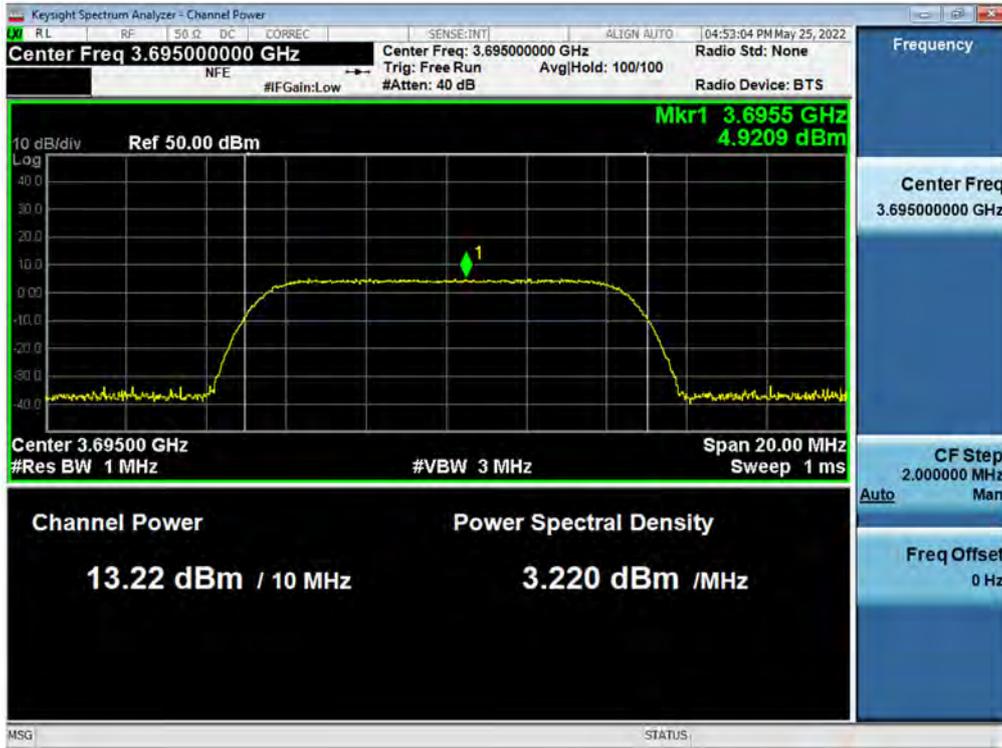
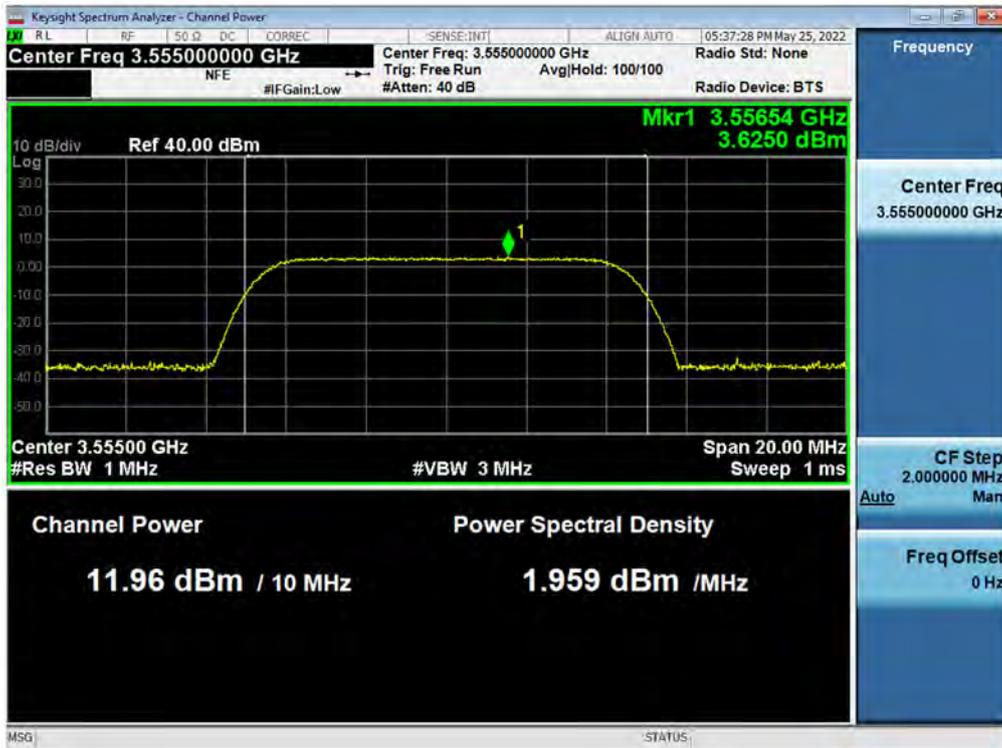
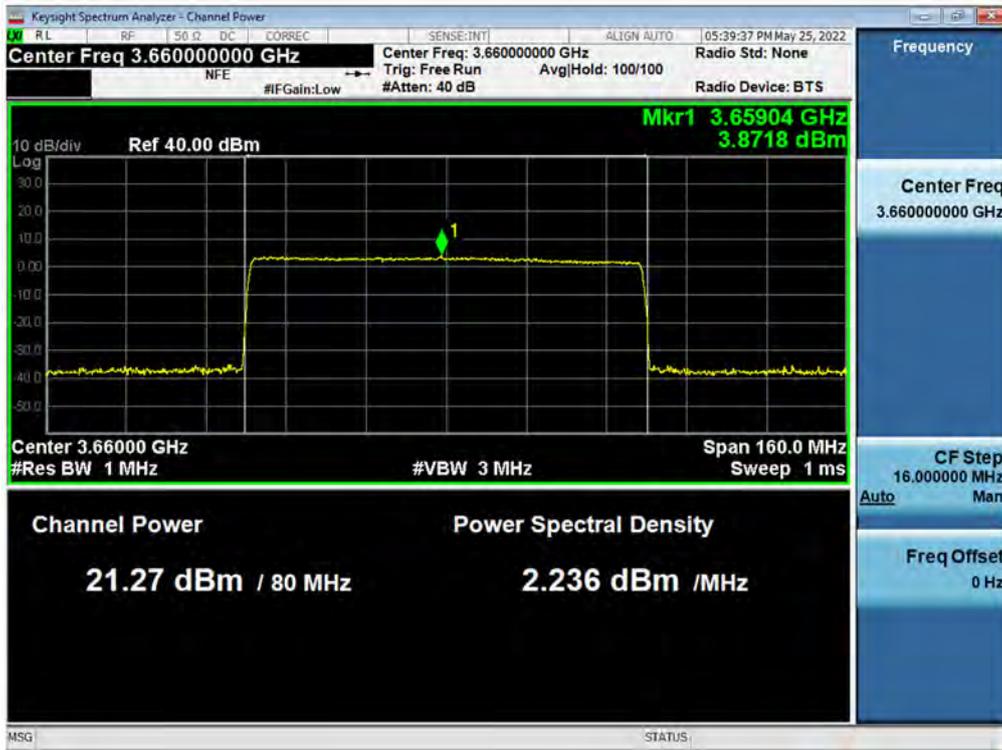
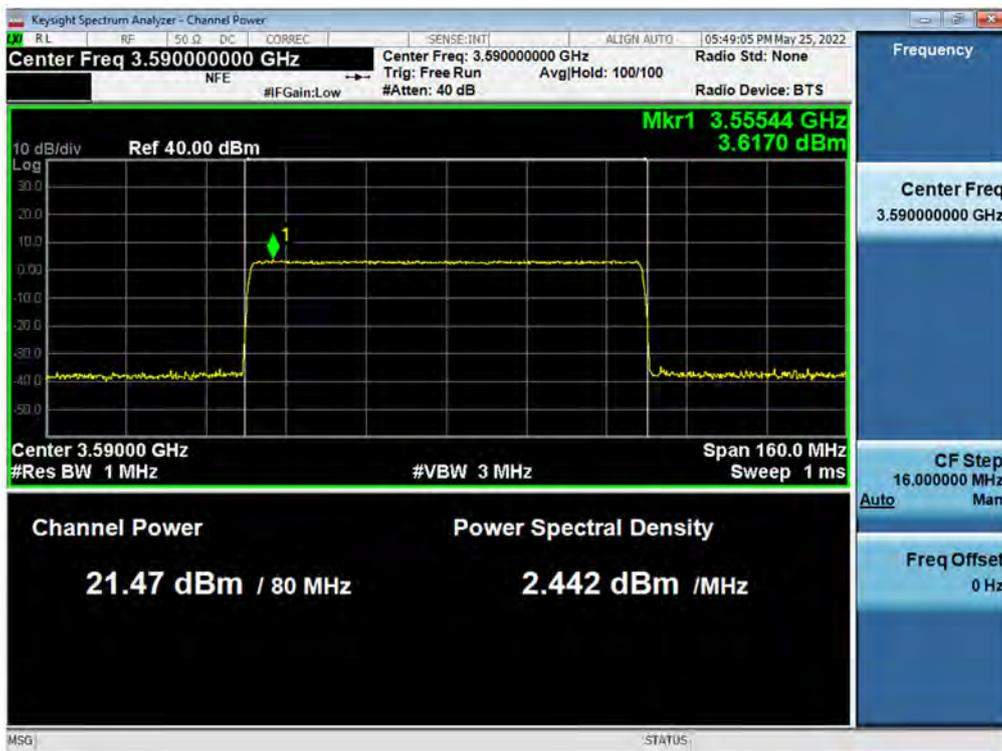


Antenna 0 / CBRS NR(60 MHz 1C + 10 MHz 1C)[2C] / NR 10 MHz 1C / Non-Contiguous / 64QAM / High

Antenna 1 / CBRS NR(10 MHz 1C + 80 MHz 1C)[2C]/ NR 10 MHz 1C / Non-Contiguous / 256QAM / Low


Antenna 1 / CBRs NR(10 MHz 1C + 80 MHz 1C)[2C] / NR 80 MHz 1C / Non-Contiguous / 256QAM / High



Antenna 1 / CBRs NR(80 MHz 1C + 10 MHz 1C)[2C] / NR 80 MHz 1C / Non-Contiguous / 64QAM / Low



Antenna 1 / CBRS NR(80 MHz 1C + 10 MHz 1C)[2C] / NR 10 MHz 1C / Non-Contiguous / 64QAM / High



Antenna 1 / CBRS LTE[5 MHz 1C + (5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C)][5C(1C+4C)] / 5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C / Non-Contiguous / 16QAM / High / PSD



Antenna 1 / CBRS LTE[5 MHz 1C + (5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C)][5C(1C+4C)] / 5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C / Non-Contiguous / 16QAM / High / E.I.R.P.



Antenna 0 / CBRS LTE[(5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C) + 5 MHz 1C][5C(4C+1C)] / 5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C / Non-Contiguous/ QPSK / Low / PSD



Antenna 0 / CBRS LTE[(5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C) + 5 MHz 1C][5C(4C+1C)] / 5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C / Non-Contiguous/ QPSK / Low / E.I.R.P.



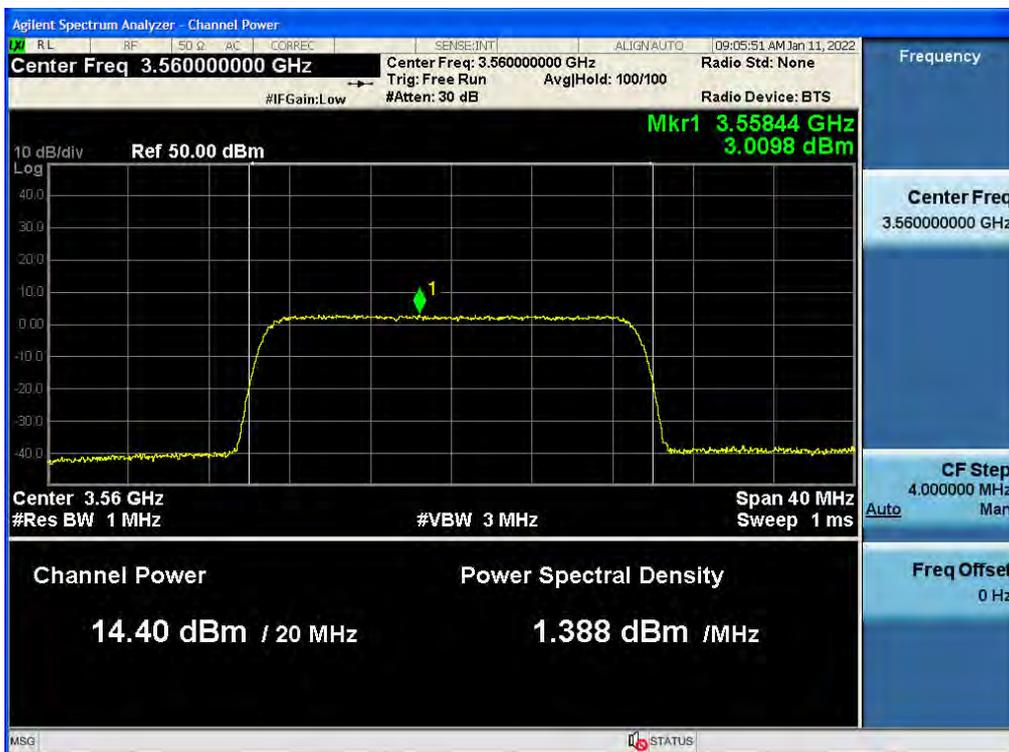
Antenna 1 / CBRS LTE[5 MHz 1C + (5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 20 MHz 1C)][5C(1C+4C)] / 5 MHz 1C / Non-Contiguous / 256QAM / Low



Antenna 1 / CBRS LTE[(20 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C) + 5 MHz 1C][5C(4C+1C)] / 5 MHz 1C / Non-Contiguous / QPSK / High



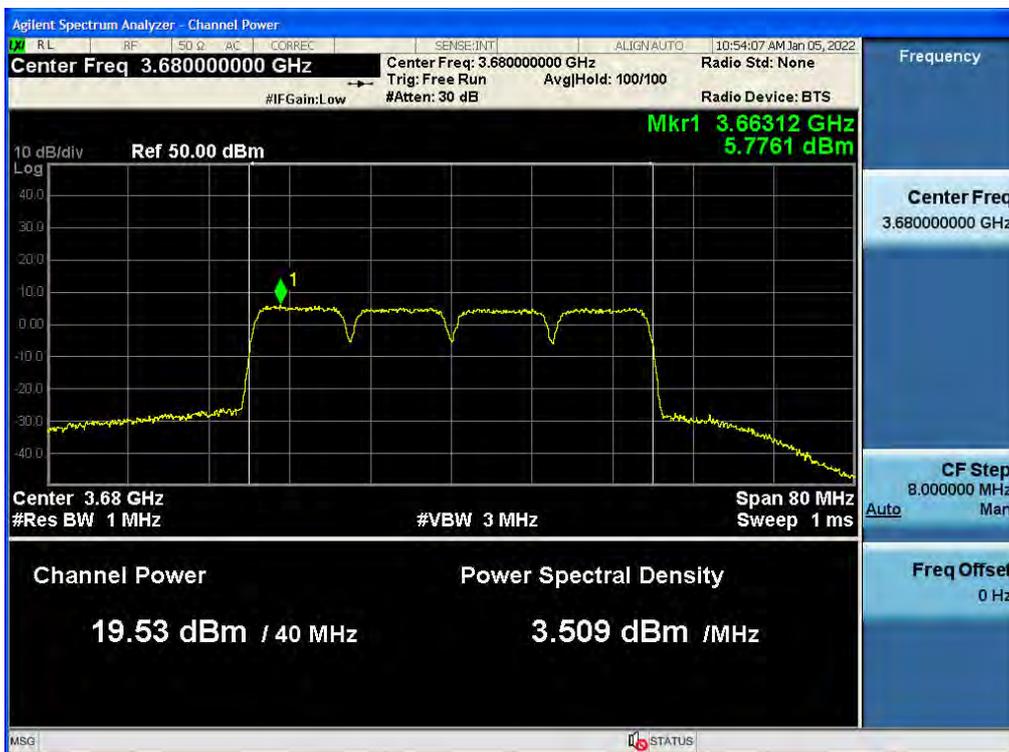
Antenna 0 / CBRS LTE[20 MHz 1C + (20 MHz 1C + 20 MHz 1C + 20 MHz 1C + 20 MHz 1C)][5C(1C+4C)] / 20 MHz 1C / Non-Contiguous / 1024QAM / Low



Antenna 0 / CBRs LTE[(20 MHz 1C + 20 MHz 1C + 20 MHz 1C + 20 MHz 1C) + 20 MHz 1C][5C(4C+1C)]
 / 20 MHz 1C + 20 MHz 1C + 20 MHz 1C + 20 MHz 1C / Non-Contiguous / 64QAM / Low



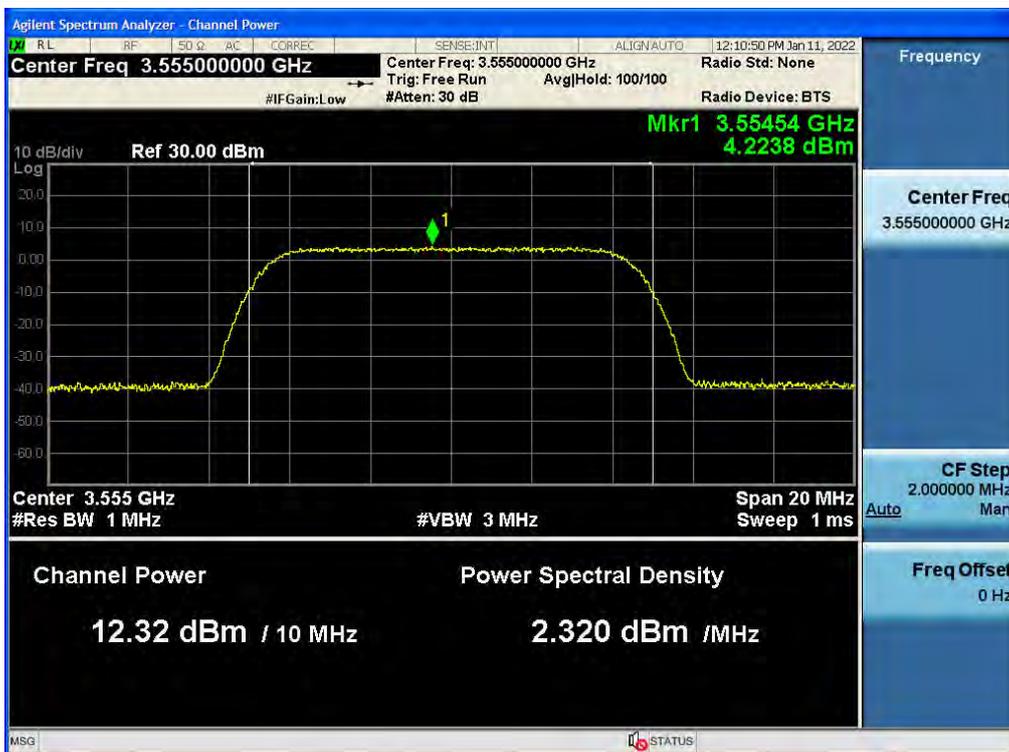
Antenna 0 / CBRs NR[10 MHz 1C + (10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C)][5C(1C+4C)]
 / 10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C / Non-Contiguous / 64QAM / High



