FCC RF Test Report

APPLICANT	: ASUSTeK COMPUTER INC.
EQUIPMENT	: ASUS Phone(Mobile Phone)
BRAND NAME	: ASUS
MODEL NAME	: ASUS_I005D, ASUS_I005DC
FCC ID	: MSQI005D
STANDARD	: 47 CFR Part 2, 27
CLASSIFICATION	: PCS Licensed Transmitter Held to Ear (PCE)

The product was received on Nov. 03, 2020 and completely tested on Jan. 25, 2021. We, Sporton International (Kunshan) 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.

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

Jason Jia

Reviewed by: Jason Jia / Supervisor

James Huang

Approved by: James Huang / Manager

ACCREDITED Cert #5145.02

Sporton International (Kunshan) Inc.
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
FG0N0335I	Rev. 01	Initial issue of report	Feb. 02, 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 n12, n71)	ERP < 3 Watt		
	§27.50(h)(2)	Equivalent Isotropic Radiated Power (5G NR n7, n41, n38)	EIRP < 2Watt		
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(g)	Conducted Band Edge Measurement (5G NR n12, n71)	< 43+10log10(P[Watts])	PASS	-
	§27.53(m)(4)	Conducted Band Edge Measurement (5G NR n7, n41, n38)	§27.53(m)(4)		
3.8	§2.1051 §27.53(g)	Conducted Spurious Emission (5G NR n12, n71)	< 43+10log10(P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (5G NR n7, n41, n38)	< $55+10\log_{10}$(P[Watts])		
3.9	§2.1055 §27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§2.1053 §27.53(g)	Radiated Spurious Emission (5G NR n12, n71)	< $43+10\log_{10}$(P[Watts])	PASS	Under limit 7.22 dB at 10200.000 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (5G NR n7, n41, n38)	< $55+10\log_{10}$(P[Watts])		

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

ASUSTeK COMPUTER INC.
1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan

1.2 Manufacturer 1

Guangdong Enok Communication Co., Ltd.
No. 137, 139, Lixiang Road., Songmushan Village, Dalang Town, Dongguan City, Guangdong Province, China

1.3 Manufacturer 2

PT. SAT NUSAPERSADA TBK
JALAN PELITA VI. NO. 99, BATAM, 29443, INDONESIA

1.4 Product Feature of Equipment Under Test

Product Feature	
Equipment	ASUS Phone(Mobile Phone)
Brand Name	ASUS
Model Name	ASUS_I005D, ASUS_I005DC
FCC ID	MSQI005D
EUT supports Radios application	GSM/WCDMA/LTE/5G NR/NFC/GNSS WLAN 2.4GHz 802.11b/g/n/ax HT20/HT40/HE20/HE40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 WLAN 5GHz 802.11ax HE20/HE40/HE80 Bluetooth BR/EDR/LE
IMEI Code	Conducted: 869498050029096/869498050029103 Radiation: 352977280005516/352977280005524
HW Version	R2.0B
SW Version	Android R
EUT Stage	Identical Prototype

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

1.5 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n12: 699 MHz ~ 716 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n71: 663 MHz ~ 698MHz
Rx Frequency	5G NR n7: 2620 MHz ~ 2690 MHz 5G NR n12: 729 MHz ~ 746 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n71: 617 MHz ~ 652MHz
Bandwidth	n7: 5MHz / 10MHz / 15MHz / 20MHz / 25MHz / 30MHz / 40MHz / 50MHz n12: 5MHz / 10MHz / 15MHz n38 : 20MHz / 30MHz / 40MHz n41 : 20MHz / 30MHz / 40 MHz / 50MHz / 60MHz / 80MHz / 90MHz / 100MHz n71: 5MHz / 10MHz / 15MHz / 20MHz
SCS	n7, n12, n71: 15kHz n38, n41 : 30kHz
Antenna Gain	**Antenna 0:** 5G NR n12: -2.0 dBi 5G NR n71: -5.0 dBi **Antenna 1:** 5G NR n7: 0.9 dBi **Antenna 9:** 5G NR n38: 2.9 dBi 5G NR n41: 2.9 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

1. The Maximum ERP/EIRP is calculated from Max Output power and Max antenna gain, only the maximum ERP/EIRP is shown in the report.
2. 5G NR n41 support UL MIMO mode, and only supports CP-OFDM modulation in UL MIMO mode.
3. The device supports Standalone and EN-DC mode, the whole testing has assessed SA mode by referring to the higher conducted power for conducted test items.
4. The EN-DC mode could be referred to the product spec.
5. The device supports EN-DC mode and SA mode, the different modes match with different antenna combination. Pre-scanned harmonic for RSE testing, we choice worse case of antenna combination to full test.

1.6 Modification of EUT

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

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

5G NR n7		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)
50	2525.0 ~ 2545.0	48M2G7D	0.2649	48M3W7D	0.2133
Frequency Tolerance (ppm)		0.0028			
5G NR n12		**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)
15	706.5 ~ 708.5	14M1G7D	0.0871	14M1W7D	0.0705
Frequency Tolerance (ppm)		0.0092			
5G NR n38		**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	2590.02 ~ 2599.98	37M9G7D	0.4989	38M0W7D	0.4775
Frequency Tolerance (ppm)		0.0022			
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	96M5G7D	0.5035	96M3W7D	0.4797
Frequency Tolerance (ppm)		0.0022			
5G NR n41_UL MIMO		**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	97M5G7D	0.8851	96M9W7D	0.8610
Frequency Tolerance (ppm)		0.0038			
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	0.0408	18M9W7D	0.0337
Frequency Tolerance (ppm)		0.0098			

Note:

1. 5G NR Band n41 overlaps the entire frequency range of Band n38. Therefore, the conducted test results

provided in this report covers Band n41 as well as Band n38.

2. Based on engineering evaluation, only the maximum bandwidth and the worst modulation test results are shown in the report.

1.8 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.**
	03CH04-KS TH01-KS	CN1257	314309

1.9 Test Software

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

1.10 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.

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			

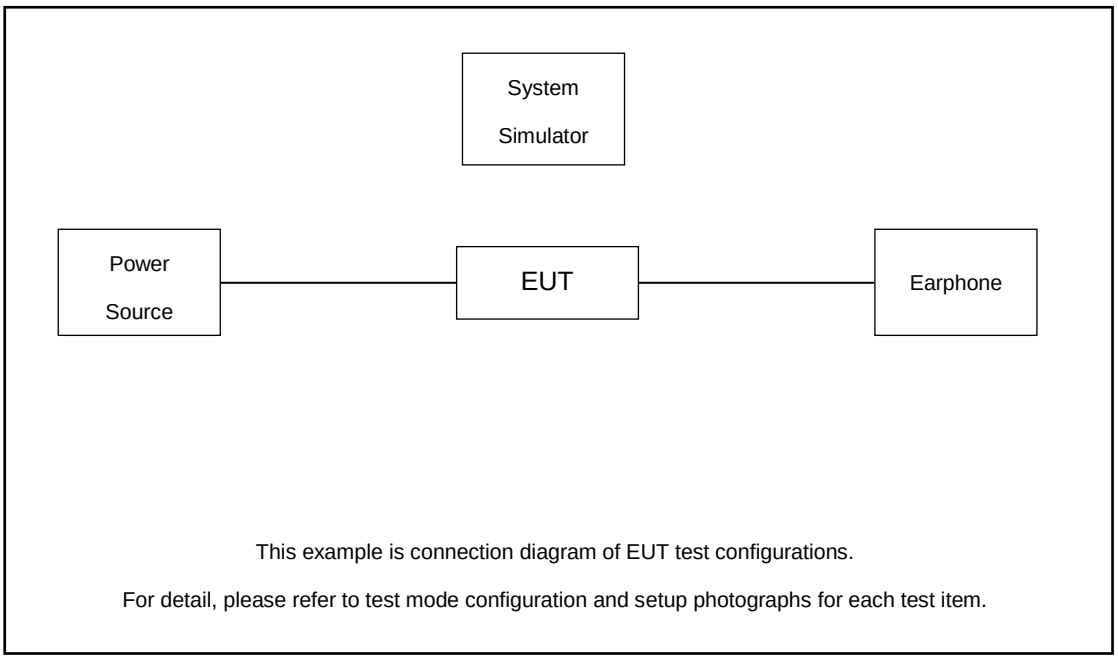
Test Items	5G NR	Bandwidth (MHz)										Modulation					RB #		Test Channel		
		5	10	15	20	25	30	40	50	60-90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256 QAM	1	Full	L	M	H
Max. Output Power	n7	v	v	v	v	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	n12	v	v	v	-	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n38	-	-	-	v	-	v	v	-	-	-	v	v	v	v	v	v	v	v	v	v
	n41	-	-	-	v	-	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
Peak-to-Average Ratio	n7								v	-	-	v	v	v	v	v		v		v	
	n12			v	-	-	-	-	-	-	-	v	v	v	v	v		v		v	
	n41	-	-	-		-					v	v	v	v	v	v		v		v	
	n71				v	-	-	-	-	-	-	v	v	v	v	v		v		v	
26dB and 99% Bandwidth	n7								v	-	-		v	v				v		v	
	n12			v	-	-	-	-	-	-	-		v	v				v		v	
	n41	-	-	-		-					v		v	v				v		v	
	n71				v	-	-	-	-	-	-		v	v				v		v	
Conducted Band Edge	n7	v	v	v	v	v	v	v	v	-	-	v	v	v	v	v	v	v	v		v
	n12	v	v	v	-	-	-	-	-	-	-	v	v	v	v	v	v	v	v		v
	n41	-	-	-	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

Test Items	5G NR	Bandwidth (MHz)										Modulation					RB #		Test Channel		
		5	10	15	20	25	30	40	50	60-90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256 QAM	1	Full	L	M	H
Conducted Spurious Emission	n7	v	v	v	v	v	v	v	v	-	-		v				v		v	v	v
	n12	v	v	v	-	-	-	-	-	-	-		v				v		v	v	v
	n41	-	-	-	v	-	v	v	v	v	v		v				v		v	v	v
	n71	v	v	v	v	-	-	-	-	-	-		v				v		v	v	v
Frequency Stability	n7								v	-	-		v				v			v	
	n12			v	-	-	-	-	-	-	-		v				v			v	
	n41	-	-	-		-					v		v				v			v	
	n71				v	-	-	-	-	-	-		v				v			v	
E.R.P / E.I.R.P	n7	v	v	v	v	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	n12	v	v	v	-	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n41	-	-	-	v	-	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
Radiated Spurious Emission	n7	Worst Case																	v	v	v
	n12	Worst Case																	v	v	v
	n38	Worst Case																	v	v	v
	n41	Worst Case																	v	v	v
	n71	Worst Case																	v	v	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. 5G NR supports SA and NSA mode (refer to the Operation Description). According to the maximum power, perform all test for conducted items of SA mode, and NSA mode verify the worst of SA mode, only record the SA conducted test data in the report.
5. 5G NR n41 supports UL MIMO mode, and only supports CP-OFDM modulation in UL MIMO mode.
6. 5G NR Band n41 overlaps the entire frequency range of Band n38. Therefore, the conducted test results provided in this report covers Band n41 as well as Band n38.
7. The maximum ERP/EIRP is calculated from max output power and max antenna gain, only the maximum ERP/EIRP is shown in the report.
8. All test items are based on engineering evaluation.

2.2 Connection Diagram of Test System



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	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 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 6.2 dB.

Example :

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

= 6.2 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G NR n7 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
50	Channel	505000	507000	509000
	Frequency	2525	2535	2545
40	Channel	504000	507000	510000
	Frequency	2520	2535	2550
30	Channel	503000	507000	511000
	Frequency	2515	2535	2555
25	Channel	502500	507000	511500
	Frequency	2512.5	2535	2557.5
20	Channel	502000	507000	512000
	Frequency	2510	2535	2560
15	Channel	501500	507000	512500
	Frequency	2507.5	2535	2562.5
10	Channel	501000	507000	513000
	Frequency	2505	2535	2565
5	Channel	500500	507000	513500
	Frequency	2502.5	2535	2567.5

5G NR n12 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
15	Channel	141300	141500	141700
	Frequency	706.5	707.5	708.5
10	Channel	140800	141500	142200
	Frequency	704	707.5	711
5	Channel	140300	141500	142700
	Frequency	701.5	707.5	713.5

5G NR n38 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
40	Channel	518004	519000	519996
	Frequency	2590.02	2595	2599.98
30	Channel	517002	519000	520998
	Frequency	2585.01	2595	2604.99
20	Channel	516000	519000	522000
	Frequency	2580	2595	2610

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 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

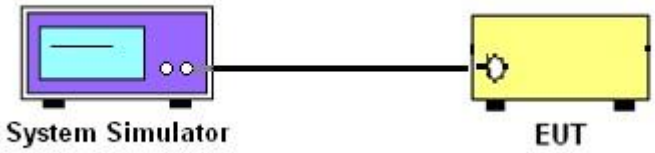
3 Conducted Test Items

3.1 Measuring Instruments

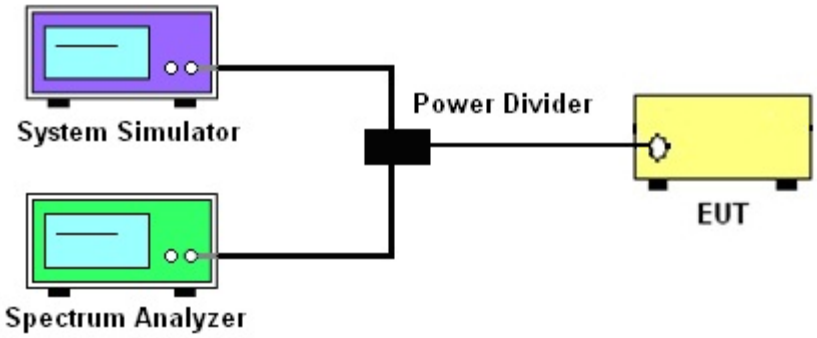
See list of measuring instruments of this test report.

3.2 Test Setup

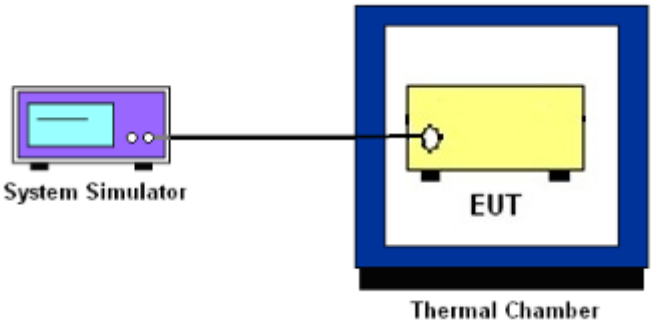
3.2.1 Conducted Output Power



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 n12 and n71.

The EIRP of mobile transmitters must not exceed 2 Watts for 5G NR n7, n38 and n41.

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 5G NR Band n12/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 5G NR Band n7/n41:

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 (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.

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 n7/n38/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 n7/n38/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 n7/n38/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.

