

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 : DRTFCC2505-0017(1)

2. Customer

• Name (FCC) : LG Electronics Inc.

• Address (FCC) : 222 LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, South Korea, 17709

3. Use of Report : FCC Original Certification

4. Product Name / Model Name : NAD Module / TM16FNNATY0

FCC ID : 2BO3LTM16FNNATY0

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

Test Method Used : KDB971168 D01v03, ANSI C63.26-2015

6. Date of Test : 2025.04.02 ~ 2025.05.16

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	Technical Manager
	Name : JaeHun Yun 	Name : JaeJin Lee 

2025 . 05 . 16 .

Dt&C Co., Ltd.

If this report is required to confirmation of authenticity, please contact to report@dtnc.net

Test Report Version

Test Report No.	Date	Description	Revised by	Reviewed by
DRTFCC2505-0017	May. 12, 2025	Initial issue	SeokHo Han	JaeJin Lee
DRTFCC2505-0017(1)	May. 16, 2025	Update the test results in section 7.6.8	JaeHun Yun	JaeJin Lee

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1. GENERAL INFORMATION

Equipment Class	PCS Licensed Transmitter(PCB)
Product Name	NAD Module
Model Name(s)	TM16FNNATY0
PMN(Product Marketing Name)	TM16FNNATY0
FVIN(Firmware Version Identification Number)	NA
EUT Serial Number	No Specified
Power Supply	DC 3.9 V
Waveform	CP-OFDM, DFT-S-OFDM
Modulation type	$\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM
Channel Bandwidth(MHz)	NR Band n12: 15, 10, 5 NR Band n5: 20, 15, 10, 5 NR Band n66: 40, 30, 25, 20, 15, 10, 5 NR Band n2: 20, 15, 10, 5 NR Band n77: 100, 90, 80, 70, 60, 50, 40, 30, 20
Antenna Type	PIFA Antenna

Antenna Information (5G NR)

NR Band	Antenna 1 Gain(dBi)	Antenna 2 Gain(dBi)
n12	-0.2	NA
n5	1.1	NA
n66	0.6	NA
n2	1.7	NA
n77	NA	0.0

Note: The antenna gain was corrected for path loss from the conducted feed point to the antenna terminal.

NR Band	Channel Bandwidth (MHz)	Modulation	TX Frequency (MHz)	Emission Designator	Conducted Output Power		ERP	
					(dBm)	(W)	(dBm)	(W)
n12	15	$\pi/2$ BPSK	706.5 ~ 708.5	13M4G7D	23.51	0.224	21.160	0.131
n12	15	QPSK	706.5 ~ 708.5	13M4G7D	23.49	0.223	21.14	0.130
n12	15	16QAM	706.5 ~ 708.5	13M4W7D	22.49	0.177	20.14	0.103
n12	15	64QAM	706.5 ~ 708.5	13M4W7D	21.34	0.136	18.99	0.079
n12	15	256QAM	706.5 ~ 708.5	13M4W7D	19.34	0.086	16.99	0.050
n12	10	$\pi/2$ BPSK	704 ~ 711	8M95G7D	23.36	0.217	21.010	0.126
n12	10	QPSK	704 ~ 711	8M95G7D	23.72	0.236	21.37	0.137
n12	10	16QAM	704 ~ 711	8M93W7D	22.63	0.183	20.28	0.107
n12	10	64QAM	704 ~ 711	8M93W7D	21.33	0.136	18.98	0.079
n12	10	256QAM	704 ~ 711	8M93W7D	18.97	0.079	16.620	0.046
n12	5	$\pi/2$ BPSK	701.5 ~ 713.5	4M49G7D	23.66	0.232	21.31	0.135
n12	5	QPSK	701.5 ~ 713.5	4M49G7D	23.76	0.238	21.41	0.138
n12	5	16QAM	701.5 ~ 713.5	4M48W7D	23.10	0.204	20.75	0.119
n12	5	64QAM	701.5 ~ 713.5	4M48W7D	21.33	0.136	18.98	0.079
n12	5	256QAM	701.5 ~ 713.5	4M48W7D	19.80	0.095	17.45	0.056
n5	20	$\pi/2$ BPSK	834 ~ 839	17M9G7D	23.51	0.224	22.46	0.176
n5	20	QPSK	834 ~ 839	17M9G7D	23.59	0.229	22.54	0.179
n5	20	16QAM	834 ~ 839	17M9W7D	22.67	0.185	21.62	0.145
n5	20	64QAM	834 ~ 839	17M9W7D	21.01	0.126	19.96	0.099
n5	20	256QAM	834 ~ 839	17M9W7D	19.31	0.085	18.26	0.067
n5	15	$\pi/2$ BPSK	831.5 ~ 841.5	13M4G7D	23.44	0.221	22.39	0.173
n5	15	QPSK	831.5 ~ 841.5	13M4G7D	23.31	0.214	22.26	0.168
n5	15	16QAM	831.5 ~ 841.5	13M4W7D	22.83	0.192	21.78	0.151
n5	15	64QAM	831.5 ~ 841.5	13M4W7D	21.42	0.139	20.37	0.109
n5	15	256QAM	831.5 ~ 841.5	13M4W7D	19.28	0.085	18.23	0.067
n5	10	$\pi/2$ BPSK	829 ~ 844	8M93G7D	23.50	0.224	22.45	0.176
n5	10	QPSK	829 ~ 844	8M94G7D	23.67	0.233	22.62	0.183
n5	10	16QAM	829 ~ 844	8M95W7D	23.15	0.207	22.10	0.162
n5	10	64QAM	829 ~ 844	8M94W7D	21.55	0.143	20.50	0.112
n5	10	256QAM	829 ~ 844	8M95W7D	19.28	0.085	18.23	0.067
n5	5	$\pi/2$ BPSK	826.5 ~ 846.5	4M52G7D	23.45	0.221	22.40	0.174
n5	5	QPSK	826.5 ~ 846.5	4M48G7D	23.63	0.231	22.58	0.181
n5	5	16QAM	826.5 ~ 846.5	4M55W7D	22.52	0.179	21.47	0.140
n5	5	64QAM	826.5 ~ 846.5	4M50W7D	21.35	0.136	20.30	0.107
n5	5	256QAM	826.5 ~ 846.5	4M48W7D	19.55	0.090	18.50	0.071

NR Band	Channel Bandwidth (MHz)	Modulation	TX Frequency (MHz)	Emission Designator	Conducted Output Power		EIRP	
					(dBm)	(W)	(dBm)	(W)
n66	40	$\pi/2$ BPSK	1730 ~ 1760	38M5G7D	23.44	0.221	24.04	0.254
n66	40	QPSK	1730 ~ 1760	38M5G7D	23.42	0.220	24.02	0.252
n66	40	16QAM	1730 ~ 1760	38M5W7D	22.70	0.186	23.30	0.214
n66	40	64QAM	1730 ~ 1760	38M6W7D	21.17	0.131	21.77	0.150
n66	40	256QAM	1730 ~ 1760	38M5W7D	19.17	0.083	19.77	0.095
n66	30	$\pi/2$ BPSK	1725 ~ 1765	28M6G7D	23.45	0.221	24.05	0.254
n66	30	QPSK	1725 ~ 1765	28M5G7D	23.47	0.222	24.07	0.255
n66	30	16QAM	1725 ~ 1765	28M6W7D	22.55	0.180	23.15	0.207
n66	30	64QAM	1725 ~ 1765	28M6W7D	20.98	0.125	21.58	0.144
n66	30	256QAM	1725 ~ 1765	28M6W7D	19.08	0.081	19.68	0.093
n66	25	$\pi/2$ BPSK	1722.5 ~ 1767.5	22M8G7D	23.41	0.219	24.01	0.252
n66	25	QPSK	1722.5 ~ 1767.5	22M8G7D	23.38	0.218	23.98	0.250
n66	25	16QAM	1722.5 ~ 1767.5	22M9W7D	22.51	0.178	23.11	0.205
n66	25	64QAM	1722.5 ~ 1767.5	22M8W7D	20.94	0.124	21.54	0.143
n66	25	256QAM	1722.5 ~ 1767.5	22M8W7D	19.14	0.082	19.74	0.094
n66	20	$\pi/2$ BPSK	1720 ~ 1770	17M9G7D	23.42	0.220	24.02	0.252
n66	20	QPSK	1720 ~ 1770	17M9G7D	23.41	0.219	24.01	0.252
n66	20	16QAM	1720 ~ 1770	17M9W7D	22.57	0.181	23.17	0.207
n66	20	64QAM	1720 ~ 1770	17M9W7D	20.90	0.123	21.50	0.141
n66	20	256QAM	1720 ~ 1770	17M9W7D	19.07	0.081	19.67	0.093
n66	15	$\pi/2$ BPSK	1717.5 ~ 1772.5	13M4G7D	23.56	0.227	24.16	0.261
n66	15	QPSK	1717.5 ~ 1772.5	13M4G7D	23.45	0.221	24.05	0.254
n66	15	16QAM	1717.5 ~ 1772.5	13M4W7D	22.38	0.173	22.98	0.199
n66	15	64QAM	1717.5 ~ 1772.5	13M4W7D	21.31	0.135	21.91	0.155
n66	15	256QAM	1717.5 ~ 1772.5	13M4W7D	18.84	0.077	19.44	0.088
n66	10	$\pi/2$ BPSK	1715 ~ 1775	8M93G7D	23.49	0.223	24.09	0.256
n66	10	QPSK	1715 ~ 1775	8M94G7D	23.58	0.228	24.18	0.262
n66	10	16QAM	1715 ~ 1775	8M93W7D	22.53	0.179	23.13	0.206
n66	10	64QAM	1715 ~ 1775	8M94W7D	21.21	0.132	21.81	0.152
n66	10	256QAM	1715 ~ 1775	8M93W7D	19.61	0.091	20.21	0.105
n66	5	$\pi/2$ BPSK	1712.5 ~ 1777.5	4M48G7D	23.37	0.217	23.97	0.249
n66	5	QPSK	1712.5 ~ 1777.5	4M48G7D	23.46	0.222	24.06	0.255
n66	5	16QAM	1712.5 ~ 1777.5	4M48W7D	22.73	0.187	23.33	0.215
n66	5	64QAM	1712.5 ~ 1777.5	4M48W7D	21.09	0.129	21.69	0.148
n66	5	256QAM	1712.5 ~ 1777.5	4M49W7D	19.08	0.081	19.68	0.093

NR Band	Channel Bandwidth (MHz)	Modulation	TX Frequency (MHz)	Emission Designator	Conducted Output Power		EIRP	
					(dBm)	(W)	(dBm)	(W)
n2	20	$\pi/2$ BPSK	1860 ~ 1900	17M8G7D	23.81	0.240	25.51	0.356
n2	20	QPSK	1860 ~ 1900	17M9G7D	23.65	0.232	25.35	0.343
n2	20	16QAM	1860 ~ 1900	17M8W7D	22.78	0.190	24.48	0.281
n2	20	64QAM	1860 ~ 1900	17M9W7D	21.37	0.137	23.07	0.203
n2	20	256QAM	1860 ~ 1900	17M9W7D	19.20	0.083	20.90	0.123
n2	15	$\pi/2$ BPSK	1857.5 ~ 1902.5	13M4G7D	23.83	0.242	25.53	0.357
n2	15	QPSK	1857.5 ~ 1902.5	13M4G7D	23.97	0.249	25.67	0.369
n2	15	16QAM	1857.5 ~ 1902.5	13M4W7D	23.07	0.203	24.77	0.300
n2	15	64QAM	1857.5 ~ 1902.5	13M4W7D	21.51	0.142	23.21	0.209
n2	15	256QAM	1857.5 ~ 1902.5	13M4W7D	19.52	0.090	21.22	0.132
n2	10	$\pi/2$ BPSK	1855 ~ 1905	8M93G7D	23.64	0.231	25.34	0.342
n2	10	QPSK	1855 ~ 1905	8M93G7D	23.72	0.236	25.42	0.348
n2	10	16QAM	1855 ~ 1905	8M93W7D	22.96	0.198	24.66	0.292
n2	10	64QAM	1855 ~ 1905	8M93W7D	21.24	0.133	22.94	0.197
n2	10	256QAM	1855 ~ 1905	8M92W7D	19.33	0.086	21.03	0.127
n2	5	$\pi/2$ BPSK	1852.5 ~ 1907.5	4M48G7D	23.80	0.240	25.50	0.355
n2	5	QPSK	1852.5 ~ 1907.5	4M48G7D	24.04	0.254	25.74	0.375
n2	5	16QAM	1852.5 ~ 1907.5	4M48W7D	23.08	0.203	24.78	0.301
n2	5	64QAM	1852.5 ~ 1907.5	4M49W7D	21.55	0.143	23.25	0.211
n2	5	256QAM	1852.5 ~ 1907.5	4M48W7D	19.66	0.092	21.36	0.137

(3450 ~ 3550 MHz)

NR Band	Channel Bandwidth (MHz)	Modulation	TX Frequency (MHz)	Emission Designator	Conducted Output Power		EIRP	
					(dBm)	(W)	(dBm)	(W)
n77	100	$\pi/2$ BPSK	3500.01 ~ 3500.01	96M3G7D	23.07	0.203	23.07	0.203
n77	100	QPSK	3500.01 ~ 3500.01	96M3G7D	22.98	0.199	22.98	0.199
n77	100	16QAM	3500.01 ~ 3500.01	96M4W7D	22.05	0.160	22.05	0.160
n77	100	64QAM	3500.01 ~ 3500.01	96M3W7D	20.59	0.115	20.59	0.115
n77	100	256QAM	3500.01 ~ 3500.01	96M4W7D	18.55	0.072	18.55	0.072
n77	90	$\pi/2$ BPSK	3495 ~ 3504.99	85M7G7D	23.10	0.204	23.10	0.204
n77	90	QPSK	3495 ~ 3504.99	85M7G7D	23.07	0.203	23.07	0.203
n77	90	16QAM	3495 ~ 3504.99	85M7W7D	21.92	0.156	21.92	0.156
n77	90	64QAM	3495 ~ 3504.99	85M7W7D	20.46	0.111	20.46	0.111
n77	90	256QAM	3495 ~ 3504.99	85M7W7D	18.69	0.074	18.69	0.074
n77	80	$\pi/2$ BPSK	3490.02 ~ 3510	77M1G7D	23.08	0.203	23.08	0.203
n77	80	QPSK	3490.02 ~ 3510	77M1G7D	23.02	0.200	23.02	0.200
n77	80	16QAM	3490.02 ~ 3510	77M2W7D	22.25	0.168	22.25	0.168
n77	80	64QAM	3490.02 ~ 3510	77M2W7D	20.64	0.116	20.64	0.116
n77	80	256QAM	3490.02 ~ 3510	77M2W7D	18.51	0.071	18.51	0.071
n77	70	$\pi/2$ BPSK	3485.01 ~ 3515.01	64M3G7D	23.06	0.202	23.06	0.202
n77	70	QPSK	3485.01 ~ 3515.01	64M3G7D	23.10	0.204	23.10	0.204
n77	70	16QAM	3485.01 ~ 3515.01	64M3W7D	22.28	0.169	22.28	0.169
n77	70	64QAM	3485.01 ~ 3515.01	64M3W7D	20.59	0.115	20.59	0.115
n77	70	256QAM	3485.01 ~ 3515.01	64M3W7D	18.60	0.072	18.60	0.072
n77	60	$\pi/2$ BPSK	3480 ~ 3519.99	57M8G7D	23.13	0.206	23.13	0.206
n77	60	QPSK	3480 ~ 3519.99	57M8G7D	23.00	0.200	23.00	0.200
n77	60	16QAM	3480 ~ 3519.99	57M8W7D	21.90	0.155	21.90	0.155
n77	60	64QAM	3480 ~ 3519.99	57M8W7D	20.48	0.112	20.48	0.112
n77	60	256QAM	3480 ~ 3519.99	57M9W7D	18.75	0.075	18.75	0.075
n77	50	$\pi/2$ BPSK	3475.02 ~ 3525	45M7G7D	23.34	0.216	23.34	0.216
n77	50	QPSK	3475.02 ~ 3525	45M7G7D	23.25	0.211	23.25	0.211
n77	50	16QAM	3475.02 ~ 3525	45M7W7D	22.19	0.166	22.19	0.166
n77	50	64QAM	3475.02 ~ 3525	45M7W7D	20.84	0.121	20.84	0.121
n77	50	256QAM	3475.02 ~ 3525	45M7W7D	18.85	0.077	18.85	0.077
n77	40	$\pi/2$ BPSK	3470.01 ~ 3529.98	35M8G7D	23.16	0.207	23.16	0.207
n77	40	QPSK	3470.01 ~ 3529.98	35M8G7D	23.18	0.208	23.18	0.208
n77	40	16QAM	3470.01 ~ 3529.98	35M8W7D	22.12	0.163	22.12	0.163
n77	40	64QAM	3470.01 ~ 3529.98	35M7W7D	20.67	0.117	20.67	0.117
n77	40	256QAM	3470.01 ~ 3529.98	35M7W7D	18.59	0.072	18.59	0.072
n77	30	$\pi/2$ BPSK	3465 ~ 3534.99	26M8G7D	23.26	0.212	23.26	0.212
n77	30	QPSK	3465 ~ 3534.99	26M8G7D	23.17	0.207	23.17	0.207
n77	30	16QAM	3465 ~ 3534.99	26M8W7D	22.26	0.168	22.26	0.168
n77	30	64QAM	3465 ~ 3534.99	26M8W7D	20.82	0.121	20.82	0.121
n77	30	256QAM	3465 ~ 3534.99	26M8W7D	18.68	0.074	18.68	0.074
n77	20	$\pi/2$ BPSK	3460.005 ~ 3540	17M9G7D	23.01	0.200	23.01	0.200
n77	20	QPSK	3460.005 ~ 3540	17M9G7D	23.13	0.206	23.13	0.206
n77	20	16QAM	3460.005 ~ 3540	17M9W7D	21.92	0.156	21.92	0.156
n77	20	64QAM	3460.005 ~ 3540	17M9W7D	20.48	0.112	20.48	0.112
n77	20	256QAM	3460.005 ~ 3540	17M9W7D	18.78	0.076	18.78	0.076

(3700 ~ 3980 MHz)

NR Band	Channel Bandwidth (MHz)	Modulation	TX Frequency (MHz)	Emission Designator	Conducted Output Power		EIRP	
					(dBm)	(W)	(dBm)	(W)
n77	100	$\pi/2$ BPSK	3750 ~ 3930	96M4G7D	23.28	0.213	23.28	0.213
n77	100	QPSK	3750 ~ 3930	96M4G7D	23.28	0.213	23.28	0.213
n77	100	16QAM	3750 ~ 3930	96M5W7D	22.10	0.162	22.10	0.162
n77	100	64QAM	3750 ~ 3930	96M4W7D	20.72	0.118	20.72	0.118
n77	100	256QAM	3750 ~ 3930	96M4W7D	18.68	0.074	18.68	0.074
n77	90	$\pi/2$ BPSK	3745.02 ~ 3934.98	85M7G7D	23.19	0.208	23.19	0.208
n77	90	QPSK	3745.02 ~ 3934.98	85M7G7D	23.19	0.208	23.19	0.208
n77	90	16QAM	3745.02 ~ 3934.98	85M7W7D	22.09	0.162	22.09	0.162
n77	90	64QAM	3745.02 ~ 3934.98	85M7W7D	20.75	0.119	20.75	0.119
n77	90	256QAM	3745.02 ~ 3934.98	85M7W7D	18.68	0.074	18.68	0.074
n77	80	$\pi/2$ BPSK	3740.01 ~ 3939.99	77M1G7D	23.18	0.208	23.18	0.208
n77	80	QPSK	3740.01 ~ 3939.99	77M2G7D	23.06	0.202	23.06	0.202
n77	80	16QAM	3740.01 ~ 3939.99	77M2W7D	22.19	0.166	22.19	0.166
n77	80	64QAM	3740.01 ~ 3939.99	77M1W7D	20.68	0.117	20.68	0.117
n77	80	256QAM	3740.01 ~ 3939.99	77M3W7D	18.61	0.073	18.61	0.073
n77	70	$\pi/2$ BPSK	3735 ~ 3945	64M2G7D	23.25	0.211	23.25	0.211
n77	70	QPSK	3735 ~ 3945	64M3G7D	23.09	0.204	23.09	0.204
n77	70	16QAM	3735 ~ 3945	64M3W7D	22.12	0.163	22.12	0.163
n77	70	64QAM	3735 ~ 3945	64M3W7D	20.76	0.119	20.76	0.119
n77	70	256QAM	3735 ~ 3945	64M3W7D	18.59	0.072	18.59	0.072
n77	60	$\pi/2$ BPSK	3730.02 ~ 3949.98	58M0G7D	22.98	0.199	22.98	0.199
n77	60	QPSK	3730.02 ~ 3949.98	57M9G7D	23.04	0.201	23.04	0.201
n77	60	16QAM	3730.02 ~ 3949.98	57M9W7D	21.88	0.154	21.88	0.154
n77	60	64QAM	3730.02 ~ 3949.98	57M8W7D	20.50	0.112	20.50	0.112
n77	60	256QAM	3730.02 ~ 3949.98	57M9W7D	18.55	0.072	18.55	0.072
n77	50	$\pi/2$ BPSK	3725.01 ~ 3954.99	45M8G7D	23.24	0.211	23.24	0.211
n77	50	QPSK	3725.01 ~ 3954.99	45M7G7D	23.17	0.207	23.17	0.207
n77	50	16QAM	3725.01 ~ 3954.99	45M8W7D	22.15	0.164	22.15	0.164
n77	50	64QAM	3725.01 ~ 3954.99	45M8W7D	20.88	0.122	20.88	0.122
n77	50	256QAM	3725.01 ~ 3954.99	45M7W7D	18.71	0.074	18.71	0.074
n77	40	$\pi/2$ BPSK	3720 ~ 3960	35M8G7D	22.97	0.198	22.97	0.198
n77	40	QPSK	3720 ~ 3960	35M7G7D	22.95	0.197	22.95	0.197
n77	40	16QAM	3720 ~ 3960	35M7W7D	21.91	0.155	21.91	0.155
n77	40	64QAM	3720 ~ 3960	35M7W7D	20.68	0.117	20.68	0.117
n77	40	256QAM	3720 ~ 3960	35M8W7D	18.65	0.073	18.65	0.073
n77	30	$\pi/2$ BPSK	3715.02 ~ 3964.98	26M8G7D	23.01	0.200	23.01	0.200
n77	30	QPSK	3715.02 ~ 3964.98	26M9G7D	23.02	0.200	23.02	0.200
n77	30	16QAM	3715.02 ~ 3964.98	26M8W7D	22.16	0.164	22.16	0.164
n77	30	64QAM	3715.02 ~ 3964.98	26M8W7D	20.46	0.111	20.46	0.111
n77	30	256QAM	3715.02 ~ 3964.98	26M8W7D	18.66	0.073	18.66	0.073
n77	20	$\pi/2$ BPSK	3710.01 ~ 3969.99	17M9G7D	22.92	0.196	22.92	0.196
n77	20	QPSK	3710.01 ~ 3969.99	17M9G7D	22.85	0.193	22.85	0.193
n77	20	16QAM	3710.01 ~ 3969.99	17M9W7D	21.83	0.152	21.83	0.152
n77	20	64QAM	3710.01 ~ 3969.99	17M9W7D	20.46	0.111	20.46	0.111
n77	20	256QAM	3710.01 ~ 3969.99	17M9W7D	18.54	0.071	18.54	0.071

2. INTRODUCTION

2.1. EUT DESCRIPTION

This device supports the following capabilities:

LTE/LTE inter-band uplink carrier aggregation, 5G NR(FR1)/5G NR inter-band uplink carrier aggregation and ENDC
5G NR supports SCS 15 kHz for FDD Band and SCS 30 kHz for TDD Band.

2.2. TESTING ENVIRONMENT

Ambient Condition	
▪ Temperature	+20 °C ~ +23 °C
▪ Relative Humidity	40 % ~ 44 %

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
Antenna-port conducted emission	1.0 dB (The confidence level is about 95 %, $k = 2$)
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)	4.0 dB (The confidence level is about 95 %, $k = 2$)

2.5. TEST FACILITY

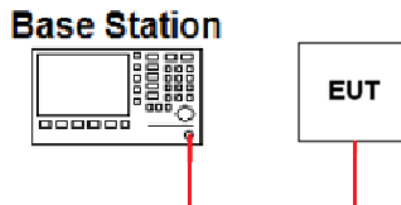
Dt&C Co., Ltd.		
The 3 m test site and conducted measurement facility used to collect the radiated data are located at the 42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042.		
The test site complies with the requirements of Part 2.948 according to ANSI C63.4-2014.		
- FCC & ISSED MRA Designation No. : KR0034		
- ISSED#: 5740A		
www.dtnet.net		
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:

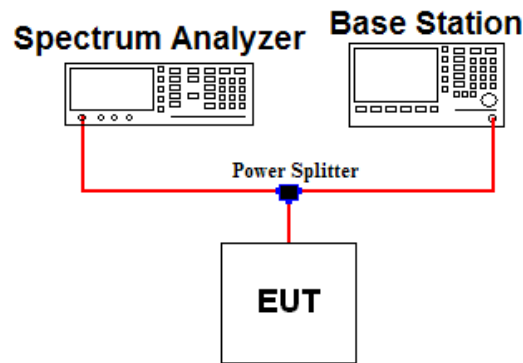
ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas} , typically dBW or dBm);

P_{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.

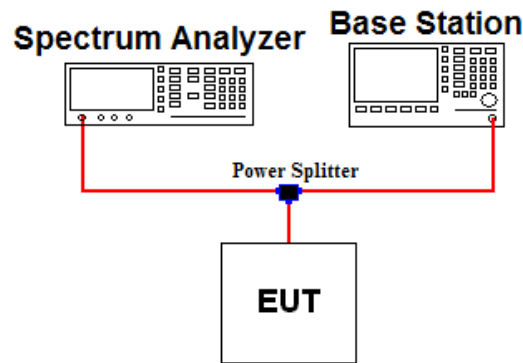
Test setting

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

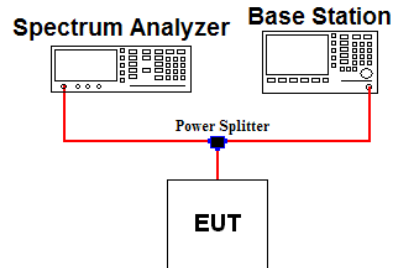
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power of a given emission.

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 % ~ 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 Band)

Stand-alone mode

NR Band	$T_{\text{on}}(\text{ms})$	$T_{\text{on+off}}(\text{ms})$	Duty cycle = $T_{\text{on}} / (T_{\text{on+off}})$	$10 \log (1/\text{duty cycle})$
n77	19.0	20.0	0.95	0.22 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.

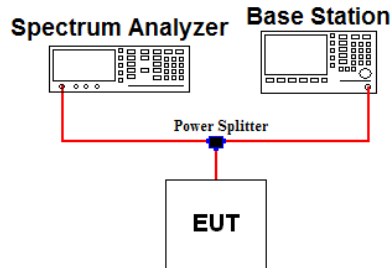
Note 4: Per Part 27.53(n) For mobile operations in the 3450–3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (n)(2) is based on the use of measurement instrumentation employing a resolution bandwidth 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 5: 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 10th 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

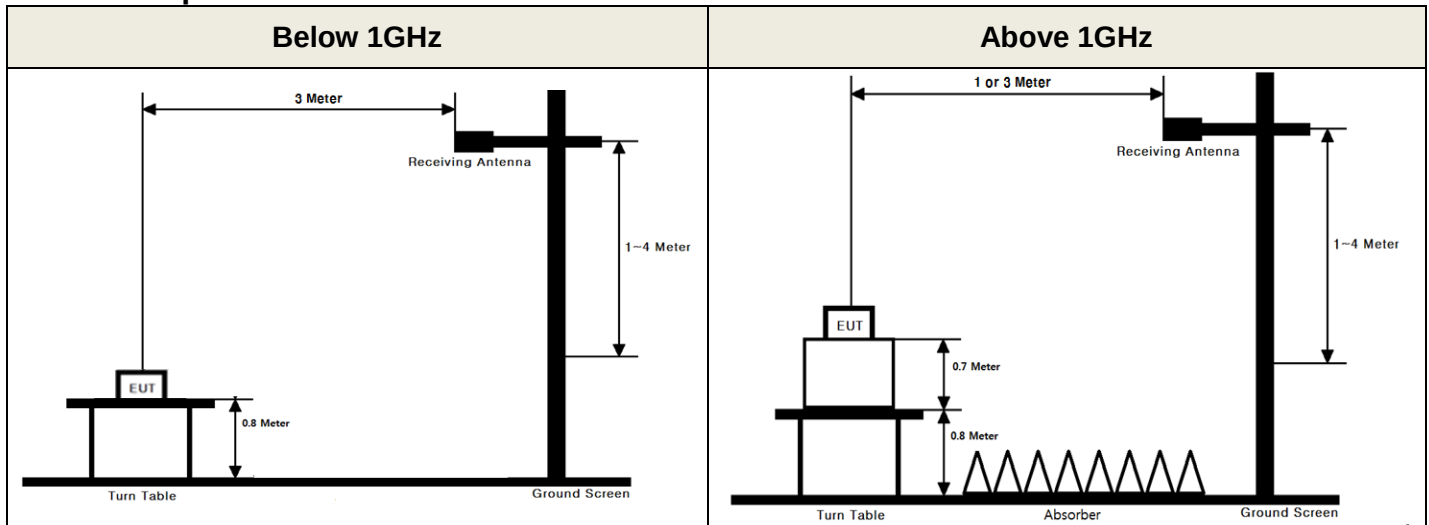
Note 1: For TDD signal, the trace mode was set to average and trigger was set to free run.

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 5.8
- ANSI C63.26-2015 – Section 5.5

Test setting

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

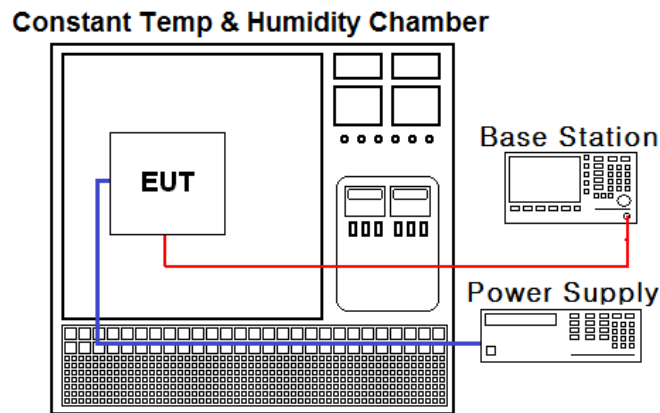
Note1: If duty cycle < 98%, add $10 \log (1/\text{duty cycle})$ to the measured power level to compute the average power during continuous transmission.

