



QPSK-Peak

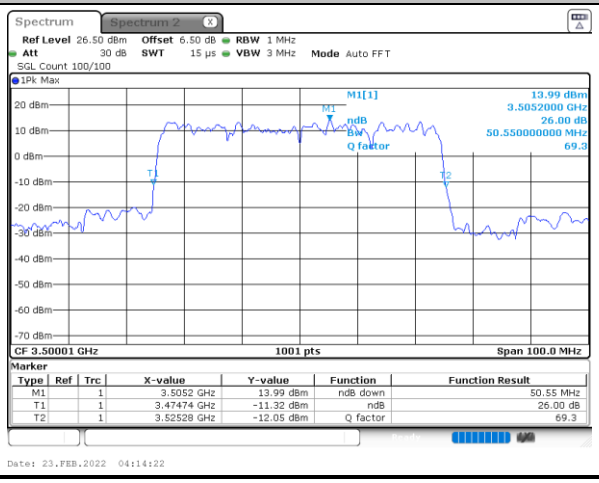


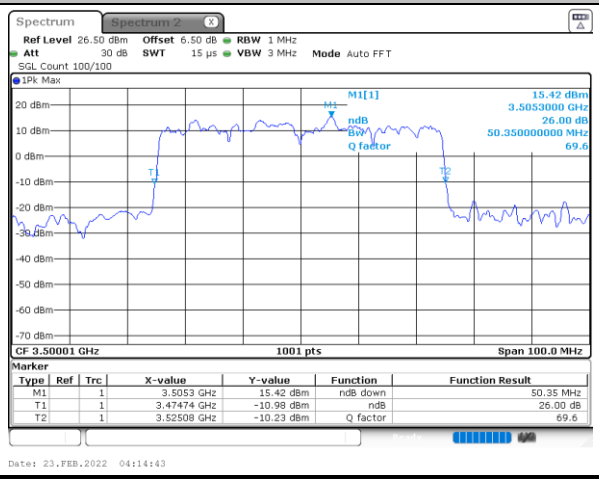
16QAM-Average	16QAM-Peak
	
64QAM-Average	**64QAM-Peak**
	
256QAM-Average	**256QAM-Peak**
	

26dB Bandwidth

Mode	FR1 n77 : 26dB BW(MHz) / DFT-s-OFDM	
BW	50MHz	
Mod.	QPSK	16QAM
Middle CH	50.55	50.35

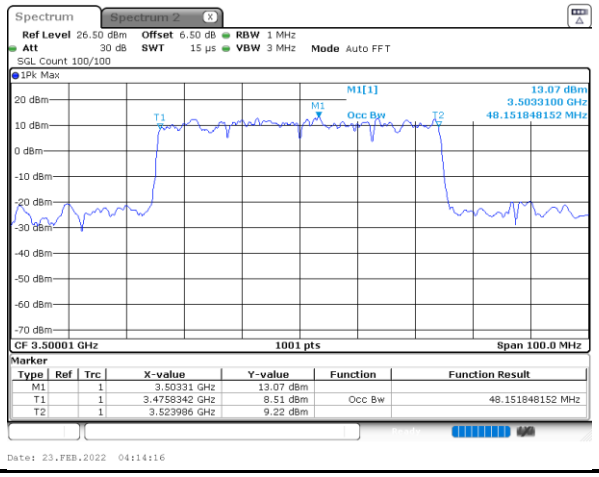
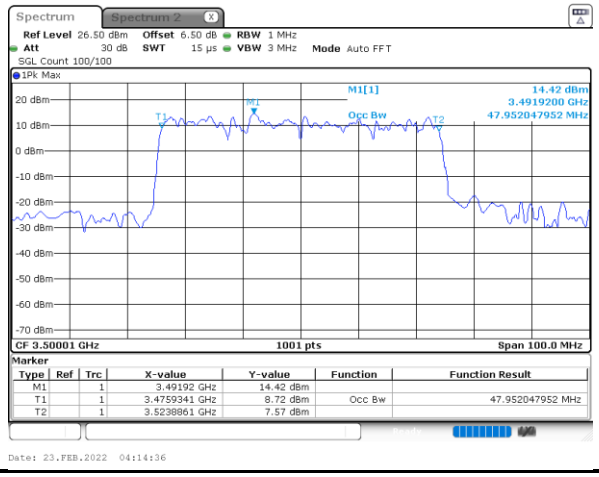
FR1 n77	
QPSK	16QAM





Occupied Bandwidth

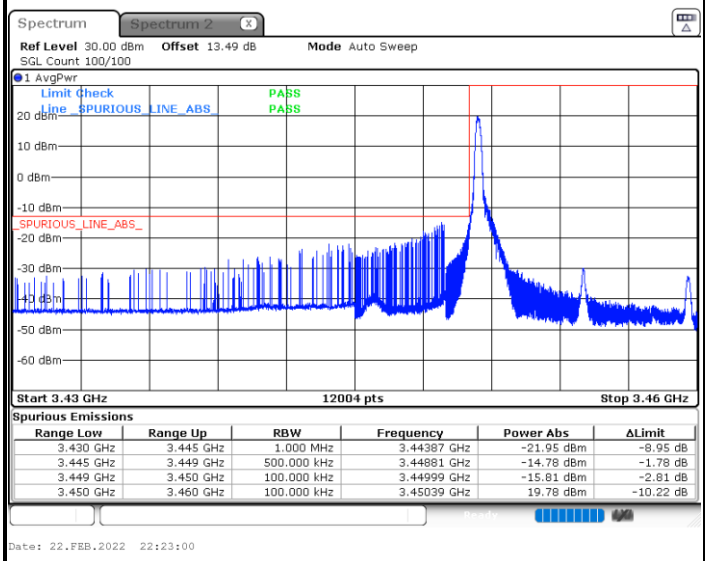
Mode	FR1 n77: OB BW(MHz) / DFT-s-OFDM	
BW	50MHz	
Mod.	QPSK	16QAM
Middle CH	40.15	47.95

FR1 n77	
QPSK	16QAM
	

Conducted Band Edge

FR1 n77/ 10MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

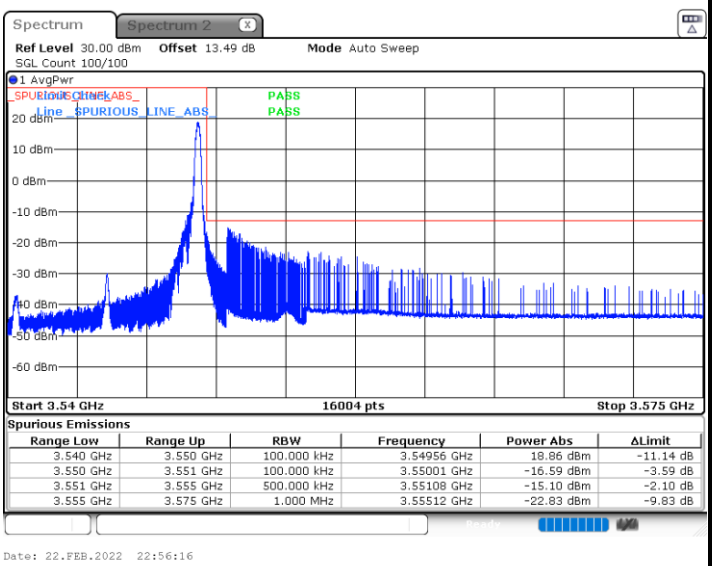


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.430 GHz	3.445 GHz	1.000 MHz	3.44387 GHz	-21.95 dBm	-8.95 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44881 GHz	-14.78 dBm	-1.78 dB
3.449 GHz	3.450 GHz	100.000 kHz	3.44999 GHz	-15.81 dBm	-2.81 dB
3.450 GHz	3.460 GHz	100.000 kHz	3.45039 GHz	19.78 dBm	-10.22 dB

Date: 22.FEB.2022 22:23:00

Highest Band Edge / 1RBmax

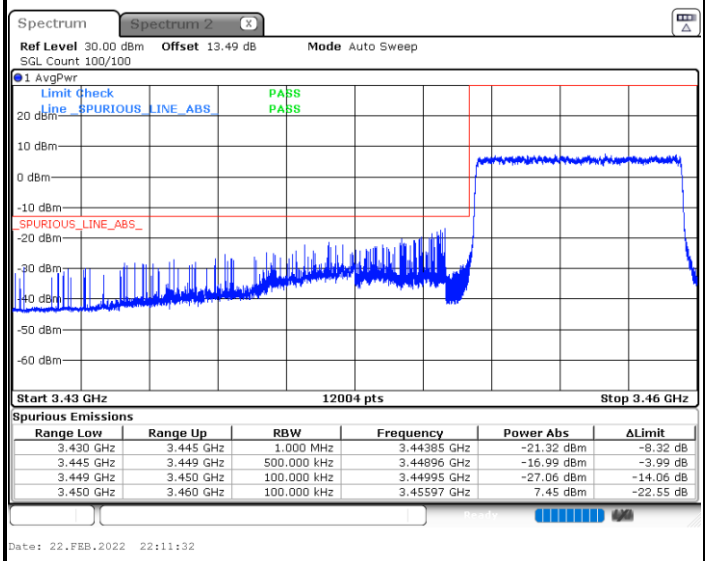


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.540 GHz	3.550 GHz	100.000 kHz	3.54956 GHz	18.86 dBm	-11.14 dB
3.550 GHz	3.551 GHz	100.000 kHz	3.55001 GHz	-16.59 dBm	-3.59 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55108 GHz	-15.10 dBm	-2.10 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55512 GHz	-22.83 dBm	-9.83 dB

Date: 22.FEB.2022 22:56:16

Lowest Band Edge / Full RB

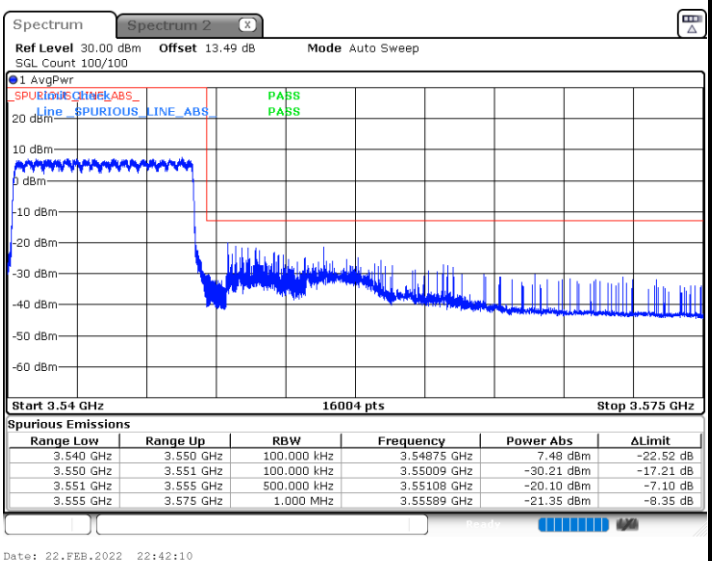


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.430 GHz	3.445 GHz	1.000 MHz	3.44385 GHz	-21.32 dBm	-8.32 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44896 GHz	-16.99 dBm	-3.99 dB
3.449 GHz	3.450 GHz	100.000 kHz	3.44995 GHz	-27.06 dBm	-14.06 dB
3.450 GHz	3.460 GHz	100.000 kHz	3.45597 GHz	7.45 dBm	-22.55 dB