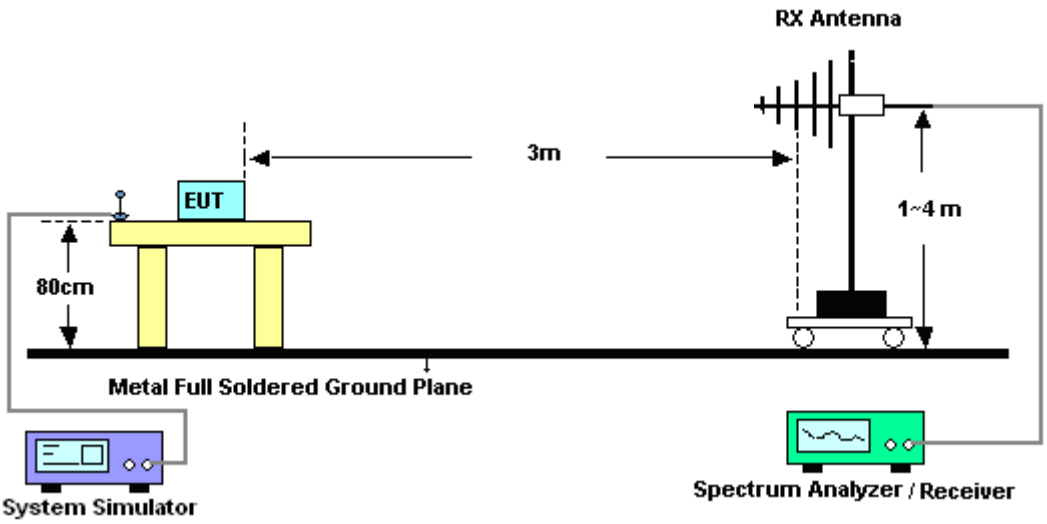
4 Radiated Test Items

4.1 Measuring Instruments

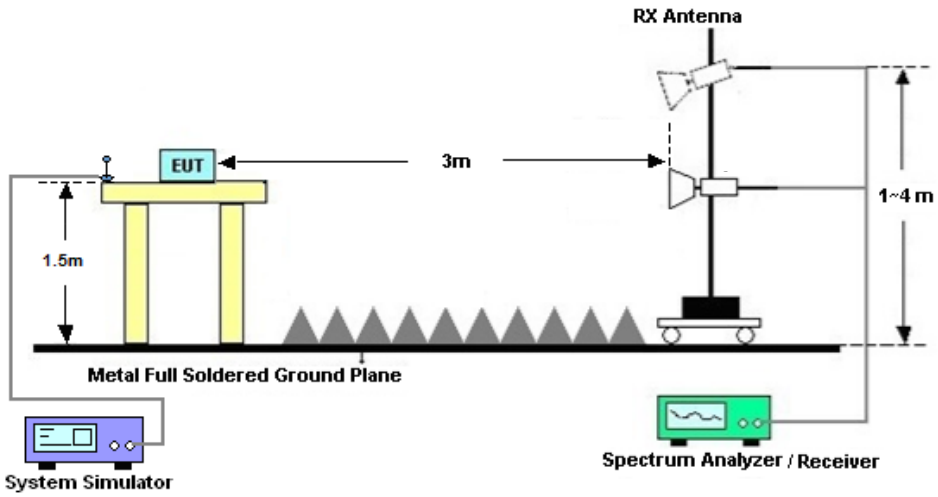
See list of measuring instruments of this test report.

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 n7/n38/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 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.
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 n7/n38/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	Dec. 19, 2020~ Jan. 25, 2021	Nov. 01, 2021	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 03, 2020	Dec. 19, 2020~ Jan. 25, 2021	Jul. 02, 2021	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44G,MAX 30dB	Apr. 15, 2020	Jan. 15, 2021	Apr. 14, 2021	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Jan. 02, 2021	Jan. 15, 2021	Jan. 01, 2022	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1356	1GHz~18GHz	Apr. 20, 2020	Jan. 15, 2021	Apr. 19, 2021	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Nov. 09, 2020	Jan. 15, 2021	Nov. 08, 2021	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 02, 2021	Jan. 15, 2021	Jan. 01, 2022	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 07, 2021	Jan. 15, 2021	Jan. 06, 2022	Radiation (03CH04-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P	2025788	1Ghz-18Ghz	Jan. 02, 2021	Jan. 15, 2021	Jan. 01, 2022	Radiation (03CH04-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5GHz	Oct. 14, 2020	Jan. 15, 2021	Oct. 13, 2021	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jan. 15, 2021	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jan. 15, 2021	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jan. 15, 2021	NCR	Radiation (03CH04-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))	**3.3dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.8dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.8dB**

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power and EIRP)

5G NR n7 SA:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain (dBi)	EIRP		
				(dBm)				(W)		
Channel				505000	507000	509000		L	M	H
Frequency (MHz)				2525	2535	2545				
50	PI/2 BPSK	1	1	23.26	23.18	23.25	0.90	0.2606	0.2559	0.0015
50	QPSK	1	1	23.33	23.26	23.33		0.2649	0.2606	0.2649
50	QPSK	1	108	23.02	22.65	22.78		0.2466	0.2265	0.2333
50	QPSK	1	214	22.65	22.30	22.71		0.2265	0.2089	0.2296
50	QPSK	108	0	21.53	21.05	21.33		0.1750	0.1567	0.1671
50	QPSK	108	54	22.19	21.41	21.52		0.2037	0.1702	0.1746
50	QPSK	108	108	22.63	21.93	22.26		0.2254	0.1919	0.2070
50	QPSK	216	0	20.49	20.45	20.26		0.1377	0.1365	0.1306
50	16QAM	1	1	22.13	22.31	22.39		0.2009	0.2094	0.2133
50	64QAM	1	1	20.34	20.78	20.67		0.1330	0.1472	0.1435
50	256QAM	1	1	18.68	18.88	19.01		0.0908	0.0951	0.0979
Channel				504000	507000	510000	Gain (dBi)	L	M	H
Frequency (MHz)				2520	2535	2550				
40	QPSK	1	1	22.91	22.78	23.02	0.90	0.2404	0.2333	0.2466
40	16QAM	1	1	21.76	21.66	21.91		0.1845	0.1803	0.1910
Channel				503000	507000	511000	Gain (dBi)	L	M	H
Frequency (MHz)				2515	2535	2555				
30	QPSK	1	1	22.64	22.59	22.39	0.90	0.2259	0.2234	0.2133
30	16QAM	1	1	21.44	21.60	21.73		0.1714	0.1778	0.1832
Channel				502500	507000	511500	Gain (dBi)	L	M	H
Frequency (MHz)				2512.5	2535	2557.5				
25	QPSK	1	1	22.91	23.01	23.06	0.90	0.2404	0.2460	0.2489
25	16QAM	1	1	21.33	21.66	21.65		0.1671	0.1803	0.1799
Channel				502000	507000	512000	Gain (dBi)	L	M	H
Frequency (MHz)				2510	2535	2560				
20	QPSK	1	1	22.89	23.21	22.36	0.90	0.2393	0.2576	0.2118
20	16QAM	1	1	21.85	21.89	21.55		0.1884	0.1901	0.1758
Channel				501500	507000	512500	Gain (dBi)	L	M	H
Frequency (MHz)				2507.5	2535	2562.5				
15	QPSK	1	1	22.76	23.06	22.23	0.90	0.2323	0.2489	0.2056
15	16QAM	1	1	21.96	22.13	21.36		0.1932	0.2009	0.1683
Channel				501000	507000	513000	Gain (dBi)	L	M	H
Frequency (MHz)				2505	2535	2565				
10	QPSK	1	1	22.78	22.72	22.89	0.90	0.2333	0.2301	0.2393
10	16QAM	1	1	21.79	21.63	21.85		0.1858	0.1791	0.1884
Channel				500500	507000	513500	Gain	L	M	H

Frequency (MHz)				2502.5	2535	2567.5	(dBi)			
5	QPSK	1	1	22.79	22.13	22.76	0.90	0.2339	0.2009	0.2323
5	16QAM	1	1	21.93	21.20	21.63		0.1919	0.1622	0.1791

5G NR n12 SA:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain (dBi)	ERP		
				(dBm)				(W)		
Channel				141300	141500	141700		L	M	H
Frequency (MHz)				706.5	707.5	708.5				
15	PI/2 BPSK	1	1	23.36	23.53	23.39	-2.00	0.0834	0.0867	0.0839
15	QPSK	1	1	23.36	23.55	23.29		0.0834	0.0871	0.0820
15	QPSK	1	40	23.21	23.16	23.28		0.0805	0.0796	0.0818
15	QPSK	1	77	23.16	23.11	23.13		0.0796	0.0787	0.0791
15	QPSK	36	0	22.32	22.13	22.25		0.0656	0.0628	0.0646
15	QPSK	36	22	23.25	23.25	23.26		0.0813	0.0813	0.0815
15	QPSK	36	43	22.23	22.11	22.32		0.0643	0.0625	0.0656
15	QPSK	75	0	22.31	22.23	22.16		0.0655	0.0643	0.0632
15	16QAM	1	1	22.63	22.36	22.32		0.0705	0.0662	0.0656
15	64QAM	1	1	21.12	20.63	21.06		0.0498	0.0445	0.0491
15	256QAM	1	1	19.52	19.56	18.96		0.0344	0.0348	0.0303
Channel				140800	141500	142200	Gain (dBi)	L	M	H
Frequency (MHz)				704	707.5	711				
10	QPSK	1	1	23.32	23.11	23.18	-2.00	0.0826	0.0787	0.0800
10	16QAM	1	1	22.16	22.13	22.06		0.0632	0.0628	0.0618
Channel				140300	141500	142700	Gain (dBi)	L	M	H
Frequency (MHz)				701.5	707.5	713.5				
5	QPSK	1	1	23.39	23.15	23.12	-2.00	0.0839	0.0794	0.0789
5	16QAM	1	1	22.63	22.23	22.16		0.0662	0.0643	0.0632

5G NR n38 SA:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain (dBi)	EIRP (W)		
				(dBm)						
Channel				518004	519000	519996		L	M	H
Frequency (MHz)				2590.02	2595	2599.98				
40	PI/2 BPSK	1	1	24.03	23.68	23.98	2.90	0.4932	0.4550	0.4870
40	QPSK	1	1	24.08	23.91	23.91		0.4989	0.4797	0.4792
40	QPSK	1	53	24.01	23.61	23.71		0.4909	0.4477	0.4576
40	QPSK	1	104	23.60	23.35	23.42		0.4467	0.4217	0.4281
40	QPSK	50	0	23.96	23.51	23.70		0.4853	0.4375	0.4566
40	QPSK	50	28	23.86	23.57	23.56		0.4742	0.4436	0.4421
40	QPSK	50	56	23.66	23.53	23.35		0.4529	0.4395	0.4212
40	QPSK	100	0	23.68	23.30	23.43		0.4550	0.4169	0.4290
40	16QAM	1	1	23.83	23.83	23.83		0.4710	0.4710	0.4704
40	64QAM	1	1	23.89	23.58	23.79		0.4775	0.4446	0.4661
40	256QAM	1	1	22.04	22.07	22.08		0.3119	0.3141	0.3144
Channel				517002	519000	520998	Gain (dBi)	L	M	H
Frequency (MHz)				2585.01	2595	2604.99				
30	QPSK	1	1	23.78	23.51	23.66	2.90	0.4656	0.4375	0.4529
30	16QAM	1	1	23.58	23.44	23.39		0.4446	0.4305	0.4256
Channel				516000	519000	522000	Gain (dBi)	L	M	H
Frequency (MHz)				2580	2595	2610				
20	QPSK	1	1	23.68	23.71	23.44	2.90	0.4550	0.4581	0.4305
20	16QAM	1	1	23.51	23.66	23.12		0.4375	0.4529	0.3999

5G NR n41 SA:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain (dBi)	EIRP (W)		
				(dBm)						
Channel				509202	518598	528000		L	M	H
Frequency (MHz)				2546.01	2592.99	2640				
100	PI/2 BPSK	1	1	24.09	23.77	24.02	2.90	0.5000	0.4645	0.4920
100	QPSK	1	1	24.12	23.98	23.96		0.5035	0.4875	0.4853
100	QPSK	1	137	24.02	23.65	23.73		0.4920	0.4519	0.4603
100	QPSK	1	271	23.69	23.47	23.52		0.4560	0.4335	0.4385
100	QPSK	135	0	24.01	23.59	23.76		0.4909	0.4457	0.4634
100	QPSK	135	69	23.94	23.68	23.65		0.4831	0.4550	0.4519
100	QPSK	135	138	23.78	23.68	23.48		0.4656	0.4550	0.4345
100	QPSK	270	0	23.86	23.51	23.62		0.4742	0.4375	0.4487
100	16QAM	1	1	23.88	23.91	23.89		0.4764	0.4797	0.4775
100	64QAM	1	1	23.87	23.66	23.85		0.4753	0.4529	0.4732
100	256QAM	1	1	22.09	22.15	22.14		0.3155	0.3199	0.3192
Channel				508200	518598	528996	Gain (dBi)	L	M	H
Frequency (MHz)				2541	2592.99	2644.98				
90	QPSK	1	1	23.91	23.79	23.81	2.90	0.4797	0.4667	0.4688
90	16QAM	1	1	23.76	23.59	23.67		0.4634	0.4457	0.4539
Channel				507204	518598	529998	Gain (dBi)	L	M	H
Frequency (MHz)				2536.02	2592.99	2649.99				
80	QPSK	1	1	23.88	23.69	23.82	2.90	0.4764	0.4560	0.4699
80	16QAM	1	1	23.78	23.57	23.75		0.4656	0.4436	0.4624
Channel				505200	518598	531996	Gain (dBi)	L	M	H
Frequency (MHz)				2526	2592.99	2659.98				
60	QPSK	1	1	23.66	23.72	23.90	2.90	0.4529	0.4592	0.4786
60	16QAM	1	1	23.71	23.59	23.77		0.4581	0.4457	0.4645
Channel				504204	518598	532998	Gain (dBi)	L	M	H
Frequency (MHz)				2521.02	2592.99	2664.99				
50	QPSK	1	1	23.95	23.79	23.87	2.90	0.4842	0.4667	0.4753
50	16QAM	1	1	23.76	23.63	23.66		0.4634	0.4498	0.4529
Channel				503202	518598	534000	Gain (dBi)	L	M	H
Frequency (MHz)				2516.01	2592.99	2670				
40	QPSK	1	1	23.96	23.79	23.87	2.90	0.4853	0.4667	0.4753
40	16QAM	1	1	23.77	23.64	23.79		0.4645	0.4508	0.4667
Channel				502200	518598	534996	Gain (dBi)	L	M	H
Frequency (MHz)				2511	2592.99	2674.98				
30	QPSK	1	1	23.79	23.98	23.78	2.90	0.4667	0.4875	0.4656
30	16QAM	1	1	23.77	23.72	23.59		0.4645	0.4592	0.4457
Channel				501204	518598	535998	Gain (dBi)	L	M	H
Frequency (MHz)				2506.02	2592.99	2679.99				
20	QPSK	1	1	23.89	23.89	23.59	2.90	0.4775	0.4775	0.4457
20	16QAM	1	1	23.68	23.78	23.33		0.4550	0.4656	0.4198