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 C63.26-2015 – Section 5.

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 $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency.

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	24/11/27	25/11/27	MY50410163
Spectrum Analyzer	KEYSIGHT	N9030B	24/11/25	25/11/25	MY55480168
Spectrum Analyzer	Agilent Technologies	N9020A	24/11/26	25/11/26	MY50410399
DC power supply	Agilent Technologies	66332A	24/06/05	25/06/05	US37474125
DC power supply	DIGITAL	DPR-303D	24/06/05	25/06/05	2090097
Multimeter	FLUKE	17B+	24/11/27	25/11/27	36390701WS
Power Splitter	Anritsu	K241B	24/06/04	25/06/04	020611
Resistive Divider	Clear Microwave	D240	24/06/10	25/06/10	2
Temp & Humi	ESPEC	LHU-124	24/06/11	25/06/11	1013001578
Radio Communication Analyzer	KEYSIGHT	E7515B	24/06/05	25/06/05	MY60192461
Radio Communication Analyzer	KEYSIGHT	E7515B	24/12/11	25/12/11	MY58300723
Power Meter & Wide Bandwidth Sensor	Anritsu	ML2496A MA2490A	24/12/12	25/12/12	1338004 1249303
Attenuator	Aeroflex/Weinschel	86-20-11	24/06/03	25/06/03	432
Thermohygrometer	BODYCOM	BJ5478	25/01/13	26/01/13	120612-1
Thermohygrometer	BODYCOM	BJ5478	24/12/05	25/12/05	120612-2
Signal Generator	Rohde Schwarz	SMBV100A	24/12/10	25/12/10	255571
Signal Generator	ANRITSU	MG3695C	24/11/29	25/11/29	173501
Loop Antenna	ETS-Lindgren	6502	24/11/08	25/11/08	00060496
Bilog Antenna	Schwarzbeck	VULB 9160	24/12/13	25/12/13	3362
Dipole Antenna	Schwarzbeck	UHA9105	24/12/13	26/12/13	2262
HORN ANT	ETS	3117	24/12/11	25/12/11	00140394
HORN ANT	A.H.Systems	SAS-574	24/06/11	25/06/11	155
PreAmplifier	H.P	8447D	24/12/11	25/12/11	2944A07774
PreAmplifier	Agilent	8449B	24/12/11	25/12/11	3008A02108
PreAmplifier	tsj	MLA-1840-J02-45	24/06/03	25/06/03	16966-10728
Low Pass Filter	Wainwright Instruments	WLK8-2000-2480-11000-60SS	24/06/04	25/06/04	1
Low Pass Filter	Wainwright Instruments	WLK10-3000-3480-18000-60SS	24/06/04	25/06/04	12
High Pass Filter	Wainwright Instruments	WHKX12-935-1000-15000-40SS	24/12/11	25/12/11	7
High Pass Filter	Wainwright Instruments	WHKX2.0/18G-12SS	24/11/26	25/11/26	62
High Pass Filter	Wainwright Instruments	WHKX10-2838-3300-18000-60SS	24/12/11	25/12/11	2
High Pass Filter	Wainwright Instruments	WHKX6-6320-8000-26500-40CC	24/12/11	25/12/11	2
Cable	HUBER+SUHNER	SUCOFLEX100	25/01/02	26/01/02	M-1
Cable	HUBER+SUHNER	SUCOFLEX100	25/01/02	26/01/02	M-2
Cable	Junkosah	MWX241/B	25/01/02	26/01/02	M-3
Cable	Junkosah	MWX221	25/01/02	26/01/02	M-4
Cable	Junkosah	MWX221	25/01/02	26/01/02	M-5
Cable	JUNFLON	J12J101757-00	25/01/02	26/01/02	M-7
Cable	HUBER+SUHNER	SUCOFLEX104	25/01/02	26/01/02	M-8
Cable	HUBER+SUHNER	SUCOFLEX106	25/01/02	26/01/02	M-9
Cable	Junkosha	MWX315	25/01/02	26/01/02	M-10
Cable	JUNKOSHA	MWX241	25/01/02	26/01/02	mmW-1
Cable	JUNKOSHA	MWX241	25/01/02	26/01/02	mmW-4
Cable	Junkosah	MWX342	25/01/02	26/01/02	RFC-03
Cable	A.H.System Inc	SAC-40G-1.5	25/01/02	26/01/02	RFC-70
3m Semi Anechoic Chamber	SYC	3m-SAC	24/06/14(NSA) 24/06/19(VSWR)	25/06/14(NSA) 25/06/19(VSWR)	3m-SAC-1

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(n) 27.53(l)	Band Edge / Conducted Spurious Emissions	> 43 + 10log ₁₀ (P) dB at Band edge and for all out-of-band emissions	C
2.1055 22.355 24.235 27.54	Frequency Stability	Refer to section 3.7 of this report.	C
27.50(c.9)	Radiated Output Power (n12)	< 30 Watts max. ERP (Mobile station)	C
22.913(a.5)	Radiated Output Power (n5)	< 7 Watts max. ERP	C
27.50(d)(4) 27.50(k)(3) 27.50(j)(3)	Radiated Output Power (n66, 77)	< 1 Watts max. EIRP	C
24.232(c)	Radiated Output Power (n2)	< 2 Watts max. EIRP	C
2.1053 22.917(a) 24.238(a) 27.53(g) 27.53(h) 27.53(n) 27.53(l)	Undesirable Emissions (n12, 5, 66, 2, 77)	> 43 + 10log ₁₀ (P) dB for all out-of-band emissions	C Note2, 3

Note 1: C=Comply NC=Not Comply NT=Not Tested NA=Not Applicable

Note 2: The DFT-s-OFDM and CP-OFDM waveforms were investigated, and worst case(DFT-s-OFDM) configuration results are reported.

Note 3: This test item was performed in three orthogonal EUT positions and the worst case data was reported.

Note 4: The radiated spurious emissions were performed on the 5G NR Inter-band UL CA, and the worst case data was reported.

6. SAMPLE CALCULATION

A. Emission Designator

NR Band n12($\pi/2$ BPSK)

Emission Designator = **17M8G7D**

OBW = 17.798 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data Transmission

NR Band n12(16QAM)

Emission Designator = **17M8W7D**

OBW = 17.839 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data Transmission

NR Band n12(256QAM)

Emission Designator = **17M8W7D**

OBW = 17.808 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data Transmission

NR Band n12(QPSK)

Emission Designator = **17M8G7D**

OBW = 17.826 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data Transmission

NR Band n12(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

- All bandwidths and modulations were investigated and the worst case plots are attached.
- Plots of the EUT's Occupied Bandwidth are shown in Clause 8.1

7.2. PEAKTOAVERAGERATIO

- All bandwidths and modulations were investigated and the worst case plots are attached.
- Plots of the EUT's Peak- to- Average Ratio are shown in Clause 8.2

7.2.1. NR Band n12

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	PAR (dB)
15	706.5	$\pi/2$ BPSK	4.43
		QPSK	5.16
		16QAM	6.06
		64QAM	6.47
		256QAM	6.72
	708.5	$\pi/2$ BPSK	4.63
		QPSK	5.11
		16QAM	6.05
		64QAM	6.46
		256QAM	6.74
10	704	$\pi/2$ BPSK	4.47
		QPSK	5.02
		16QAM	5.92
		64QAM	6.34
		256QAM	6.75
	711	$\pi/2$ BPSK	4.25
		QPSK	4.98
		16QAM	5.89
		64QAM	6.36
		256QAM	6.74
5	701.5	$\pi/2$ BPSK	4.70
		QPSK	5.29
		16QAM	6.09
		64QAM	6.56
		256QAM	6.78
	707.5	$\pi/2$ BPSK	4.68
		QPSK	5.17
		16QAM	6.01
		64QAM	6.34
		256QAM	6.49
	713.5	$\pi/2$ BPSK	4.31
		QPSK	4.97
		16QAM	5.91
		64QAM	6.43
		256QAM	6.78

7.2.2. NR Band n5

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	PAR (dB)
20	834	$\pi/2$ BPSK	4.66
		QPSK	5.16
		16QAM	6.11
		64QAM	6.46
		256QAM	6.70
	839	$\pi/2$ BPSK	4.26
		QPSK	4.94
		16QAM	5.94
		64QAM	6.30
		256QAM	6.67
15	831.5	$\pi/2$ BPSK	3.91
		QPSK	4.50
		16QAM	5.95
		64QAM	6.34
		256QAM	6.64
	841.5	$\pi/2$ BPSK	4.28
		QPSK	4.99
		16QAM	5.81
		64QAM	6.21
		256QAM	6.68
10	829	$\pi/2$ BPSK	4.22
		QPSK	4.90
		16QAM	5.87
		64QAM	6.26
		256QAM	6.64
	836.5	$\pi/2$ BPSK	4.24
		QPSK	4.79
		16QAM	5.75
		64QAM	6.16
		256QAM	6.67
	844	$\pi/2$ BPSK	3.99
		QPSK	4.62
		16QAM	5.52
		64QAM	5.99
		256QAM	6.63
5	826.5	$\pi/2$ BPSK	4.65
		QPSK	5.23
		16QAM	6.01
		64QAM	6.42
		256QAM	6.71
	836.5	$\pi/2$ BPSK	4.38
		QPSK	4.91
		16QAM	5.71
		64QAM	6.18
		256QAM	6.49
	846.5	$\pi/2$ BPSK	3.95
		QPSK	4.49
		16QAM	5.39
		64QAM	5.95
		256QAM	6.31

7.2.3. NR Band n66

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	PAR (dB)
40	1730	$\pi/2$ BPSK	3.98
		QPSK	4.50
		16QAM	5.43
		64QAM	5.92
		256QAM	6.60
	1760	$\pi/2$ BPSK	3.91
		QPSK	4.67
		16QAM	5.56
		64QAM	5.97
		256QAM	6.57
30	1725	$\pi/2$ BPSK	3.96
		QPSK	4.48
		16QAM	5.38
		64QAM	5.96
		256QAM	6.61
	1745	$\pi/2$ BPSK	3.84
		QPSK	4.52
		16QAM	5.41
		64QAM	6.01
		256QAM	6.64
	1765	$\pi/2$ BPSK	4.12
		QPSK	4.65
		16QAM	5.47
		64QAM	6.00
		256QAM	6.57
25	1722.5	$\pi/2$ BPSK	3.98
		QPSK	4.52
		16QAM	5.72
		64QAM	6.08
		256QAM	6.63
	1745	$\pi/2$ BPSK	3.95
		QPSK	4.56
		16QAM	5.74
		64QAM	6.10
		256QAM	6.59
	1767.5	$\pi/2$ BPSK	3.96
		QPSK	4.63
		16QAM	5.77
		64QAM	6.10
		256QAM	6.62

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	PAR (dB)
20	1720	$\pi/2$ BPSK	3.97
		QPSK	4.50
		16QAM	5.48
		64QAM	5.90
		256QAM	6.62
	1745	$\pi/2$ BPSK	3.90
		QPSK	4.44
		16QAM	5.39
		64QAM	5.82
		256QAM	6.60
	1770	$\pi/2$ BPSK	3.85
		QPSK	4.47
		16QAM	5.40
		64QAM	5.82
		256QAM	6.58
15	1717.5	$\pi/2$ BPSK	3.91
		QPSK	4.43
		16QAM	4.43
		64QAM	5.37
		256QAM	5.86
	1745	$\pi/2$ BPSK	3.84
		QPSK	4.43
		16QAM	5.34
		64QAM	5.87
		256QAM	6.64
	1772.5	$\pi/2$ BPSK	3.84
		QPSK	4.45
		16QAM	5.38
		64QAM	5.87
		256QAM	6.57
10	1715	$\pi/2$ BPSK	3.98
		QPSK	4.47
		16QAM	5.43
		64QAM	5.85
		256QAM	6.55
	1745	$\pi/2$ BPSK	3.84
		QPSK	4.43
		16QAM	5.43
		64QAM	5.85
		256QAM	6.55
	1777.5	$\pi/2$ BPSK	3.87
		QPSK	4.47
		16QAM	5.43
		64QAM	5.85
		256QAM	6.59

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	PAR (dB)
5	1712.5	$\pi/2$ BPSK	3.94
		QPSK	4.55
		16QAM	5.41
		64QAM	5.92
		256QAM	6.19
	1745	$\pi/2$ BPSK	3.94
		QPSK	4.57
		16QAM	5.49
		64QAM	6.02
		256QAM	6.64
	1777.5	$\pi/2$ BPSK	3.93
		QPSK	4.54
		16QAM	5.39
		64QAM	5.88
		256QAM	6.32

7.2.4. NR Band n2

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	PAR (dB)
20	1860	$\pi/2$ BPSK	4.10
		QPSK	4.48
		16QAM	5.46
		64QAM	5.87
		256QAM	6.65
	1880	$\pi/2$ BPSK	3.92
		QPSK	4.41
		16QAM	5.40
		64QAM	5.83
		256QAM	6.60
	1900	$\pi/2$ BPSK	3.84
		QPSK	4.41
		16QAM	5.39
		64QAM	5.79
		256QAM	6.54
15	1857.5	$\pi/2$ BPSK	3.97
		QPSK	4.53
		16QAM	5.42
		64QAM	5.93
		256QAM	6.62
	1880	$\pi/2$ BPSK	3.77
		QPSK	4.46
		16QAM	5.36
		64QAM	5.88
		256QAM	6.56
	1902.5	$\pi/2$ BPSK	3.93
		QPSK	4.40
		16QAM	5.32
		64QAM	5.85
		256QAM	6.57
10	1855	$\pi/2$ BPSK	3.91
		QPSK	4.51
		16QAM	5.50
		64QAM	5.92
		256QAM	6.59
	1880	$\pi/2$ BPSK	3.79
		QPSK	4.52
		16QAM	5.48
		64QAM	5.88
		256QAM	6.51
	1905	$\pi/2$ BPSK	4.07
		QPSK	4.48
		16QAM	5.46
		64QAM	5.88
		256QAM	6.59

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	PAR (dB)
5	1852.5	$\pi/2$ BPSK	3.86
		QPSK	4.56
		16QAM	5.47
		64QAM	5.96
		256QAM	6.21
	1880	$\pi/2$ BPSK	3.76
		QPSK	4.54
		16QAM	5.45
		64QAM	5.95
		256QAM	6.37
	1907.5	$\pi/2$ BPSK	3.97
		QPSK	4.55
		16QAM	5.44
		64QAM	5.95
		256QAM	6.49

7.2.5. NR Band n77 (3450 ~ 3550 MHz)

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	PAR (dB)
100	3500.01	$\pi/2$ BPSK	4.36
		QPSK	4.88
		16QAM	5.81
		64QAM	6.35
		256QAM	6.69
90	3495.00	$\pi/2$ BPSK	3.97
		QPSK	4.54
		16QAM	5.52
		64QAM	5.99
		256QAM	6.66
	3500.01	$\pi/2$ BPSK	4.06
		QPSK	4.53
		16QAM	5.51
		64QAM	5.99
		256QAM	6.66
	3504.99	$\pi/2$ BPSK	3.92
		QPSK	4.56
		16QAM	5.53
		64QAM	5.98
		256QAM	6.64
80	3490.02	$\pi/2$ BPSK	4.18
		QPSK	4.68
		16QAM	5.67
		64QAM	6.21
		256QAM	6.69
	3500.01	$\pi/2$ BPSK	4.16
		QPSK	4.68
		16QAM	5.67
		64QAM	6.19
		256QAM	6.65
	3510.00	$\pi/2$ BPSK	4.20
		QPSK	4.72
		16QAM	5.67
		64QAM	6.20
		256QAM	6.68

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	PAR (dB)
70	3485.01	$\pi/2$ BPSK	4.02
		QPSK	4.61
		16QAM	5.68
		64QAM	6.05
		256QAM	6.71
	3500.01	$\pi/2$ BPSK	4.17
		QPSK	4.69
		16QAM	5.73
		64QAM	6.08
		256QAM	6.67
	3515.01	$\pi/2$ BPSK	4.16
		QPSK	4.65
		16QAM	5.69
		64QAM	6.05
		256QAM	6.68
60	3480.00	$\pi/2$ BPSK	4.10
		QPSK	4.60
		16QAM	5.60
		64QAM	6.07
		256QAM	6.66
	3500.01	$\pi/2$ BPSK	4.17
		QPSK	4.72
		16QAM	5.66
		64QAM	6.07
		256QAM	6.64
	3519.99	$\pi/2$ BPSK	4.15
		QPSK	4.63
		16QAM	5.60
		64QAM	6.07
		256QAM	6.68
50	3475.02	$\pi/2$ BPSK	4.06
		QPSK	4.62
		16QAM	5.56
		64QAM	5.99
		256QAM	6.64
	3500.01	$\pi/2$ BPSK	3.96
		QPSK	4.55
		16QAM	5.53
		64QAM	5.97
		256QAM	6.65
	3525.00	$\pi/2$ BPSK	4.08
		QPSK	4.59
		16QAM	5.56
		64QAM	5.98
		256QAM	6.69

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	PAR (dB)
40	3470.01	$\pi/2$ BPSK	3.95
		QPSK	4.49
		16QAM	5.43
		64QAM	5.93
		256QAM	6.66
	3500.01	$\pi/2$ BPSK	3.91
		QPSK	4.44
		16QAM	5.42
		64QAM	5.91
		256QAM	6.65
	3529.98	$\pi/2$ BPSK	4.08
		QPSK	4.60
		16QAM	5.54
		64QAM	6.01
		256QAM	6.72
30	3465.00	$\pi/2$ BPSK	3.97
		QPSK	4.49
		16QAM	5.44
		64QAM	6.00
		256QAM	6.64
	3500.01	$\pi/2$ BPSK	3.90
		QPSK	4.56
		16QAM	5.41
		64QAM	6.05
		256QAM	6.66
	3534.99	$\pi/2$ BPSK	4.07
		QPSK	4.53
		16QAM	5.45
		64QAM	6.05
		256QAM	6.96
20	3460.01	$\pi/2$ BPSK	4.07
		QPSK	4.67
		16QAM	5.66
		64QAM	6.09
		256QAM	6.86
	3500.01	$\pi/2$ BPSK	4.24
		QPSK	4.75
		16QAM	5.69
		64QAM	6.08
		256QAM	6.85
	3540.00	$\pi/2$ BPSK	4.19
		QPSK	4.72
		16QAM	5.66
		64QAM	6.08
		256QAM	7.03

7.2.6. NR Band n77 (3700 ~ 3980 MHz)

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	PAR (dB)
100	3750.00	$\pi/2$ BPSK	5.68
		QPSK	4.61
		16QAM	5.88
		64QAM	6.39
		256QAM	6.78
	3840.00	$\pi/2$ BPSK	4.20
		QPSK	4.92
		16QAM	5.86
		64QAM	6.40
		256QAM	6.71
	3930.00	$\pi/2$ BPSK	4.18
		QPSK	4.87
		16QAM	5.85
		64QAM	6.34
		256QAM	6.70
90	3745.02	$\pi/2$ BPSK	3.95
		QPSK	4.64
		16QAM	5.62
		64QAM	6.04
		256QAM	6.77
	3840.00	$\pi/2$ BPSK	4.07
		QPSK	4.62
		16QAM	5.56
		64QAM	6.04
		256QAM	6.71
	3934.98	$\pi/2$ BPSK	4.04
		QPSK	4.62
		16QAM	5.59
		64QAM	6.04
		256QAM	6.70
80	3740.01	$\pi/2$ BPSK	4.16
		QPSK	4.81
		16QAM	5.73
		64QAM	6.27
		256QAM	6.79
	3840.00	$\pi/2$ BPSK	4.06
		QPSK	4.74
		16QAM	5.71
		64QAM	6.26
		256QAM	6.72
	3939.99	$\pi/2$ BPSK	4.20
		QPSK	4.77
		16QAM	5.74
		64QAM	6.24
		256QAM	6.72

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	PAR (dB)
70	3735.00	$\pi/2$ BPSK	4.10
		QPSK	4.65
		16QAM	5.73
		64QAM	6.05
		256QAM	6.70
	3840.00	$\pi/2$ BPSK	4.03
		QPSK	4.63
		16QAM	5.71
		64QAM	6.05
		256QAM	6.74
	3945.00	$\pi/2$ BPSK	4.16
		QPSK	4.66
		16QAM	5.67
		64QAM	6.07
		256QAM	6.70
60	3730.02	$\pi/2$ BPSK	4.10
		QPSK	4.68
		16QAM	5.66
		64QAM	6.11
		256QAM	6.74
	3840.00	$\pi/2$ BPSK	3.88
		QPSK	4.62
		16QAM	5.64
		64QAM	6.10
		256QAM	6.71
	3949.98	$\pi/2$ BPSK	4.08
		QPSK	4.66
		16QAM	5.64
		64QAM	6.11
		256QAM	6.74
50	3725.01	$\pi/2$ BPSK	3.97
		QPSK	4.61
		16QAM	5.60
		64QAM	6.01
		256QAM	6.75
	3840.00	$\pi/2$ BPSK	3.93
		QPSK	4.57
		16QAM	5.59
		64QAM	6.01
		256QAM	6.72
	3954.99	$\pi/2$ BPSK	3.99
		QPSK	4.58
		16QAM	5.57
		64QAM	5.99
		256QAM	6.74

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	PAR (dB)
40	3720.00	$\pi/2$ BPSK	4.09
		QPSK	4.64
		16QAM	5.60
		64QAM	6.08
		256QAM	6.80
	3840.00	$\pi/2$ BPSK	3.87
		QPSK	4.46
		16QAM	5.45
		64QAM	5.97
		256QAM	6.77
	3960.00	$\pi/2$ BPSK	4.00
		QPSK	4.53
		16QAM	5.44
		64QAM	5.95
		256QAM	6.70
30	3715.02	$\pi/2$ BPSK	4.02
		QPSK	4.51
		16QAM	5.42
		64QAM	6.02
		256QAM	6.73
	3840.00	$\pi/2$ BPSK	3.90
		QPSK	4.47
		16QAM	5.37
		64QAM	5.99
		256QAM	6.69
	3964.98	$\pi/2$ BPSK	3.95
		QPSK	4.47
		16QAM	5.40
		64QAM	5.99
		256QAM	6.68
20	3710.01	$\pi/2$ BPSK	4.03
		QPSK	4.69
		16QAM	5.68
		64QAM	6.12
		256QAM	6.93
	3840.00	$\pi/2$ BPSK	4.01
		QPSK	4.68
		16QAM	5.68
		64QAM	6.11
		256QAM	6.92
	3969.99	$\pi/2$ BPSK	4.16
		QPSK	4.74
		16QAM	5.69
		64QAM	6.09
		256QAM	6.86

7.3. BAND EDEG EMISSIONS (Conducted)

- All bandwidths, RB configurations and modulations were investigated and the worst case plots are attached.
- Plots of the EUT's Band Edge Emissions are shown in Clause 8.3

7.4. SPURIOUS AND HARMONICS EMISSIONS (Conducted)

- All bandwidths, RB configurations and modulations were investigated and the worst case plots are attached.
- 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) + EUT Antenna gain(dBi)

ERP = EIRP – 2.15(dB)

7.5.1. 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/inner left	23.36	-0.2	23.16	21.01
		QPSK	1/Inner right	23.41	-0.2	23.21	21.06
		16QAM	1/Mid	22.49	-0.2	22.29	20.14
		64QAM	1/edge right	21.02	-0.2	20.82	18.67
		256QAM	1/Inner right	19.12	-0.2	18.92	16.77
	708.5	$\pi/2$ BPSK	1/inner left	23.51	-0.2	23.31	21.16
		QPSK	1/inner left	23.49	-0.2	23.29	21.14
		16QAM	1/inner left	22.47	-0.2	22.27	20.12
		64QAM	1/inner left	21.34	-0.2	21.14	18.99
		256QAM	1/inner left	19.34	-0.2	19.14	16.99
10	704	$\pi/2$ BPSK	1/Inner right	23.35	-0.2	23.15	21.00
		QPSK	1/inner left	23.28	-0.2	23.08	20.93
		16QAM	1/inner left	22.63	-0.2	22.43	20.28
		64QAM	1/inner left	21.33	-0.2	21.13	18.98
		256QAM	1/edge left	18.76	-0.2	18.56	16.41
	711	$\pi/2$ BPSK	1/Mid	23.36	-0.2	23.16	21.01
		QPSK	1/inner left	23.72	-0.2	23.52	21.37
		16QAM	1/inner left	22.51	-0.2	22.31	20.16
		64QAM	1/edge right	21.22	-0.2	21.02	18.87
		256QAM	1/Mid	18.97	-0.2	18.77	16.62
5	701.5	$\pi/2$ BPSK	1/Inner right	23.66	-0.2	23.46	21.31
		QPSK	1/Mid	23.76	-0.2	23.56	21.41
		16QAM	1/inner left	22.72	-0.2	22.52	20.37
		64QAM	1/edge left	21.22	-0.2	21.02	18.87
		256QAM	1/inner left	19.80	-0.2	19.60	17.45
	707.5	$\pi/2$ BPSK	1/Mid	23.33	-0.2	23.13	20.98
		QPSK	1/Mid	23.70	-0.2	23.50	21.35
		16QAM	1/Inner right	22.48	-0.2	22.28	20.13
		64QAM	1/Inner right	21.31	-0.2	21.11	18.96
		256QAM	1/Mid	19.54	-0.2	19.34	17.19
	713.5	$\pi/2$ BPSK	1/Inner right	23.30	-0.2	23.10	20.95
		QPSK	1/Mid	23.61	-0.2	23.41	21.26
		16QAM	1/inner left	23.10	-0.2	22.90	20.75
		64QAM	1/edge left	21.33	-0.2	21.13	18.98
		256QAM	1/edge left	19.40	-0.2	19.20	17.05

7.5.2. 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 right	23.51	1.1	24.61	22.46
		QPSK	1/Inner right	23.46	1.1	24.56	22.41
		16QAM	1/Mid	22.50	1.1	23.60	21.45
		64QAM	1/Mid	21.01	1.1	22.11	19.96
		256QAM	1/Mid	19.09	1.1	20.19	18.04
	839	$\pi/2$ BPSK	1/Mid	23.36	1.1	24.46	22.31
		QPSK	1/inner left	23.59	1.1	24.69	22.54
		16QAM	1/inner left	22.67	1.1	23.77	21.62
		64QAM	1/Mid	20.94	1.1	22.04	19.89
		256QAM	1/edge right	19.31	1.1	20.41	18.26
15	831.5	$\pi/2$ BPSK	1/Inner right	23.44	1.1	24.54	22.39
		QPSK	1/Mid	23.31	1.1	24.41	22.26
		16QAM	1/Mid	22.83	1.1	23.93	21.78
		64QAM	1/edge left	21.10	1.1	22.20	20.05
		256QAM	1/edge right	19.05	1.1	20.15	18.00
	841.5	$\pi/2$ BPSK	1/inner left	23.39	1.1	24.49	22.34
		QPSK	1/Inner right	23.26	1.1	24.36	22.21
		16QAM	1/Mid	22.62	1.1	23.72	21.57
		64QAM	1/inner left	21.42	1.1	22.52	20.37
		256QAM	1/inner left	19.28	1.1	20.38	18.23
10	829	$\pi/2$ BPSK	1/inner left	23.38	1.1	24.48	22.33
		QPSK	1/Mid	23.67	1.1	24.77	22.62
		16QAM	1/Inner right	23.15	1.1	24.25	22.10
		64QAM	1/edge right	21.55	1.1	22.65	20.50
		256QAM	1/Mid	19.28	1.1	20.38	18.23
	836.5	$\pi/2$ BPSK	1/Inner right	23.50	1.1	24.60	22.45
		QPSK	1/inner left	23.44	1.1	24.54	22.39
		16QAM	1/Inner right	22.40	1.1	23.50	21.35
		64QAM	1/Mid	21.27	1.1	22.37	20.22
		256QAM	1/Mid	18.97	1.1	20.07	17.92
	844	$\pi/2$ BPSK	1/inner left	23.38	1.1	24.48	22.33
		QPSK	1/inner left	23.38	1.1	24.48	22.33
		16QAM	1/inner left	22.34	1.1	23.44	21.29
		64QAM	1/edge left	20.87	1.1	21.97	19.82
		256QAM	1/inner left	18.96	1.1	20.06	17.91
5	826	$\pi/2$ BPSK	1/inner left	23.45	1.1	24.55	22.40
		QPSK	1/Inner right	23.63	1.1	24.73	22.58
		16QAM	1/Mid	22.46	1.1	23.56	21.41
		64QAM	1/inner left	21.22	1.1	22.32	20.17
		256QAM	1/edge left	19.55	1.1	20.65	18.50
	836.5	$\pi/2$ BPSK	1/Mid	23.27	1.1	24.37	22.22
		QPSK	1/Inner right	23.62	1.1	24.72	22.57
		16QAM	1/Mid	22.32	1.1	23.42	21.27
		64QAM	1/Mid	20.84	1.1	21.94	19.79
		256QAM	1/Inner right	18.95	1.1	20.05	17.90
	846.5	$\pi/2$ BPSK	1/inner left	23.10	1.1	24.20	22.05
		QPSK	1/inner left	23.34	1.1	24.44	22.29
		16QAM	1/Mid	22.52	1.1	23.62	21.47
		64QAM	1/inner left	21.35	1.1	22.45	20.30
		256QAM	1/Mid	19.12	1.1	20.22	18.07

