

# TEST REPORT



**Dt&C Co., Ltd.**

42, Yurim-ro, 154Beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea, 17042  
Tel : 031-321-2664, Fax : 031-321-1664

1. Report No : DRTFCC2407-0077(1)

2. Customer

• Name (FCC) : BLUEBIRD INC.

• Address (FCC) : 3F, 115, Irwon-ro, Gangnam-gu, Seoul South Korea

3. Use of Report : FCC Certification

4. Product Name / Model Name : Enterprise Full Touch Handheld Computer / S50  
FCC ID : SS4S50F1

5. FCC Regulation(s): Part 22, 24, 27, 90

Test Method Used : KDB971168 D01v03, ANSI/TIA-603-E-2016, ANSI C63.26-2015

6. Date of Test : 2024.05.16 ~ 2024.07.04

7. Location of Test :  Permanent Testing Lab  On Site Testing

8. Testing Environment : See appended test report.

9. Test Result : Refer to the attached Test Result

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

This test report is not related to KOLAS accreditation.

Affirmation	Tested by Name : SeungMin Gil 	Technical Manager Name : JaeJin Lee 
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2024 . 08 . 08 .

**Dt&C Co., Ltd.**

If this report is required to confirmation of authenticity, please contact to [report@dtnc.net](mailto:report@dtnc.net)

## Test Report Version

Test Report No.	Date	Description	Revised by	Reviewed by
DRTFCC2407-0077	Jul. 23, 2024	Initial issue	SeungMin Gil	JaeJin Lee
DRTFCC2407-0077(1)	Aug. 08, 2024	Revised Frequency Stability ppm unit	SeungMin Gil	JaeJin Lee

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## 1. GENERAL INFORMATION

<b>Equipment Class</b>	PCS Licensed Transmitter held to ear(PCE)	
<b>FCC ID</b>	SS4S50F1	
<b>Product Name</b>	Enterprise Full Touch Handheld Computer	
<b>Model Name(s)</b>	S50, S70	
<b>PMN(Product Marketing Name)</b>	Enterprise Full Touch Handheld Computer	
<b>FVIN(Firmware Version Identification Number)</b>	R1.00	
<b>EUT Serial Number</b>	Conducted: S50A5LAWBA326 , Radiated: S50A5LAWBA321	
<b>Supplying power</b>	DC 3.85 V	
<b>Waveform</b>	CP-OFDM, DFT-S-OFDM	
<b>Modulation type</b>	$\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM	
<b>Channel Bandwidth(MHz)</b>	NR Band n71: 20, 15, 10, 5 NR Band n12: 15, 10, 5 NR Band n13: 10, 5 NR Band n14: 10, 5 NR Band n5: 20, 15, 10, 5 NR Band n66: 20, 15, 10, 5 NR Band n2: 20, 15, 10, 5 NR Band n7: 20, 15, 10, 5 NR Band n41: 100, 90, 80, 60, 50, 40, 20 NR Band n38: 20 NR Band n78: 100, 90, 80, 70, 60, 50, 40, 30, 20 NR Band n77: 100, 80, 60, 40, 20	
<b>Antenna Type</b>	LDS Antenna	
<b>Antenna Gain</b>	<b>NR Band</b>	<b>Gain(dBi)</b>
	n71	Ant 0: -5.44
	n12	Ant 0: -5.44
	n13	Ant 0: -4.50
	n14	Ant 0: -3.84
	n5	Ant 0: -1.91
	n66	Ant 0: 0.30
	n2	Ant 0: 0.77
	n7	Ant 0: -2.11
	n41	Ant 0: 2.21
	n38	Ant 0: 2.21
	n78, n77(3 450~3 550 MHz)	Ant 4: 0.43
	n78(3 700 ~ 3 800 MHz)	Ant 4: 2.73
n77(3 700 ~ 3 980 MHz)	Ant 4: 2.73	

NR Frequency Band	Channel Bandwidth (MHz)	Modulation	TX Frequency (MHz)	Emission Designator	Conducted Output Power		ERP	
					Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
n71	20	$\pi/2$ BPSK	673 ~ 688	17M8G7D	22.68	0.185	15.09	0.032
n71	20	QPSK	673 ~ 688	17M8G7D	22.78	0.190	15.19	0.033
n71	20	16QAM	673 ~ 688	17M8W7D	21.86	0.153	14.27	0.027
n71	20	64QAM	673 ~ 688	17M8W7D	20.36	0.109	12.77	0.019
n71	20	256QAM	673 ~ 688	17M8W7D	18.35	0.068	10.76	0.012
n71	15	$\pi/2$ BPSK	670.5 ~ 690.5	13M4G7D	22.46	0.176	14.87	0.031
n71	15	QPSK	670.5 ~ 690.5	13M4G7D	22.59	0.182	15.00	0.032
n71	15	16QAM	670.5 ~ 690.5	13M4W7D	21.64	0.146	14.05	0.025
n71	15	64QAM	670.5 ~ 690.5	13M4W7D	20.25	0.106	12.66	0.018
n71	15	256QAM	670.5 ~ 690.5	13M4W7D	18.17	0.066	10.58	0.011
n71	10	$\pi/2$ BPSK	668 ~ 693	8M93G7D	22.60	0.182	15.01	0.032
n71	10	QPSK	668 ~ 693	8M91G7D	22.64	0.184	15.05	0.032
n71	10	16QAM	668 ~ 693	8M94W7D	21.68	0.147	14.09	0.026
n71	10	64QAM	668 ~ 693	8M95W7D	20.22	0.105	12.63	0.018
n71	10	256QAM	668 ~ 693	8M94W7D	18.22	0.066	10.63	0.012
n71	5	$\pi/2$ BPSK	665.5 ~ 695.5	4M50G7D	22.64	0.184	15.05	0.032
n71	5	QPSK	665.5 ~ 695.5	4M49G7D	22.67	0.185	15.08	0.032
n71	5	16QAM	665.5 ~ 695.5	4M51W7D	21.71	0.148	14.12	0.026
n71	5	64QAM	665.5 ~ 695.5	4M51W7D	20.25	0.106	12.66	0.018
n71	5	256QAM	665.5 ~ 695.5	4M51W7D	18.21	0.066	10.62	0.012
n12	15	$\pi/2$ BPSK	706.5 ~ 708.5	13M4G7D	22.32	0.171	14.73	0.030
n12	15	QPSK	706.5 ~ 708.5	13M4G7D	22.40	0.174	14.81	0.030
n12	15	16QAM	706.5 ~ 708.5	13M4W7D	21.45	0.140	13.86	0.024
n12	15	64QAM	706.5 ~ 708.5	13M4W7D	19.96	0.099	12.37	0.017
n12	15	256QAM	706.5 ~ 708.5	13M4W7D	17.98	0.063	10.39	0.011
n12	10	$\pi/2$ BPSK	704 ~ 711	8M93G7D	22.34	0.171	14.75	0.030
n12	10	QPSK	704 ~ 711	8M96G7D	22.36	0.172	14.77	0.030
n12	10	16QAM	704 ~ 711	8M94W7D	21.39	0.138	13.80	0.024
n12	10	64QAM	704 ~ 711	8M91W7D	19.88	0.097	12.29	0.017
n12	10	256QAM	704 ~ 711	8M94W7D	17.87	0.061	10.28	0.011
n12	5	$\pi/2$ BPSK	701.5 ~ 713.5	4M52G7D	22.32	0.171	14.73	0.030
n12	5	QPSK	701.5 ~ 713.5	4M51G7D	22.35	0.172	14.76	0.030
n12	5	16QAM	701.5 ~ 713.5	4M52W7D	21.39	0.138	13.80	0.024
n12	5	64QAM	701.5 ~ 713.5	4M54W7D	19.92	0.098	12.33	0.017
n12	5	256QAM	701.5 ~ 713.5	4M51W7D	17.90	0.062	10.31	0.011

NR Frequency Band	Channel Bandwidth (MHz)	Modulation	TX Frequency (MHz)	Emission Designator	Conducted Output Power		ERP	
					Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
n13	10	$\pi/2$ BPSK	782 ~ 782	8M90G7D	22.54	0.179	15.89	0.039
n13	10	QPSK	782 ~ 782	8M88G7D	22.62	0.183	15.97	0.040
n13	10	16QAM	782 ~ 782	8M89W7D	21.63	0.146	14.98	0.031
n13	10	64QAM	782 ~ 782	8M88W7D	20.19	0.104	13.54	0.023
n13	10	256QAM	782 ~ 782	8M92W7D	18.20	0.066	11.55	0.014
n13	5	$\pi/2$ BPSK	779.5 ~ 784.5	4M50G7D	22.58	0.181	15.93	0.039
n13	5	QPSK	779.5 ~ 784.5	4M52G7D	22.61	0.182	15.96	0.039
n13	5	16QAM	779.5 ~ 784.5	4M50W7D	21.64	0.146	14.99	0.032
n13	5	64QAM	779.5 ~ 784.5	4M51W7D	20.14	0.103	13.49	0.022
n13	5	256QAM	779.5 ~ 784.5	4M50W7D	18.19	0.066	11.54	0.014
n14	10	$\pi/2$ BPSK	793 ~ 793	8M91G7D	22.27	0.169	16.28	0.042
n14	10	QPSK	793 ~ 793	8M90G7D	22.55	0.180	16.56	0.045
n14	10	16QAM	793 ~ 793	8M91W7D	21.57	0.144	15.58	0.036
n14	10	64QAM	793 ~ 793	8M90W7D	20.11	0.103	14.12	0.026
n14	10	256QAM	793 ~ 793	8M93W7D	18.09	0.064	12.10	0.016
n14	5	$\pi/2$ BPSK	790.5 ~ 795.5	4M52G7D	22.36	0.172	16.37	0.043
n14	5	QPSK	790.5 ~ 795.5	4M51G7D	22.54	0.179	16.55	0.045
n14	5	16QAM	790.5 ~ 795.5	4M52W7D	21.58	0.144	15.59	0.036
n14	5	64QAM	790.5 ~ 795.5	4M53W7D	20.07	0.102	14.08	0.026
n14	5	256QAM	790.5 ~ 795.5	4M49W7D	18.09	0.064	12.10	0.016
n5	20	$\pi/2$ BPSK	834 ~ 839	17M8G7D	22.80	0.191	18.74	0.075
n5	20	QPSK	834 ~ 839	17M8G7D	22.88	0.194	18.82	0.076
n5	20	16QAM	834 ~ 839	17M8W7D	21.98	0.158	17.92	0.062
n5	20	64QAM	834 ~ 839	17M8W7D	20.49	0.112	16.43	0.044
n5	20	256QAM	834 ~ 839	17M8W7D	18.47	0.070	14.41	0.028
n5	15	$\pi/2$ BPSK	831.5 ~ 841.5	13M4G7D	22.77	0.189	18.71	0.074
n5	15	QPSK	831.5 ~ 841.5	13M4G7D	22.82	0.191	18.76	0.075
n5	15	16QAM	831.5 ~ 841.5	13M4W7D	22.00	0.158	17.94	0.062
n5	15	64QAM	831.5 ~ 841.5	13M4W7D	20.42	0.110	16.36	0.043
n5	15	256QAM	831.5 ~ 841.5	13M4W7D	18.39	0.069	14.33	0.027
n5	10	$\pi/2$ BPSK	829 ~ 844	8M91G7D	22.51	0.178	18.45	0.070
n5	10	QPSK	829 ~ 844	8M92G7D	22.55	0.180	18.49	0.071
n5	10	16QAM	829 ~ 844	8M92W7D	21.66	0.147	17.60	0.058
n5	10	64QAM	829 ~ 844	8M91W7D	20.13	0.103	16.07	0.040
n5	10	256QAM	829 ~ 844	8M93W7D	18.13	0.065	14.07	0.026
n5	5	$\pi/2$ BPSK	826.5 ~ 846.5	4M51G7D	22.67	0.185	18.61	0.073
n5	5	QPSK	826.5 ~ 846.5	4M49G7D	22.77	0.189	18.71	0.074
n5	5	16QAM	826.5 ~ 846.5	4M49W7D	21.83	0.152	17.77	0.060
n5	5	64QAM	826.5 ~ 846.5	4M51W7D	20.32	0.108	16.26	0.042
n5	5	256QAM	826.5 ~ 846.5	4M51W7D	18.35	0.068	14.29	0.027



NR Frequency Band	Channel Bandwidth (MHz)	Modulation	TX Frequency (MHz)	Emission Designator	Conducted Output Power		EIRP	
					Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
n66	20	$\pi/2$ BPSK	1720 ~ 1770	17M9G7D	22.32	0.171	22.62	0.183
n66	20	QPSK	1720 ~ 1770	17M9G7D	22.40	0.174	22.70	0.186
n66	20	16QAM	1720 ~ 1770	17M9W7D	21.45	0.140	21.75	0.150
n66	20	64QAM	1720 ~ 1770	17M9W7D	19.96	0.099	20.26	0.106
n66	20	256QAM	1720 ~ 1770	17M9W7D	17.98	0.063	18.28	0.067
n66	15	$\pi/2$ BPSK	1717.5 ~ 1772.5	13M4G7D	22.34	0.171	22.64	0.184
n66	15	QPSK	1717.5 ~ 1772.5	13M5G7D	22.36	0.172	22.66	0.185
n66	15	16QAM	1717.5 ~ 1772.5	13M4W7D	21.39	0.138	21.69	0.148
n66	15	64QAM	1717.5 ~ 1772.5	13M4W7D	19.88	0.097	20.18	0.104
n66	15	256QAM	1717.5 ~ 1772.5	13M4W7D	17.87	0.061	18.17	0.066
n66	10	$\pi/2$ BPSK	1715 ~ 1775	8M94G7D	22.32	0.171	22.62	0.183
n66	10	QPSK	1715 ~ 1775	8M93G7D	22.35	0.172	22.65	0.184
n66	10	16QAM	1715 ~ 1775	8M94W7D	21.39	0.138	21.69	0.148
n66	10	64QAM	1715 ~ 1775	8M96W7D	19.92	0.098	20.22	0.105
n66	10	256QAM	1715 ~ 1775	8M94W7D	17.90	0.062	18.20	0.066
n66	5	$\pi/2$ BPSK	1712.5 ~ 1777.5	4M51G7D	22.33	0.171	22.63	0.183
n66	5	QPSK	1712.5 ~ 1777.5	4M48G7D	22.37	0.173	22.67	0.185
n66	5	16QAM	1712.5 ~ 1777.5	4M47W7D	21.45	0.140	21.75	0.150
n66	5	64QAM	1712.5 ~ 1777.5	4M51W7D	19.92	0.098	20.22	0.105
n66	5	256QAM	1712.5 ~ 1777.5	4M51W7D	17.95	0.062	18.25	0.067
n2	20	$\pi/2$ BPSK	1860 ~ 1900	17M9G7D	21.60	0.145	22.37	0.173
n2	20	QPSK	1860 ~ 1900	17M8G7D	21.77	0.150	22.54	0.179
n2	20	16QAM	1860 ~ 1900	17M8W7D	20.81	0.121	21.58	0.144
n2	20	64QAM	1860 ~ 1900	17M8W7D	19.32	0.086	20.09	0.102
n2	20	256QAM	1860 ~ 1900	17M9W7D	17.30	0.054	18.07	0.064
n2	15	$\pi/2$ BPSK	1857.5 ~ 1902.5	13M4G7D	21.71	0.148	22.48	0.177
n2	15	QPSK	1857.5 ~ 1902.5	13M4G7D	21.76	0.150	22.53	0.179
n2	15	16QAM	1857.5 ~ 1902.5	13M4W7D	20.83	0.121	21.60	0.145
n2	15	64QAM	1857.5 ~ 1902.5	13M4W7D	19.34	0.086	20.11	0.103
n2	15	256QAM	1857.5 ~ 1902.5	13M4W7D	17.35	0.054	18.12	0.065
n2	10	$\pi/2$ BPSK	1855 ~ 1905	8M94G7D	21.55	0.143	22.32	0.171
n2	10	QPSK	1855 ~ 1905	8M97G7D	21.59	0.144	22.36	0.172
n2	10	16QAM	1855 ~ 1905	8M97W7D	20.66	0.116	21.43	0.139
n2	10	64QAM	1855 ~ 1905	8M93W7D	19.19	0.083	19.96	0.099
n2	10	256QAM	1855 ~ 1905	8M93W7D	17.13	0.052	17.90	0.062
n2	5	$\pi/2$ BPSK	1852.5 ~ 1907.5	4M51G7D	21.57	0.144	22.34	0.171
n2	5	QPSK	1852.5 ~ 1907.5	4M52G7D	21.60	0.145	22.37	0.173
n2	5	16QAM	1852.5 ~ 1907.5	4M52W7D	20.72	0.118	21.49	0.141
n2	5	64QAM	1852.5 ~ 1907.5	4M53W7D	19.24	0.084	20.01	0.100
n2	5	256QAM	1852.5 ~ 1907.5	4M50W7D	17.25	0.053	18.02	0.063

NR Frequency Band	Channel Bandwidth (MHz)	Modulation	TX Frequency (MHz)	Emission Designator	Conducted Output Power		EIRP	
					Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
n7	20	$\pi/2$ BPSK	2510 ~ 2560	17M8G7D	23.22	0.210	21.11	0.129
n7	20	QPSK	2510 ~ 2560	17M9G7D	23.25	0.211	21.14	0.130
n7	20	16QAM	2510 ~ 2560	17M9W7D	22.30	0.170	20.19	0.104
n7	20	64QAM	2510 ~ 2560	17M8W7D	20.79	0.120	18.68	0.074
n7	20	256QAM	2510 ~ 2560	17M9W7D	18.77	0.075	16.66	0.046
n7	15	$\pi/2$ BPSK	2507.5 ~ 2562.5	13M4G7D	22.76	0.189	20.65	0.116
n7	15	QPSK	2507.5 ~ 2562.5	13M4G7D	22.78	0.190	20.67	0.117
n7	15	16QAM	2507.5 ~ 2562.5	13M4W7D	21.90	0.155	19.79	0.095
n7	15	64QAM	2507.5 ~ 2562.5	13M4W7D	20.75	0.119	18.64	0.073
n7	15	256QAM	2507.5 ~ 2562.5	13M4W7D	18.34	0.068	16.23	0.042
n7	10	$\pi/2$ BPSK	2505 ~ 2565	8M92G7D	23.16	0.207	21.05	0.127
n7	10	QPSK	2505 ~ 2565	8M95G7D	23.18	0.208	21.07	0.128
n7	10	16QAM	2505 ~ 2565	8M92W7D	22.30	0.170	20.19	0.104
n7	10	64QAM	2505 ~ 2565	8M92W7D	20.80	0.120	18.69	0.074
n7	10	256QAM	2505 ~ 2565	8M94W7D	18.80	0.076	16.69	0.047
n7	5	$\pi/2$ BPSK	2502.5 ~ 2567.5	4M53G7D	23.17	0.207	21.06	0.128
n7	5	QPSK	2502.5 ~ 2567.5	4M50G7D	23.24	0.211	21.13	0.130
n7	5	16QAM	2502.5 ~ 2567.5	4M51W7D	22.30	0.170	20.19	0.104
n7	5	64QAM	2502.5 ~ 2567.5	4M50W7D	20.79	0.120	18.68	0.074
n7	5	256QAM	2502.5 ~ 2567.5	4M48W7D	18.80	0.076	16.69	0.047

NR Frequency Band	Channel Bandwidth (MHz)	Modulation	TX Frequency (MHz)	Emission Designator	Conducted Output Power		EIRP	
					Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
n41	100	$\pi/2$ BPSK	2546.01 ~ 2640	96M4G7D	23.90	0.245	26.11	0.408
n41	100	QPSK	2546.01 ~ 2640	96M6G7D	23.93	0.247	26.14	0.411
n41	100	16QAM	2546.01 ~ 2640	96M4W7D	22.97	0.198	25.18	0.330
n41	100	64QAM	2546.01 ~ 2640	96M4W7D	21.43	0.139	23.64	0.231
n41	100	256QAM	2546.01 ~ 2640	96M4W7D	19.45	0.088	21.66	0.147
n41	90	$\pi/2$ BPSK	2541 ~ 2644.98	85M7G7D	23.62	0.230	25.83	0.383
n41	90	QPSK	2541 ~ 2644.98	85M6G7D	23.66	0.232	25.87	0.386
n41	90	16QAM	2541 ~ 2644.98	85M7W7D	22.72	0.187	24.93	0.311
n41	90	64QAM	2541 ~ 2644.98	85M7W7D	21.35	0.136	23.56	0.227
n41	90	256QAM	2541 ~ 2644.98	85M8W7D	19.31	0.085	21.52	0.142
n41	80	$\pi/2$ BPSK	2536.02 ~ 2649.99	77M1G7D	23.69	0.234	25.90	0.389
n41	80	QPSK	2536.02 ~ 2649.99	77M2G7D	23.73	0.236	25.94	0.393
n41	80	16QAM	2536.02 ~ 2649.99	77M0W7D	22.74	0.188	24.95	0.313
n41	80	64QAM	2536.02 ~ 2649.99	77M1W7D	21.26	0.134	23.47	0.222
n41	80	256QAM	2536.02 ~ 2649.99	77M2W7D	19.29	0.085	21.50	0.141
n41	60	$\pi/2$ BPSK	2526 ~ 2659.98	57M9G7D	23.75	0.237	25.96	0.394
n41	60	QPSK	2526 ~ 2659.98	57M8G7D	23.79	0.239	26.00	0.398
n41	60	16QAM	2526 ~ 2659.98	57M9W7D	22.82	0.191	25.03	0.318
n41	60	64QAM	2526 ~ 2659.98	57M9W7D	21.46	0.140	23.67	0.233
n41	60	256QAM	2526 ~ 2659.98	57M9W7D	19.42	0.087	21.63	0.146
n41	50	$\pi/2$ BPSK	2521.02 ~ 2664.99	45M7G7D	23.81	0.240	26.02	0.400
n41	50	QPSK	2521.02 ~ 2664.99	45M7G7D	23.85	0.243	26.06	0.404
n41	50	16QAM	2521.02 ~ 2664.99	45M7W7D	22.99	0.199	25.20	0.331
n41	50	64QAM	2521.02 ~ 2664.99	45M7W7D	21.48	0.141	23.69	0.234
n41	50	256QAM	2521.02 ~ 2664.99	45M9W7D	19.48	0.089	21.69	0.148
n41	40	$\pi/2$ BPSK	2516.01 ~ 2670	35M7G7D	23.85	0.243	26.06	0.404
n41	40	QPSK	2516.01 ~ 2670	35M7G7D	23.90	0.245	26.11	0.408
n41	40	16QAM	2516.01 ~ 2670	35M7W7D	22.92	0.196	25.13	0.326
n41	40	64QAM	2516.01 ~ 2670	35M7W7D	21.49	0.141	23.70	0.234
n41	40	256QAM	2516.01 ~ 2670	35M7W7D	19.46	0.088	21.67	0.147
n41	20	$\pi/2$ BPSK	2506.02 ~ 2679.99	17M9G7D	23.77	0.238	25.98	0.396
n41	20	QPSK	2506.02 ~ 2679.99	17M9G7D	23.81	0.240	26.02	0.400
n41	20	16QAM	2506.02 ~ 2679.99	17M9W7D	22.87	0.194	25.08	0.322
n41	20	64QAM	2506.02 ~ 2679.99	17M9W7D	21.46	0.140	23.67	0.233
n41	20	256QAM	2506.02 ~ 2679.99	17M9W7D	19.34	0.086	21.55	0.143
n38	20	$\pi/2$ BPSK	2580 ~ 2610	17M8G7D	22.66	0.185	24.87	0.307
n38	20	QPSK	2580 ~ 2610	17M9G7D	22.74	0.188	24.95	0.313
n38	20	16QAM	2580 ~ 2610	17M9W7D	21.82	0.152	24.03	0.253
n38	20	64QAM	2580 ~ 2610	17M9W7D	20.50	0.112	22.71	0.187
n38	20	256QAM	2580 ~ 2610	17M9W7D	18.34	0.068	20.55	0.114

NR Frequency Band	Channel Bandwidth (MHz)	Modulation	TX Frequency (MHz)	Emission Designator	Conducted Output Power		EIRP	
					Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
n78	100	$\pi/2$ BPSK	3500.01 ~ 3500.01	96M1G7D	22.30	0.170	22.73	0.187
n78	100	QPSK	3500.01 ~ 3500.01	96M3G7D	22.36	0.172	22.79	0.190
n78	100	16QAM	3500.01 ~ 3500.01	96M1W7D	21.40	0.138	21.83	0.152
n78	100	64QAM	3500.01 ~ 3500.01	96M2W7D	19.87	0.097	20.30	0.107
n78	100	256QAM	3500.01 ~ 3500.01	96M2W7D	17.91	0.062	18.34	0.068
n78	90	$\pi/2$ BPSK	3495 ~ 3504.99	85M6G7D	22.14	0.164	22.57	0.181
n78	90	QPSK	3495 ~ 3504.99	85M7G7D	22.23	0.167	22.66	0.185
n78	90	16QAM	3495 ~ 3504.99	85M6W7D	21.28	0.134	21.71	0.148
n78	90	64QAM	3495 ~ 3504.99	85M5W7D	20.00	0.100	20.43	0.110
n78	90	256QAM	3495 ~ 3504.99	85M6W7D	17.90	0.062	18.33	0.068
n78	80	$\pi/2$ BPSK	3490.02 ~ 3510	77M0G7D	22.10	0.162	22.53	0.179
n78	80	QPSK	3490.02 ~ 3510	77M0G7D	22.22	0.167	22.65	0.184
n78	80	16QAM	3490.02 ~ 3510	77M1W7D	21.33	0.136	21.76	0.150
n78	80	64QAM	3490.02 ~ 3510	77M1W7D	19.99	0.100	20.42	0.110
n78	80	256QAM	3490.02 ~ 3510	77M1W7D	17.80	0.060	18.23	0.067
n78	70	$\pi/2$ BPSK	3485.01 ~ 3515.01	64M3G7D	22.02	0.159	22.45	0.176
n78	70	QPSK	3485.01 ~ 3515.01	64M3G7D	22.29	0.169	22.72	0.187
n78	70	16QAM	3485.01 ~ 3515.01	64M2W7D	21.34	0.136	21.77	0.150
n78	70	64QAM	3485.01 ~ 3515.01	64M3W7D	19.91	0.098	20.34	0.108
n78	70	256QAM	3485.01 ~ 3515.01	64M3W7D	17.90	0.062	18.33	0.068
n78	60	$\pi/2$ BPSK	3480 ~ 3519.99	57M9G7D	22.14	0.164	22.57	0.181
n78	60	QPSK	3480 ~ 3519.99	57M8G7D	22.15	0.164	22.58	0.181
n78	60	16QAM	3480 ~ 3519.99	57M8W7D	21.31	0.135	21.74	0.149
n78	60	64QAM	3480 ~ 3519.99	57M8W7D	19.99	0.100	20.42	0.110
n78	60	256QAM	3480 ~ 3519.99	57M8W7D	17.94	0.062	18.37	0.069
n78	50	$\pi/2$ BPSK	3475.02 ~ 3525	45M8G7D	22.05	0.160	22.48	0.177
n78	50	QPSK	3475.02 ~ 3525	45M7G7D	22.06	0.161	22.49	0.177
n78	50	16QAM	3475.02 ~ 3525	45M7W7D	21.22	0.132	21.65	0.146
n78	50	64QAM	3475.02 ~ 3525	45M7W7D	19.91	0.098	20.34	0.108
n78	50	256QAM	3475.02 ~ 3525	45M8W7D	17.69	0.059	18.12	0.065
n78	40	$\pi/2$ BPSK	3470.01 ~ 3530.01	35M7G7D	22.22	0.167	22.65	0.184
n78	40	QPSK	3470.01 ~ 3530.01	35M7G7D	22.23	0.167	22.66	0.185
n78	40	16QAM	3470.01 ~ 3530.01	35M7W7D	21.25	0.133	21.68	0.147
n78	40	64QAM	3470.01 ~ 3530.01	35M7W7D	19.95	0.099	20.38	0.109
n78	40	256QAM	3470.01 ~ 3530.01	35M8W7D	17.88	0.061	18.31	0.068
n78	30	$\pi/2$ BPSK	3465 ~ 3534.99	26M8G7D	22.12	0.163	22.55	0.180
n78	30	QPSK	3465 ~ 3534.99	26M8G7D	22.16	0.164	22.59	0.182
n78	30	16QAM	3465 ~ 3534.99	26M8W7D	21.19	0.132	21.62	0.145
n78	30	64QAM	3465 ~ 3534.99	26M8W7D	19.95	0.099	20.38	0.109
n78	30	256QAM	3465 ~ 3534.99	26M8W7D	17.97	0.063	18.40	0.069
n78	20	$\pi/2$ BPSK	3460.02 ~ 3540	17M9G7D	22.06	0.161	22.49	0.177
n78	20	QPSK	3460.02 ~ 3540	17M9G7D	22.11	0.163	22.54	0.179
n78	20	16QAM	3460.02 ~ 3540	17M9W7D	21.31	0.135	21.74	0.149
n78	20	64QAM	3460.02 ~ 3540	17M9W7D	19.94	0.099	20.37	0.109
n78	20	256QAM	3460.02 ~ 3540	17M9W7D	17.79	0.060	18.22	0.066

NR Frequency Band	Channel Bandwidth (MHz)	Modulation	TX Frequency (MHz)	Emission Designator	Conducted Output Power		EIRP	
					Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
n78	100	$\pi/2$ BPSK	3750 ~ 3750	96M3G7D	22.31	0.170	25.04	0.319
n78	100	QPSK	3750 ~ 3750	96M5G7D	22.41	0.174	25.14	0.327
n78	100	16QAM	3750 ~ 3750	96M2W7D	21.46	0.140	24.19	0.262
n78	100	64QAM	3750 ~ 3750	96M4W7D	19.98	0.100	22.71	0.187
n78	100	256QAM	3750 ~ 3750	96M2W7D	18.05	0.064	20.78	0.120
n78	90	$\pi/2$ BPSK	3745.02 ~ 3754.98	85M7G7D	22.21	0.166	24.94	0.312
n78	90	QPSK	3745.02 ~ 3754.98	85M8G7D	22.25	0.168	24.98	0.315
n78	90	16QAM	3745.02 ~ 3754.98	85M8W7D	21.32	0.136	24.05	0.254
n78	90	64QAM	3745.02 ~ 3754.98	85M7W7D	19.93	0.098	22.66	0.185
n78	90	256QAM	3745.02 ~ 3754.98	85M6W7D	17.87	0.061	20.60	0.115
n78	80	$\pi/2$ BPSK	3740.01 ~ 3759.99	77M1G7D	22.26	0.168	24.99	0.316
n78	80	QPSK	3740.01 ~ 3759.99	77M1G7D	22.30	0.170	25.03	0.318
n78	80	16QAM	3740.01 ~ 3759.99	77M2W7D	21.36	0.137	24.09	0.256
n78	80	64QAM	3740.01 ~ 3759.99	77M2W7D	20.00	0.100	22.73	0.187
n78	80	256QAM	3740.01 ~ 3759.99	77M2W7D	17.89	0.062	20.62	0.115
n78	70	$\pi/2$ BPSK	3735 ~ 3765	64M3G7D	22.21	0.166	24.94	0.312
n78	70	QPSK	3735 ~ 3765	64M3G7D	22.25	0.168	24.98	0.315
n78	70	16QAM	3735 ~ 3765	64M2W7D	21.36	0.137	24.09	0.256
n78	70	64QAM	3735 ~ 3765	64M2W7D	20.00	0.100	22.73	0.187
n78	70	256QAM	3735 ~ 3765	64M2W7D	17.90	0.062	20.63	0.116
n78	60	$\pi/2$ BPSK	3730.02 ~ 3769.98	57M9G7D	22.10	0.162	24.83	0.304
n78	60	QPSK	3730.02 ~ 3769.98	57M8G7D	22.13	0.163	24.86	0.306
n78	60	16QAM	3730.02 ~ 3769.98	57M9W7D	21.32	0.136	24.05	0.254
n78	60	64QAM	3730.02 ~ 3769.98	57M8W7D	19.94	0.099	22.67	0.185
n78	60	256QAM	3730.02 ~ 3769.98	57M9W7D	17.90	0.062	20.63	0.116
n78	50	$\pi/2$ BPSK	3725.01 ~ 3774.99	45M7G7D	22.18	0.165	24.91	0.310
n78	50	QPSK	3725.01 ~ 3774.99	45M7G7D	22.25	0.168	24.98	0.315
n78	50	16QAM	3725.01 ~ 3774.99	45M7W7D	21.26	0.134	23.99	0.251
n78	50	64QAM	3725.01 ~ 3774.99	45M7W7D	19.93	0.098	22.66	0.185
n78	50	256QAM	3725.01 ~ 3774.99	45M7W7D	17.89	0.062	20.62	0.115
n78	40	$\pi/2$ BPSK	3720 ~ 3780	35M7G7D	22.12	0.163	24.85	0.305
n78	40	QPSK	3720 ~ 3780	35M7G7D	22.14	0.164	24.87	0.307
n78	40	16QAM	3720 ~ 3780	35M8W7D	21.33	0.136	24.06	0.255
n78	40	64QAM	3720 ~ 3780	35M8W7D	19.96	0.099	22.69	0.186
n78	40	256QAM	3720 ~ 3780	35M8W7D	17.77	0.060	20.50	0.112
n78	30	$\pi/2$ BPSK	3715.02 ~ 3785.01	26M9G7D	22.14	0.164	24.87	0.307
n78	30	QPSK	3715.02 ~ 3785.01	26M9G7D	22.18	0.165	24.91	0.310
n78	30	16QAM	3715.02 ~ 3785.01	26M8W7D	21.29	0.135	24.02	0.252
n78	30	64QAM	3715.02 ~ 3785.01	26M8W7D	19.98	0.100	22.71	0.187
n78	30	256QAM	3715.02 ~ 3785.01	26M8W7D	17.73	0.059	20.46	0.111
n78	20	$\pi/2$ BPSK	3710.01 ~ 3789.99	17M9G7D	22.11	0.163	24.84	0.305
n78	20	QPSK	3710.01 ~ 3789.99	17M9G7D	22.23	0.167	24.96	0.313
n78	20	16QAM	3710.01 ~ 3789.99	17M9W7D	21.26	0.134	23.99	0.251
n78	20	64QAM	3710.01 ~ 3789.99	17M9W7D	19.99	0.100	22.72	0.187
n78	20	256QAM	3710.01 ~ 3789.99	17M9W7D	17.78	0.060	20.51	0.112

NR Frequency Band	Channel Bandwidth (MHz)	Modulation	TX Frequency (MHz)	Emission Designator	Conducted Output Power		EIRP	
					Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
n77	100	$\pi/2$ BPSK	3500.01 ~ 3500.01	96M2G7D	22.31	0.170	22.74	0.188
n77	100	QPSK	3500.01 ~ 3500.01	96M3G7D	22.38	0.173	22.81	0.191
n77	100	16QAM	3500.01 ~ 3500.01	96M3W7D	21.41	0.138	21.84	0.153
n77	100	64QAM	3500.01 ~ 3500.01	96M2W7D	19.89	0.097	20.32	0.108
n77	100	256QAM	3500.01 ~ 3500.01	96M2W7D	17.97	0.063	18.40	0.069
n77	80	$\pi/2$ BPSK	3490.02 ~ 3510	77M1G7D	22.28	0.169	22.71	0.187
n77	80	QPSK	3490.02 ~ 3510	77M2G7D	22.31	0.170	22.74	0.188
n77	80	16QAM	3490.02 ~ 3510	77M2W7D	21.36	0.137	21.79	0.151
n77	80	64QAM	3490.02 ~ 3510	77M0W7D	19.86	0.097	20.29	0.107
n77	80	256QAM	3490.02 ~ 3510	77M1W7D	17.83	0.061	18.26	0.067
n77	60	$\pi/2$ BPSK	3480 ~ 3519.99	57M8G7D	22.29	0.169	22.72	0.187
n77	60	QPSK	3480 ~ 3519.99	57M9G7D	22.32	0.171	22.75	0.188
n77	60	16QAM	3480 ~ 3519.99	57M7W7D	21.37	0.137	21.80	0.151
n77	60	64QAM	3480 ~ 3519.99	57M8W7D	19.92	0.098	20.35	0.108
n77	60	256QAM	3480 ~ 3519.99	57M8W7D	17.86	0.061	18.29	0.067
n77	40	$\pi/2$ BPSK	3470.01 ~ 3529.98	35M7G7D	22.33	0.171	22.76	0.189
n77	40	QPSK	3470.01 ~ 3529.98	35M7G7D	22.36	0.172	22.79	0.190
n77	40	16QAM	3470.01 ~ 3529.98	35M8W7D	21.38	0.137	21.81	0.152
n77	40	64QAM	3470.01 ~ 3529.98	35M7W7D	19.92	0.098	20.35	0.108
n77	40	256QAM	3470.01 ~ 3529.98	35M7W7D	17.93	0.062	18.36	0.069
n77	20	$\pi/2$ BPSK	3460.005 ~ 3540	17M9G7D	22.19	0.166	22.62	0.183
n77	20	QPSK	3460.005 ~ 3540	17M9G7D	22.22	0.167	22.65	0.184
n77	20	16QAM	3460.005 ~ 3540	17M9W7D	21.23	0.133	21.66	0.147
n77	20	64QAM	3460.005 ~ 3540	17M9W7D	19.78	0.095	20.21	0.105
n77	20	256QAM	3460.005 ~ 3540	17M9W7D	17.78	0.060	18.21	0.066
n77	100	$\pi/2$ BPSK	3750 ~ 3930	96M4G7D	22.35	0.172	25.08	0.322
n77	100	QPSK	3750 ~ 3930	96M5G7D	22.43	0.175	25.16	0.328
n77	100	16QAM	3750 ~ 3930	96M5W7D	21.48	0.141	24.21	0.264
n77	100	64QAM	3750 ~ 3930	96M3W7D	19.99	0.100	22.72	0.187
n77	100	256QAM	3750 ~ 3930	96M3W7D	17.96	0.063	20.69	0.117
n77	80	$\pi/2$ BPSK	3740.01 ~ 3939.99	77M1G7D	22.37	0.173	25.10	0.324
n77	80	QPSK	3740.01 ~ 3939.99	77M1G7D	22.41	0.174	25.14	0.327
n77	80	16QAM	3740.01 ~ 3939.99	77M1W7D	21.49	0.141	24.22	0.264
n77	80	64QAM	3740.01 ~ 3939.99	77M1W7D	19.96	0.099	22.69	0.186
n77	80	256QAM	3740.01 ~ 3939.99	77M2W7D	17.98	0.063	20.71	0.118
n77	60	$\pi/2$ BPSK	3730.02 ~ 3949.98	57M9G7D	22.39	0.173	25.12	0.325
n77	60	QPSK	3730.02 ~ 3949.98	57M8G7D	22.42	0.175	25.15	0.327
n77	60	16QAM	3730.02 ~ 3949.98	57M8W7D	21.45	0.140	24.18	0.262
n77	60	64QAM	3730.02 ~ 3949.98	57M8W7D	19.99	0.100	22.72	0.187
n77	60	256QAM	3730.02 ~ 3949.98	58M0W7D	17.98	0.063	20.71	0.118
n77	40	$\pi/2$ BPSK	3720 ~ 3960	35M7G7D	22.32	0.171	25.05	0.320
n77	40	QPSK	3720 ~ 3960	35M8G7D	22.36	0.172	25.09	0.323
n77	40	16QAM	3720 ~ 3960	35M8W7D	21.49	0.141	24.22	0.264
n77	40	64QAM	3720 ~ 3960	35M7W7D	19.91	0.098	22.64	0.184
n77	40	256QAM	3720 ~ 3960	35M8W7D	17.96	0.063	20.69	0.117
n77	20	$\pi/2$ BPSK	3710.01 ~ 3969.99	17M9G7D	22.38	0.173	25.11	0.324
n77	20	QPSK	3710.01 ~ 3969.99	17M9G7D	22.41	0.174	25.14	0.327
n77	20	16QAM	3710.01 ~ 3969.99	17M9W7D	21.46	0.140	24.19	0.262
n77	20	64QAM	3710.01 ~ 3969.99	17M9W7D	19.99	0.100	22.72	0.187
n77	20	256QAM	3710.01 ~ 3969.99	17M9W7D	17.98	0.063	20.71	0.118

## 2. INTRODUCTION

### 2.1. EUT DESCRIPTION

The Equipment Under Test (EUT) supports 850/1900 GSM, 850/1700/1900 WCDMA, Multi-band LTE/5G NR, 2.4/5/6GHz WLAN, Bluetooth(BDR, EDR, BLE) and NFC.

5G NR supports SCS 15 kHz for FDD Band and SCS 30 kHz for TDD Band.

EUT does not support uplink ENDC, Carrier Aggregation and MIMO.

### 2.2. TESTING ENVIRONMENT

Ambient Condition	
▪ Temperature	+23 °C ~ +24 °C
▪ Relative Humidity	45 % ~ 50 %

### 2.3. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

### 2.4. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with requirements of ANSI C 63.4-2014. All measurement uncertainty values are shown with a coverage factor of  $k = 2$  to indicate a 95 % level of confidence.

Parameter	Measurement uncertainty
Radiated Disturbance (Below 1 GHz)	5.0 dB (The confidence level is about 95 %, $k = 2$ )
Radiated Disturbance (1 GHz ~ 18 GHz)	4.8 dB (The confidence level is about 95 %, $k = 2$ )
Radiated Disturbance (Above 18 GHz)	5.0 dB (The confidence level is about 95 %, $k = 2$ )

### 2.5. TEST FACILITY

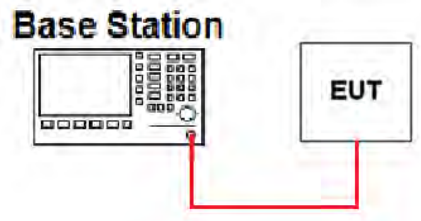
Dt&C Co., Ltd.	
The 3 m test site and conducted measurement facility used to collect the radiated data are located at the 42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042.	
The test site complies with the requirements of Part 2.948 according to ANSI C63.4-2014.	
- FCC & IC MRA Designation No. : KR0034	
- ISED#: 5740A	
<a href="http://www.dtnc.net">www.dtnc.net</a>	
Telephone	: + 82-31-321-2664
FAX	: + 82-31-321-1664

### 3. DESCRIPTION OF TESTS

#### 3.1. MAXIMUM OUTPUT POWER

##### Conducted Output Power

##### Test Set-up



##### Test Procedure

- KDB971168 D01v03 - Section 5.2.4
- ANSI C63.26-2015 – Section 5.2.4.2

When an average power meter is used to perform RF output power measurements, the fundamental condition that measurements be performed only over durations of active transmissions at maximum output power level applies. Thus, an average power meter can always be used to perform the measurement when the EUT can be configured to transmit continuously.

If the EUT cannot be configured to transmit continuously (i.e., burst duty cycle < 98%), then the following options can be implemented to facilitate measurement of the average power with an average power meter:

- a) A gated average power meter can be used to perform the measurement if the gating parameters can be adjusted such that the power is measured only during active transmission bursts at maximum output power levels.
- b) A conventional average power meter with no signal gating capability can also be used if the measured burst duty cycle is constant (i.e., duty cycle variations are less than or equal to  $\pm 2\%$ ) by performing the measurement over the on/off burst cycles and then correcting (increasing) the measured level by a factor equal to  $[10 \log (1/\text{duty cycle})]$ .

##### - ERP & EIRP (Effective Radiated Power & Equivalent Isotropic Radiated Power)

##### Test Procedure

- KDB971168 D01v03 - Section 5.6
- ANSI C63.26-2015 – Section 5.2.5.5

##### Determining ERP and EIRP from conducted RF output power measurement results

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_T$$

where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as  $P_{\text{Meas}}$ , typically dBW or dBm);

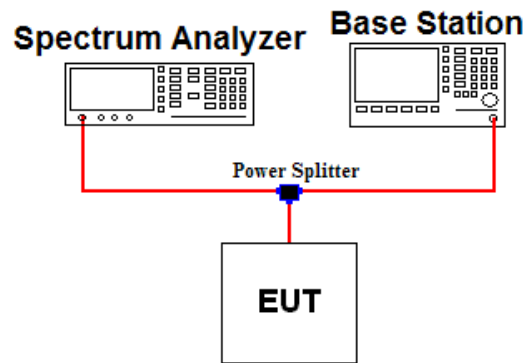
$P_{\text{Meas}}$  = measured transmitter output power or PSD, in dBm or dBW;

$G_T$  = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);



## 3.2. PEAK TO AVERAGE RATIO

### Test set-up



### Test Procedure

- KDB971168 D01v03 - Section 5.7.2
- ANSI C63.26-2015 – Section 5.2.3.4

A peak to average ratio measurement is performed at the conducted port of the EUT.

The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The present of time the signal spends at or above the level defines the probability for that particular power level.