5G NR n41 UL MIMO:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain (dBi)	EIRP (W)		
				(dBm)						
Channel				509202	518598	528000		L	M	H
Frequency (MHz)				2546.01	2592.99	2640				
100	QPSK	1	1	23.55	23.45	23.56	5.91	0.8831	0.8630	0.8851
100	QPSK	1	271	22.68	22.56	22.78		0.7228	0.7031	0.7396
100	QPSK	137	68	22.71	22.61	22.66		0.7278	0.7112	0.7194
100	QPSK	1	0	23.05	23.09	23.01		0.7870	0.7943	0.7798
100	QPSK	1	272	22.88	22.95	22.78		0.7568	0.7691	0.7396
100	QPSK	273	0	22.61	22.67	22.59		0.7112	0.7211	0.7079
100	16QAM	1	1	23.16	23.36	23.44		0.8072	0.8453	0.8610
100	64QAM	1	1	22.79	22.98	22.89		0.7413	0.7745	0.7586
100	256QAM	1	1	20.48	20.52	20.47		0.4355	0.4395	0.4345
Channel				508200	518598	528996	Gain (dBi)	L	M	H
Frequency (MHz)				2541	2592.99	2644.98				
90	QPSK	1	1	23.45	23.31	23.45	5.91	0.8630	0.8356	0.8630
90	16QAM	1	1	23.05	23.21	23.22		0.7870	0.8166	0.8185
Channel				507204	518598	529998	Gain (dBi)	L	M	H
Frequency (MHz)				2536.02	2592.99	2649.99				
80	QPSK	1	1	23.41	23.22	23.31	5.91	0.8551	0.8185	0.8356
80	16QAM	1	1	22.98	23.12	23.16		0.7745	0.7998	0.8072
Channel				505200	518598	531996	Gain (dBi)	L	M	H
Frequency (MHz)				2526	2592.99	2659.98				
60	QPSK	1	1	23.36	23.33	23.41	5.91	0.8453	0.8395	0.8551
60	16QAM	1	1	23.06	23.21	23.41		0.7889	0.8166	0.8551
Channel				504204	518598	532998	Gain (dBi)	L	M	H
Frequency (MHz)				2521.02	2592.99	2664.99				
50	QPSK	1	1	23.42	23.32	23.37	5.91	0.8570	0.8375	0.8472
50	16QAM	1	1	23.00	23.10	23.12		0.7780	0.7962	0.7998
Channel				503202	518598	534000	Gain (dBi)	L	M	H
Frequency (MHz)				2516.01	2592.99	2670				
40	QPSK	1	1	23.36	23.11	23.34	5.91	0.8453	0.7980	0.8414
40	16QAM	1	1	23.07	22.98	23.24		0.7907	0.7745	0.8222
Channel				502200	518598	534996	Gain (dBi)	L	M	H
Frequency (MHz)				2511	2592.99	2674.98				
30	QPSK	1	1	23.21	23.09	23.21	5.91	0.8166	0.7943	0.8166
30	16QAM	1	1	23.08	23.16	23.41		0.7925	0.8072	0.8551
Channel				501204	518598	535998	Gain (dBi)	L	M	H
Frequency (MHz)				2506.02	2592.99	2679.99				
20	QPSK	1	1	23.23	23.18	23.26	5.91	0.8204	0.8110	0.8260
20	16QAM	1	1	22.78	22.97	22.89		0.7396	0.7727	0.7586

Note: MIMO Gain= MaxGain+10log(N), N=2

5G NR n71 SA:

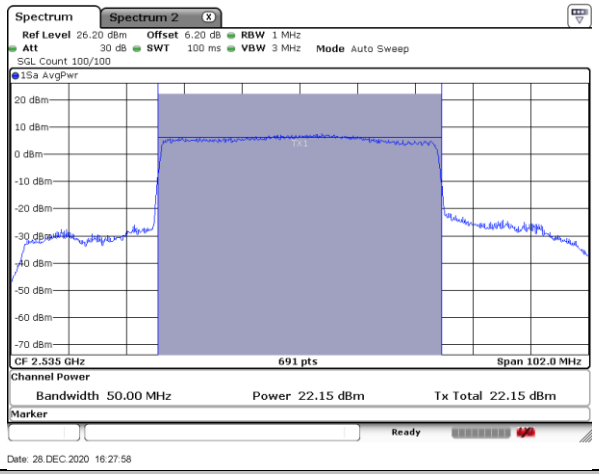
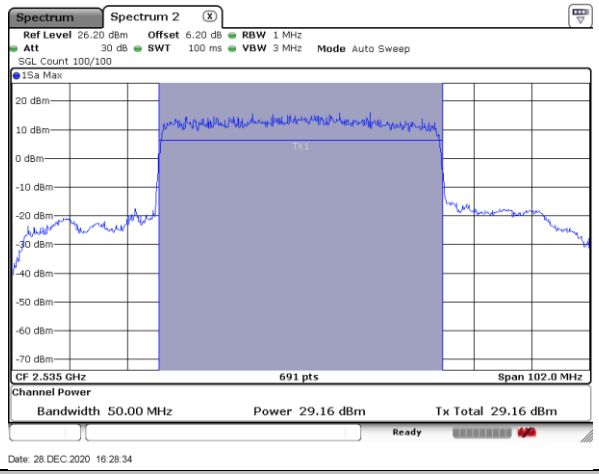
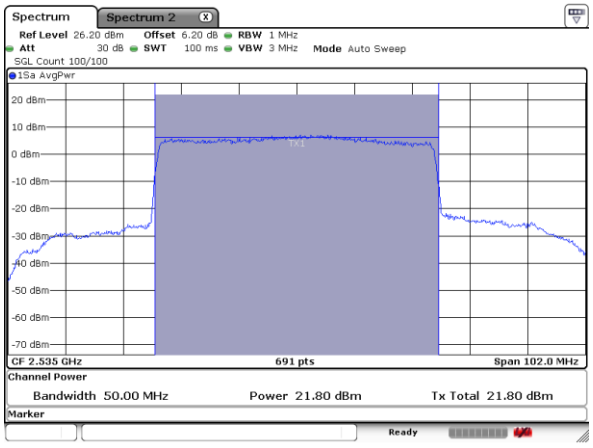
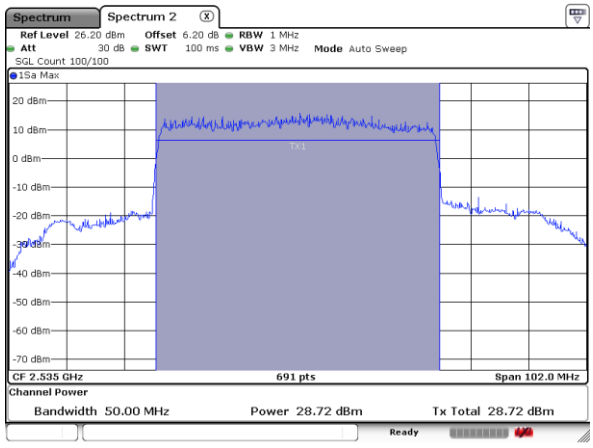
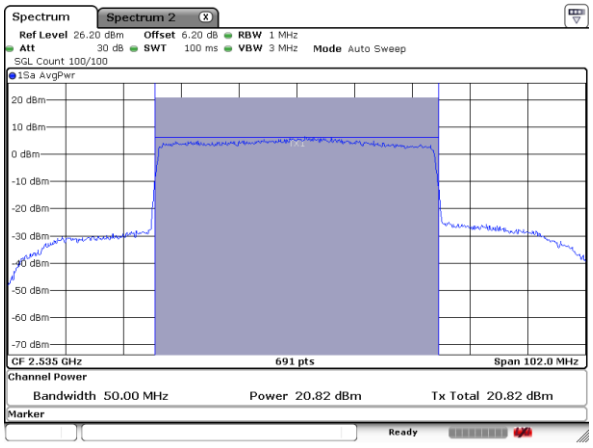
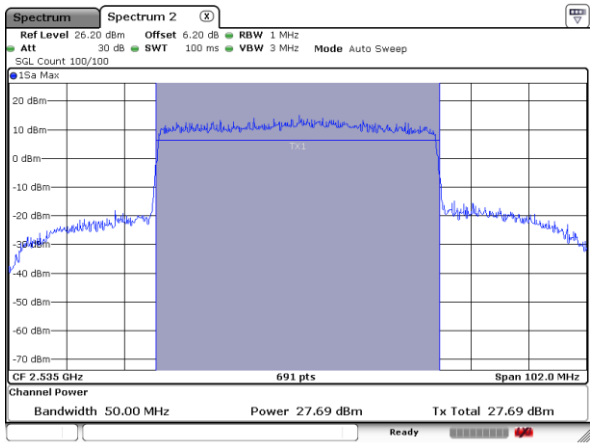
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain (dBi)	ERP (W)		
				(dBm)						
Channel				134600	136100	137600		L	M	H
Frequency (MHz)				673	680.5	688				
20	PI/2 BPSK	1	1	22.11	22.13	22.53	-5.00	0.0313	0.0315	0.0345
20	QPSK	1	1	22.48	22.32	23.26		0.0341	0.0329	0.0408
20	QPSK	1	53	22.06	22.86	23.23		0.0310	0.0372	0.0406
20	QPSK	1	104	22.89	23.12	23.16		0.0375	0.0395	0.0399
20	QPSK	50	0	21.03	21.55	22.13		0.0244	0.0275	0.0315
20	QPSK	50	28	22.23	22.85	23.26		0.0322	0.0372	0.0408
20	QPSK	50	56	21.68	22.14	22.36		0.0284	0.0316	0.0332
20	QPSK	100	0	21.32	21.83	22.25		0.0261	0.0294	0.0324
20	16QAM	1	1	21.29	21.26	22.42		0.0259	0.0258	0.0337
20	64QAM	1	1	19.75	19.62	20.16		0.0182	0.0177	0.0200
20	256QAM	1	1	17.65	17.52	17.44		0.0112	0.0109	0.0107
Channel				134100	136100	138100	Gain	L	M	H
Frequency (MHz)				670.5	680.5	690.5				
15	QPSK	1	1	22.02	22.26	23.09	-5.00	0.0307	0.0324	0.0393
15	16QAM	1	1	21.36	21.23	22.29		0.0264	0.0256	0.0327
Channel				133600	136100	138600	Gain	L	M	H
Frequency (MHz)				668	680.5	693				
10	QPSK	1	1	21.96	22.53	23.13	-5.00	0.0303	0.0345	0.0396
10	16QAM	1	1	21.13	21.53	22.22		0.0250	0.0274	0.0321
Channel				133100	136100	139100	Gain	L	M	H
Frequency (MHz)				665.5	680.5	695.5				
5	QPSK	1	1	22.12	22.56	23.21	-5.00	0.0314	0.0348	0.0404
5	16QAM	1	1	20.65	21.44	22.25		0.0224	0.0269	0.0324

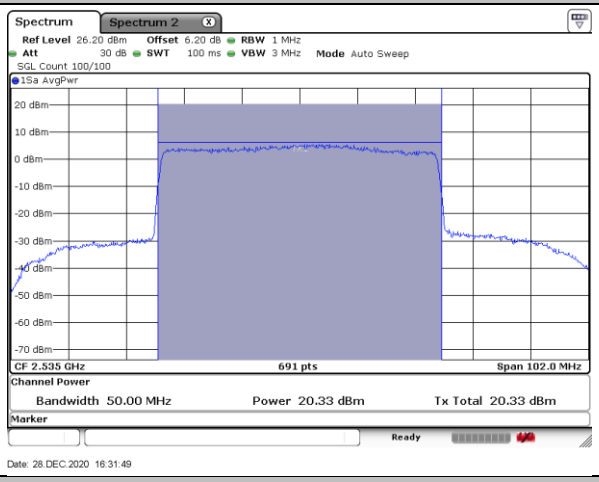
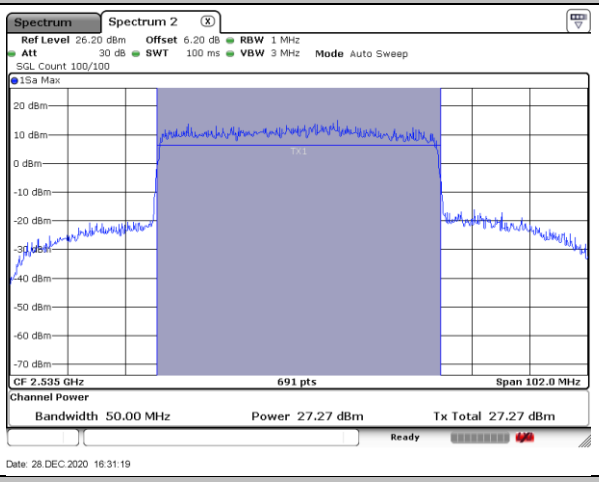
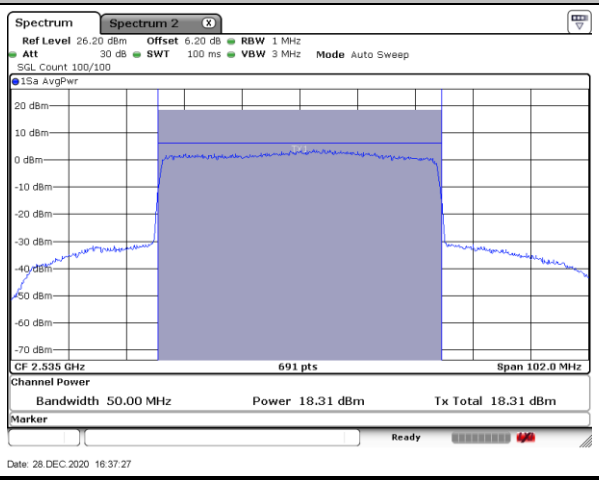
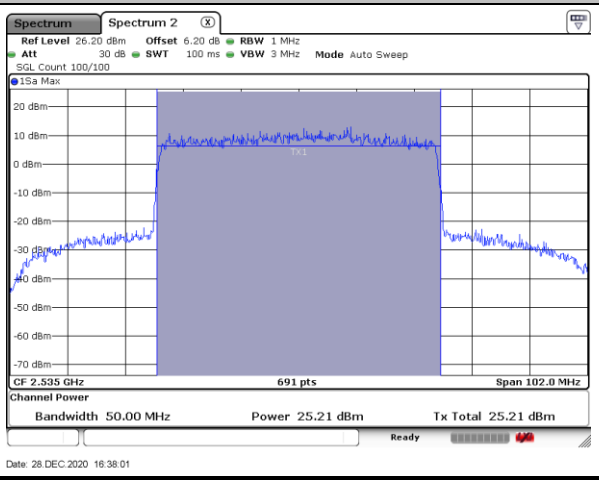
5G NR n7 SA

Peak-to-Average Ratio

Mode	FR1 n7 / 50MHz / DFT-S OFDM				
Mod.	PI/2 BPSK	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Result
Middle CH	7.01	6.92	6.87	6.94	PASS
Mod.	256QAM				Limit: 13dB
RB Size	Full RB				Result
Middle CH	6.81				PASS

Note：PAR=Peak-Average

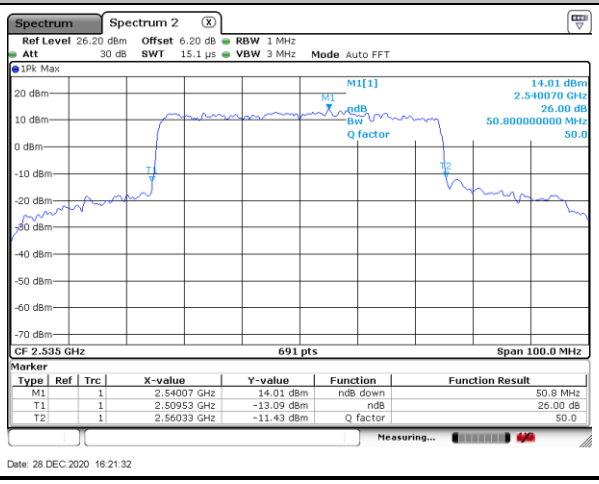
FR1 n7 / 50MHz / DFT-S OFDM	
Middle Channel / Full RB	**Middle Channel / Full RB**
BPSK-Average	**BPSK-Peak**
	