Date: 22.FEB.2022 22:11:32

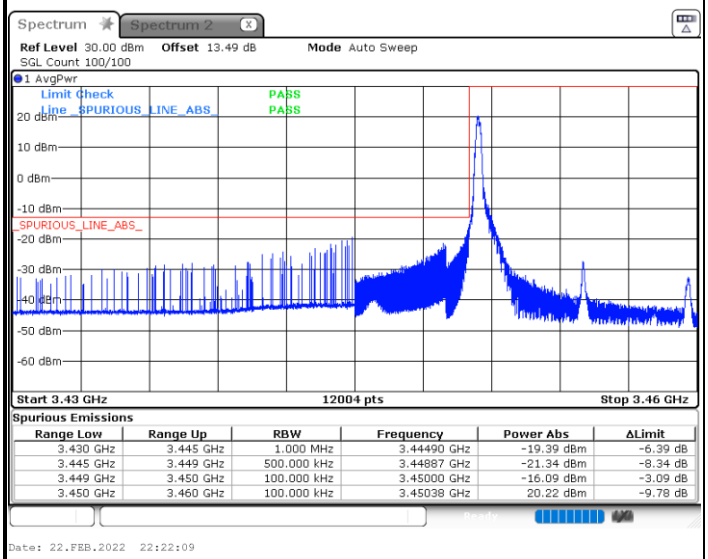
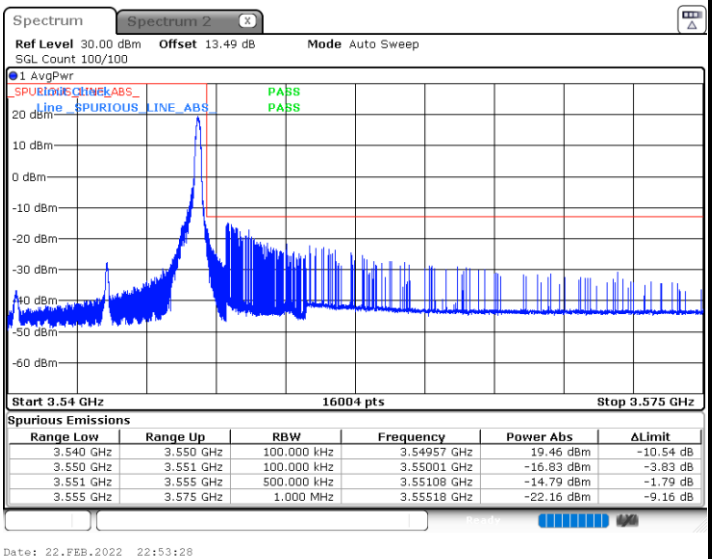
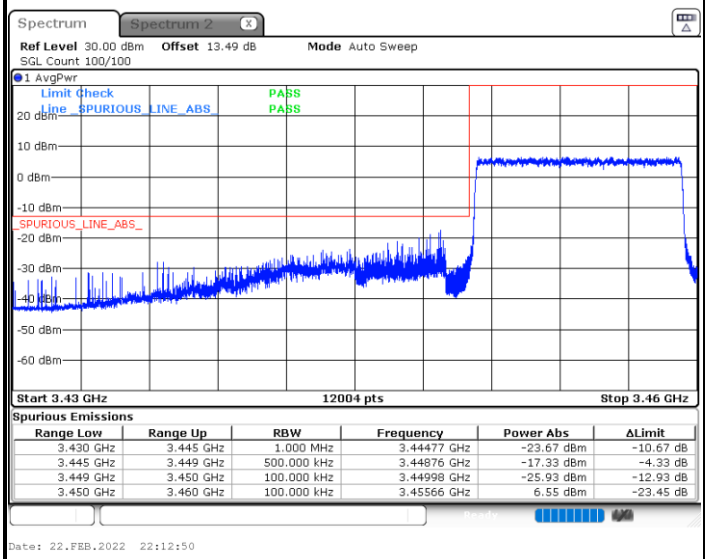
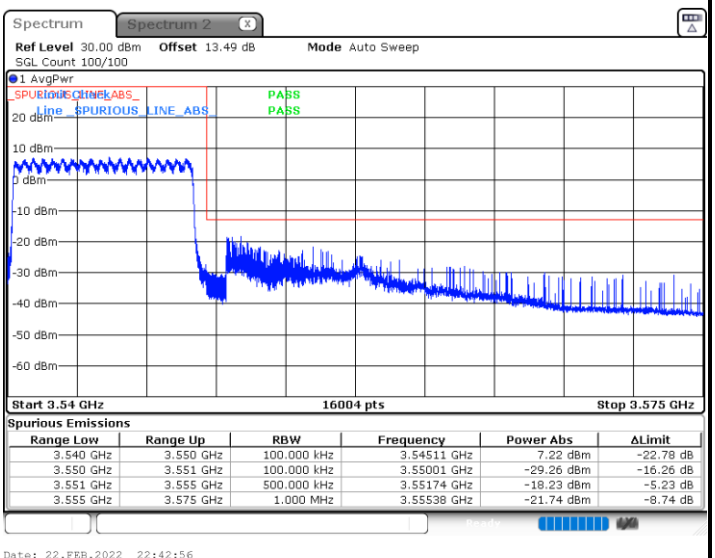
Highest Band Edge / Full RB

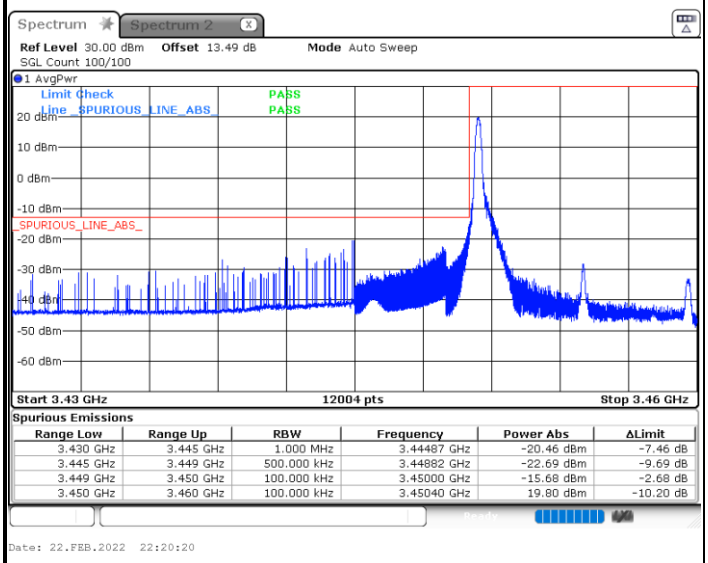
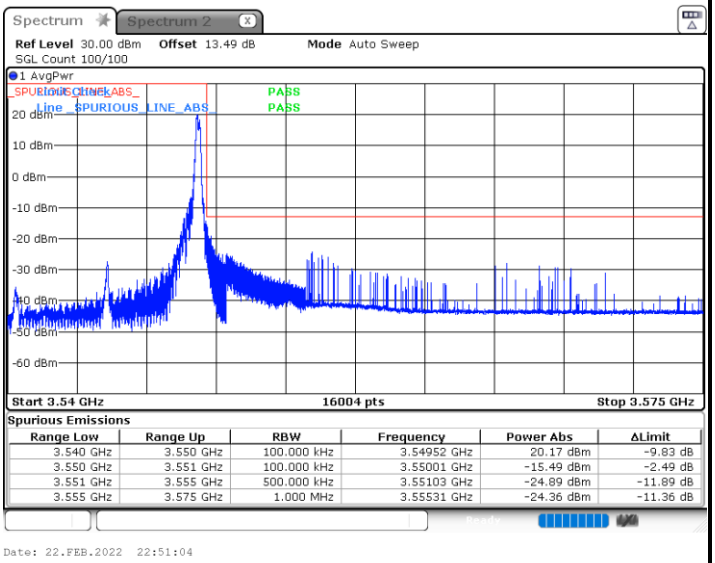
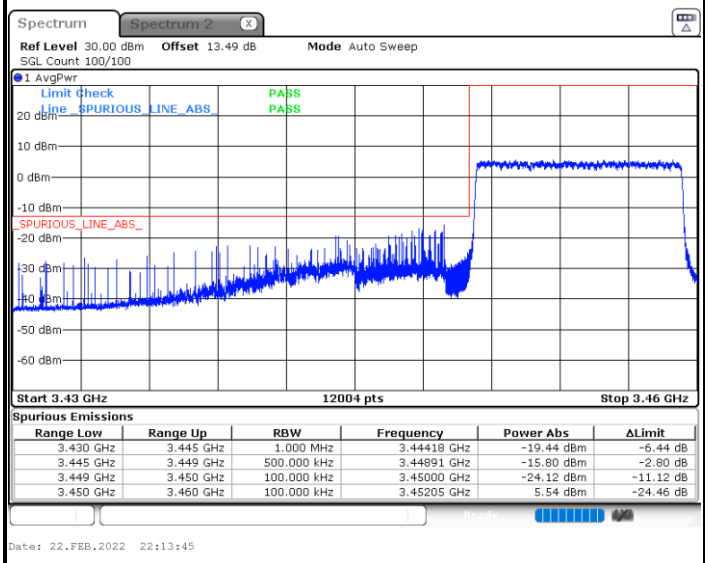
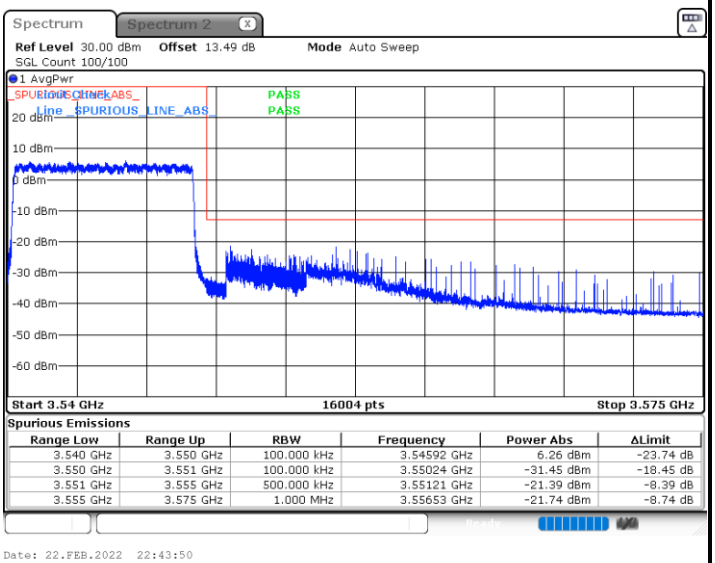


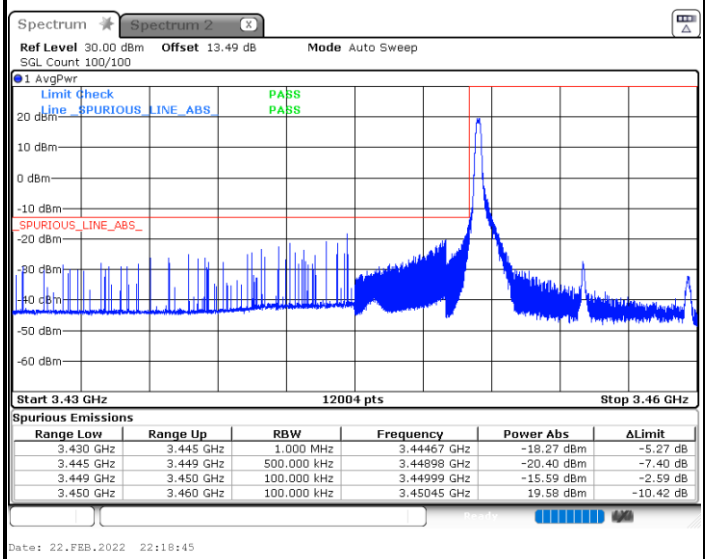
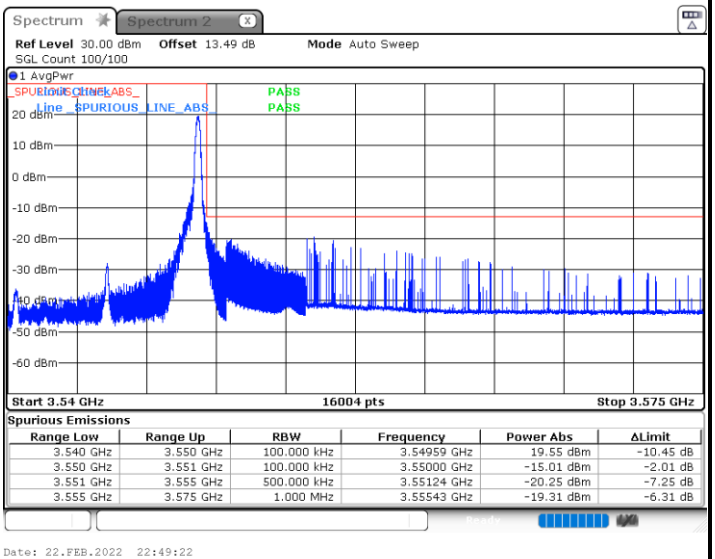
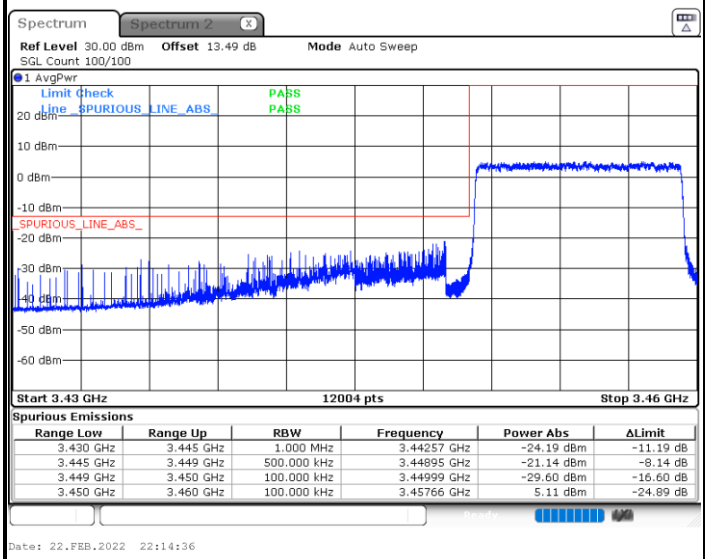
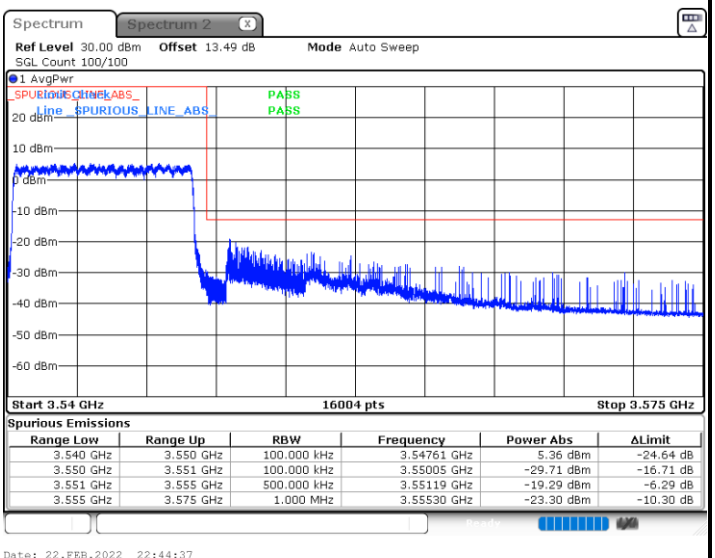
Spurious Emissions