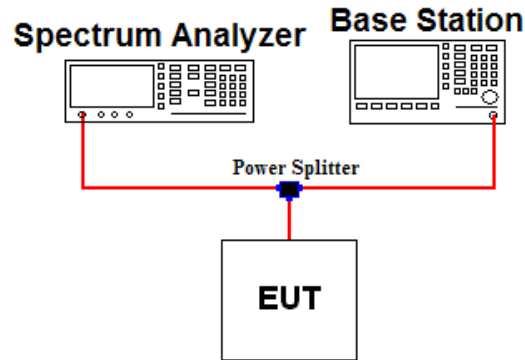
### Test setting

The spectrum Analyzer's CCDF measurement function is enabled.

1. Set resolution/measurement bandwidth  $\geq$  OBW or specified reference bandwidth.
2. Set the number of counts to a value that stabilizes the measured CCDF curve.
3. Set the measurement interval as follows:
  - 1) For continuous transmissions, set to the greater of  $[10 \times (\text{number of points in sweep}) \times (\text{transmission symbol period})]$  or 1 ms.
  - 2) For burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize. Set the measurement interval to a time that is less than or equal to the burst duration.
  - 3) If there are several carriers in a single antenna port, the peak power shall be determined for each individual carrier (by disabling the other carriers while measuring the required carrier) and the total peak power calculated from the sum of the individual carrier peak powers.
4. Record the maximum PAPR level associated with a probability of 0.1 %.
5. The peak power level is calculated from the sum of the PAPR value from step d) to the measured average power.

### 3.3. OCCUPIED BANDWIDTH

#### Test set-up



#### Test Procedure

- KDB971168 D01v03 - Section 4.3
- ANSI C63.26-2015 – Section 5.4.4

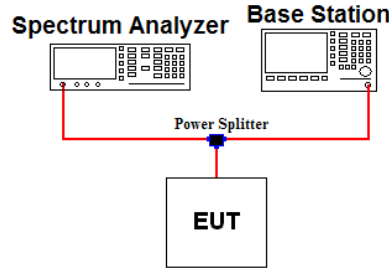
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power of a given emission.

#### Test setting

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99 % occupied bandwidth and the 26 dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2.  $RBW = 1\% \sim 5\%$  of the expected OBW &  $VBW \geq 3 \times RBW$
3. Detector = Peak
4. Trance mode = Max hold
5. Sweep = Auto couple
6. The trace was allowed to stabilize
7. If necessary, step 2 ~ 6 were repeated after changing the RBW such that it would be within  $1\% \sim 5\%$  of the 99 % occupied bandwidth observed in step 6.

### 3.4. BAND EDGE EMISSIONS AT ANTENNA TERMINAL

#### Test set-up



#### Test Procedure

- KDB971168 D01v03 - Section 6
- ANSI C63.26-2015 – Section 5.7

All out of band emissions are measured by means of a calibrated spectrum analyzer. The EUT was setup to maximum output power at its lowest and highest channel with all bandwidths, modulations and RB configurations.

#### Test setting

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW  $\geq 1\%$  of the emission bandwidth or Specified bandwidth
4. VBW  $\geq 3 \times$  RBW
5. Detector = RMS & Trace mode = Max hold or Average
6. Sweep time = Auto couple or 1 s for band edge
7. Number of sweep point  $\geq 2 \times$  span / RBW
8. The trace was allowed to stabilize

Note 1: For TDD signal, the trace mode was set to average and trigger was set to free run.

And added  $10 \log (1/\text{duty cycle})$  to the measured power level. (Path loss was applied to the spectrum correction factor, and  $10 \log (1/\text{duty cycle})$  was applied to the spectrum offset function during measurement.

#### EUT duty cycle (TDD Bands)

NR Band	$T_{on}(\text{ms})$	$T_{on+off}(\text{ms})$	Duty cycle = $T_{on} / (T_{on+off})$	$10 \log (1/\text{duty cycle})$
n38, 41, 77, 78	1.786	2.503	0.713	1.47 dB

Note 2: Per Part 22.917(b)(1) / 24.238(b) / 27.53(h) in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to demonstrate compliance with the out-of-band emissions limit.

Note 3: Per Part 27.53(g) for operations in the 600 MHz band and the 698-746 MHz band, compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. 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.

Note 4: Per Part 27.53(c.4) for all frequencies between 763 MHz - 775 MHz and 793 MHz - 805 MHz, the FCC limit is  $65 + 10 \log_{10}(P[\text{Watts}]) = -35 \text{ dBm}$  in a 6.25 kHz bandwidth.

Note 5: For part 27.53(m)(4) 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 2 490.5 MHz and 2 496 MHz and  $55 + 10 \log (P)$  dB at or below 2 490.5 MHz.

Note 6: Per Part 90.543(e) for operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

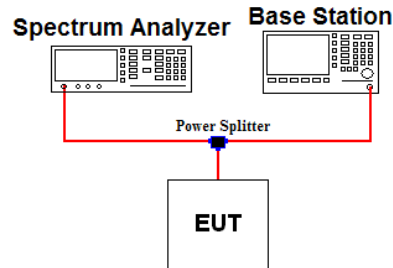
- (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than  $76 + 10 \log (P)$  dB in a 6.25 kHz band segment, for base and fixed stations.
- (2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than  $65 + 10 \log (P)$  dB in a 6.25 kHz band segment, for mobile and portable stations.
- (3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least  $43 + 10 \log (P)$  dB.
- (4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.
- (5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.

Note 7: Per Part 27.53(n) For mobile operations in the 3450–3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed  $-13$  dBm/MHz. Compliance with this paragraph (n)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

Note 8: Per Part 27.53(l) 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 (l)(2) 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. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

### 3.5. SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL

#### Test set-up



#### Test Procedure

- KDB971168 D01v03 - Section 6
- ANSI C63.26-2015 – Section 5.7

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The EUT was setup to maximum output power at its low, middle, high channel with all bandwidths, modulations and RB configurations. The spectrum is scanned from 9 kHz up to a frequency including its 10<sup>th</sup> harmonic.

The power of any spurious emission shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log(P)$  dB.

#### Test setting

1. RBW = 100 kHz(Below 1 GHz) or 1 MHz(Above 1 GHz) & VBW  $\geq 3 \times$  RBW ( Refer to Note 2)
2. Detector = RMS & Trace mode = Max hold or Average
3. Sweep time = Auto couple
4. Number of sweep point  $\geq 2 \times$  span / RBW
5. The trace was allowed to stabilize

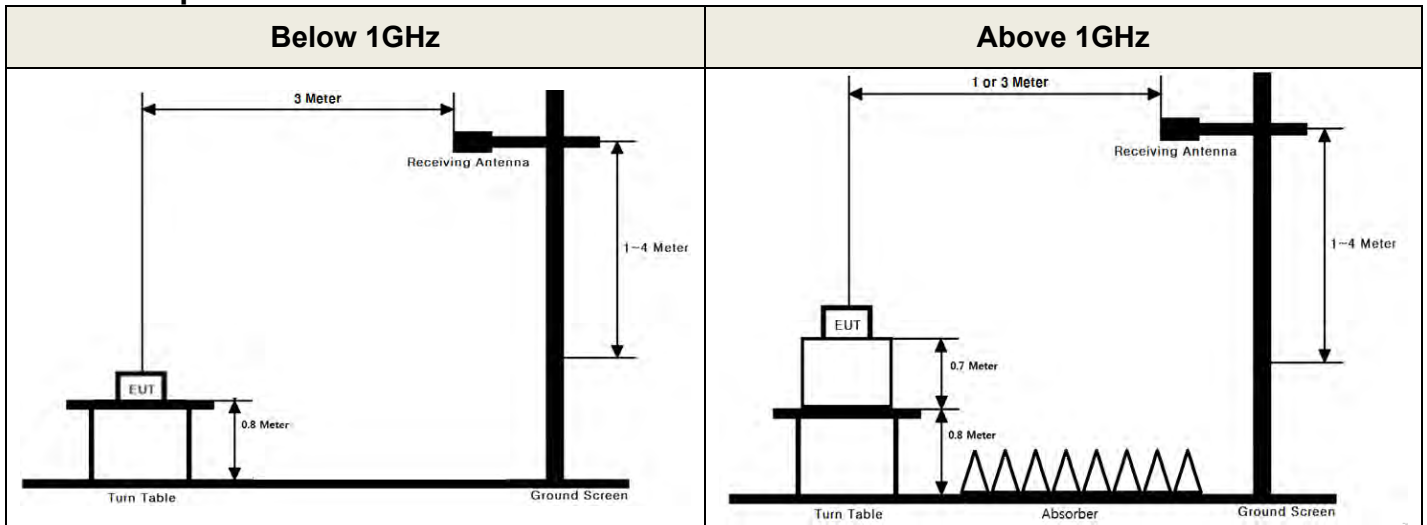
Note 1: For TDD signal, the trace mode was set to average and trigger was set to free run.

And added  $10 \log(1/\text{duty cycle})$  to the measured power level. (Path loss was applied to the spectrum correction factor, and  $10 \log(1/\text{duty cycle})$  was applied to the spectrum offset function during measurement. Please refer to the section 3.4 note 1 for duty cycle.

Note 2: Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and 1 MHz or greater for frequencies greater than 1GHz.

### 3.6. UNDESIRABLE EMISSIONS

#### Test Set-up



These measurements were performed at 3 test site. The equipment under test is placed on a non-conductive table 0.8 or 1.5 meters above a turntable which is flush with the ground plane and 3 meters from the receive antenna. For measurements above 1 GHz absorbers are placed on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1 GHz, the absorbers are removed.

#### Test Procedure

- KDB971168 D01v03 - Section 6
- ANSI C63.26-2015 – Section 5.5
- ANSI/TIA-603-E-2016 - Section 2.2.12

#### Test setting

1. RBW = 100 kHz for below 1 GHz and 1 MHz for above 1 GHz / VBW  $\geq$  3 X RBW
2. Detector = RMS & Trace mode = power averaging (rms)
3. Sweep time = Auto couple
4. Number of sweep point  $\geq$  2 X span / RBW
5. The trace was allowed to stabilize

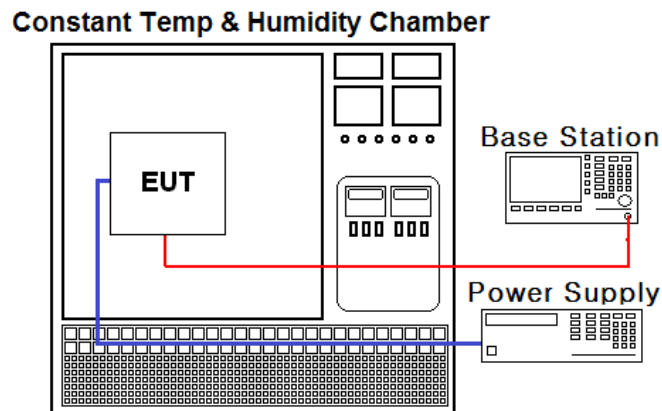
Note1: If duty cycle < 98%, add  $10 \log(1/\text{duty cycle})$  to the measured power level to compute the average power during continuous transmission. Please refer to the section 3.4 note 1 for duty cycle.

The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. For radiated power measurements below 1 GHz, a half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading.

For radiated power measurements above 1 GHz, a Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading. The difference between the gain of the horn and an isotropic antenna are taken into consideration. This measurement was performed with the EUT oriented in 3 orthogonal axis.

### 3.7. FREQUENCY STABILITY

#### Test Set-up



#### Test Procedure

- KDB971168 D01v03 - Section 9
- ANSI/TIA-603-E-2016

The frequency stability of the transmitter is measured by:

a.) **Temperature:**

The temperature is varied from -30 °C to +50 °C using an environmental chamber.

b.) **Primary Supply Voltage:**

The primary supply voltage is varied from 85 % to 115 % of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

#### Specification:

Part 24.235, Part 27.54: The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Part 22.355: The frequency stability of the transmitter shall be maintained within  $\pm 0.00025\%$  ( $\pm 2.5$  ppm) of the center frequency.

Part 90.539(e): The frequency stability of mobile, portable and control transmitters operating in the wideband segment must be 1.25 parts per million or better when AFC is locked to a base station, and 5 parts per million or better when AFC is not locked.

#### Time Period and Procedure:

1. The carrier frequency of the transmitter is measured at room temperature.  
(20 °C to provide a reference)
2. The equipment is turned on in a "standby" condition for one minute before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10 °C intervals ranging from -30 °C to +50 °C.  
A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

#### 4. LIST OF TEST EQUIPMENT

Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal. Date (yy/mm/dd)	S/N
Spectrum Analyzer	Agilent Technologies	N9020A	23/12/15	24/12/15	MY50410272
Spectrum Analyzer	Agilent Technologies	N9020A	23/12/15	24/12/15	MY48010133
Spectrum Analyzer	KEYSIGHT	N9030B	23/12/15	24/12/15	MY55480168
DC power supply	Agilent Technologies	66332A	23/12/15	24/12/15	US37470950
Multimeter	FLUKE	17B+	23/12/15	24/12/15	36390701WS
Power Splitter	Anritsu	K241B	23/12/15	24/12/15	1301183
Resistive Divider	Clear Microwave	D240	24/06/10	25/06/10	2
Temp & Humi	SJ Science	SJ-TH-S50	23/12/14	24/12/14	U5542113
Radio Communication Analyzer	KEYSIGHT	E7515B	24/06/05	25/06/05	MY60192461
Radio Communication Analyzer	KEYSIGHT	E7515B	23/12/15	24/12/15	MY58300723
Thermohygrometer	BODYCOM	BJ5478	23/12/15	24/12/15	120612-1
Thermohygrometer	BODYCOM	BJ5478	23/12/15	24/12/15	120612-2
Signal Generator	Rohde Schwarz	SMBV100A	23/12/15	24/12/15	255571
Signal Generator	ANRITSU	MG3695C	23/12/15	24/12/15	173501
Loop Antenna	ETS-Lindgren	6502	23/11/09	24/11/09	00060496
Bilog Antenna	Schwarzbeck	VULB 9160	23/12/15	24/12/15	3362
HORN ANT	ETS	3117	23/12/15	24/12/15	00140394
HORN ANT	A.H.Systems	SAS-574	24/06/11	25/06/11	155
PreAmplifier	H.P	8447D	23/12/15	24/12/15	2944A07774
PreAmplifier	Agilent	8449B	23/12/15	24/12/15	3008A02108
PreAmplifier	tsj	MLA-1840-J02-45	24/06/03	25/06/03	16966-10728
High-pass filter	Wainwright	WHKX12-935-1000-15000-40SS	23/12/15	24/12/15	7
High-pass filter	Wainwright	WHKX10-2838-3300-18000-60SS	23/12/15	24/12/15	2
High-pass filter	Wainwright	WHKX6-6320-8000-26500-40CC	23/12/15	24/12/15	2
High-pass filter	Wainwright	WHNX5.0/26.5G-6SS	24/06/04	25/06/04	8
Cable	HUBER+SUHNER	SUCOFLEX100	24/01/03	25/01/03	M-1
Cable	HUBER+SUHNER	SUCOFLEX100	24/01/03	25/01/03	M-2
Cable	Junkosah	MWX241/B	24/01/03	25/01/03	M-3
Cable	Junkosah	MWX221	24/01/03	25/01/03	M-4
Cable	Junkosah	MWX221	24/01/03	25/01/03	M-5
Cable	JUNFLON	J12J101757-00	24/01/03	25/01/03	M-7
Cable	HUBER+SUHNER	SUCOFLEX104	24/01/03	25/01/03	M-8
Cable	HUBER+SUHNER	SUCOFLEX106	24/01/03	25/01/03	M-9
Cable	JUNKOSHA	MWX315	24/01/03	25/01/03	M-10
Cable	HUBER+SUHNER	SUCOFLEX100	24/01/03	25/01/03	M-11
Cable	JUNKOSHA	MWX241	24/01/03	25/01/03	mmW-1
Cable	JUNKOSHA	MWX241	24/01/03	25/01/03	mmW-4

Note1: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2017.

Note2: The cable is not a regular calibration item, so it has been calibrated by Dt&C itself.



## 5. SUMMARY OF TEST RESULTS

FCC Part Section(s)	Test Description	Test Limit	Status Note 1
2.1046	Conducted Output Power	N/A	C
2.1049	Occupied Bandwidth	N/A	C
22.913(d) 24.232(d) 27.50(d.5)	Peak to Average Ratio	< 13 dB	C
2.1051 22.917(a) 24.238(a) 27.53(g) 27.53(h) 27.53(c) 27.53(n) 27.53(l)	Band Edge / Conducted Spurious Emissions	> 43 + 10log <sub>10</sub> (P) dB at Band edge and for all out-of-band emissions	C
27.53(c.4)	Undesirable emissions in 763 ~ 775MHz & 793 ~ 806MHz	>65 + 10 log (P) dB in a 6.25 kHz band segment frequencies between 763-775 MHz and 793-805 MHz	C
27.53(m)	Band Edge / Conducted Spurious Emissions	> 40 + 10log <sub>10</sub> (P) dB at channel edge and 5 MHz from the channel edge > 43 + 10log <sub>10</sub> (P) dB at 5 MHz and X MHz from the channel edge > 55 + 10log <sub>10</sub> (P) dB at all frequencies more than X MHz from the channel edge	C
90.543(e)	Band Edge / Conducted Spurious Emissions	>65 + 10 log (P) dB in a 6.25 kHz band segment frequencies between 769-775MHz and 799-805MHz >43 + 10 log (P) dB at frequency between 775-788 MHz, above 805 MHz, and below 758 MHz	C
2.1055 22.355 24.235 27.54 90.539(e)	Frequency Stability	Refer to section 3.7 of this report.	C
27.50(b.10) 27.50(c.10) 90.542(a.7)	Radiated Output Power (n12, 13, 14, 71)	< 3 Watts max. ERP	C
22.913(a.5)	Radiated Output Power (n5)	For mobile equipment: < 7 Watts max. ERP	C
27.50(d)(4) 27.50(k)(3) 27.50(j)(3)	Radiated Output Power r (n66, 77, 78)	For mobile equipment: < 1 Watts max. EIRP	C
24.232(c) 27.50(h.2)	Radiated Output Power (n2, 7, 41, 38)	For mobile equipment: < 2 Watts max. EIRP	C
2.1053 22.917(a) 24.238(a) 27.53(g) 27.53(h) 90.543(c) 27.53(n) 27.53(l)	Undesirable Emissions (n5, 2, 66, 12, 13, 14, 71, 77, 78)	> 43 + 10log <sub>10</sub> (P) dB for all out-of-band emissions	C Note2
27.53(f) 90.543(f)	Undesirable Emissions in 1559 ~ 1610 MHz (n13, 14)	< -70 dBW/MHz (for wideband signals) < -80 dBW (for discrete emissions of less than 700 Hz bandwidth)	C Note2
27.53(m)(4)	Undesirable Emissions (n7, 41, 38)	> 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	C Note2
Note 1: C=Comply NC=Not Comply NT=Not Tested NA=Not Applicable Note 2: This test item was performed in three orthogonal EUT positions and the worst case data was reported. Note 3: The DFT-s-OFDM and CP-OFDM waveforms were investigated, and worst case(DFT-s-OFDM) configuration results are reported.			

## 6. SAMPLE CALCULATION

### A. Emission Designator

#### NR Band n71( $\pi/2$ BPSK)

Emission Designator = **17M8G7D**

OBW = 17.798 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data Transmission

#### NR Band n71(16QAM)

Emission Designator = **17M8W7D**

OBW = 17.839 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data Transmission

#### NR Band n71(256QAM)

Emission Designator = **17M8W7D**

OBW = 17.808 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data Transmission

#### NR Band n71(QPSK)

Emission Designator = **17M8G7D**

OBW = 17.826 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data Transmission

#### NR Band n71(64QAM)

Emission Designator = **17M8W7D**

OBW = 17.796 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data Transmission

### B. For substitution method

#### **Unwanted emissions**

- 1) The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1 GHz respectively above ground.
- 2) The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
- 3) Vary the measurement antenna height through 1 m to 4 m and the rotate EUT through 360° in order to determine the maximum emission level.
- 4) Record the measured emission level and frequency using the available test method.  
If required by the test method, add  $10 \log(1/\text{duty cycle})$  to measured emission level.
- 5) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 6) Vary the measurement antenna height between 1 m to 4 m to maximize the received (measured) signal amplitude. And adjust the signal generator output power level until the amplitude detected by the measurement instrument equals the previously measured emission level.
- 7) The conducted power at the terminal of the substitute antenna is measured.
- 8) Record the level at substituted antenna terminal.
- 9) The result is calculated as below;

**Result: EIRP(dBm) = Level at Substitute antenna terminal + Substitute Antenna Gain (dBi)**

**Result: ERP(dBm) = Level at Substitute antenna terminal + Substitute Antenna Gain (dBd)**

**Where, TX Antenna Gain (dBd) = TX Antenna Gain (dBi) - 2.15 dB**

## 7. TEST DATA

### 7.1. OCCUPIED BANDWIDTH

- Plots of the EUT's Occupied Bandwidth are shown in Clause 8.1

### 7.2. PEAK TO AVERAGE RATIO

- Plots of the EUT's Peak- to- Average Ratio are shown in Clause 8.2

### 7.3. BAND EDGE EMISSIONS (Conducted)

- Plots of the EUT's Band Edge Emissions are shown in Clause 8.3

### 7.4. SPURIOUS AND HARMONICS EMISSIONS (Conducted)

- Plots of the EUT's Spurious Emissions are shown in Clause 8.4

## 7.5. MAXIMUM OUTPUT POWER

### - Test Notes

1) The EUT was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the below table.

2) EIRP = Conducted Output Power(dBm) + Antenna gain(dBi), ERP = EIRP – 2.15(dB)

### 7.5.1. NR Band n71

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
20	673	$\pi/2$ BPSK	1/inner left	22.68	-5.44	17.24	15.09
		QPSK	1/inner left	22.75	-5.44	17.31	15.16
		16QAM	1/inner left	21.86	-5.44	16.42	14.27
		64QAM	1/inner left	20.34	-5.44	14.90	12.75
		256QAM	1/inner left	18.31	-5.44	12.87	10.72
	680.5	$\pi/2$ BPSK	1/inner left	22.67	-5.44	17.23	15.08
		QPSK	1/inner left	22.78	-5.44	17.34	15.19
		16QAM	1/inner left	21.79	-5.44	16.35	14.20
		64QAM	1/inner left	20.36	-5.44	14.92	12.77
		256QAM	1/inner left	18.35	-5.44	12.91	10.76
	688	$\pi/2$ BPSK	1/inner left	22.48	-5.44	17.04	14.89
		QPSK	1/inner left	22.51	-5.44	17.07	14.92
		16QAM	1/inner left	21.52	-5.44	16.08	13.93
		64QAM	1/inner left	20.05	-5.44	14.61	12.46
		256QAM	1/inner left	18.08	-5.44	12.64	10.49
15	670.5	$\pi/2$ BPSK	1/inner left	22.46	-5.44	17.02	14.87
		QPSK	1/inner left	22.55	-5.44	17.11	14.96
		16QAM	1/inner left	21.64	-5.44	16.20	14.05
		64QAM	1/inner left	20.13	-5.44	14.69	12.54
		256QAM	1/inner left	18.17	-5.44	12.73	10.58
	680.5	$\pi/2$ BPSK	1/inner left	22.44	-5.44	17.00	14.85
		QPSK	1/inner left	22.59	-5.44	17.15	15.00
		16QAM	1/inner left	21.60	-5.44	16.16	14.01
		64QAM	1/inner left	20.25	-5.44	14.81	12.66
		256QAM	1/inner left	18.15	-5.44	12.71	10.56
	690.5	$\pi/2$ BPSK	1/inner left	22.39	-5.44	16.95	14.80
		QPSK	1/inner left	22.44	-5.44	17.00	14.85
		16QAM	1/inner left	21.49	-5.44	16.05	13.90
		64QAM	1/inner left	20.02	-5.44	14.58	12.43
		256QAM	1/inner left	18.01	-5.44	12.57	10.42
10	668	$\pi/2$ BPSK	1/inner left	22.60	-5.44	17.16	15.01
		QPSK	1/inner left	22.64	-5.44	17.20	15.05
		16QAM	1/inner left	21.68	-5.44	16.24	14.09
		64QAM	1/inner left	20.22	-5.44	14.78	12.63
		256QAM	1/inner left	18.22	-5.44	12.78	10.63
	680.5	$\pi/2$ BPSK	1/inner left	22.37	-5.44	16.93	14.78
		QPSK	1/inner left	22.42	-5.44	16.98	14.83
		16QAM	1/inner left	21.48	-5.44	16.04	13.89
		64QAM	1/inner left	19.94	-5.44	14.50	12.35
		256QAM	1/inner left	18.01	-5.44	12.57	10.42
	693	$\pi/2$ BPSK	1/inner left	22.44	-5.44	17.00	14.85
		QPSK	1/inner left	22.46	-5.44	17.02	14.87
		16QAM	1/inner left	21.48	-5.44	16.04	13.89
		64QAM	1/inner left	20.06	-5.44	14.62	12.47
		256QAM	1/inner left	17.99	-5.44	12.55	10.40

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
5	665.5	$\pi/2$ BPSK	1/inner left	22.64	-5.44	17.20	15.05
		QPSK	1/inner left	22.67	-5.44	17.23	15.08
		16QAM	1/inner left	21.71	-5.44	16.27	14.12
		64QAM	1/inner left	20.25	-5.44	14.81	12.66
		256QAM	1/inner left	18.21	-5.44	12.77	10.62
	680.5	$\pi/2$ BPSK	1/inner left	22.40	-5.44	16.96	14.81
		QPSK	1/inner left	22.43	-5.44	16.99	14.84
		16QAM	1/inner left	21.46	-5.44	16.02	13.87
		64QAM	1/inner left	19.95	-5.44	14.51	12.36
		256QAM	1/inner left	17.97	-5.44	12.53	10.38
	695.5	$\pi/2$ BPSK	1/inner left	22.43	-5.44	16.99	14.84
		QPSK	1/inner left	22.48	-5.44	17.04	14.89
		16QAM	1/inner left	21.53	-5.44	16.09	13.94
		64QAM	1/inner left	20.03	-5.44	14.59	12.44
		256QAM	1/inner left	18.04	-5.44	12.60	10.45

## 7.5.2. NR Band n12

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
15	706.5	$\pi/2$ BPSK	1/Mid	22.22	-5.44	16.78	14.63
		QPSK	1/Mid	22.35	-5.44	16.91	14.76
		16QAM	1/Mid	21.43	-5.44	15.99	13.84
		64QAM	1/Mid	19.96	-5.44	14.52	12.37
		256QAM	1/Mid	17.91	-5.44	12.47	10.32
	707.5	$\pi/2$ BPSK	1/Mid	22.32	-5.44	16.88	14.73
		QPSK	1/Mid	22.40	-5.44	16.96	14.81
		16QAM	1/Mid	21.45	-5.44	16.01	13.86
		64QAM	1/Mid	19.96	-5.44	14.52	12.37
		256QAM	1/Mid	17.98	-5.44	12.54	10.39
	708.5	$\pi/2$ BPSK	1/Mid	21.94	-5.44	16.50	14.35
		QPSK	1/Mid	21.97	-5.44	16.53	14.38
		16QAM	1/Mid	21.06	-5.44	15.62	13.47
		64QAM	1/Mid	19.54	-5.44	14.10	11.95
		256QAM	1/Mid	17.56	-5.44	12.12	9.97
10	704	$\pi/2$ BPSK	1/Mid	22.13	-5.44	16.69	14.54
		QPSK	1/Mid	22.15	-5.44	16.71	14.56
		16QAM	1/Mid	21.21	-5.44	15.77	13.62
		64QAM	1/edge left	19.74	-5.44	14.30	12.15
		256QAM	1/Mid	17.68	-5.44	12.24	10.09
	707.5	$\pi/2$ BPSK	1/Mid	22.34	-5.44	16.90	14.75
		QPSK	1/Mid	22.36	-5.44	16.92	14.77
		16QAM	1/Mid	21.39	-5.44	15.95	13.80
		64QAM	1/Mid	19.88	-5.44	14.44	12.29
		256QAM	1/Mid	17.87	-5.44	12.43	10.28
	711	$\pi/2$ BPSK	1/Mid	21.89	-5.44	16.45	14.30
		QPSK	1/Mid	21.91	-5.44	16.47	14.32
		16QAM	1/Mid	20.95	-5.44	15.51	13.36
		64QAM	1/Mid	19.46	-5.44	14.02	11.87
		256QAM	1/Mid	17.45	-5.44	12.01	9.86
5	701.5	$\pi/2$ BPSK	1/Mid	22.32	-5.44	16.88	14.73
		QPSK	1/Mid	22.35	-5.44	16.91	14.76
		16QAM	1/Mid	21.39	-5.44	15.95	13.80
		64QAM	1/Mid	19.92	-5.44	14.48	12.33
		256QAM	1/Mid	17.90	-5.44	12.46	10.31
	707.5	$\pi/2$ BPSK	1/Mid	22.26	-5.44	16.82	14.67
		QPSK	1/Mid	22.29	-5.44	16.85	14.70
		16QAM	1/Mid	21.34	-5.44	15.90	13.75
		64QAM	1/Mid	19.81	-5.44	14.37	12.22
		256QAM	1/Mid	17.82	-5.44	12.38	10.23
	713.5	$\pi/2$ BPSK	1/Mid	22.04	-5.44	16.60	14.45
		QPSK	1/Mid	22.08	-5.44	16.64	14.49
		16QAM	1/Mid	21.17	-5.44	15.73	13.58
		64QAM	1/Mid	19.63	-5.44	14.19	12.04
		256QAM	1/Mid	17.61	-5.44	12.17	10.02

**7.5.3. NR Band n13**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
10	782	$\pi/2$ BPSK	1/inner left	22.54	-4.5	18.04	15.89
		QPSK	1/inner left	22.62	-4.5	18.12	15.97
		16QAM	1/inner left	21.63	-4.5	17.13	14.98
		64QAM	1/inner left	20.19	-4.5	15.69	13.54
		256QAM	1/inner left	18.20	-4.5	13.70	11.55
5	779.5	$\pi/2$ BPSK	1/inner left	22.52	-4.5	18.02	15.87
		QPSK	1/inner left	22.57	-4.5	18.07	15.92
		16QAM	1/inner left	21.63	-4.5	17.13	14.98
		64QAM	1/inner left	20.09	-4.5	15.59	13.44
		256QAM	1/inner left	18.12	-4.5	13.62	11.47
	782	$\pi/2$ BPSK	1/inner left	22.58	-4.5	18.08	15.93
		QPSK	1/inner left	22.61	-4.5	18.11	15.96
		16QAM	1/inner left	21.64	-4.5	17.14	14.99
		64QAM	1/inner left	20.14	-4.5	15.64	13.49
		256QAM	1/inner left	18.19	-4.5	13.69	11.54
	784.5	$\pi/2$ BPSK	1/inner left	22.51	-4.5	18.01	15.86
		QPSK	1/inner left	22.56	-4.5	18.06	15.91
		16QAM	1/inner left	21.61	-4.5	17.11	14.96
		64QAM	1/inner left	20.08	-4.5	15.58	13.43
		256QAM	1/inner left	18.16	-4.5	13.66	11.51

**7.5.4. NR Band n14**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
10	793	$\pi/2$ BPSK	1/inner left	22.27	-3.84	18.43	16.28
		QPSK	1/inner left	22.55	-3.84	18.71	16.56
		16QAM	1/inner left	21.57	-3.84	17.73	15.58
		64QAM	1/inner left	20.11	-3.84	16.27	14.12
		256QAM	1/inner left	18.09	-3.84	14.25	12.10
5	790.5	$\pi/2$ BPSK	1/inner left	22.29	-3.84	18.45	16.30
		QPSK	1/inner left	22.49	-3.84	18.65	16.50
		16QAM	1/inner left	21.52	-3.84	17.68	15.53
		64QAM	1/inner left	20.04	-3.84	16.20	14.05
		256QAM	1/inner left	18.07	-3.84	14.23	12.08
	793	$\pi/2$ BPSK	1/inner left	22.31	-3.84	18.47	16.32
		QPSK	1/inner left	22.54	-3.84	18.70	16.55
		16QAM	1/inner left	21.58	-3.84	17.74	15.59
		64QAM	1/inner left	20.07	-3.84	16.23	14.08
		256QAM	1/inner left	18.09	-3.84	14.25	12.10
	795.5	$\pi/2$ BPSK	1/inner left	22.36	-3.84	18.52	16.37
		QPSK	1/inner left	22.39	-3.84	18.55	16.40
		16QAM	1/inner left	21.43	-3.84	17.59	15.44
		64QAM	1/inner left	19.91	-3.84	16.07	13.92
		256QAM	1/inner left	17.94	-3.84	14.10	11.95

**7.5.5. NR Band n5**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
20	834	$\pi/2$ BPSK	1/inner left	22.67	-1.91	20.76	18.61
		QPSK	1/inner left	22.88	-1.91	20.97	18.82
		16QAM	1/inner left	21.98	-1.91	20.07	17.92
		64QAM	1/inner left	20.49	-1.91	18.58	16.43
		256QAM	1/inner left	18.47	-1.91	16.56	14.41
	836.5	$\pi/2$ BPSK	1/inner left	22.80	-1.91	20.89	18.74
		QPSK	1/inner left	22.86	-1.91	20.95	18.80
		16QAM	1/inner left	21.96	-1.91	20.05	17.90
		64QAM	1/inner left	20.48	-1.91	18.57	16.42
		256QAM	1/inner left	18.45	-1.91	16.54	14.39
	839	$\pi/2$ BPSK	1/inner left	22.42	-1.91	20.51	18.36
		QPSK	1/inner left	22.55	-1.91	20.64	18.49
		16QAM	1/inner left	21.92	-1.91	20.01	17.86
		64QAM	1/inner left	20.35	-1.91	18.44	16.29
		256QAM	1/inner left	18.17	-1.91	16.26	14.11
15	831.5	$\pi/2$ BPSK	1/inner left	22.60	-1.91	20.69	18.54
		QPSK	1/inner left	22.82	-1.91	20.91	18.76
		16QAM	1/inner left	22.00	-1.91	20.09	17.94
		64QAM	1/inner left	20.42	-1.91	18.51	16.36
		256QAM	1/inner left	18.39	-1.91	16.48	14.33
	836.5	$\pi/2$ BPSK	1/inner left	22.77	-1.91	20.86	18.71
		QPSK	1/inner left	22.78	-1.91	20.87	18.72
		16QAM	1/inner left	21.80	-1.91	19.89	17.74
		64QAM	1/inner left	20.31	-1.91	18.40	16.25
		256QAM	1/inner left	18.36	-1.91	16.45	14.30
	841.5	$\pi/2$ BPSK	1/inner left	22.67	-1.91	20.76	18.61
		QPSK	1/inner left	22.70	-1.91	20.79	18.64
		16QAM	1/inner left	21.75	-1.91	19.84	17.69
		64QAM	1/inner left	20.25	-1.91	18.34	16.19
		256QAM	1/inner left	18.26	-1.91	16.35	14.20
10	829	$\pi/2$ BPSK	1/inner left	22.51	-1.91	20.60	18.45
		QPSK	1/inner left	22.55	-1.91	20.64	18.49
		16QAM	1/inner left	21.66	-1.91	19.75	17.60
		64QAM	1/inner left	20.13	-1.91	18.22	16.07
		256QAM	1/inner left	18.13	-1.91	16.22	14.07
	836.5	$\pi/2$ BPSK	1/inner left	22.36	-1.91	20.45	18.30
		QPSK	1/inner left	22.44	-1.91	20.53	18.38
		16QAM	1/inner left	21.63	-1.91	19.72	17.57
		64QAM	1/inner left	20.07	-1.91	18.16	16.01
		256QAM	1/inner left	18.07	-1.91	16.16	14.01
	844	$\pi/2$ BPSK	1/inner left	22.36	-1.91	20.45	18.30
		QPSK	1/inner left	22.42	-1.91	20.51	18.36
		16QAM	1/inner left	21.43	-1.91	19.52	17.37
		64QAM	1/inner left	19.95	-1.91	18.04	15.89
		256QAM	1/inner left	17.93	-1.91	16.02	13.87



Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
5	826	$\pi/2$ BPSK	1/inner left	22.67	-1.91	20.76	18.61
		QPSK	1/inner left	22.77	-1.91	20.86	18.71
		16QAM	1/inner left	21.83	-1.91	19.92	17.77
		64QAM	1/inner left	20.32	-1.91	18.41	16.26
		256QAM	1/inner left	18.35	-1.91	16.44	14.29
	836.5	$\pi/2$ BPSK	1/inner left	22.66	-1.91	20.75	18.60
		QPSK	1/inner left	22.71	-1.91	20.80	18.65
		16QAM	1/inner left	21.78	-1.91	19.87	17.72
		64QAM	1/inner left	20.26	-1.91	18.35	16.20
		256QAM	1/inner left	18.28	-1.91	16.37	14.22
	846.5	$\pi/2$ BPSK	1/inner left	22.42	-1.91	20.51	18.36
		QPSK	1/inner left	22.46	-1.91	20.55	18.40
		16QAM	1/inner left	21.51	-1.91	19.60	17.45
		64QAM	1/inner left	20.03	-1.91	18.12	15.97
		256QAM	1/inner left	18.03	-1.91	16.12	13.97

**7.5.6. NR Band n66**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
20	1 720	$\pi/2$ BPSK	1/Mid	22.22	0.3	22.52
		QPSK	1/Mid	22.35	0.3	22.65
		16QAM	1/Mid	21.43	0.3	21.73
		64QAM	1/Mid	19.96	0.3	20.26
		256QAM	1/Mid	17.91	0.3	18.21
	1 745	$\pi/2$ BPSK	1/Mid	22.32	0.3	22.62
		QPSK	1/Mid	22.40	0.3	22.70
		16QAM	1/Mid	21.45	0.3	21.75
		64QAM	1/Mid	19.96	0.3	20.26
		256QAM	1/Mid	17.98	0.3	18.28
	1 770	$\pi/2$ BPSK	1/Mid	21.94	0.3	22.24
		QPSK	1/Mid	21.97	0.3	22.27
		16QAM	1/Mid	21.06	0.3	21.36
		64QAM	1/Mid	19.54	0.3	19.84
		256QAM	1/Mid	17.56	0.3	17.86
15	1 717.5	$\pi/2$ BPSK	1/Mid	22.13	0.3	22.43
		QPSK	1/Mid	22.15	0.3	22.45
		16QAM	1/Mid	21.21	0.3	21.51
		64QAM	1/Mid	19.68	0.3	19.98
		256QAM	1/Mid	17.68	0.3	17.98
	1 745	$\pi/2$ BPSK	1/Mid	22.34	0.3	22.64
		QPSK	1/Mid	22.36	0.3	22.66
		16QAM	1/Mid	21.39	0.3	21.69
		64QAM	1/Mid	19.88	0.3	20.18
		256QAM	1/Mid	17.87	0.3	18.17
	1 772.5	$\pi/2$ BPSK	1/Mid	21.89	0.3	22.19
		QPSK	1/Mid	21.91	0.3	22.21
		16QAM	1/Mid	20.95	0.3	21.25
		64QAM	1/Mid	19.46	0.3	19.76
		256QAM	1/Mid	17.45	0.3	17.75
10	1 715	$\pi/2$ BPSK	1/Mid	22.32	0.3	22.62
		QPSK	1/Mid	22.35	0.3	22.65
		16QAM	1/Mid	21.39	0.3	21.69
		64QAM	1/Mid	19.92	0.3	20.22
		256QAM	1/Mid	17.90	0.3	18.20
	1 745	$\pi/2$ BPSK	1/Mid	22.25	0.3	22.55
		QPSK	1/Mid	22.27	0.3	22.57
		16QAM	1/Mid	21.34	0.3	21.64
		64QAM	1/Mid	19.81	0.3	20.11
		256QAM	1/Mid	17.82	0.3	18.12
	1 775	$\pi/2$ BPSK	1/Mid	22.04	0.3	22.34
		QPSK	1/Mid	22.08	0.3	22.38
		16QAM	1/Mid	21.17	0.3	21.47
		64QAM	1/Mid	19.63	0.3	19.93
		256QAM	1/Mid	17.61	0.3	17.91

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
5	1 712.5	$\pi/2$ BPSK	1/Mid	22.32	0.3	22.62
		QPSK	1/Mid	22.37	0.3	22.67
		16QAM	1/Mid	21.44	0.3	21.74
		64QAM	1/Mid	19.92	0.3	20.22
		256QAM	1/Mid	17.95	0.3	18.25
	1 745	$\pi/2$ BPSK	1/Mid	22.33	0.3	22.63
		QPSK	1/Mid	22.37	0.3	22.67
		16QAM	1/Mid	21.45	0.3	21.75
		64QAM	1/Mid	19.91	0.3	20.21
		256QAM	1/Mid	17.93	0.3	18.23
	1 777.5	$\pi/2$ BPSK	1/Mid	22.03	0.3	22.33
		QPSK	1/Mid	22.09	0.3	22.39
		16QAM	1/Mid	21.18	0.3	21.48
		64QAM	1/Mid	19.64	0.3	19.94
		256QAM	1/Mid	17.63	0.3	17.93

**7.5.7. NR Band n2**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
20	1 860	$\pi/2$ BPSK	1/Mid	21.40	0.77	22.17
		QPSK	1/Mid	21.50	0.77	22.27
		16QAM	1/Mid	20.61	0.77	21.38
		64QAM	1/Mid	19.08	0.77	19.85
		256QAM	1/Mid	17.05	0.77	17.82
	1 880	$\pi/2$ BPSK	1/Mid	21.60	0.77	22.37
		QPSK	1/Mid	21.77	0.77	22.54
		16QAM	1/Mid	20.81	0.77	21.58
		64QAM	1/Mid	19.32	0.77	20.09
		256QAM	1/Mid	17.30	0.77	18.07
	1 900	$\pi/2$ BPSK	1/Mid	21.40	0.77	22.17
		QPSK	1/Mid	21.42	0.77	22.19
		16QAM	1/Mid	20.49	0.77	21.26
		64QAM	1/Mid	18.94	0.77	19.71
		256QAM	1/Mid	17.01	0.77	17.78
15	1 857.5	$\pi/2$ BPSK	1/Mid	21.35	0.77	22.12
		QPSK	1/Mid	21.40	0.77	22.17
		16QAM	1/Mid	20.42	0.77	21.19
		64QAM	1/Mid	18.92	0.77	19.72
		256QAM	1/Mid	16.96	0.77	17.73
	1 880	$\pi/2$ BPSK	1/Mid	21.71	0.77	22.48
		QPSK	1/Mid	21.76	0.77	22.53
		16QAM	1/Mid	20.83	0.77	21.60
		64QAM	1/Mid	19.34	0.77	20.11
		256QAM	1/Mid	17.35	0.77	18.12
	1 902.5	$\pi/2$ BPSK	1/Mid	21.66	0.77	22.43
		QPSK	1/Mid	21.67	0.77	22.44
		16QAM	1/Mid	20.70	0.77	21.47
		64QAM	1/Mid	19.21	0.77	19.98
		256QAM	1/Mid	17.25	0.77	18.02
10	1 855	$\pi/2$ BPSK	1/Mid	21.23	0.77	22.00
		QPSK	1/Mid	21.29	0.77	22.06
		16QAM	1/Mid	20.33	0.77	21.10
		64QAM	1/Mid	18.84	0.77	19.61
		256QAM	1/Mid	16.84	0.77	17.61
	1 880	$\pi/2$ BPSK	1/inner left	21.55	0.77	22.32
		QPSK	1/Mid	21.59	0.77	22.36
		16QAM	1/Mid	20.66	0.77	21.43
		64QAM	1/Mid	19.19	0.77	19.96
		256QAM	1/Mid	17.13	0.77	17.90
	1 905	$\pi/2$ BPSK	1/Mid	21.40	0.77	22.17
		QPSK	1/Mid	21.42	0.77	22.19
		16QAM	1/Mid	20.45	0.77	21.22
		64QAM	1/Mid	18.99	0.77	19.76
		256QAM	1/Mid	16.93	0.77	17.70

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
5	1 852.5	$\pi/2$ BPSK	1/Mid	21.48	0.77	22.25
		QPSK	1/Mid	21.58	0.77	22.35
		16QAM	1/Mid	20.60	0.77	21.37
		64QAM	1/Mid	19.15	0.77	19.92
		256QAM	1/Mid	17.10	0.77	17.87
	1 880	$\pi/2$ BPSK	1/Mid	21.57	0.77	22.34
		QPSK	1/Mid	21.60	0.77	22.37
		16QAM	1/Mid	20.72	0.77	21.49
		64QAM	1/Mid	19.24	0.77	20.01
		256QAM	1/Mid	17.25	0.77	18.02
	1 907.5	$\pi/2$ BPSK	1/Mid	21.55	0.77	22.32
		QPSK	1/Mid	21.57	0.77	22.34
		16QAM	1/Mid	20.66	0.77	21.43
		64QAM	1/Mid	19.14	0.77	19.91
		256QAM	1/Mid	17.19	0.77	17.96

