FCC RF Test Report

APPLICANT	: Motorola Mobility LLC
EQUIPMENT	: Mobile Cellular Phone
BRAND NAME	: Motorola
MODEL NAME	: XT2131-1,XT2131-4,XT2131-3,XT2131DL
FCC ID	: IHDT56ZL1
STANDARD	: 47 CFR Part 2, 27
CLASSIFICATION	: PCS Licensed Transmitter Held to Ear (PCE)

The product was received on Jan. 29, 2021 and completely tested on Mar. 18, 2021. We, Sporton International (ShenZhen) Inc., 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.

This report contains data that were produced under subcontract by Sporton International (Kunshan) Inc.

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

Reviewed by: Derreck Chen / Supervisor

Approved by: Eric Shih / Manager

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People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG112907I	Rev. 01	Initial issue of report	Mar. 25, 2021

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§27.50(c)(10)	Effective Radiated Power (5G NR n71)	ERP < 3 Watt		
	§27.50(h)(2)	Equivalent Isotropic Radiated Power (5G NR n41)	EIRP < 2Watt		
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (5G NR n66)	EIRP < 1Watt		
	§27.50(j)(3)	Equivalent Isotropic Radiated Power (5G NR n77, n78)	EIRP < 1Watt		
3.5	§27.50(j)(4)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §27.53(h) §27.53(g) §27.53(l)(2)	Conducted Band Edge Measurement (5G NR n66) (5G NR n71) (5G NR n77, n78)	< 43+10log10(P[Watts])	PASS	-
	§27.53(m)(4)	Conducted Band Edge Measurement (5G NR n41)	§27.53(m)(4)		
3.8	§2.1051 §27.53(h) §27.53(g) §27.53(l)(2)	Conducted Spurious Emission (5G NR n66) (5G NR n71) (5G NR n77, n78)	< 43+10log10(P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (5G NR n41)	< 55+10log$_{10}$(P[Watts])		
3.9	§27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§2.1053 §27.53(h) §27.53(g) §27.53(l)(2)	Radiated Spurious Emission (5G NR n66) (5G NR n71) (5G NR n77, n78)	< 43+10log$_{10}$(P[Watts])	PASS	Under limit 12.72 dB at 7582.600 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (5G NR n41)	< 55+10log$_{10}$(P[Watts])		

1 General Description

1.1 Applicant

Motorola Mobility LLC
222 W,Merchandise Mart Plaza,Chicago,IL60654 USA

1.2 Manufacturer

Motorola Mobility LLC
222 W,Merchandise Mart Plaza,Chicago,IL60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2131-1,XT2131-4,XT2131-3,XT2131DL
FCC ID	IHDT56ZL1
EUT supports Radios application	CDMA/GSM/WCDMA/LTE/5G NR WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE FM Receiver / GNSS
IMEI Code	Conducted : N/A Radiation : 35661128001681
HW Version	DVT
SW Version	RRE31.37
EUT Stage	Production Unit

Remark:
Only 5G NR bands are tested in this report, all the other RF bands are tested in the other reports separately.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71: 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz
Rx Frequency	5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 2110 MHz~ 2200 MHz 5G NR n71: 617 MHz ~ 652 MHz 5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz
Bandwidth	n41 : 20MHz / 30MHz / 40MHz / 50MHz / 60MHz / 80MHz / 90MHz / 100MHz n66 : 5MHz / 10MHz / 15MHz / 20MHz / 30MHz / 40MHz n71 : 5MHz / 10MHz / 15MHz / 20MHz / n77 : 20MHz / 30MHz / 40MHz / 60MHz / 80MHz / 100MHz n78 : 20MHz / 30MHz / 40MHz / 50MHz / 60MHz / 70MHz / 80MHz / 90MHz / 100MHz
SCS	n66, n71: 15kHz n41, n77, n78 : 30kHz
Maximum Output Power to Antenna	SA: n41 : 26.97 dBm SA: n77 : 23.75 dBm SA: n66 : 23.13 dBm SA: n71 : 23.26 dBm
Antenna Gain	**Top Antenna :** 5G NR n41: -6.9 dBi 5G NR n66: -4.8 dBi 5G NR n71: -7.0 dBi 5G NR n77: -5.5 dBi 5G NR n78: -6.5 dBi **Bottom Antenna:** 5G NR n41: 0.59 dBi 5G NR n66: -1.32 dBi 5G NR n71: -4.1 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

Remark: 5G NR n41 supports HPUE.

1.5 Modification of EUT

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

1.6 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator

5G NR n41		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)
100	2546.01 ~ 2640.00	97M3G7D	0.5702	97M9W7D	0.3819
Frequency Tolerance (ppm)		0.0026			

5G NR n66		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)
40	1730.0 ~ 1760.0	38M8G7D	0.1517	38M9W7D	0.1330
Frequency Tolerance (ppm)		0.0046			

5G NR n71		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)
20	673.0 ~ 688.0	18M9G7D	0.0502	18M9W7D	0.0423
Frequency Tolerance (ppm)		0.0094			

5G NR n77		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)
100	3750.0 ~ 3930.0	97M3G7D	0.0668	97M7W7D	0.0508
Frequency Tolerance (ppm)		0.0027			

5G NR n78		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)
100	3750.0 ~ 3750.0	97M3G7D	0.0668	97M7W7D	0.0508
Frequency Tolerance (ppm)		0.0027			

Note:

1. 5G NR Band n77 overlaps the entire frequency range of Band n78. Therefore, the test results provided in this report covers Band n77 as well as Band n78.

2. Based on engineering evaluation, only the maximum bandwidth and the worst modulation test results are shown in the report.
3. The maximum ERP/EIRP is calculated from max output power and max antenna gain, only the maximum ERP/EIRP is shown in the report.
4. 5G NR supports SA and NSA mode (refer to the Operation Description). According to the maximum power between SA and NSA mode, SA covers NSA mode, we choose SA mode to test all test items.

1.7 Testing Location

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

Test Firm	Sporton International (Kunshan) Inc.		
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.**
	TH01-KS	CN1257	314309

Note: Test data subcontracted: Conducted items in section 3 of this report.

Sporton International (Shenzhen) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH04-SZ	CN1256	421272

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH04-SZ	AUDIX	E3	6.2009-8-24

1.9 Applicable Standards

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

- 47 CFR Part 2, 27
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

All test items were verified and recorded according to the standards and without any deviation during the test.

1.10 Specification of Accessory

Specification of Accessory				
AC Adapter 1	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-101
AC Adapter 2	**Brand Name**	Motorola(Salcomp)	**Model Name**	MC-101
Battery	**Brand Name**	Motorola (ATL)	**Model Name**	MD50
USB Cable 1	**Brand Name**	Motorola (Saibao)	**Model Name**	SC18C24367
USB Cable 2	**Brand Name**	Motorola (Luxshare)	**Model Name**	SC18C24368

2 Test Configuration of Equipment Under Test

2.1 Test Mode

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

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

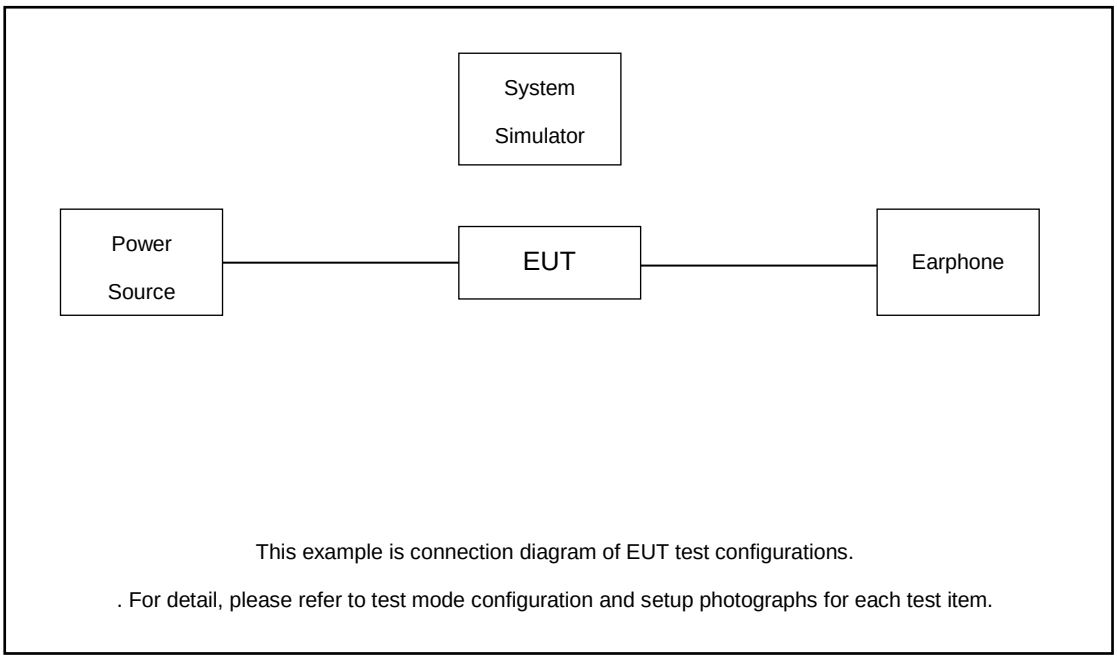
The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.

	X Plane	Y Plane	Z Plane
Orthogonal Planes of EUT			

Test Items	5G NR	Bandwidth (MHz)						Modulation					RB #		Test Channel		
		5	10	15	20	30-90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Full	L	M	H
Max. Output Power	n41	-	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	n66	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v	v
	n71	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	n77	-	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	n41	-	-	-			v	v	v	v	v	v		v		v	
	n66					v	-	v	v	v	v	v		v		v	
	n71				v	-	-	v	v	v	v	v		v		v	
	n77	-	-	-			v	v	v	v	v	v		v		v	
26dB and 99% Bandwidth	n41	-	-	-			v		v	v				v		v	
	n66					v	-		v	v				v		v	
	n71				v	-	-		v	v				v		v	
	n77	-	-	-			v		v	v				v		v	

Test Items	Band	Bandwidth (MHz)						Modulation					RB #		Test Channel		
		5	10	15	20	30-90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Full	L	M	H
Conducted Band Edge	n41	-	-	-	v	v	v	v	v	v	v	v	v	v	v		v
	n66	v	v	v	v	v	-	v	v	v	v	v	v	v	v		v
	n71	v	v	v	v	-	-	v	v	v	v	v	v	v	v		v
	n77	-	-	-	v	v	v	v	v	v	v	v	v	v	v		v
Conducted Spurious Emission	n41	-	-	-	v	v	v		v				v		v	v	v
	n66	v	v	v	v	v	-		v				v		v	v	v
	n71	v	v		v	-	-		v				v		v	v	v
	n77	-	-	-	v	v	v		v				v		v	v	v
Frequency Stability	n41	-	-	-			v	v						v		v	
	n66					v	-	v						v		v	
	n71				v	-	-	v						v		v	
	n77	-	-	-			v	v						v		v	
E.R.P / E.I.R.P	n41	-	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	n66	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v	v
	n71	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	n77	-	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
Radiated Spurious Emission	n41	Worst Case														v	
	n66	Worst Case														v	
	n71	Worst Case														v	
	n77	Worst Case														v	
	n78	Worst Case														v	
Note	1. The mark "**v** " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. For modulation of CP-OFDM and DFT-s-OFDM , the maximum power of CP-OFDM is lower than DFT-s-OFDM modulation, therefore, we chose higher power (DFT-s-OFDM modulation) to perform all tests and show in the report. 5. All modulations (BPSK/QPSK/16QAM/64QAM/256QAM) have been tested, and only the worst test results are shown in the report .															

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.	NR Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m
3.	Base Station	Keysight	UXM E7515B	N/A	N/A	Shielded, 1.5m
4.	Earphone	N/A	N/A	N/A	Unshielded,1.2m	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

Offset = RF cable loss

Following shows an offset computation example with cable loss 5.70 dB

Example :

Offset(dB) = RF cable loss(dB)

= 5.70 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G NR n41 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	509202	518598	528000
	Frequency	2546.01	2592.99	2640
90	Channel	508200	518598	528996
	Frequency	2541	2592.99	2644.98
80	Channel	507204	518598	529998
	Frequency	2536.02	2592.99	2649.99
60	Channel	505200	518598	531996
	Frequency	2526	2592.99	2659.98
50	Channel	504204	518598	532998
	Frequency	2521.02	2592.99	2664.99
40	Channel	503202	518598	534000
	Frequency	2516.01	2592.99	2670
30	Channel	502200	518598	534996
	Frequency	2511	2592.99	2674.98
20	Channel	501204	518598	535998
	Frequency	2506.02	2592.99	2679.99

5G NR n66 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
40	Channel	346000	349000	352000
	Frequency	1730	1745	1760
30	Channel	345000	349000	353000
	Frequency	1725	1745	1765
20	Channel	344000	349000	354000
	Frequency	1720	1745	1770
15	Channel	343500	349000	354500
	Frequency	1717.5	1745	1772.5
10	Channel	343000	349000	355000
	Frequency	1715	1745	1775
5	Channel	342500	349000	355500
	Frequency	1712.5	1745	1777.5

5G NR n71 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	134600	136100	137600
	Frequency	673	680.5	688
15	Channel	134100	136100	138100
	Frequency	670.5	680.5	690.5
10	Channel	133600	136100	138600
	Frequency	668	680.5	693
5	Channel	133100	136100	139100
	Frequency	665.5	680.5	695.5

5G NR n77 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	650000	656000	662000
	Frequency	3750	3840	3930
80	Channel	649334	656000	662668
	Frequency	3740.01	3840	3940.02
60	Channel	648668	656000	663334
	Frequency	3730.02	3840	3950.01
40	Channel	648000	656000	664000
	Frequency	3720	3840	3960
30	Channel	647668	656000	664334
	Frequency	3715.02	3840	3965.01
20	Channel	647334	656000	664668
	Frequency	3710.01	3840	3970.02

5G NR n78 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
100	Channel		650000	
	Frequency		3750	
90	Channel	649668	650000	650334
	Frequency	3745.02	3750	3755.01
80	Channel	649334	650000	650668
	Frequency	3740.01	3750	3760.02
70	Channel	649000	650000	651000
	Frequency	3735	3750	3765
60	Channel	648668	650000	651334
	Frequency	3730.02	3750	3770.01
50	Channel	648334	650000	651668
	Frequency	3725.01	3750	3775.02
40	Channel	648000	650000	652000
	Frequency	3720	3750	3780
30	Channel	647668	650000	652334
	Frequency	3715.02	3750	3785.01
20	Channel	647334	650000	652668
	Frequency	3710.01	3750	3790.02

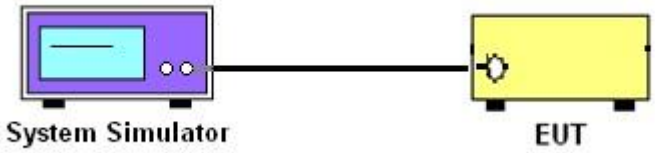
3 Conducted Test Items

3.1 Measuring Instruments

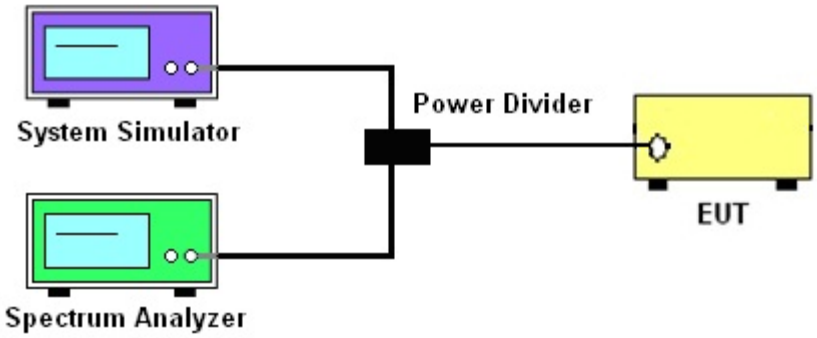
See list of measuring instruments of this test report.

3.2 Test Setup

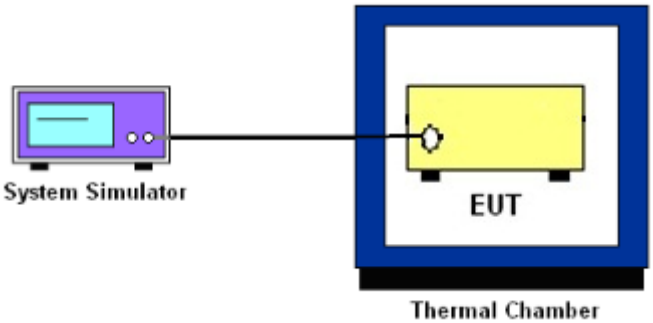
3.2.1 Conducted Output Power



3.2.2 Peak-to-Average Ratio, Occupied Bandwidth ,Conducted 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 and ERP/EIRP

3.4.1 Description of the Conducted Output Power Measurement and ERP/EIRP Measurement

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

The ERP of mobile transmitters must not exceed 3 Watts for 5G NR n71.

The EIRP of mobile transmitters must not exceed 2 Watts for 5G NR n41.

The EIRP of mobile transmitters must not exceed 1 Watts for 5G NR n66, n77, n78.

According to KDB 412172 D01 Power Approach,

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

3.4.2 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

For Band n71:

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.

For Band n41/n66/n77:

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 Occupied Bandwidth

3.6.1 Description of Occupied Bandwidth Measurement

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

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

3.6.2 Test Procedures

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.

3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

27.53 (h)

For operations in the 1710 – 1755 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 1 MHz bandwidth. However, in the 1MHz 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.

27.53 (g)

For operations in the 600MHz band and 698 -746 MHz band, the FCC limit is 43 + 10log10(P[Watts]) dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

27.53(m)(4)

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

27.53(l)(2)

For mobile operations in the 3700-3980 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, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 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.

3.7.2 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 in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. Checked that all the results comply with the emission limit line.
   Example:
   The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
   = P(W)- [43 + 10log(P)] (dB)
   = [30 + 10log(P)] (dBm) – [43 + 10log(P)] (dB) = -13dBm.
9. For 5G NR n41, the other 40 dB, and 55 dB have additionally applied same calculation above.

3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

For 5G NR n41:

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 55 + 10 log (P) dB.

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

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 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. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) – [43 + 10log(P)] (dB)
    = -13dBm.
11. For 5G NR n41
    The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [55+ 10log(P)] (dB)
    = [30+ 10log(P)] (dBm) – [55+ 10log(P)] (dB)
    = -25dBm.

3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

3.9.2 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.

3.9.3 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.

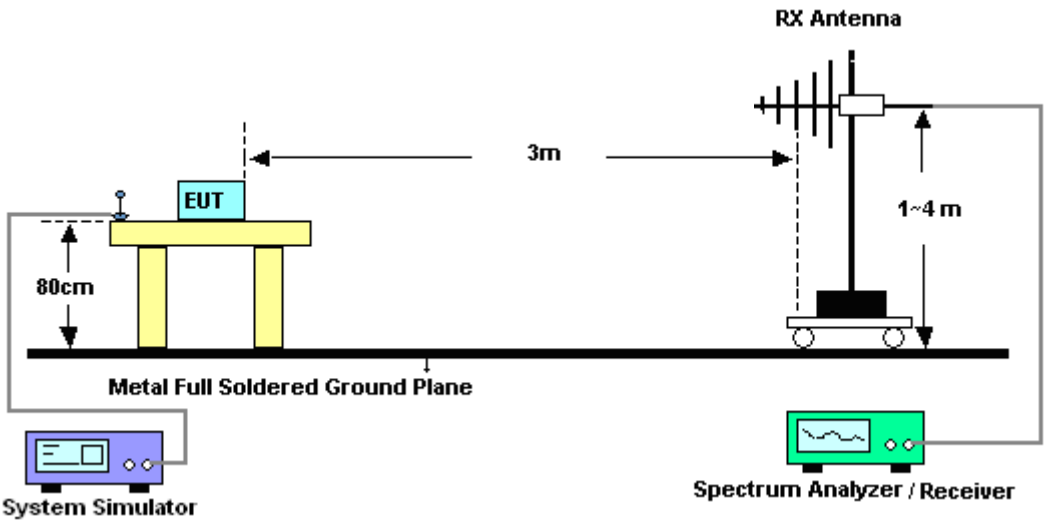
4 Radiated Test Items

4.1 Measuring Instruments

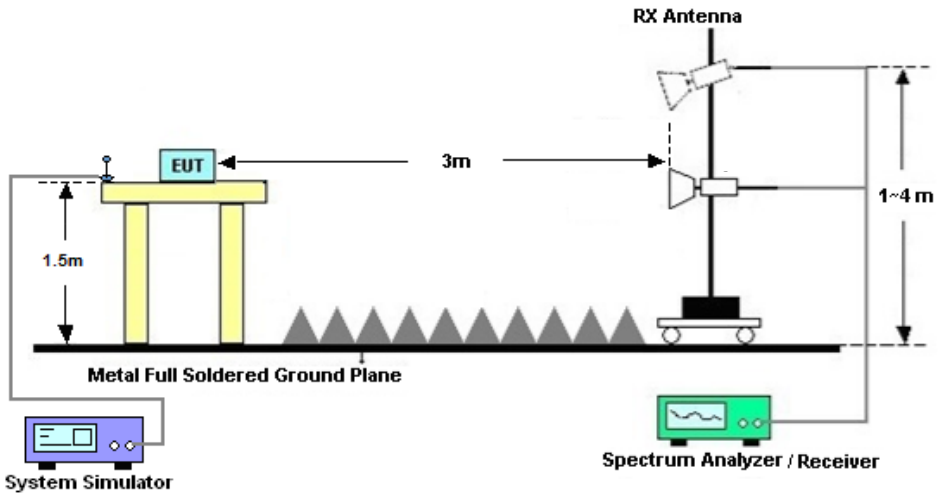
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test from 30MHz to 1GHz



4.2.2 For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.

4.4 Radiated Spurious Emission

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 must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

For 5G NR n41

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 55 + 10 log (P) dB.