Antenna 1 / CBRS NR[(10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C) + 10 MHz 1C][5C(4C+1C)]
 / 10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C / Non-Contiguous / QPSK / Low



Antenna 0 / CBRS NR[10 MHz 1C + (10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 40 MHz 1C)][5C(1C+4C)] / 10 MHz 1C
 / Non-Contiguous / 64QAM / Low



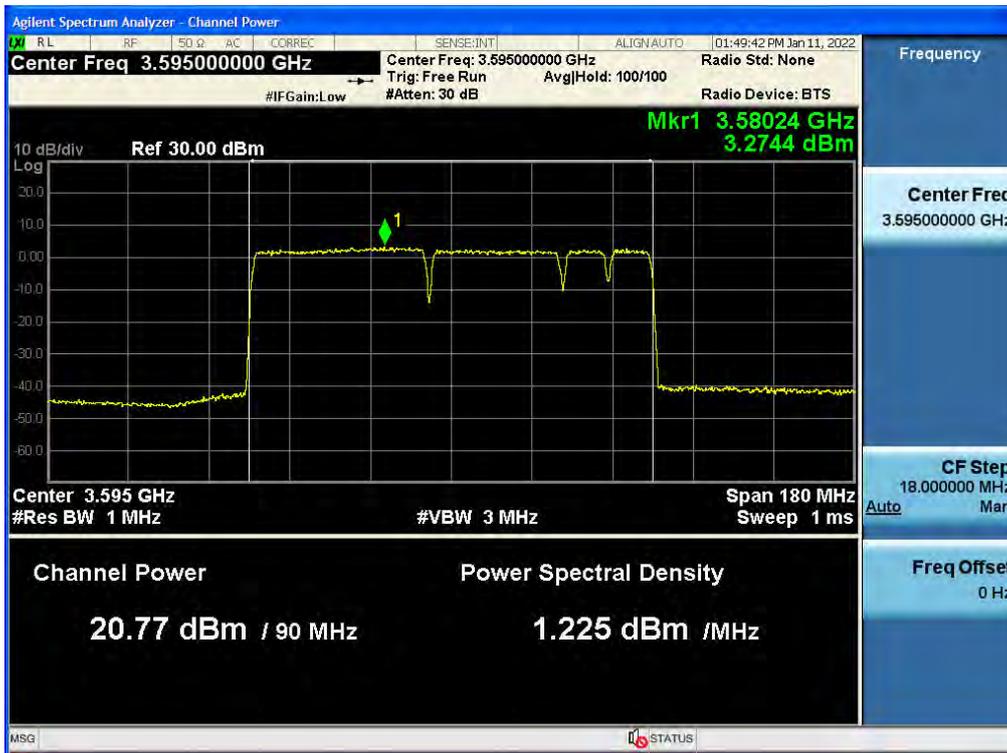
Antenna 1 / CBRS NR[(40 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C) + 10 MHz 1C][5C(4C+1C)]
/ 40 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C / Non-Contiguous / 256QAM / Low



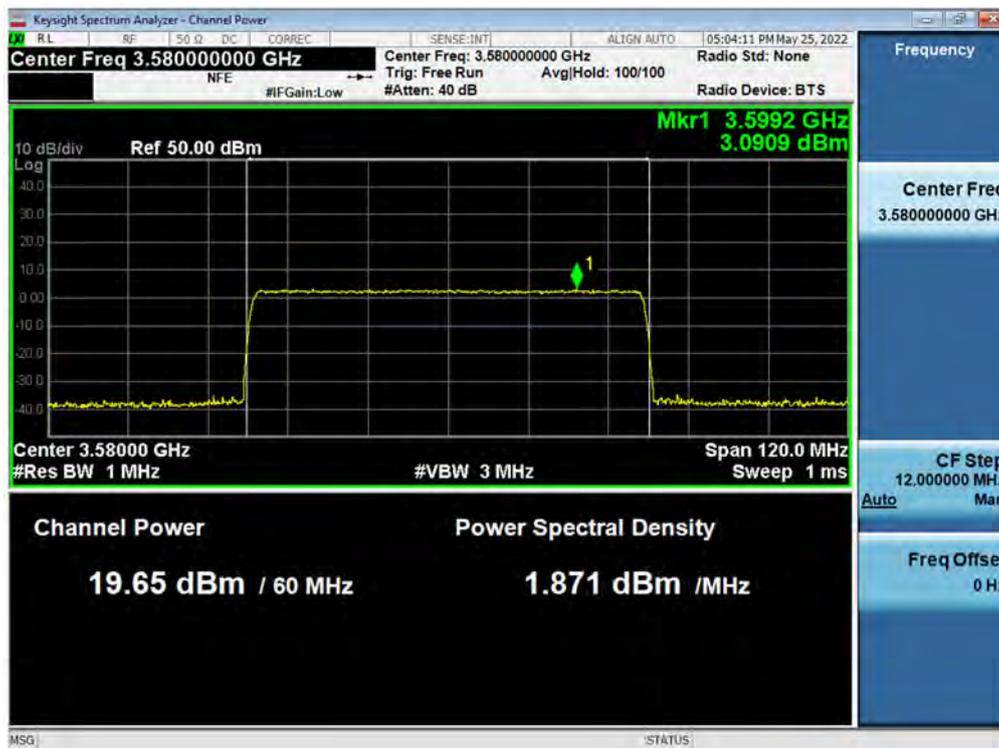
Antenna 0 / CBRS NR[10 MHz 1C + (10 MHz 1C + 10 MHz 1C + 30 MHz 1C + 40 MHz 1C)][5C(1C+4C)] / 10 MHz 1C
/ Non-Contiguous / QPSK / Low



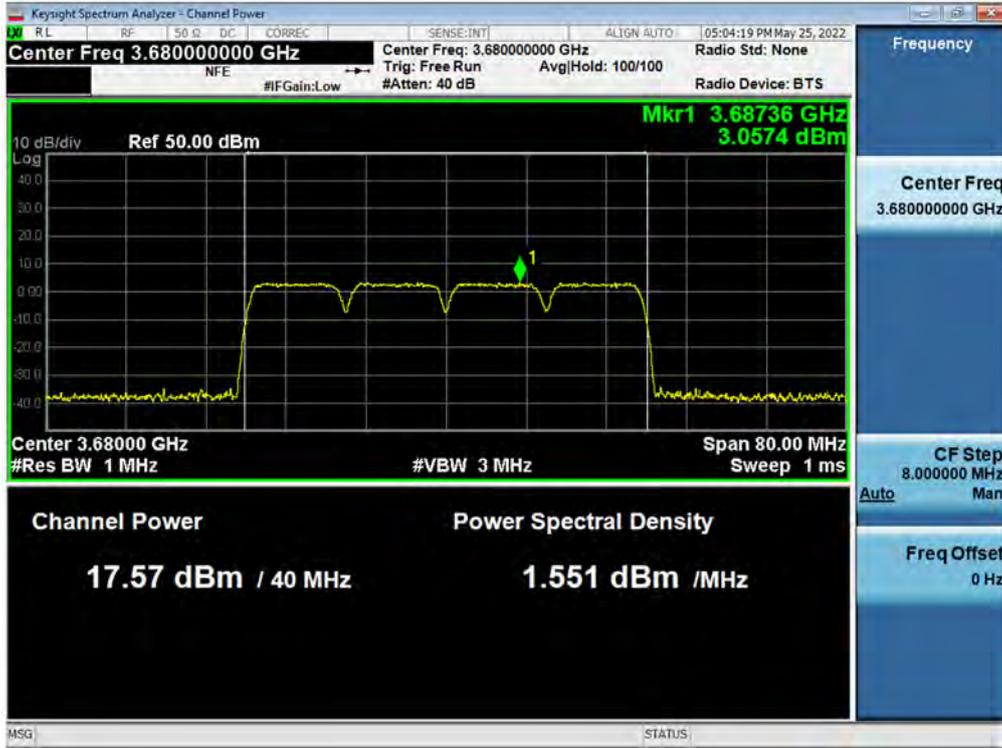
Antenna 1 / CBRS NR[(40 MHz 1C + 30 MHz 1C + 10 MHz 1C + 10 MHz 1C) + 10 MHz 1C][5C(4C+1C)]
 / 40 MHz 1C + 30 MHz 1C + 10 MHz 1C + 10 MHz 1C / Non-Contiguous / QPSK / Low



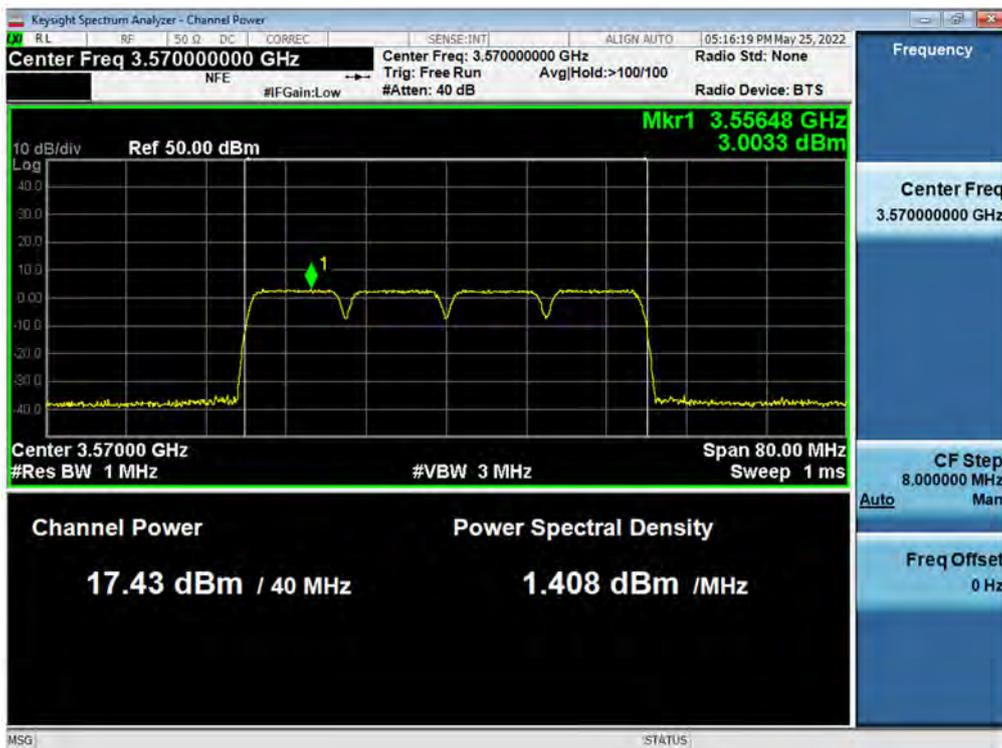
Antenna 0 / CBRS NR[60 MHz 1C + (10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C)][5C(1C+4C)]
 / NR 60 MHz 1C / Non-Contiguous / QPSK / Low



Antenna 0 / CBRS NR[60 MHz 1C + (10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C)][5C(1C+4C)]
/ NR 10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C / Non-Contiguous / QPSK / High



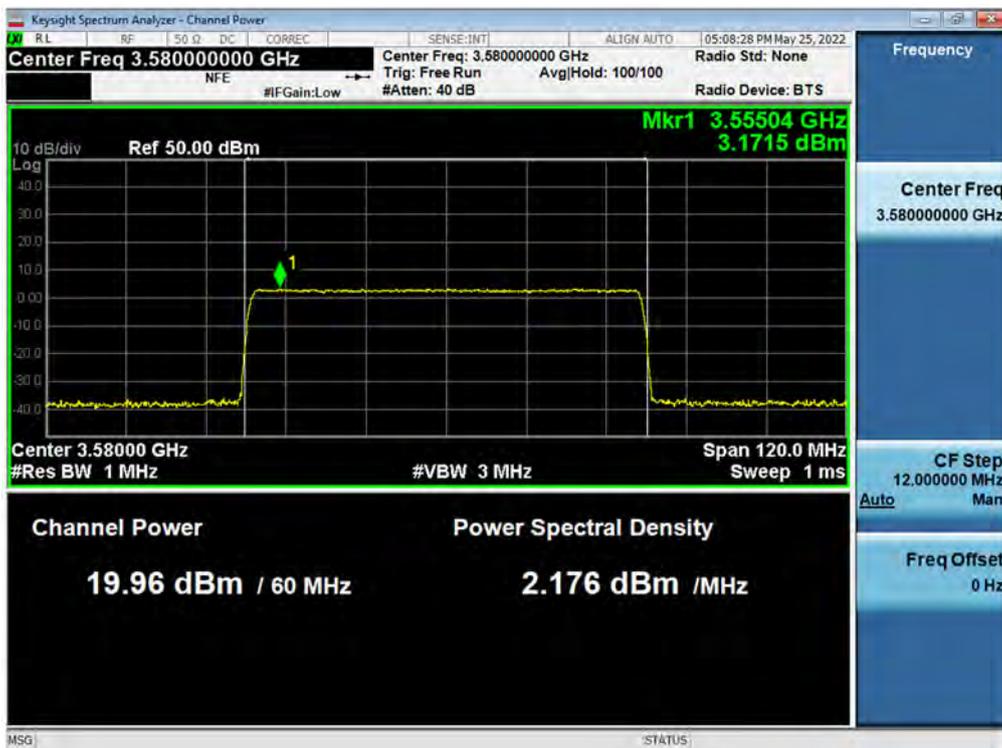
Antenna 1 / CBRS NR[(10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C) + 60 MHz 1C][5C(4C+1C)]
/ NR 10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C / Non-Contiguous / 16QAM / Low



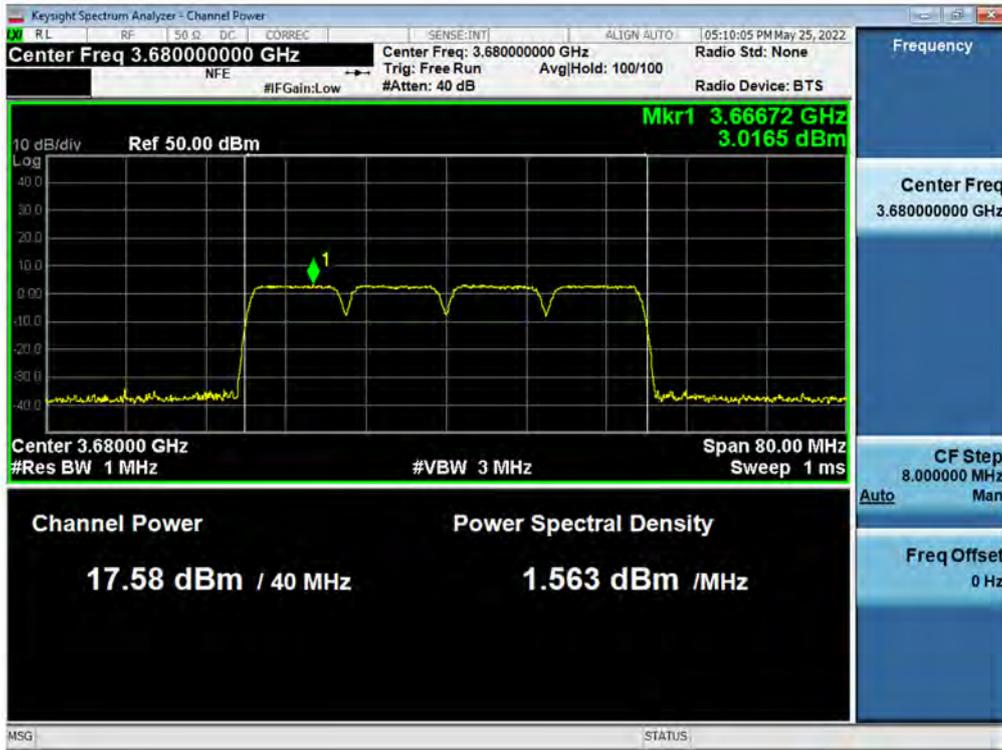
Antenna 1 / CBRS NR[(10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C) + 60 MHz 1C][5C(4C+1C)]
/ NR 60 MHz 1C / Non-Contiguous / 16QAM / High



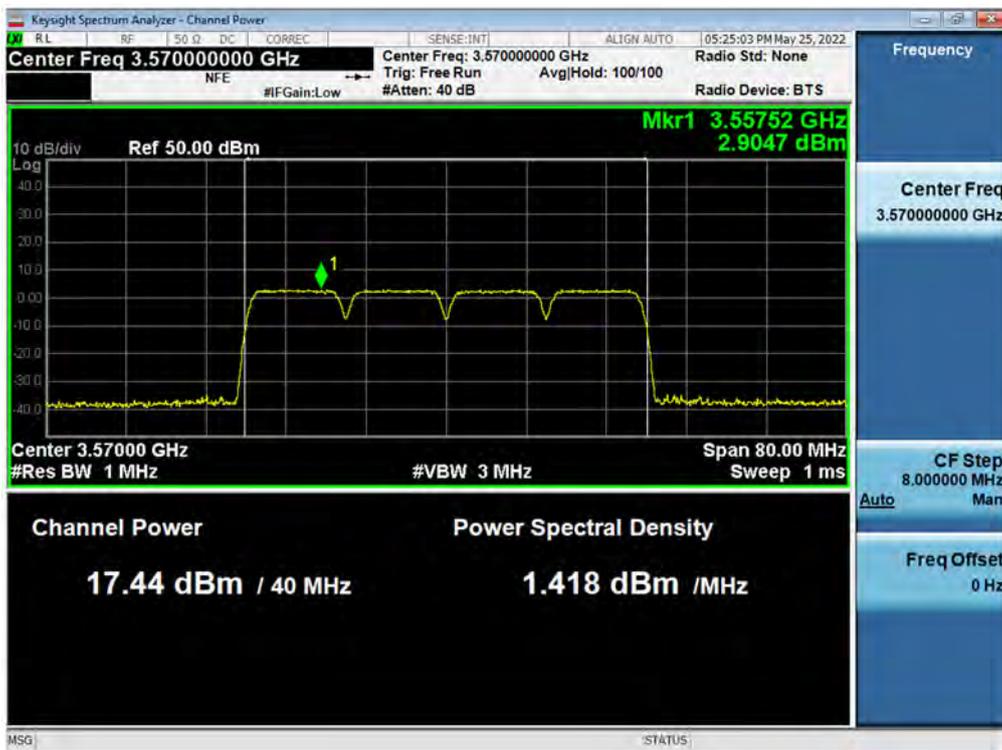
Antenna 0 / CBRS NR 60 MHz 1C + (NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 10 MHz 1C)[5C(1C+4C)]
/ CBRS NR 60 MHz 1C / Non-Contiguous / QPSK / Low