**7.5.8. NR Band n7**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
20	2 510	$\pi/2$ BPSK	1/Inner right	22.82	-2.11	20.71
		QPSK	1/Inner right	22.84	-2.11	20.73
		16QAM	1/Inner right	22.01	-2.11	19.90
		64QAM	1/Inner right	20.79	-2.11	18.68
		256QAM	1/Inner right	18.55	-2.11	16.44
	2 535	$\pi/2$ BPSK	1/Inner right	23.22	-2.11	21.11
		QPSK	1/Inner right	23.25	-2.11	21.14
		16QAM	1/Inner right	22.30	-2.11	20.19
		64QAM	1/Inner right	20.78	-2.11	18.67
		256QAM	1/Inner right	18.77	-2.11	16.66
	2 560	$\pi/2$ BPSK	1/Inner right	22.80	-2.11	20.69
		QPSK	1/Inner right	22.82	-2.11	20.71
		16QAM	1/Inner right	22.23	-2.11	20.12
		64QAM	1/Inner right	20.45	-2.11	18.34
		256QAM	1/Inner right	18.68	-2.11	16.57
15	2 507.5	$\pi/2$ BPSK	1/Inner right	22.66	-2.11	20.55
		QPSK	1/Inner right	22.68	-2.11	20.57
		16QAM	1/Inner right	21.90	-2.11	19.79
		64QAM	1/Inner right	20.30	-2.11	18.19
		256QAM	1/Inner right	18.34	-2.11	16.23
	2 535	$\pi/2$ BPSK	1/Inner right	22.76	-2.11	20.65
		QPSK	1/Inner right	22.78	-2.11	20.67
		16QAM	1/Inner right	21.86	-2.11	19.75
		64QAM	1/Inner right	20.75	-2.11	18.64
		256QAM	1/Inner right	18.30	-2.11	16.19
	2 562.5	$\pi/2$ BPSK	1/Inner right	22.76	-2.11	20.65
		QPSK	1/Inner right	22.78	-2.11	20.67
		16QAM	1/Inner right	21.86	-2.11	19.75
		64QAM	1/Inner right	20.75	-2.11	18.64
		256QAM	1/Inner right	18.30	-2.11	16.19
10	2 505	$\pi/2$ BPSK	1/Inner right	22.70	-2.11	20.59
		QPSK	1/Inner right	22.74	-2.11	20.63
		16QAM	1/Inner right	21.79	-2.11	19.68
		64QAM	1/Inner right	20.29	-2.11	18.18
		256QAM	1/Inner right	18.28	-2.11	16.17
	2 535	$\pi/2$ BPSK	1/Inner right	22.82	-2.11	20.71
		QPSK	1/Inner right	22.83	-2.11	20.72
		16QAM	1/Inner right	21.92	-2.11	19.81
		64QAM	1/Inner right	20.42	-2.11	18.31
		256QAM	1/Inner right	18.40	-2.11	16.29
	2 565	$\pi/2$ BPSK	1/Inner right	23.16	-2.11	21.05
		QPSK	1/Inner right	23.18	-2.11	21.07
		16QAM	1/Inner right	22.30	-2.11	20.19
		64QAM	1/Inner right	20.80	-2.11	18.69
		256QAM	1/Inner right	18.80	-2.11	16.69

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
5	2 502.5	$\pi/2$ BPSK	1/Inner right	23.17	-2.11	21.06
		QPSK	1/Inner right	23.24	-2.11	21.13
		16QAM	1/Inner right	22.30	-2.11	20.19
		64QAM	1/Inner right	20.79	-2.11	18.68
		256QAM	1/Inner right	18.80	-2.11	16.69
	2 535	$\pi/2$ BPSK	1/Inner right	22.73	-2.11	20.62
		QPSK	1/Inner right	22.81	-2.11	20.70
		16QAM	1/Inner right	21.88	-2.11	19.77
		64QAM	1/Inner right	20.39	-2.11	18.28
		256QAM	1/Inner right	18.34	-2.11	16.23
	2 567.5	$\pi/2$ BPSK	1/Inner right	23.02	-2.11	20.91
		QPSK	1/Inner right	23.10	-2.11	20.99
		16QAM	1/Inner right	22.16	-2.11	20.05
		64QAM	1/Inner right	20.68	-2.11	18.57
		256QAM	1/Inner right	18.67	-2.11	16.56

**7.5.9. NR Band n41**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
100	2 546.01	$\pi/2$ BPSK	1/Inner right	23.63	2.21	25.84
		QPSK	1/Inner right	23.67	2.21	25.88
		16QAM	1/Inner right	22.70	2.21	24.91
		64QAM	1/Inner right	21.21	2.21	23.42
		256QAM	1/Inner right	19.20	2.21	21.41
	2 592.99	$\pi/2$ BPSK	1/Inner right	23.90	2.21	26.11
		QPSK	1/Inner right	23.93	2.21	26.14
		16QAM	1/Inner right	22.97	2.21	25.18
		64QAM	1/Inner right	21.43	2.21	23.64
	2 640	256QAM	1/Inner right	19.45	2.21	21.66
		$\pi/2$ BPSK	1/Inner right	23.50	2.21	25.71
		QPSK	1/Inner right	23.51	2.21	25.72
16QAM		1/Inner right	22.54	2.21	24.75	
64QAM		1/Inner right	21.38	2.21	23.59	
90	2 541	256QAM	1/Inner right	19.06	2.21	21.27
		$\pi/2$ BPSK	1/Inner right	23.45	2.21	25.66
		QPSK	1/Inner right	23.48	2.21	25.69
		16QAM	1/Inner right	22.72	2.21	24.93
		64QAM	1/Inner right	21.04	2.21	23.25
	2 592.99	256QAM	1/Inner right	19.25	2.21	21.46
		$\pi/2$ BPSK	1/Inner right	23.62	2.21	25.83
		QPSK	1/Inner right	23.66	2.21	25.87
		16QAM	1/Inner right	22.71	2.21	24.92
		64QAM	1/Inner right	21.22	2.21	23.43
	2 644.98	256QAM	1/Inner right	19.23	2.21	21.44
		$\pi/2$ BPSK	1/Inner right	23.54	2.21	25.75
QPSK		1/Inner right	23.57	2.21	25.78	
16QAM		1/Inner right	22.59	2.21	24.80	
64QAM		1/Inner right	21.35	2.21	23.56	
80	2 536.02	256QAM	1/Inner right	19.31	2.21	21.52
		$\pi/2$ BPSK	1/Inner right	23.49	2.21	25.70
		QPSK	1/Inner right	23.52	2.21	25.73
		16QAM	1/Inner right	22.63	2.21	24.84
		64QAM	1/Inner right	21.06	2.21	23.27
	2 592.99	256QAM	1/Inner right	19.07	2.21	21.28
		$\pi/2$ BPSK	1/Inner right	23.69	2.21	25.90
		QPSK	1/Inner right	23.73	2.21	25.94
		16QAM	1/Inner right	22.74	2.21	24.95
		64QAM	1/Inner right	21.26	2.21	23.47
	2 649.99	256QAM	1/Inner right	19.29	2.21	21.50
		$\pi/2$ BPSK	1/Inner right	23.67	2.21	25.88
QPSK		1/Inner right	23.71	2.21	25.92	
16QAM		1/Inner right	22.73	2.21	24.94	
64QAM		1/Inner right	21.23	2.21	23.44	
256QAM	1/Inner right	19.28	2.21	21.49		



Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
60	2 526	$\pi/2$ BPSK	1/Inner right	23.75	2.21	25.96
		QPSK	1/Inner right	23.79	2.21	26.00
		16QAM	1/Inner right	22.82	2.21	25.03
		64QAM	1/Inner right	21.30	2.21	23.51
		256QAM	1/Inner right	19.33	2.21	21.54
	2 592.99	$\pi/2$ BPSK	1/Inner right	23.73	2.21	25.94
		QPSK	1/Inner right	23.77	2.21	25.98
		16QAM	1/Inner right	22.81	2.21	25.02
		64QAM	1/Inner right	21.46	2.21	23.67
		256QAM	1/Inner right	19.34	2.21	21.55
	2 659.98	$\pi/2$ BPSK	1/Inner right	23.67	2.21	25.88
		QPSK	1/Inner right	23.71	2.21	25.92
		16QAM	1/Inner right	22.79	2.21	25.00
		64QAM	1/Inner right	21.25	2.21	23.46
		256QAM	1/Inner right	19.42	2.21	21.63
50	2 521.02	$\pi/2$ BPSK	1/Inner right	23.79	2.21	26.00
		QPSK	1/Inner right	23.81	2.21	26.02
		16QAM	1/Inner right	22.85	2.21	25.06
		64QAM	1/Inner right	21.37	2.21	23.58
		256QAM	1/Inner right	19.34	2.21	21.55
	2 592.99	$\pi/2$ BPSK	1/Inner right	23.81	2.21	26.02
		QPSK	1/Inner right	23.85	2.21	26.06
		16QAM	1/Inner right	22.99	2.21	25.20
		64QAM	1/Inner right	21.48	2.21	23.69
		256QAM	1/Inner right	19.48	2.21	21.69
	2 664.99	$\pi/2$ BPSK	1/Inner right	23.69	2.21	25.90
		QPSK	1/Inner right	23.72	2.21	25.93
		16QAM	1/Inner right	22.82	2.21	25.03
		64QAM	1/Inner right	21.28	2.21	23.49
		256QAM	1/Inner right	19.25	2.21	21.46
40	2 516.01	$\pi/2$ BPSK	1/Inner right	23.84	2.21	26.05
		QPSK	1/Inner right	23.90	2.21	26.11
		16QAM	1/Inner right	22.92	2.21	25.13
		64QAM	1/Inner right	21.49	2.21	23.70
		256QAM	1/Inner right	19.43	2.21	21.64
	2 592.99	$\pi/2$ BPSK	1/Inner right	23.85	2.21	26.06
		QPSK	1/Inner right	23.88	2.21	26.09
		16QAM	1/Inner right	22.91	2.21	25.12
		64QAM	1/Inner right	21.46	2.21	23.67
		256QAM	1/Inner right	19.41	2.21	21.62
	2 670	$\pi/2$ BPSK	1/Inner right	23.76	2.21	25.97
		QPSK	1/Inner right	23.79	2.21	26.00
		16QAM	1/Inner right	22.82	2.21	25.03
		64QAM	1/Inner right	21.34	2.21	23.55
		256QAM	1/Inner right	19.46	2.21	21.67

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
20	2 506.02	$\pi/2$ BPSK	1/Inner right	23.64	2.21	25.85
		QPSK	1/Inner right	23.67	2.21	25.88
		16QAM	1/Inner right	22.69	2.21	24.90
		64QAM	1/Inner right	21.46	2.21	23.67
		256QAM	1/Inner right	19.24	2.21	21.45
	2 592.99	$\pi/2$ BPSK	1/Inner right	23.62	2.21	25.83
		QPSK	1/Inner right	23.68	2.21	25.89
		16QAM	1/Inner right	22.83	2.21	25.04
		64QAM	1/Inner right	21.25	2.21	23.46
		256QAM	1/Inner right	19.31	2.21	21.52
	2 679.99	$\pi/2$ BPSK	1/Inner right	23.77	2.21	25.98
		QPSK	1/Inner right	23.81	2.21	26.02
		16QAM	1/Inner right	22.87	2.21	25.08
		64QAM	1/Inner right	21.38	2.21	23.59
		256QAM	1/Inner right	19.34	2.21	21.55

**7.5.10. NR Band n38**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
20	2 580	$\pi/2$ BPSK	1/Inner right	22.59	2.21	24.80
		QPSK	1/Inner right	22.62	2.21	24.83
		16QAM	1/Inner right	21.82	2.21	24.03
		64QAM	1/Inner right	20.15	2.21	22.36
		256QAM	1/Inner right	18.34	2.21	20.55
	2 595	$\pi/2$ BPSK	1/Inner right	22.64	2.21	24.85
		QPSK	1/Inner right	22.72	2.21	24.93
		16QAM	1/Inner right	21.81	2.21	24.02
		64QAM	1/Inner right	20.29	2.21	22.50
		256QAM	1/Inner right	18.32	2.21	20.53
	2 610	$\pi/2$ BPSK	1/Inner right	22.66	2.21	24.87
		QPSK	1/Inner right	22.74	2.21	24.95
		16QAM	1/Inner right	21.77	2.21	23.98
		64QAM	1/Inner right	20.50	2.21	22.71
		256QAM	1/Inner right	18.28	2.21	20.49

**7.5.11. NR Band n78 (3 450~3 550 MHz)**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
100	3 500.01	$\pi/2$ BPSK	1/Inner right	22.30	0.43	22.73
		QPSK	1/Inner right	22.36	0.43	22.79
		16QAM	1/Inner right	21.40	0.43	21.83
		64QAM	1/Inner right	19.87	0.43	20.30
		256QAM	1/Inner right	17.91	0.43	18.34
90	3 495	$\pi/2$ BPSK	1/Inner right	22.14	0.43	22.57
		QPSK	1/Inner right	22.16	0.43	22.59
		16QAM	1/Inner right	21.17	0.43	21.60
		64QAM	1/Inner right	19.97	0.43	20.40
		256QAM	1/Inner right	17.75	0.43	18.18
	3 500.1	$\pi/2$ BPSK	1/Inner right	22.04	0.43	22.47
		QPSK	1/Inner right	22.23	0.43	22.66
		16QAM	1/Inner right	21.28	0.43	21.71
		64QAM	1/Inner right	19.91	0.43	20.34
		256QAM	1/Inner right	17.90	0.43	18.33
	3 504.99	$\pi/2$ BPSK	1/Inner right	22.03	0.43	22.46
		QPSK	1/Inner right	22.10	0.43	22.53
		16QAM	1/Inner right	21.13	0.43	21.56
		64QAM	1/Inner right	20.00	0.43	20.43
		256QAM	1/Inner right	17.71	0.43	18.14
80	3 490.02	$\pi/2$ BPSK	1/Inner right	21.98	0.43	22.41
		QPSK	1/Inner right	22.22	0.43	22.65
		16QAM	1/Inner right	21.33	0.43	21.76
		64QAM	1/Inner right	19.73	0.43	20.16
		256QAM	1/Inner right	17.80	0.43	18.23
	3 500.01	$\pi/2$ BPSK	1/Inner right	22.10	0.43	22.53
		QPSK	1/Inner right	22.19	0.43	22.62
		16QAM	1/Inner right	21.19	0.43	21.62
		64QAM	1/Inner right	19.99	0.43	20.42
		256QAM	1/Inner right	17.73	0.43	18.16
	3 510	$\pi/2$ BPSK	1/Inner right	21.98	0.43	22.41
		QPSK	1/Inner right	22.11	0.43	22.54
		16QAM	1/Inner right	21.24	0.43	21.67
		64QAM	1/Inner right	19.99	0.43	20.42
		256QAM	1/Inner right	17.67	0.43	18.10

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
70	3 485.01	$\pi/2$ BPSK	1/Inner right	21.89	0.43	22.32
		QPSK	1/Inner right	21.96	0.43	22.39
		16QAM	1/Inner right	21.20	0.43	21.63
		64QAM	1/Inner right	19.91	0.43	20.34
		256QAM	1/Inner right	17.60	0.43	18.03
	3 500.01	$\pi/2$ BPSK	1/Inner right	22.02	0.43	22.45
		QPSK	1/Inner right	22.29	0.43	22.72
		16QAM	1/Inner right	21.34	0.43	21.77
		64QAM	1/Inner right	19.89	0.43	20.32
		256QAM	1/Inner right	17.90	0.43	18.33
	3 515.01	$\pi/2$ BPSK	1/Inner right	21.98	0.43	22.41
		QPSK	1/Inner right	22.12	0.43	22.55
		16QAM	1/Inner right	21.16	0.43	21.59
		64QAM	1/Inner right	19.89	0.43	20.32
		256QAM	1/Inner right	17.66	0.43	18.09
60	3 480	$\pi/2$ BPSK	1/Inner right	22.00	0.43	22.43
		QPSK	1/Inner right	22.02	0.43	22.45
		16QAM	1/Mid	21.02	0.43	21.45
		64QAM	1/Inner right	19.97	0.43	20.40
		256QAM	1/Inner right	17.74	0.43	18.17
	3 500.01	$\pi/2$ BPSK	1/Inner right	21.90	0.43	22.33
		QPSK	1/Inner right	22.10	0.43	22.53
		16QAM	1/Inner right	21.15	0.43	21.58
		64QAM	1/Inner right	19.90	0.43	20.33
		256QAM	1/Inner right	17.66	0.43	18.09
	3 519.99	$\pi/2$ BPSK	1/Inner right	22.14	0.43	22.57
		QPSK	1/Inner right	22.15	0.43	22.58
		16QAM	1/Inner right	21.31	0.43	21.74
		64QAM	1/Inner right	19.99	0.43	20.42
		256QAM	1/Inner right	17.94	0.43	18.37
50	3 475.02	$\pi/2$ BPSK	1/Inner right	21.95	0.43	22.38
		QPSK	1/Inner right	21.98	0.43	22.41
		16QAM	1/Inner right	21.22	0.43	21.65
		64QAM	1/Inner right	19.77	0.43	20.20
		256QAM	1/Inner right	17.69	0.43	18.12
	3 500.01	$\pi/2$ BPSK	1/Inner right	22.05	0.43	22.48
		QPSK	1/Inner right	22.06	0.43	22.49
		16QAM	1/Inner right	21.09	0.43	21.52
		64QAM	1/Inner right	19.91	0.43	20.34
		256QAM	1/Inner right	17.63	0.43	18.06
	3 525	$\pi/2$ BPSK	1/Inner right	21.93	0.43	22.36
		QPSK	1/Inner right	21.98	0.43	22.41
		16QAM	1/Inner right	21.20	0.43	21.63
		64QAM	1/Inner right	19.87	0.43	20.30
		256QAM	1/edge right	17.68	0.43	18.11

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
40	3 470.01	$\pi/2$ BPSK	1/Inner right	22.06	0.43	22.49
		QPSK	1/Inner right	22.14	0.43	22.57
		16QAM	1/Inner right	21.16	0.43	21.59
		64QAM	1/Inner right	19.92	0.43	20.35
		256QAM	1/Inner right	17.88	0.43	18.31
	3 500.01	$\pi/2$ BPSK	1/Inner right	22.22	0.43	22.65
		QPSK	1/Inner right	22.23	0.43	22.66
		16QAM	1/Inner right	21.25	0.43	21.68
		64QAM	1/Inner right	19.88	0.43	20.31
		256QAM	1/Inner right	17.82	0.43	18.25
	3 530.01	$\pi/2$ BPSK	1/Inner right	22.06	0.43	22.49
		QPSK	1/Inner right	22.15	0.43	22.58
		16QAM	1/Inner right	21.21	0.43	21.64
		64QAM	1/Inner right	19.95	0.43	20.38
		256QAM	1/Inner right	17.75	0.43	18.18
30	3 465	$\pi/2$ BPSK	1/Inner right	22.12	0.43	22.55
		QPSK	1/Inner right	22.13	0.43	22.56
		16QAM	1/Inner right	21.15	0.43	21.58
		64QAM	1/Inner right	19.95	0.43	20.38
		256QAM	1/Inner right	17.97	0.43	18.40
	3 500.01	$\pi/2$ BPSK	1/Inner right	22.10	0.43	22.53
		QPSK	1/Inner right	22.16	0.43	22.59
		16QAM	1/Inner right	21.17	0.43	21.60
		64QAM	1/Inner right	19.83	0.43	20.26
	3 534.99	256QAM	1/Inner right	17.68	0.43	18.11
		$\pi/2$ BPSK	1/Inner right	22.05	0.43	22.48
		QPSK	1/Inner right	22.13	0.43	22.56
		16QAM	1/Inner right	21.19	0.43	21.62
		64QAM	1/Inner right	19.86	0.43	20.29
	20	3 460.02	256QAM	1/Inner right	17.68	0.43
$\pi/2$ BPSK			1/Inner right	22.06	0.43	22.49
QPSK			1/Inner right	22.11	0.43	22.54
16QAM			1/Inner right	21.28	0.43	21.71
64QAM			1/Inner right	19.92	0.43	20.35
3 500.01		256QAM	1/Inner right	17.79	0.43	18.22
		$\pi/2$ BPSK	1/Inner right	22.05	0.43	22.48
		QPSK	1/Inner right	22.08	0.43	22.51
		16QAM	1/Inner right	21.31	0.43	21.74
		64QAM	1/Inner right	19.93	0.43	20.36
3 540		256QAM	1/Inner right	17.62	0.43	18.05
		$\pi/2$ BPSK	1/Inner right	21.90	0.43	22.33
		QPSK	1/Inner right	21.93	0.43	22.36
		16QAM	1/Inner right	21.27	0.43	21.70
		64QAM	1/Inner right	19.94	0.43	20.37
		256QAM	1/Inner right	17.77	0.43	18.20

**7.5.12. NR Band n78 (3 700~3 800 MHz)**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
100	3 750	$\pi/2$ BPSK	1/Inner right	22.31	2.73	25.04
		QPSK	1/Inner right	22.41	2.73	25.14
		16QAM	1/Inner right	21.46	2.73	24.19
		64QAM	1/Inner right	19.98	2.73	22.71
		256QAM	1/edge left	18.05	2.73	20.78
90	3 745.02	$\pi/2$ BPSK	1/Inner right	22.19	2.73	24.92
		QPSK	1/Inner right	22.24	2.73	24.97
		16QAM	1/Inner right	21.32	2.73	24.05
		64QAM	1/Inner right	19.90	2.73	22.63
		256QAM	1/Inner right	17.76	2.73	20.49
	3 750	$\pi/2$ BPSK	1/Inner right	22.11	2.73	24.84
		QPSK	1/Inner right	22.25	2.73	24.98
		16QAM	1/Inner right	21.29	2.73	24.02
		64QAM	1/Inner right	19.90	2.73	22.63
		256QAM	1/Inner right	17.87	2.73	20.60
	3 754.98	$\pi/2$ BPSK	1/Inner right	22.21	2.73	24.94
		QPSK	1/Inner right	22.24	2.73	24.97
		16QAM	1/Inner right	21.24	2.73	23.97
		64QAM	1/Inner right	19.93	2.73	22.66
		256QAM	1/Inner right	17.77	2.73	20.50
80	3 740.01	$\pi/2$ BPSK	1/Inner right	22.14	2.73	24.87
		QPSK	1/Inner right	22.20	2.73	24.93
		16QAM	1/Inner right	21.23	2.73	23.96
		64QAM	1/Inner right	19.92	2.73	22.65
		256QAM	1/Inner right	17.74	2.73	20.47
	3 750	$\pi/2$ BPSK	1/Inner right	22.26	2.73	24.99
		QPSK	1/Inner right	22.30	2.73	25.03
		16QAM	1/Inner right	21.36	2.73	24.09
		64QAM	1/Inner right	20.00	2.73	22.73
		256QAM	1/Inner right	17.89	2.73	20.62
	3 759.99	$\pi/2$ BPSK	1/Inner right	22.05	2.73	24.78
		QPSK	1/Inner right	22.12	2.73	24.85
		16QAM	1/Inner right	21.34	2.73	24.07
		64QAM	1/Inner right	20.00	2.73	22.73
		256QAM	1/Inner right	17.73	2.73	20.46

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
70	3 735	$\pi/2$ BPSK	1/Inner right	22.18	2.73	24.91
		QPSK	1/Inner right	22.21	2.73	24.94
		16QAM	1/Inner right	21.24	2.73	23.97
		64QAM	1/Inner right	19.95	2.73	22.68
		256QAM	1/Inner right	17.90	2.73	20.63
	3 750	$\pi/2$ BPSK	1/Inner right	22.16	2.73	24.89
		QPSK	1/Inner right	22.19	2.73	24.92
		16QAM	1/Inner right	21.35	2.73	24.08
		64QAM	1/Inner right	20.00	2.73	22.73
		256QAM	1/Inner right	17.78	2.73	20.51
	3 765	$\pi/2$ BPSK	1/Inner right	22.21	2.73	24.94
		QPSK	1/Inner right	22.25	2.73	24.98
		16QAM	1/Inner right	21.36	2.73	24.09
		64QAM	1/Inner right	19.98	2.73	22.71
		256QAM	1/Inner right	17.78	2.73	20.51
60	3 730.02	$\pi/2$ BPSK	1/Inner right	22.10	2.73	24.83
		QPSK	1/Inner right	22.13	2.73	24.86
		16QAM	1/Inner right	21.29	2.73	24.02
		64QAM	1/Inner right	19.94	2.73	22.67
		256QAM	1/Inner right	17.90	2.73	20.63
	3 750	$\pi/2$ BPSK	1/Inner right	21.95	2.73	24.68
		QPSK	1/Inner right	21.99	2.73	24.72
		16QAM	1/Inner right	21.32	2.73	24.05
		64QAM	1/Inner right	19.93	2.73	22.66
		256QAM	1/Inner right	17.80	2.73	20.53
	3 769.98	$\pi/2$ BPSK	1/Inner right	21.93	2.73	24.66
		QPSK	1/Inner right	21.99	2.73	24.72
		16QAM	1/Inner right	21.21	2.73	23.94
		64QAM	1/Inner right	19.85	2.73	22.58
		256QAM	1/Inner right	17.72	2.73	20.45
50	3 725.01	$\pi/2$ BPSK	1/Inner right	22.09	2.73	24.82
		QPSK	1/Inner right	22.11	2.73	24.84
		16QAM	1/Inner right	21.18	2.73	23.91
		64QAM	1/Inner right	19.93	2.73	22.66
		256QAM	1/Inner right	17.74	2.73	20.47
	3 750	$\pi/2$ BPSK	1/Inner right	22.10	2.73	24.83
		QPSK	1/Inner right	22.16	2.73	24.89
		16QAM	1/Inner right	21.20	2.73	23.93
		64QAM	1/Inner right	19.84	2.73	22.57
		256QAM	1/Inner right	17.89	2.73	20.62
	3 774.99	$\pi/2$ BPSK	1/Inner right	22.18	2.73	24.91
		QPSK	1/Inner right	22.25	2.73	24.98
		16QAM	1/Inner right	21.26	2.73	23.99
		64QAM	1/Inner right	19.93	2.73	22.66
		256QAM	1/Inner right	17.80	2.73	20.53



Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
40	3 720	$\pi/2$ BPSK	1/Inner right	22.09	2.73	24.82
		QPSK	1/Inner right	22.11	2.73	24.84
		16QAM	1/Inner right	21.33	2.73	24.06
		64QAM	1/Inner right	19.96	2.73	22.69
		256QAM	1/Inner right	17.72	2.73	20.45
	3 750	$\pi/2$ BPSK	1/Inner right	22.12	2.73	24.85
		QPSK	1/Inner right	22.14	2.73	24.87
		16QAM	1/Inner right	21.26	2.73	23.99
		64QAM	1/Inner right	19.87	2.73	22.60
		256QAM	1/Inner right	17.75	2.73	20.48
	3 780	$\pi/2$ BPSK	1/Inner right	21.96	2.73	24.69
		QPSK	1/Inner right	22.02	2.73	24.75
		16QAM	1/Inner right	21.22	2.73	23.95
		64QAM	1/Inner right	19.93	2.73	22.66
		256QAM	1/Inner right	17.77	2.73	20.50
30	3 715.02	$\pi/2$ BPSK	1/Inner right	22.11	2.73	24.84
		QPSK	1/Inner right	22.16	2.73	24.89
		16QAM	1/Inner right	21.29	2.73	24.02
		64QAM	1/Inner right	19.98	2.73	22.71
		256QAM	1/Inner right	17.68	2.73	20.41
	3 750	$\pi/2$ BPSK	1/Inner right	22.14	2.73	24.87
		QPSK	1/Inner right	22.16	2.73	24.89
		16QAM	1/Inner right	21.19	2.73	23.92
		64QAM	1/Inner right	19.91	2.73	22.64
		256QAM	1/Inner right	17.73	2.73	20.46
	3 785.01	$\pi/2$ BPSK	1/Inner right	22.10	2.73	24.83
		QPSK	1/Inner right	22.18	2.73	24.91
		16QAM	1/Inner right	21.20	2.73	23.93
		64QAM	1/Inner right	19.97	2.73	22.70
		256QAM	1/Inner right	17.72	2.73	20.45
20	3 710.01	$\pi/2$ BPSK	1/Inner right	22.10	2.73	24.83
		QPSK	1/Inner right	22.13	2.73	24.86
		16QAM	1/Inner right	21.23	2.73	23.96
		64QAM	1/Inner right	19.91	2.73	22.64
		256QAM	1/Inner right	17.69	2.73	20.42
	3 750	$\pi/2$ BPSK	1/Inner right	22.10	2.73	24.83
		QPSK	1/Inner right	22.12	2.73	24.85
		16QAM	1/Inner right	21.25	2.73	23.98
		64QAM	1/Inner right	19.99	2.73	22.72
		256QAM	1/Inner right	17.78	2.73	20.51
	3 789.99	$\pi/2$ BPSK	1/Inner right	22.11	2.73	24.84
		QPSK	1/Inner right	22.23	2.73	24.96
		16QAM	1/Inner right	21.26	2.73	23.99
		64QAM	1/Inner right	19.85	2.73	22.58
		256QAM	1/Inner right	17.75	2.73	20.48

**7.5.13 NR Band n77 (3 450~3 550 MHz)**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
100	3 500.01	$\pi/2$ BPSK	1/Inner right	22.31	0.43	22.74
		QPSK	1/Inner right	22.38	0.43	22.81
		16QAM	1/Inner right	21.41	0.43	21.84
		64QAM	1/Inner right	19.89	0.43	20.32
		256QAM	1/Inner right	17.97	0.43	18.40
80	3 490.02	$\pi/2$ BPSK	1/Inner right	22.20	0.43	22.63
		QPSK	1/Inner right	22.24	0.43	22.67
		16QAM	1/Inner right	21.27	0.43	21.70
		64QAM	1/Inner right	19.76	0.43	20.19
		256QAM	1/Inner right	17.79	0.43	18.22
	3 500.01	$\pi/2$ BPSK	1/Inner right	22.27	0.43	22.70
		QPSK	1/Inner right	22.30	0.43	22.73
		16QAM	1/Inner right	21.32	0.43	21.75
		64QAM	1/Inner right	19.84	0.43	20.27
		256QAM	1/Inner right	17.83	0.43	18.26
	3 510	$\pi/2$ BPSK	1/Inner right	22.28	0.43	22.71
		QPSK	1/Inner right	22.31	0.43	22.74
		16QAM	1/Inner right	21.36	0.43	21.79
		64QAM	1/Inner right	19.86	0.43	20.29
		256QAM	1/Inner right	17.83	0.43	18.26
60	3 480	$\pi/2$ BPSK	1/Inner right	22.17	0.43	22.60
		QPSK	1/Inner right	22.22	0.43	22.65
		16QAM	1/Inner right	21.29	0.43	21.72
		64QAM	1/Inner right	19.76	0.43	20.19
		256QAM	1/Inner right	17.73	0.43	18.16
	3 500.01	$\pi/2$ BPSK	1/Inner right	22.21	0.43	22.64
		QPSK	1/Inner right	22.23	0.43	22.66
		16QAM	1/Inner right	21.32	0.43	21.75
		64QAM	1/Inner right	19.76	0.43	20.19
		256QAM	1/Inner right	17.77	0.43	18.20
	3 519.99	$\pi/2$ BPSK	1/Inner right	22.29	0.43	22.72
		QPSK	1/Inner right	22.32	0.43	22.75
		16QAM	1/Inner right	21.37	0.43	21.80
		64QAM	1/Inner right	19.92	0.43	20.35
		256QAM	1/Inner right	17.86	0.43	18.29

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
40	3 470.01	$\pi/2$ BPSK	1/Inner right	22.16	0.43	22.59
		QPSK	1/Inner right	22.20	0.43	22.63
		16QAM	1/Inner right	21.26	0.43	21.69
		64QAM	1/Inner right	19.73	0.43	20.16
		256QAM	1/Inner right	17.75	0.43	18.18
	3 500.01	$\pi/2$ BPSK	1/Inner right	22.33	0.43	22.76
		QPSK	1/Inner right	22.36	0.43	22.79
		16QAM	1/Inner right	21.38	0.43	21.81
		64QAM	1/Inner right	19.92	0.43	20.35
		256QAM	1/Inner right	17.90	0.43	18.33
	3 529.98	$\pi/2$ BPSK	1/Inner right	22.13	0.43	22.56
		QPSK	1/Inner right	22.16	0.43	22.59
		16QAM	1/Inner right	21.17	0.43	21.60
		64QAM	1/Inner right	19.72	0.43	20.15
		256QAM	1/Inner right	17.93	0.43	18.36
20	3 460.01	$\pi/2$ BPSK	1/Inner right	22.12	0.43	22.55
		QPSK	1/Inner right	22.15	0.43	22.58
		16QAM	1/Inner right	21.17	0.43	21.60
		64QAM	1/Inner right	19.66	0.43	20.09
		256QAM	1/Inner right	17.67	0.43	18.10
	3 500.01	$\pi/2$ BPSK	1/Inner right	22.15	0.43	22.58
		QPSK	1/Inner right	22.19	0.43	22.62
		16QAM	1/Inner right	21.22	0.43	21.65
		64QAM	1/Inner right	19.77	0.43	20.20
		256QAM	1/Inner right	17.69	0.43	18.12
	3 540	$\pi/2$ BPSK	1/Inner right	22.19	0.43	22.62
		QPSK	1/Inner right	22.22	0.43	22.65
		16QAM	1/Inner right	21.23	0.43	21.66
		64QAM	1/Inner right	19.78	0.43	20.21
		256QAM	1/Inner right	17.78	0.43	18.21

**7.5.14 NR Band n77 (3 700~3 980 MHz)**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
100	3 750	$\pi/2$ BPSK	1/Inner right	22.35	2.73	25.08
		QPSK	1/Inner right	22.43	2.73	25.16
		16QAM	1/Inner right	21.48	2.73	24.21
		64QAM	1/Inner right	19.99	2.73	22.72
		256QAM	1/Inner right	17.96	2.73	20.69
	3 840	$\pi/2$ BPSK	1/Inner right	22.30	2.73	25.03
		QPSK	1/Inner right	22.34	2.73	25.07
		16QAM	1/Inner right	21.28	2.73	24.01
		64QAM	1/Inner right	19.84	2.73	22.57
		256QAM	1/Inner right	17.89	2.73	20.62
	3 930	$\pi/2$ BPSK	1/Inner right	22.33	2.73	25.06
		QPSK	1/Inner right	22.36	2.73	25.09
		16QAM	1/Inner right	21.40	2.73	24.13
		64QAM	1/Inner right	19.91	2.73	22.64
		256QAM	1/Inner right	17.88	2.73	20.61
80	3 740.01	$\pi/2$ BPSK	1/Inner right	22.37	2.73	25.10
		QPSK	1/Inner right	22.40	2.73	25.13
		16QAM	1/Inner right	21.49	2.73	24.22
		64QAM	1/Inner right	19.95	2.73	22.68
		256QAM	1/Inner right	17.97	2.73	20.70
	3 840	$\pi/2$ BPSK	1/Inner right	22.37	2.73	25.10
		QPSK	1/Inner right	22.41	2.73	25.14
		16QAM	1/Inner right	21.46	2.73	24.19
		64QAM	1/Inner right	19.96	2.73	22.69
		256QAM	1/Inner right	17.98	2.73	20.71
	3 939.99	$\pi/2$ BPSK	1/Inner right	22.10	2.73	24.83
		QPSK	1/Inner right	22.12	2.73	24.85
		16QAM	1/Inner right	21.16	2.73	23.89
		64QAM	1/Inner right	19.67	2.73	22.40
		256QAM	1/Inner right	17.69	2.73	20.42
60	3 730.02	$\pi/2$ BPSK	1/Inner right	22.11	2.73	24.84
		QPSK	1/Inner right	22.14	2.73	24.87
		16QAM	1/Inner right	21.17	2.73	23.90
		64QAM	1/Inner right	19.99	2.73	22.72
		256QAM	1/Inner right	17.69	2.73	20.42
	3 840	$\pi/2$ BPSK	1/Inner right	22.39	2.73	25.12
		QPSK	1/Inner right	22.40	2.73	25.13
		16QAM	1/Inner right	21.43	2.73	24.16
		64QAM	1/Inner right	19.91	2.73	22.64
		256QAM	1/Inner right	17.93	2.73	20.66
	3 949.98	$\pi/2$ BPSK	1/Inner right	22.36	2.73	25.09
		QPSK	1/Inner right	22.42	2.73	25.15
		16QAM	1/Inner right	21.45	2.73	24.18
		64QAM	1/Inner right	19.99	2.73	22.72
		256QAM	1/Inner right	17.98	2.73	20.71

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
40	3 720	$\pi/2$ BPSK	1/Inner right	22.32	2.73	25.05
		QPSK	1/Inner right	22.36	2.73	25.09
		16QAM	1/Inner right	21.49	2.73	24.22
		64QAM	1/Inner right	19.91	2.73	22.64
		256QAM	1/Inner right	17.91	2.73	20.64
	3 840	$\pi/2$ BPSK	1/Inner right	22.24	2.73	24.97
		QPSK	1/Inner right	22.27	2.73	25.00
		16QAM	1/Inner right	21.32	2.73	24.05
		64QAM	1/Inner right	19.79	2.73	22.52
		256QAM	1/Inner right	17.85	2.73	20.58
	3 960	$\pi/2$ BPSK	1/Inner right	22.30	2.73	25.03
		QPSK	1/Inner right	22.34	2.73	25.07
		16QAM	1/Inner right	21.37	2.73	24.10
		64QAM	1/Inner right	19.88	2.73	22.61
		256QAM	1/Inner right	17.96	2.73	20.69
20	3 710.01	$\pi/2$ BPSK	1/Inner right	22.38	2.73	25.11
		QPSK	1/Inner right	22.41	2.73	25.14
		16QAM	1/Inner right	21.46	2.73	24.19
		64QAM	1/Inner right	19.99	2.73	22.72
		256QAM	1/Inner right	17.98	2.73	20.71
	3 840	$\pi/2$ BPSK	1/Inner right	22.19	2.73	24.92
		QPSK	1/Inner right	22.24	2.73	24.97
		16QAM	1/Inner right	21.26	2.73	23.99
		64QAM	1/Inner right	19.76	2.73	22.49
		256QAM	1/Inner right	17.78	2.73	20.51
	3 969.99	$\pi/2$ BPSK	1/Inner right	22.21	2.73	24.94
		QPSK	1/Inner right	22.25	2.73	24.98
		16QAM	1/Inner right	21.31	2.73	24.04
		64QAM	1/Inner right	19.77	2.73	22.50
		256QAM	1/Inner right	17.79	2.73	20.52

## 7.6. UNDESIRABLE EMISSIONS (Radiated)

### - Test Notes

- 1) The frequency spectrum is examined from 9 kHz to the 10 th harmonic of the fundamental frequency of the transmitter. No other spurious and harmonic emissions were reported greater than listed emissions.
- 2) For Band below 1GHz:  
 $\text{Result(dBm)} = \text{Level at Substitute antenna terminal(dBm)} + \text{Substitute Antenna Gain (dBd)}$   
 For Band above 1GHz:  
 $\text{Result(dBm)} = \text{Level at Substitute antenna terminal(dBm)} + \text{Substitute Antenna Gain (dBi)}$
- 3) Limit  
 Band n2/5/12/13/14/66/71/77/78 = -13dBm  
 Band n7/38/41 = -25dBm  
 Limit for 1 559 MHz ~ 1 610 MHz in Band n13/14 = -40dBm/MHz (equivalent isotropically radiated power for wideband signals)

### 7.6.1. NR Band n71

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
20	673	QPSK	1/1	1 329.00	V	-68.20	2.09	-66.11	-13.00	53.11
				1 991.25	V	-64.89	2.84	-62.05	-13.00	49.05
				2 657.48	V	-66.72	4.04	-62.68	-13.00	49.68
				3 321.23	V	-67.06	5.71	-61.35	-13.00	48.35
	680.5	QPSK	1/1	1 343.21	V	-68.24	2.29	-65.95	-13.00	52.95
				2 013.68	V	-66.14	2.93	-63.21	-13.00	50.21
				2 685.38	V	-66.34	4.17	-62.17	-13.00	49.17
				3 356.77	V	-67.46	5.84	-61.62	-13.00	48.62
	688	QPSK	1/1	1 356.94	V	-67.99	2.48	-65.51	-13.00	52.51
				2 035.86	V	-66.36	3.04	-63.32	-13.00	50.32
				2 715.27	V	-66.17	4.27	-61.90	-13.00	48.90
				3 396.43	V	-67.43	5.93	-61.50	-13.00	48.50

**7.6.2. NR Band n12**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
15	706.5	QPSK	1/1	1 399.28	H	-67.73	3.05	-64.68	-13.00	51.68
				2 100.42	H	-67.02	3.25	-63.77	-13.00	50.77
				2 798.94	H	-67.00	4.53	-62.47	-13.00	49.47
				3 499.78	H	-67.25	6.33	-60.92	-13.00	47.92
	707.5	QPSK	1/1	1 401.23	H	-66.37	3.07	-63.30	-13.00	50.30
				2 101.79	H	-66.98	3.25	-63.73	-13.00	50.73
				2 803.36	H	-67.23	4.54	-62.69	-13.00	49.69
				3 504.15	H	-67.14	6.33	-60.81	-13.00	47.81
	708.5	QPSK	1/1	1 403.41	H	-65.79	3.09	-62.70	-13.00	49.70
				2 105.38	H	-67.05	3.24	-63.81	-13.00	50.81
				2 807.44	H	-67.26	4.56	-62.70	-13.00	49.70
				3 508.94	H	-67.16	6.32	-60.84	-13.00	47.84

**7.6.3. NR Band n13**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
10	782	QPSK	1/1	1 555.23	V	-62.04	3.74	-	-58.30	-13.00	45.30
				2 332.89	H	-65.27	3.76	-	-61.51	-13.00	48.51
				3 109.15	V	-67.06	5.21	-	-61.85	-13.00	48.85
				3 886.78	V	-67.23	6.82	-	-60.41	-13.00	47.41
5	779.5	QPSK	1/1	1 555.01	V	-64.52	3.74	-	-60.78	-13.00	47.78
				2 332.49	H	-66.39	3.76	-	-62.63	-13.00	49.63
				3 107.74	V	-67.00	5.20	-	-61.80	-13.00	48.80
				3 886.05	V	-67.39	6.82	-	-60.57	-13.00	47.57
	782	QPSK	1/1	1 559.97	V	-63.40	-	5.92	-57.48	-40.00	17.48
				2 340.11	H	-66.55	3.78	-	-62.77	-13.00	49.77
				3 118.98	V	-66.80	5.24	-	-61.56	-13.00	48.56
				3 898.57	V	-67.31	6.92	-	-60.39	-13.00	47.39
	784.5	QPSK	1/1	1 565.03	V	-64.31	-	5.96	-58.35	-40.00	18.35
				2 347.55	H	-66.56	3.80	-	-62.76	-13.00	49.76
				3 129.26	V	-67.41	5.27	-	-62.14	-13.00	49.14
				3 910.09	V	-67.49	6.93	-	-60.56	-13.00	47.56

**7.6.4. NR Band n14**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Substitute Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
10	793	QPSK	1/1	1 577.20	H	-67.35	-	6.05	-61.30	-40.00	21.30
				2 365.87	V	-65.30	3.81	-	-61.49	-13.00	48.49
				3 154.71	V	-67.48	5.34	-	-62.14	-13.00	49.14
				3 942.08	V	-68.71	6.91	-	-61.80	-13.00	48.80
5	790.5	QPSK	1/1	1 576.93	H	-67.27	-	6.04	-61.23	-40.00	21.23
				2 359.03	V	-66.44	3.81	-	-62.63	-13.00	49.63
				3 143.75	V	-67.53	5.32	-	-62.21	-13.00	49.21
				3 929.44	V	-68.02	6.92	-	-61.10	-13.00	48.10
	793	QPSK	1/1	1 582.01	H	-66.62	-	6.08	-60.54	-40.00	20.54
				2 364.70	V	-66.37	3.81	-	-62.56	-13.00	49.56
				3 153.68	V	-67.22	5.34	-	-61.88	-13.00	48.88
				3 941.86	V	-68.70	6.91	-	-61.79	-13.00	48.79
	795.5	QPSK	1/1	1 587.01	H	-67.24	-	6.12	-61.12	-40.00	21.12
				2 374.19	V	-66.32	3.81	-	-62.51	-13.00	49.51
				3 164.28	V	-67.05	5.34	-	-61.71	-13.00	48.71
				3 954.75	V	-68.53	6.91	-	-61.62	-13.00	48.62

**7.6.5. NR Band n5**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Substitute Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
20	834	QPSK	1/1	1 649.09	V	-66.78	4.09	-62.69	-13.00	49.69
				2 474.25	V	-65.43	3.73	-61.70	-13.00	48.70
				3 300.16	V	-66.69	5.62	-61.07	-13.00	48.07
				4 124.50	V	-68.69	7.12	-61.57	-13.00	48.57
	836.5	QPSK	1/1	1 654.54	V	-67.36	4.07	-63.29	-13.00	50.29
				2 482.02	V	-65.60	3.68	-61.92	-13.00	48.92
				3 309.49	V	-66.73	5.66	-61.07	-13.00	48.07
				4 137.22	V	-68.92	7.13	-61.79	-13.00	48.79
	839	QPSK	1/1	1 659.40	V	-68.12	4.06	-64.06	-13.00	51.06
				2 489.08	V	-64.96	3.63	-61.33	-13.00	48.33
				3 321.01	V	-66.81	5.71	-61.10	-13.00	48.10
				4 150.40	V	-68.90	7.15	-61.75	-13.00	48.75