The spectrum is scanned from 30 MHz up to a frequency including its 10^{th} 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.
10. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP – 2.15
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
    The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) – [43 + 10log(P)] (dB)
    = -13dBm.
13. For 5G NR n41:
    The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)

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	Nov. 02, 2020	Feb. 11. 2021~ Mar. 18, 2021	Nov. 01, 2021	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 03, 2020	Feb. 11. 2021~ Mar. 18, 2021	Jul. 02, 2021	Conducted (TH01-KS)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 21, 2020	Feb. 28, 2021	Jul. 20, 2021	Radiation (03CH04-SZ)
Bilog Antenna	TeseQ	CBL6111D	41909	30MHz~1GHz	Nov. 07, 2020	Feb. 28, 2021	Nov. 06, 2021	Radiation (03CH04-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1474	1GHz~18GHz	May 23, 2020	Feb. 28, 2021	May 22, 2021	Radiation (03CH04-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	9170#679	15GHz~40GHz	Jul. 26, 2020	Feb. 28, 2021	Jul. 25, 2021	Radiation (03CH04-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 16, 2020	Feb. 28, 2021	Oct. 15, 2021	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	AMF-7D-00 101800-30-10P-R	1943528	1GHz~18GHz	Oct. 17, 2020	Feb. 28, 2021	Oct. 16, 2021	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 21, 2020	Feb. 28, 2021	Jul. 20, 2021	Radiation (03CH04-SZ)
Amplifier	Agilent Technologies	83017A	MY53270156	500MHz~26.5GHz	Oct. 17, 2020	Feb. 28, 2021	Oct. 16, 2021	Radiation (03CH04-SZ)
AC Power Source	Chroma	61601	N/A	N/A	NCR	Feb. 28, 2021	NCR	Radiation (03CH04-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Feb. 28, 2021	NCR	Radiation (03CH04-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Feb. 28, 2021	NCR	Radiation (03CH04-SZ)

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))	**2.8dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.1dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.9dB**

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power and EIRP)

5G NR n41 SA

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP	EIRP	EIRP
Channel				509202	518598	528000		L	M	H
Frequency (MHz)				2546.01	2592.99	2640				
100	PI/2 BPSK	1	1	26.78	26.87	26.97	0.59	0.5458	0.5572	0.5702
100	QPSK	1	1	26.83	26.89	26.94	0.59	0.5521	0.5598	0.5662
100	QPSK	1	137	26.70	26.85	26.94	0.59	0.5358	0.5546	0.5662
100	QPSK	1	271	26.43	26.23	26.51	0.59	0.5035	0.4808	0.5129
100	QPSK	135	0	25.31	25.32	25.53	0.59	0.3890	0.3899	0.4093
100	QPSK	135	69	26.71	26.84	26.88	0.59	0.5370	0.5534	0.5585
100	QPSK	135	138	25.32	25.21	25.43	0.59	0.3899	0.3802	0.3999
100	QPSK	270	0	25.49	25.12	25.30	0.59	0.4055	0.3724	0.3882
100	16QAM	1	1	25.13	25.10	25.23	0.59	0.3733	0.3707	0.3819
100	64QAM	1	1	23.54	23.49	23.53	0.59	0.2588	0.2559	0.2582
100	256QAM	1	1	21.78	21.67	21.79	0.59	0.1726	0.1683	0.1730
Channel				508200	518598	528996	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2541	2592.99	2644.98				
90	QPSK	1	1	26.70	26.85	26.90	0.59	0.5358	0.5546	0.5610
90	16QAM	1	1	25.10	25.03	25.12	0.59	0.3707	0.3648	0.3724
Channel				507204	518598	529998	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2536.02	2592.99	2649.99				
80	QPSK	1	1	26.73	26.82	26.87	0.59	0.5395	0.5508	0.5572
80	16QAM	1	1	25.11	25.01	25.13	0.59	0.3715	0.3631	0.3733
Channel				505200	518598	531996	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2526	2592.99	2659.98				
60	QPSK	1	1	26.70	26.84	26.93	0.59	0.5358	0.5534	0.5649
60	16QAM	1	1	25.06	25.03	25.15	0.59	0.3673	0.3648	0.3750
Channel				504204	518598	532998	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2521.02	2592.99	2664.99				
50	QPSK	1	1	26.74	26.80	26.94	0.59	0.5408	0.5483	0.5662
50	16QAM	1	1	25.01	25.00	25.14	0.59	0.3631	0.3622	0.3741
Channel				503202	518598	534000	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2516.01	2592.99	2670				
40	QPSK	1	1	26.71	26.79	26.91	0.59	0.5370	0.5470	0.5623
40	16QAM	1	1	25.00	25.01	25.11	0.59	0.3622	0.3631	0.3715
Channel				502200	518598	534996	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2511	2592.99	2674.98				
30	QPSK	1	1	26.70	26.83	26.90	0.59	0.5358	0.5521	0.5610

30	16QAM	1	1	25.06	24.99	25.10	0.59	0.3673	0.3614	0.3707
Channel				501204	518598	535998	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2506.02	2592.99	2679.99				
20	QPSK	1	1	26.67	26.82	26.87	0.59	0.5321	0.5508	0.5572
20	16QAM	1	1	25.04	25.06	25.16	0.59	0.3656	0.3673	0.3758

5G NR n66 SA

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP	EIRP	EIRP
Channel				346000	349000	352000		L	M	H
Frequency (MHz)				1730	1745	1760				
40	PI/2 BPSK	1	1	22.89	23.10	22.95	-1.32	0.1435	0.1507	0.1455
40	QPSK	1	1	22.94	23.13	22.99	-1.32	0.1452	0.1517	0.1469
40	QPSK	1	108	22.78	22.95	22.73	-1.32	0.1400	0.1455	0.1384
40	QPSK	1	214	22.85	23.00	22.83	-1.32	0.1422	0.1472	0.1416
40	QPSK	108	0	21.92	21.98	22.05	-1.32	0.1148	0.1164	0.1183
40	QPSK	108	54	22.84	22.95	22.92	-1.32	0.1419	0.1455	0.1445
40	QPSK	108	108	22.05	22.25	22.21	-1.32	0.1183	0.1239	0.1227
40	QPSK	216	0	21.98	22.11	22.19	-1.32	0.1164	0.1199	0.1222
40	16QAM	1	1	22.48	22.53	22.56	-1.32	0.1306	0.1321	0.1330
40	64QAM	1	1	20.25	20.09	20.30	-1.32	0.0782	0.0753	0.0791
40	256QAM	1	1	18.75	18.64	18.72	-1.32	0.0553	0.0540	0.0550
Channel				345000	349000	353000	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1725	1745	1765				
30	QPSK	1	1	22.84	22.74	22.93	-1.32	0.1419	0.1387	0.1449
30	16QAM	1	1	22.31	22.13	22.47	-1.32	0.1256	0.1205	0.1303
Channel				344000	349000	354000	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1720	1745	1770				
20	QPSK	1	1	22.89	22.82	22.91	-1.32	0.1435	0.1413	0.1442
20	16QAM	1	1	22.31	22.48	22.10	-1.32	0.1256	0.1306	0.1197
Channel				343500	349000	354500	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1717.5	1745	1772.5				
15	QPSK	1	1	22.83	22.73	22.79	-1.32	0.1416	0.1384	0.1403
15	16QAM	1	1	21.78	22.21	22.30	-1.32	0.1112	0.1227	0.1253
Channel				343000	349000	355000	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1715	1745	1775				
10	QPSK	1	1	22.89	22.84	22.86	-1.32	0.1435	0.1419	0.1426
10	16QAM	1	1	22.14	22.37	22.49	-1.32	0.1208	0.1274	0.1309
Channel				342500	349000	355500	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1712.5	1745	1777.5				
5	QPSK	1	1	22.91	22.85	22.92	-1.32	0.1442	0.1422	0.1445
5	16QAM	1	1	22.25	22.38	22.15	-1.32	0.1239	0.1276	0.1211

5G NR n71 SA

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	ERP	ERP	ERP
Channel				134600	136100	137600		L	M	H
Frequency (MHz)				673	680.5	688				
20	PI/2 BPSK	1	1	23.00	22.98	23.12	-4.10	0.0473	0.0471	0.0486
20	QPSK	1	1	23.03	23.06	23.26	-4.10	0.0476	0.0480	0.0502
20	QPSK	1	53	22.90	22.97	22.89	-4.10	0.0462	0.0470	0.0461
20	QPSK	1	104	23.02	22.86	22.68	-4.10	0.0475	0.0458	0.0440
20	QPSK	50	0	22.10	22.21	22.13	-4.10	0.0385	0.0394	0.0387
20	QPSK	50	28	23.07	23.14	23.10	-4.10	0.0481	0.0489	0.0484
20	QPSK	50	56	22.18	22.14	21.96	-4.10	0.0392	0.0388	0.0372
20	QPSK	100	0	22.14	22.16	22.10	-4.10	0.0388	0.0390	0.0385
20	16QAM	1	1	22.50	22.51	22.47	-4.10	0.0422	0.0423	0.0419
20	64QAM	1	1	20.53	20.35	20.55	-4.10	0.0268	0.0257	0.0269
20	256QAM	1	1	18.37	18.11	18.44	-4.10	0.0163	0.0153	0.0166
Channel				134100	136100	138100	Gain	ERP	ERP	ERP
Frequency (MHz)				670.5	680.5	690.5				
15	QPSK	1	1	22.98	22.92	22.99	-4.10	0.0471	0.0465	0.0472
15	16QAM	1	1	22.38	22.36	22.39	-4.10	0.0410	0.0408	0.0411
Channel				133600	136100	138600	Gain	ERP	ERP	ERP
Frequency (MHz)				668	680.5	693				
10	QPSK	1	1	22.98	22.97	22.95	-4.10	0.0471	0.0470	0.0468
10	16QAM	1	1	22.17	22.00	22.08	-4.10	0.0391	0.0376	0.0383
Channel				133100	136100	139100	Gain	ERP	ERP	ERP
Frequency (MHz)				665.5	680.5	695.5				
5	QPSK	1	1	22.84	22.88	22.96	-4.10	0.0456	0.0460	0.0469
5	16QAM	1	1	21.97	22.07	22.11	-4.10	0.0373	0.0382	0.0385

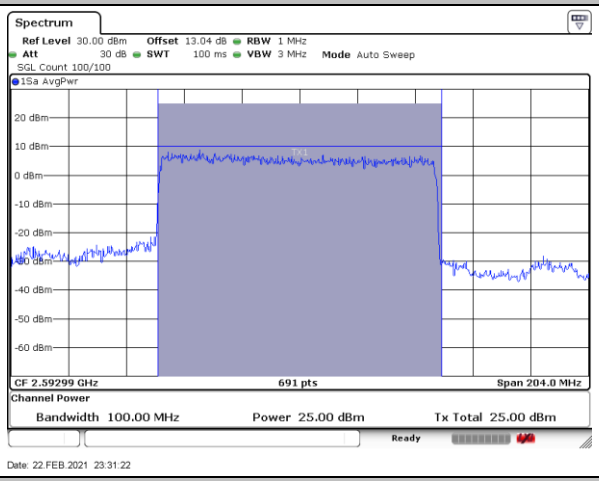
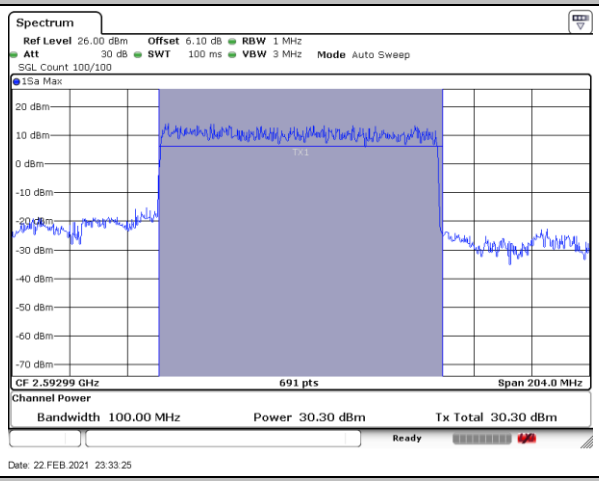
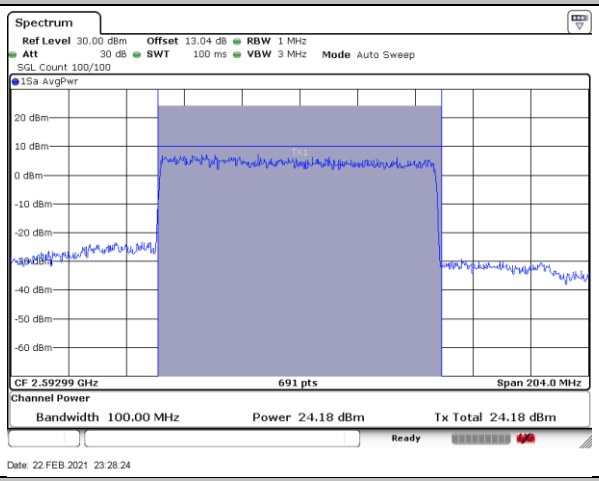
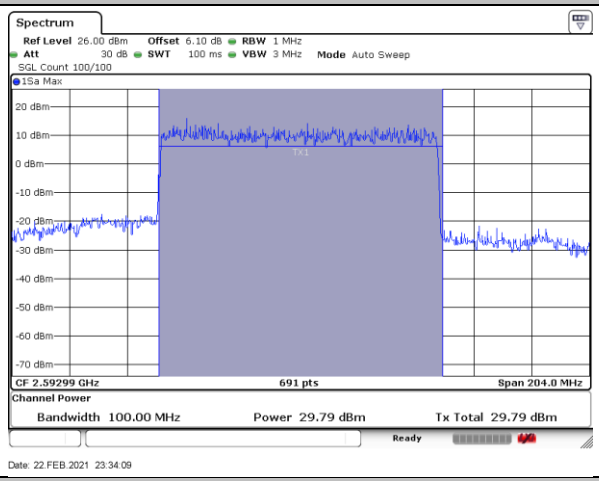
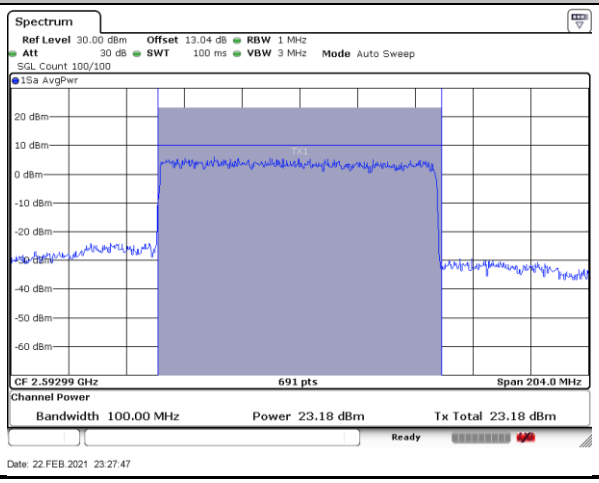
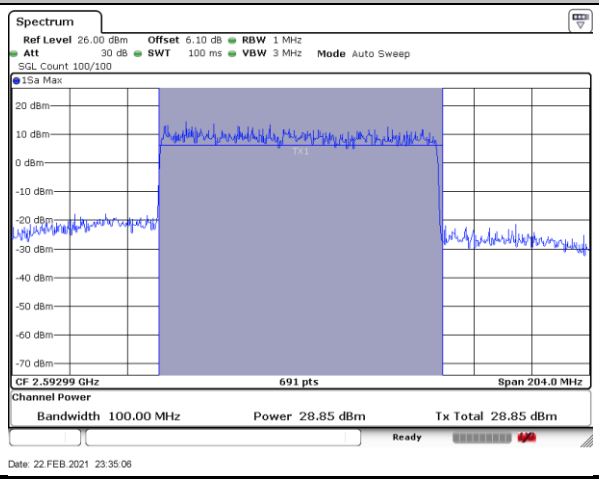
5G NR n77 SA

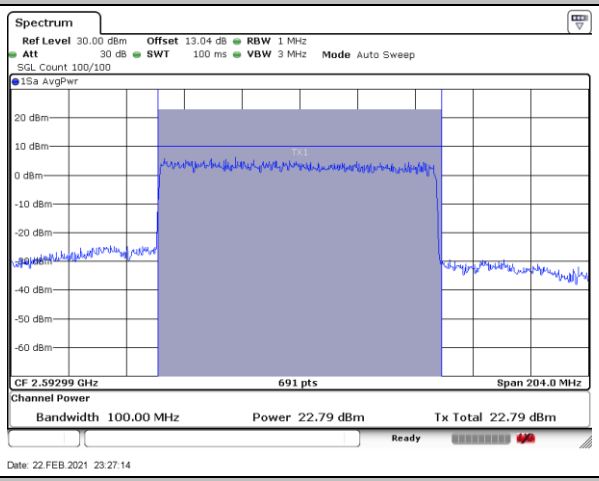
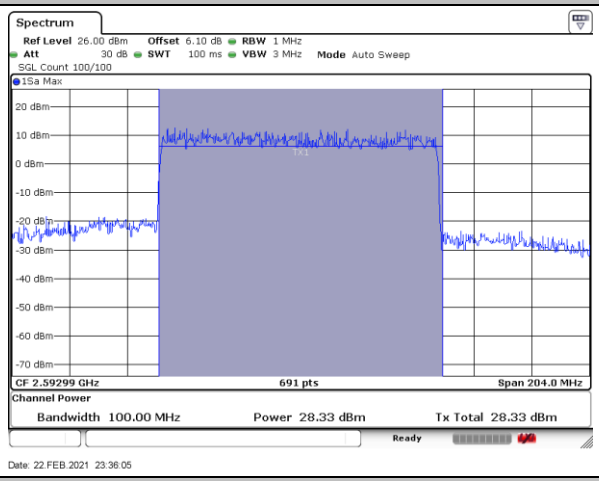
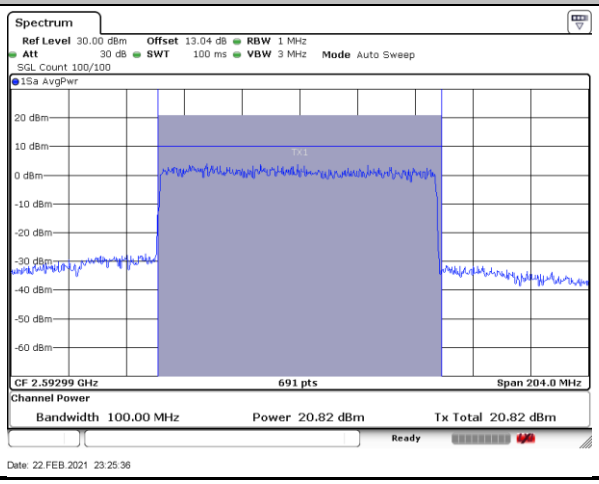
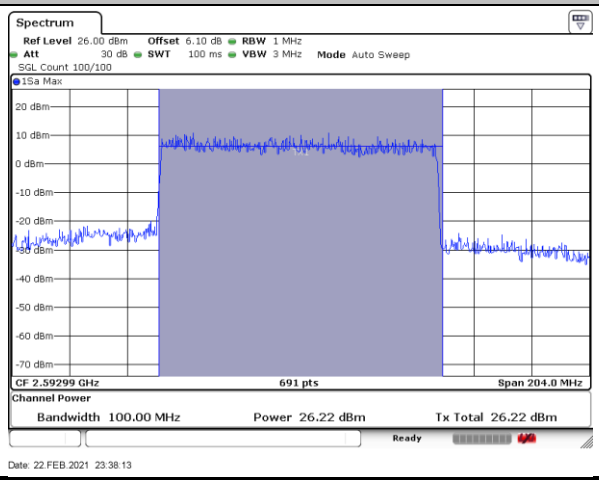
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP	EIRP	EIRP
Channel				650000	656000	662000		L	M	H
Frequency (MHz)				3750	3840	3930				
100	PI/2 BPSK	1	1	23.63	23.49	23.35	-5.5	0.0650	0.0630	0.0610
100	QPSK	1	1	23.75	23.59	23.39	-5.5	0.0668	0.0644	0.0615
100	QPSK	1	137	23.43	23.21	22.98	-5.5	0.0621	0.0590	0.0560
100	QPSK	1	271	23.49	23.24	22.77	-5.5	0.0630	0.0594	0.0533
100	QPSK	135	0	22.63	22.49	22.12	-5.5	0.0516	0.0500	0.0459
100	QPSK	135	69	23.44	23.31	22.99	-5.5	0.0622	0.0604	0.0561
100	QPSK	135	138	22.59	22.42	22.03	-5.5	0.0512	0.0492	0.0450
100	QPSK	270	0	22.48	22.37	22.06	-5.5	0.0499	0.0486	0.0453
100	16QAM	1	1	22.56	22.31	21.87	-5.5	0.0508	0.0480	0.0434
100	64QAM	1	1	20.98	20.72	20.53	-5.5	0.0353	0.0333	0.0318
100	256QAM	1	1	19.06	18.83	18.53	-5.5	0.0227	0.0215	0.0201
Channel				649334	656000	662668	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				3740.01	3840	3940.02				
80	QPSK	1	1	23.34	23.06	23.06	-5.5	0.0608	0.0570	0.0570
80	16QAM	1	1	21.99	21.79	21.39	-5.5	0.0446	0.0426	0.0388
Channel				648668	656000	663334	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				3730.02	3840	3950.01				
60	QPSK	1	1	23.43	23.32	23.12	-5.5	0.0621	0.0605	0.0578
60	16QAM	1	1	21.87	22.16	21.67	-5.5	0.0434	0.0463	0.0414
Channel				648000	656000	664000	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				3720	3840	3960				
40	QPSK	1	1	23.34	23.31	23.16	-5.5	0.0608	0.0604	0.0583
40	16QAM	1	1	22.13	22.21	21.74	-5.5	0.0460	0.0469	0.0421
Channel				647668	656000	664334	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				3715.02	3840	3965.01				
30	QPSK	1	1	23.26	23.28	23.13	-5.5	0.0597	0.0600	0.0579
30	16QAM	1	1	21.98	21.89	21.77	-5.5	0.0445	0.0436	0.0424
Channel				647334	656000	664668	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				3710.01	3840	3970.02				
20	QPSK	1	1	23.26	23.39	23.12	-5.5	0.0597	0.0615	0.0578
20	16QAM	1	1	21.97	22.03	21.68	-5.5	0.0444	0.0450	0.0415