QPSK-Average	**QPSK-Peak**
	
16QAM-Average	**16QAM-Peak**
	

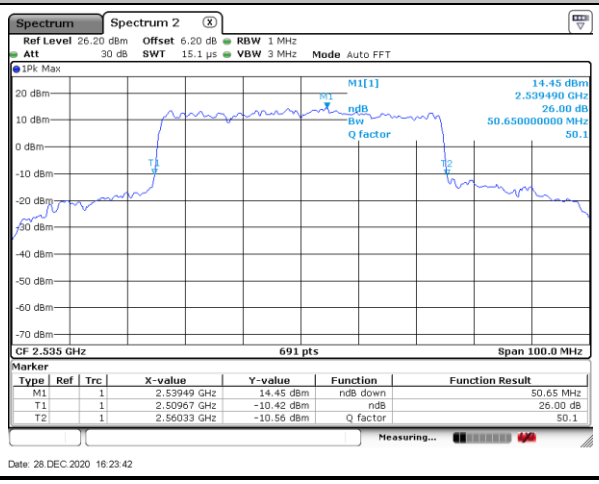
Middle Channel / Full RB	Middle Channel / Full RB
64QAM-Average	64QAM-Peak
	
256QAM-Average	256QAM-Peak
	

26dB Bandwidth

Mode	FR1 n7 : 26dB BW(MHz) / CP OFDM	
BW	50M	
Mod.	QPSK	16QAM
Middle CH	50.8	50.65

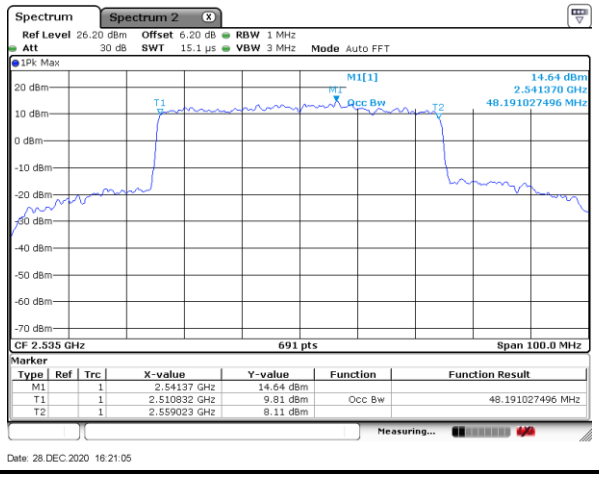
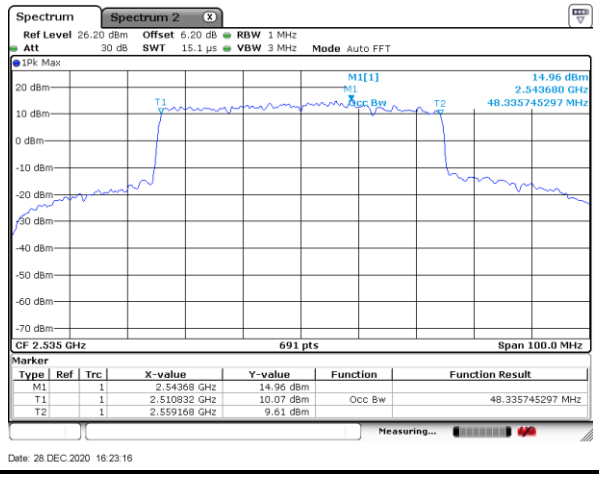
FR1 n7 / 50MHz / CP OFDM	
Middle Channel	
QPSK	16QAM





Occupied Bandwidth

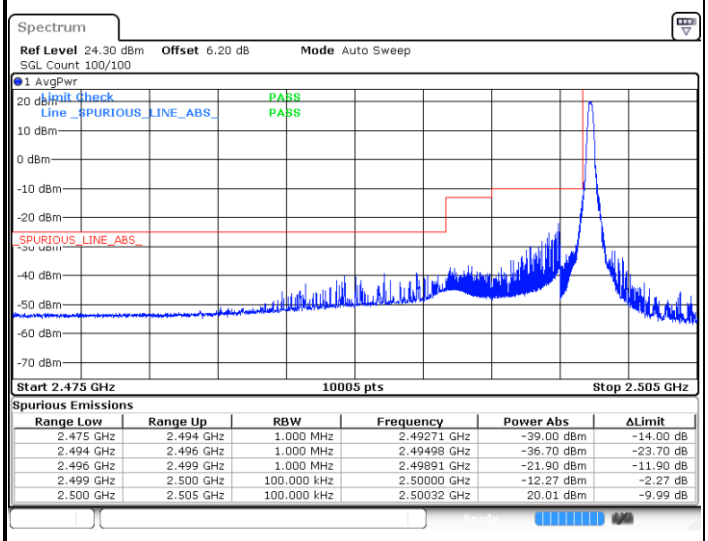
Mode	FR1 n7 : 99%OBW(MHz) / CP OFDM	
BW	50M	
Mod.	QPSK	16QAM
Middle CH	48.19	48.34

FR1 n7 / 50MHz / CP OFDM	
Middle Channel	
QPSK	16QAM
	

Conducted Band Edge

FR1 n7 / 5MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

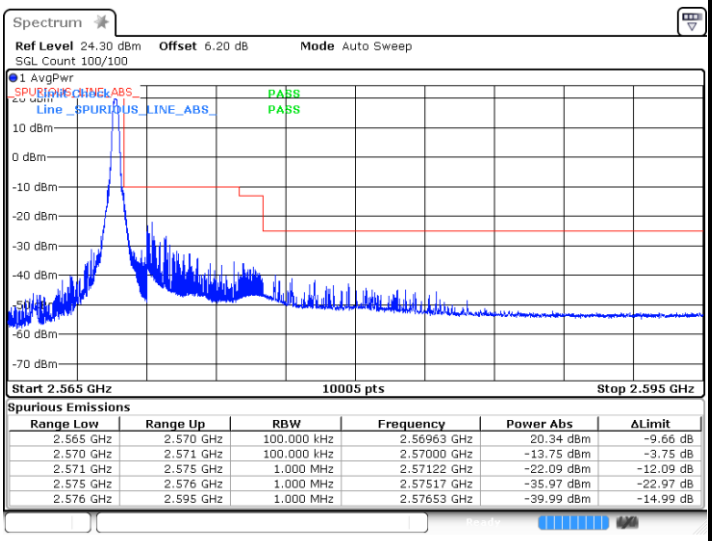


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.494 GHz	1.000 MHz	2.49271 GHz	-39.00 dBm	-14.00 dB
2.494 GHz	2.496 GHz	1.000 MHz	2.49498 GHz	-36.70 dBm	-23.70 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49891 GHz	-21.90 dBm	-11.90 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-12.27 dBm	-2.27 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50032 GHz	20.01 dBm	-9.99 dB

Date: 20.DEC.2020 10:35:59

Highest Band Edge / 1RBMAX

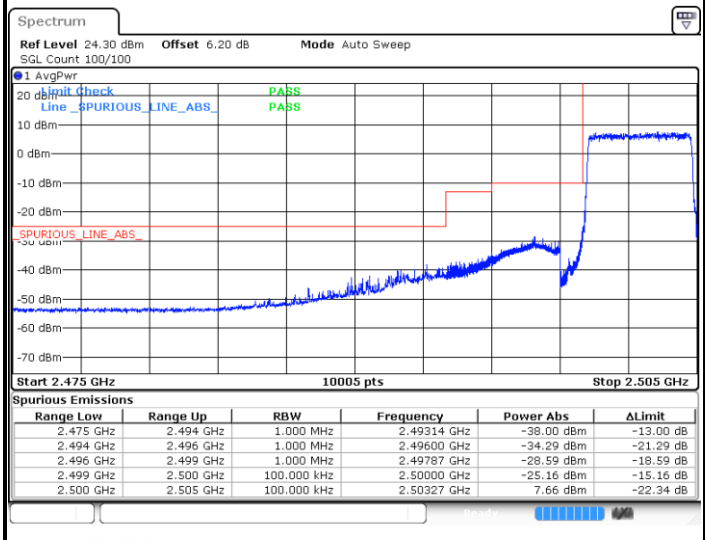


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.565 GHz	2.570 GHz	100.000 kHz	2.56963 GHz	20.34 dBm	-9.66 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57000 GHz	-13.75 dBm	-3.75 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57122 GHz	-22.09 dBm	-12.09 dB
2.575 GHz	2.576 GHz	1.000 MHz	2.57517 GHz	-35.97 dBm	-22.97 dB
2.576 GHz	2.595 GHz	1.000 MHz	2.57653 GHz	-39.99 dBm	-14.99 dB

Date: 20.DEC.2020 10:42:47

Lowest Band Edge / Full RB

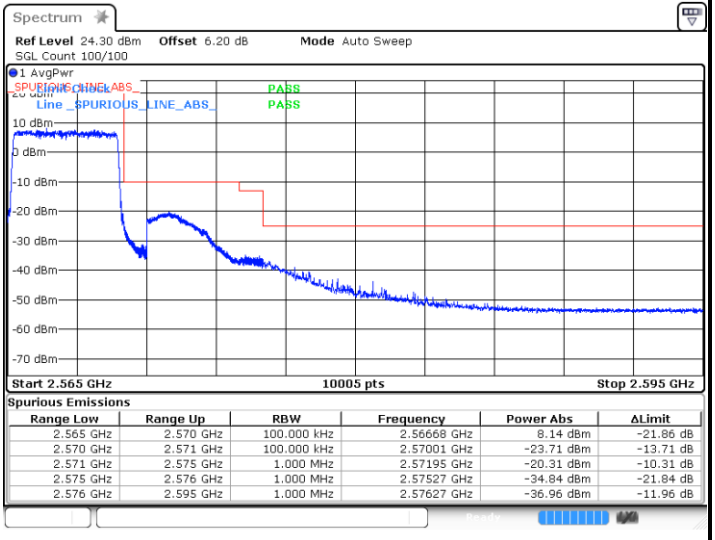


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.494 GHz	1.000 MHz	2.49314 GHz	-38.00 dBm	-13.00 dB
2.494 GHz	2.496 GHz	1.000 MHz	2.49600 GHz	-34.29 dBm	-21.29 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49787 GHz	-28.59 dBm	-18.59 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-25.16 dBm	-15.16 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50327 GHz	7.66 dBm	-22.34 dB

Date: 20.DEC.2020 10:34:26

Highest Band Edge / Full RB



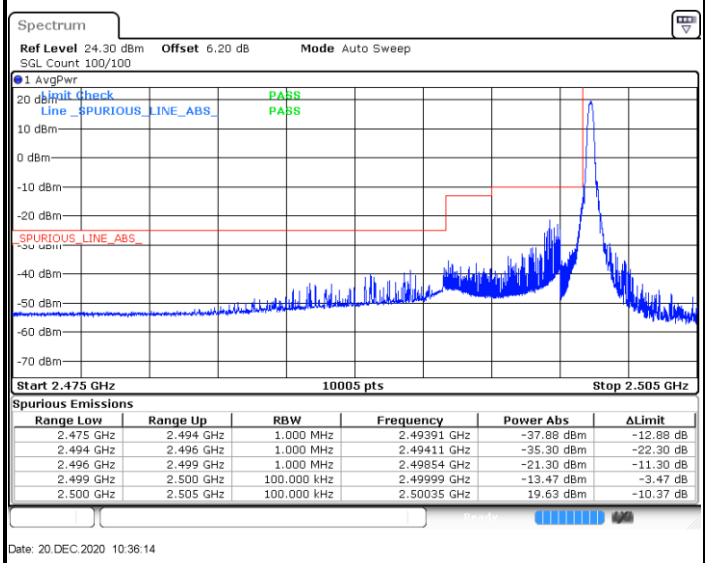
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.565 GHz	2.570 GHz	100.000 kHz	2.56668 GHz	8.14 dBm	-21.86 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57001 GHz	-23.71 dBm	-13.71 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57195 GHz	-20.31 dBm	-10.31 dB
2.575 GHz	2.576 GHz	1.000 MHz	2.57527 GHz	-34.84 dBm	-21.84 dB
2.576 GHz	2.595 GHz	1.000 MHz	2.57627 GHz	-36.96 dBm	-11.96 dB

Date: 20.DEC.2020 10:39:29

FR1 n7 / 5MHz / DFT-S OFDM / QPSK

Lowest Band Edge / 1RB0

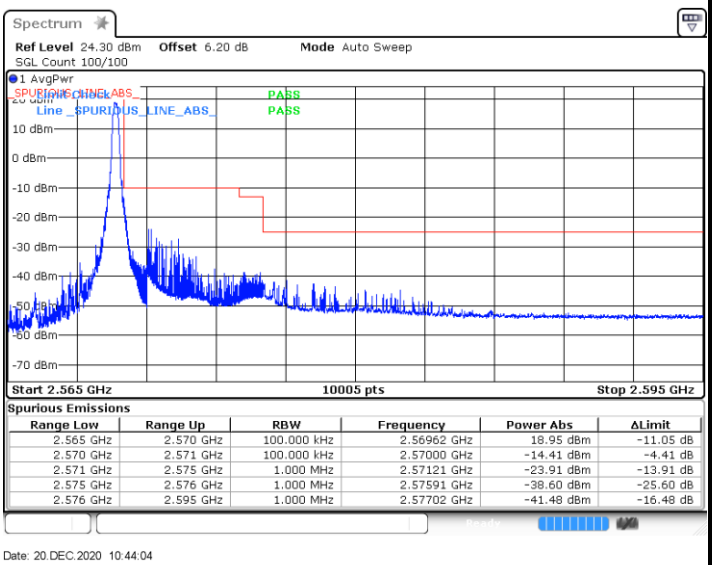


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.494 GHz	1.000 MHz	2.49391 GHz	-37.88 dBm	-12.88 dB
2.494 GHz	2.496 GHz	1.000 MHz	2.49411 GHz	-35.30 dBm	-22.30 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49854 GHz	-21.30 dBm	-11.30 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.49999 GHz	-13.47 dBm	-3.47 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50035 GHz	19.63 dBm	-10.37 dB

Date: 20.DEC.2020 10:36:14

Highest Band Edge / 1RBMAX

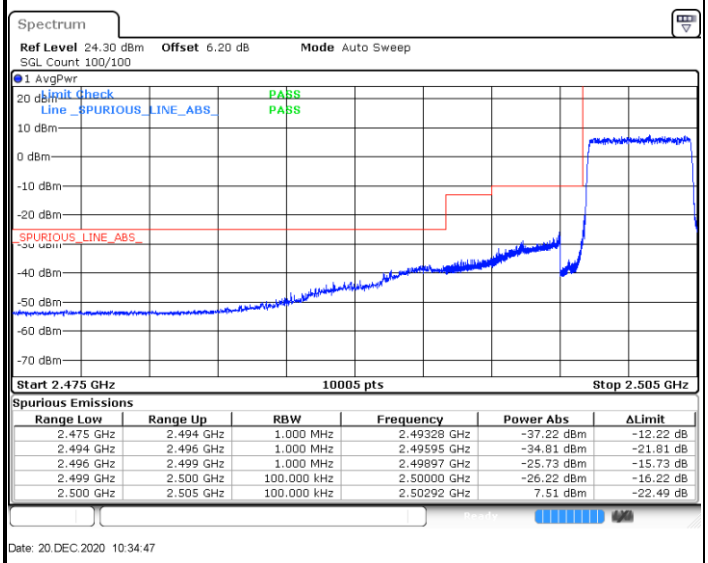


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.565 GHz	2.570 GHz	100.000 kHz	2.56962 GHz	18.95 dBm	-11.05 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57000 GHz	-14.41 dBm	-4.41 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57121 GHz	-23.91 dBm	-13.91 dB
2.575 GHz	2.576 GHz	1.000 MHz	2.57591 GHz	-38.60 dBm	-25.60 dB
2.576 GHz	2.595 GHz	1.000 MHz	2.57702 GHz	-41.48 dBm	-16.48 dB