**7.6.6. NR Band n66**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Substitute Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	1 720	QPSK	1/52	3 439.81	H	-66.03	8.23	-57.80	-13.00	44.80
				5 159.76	V	-62.25	10.15	-52.10	-13.00	39.10
				6 879.92	V	-67.44	11.41	-56.03	-13.00	43.03
				10 319.32	H	-60.35	12.87	-47.48	-13.00	34.48
	1 745	QPSK	1/52	3 489.77	H	-67.05	8.44	-58.61	-13.00	45.61
				5 234.66	V	-61.01	10.22	-50.79	-13.00	37.79
				6 979.85	V	-67.50	11.56	-55.94	-13.00	42.94
				10 469.20	H	-55.80	13.09	-42.71	-13.00	29.71
	1 770	QPSK	1/52	3 539.67	H	-66.77	8.46	-58.31	-13.00	45.31
				5 309.73	V	-58.74	10.22	-48.52	-13.00	35.52
				7 079.55	V	-68.09	11.69	-56.40	-13.00	43.40
				10 619.33	H	-52.27	13.02	-39.25	-13.00	26.25

**7.6.7. NR Band n2**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Substitute Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	1 860	QPSK	1/52	3 719.71	V	-67.88	8.32	-59.56	-13.00	46.56
				5 579.78	H	-56.99	10.35	-46.64	-13.00	33.64
				7 440.18	V	-66.91	12.08	-54.83	-13.00	41.83
				9 299.52	V	-61.27	13.01	-48.26	-13.00	35.26
	1 880	QPSK	1/52	3 758.80	V	-67.88	8.32	-59.56	-13.00	46.56
				5 639.64	H	-63.88	10.44	-53.44	-13.00	40.44
				7 519.74	V	-67.53	12.18	-55.35	-13.00	42.35
				9 399.56	V	-60.21	13.01	-47.20	-13.00	34.20
	1 900	QPSK	1/52	3 799.91	V	-67.25	8.48	-58.77	-13.00	45.77
				5 699.77	H	-63.92	10.53	-53.39	-13.00	40.39
				7 600.78	V	-67.41	12.17	-55.24	-13.00	42.24
				9 499.46	V	-58.12	12.93	-45.19	-13.00	32.19

**7.6.8. NR Band n7**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Substitute Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	2 510	QPSK	1/104	5 037.35	V	-67.93	10.00	-57.93	-25.00	32.93
				7 557.67	V	-64.16	12.20	-51.96	-25.00	26.96
				10 076.47	V	-60.87	12.89	-47.98	-25.00	22.98
				12 593.80	V	-62.72	13.29	-49.43	-25.00	24.43
	2 535	QPSK	1/104	5 088.47	V	-68.19	10.06	-58.13	-25.00	33.13
				7 632.74	V	-65.27	12.20	-53.07	-25.00	28.07
				10 176.28	V	-61.35	12.87	-48.48	-25.00	23.48
				12 719.88	V	-62.25	13.36	-48.89	-25.00	23.89
	2 560	QPSK	1/104	5 137.87	V	-68.53	10.12	-58.41	-25.00	33.41
				7 707.75	V	-64.39	12.22	-52.17	-25.00	27.17
				10 276.49	V	-62.53	12.87	-49.66	-25.00	24.66
				12 844.69	V	-61.37	13.49	-47.88	-25.00	22.88

**7.6.9. NR Band n41**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Substitute Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
100	2 546.01	QPSK	1/271	5 187.58	V	-67.66	10.19	-57.47	-25.00	32.47
				7 783.72	V	-62.16	12.31	-49.85	-25.00	24.85
				10 378.34	V	-50.33	12.99	-37.34	-25.00	12.34
				12 969.58	V	-60.65	13.56	-47.09	-25.00	22.09
	2 592.99	QPSK	1/271	5 281.04	V	-67.68	10.21	-57.47	-25.00	32.47
				7 924.73	V	-65.71	12.43	-53.28	-25.00	28.28
				10 566.22	V	-40.27	13.03	-27.24	-25.00	2.24
	2 640	QPSK	1/271	13 205.18	V	-60.57	13.98	-46.59	-25.00	21.59
				5 376.58	V	-66.95	10.30	-56.65	-25.00	31.65
				8 065.87	V	-65.36	12.58	-52.78	-25.00	27.78
				10 754.36	V	-41.77	13.01	-28.76	-25.00	3.76
					13 441.55	V	-60.33	14.11	-46.22	-25.00

**7.6.10. NR Band n38**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Substitute Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	2 580	QPSK	1/49	5 177.91	V	-67.42	10.17	-57.25	-25.00	32.25
				7 765.87	V	-66.09	12.28	-53.81	-25.00	28.81
				10 354.67	V	-51.57	12.91	-38.66	-25.00	13.66
				12 944.99	V	-61.00	13.51	-47.49	-25.00	22.49
	2 595	QPSK	1/49	5 207.72	V	-67.50	10.21	-57.29	-25.00	32.29
				7 811.03	V	-65.82	12.33	-53.49	-25.00	28.49
				10 414.56	V	-49.73	13.07	-36.66	-25.00	11.66
				13 019.61	V	-61.05	13.65	-47.40	-25.00	22.40
	2 610	QPSK	1/49	5 237.89	V	-67.52	10.22	-57.30	-25.00	32.30
				7 855.84	V	-65.85	12.35	-53.50	-25.00	28.50
				10 474.45	V	-47.51	13.09	-34.42	-25.00	9.42
				13 093.90	V	-61.06	13.82	-47.24	-25.00	22.24

**7.6.11. NR Band n78 (3 450 ~ 3 550 MHz)**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Substitute Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
100	3 500.01	QPSK	1/271	7 097.14	V	-54.96	11.71	-43.25	-13.00	30.25
				10 645.73	V	-58.87	13.03	-45.84	-13.00	32.84
				14 193.27	V	-59.69	14.21	-45.48	-13.00	32.48
				17 741.40	V	-64.98	14.02	-50.96	-13.00	37.96
90	3 450	QPSK	1/243	7 077.04	V	-55.50	11.69	-43.81	-13.00	30.81
				10 615.68	V	-57.48	13.02	-44.46	-13.00	31.46
				14 151.46	V	-59.76	14.34	-45.42	-13.00	32.42
				17 689.52	V	-65.30	14.08	-51.22	-13.00	38.22
	3 500.01	QPSK	1/243	7 087.04	V	-55.61	11.70	-43.91	-13.00	30.91
				10 630.62	V	-58.31	13.03	-45.28	-13.00	32.28
				14 170.48	V	-59.76	14.28	-45.48	-13.00	32.48
				17 714.69	V	-65.17	14.04	-51.13	-13.00	38.13
	3 504.99	QPSK	1/243	7 096.99	V	-55.15	11.71	-43.44	-13.00	30.44
				10 645.63	V	-58.64	13.03	-45.61	-13.00	32.61
				14 191.37	V	-59.63	14.22	-45.41	-13.00	32.41
				17 739.64	V	-64.95	14.02	-50.93	-13.00	37.93

**7.6.12. NR Band n78 (3 700 ~ 3 800 MHz)**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Substitute Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
100	3 750	QPSK	1/271	7 597.15	V	-56.89	12.17	-44.72	-13.00	31.72
				11 395.76	V	-60.81	13.14	-47.67	-13.00	34.67
				15 192.57	V	-65.70	14.05	-51.65	-13.00	38.65
90	3 745.02	QPSK	1 /243	7 577.07	V	-56.46	12.18	-44.28	-13.00	31.28
				11 365.67	V	-61.00	13.15	-47.85	-13.00	34.85
				15 151.23	V	-65.89	14.00	-51.89	-13.00	38.89
	3 750	QPSK	1 /243	7 586.98	V	-60.00	12.18	-47.82	-13.00	34.82
				11 380.47	V	-59.90	13.14	-46.76	-13.00	33.76
				15 171.23	V	-65.60	14.03	-51.57	-13.00	38.57
	3 754.98	QPSK	1 /243	7 597.04	V	-60.10	12.17	-47.93	-13.00	34.93
				11 395.69	V	-60.40	13.14	-47.26	-13.00	34.26
				15 190.82	V	-65.67	14.05	-51.62	-13.00	38.62

**7.6.13. NR Band n77 (3 450 ~ 3 550 MHz)**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Substitute Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
100	3 500.01	QPSK	1/271	7 097.17	V	-54.02	11.71	-42.31	-13.00	29.31
				10 645.78	V	-55.51	13.03	-42.48	-13.00	29.48
				14 192.34	V	-59.83	14.21	-45.62	-13.00	32.62
				17 741.02	V	-65.22	14.02	-51.20	-13.00	38.20
80	3 490.02	QPSK	1/215	7 057.13	V	-54.10	11.67	-42.43	-13.00	29.43
				10 585.46	V	-55.38	13.02	-42.36	-13.00	29.36
				14 112.80	V	-59.84	14.26	-45.58	-13.00	32.58
				17 642.72	V	-65.13	14.21	-50.92	-13.00	37.92
	3 500.01	QPSK	1/215	7 076.98	V	-52.63	11.69	-40.94	-13.00	27.94
				10 615.46	V	-58.06	13.02	-45.04	-13.00	32.04
				14 154.79	V	-59.88	14.33	-45.55	-13.00	32.55
				17 691.57	V	-65.22	14.08	-51.14	-13.00	38.14
	3 510	QPSK	1/215	7 096.94	V	-53.99	11.71	-42.28	-13.00	29.28
				10 645.40	V	-59.40	13.03	-46.37	-13.00	33.37
				14 194.59	V	-59.65	14.21	-45.44	-13.00	32.44
				17 741.35	V	-64.85	14.02	-50.83	-13.00	37.83

**7.6.14. NR Band n77 (3 700 ~ 3 980 MHz)**

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Substitute Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
100	3 750	QPSK	1/271	7 597.05	V	-57.42	12.17	-45.25	-13.00	32.25
				11 395.79	V	-58.04	13.14	-44.90	-13.00	31.90
				15 192.35	V	-65.69	14.05	-51.64	-13.00	38.64
	3 840	QPSK	1/271	7 777.21	V	-55.05	12.30	-42.75	-13.00	29.75
				11 665.69	V	-59.83	13.23	-46.60	-13.00	33.60
				15 551.63	V	-64.34	13.82	-50.52	-13.00	37.52
	3 930	QPSK	1/271	7 957.03	V	-54.72	12.47	-42.25	-13.00	29.25
				11 935.84	V	-59.07	13.19	-45.88	-13.00	32.88
				15 911.26	V	-64.48	13.29	-51.19	-13.00	38.19

## 7.7. FREQUENCY STABILITY

### - Test Notes

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

### 7.7.1. NR Band n71

OPERATING FREQUENCY : 680.5 MHz  
 REFERENCE VOLTAGE : 3.85 V DC  
 LIMIT(FCC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100 %	3.85	+20(Ref)	680,499,997	-0.000000441	-0.004
100 %		-30	680,499,998	-0.000000294	-0.003
100 %		-20	680,499,998	-0.000000294	-0.003
100 %		-10	680,500,001	0.000000147	0.001
100 %		0	680,499,998	-0.000000294	-0.003
100 %		+10	680,499,999	-0.000000147	-0.001
100 %		+20	680,499,997	-0.000000441	-0.004
100 %		+30	680,499,999	-0.000000147	-0.001
100 %		+40	680,499,999	-0.000000147	-0.001
100 %		+50	680,499,998	-0.000000294	-0.003
115 %		4.43	+20	680,499,999	-0.000000147
BATT.ENDPOINT	3.15	+20	680,499,997	-0.000000441	-0.004

**7.7.2. NR Band n12**

OPERATING FREQUENCY : 707.5 MHz  
 REFERENCE VOLTAGE : 3.85 V DC  
 LIMIT(FCC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100 %	3.85	+20(Ref)	707,500,002	0.000000283	0.003
100 %		-30	707,499,998	-0.000000283	-0.003
100 %		-20	707,499,996	-0.000000565	-0.006
100 %		-10	707,500,000	0.000000000	0.000
100 %		0	707,500,004	0.000000565	0.006
100 %		+10	707,500,002	0.000000283	0.003
100 %		+20	707,500,002	0.000000283	0.003
100 %		+30	707,499,996	-0.000000565	-0.006
100 %		+40	707,499,997	-0.000000424	-0.004
100 %		+50	707,499,998	-0.000000283	-0.003
115 %	4.43	+20	707,500,000	0.000000000	0.000
BATT.ENDPOINT	3.15	+20	707,499,999	-0.000000141	-0.001

**7.7.3. NR Band n13**

OPERATING FREQUENCY : 782 MHz  
 REFERENCE VOLTAGE : 3.85 V DC  
 LIMIT(FCC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100%	3.85	+20(Ref)	782,000,001	0.000000128	0.001
100%		-30	781,999,999	-0.000000128	-0.001
100%		-20	782,000,001	0.000000128	0.001
100%		-10	781,999,999	-0.000000128	-0.001
100%		0	781,999,997	-0.000000384	-0.004
100%		+10	781,999,998	-0.000000256	-0.003
100%		+20	782,000,001	0.000000128	0.001
100%		+30	782,000,002	0.000000256	0.003
100%		+40	781,999,998	-0.000000256	-0.003
100%		+50	781,999,999	-0.000000128	-0.001
115%	4.43	+20	782,000,001	0.000000128	0.001
BATT.ENDPOINT	3.15	+20	782,000,002	0.000000256	0.003

**7.7.4. NR Band n14**

OPERATING FREQUENCY : 793 MHz  
 REFERENCE VOLTAGE : 3.85 V DC  
 LIMIT(FCC) :  $\pm 0.000125\%$  or  $1.25$  ppm

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100%	3.85	+20(Ref)	792,999,999	-0.000000126	-0.001
100%		-30	793,000,005	0.000000631	0.006
100%		-20	792,999,996	-0.000000504	-0.005
100%		-10	793,000,004	0.000000504	0.005
100%		0	792,999,999	-0.000000126	-0.001
100%		+10	793,000,004	0.000000504	0.005
100%		+20	792,999,999	-0.000000126	-0.001
100%		+30	793,000,003	0.000000378	0.004
100%		+40	793,000,004	0.000000504	0.005
100%		+50	792,999,999	-0.000000126	-0.001
115%	4.43	+20	793,000,003	0.000000378	0.004
BATT.ENDPOINT	3.15	+20	792,999,997	-0.000000378	-0.004

**7.7.5. NR Band n5**

OPERATING FREQUENCY : 836.5 MHz  
 REFERENCE VOLTAGE : 3.85 V DC  
 LIMIT(FCC) :  $\pm 0.00025\%$  or  $2.5$  ppm

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100%	3.85	+20(Ref)	836,499,997	-0.000000359	-0.004
100%		-30	836,500,000	0.000000000	0.000
100%		-20	836,500,001	0.000000120	0.001
100%		-10	836,500,004	0.000000478	0.005
100%		0	836,500,001	0.000000120	0.001
100%		+10	836,500,003	0.000000359	0.004
100%		+20	836,499,997	-0.000000359	-0.004
100%		+30	836,499,999	-0.000000120	-0.001
100%		+40	836,500,000	0.000000000	0.000
100%		+50	836,500,004	0.000000478	0.005
115%	4.43	+20	836,500,001	0.000000120	0.001
BATT.ENDPOINT	3.15	+20	836,500,001	0.000000120	0.001



**7.7.6. NR Band n66**

OPERATING FREQUENCY : 1 745 MHz  
 REFERENCE VOLTAGE : 3.85 V DC  
 LIMIT(FCC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100%	3.85	+20(Ref)	1,744,999,998	-0.000000115	-0.001
100%		-30	1,744,999,998	-0.000000115	-0.001
100%		-20	1,744,999,999	-0.000000057	-0.001
100%		-10	1,745,000,000	0.000000000	0.000
100%		0	1,744,999,999	-0.000000057	-0.001
100%		+10	1,744,999,999	-0.000000057	-0.001
100%		+20	1,744,999,998	-0.000000115	-0.001
100%		+30	1,744,999,999	-0.000000057	-0.001
100%		+40	1,745,000,003	0.000000172	0.002
100%		+50	1,745,000,001	0.000000057	0.001
115%	4.43	+20	1,745,000,001	0.000000057	0.001
BATT.ENDPOINT	3.15	+20	1,745,000,000	0.000000000	0.000

**7.7.7. NR Band n2**

OPERATING FREQUENCY : 1 880 MHz  
 REFERENCE VOLTAGE : 3.85 V DC  
 LIMIT(FCC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100%	3.85	+20(Ref)	1,880,000,001	0.000000053	0.001
100%		-30	1,880,000,000	0.000000000	0.000
100%		-20	1,880,000,001	0.000000053	0.001
100%		-10	1,879,999,999	-0.000000053	-0.001
100%		0	1,879,999,999	-0.000000053	-0.001
100%		+10	1,880,000,000	0.000000000	0.000
100%		+20	1,880,000,001	0.000000053	0.001
100%		+30	1,880,000,000	0.000000000	0.000
100%		+40	1,879,999,999	-0.000000053	-0.001
100%		+50	1,879,999,998	-0.000000106	-0.001
115%	4.43	+20	1,880,000,002	0.000000106	0.001
BATT.ENDPOINT	3.15	+20	1,880,000,001	0.000000053	0.001

**7.7.8. NR Band n7**

OPERATING FREQUENCY : 2 535 MHz  
 REFERENCE VOLTAGE : 3.85 V DC  
 LIMIT(FCC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100%	3.85	+20(Ref)	2,534,999,998	-0.000000079	-0.001
100%		-30	2,535,000,001	0.000000039	0.000
100%		-20	2,535,000,004	0.000000158	0.002
100%		-10	2,535,000,004	0.000000158	0.002
100%		0	2,534,999,999	-0.000000039	0.000
100%		+10	2,534,999,998	-0.000000079	-0.001
100%		+20	2,534,999,998	-0.000000079	-0.001
100%		+30	2,535,000,004	0.000000158	0.002
100%		+40	2,534,999,999	-0.000000039	0.000
100%		+50	2,534,999,998	-0.000000079	-0.001
115%	4.43	+20	2,534,999,999	-0.000000039	0.000
BATT.ENDPOINT	3.15	+20	2,535,000,003	0.000000118	0.001

**7.7.9. NR Band n41**

OPERATING FREQUENCY : 2 592.99 MHz  
 REFERENCE VOLTAGE : 3.85 V DC  
 LIMIT(FCC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100%	3.85	+20(Ref)	2,592,990,001	0.000000039	0.000
100%		-30	2,592,989,997	-0.000000116	-0.001
100%		-20	2,592,990,006	0.000000231	0.002
100%		-10	2,592,989,997	-0.000000116	-0.001
100%		0	2,592,990,006	0.000000231	0.002
100%		+10	2,592,990,000	0.000000000	0.000
100%		+20	2,592,990,001	0.000000039	0.000
100%		+30	2,592,990,005	0.000000193	0.002
100%		+40	2,592,990,000	0.000000000	0.000
100%		+50	2,592,989,998	-0.000000077	-0.001
115%	4.43	+20	2,592,990,001	0.000000039	0.000
BATT.ENDPOINT	3.15	+20	2,592,990,006	0.000000231	0.002

**7.7.10. NR Band n38**

OPERATING FREQUENCY : 2 595 MHz  
 REFERENCE VOLTAGE : 3.85 V DC  
 LIMIT(FCC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100%	3.85	+20(Ref)	2,594,999,990	-0.000000385	-0.004
100%		-30	2,594,999,994	-0.000000231	-0.002
100%		-20	2,594,999,992	-0.000000308	-0.003
100%		-10	2,594,999,987	-0.000000501	-0.005
100%		0	2,594,999,992	-0.000000308	-0.003
100%		+10	2,594,999,995	-0.000000193	-0.002
100%		+20	2,594,999,990	-0.000000385	-0.004
100%		+30	2,594,999,994	-0.000000231	-0.002
100%		+40	2,594,999,993	-0.000000270	-0.003
100%		+50	2,594,999,993	-0.000000270	-0.003
115%	4.43	+20	2,594,999,987	-0.000000501	-0.005
BATT.ENDPOINT	3.15	+20	2,594,999,992	-0.000000308	-0.003

**7.7.11. NR Band n78 (3 450 ~ 3 550 MHz)**

OPERATING FREQUENCY : 3 501.01 MHz  
 REFERENCE VOLTAGE : 3.85 V DC  
 LIMIT(FCC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100%	3.85	+20(Ref)	3,500,009,988	-0.000000343	-0.003
100%		-30	3,500,009,989	-0.000000314	-0.003
100%		-20	3,500,009,990	-0.000000286	-0.003
100%		-10	3,500,009,994	-0.000000171	-0.002
100%		0	3,500,009,990	-0.000000286	-0.003
100%		+10	3,500,009,994	-0.000000171	-0.002
100%		+20	3,500,009,988	-0.000000343	-0.003
100%		+30	3,500,009,991	-0.000000257	-0.003
100%		+40	3,500,009,995	-0.000000143	-0.001
100%		+50	3,500,009,990	-0.000000286	-0.003
115%	4.43	+20	3,500,009,989	-0.000000314	-0.003
BATT.ENDPOINT	3.15	+20	3,500,009,991	-0.000000257	-0.003

**7.7.12. NR Band n78 (3 700 ~ 3 800 MHz)**

OPERATING FREQUENCY : 3 750 MHz  
 REFERENCE VOLTAGE : 3.85 V DC  
 LIMIT(FCC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100%	3.85	+20(Ref)	3,749,999,996	-0.000000107	-0.001
100%		-30	3,749,999,997	-0.000000080	-0.001
100%		-20	3,749,999,998	-0.000000053	-0.001
100%		-10	3,749,999,996	-0.000000107	-0.001
100%		0	3,749,999,993	-0.000000187	-0.002
100%		+10	3,749,999,999	-0.000000027	0.000
100%		+20	3,749,999,996	-0.000000107	-0.001
100%		+30	3,749,999,998	-0.000000053	-0.001
100%		+40	3,750,000,000	0.000000000	0.000
100%		+50	3,749,999,993	-0.000000187	-0.002
115%	4.43	+20	3,750,000,000	0.000000000	0.000
BATT.ENDPOINT	3.15	+20	3,749,999,999	-0.000000027	0.000

**7.7.13. NR Band n77 (3 450 ~ 3 550 MHz)**

OPERATING FREQUENCY : 3 500.01 MHz  
 REFERENCE VOLTAGE : 3.85 V DC  
 LIMIT(FCC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100%	3.85	+20(Ref)	3,500,009,994	-0.000000171	-0.002
100%		-30	3,500,009,992	-0.000000229	-0.002
100%		-20	3,500,009,998	-0.000000057	-0.001
100%		-10	3,500,009,997	-0.000000086	-0.001
100%		0	3,500,009,992	-0.000000229	-0.002
100%		+10	3,500,009,995	-0.000000143	-0.001
100%		+20	3,500,009,994	-0.000000171	-0.002
100%		+30	3,500,009,996	-0.000000114	-0.001
100%		+40	3,500,009,996	-0.000000114	-0.001
100%		+50	3,500,009,998	-0.000000057	-0.001
115%	4.43	+20	3,500,009,998	-0.000000057	-0.001
BATT.ENDPOINT	3.15	+20	3,500,009,996	-0.000000114	-0.001

**7.7.14. NR Band n77 (3 700 ~ 3 980 MHz)**

OPERATING FREQUENCY : 3 840 MHz

REFERENCE VOLTAGE : 3.85 V DC

 LIMIT(FCC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100%	3.85	+20(Ref)	3,839,999,985	-0.000000391	-0.004
100%		-30	3,839,999,994	-0.000000156	-0.002
100%		-20	3,839,999,987	-0.000000339	-0.003
100%		-10	3,839,999,989	-0.000000286	-0.003
100%		0	3,839,999,984	-0.000000417	-0.004
100%		+10	3,839,999,994	-0.000000156	-0.002
100%		+20	3,839,999,985	-0.000000391	-0.004
100%		+30	3,839,999,994	-0.000000156	-0.002
100%		+40	3,839,999,995	-0.000000130	-0.001
100%		+50	3,839,999,994	-0.000000156	-0.002
115%	4.43	+20	3,839,999,991	-0.000000234	-0.002
BATT.ENDPOINT	3.15	+20	3,839,999,993	-0.000000182	-0.002

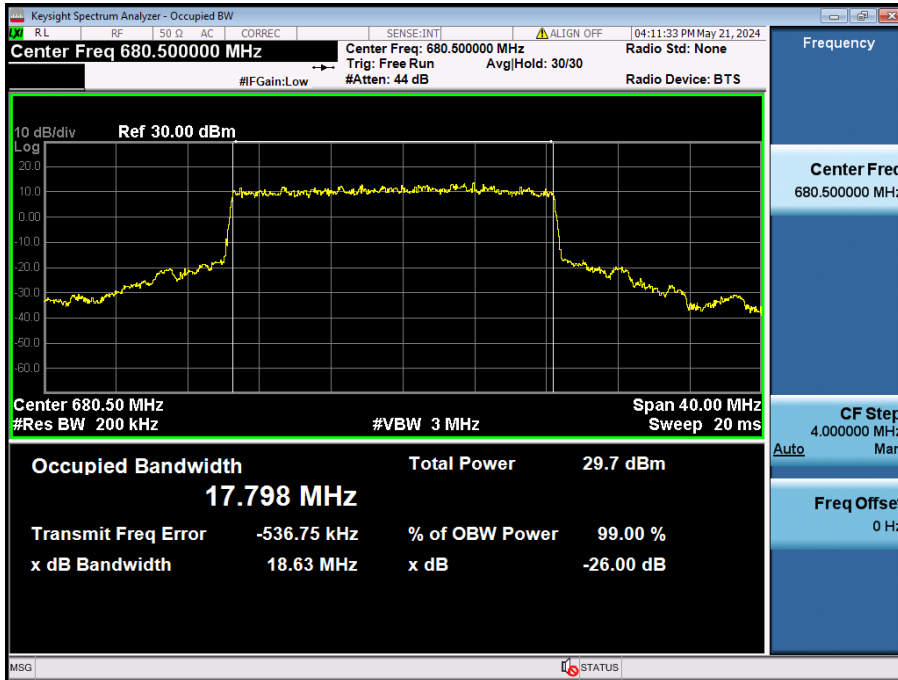
## 8. TEST PLOTS

### - Test Notes:

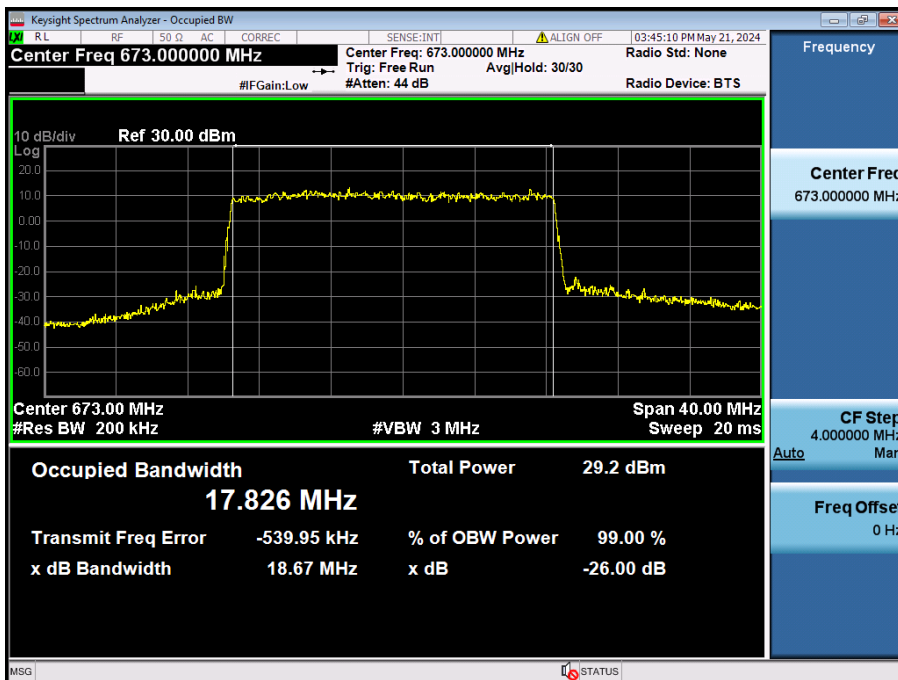
All bandwidths, RB configurations, and modulations were investigated. The worst case test results are reported.