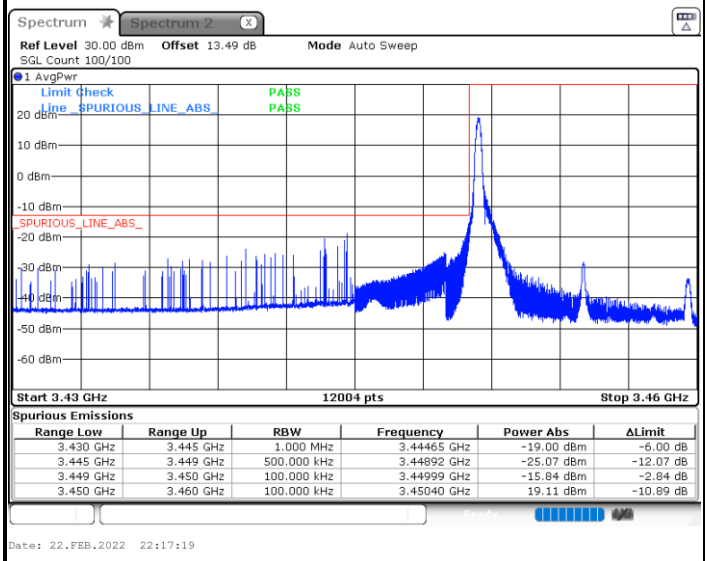
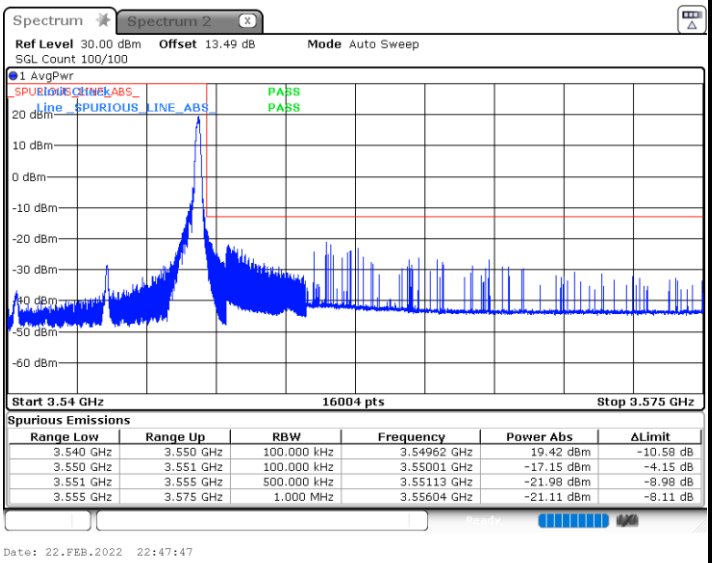
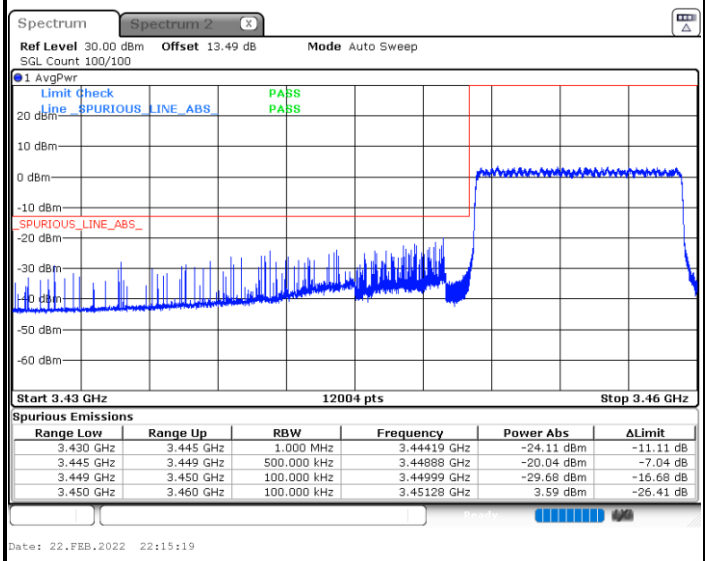
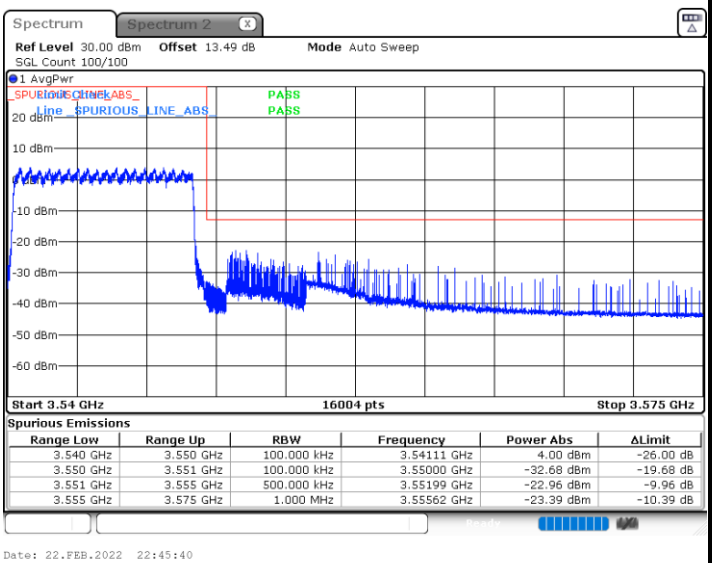
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.540 GHz	3.550 GHz	100.000 kHz	3.54875 GHz	7.48 dBm	-22.52 dB
3.550 GHz	3.551 GHz	100.000 kHz	3.55009 GHz	-30.21 dBm	-17.21 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55108 GHz	-20.10 dBm	-7.10 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55589 GHz	-21.35 dBm	-8.35 dB

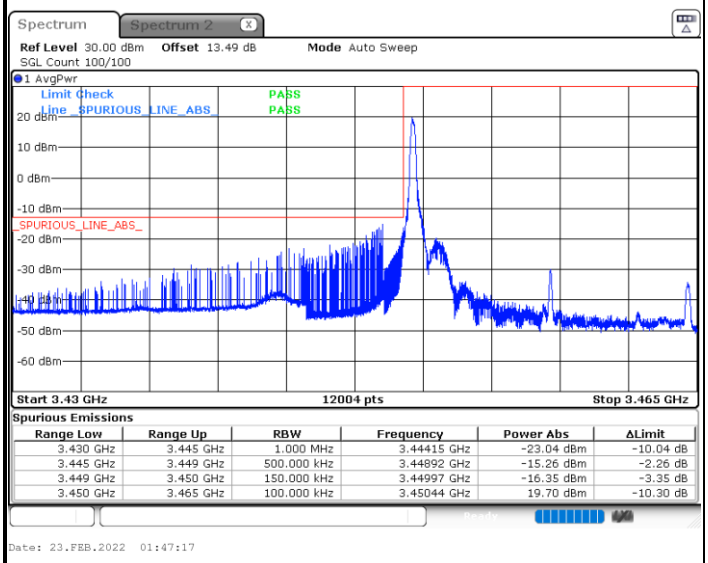
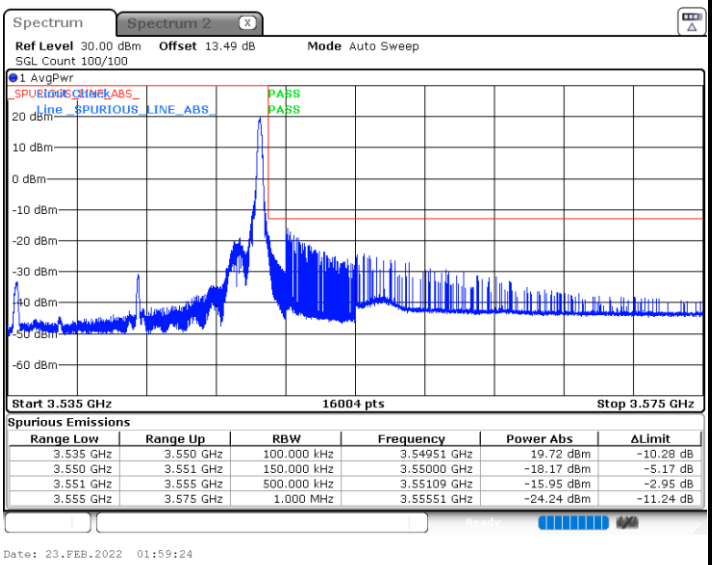
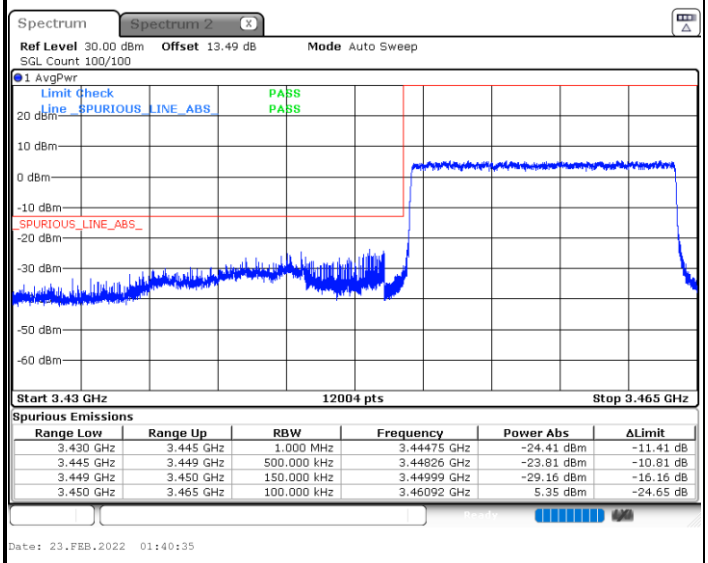
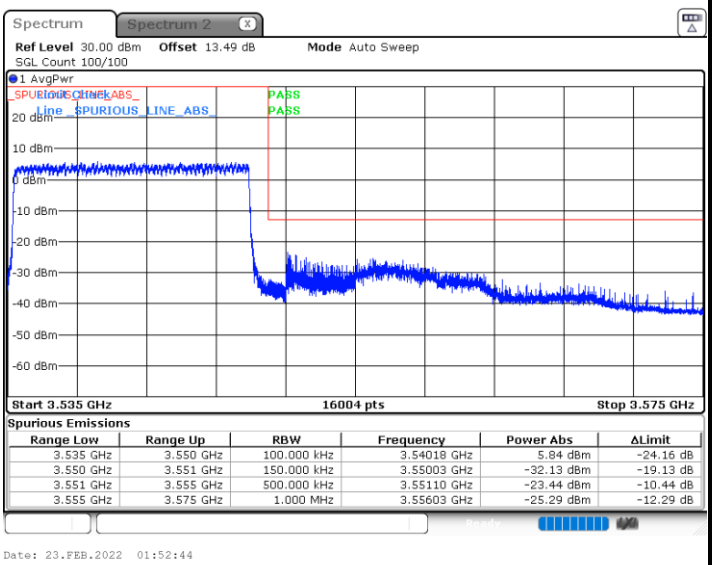
Date: 22.FEB.2022 22:42:10