Date: 20.DEC.2020 10:44:04

Lowest Band Edge / Full RB

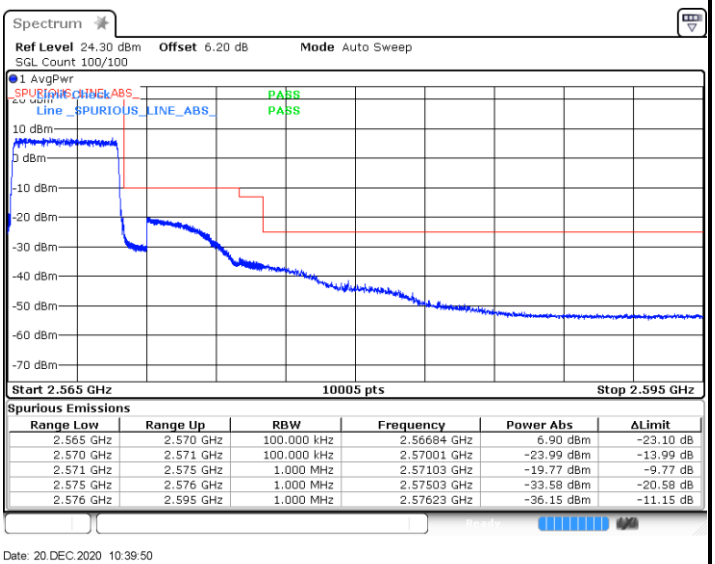


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.494 GHz	1.000 MHz	2.49328 GHz	-37.22 dBm	-12.22 dB
2.494 GHz	2.496 GHz	1.000 MHz	2.49595 GHz	-34.81 dBm	-21.81 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49897 GHz	-25.73 dBm	-15.73 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-26.22 dBm	-16.22 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50292 GHz	7.51 dBm	-22.49 dB

Date: 20.DEC.2020 10:34:47

Highest Band Edge / Full RB



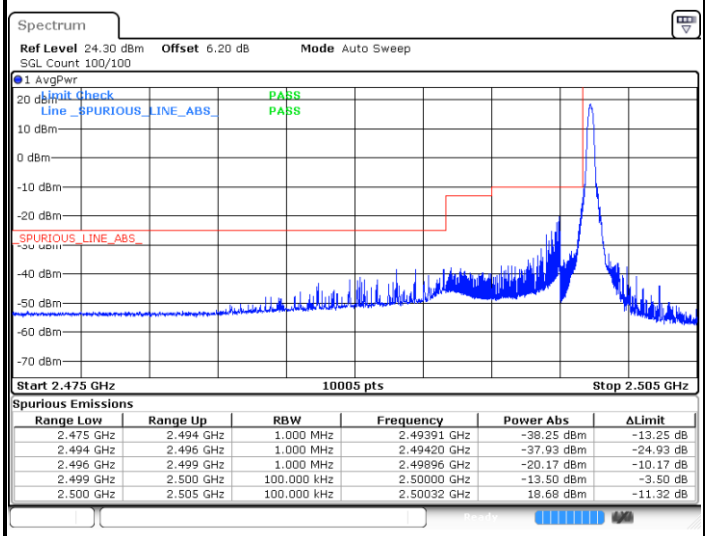
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.565 GHz	2.570 GHz	100.000 kHz	2.56684 GHz	6.90 dBm	-23.10 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57001 GHz	-23.99 dBm	-13.99 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57103 GHz	-19.77 dBm	-9.77 dB
2.575 GHz	2.576 GHz	1.000 MHz	2.57503 GHz	-33.58 dBm	-20.58 dB
2.576 GHz	2.595 GHz	1.000 MHz	2.57623 GHz	-36.15 dBm	-11.15 dB

Date: 20.DEC.2020 10:39:50

FR1 n7 / 5MHz / DFT-S OFDM / 16QAM

Lowest Band Edge / 1RB0



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.494 GHz	1.000 MHz	2.49391 GHz	-38.25 dBm	-13.25 dB
2.494 GHz	2.496 GHz	1.000 MHz	2.49420 GHz	-37.93 dBm	-24.93 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49896 GHz	-20.17 dBm	-10.17 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-13.50 dBm	-3.50 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50032 GHz	18.68 dBm	-11.32 dB

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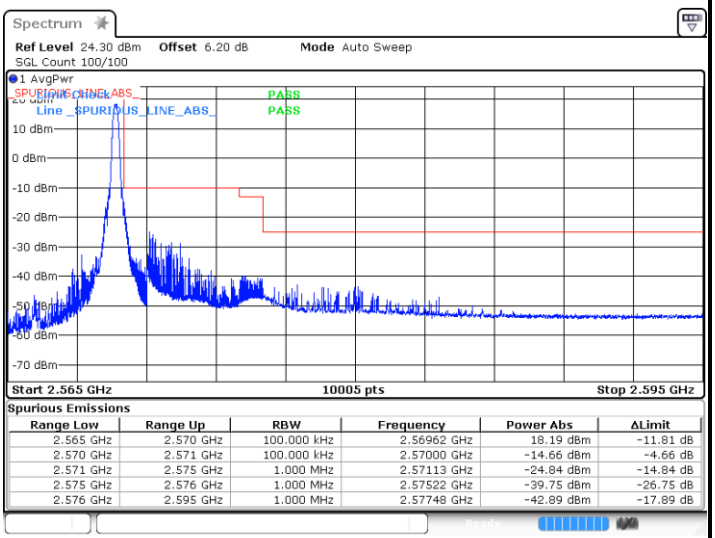
Highest Band Edge / 1RBMAX

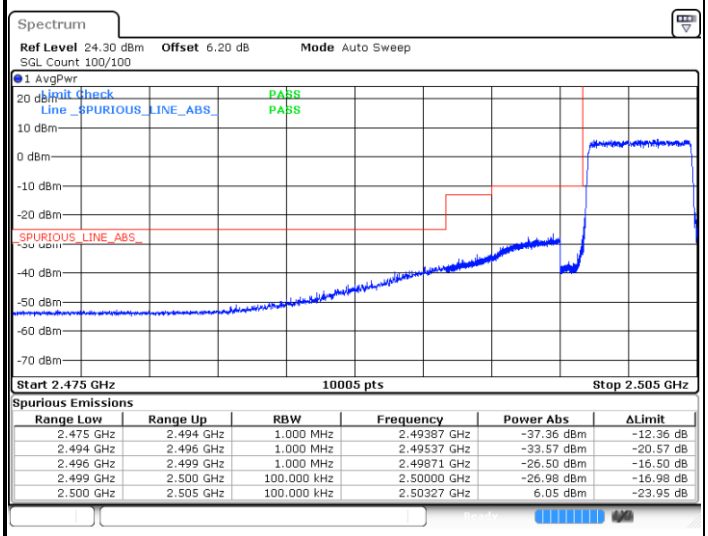


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.565 GHz	2.570 GHz	100.000 kHz	2.56962 GHz	18.19 dBm	-11.81 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57000 GHz	-14.66 dBm	-4.66 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57113 GHz	-24.84 dBm	-14.84 dB
2.575 GHz	2.576 GHz	1.000 MHz	2.57522 GHz	-39.75 dBm	-26.75 dB
2.576 GHz	2.595 GHz	1.000 MHz	2.57748 GHz	-42.89 dBm	-17.89 dB

Date: 20.DEC.2020 10:44:33

Lowest Band Edge / Full RB

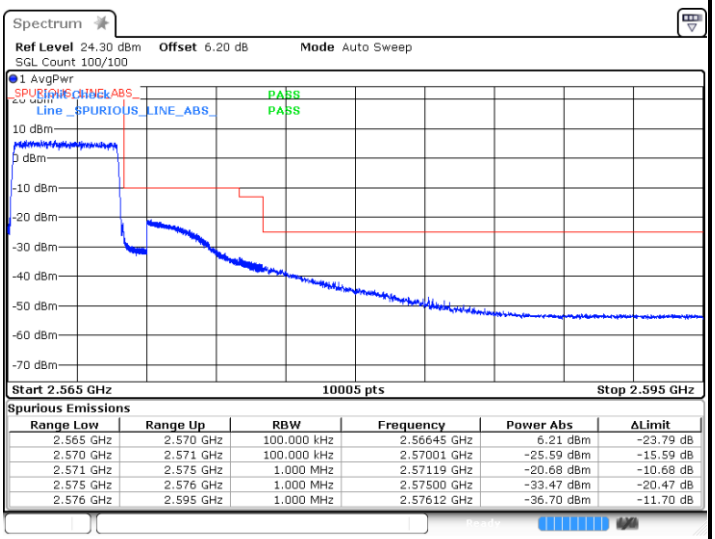


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.494 GHz	1.000 MHz	2.49387 GHz	-37.36 dBm	-12.36 dB
2.494 GHz	2.496 GHz	1.000 MHz	2.49537 GHz	-33.57 dBm	-20.57 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49871 GHz	-26.50 dBm	-16.50 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-26.98 dBm	-16.98 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50327 GHz	6.05 dBm	-23.95 dB

Date: 20.DEC.2020 10:35:03

Highest Band Edge / Full RB



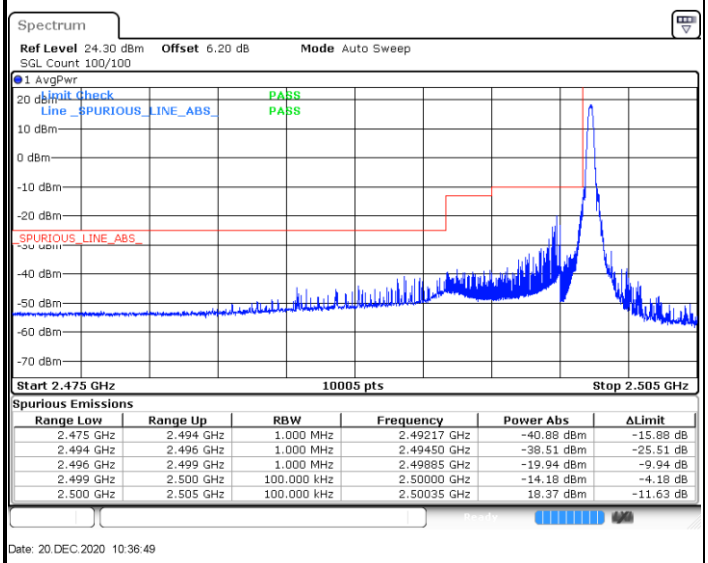
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.565 GHz	2.570 GHz	100.000 kHz	2.56645 GHz	6.21 dBm	-23.79 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57001 GHz	-25.59 dBm	-15.59 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57119 GHz	-20.68 dBm	-10.68 dB
2.575 GHz	2.576 GHz	1.000 MHz	2.57500 GHz	-33.47 dBm	-20.47 dB
2.576 GHz	2.595 GHz	1.000 MHz	2.57612 GHz	-36.70 dBm	-11.70 dB

Date: 20.DEC.2020 10:40:26

FR1 n7 / 5MHz / DFT-S OFDM / 64QAM

Lowest Band Edge / 1RB0

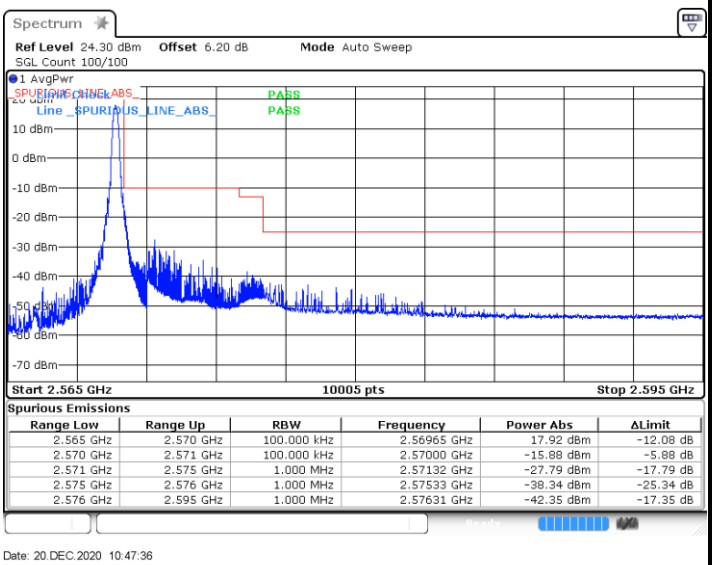


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.494 GHz	1.000 MHz	2.49217 GHz	-40.88 dBm	-15.88 dB
2.494 GHz	2.496 GHz	1.000 MHz	2.49450 GHz	-38.51 dBm	-25.51 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49885 GHz	-19.94 dBm	-9.94 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-14.18 dBm	-4.18 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50035 GHz	18.37 dBm	-11.63 dB

Date: 20.DEC.2020 10:36:49

Highest Band Edge / 1RBMAX

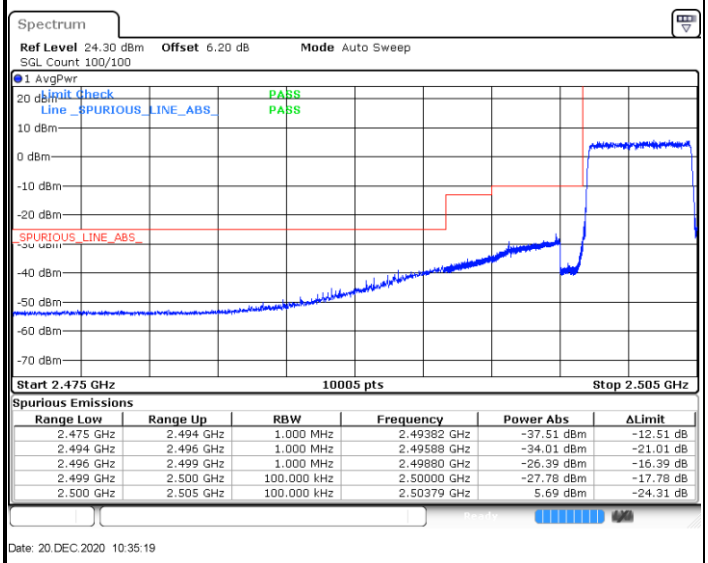


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.565 GHz	2.570 GHz	100.000 kHz	2.56965 GHz	17.92 dBm	-12.08 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57000 GHz	-15.88 dBm	-5.88 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57132 GHz	-27.79 dBm	-17.79 dB
2.575 GHz	2.576 GHz	1.000 MHz	2.57533 GHz	-38.34 dBm	-25.34 dB
2.576 GHz	2.595 GHz	1.000 MHz	2.57631 GHz	-42.35 dBm	-17.35 dB