### 8.1. OCCUPIED BANDWIDTH

#### 8.1.1. NR Band n71



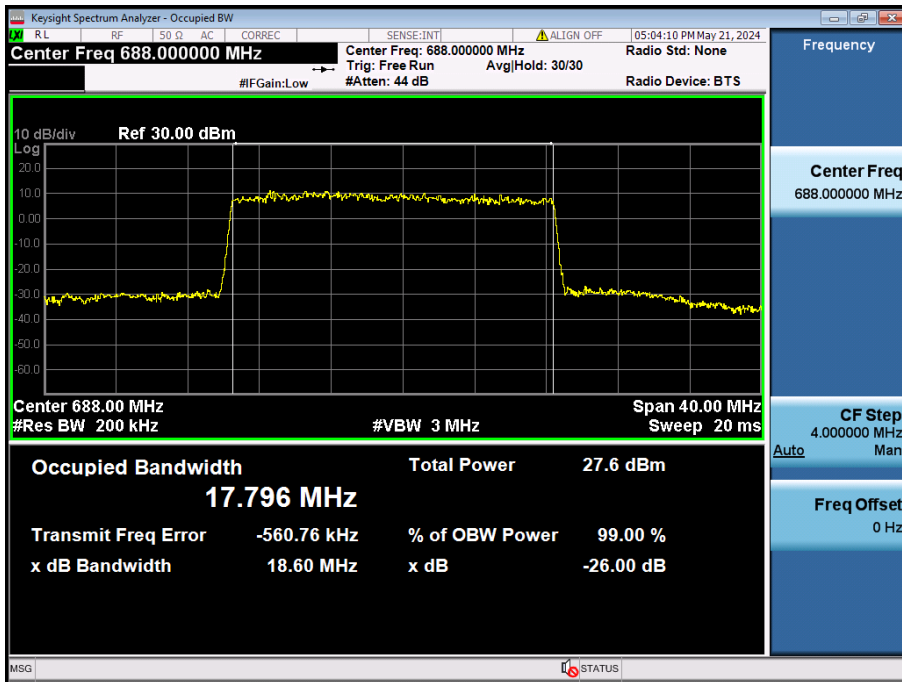
20 MHz /  $\pi/2$  BPSK / FULL RB Size



20 MHz / QPSK / FULL RB Size



20 MHz / 16QAM / FULL RB Size



20 MHz / 64QAM / FULL RB Size

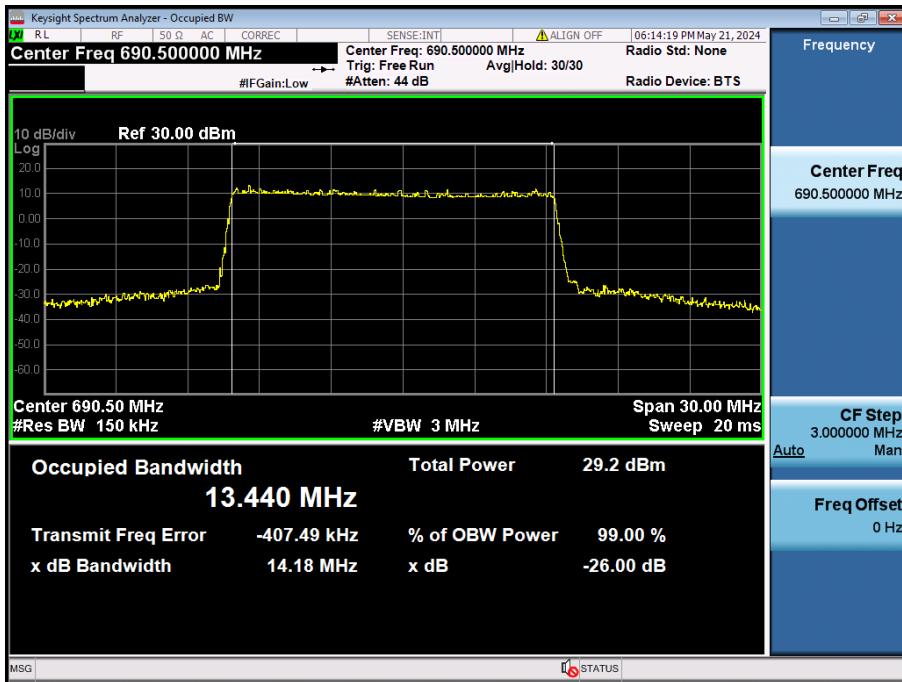


20 MHz / 256QAM / FULL RB Size

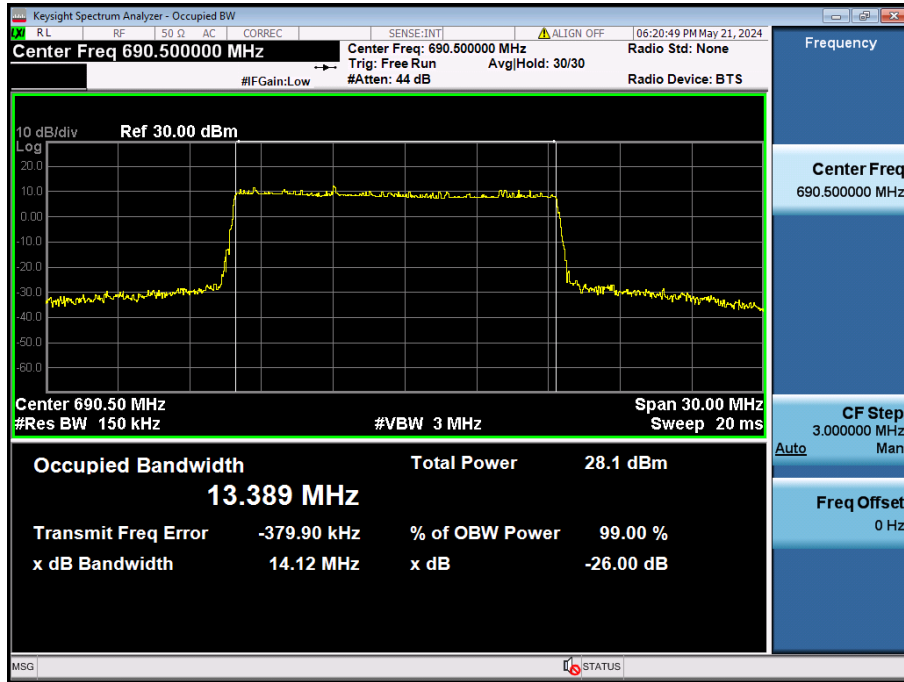




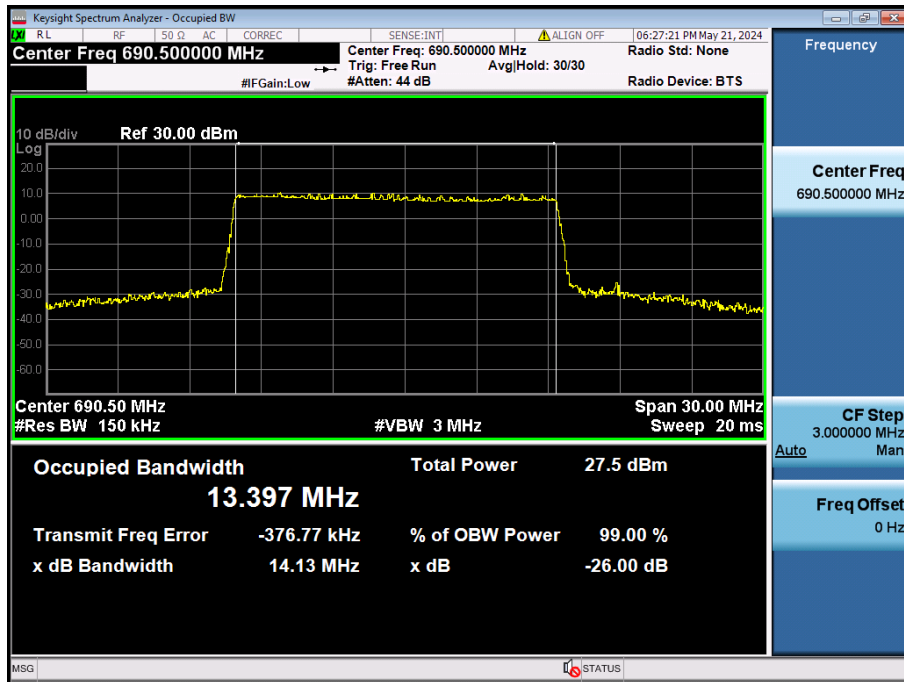
15 MHz /  $\pi/2$  BPSK / FULL RB Size



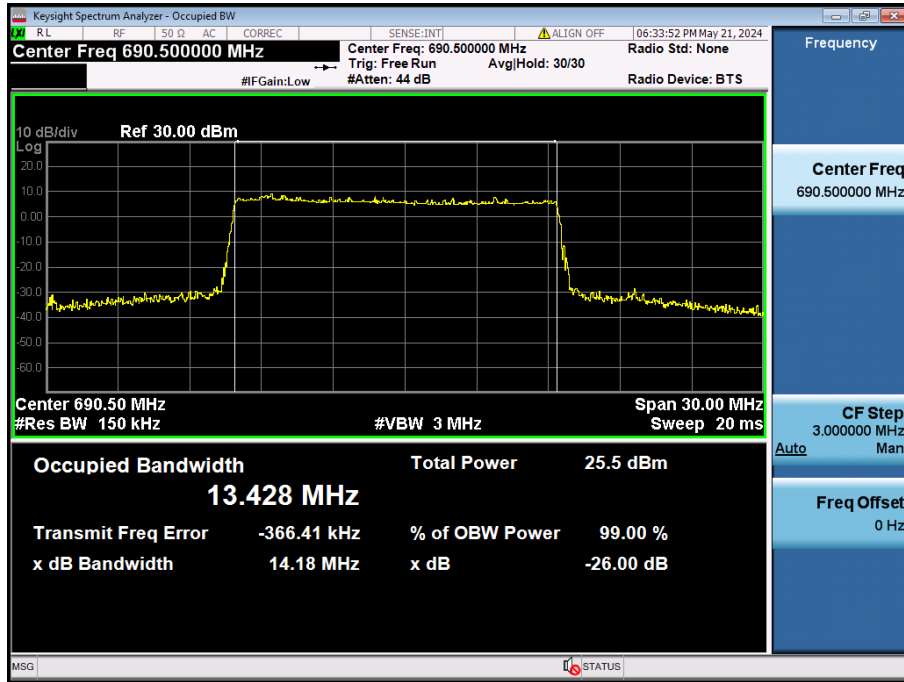
15 MHz / QPSK / FULL RB Size



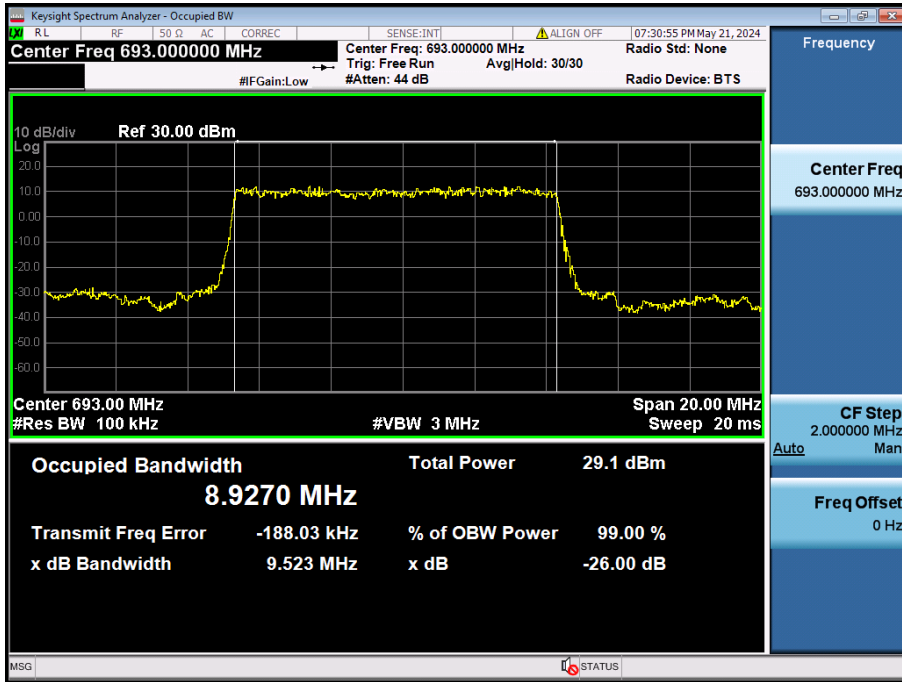
15 MHz / 16QAM / FULL RB Size



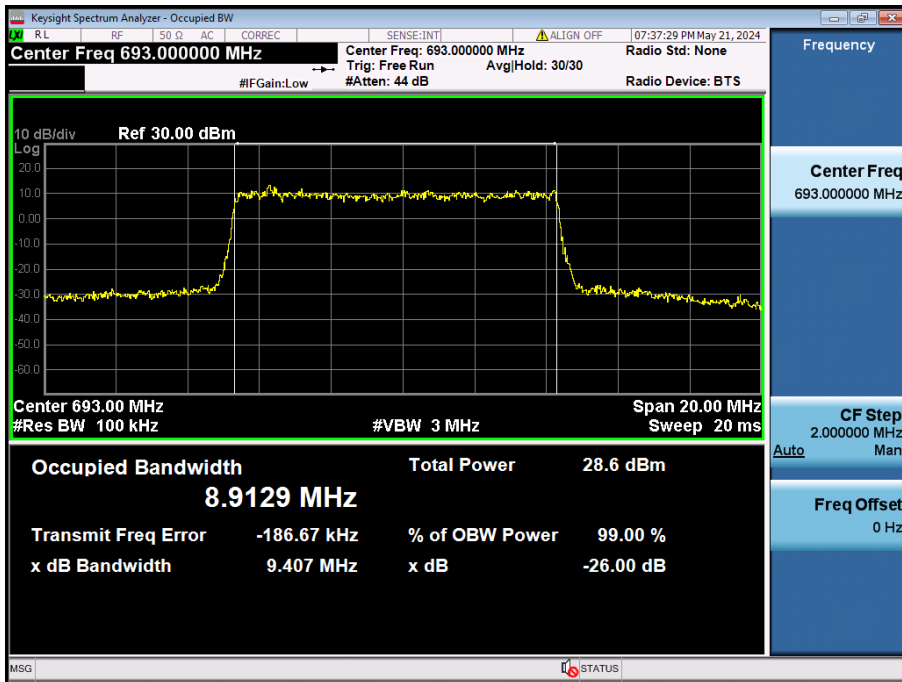
15 MHz / 64QAM / FULL RB Size



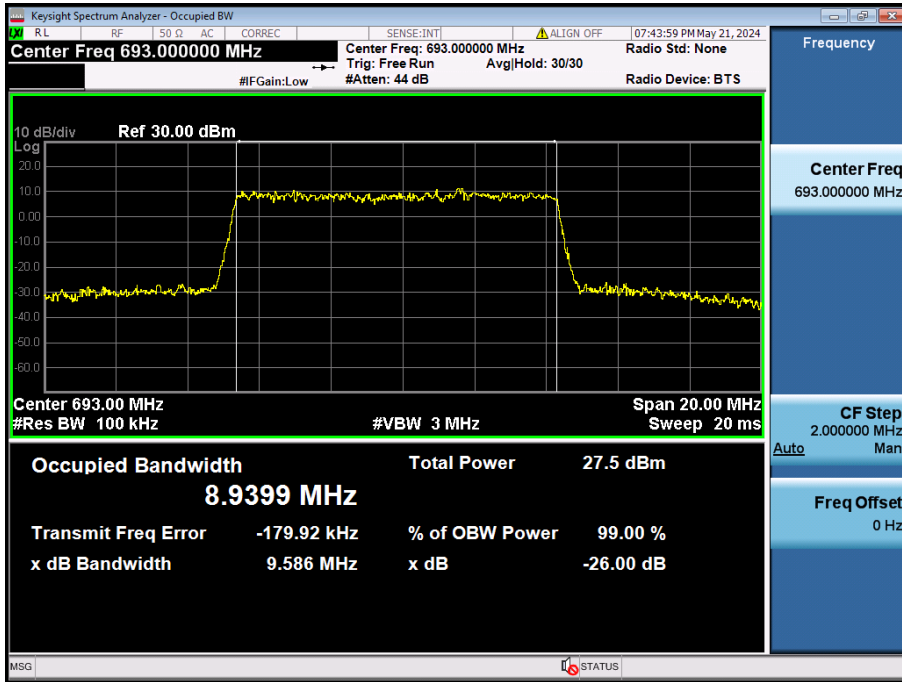
15 MHz / 256QAM / FULL RB Size



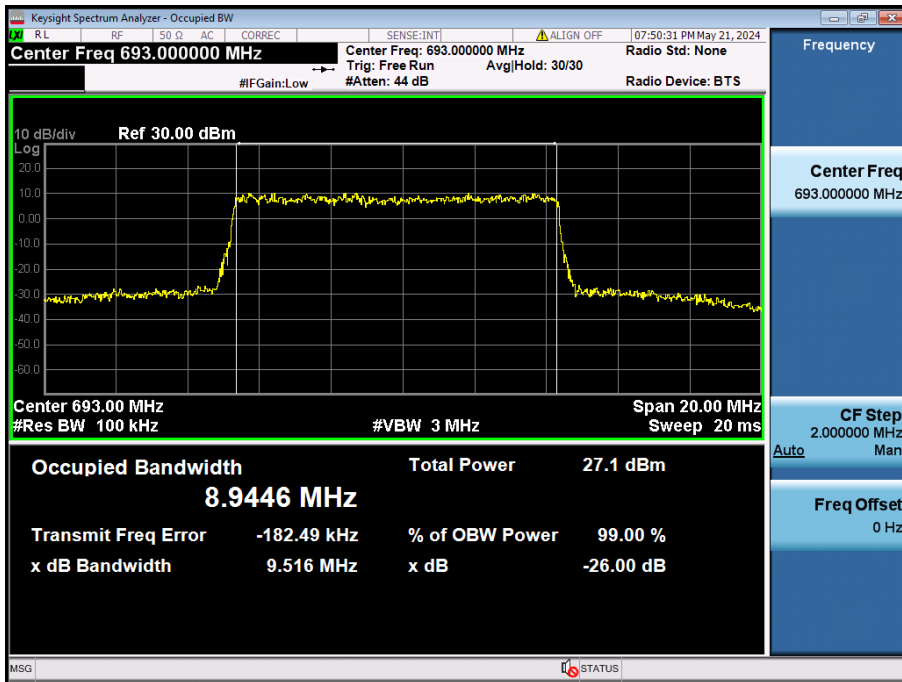
10 MHz /  $\pi/2$  BPSK / FULL RB Size



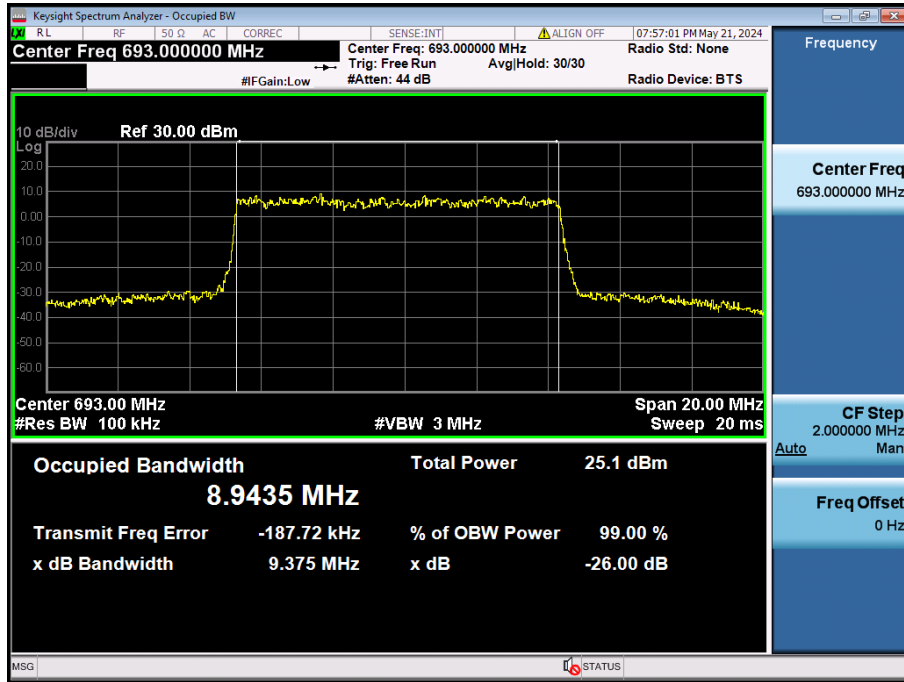
10 MHz / QPSK / FULL RB Size



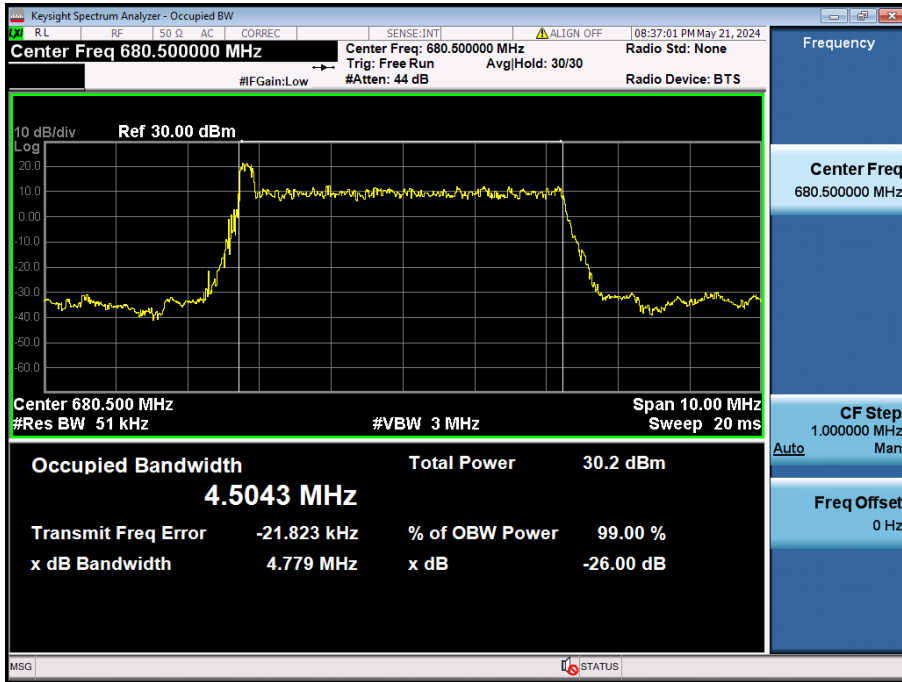
10 MHz / 16QAM / FULL RB Size



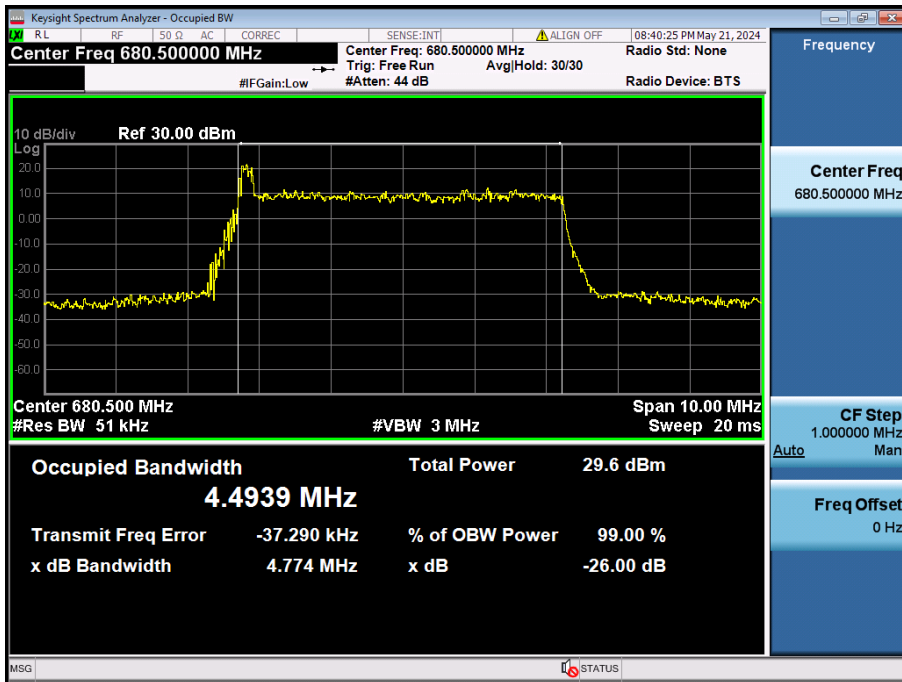
10 MHz / 64QAM / FULL RB Size



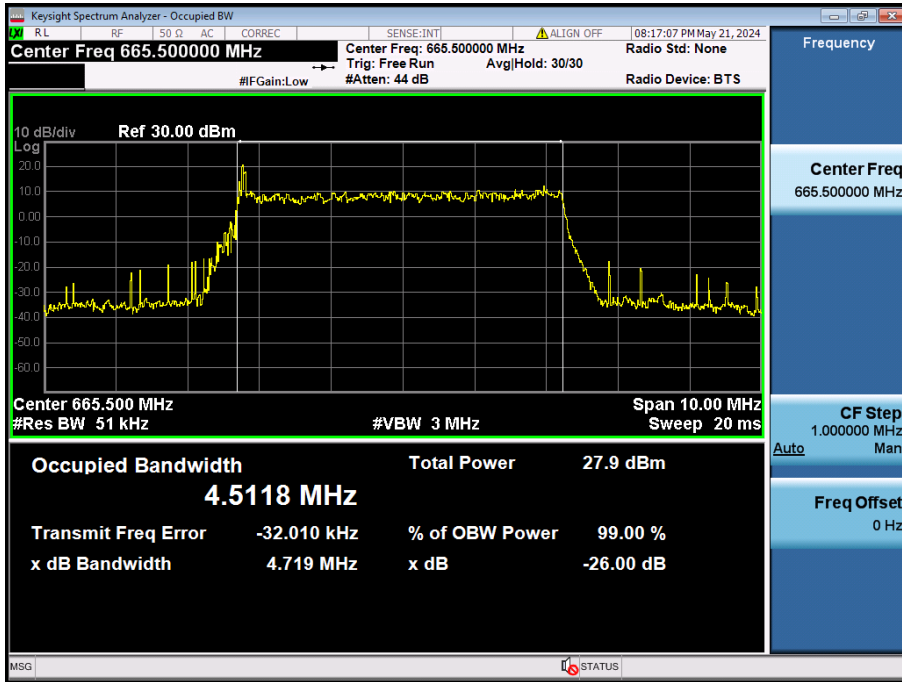
10 MHz / 256QAM / FULL RB Size



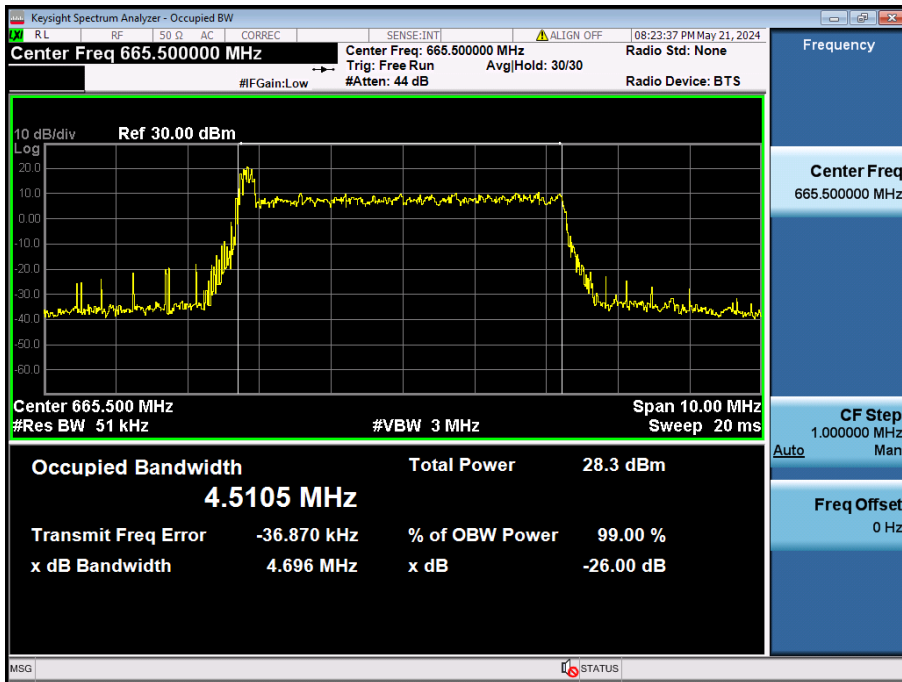
5 MHz /  $\pi/2$  BPSK / FULL RB Size



5 MHz / QPSK / FULL RB Size

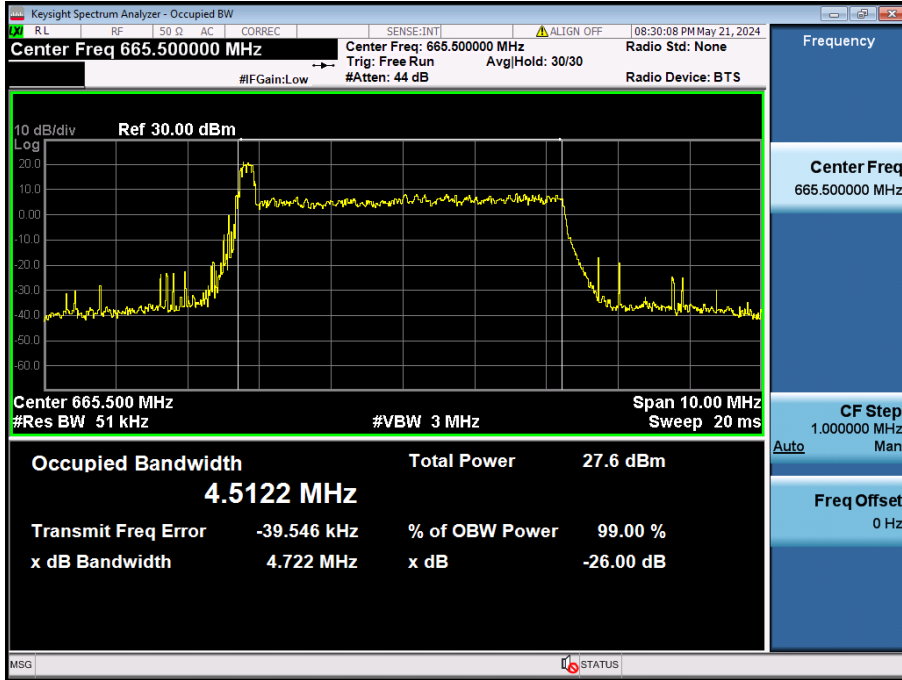


5 MHz / 16QAM / FULL RB Size



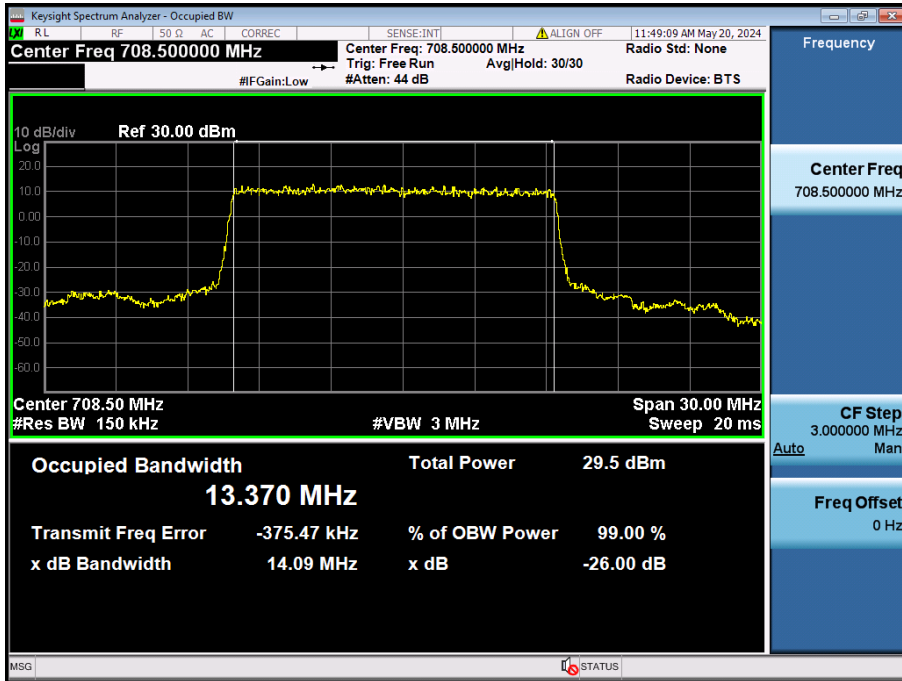
5 MHz / 64QAM / FULL RB Size



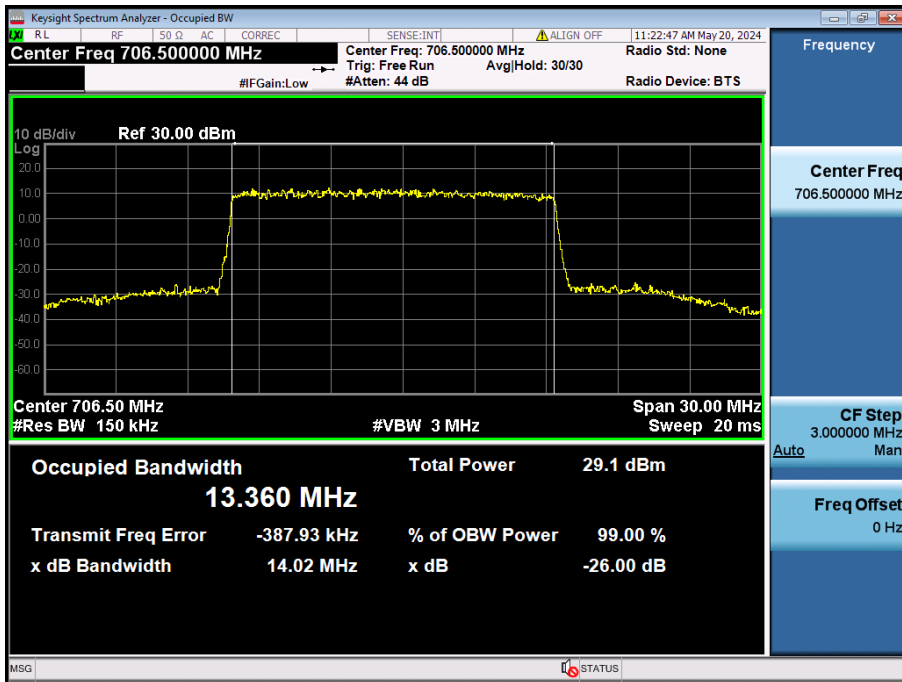


5 MHz / 256QAM / FULL RB Size

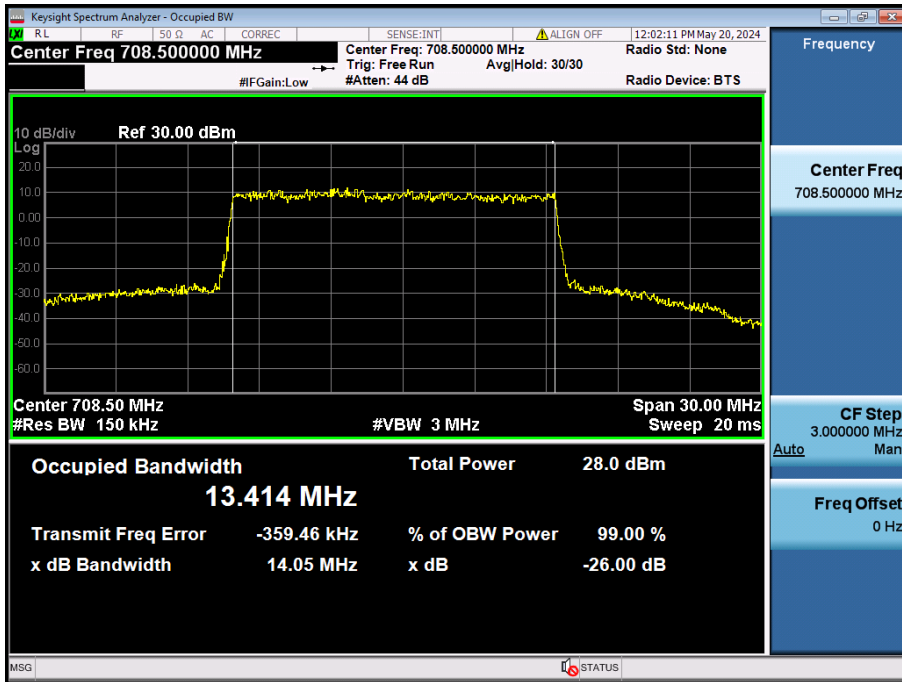
8.1.2. NR Band n12



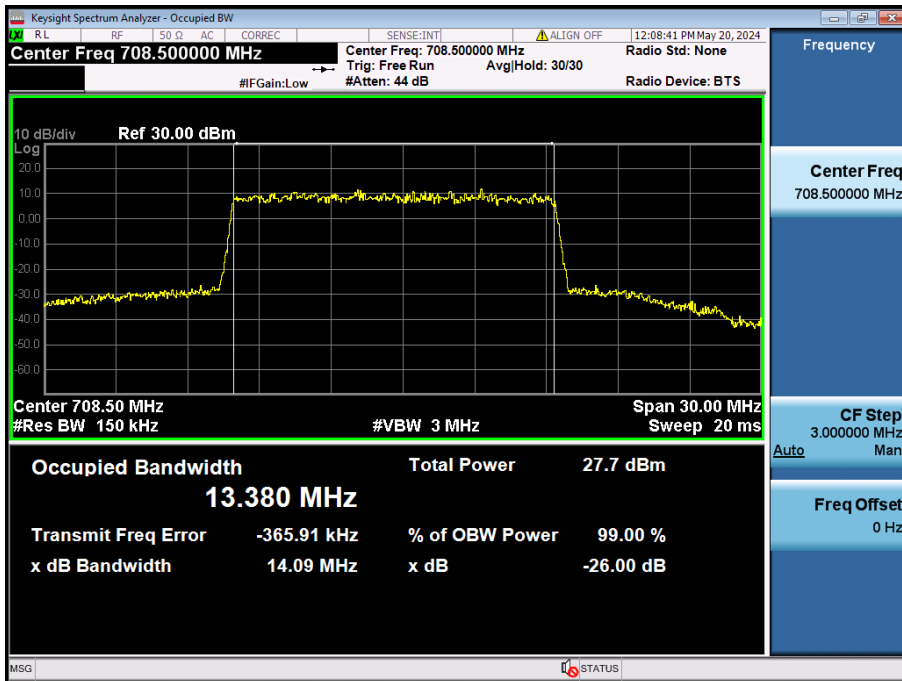
15 MHz /  $\pi/2$  BPSK / FULL RB Size



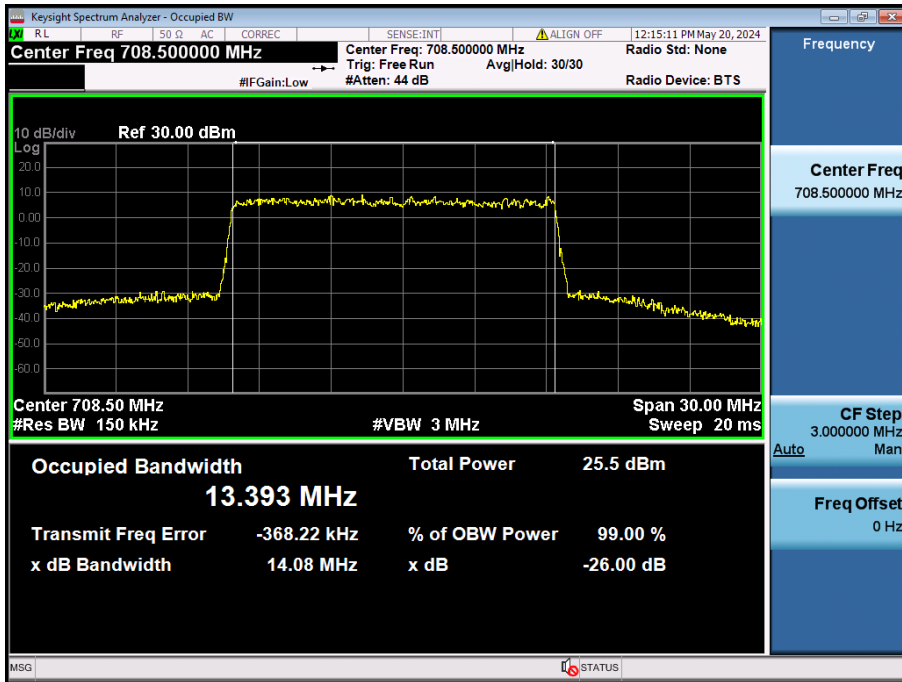
15 MHz / QPSK / FULL RB Size



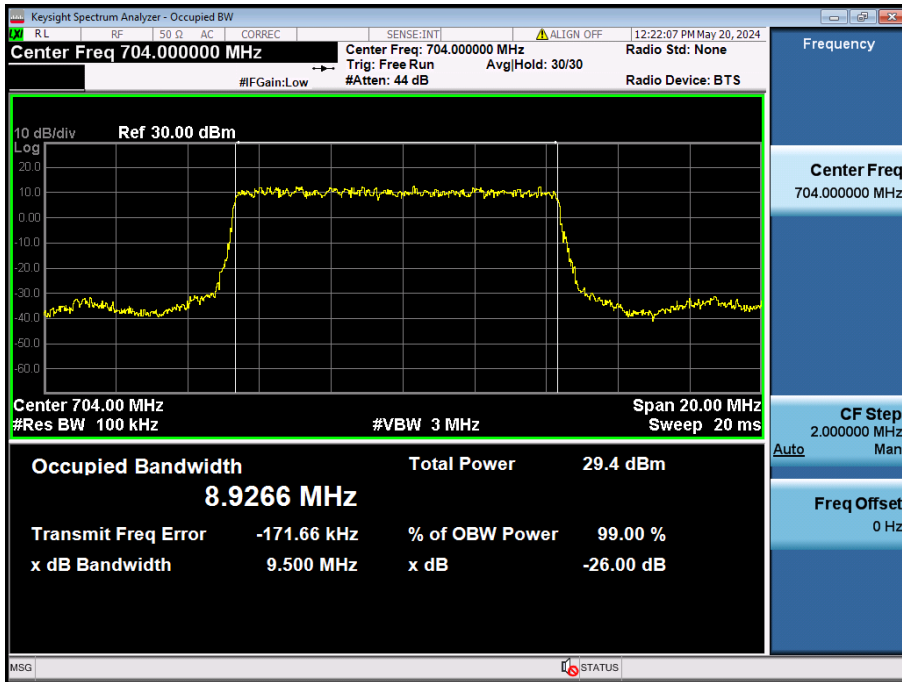
15 MHz / 16QAM / FULL RB Size



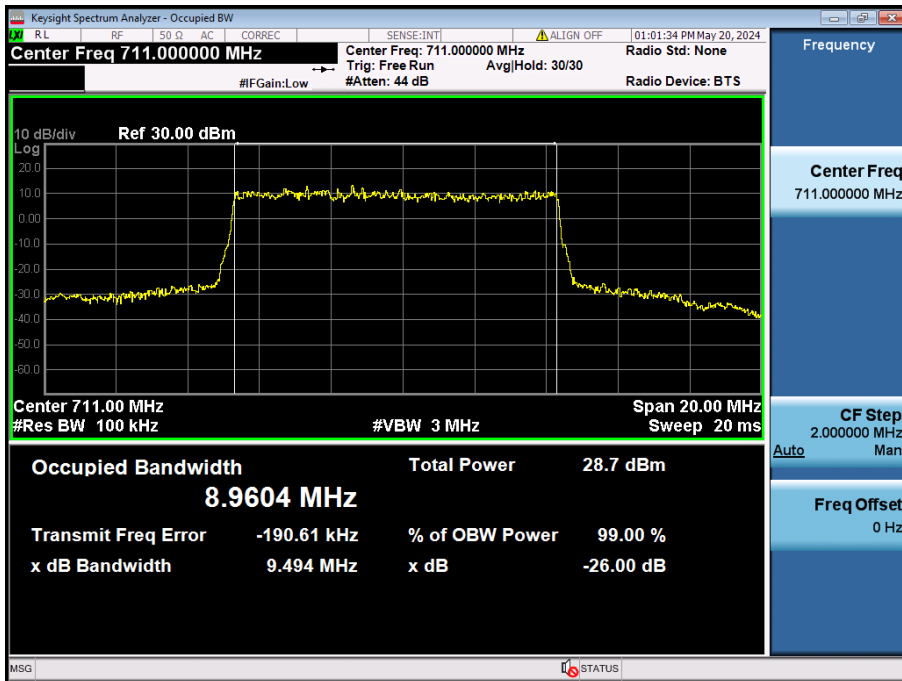
15 MHz / 64QAM / FULL RB Size



15 MHz / 256QAM / FULL RB Size



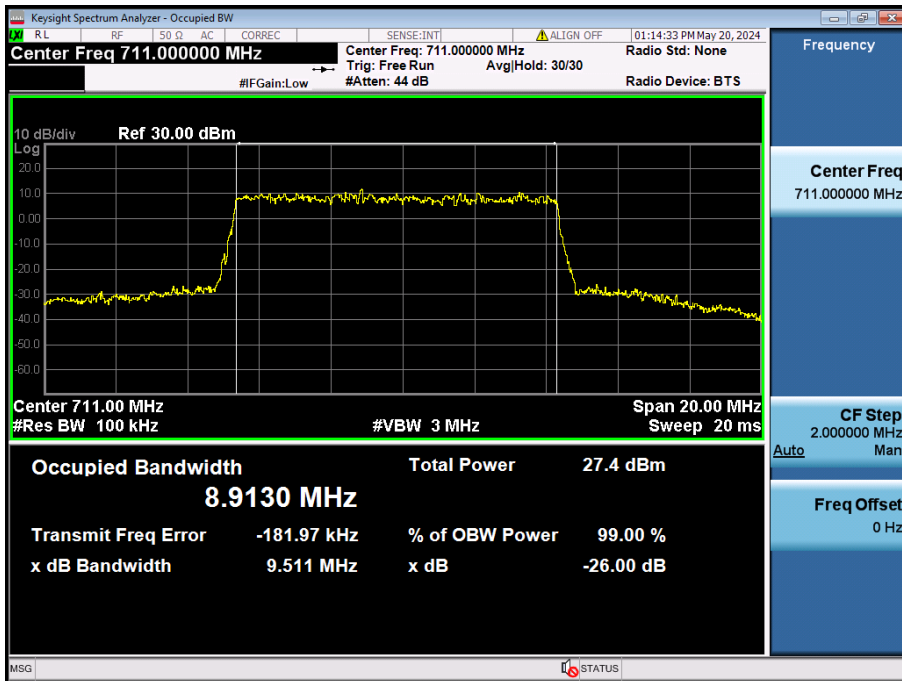
10 MHz /  $\pi/2$  BPSK / FULL RB Size