7.5.3. NR Band n66

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
40	1730	$\pi/2$ BPSK	1/Inner right	23.44	0.6	24.04
		QPSK	1/Inner right	23.42	0.6	24.02
		16QAM	1/Mid	22.57	0.6	23.17
		64QAM	1/edge right	21.17	0.6	21.77
		256QAM	1/edge right	18.98	0.6	19.58
	1760	$\pi/2$ BPSK	1/Mid	23.41	0.6	24.01
		QPSK	1/Inner right	23.41	0.6	24.01
		16QAM	1/Inner right	22.70	0.6	23.30
		64QAM	1/Inner right	20.98	0.6	21.58
		256QAM	1/Mid	19.17	0.6	19.77
30	1725	$\pi/2$ BPSK	1/Mid	23.22	0.6	23.82
		QPSK	1/Inner right	23.29	0.6	23.89
		16QAM	1/Inner right	22.30	0.6	22.90
		64QAM	1/edge right	20.85	0.6	21.45
		256QAM	1/Inner right	18.98	0.6	19.58
	1745	$\pi/2$ BPSK	1/Inner right	23.45	0.6	24.05
		QPSK	1/Inner right	23.30	0.6	23.90
		16QAM	1/Mid	22.55	0.6	23.15
		64QAM	1/edge right	20.80	0.6	21.40
		256QAM	1/Mid	18.97	0.6	19.57
	1765	$\pi/2$ BPSK	1/inner left	23.39	0.6	23.99
		QPSK	1/inner left	23.47	0.6	24.07
		16QAM	1/inner left	22.32	0.6	22.92
		64QAM	1/edge right	20.98	0.6	21.58
		256QAM	1/edge left	19.08	0.6	19.68
25	1722.5	$\pi/2$ BPSK	1/Inner right	23.19	0.6	23.79
		QPSK	1/Inner right	23.33	0.6	23.93
		16QAM	1/inner left	22.28	0.6	22.88
		64QAM	1/edge right	20.72	0.6	21.32
		256QAM	1/edge right	18.80	0.6	19.40
	1745	$\pi/2$ BPSK	1/Mid	23.41	0.6	24.01
		QPSK	1/Inner right	23.38	0.6	23.98
		16QAM	1/Inner right	22.51	0.6	23.11
		64QAM	1/inner left	20.94	0.6	21.54
		256QAM	1/Mid	18.99	0.6	19.59
	1767.5	$\pi/2$ BPSK	1/Mid	23.33	0.6	23.93
		QPSK	1/inner left	23.33	0.6	23.93
		16QAM	1/Mid	22.18	0.6	22.78
		64QAM	1/edge right	20.90	0.6	21.50
		256QAM	1/edge left	19.14	0.6	19.74

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
20	1720	$\pi/2$ BPSK	1/inner left	23.14	0.6	23.74
		QPSK	1/Inner right	23.29	0.6	23.89
		16QAM	1/Inner right	22.21	0.6	22.81
		64QAM	1/edge right	20.75	0.6	21.35
		256QAM	1/Inner right	18.88	0.6	19.48
	1745	$\pi/2$ BPSK	1/Inner right	23.42	0.6	24.02
		QPSK	1/Inner right	23.32	0.6	23.92
		16QAM	1/Mid	22.57	0.6	23.17
		64QAM	1/inner left	20.84	0.6	21.44
		256QAM	1/Mid	18.91	0.6	19.51
	1770	$\pi/2$ BPSK	1/inner left	23.34	0.6	23.94
		QPSK	1/inner left	23.41	0.6	24.01
		16QAM	1/inner left	22.25	0.6	22.85
		64QAM	1/edge right	20.90	0.6	21.50
		256QAM	1/edge left	19.07	0.6	19.67
15	1717.5	$\pi/2$ BPSK	1/inner left	23.41	0.6	24.01
		QPSK	1/Mid	23.45	0.6	24.05
		16QAM	1/Inner right	22.22	0.6	22.82
		64QAM	1/Inner right	21.31	0.6	21.91
		256QAM	1/inner left	18.84	0.6	19.44
	1745	$\pi/2$ BPSK	1/Inner right	23.56	0.6	24.16
		QPSK	1/Inner right	23.30	0.6	23.90
		16QAM	1/inner left	22.38	0.6	22.98
		64QAM	1/Inner right	20.87	0.6	21.47
		256QAM	1/edge left	18.77	0.6	19.37
	1772.5	$\pi/2$ BPSK	1/inner left	23.28	0.6	23.88
		QPSK	1/inner left	23.42	0.6	24.02
		16QAM	1/inner left	22.35	0.6	22.95
		64QAM	1/edge left	20.94	0.6	21.54
		256QAM	1/edge left	18.82	0.6	19.42
10	1715	$\pi/2$ BPSK	1/Mid	23.49	0.6	24.09
		QPSK	1/inner left	23.40	0.6	24.00
		16QAM	1/Inner right	22.53	0.6	23.13
		64QAM	1/edge left	20.92	0.6	21.52
		256QAM	1/Inner right	19.36	0.6	19.96
	1745	$\pi/2$ BPSK	1/Mid	23.44	0.6	24.04
		QPSK	1/Inner right	23.58	0.6	24.18
		16QAM	1/Inner right	22.12	0.6	22.72
		64QAM	1/Mid	21.21	0.6	21.81
		256QAM	1/Inner right	19.01	0.6	19.61
	1775	$\pi/2$ BPSK	1/inner left	23.34	0.6	23.94
		QPSK	1/Mid	23.27	0.6	23.87
		16QAM	1/Mid	22.29	0.6	22.89
		64QAM	1/Inner right	21.03	0.6	21.63
		256QAM	1/inner left	19.61	0.6	20.21

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
5	1712.5	$\pi/2$ BPSK	1/Inner right	23.37	0.6	23.97
		QPSK	1/inner left	23.45	0.6	24.05
		16QAM	1/inner left	22.73	0.6	23.33
		64QAM	1/Mid	21.09	0.6	21.69
		256QAM	1/Inner right	19.08	0.6	19.68
	1745	$\pi/2$ BPSK	1/Inner right	23.31	0.6	23.91
		QPSK	1/Inner right	23.46	0.6	24.06
		16QAM	1/Inner right	22.44	0.6	23.04
		64QAM	1/inner left	21.04	0.6	21.64
		256QAM	1/edge right	19.03	0.6	19.63
	1777.5	$\pi/2$ BPSK	1/Mid	23.28	0.6	23.88
		QPSK	1/Inner right	23.46	0.6	24.06
		16QAM	1/inner left	22.62	0.6	23.22
		64QAM	1/Mid	21.05	0.6	21.65
		256QAM	1/edge right	19.04	0.6	19.64

7.5.4. NR Band n2

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
20	1860	$\pi/2$ BPSK	1/Inner right	23.81	1.7	25.51
		QPSK	1/Inner right	23.65	1.7	25.35
		16QAM	1/inner left	22.78	1.7	24.48
		64QAM	1/edge left	21.28	1.7	22.98
		256QAM	1/edge right	19.18	1.7	20.88
	1880	$\pi/2$ BPSK	1/Mid	23.63	1.7	25.33
		QPSK	1/inner left	23.47	1.7	25.17
		16QAM	1/Mid	22.66	1.7	24.36
		64QAM	1/Inner right	21.09	1.7	22.79
		256QAM	1/Mid	19.20	1.7	20.90
	1900	$\pi/2$ BPSK	1/inner left	23.43	1.7	25.13
		QPSK	1/Inner right	23.38	1.7	25.08
		16QAM	1/Mid	22.53	1.7	24.23
		64QAM	1/edge right	21.37	1.7	23.07
		256QAM	1/edge left	18.96	1.7	20.66
15	1 857.5	$\pi/2$ BPSK	1/Inner right	23.47	1.7	25.17
		QPSK	1/Inner right	23.58	1.7	25.28
		16QAM	1/inner left	22.51	1.7	24.21
		64QAM	1/edge left	21.07	1.7	22.77
		256QAM	1/Inner right	19.36	1.7	21.06
	1880	$\pi/2$ BPSK	1/inner left	23.83	1.7	25.53
		QPSK	1/inner left	23.97	1.7	25.67
		16QAM	1/Mid	23.07	1.7	24.77
		64QAM	1/inner left	21.51	1.7	23.21
		256QAM	1/edge left	19.52	1.7	21.22
	1902.5	$\pi/2$ BPSK	1/Inner right	23.65	1.7	25.35
		QPSK	1/Inner right	23.28	1.7	24.98
		16QAM	1/inner left	22.91	1.7	24.61
		64QAM	1/inner left	21.13	1.7	22.83
		256QAM	1/Inner right	19.25	1.7	20.95
10	1855	$\pi/2$ BPSK	1/Mid	23.46	1.7	25.16
		QPSK	1/inner left	23.56	1.7	25.26
		16QAM	1/Inner right	22.96	1.7	24.66
		64QAM	1/edge right	21.24	1.7	22.94
		256QAM	1/edge right	19.22	1.7	20.92
	1880	$\pi/2$ BPSK	1/Mid	23.64	1.7	25.34
		QPSK	1/Mid	23.72	1.7	25.42
		16QAM	1/inner left	22.85	1.7	24.55
		64QAM	1/inner left	21.07	1.7	22.77
		256QAM	1/edge right	19.33	1.7	21.03
	1905	$\pi/2$ BPSK	1/inner left	23.24	1.7	24.94
		QPSK	1/inner left	23.29	1.7	24.99
		16QAM	1/inner left	22.56	1.7	24.26
		64QAM	1/edge left	21.17	1.7	22.87
		256QAM	1/edge right	18.89	1.7	20.59

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
5	1852.5	$\pi/2$ BPSK	1/inner left	23.59	1.7	25.29
		QPSK	1/inner left	23.81	1.7	25.51
		16QAM	1/Mid	22.74	1.7	24.44
		64QAM	1/edge left	21.46	1.7	23.16
		256QAM	1/inner left	19.17	1.7	20.87
	1880	$\pi/2$ BPSK	1/inner left	23.80	1.7	25.50
		QPSK	1/Inner right	24.04	1.7	25.74
		16QAM	1/Inner right	23.08	1.7	24.78
		64QAM	1/inner left	21.55	1.7	23.25
		256QAM	1/edge left	19.66	1.7	21.36
	1907.5	$\pi/2$ BPSK	1/inner left	23.26	1.7	24.96
		QPSK	1/inner left	23.59	1.7	25.29
		16QAM	1/inner left	22.61	1.7	24.31
		64QAM	1/Inner right	21.25	1.7	22.95
		256QAM	1/inner left	19.01	1.7	20.71

7.5.5 NR Band n77 (3450 ~ 3550 MHz)

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
100	3500.01	$\pi/2$ BPSK	1/Mid	23.07	0	23.07
		QPSK	1/Mid	22.98	0	22.98
		16QAM	1/Mid	22.05	0	22.05
		64QAM	1/Mid	20.59	0	20.59
		256QAM	1/Mid	18.55	0	18.55
90	3495.00	$\pi/2$ BPSK	1/Mid	22.93	0	22.93
		QPSK	1/Mid	22.82	0	22.82
		16QAM	1/Mid	21.92	0	21.92
		64QAM	1/Mid	20.46	0	20.46
		256QAM	1/Inner right	18.47	0	18.47
	3500.01	$\pi/2$ BPSK	1/Mid	23.00	0	23.00
		QPSK	1/Mid	22.92	0	22.92
		16QAM	1/Mid	21.86	0	21.86
		64QAM	1/Mid	20.40	0	20.40
		256QAM	1/inner left	18.34	0	18.34
	3504.99	$\pi/2$ BPSK	1/Mid	23.10	0	23.10
		QPSK	1/Mid	23.07	0	23.07
		16QAM	1/Mid	21.90	0	21.90
		64QAM	1/Mid	20.32	0	20.32
		256QAM	1/Mid	18.69	0	18.69
80	3490.02	$\pi/2$ BPSK	1/Inner right	23.08	0	23.08
		QPSK	1/Inner right	23.02	0	23.02
		16QAM	1/Inner right	22.03	0	22.03
		64QAM	1/Inner right	20.64	0	20.64
		256QAM	1/Inner right	18.51	0	18.51
	3500.01	$\pi/2$ BPSK	1/Mid	23.03	0	23.03
		QPSK	1/Inner right	23.01	0	23.01
		16QAM	1/Mid	22.25	0	22.25
		64QAM	1/Mid	20.52	0	20.52
		256QAM	1/Mid	18.50	0	18.50
	3510.00	$\pi/2$ BPSK	1/Mid	22.99	0	22.99
		QPSK	1/Mid	22.98	0	22.98
		16QAM	1/inner left	21.91	0	21.91
		64QAM	1/Mid	20.45	0	20.45
		256QAM	1/Inner right	18.39	0	18.39
70	3485.01	$\pi/2$ BPSK	1/Inner right	23.05	0	23.05
		QPSK	1/Inner right	22.99	0	22.99
		16QAM	1/Inner right	22.07	0	22.07
		64QAM	1/Inner right	20.59	0	20.59
		256QAM	1/Inner right	18.56	0	18.56
	3500.01	$\pi/2$ BPSK	1/Mid	23.06	0	23.06
		QPSK	1/Inner right	23.10	0	23.10
		16QAM	1/Mid	22.28	0	22.28
		64QAM	1/Mid	20.47	0	20.47
		256QAM	1/Mid	18.60	0	18.60
	3515.01	$\pi/2$ BPSK	1/Mid	23.01	0	23.01
		QPSK	1/Mid	22.96	0	22.96
		16QAM	1/inner left	21.87	0	21.87
		64QAM	1/Mid	20.44	0	20.44
		256QAM	1/Mid	18.43	0	18.43

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
60	3480.00	$\pi/2$ BPSK	1/Inner right	22.90	0	22.90
		QPSK	1/Inner right	22.91	0	22.91
		16QAM	1/Inner right	21.71	0	21.71
		64QAM	1/edge right	20.47	0	20.47
		256QAM	1/edge right	18.50	0	18.50
	3500.01	$\pi/2$ BPSK	1/Mid	22.97	0	22.97
		QPSK	1/Inner right	22.91	0	22.91
		16QAM	1/Inner right	21.87	0	21.87
		64QAM	1/Inner right	20.48	0	20.48
		256QAM	1/Mid	18.42	0	18.42
	3519.99	$\pi/2$ BPSK	1/inner left	23.13	0	23.13
		QPSK	1/inner left	23.00	0	23.00
		16QAM	1/inner left	21.90	0	21.90
		64QAM	1/edge right	20.46	0	20.46
		256QAM	1/inner left	18.75	0	18.75
50	3475.02	$\pi/2$ BPSK	1/Inner right	23.27	0	23.27
		QPSK	1/Inner right	23.16	0	23.16
		16QAM	1/Inner right	22.05	0	22.05
		64QAM	1/Inner right	20.74	0	20.74
		256QAM	1/Inner right	18.67	0	18.67
	3500.01	$\pi/2$ BPSK	1/Inner right	23.34	0	23.34
		QPSK	1/Inner right	23.25	0	23.25
		16QAM	1/Mid	22.19	0	22.19
		64QAM	1/Inner right	20.84	0	20.84
		256QAM	1/edge right	18.85	0	18.85
	3525.00	$\pi/2$ BPSK	1/inner left	23.18	0	23.18
		QPSK	1/inner left	23.17	0	23.17
		16QAM	1/inner left	22.07	0	22.07
		64QAM	1/edge left	20.61	0	20.61
		256QAM	1/inner left	18.77	0	18.77
40	3470.01	$\pi/2$ BPSK	1/Inner right	23.02	0	23.02
		QPSK	1/Inner right	22.99	0	22.99
		16QAM	1/Inner right	21.83	0	21.83
		64QAM	1/Inner right	20.50	0	20.50
		256QAM	1/Inner right	18.59	0	18.59
	3500.01	$\pi/2$ BPSK	1/Inner right	23.04	0	23.04
		QPSK	1/Inner right	23.18	0	23.18
		16QAM	1/Inner right	22.12	0	22.12
		64QAM	1/Inner right	20.57	0	20.57
		256QAM	1/edge left	18.58	0	18.58
	3529.98	$\pi/2$ BPSK	1/inner left	23.16	0	23.16
		QPSK	1/inner left	23.17	0	23.17
		16QAM	1/Mid	21.89	0	21.89
		64QAM	1/Mid	20.67	0	20.67
		256QAM	1/edge left	18.46	0	18.46

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
30	3465.00	$\pi/2$ BPSK	1/Inner right	22.99	0	22.99
		QPSK	1/Inner right	22.99	0	22.99
		16QAM	1/Inner right	22.01	0	22.01
		64QAM	1/Inner right	20.40	0	20.40
		256QAM	1/edge right	18.68	0	18.68
	3500.01	$\pi/2$ BPSK	1/Mid	23.26	0	23.26
		QPSK	1/Inner right	23.17	0	23.17
		16QAM	1/Mid	22.26	0	22.26
		64QAM	1/inner left	20.82	0	20.82
		256QAM	1/Inner right	18.63	0	18.63
	3534.99	$\pi/2$ BPSK	1/inner left	22.99	0	22.99
		QPSK	1/inner left	23.12	0	23.12
		16QAM	1/inner left	22.25	0	22.25
		64QAM	1/inner left	20.52	0	20.52
		256QAM	1/Mid	18.58	0	18.58
20	3460.01	$\pi/2$ BPSK	1/Inner right	22.88	0	22.88
		QPSK	1/Inner right	22.92	0	22.92
		16QAM	1/Mid	21.71	0	21.71
		64QAM	1/Inner right	20.18	0	20.18
		256QAM	1/Mid	18.39	0	18.39
	3500.01	$\pi/2$ BPSK	1/Inner right	23.01	0	23.01
		QPSK	1/Mid	22.80	0	22.80
		16QAM	1/Inner right	21.92	0	21.92
		64QAM	1/edge left	20.48	0	20.48
		256QAM	1/edge left	18.78	0	18.78
	3540.00	$\pi/2$ BPSK	1/inner left	22.87	0	22.87
		QPSK	1/inner left	23.13	0	23.13
		16QAM	1/Inner right	21.83	0	21.83
		64QAM	1/inner left	20.35	0	20.35
		256QAM	1/Mid	18.35	0	18.35

7.5.6 NR Band n77 (3700 ~ 3980 MHz)

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
100	3750.00	$\pi/2$ BPSK	1/Inner right	23.21	0	23.21
		QPSK	1/Inner right	23.04	0	23.04
		16QAM	1/Inner right	22.10	0	22.10
		64QAM	1/Inner right	20.55	0	20.55
		256QAM	1/Inner right	18.46	0	18.46
	3840.00	$\pi/2$ BPSK	1/Inner right	23.13	0	23.13
		QPSK	1/Inner right	23.28	0	23.28
		16QAM	1/Mid	21.94	0	21.94
		64QAM	1/Inner right	20.72	0	20.72
		256QAM	1/Inner right	18.64	0	18.64
	3930.00	$\pi/2$ BPSK	1/inner left	23.28	0	23.28
		QPSK	1/inner left	23.18	0	23.18
		16QAM	1/inner left	21.96	0	21.96
		64QAM	1/edge right	20.66	0	20.66
		256QAM	1/Inner right	18.68	0	18.68
90	3745.02	$\pi/2$ BPSK	1/Inner right	23.19	0	23.19
		QPSK	1/Inner right	23.19	0	23.19
		16QAM	1/Mid	22.01	0	22.01
		64QAM	1/Inner right	20.75	0	20.75
		256QAM	1/Mid	18.66	0	18.66
	3840.00	$\pi/2$ BPSK	1/Inner right	23.08	0	23.08
		QPSK	1/Mid	23.04	0	23.04
		16QAM	1/Inner right	22.09	0	22.09
		64QAM	1/Inner right	20.63	0	20.63
		256QAM	1/Inner right	18.49	0	18.49
	3934.98	$\pi/2$ BPSK	1/inner left	23.12	0	23.12
		QPSK	1/Inner right	23.04	0	23.04
		16QAM	1/Inner right	22.03	0	22.03
		64QAM	1/Inner right	20.56	0	20.56
		256QAM	1/Inner right	18.68	0	18.68
80	3740.01	$\pi/2$ BPSK	1/Inner right	22.96	0	22.96
		QPSK	1/Inner right	23.00	0	23.00
		16QAM	1/Mid	21.90	0	21.90
		64QAM	1/Mid	20.46	0	20.46
		256QAM	1/Inner right	18.37	0	18.37
	3840.00	$\pi/2$ BPSK	1/Inner right	23.18	0	23.18
		QPSK	1/Inner right	23.06	0	23.06
		16QAM	1/Inner right	22.14	0	22.14
		64QAM	1/Inner right	20.55	0	20.55
		256QAM	1/Mid	18.52	0	18.52
	3939.99	$\pi/2$ BPSK	1/inner left	23.12	0	23.12
		QPSK	1/inner left	23.03	0	23.03
		16QAM	1/inner left	22.19	0	22.19
		64QAM	1/Inner right	20.68	0	20.68
		256QAM	1/Inner right	18.61	0	18.61

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
70	3735.00	$\pi/2$ BPSK	1/Inner right	22.96	0	22.96
		QPSK	1/Inner right	22.94	0	22.94
		16QAM	1/Mid	21.80	0	21.80
		64QAM	1/Mid	20.43	0	20.43
		256QAM	1/edge right	18.31	0	18.31
	3840.00	$\pi/2$ BPSK	1/Inner right	23.25	0	23.25
		QPSK	1/Inner right	23.09	0	23.09
		16QAM	1/Inner right	22.12	0	22.12
		64QAM	1/Inner right	20.55	0	20.55
		256QAM	1/edge right	18.54	0	18.54
	3945.00	$\pi/2$ BPSK	1/inner left	23.03	0	23.03
		QPSK	1/inner left	23.04	0	23.04
		16QAM	1/inner left	22.09	0	22.09
		64QAM	1/Inner right	20.76	0	20.76
		256QAM	1/Inner right	18.59	0	18.59
60	3730.02	$\pi/2$ BPSK	1/Mid	22.92	0	22.92
		QPSK	1/Inner right	22.88	0	22.88
		16QAM	1/Inner right	21.88	0	21.88
		64QAM	1/edge right	20.42	0	20.42
		256QAM	1/edge right	18.55	0	18.55
	3840.00	$\pi/2$ BPSK	1/Inner right	22.98	0	22.98
		QPSK	1/Inner right	23.04	0	23.04
		16QAM	1/Inner right	21.82	0	21.82
		64QAM	1/Mid	20.50	0	20.50
		256QAM	1/Inner right	18.35	0	18.35
	3949.98	$\pi/2$ BPSK	1/inner left	22.87	0	22.87
		QPSK	1/inner left	22.81	0	22.81
		16QAM	1/inner left	21.83	0	21.83
		64QAM	1/edge right	20.48	0	20.48
		256QAM	1/Inner right	18.49	0	18.49
50	3725.01	$\pi/2$ BPSK	1/Inner right	23.01	0	23.01
		QPSK	1/Inner right	22.99	0	22.99
		16QAM	1/Inner right	22.15	0	22.15
		64QAM	1/edge right	20.88	0	20.88
		256QAM	1/Mid	18.35	0	18.35
	3840.00	$\pi/2$ BPSK	1/Inner right	23.24	0	23.24
		QPSK	1/Mid	23.17	0	23.17
		16QAM	1/Inner right	22.07	0	22.07
		64QAM	1/edge right	20.67	0	20.67
		256QAM	1/edge right	18.71	0	18.71
	3954.99	$\pi/2$ BPSK	1/Mid	23.06	0	23.06
		QPSK	1/Mid	23.09	0	23.09
		16QAM	1/Mid	21.98	0	21.98
		64QAM	1/Mid	20.62	0	20.62
		256QAM	1/inner left	18.67	0	18.67

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Conducted Output Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)
40	3720.00	$\pi/2$ BPSK	1/Inner right	22.97	0	22.97
		QPSK	1/Inner right	22.94	0	22.94
		16QAM	1/Inner right	21.86	0	21.86
		64QAM	1/Inner right	20.68	0	20.68
		256QAM	1/edge right	18.41	0	18.41
	3840.00	$\pi/2$ BPSK	1/Mid	22.96	0	22.96
		QPSK	1/Inner right	22.95	0	22.95
		16QAM	1/Inner right	21.91	0	21.91
		64QAM	1/edge right	20.55	0	20.55
		256QAM	1/edge right	18.65	0	18.65
	3960.00	$\pi/2$ BPSK	1/Inner right	22.90	0	22.90
		QPSK	1/inner left	22.82	0	22.82
		16QAM	1/Inner right	21.73	0	21.73
		64QAM	1/edge right	20.34	0	20.34
		256QAM	1/edge left	18.32	0	18.32
30	3715.02	$\pi/2$ BPSK	1/Mid	22.71	0	22.71
		QPSK	1/Inner right	22.90	0	22.90
		16QAM	1/Mid	21.78	0	21.78
		64QAM	1/inner left	20.27	0	20.27
		256QAM	1/edge right	18.66	0	18.66
	3840.00	$\pi/2$ BPSK	1/Mid	23.01	0	23.01
		QPSK	1/Inner right	23.02	0	23.02
		16QAM	1/Mid	22.16	0	22.16
		64QAM	1/edge right	20.46	0	20.46
		256QAM	1/inner left	18.46	0	18.46
	3964.98	$\pi/2$ BPSK	1/Inner right	22.82	0	22.82
		QPSK	1/Inner right	22.75	0	22.75
		16QAM	1/inner left	21.92	0	21.92
		64QAM	1/inner left	20.19	0	20.19
		256QAM	1/edge right	18.60	0	18.60
20	3710.01	$\pi/2$ BPSK	1/Inner right	22.74	0	22.74
		QPSK	1/Inner right	22.65	0	22.65
		16QAM	1/Mid	21.77	0	21.77
		64QAM	1/Inner right	20.38	0	20.38
		256QAM	1/Inner right	18.42	0	18.42
	3840.00	$\pi/2$ BPSK	1/inner left	22.89	0	22.89
		QPSK	1/inner left	22.85	0	22.85
		16QAM	1/Mid	21.83	0	21.83
		64QAM	1/edge left	20.46	0	20.46
		256QAM	1/Mid	18.54	0	18.54
	3969.99	$\pi/2$ BPSK	1/inner left	22.92	0	22.92
		QPSK	1/inner left	22.82	0	22.82
		16QAM	1/Mid	21.77	0	21.77
		64QAM	1/edge right	20.40	0	20.40
		256QAM	1/edge right	18.32	0	18.32

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 n2/5/12/66/77 = -13dBm

7.6.1. 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	1/39	1412.99	H	-67.36	2.76	-64.60	-13.00	51.60
				2119.70	H	-67.45	3.04	-64.41	-13.00	51.41
				2826.25	H	-67.64	4.76	-62.88	-13.00	49.88
				3534.19	H	-67.53	6.20	-61.33	-13.00	48.33
	708.5	QPSK	1/39	1416.94	H	-67.65	2.81	-64.84	-13.00	51.84
				2124.71	H	-67.56	3.07	-64.49	-13.00	51.49
				2833.44	H	-67.89	4.79	-63.10	-13.00	50.10
				3541.17	H	-67.49	6.21	-61.28	-13.00	48.28

7.6.2. 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	1/52	1667.85	H	-60.20	3.57	-56.63	-13.00	43.63
				2501.60	H	-66.96	3.74	-63.22	-13.00	50.22
				3336.50	H	-67.74	5.66	-62.08	-13.00	49.08
				4169.24	H	-68.71	7.02	-61.69	-13.00	48.69
	839	QPSK	1/52	1677.75	H	-59.35	3.60	-55.75	-13.00	42.75
				2516.70	H	-67.14	3.75	-63.39	-13.00	50.39
				3355.44	H	-68.20	5.74	-62.46	-13.00	49.46
				4194.94	H	-68.84	7.01	-61.83	-13.00	48.83

7.6.3. 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)
40	1730	QPSK	1/108	3458.92	H	-67.70	8.24	-59.46	-13.00	46.46
				5191.25	H	-68.00	10.09	-57.91	-13.00	44.91
				6920.50	H	-66.80	11.19	-55.61	-13.00	42.61
				8649.47	H	-67.46	13.17	-54.29	-13.00	41.29
	1760	QPSK	1/108	3520.66	H	-67.17	8.33	-58.84	-13.00	45.84
				5280.32	H	-68.13	10.17	-57.96	-13.00	44.96
				7039.92	H	-67.81	11.28	-56.53	-13.00	43.53
				8798.41	H	-67.14	13.12	-54.02	-13.00	41.02

7.6.4. 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	1860	QPSK	1/52	3720.88	H	-68.69	8.29	-60.40	-13.00	47.40
				5579.34	H	-67.02	10.63	-56.39	-13.00	43.39
				7439.16	H	-67.25	12.06	-55.19	-13.00	42.19
				9298.97	H	-66.06	13.29	-52.77	-13.00	39.77
	1880	QPSK	1/52	3759.98	H	-68.72	8.28	-60.44	-13.00	47.44
				5640.73	H	-67.14	10.72	-56.42	-13.00	43.42
				7519.40	H	-68.08	12.10	-55.98	-13.00	42.98
				9399.26	H	-65.98	13.21	-52.77	-13.00	39.77
	1900	QPSK	1/52	3800.32	H	-68.70	8.33	-60.37	-13.00	47.37
				5699.27	H	-66.50	10.73	-55.77	-13.00	42.77
				7600.56	H	-67.75	12.11	-55.64	-13.00	42.64
				9501.05	H	-65.79	13.15	-52.64	-13.00	39.64

7.6.5. NR Band n77 (3450 ~ 3550 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	3500.01	QPSK	1/136	6999.91	H	-62.62	11.24	-51.38	-13.00	38.38
				10499.30	H	-62.02	13.08	-48.94	-13.00	35.94
				14000.24	H	-61.26	14.33	-46.93	-13.00	33.93
				17499.39	H	-67.20	13.64	-53.56	-13.00	40.56
90	3495	QPSK	1/122	6990.01	V	-62.77	11.23	-51.54	-13.00	38.54
				10485.26	V	-61.99	13.09	-48.90	-13.00	35.90
				13980.56	V	-61.49	14.35	-47.14	-13.00	34.14
				17474.47	V	-67.23	13.67	-53.56	-13.00	40.56
	3500.01	QPSK	1/122	7000.00	V	-62.60	11.24	-51.36	-13.00	38.36
				10499.75	V	-61.90	13.08	-48.82	-13.00	35.82
				13999.60	V	-61.37	14.33	-47.04	-13.00	34.04
				17500.32	V	-67.10	13.64	-53.46	-13.00	40.46
	3514.99	QPSK	1/122	7009.94	V	-63.02	11.25	-51.77	-13.00	38.77
				10514.72	V	-62.07	13.09	-48.98	-13.00	35.98
				14019.07	V	-61.57	14.33	-47.24	-13.00	34.24
				17524.23	V	-66.86	13.63	-53.23	-13.00	40.23