Antenna 0 / CBRS NR 60 MHz 1C + (NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 10 MHz 1C)[5C(1C+4C)] / NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 10 MHz 1C / Non-Contiguous / QPSK / High



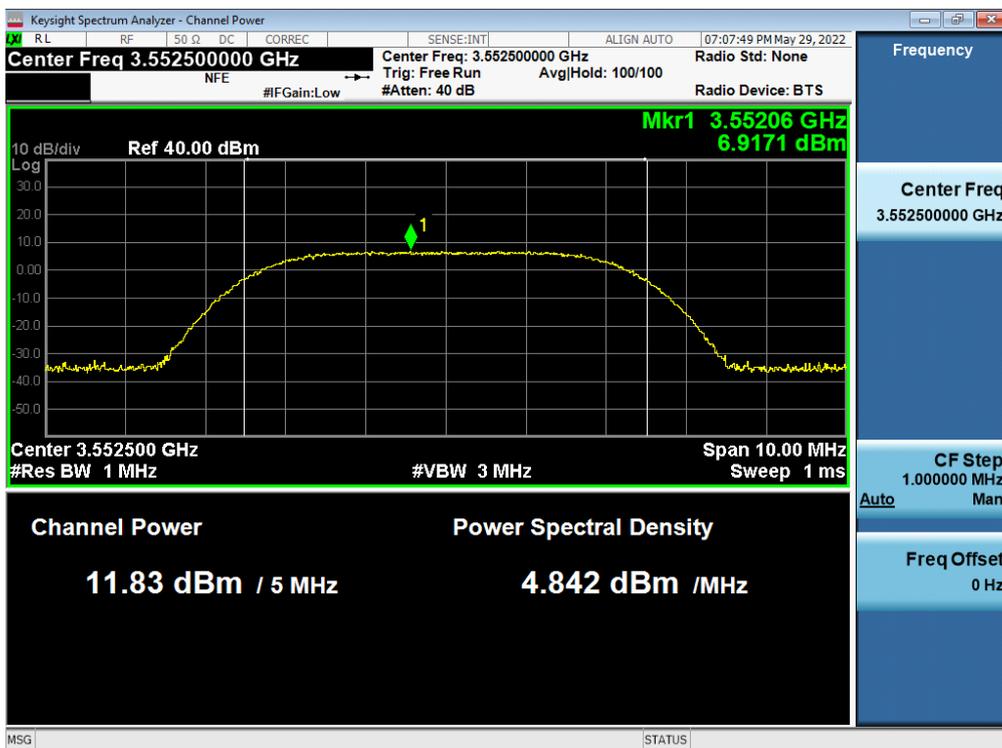
Antenna 1 / CBRS (LTE 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C) + NR 60 MHz 1C [5C(4C+1C)] / LTE 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C / Non-Contiguous / 64QAM / Low



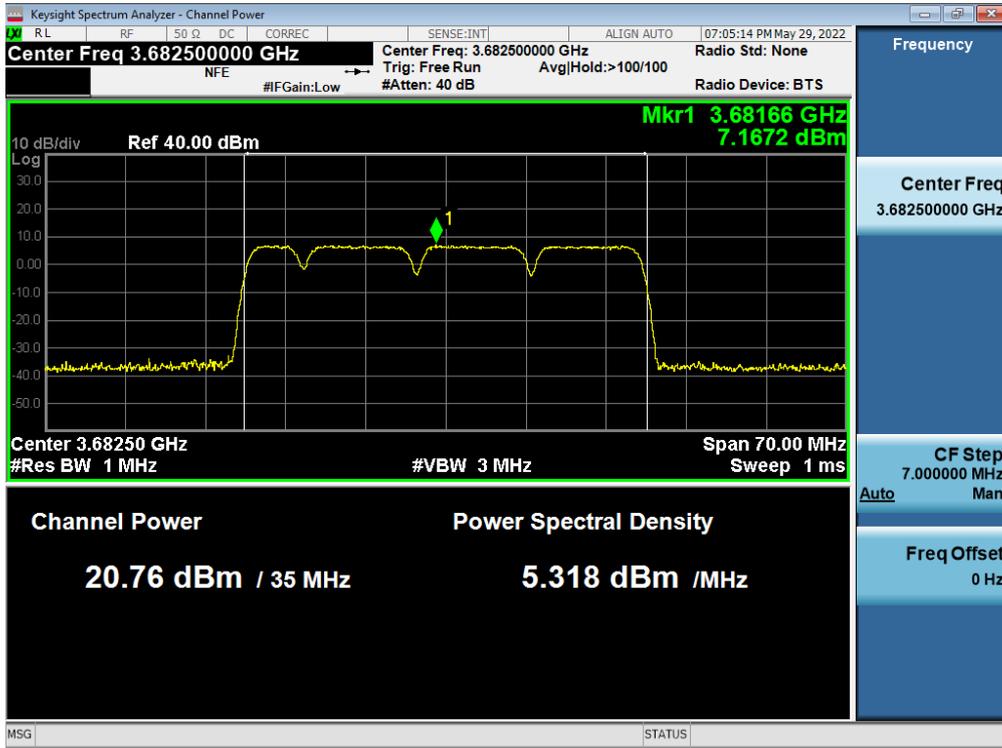
Antenna 1 / CBRS (LTE 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C) + NR 60 MHz 1C [5C(4C+1C)]
/ NR 60 MHz 1C / Non-Contiguous / 64QAM / High



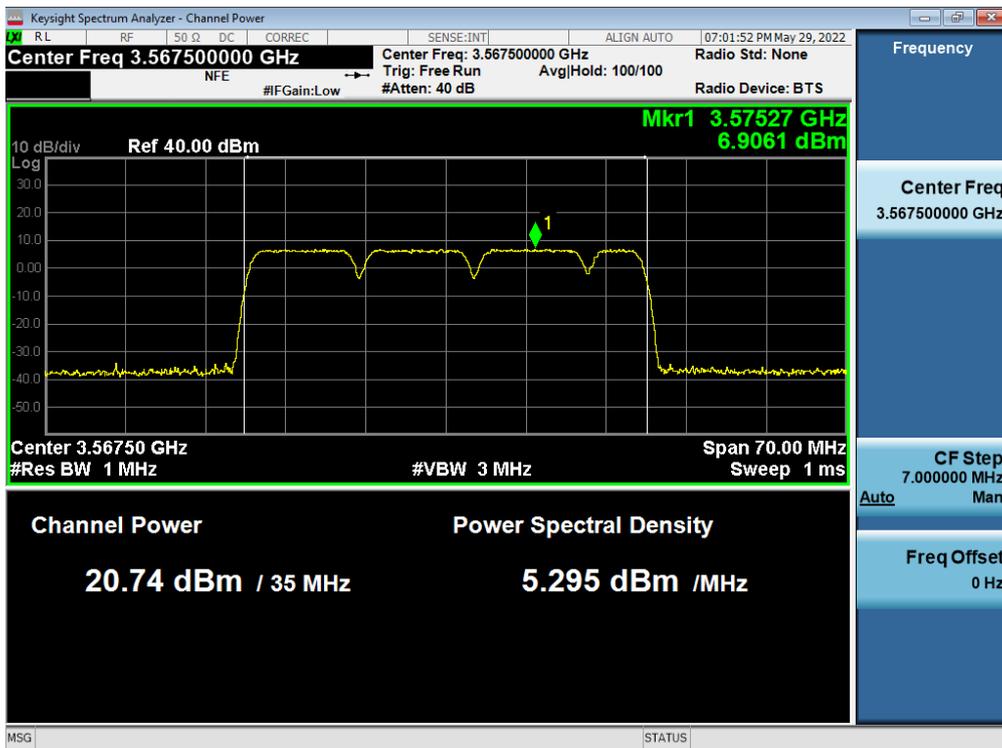
Antenna 1 / CBRS LTE 5 MHz 1C + (LTE 5 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C) [5C(1C+4C)]
/ LTE 5 MHz 1C / Non-Contiguous / QPSK / Low



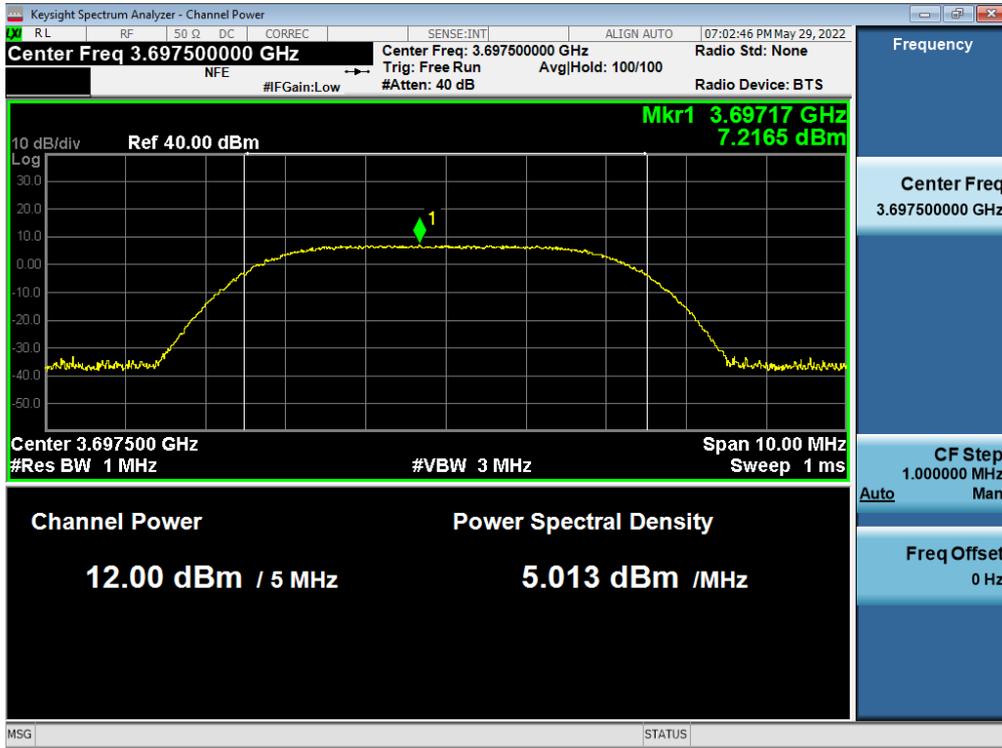
Antenna 1 / CBRs LTE 5 MHz 1C + (LTE 5 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C) [5C(1C+4C)] / LTE 5 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C / Non-Contiguous / QPSK / High



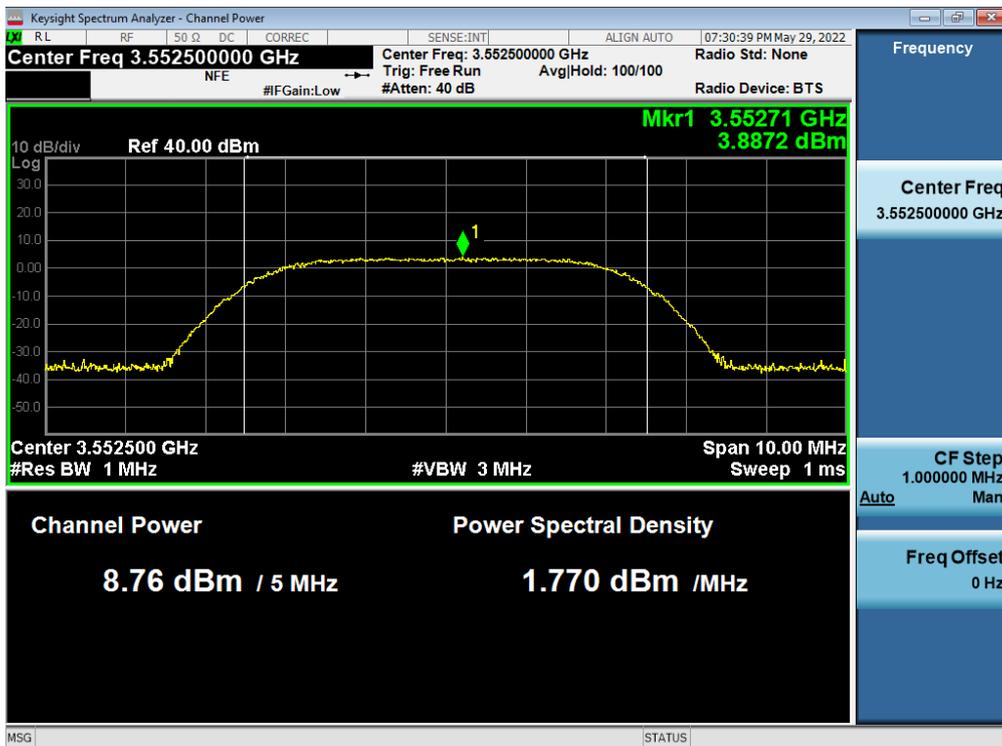
Antenna 0 / CBRs (NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)] / NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C / Non-Contiguous / 256QAM / Low



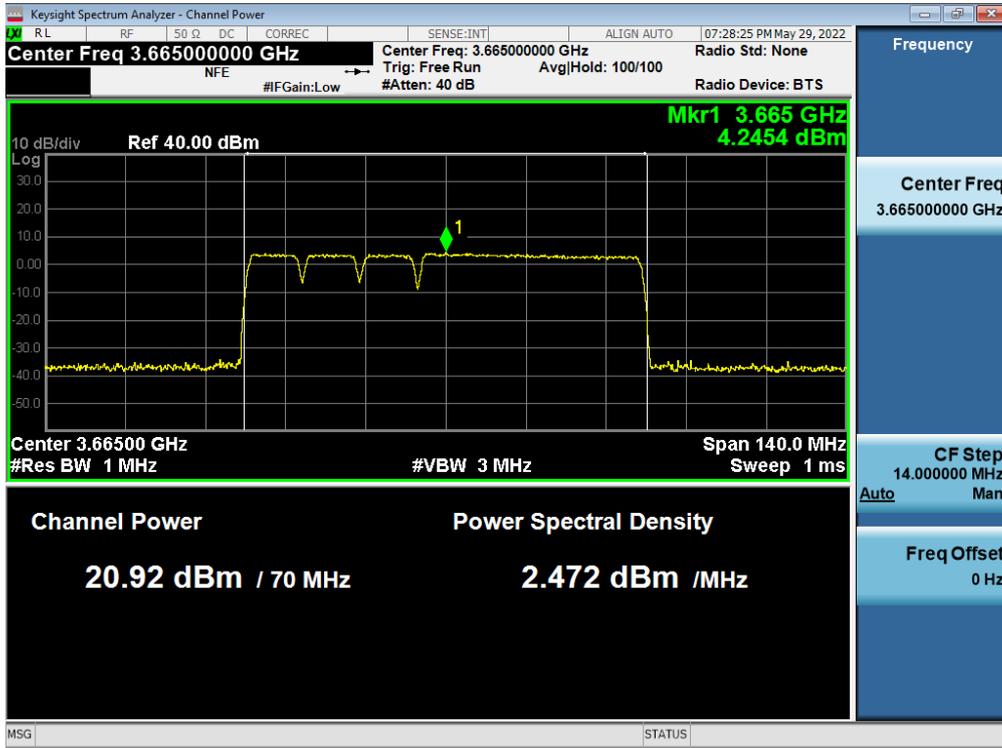
Antenna 0 / CBRs (NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]
/ LTE 5 MHz 1C / Non-Contiguous / 256QAM / High



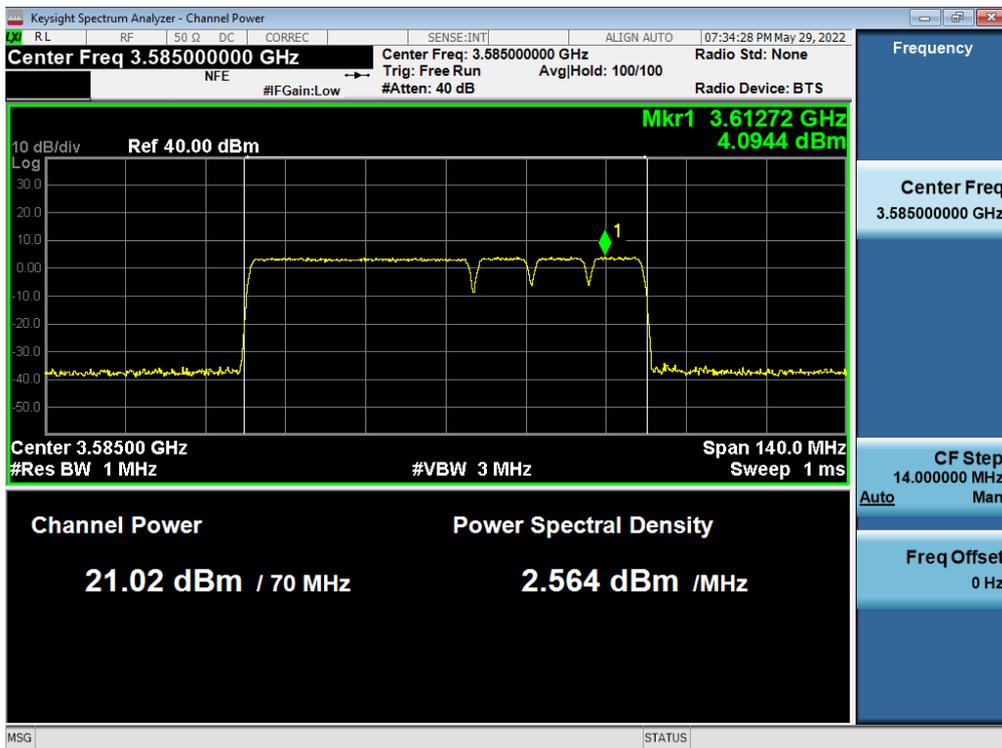
Antenna 0 / CBRs LTE 5 MHz 1C + (NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 40 MHz 1C) [5C(1C+4C)]
/ LTE 5 MHz 1C / Non-Contiguous / 64QAM / Low