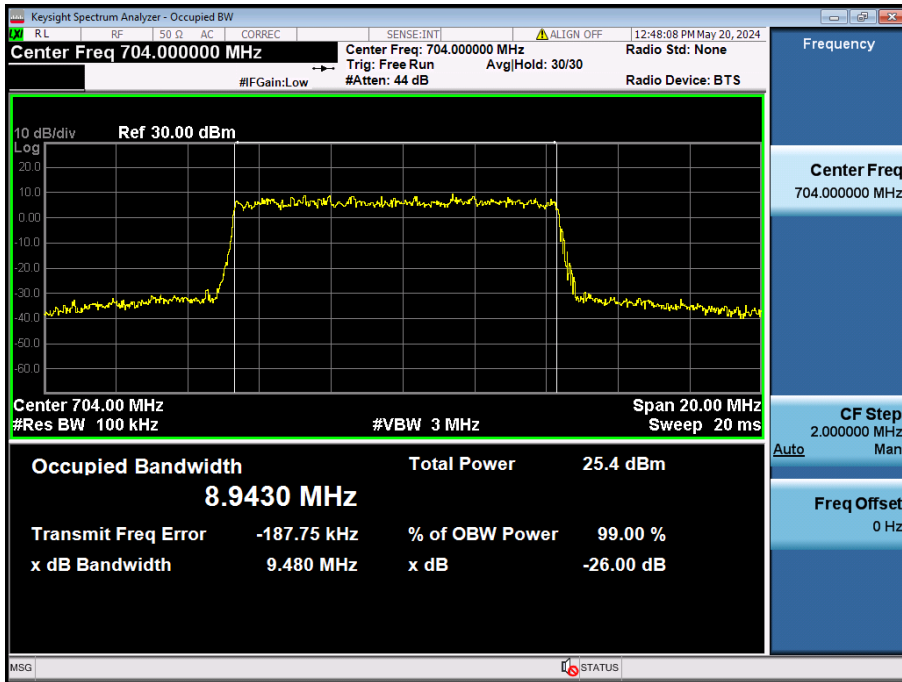
10 MHz / QPSK / FULL RB Size



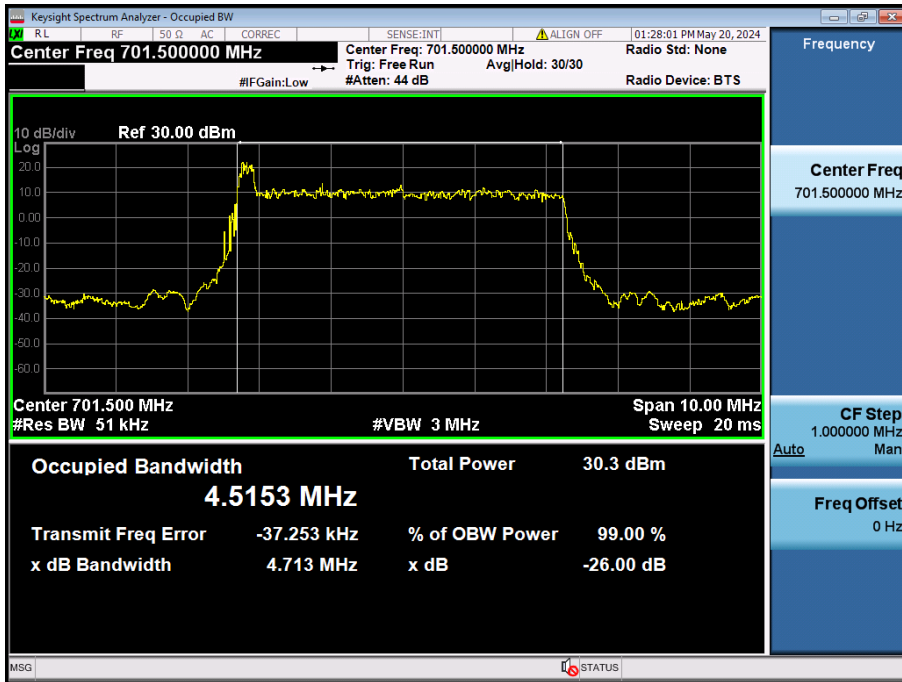
10 MHz / 16QAM / FULL RB Size



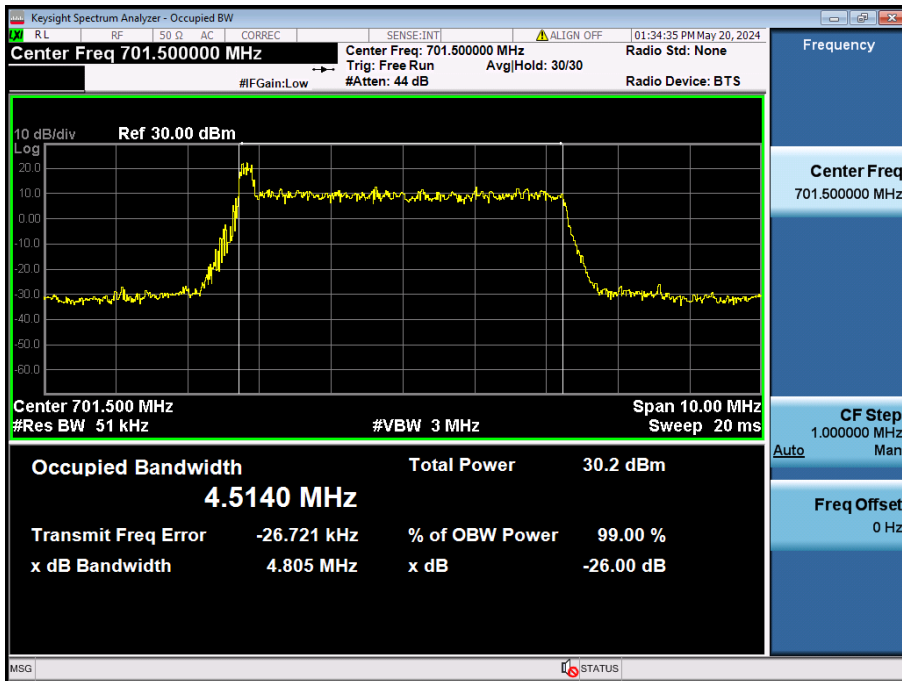
10 MHz / 64QAM / FULL RB Size



10 MHz / 256QAM / FULL RB Size

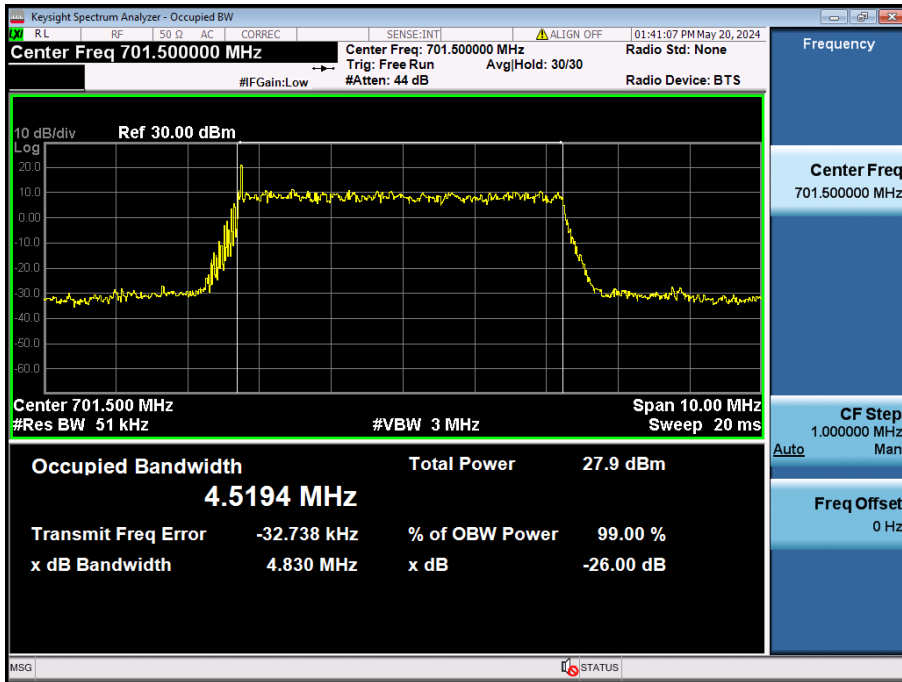


5 MHz /  $\pi/2$  BPSK / FULL RB Size

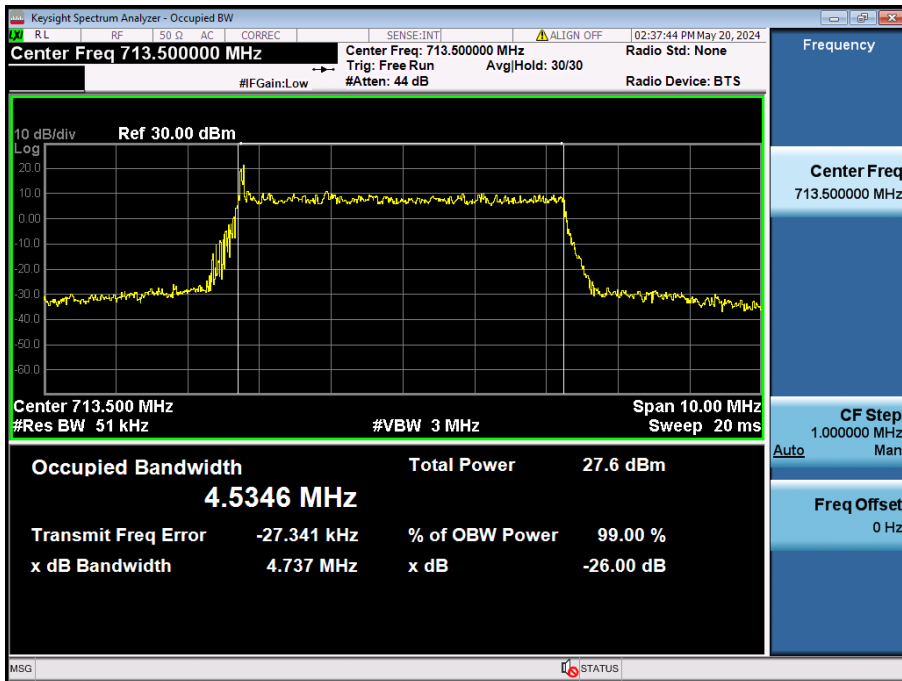


5 MHz / QPSK / FULL RB Size

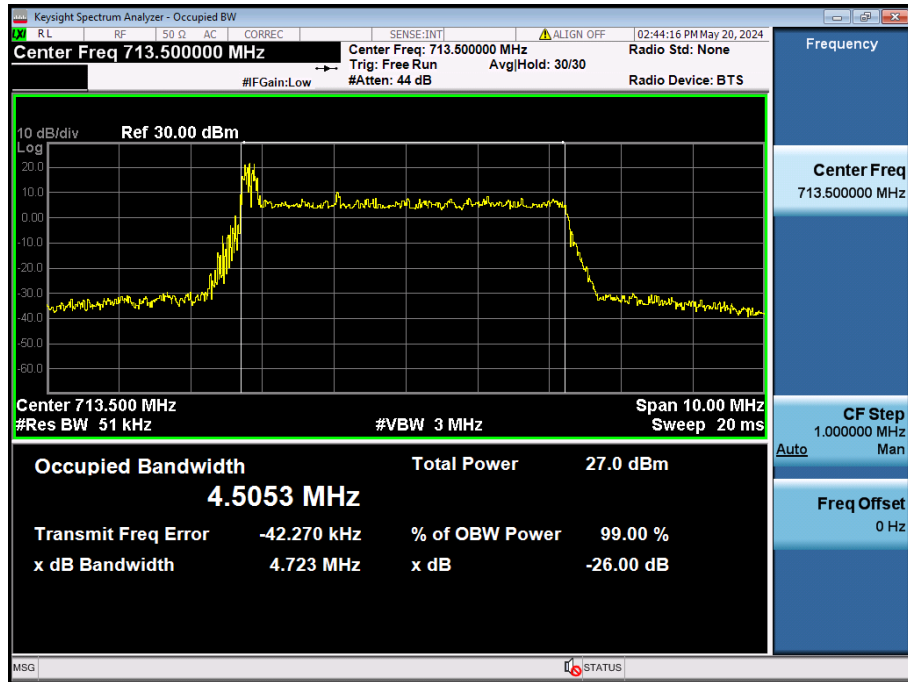




5 MHz / 16QAM / FULL RB Size

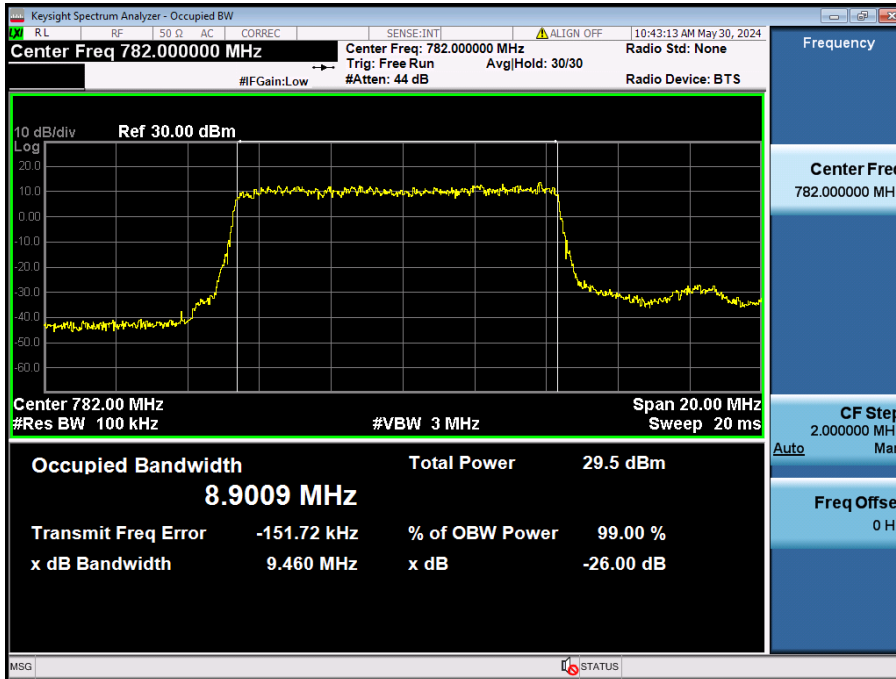


5 MHz / 64QAM / FULL RB Size

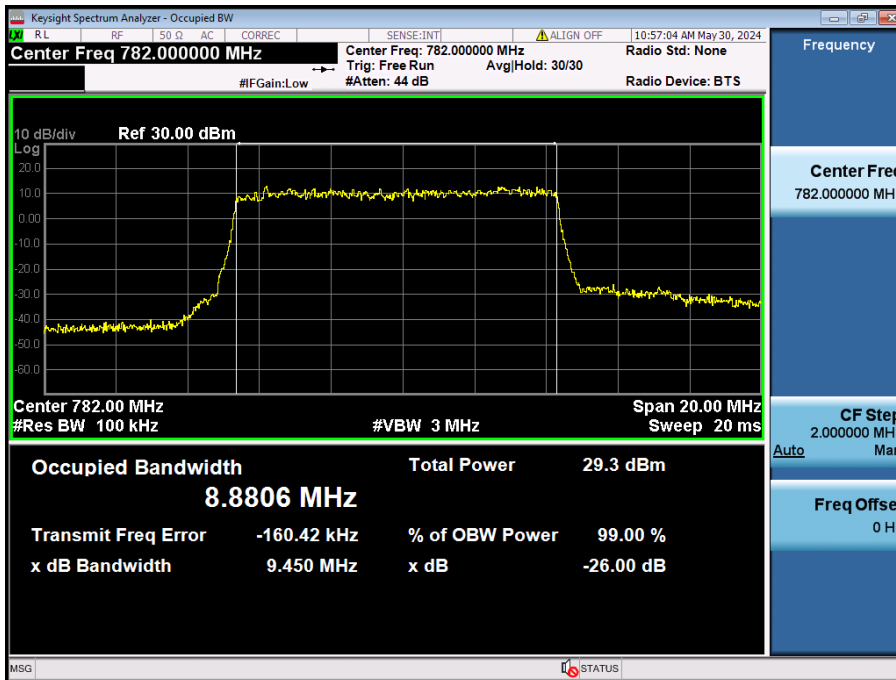


5 MHz / 256QAM / FULL RB Size

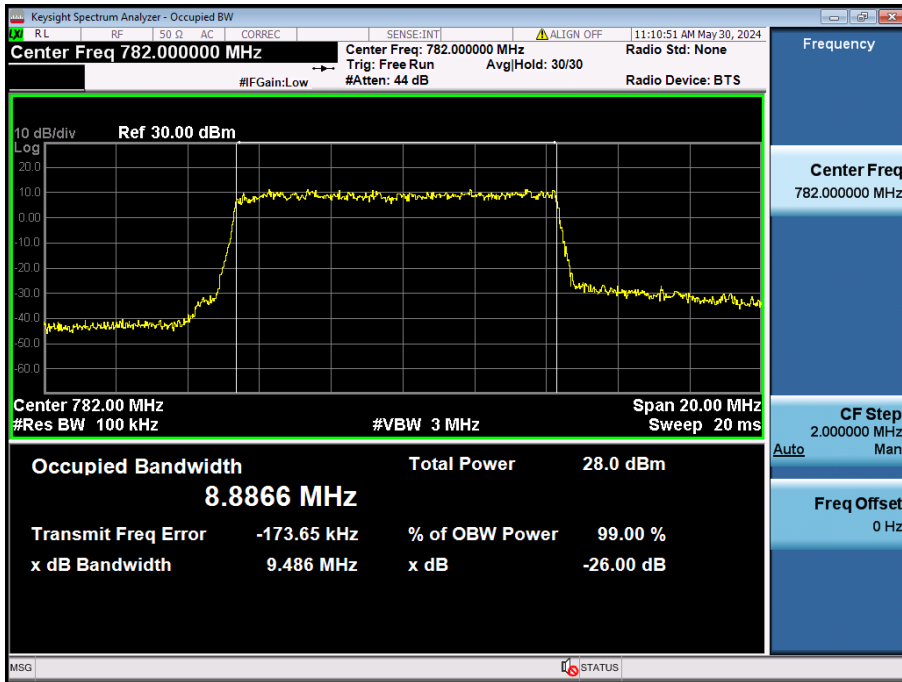
8.1.3. NR Band n13



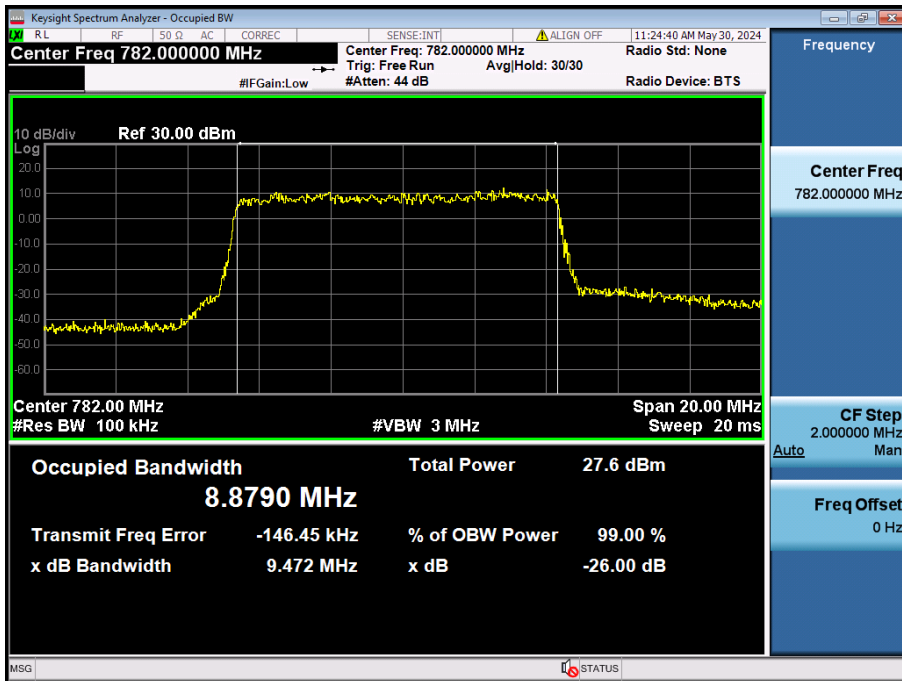
10 MHz /  $\pi/2$  BPSK / FULL RB Size



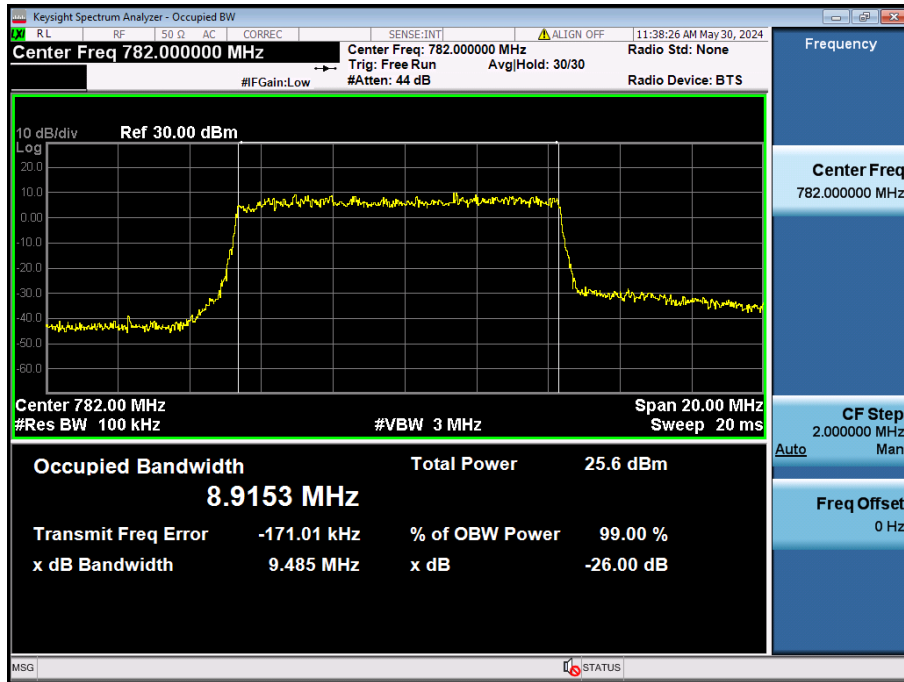
10 MHz / QPSK / FULL RB Size



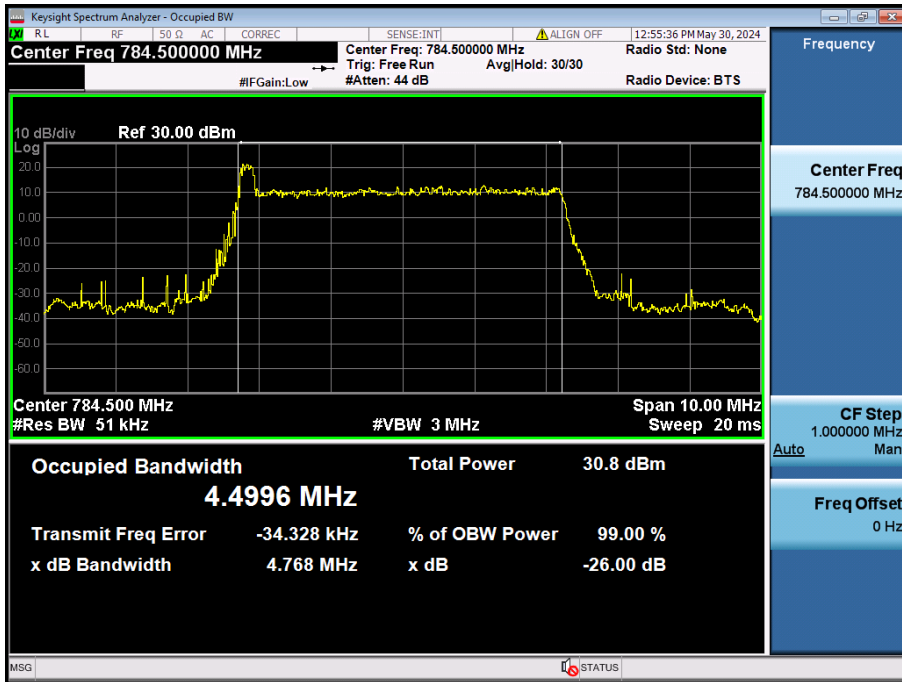
10 MHz / 16QAM / FULL RB Size



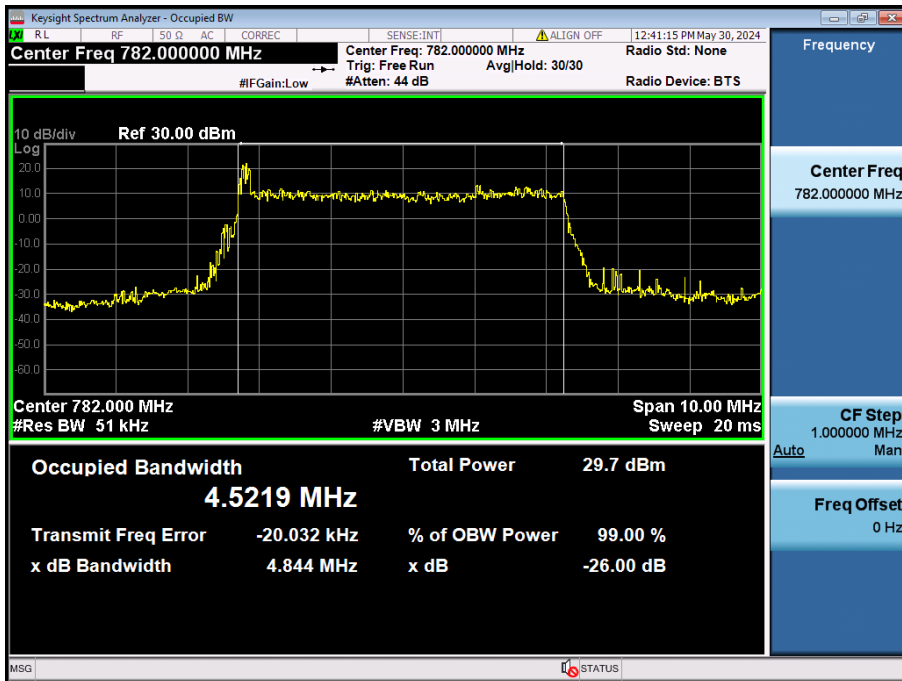
10 MHz / 64QAM / FULL RB Size



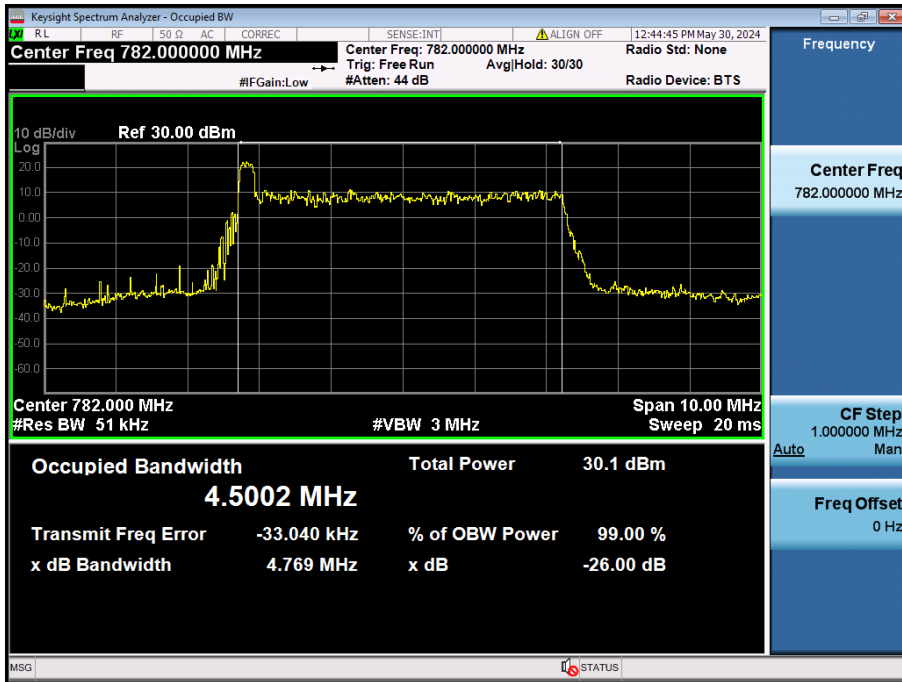
10 MHz / 256QAM / FULL RB Size



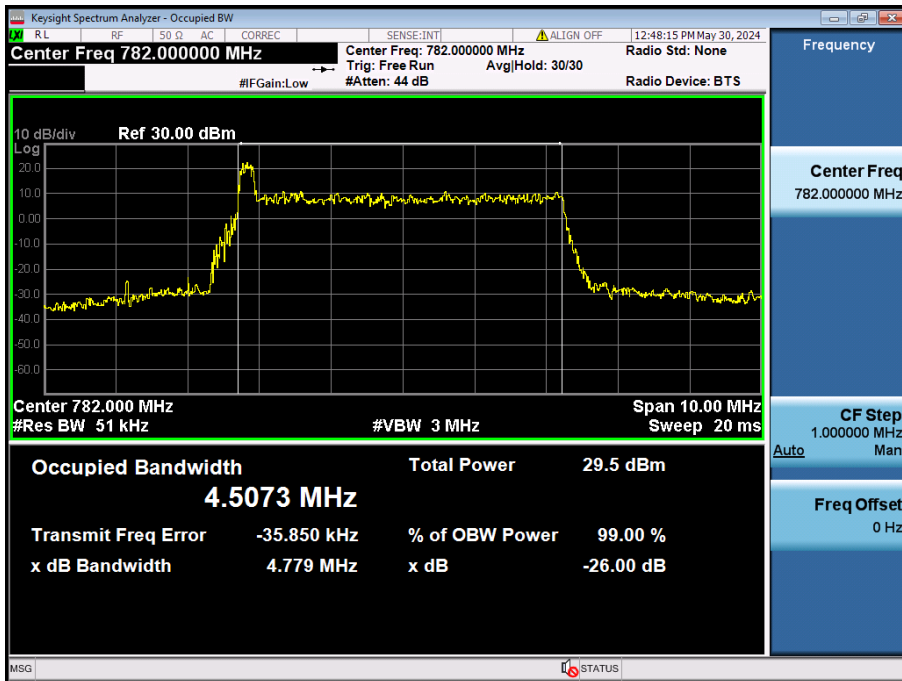
5 MHz /  $\pi/2$  BPSK / FULL RB Size



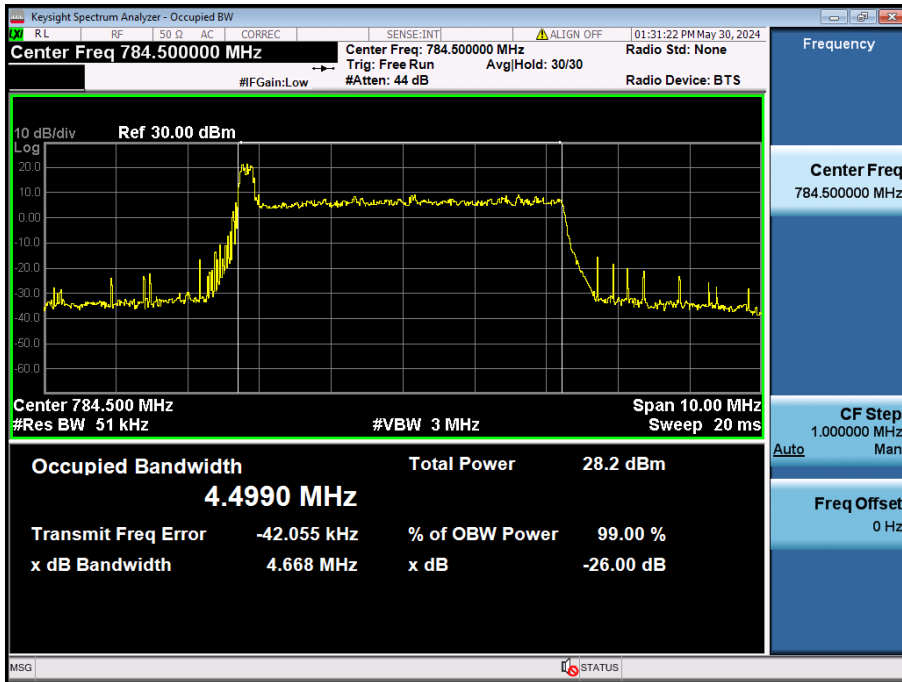
5 MHz / QPSK / FULL RB Size



5 MHz / 16QAM / FULL RB Size



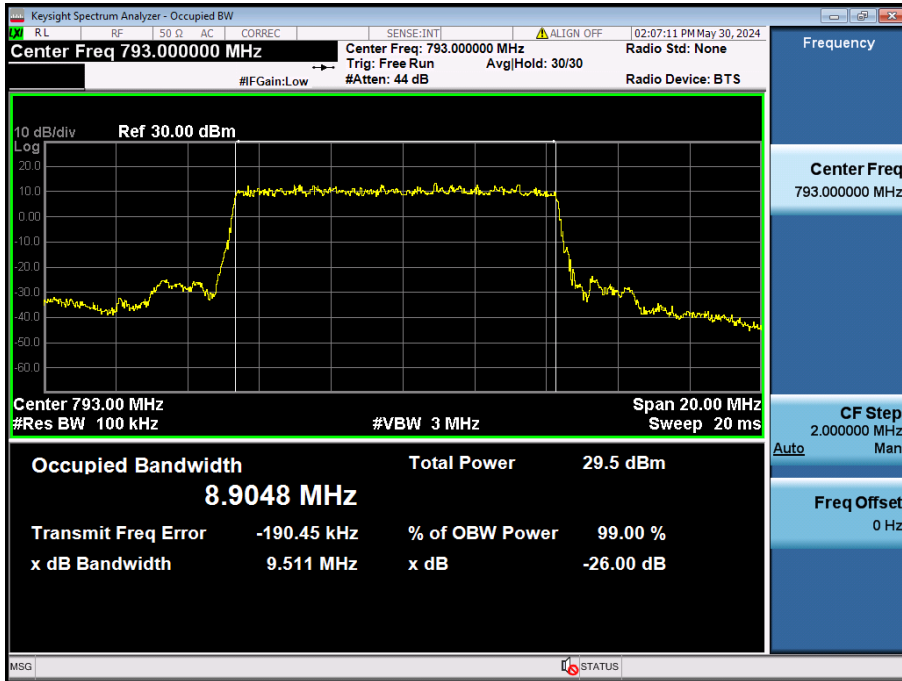
5 MHz / 64QAM / FULL RB Size



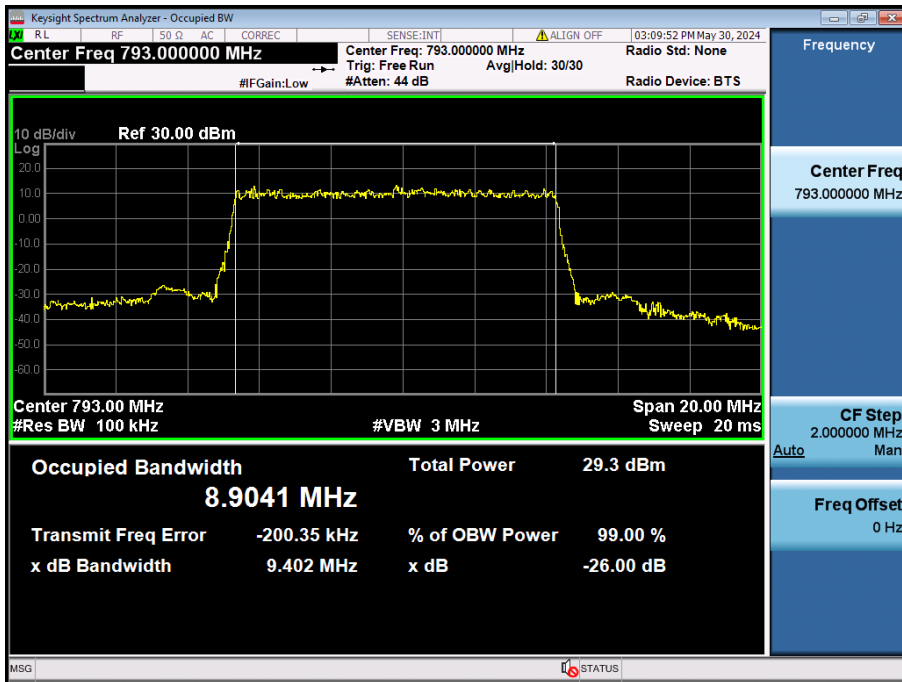
5 MHz / 256QAM / FULL RB Size



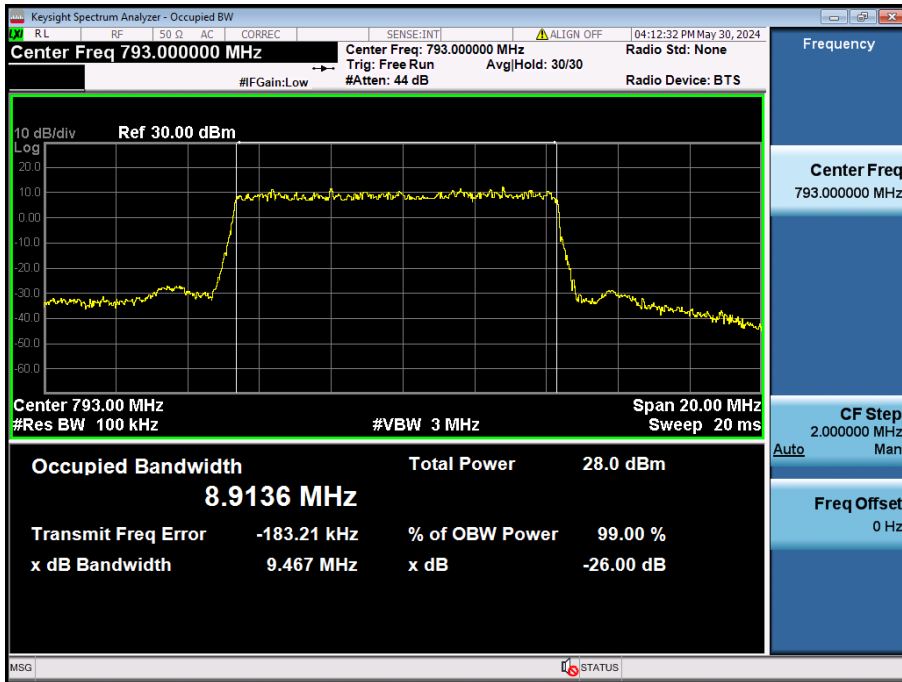
8.1.4. NR Band n14



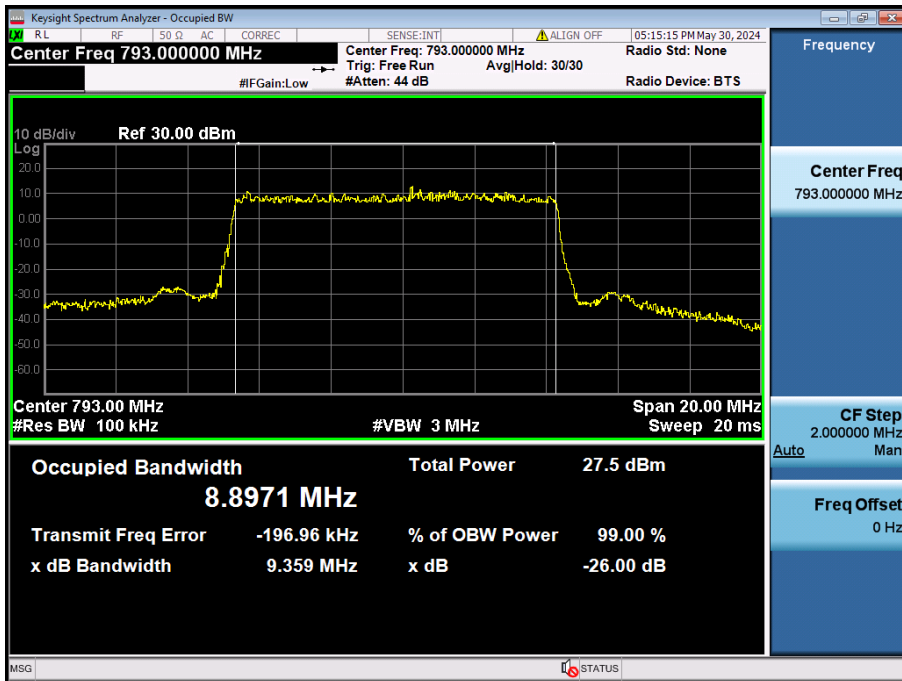
10 MHz /  $\pi/2$  BPSK / FULL RB Size



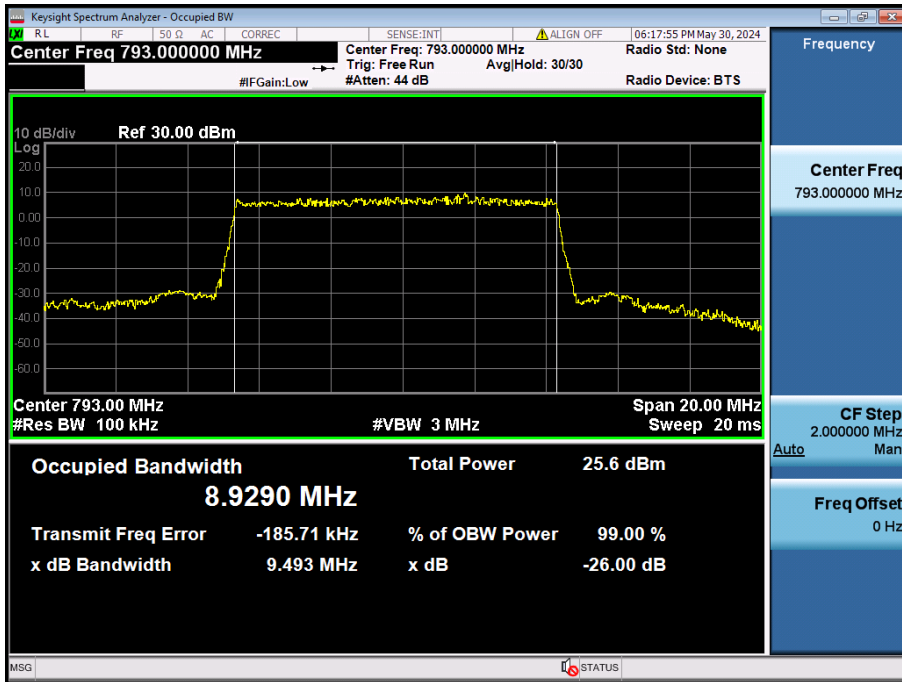
10 MHz / QPSK / FULL RB Size



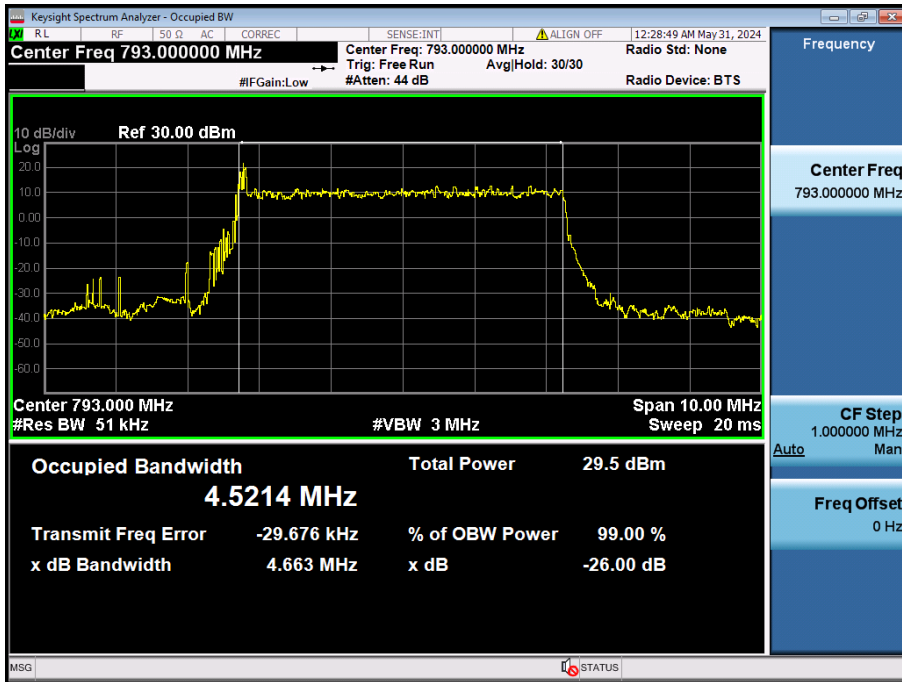
10 MHz / 16QAM / FULL RB Size



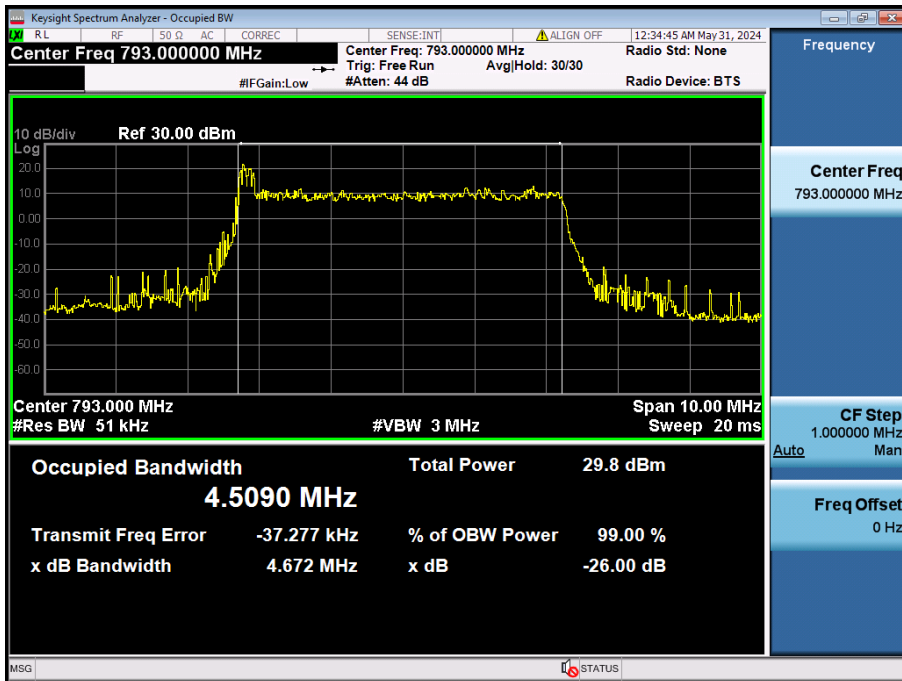
10 MHz / 64QAM / FULL RB Size



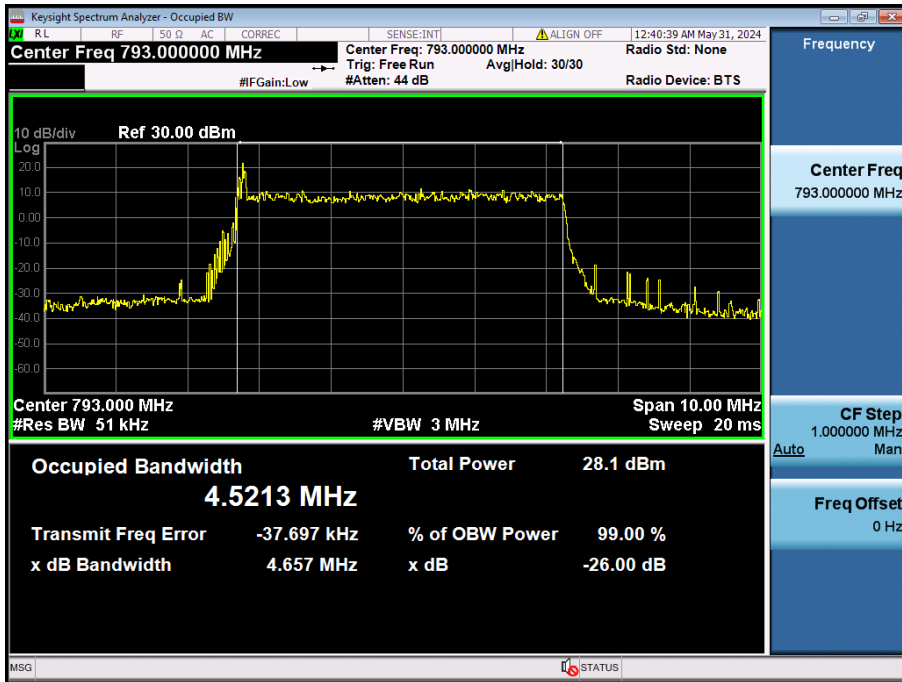
10 MHz / 256QAM / FULL RB Size



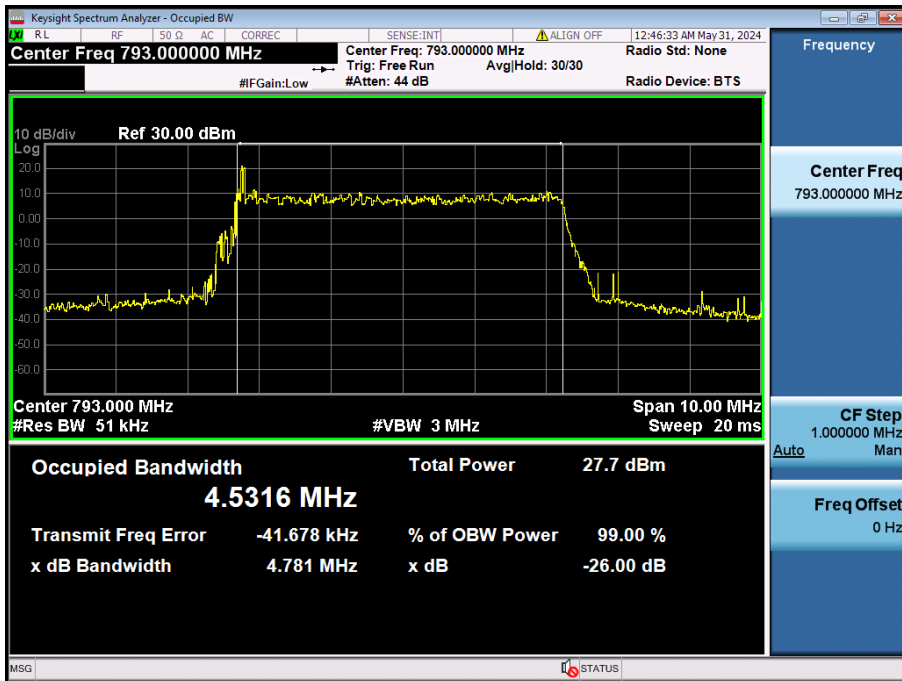