7.6.6. NR Band n77 (3700 ~ 3980 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	3750	QPSK	1/136	7499.90	H	-67.63	12.10	-55.53	-13.00	42.53
				11249.82	H	-64.27	13.25	-51.02	-13.00	38.02
				15000.56	H	-70.00	13.80	-56.20	-13.00	43.20
	3840	QPSK	1/136	7679.80	H	-68.10	12.05	-56.05	-13.00	43.05
				11519.94	H	-64.16	13.22	-50.94	-13.00	37.94
				15360.15	H	-68.58	13.82	-54.76	-13.00	41.76
	3930	QPSK	1/136	7860.19	H	-66.40	12.23	-54.17	-13.00	41.17
				11790.38	H	-63.28	12.94	-50.34	-13.00	37.34
				15719.64	H	-67.78	13.55	-54.23	-13.00	41.23

7.6.7. Inter-band ULCA

- Test Notes

- 1) The frequency spectrum is examined from 9 kHz to the 10th harmonic of the fundamental frequency of the transmitter. No other spurious and harmonic emissions were reported greater than listed emissions.
- 2) For emissions related to Band below 1GHz:
Result(dBm) = Level at Substitute antenna terminal(dBm) + Substitute Antenna Gain (dBd)
For emissions related to Band above 1GHz:
Result(dBm) = Level at Substitute antenna terminal(dBm) + Substitute Antenna Gain (dBi)

Inter-band ULCA(n5A_n77A)

Band	Channel Bandwidth (MHz)	Frequency (MHz)	RB Size/ Offset	Modulation
5	20	834	1/52	QPSK
77	100	3930	1/136	QPSK

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)
1667.70	H	-58.01	3.57	-	-54.44	-13.00	41.44
2501.67	H	-66.70	3.74	-	-62.96	-13.00	49.96
3335.94	H	-67.73	5.65	-	-62.08	-13.00	49.08
4169.26	H	-68.61	7.02	-	-61.59	-13.00	48.59
7859.24	H	-67.16	-	12.23	-54.93	-13.00	41.93
11790.23	H	-63.46	-	12.94	-50.52	-13.00	37.52
15719.55	H	-68.26	-	13.55	-54.71	-13.00	41.71

Inter-band ULCA(n2A_n77A)

Band	Channel Bandwidth (MHz)	Frequency (MHz)	RB Size/ Offset	Modulation
2	20	1860	1/52	QPSK
77	100	3930	1/136	QPSK

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)
3719.91	H	-68.82	-	8.29	-60.53	-13.00	47.53
5579.32	H	-67.03	-	10.63	-56.40	-13.00	43.40
7439.52	H	-67.71	-	12.06	-55.65	-13.00	42.65
7859.02	H	-67.44	-	12.23	-55.21	-13.00	42.21
9299.96	H	-66.22	-	13.29	-52.93	-13.00	39.93
11789.80	H	-63.31	-	12.94	-50.37	-13.00	37.37
15719.55	H	-68.03	-	13.55	-54.48	-13.00	41.48

Inter-band ULCA(n66A_n77A)

Band	Channel Bandwidth (MHz)	Frequency (MHz)	RB Size/Offset	Modulation
66	40	1760	1/108	QPSK
77	100	3930	1/136	QPSK

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)
3519.43	H	-67.66	-	8.33	-59.33	-13.00	46.33
5281.33	H	-67.98	-	10.17	-57.81	-13.00	44.81
7040.84	H	-67.56	-	11.28	-56.28	-13.00	43.28
7860.02	H	-67.61	-	12.23	-55.38	-13.00	42.38
8799.28	H	-67.39	-	13.12	-54.27	-13.00	41.27
11790.87	H	-63.53	-	12.94	-50.59	-13.00	37.59
15719.84	H	-68.20	-	13.55	-54.65	-13.00	41.65

Inter-band ULCA(n2A_n5A)

Band	Channel Bandwidth (MHz)	Frequency (MHz)	RB Size/Offset	Modulation
5	20	834	1/52	QPSK
2	20	1860	1/52	QPSK

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)
1668.40	H	-69.81	3.58	-	-66.23	-13.00	53.23
2502.34	H	-66.41	3.74	-	-62.67	-13.00	49.67
3336.20	H	-67.24	5.65	-	-61.59	-13.00	48.59
3720.34	H	-68.87	-	8.29	-60.58	-13.00	47.58
4170.17	H	-68.65	7.02	-	-61.63	-13.00	48.63
5579.36	H	-67.51	-	10.63	-56.88	-13.00	43.88
7440.29	H	-67.84	-	12.06	-55.78	-13.00	42.78
9299.49	H	-65.97	-	13.29	-52.68	-13.00	39.68

Inter-band ULCA(n5A_n66A)

Band	Channel Bandwidth (MHz)	Frequency (MHz)	RB Size/Offset	Modulation
5	20	834	1/52	QPSK
66	40	1760	1/108	QPSK

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)
1667.75	H	-61.56	3.57	-	-57.99	-13.00	44.99
2502.53	H	-66.64	3.74	-	-62.90	-13.00	49.90
3336.96	H	-67.53	5.66	-	-61.87	-13.00	48.87
3520.73	H	-67.40	-	8.33	-59.07	-13.00	46.07
4169.25	H	-68.51	7.02	-	-61.49	-13.00	48.49
5279.71	H	-68.25	-	10.17	-58.08	-13.00	45.08
7039.84	H	-67.40	-	11.28	-56.12	-13.00	43.12
8800.04	H	-67.16	-	13.12	-54.04	-13.00	41.04

7.6.8. ENDC Mode

- Test Notes

- 1) The frequency spectrum is examined from 9 kHz to the 10th harmonic of the fundamental frequency of the transmitter. No other spurious and harmonic emissions were reported greater than listed emissions.
- 2) ENDC mode operation were investigated and the worst case data are reported.
- 3) If the spurious emission caused by the simultaneous operation of LTE and 5GNR, the limit was applied to highest limit by either rule part.
- 4) For emissions related to Band below 1GHz:
 $\text{Result(dBm)} = \text{Level at Substitute antenna terminal(dBm)} + \text{Substitute Antenna Gain (dBd)}$
For emissions related to Band above 1GHz:
 $\text{Result(dBm)} = \text{Level at Substitute antenna terminal(dBm)} + \text{Substitute Antenna Gain (dBi)}$

ENDC (12A_n77A)

Band	Channel Bandwidth (MHz)	Frequency (MHz)	RB Size/Offset	Modulation
B12	10	711	1/25	QPSK
n77	100	3930	1/136	QPSK

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)
1586.06	V	-66.52	2.87	-	-63.65	-13.00	50.65
2379.46	V	-66.58	3.14	-	-63.44	-13.00	50.44
3171.87	V	-67.13	4.83	-	-62.30	-13.00	49.30
3964.90	V	-67.76	6.22	-	-61.54	-13.00	48.54
7860.13	H	-59.90	-	12.23	-47.67	-13.00	34.67
11789.58	H	-56.15	-	12.94	-43.21	-13.00	30.21
15719.89	H	-60.82	-	13.55	-47.27	-13.00	34.27

ENDC (14A_n77A)

Band	Channel Bandwidth (MHz)	Frequency (MHz)	RB Size/Offset	Modulation
B14	10	793	1/25	QPSK
n77	100	3930	1/136	QPSK

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)
1586.06	V	-68.53	-	3.61	-64.92	-13.00	51.92
2379.46	V	-65.78	-	3.96	-61.82	-13.00	48.82
3171.87	V	-66.69	-	5.12	-61.57	-13.00	48.57
3964.90	V	-65.84	-	6.77	-59.07	-13.00	46.07
7860.13	H	-59.58	12.23	-	-47.35	-13.00	34.35
11789.58	H	-56.32	12.94	-	-43.38	-13.00	30.38
15719.89	H	-60.92	13.55	-	-47.37	-13.00	34.37

ENDC (5A_n77A)

Band	Channel Bandwidth (MHz)	Frequency (MHz)	RB Size/Offset	Modulation
B5	10	836.5	1/25	QPSK
n77	100	3930	1/136	QPSK

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)
1673.12	H	-68.60	3.59	-	-65.01	-13.00	52.01
2509.57	H	-66.61	3.75	-	-62.86	-13.00	49.86
3346.45	H	-67.61	5.70	-	-61.91	-13.00	48.91
4182.15	H	-68.80	7.01	-	-61.79	-13.00	48.79
7859.84	H	-59.75	-	12.23	-47.52	-13.00	34.52
11789.62	H	-55.88	-	12.94	-42.94	-13.00	29.94
15720.12	H	-60.82	-	13.55	-47.27	-13.00	34.27

ENDC (66A_n77A)

Band	Channel Bandwidth (MHz)	Frequency (MHz)	RB Size/Offset	Modulation
B66	20	1745	1/50	QPSK
n77	100	3930	1/136	QPSK

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)
2185.81	H	-67.14	-	5.65	-61.49	-13.00	48.49
3490.57	H	-67.46	-	8.29	-59.17	-13.00	46.17
5233.94	H	-68.11	-	10.14	-57.97	-13.00	44.97
6980.21	H	-67.00	-	11.22	-55.78	-13.00	42.78
8725.56	H	-67.14	-	13.16	-53.98	-13.00	40.98
7859.94	H	-60.08	-	12.23	-47.85	-13.00	34.85
11789.30	H	-56.26	-	12.94	-43.32	-13.00	30.32
15720.44	H	-61.02	-	13.55	-47.47	-13.00	34.47

ENDC (2A_n77A)

Band	Channel Bandwidth (MHz)	Frequency (MHz)	RB Size/Offset	Modulation
B2	20	1880	1/50	QPSK
n77	100	3930	1/136	QPSK

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)
2050.37	H	-67.57	-	4.57	-63.00	-13.00	50.00
3760.06	H	-68.75	-	8.28	-60.47	-13.00	47.47
5639.82	H	-67.07	-	10.72	-56.35	-13.00	43.35
7520.31	H	-67.75	-	12.10	-55.65	-13.00	42.65
9400.38	H	-65.99	-	13.21	-52.78	-13.00	39.78
7859.94	H	-60.01	-	12.23	-47.78	-13.00	34.78
11790.14	H	-56.30	-	12.94	-43.36	-13.00	30.36
15719.63	H	-60.93	-	13.55	-47.38	-13.00	34.38

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 n12

OPERATING FREQUENCY : 704 MHz
REFERENCE VOLTAGE : 3.90 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%	3.90	+20(Ref)	703,999,999	-0.000000142	-0.0014
100%		-30	703,999,998	-0.000000284	-0.0028
100%		-20	703,999,996	-0.000000568	-0.0057
100%		-10	703,999,997	-0.000000426	-0.0043
100%		0	703,999,998	-0.000000284	-0.0028
100%		+10	703,999,998	-0.000000284	-0.0028
100%		+20	703,999,999	-0.000000142	-0.0014
100%		+30	704,000,002	0.000000284	0.0028
100%		+40	704,000,003	0.000000426	0.0043
100%		+50	704,000,001	0.000000142	0.0014
115%	4.49	+20	704,000,002	0.000000284	0.0028
85%	3.32	+20	703,999,998	-0.000000284	-0.0028

7.7.2. NR Band n5

OPERATING FREQUENCY : 836.5 MHz
REFERENCE VOLTAGE : 3.90 V DC
LIMIT(FCC) : 2.5 ppm

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100%	3.90	+20(Ref)	836,499,998	-0.000000239	-0.0024
100%		-30	836,499,999	-0.000000120	-0.0012
100%		-20	836,500,002	0.000000239	0.0024
100%		-10	836,500,001	0.000000120	0.0012
100%		0	836,500,002	0.000000239	0.0024
100%		+10	836,500,003	0.000000359	0.0036
100%		+20	836,499,998	-0.000000239	-0.0024
100%		+30	836,499,999	-0.000000120	-0.0012
100%		+40	836,499,997	-0.000000359	-0.0036
100%		+50	836,499,998	-0.000000239	-0.0024
115%	4.49	+20	836,500,002	0.000000239	0.0024
85%	3.32	+20	836,500,003	0.000000359	0.0036

7.7.3. NR Band n66

OPERATING FREQUENCY : 1745 MHz
 REFERENCE VOLTAGE : 3.90 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%	3.90	+20(Ref)	1,745,000,001	0.000000057	0.0006
100%		-30	1,745,000,002	0.000000115	0.0011
100%		-20	1,745,000,001	0.000000057	0.0006
100%		-10	1,745,000,003	0.000000172	0.0017
100%		0	1,745,000,004	0.000000229	0.0023
100%		+10	1,745,000,001	0.000000057	0.0006
100%		+20	1,745,000,001	0.000000057	0.0006
100%		+30	1,744,999,999	-0.000000057	-0.0006
100%		+40	1,744,999,998	-0.000000115	-0.0011
100%		+50	1,745,000,001	0.000000057	0.0006
115%	4.49	+20	1,745,000,002	0.000000115	0.0011
85%	3.32	+20	1,745,000,002	0.000000115	0.0011

7.7.4. NR Band n2

OPERATING FREQUENCY : 1880 MHz
 REFERENCE VOLTAGE : 3.90 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%	3.90	+20(Ref)	1,880,000,003	0.000000160	0.0016
100%		-30	1,880,000,002	0.000000106	0.0011
100%		-20	1,880,000,003	0.000000160	0.0016
100%		-10	1,880,000,005	0.000000266	0.0027
100%		0	1,880,000,004	0.000000213	0.0021
100%		+10	1,880,000,003	0.000000160	0.0016
100%		+20	1,880,000,003	0.000000160	0.0016
100%		+30	1,880,000,002	0.000000106	0.0011
100%		+40	1,880,000,004	0.000000213	0.0021
100%		+50	1,880,000,002	0.000000106	0.0011
115%	4.49	+20	1,880,000,001	0.000000053	0.0005
85%	3.32	+20	1,880,000,001	0.000000053	0.0005

7.7.5. NR Band n77 (3450 ~ 3550 MHz)

OPERATING FREQUENCY : 3500.01 MHz
REFERENCE VOLTAGE : 3.90 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%	3.90	+20(Ref)	3,500,010,009	0.000000257	0.0026
100%		-30	3,500,010,001	0.000000029	0.0003
100%		-20	3,500,010,004	0.000000114	0.0011
100%		-10	3,500,010,005	0.000000143	0.0014
100%		0	3,500,010,007	0.000000200	0.0020
100%		+10	3,500,010,001	0.000000029	0.0003
100%		+20	3,500,010,009	0.000000257	0.0026
100%		+30	3,500,010,002	0.000000057	0.0006
100%		+40	3,500,010,001	0.000000029	0.0003
100%		+50	3,500,010,003	0.000000086	0.0009
115%	4.49	+20	3,500,010,002	0.000000057	0.0006
85%	3.32	+20	3,500,010,006	0.000000171	0.0017

7.7.6. NR Band n77 (3700 ~ 3980 MHz)

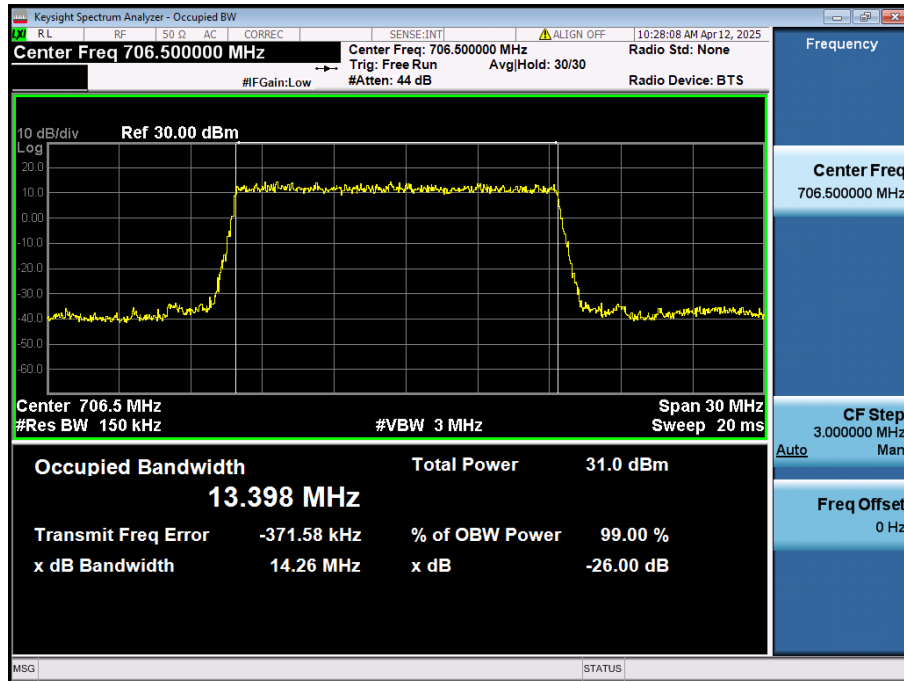
OPERATING FREQUENCY : 3840 MHz
REFERENCE VOLTAGE : 3.90 V DC
LIMIT(FCC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100%	3.90	+20(Ref)	3,840,000,010	0.000000260	0.0026
100%		-30	3,840,000,004	0.000000104	0.0010
100%		-20	3,840,000,001	0.000000026	0.0003
100%		-10	3,840,000,006	0.000000156	0.0016
100%		0	3,840,000,011	0.000000286	0.0029
100%		+10	3,840,000,003	0.000000078	0.0008
100%		+20	3,840,000,010	0.000000260	0.0026
100%		+30	3,840,000,002	0.000000052	0.0005
100%		+40	3,840,000,001	0.000000026	0.0003
100%		+50	3,840,000,005	0.000000130	0.0013
115%	4.49	+20	3,840,000,003	0.000000078	0.0008
85%	3.32	+20	3,840,000,001	0.000000026	0.0003