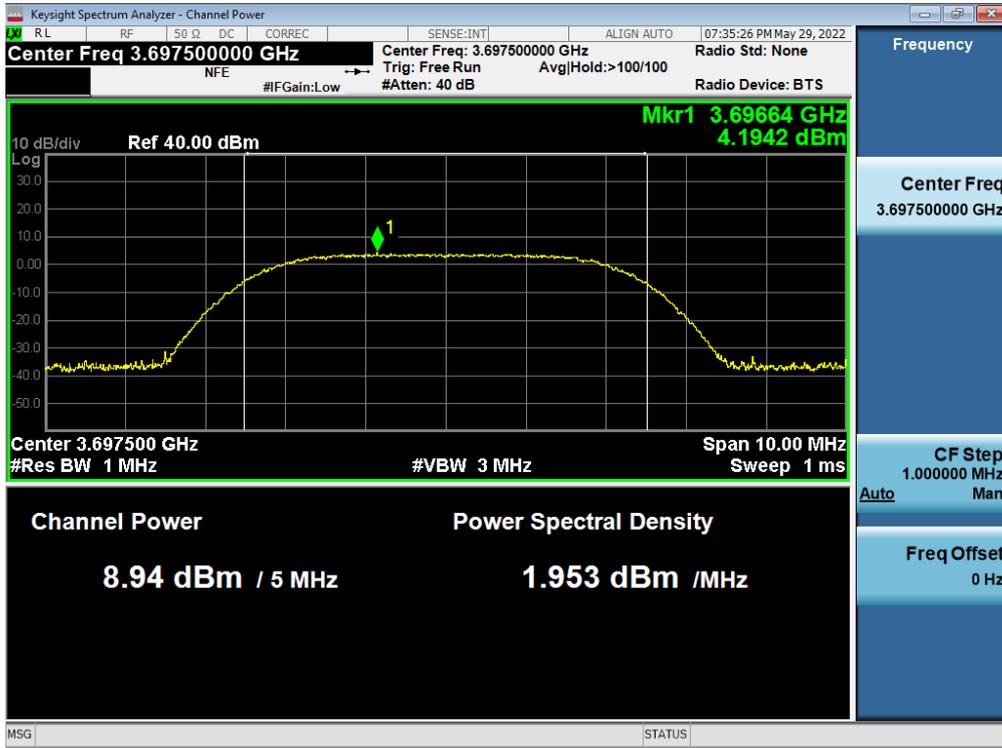
Antenna 0 / CBRS LTE 5 MHz 1C + (NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 40 MHz 1C) [5C(1C+4C)]
 / NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 40 MHz 1C / Non-Contiguous / 64QAM / High



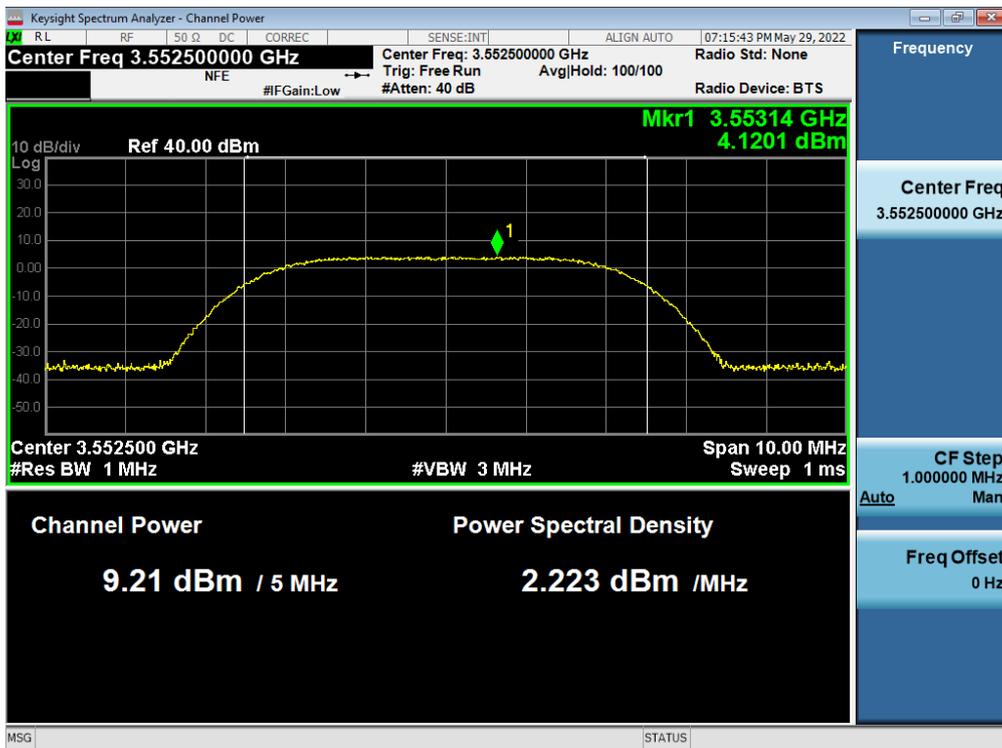
Antenna 0 / CBRS (NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]
 / NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C / Non-Contiguous / 256QAM / Low



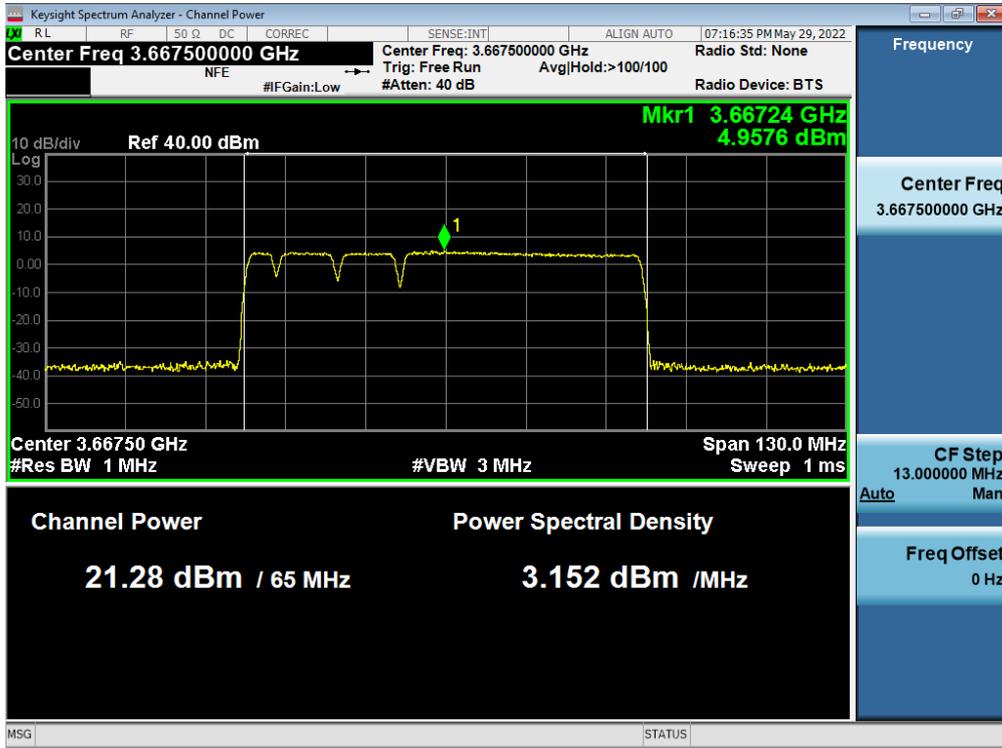
Antenna 0 / CBRS (NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)] / LTE 5 MHz 1C / Non-Contiguous / 256QAM / High



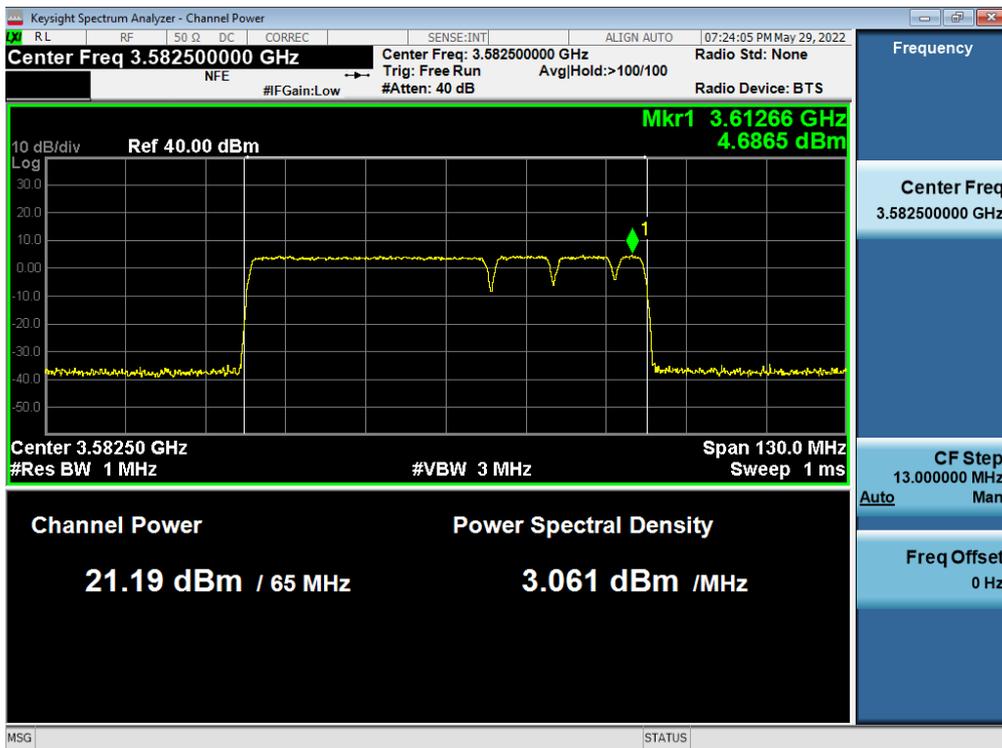
Antenna 1 / CBRS LTE 5 MHz 1C + (LTE 5 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 40 MHz 1C) [5C(1C+4C)] / LTE 5 MHz 1C / Non-Contiguous / 64QAM / Low



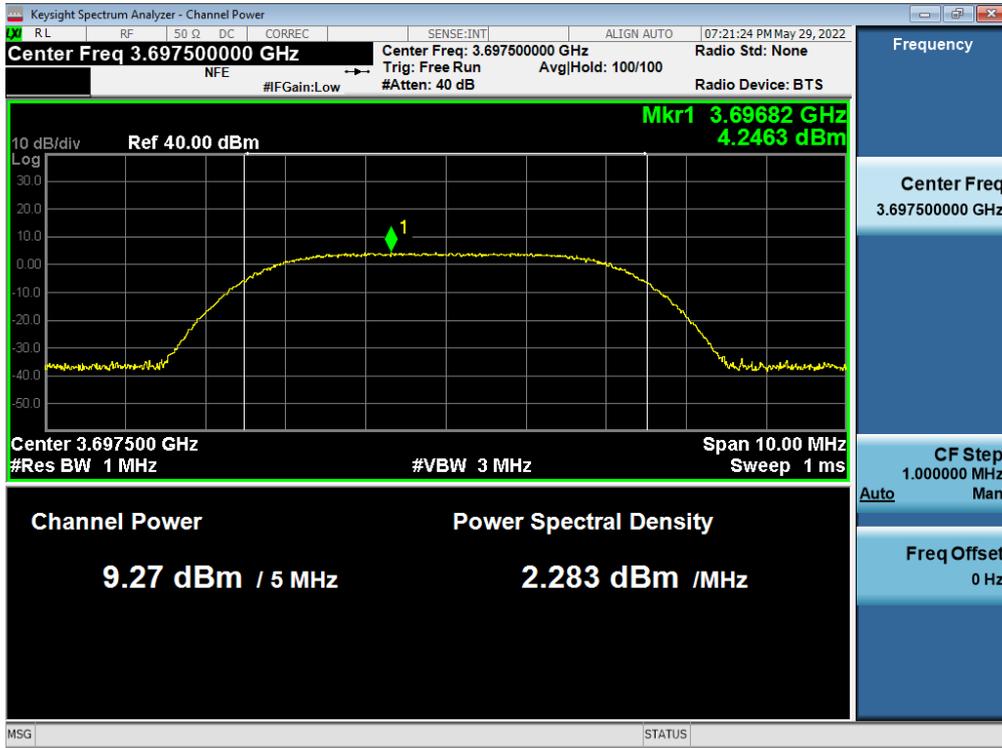
Antenna 1 / CBRs LTE 5 MHz 1C + (LTE 5 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 40 MHz 1C) [5C(1C+4C)] / LTE 5 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 40 MHz 1C / Non-Contiguous / 64QAM / High



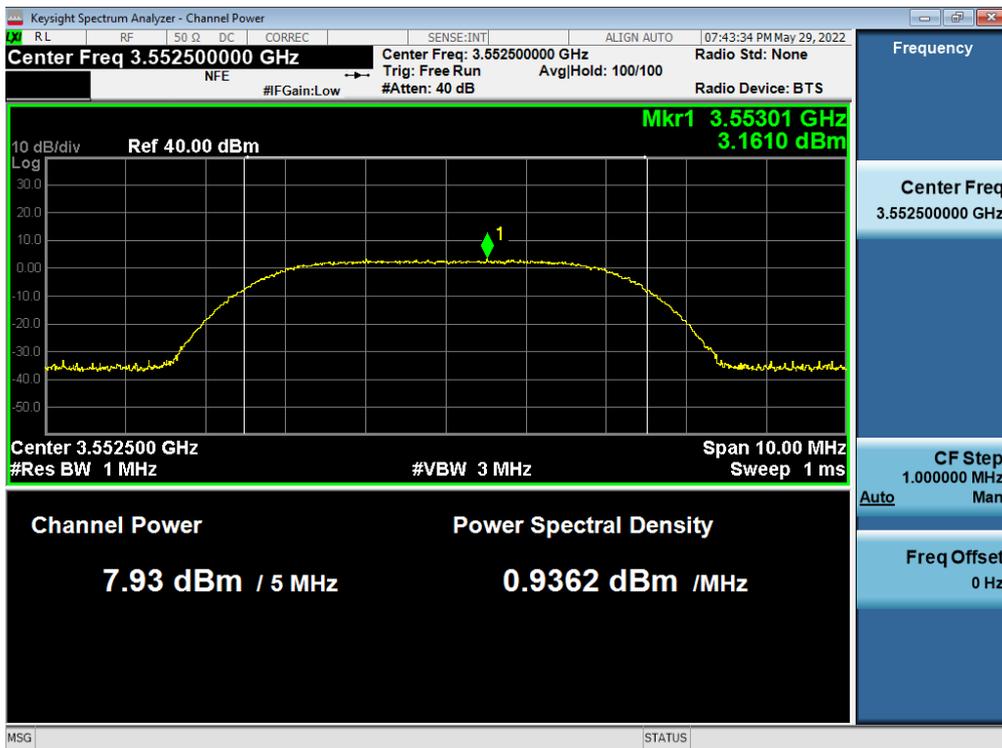
Antenna 0 / CBRs (NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)] / NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C / Non-Contiguous / 16QAM / Low



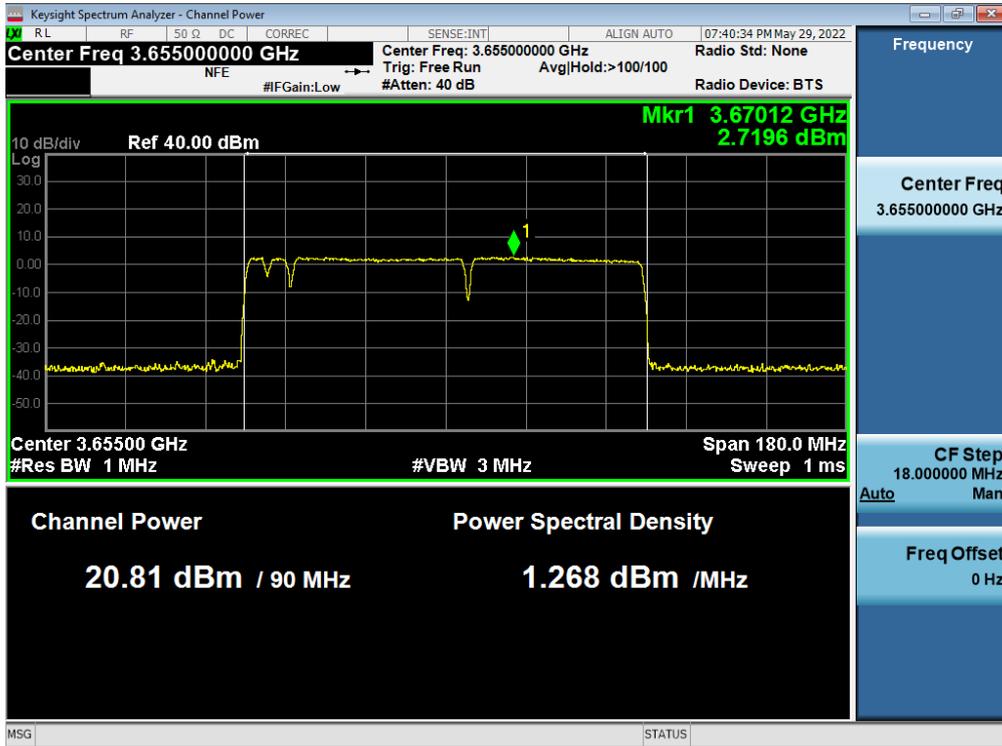
Antenna 0 / CBRS (NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]
/ LTE 5 MHz 1C / Non-Contiguous / 16QAM / High