5G NR n41

Peak-to-Average Ratio

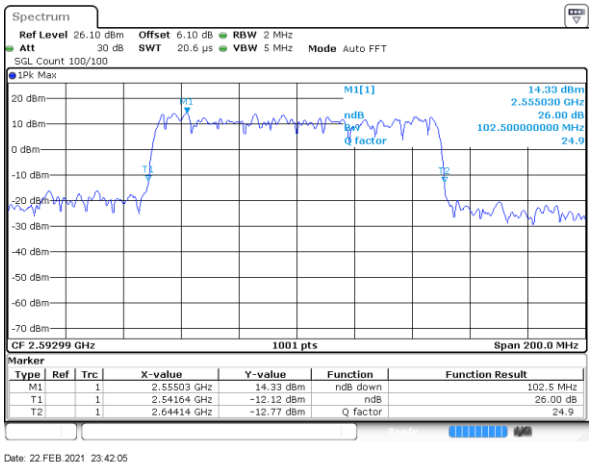
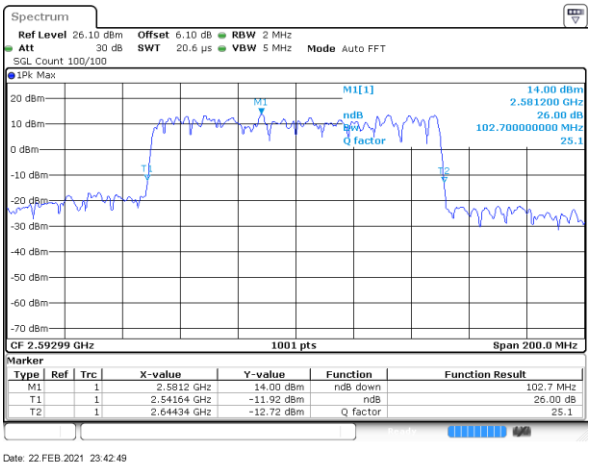
Mode	FR1 n41 / DFT-S OFDM				
Mod.	100MHz				Limit: 13dB
RB Size	BPSK	QPSK	16QAM	64QAM	Result
Middle CH	5.30	5.61	5.67	5.54	PASS
RB Size	256QAM				
Middle CH	5.40				

BPSK-A	BPSK-P
	
QPSK-A	QPSK-P
	
16QAM-A	16QAM-P
	

64QAM-A	64QAM-P
	
256QAM-A	**256QAM-P**
	

26dB Bandwidth

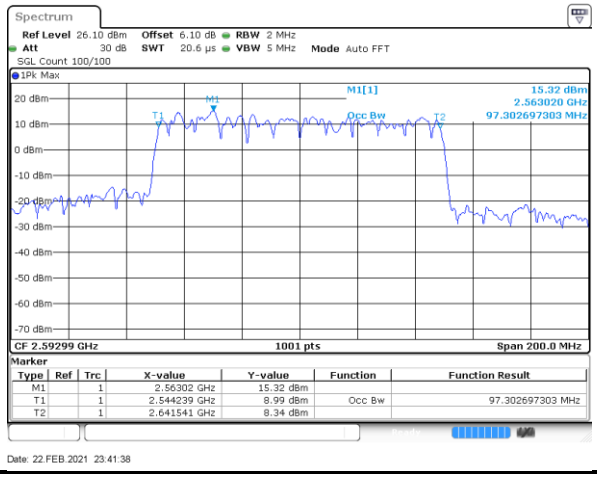
Mode	FR1 n41 : 26dB BW(MHz) / DFT-S OFDM	
BW	CP	
Mod.	QPSK	16QAM
Middle CH	102.50	102.70

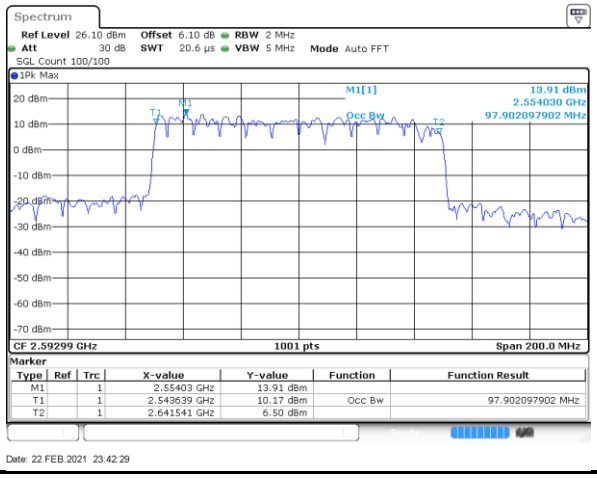
CP	
QPSK	16QAM
	

Occupied Bandwidth

Mode	FR1 n41 : OB BW(MHz) / DFT-S OFDM	
BW	CP	
Mod.	QPSK	16QAM
Middle CH	97.30	97.90

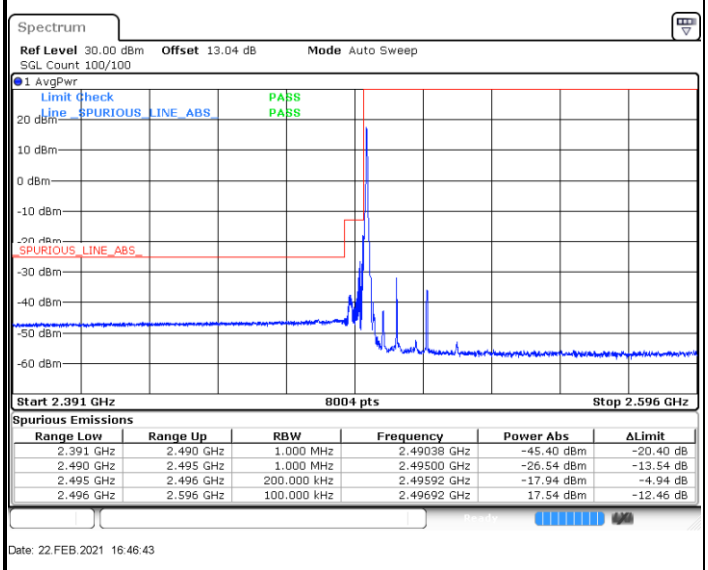
CP	
QPSK	16QAM

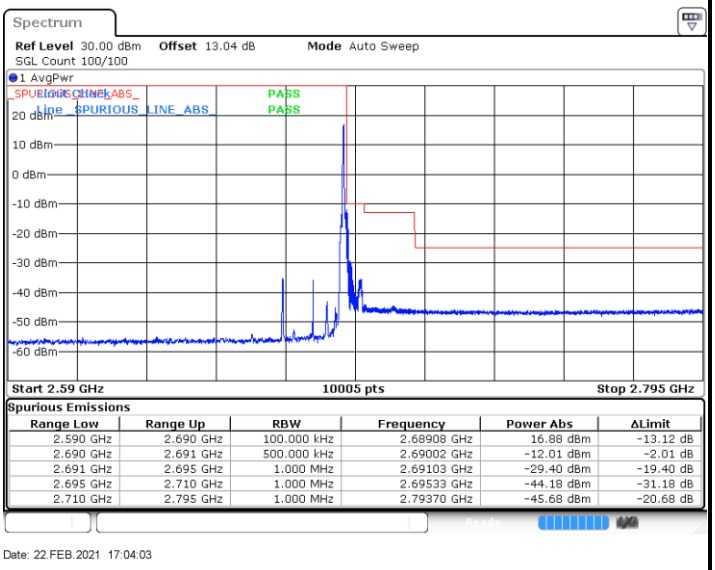




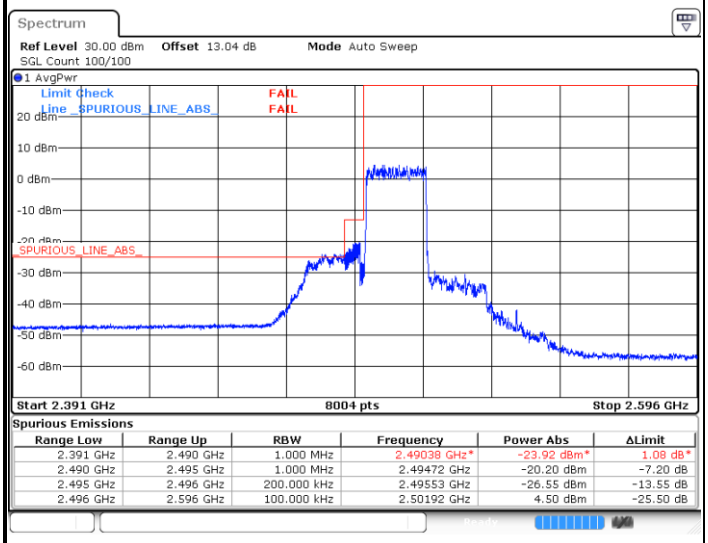
Conducted Band Edge

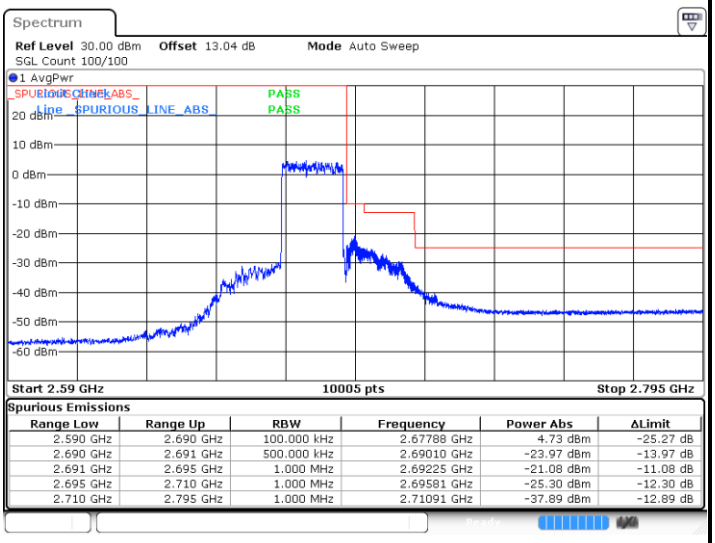
FR1 n41 / 20MHz / DFT-S OFDM / PI/2 BPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**



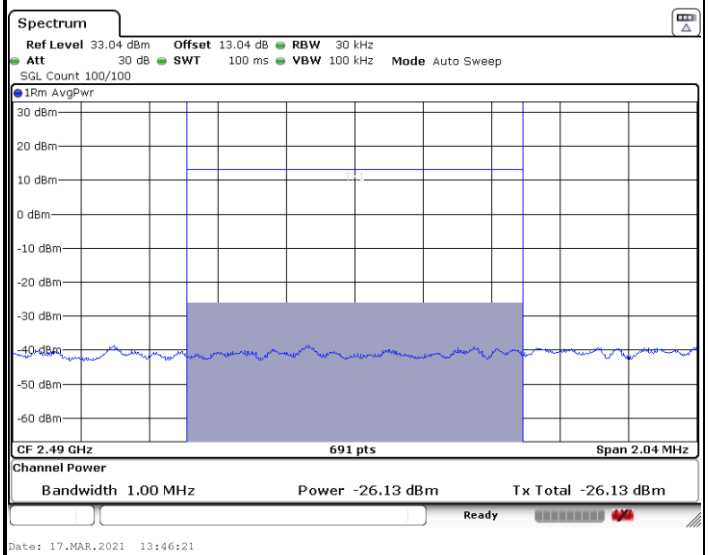


FR1 n41 / 20MHz / DFT-S OFDM / PI/2 BPSK	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**

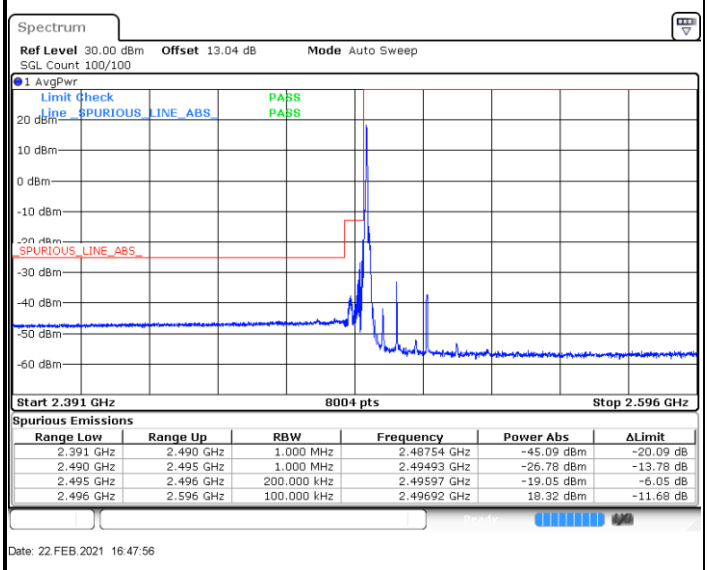


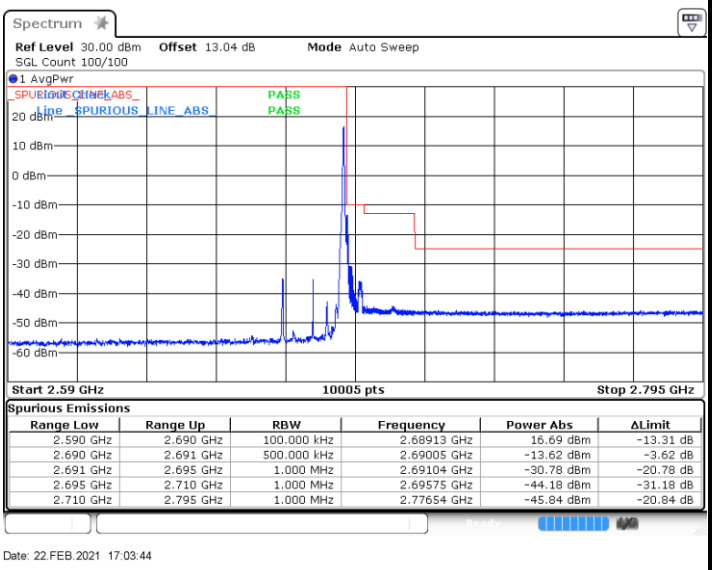


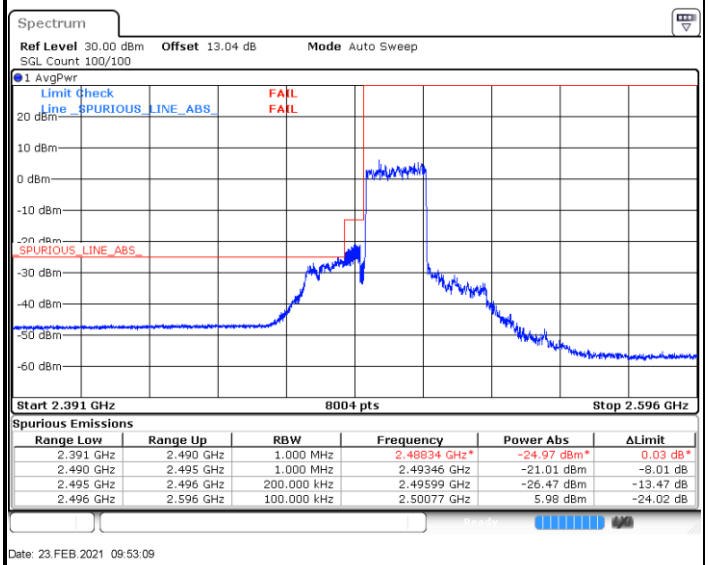
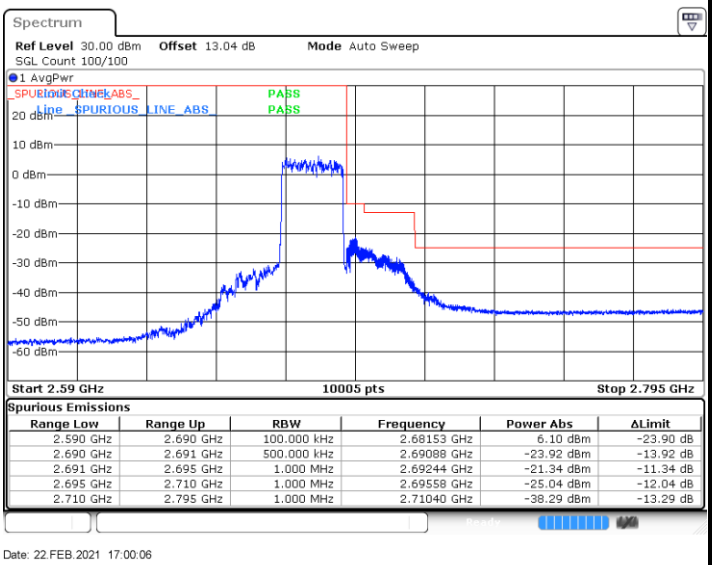
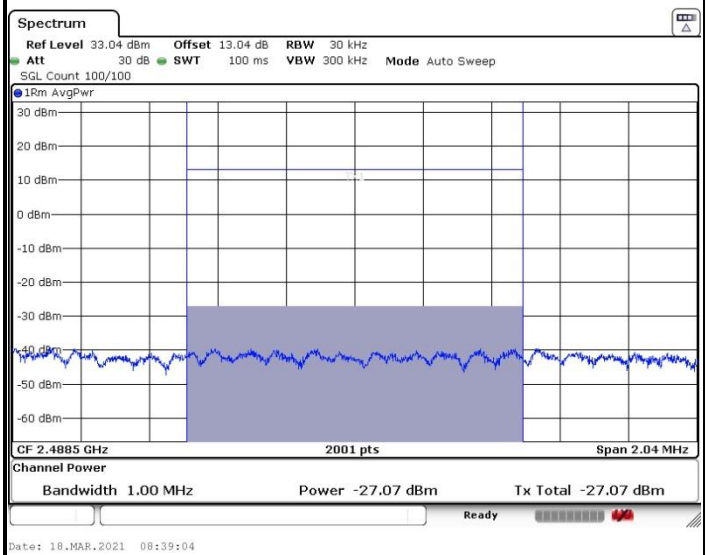
Channel Power < -25dBm Pass	



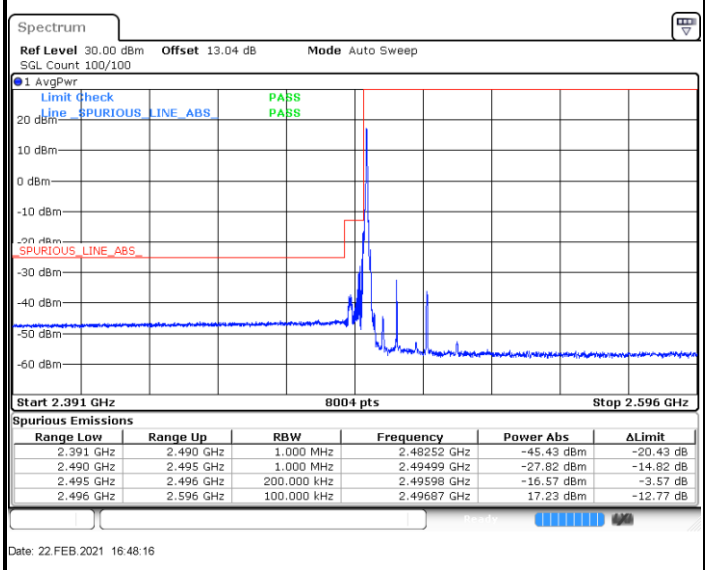
FR1 n41 / 20MHz / DFT-S OFDM / QPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**