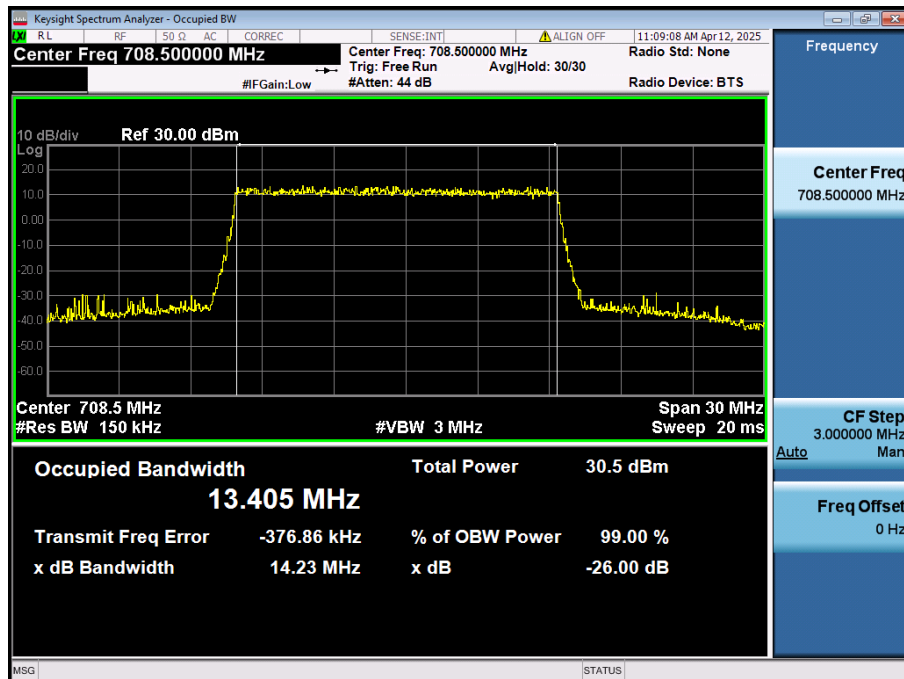
8. TEST PLOTS

8.1. OCCUPIED BANDWIDTH

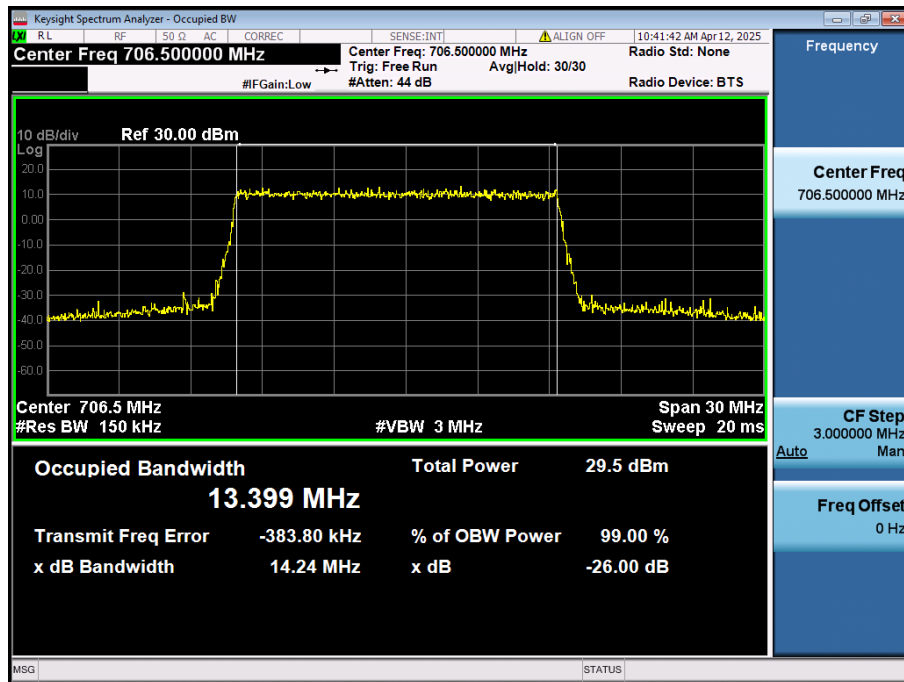
8.1.1. NR Band n12



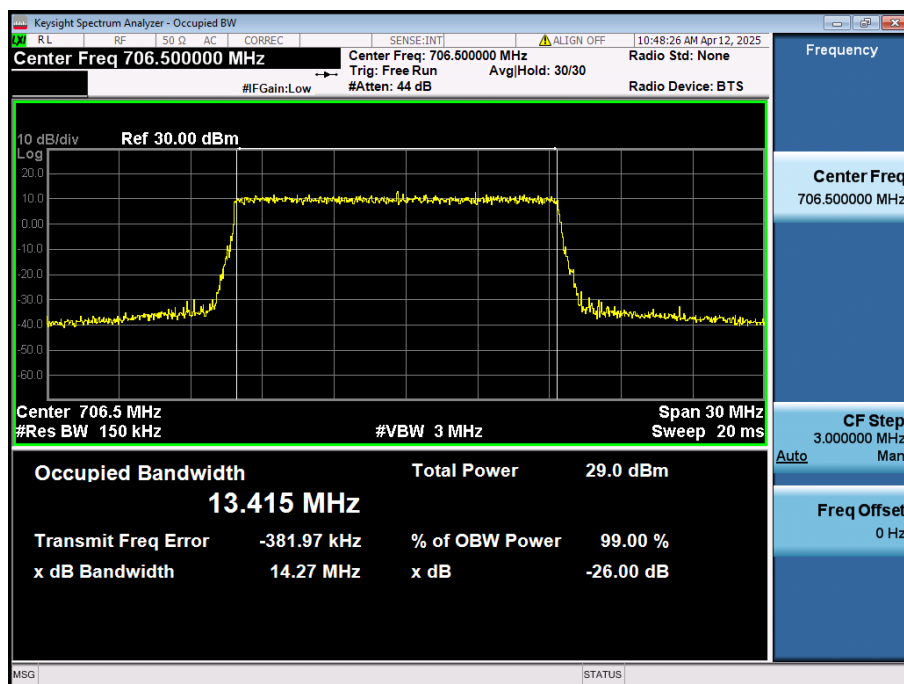
15 MHz / $\pi/2$ BPSK / FULL RB Size



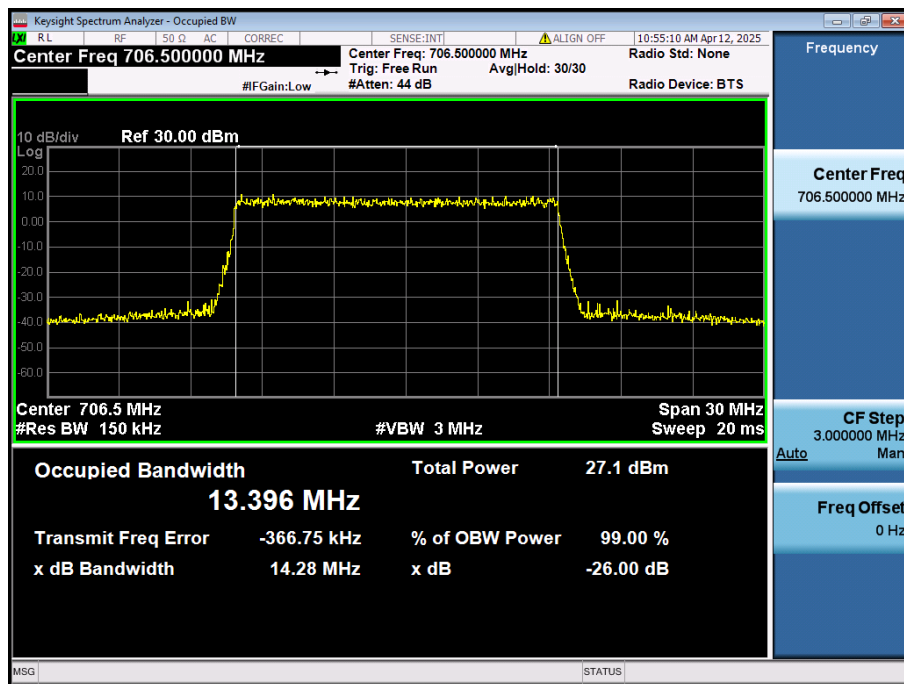
15 MHz / QPSK / FULL RB Size



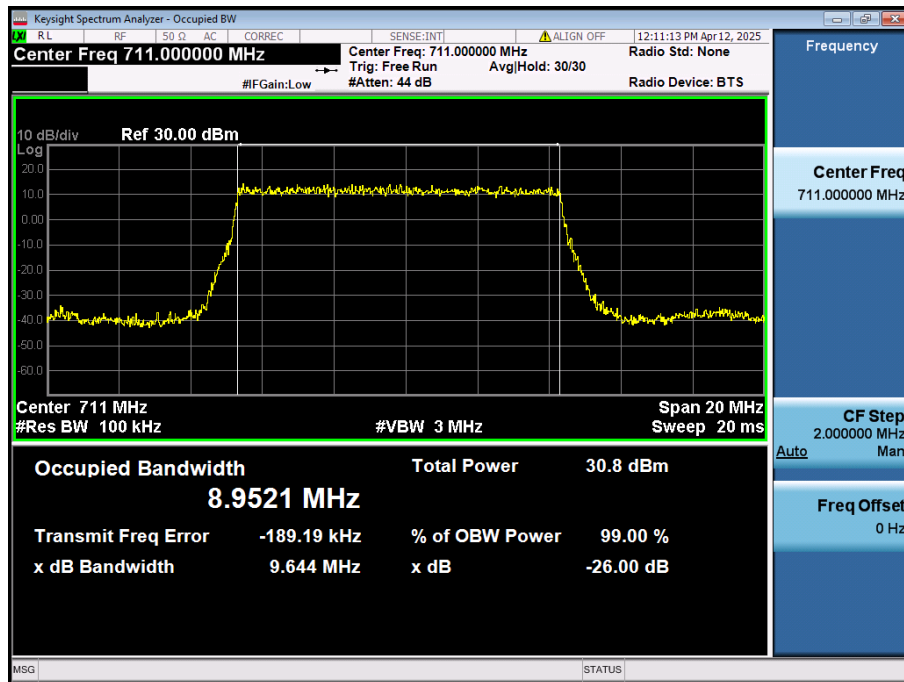
15 MHz / 16QAM / FULL RB Size



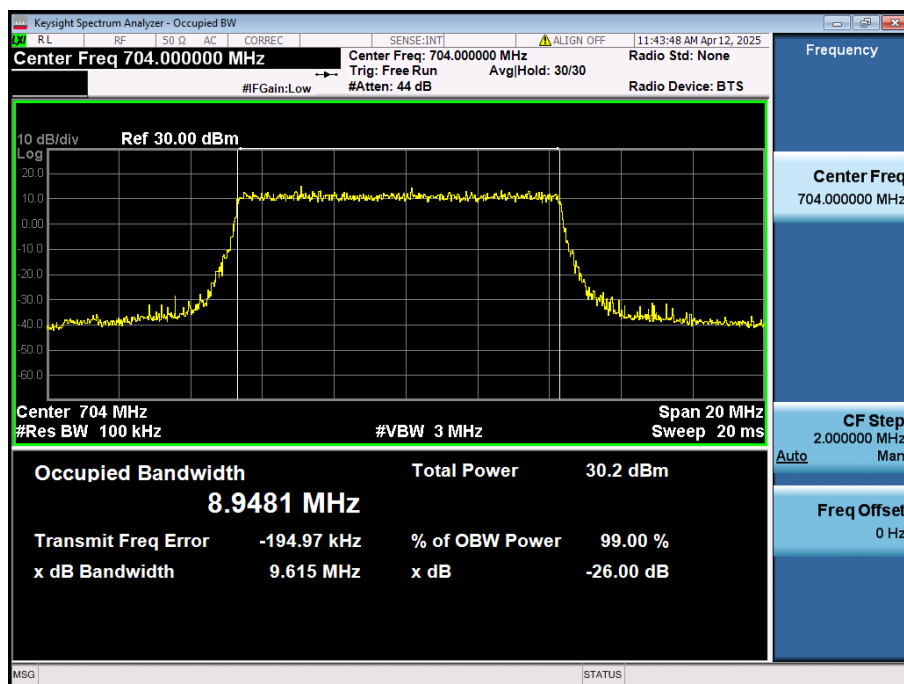
15 MHz / 64QAM / FULL RB Size



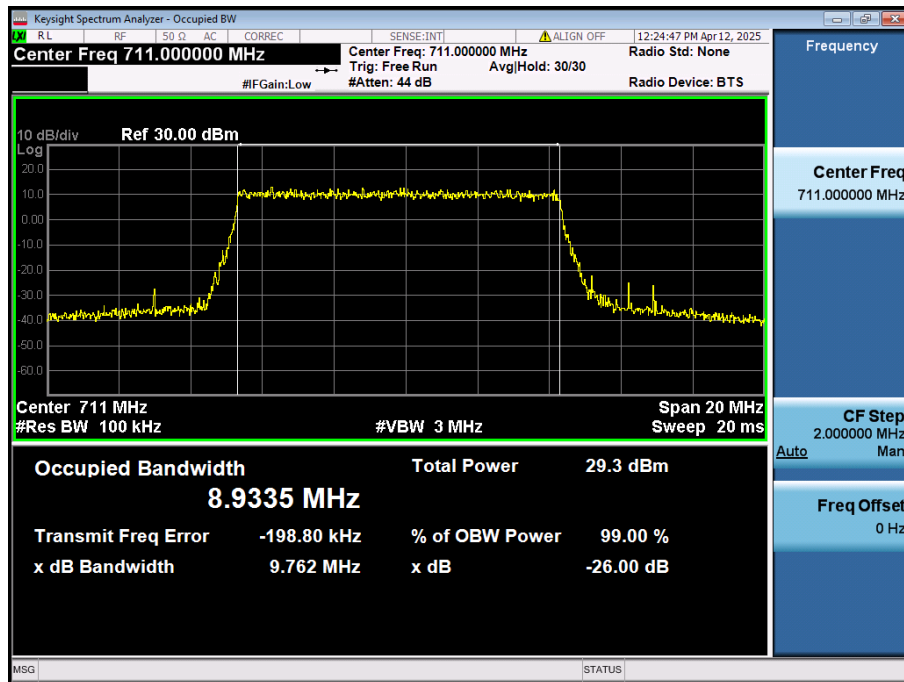
15 MHz / 256QAM / FULL RB Size



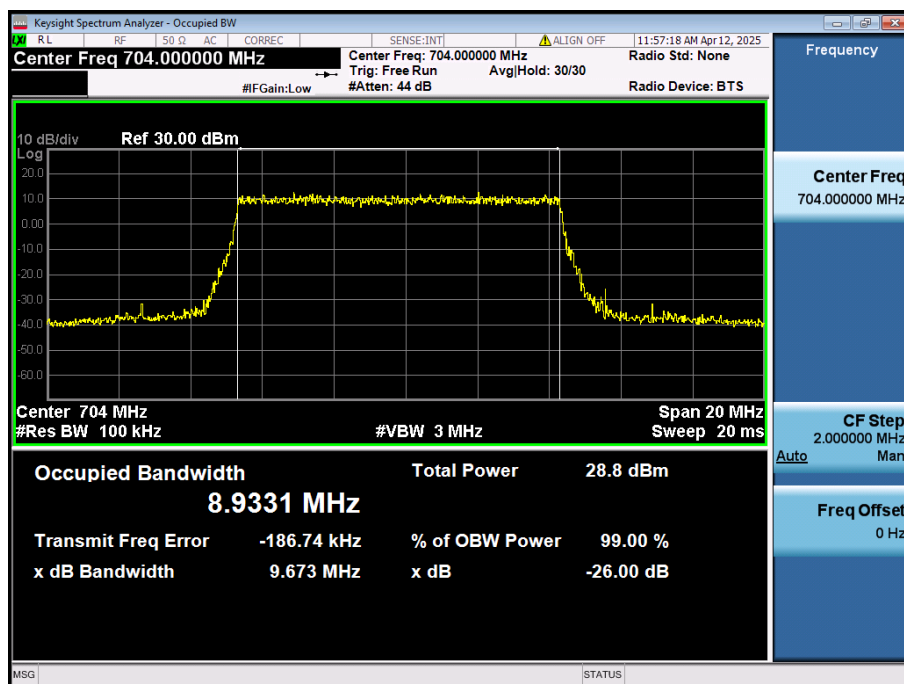
10 MHz / $\pi/2$ BPSK / FULL RB Size



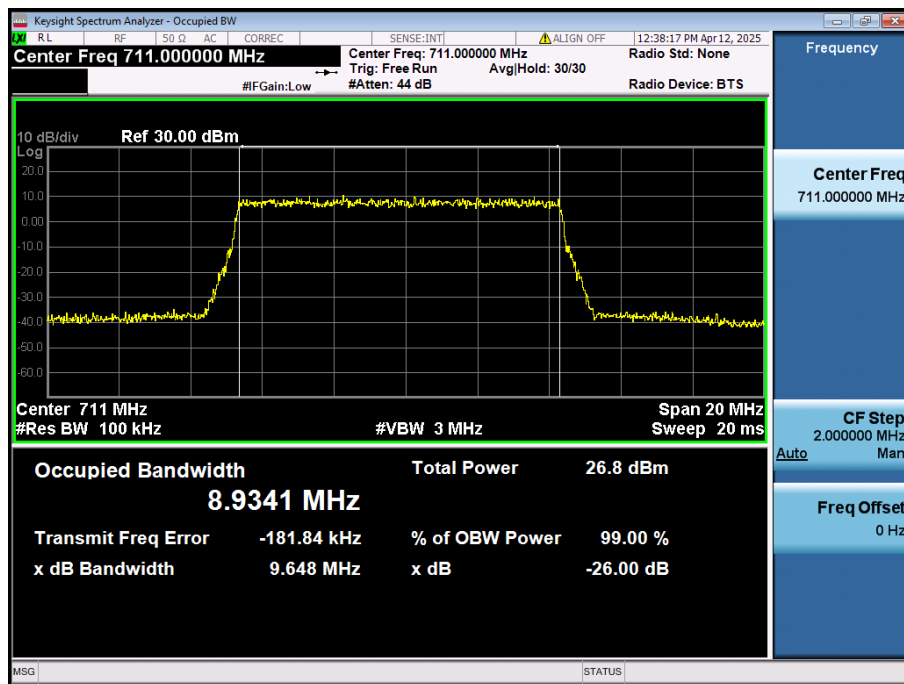
10 MHz / QPSK / FULL RB Size



10 MHz / 16QAM / FULL RB Size



10 MHz / 64QAM / FULL RB Size



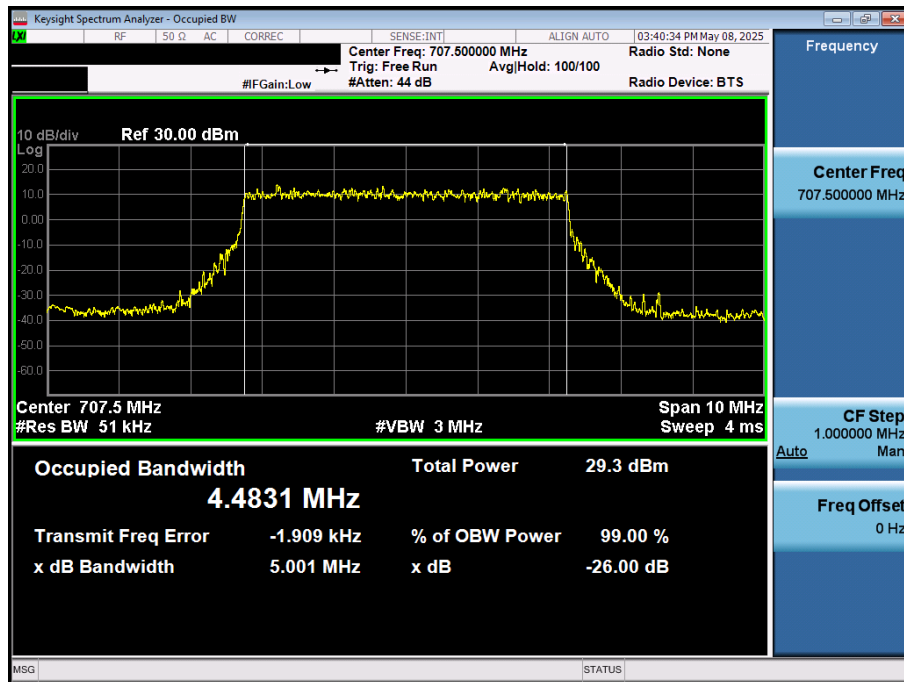
10 MHz / 256QAM / FULL RB Size



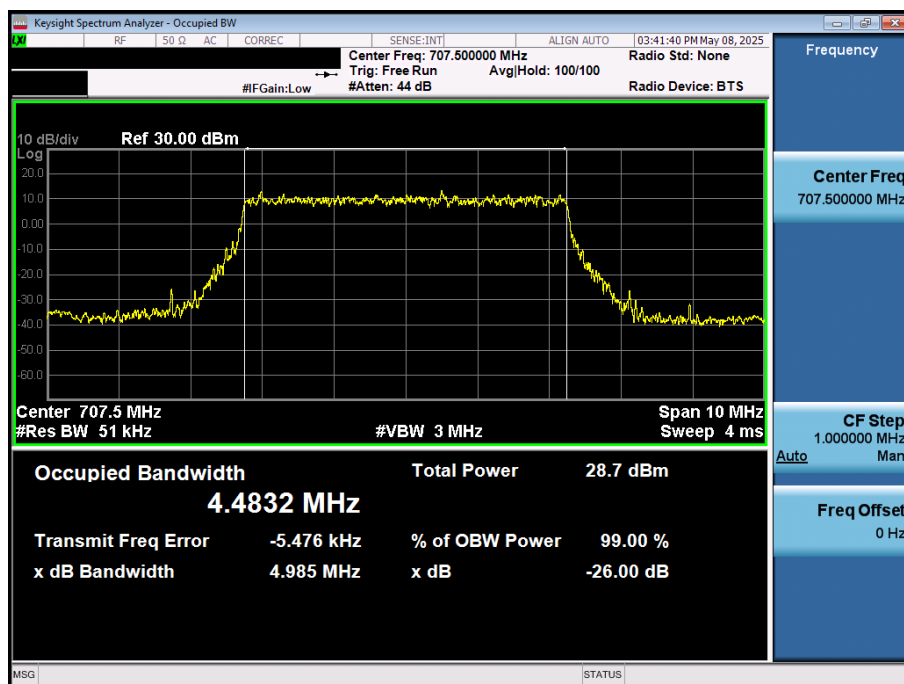
5 MHz / $\pi/2$ BPSK / FULL RB Size



5 MHz / QPSK / FULL RB Size



5 MHz / 16QAM / FULL RB Size

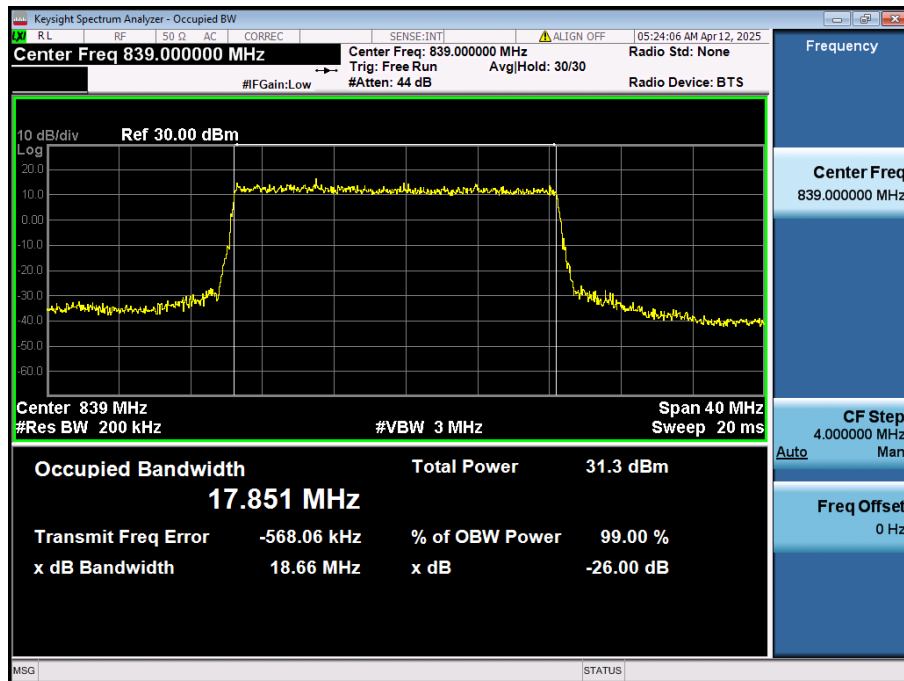
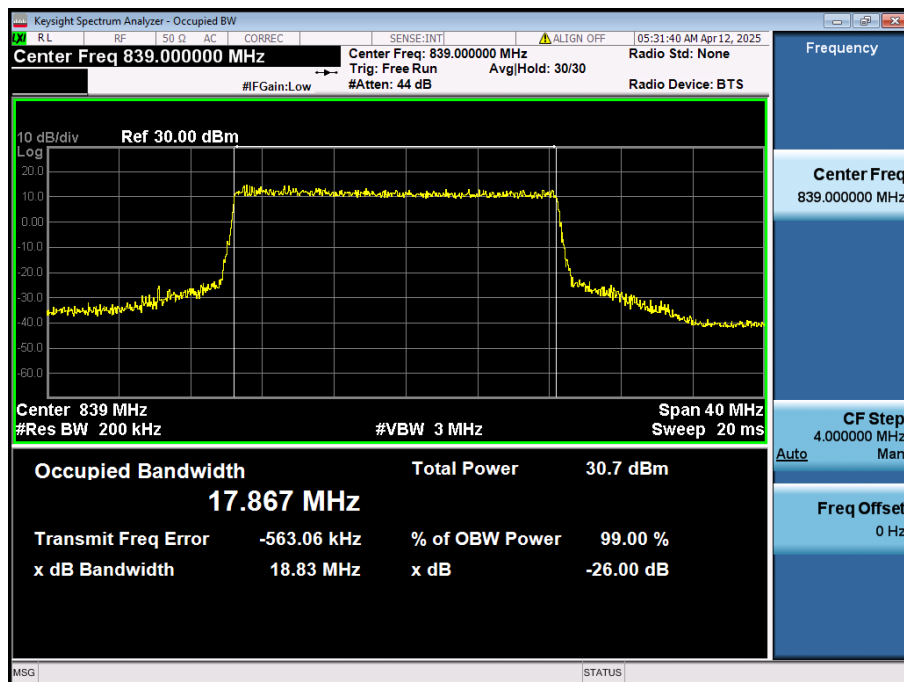


5 MHz / 64QAM / FULL RB Size

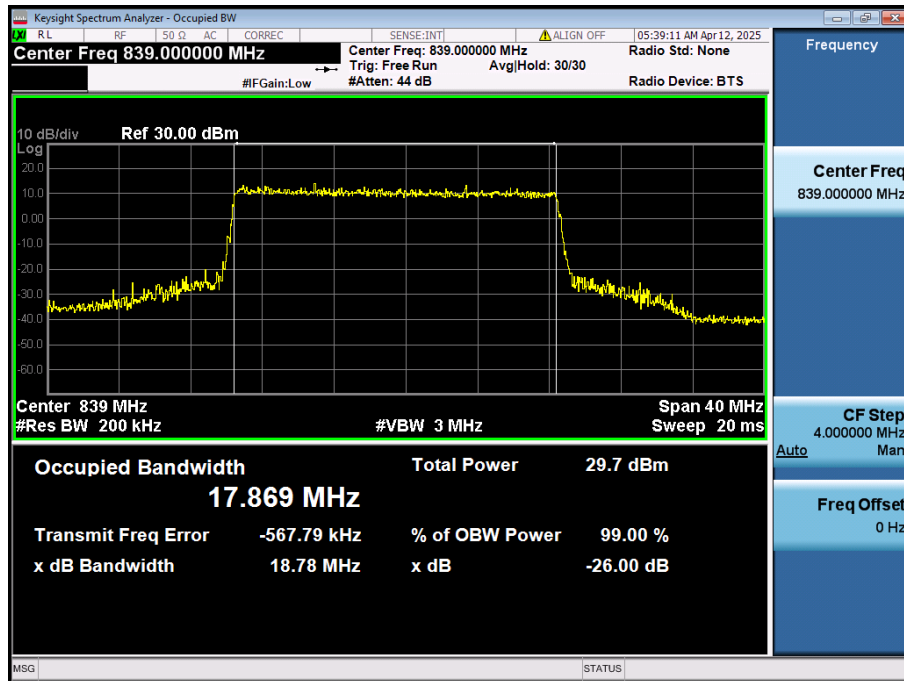


5 MHz / 256QAM / FULL RB Size

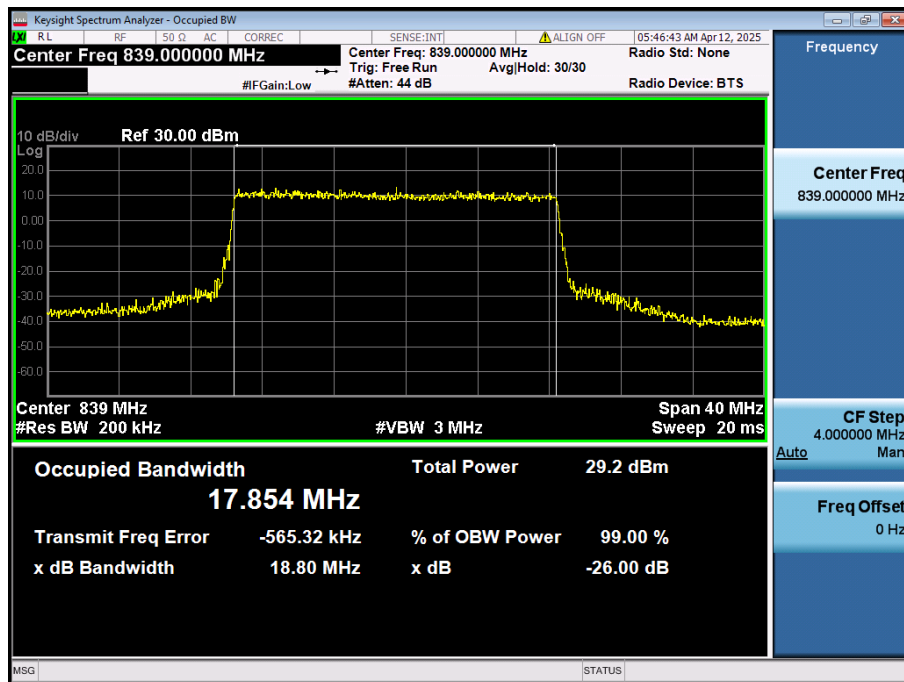
8.1.2. NR Band n5

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

20 MHz / QPSK / FULL RB Size

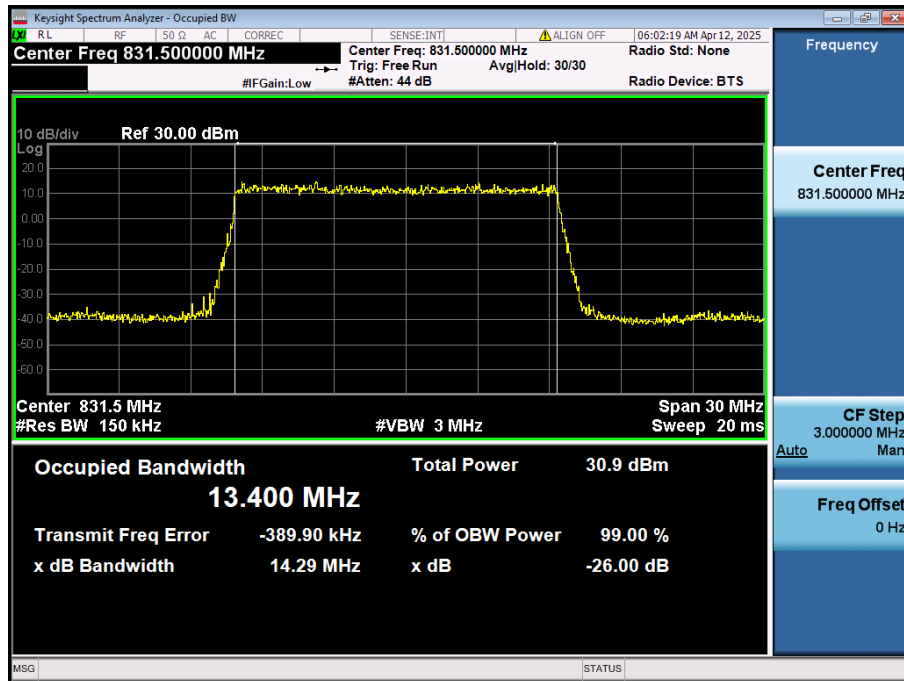
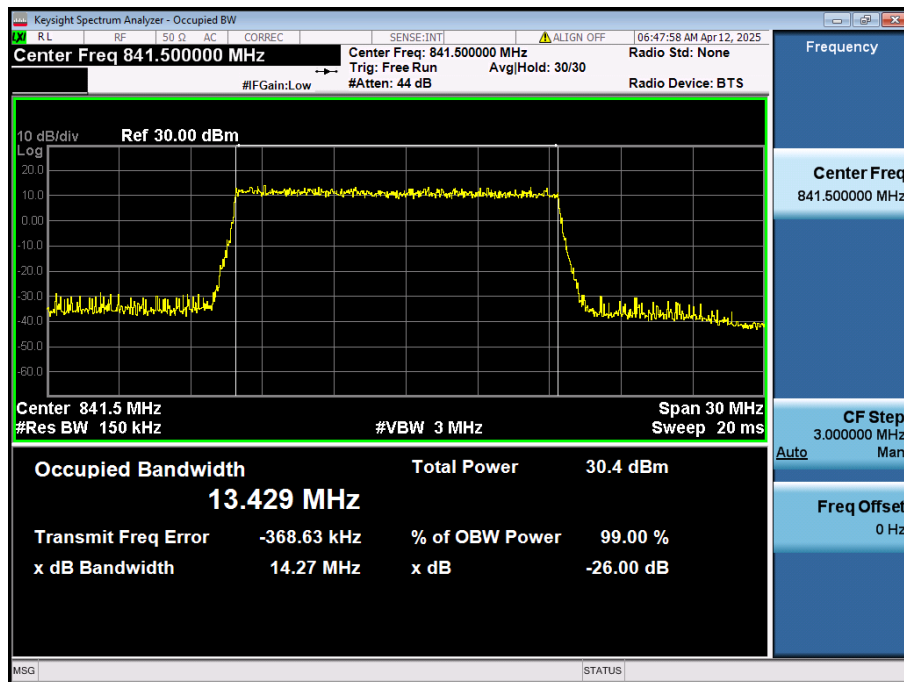