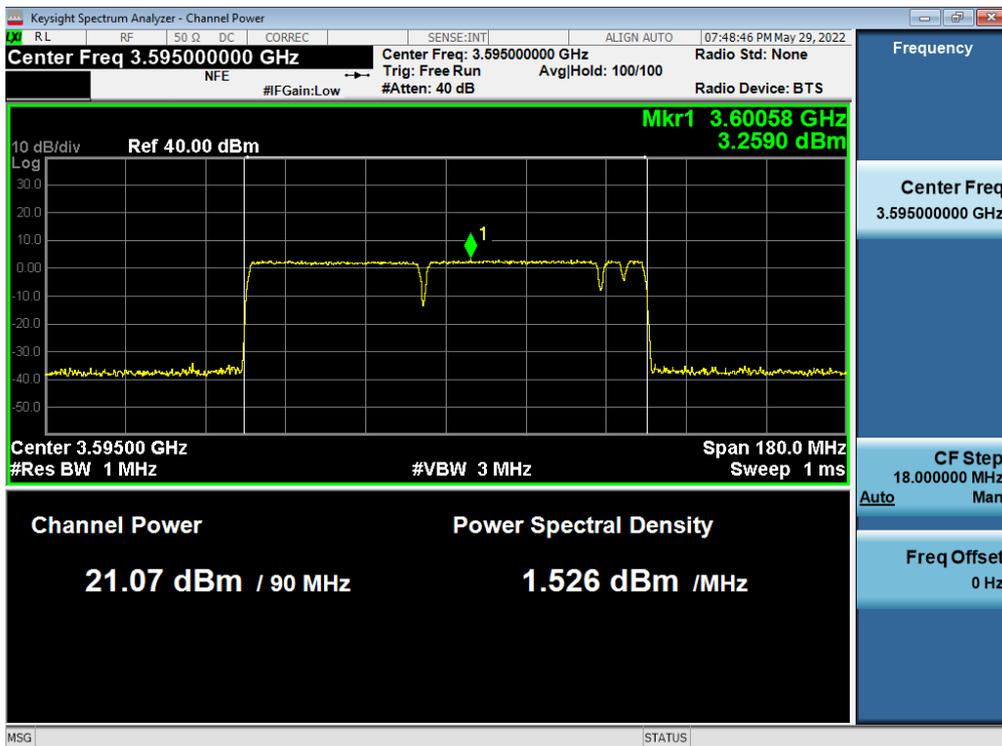
Antenna 0 / CBRS LTE 5 MHz 1C + (LTE 5 MHz 1C + LTE 5 MHz 1C + NR 40 MHz 1C + NR 40 MHz 1C) [5C(1C+4C)]
/ LTE 5 MHz 1C / Non-Contiguous / 256QAM / Low



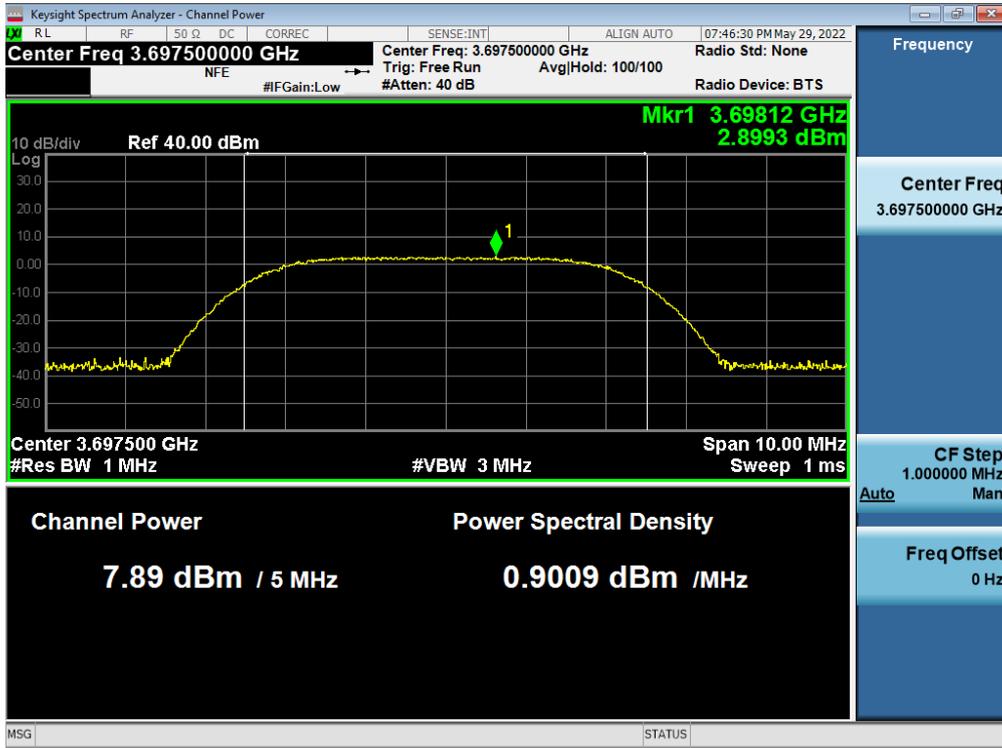
Antenna 0 / CBRS LTE 5 MHz 1C + (LTE 5 MHz 1C + LTE 5 MHz 1C + NR 40 MHz 1C + NR 40 MHz 1C) [5C(1C+4C)]
 / LTE 5 MHz 1C + LTE 5 MHz 1C + NR 40 MHz 1C + NR 40 MHz 1C / Non-Contiguous / 256QAM / High



Antenna 0 / CBRS (NR 40 MHz 1C + NR 40 MHz 1C + LTE 5 MHz 1C + LTE 5 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]
 / NR 40 MHz 1C + NR 40 MHz 1C + LTE 5 MHz 1C + LTE 5 MHz 1C / Non-Contiguous / 64QAM / Low



Antenna 0 / CBRS (NR 40 MHz 1C + NR 40 MHz 1C + LTE 5 MHz 1C + LTE 5 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]
 / LTE 5 MHz 1C / Non-Contiguous / 64QAM / High



5.2. PAPR

Test Requirements:

§ 96.41(g) General radio requirements: Power measurement.

The peak-to-average power ratio (PAPR) of any CBSD transmitter output power must not exceed 13 dB. PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities or another Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

Test Procedures:

The measurement is performed in accordance with Section 5.2.3.4 of ANSI C63.26.

The following guidelines are offered for performing a CCDF measurement..

- a) Set resolution/measurement bandwidth \geq OBW or specified reference bandwidth.
- b) Set the number of counts to a value that stabilizes the measured CCDF curve.
- c) 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.
- d) Record the maximum PAPR level associated with a probability of 0.1%.
- e) The peak power level is calculated from the sum of the PAPR value from step d) to the measured average power.

Note:

- (1) The results of PAPR test shown below the frequency measured values are very small and similar trend for each port, so we are attached only the worst case plot.
- (2) All power supply of operation were investigated and the worst case configuration results are reported.
 - Mode: 48 V; 1.5 A / 57 V; 1.3 A(PoE)
 - Worst case: 48 V; 1.5 A

Tabular data of PAPR

CBRS LTE 5 MHz 1 Carrier

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 552.50	8.65
		Middle	3 625.00	8.55
		High	3 697.50	8.47
	16QAM	Low	3 552.50	8.45
		Middle	3 625.00	8.46
		High	3 697.50	8.41
	64QAM	Low	3 552.50	8.17
		Middle	3 625.00	8.18
		High	3 697.50	8.15
	256QAM	Low	3 552.50	8.43
		Middle	3 625.00	8.41
		High	3 697.50	8.37
	1024QAM	Low	3 552.50	8.37
		Middle	3 625.00	8.38
		High	3 697.50	8.46
1	QPSK	Low	3 552.50	8.59
		Middle	3 625.00	8.51
		High	3 697.50	8.54
	16QAM	Low	3 552.50	8.47
		Middle	3 625.00	8.46
		High	3 697.50	8.45
	64QAM	Low	3 552.50	8.22
		Middle	3 625.00	8.19
		High	3 697.50	8.18
	256QAM	Low	3 552.50	8.49
		Middle	3 625.00	8.44
		High	3 697.50	8.42
	1024QAM	Low	3 552.50	8.46
		Middle	3 625.00	8.44
		High	3 697.50	8.44

CBRS LTE 10 MHz 1 Carrier

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 555.00	8.48
		Middle	3 625.00	8.47
		High	3 695.00	8.51
	16QAM	Low	3 555.00	8.38
		Middle	3 625.00	8.33
		High	3 695.00	8.22
	64QAM	Low	3 555.00	8.40
		Middle	3 625.00	8.41
		High	3 695.00	8.32
	256QAM	Low	3 555.00	8.35
		Middle	3 625.00	8.32
		High	3 695.00	8.22
	1024QAM	Low	3 555.00	8.33
		Middle	3 625.00	8.27
		High	3 695.00	8.25
1	QPSK	Low	3 555.00	8.45
		Middle	3 625.00	8.52
		High	3 695.00	8.48
	16QAM	Low	3 555.00	8.38
		Middle	3 625.00	8.41
		High	3 695.00	8.40
	64QAM	Low	3 555.00	8.36
		Middle	3 625.00	8.31
		High	3 695.00	8.35
	256QAM	Low	3 555.00	8.36
		Middle	3 625.00	8.37
		High	3 695.00	8.33
	1024QAM	Low	3 555.00	8.38
		Middle	3 625.00	8.29
		High	3 695.00	8.32

CBRS LTE 15 MHz 1 Carrier

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 557.50	8.32
		Middle	3 625.00	8.38
		High	3 692.50	8.17
	16QAM	Low	3 557.50	8.29
		Middle	3 625.00	8.33
		High	3 692.50	8.12
	64QAM	Low	3 557.50	8.28
		Middle	3 625.00	8.28
		High	3 692.50	8.16
	256QAM	Low	3 557.50	8.31
		Middle	3 625.00	8.32
		High	3 692.50	8.17
	1024QAM	Low	3 557.50	8.37
		Middle	3 625.00	8.39
		High	3 692.50	8.27
1	QPSK	Low	3 557.50	8.49
		Middle	3 625.00	8.40
		High	3 692.50	8.28
	16QAM	Low	3 557.50	8.42
		Middle	3 625.00	8.36
		High	3 692.50	8.28
	64QAM	Low	3 557.50	8.33
		Middle	3 625.00	8.31
		High	3 692.50	8.24
	256QAM	Low	3 557.50	8.37
		Middle	3 625.00	8.35
		High	3 692.50	8.29
	1024QAM	Low	3 557.50	8.42
		Middle	3 625.00	8.34
		High	3 692.50	8.28

CBRS LTE 20 MHz 1 Carrier

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 560.00	8.06
		Middle	3 625.00	8.21
		High	3 690.00	7.95
	16QAM	Low	3 560.00	8.12
		Middle	3 625.00	8.34
		High	3 690.00	7.98
	64QAM	Low	3 560.00	8.09
		Middle	3 625.00	8.24
		High	3 690.00	7.88
	256QAM	Low	3 560.00	7.99
		Middle	3 625.00	8.35
		High	3 690.00	7.85
	1024QAM	Low	3 560.00	8.05
		Middle	3 625.00	8.27
		High	3 690.00	7.90
1	QPSK	Low	3 560.00	8.14
		Middle	3 625.00	8.13
		High	3 690.00	8.14
	16QAM	Low	3 560.00	8.19
		Middle	3 625.00	8.24
		High	3 690.00	8.16
	64QAM	Low	3 560.00	8.11
		Middle	3 625.00	8.19
		High	3 690.00	8.05
	256QAM	Low	3 560.00	8.23
		Middle	3 625.00	8.29
		High	3 690.00	8.18
	1024QAM	Low	3 560.00	8.21
		Middle	3 625.00	8.25
		High	3 690.00	8.08

CBRS NR 10 MHz 1 Carrier

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 555.00	8.31
		Middle	3 625.00	8.23
		High	3 695.00	7.86
	16QAM	Low	3 555.00	8.21
		Middle	3 625.00	8.08
		High	3 695.00	7.77
	64QAM	Low	3 555.00	8.08
		Middle	3 625.00	8.02
		High	3 695.00	7.57
	256QAM	Low	3 555.00	8.11
		Middle	3 625.00	7.95
		High	3 695.00	7.85
1	QPSK	Low	3 555.00	8.45
		Middle	3 625.00	8.47
		High	3 695.00	8.43
	16QAM	Low	3 555.00	8.45
		Middle	3 625.00	8.45
		High	3 695.00	8.41
	64QAM	Low	3 555.00	8.53
		Middle	3 625.00	8.49
		High	3 695.00	8.40
	256QAM	Low	3 555.00	8.38
		Middle	3 625.00	8.38
		High	3 695.00	8.39

CBRS NR 20 MHz 1 Carrier

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 560.00	7.33
		Middle	3 625.00	7.32
		High	3 690.00	6.95
	16QAM	Low	3 560.00	7.31
		Middle	3 625.00	7.29
		High	3 690.00	6.91
	64QAM	Low	3 560.00	7.36
		Middle	3 625.00	7.21
		High	3 690.00	6.90
	256QAM	Low	3 560.00	7.36
		Middle	3 625.00	7.21
		High	3 690.00	6.91
1	QPSK	Low	3 560.00	8.41
		Middle	3 625.00	8.35
		High	3 690.00	8.21
	16QAM	Low	3 560.00	8.37
		Middle	3 625.00	8.30
		High	3 690.00	8.22
	64QAM	Low	3 560.00	8.41
		Middle	3 625.00	8.32
		High	3 690.00	8.22
	256QAM	Low	3 560.00	8.39
		Middle	3 625.00	8.35
		High	3 690.00	8.24

CBRS NR 30 MHz 1 Carrier

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 565.00	8.44
		Middle	3 625.00	8.40
		High	3 685.00	8.44
	16QAM	Low	3 565.00	8.46
		Middle	3 625.00	8.43
		High	3 685.00	8.35
	64QAM	Low	3 565.00	8.50
		Middle	3 625.00	8.44
		High	3 685.00	8.33
	256QAM	Low	3 565.00	8.48
		Middle	3 625.00	8.43
		High	3 685.00	8.42
1	QPSK	Low	3 565.00	8.50
		Middle	3 625.00	8.47
		High	3 685.00	8.40
	16QAM	Low	3 565.00	8.49
		Middle	3 625.00	8.46
		High	3 685.00	8.38
	64QAM	Low	3 565.00	8.46
		Middle	3 625.00	8.44
		High	3 685.00	8.42
	256QAM	Low	3 565.00	8.48
		Middle	3 625.00	8.46
		High	3 685.00	8.47

CBRS NR 40 MHz 1 Carrier

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 565.00	8.44
		Middle	3 625.00	8.40
		High	3 685.00	8.44
	16QAM	Low	3 565.00	8.46
		Middle	3 625.00	8.43
		High	3 685.00	8.35
	64QAM	Low	3 565.00	8.50
		Middle	3 625.00	8.44
		High	3 685.00	8.33
	256QAM	Low	3 565.00	8.48
		Middle	3 625.00	8.43
		High	3 685.00	8.42
1	QPSK	Low	3 565.00	8.50
		Middle	3 625.00	8.47
		High	3 685.00	8.40
	16QAM	Low	3 565.00	8.49
		Middle	3 625.00	8.46
		High	3 685.00	8.38
	64QAM	Low	3 565.00	8.46
		Middle	3 625.00	8.44
		High	3 685.00	8.42
	256QAM	Low	3 565.00	8.48
		Middle	3 625.00	8.46
		High	3 685.00	8.45

CBRS NR 50 MHz 1 Carrier

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 575.00	8.41
		Middle	3 625.00	8.40
		High	3 675.00	8.41
	16QAM	Low	3 575.00	8.44
		Middle	3 625.00	8.43
		High	3 675.00	8.36
	64QAM	Low	3 575.00	8.46
		Middle	3 625.00	8.43
		High	3 675.00	8.43
	256QAM	Low	3 575.00	8.43
		Middle	3 625.00	8.43
		High	3 675.00	8.37
1	QPSK	Low	3 575.00	8.47
		Middle	3 625.00	8.44
		High	3 675.00	8.41
	16QAM	Low	3 575.00	8.40
		Middle	3 625.00	8.41
		High	3 675.00	8.40
	64QAM	Low	3 575.00	8.43
		Middle	3 625.00	8.47
		High	3 675.00	8.39
	256QAM	Low	3 575.00	8.42
		Middle	3 625.00	8.40
		High	3 675.00	8.41

CBRS NR 60 MHz 1 Carrier

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 580.00	8.39
		Middle	3 625.00	8.38
		High	3 670.00	8.37
	16QAM	Low	3 580.00	8.39
		Middle	3 625.00	8.39
		High	3 670.00	8.38
	64QAM	Low	3 580.00	8.41
		Middle	3 625.00	8.41
		High	3 670.00	8.37
	256QAM	Low	3 580.00	8.42
		Middle	3 625.00	8.39
		High	3 670.00	8.37
1	QPSK	Low	3 580.00	8.42
		Middle	3 625.00	8.40
		High	3 670.00	8.36
	16QAM	Low	3 580.00	8.39
		Middle	3 625.00	8.39
		High	3 670.00	8.36
	64QAM	Low	3 580.00	8.37
		Middle	3 625.00	8.38
		High	3 670.00	8.36
	256QAM	Low	3 580.00	8.40
		Middle	3 625.00	8.41
		High	3 670.00	8.38

CBRS NR 80 MHz 1 Carrier

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 590.00	8.38
		Middle	3 625.00	8.42
		High	3 660.00	8.36
	16QAM	Low	3 590.00	8.40
		Middle	3 625.00	8.39
		High	3 660.00	8.34
	64QAM	Low	3 590.00	8.37
		Middle	3 625.00	8.41
		High	3 660.00	8.36
	256QAM	Low	3 590.00	8.37
		Middle	3 625.00	8.40
		High	3 660.00	8.39
1	QPSK	Low	3 590.00	8.40
		Middle	3 625.00	8.37
		High	3 660.00	8.38
	16QAM	Low	3 590.00	8.40
		Middle	3 625.00	8.37
		High	3 660.00	8.34
	64QAM	Low	3 590.00	8.40
		Middle	3 625.00	8.38
		High	3 660.00	8.37
	256QAM	Low	3 590.00	8.37
		Middle	3 625.00	8.38
		High	3 660.00	8.37

CBRS NR 100 MHz 1 Carrier

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 600.00	8.37
		Middle	3 625.00	8.38
		High	3 650.00	8.40
	16QAM	Low	3 600.00	8.38
		Middle	3 625.00	8.39
		High	3 650.00	8.40
	64QAM	Low	3 600.00	8.37
		Middle	3 625.00	8.38
		High	3 650.00	8.40
	256QAM	Low	3 600.00	8.37
		Middle	3 625.00	8.40
		High	3 650.00	8.38
1	QPSK	Low	3 600.00	8.37
		Middle	3 625.00	8.38
		High	3 650.00	8.38
	16QAM	Low	3 600.00	8.35
		Middle	3 625.00	8.36
		High	3 650.00	8.40
	64QAM	Low	3 600.00	8.33
		Middle	3 625.00	8.37
		High	3 650.00	8.39
	256QAM	Low	3 600.00	8.35
		Middle	3 625.00	8.37
		High	3 650.00	8.43

Tabular data of Contiguous PAPR

CBRS NR(60 MHz 1C + 10 MHz 1C)[2C]