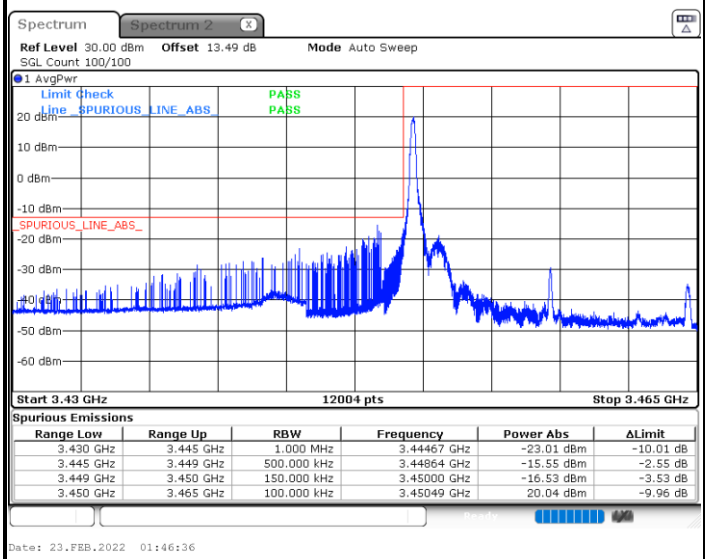
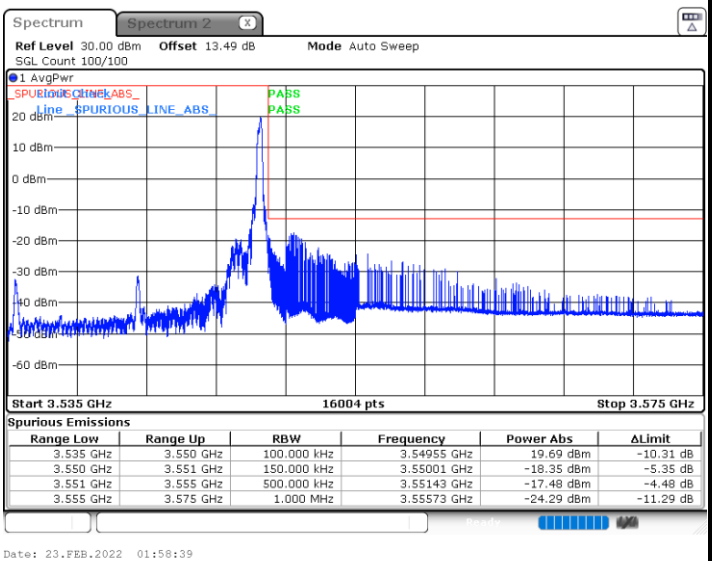
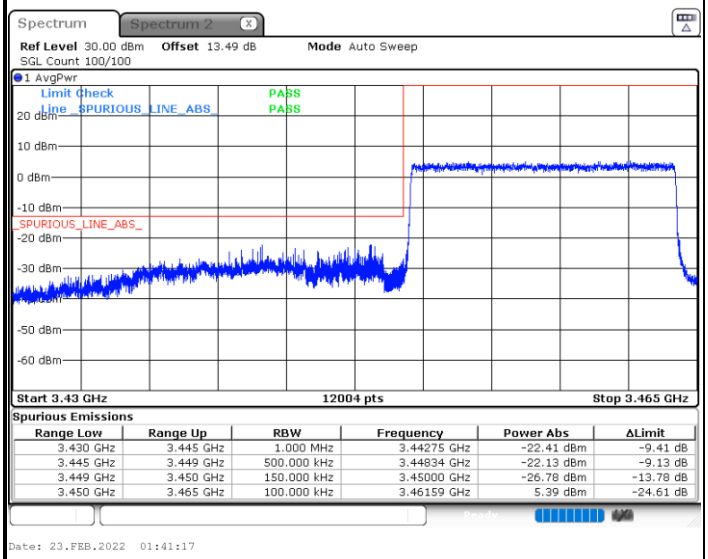
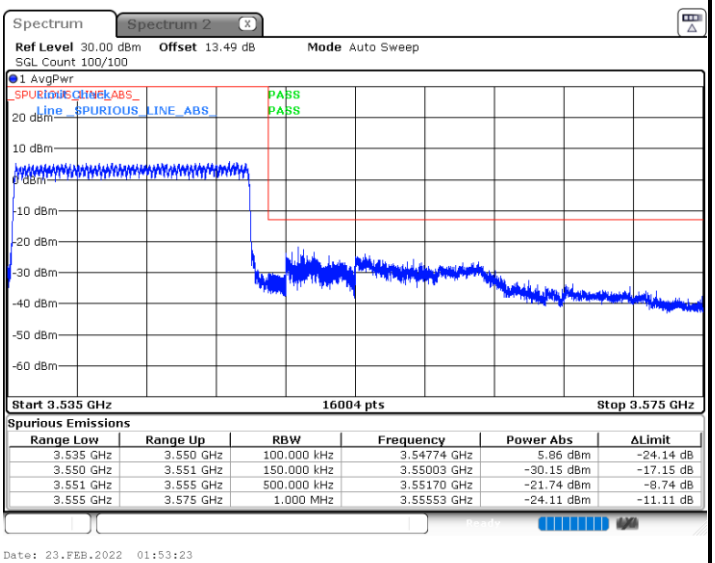
FR1 n77 / 10MHz / DFT-S OFDM / QPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n77 / 10MHz / DFT-S OFDM / 16QAM	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n77 / 10MHz / DFT-S OFDM / 64QAM	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RB24**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

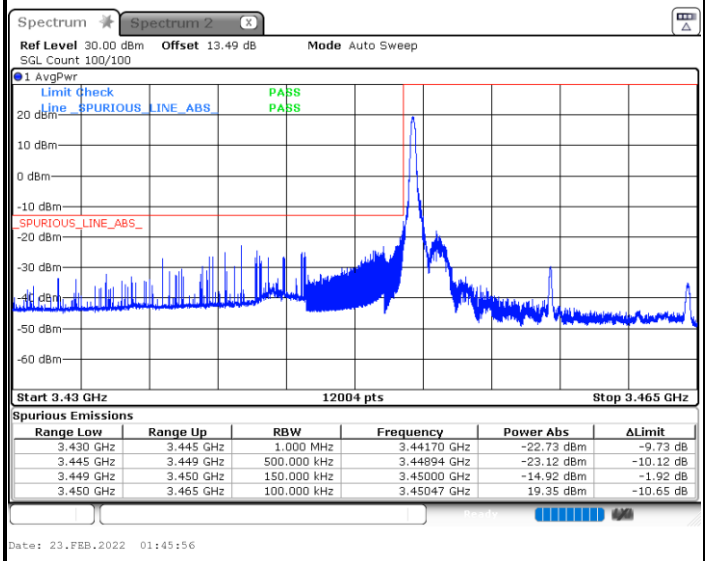
FR1 n77 / 10MHz / DFT-S OFDM / 256QAM	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RB24**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n77 / 15MHz / DFT-S OFDM / PI/2 BPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n77 / 15MHz / DFT-S OFDM / QPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n77 / 15MHz / DFT-S OFDM / 16QAM

Lowest Band Edge / 1RB0

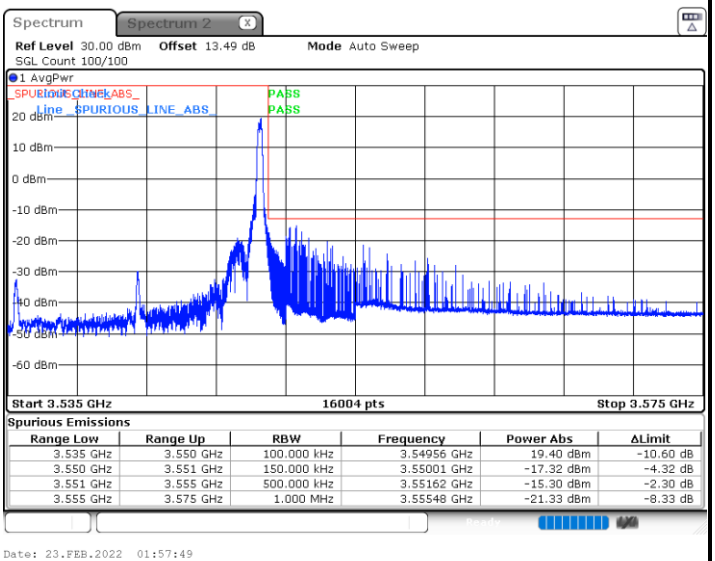


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.430 GHz	3.445 GHz	1.000 MHz	3.44170 GHz	-22.73 dBm	-9.73 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44894 GHz	-23.12 dBm	-10.12 dB
3.449 GHz	3.450 GHz	150.000 kHz	3.45000 GHz	-14.92 dBm	-1.92 dB
3.450 GHz	3.465 GHz	100.000 kHz	3.45047 GHz	19.35 dBm	-10.65 dB

Date: 23.FEB.2022 01:45:56

Highest Band Edge / 1RBmax

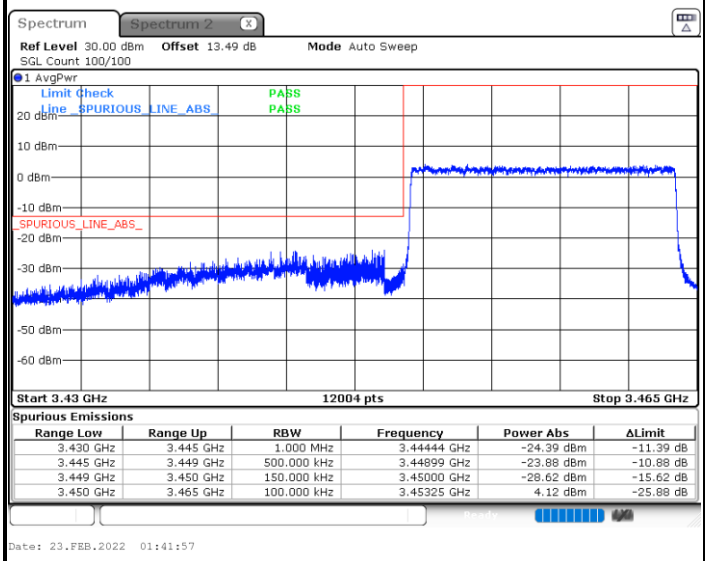


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.535 GHz	3.550 GHz	100.000 kHz	3.54956 GHz	19.40 dBm	-10.60 dB
3.550 GHz	3.551 GHz	150.000 kHz	3.55001 GHz	-17.32 dBm	-4.32 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55162 GHz	-15.30 dBm	-2.30 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55548 GHz	-21.33 dBm	-8.33 dB

Date: 23.FEB.2022 01:57:49

Lowest Band Edge / Full RB

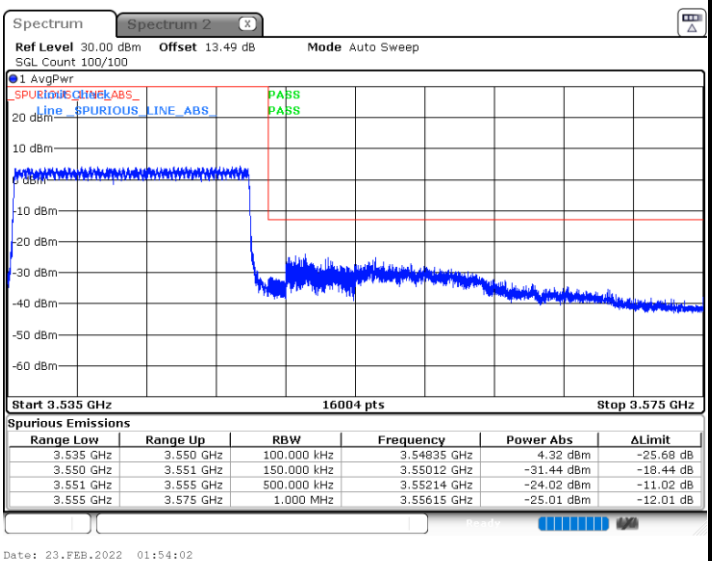


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.430 GHz	3.445 GHz	1.000 MHz	3.44444 GHz	-24.39 dBm	-11.39 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44899 GHz	-23.88 dBm	-10.88 dB
3.449 GHz	3.450 GHz	150.000 kHz	3.45000 GHz	-28.62 dBm	-15.62 dB
3.450 GHz	3.465 GHz	100.000 kHz	3.45325 GHz	4.12 dBm	-25.88 dB

Date: 23.FEB.2022 01:41:57

Highest Band Edge / Full RB



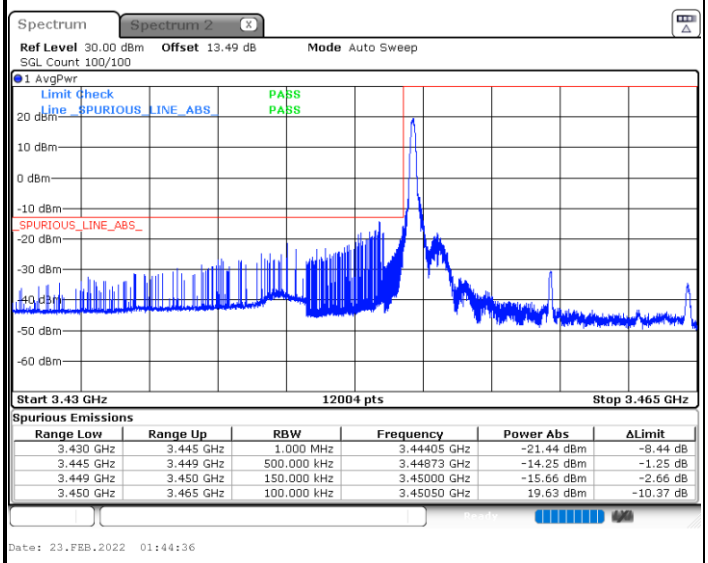
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.535 GHz	3.550 GHz	100.000 kHz	3.54835 GHz	4.32 dBm	-25.68 dB
3.550 GHz	3.551 GHz	150.000 kHz	3.55012 GHz	-31.44 dBm	-18.44 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55214 GHz	-24.02 dBm	-11.02 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55615 GHz	-25.01 dBm	-12.01 dB