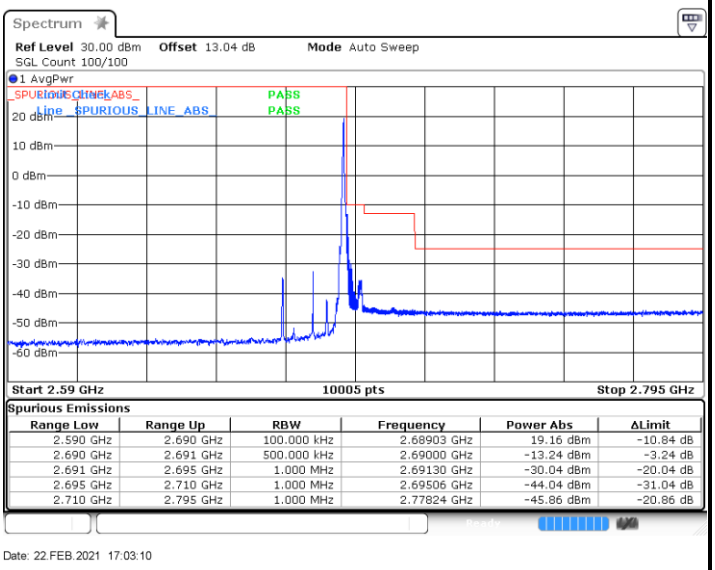


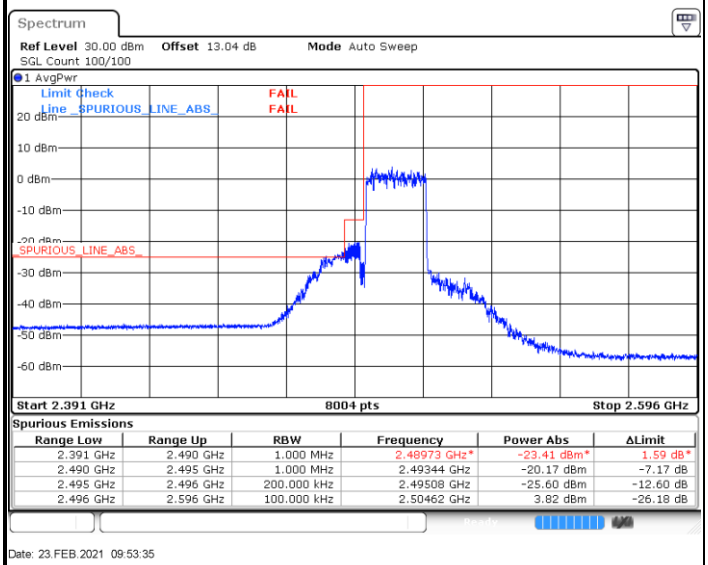
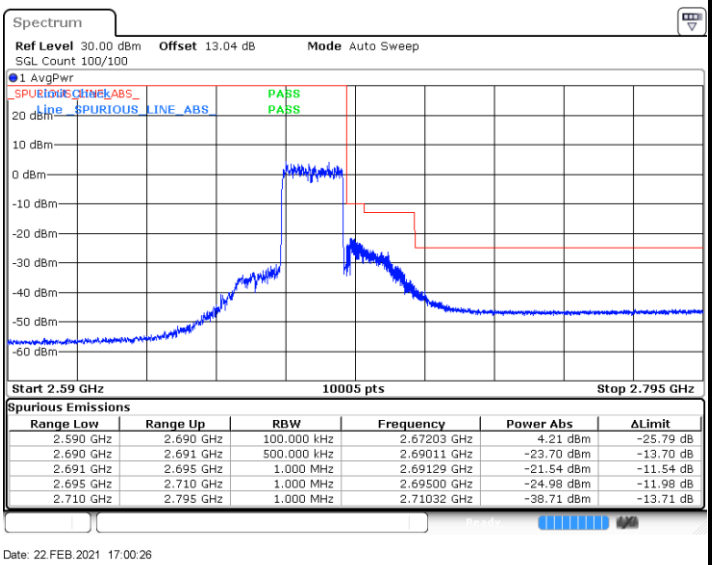
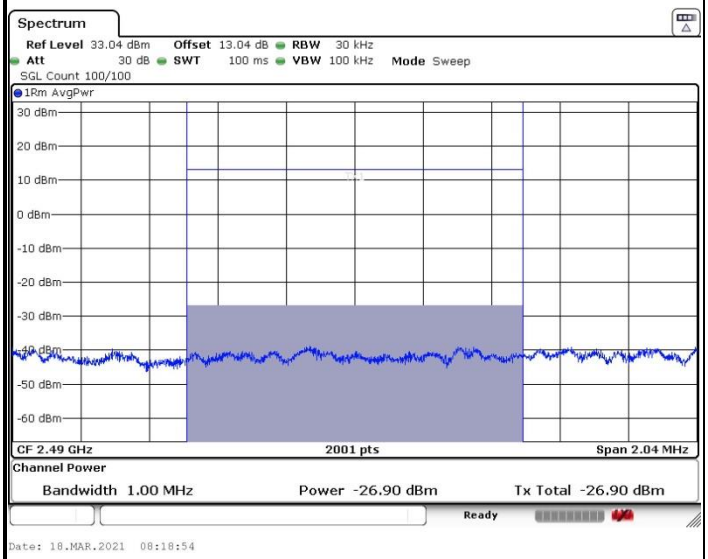


FR1 n41 / 20MHz / DFT-S OFDM / QPSK	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	
Channel Power < -25dBm Pass	
	

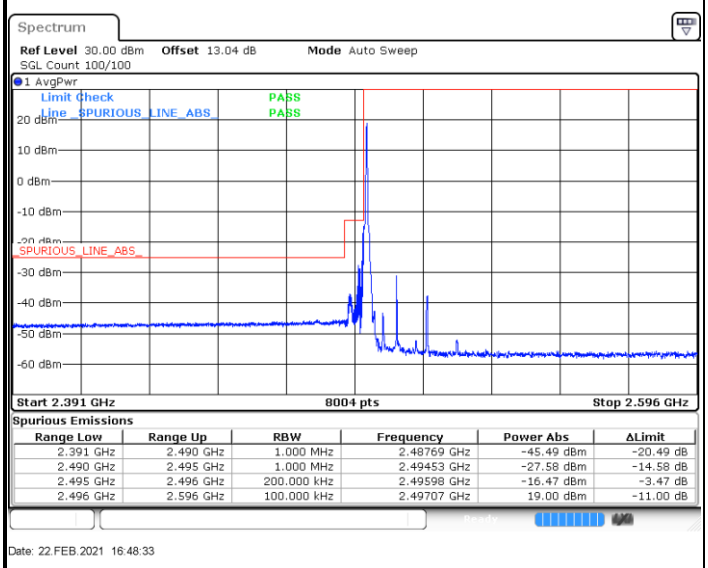
FR1 n41 / 20MHz / DFT-S OFDM / 16Q	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**

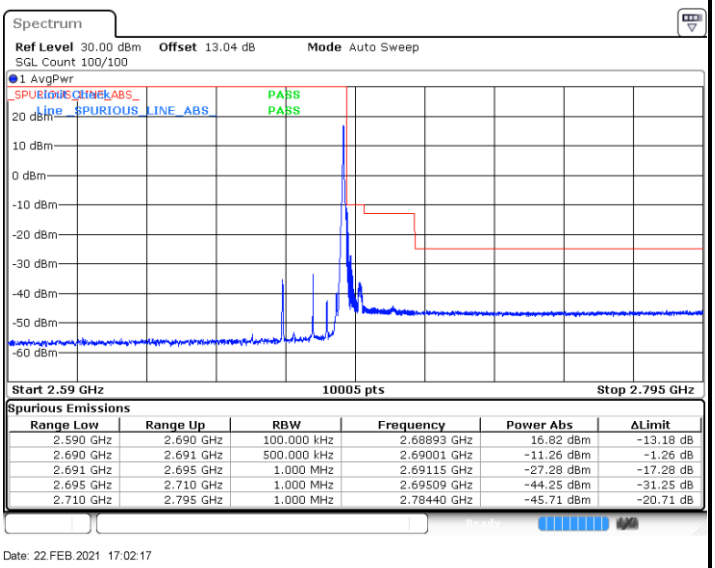


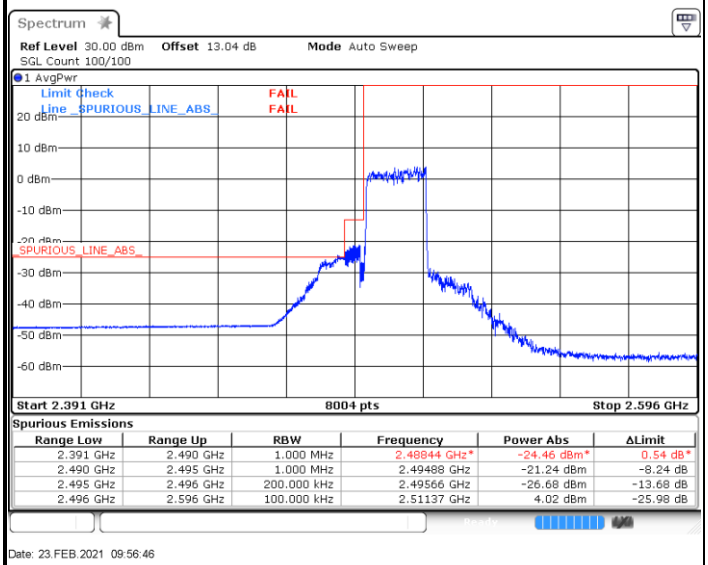
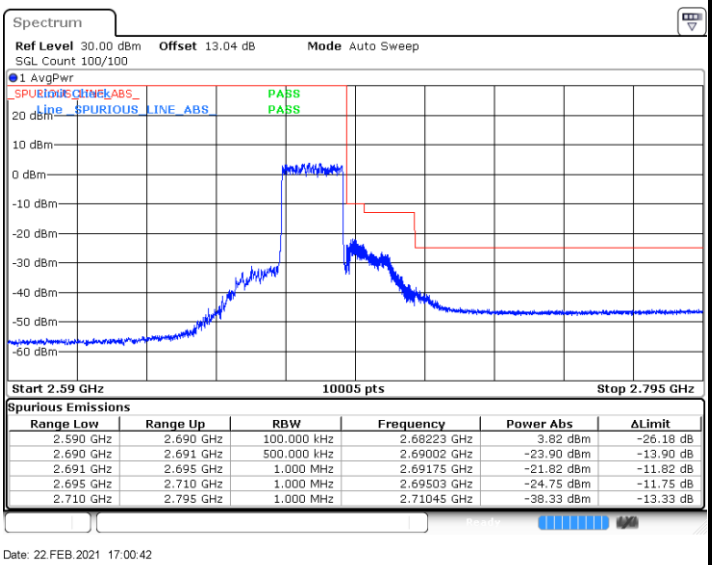
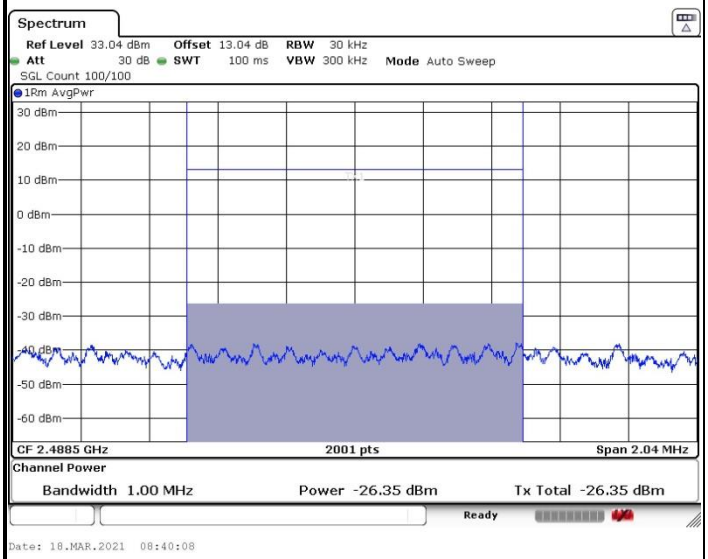


FR1 n41 / 20MHz / DFT-S OFDM / 16Q	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	
Channel Power < -25dBm Pass	
	

FR1 n41 / 20MHz / DFT-S OFDM / 64Q	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBMax**

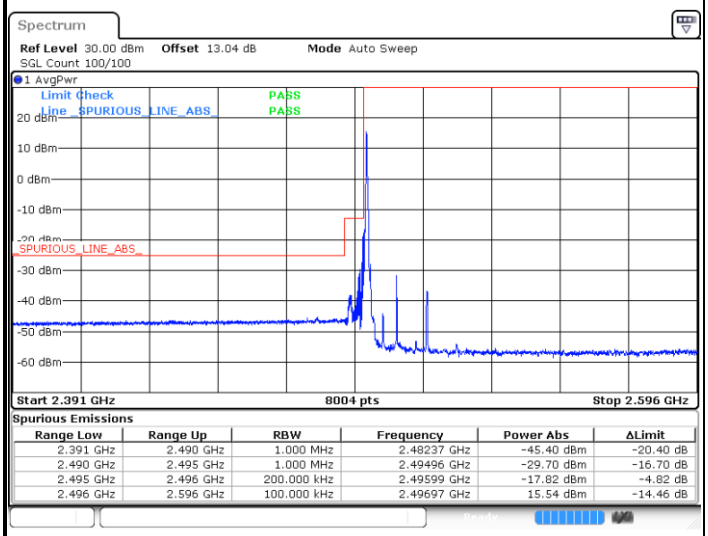




FR1 n41 / 20MHz / DFT-S OFDM / 64Q	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	
Channel Power < -25dBm Pass	
	

FR1 n41 / 20MHz / DFT-S OFDM / 256Q

Lowest Band Edge / 1RB0

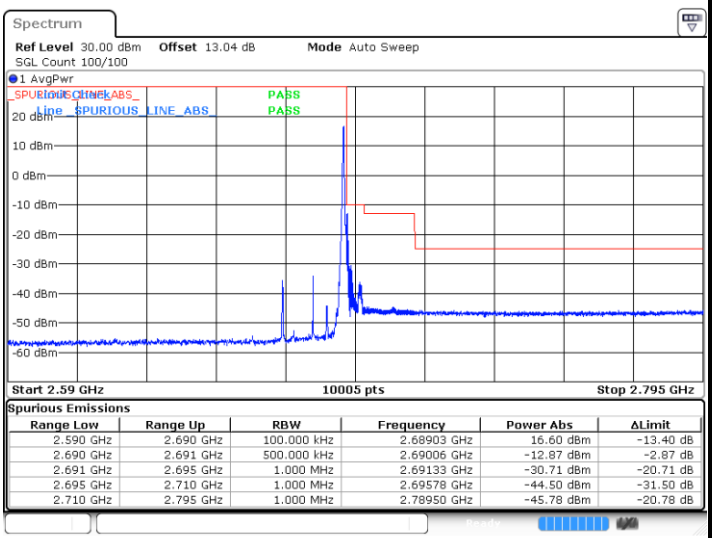


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.48237 GHz	-45.40 dBm	-20.40 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49496 GHz	-29.70 dBm	-16.70 dB
2.495 GHz	2.496 GHz	200.000 kHz	2.49599 GHz	-17.82 dBm	-4.82 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.49697 GHz	15.54 dBm	-14.46 dB

Date: 22.FEB.2021 16:48:50

Highest Band Edge / 1RBMax

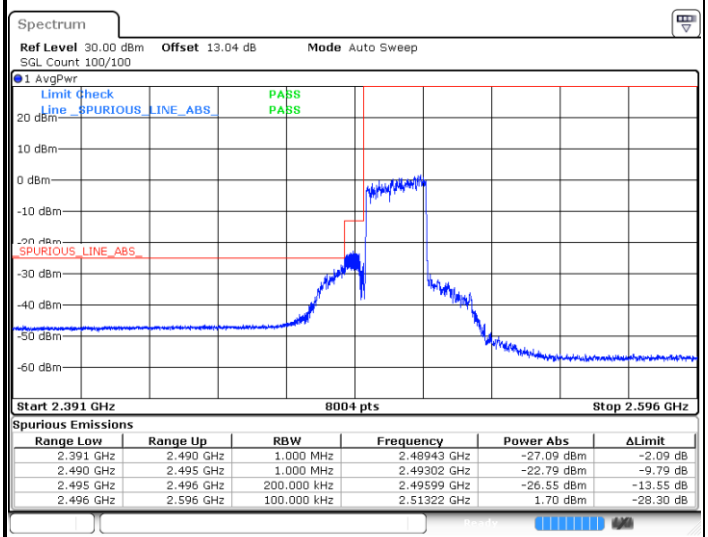


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.68903 GHz	16.60 dBm	-13.40 dB
2.690 GHz	2.691 GHz	500.000 kHz	2.69006 GHz	-12.87 dBm	-2.87 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69133 GHz	-30.71 dBm	-20.71 dB
2.695 GHz	2.710 GHz	1.000 MHz	2.69578 GHz	-44.50 dBm	-31.50 dB
2.710 GHz	2.795 GHz	1.000 MHz	2.78950 GHz	-45.78 dBm	-20.78 dB

Date: 22.FEB.2021 17:02:01

Lowest Band Edge / Full RB

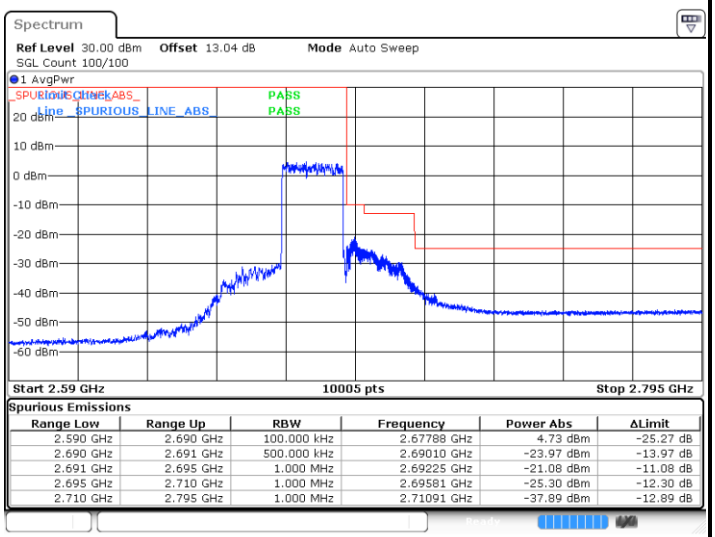


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.48943 GHz	-27.09 dBm	-2.09 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49302 GHz	-22.79 dBm	-9.79 dB
2.495 GHz	2.496 GHz	200.000 kHz	2.49599 GHz	-26.55 dBm	-13.55 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.51322 GHz	1.70 dBm	-28.30 dB

Date: 23.FEB.2021 09:54:21

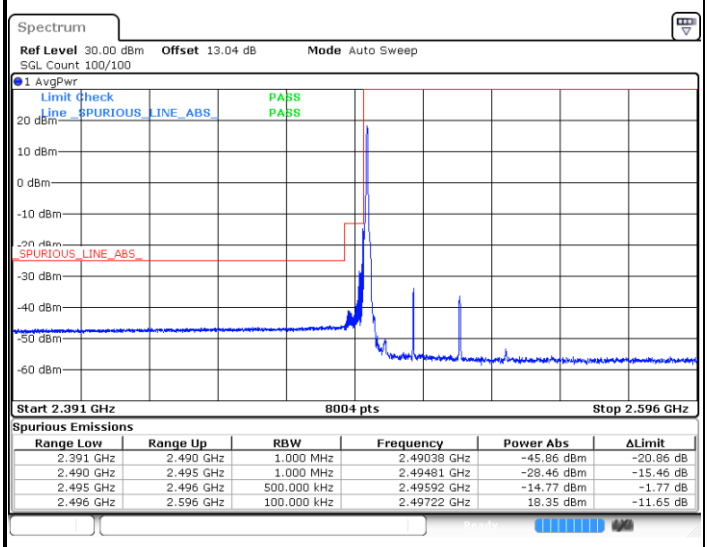
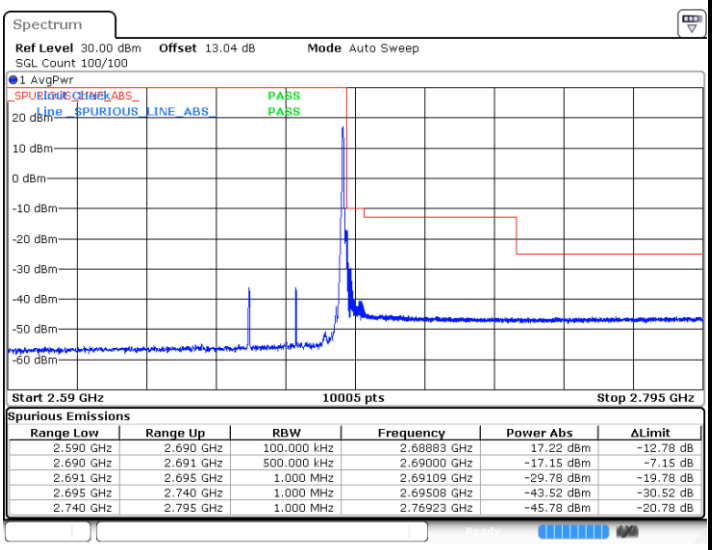
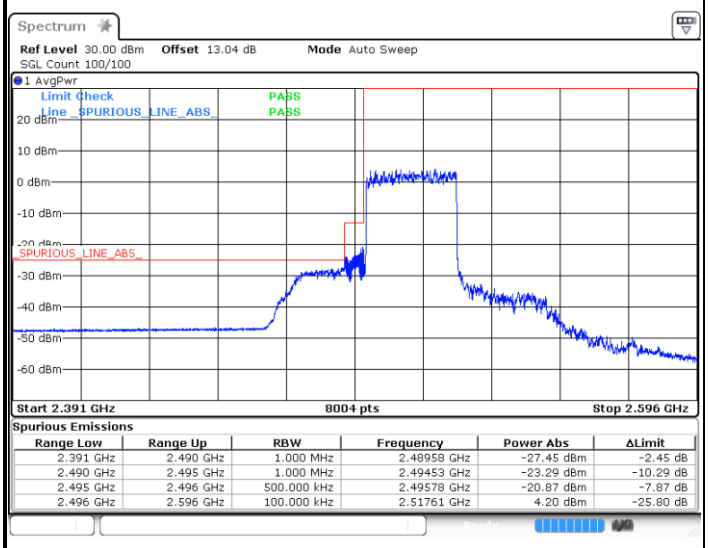
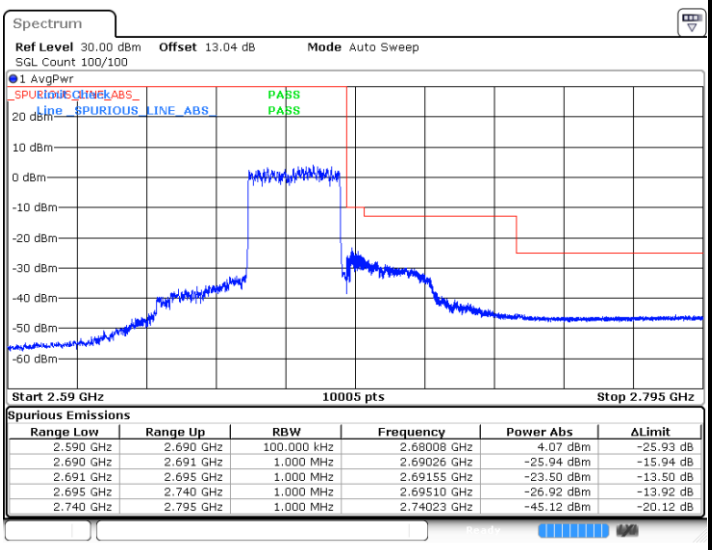
Highest Band Edge / Full RB