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 585.00	8.45
		Middle	3 625.00	8.38
		High	3 665.00	8.36
	16QAM	Low	3 585.00	8.41
		Middle	3 625.00	8.42
		High	3 665.00	8.39
	64QAM	Low	3 585.00	8.40
		Middle	3 625.00	8.42
		High	3 665.00	8.39
	256QAM	Low	3 585.00	8.37
		Middle	3 625.00	8.38
		High	3 665.00	8.39
1	QPSK	Low	3 585.00	8.40
		Middle	3 625.00	8.37
		High	3 665.00	8.37
	16QAM	Low	3 585.00	8.38
		Middle	3 625.00	8.37
		High	3 665.00	8.39
	64QAM	Low	3 585.00	8.45
		Middle	3 625.00	8.39
		High	3 665.00	8.37
	256QAM	Low	3 585.00	8.41
		Middle	3 625.00	8.38
		High	3 665.00	8.32

Note: 1C: 1 Carrier, 2C: 2 Carrier

CBRS NR(80 MHz 1C + 10 MHz 1C)[2C]

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 595.00	8.39
		Middle	3 625.00	8.37
		High	3 655.00	8.36
	16QAM	Low	3 595.00	8.40
		Middle	3 625.00	8.43
		High	3 655.00	8.36
	64QAM	Low	3 595.00	8.40
		Middle	3 625.00	8.42
		High	3 655.00	8.37
	256QAM	Low	3 595.00	8.37
		Middle	3 625.00	8.38
		High	3 655.00	8.36
1	QPSK	Low	3 595.00	8.40
		Middle	3 625.00	8.36
		High	3 655.00	8.38
	16QAM	Low	3 595.00	8.40
		Middle	3 625.00	8.42
		High	3 655.00	8.40
	64QAM	Low	3 595.00	8.39
		Middle	3 625.00	8.40
		High	3 655.00	8.40
	256QAM	Low	3 595.00	8.41
		Middle	3 625.00	8.38
		High	3 655.00	8.43

Note: 1C: 1 Carrier, 2C: 2 Carrier

CBRS LTE(5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C)[5C]

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 562.50	8.44
		Middle	3 625.00	7.92
		High	3 687.50	7.93
	16QAM	Low	3 562.50	7.94
		Middle	3 625.00	7.92
		High	3 687.50	7.88
	64QAM	Low	3 562.50	7.90
		Middle	3 625.00	7.89
		High	3 687.50	7.94
	256QAM	Low	3 562.50	7.93
		Middle	3 625.00	7.92
		High	3 687.50	7.88
	1024QAM	Low	3 562.50	7.82
		Middle	3 625.00	7.94
		High	3 687.50	7.93
1	QPSK	Low	3 562.50	7.99
		Middle	3 625.00	8.04
		High	3 687.50	7.81
	16QAM	Low	3 562.50	8.05
		Middle	3 625.00	8.08
		High	3 687.50	7.86
	64QAM	Low	3 562.50	8.02
		Middle	3 625.00	8.00
		High	3 687.50	7.85
	256QAM	Low	3 562.50	7.98
		Middle	3 625.00	8.02
		High	3 687.50	7.89
	1024QAM	Low	3 562.50	7.82
		Middle	3 625.00	8.06
		High	3 687.50	7.83

Note: 1C: 1 Carrier, 5C: 5 Carrier

CBRS LTE(20 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C)[5C]

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 570.00	8.26
		Middle	3 625.00	8.22
		High	3 680.00	8.06
	16QAM	Low	3 570.00	8.27
		Middle	3 625.00	8.14
		High	3 680.00	8.03
	64QAM	Low	3 570.00	8.32
		Middle	3 625.00	8.21
		High	3 680.00	8.00
	256QAM	Low	3 570.00	8.31
		Middle	3 625.00	8.25
		High	3 680.00	8.06
	1024QAM	Low	3 570.00	8.25
		Middle	3 625.00	8.22
		High	3 680.00	8.03
1	QPSK	Low	3 570.00	8.31
		Middle	3 625.00	8.16
		High	3 680.00	8.00
	16QAM	Low	3 570.00	8.25
		Middle	3 625.00	8.19
		High	3 680.00	8.00
	64QAM	Low	3 570.00	8.28
		Middle	3 625.00	8.17
		High	3 680.00	7.98
	256QAM	Low	3 570.00	8.30
		Middle	3 625.00	8.19
		High	3 680.00	8.02
	1024QAM	Low	3 570.00	8.33
		Middle	3 625.00	8.23
		High	3 680.00	8.00

Note: 1C: 1 Carrier, 5C: 5 Carrier

CBRS LTE(20 MHz 1C + 20 MHz 1C + 20 MHz 1C + 20 MHz 1C + 20 MHz 1C)[5C]

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 600.00	8.25
		Middle	3 625.00	8.23
		High	3 650.00	8.16
	16QAM	Low	3 600.00	8.28
		Middle	3 625.00	8.27
		High	3 650.00	8.11
	64QAM	Low	3 600.00	8.27
		Middle	3 625.00	8.28
		High	3 650.00	8.16
	256QAM	Low	3 600.00	8.26
		Middle	3 625.00	8.34
		High	3 650.00	8.13
	1024QAM	Low	3 600.00	8.25
		Middle	3 625.00	8.25
		High	3 650.00	8.12
1	QPSK	Low	3 600.00	8.28
		Middle	3 625.00	8.33
		High	3 650.00	8.25
	16QAM	Low	3 600.00	8.28
		Middle	3 625.00	8.28
		High	3 650.00	8.25
	64QAM	Low	3 600.00	8.26
		Middle	3 625.00	8.25
		High	3 650.00	8.24
	256QAM	Low	3 600.00	8.23
		Middle	3 625.00	8.25
		High	3 650.00	8.29
	1024QAM	Low	3 600.00	8.28
		Middle	3 625.00	8.22
		High	3 650.00	8.24

Note: 1C: 1 Carrier, 5C: 5 Carrier

CBRS NR(10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C)[5C]

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 575.00	9.72
		Middle	3 625.00	9.90
		High	3 675.00	9.04
	16QAM	Low	3 575.00	8.53
		Middle	3 625.00	9.41
		High	3 675.00	9.31
	64QAM	Low	3 575.00	8.57
		Middle	3 625.00	9.45
		High	3 675.00	9.29
256QAM	Low	3 575.00	9.75	
	Middle	3 625.00	9.84	
	High	3 675.00	9.44	
1	QPSK	Low	3 575.00	9.15
		Middle	3 625.00	9.59
		High	3 675.00	9.33
	16QAM	Low	3 575.00	10.08
		Middle	3 625.00	9.60
		High	3 675.00	9.45
	64QAM	Low	3 575.00	9.43
		Middle	3 625.00	9.85
		High	3 675.00	9.46
256QAM	Low	3 575.00	9.47	
	Middle	3 625.00	9.34	
	High	3 675.00	9.44	

Note: 1C: 1 Carrier, 5C: 5 Carrier

CBRS NR(40 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C)[5C]

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 590.00	8.26
		Middle	3 625.00	8.20
		High	3 660.00	8.15
	16QAM	Low	3 590.00	8.35
		Middle	3 625.00	8.16
		High	3 660.00	8.13
	64QAM	Low	3 590.00	8.26
		Middle	3 625.00	8.23
		High	3 660.00	8.17
	256QAM	Low	3 590.00	8.31
		Middle	3 625.00	8.19
		High	3 660.00	8.17
1	QPSK	Low	3 590.00	8.32
		Middle	3 625.00	8.20
		High	3 660.00	8.15
	16QAM	Low	3 590.00	8.30
		Middle	3 625.00	8.22
		High	3 660.00	8.18
	64QAM	Low	3 590.00	8.28
		Middle	3 625.00	8.21
		High	3 660.00	8.13
	256QAM	Low	3 590.00	8.31
		Middle	3 625.00	8.23
		High	3 660.00	8.17

Note: 1C: 1 Carrier, 5C: 5 Carrier

CBRS NR(40 MHz 1C + 30 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C)[5C]

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 600.00	8.30
		Middle	3 625.00	8.19
		High	3 650.00	8.16
	16QAM	Low	3 600.00	8.25
		Middle	3 625.00	8.17
		High	3 650.00	8.29
	64QAM	Low	3 600.00	8.25
		Middle	3 625.00	8.22
		High	3 650.00	8.17
	256QAM	Low	3 600.00	8.28
		Middle	3 625.00	8.19
		High	3 650.00	8.16
1	QPSK	Low	3 600.00	8.27
		Middle	3 625.00	8.20
		High	3 650.00	8.16
	16QAM	Low	3 600.00	8.32
		Middle	3 625.00	8.24
		High	3 650.00	8.16
	64QAM	Low	3 600.00	8.31
		Middle	3 625.00	8.19
		High	3 650.00	8.15
	256QAM	Low	3 600.00	8.28
		Middle	3 625.00	8.21
		High	3 650.00	8.16

Note: 1C: 1 Carrier, 5C: 5 Carrier

CBRS NR(60 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C) [5C]

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 600.00	8.38
		Middle	3 625.00	8.38
		High	3 650.00	8.39
	16QAM	Low	3 600.00	8.41
		Middle	3 625.00	8.41
		High	3 650.00	8.35
	64QAM	Low	3 600.00	8.42
		Middle	3 625.00	8.41
		High	3 650.00	8.38
	256QAM	Low	3 600.00	8.44
		Middle	3 625.00	8.40
		High	3 650.00	8.42
1	QPSK	Low	3 600.00	8.41
		Middle	3 625.00	8.38
		High	3 650.00	8.41
	16QAM	Low	3 600.00	8.42
		Middle	3 625.00	8.40
		High	3 650.00	8.43
	64QAM	Low	3 600.00	8.36
		Middle	3 625.00	8.38
		High	3 650.00	8.37
	256QAM	Low	3 600.00	8.41
		Middle	3 625.00	8.42
		High	3 650.00	8.42

Note: 1C: 1 Carrier, 5C: 5 Carrier

CBRS NR 60 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 10 MHz 1C [5C]

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 600.00	8.42
		Middle	3 625.00	8.42
		High	3 650.00	8.35
	16QAM	Low	3 600.00	8.40
		Middle	3 625.00	8.42
		High	3 650.00	8.42
	64QAM	Low	3 600.00	8.38
		Middle	3 625.00	8.42
		High	3 650.00	8.39
256QAM	Low	3 600.00	8.41	
	Middle	3 625.00	8.41	
	High	3 650.00	8.39	
1	QPSK	Low	3 600.00	8.39
		Middle	3 625.00	8.43
		High	3 650.00	8.41
	16QAM	Low	3 600.00	8.39
		Middle	3 625.00	8.42
		High	3 650.00	8.39
	64QAM	Low	3 600.00	8.43
		Middle	3 625.00	8.38
		High	3 650.00	8.40
256QAM	Low	3 600.00	8.41	
	Middle	3 625.00	8.41	
	High	3 650.00	8.39	

Note: 1C: 1 Carrier, 5C: 5 Carrier

CBRS NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C + LTE 5 MHz 1C [5C]

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 570.00	8.41
		Middle	3 625.00	8.39
		High	3 680.00	8.35
	16QAM	Low	3 570.00	8.41
		Middle	3 625.00	8.34
		High	3 680.00	8.32
	64QAM	Low	3 570.00	8.43
		Middle	3 625.00	8.41
		High	3 680.00	8.33
	256QAM	Low	3 570.00	8.43
		Middle	3 625.00	8.41
		High	3 680.00	8.39
1	QPSK	Low	3 570.00	8.41
		Middle	3 625.00	8.37
		High	3 680.00	8.32
	16QAM	Low	3 570.00	8.42
		Middle	3 625.00	8.40
		High	3 680.00	8.35
	64QAM	Low	3 570.00	8.47
		Middle	3 625.00	8.43
		High	3 680.00	8.35
	256QAM	Low	3 570.00	8.41
		Middle	3 625.00	8.44
		High	3 680.00	8.38

Note: 1C: 1 Carrier, 5C: 5 Carrier

CBRS NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C [5C]

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 587.50	8.37
		Middle	3 625.00	8.35
		High	3 662.50	8.38
	16QAM	Low	3 587.50	8.37
		Middle	3 625.00	8.36
		High	3 662.50	8.28
	64QAM	Low	3 587.50	8.40
		Middle	3 625.00	8.37
		High	3 662.50	8.39
	256QAM	Low	3 587.50	8.40
		Middle	3 625.00	8.37
		High	3 662.50	8.29
1	QPSK	Low	3 587.50	8.37
		Middle	3 625.00	8.37
		High	3 662.50	8.38
	16QAM	Low	3 587.50	8.42
		Middle	3 625.00	8.31
		High	3 662.50	8.33
	64QAM	Low	3 587.50	8.38
		Middle	3 625.00	8.35
		High	3 662.50	8.35
	256QAM	Low	3 587.50	8.41
		Middle	3 625.00	8.36
		High	3 662.50	8.38

Note: 1C: 1 Carrier, 5C: 5 Carrier

CBRS NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C + LTE 5 MHz 1C [5C]

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 585.00	8.37
		Middle	3 625.00	8.42
		High	3 665.00	8.32
	16QAM	Low	3 585.00	8.42
		Middle	3 625.00	8.39
		High	3 665.00	8.36
	64QAM	Low	3 585.00	8.41
		Middle	3 625.00	8.37
		High	3 665.00	8.35
256QAM	Low	3 585.00	8.41	
	Middle	3 625.00	8.38	
	High	3 665.00	8.35	
1	QPSK	Low	3 585.00	8.39
		Middle	3 625.00	8.41
		High	3 665.00	8.35
	16QAM	Low	3 585.00	8.41
		Middle	3 625.00	8.34
		High	3 665.00	8.38
	64QAM	Low	3 585.00	8.38
		Middle	3 625.00	8.37
		High	3 665.00	8.38
256QAM	Low	3 585.00	8.39	
	Middle	3 625.00	8.37	
	High	3 665.00	8.36	

Note: 1C: 1 Carrier, 5C: 5 Carrier

CBRS NR 40 MHz 1C + NR 40 MHz 1C + LTE 5 MHz 1C + LTE 5 MHz 1C + LTE 5 MHz 1C [5C]

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	3 597.50	8.37
		Middle	3 625.00	8.36
		High	3 652.50	8.35
	16QAM	Low	3 597.50	8.37
		Middle	3 625.00	8.38
		High	3 652.50	8.39
	64QAM	Low	3 597.50	8.34
		Middle	3 625.00	8.36
		High	3 652.50	8.35
	256QAM	Low	3 597.50	8.34
		Middle	3 625.00	8.41
		High	3 652.50	8.39
1	QPSK	Low	3 597.50	8.37
		Middle	3 625.00	8.39
		High	3 652.50	8.40
	16QAM	Low	3 597.50	8.39
		Middle	3 625.00	8.36
		High	3 652.50	8.38
	64QAM	Low	3 597.50	8.39
		Middle	3 625.00	8.39
		High	3 652.50	8.34
	256QAM	Low	3 597.50	8.39
		Middle	3 625.00	8.42
		High	3 652.50	8.34

Note: 1C: 1 Carrier, 5C: 5 Carrier

Tabular data of Non-Contiguous PAPR
CBRS NR(10 MHz 1C + 60 MHz 1C)[2C]

Ant.	Modulation	NR 10 MHz		NR 60 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 555.00	8.40	3 670.00	8.33
	16QAM	3 555.00	8.39	3 670.00	8.33
	64QAM	3 555.00	8.37	3 670.00	8.34
	256QAM	3 555.00	8.38	3 670.00	8.35
1	QPSK	3 555.00	8.38	3 670.00	8.33
	16QAM	3 555.00	8.42	3 670.00	8.37
	64QAM	3 555.00	8.40	3 670.00	8.36
	256QAM	3 555.00	8.41	3 670.00	8.36

Note: 1C: 1 Carrier, 2C: 2 Carrier

CBRS NR(60 MHz 1C + 10 MHz 1C)[2C]

Ant.	Modulation	NR 60 MHz		NR 10 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 580.00	8.40	3 695.00	8.43
	16QAM	3 580.00	8.37	3 695.00	8.43
	64QAM	3 580.00	8.39	3 695.00	8.42
	256QAM	3 580.00	8.37	3 695.00	8.42
1	QPSK	3 580.00	8.40	3 695.00	8.42
	16QAM	3 580.00	8.37	3 695.00	8.43
	64QAM	3 580.00	8.41	3 695.00	8.42
	256QAM	3 580.00	8.41	3 695.00	8.42

Note: 1C: 1 Carrier, 2C: 2 Carrier

CBRS NR(10 MHz 1C + 80 MHz 1C)[2C]

Ant.	Modulation	NR 10 MHz		NR 80 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 555.00	8.44	3 660.00	8.39
	16QAM	3 555.00	8.44	3 660.00	8.40
	64QAM	3 555.00	8.44	3 660.00	8.38
	256QAM	3 555.00	8.44	3 660.00	8.38
1	QPSK	3 555.00	8.43	3 660.00	8.39
	16QAM	3 555.00	8.46	3 660.00	8.38
	64QAM	3 555.00	8.45	3 660.00	8.34
	256QAM	3 555.00	8.46	3 660.00	8.38

Note: 1C: 1 Carrier, 2C: 2 Carrier

CBRS NR(80 MHz 1C + 10 MHz 1C)[2C]

Ant.	Modulation	NR 80 MHz		NR 10 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 590.00	8.37	3 695.00	8.42
	16QAM	3 590.00	8.39	3 695.00	8.43
	64QAM	3 590.00	8.40	3 695.00	8.44
	256QAM	3 590.00	8.36	3 695.00	8.42
1	QPSK	3 590.00	8.41	3 695.00	8.42
	16QAM	3 590.00	8.39	3 695.00	8.43
	64QAM	3 590.00	8.38	3 695.00	8.43
	256QAM	3 590.00	8.38	3 695.00	8.43

Note: 1C: 1 Carrier, 2C: 2 Carrier

CBRS LTE[5 MHz 1C + (5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C)][5C(1C+4C)]

Ant.	Modulation	LTE 5 MHz		LTE(5 MHz + 5 MHz + 5 MHz + 5 MHz)	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 552.50	8.42	3 690.00	8.19
	16QAM	3 552.50	8.40	3 690.00	8.18
	64QAM	3 552.50	8.43	3 690.00	8.18
	256QAM	3 552.50	8.34	3 690.00	8.18
	1024QAM	3 552.50	8.40	3 690.00	8.19
1	QPSK	3 552.50	8.43	3 690.00	8.23
	16QAM	3 552.50	8.38	3 690.00	8.18
	64QAM	3 552.50	8.35	3 690.00	8.13
	256QAM	3 552.50	8.35	3 690.00	8.17
	1024QAM	3 552.50	8.43	3 690.00	8.21