5 MHz /  $\pi/2$  BPSK / FULL RB Size



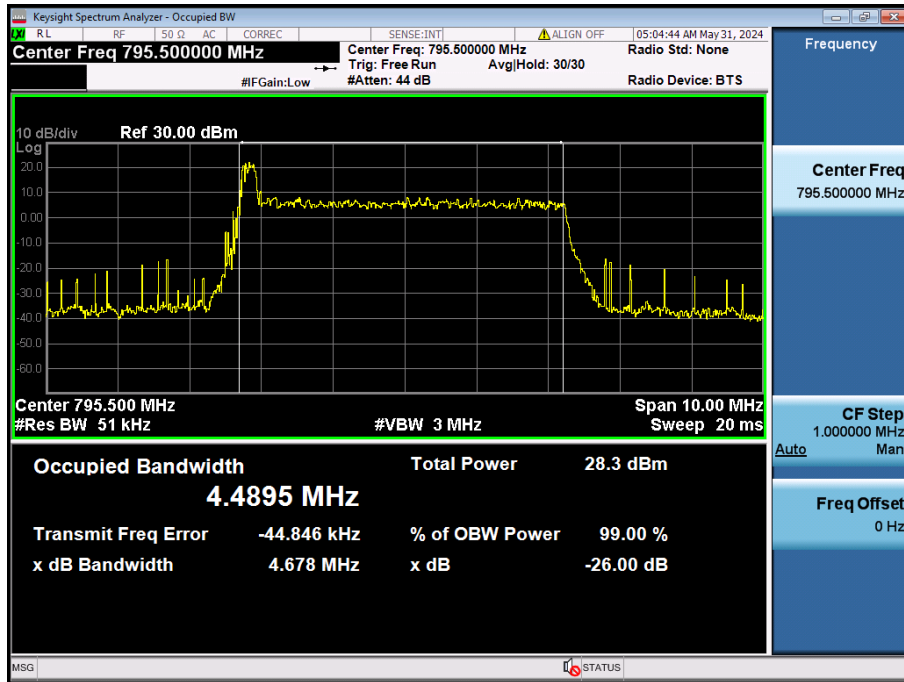
5 MHz / QPSK / FULL RB Size



5 MHz / 16QAM / FULL RB Size

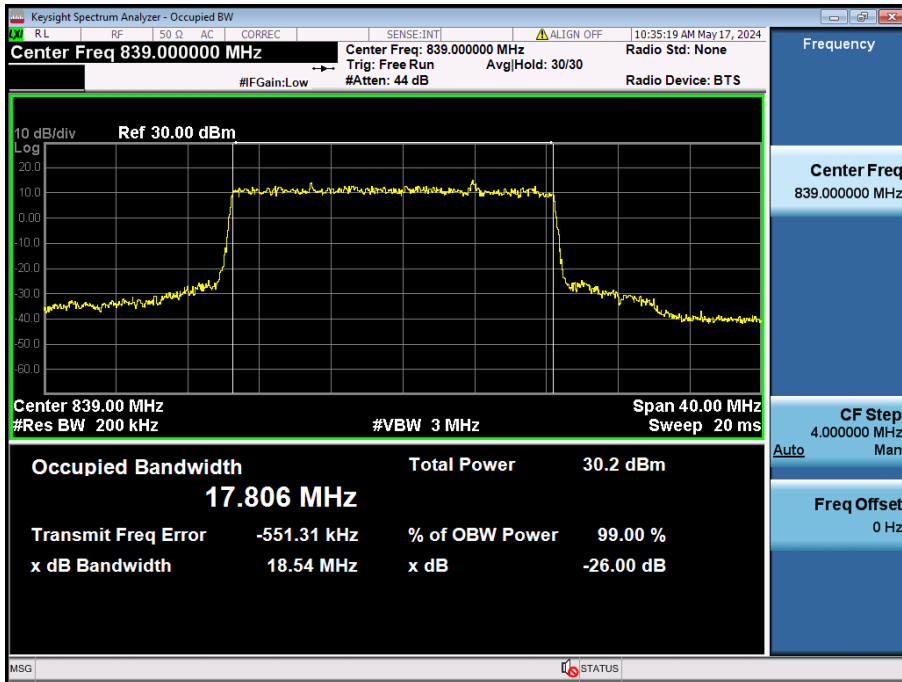


5 MHz / 64QAM / FULL RB Size

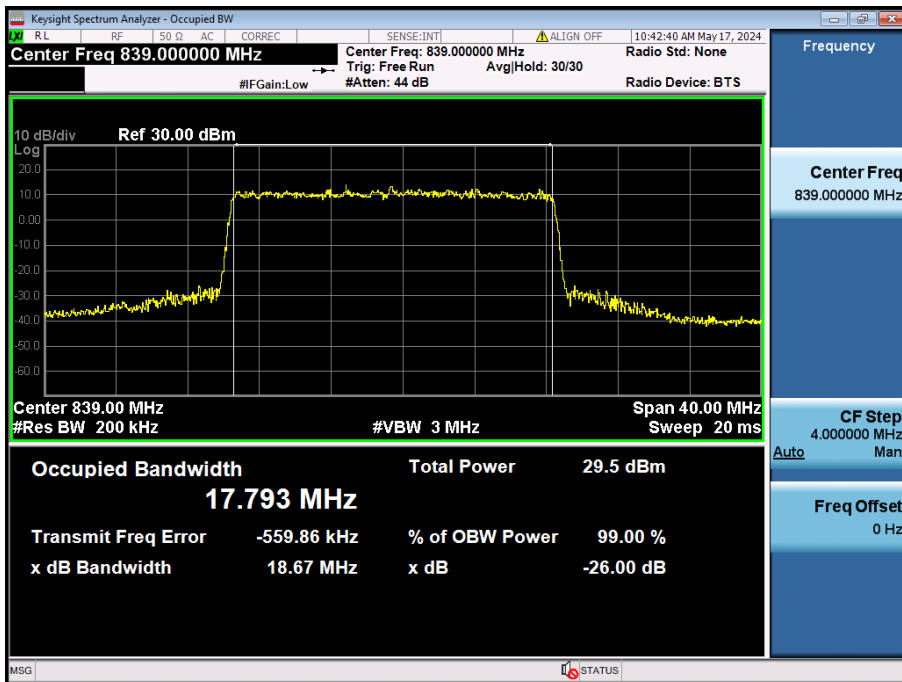


5 MHz / 256QAM / FULL RB Size

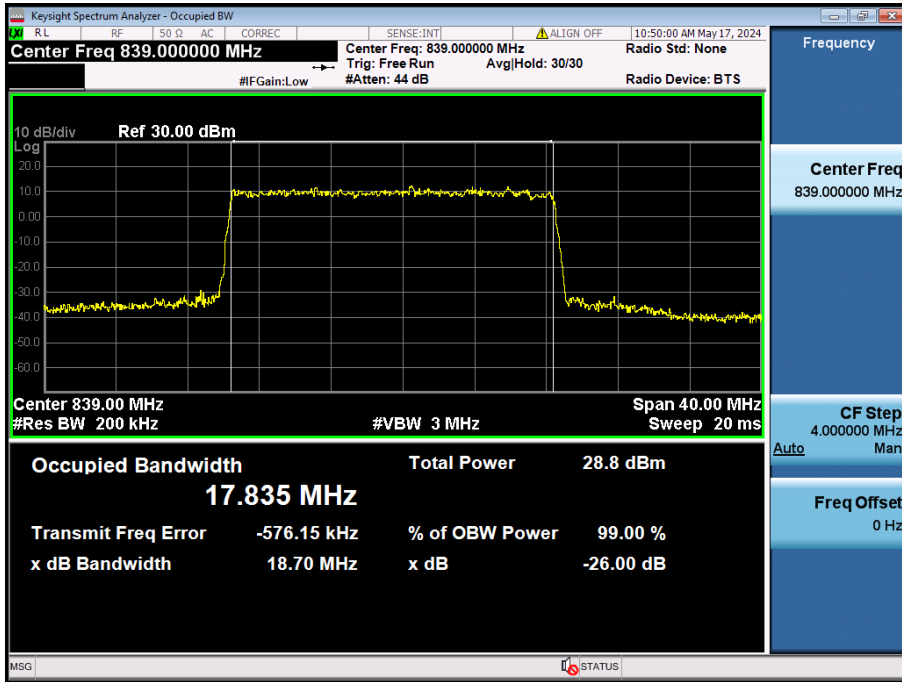
8.1.5. NR Band n5



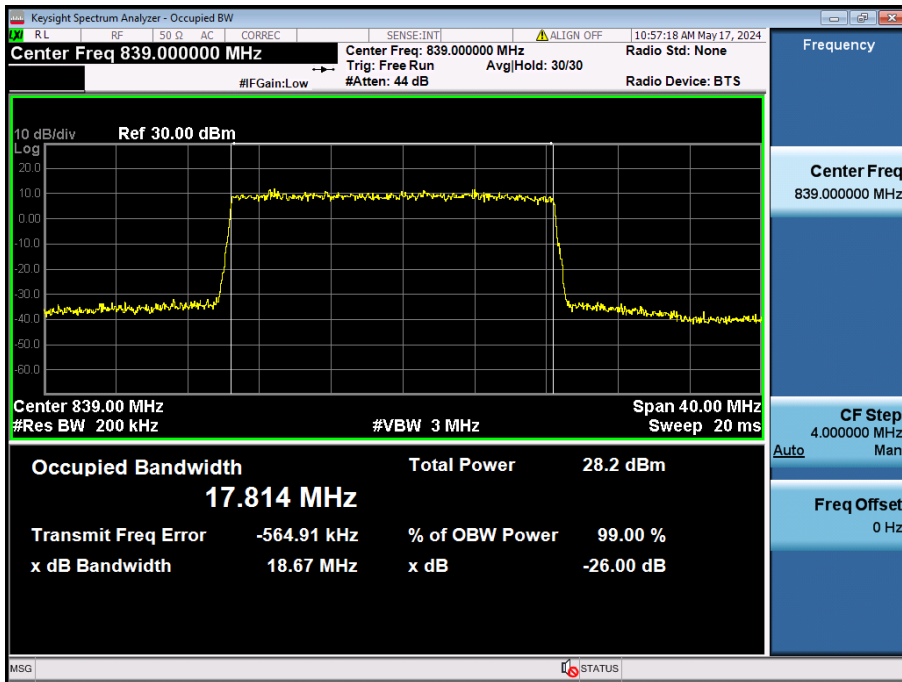
20 MHz /  $\pi/2$  BPSK / FULL RB Size



20 MHz / QPSK / FULL RB Size

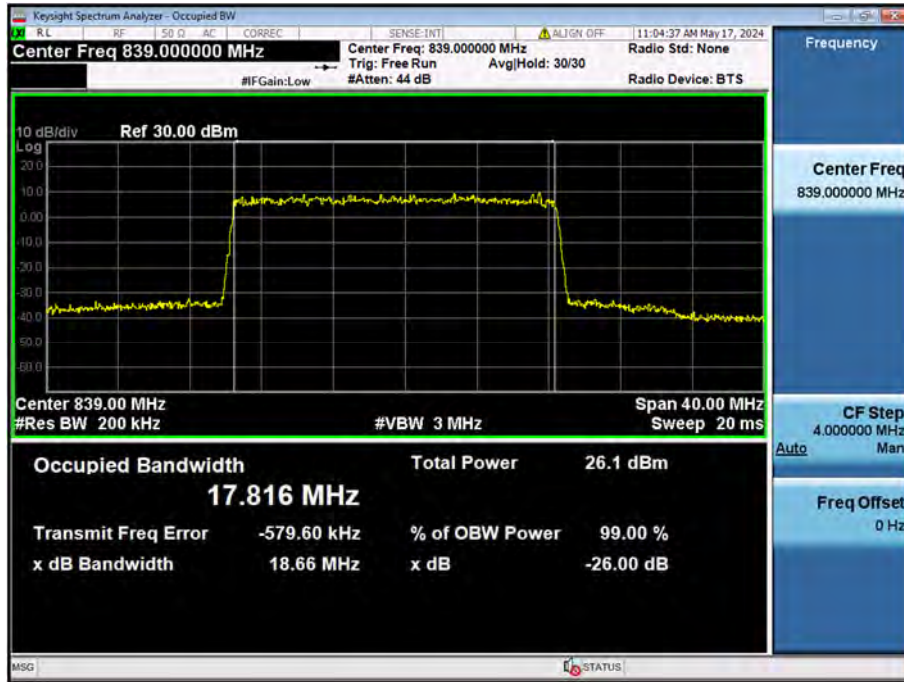


20 MHz / 16QAM / FULL RB Size

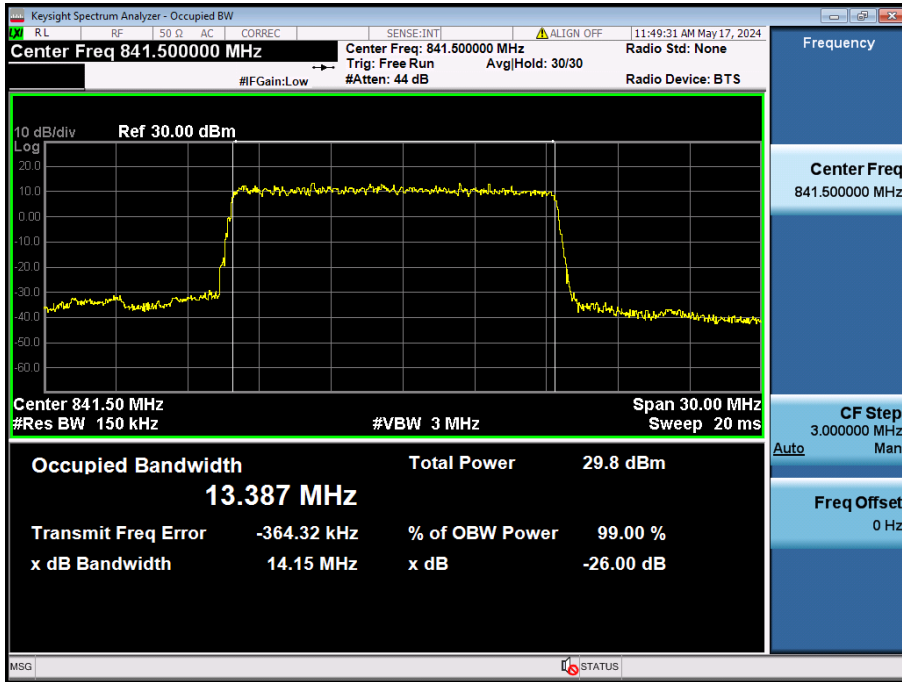


20 MHz / 64QAM / FULL RB Size

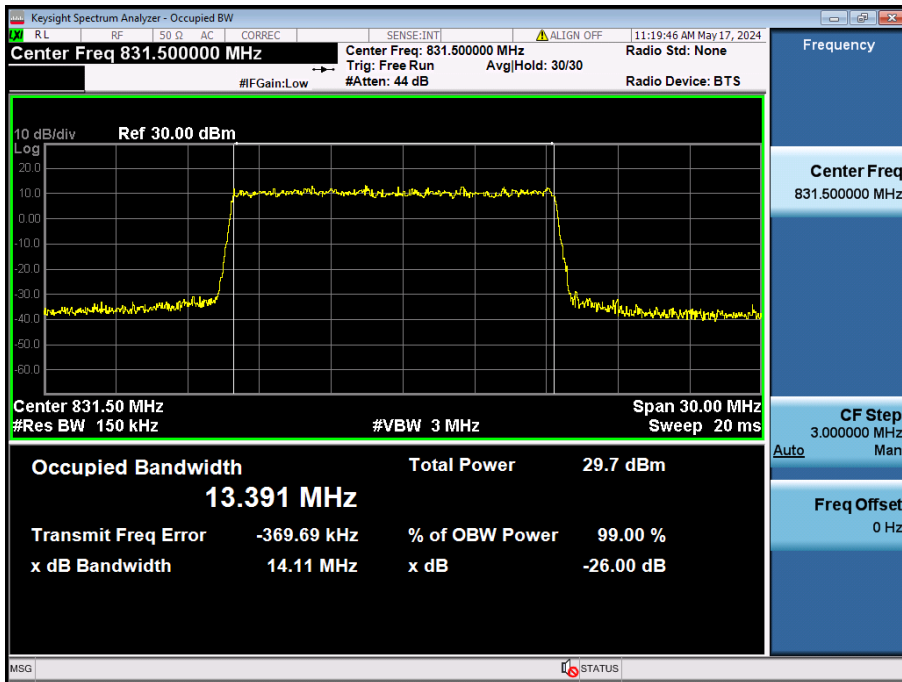




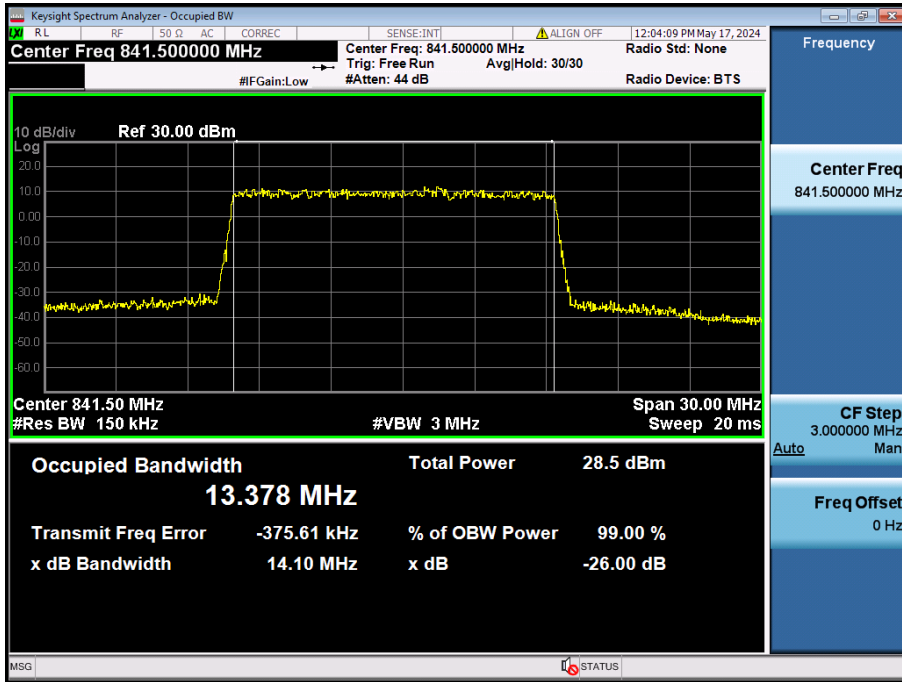
20 MHz / 256QAM / FULL RB Size



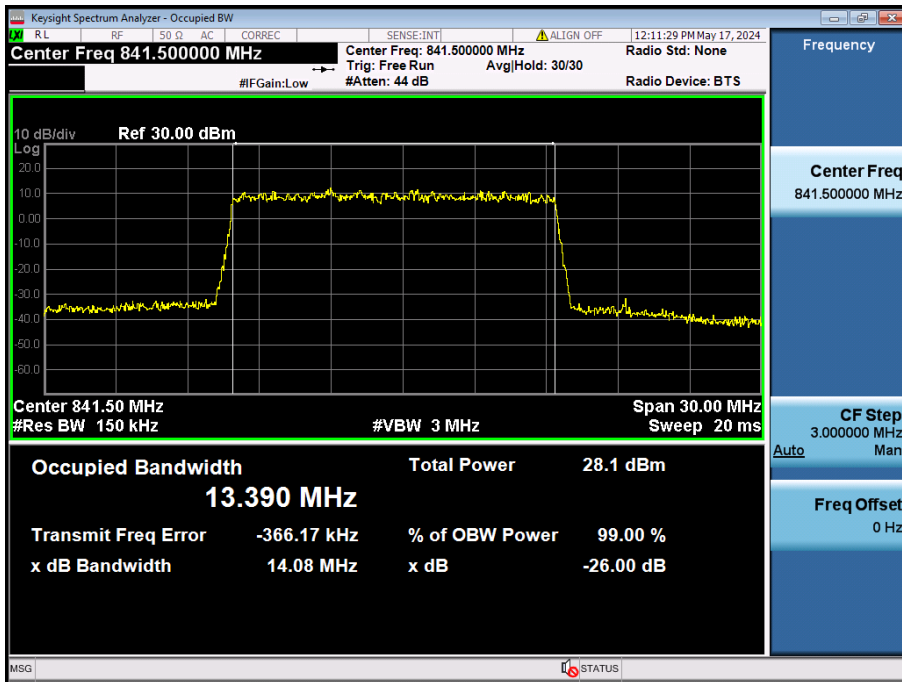
15 MHz /  $\pi/2$  BPSK / FULL RB Size



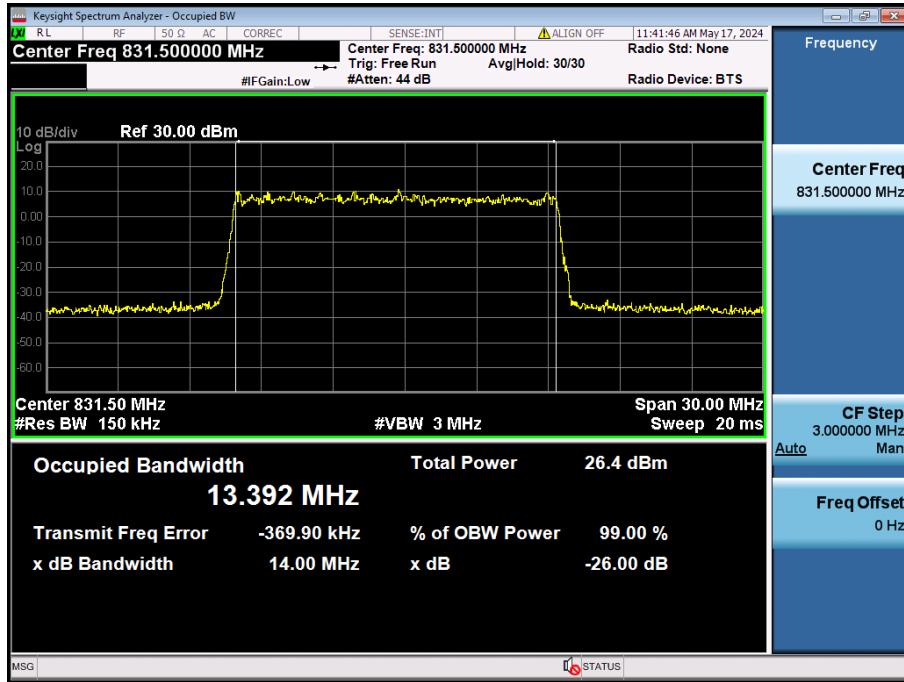
15 MHz / QPSK / FULL RB Size



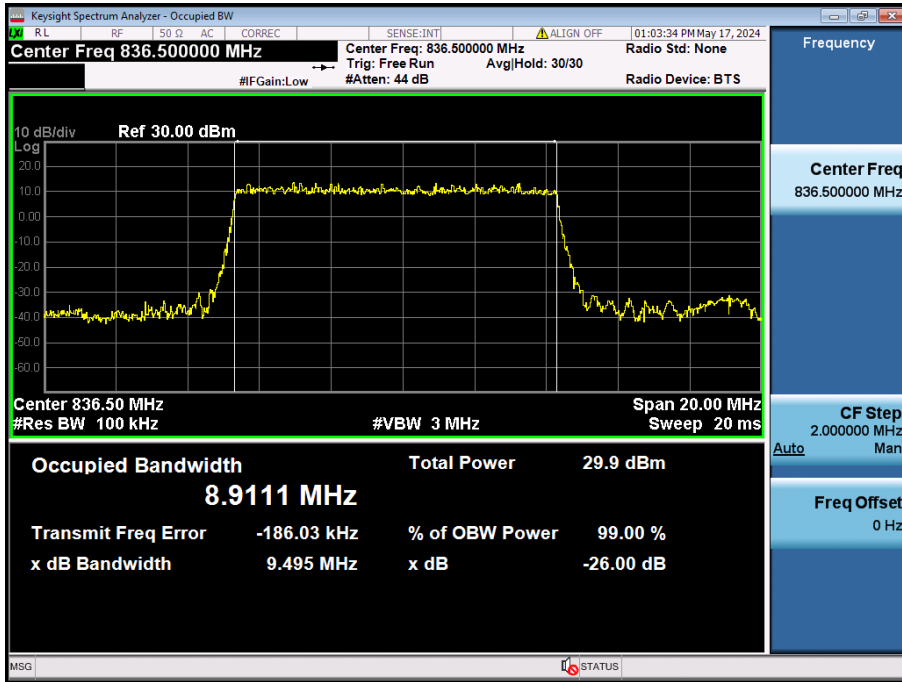
15 MHz / 16QAM / FULL RB Size



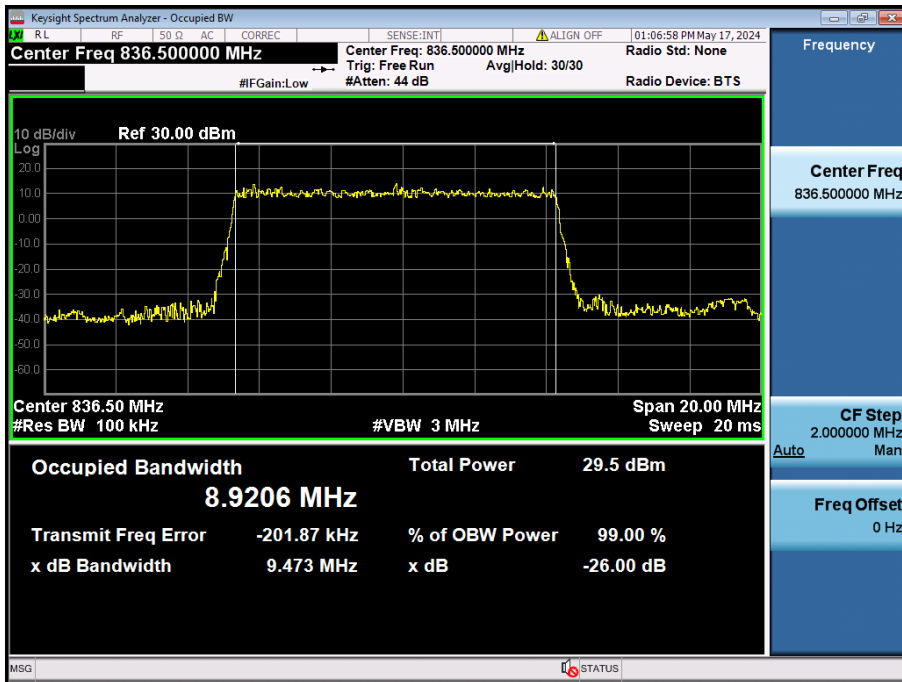
15 MHz / 64QAM / FULL RB Size



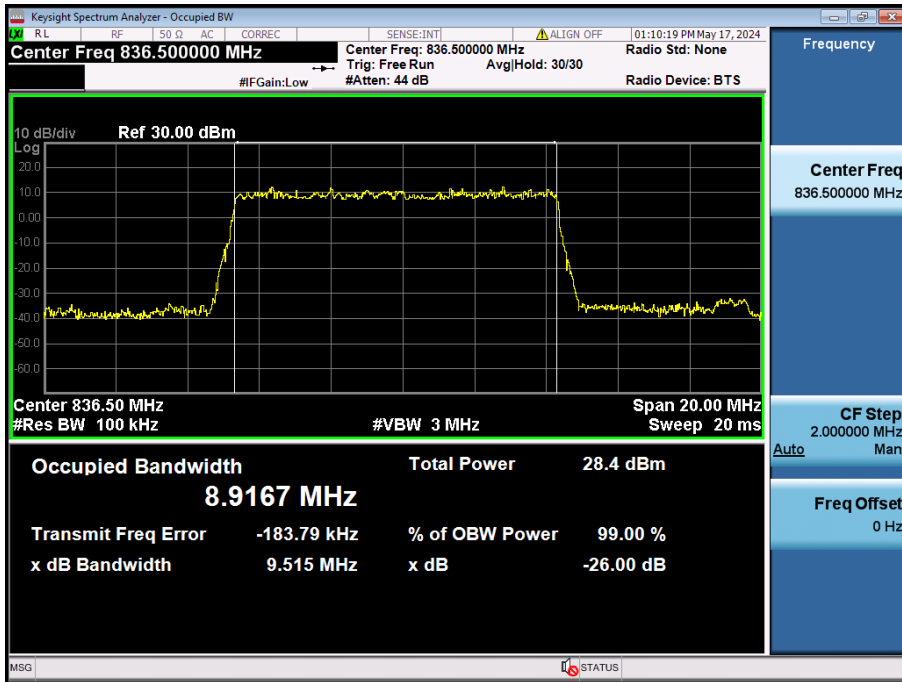
15 MHz / 256QAM / FULL RB Size



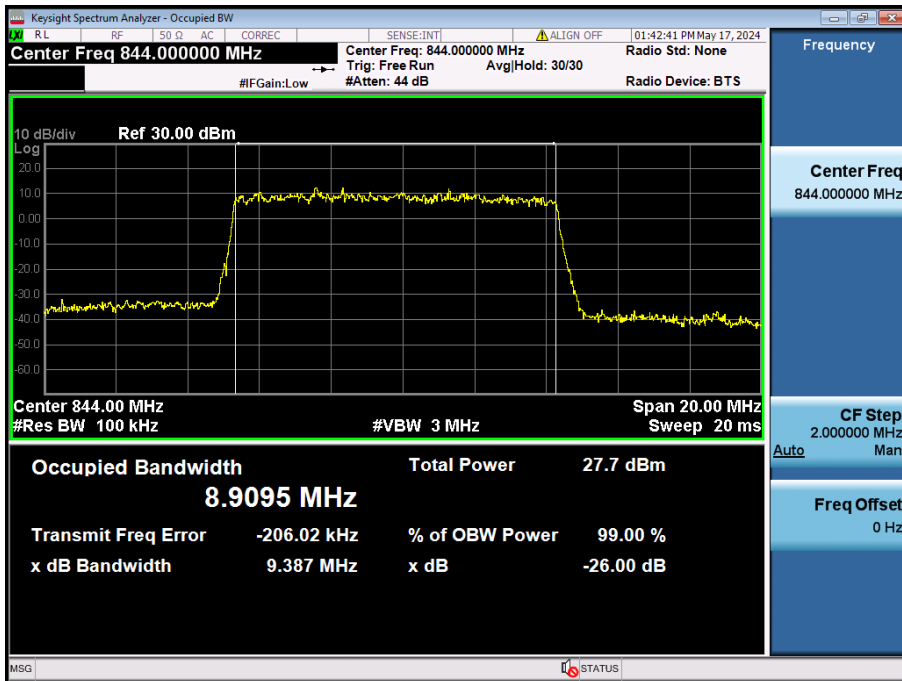
10 MHz /  $\pi/2$  BPSK / FULL RB Size



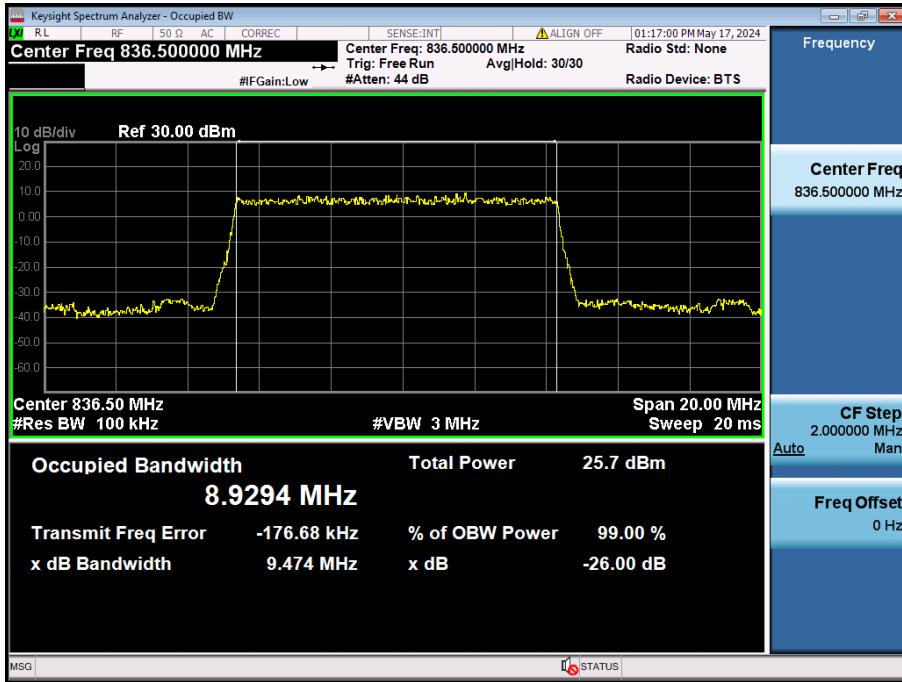
10 MHz / QPSK / FULL RB Size



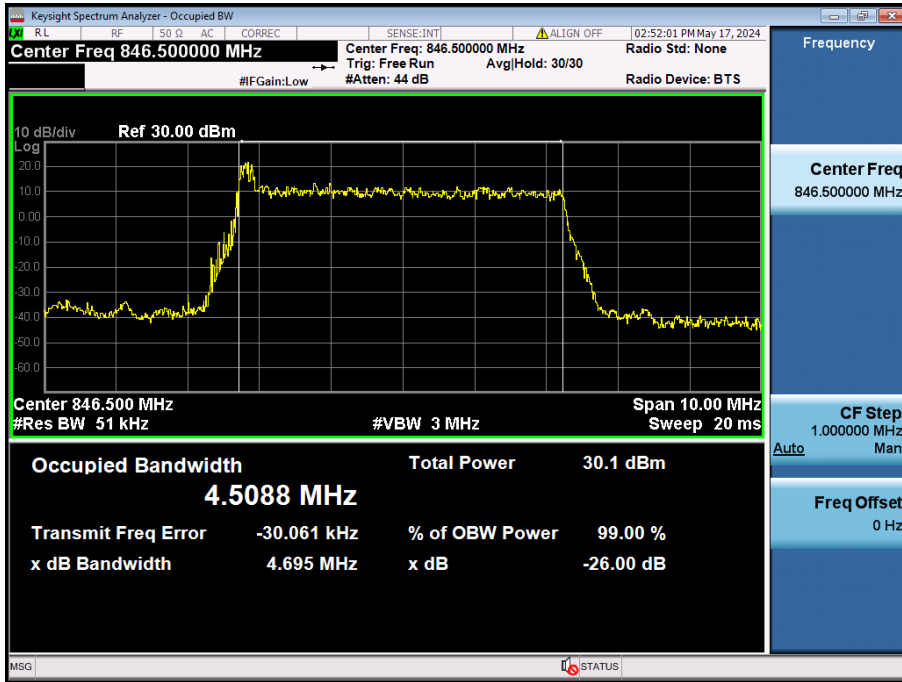
10 MHz / 16QAM / FULL RB Size



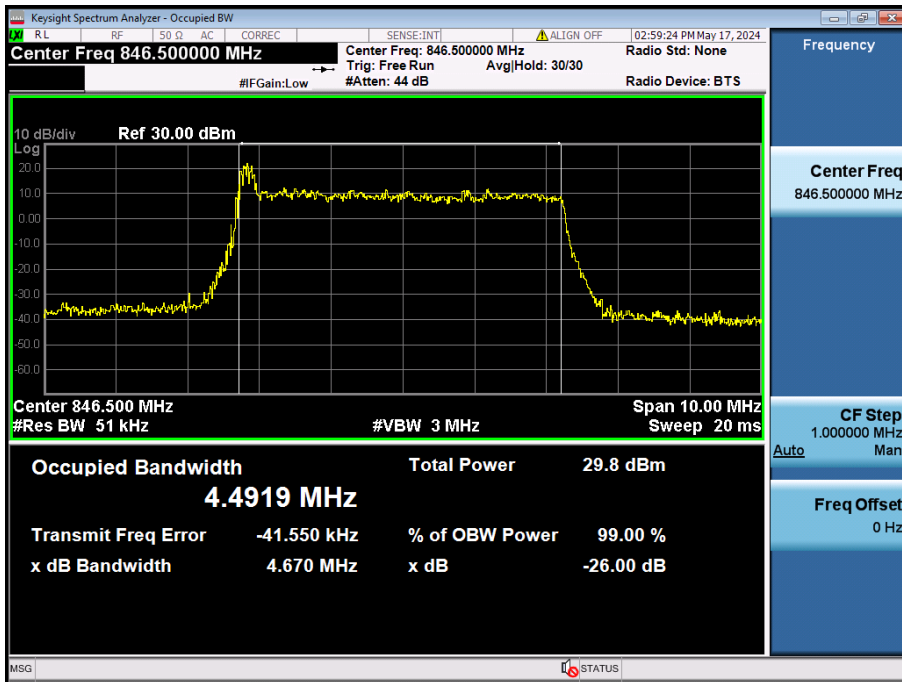
10 MHz / 64QAM / FULL RB Size



10 MHz / 256QAM / FULL RB Size

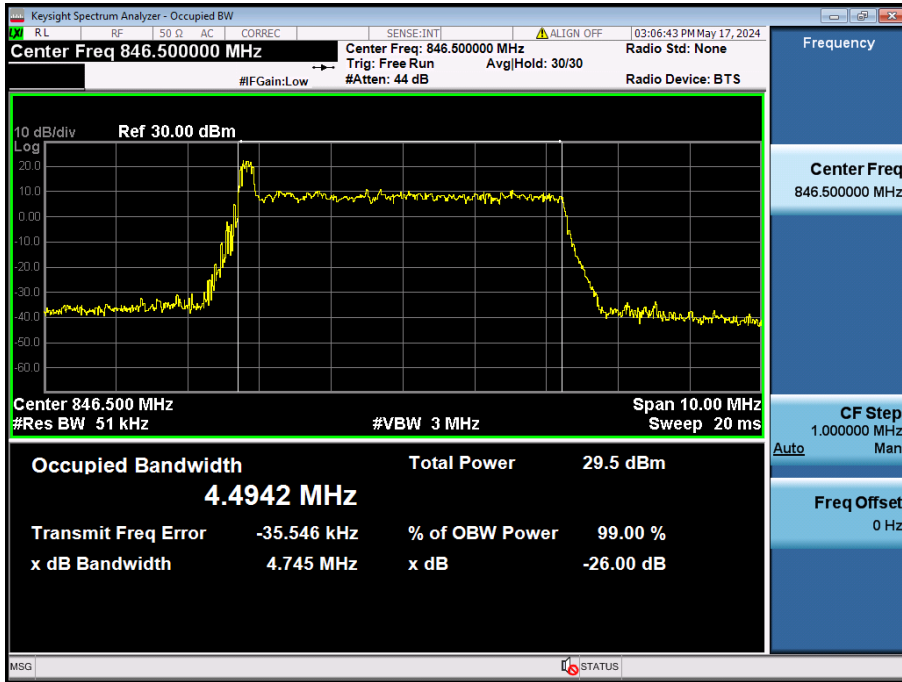


5 MHz /  $\pi/2$  BPSK / FULL RB Size

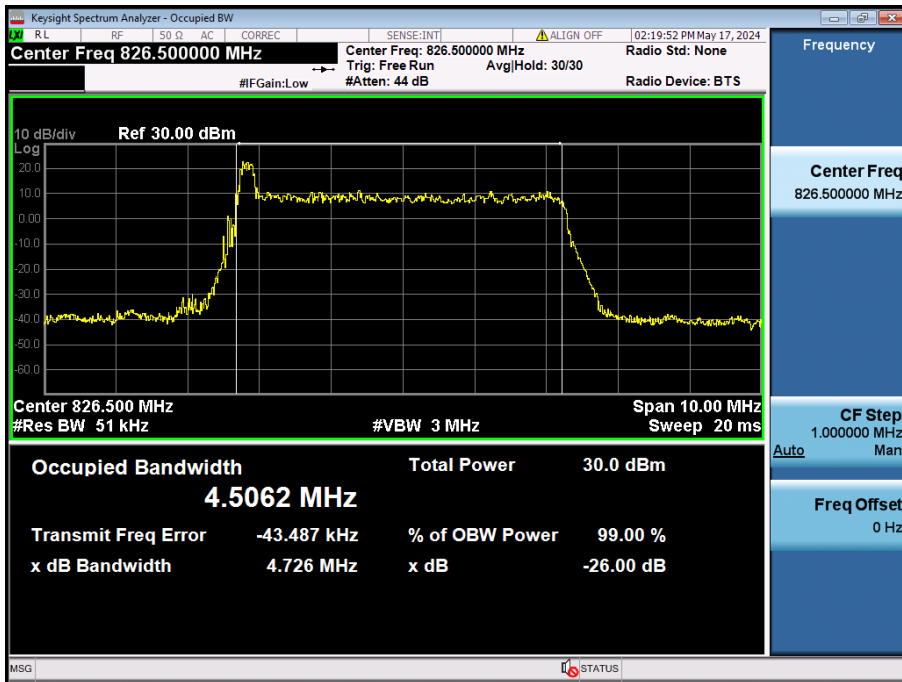


5 MHz / QPSK / FULL RB Size

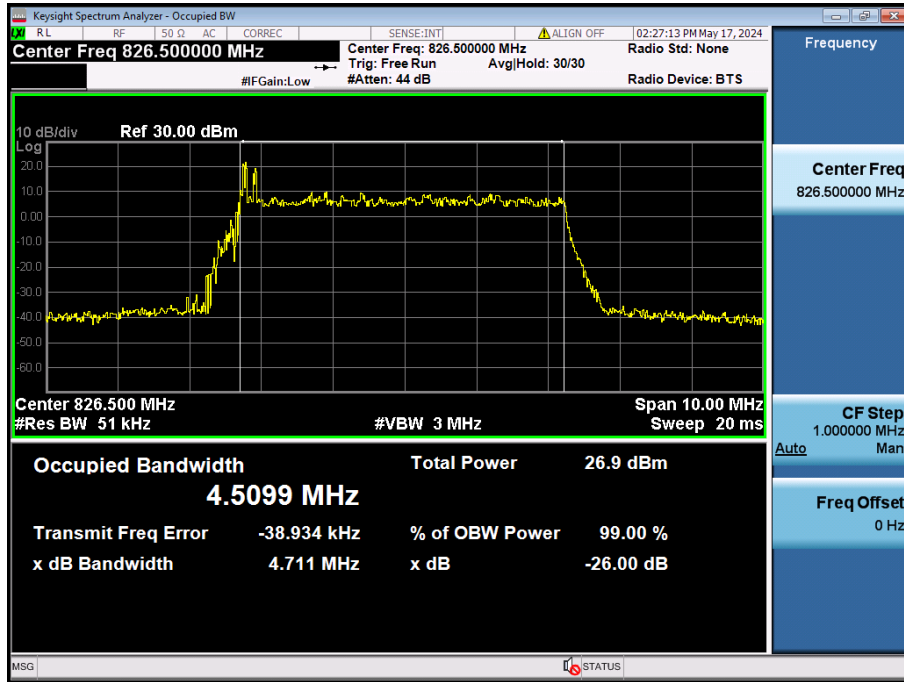




5 MHz / 16QAM / FULL RB Size

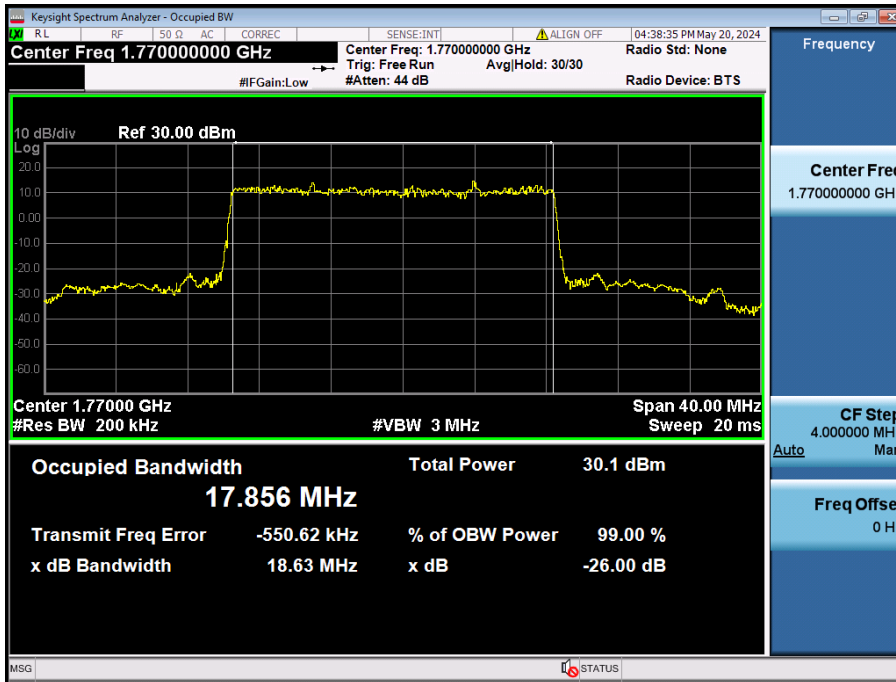


5 MHz / 64QAM / FULL RB Size

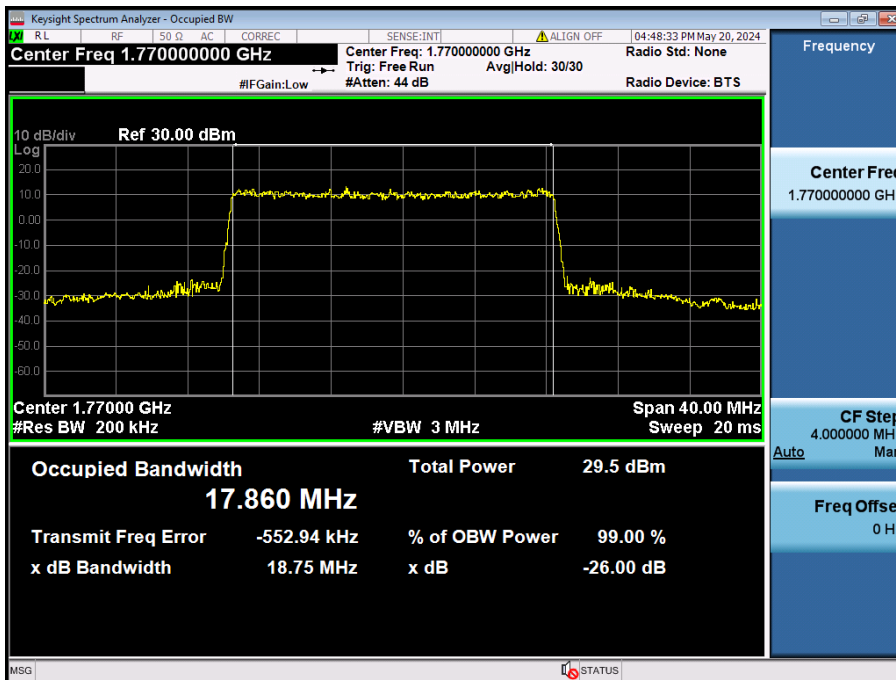


5 MHz / 256QAM / FULL RB Size

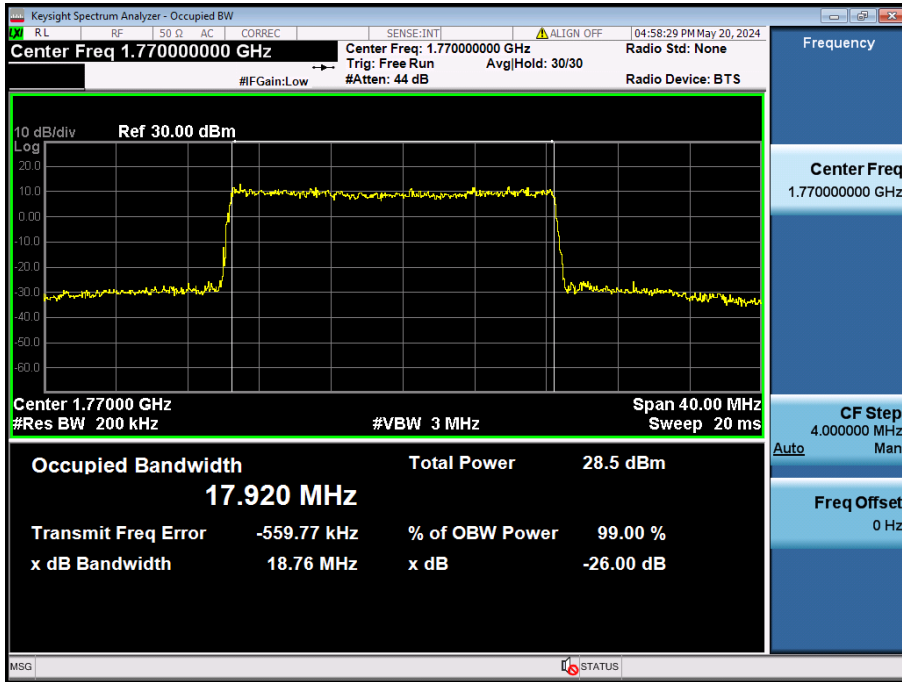
8.1.6. NR Band n66



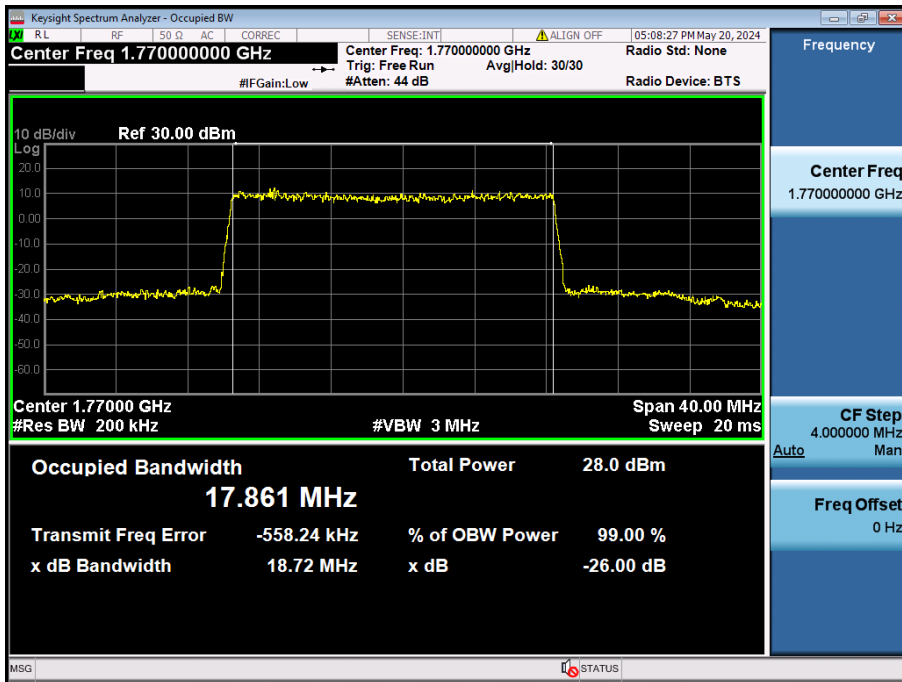