20 MHz / 16QAM / FULL RB Size

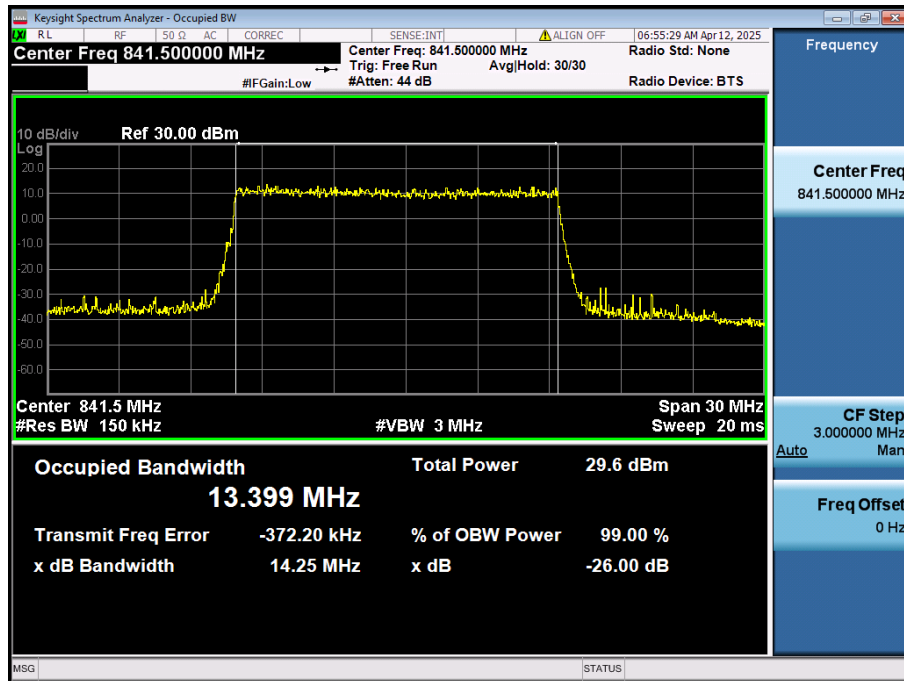


20 MHz / 64QAM / FULL RB Size

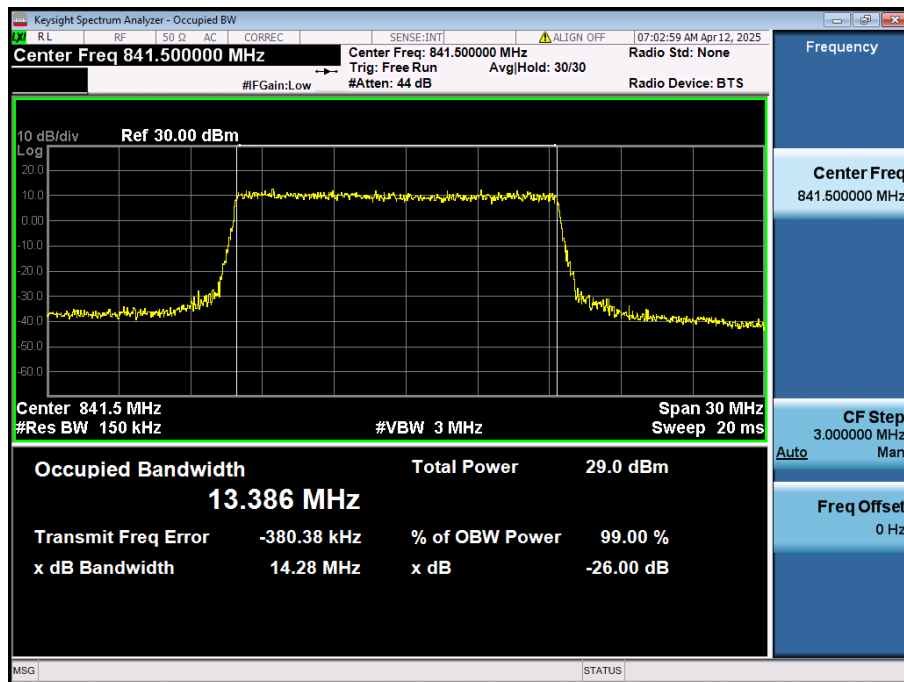


15 MHz / $\pi/2$ BPSK / FULL RB Size

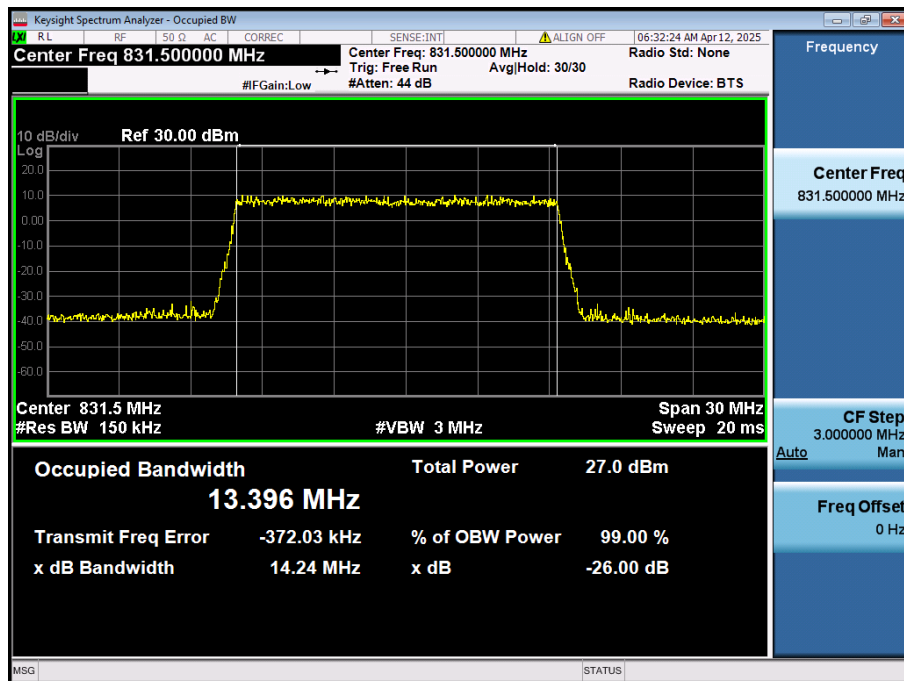
15 MHz / QPSK / FULL RB Size



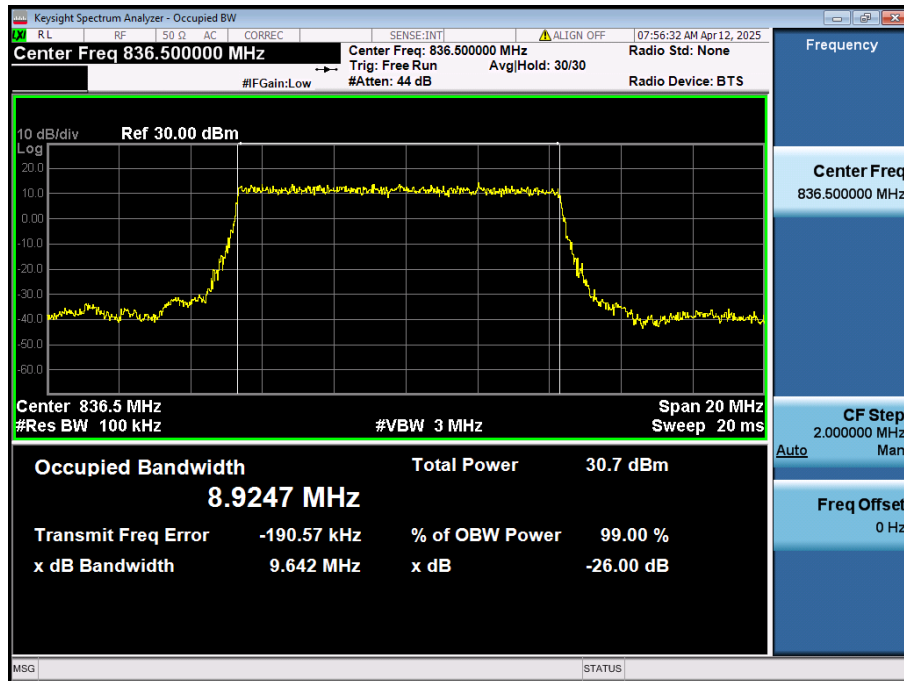
15 MHz / 16QAM / FULL RB Size



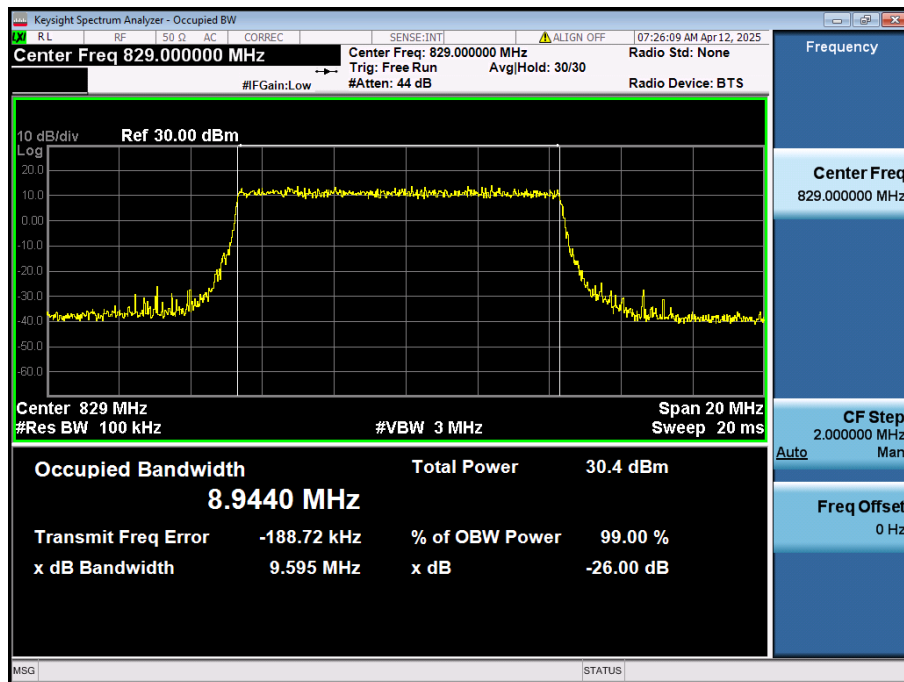
15 MHz / 64QAM / FULL RB Size



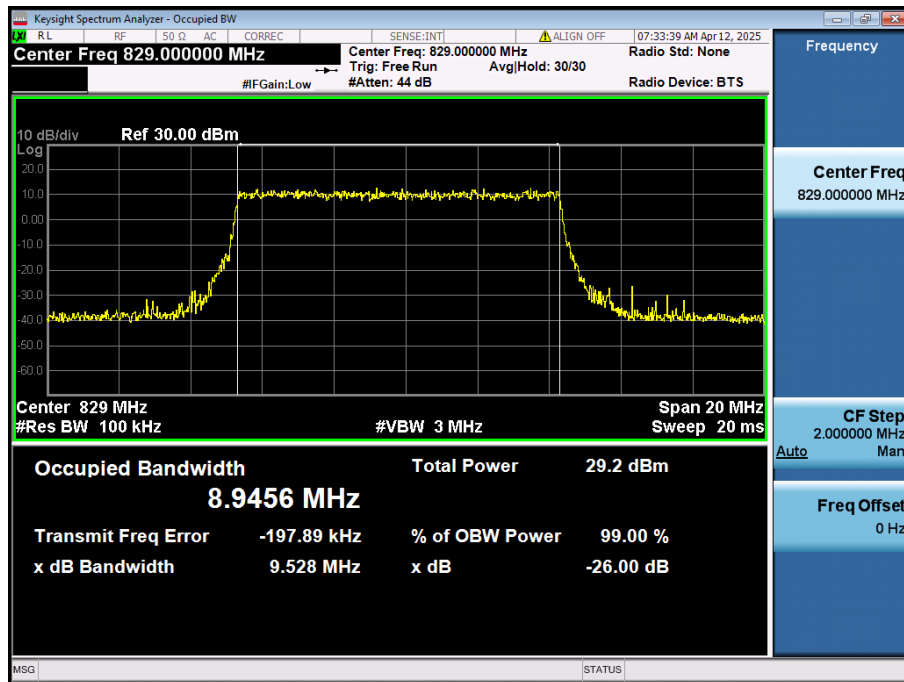
15 MHz / 256QAM / FULL RB Size



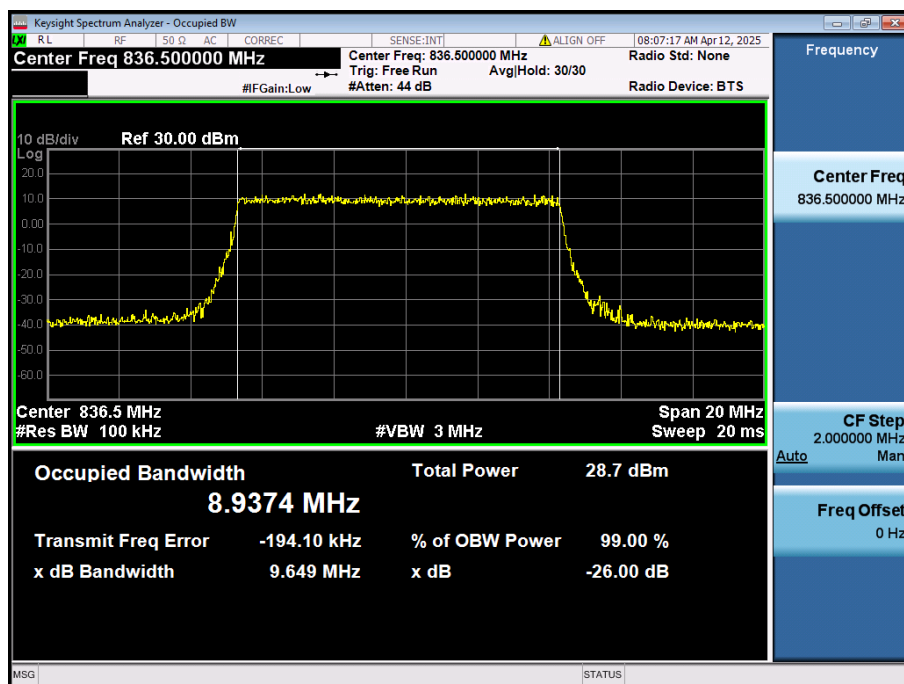
10 MHz / $\pi/2$ BPSK / FULL RB Size



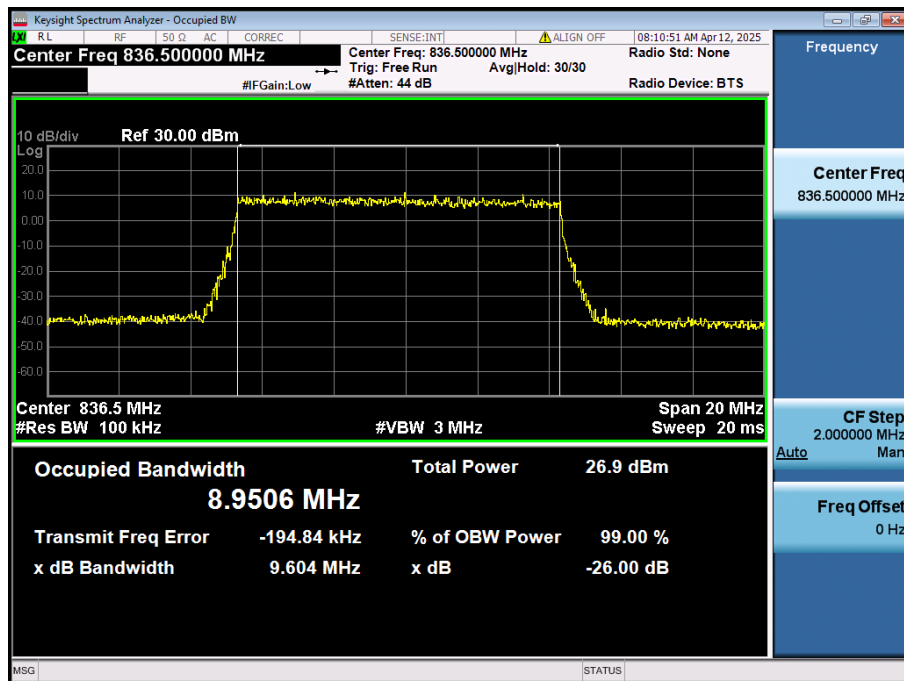
10 MHz / QPSK / FULL RB Size



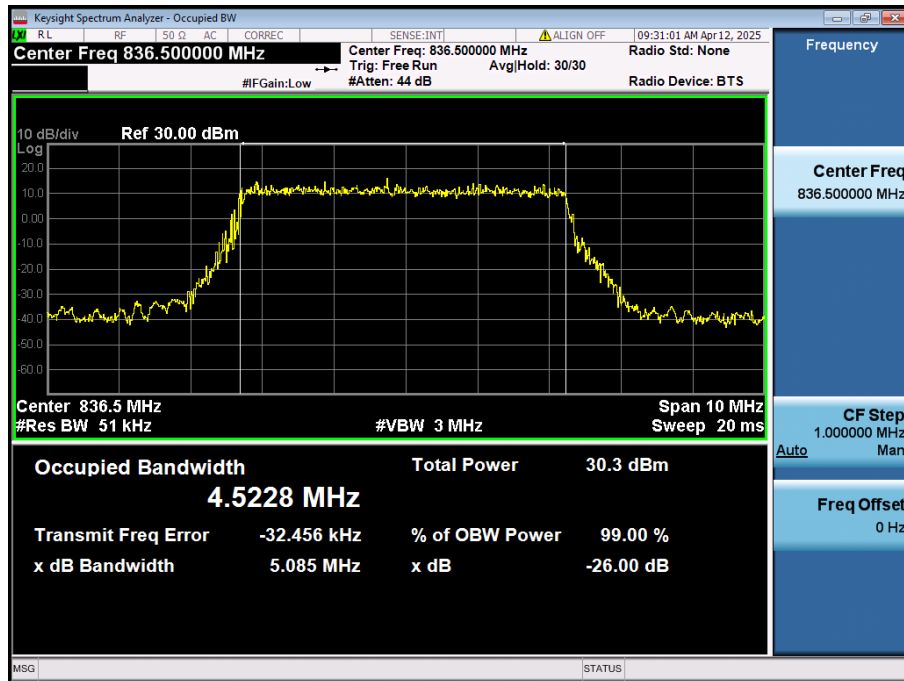
10 MHz / 16QAM / FULL RB Size



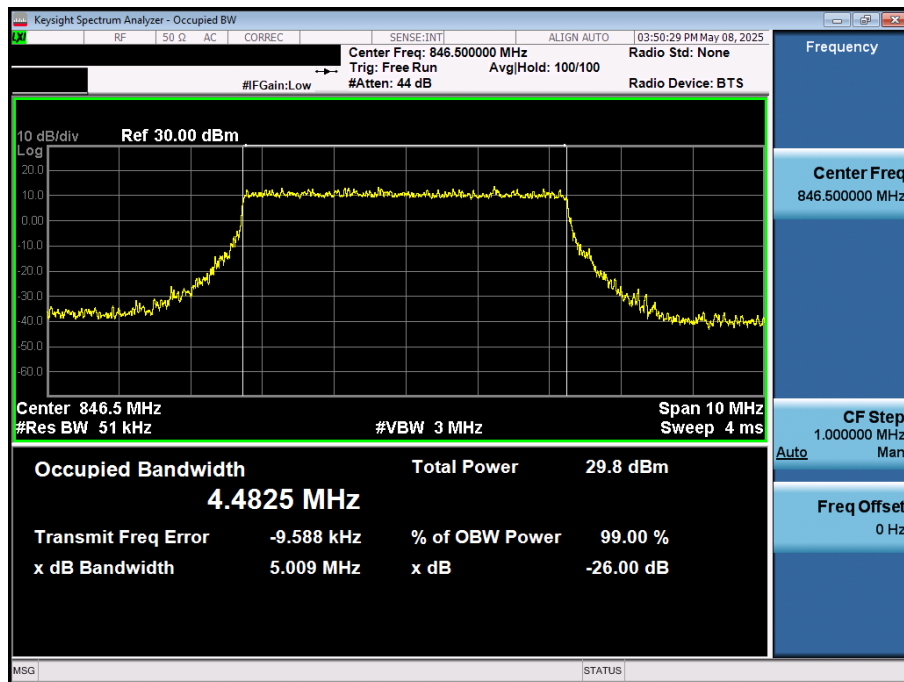
10 MHz / 64QAM / FULL RB Size



10 MHz / 256QAM / FULL RB Size



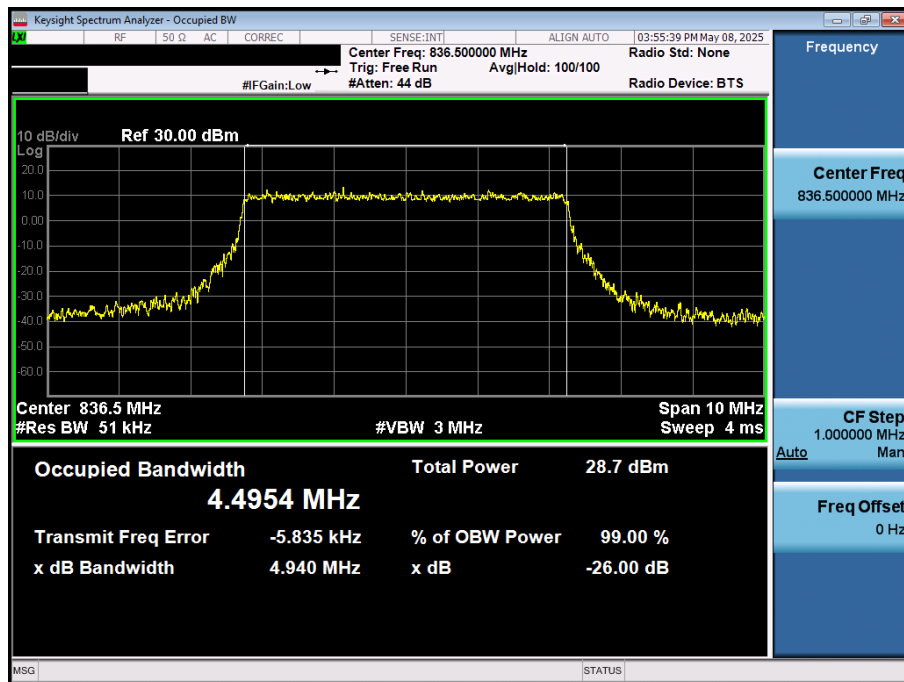
5 MHz / $\pi/2$ BPSK / FULL RB Size



5 MHz / QPSK / FULL RB Size



5 MHz / 16QAM / FULL RB Size

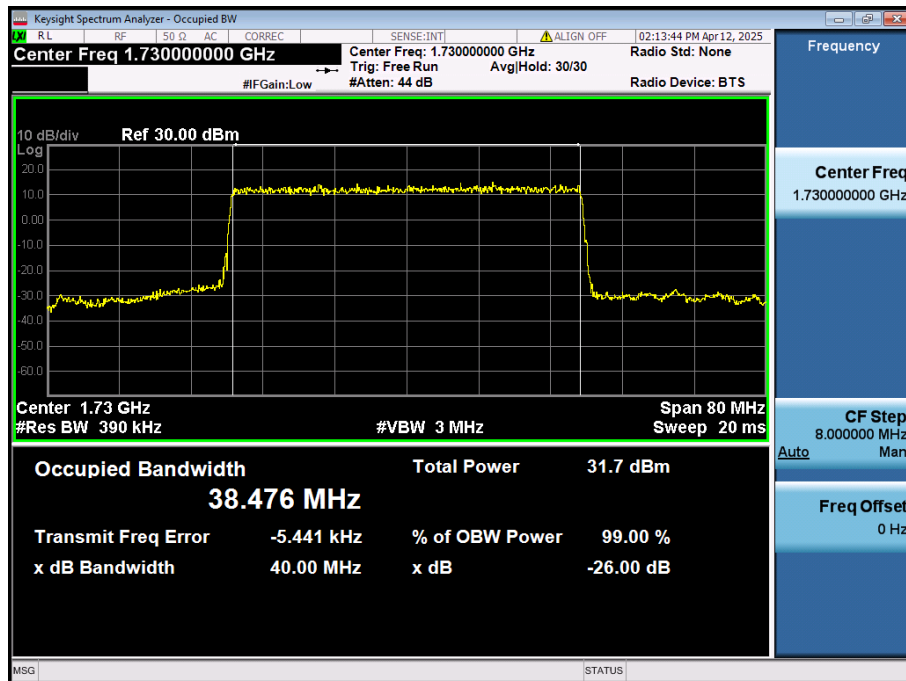
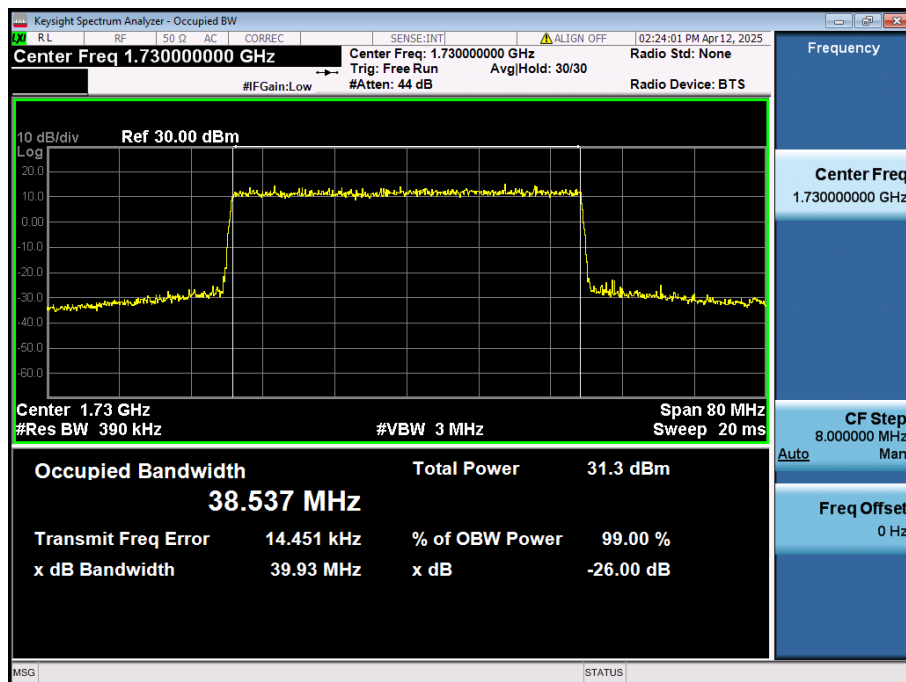


5 MHz / 64QAM / FULL RB Size

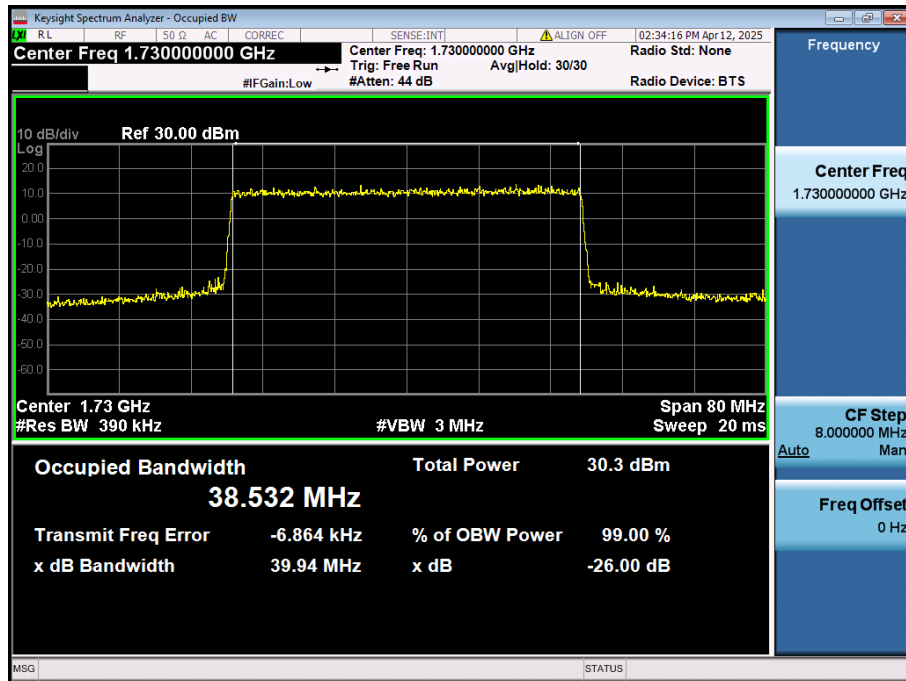


5 MHz / 256QAM / FULL RB Size

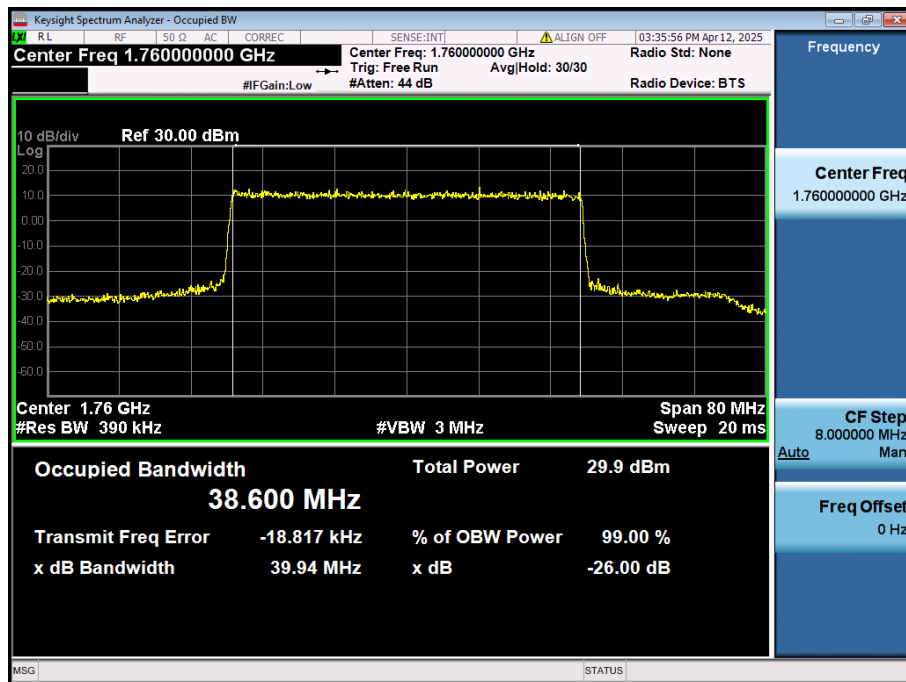
8.1.3. NR Band n66

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

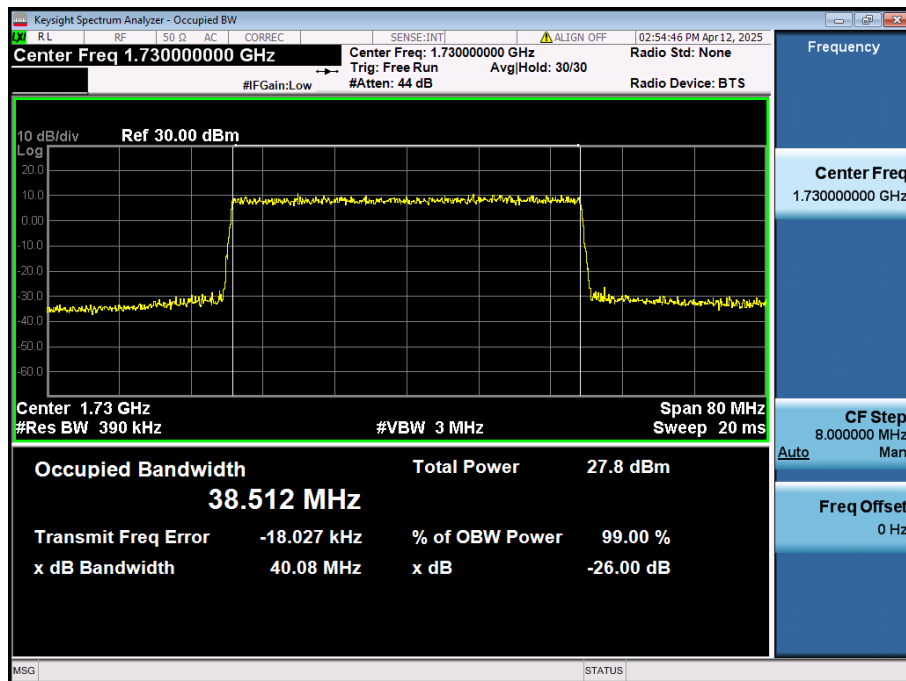
40 MHz / QPSK / FULL RB Size



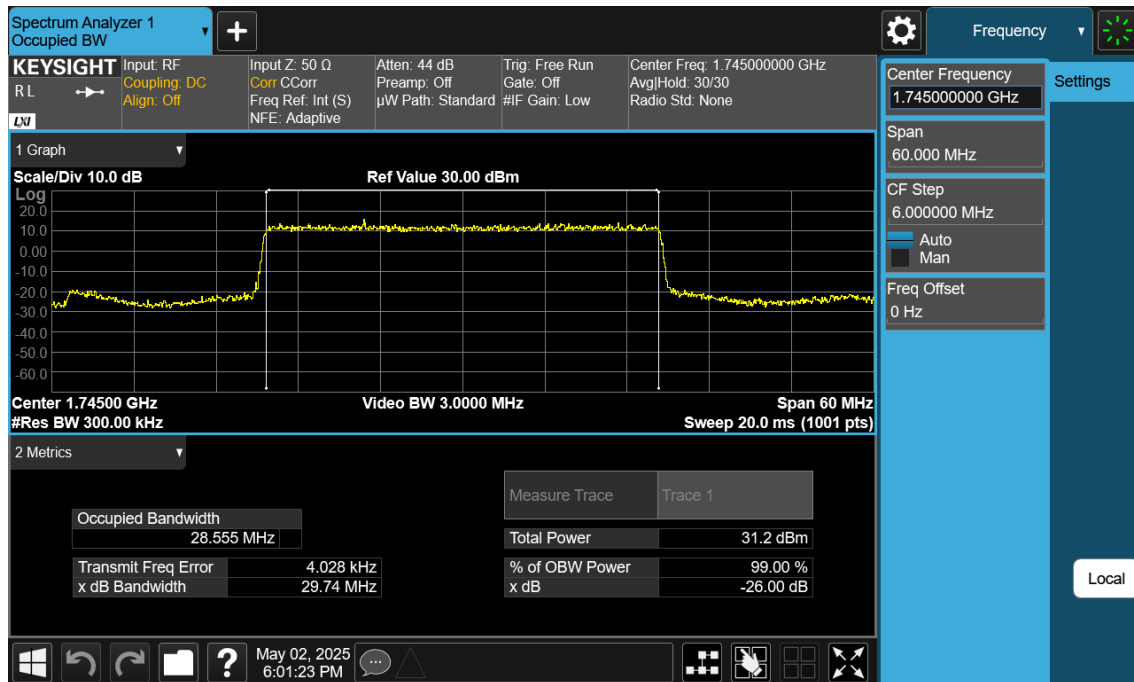
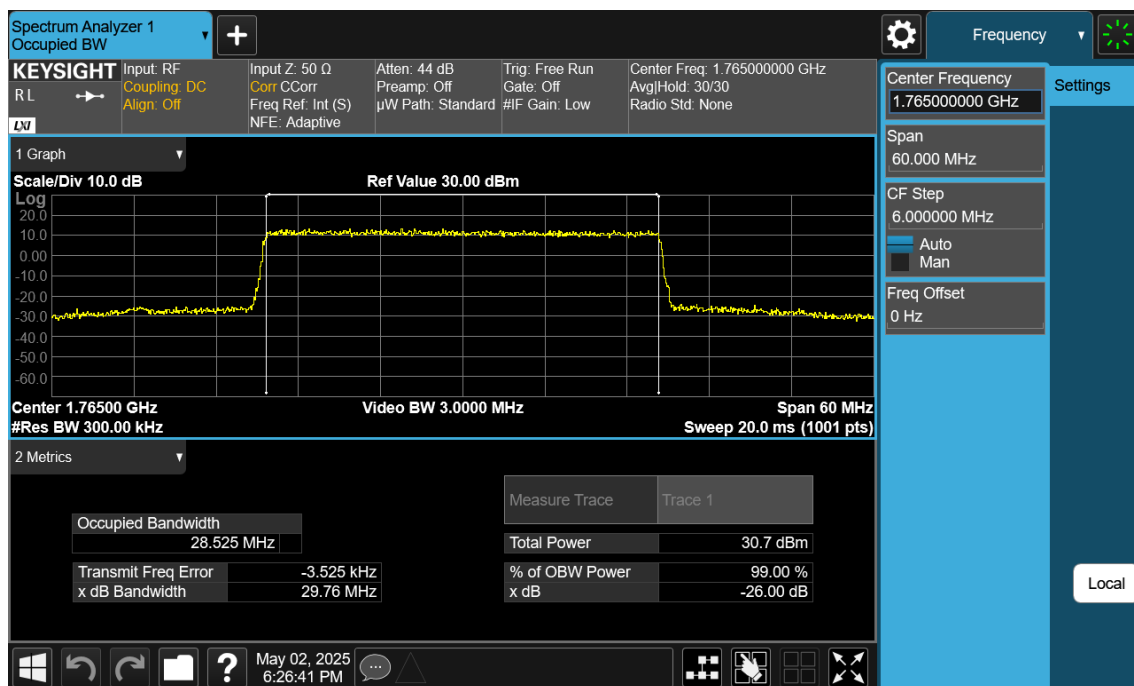
40 MHz / 16QAM / FULL RB Size