Date: 20.DEC.2020 10:47:36

Lowest Band Edge / Full RB

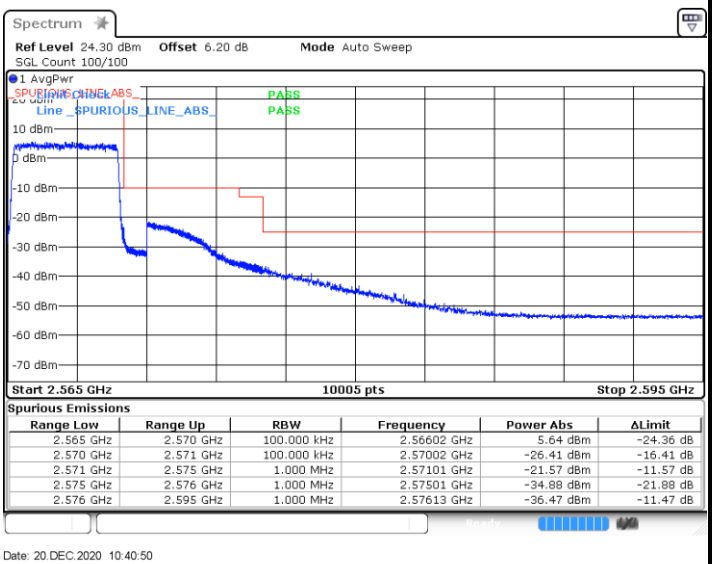


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.494 GHz	1.000 MHz	2.49382 GHz	-37.51 dBm	-12.51 dB
2.494 GHz	2.496 GHz	1.000 MHz	2.49588 GHz	-34.01 dBm	-21.01 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49880 GHz	-26.39 dBm	-16.39 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-27.78 dBm	-17.78 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50379 GHz	5.69 dBm	-24.31 dB

Date: 20.DEC.2020 10:35:19

Highest Band Edge / Full RB



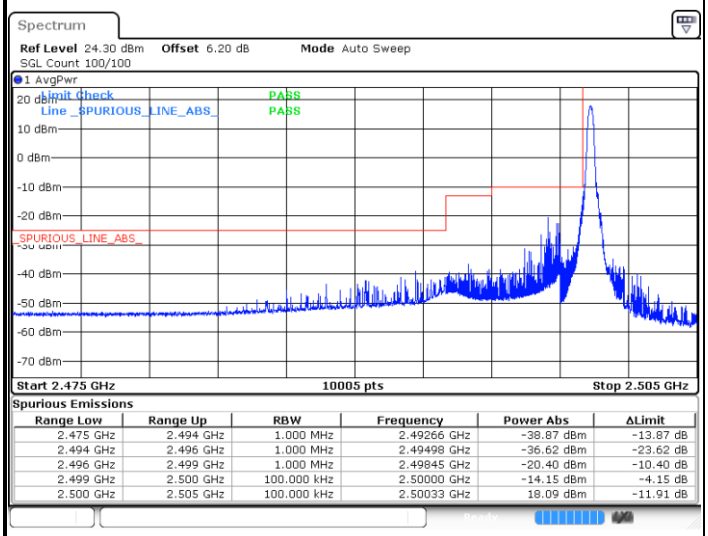
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.565 GHz	2.570 GHz	100.000 kHz	2.56602 GHz	5.64 dBm	-24.36 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57002 GHz	-26.41 dBm	-16.41 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57101 GHz	-21.57 dBm	-11.57 dB
2.575 GHz	2.576 GHz	1.000 MHz	2.57501 GHz	-34.88 dBm	-21.88 dB
2.576 GHz	2.595 GHz	1.000 MHz	2.57613 GHz	-36.47 dBm	-11.47 dB

Date: 20.DEC.2020 10:40:50

FR1 n7 / 5MHz / DFT-S OFDM / 256QAM

Lowest Band Edge / 1RB0

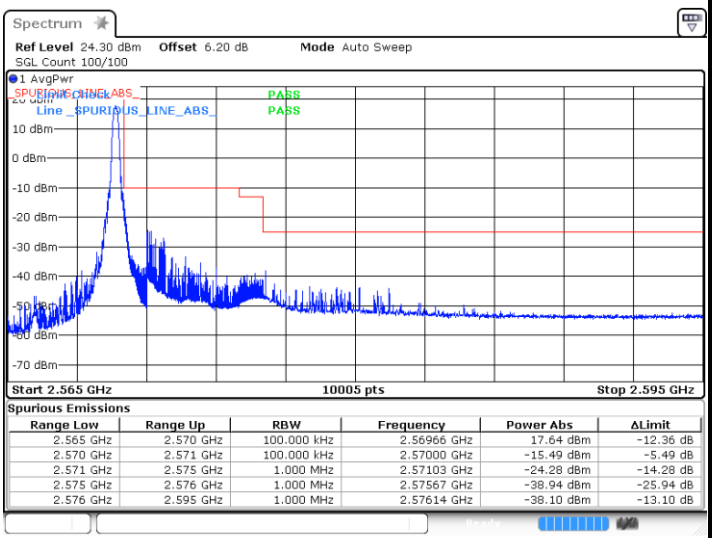


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.494 GHz	1.000 MHz	2.49266 GHz	-38.87 dBm	-13.87 dB
2.494 GHz	2.496 GHz	1.000 MHz	2.49498 GHz	-36.62 dBm	-23.62 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49845 GHz	-20.40 dBm	-10.40 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-14.15 dBm	-4.15 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50033 GHz	18.09 dBm	-11.91 dB

Date: 20.DEC.2020 10:37:23

Highest Band Edge / 1RBMAX

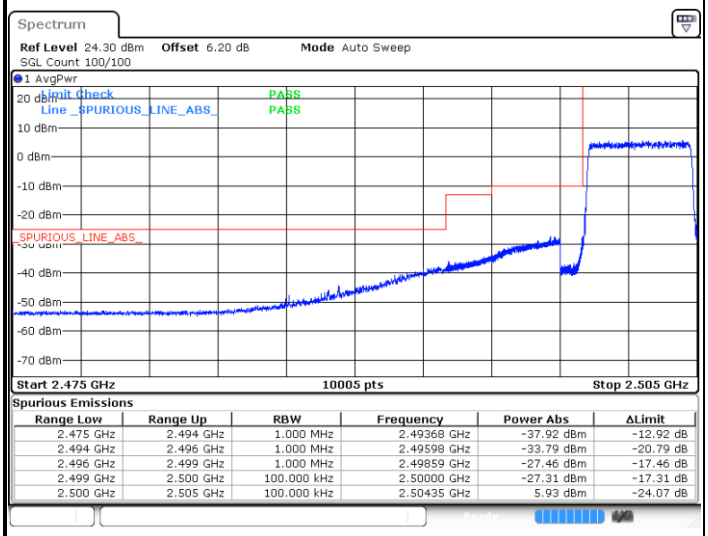


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.565 GHz	2.570 GHz	100.000 kHz	2.56966 GHz	17.64 dBm	-12.36 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57000 GHz	-15.49 dBm	-5.49 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57103 GHz	-24.28 dBm	-14.28 dB
2.575 GHz	2.576 GHz	1.000 MHz	2.57567 GHz	-38.94 dBm	-25.94 dB
2.576 GHz	2.595 GHz	1.000 MHz	2.57614 GHz	-38.10 dBm	-13.10 dB

Date: 20.DEC.2020 10:48:29

Lowest Band Edge / Full RB

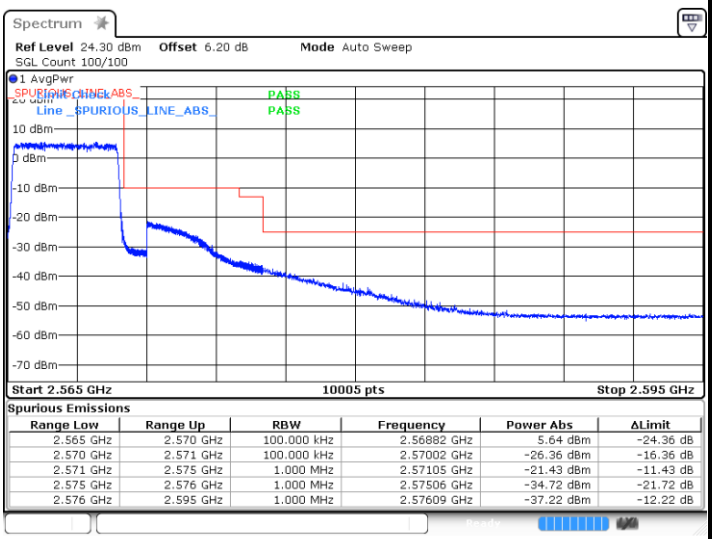


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.494 GHz	1.000 MHz	2.49368 GHz	-37.92 dBm	-12.92 dB
2.494 GHz	2.496 GHz	1.000 MHz	2.49598 GHz	-33.79 dBm	-20.79 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49859 GHz	-27.46 dBm	-17.46 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-27.31 dBm	-17.31 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50435 GHz	5.93 dBm	-24.07 dB

Date: 20.DEC.2020 10:35:34

Highest Band Edge / Full RB



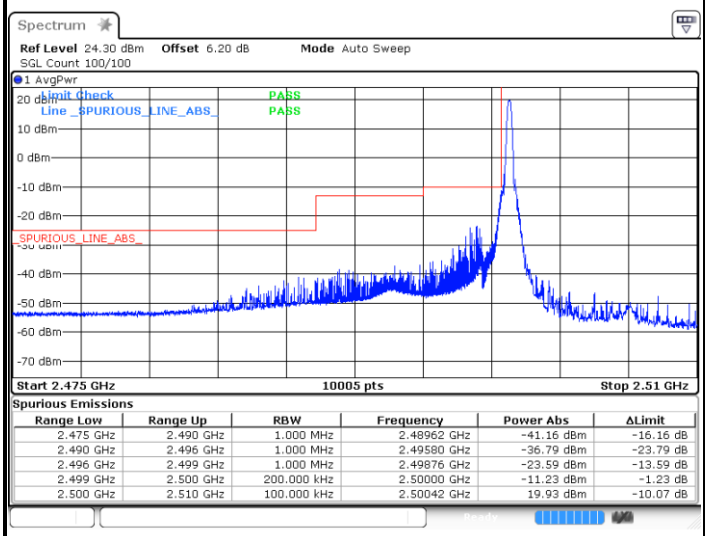
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.565 GHz	2.570 GHz	100.000 kHz	2.56882 GHz	5.64 dBm	-24.36 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57002 GHz	-26.36 dBm	-16.36 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57105 GHz	-21.43 dBm	-11.43 dB
2.575 GHz	2.576 GHz	1.000 MHz	2.57506 GHz	-34.72 dBm	-21.72 dB
2.576 GHz	2.595 GHz	1.000 MHz	2.57609 GHz	-37.22 dBm	-12.22 dB

Date: 20.DEC.2020 10:41:14

FR1 n7 / 10MHz / DFT-s-OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

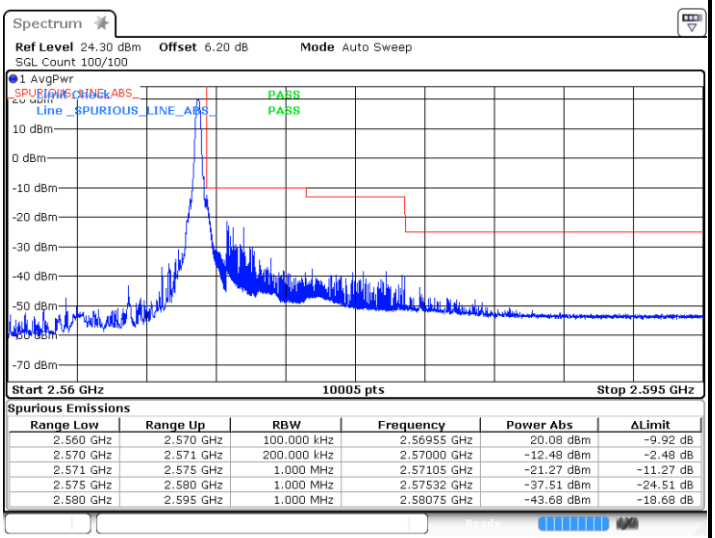


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.48962 GHz	-41.16 dBm	-16.16 dB
2.490 GHz	2.496 GHz	1.000 MHz	2.49580 GHz	-36.79 dBm	-23.79 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49876 GHz	-23.59 dBm	-13.59 dB
2.499 GHz	2.500 GHz	200.000 kHz	2.50000 GHz	-11.23 dBm	-1.23 dB
2.500 GHz	2.510 GHz	100.000 kHz	2.50042 GHz	19.93 dBm	-10.07 dB

Date: 20.DEC.2020 10:52:01

Highest Band Edge / 1RBMAX

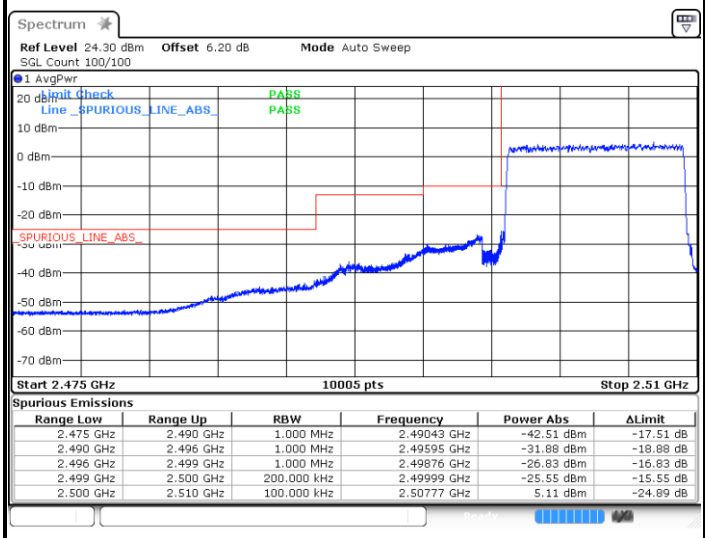


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.560 GHz	2.570 GHz	100.000 kHz	2.56955 GHz	20.08 dBm	-9.92 dB
2.570 GHz	2.571 GHz	200.000 kHz	2.57000 GHz	-12.48 dBm	-2.48 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57105 GHz	-21.27 dBm	-11.27 dB
2.575 GHz	2.580 GHz	1.000 MHz	2.57532 GHz	-37.51 dBm	-24.51 dB
2.580 GHz	2.595 GHz	1.000 MHz	2.58075 GHz	-43.68 dBm	-18.68 dB

Date: 20.DEC.2020 11:14:57

Lowest Band Edge / Full RB

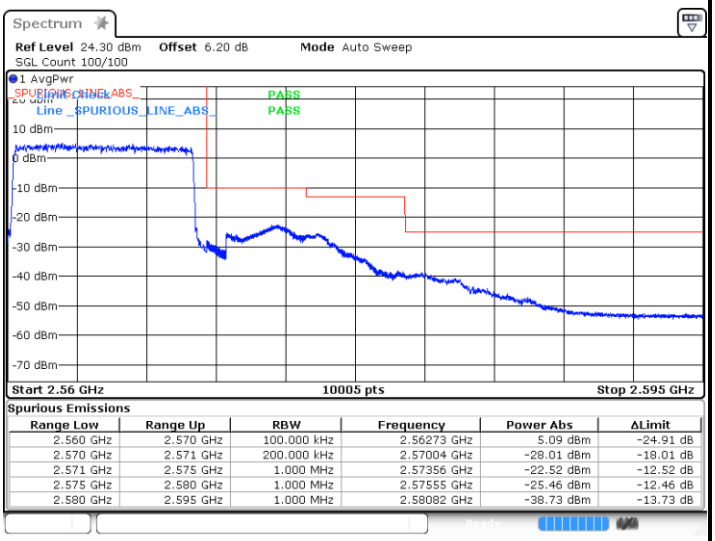


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.49043 GHz	-42.51 dBm	-17.51 dB
2.490 GHz	2.496 GHz	1.000 MHz	2.49595 GHz	-31.88 dBm	-18.88 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49876 GHz	-26.83 dBm	-16.83 dB
2.499 GHz	2.500 GHz	200.000 kHz	2.49999 GHz	-25.55 dBm	-15.55 dB
2.500 GHz	2.510 GHz	100.000 kHz	2.50777 GHz	5.11 dBm	-24.89 dB