Spurious Emissions

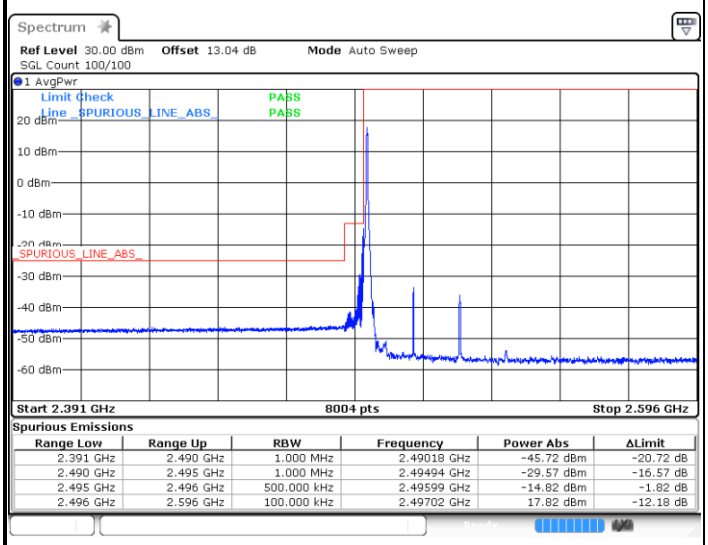
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.67788 GHz	4.73 dBm	-25.27 dB
2.690 GHz	2.691 GHz	500.000 kHz	2.69010 GHz	-23.97 dBm	-13.97 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69225 GHz	-21.08 dBm	-11.08 dB
2.695 GHz	2.710 GHz	1.000 MHz	2.69581 GHz	-25.30 dBm	-12.30 dB
2.710 GHz	2.795 GHz	1.000 MHz	2.71091 GHz	-37.89 dBm	-12.89 dB

Date: 22.FEB.2021 16:59:50

FR1 n41 / 30MHz / 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 n41 / 30MHz / DFT-S OFDM / QPSK

Lowest Band Edge / 1RB0

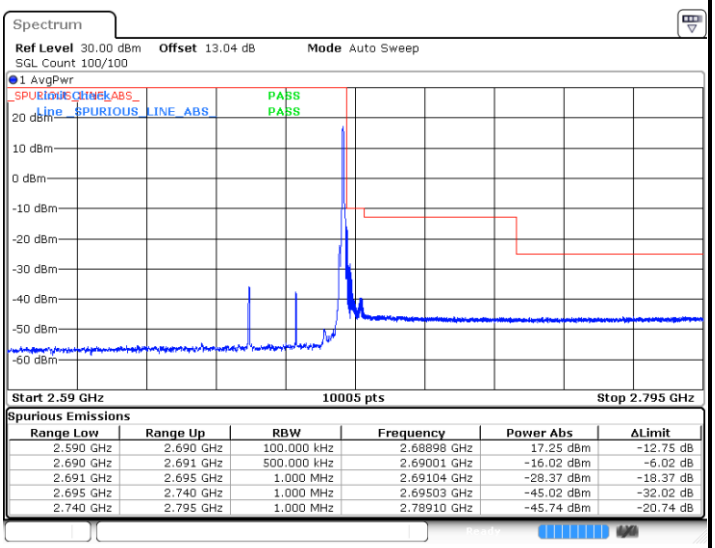


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.49018 GHz	-45.72 dBm	-20.72 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49494 GHz	-29.57 dBm	-16.57 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49599 GHz	-14.82 dBm	-1.82 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.49702 GHz	17.82 dBm	-12.18 dB

Date: 23.FEB.2021 11:28:03

Highest Band Edge / 1RBmax

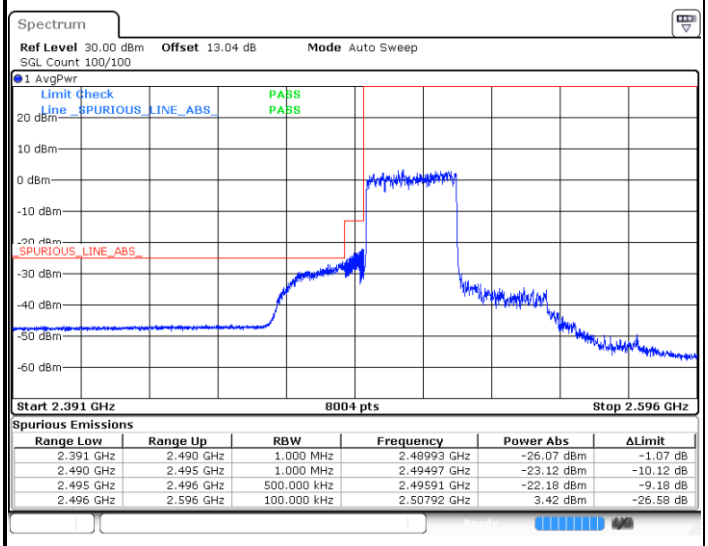


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.68898 GHz	17.25 dBm	-12.75 dB
2.690 GHz	2.691 GHz	500.000 kHz	2.69001 GHz	-16.02 dBm	-6.02 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69104 GHz	-28.37 dBm	-18.37 dB
2.695 GHz	2.740 GHz	1.000 MHz	2.69503 GHz	-45.02 dBm	-32.02 dB
2.740 GHz	2.795 GHz	1.000 MHz	2.78910 GHz	-45.74 dBm	-20.74 dB

Date: 23.FEB.2021 11:37:52

Lowest Band Edge / Full RB

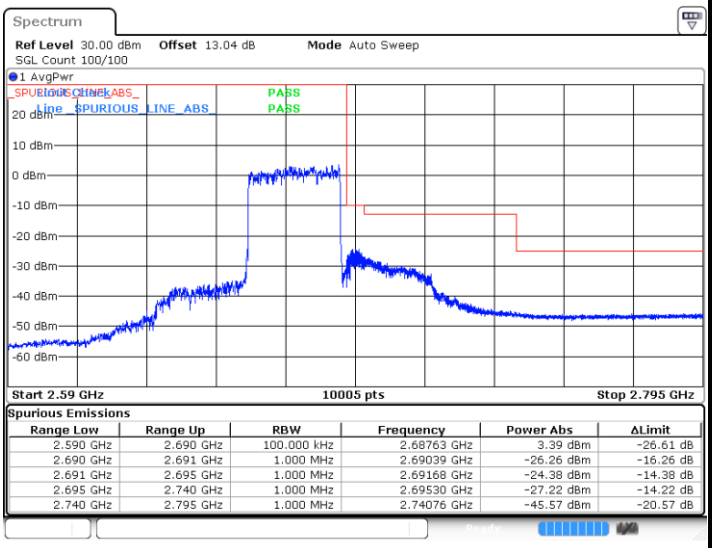


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.48993 GHz	-26.07 dBm	-1.07 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49497 GHz	-23.12 dBm	-10.12 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49591 GHz	-22.18 dBm	-9.18 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.50792 GHz	3.42 dBm	-26.58 dB

Date: 23.FEB.2021 11:32:05

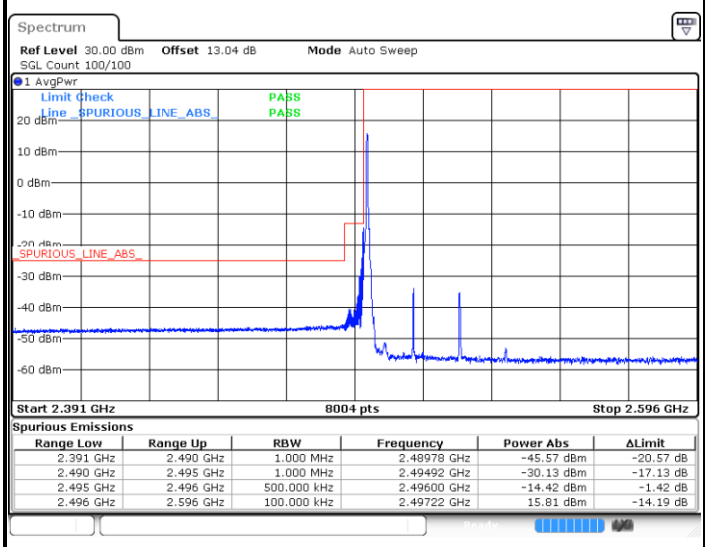
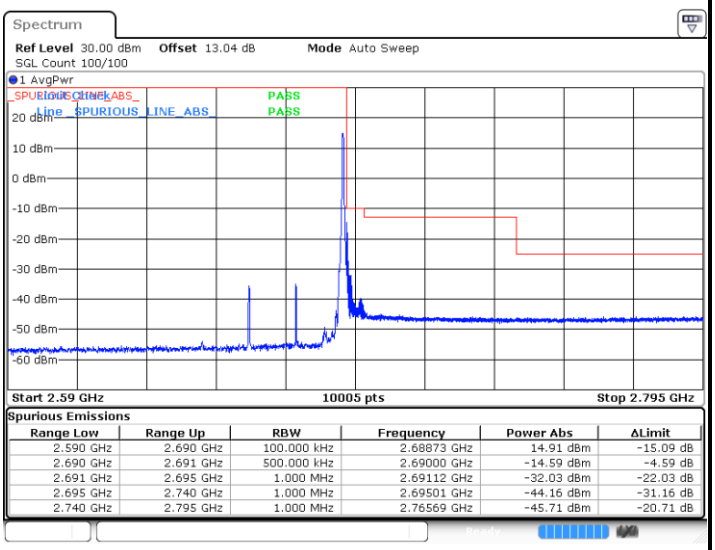
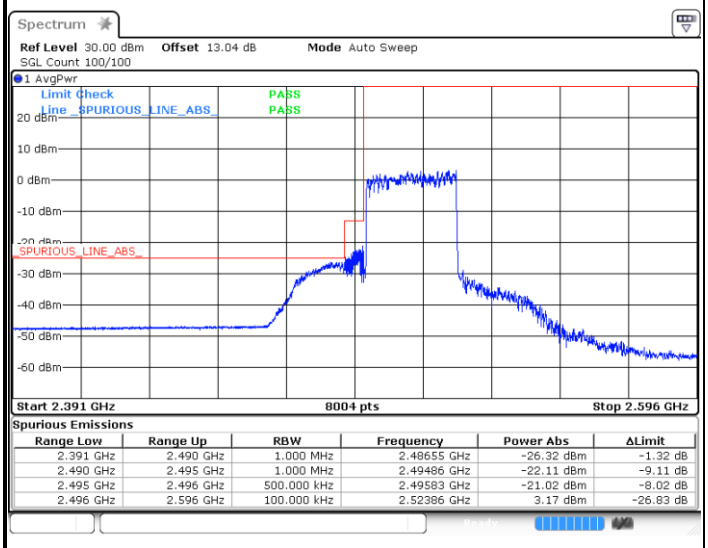
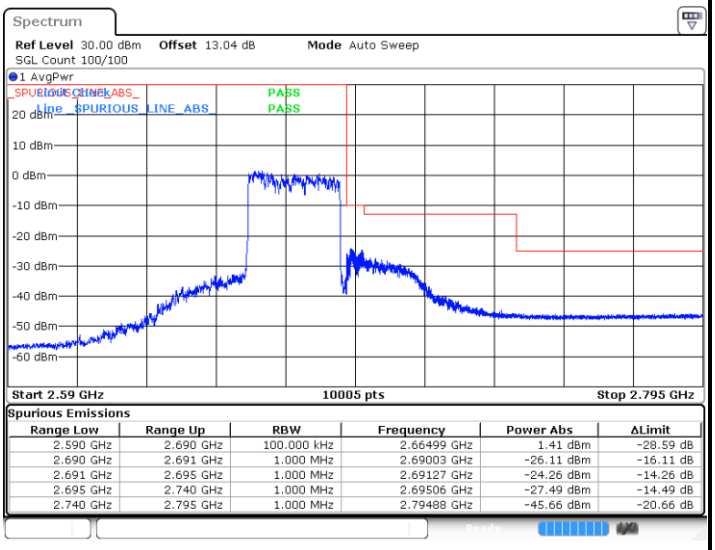
Highest Band Edge / Full RB



Spurious Emissions

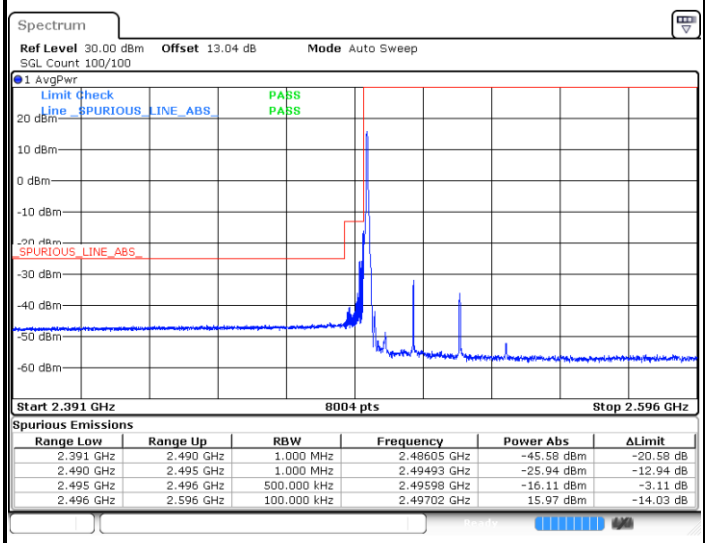
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.68763 GHz	3.39 dBm	-26.61 dB
2.690 GHz	2.691 GHz	1.000 MHz	2.69039 GHz	-26.26 dBm	-16.26 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69168 GHz	-24.38 dBm	-14.38 dB
2.695 GHz	2.740 GHz	1.000 MHz	2.69530 GHz	-27.22 dBm	-14.22 dB
2.740 GHz	2.795 GHz	1.000 MHz	2.74076 GHz	-45.57 dBm	-20.57 dB

Date: 23.FEB.2021 11:35:30

FR1 n41 / 30MHz / DFT-S OFDM / 16Q	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
 Spurious Emissions Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit 2.391 GHz | 2.490 GHz | 1.000 MHz | 2.48978 GHz | -45.57 dBm | -20.57 dB 2.490 GHz | 2.495 GHz | 1.000 MHz | 2.49492 GHz | -30.13 dBm | -17.13 dB 2.495 GHz | 2.496 GHz | 500.000 kHz | 2.49600 GHz | -14.42 dBm | -1.42 dB 2.496 GHz | 2.596 GHz | 100.000 kHz | 2.49722 GHz | 15.81 dBm | -14.19 dB Date: 23.FEB.2021 11:30:21	 Spurious Emissions Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit 2.590 GHz | 2.690 GHz | 100.000 kHz | 2.68873 GHz | 14.91 dBm | -15.09 dB 2.690 GHz | 2.691 GHz | 500.000 kHz | 2.69000 GHz | -14.59 dBm | -4.59 dB 2.691 GHz | 2.695 GHz | 1.000 MHz | 2.69112 GHz | -32.03 dBm | -22.03 dB 2.695 GHz | 2.740 GHz | 1.000 MHz | 2.69501 GHz | -44.16 dBm | -31.16 dB 2.740 GHz | 2.795 GHz | 1.000 MHz | 2.76569 GHz | -45.71 dBm | -20.71 dB Date: 23.FEB.2021 11:38:13
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
 Spurious Emissions Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit 2.391 GHz | 2.490 GHz | 1.000 MHz | 2.48655 GHz | -26.32 dBm | -1.32 dB 2.490 GHz | 2.495 GHz | 1.000 MHz | 2.49486 GHz | -22.11 dBm | -9.11 dB 2.495 GHz | 2.496 GHz | 500.000 kHz | 2.49583 GHz | -21.02 dBm | -8.02 dB 2.496 GHz | 2.596 GHz | 100.000 kHz | 2.52386 GHz | 3.17 dBm | -26.83 dB Date: 23.FEB.2021 11:32:34	 Spurious Emissions Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit 2.590 GHz | 2.690 GHz | 100.000 kHz | 2.66499 GHz | 1.41 dBm | -28.59 dB 2.690 GHz | 2.691 GHz | 1.000 MHz | 2.69003 GHz | -26.11 dBm | -16.11 dB 2.691 GHz | 2.695 GHz | 1.000 MHz | 2.69127 GHz | -24.26 dBm | -14.26 dB 2.695 GHz | 2.740 GHz | 1.000 MHz | 2.69506 GHz | -27.49 dBm | -14.49 dB 2.740 GHz | 2.795 GHz | 1.000 MHz | 2.79488 GHz | -45.66 dBm | -20.66 dB Date: 23.FEB.2021 11:35:45

FR1 n41 / 30MHz / DFT-S OFDM / 64Q

Lowest Band Edge / 1RB0

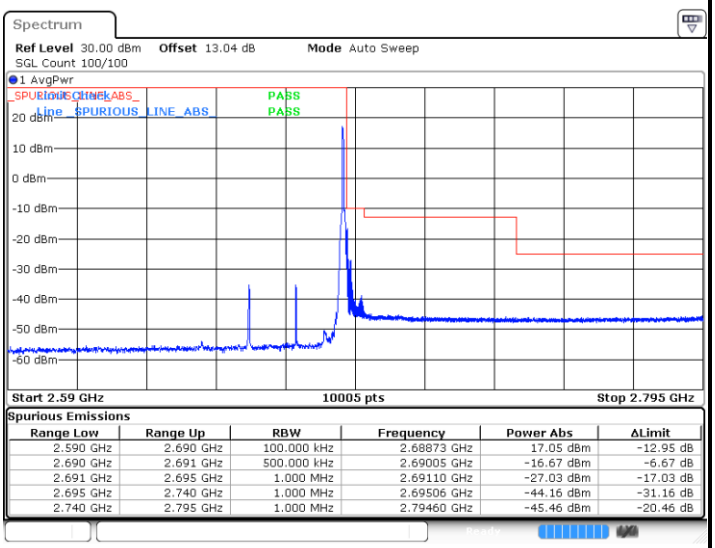


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.48605 GHz	-45.58 dBm	-20.58 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49493 GHz	-25.94 dBm	-12.94 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49598 GHz	-16.11 dBm	-3.11 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.49702 GHz	15.97 dBm	-14.03 dB

Date: 23.FEB.2021 11:30:36

Highest Band Edge / 1RBMax

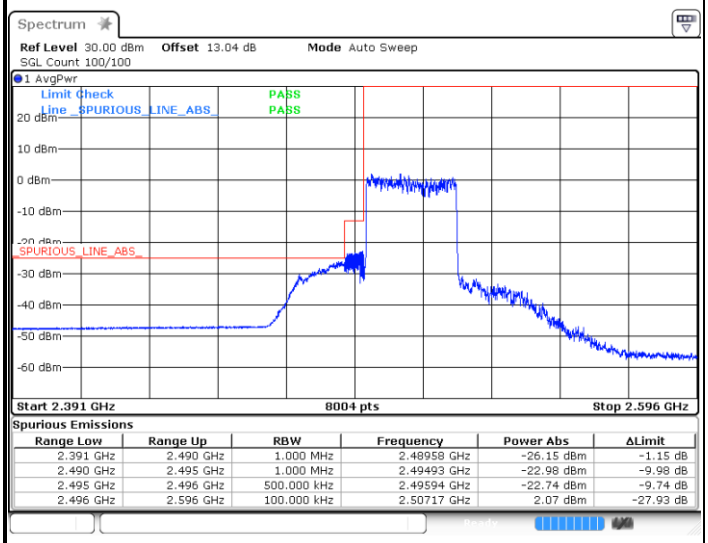


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.68873 GHz	17.05 dBm	-12.95 dB
2.690 GHz	2.691 GHz	500.000 kHz	2.69005 GHz	-16.67 dBm	-6.67 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69110 GHz	-27.03 dBm	-17.03 dB
2.695 GHz	2.740 GHz	1.000 MHz	2.69506 GHz	-44.16 dBm	-31.16 dB
2.740 GHz	2.795 GHz	1.000 MHz	2.79460 GHz	-45.46 dBm	-20.46 dB

Date: 23.FEB.2021 11:38:29

Lowest Band Edge / Full RB

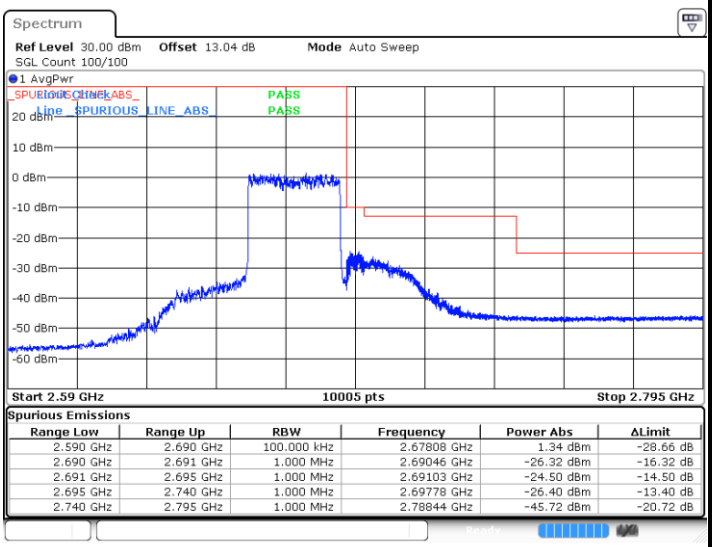


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.48958 GHz	-26.15 dBm	-1.15 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49493 GHz	-22.98 dBm	-9.98 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49594 GHz	-22.74 dBm	-9.74 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.50717 GHz	2.07 dBm	-27.93 dB