Date: 23.FEB.2022 01:54:02

FR1 n77 / 15MHz / DFT-S OFDM / 64QAM

Lowest Band Edge / 1RB0

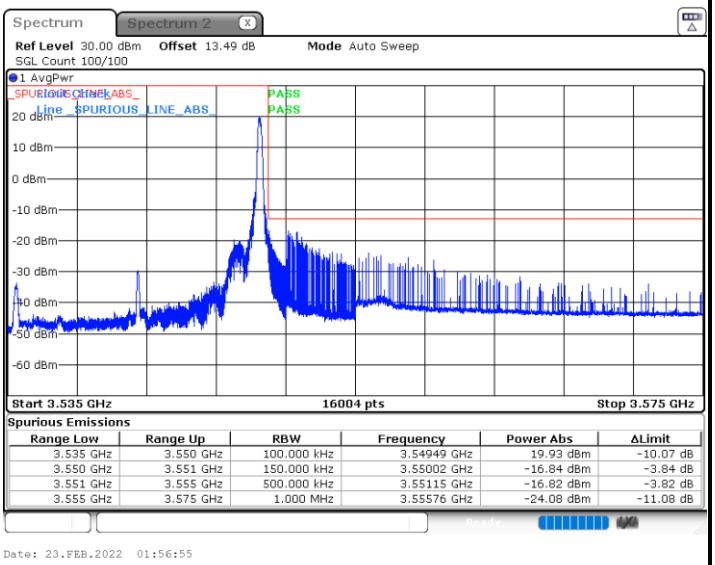


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.430 GHz	3.445 GHz	1.000 MHz	3.44405 GHz	-21.44 dBm	-8.44 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44873 GHz	-14.25 dBm	-1.25 dB
3.449 GHz	3.450 GHz	150.000 kHz	3.45000 GHz	-15.66 dBm	-2.66 dB
3.450 GHz	3.465 GHz	100.000 kHz	3.45050 GHz	19.63 dBm	-10.37 dB

Date: 23.FEB.2022 01:44:36

Highest Band Edge / 1RBmax

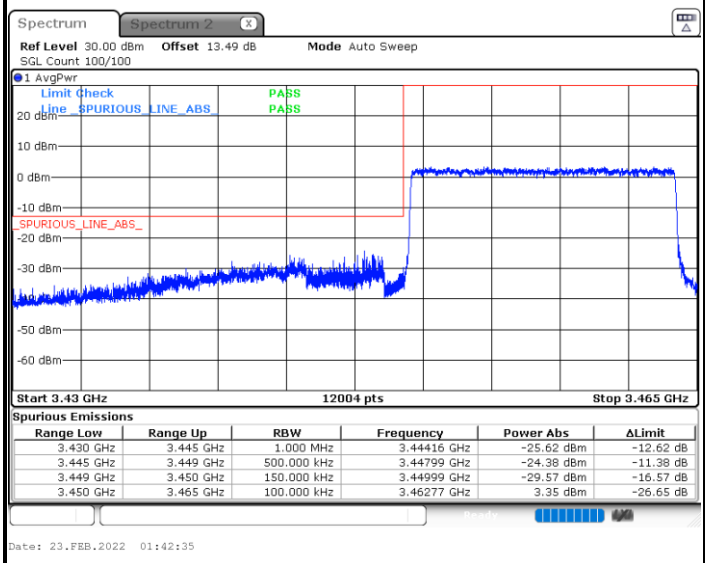


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.535 GHz	3.550 GHz	100.000 kHz	3.54949 GHz	19.93 dBm	-10.07 dB
3.550 GHz	3.551 GHz	150.000 kHz	3.55002 GHz	-16.84 dBm	-3.84 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55115 GHz	-16.82 dBm	-3.82 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55576 GHz	-24.08 dBm	-11.08 dB

Date: 23.FEB.2022 01:56:55

Lowest Band Edge / Full RB

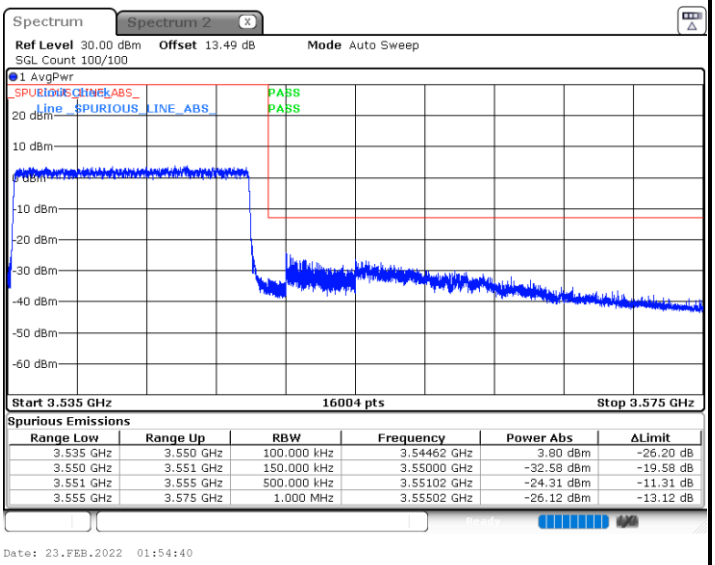


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.430 GHz	3.445 GHz	1.000 MHz	3.44416 GHz	-25.62 dBm	-12.62 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44799 GHz	-24.38 dBm	-11.38 dB
3.449 GHz	3.450 GHz	150.000 kHz	3.44999 GHz	-29.57 dBm	-16.57 dB
3.450 GHz	3.465 GHz	100.000 kHz	3.46277 GHz	3.35 dBm	-26.65 dB

Date: 23.FEB.2022 01:42:35

Highest Band Edge / Full RB



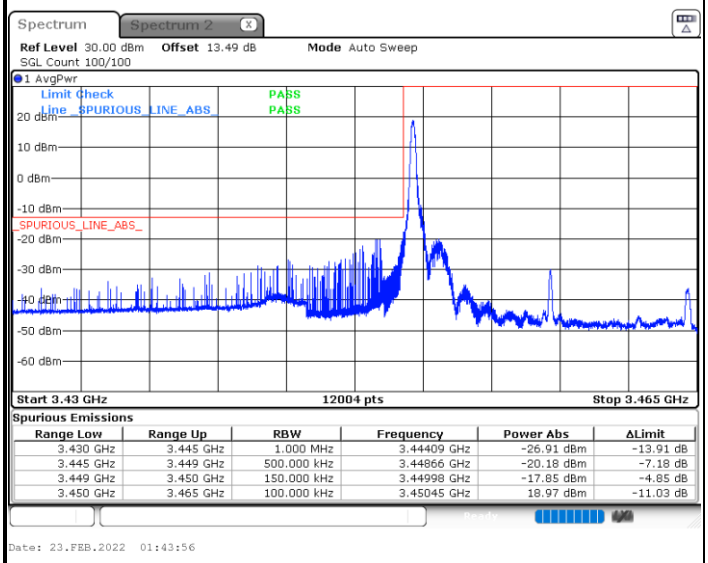
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.535 GHz	3.550 GHz	100.000 kHz	3.54462 GHz	3.80 dBm	-26.20 dB
3.550 GHz	3.551 GHz	150.000 kHz	3.55000 GHz	-32.58 dBm	-19.58 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55102 GHz	-24.31 dBm	-11.31 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55502 GHz	-26.12 dBm	-13.12 dB

Date: 23.FEB.2022 01:54:40

FR1 n77 / 15MHz / DFT-S OFDM / 256QAM

Lowest Band Edge / 1RB0

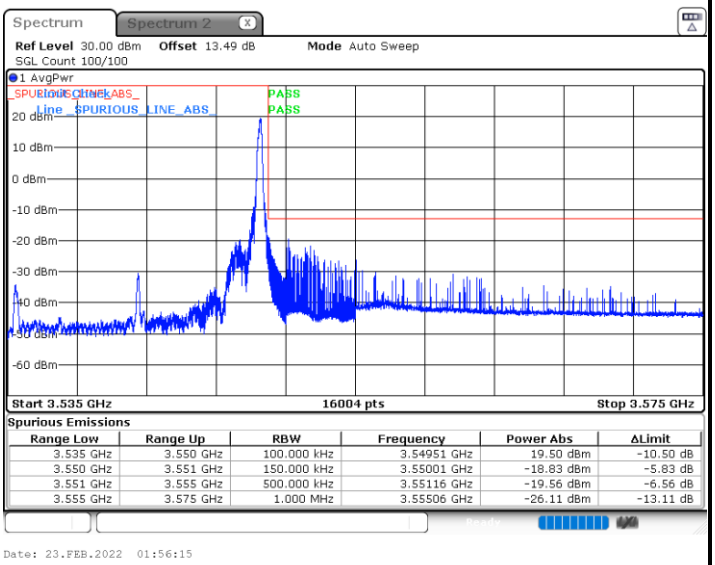


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.430 GHz	3.445 GHz	1.000 MHz	3.44409 GHz	-26.91 dBm	-13.91 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44866 GHz	-20.18 dBm	-7.18 dB
3.449 GHz	3.450 GHz	150.000 kHz	3.44998 GHz	-17.85 dBm	-4.85 dB
3.450 GHz	3.465 GHz	100.000 kHz	3.45045 GHz	18.97 dBm	-11.03 dB

Date: 23.FEB.2022 01:43:56

Highest Band Edge / 1RBmax

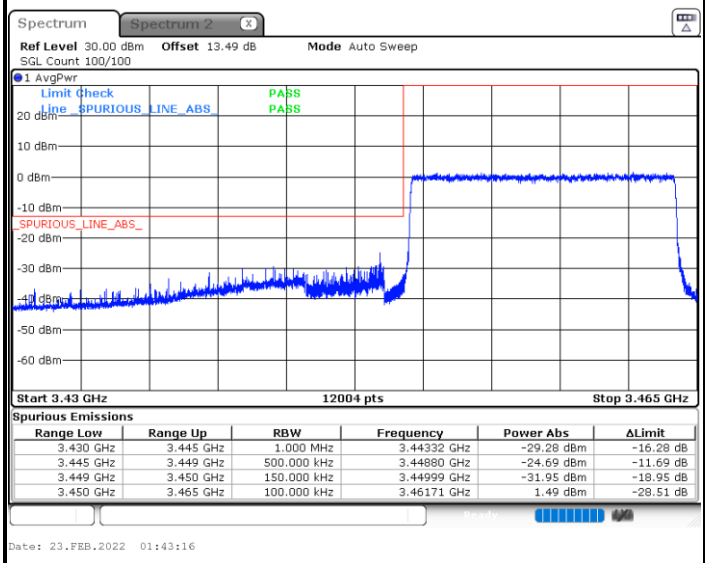


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.535 GHz	3.550 GHz	100.000 kHz	3.54951 GHz	19.50 dBm	-10.50 dB
3.550 GHz	3.551 GHz	150.000 kHz	3.55001 GHz	-18.83 dBm	-5.83 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55116 GHz	-19.56 dBm	-6.56 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55506 GHz	-26.11 dBm	-13.11 dB

Date: 23.FEB.2022 01:56:15

Lowest Band Edge / Full RB

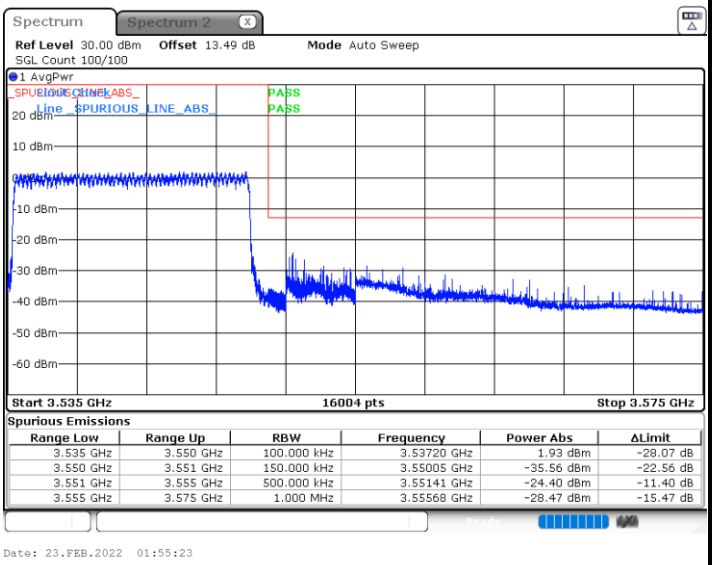


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.430 GHz	3.445 GHz	1.000 MHz	3.44332 GHz	-29.28 dBm	-16.28 dB
3.445 GHz	3.449 GHz	500.000 kHz	3.44880 GHz	-24.69 dBm	-11.69 dB
3.449 GHz	3.450 GHz	150.000 kHz	3.44999 GHz	-31.95 dBm	-18.95 dB
3.450 GHz	3.465 GHz	100.000 kHz	3.46171 GHz	1.49 dBm	-28.51 dB