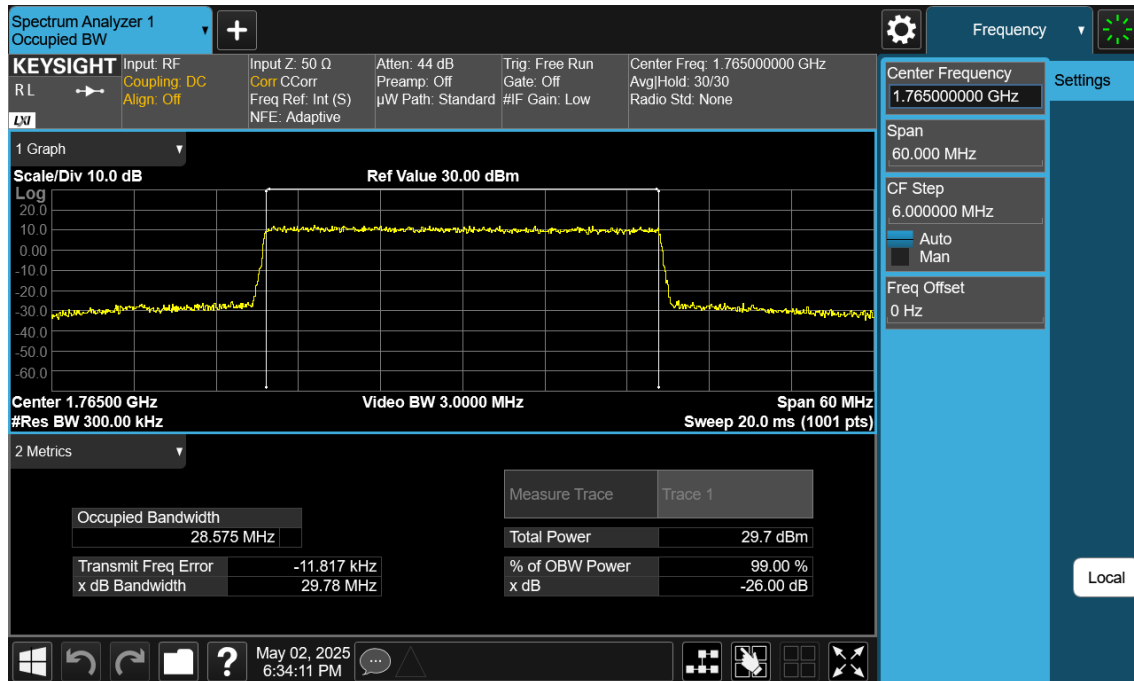
40 MHz / 64QAM / FULL RB Size



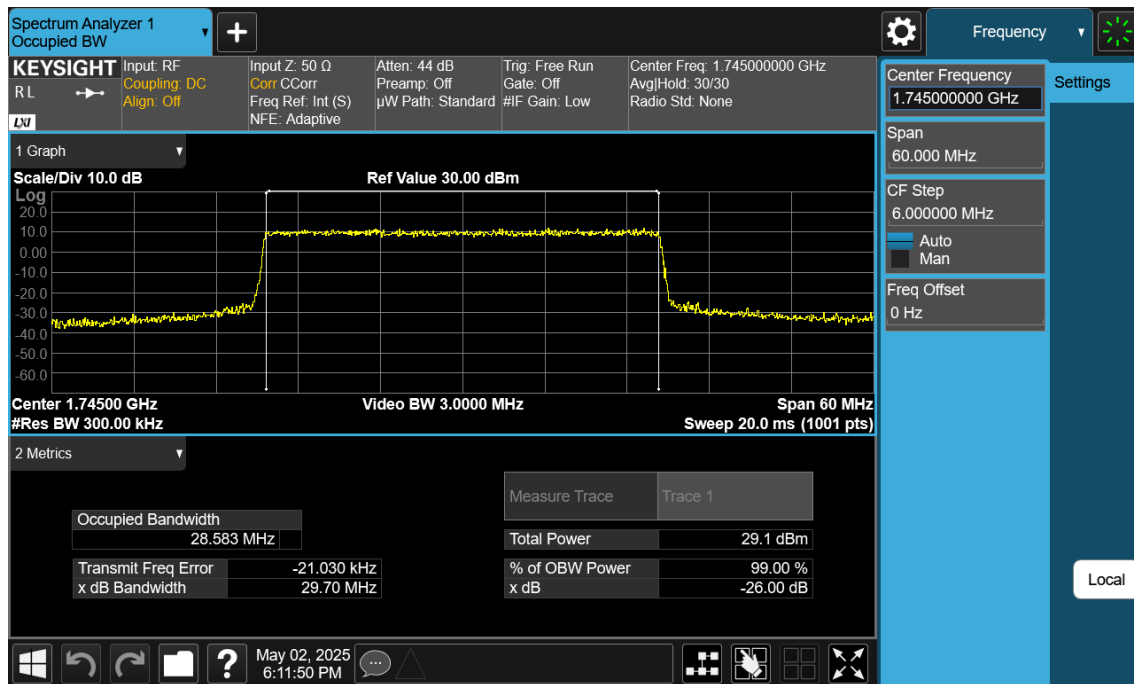
40 MHz / 256QAM / FULL RB Size


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


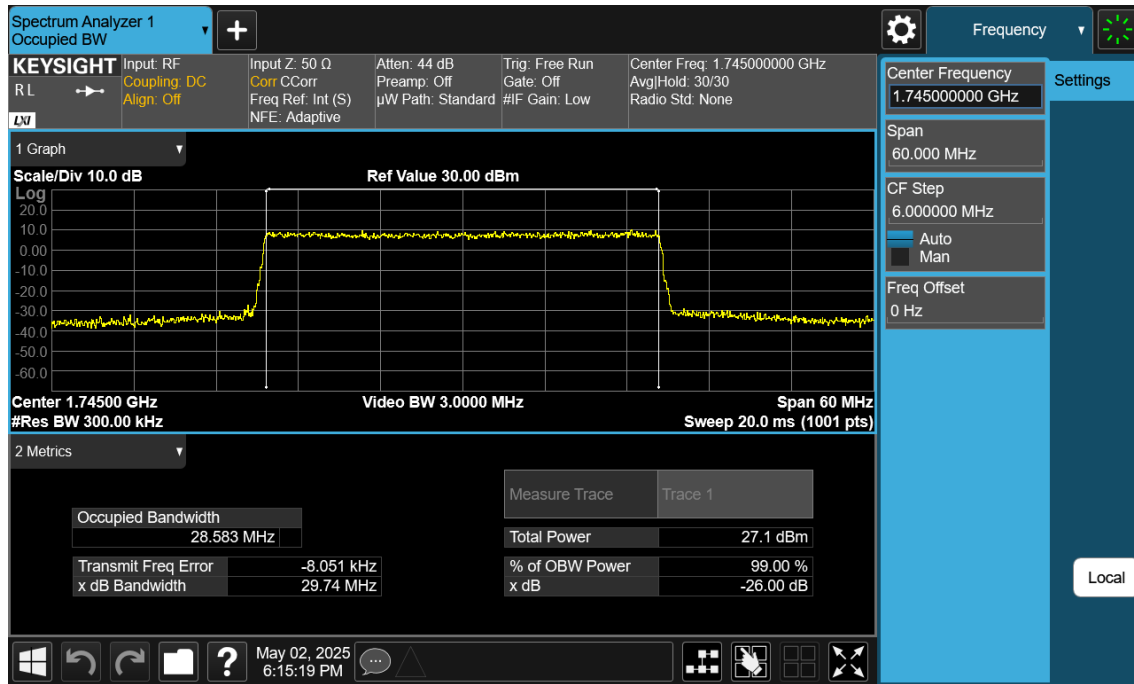
30 MHz / QPSK / FULL RB Size



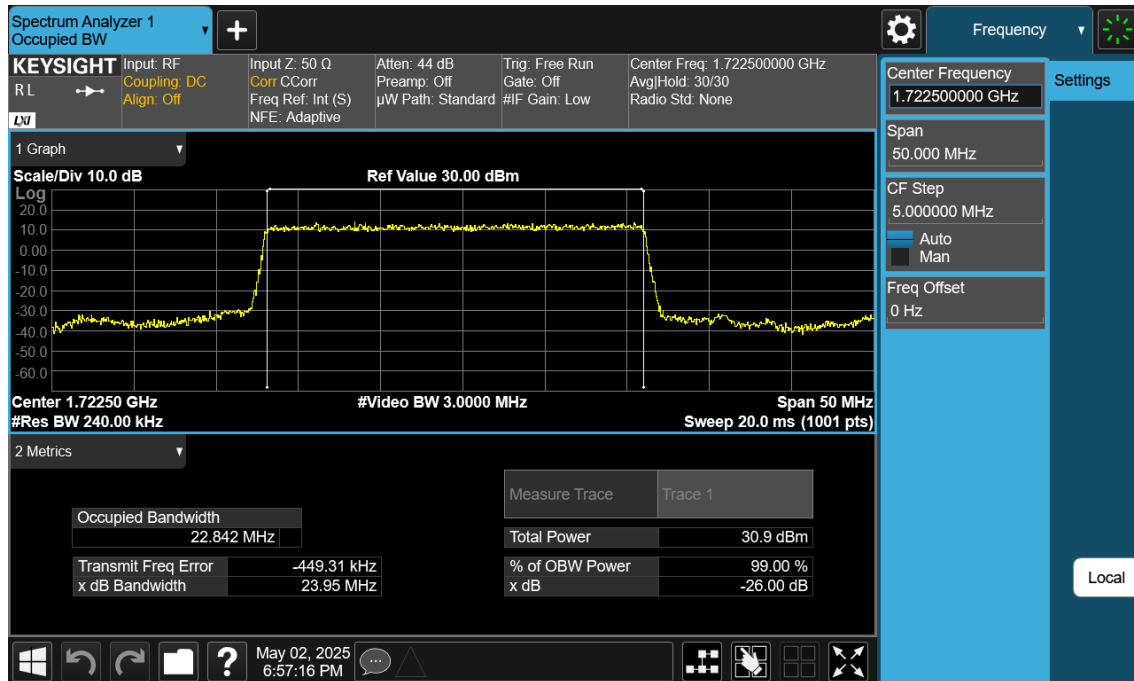
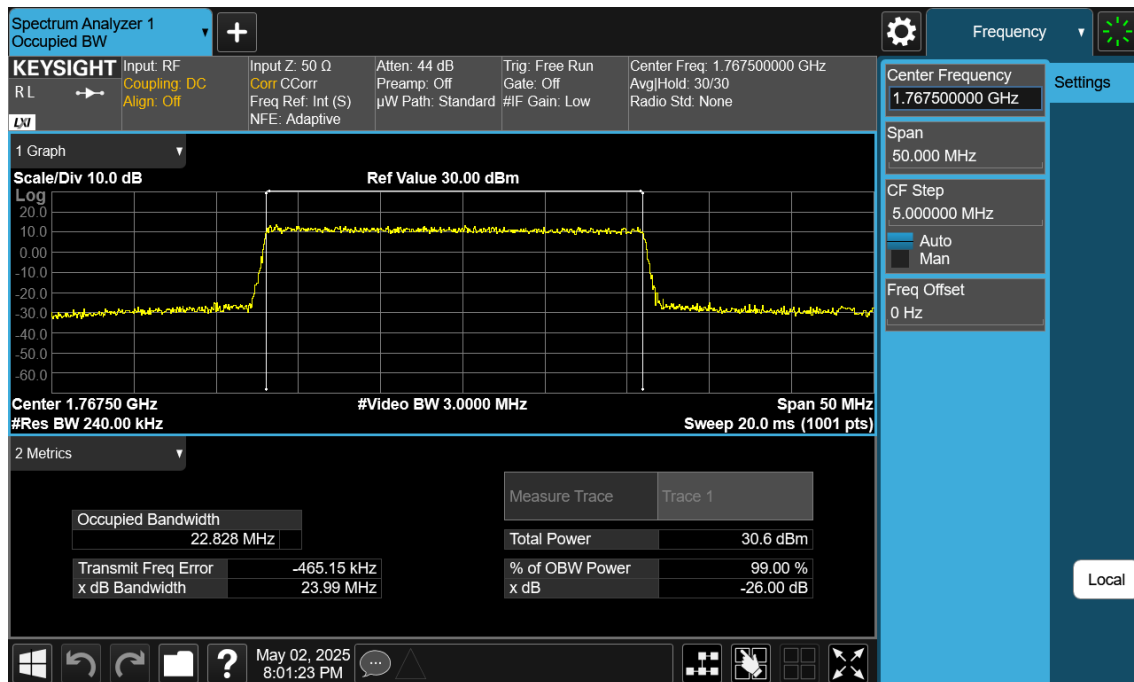
30 MHz / 16QAM / FULL RB Size



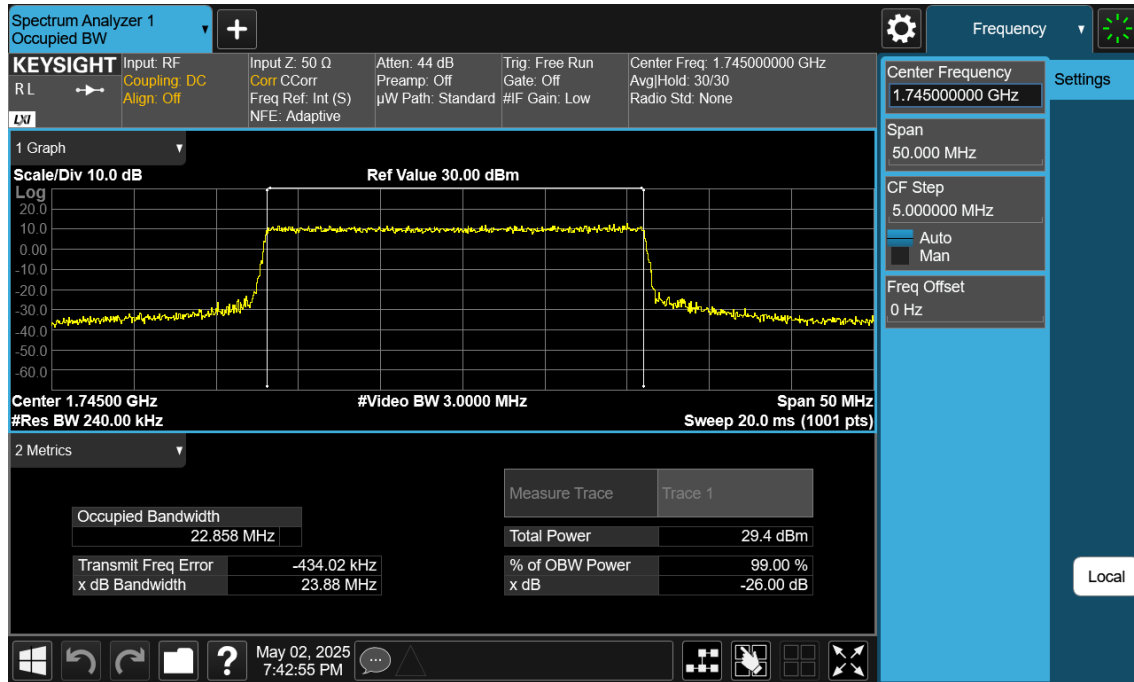
30 MHz / 64QAM / FULL RB Size



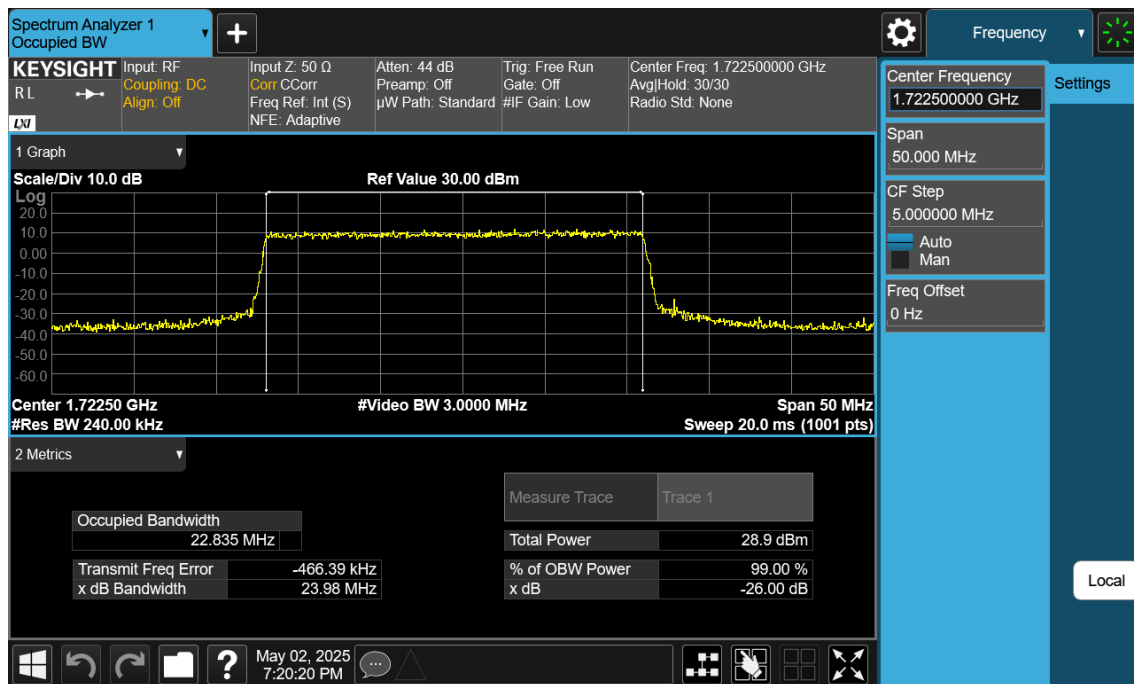
30 MHz / 256QAM / FULL RB Size


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


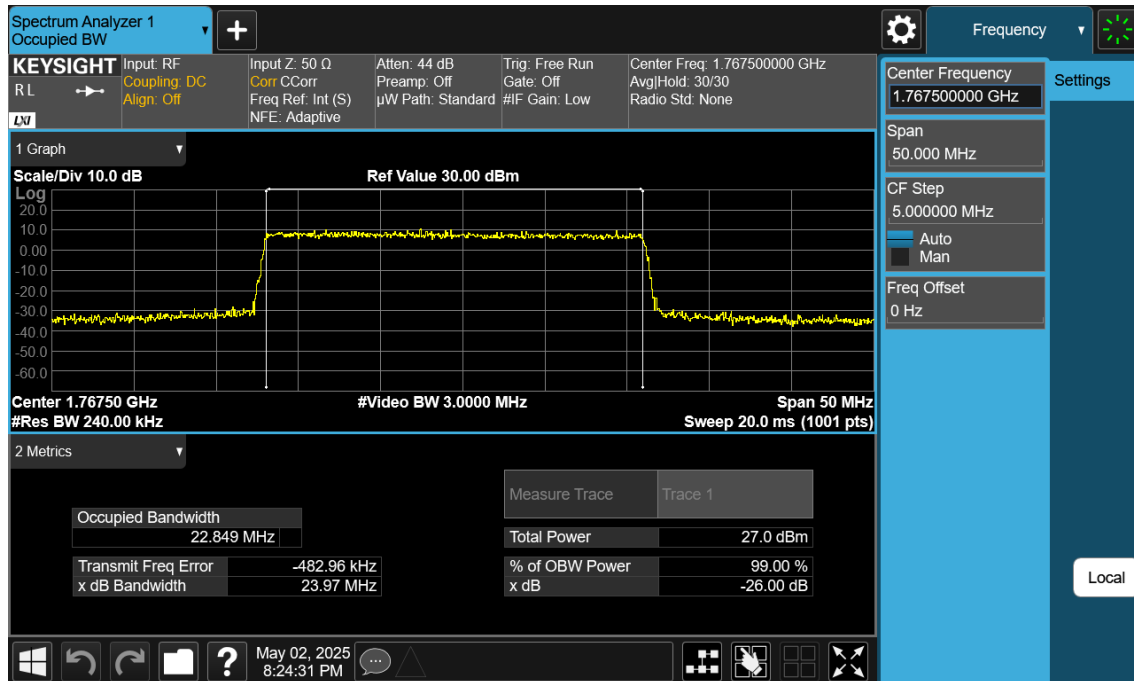
25 MHz / QPSK / FULL RB Size



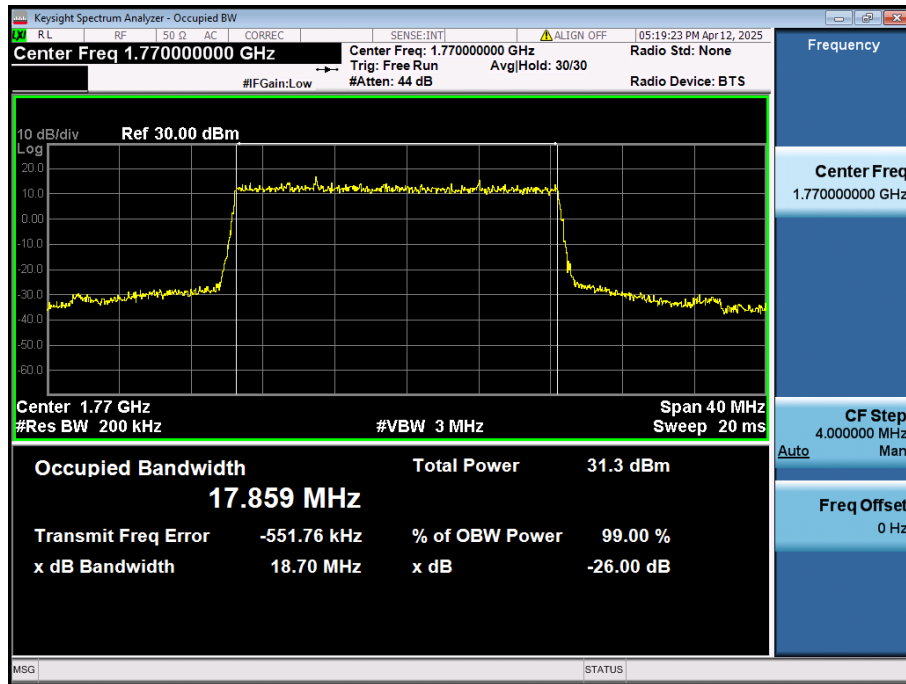
25 MHz / 16QAM / FULL RB Size



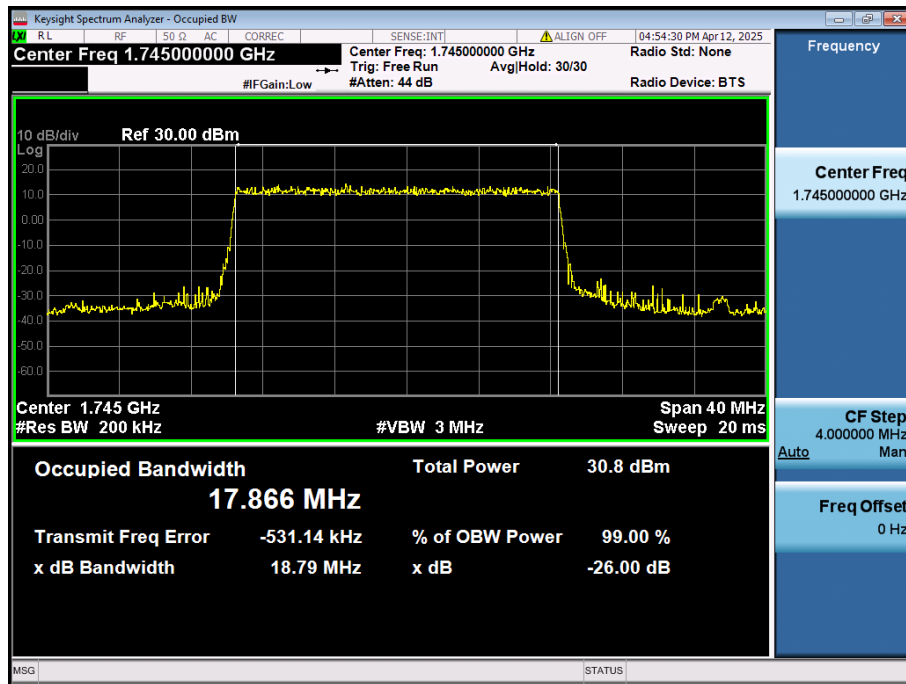
25 MHz / 64QAM / FULL RB Size



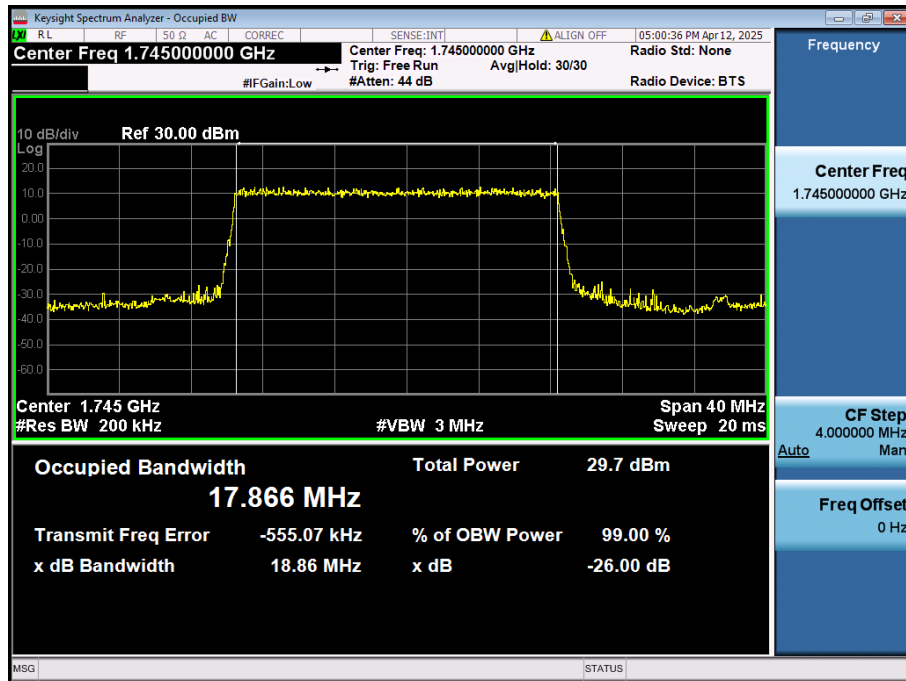
25 MHz / 256QAM / FULL RB Size



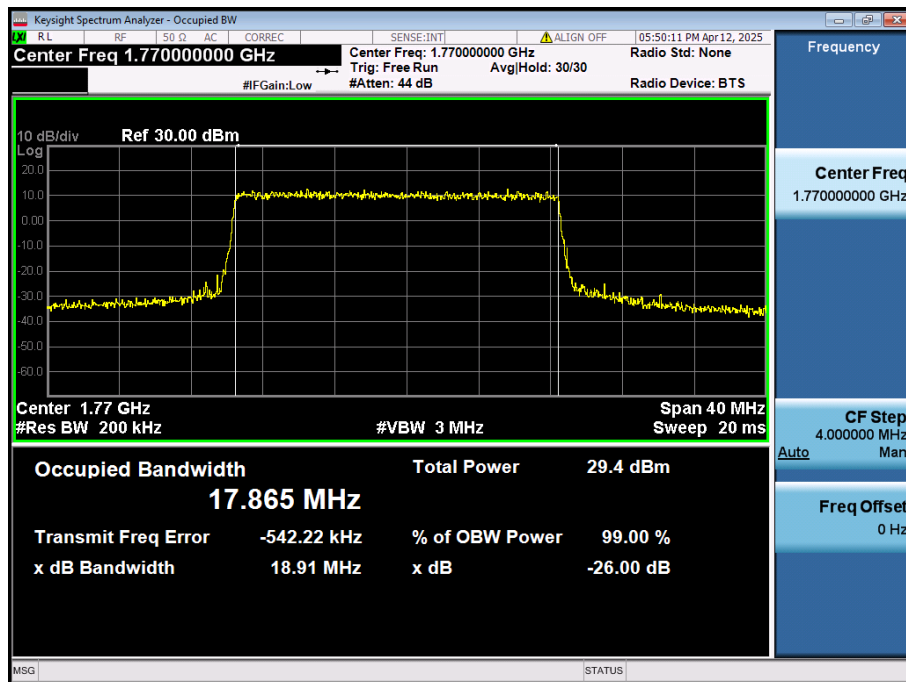
20 MHz / $\pi/2$ BPSK / FULL RB Size



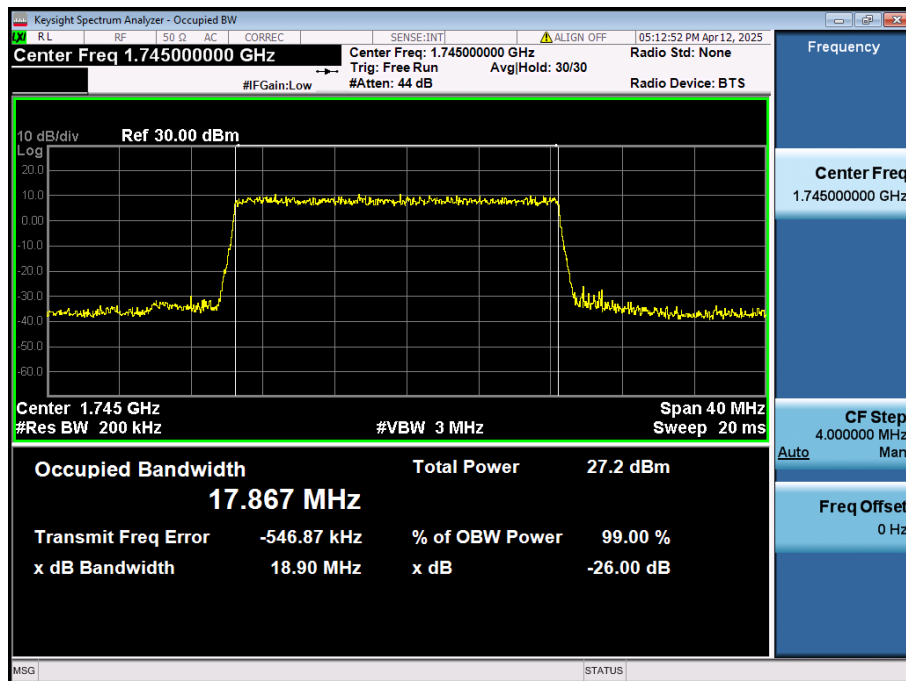
20 MHz / QPSK / FULL RB Size



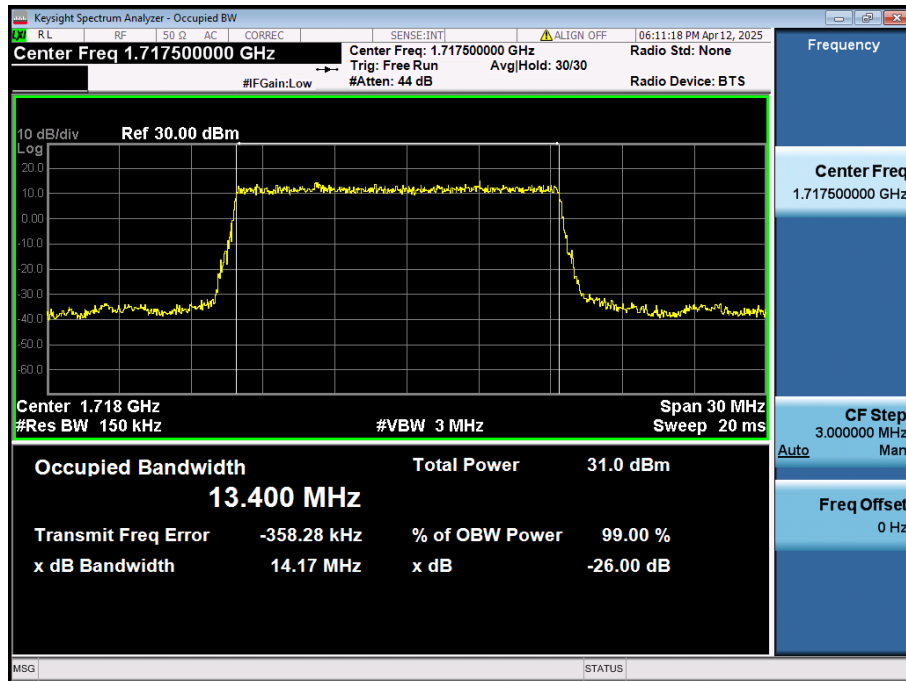
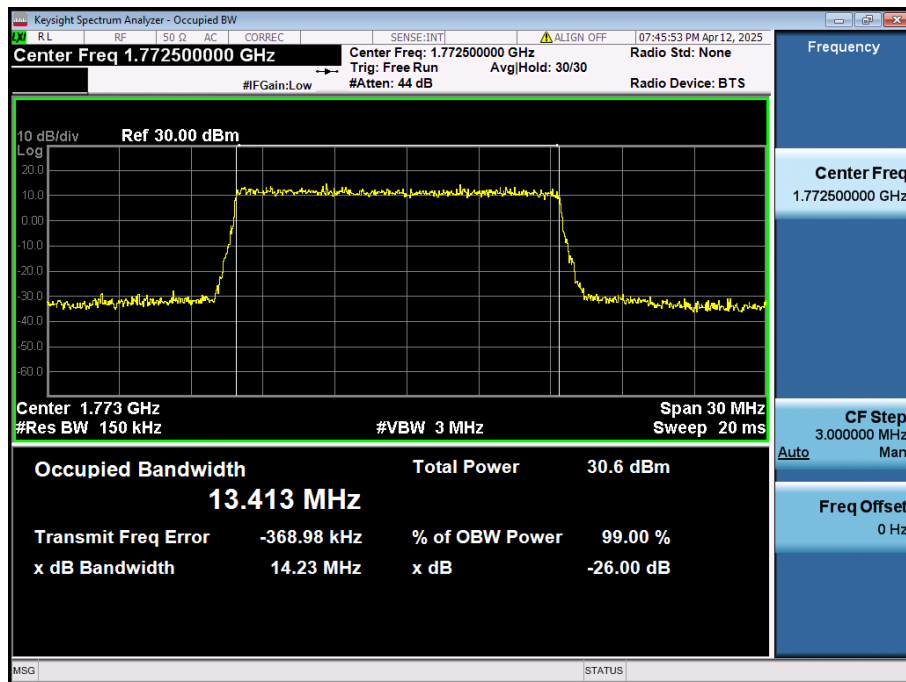
20 MHz / 16QAM / FULL RB Size