Date: 23.FEB.2021 11:33:16

Highest Band Edge / Full RB



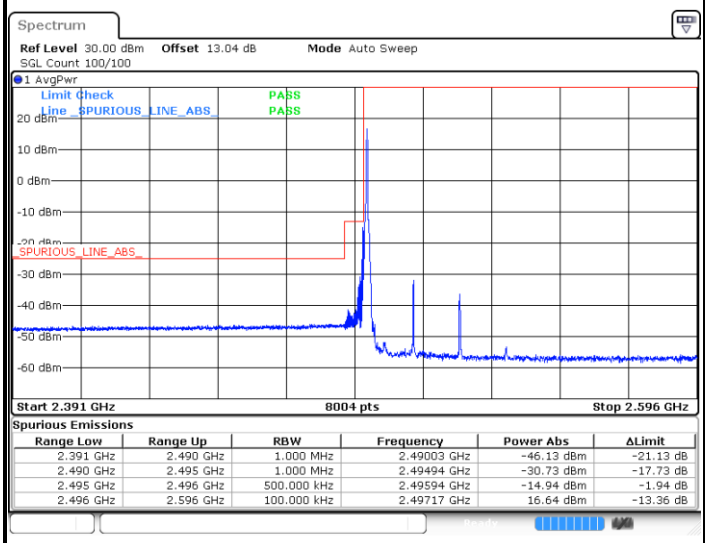
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.67808 GHz	1.34 dBm	-28.66 dB
2.690 GHz	2.691 GHz	1.000 MHz	2.69046 GHz	-26.32 dBm	-16.32 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69103 GHz	-24.50 dBm	-14.50 dB
2.695 GHz	2.740 GHz	1.000 MHz	2.69778 GHz	-26.40 dBm	-13.40 dB
2.740 GHz	2.795 GHz	1.000 MHz	2.78844 GHz	-45.72 dBm	-20.72 dB

Date: 23.FEB.2021 11:36:00

FR1 n41 / 30MHz / DFT-S OFDM / 256Q

Lowest Band Edge / 1RB0



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.49003 GHz	-46.13 dBm	-21.13 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49494 GHz	-30.73 dBm	-17.73 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49594 GHz	-14.94 dBm	-1.94 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.49717 GHz	16.64 dBm	-13.36 dB

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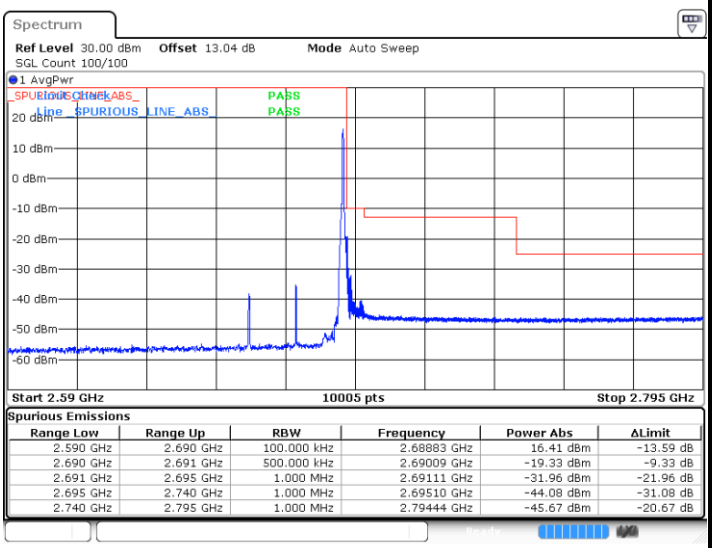
Highest Band Edge / 1RB24

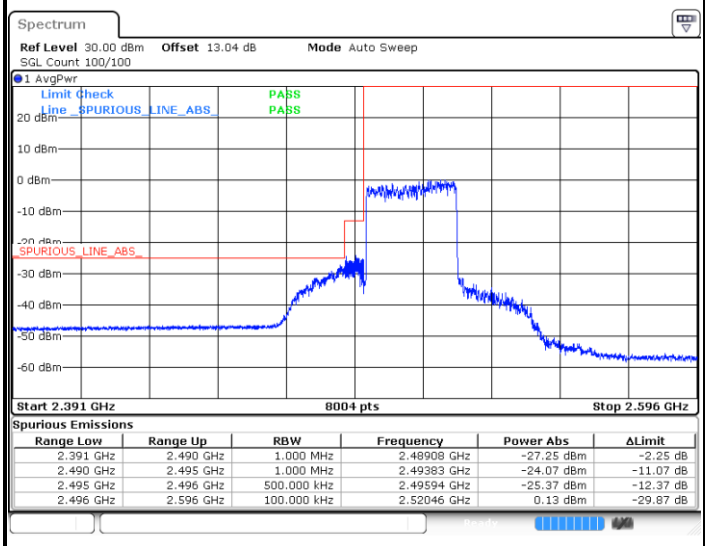


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.68883 GHz	16.41 dBm	-13.59 dB
2.690 GHz	2.691 GHz	500.000 kHz	2.69009 GHz	-19.33 dBm	-9.33 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69111 GHz	-31.96 dBm	-21.96 dB
2.695 GHz	2.740 GHz	1.000 MHz	2.69510 GHz	-44.08 dBm	-31.08 dB
2.740 GHz	2.795 GHz	1.000 MHz	2.79444 GHz	-45.67 dBm	-20.67 dB

Date: 23.FEB.2021 11:38:46

Lowest Band Edge / Full RB

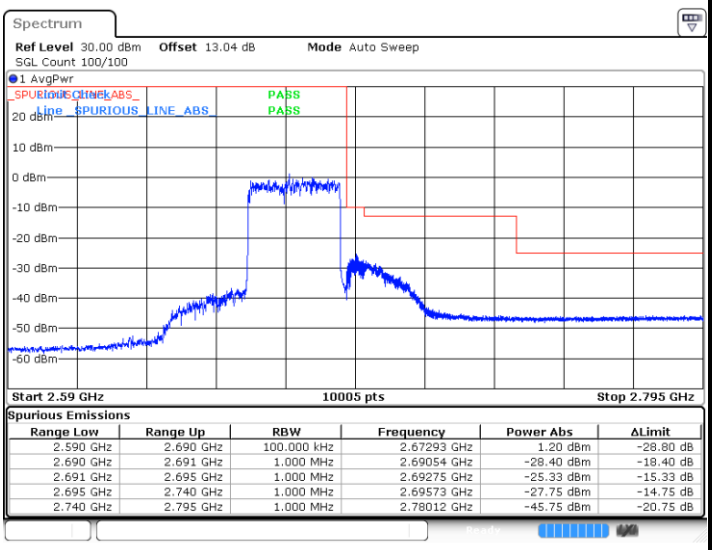


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.48908 GHz	-27.25 dBm	-2.25 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49383 GHz	-24.07 dBm	-11.07 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49594 GHz	-25.37 dBm	-12.37 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.52046 GHz	0.13 dBm	-29.87 dB

Date: 23.FEB.2021 11:33:32

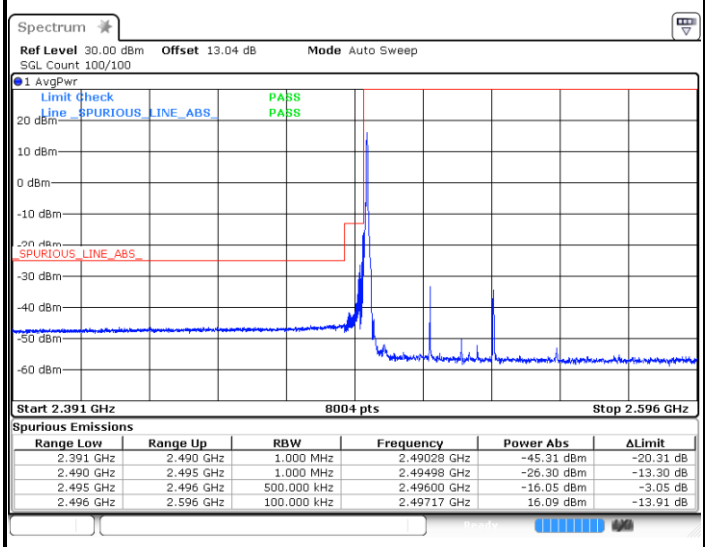
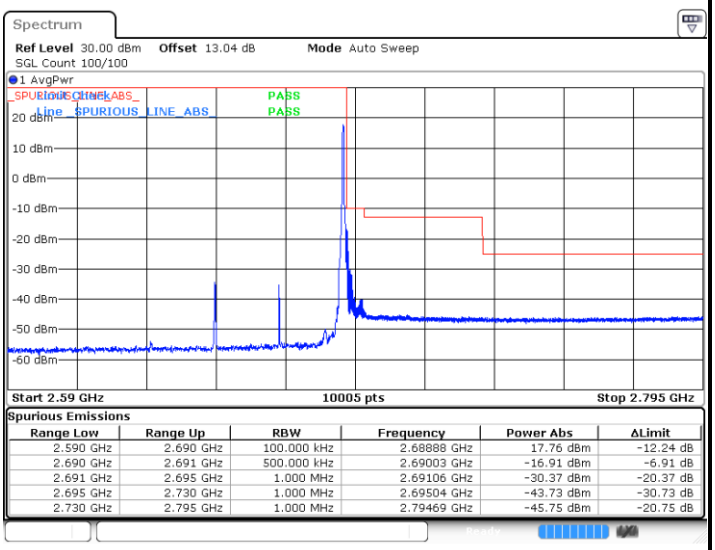
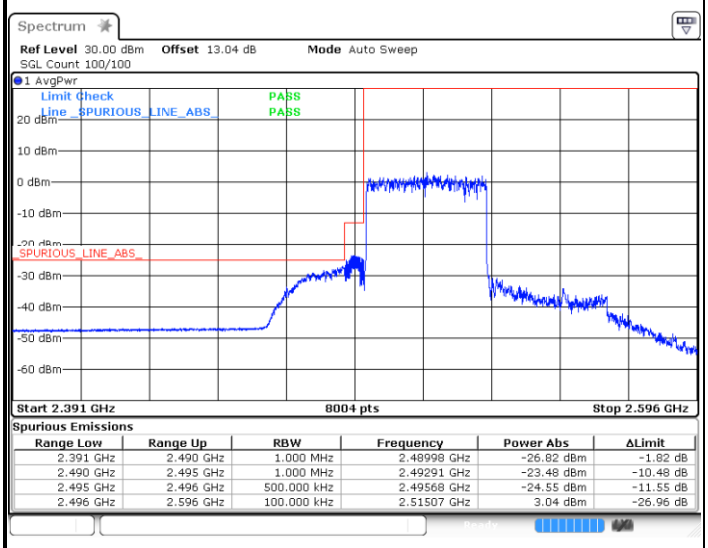
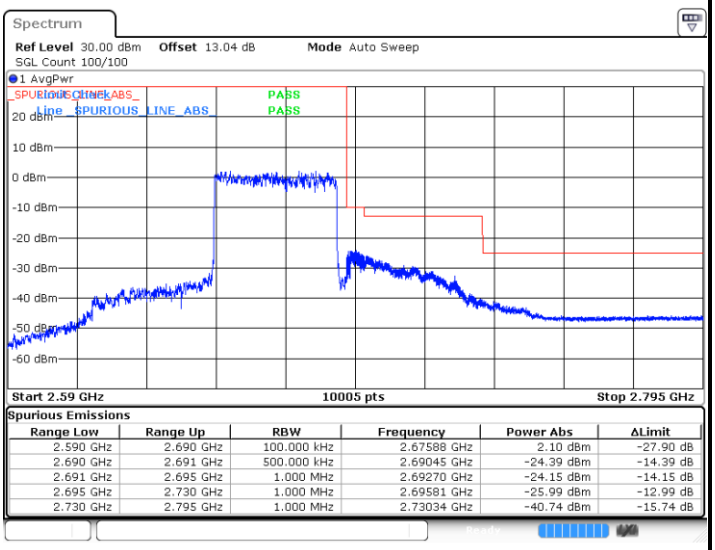
Highest Band Edge / Full RB



Spurious Emissions

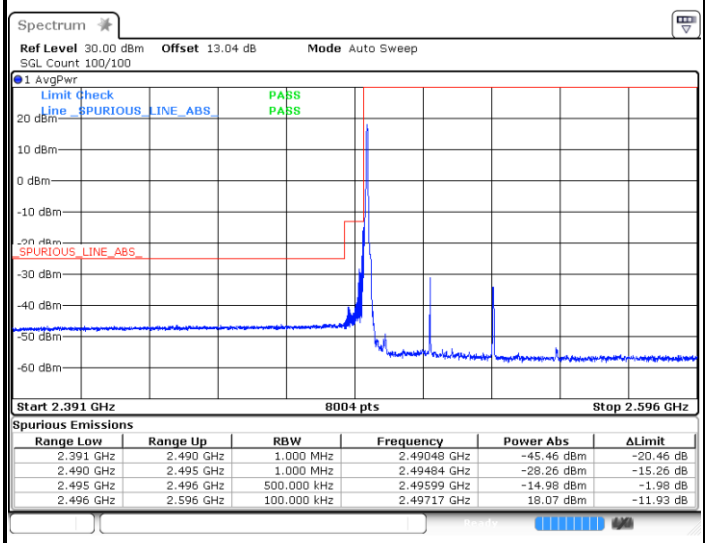
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.67293 GHz	1.20 dBm	-28.80 dB
2.690 GHz	2.691 GHz	1.000 MHz	2.69054 GHz	-28.40 dBm	-18.40 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69275 GHz	-25.33 dBm	-15.33 dB
2.695 GHz	2.740 GHz	1.000 MHz	2.69573 GHz	-27.75 dBm	-14.75 dB
2.740 GHz	2.795 GHz	1.000 MHz	2.78012 GHz	-45.75 dBm	-20.75 dB

Date: 23.FEB.2021 11:36:17

FR1 n41 / 40MHz / 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 n41 / 40MHz / DFT-S OFDM / QPSK

Lowest Band Edge / 1RB0



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.49048 GHz	-45.46 dBm	-20.46 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49484 GHz	-28.26 dBm	-15.26 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49599 GHz	-14.98 dBm	-1.98 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.49717 GHz	18.07 dBm	-11.93 dB

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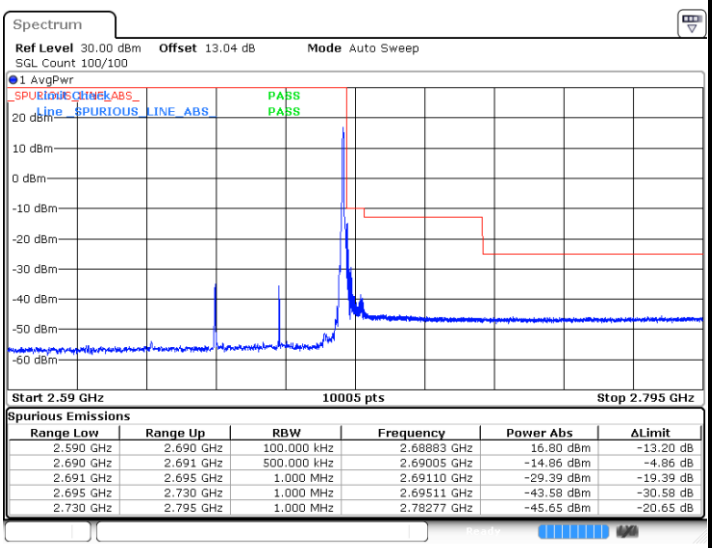
Highest Band Edge / 1RBmax

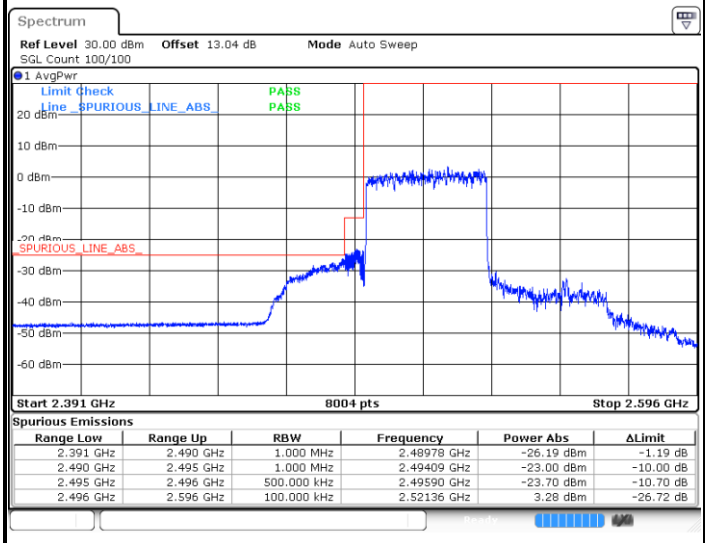


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.68883 GHz	16.80 dBm	-13.20 dB
2.690 GHz	2.691 GHz	500.000 kHz	2.69005 GHz	-14.86 dBm	-4.86 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69110 GHz	-29.39 dBm	-19.39 dB
2.695 GHz	2.730 GHz	1.000 MHz	2.69511 GHz	-43.58 dBm	-30.58 dB
2.730 GHz	2.795 GHz	1.000 MHz	2.78277 GHz	-45.65 dBm	-20.65 dB

Date: 23.FEB.2021 10:20:33

Lowest Band Edge / Full RB

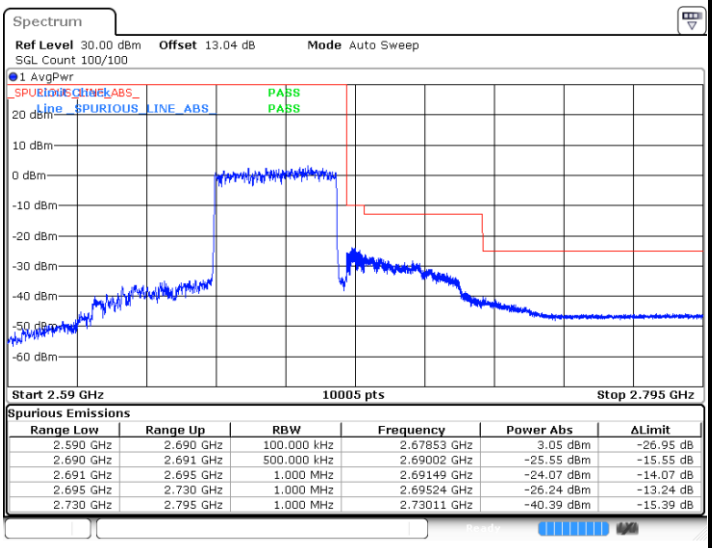


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.48978 GHz	-26.19 dBm	-1.19 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49409 GHz	-23.00 dBm	-10.00 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49590 GHz	-23.70 dBm	-10.70 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.52136 GHz	3.28 dBm	-26.72 dB

Date: 23.FEB.2021 10:15:44

Highest Band Edge / Full RB



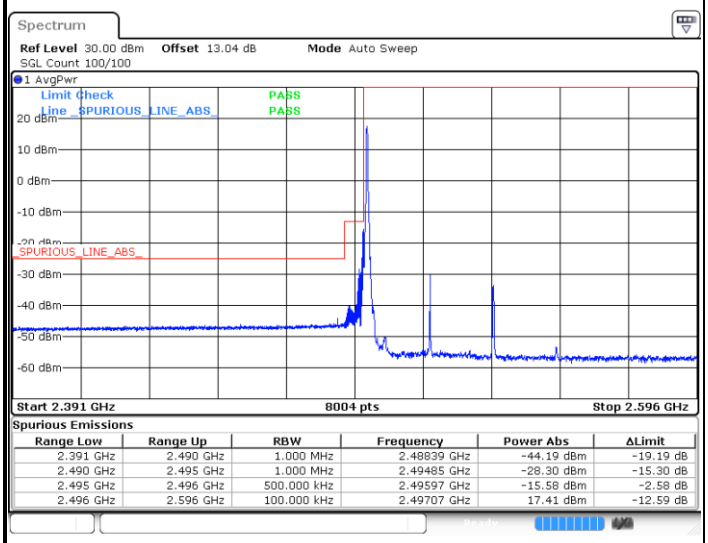
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.67853 GHz	3.05 dBm	-26.95 dB
2.690 GHz	2.691 GHz	500.000 kHz	2.69002 GHz	-25.55 dBm	-15.55 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69149 GHz	-24.07 dBm	-14.07 dB
2.695 GHz	2.730 GHz	1.000 MHz	2.69524 GHz	-26.24 dBm	-13.24 dB
2.730 GHz	2.795 GHz	1.000 MHz	2.73011 GHz	-40.39 dBm	-15.39 dB

Date: 23.FEB.2021 10:18:17

FR1 n41 / 40MHz / DFT-S OFDM / 16Q

Lowest Band Edge / 1RB0

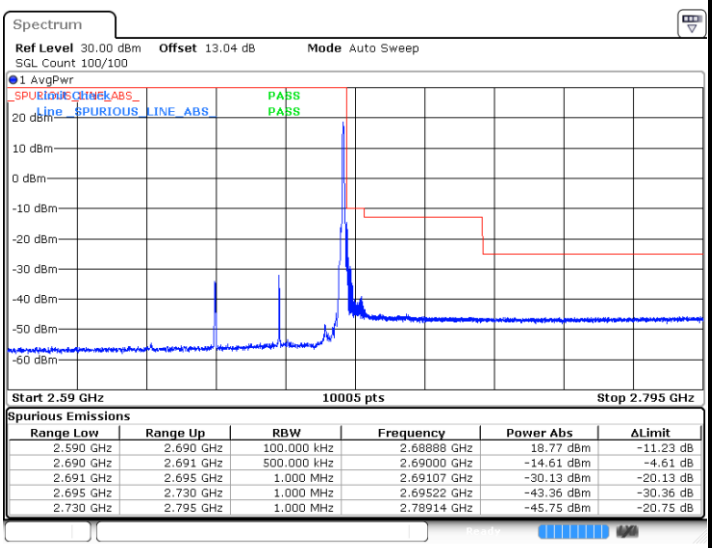


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.48839 GHz	-44.19 dBm	-19.19 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49485 GHz	-28.30 dBm	-15.30 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49597 GHz	-15.58 dBm	-2.58 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.49707 GHz	17.41 dBm	-12.59 dB