Date: 23.FEB.2022 01:43:16

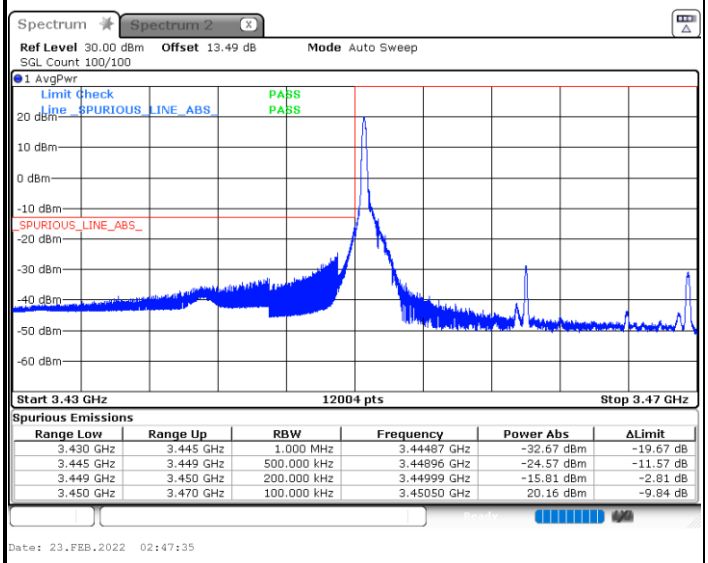
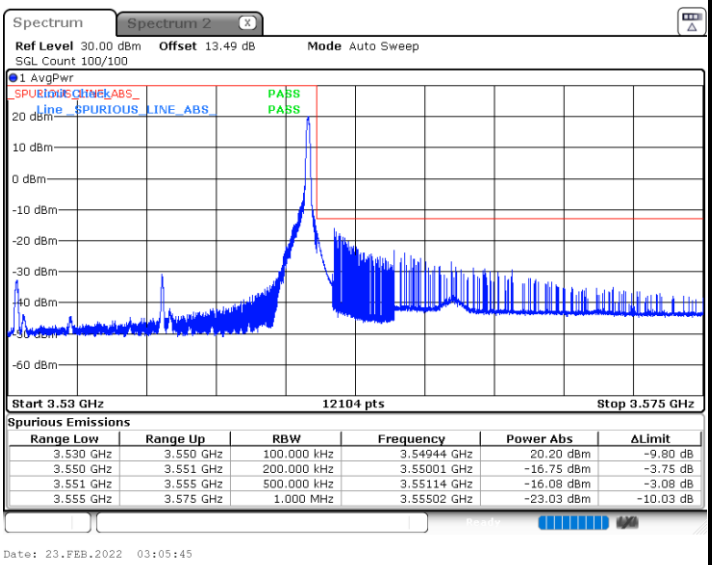
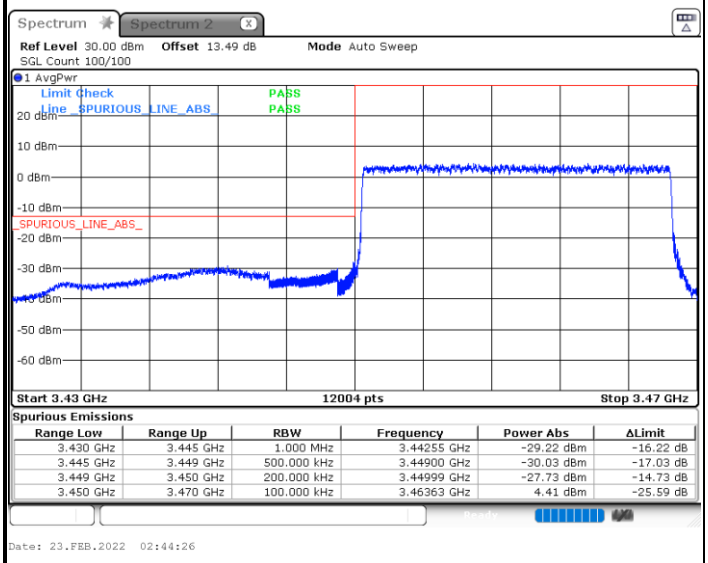
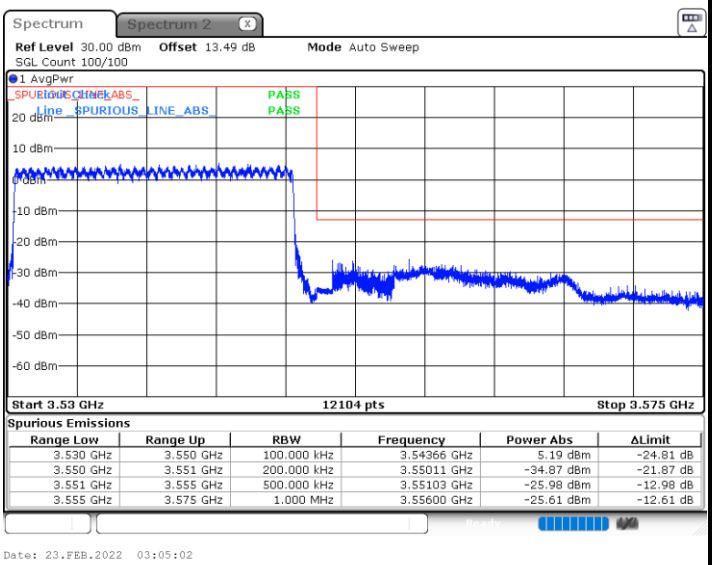
Highest Band Edge / Full RB

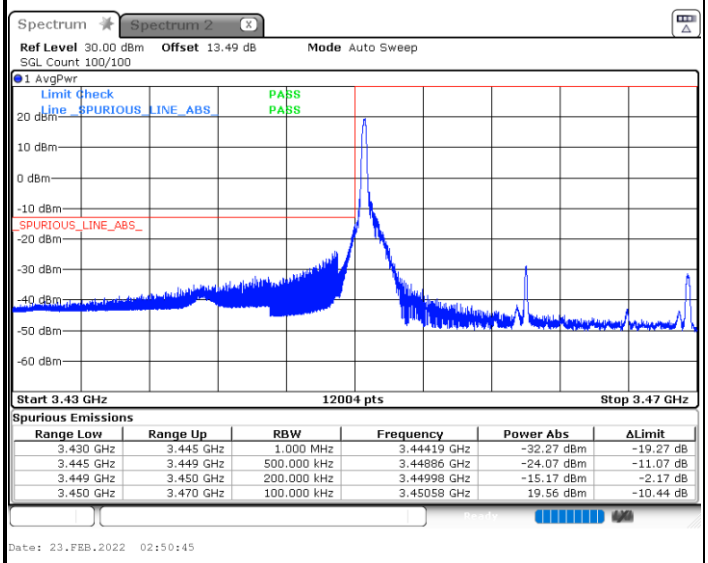
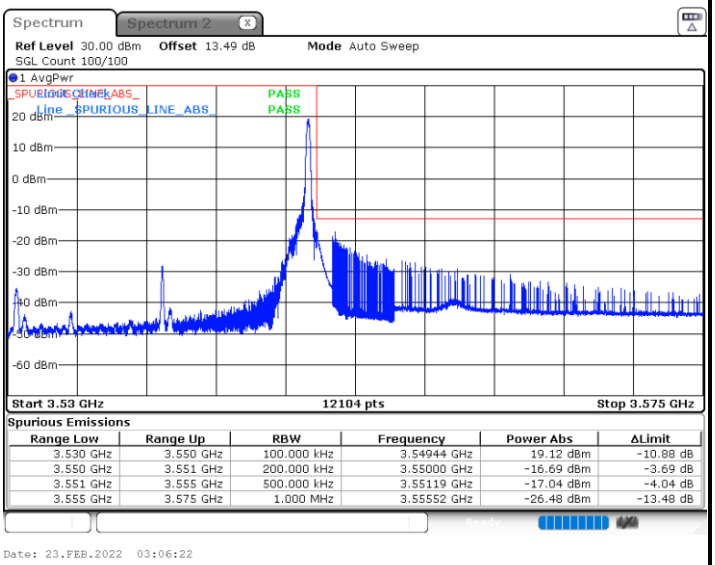
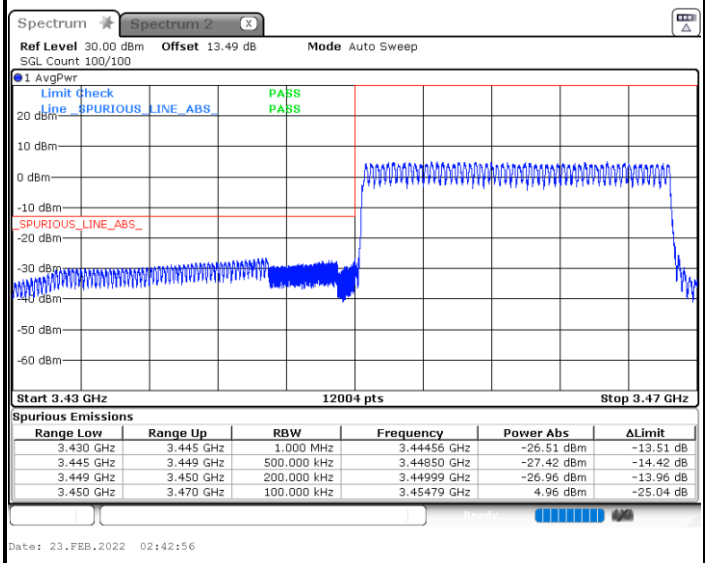
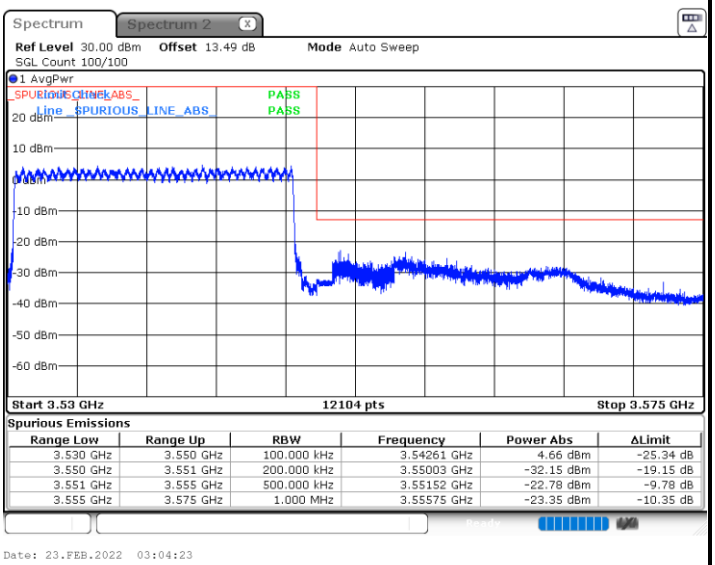


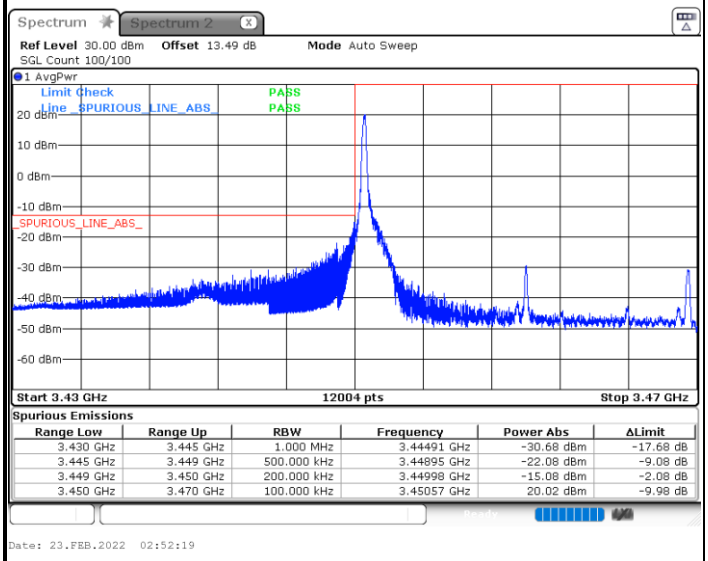
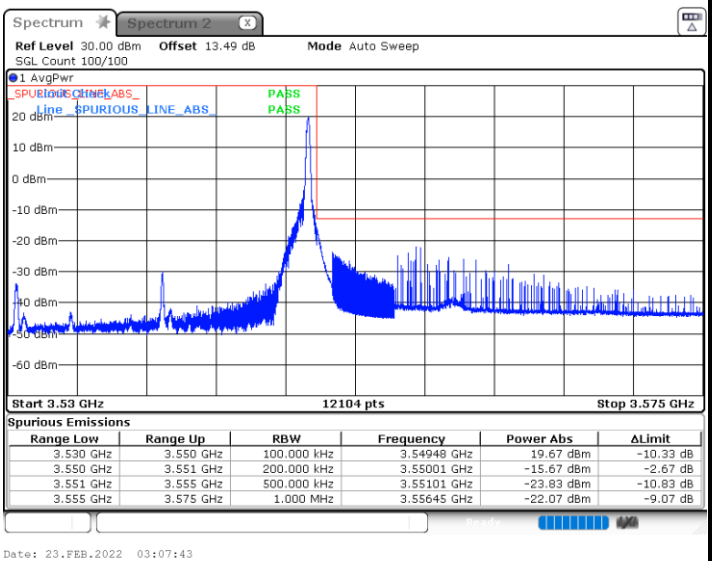
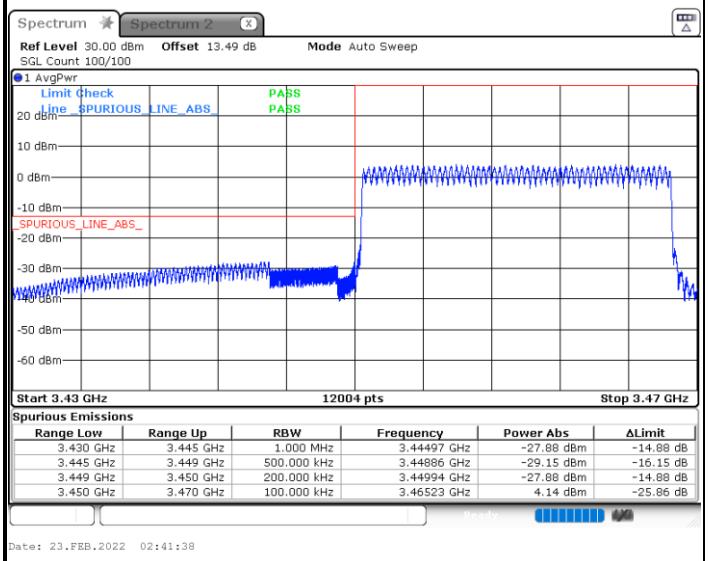
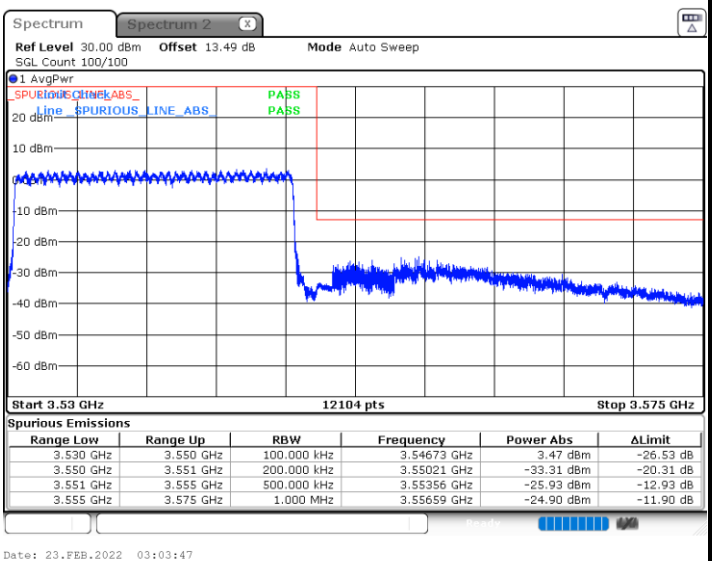
Spurious Emissions