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS LTE[(5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C) + 5 MHz 1C][5C(4C+1C)]

Ant.	Modulation	LTE(5 MHz + 5 MHz + 5 MHz + 5 MHz)		LTE 5 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 560.00	8.13	3 690.00	8.40
	16QAM	3 560.00	8.15	3 690.00	8.38
	64QAM	3 560.00	8.09	3 690.00	8.39
	256QAM	3 560.00	8.09	3 690.00	8.38
	1024QAM	3 560.00	8.14	3 690.00	8.41
1	QPSK	3 560.00	8.11	3 690.00	8.37
	16QAM	3 560.00	8.10	3 690.00	8.44
	64QAM	3 560.00	8.19	3 690.00	8.41
	256QAM	3 560.00	8.14	3 690.00	8.39
	1024QAM	3 560.00	8.12	3 690.00	8.35

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS LTE[5 MHz 1C + (5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 20 MHz 1C)][5C(1C+4C)]

Ant.	Modulation	LTE 5 MHz		LTE(5 MHz + 5 MHz + 5 MHz + 20 MHz)	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 552.50	8.46	3 682.50	8.27
	16QAM	3 552.50	8.38	3 682.50	8.24
	64QAM	3 552.50	8.41	3 682.50	8.27
	256QAM	3 552.50	8.37	3 682.50	8.23
	1024QAM	3 552.50	8.44	3 682.50	8.22
1	QPSK	3 552.50	8.44	3 682.50	8.21
	16QAM	3 552.50	8.36	3 682.50	8.23
	64QAM	3 552.50	8.45	3 682.50	8.25
	256QAM	3 552.50	8.33	3 682.50	8.25
	1024QAM	3 552.50	8.34	3 682.50	8.23

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS LTE[(20 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C) + 5 MHz 1C][5C(4C+1C)]

Ant.	Modulation	LTE(20 MHz + 5 MHz + 5 MHz + 5 MHz)		LTE 5 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 567.50	8.23	3 697.50	8.29
	16QAM	3 567.50	8.20	3 697.50	8.35
	64QAM	3 567.50	8.20	3 697.50	8.29
	256QAM	3 567.50	8.21	3 697.50	8.30
	1024QAM	3 567.50	8.23	3 697.50	8.29
1	QPSK	3 567.50	8.18	3 697.50	8.29
	16QAM	3 567.50	8.21	3 697.50	8.35
	64QAM	3 567.50	8.20	3 697.50	8.30
	256QAM	3 567.50	8.18	3 697.50	8.38
	1024QAM	3 567.50	8.27	3 697.50	8.38

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS LTE[20 MHz 1C + (20 MHz 1C + 20 MHz 1C + 20 MHz 1C + 20 MHz 1C)][5C(1C+4C)]

Ant.	Modulation	LTE 20 MHz		LTE(20 MHz + 20 MHz + 20 MHz + 20 MHz)	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 560.00	8.32	3 660.00	8.17
	16QAM	3 560.00	8.28	3 660.00	8.17
	64QAM	3 560.00	8.31	3 660.00	8.15
	256QAM	3 560.00	8.30	3 660.00	8.17
	1024QAM	3 560.00	8.37	3 660.00	8.18
1	QPSK	3 560.00	8.30	3 660.00	8.14
	16QAM	3 560.00	8.29	3 660.00	8.15
	64QAM	3 560.00	8.29	3 660.00	8.17
	256QAM	3 560.00	8.27	3 660.00	8.17
	1024QAM	3 560.00	8.30	3 660.00	8.17

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS LTE[(20 MHz 1C + 20 MHz 1C + 20 MHz 1C + 20 MHz 1C) + 20 MHz 1C][5C(4C+1C)]

Ant.	Modulation	LTE(20 MHz + 20 MHz + 20 MHz + 20 MHz)		LTE 20 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 590.00	8.27	3 690.00	8.41
	16QAM	3 590.00	8.27	3 690.00	8.42
	64QAM	3 590.00	8.22	3 690.00	8.38
	256QAM	3 590.00	8.30	3 690.00	8.38
	1024QAM	3 590.00	8.24	3 690.00	8.42
1	QPSK	3 590.00	8.21	3 690.00	8.42
	16QAM	3 590.00	8.25	3 690.00	8.39
	64QAM	3 590.00	8.22	3 690.00	8.37
	256QAM	3 590.00	8.22	3 690.00	8.41
	1024QAM	3 590.00	8.33	3 690.00	8.39

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS NR[10 MHz 1C + (10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C)][5C(1C+4C)]

Ant.	Modulation	NR 10 MHz		NR(10 MHz + 10 MHz + 10 MHz + 10 MHz)	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 555.00	9.85	3 680.00	10.17
	16QAM	3 555.00	10.04	3 680.00	9.29
	64QAM	3 555.00	9.68	3 680.00	9.34
	256QAM	3 555.00	9.79	3 680.00	9.67
1	QPSK	3 555.00	9.79	3 680.00	9.39
	16QAM	3 555.00	9.55	3 680.00	9.38
	64QAM	3 555.00	9.67	3 680.00	9.31
	256QAM	3 555.00	9.75	3 680.00	9.85

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS NR[(10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C) + 10 MHz 1C][5C(4C+1C)]

Ant.	Modulation	NR(10 MHz + 10 MHz + 10 MHz + 10 MHz)		NR 10 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 570.00	9.39	3 695.00	9.91
	16QAM	3 570.00	8.70	3 695.00	9.56
	64QAM	3 570.00	8.83	3 695.00	9.74
	256QAM	3 570.00	9.27	3 695.00	9.57
1	QPSK	3 570.00	9.20	3 695.00	9.02
	16QAM	3 570.00	8.83	3 695.00	9.06
	64QAM	3 570.00	9.26	3 695.00	9.17
	256QAM	3 570.00	9.12	3 695.00	9.15

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS NR[10 MHz 1C + (10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 40 MHz 1C)][5C(1C+4C)]

Ant.	Modulation	NR 10 MHz		NR(10 MHz + 10 MHz + 10 MHz + 40 MHz)	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 555.00	8.39	3 665.00	8.31
	16QAM	3 555.00	8.43	3 665.00	8.33
	64QAM	3 555.00	8.40	3 665.00	8.30
	256QAM	3 555.00	8.42	3 665.00	8.33
1	QPSK	3 555.00	8.39	3 665.00	8.30
	16QAM	3 555.00	8.42	3 665.00	8.37
	64QAM	3 555.00	8.42	3 665.00	8.29
	256QAM	3 555.00	8.35	3 665.00	8.30

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS NR[(40 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C) + 10 MHz 1C][5C(4C+1C)]

Ant.	Modulation	NR(40 MHz + 10 MHz + 10 MHz + 10 MHz)		NR 10 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 585.00	8.35	3 695.00	8.43
	16QAM	3 585.00	8.35	3 695.00	8.42
	64QAM	3 585.00	8.38	3 695.00	8.42
	256QAM	3 585.00	8.35	3 695.00	8.39
1	QPSK	3 585.00	8.37	3 695.00	8.48
	16QAM	3 585.00	8.36	3 695.00	8.38
	64QAM	3 585.00	8.33	3 695.00	8.45
	256QAM	3 585.00	8.33	3 695.00	8.45

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS NR[10 MHz 1C + (10 MHz 1C + 10 MHz 1C + 30 MHz 1C + 40 MHz 1C)][5C(1C+4C)]

Ant.	Modulation	NR 10 MHz		NR(10 MHz + 10 MHz + 30 MHz + 40 MHz)	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 555.00	8.40	3 655.00	8.35
	16QAM	3 555.00	8.46	3 655.00	8.32
	64QAM	3 555.00	8.37	3 655.00	8.34
	256QAM	3 555.00	8.40	3 655.00	8.35
1	QPSK	3 555.00	8.43	3 655.00	8.36
	16QAM	3 555.00	8.46	3 655.00	8.37
	64QAM	3 555.00	8.41	3 655.00	8.35
	256QAM	3 555.00	8.44	3 655.00	8.35

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS NR[(40 MHz 1C + 30 MHz 1C + 10 MHz 1C + 10 MHz 1C) + 10 MHz 1C][5C(4C+1C)]

Ant.	Modulation	NR(40 MHz + 30 MHz + 10 MHz + 10 MHz)		NR 10 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 595.00	8.37	3 695.00	8.48
	16QAM	3 595.00	8.36	3 695.00	8.34
	64QAM	3 595.00	8.38	3 695.00	8.46
	256QAM	3 595.00	8.38	3 695.00	8.40
1	QPSK	3 595.00	8.36	3 695.00	8.42
	16QAM	3 595.00	8.33	3 695.00	8.46
	64QAM	3 595.00	8.37	3 695.00	8.44
	256QAM	3 595.00	8.39	3 695.00	8.40

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS NR[60 MHz 1C + (10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C)][5C(1C+4C)]

Ant.	Modulation	NR 60 MHz		NR(10 MHz + 10 MHz + 10 MHz + 10 MHz)	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 580.00	8.36	3 680.00	8.37
	16QAM	3 580.00	8.37	3 680.00	8.37
	64QAM	3 580.00	8.38	3 680.00	8.37
	256QAM	3 580.00	8.42	3 680.00	8.46
1	QPSK	3 580.00	8.37	3 680.00	8.41
	16QAM	3 580.00	8.43	3 680.00	8.41
	64QAM	3 580.00	8.43	3 680.00	8.41
	256QAM	3 580.00	8.39	3 680.00	8.42

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS NR[(10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C) + 60 MHz 1C][5C(4C+1C)]

Ant.	Modulation	NR(10 MHz + 10 MHz + 10 MHz + 10 MHz)		NR 60 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 570.00	8.47	3 670.00	8.38
	16QAM	3 570.00	8.49	3 670.00	8.39
	64QAM	3 570.00	8.44	3 670.00	8.41
	256QAM	3 570.00	8.46	3 670.00	8.35
1	QPSK	3 570.00	8.44	3 670.00	8.34
	16QAM	3 570.00	8.46	3 670.00	8.36
	64QAM	3 570.00	8.50	3 670.00	8.41
	256QAM	3 570.00	8.50	3 670.00	8.39

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS NR 60 MHz 1C + (NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 10 MHz 1C)[5C(1C+4C)]

Ant.	Modulation	NR 60 MHz		NR 10 MHz + NR 10 MHz + NR 10 MHz + LTE 10 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 580.00	8.42	3 680.00	8.44
	16QAM	3 580.00	8.41	3 680.00	8.44
	64QAM	3 580.00	8.43	3 680.00	8.41
	256QAM	3 580.00	8.41	3 680.00	8.48
1	QPSK	3 580.00	8.43	3 680.00	8.32
	16QAM	3 580.00	8.41	3 680.00	8.43
	64QAM	3 580.00	8.43	3 680.00	8.41
	256QAM	3 580.00	8.42	3 680.00	8.44

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS (LTE 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C) + NR 60 MHz 1C [5C(4C+1C)]

Ant.	Modulation	LTE 10 MHz + NR 10 MHz + NR 10 MHz + NR 10 MHz		NR 60 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 570.00	8.46	3 670.00	8.39
	16QAM	3 570.00	8.42	3 670.00	8.40
	64QAM	3 570.00	8.50	3 670.00	8.37
	256QAM	3 570.00	8.43	3 670.00	8.42
1	QPSK	3 570.00	8.48	3 670.00	8.41
	16QAM	3 570.00	8.47	3 670.00	8.41
	64QAM	3 570.00	8.48	3 670.00	8.36
	256QAM	3 570.00	8.48	3 670.00	8.44

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS LTE 5 MHz 1C + (LTE 5 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C) [5C(1C+4C)]

Ant.	Modulation	LTE 5 MHz		LTE 5 MHz + NR 10 MHz + NR 10 MHz + NR 10 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 552.50	8.49	3 682.50	8.31
	16QAM	3 552.50	8.52	3 682.50	8.37
	64QAM	3 552.50	8.47	3 682.50	8.39
	256QAM	3 552.50	8.41	3 682.50	8.29
1	QPSK	3 552.50	8.47	3 682.50	8.33
	16QAM	3 552.50	8.45	3 682.50	8.34
	64QAM	3 552.50	8.45	3 682.50	8.34
	256QAM	3 552.50	8.52	3 682.50	8.36

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS (NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]

Ant.	Modulation	NR 10 MHz + NR 10 MHz + NR 10 MHz + LTE 5 MHz		LTE 5 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 567.50	8.33	3 697.50	8.53
	16QAM	3 567.50	8.36	3 697.50	8.48
	64QAM	3 567.50	8.33	3 697.50	8.50
	256QAM	3 567.50	8.36	3 697.50	8.53
1	QPSK	3 567.50	8.36	3 697.50	8.48
	16QAM	3 567.50	8.33	3 697.50	8.50
	64QAM	3 567.50	8.30	3 697.50	8.47
	256QAM	3 567.50	8.35	3 697.50	8.49

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS LTE 5 MHz 1C + (NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 40 MHz 1C) [5C(1C+4C)]

Ant.	Modulation	LTE 5 MHz		NR 10 MHz + NR 10 MHz + NR 10 MHz + NR 40 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 552.50	8.49	3 665.00	8.33
	16QAM	3 552.50	8.56	3 665.00	8.29
	64QAM	3 552.50	8.49	3 665.00	8.40
	256QAM	3 552.50	8.54	3 665.00	8.36
1	QPSK	3 552.50	8.54	3 665.00	8.38
	16QAM	3 552.50	8.54	3 665.00	8.33
	64QAM	3 552.50	8.47	3 665.00	8.36
	256QAM	3 552.50	8.47	3 665.00	8.35

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS (NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]

Ant.	Modulation	NR 40 MHz + NR 10 MHz + NR 10 MHz + NR 10 MHz		LTE 5 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 585.00	8.37	3 697.50	8.48
	16QAM	3 585.00	8.38	3 697.50	8.53
	64QAM	3 585.00	8.38	3 697.50	8.50
	256QAM	3 585.00	8.37	3 697.50	8.54
1	QPSK	3 585.00	8.34	3 697.50	8.50
	16QAM	3 585.00	8.35	3 697.50	8.52
	64QAM	3 585.00	8.34	3 697.50	8.52
	256QAM	3 585.00	8.35	3 697.50	8.54

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS LTE 5 MHz 1C + (LTE 5 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 40 MHz 1C) [5C(1C+4C)]

Ant.	Modulation	LTE 5 MHz		LTE 5 MHz + NR 10 MHz + NR 10 MHz + NR 40 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 552.50	8.55	3 667.50	8.31
	16QAM	3 552.50	8.54	3 667.50	8.27
	64QAM	3 552.50	8.48	3 667.50	8.30
	256QAM	3 552.50	8.51	3 667.50	8.31
1	QPSK	3 552.50	8.45	3 667.50	8.30
	16QAM	3 552.50	8.57	3 667.50	8.29
	64QAM	3 552.50	8.51	3 667.50	8.36
	256QAM	3 552.50	8.53	3 667.50	8.35

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS (NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]

Ant.	Modulation	NR 40 MHz + NR 10 MHz + NR 10 MHz + LTE 5 MHz		LTE 5 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 582.50	8.29	3 697.50	8.51
	16QAM	3 582.50	8.27	3 697.50	8.55
	64QAM	3 582.50	8.28	3 697.50	8.48
	256QAM	3 582.50	8.32	3 697.50	8.51
1	QPSK	3 582.50	8.32	3 697.50	8.48
	16QAM	3 582.50	8.28	3 697.50	8.55
	64QAM	3 582.50	8.27	3 697.50	8.52
	256QAM	3 582.50	8.27	3 697.50	8.52

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

CBRS LTE 5 MHz 1C + (LTE 5 MHz 1C + LTE 5 MHz 1C + NR 40 MHz 1C + NR 40 MHz 1C) [5C(1C+4C)]

Ant.	Modulation	LTE 5 MHz		LTE 5 MHz + LTE 5 MHz + NR 40 MHz + NR 40 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 552.50	8.56	3 655.00	8.32
	16QAM	3 552.50	8.50	3 655.00	8.38
	64QAM	3 552.50	8.47	3 655.00	8.38
	256QAM	3 552.50	8.49	3 655.00	8.39
1	QPSK	3 552.50	8.50	3 655.00	8.35
	16QAM	3 552.50	8.50	3 655.00	8.36
	64QAM	3 552.50	8.52	3 655.00	8.33
	256QAM	3 552.50	8.49	3 655.00	8.35

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

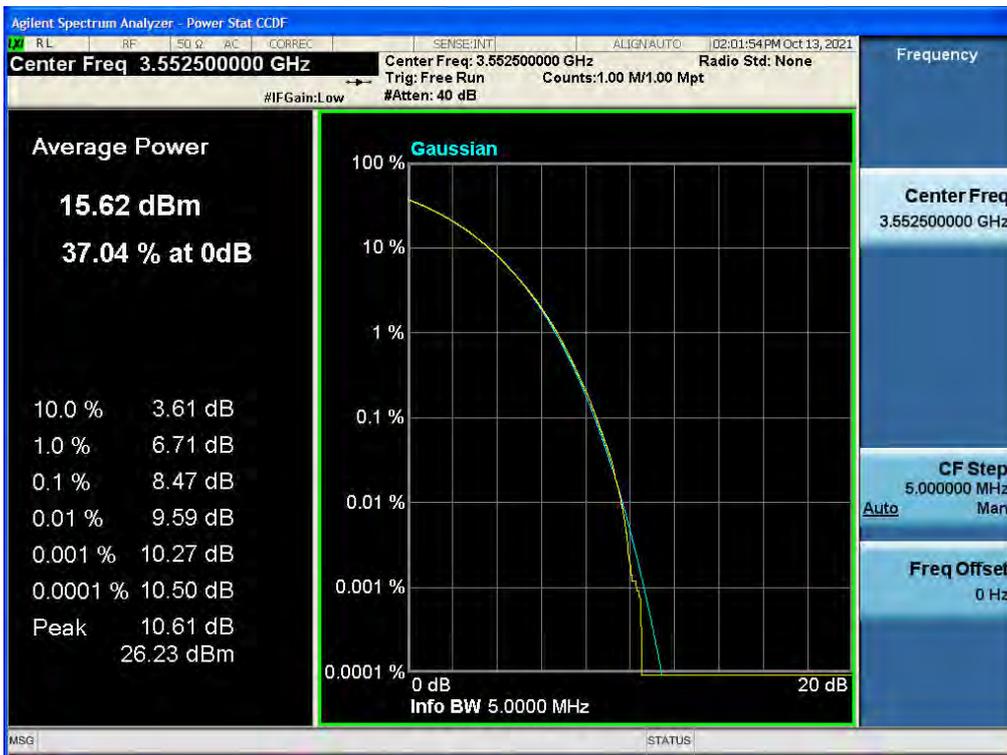
CBRS (NR 40 MHz 1C + NR 40 MHz 1C + LTE 5 MHz 1C + LTE 5 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]