Date: 23.FEB.2021 10:12:55

Highest Band Edge / 1RBmax

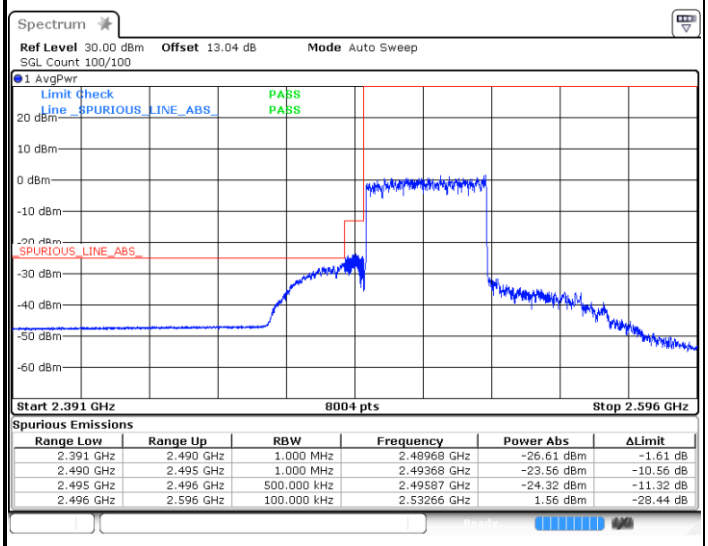


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.68888 GHz	18.77 dBm	-11.23 dB
2.690 GHz	2.691 GHz	500.000 kHz	2.69000 GHz	-14.61 dBm	-4.61 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69107 GHz	-30.13 dBm	-20.13 dB
2.695 GHz	2.730 GHz	1.000 MHz	2.69522 GHz	-43.36 dBm	-30.36 dB
2.730 GHz	2.795 GHz	1.000 MHz	2.78914 GHz	-45.75 dBm	-20.75 dB

Date: 23.FEB.2021 10:20:57

Lowest Band Edge / Full RB

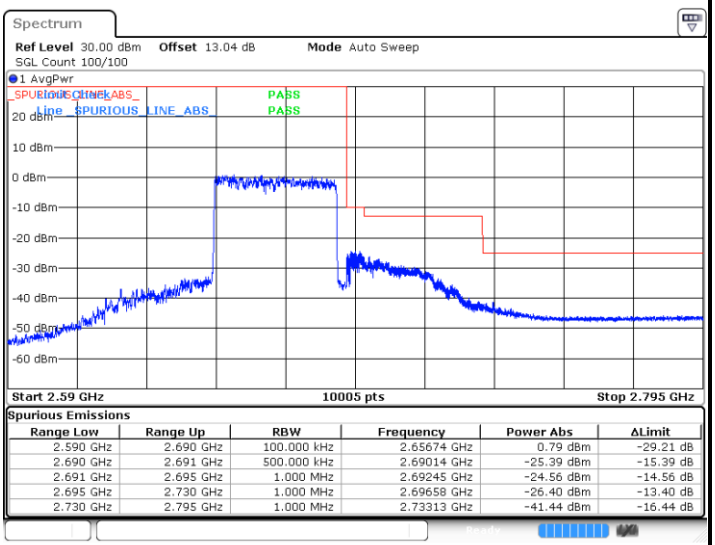


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.48968 GHz	-26.61 dBm	-1.61 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49368 GHz	-23.56 dBm	-10.56 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49587 GHz	-24.32 dBm	-11.32 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.53266 GHz	1.56 dBm	-28.44 dB

Date: 23.FEB.2021 10:16:14

Highest Band Edge / Full RB



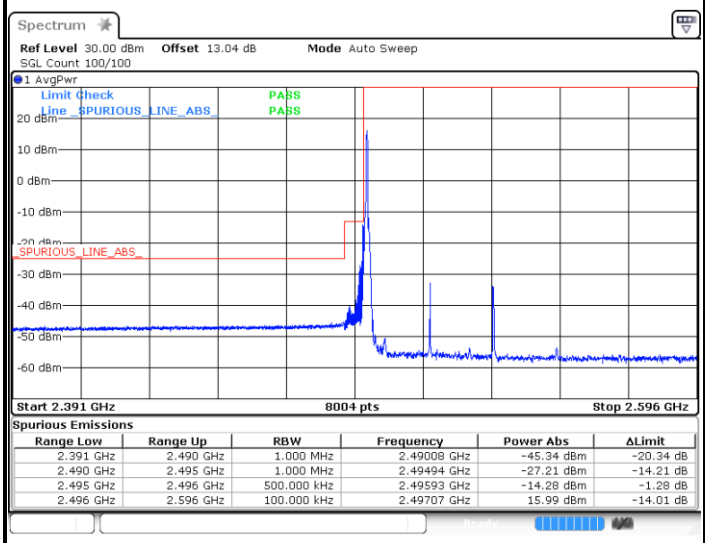
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.65674 GHz	0.79 dBm	-29.21 dB
2.690 GHz	2.691 GHz	500.000 kHz	2.69014 GHz	-25.39 dBm	-15.39 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69245 GHz	-24.56 dBm	-14.56 dB
2.695 GHz	2.730 GHz	1.000 MHz	2.69658 GHz	-26.40 dBm	-13.40 dB
2.730 GHz	2.795 GHz	1.000 MHz	2.73313 GHz	-41.44 dBm	-16.44 dB

Date: 23.FEB.2021 10:19:10

FR1 n41 / 40MHz / DFT-S OFDM / 64Q

Lowest Band Edge / 1RB0

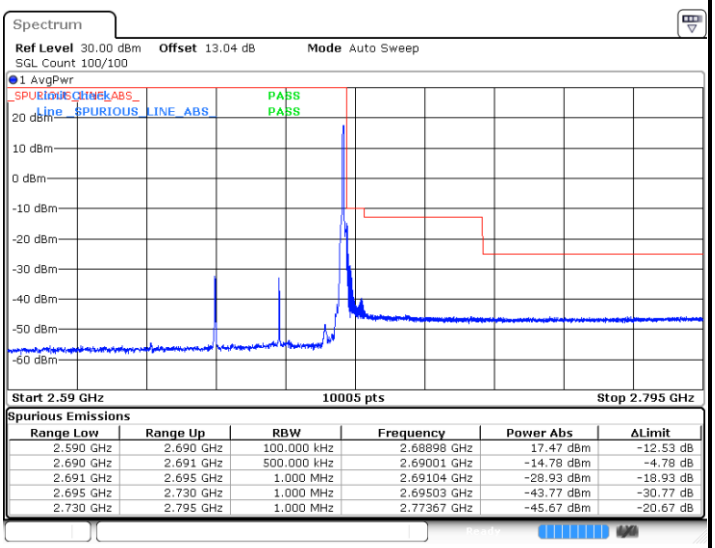


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.49008 GHz	-45.34 dBm	-20.34 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49494 GHz	-27.21 dBm	-14.21 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49593 GHz	-14.28 dBm	-1.28 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.49707 GHz	15.99 dBm	-14.01 dB

Date: 23.FEB.2021 10:13:36

Highest Band Edge / 1RBMax

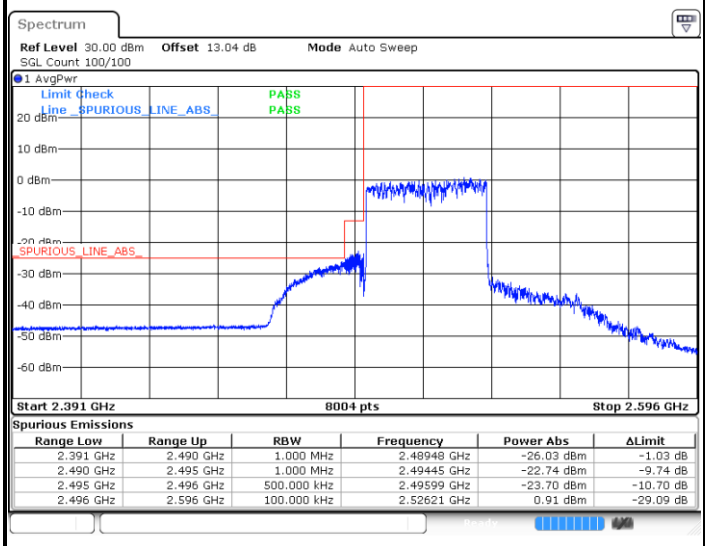


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.68898 GHz	17.47 dBm	-12.53 dB
2.690 GHz	2.691 GHz	500.000 kHz	2.69001 GHz	-14.78 dBm	-4.78 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69104 GHz	-28.93 dBm	-18.93 dB
2.695 GHz	2.730 GHz	1.000 MHz	2.69503 GHz	-43.77 dBm	-30.77 dB
2.730 GHz	2.795 GHz	1.000 MHz	2.77367 GHz	-45.67 dBm	-20.67 dB

Date: 23.FEB.2021 10:21:16

Lowest Band Edge / Full RB

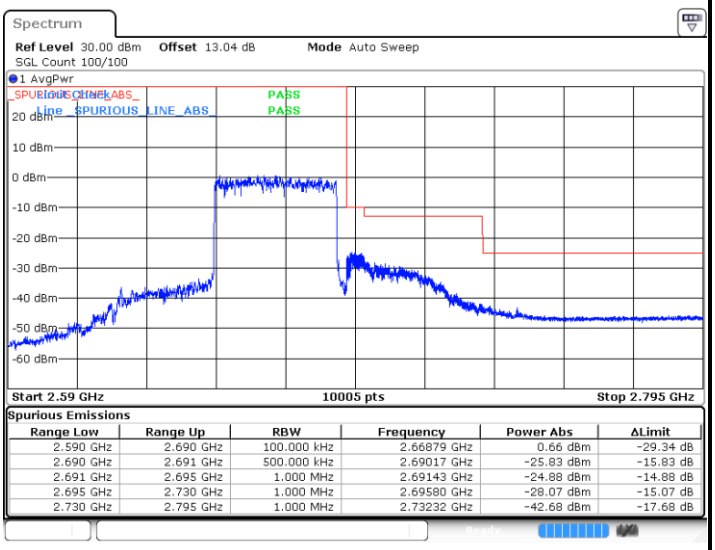


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.48948 GHz	-26.03 dBm	-1.03 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49445 GHz	-22.74 dBm	-9.74 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49599 GHz	-23.70 dBm	-10.70 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.52621 GHz	0.91 dBm	-29.09 dB

Date: 23.FEB.2021 10:16:36

Highest Band Edge / Full RB



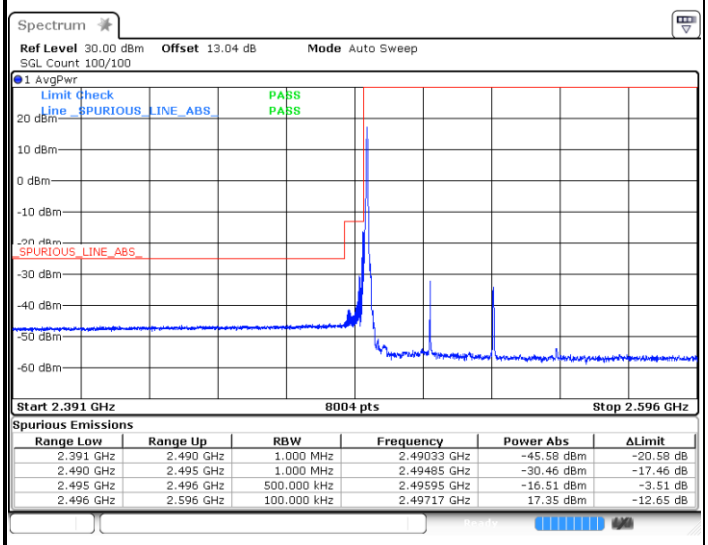
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.66879 GHz	0.66 dBm	-29.34 dB
2.690 GHz	2.691 GHz	500.000 kHz	2.69017 GHz	-25.83 dBm	-15.83 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69143 GHz	-24.88 dBm	-14.88 dB
2.695 GHz	2.730 GHz	1.000 MHz	2.69580 GHz	-28.07 dBm	-15.07 dB
2.730 GHz	2.795 GHz	1.000 MHz	2.73232 GHz	-42.68 dBm	-17.68 dB

Date: 23.FEB.2021 10:19:28

FR1 n41 / 40MHz / DFT-S OFDM / 256Q

Lowest Band Edge / 1RB0

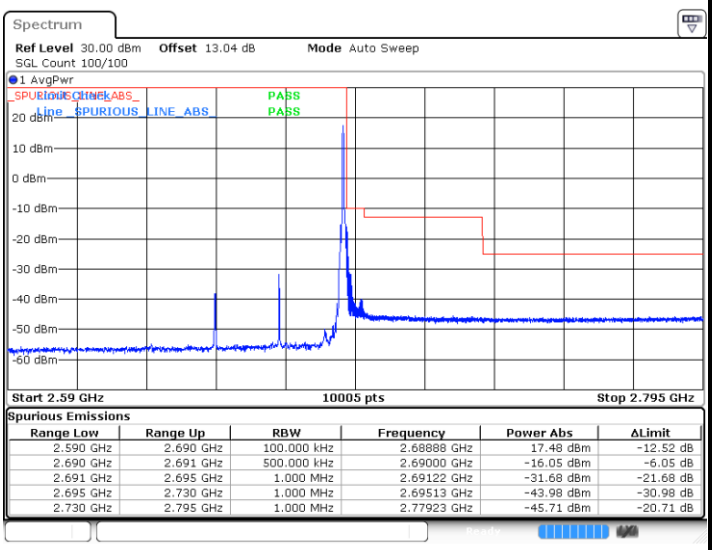


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.49033 GHz	-45.58 dBm	-20.58 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49485 GHz	-30.46 dBm	-17.46 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49595 GHz	-16.51 dBm	-3.51 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.49717 GHz	17.35 dBm	-12.65 dB

Date: 23.FEB.2021 10:14:47

Highest Band Edge / 1RBMax

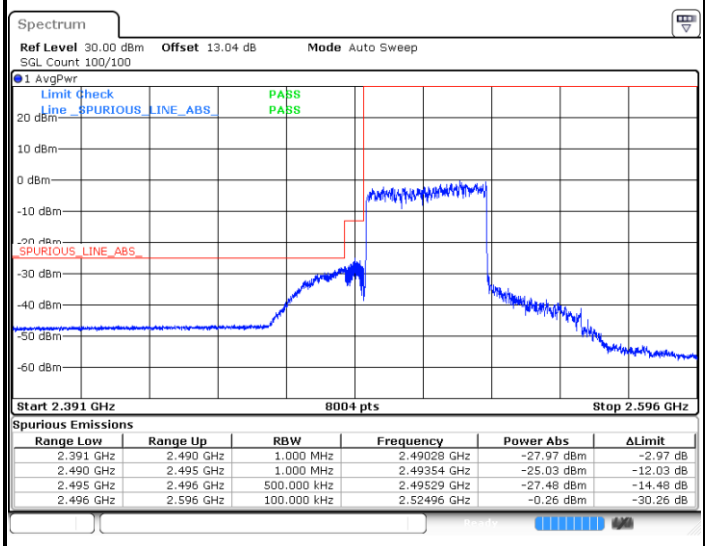


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.68888 GHz	17.48 dBm	-12.52 dB
2.690 GHz	2.691 GHz	500.000 kHz	2.69000 GHz	-16.05 dBm	-6.05 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69122 GHz	-31.68 dBm	-21.68 dB
2.695 GHz	2.730 GHz	1.000 MHz	2.69513 GHz	-43.98 dBm	-30.98 dB
2.730 GHz	2.795 GHz	1.000 MHz	2.77923 GHz	-45.71 dBm	-20.71 dB

Date: 23.FEB.2021 10:21:34

Lowest Band Edge / Full RB

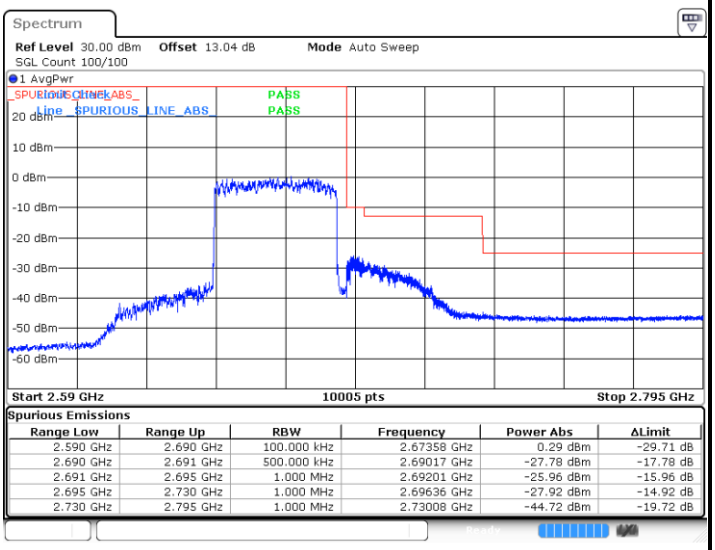


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.49028 GHz	-27.97 dBm	-2.97 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49354 GHz	-25.03 dBm	-12.03 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49529 GHz	-27.48 dBm	-14.48 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.52496 GHz	-0.26 dBm	-30.26 dB

Date: 23.FEB.2021 10:16:53

Highest Band Edge / Full RB



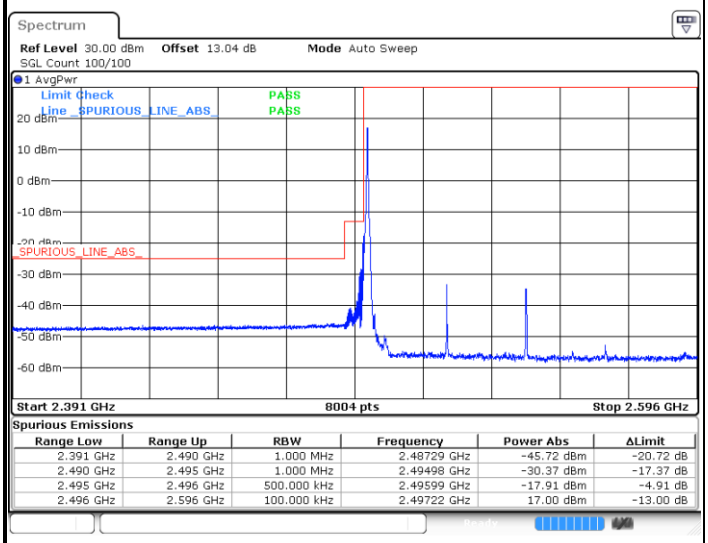
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.67358 GHz	0.29 dBm	-29.71 dB
2.690 GHz	2.691 GHz	500.000 kHz	2.69017 GHz	-27.78 dBm	-17.78 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69201 GHz	-25.96 dBm	-15.96 dB
2.695 GHz	2.730 GHz	1.000 MHz	2.69636 GHz	-27.92 dBm	-14.92 dB
2.730 GHz	2.795 GHz	1.000 MHz	2.73008 GHz	-44.72 dBm	-19.72 dB

Date: 23.FEB.2021 10:19:46

FR1 n41 / 50MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

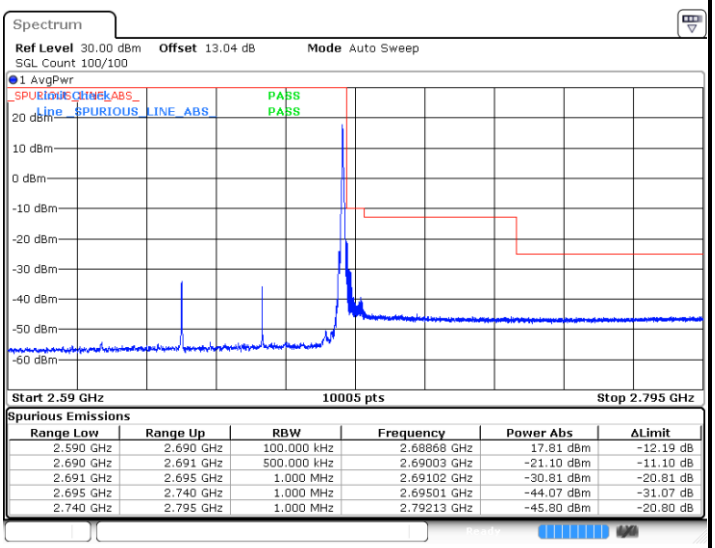


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.48729 GHz	-45.72 dBm	-20.72 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49498 GHz	-30.37 dBm	-17.37 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49599 GHz	-17.91 dBm	-4.91 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.49722 GHz	17.00 dBm	-13.00 dB

Date: 23.FEB.2021 10:41:50

Highest Band Edge / 1RBmax

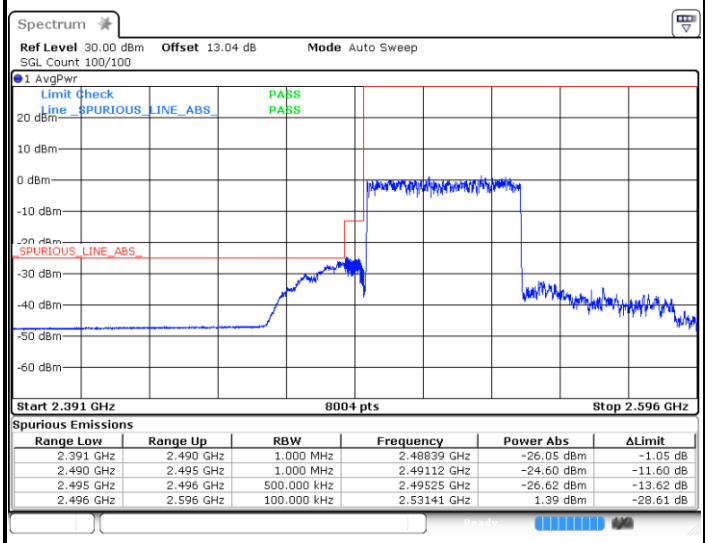


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.68868 GHz	17.81 dBm	-12.19 dB
2.690 GHz	2.691 GHz	500.000 kHz	2.69003 GHz	-21.10 dBm	-11.10 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69102 GHz	-30.81 dBm	-20.81 dB
2.695 GHz	2.740 GHz	1.000 MHz	2.69501 GHz	-44.07 dBm	-31.07 dB
2.740 GHz	2.795 GHz	1.000 MHz	2.79213 GHz	-45.80 dBm	-20.80 dB