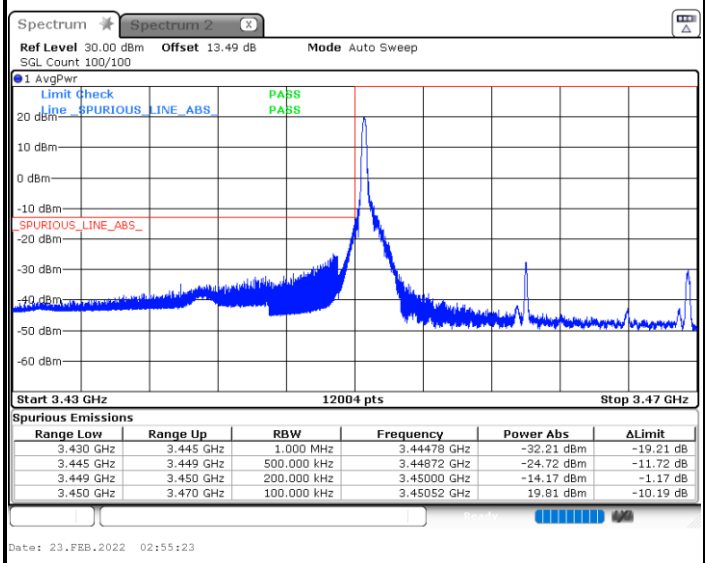
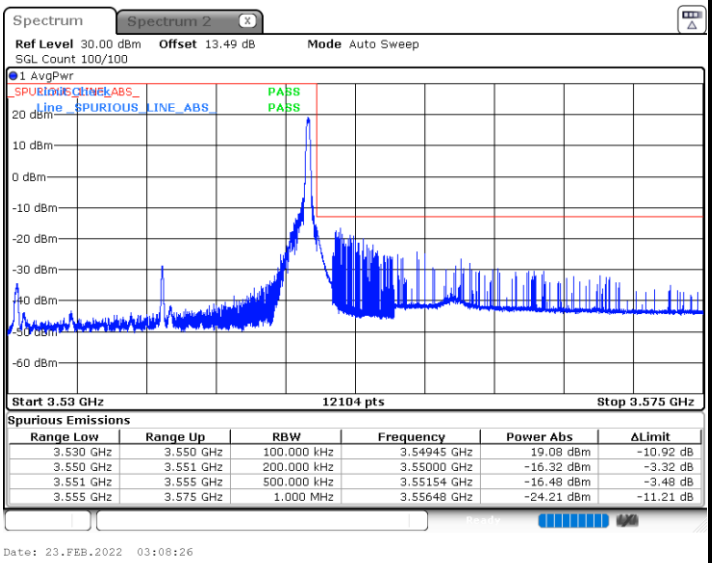
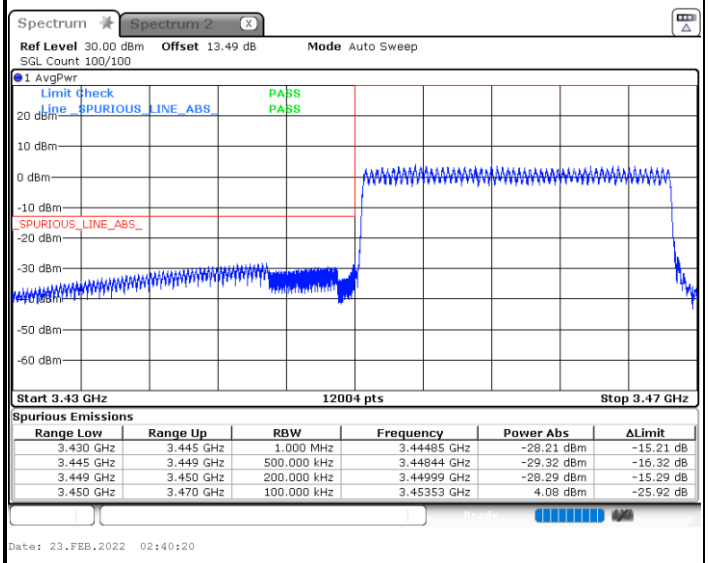
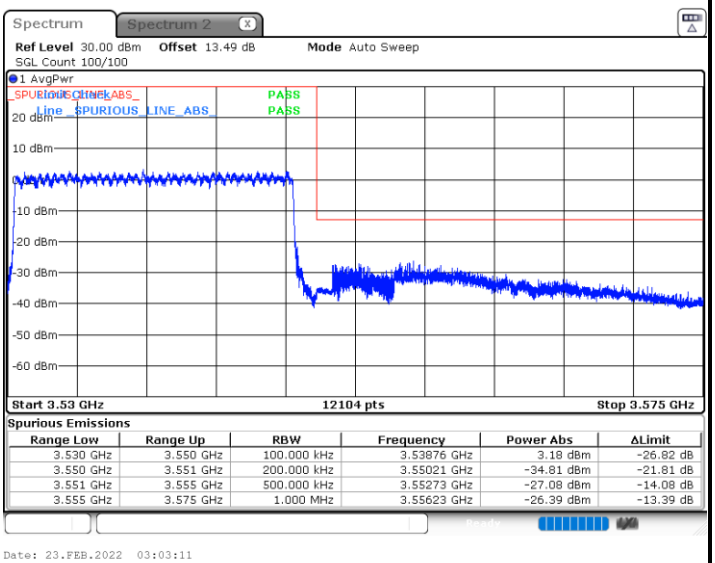
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.535 GHz	3.550 GHz	100.000 kHz	3.53720 GHz	1.93 dBm	-28.07 dB
3.550 GHz	3.551 GHz	150.000 kHz	3.55005 GHz	-35.56 dBm	-22.56 dB
3.551 GHz	3.555 GHz	500.000 kHz	3.55141 GHz	-24.40 dBm	-11.40 dB
3.555 GHz	3.575 GHz	1.000 MHz	3.55568 GHz	-28.47 dBm	-15.47 dB

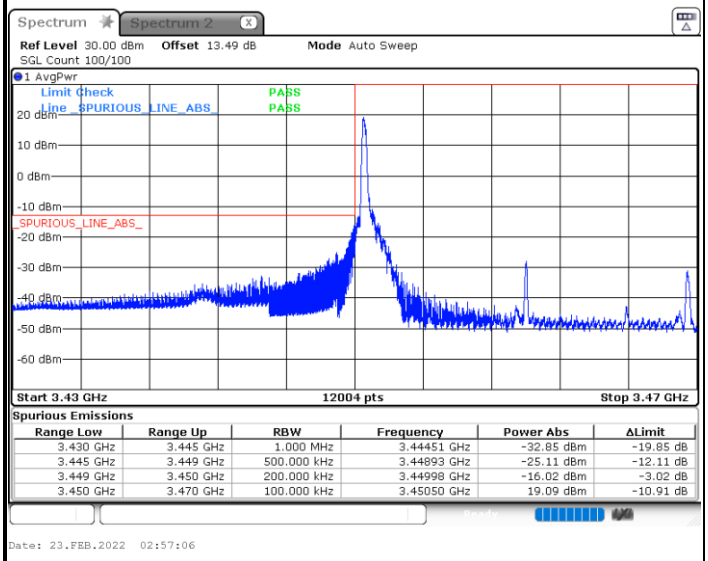
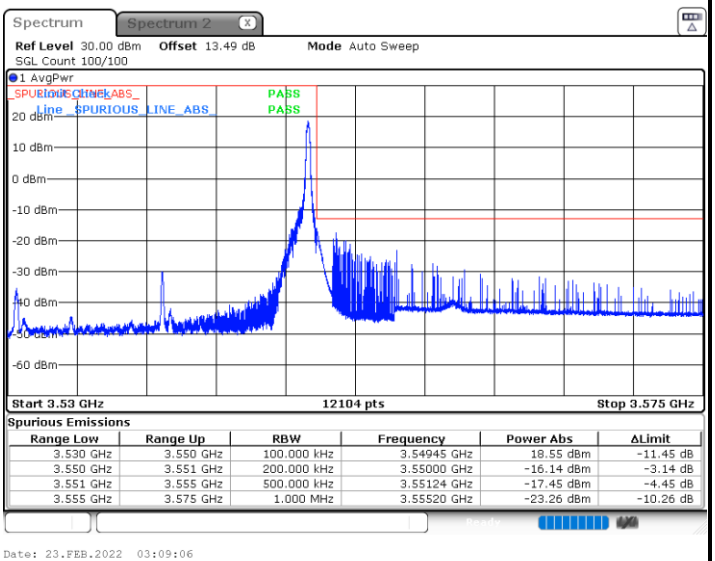
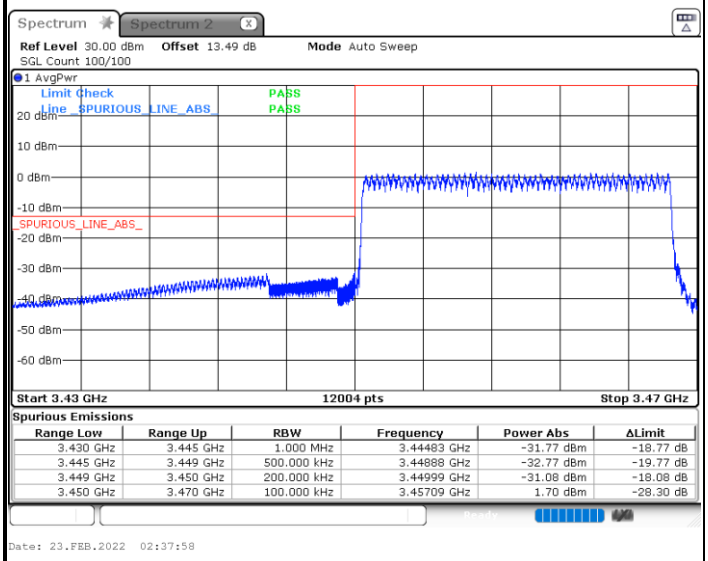
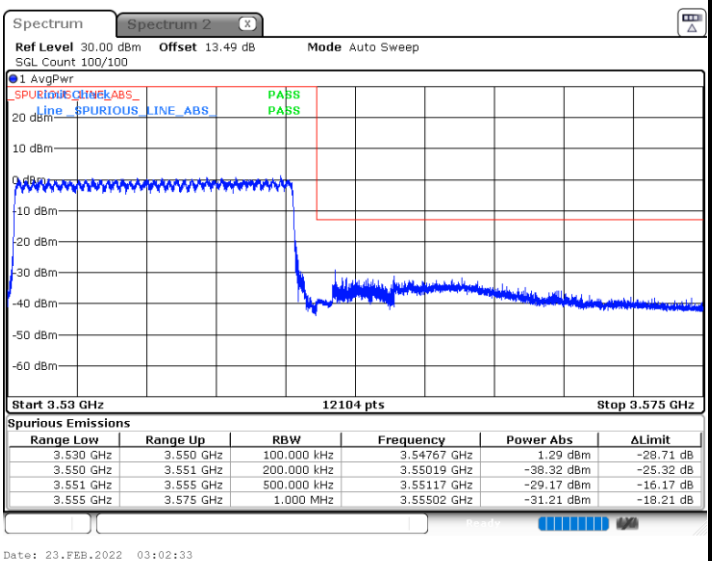
Date: 23.FEB.2022 01:55:23