Date: 20.DEC.2020 10:50:02

Highest Band Edge / Full RB



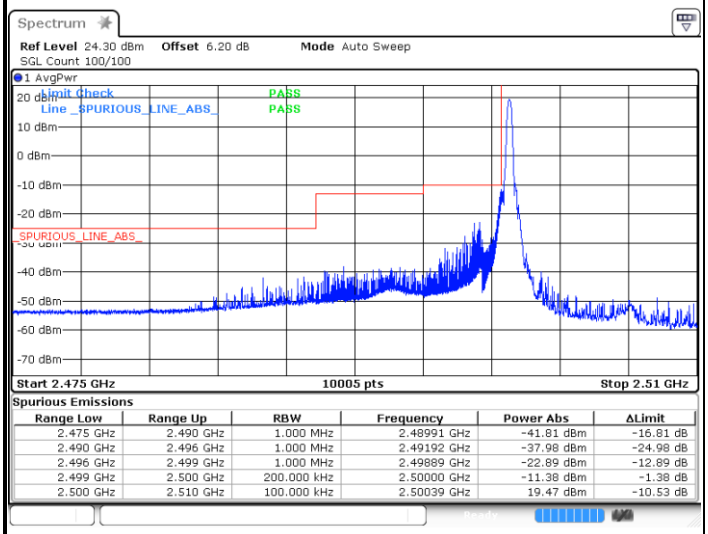
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.560 GHz	2.570 GHz	100.000 kHz	2.56273 GHz	5.09 dBm	-24.91 dB
2.570 GHz	2.571 GHz	200.000 kHz	2.57004 GHz	-28.01 dBm	-18.01 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57356 GHz	-22.52 dBm	-12.52 dB
2.575 GHz	2.580 GHz	1.000 MHz	2.57555 GHz	-25.46 dBm	-12.46 dB
2.580 GHz	2.595 GHz	1.000 MHz	2.58082 GHz	-38.73 dBm	-13.73 dB

Date: 20.DEC.2020 10:59:44

FR1 n7 / 10MHz / DFT-s-OFDM / QPSK

Lowest Band Edge / 1RB0

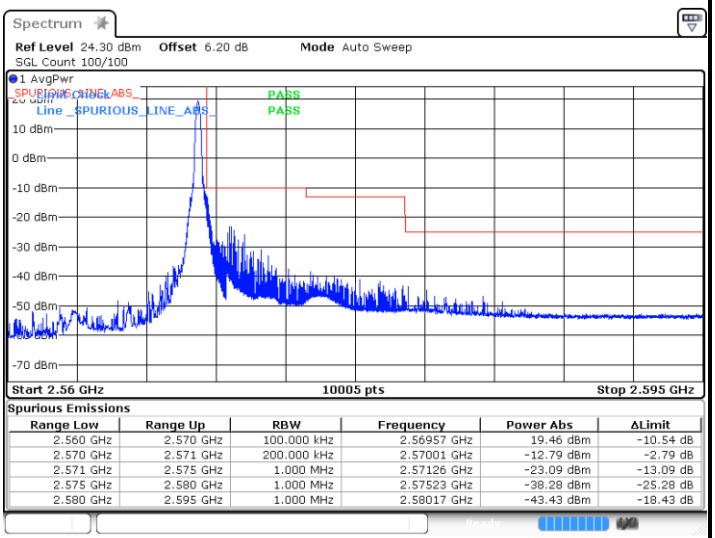


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.48991 GHz	-41.81 dBm	-16.81 dB
2.490 GHz	2.496 GHz	1.000 MHz	2.49192 GHz	-37.98 dBm	-24.98 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49889 GHz	-22.89 dBm	-12.89 dB
2.499 GHz	2.500 GHz	200.000 kHz	2.50000 GHz	-11.38 dBm	-1.38 dB
2.500 GHz	2.510 GHz	100.000 kHz	2.50039 GHz	19.47 dBm	-10.53 dB

Date: 20.DEC.2020 10:52:27

Highest Band Edge / 1RBMAX

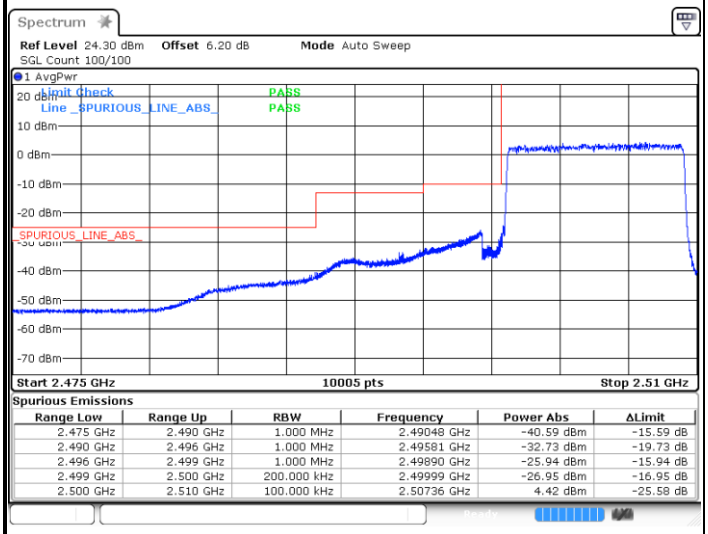


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.560 GHz	2.570 GHz	100.000 kHz	2.56957 GHz	19.46 dBm	-10.54 dB
2.570 GHz	2.571 GHz	200.000 kHz	2.57001 GHz	-12.79 dBm	-2.79 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57126 GHz	-23.09 dBm	-13.09 dB
2.575 GHz	2.580 GHz	1.000 MHz	2.57523 GHz	-38.28 dBm	-25.28 dB
2.580 GHz	2.595 GHz	1.000 MHz	2.58017 GHz	-43.43 dBm	-18.43 dB

Date: 20.DEC.2020 11:15:14

Lowest Band Edge / Full RB

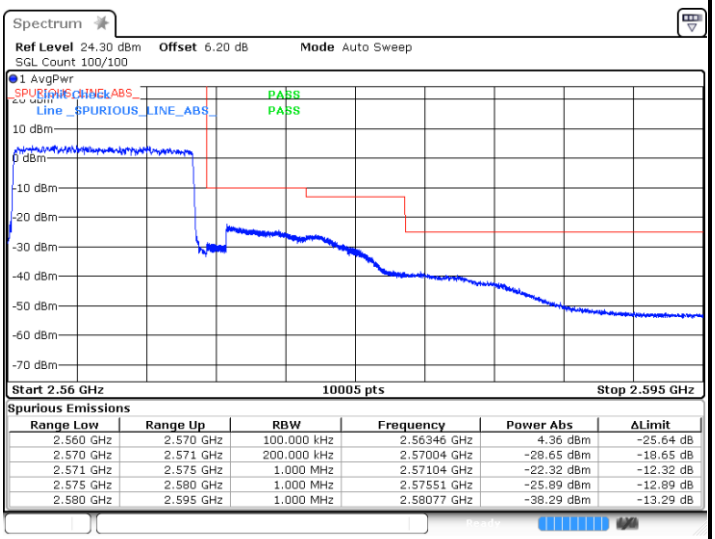


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.49048 GHz	-40.59 dBm	-15.59 dB
2.490 GHz	2.496 GHz	1.000 MHz	2.49581 GHz	-32.73 dBm	-19.73 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49890 GHz	-25.94 dBm	-15.94 dB
2.499 GHz	2.500 GHz	200.000 kHz	2.49999 GHz	-26.95 dBm	-16.95 dB
2.500 GHz	2.510 GHz	100.000 kHz	2.50736 GHz	4.42 dBm	-25.58 dB

Date: 20.DEC.2020 10:50:20

Highest Band Edge / Full RB



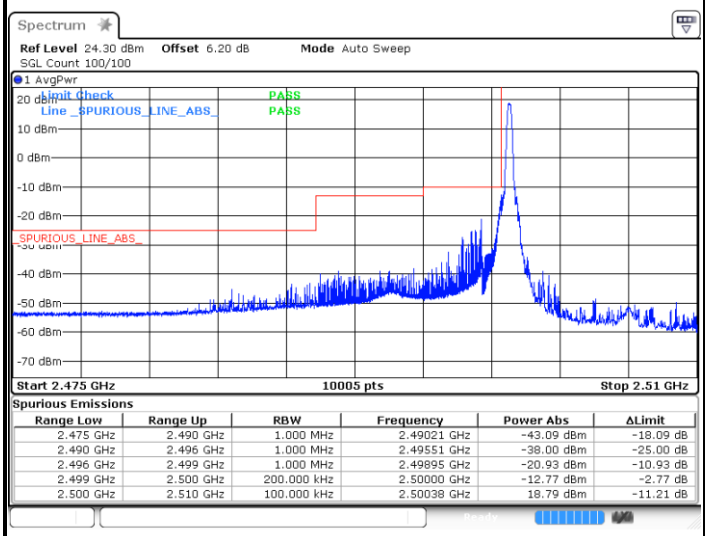
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.560 GHz	2.570 GHz	100.000 kHz	2.56346 GHz	4.36 dBm	-25.64 dB
2.570 GHz	2.571 GHz	200.000 kHz	2.57004 GHz	-28.65 dBm	-18.65 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57104 GHz	-22.32 dBm	-12.32 dB
2.575 GHz	2.580 GHz	1.000 MHz	2.57551 GHz	-25.89 dBm	-12.89 dB
2.580 GHz	2.595 GHz	1.000 MHz	2.58077 GHz	-38.29 dBm	-13.29 dB

Date: 20.DEC.2020 11:00:29

FR1 n7 / 10MHz / DFT-s-OFDM / 16QAM

Lowest Band Edge / 1RB0

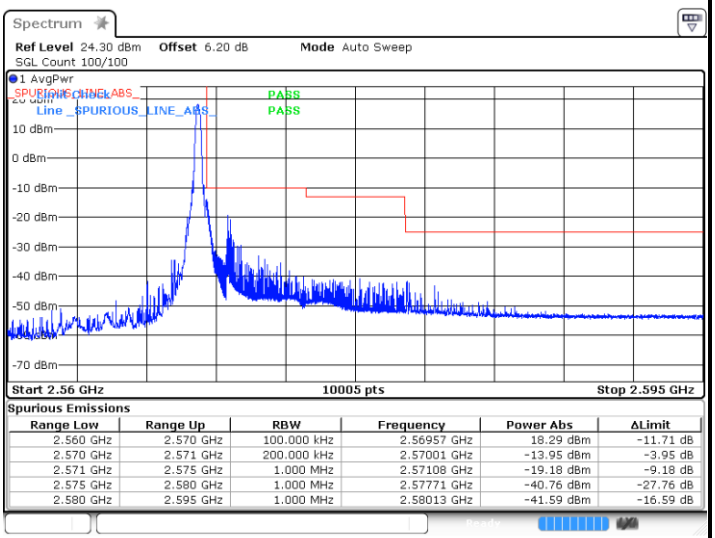


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.49021 GHz	-43.09 dBm	-18.09 dB
2.490 GHz	2.496 GHz	1.000 MHz	2.49551 GHz	-38.00 dBm	-25.00 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49895 GHz	-20.93 dBm	-10.93 dB
2.499 GHz	2.500 GHz	200.000 kHz	2.50000 GHz	-12.77 dBm	-2.77 dB
2.500 GHz	2.510 GHz	100.000 kHz	2.50038 GHz	18.79 dBm	-11.21 dB

Date: 20.DEC.2020 10:55:51

Highest Band Edge / 1RBMAX

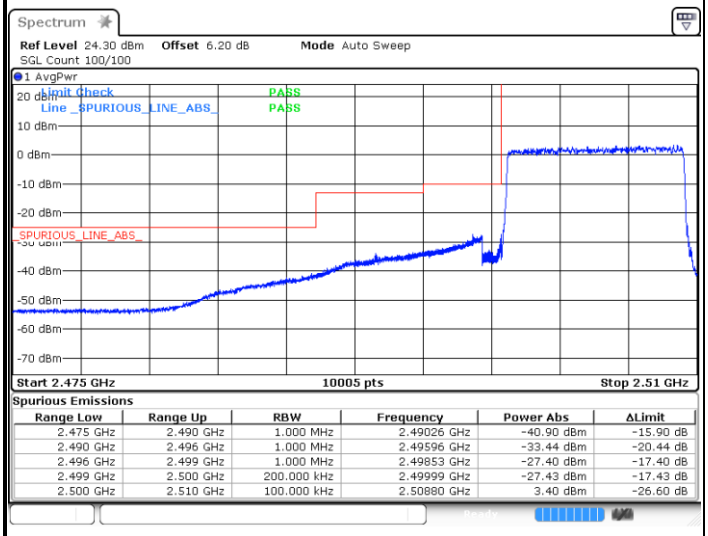


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.560 GHz	2.570 GHz	100.000 kHz	2.56957 GHz	18.29 dBm	-11.71 dB
2.570 GHz	2.571 GHz	200.000 kHz	2.57001 GHz	-13.95 dBm	-3.95 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57108 GHz	-19.18 dBm	-9.18 dB
2.575 GHz	2.580 GHz	1.000 MHz	2.57771 GHz	-40.76 dBm	-27.76 dB
2.580 GHz	2.595 GHz	1.000 MHz	2.58013 GHz	-41.59 dBm	-16.59 dB

Date: 20.DEC.2020 11:16:38

Lowest Band Edge / Full RB

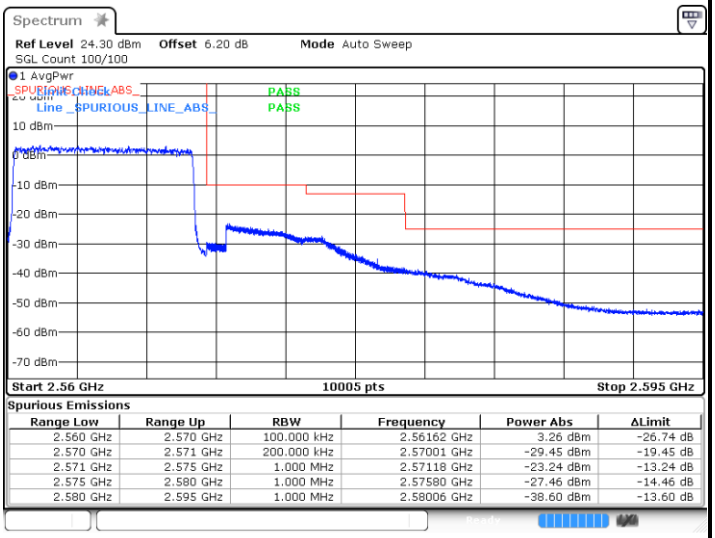


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.49026 GHz	-40.90 dBm	-15.90 dB
2.490 GHz	2.496 GHz	1.000 MHz	2.49596 GHz	-33.44 dBm	-20.44 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49853 GHz	-27.40 dBm	-17.40 dB
2.499 GHz	2.500 GHz	200.000 kHz	2.49999 GHz	-27.43 dBm	-17.43 dB
2.500 GHz	2.510 GHz	100.000 kHz	2.50880 GHz	3.40 dBm	-26.60 dB