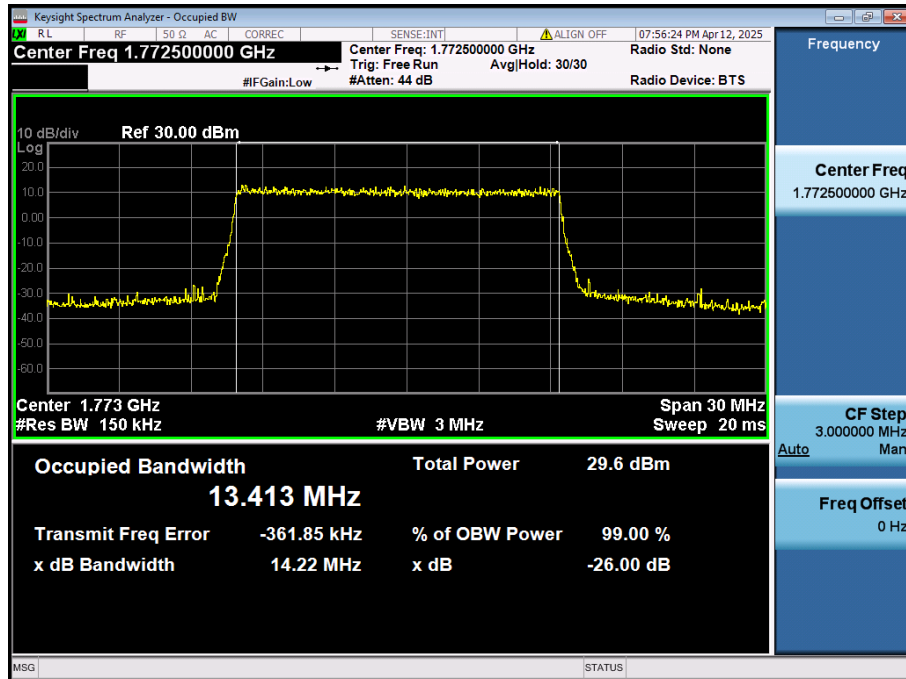
20 MHz / 64QAM / FULL RB Size



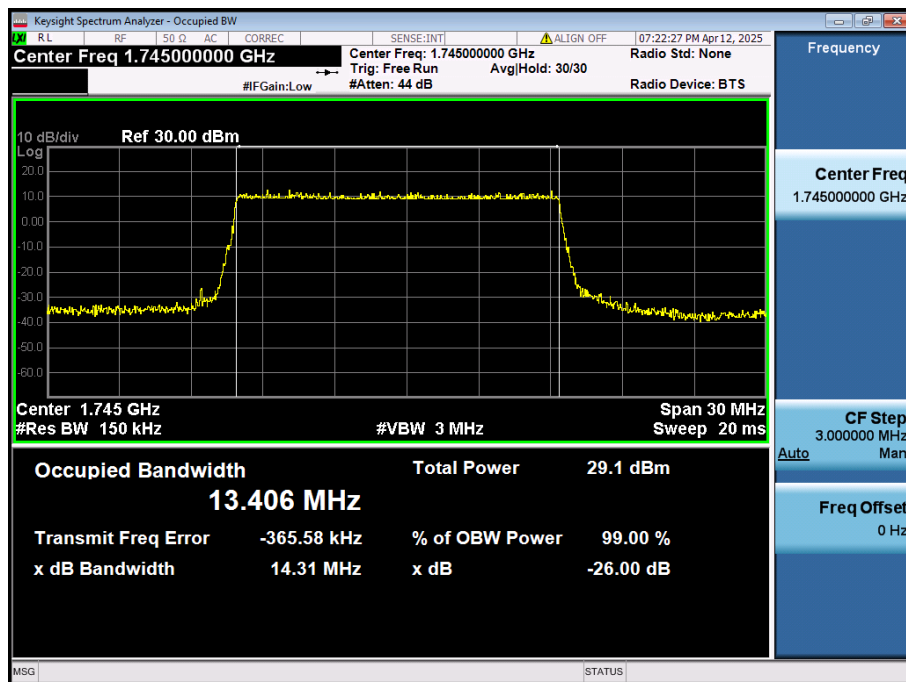
20 MHz / 256QAM / FULL RB Size


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


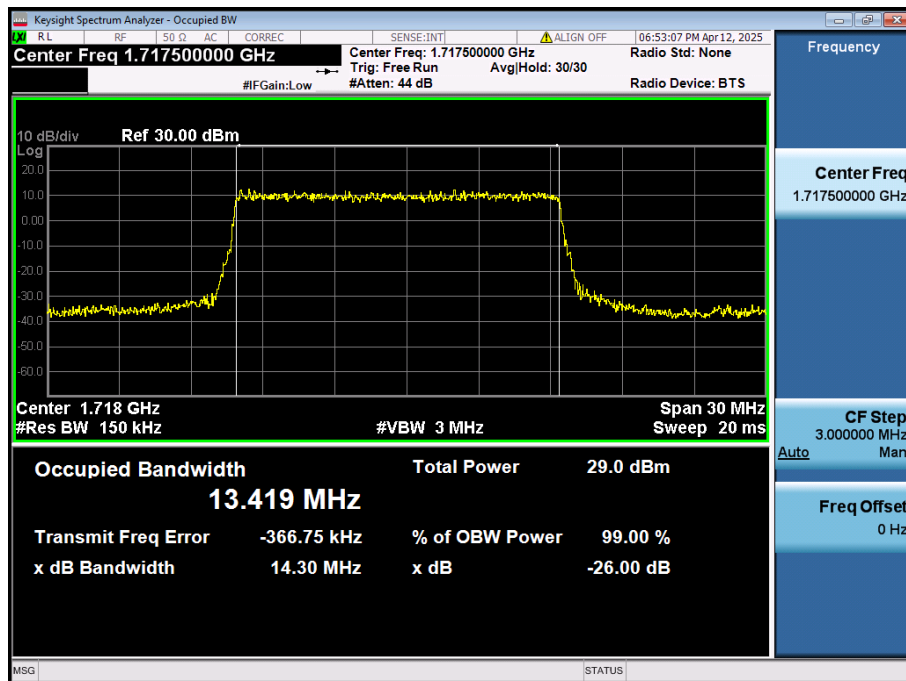
15 MHz / QPSK / FULL RB Size



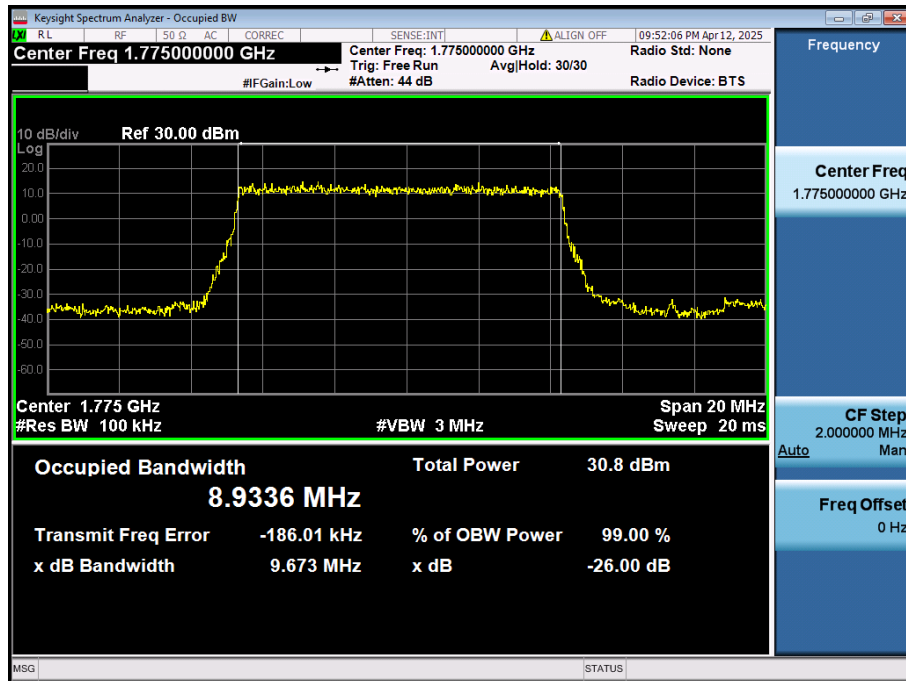
15 MHz / 16QAM / FULL RB Size



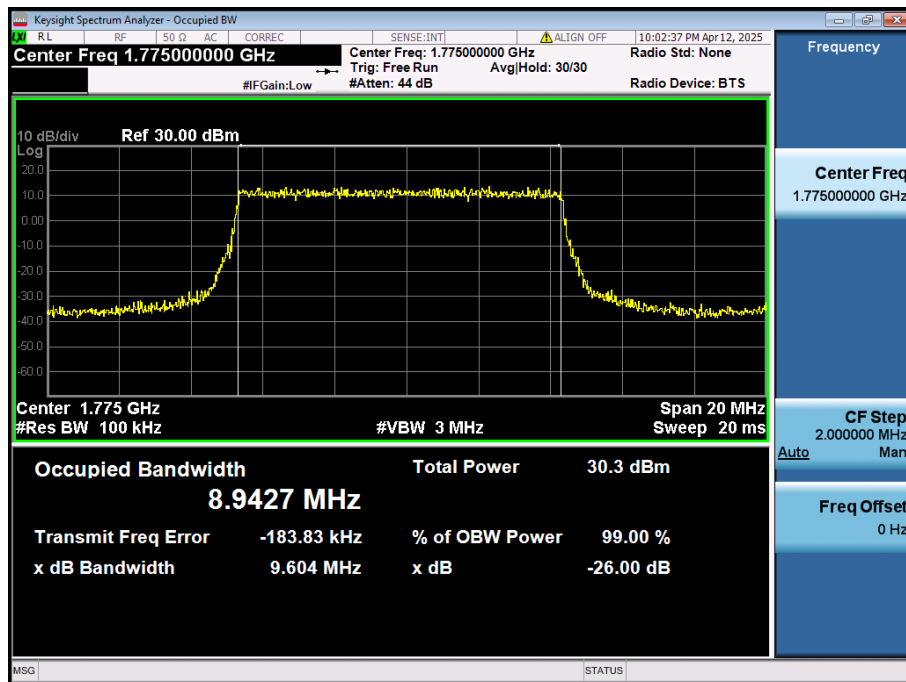
15 MHz / 64QAM / FULL RB Size



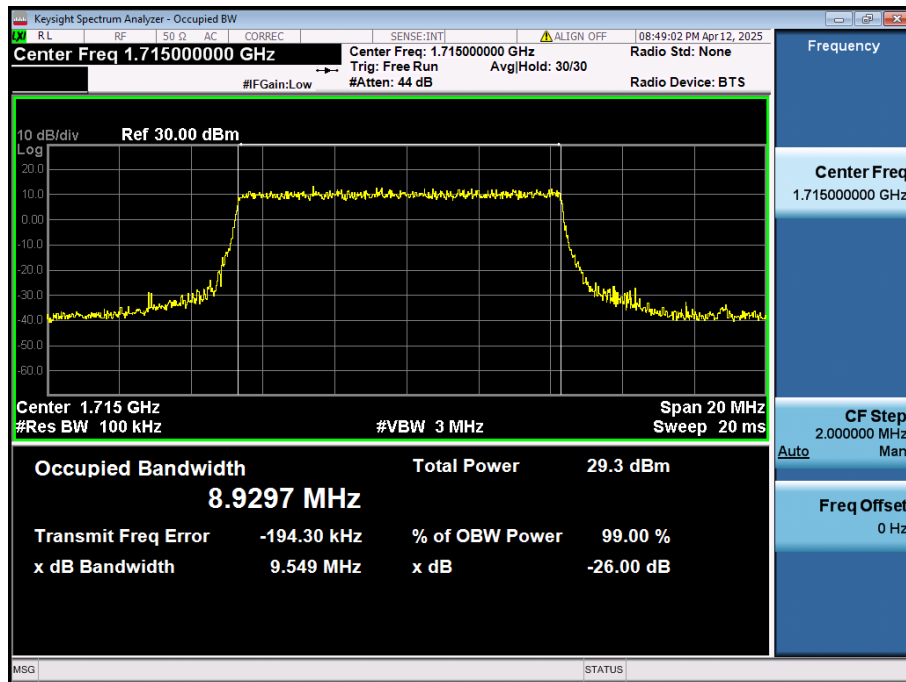
15 MHz / 256QAM / FULL RB Size



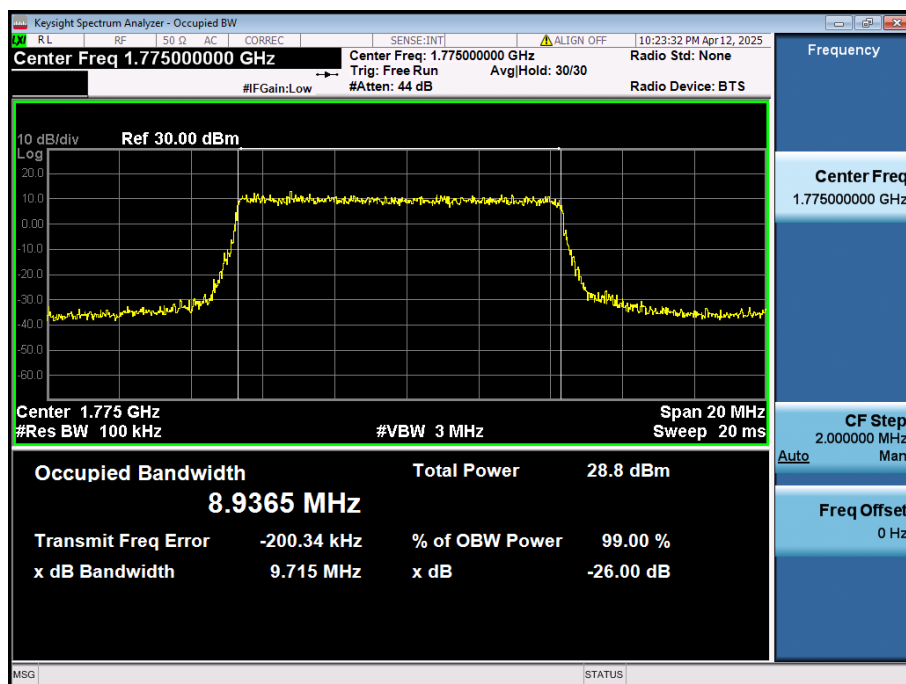
10 MHz / $\pi/2$ BPSK / FULL RB Size



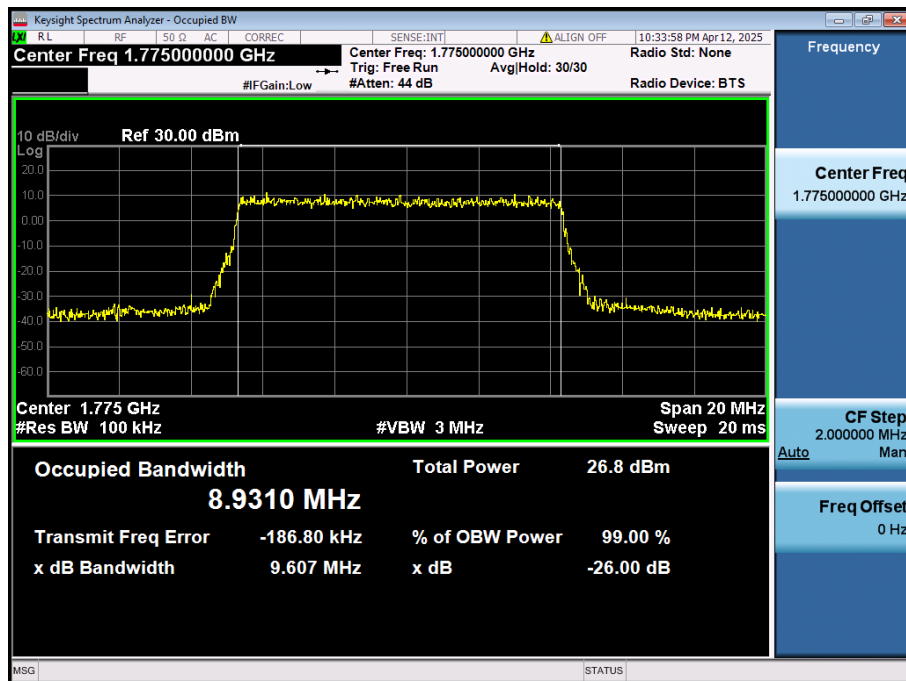
10 MHz / QPSK / FULL RB Size



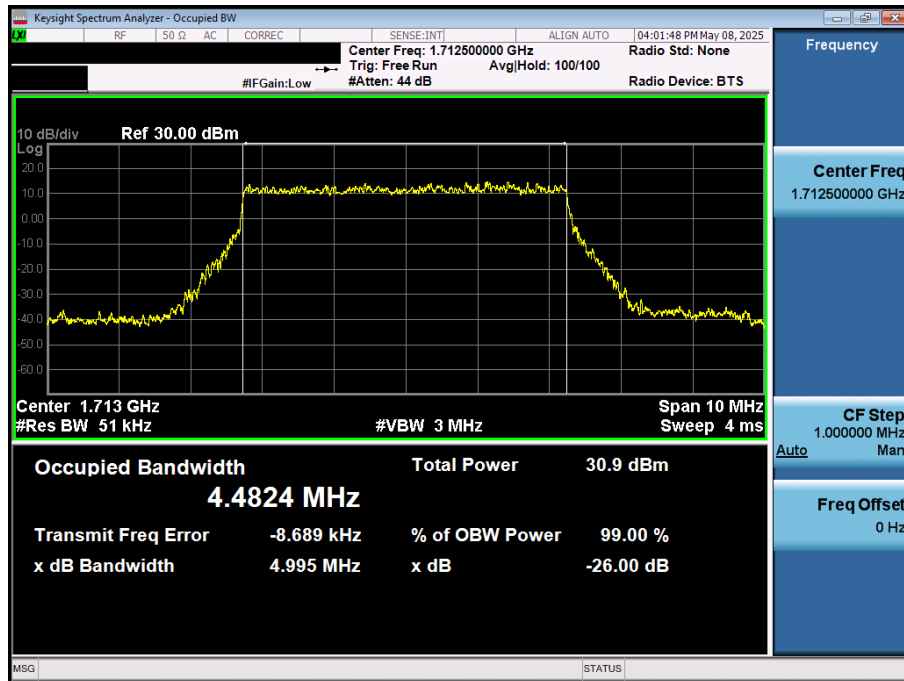
10 MHz / 16QAM / FULL RB Size



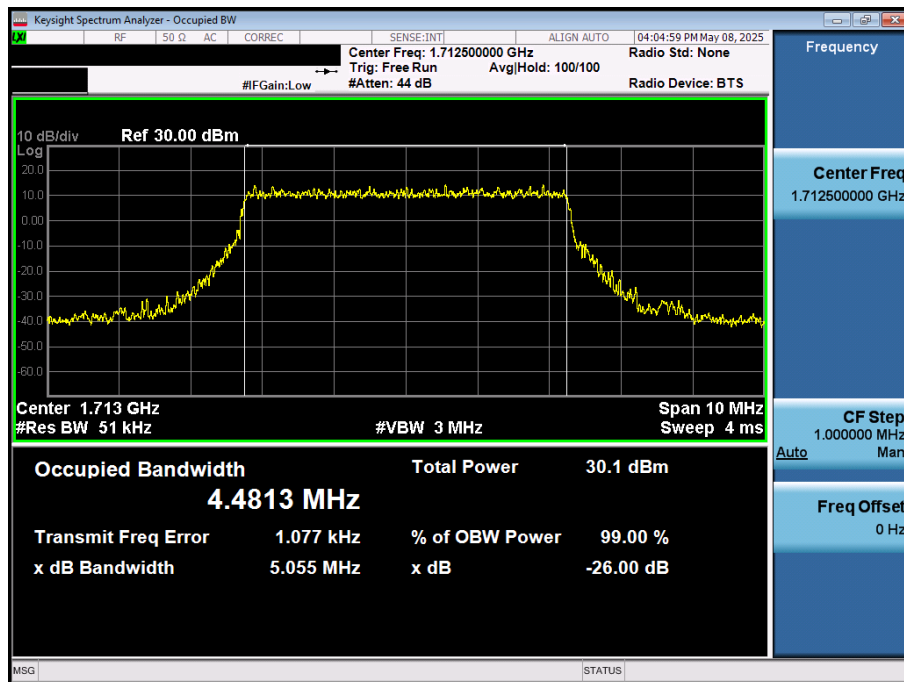
10 MHz / 64QAM / FULL RB Size



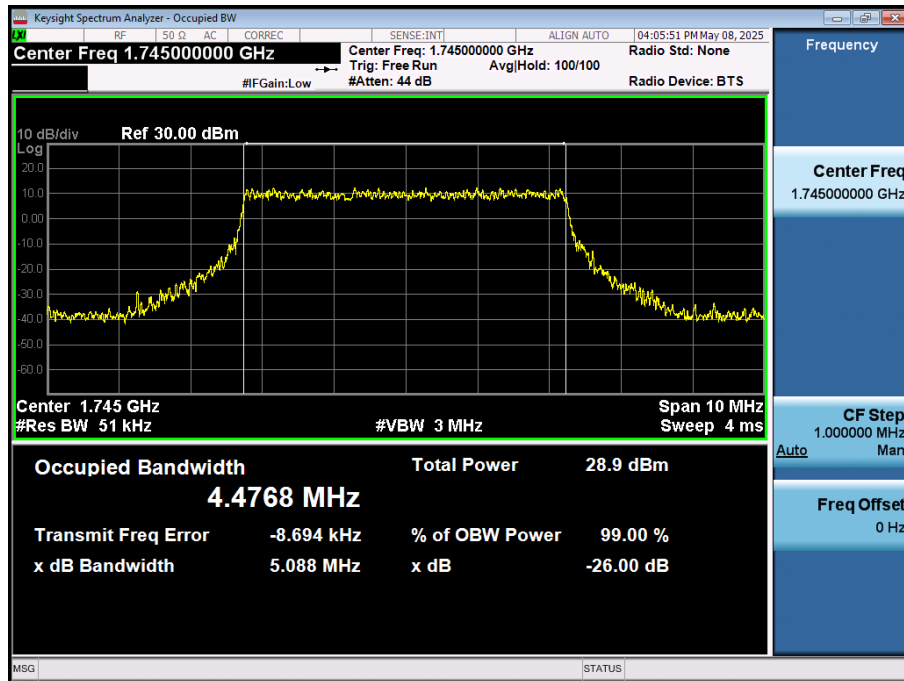
10 MHz / 256QAM / FULL RB Size



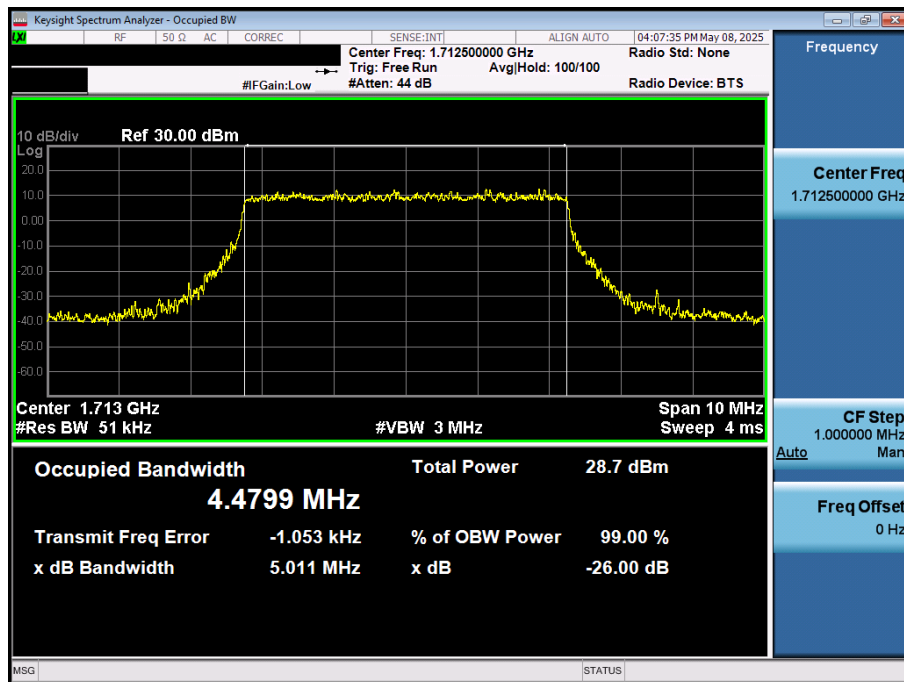
5 MHz / $\pi/2$ BPSK / FULL RB Size



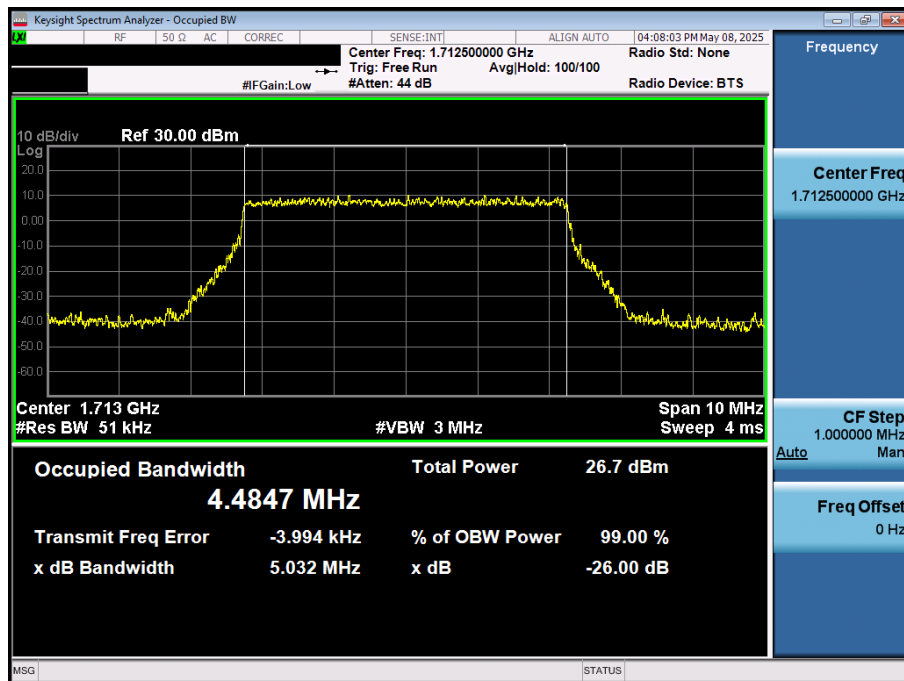
5 MHz / QPSK / FULL RB Size



5 MHz / 16QAM / FULL RB Size



5 MHz / 64QAM / FULL RB Size



5 MHz / 256QAM / FULL RB Size