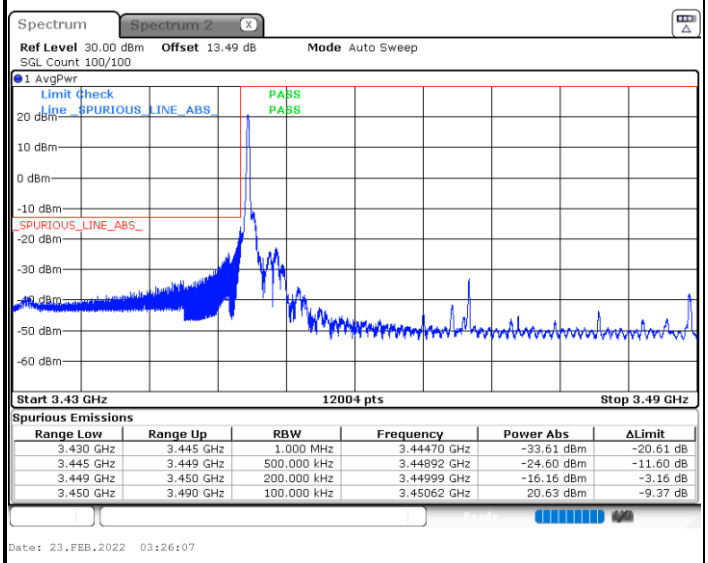
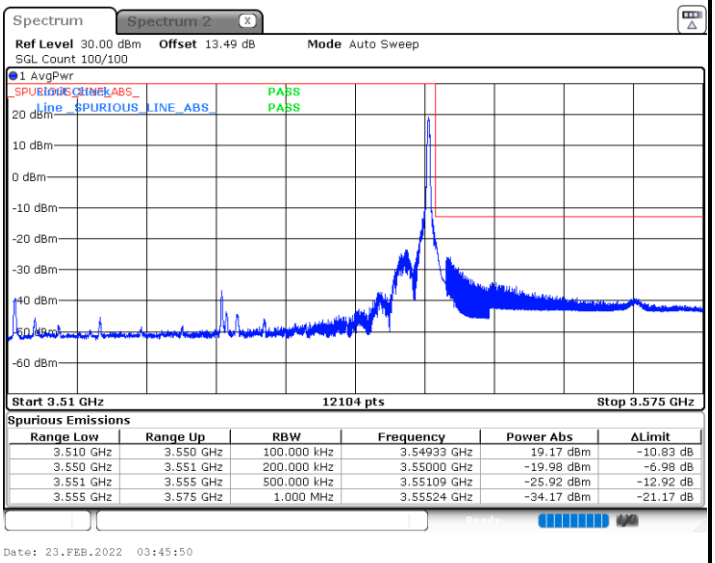
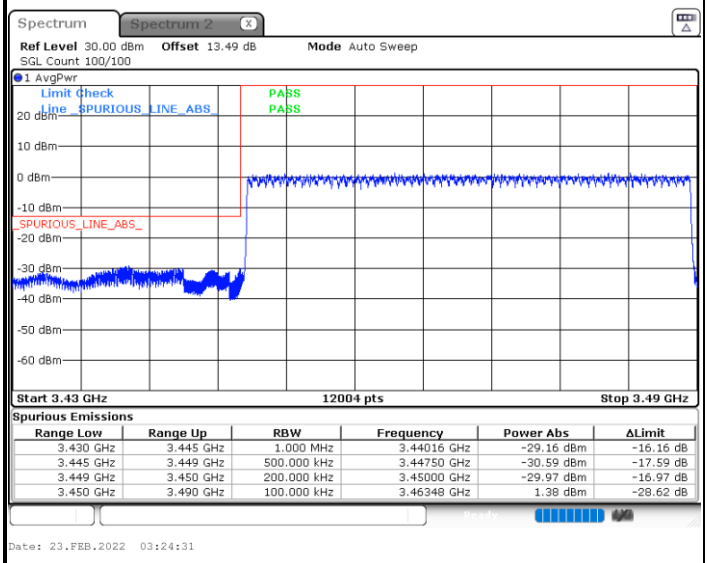
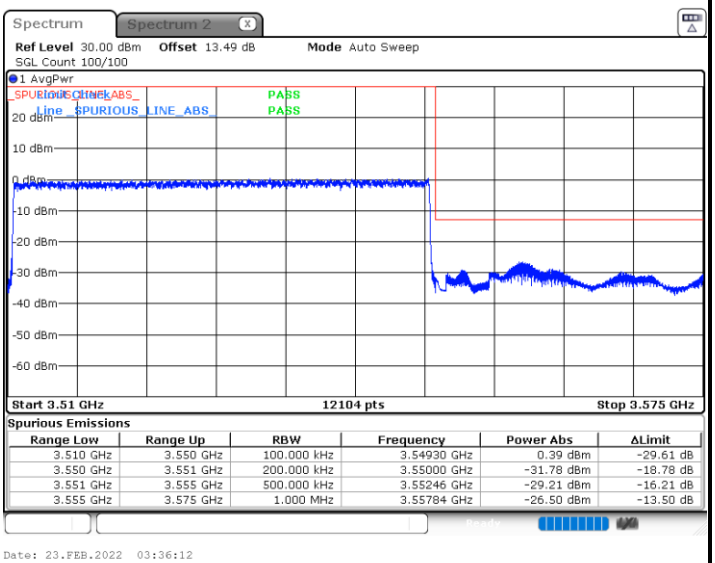
FR1 n77 / 20MHz / DFT-S OFDM / PI/2 BPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

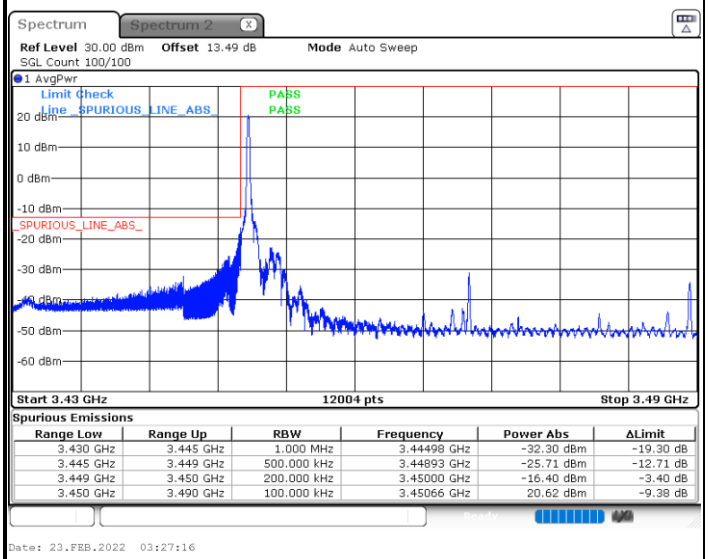
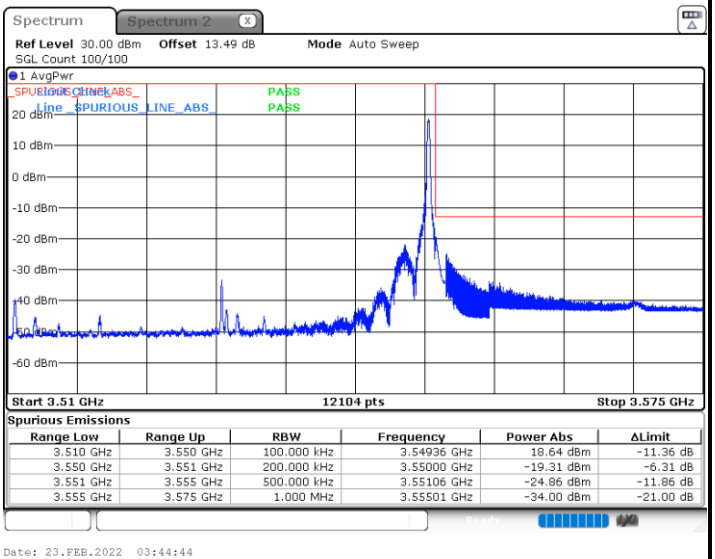
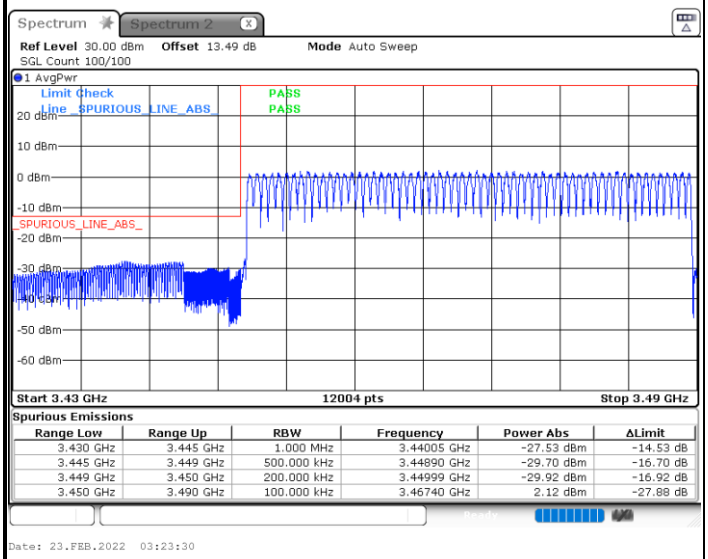
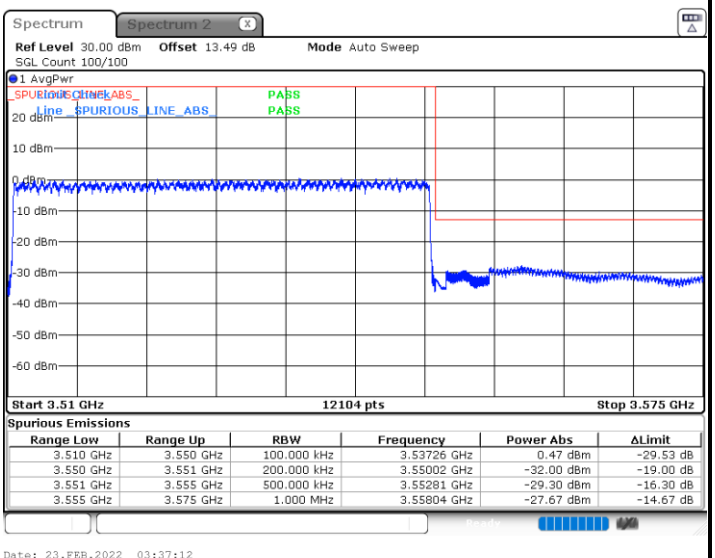
FR1 n77 / 20MHz / DFT-S OFDM / QPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

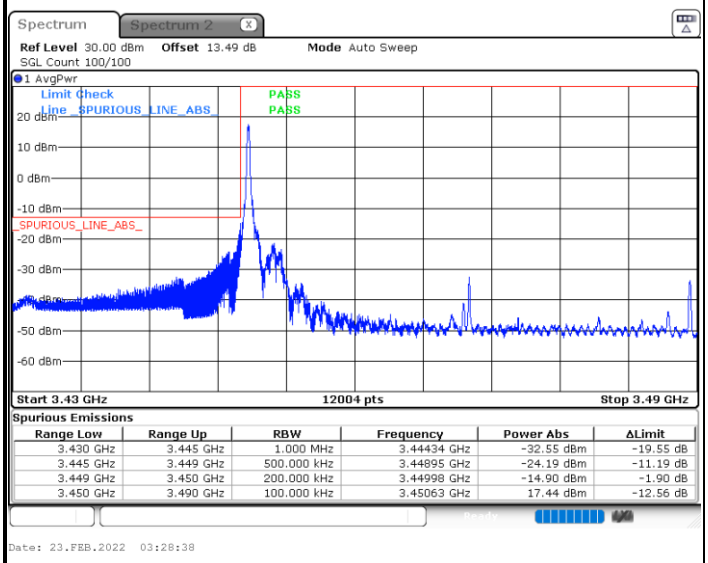
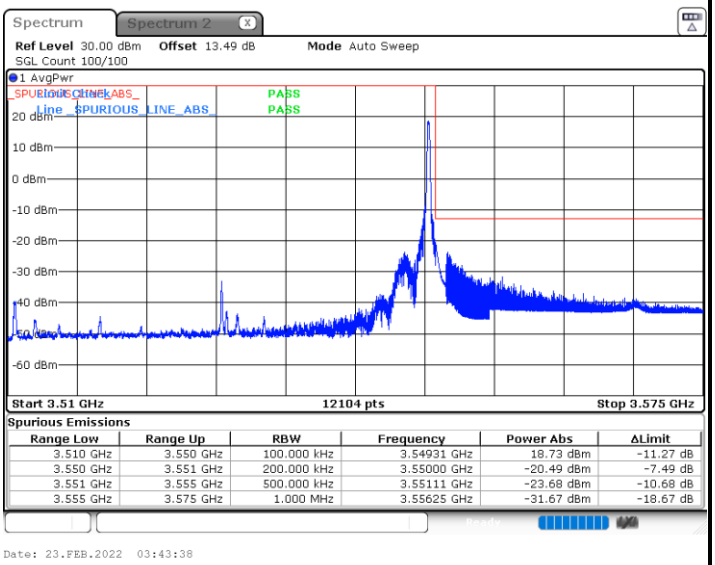
FR1 n77 / 20MHz / DFT-S OFDM / 16QAM	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n77 / 20MHz / DFT-S OFDM / 64QAM	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n77 / 20MHz / DFT-S OFDM / 256QAM	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n77 / 40MHz / DFT-S OFDM / BPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n77 / 40MHz / DFT-S OFDM / QPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n77 / 40MHz / DFT-S OFDM / 16QAM	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**