Date: 23.FEB.2021 10:59:26

Lowest Band Edge / Full RB

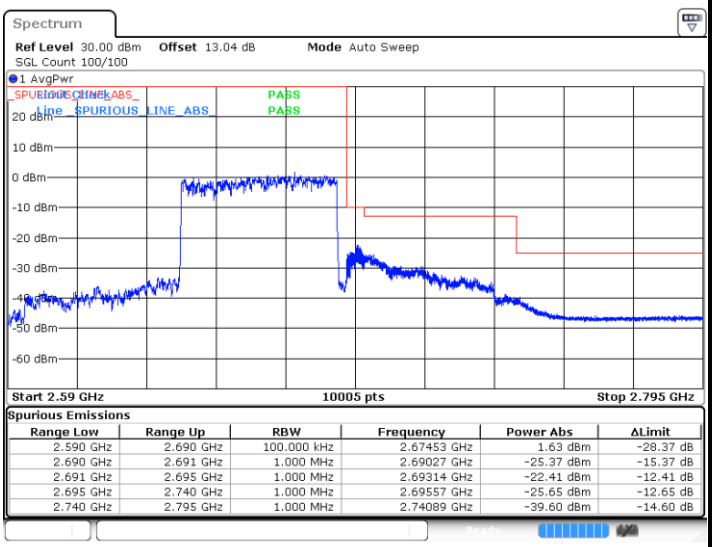


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.48839 GHz	-26.05 dBm	-1.05 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49112 GHz	-24.60 dBm	-11.60 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49525 GHz	-26.62 dBm	-13.62 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.53141 GHz	1.39 dBm	-28.61 dB

Date: 23.FEB.2021 10:43:25

Highest Band Edge / Full RB



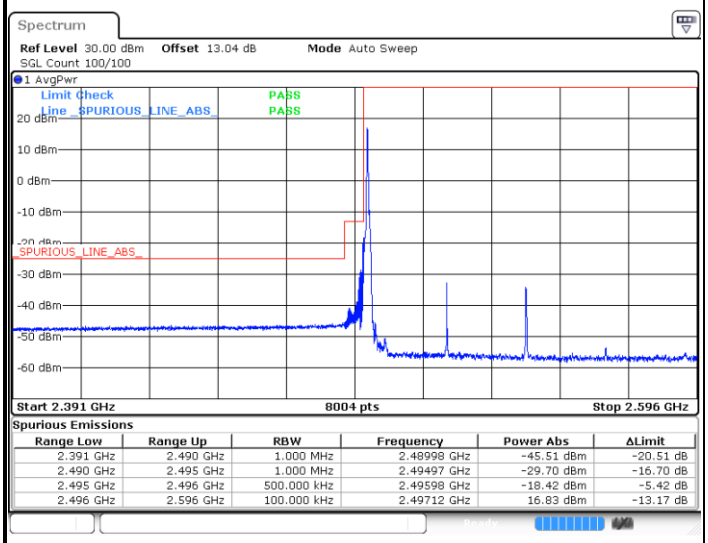
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.67453 GHz	1.63 dBm	-28.37 dB
2.690 GHz	2.691 GHz	1.000 MHz	2.69027 GHz	-25.37 dBm	-15.37 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69314 GHz	-22.41 dBm	-12.41 dB
2.695 GHz	2.740 GHz	1.000 MHz	2.69557 GHz	-25.65 dBm	-12.65 dB
2.740 GHz	2.795 GHz	1.000 MHz	2.74089 GHz	-39.60 dBm	-14.60 dB

Date: 23.FEB.2021 10:57:51

FR1 n41 / 50MHz / DFT-S OFDM / QPSK

Lowest Band Edge / 1RB0

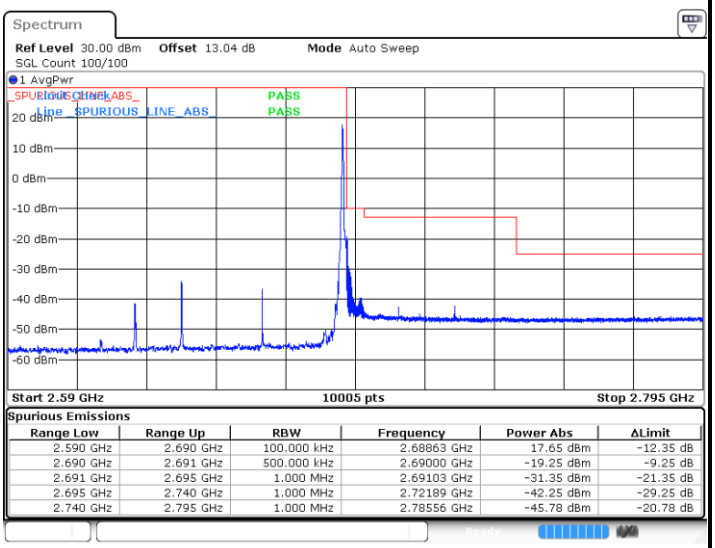


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.48998 GHz	-45.51 dBm	-20.51 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49497 GHz	-29.70 dBm	-16.70 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49598 GHz	-18.42 dBm	-5.42 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.49712 GHz	16.83 dBm	-13.17 dB

Date: 23.FEB.2021 10:41:36

Highest Band Edge / 1RBmax

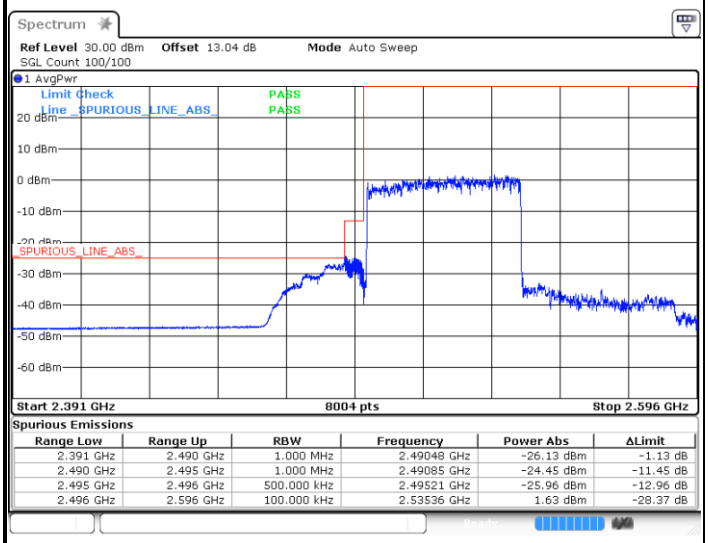


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.68863 GHz	17.65 dBm	-12.35 dB
2.690 GHz	2.691 GHz	500.000 kHz	2.69000 GHz	-19.25 dBm	-9.25 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69103 GHz	-31.35 dBm	-21.35 dB
2.695 GHz	2.740 GHz	1.000 MHz	2.72189 GHz	-42.25 dBm	-29.25 dB
2.740 GHz	2.795 GHz	1.000 MHz	2.78556 GHz	-45.78 dBm	-20.78 dB

Date: 23.FEB.2021 10:59:49

Lowest Band Edge / Full RB

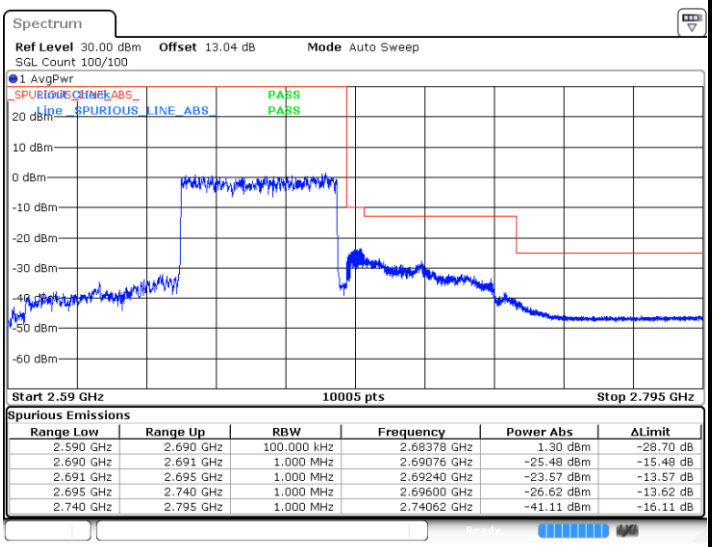


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.49048 GHz	-26.13 dBm	-1.13 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49085 GHz	-24.45 dBm	-11.45 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49521 GHz	-25.96 dBm	-12.96 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.53536 GHz	1.63 dBm	-28.37 dB

Date: 23.FEB.2021 10:44:22

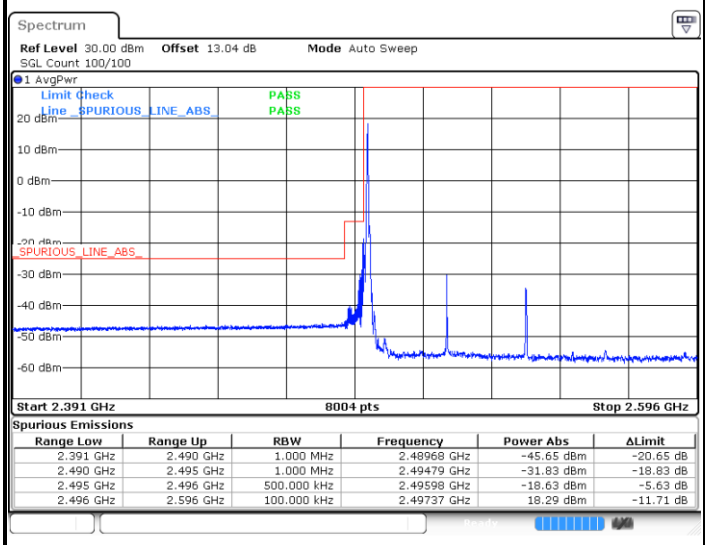
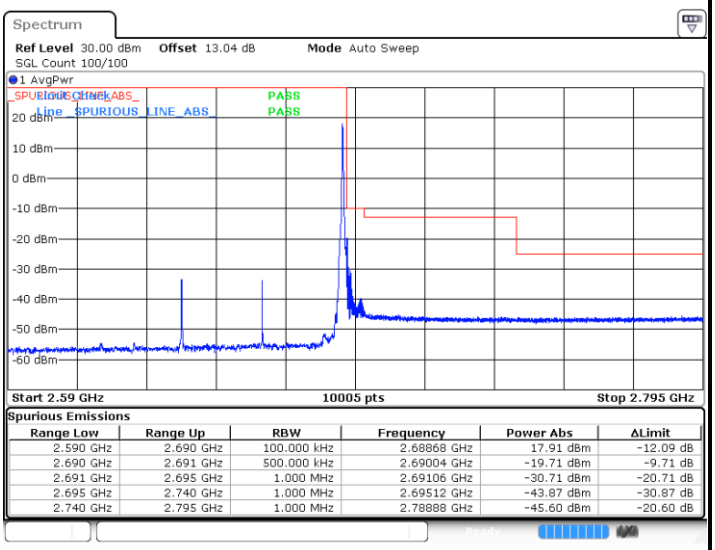
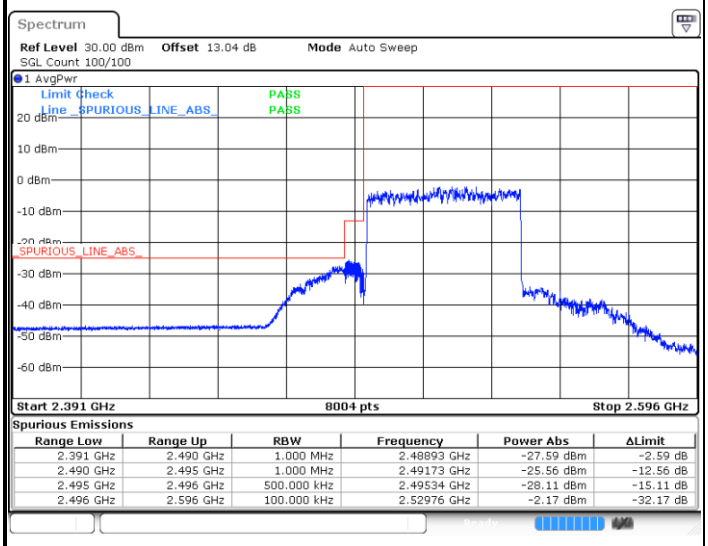
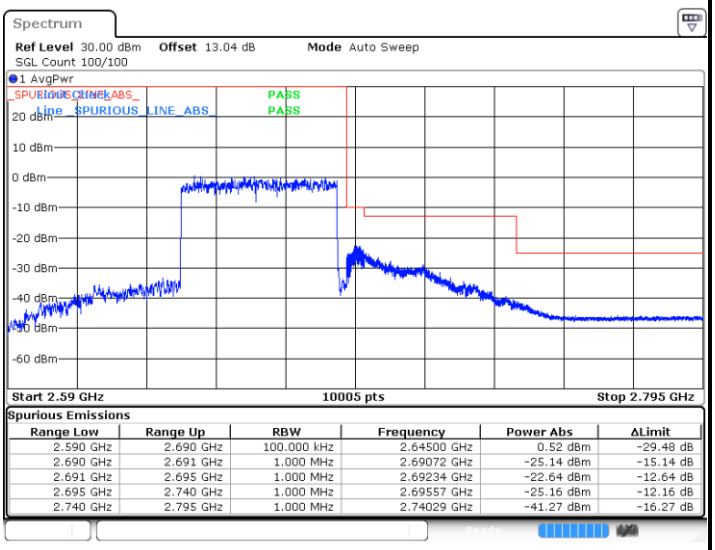
Highest Band Edge / Full RB



Spurious Emissions

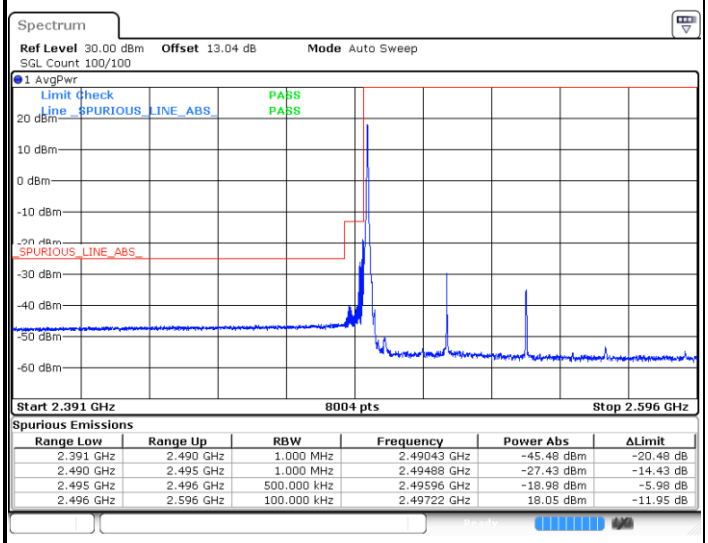
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.68378 GHz	1.30 dBm	-28.70 dB
2.690 GHz	2.691 GHz	1.000 MHz	2.69076 GHz	-25.48 dBm	-15.48 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69240 GHz	-23.57 dBm	-13.57 dB
2.695 GHz	2.740 GHz	1.000 MHz	2.69600 GHz	-26.62 dBm	-13.62 dB
2.740 GHz	2.795 GHz	1.000 MHz	2.74062 GHz	-41.11 dBm	-16.11 dB

Date: 23.FEB.2021 10:58:07

FR1 n41 / 50MHz / DFT-S OFDM / 16Q	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
	
Date: 23.FEB.2021 10:42:06	Date: 23.FEB.2021 11:00:09
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	
Date: 23.FEB.2021 10:47:19	Date: 23.FEB.2021 10:58:24

FR1 n41 / 50MHz / DFT-S OFDM / 64Q

Lowest Band Edge / 1RB0

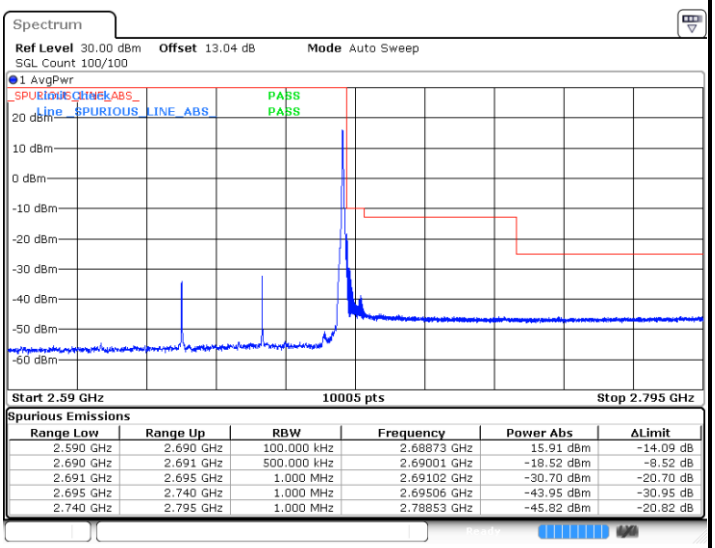


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.49043 GHz	-45.48 dBm	-20.48 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49488 GHz	-27.43 dBm	-14.43 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49596 GHz	-18.98 dBm	-5.98 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.49722 GHz	18.05 dBm	-11.95 dB

Date: 23.FEB.2021 10:42:21

Highest Band Edge / 1RBMax

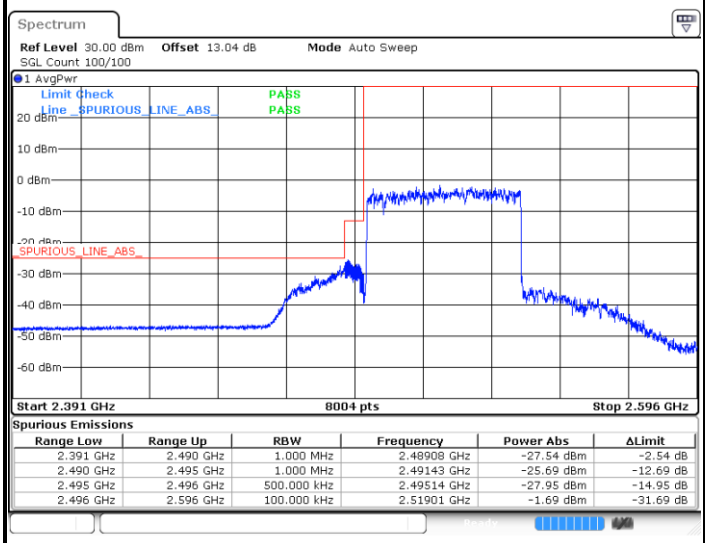


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.68873 GHz	15.91 dBm	-14.09 dB
2.690 GHz	2.691 GHz	500.000 kHz	2.69001 GHz	-18.52 dBm	-8.52 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69102 GHz	-30.70 dBm	-20.70 dB
2.695 GHz	2.740 GHz	1.000 MHz	2.69506 GHz	-43.95 dBm	-30.95 dB
2.740 GHz	2.795 GHz	1.000 MHz	2.78853 GHz	-45.82 dBm	-20.82 dB

Date: 23.FEB.2021 11:00:28

Lowest Band Edge / Full RB

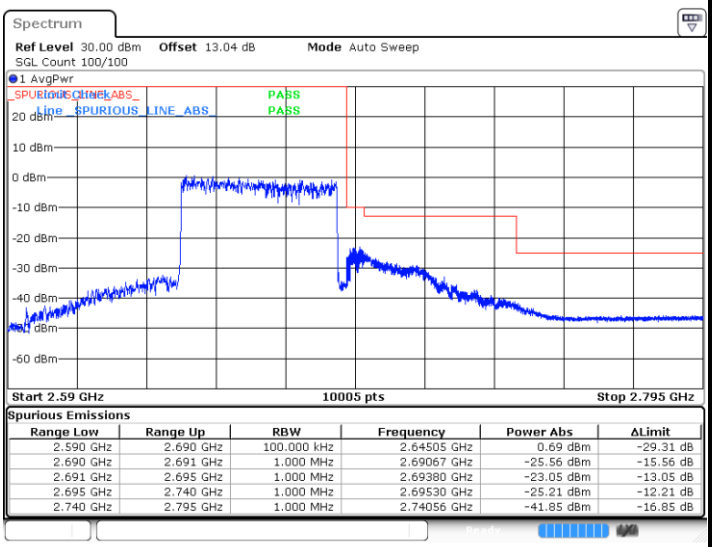


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.48908 GHz	-27.54 dBm	-2.54 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49143 GHz	-25.69 dBm	-12.69 dB
2.495 GHz	2.496 GHz	500.000 kHz	2.49514 GHz	-27.95 dBm	-14.95 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.51901 GHz	-1.69 dBm	-31.69 dB

Date: 23.FEB.2021 10:48:08

Highest Band Edge / Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.690 GHz	100.000 kHz	2.64505 GHz	0.69 dBm	-29.31 dB
2.690 GHz	2.691 GHz	1.000 MHz	2.69067 GHz	-25.56 dBm	-15.56 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69380 GHz	-23.05 dBm	-13.05 dB
2.695 GHz	2.740 GHz	1.000 MHz	2.69530 GHz	-25.21 dBm	-12.21 dB
2.740 GHz	2.795 GHz	1.000 MHz	2.74056 GHz	-41.85 dBm	-16.85 dB

Date: 23.FEB.2021 10:58:42