20 MHz /  $\pi/2$  BPSK / FULL RB Size



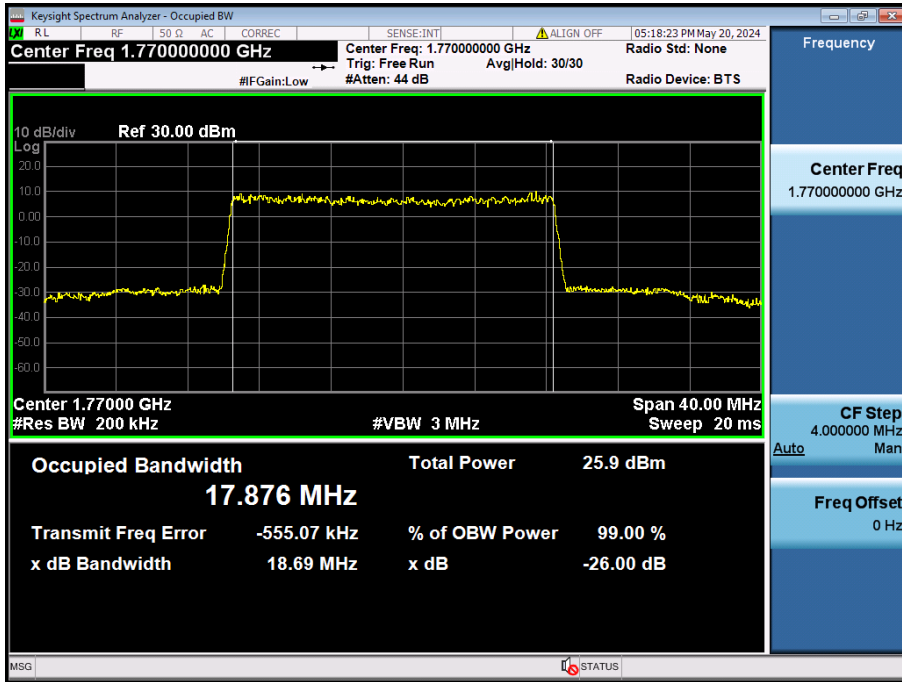
20 MHz / QPSK / FULL RB Size



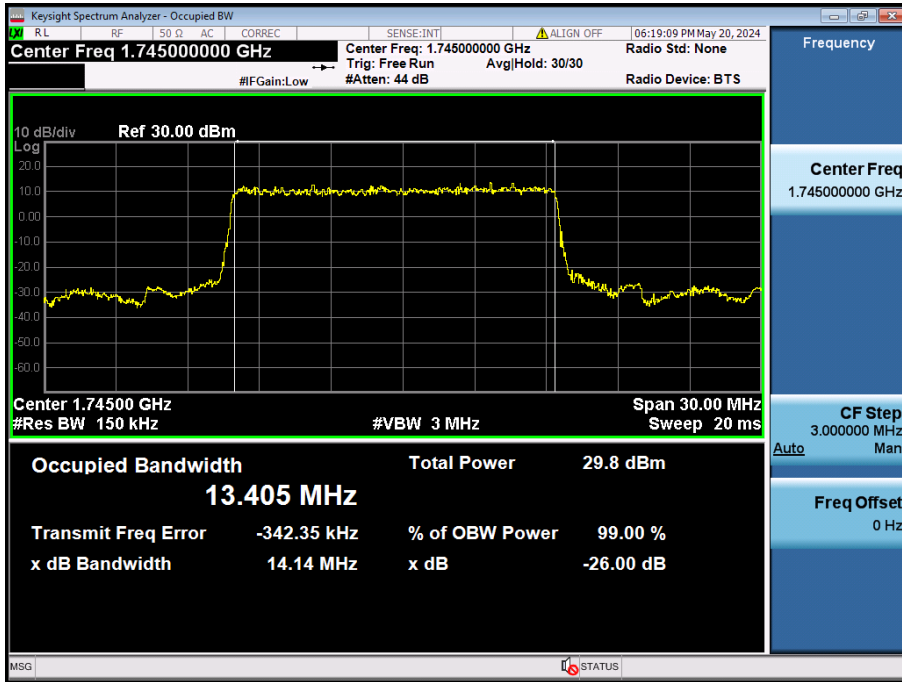
20 MHz / 16QAM / FULL RB Size



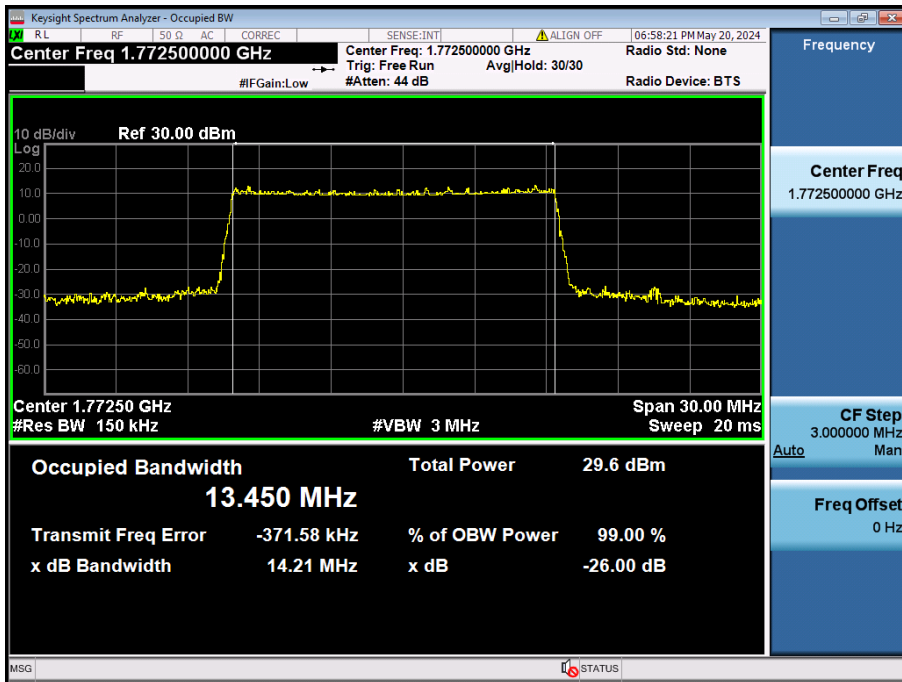
20 MHz / 64QAM / FULL RB Size



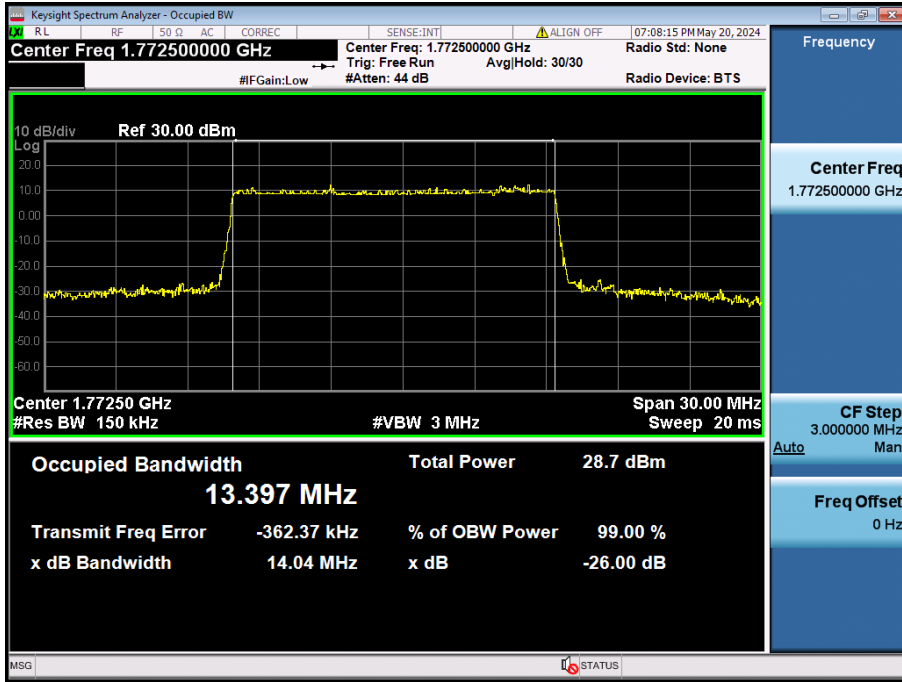
20 MHz / 256QAM / FULL RB Size



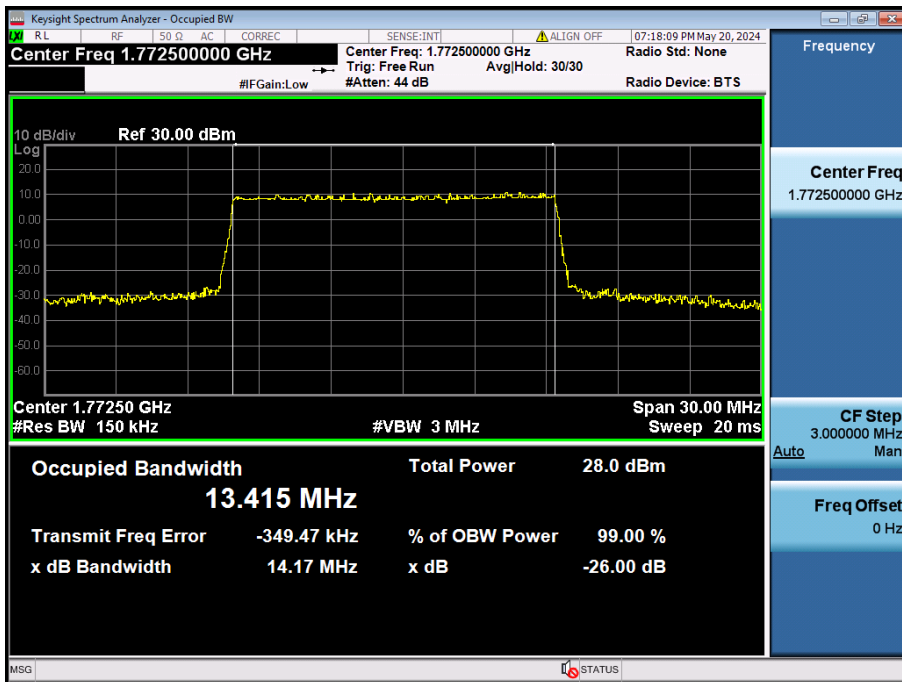
15 MHz /  $\pi/2$  BPSK / FULL RB Size



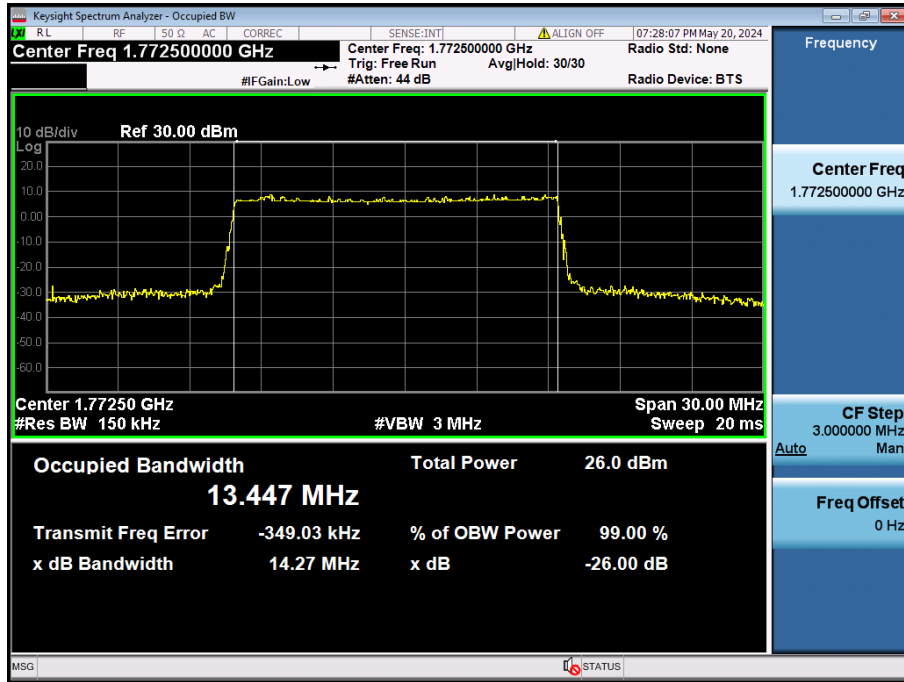
15 MHz / QPSK / FULL RB Size



15 MHz / 16QAM / FULL RB Size

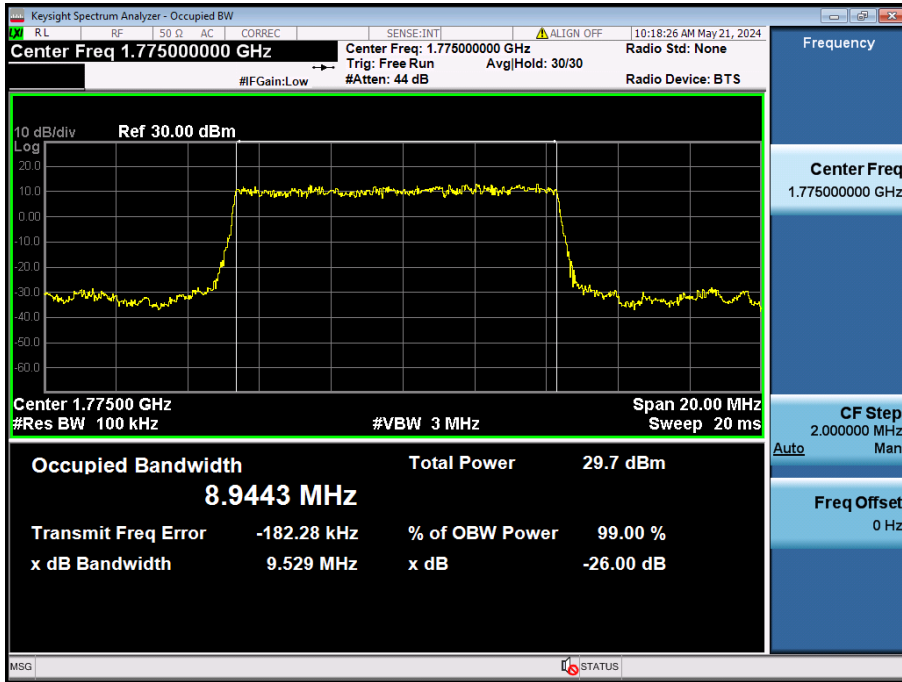


15 MHz / 64QAM / FULL RB Size

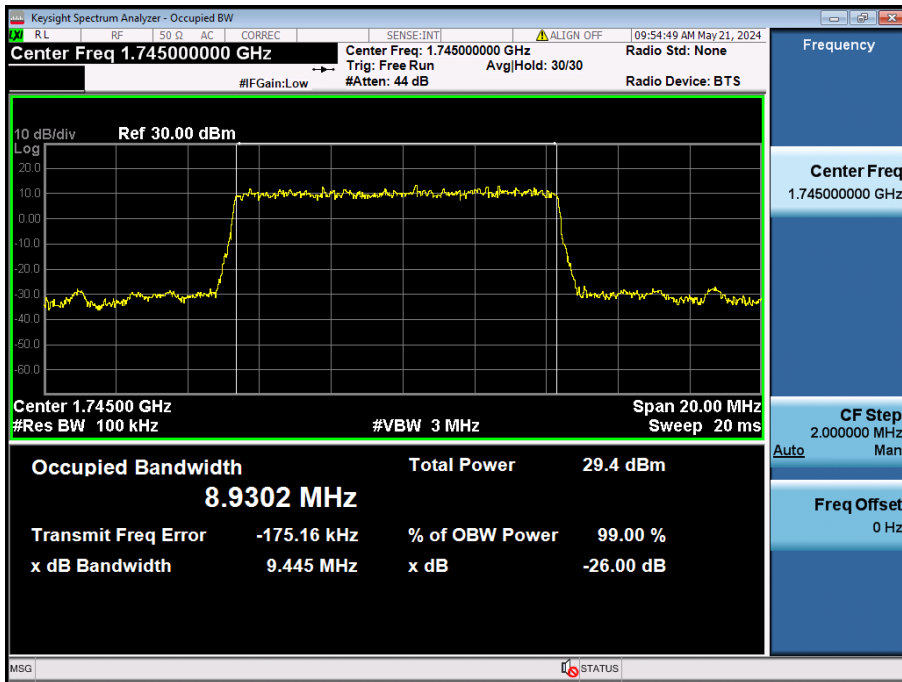


15 MHz / 256QAM / FULL RB Size

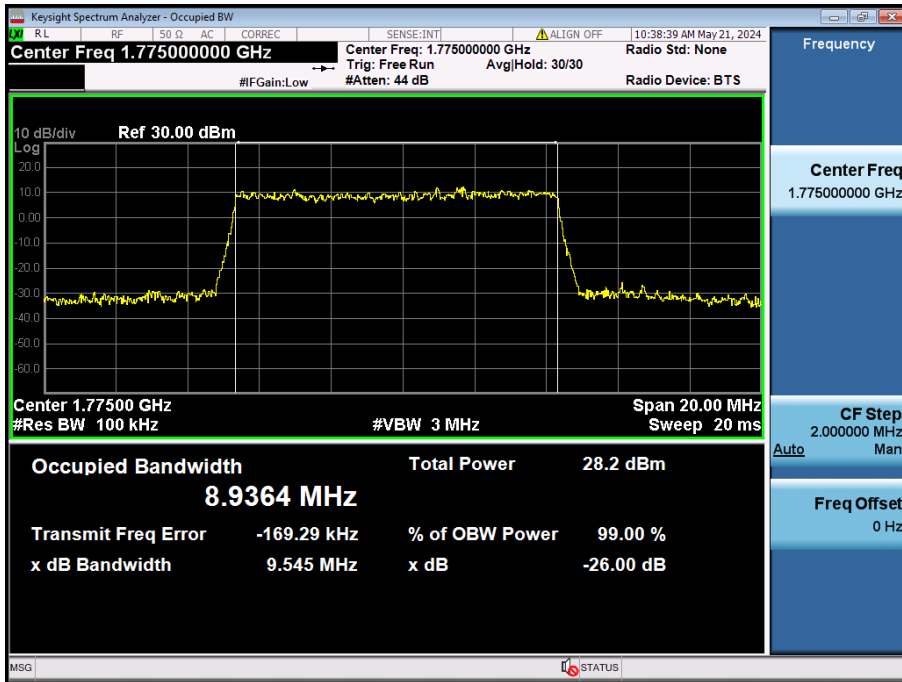




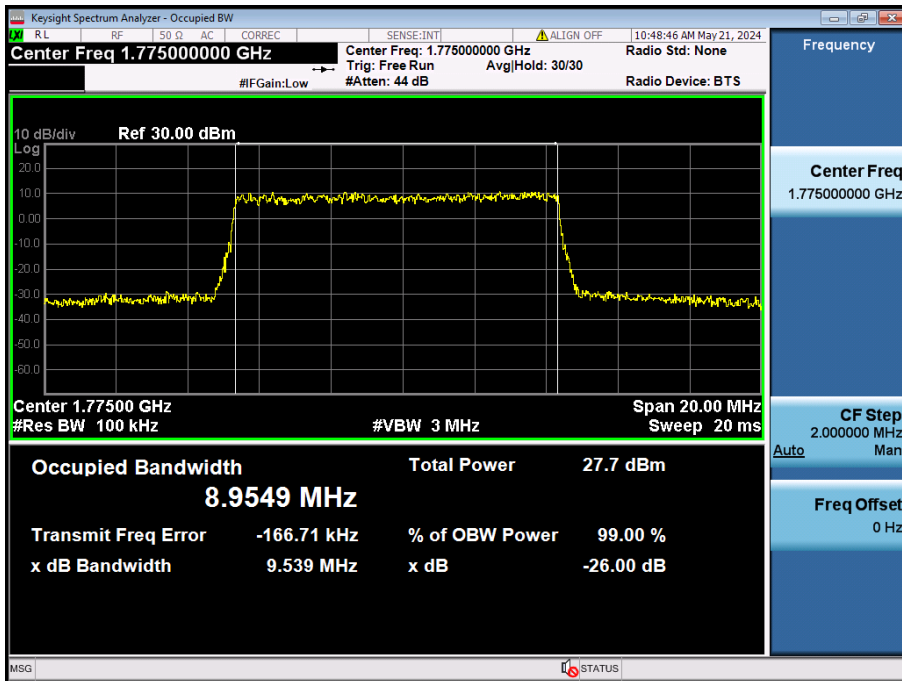
10 MHz /  $\pi/2$  BPSK / FULL RB Size



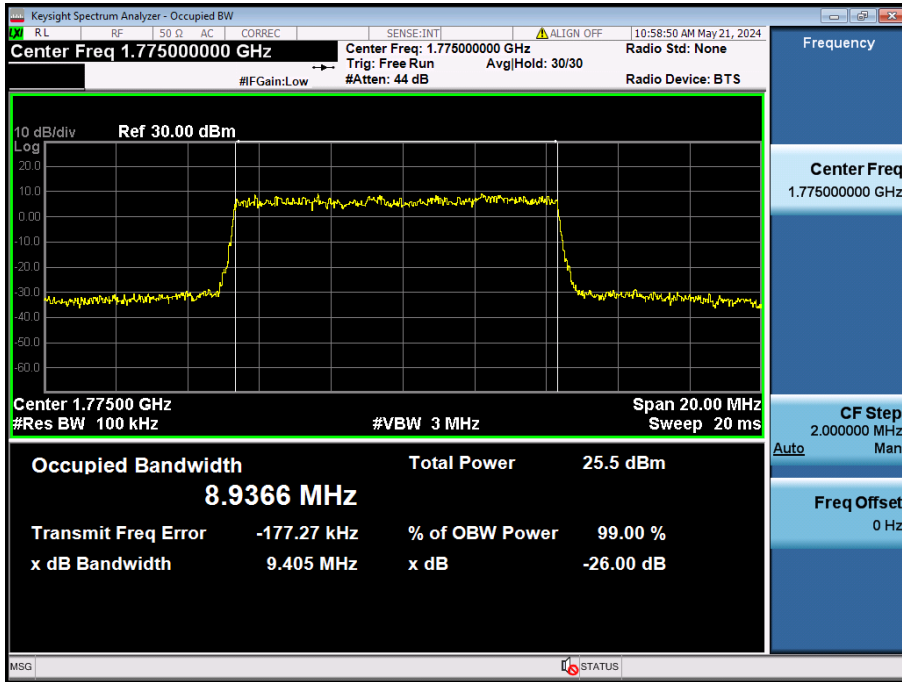
10 MHz / QPSK / FULL RB Size



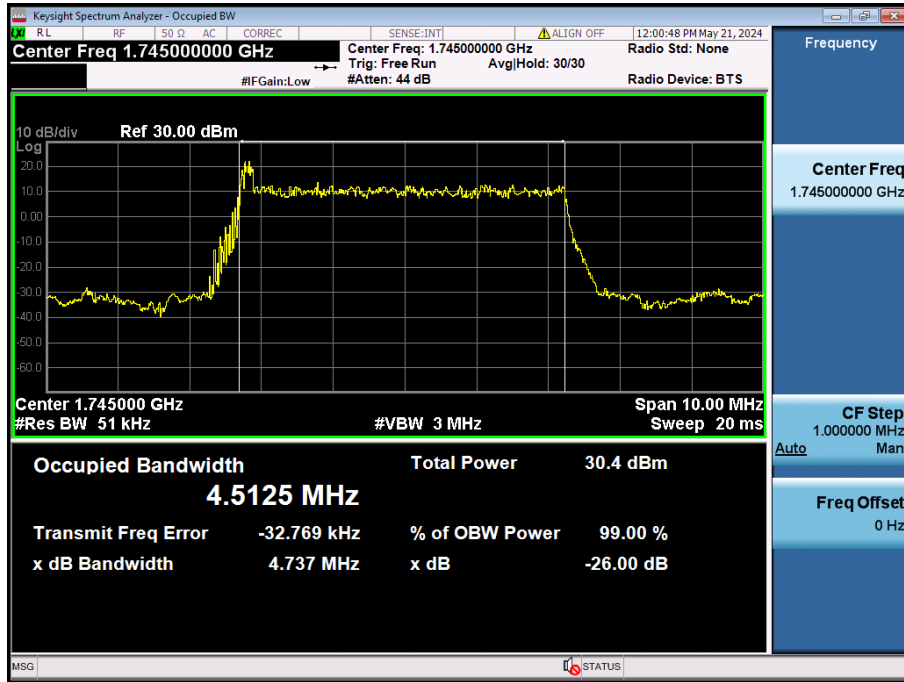
10 MHz / 16QAM / FULL RB Size



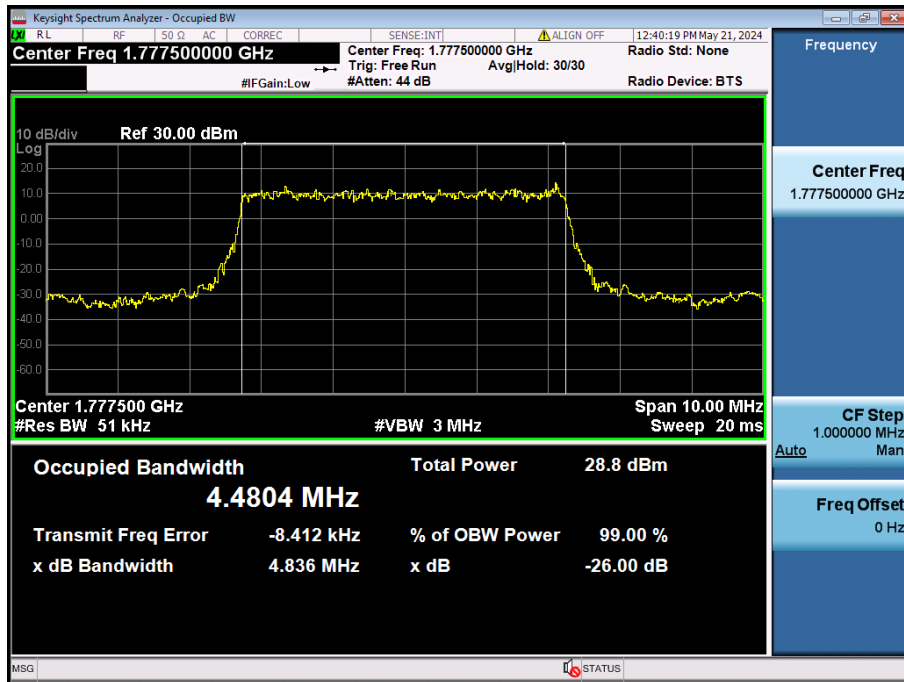
10 MHz / 64QAM / FULL RB Size



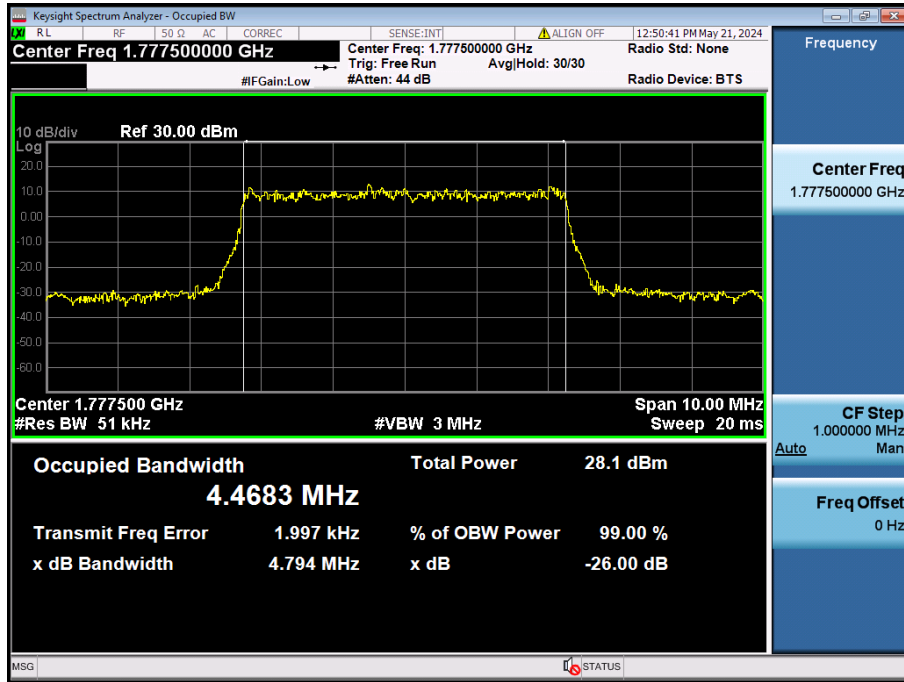
10 MHz / 256QAM / FULL RB Size



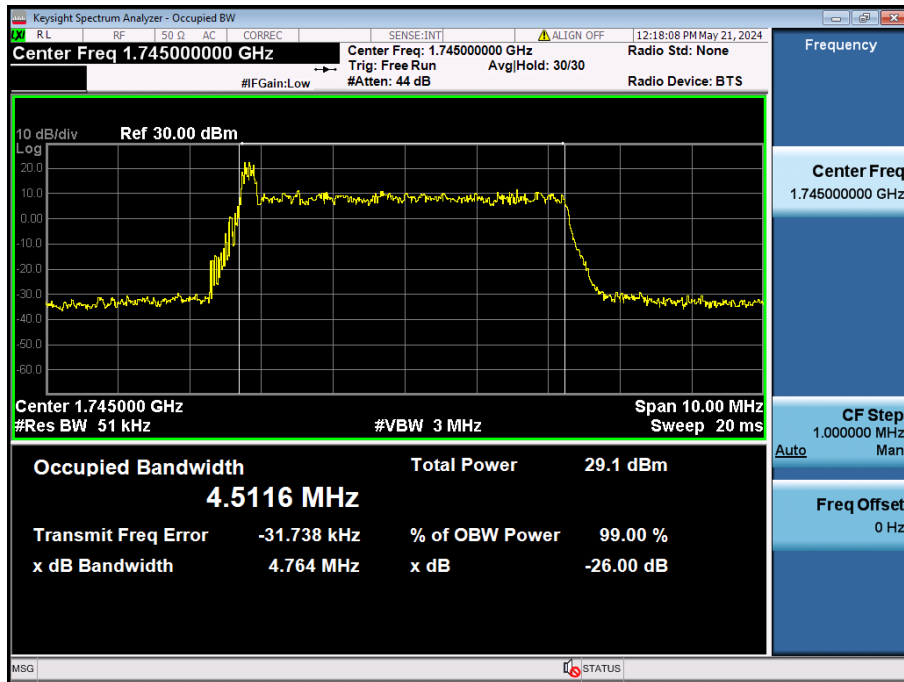
5 MHz /  $\pi/2$  BPSK / FULL RB Size



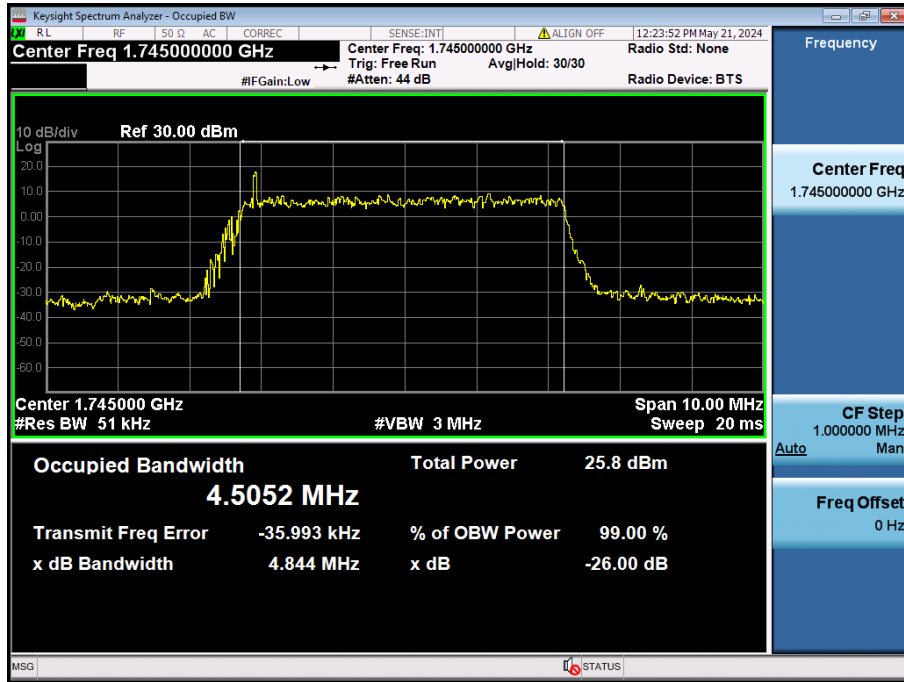
5 MHz / QPSK / FULL RB Size



5 MHz / 16QAM / FULL RB Size

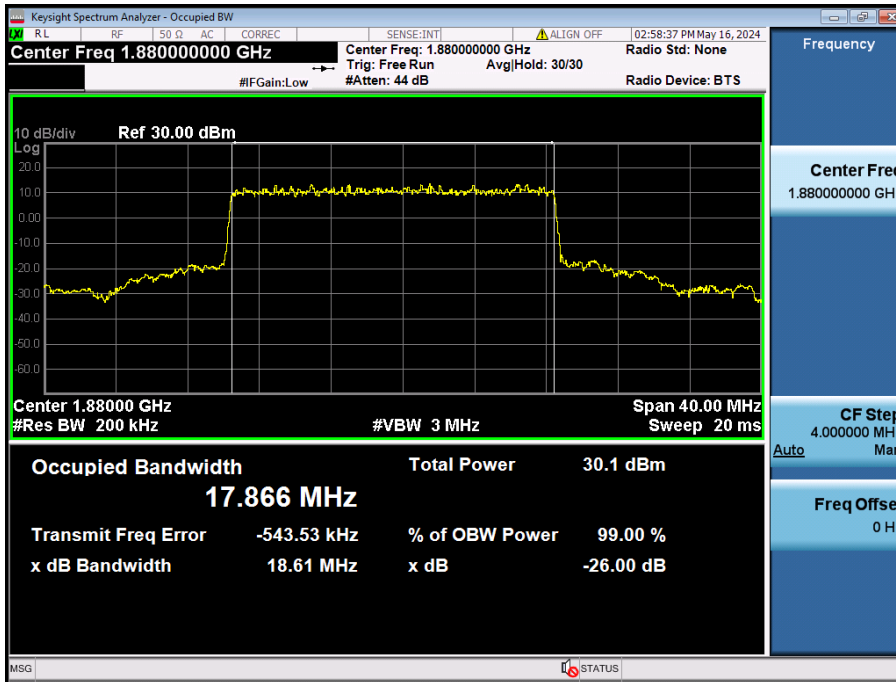


5 MHz / 64QAM / FULL RB Size

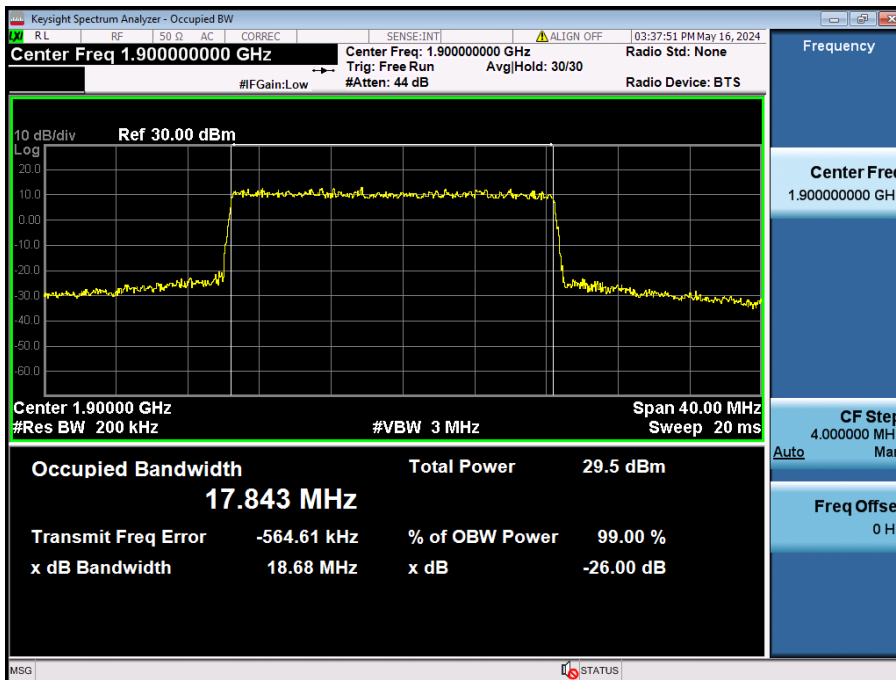


5 MHz / 256QAM / FULL RB Size

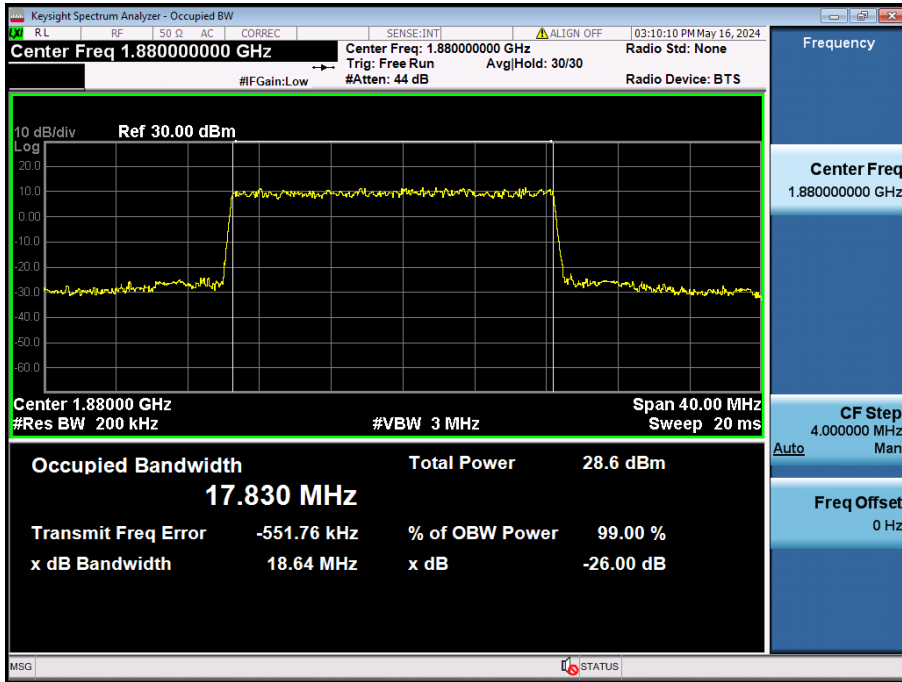
8.1.7. NR Band n2



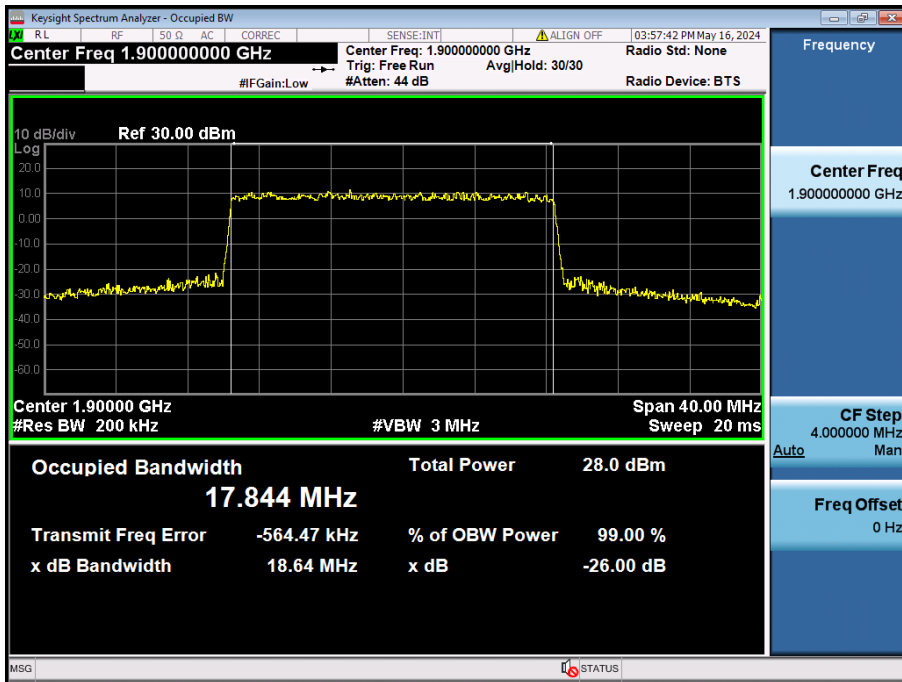
20 MHz /  $\pi/2$  BPSK / FULL RB Size



20 MHz / QPSK / FULL RB Size

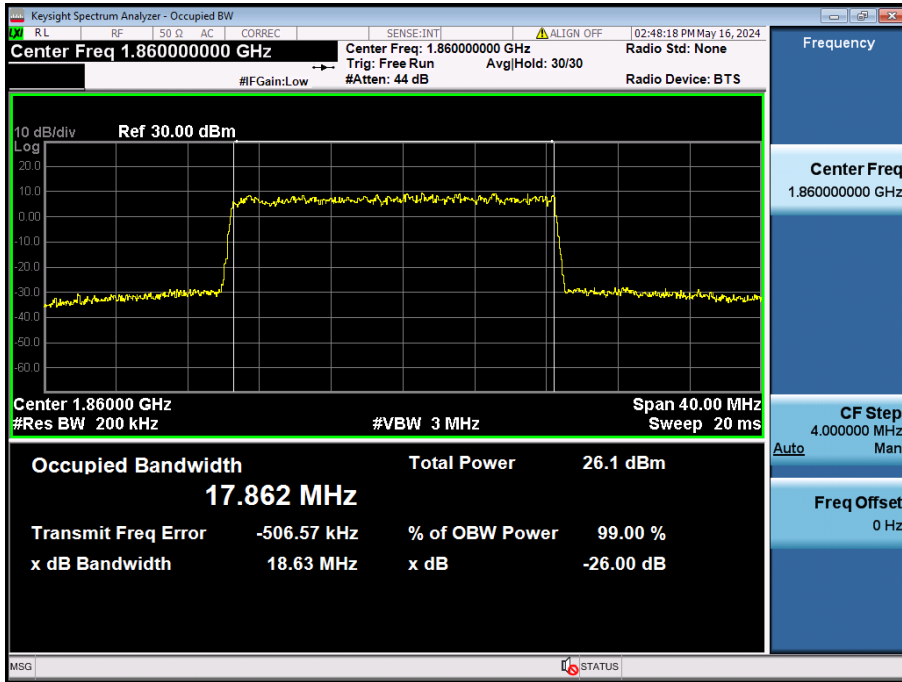


20 MHz / 16QAM / FULL RB Size

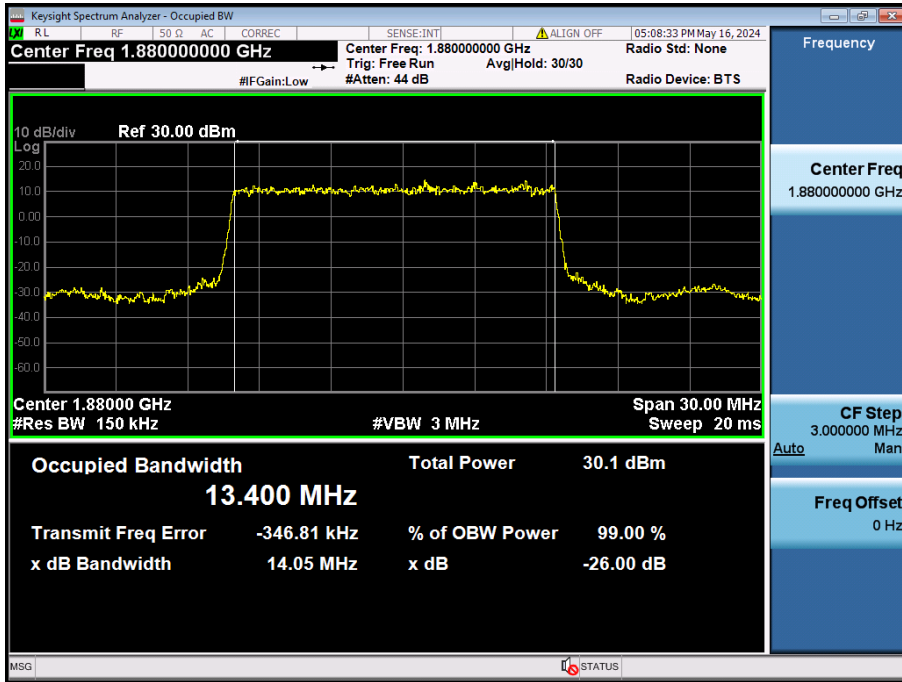


20 MHz / 64QAM / FULL RB Size

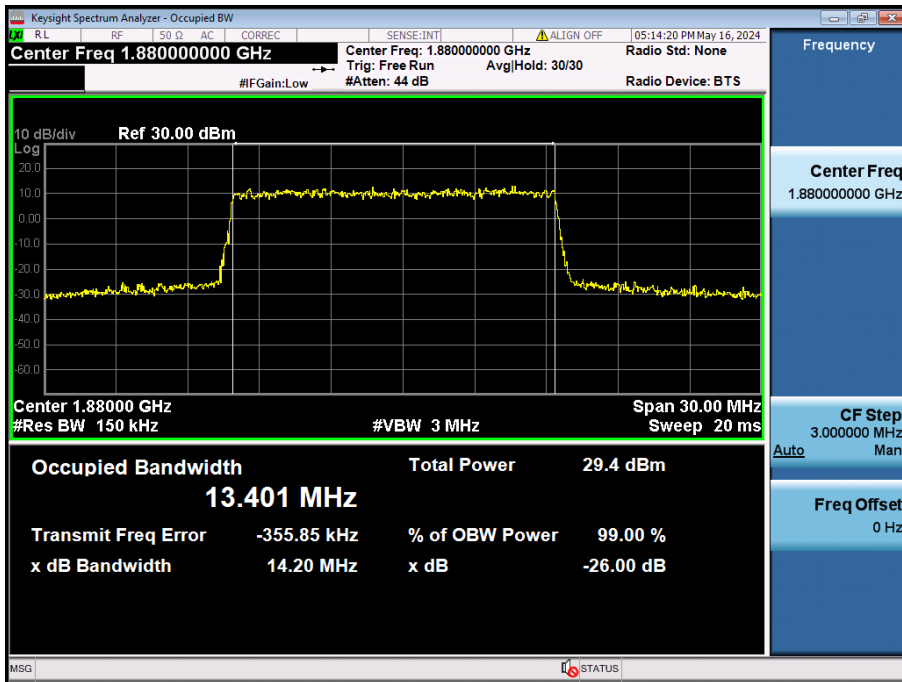




20 MHz / 256QAM / FULL RB Size



15 MHz /  $\pi/2$  BPSK / FULL RB Size



15 MHz / QPSK / FULL RB Size