Date: 20.DEC.2020 10:50:36

Highest Band Edge / Full RB



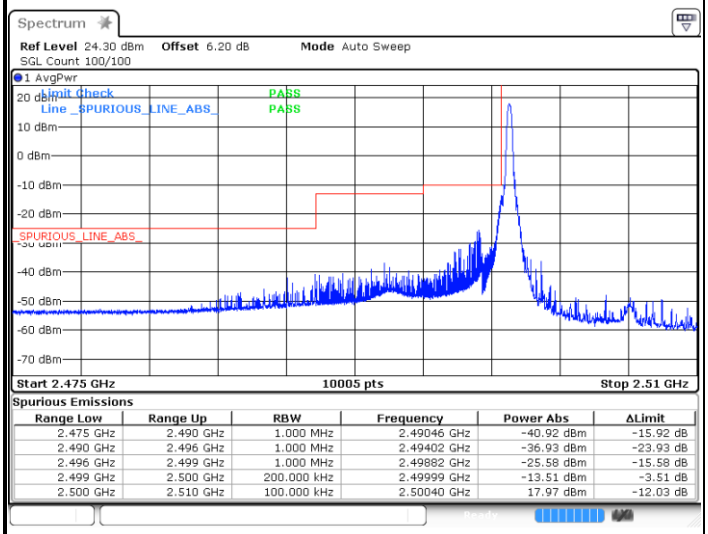
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.560 GHz	2.570 GHz	100.000 kHz	2.56162 GHz	3.26 dBm	-26.74 dB
2.570 GHz	2.571 GHz	200.000 kHz	2.57001 GHz	-29.45 dBm	-19.45 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57118 GHz	-23.24 dBm	-13.24 dB
2.575 GHz	2.580 GHz	1.000 MHz	2.57580 GHz	-27.46 dBm	-14.46 dB
2.580 GHz	2.595 GHz	1.000 MHz	2.58006 GHz	-38.60 dBm	-13.60 dB

Date: 20.DEC.2020 11:00:53

FR1 n7 / 10MHz / DFT-s-OFDM / 64QAM

Lowest Band Edge / 1RB0



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.49046 GHz	-40.92 dBm	-15.92 dB
2.490 GHz	2.496 GHz	1.000 MHz	2.49402 GHz	-36.93 dBm	-23.93 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49882 GHz	-25.58 dBm	-15.58 dB
2.499 GHz	2.500 GHz	200.000 kHz	2.49999 GHz	-13.51 dBm	-3.51 dB
2.500 GHz	2.510 GHz	100.000 kHz	2.50040 GHz	17.97 dBm	-12.03 dB

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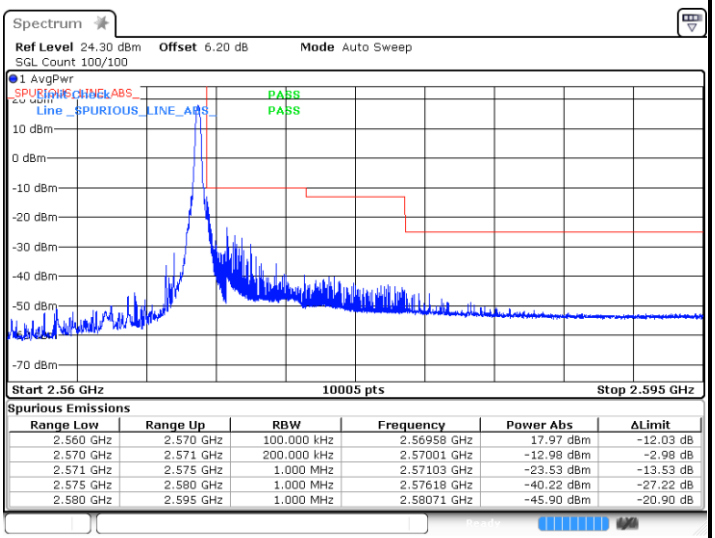
Highest Band Edge / 1RBMAX



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.560 GHz	2.570 GHz	100.000 kHz	2.56958 GHz	17.97 dBm	-12.03 dB
2.570 GHz	2.571 GHz	200.000 kHz	2.57001 GHz	-12.98 dBm	-2.98 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57103 GHz	-23.53 dBm	-13.53 dB
2.575 GHz	2.580 GHz	1.000 MHz	2.57618 GHz	-40.22 dBm	-27.22 dB
2.580 GHz	2.595 GHz	1.000 MHz	2.58071 GHz	-45.90 dBm	-20.90 dB

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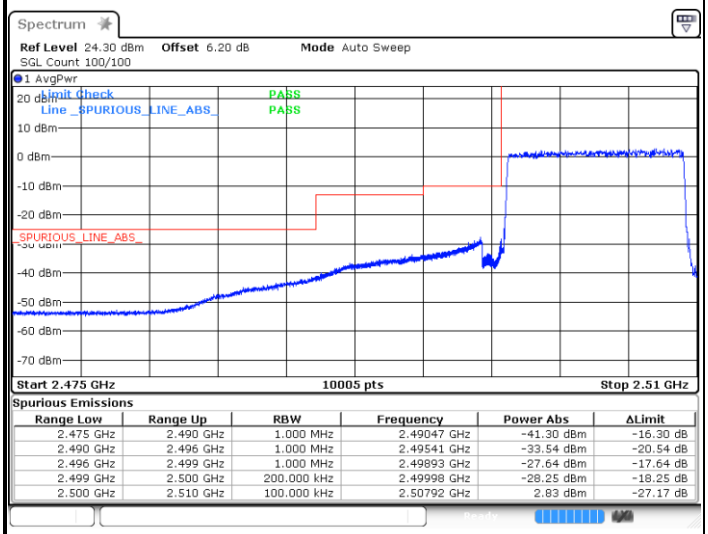
Lowest Band Edge / Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.49047 GHz	-41.30 dBm	-16.30 dB
2.490 GHz	2.496 GHz	1.000 MHz	2.49541 GHz	-33.54 dBm	-20.54 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49893 GHz	-27.64 dBm	-17.64 dB
2.499 GHz	2.500 GHz	200.000 kHz	2.49998 GHz	-28.25 dBm	-18.25 dB
2.500 GHz	2.510 GHz	100.000 kHz	2.50792 GHz	2.83 dBm	-27.17 dB

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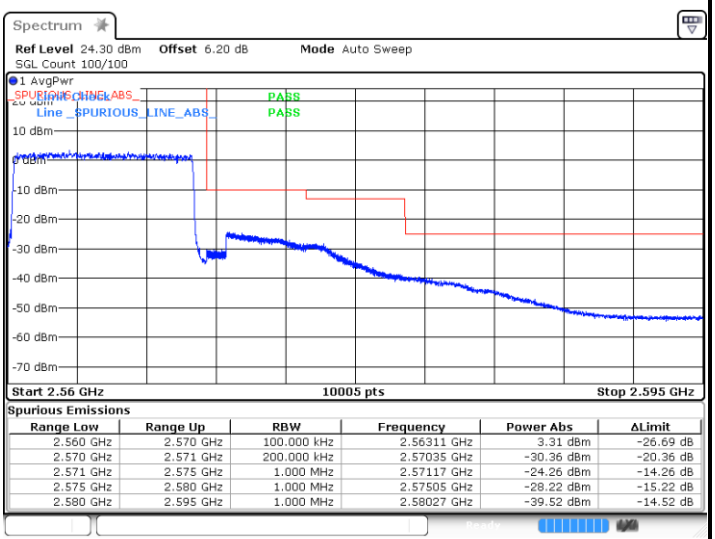
Highest Band Edge / Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.560 GHz	2.570 GHz	100.000 kHz	2.56311 GHz	3.31 dBm	-26.69 dB
2.570 GHz	2.571 GHz	200.000 kHz	2.57035 GHz	-30.36 dBm	-20.36 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57117 GHz	-24.26 dBm	-14.26 dB
2.575 GHz	2.580 GHz	1.000 MHz	2.57505 GHz	-28.22 dBm	-15.22 dB
2.580 GHz	2.595 GHz	1.000 MHz	2.58027 GHz	-39.52 dBm	-14.52 dB

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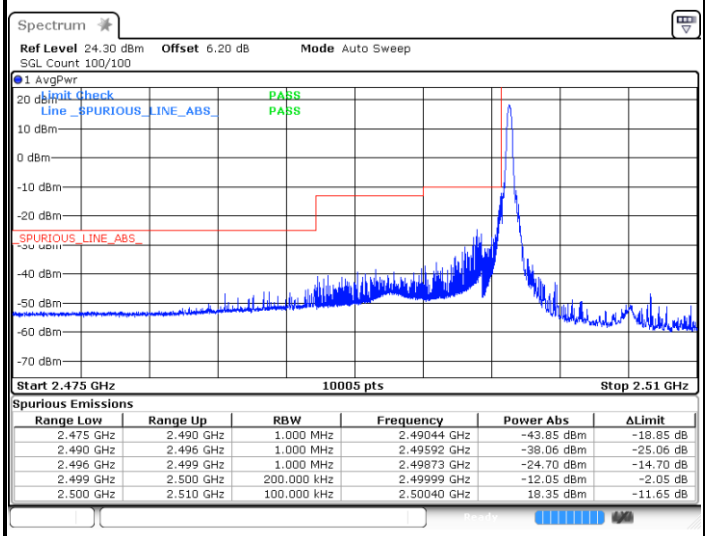
FR1 n7 / 10MHz / DFT-s-OFDM / 256QAM

Lowest Band Edge / 1RB0



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.49044 GHz	-43.85 dBm	-18.85 dB
2.490 GHz	2.496 GHz	1.000 MHz	2.49592 GHz	-38.06 dBm	-25.06 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49873 GHz	-24.70 dBm	-14.70 dB
2.499 GHz	2.500 GHz	200.000 kHz	2.49999 GHz	-12.05 dBm	-2.05 dB
2.500 GHz	2.510 GHz	100.000 kHz	2.50040 GHz	18.35 dBm	-11.65 dB

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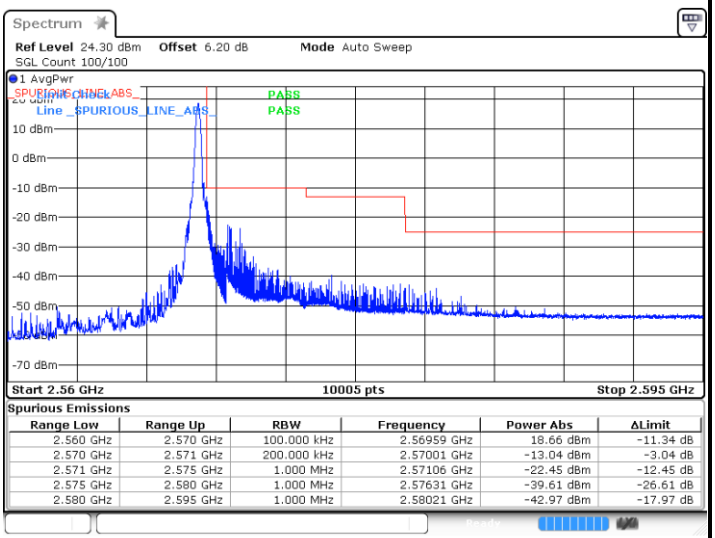
Highest Band Edge / 1RBMAX



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.560 GHz	2.570 GHz	100.000 kHz	2.56959 GHz	18.66 dBm	-11.34 dB
2.570 GHz	2.571 GHz	200.000 kHz	2.57001 GHz	-13.04 dBm	-3.04 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57106 GHz	-22.45 dBm	-12.45 dB
2.575 GHz	2.580 GHz	1.000 MHz	2.57631 GHz	-39.61 dBm	-26.61 dB
2.580 GHz	2.595 GHz	1.000 MHz	2.58021 GHz	-42.97 dBm	-17.97 dB

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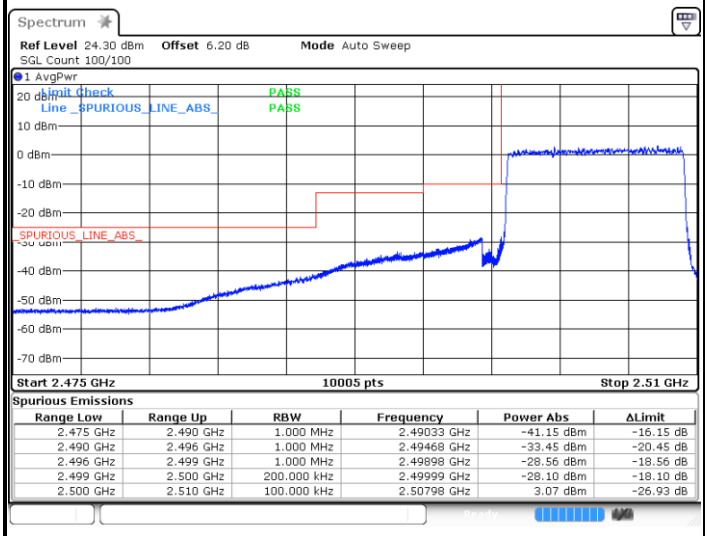
Lowest Band Edge / Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.49033 GHz	-41.15 dBm	-16.15 dB
2.490 GHz	2.496 GHz	1.000 MHz	2.49468 GHz	-33.45 dBm	-20.45 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49898 GHz	-28.56 dBm	-18.56 dB
2.499 GHz	2.500 GHz	200.000 kHz	2.49999 GHz	-28.10 dBm	-18.10 dB
2.500 GHz	2.510 GHz	100.000 kHz	2.50798 GHz	3.07 dBm	-26.93 dB

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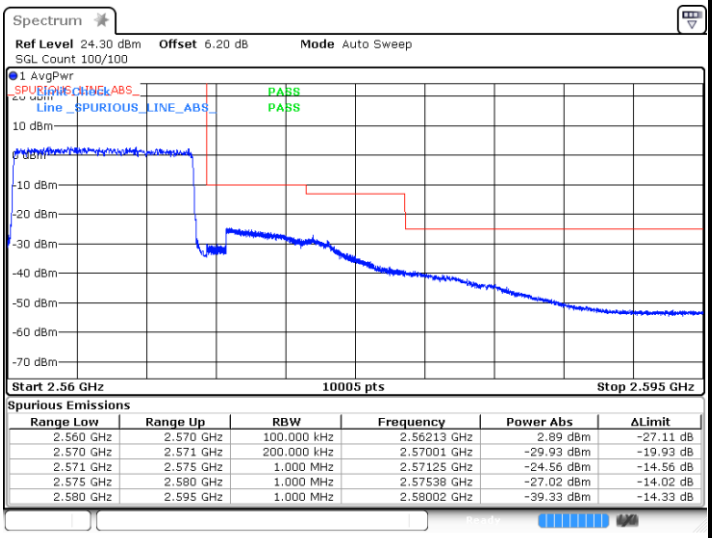
Highest Band Edge / Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.560 GHz	2.570 GHz	100.000 kHz	2.56213 GHz	2.89 dBm	-27.11 dB
2.570 GHz	2.571 GHz	200.000 kHz	2.57001 GHz	-29.93 dBm	-19.93 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57125 GHz	-24.56 dBm	-14.56 dB
2.575 GHz	2.580 GHz	1.000 MHz	2.57538 GHz	-27.02 dBm	-14.02 dB
2.580 GHz	2.595 GHz	1.000 MHz	2.58002 GHz	-39.33 dBm	-14.33 dB

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