Ant.	Modulation	NR 40 MHz + NR 40 MHz + LTE 5 MHz + LTE 5 MHz		LTE 5 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	3 595.00	8.41	3 697.50	8.46
	16QAM	3 595.00	8.35	3 697.50	8.53
	64QAM	3 595.00	8.36	3 697.50	8.47
	256QAM	3 595.00	8.37	3 697.50	8.48
1	QPSK	3 595.00	8.37	3 697.50	8.49
	16QAM	3 595.00	8.38	3 697.50	8.51
	64QAM	3 595.00	8.36	3 697.50	8.51
	256QAM	3 595.00	8.42	3 697.50	8.55

Note: 1C: 1 Carrier, 4C: 4 Carrier, 5C: 5 Carrier

Plot Data of PAPR

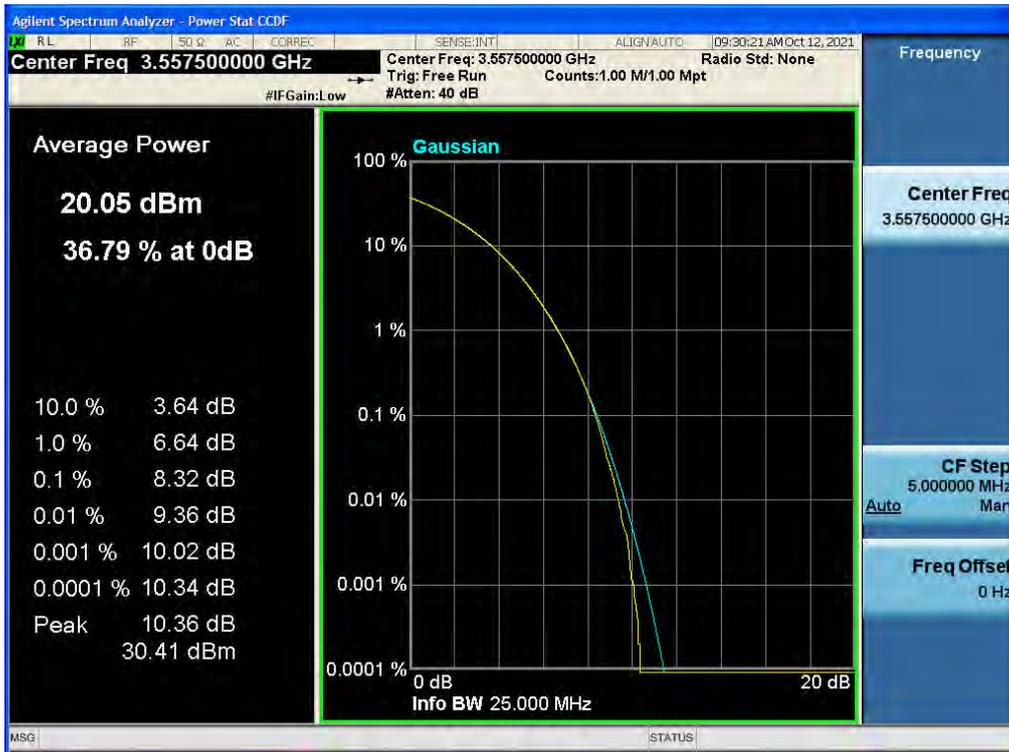
Antenna 1 / CBRS LTE 5 MHz 1 Carrier / 16QAM / Low



Antenna 1 / CBRS LTE 10 MHz 1 Carrier / 16QAM / High



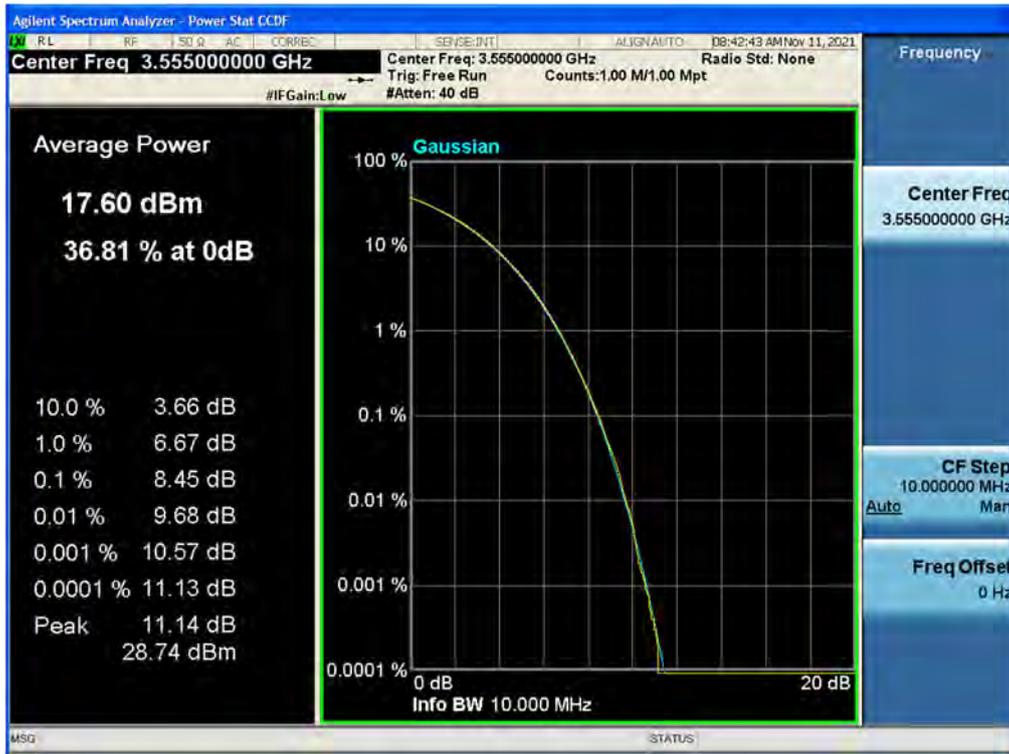
Antenna 0 / CBRS LTE 15 MHz 1 Carrier / QPSK / Low



Antenna 0 / CBRS LTE 20 MHz 1 Carrier / 256QAM / Low



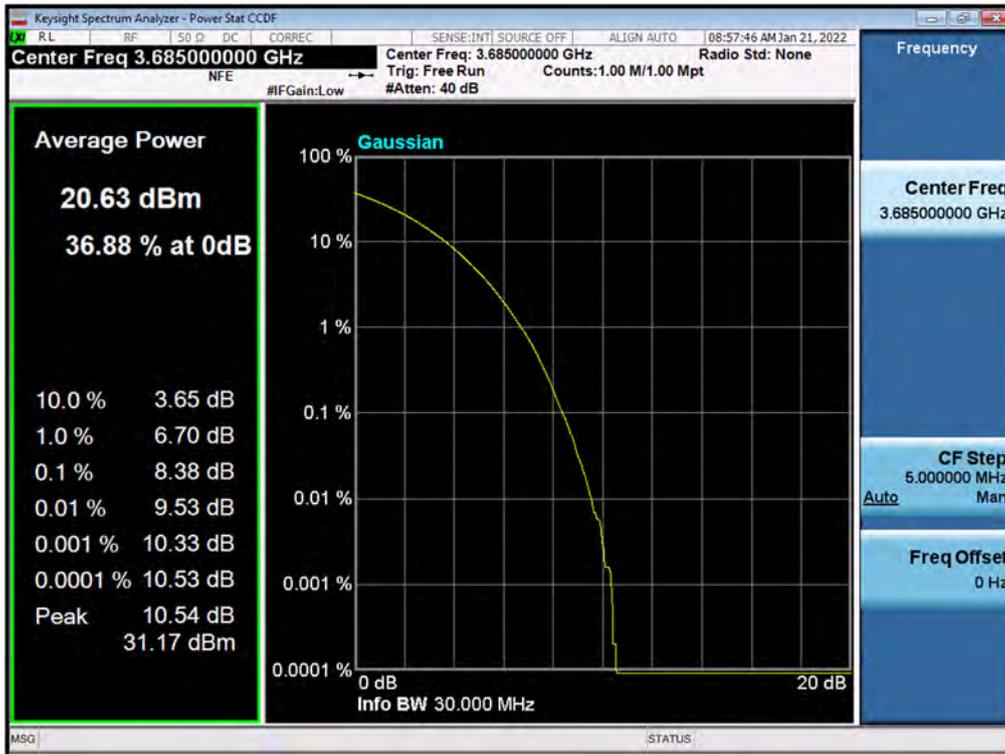
Antenna 1 / CBRS NR 10 MHz 1 Carrier / QPSK / Low



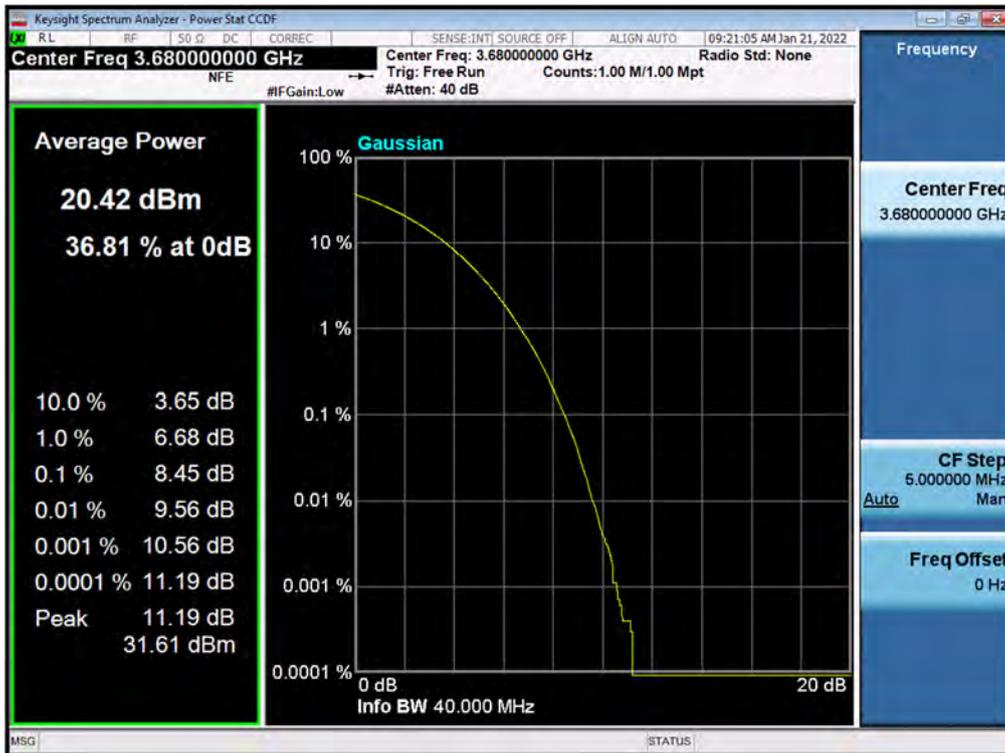
Antenna 0 / CBRS NR 20 MHz 1 Carrier / 16QAM / Low



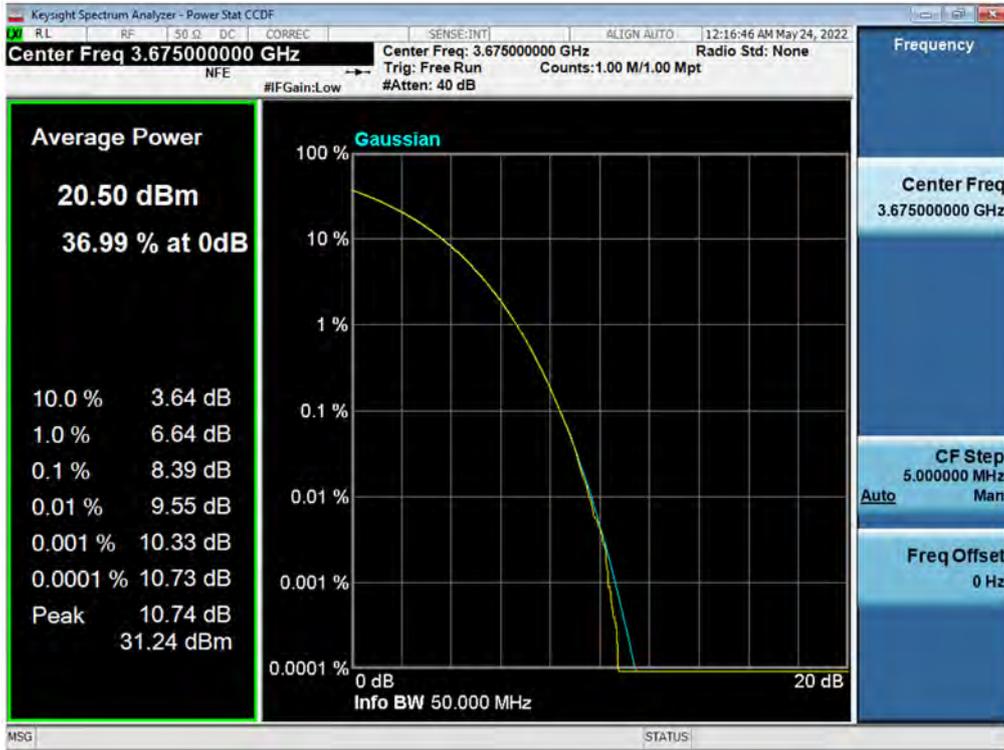
Antenna 1 / CBRS NR 30 MHz 1 Carrier / 16QAM / High



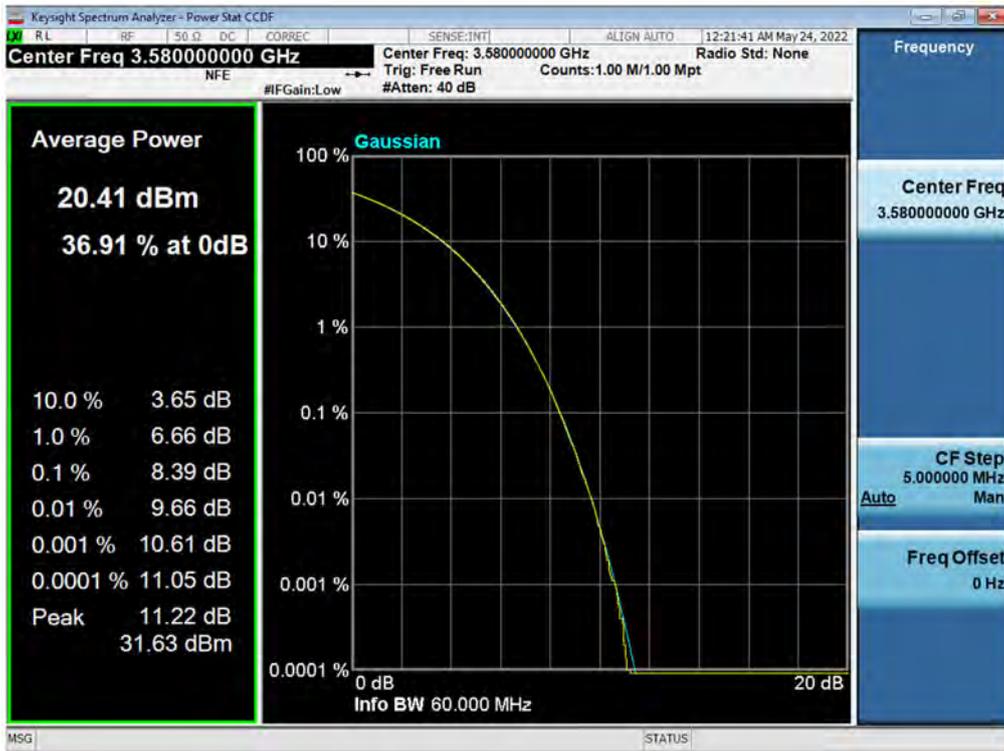
Antenna 1 / CBRS NR 40 MHz 1 Carrier / 256QAM / High



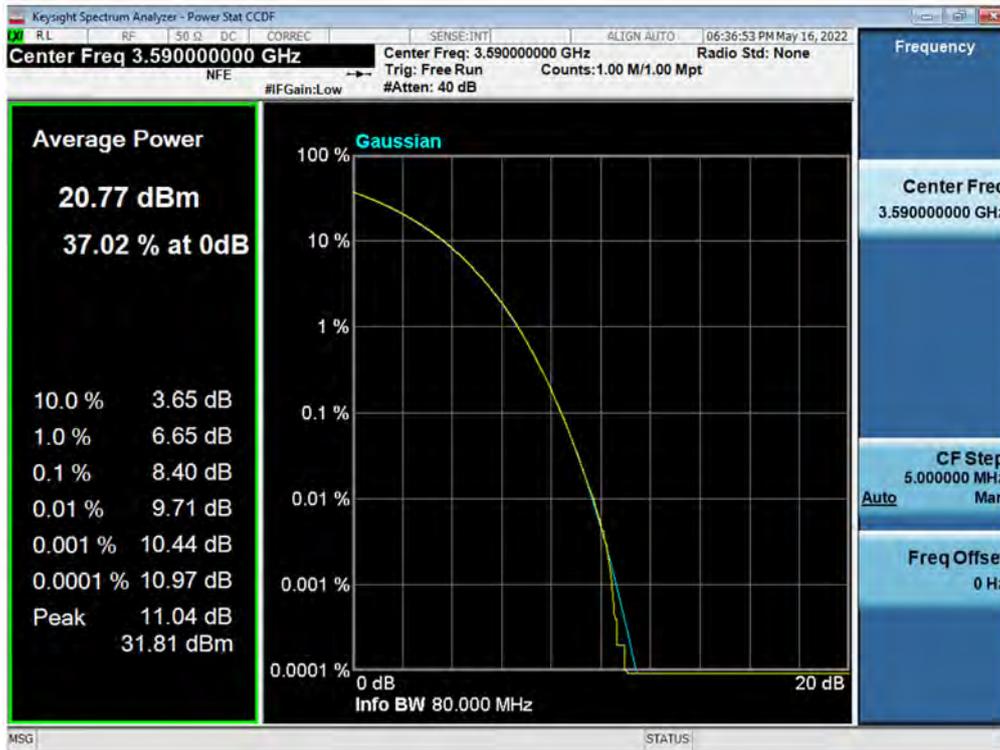
Antenna 1 / CBRS NR 50 MHz 1 Carrier / 64QAM / High



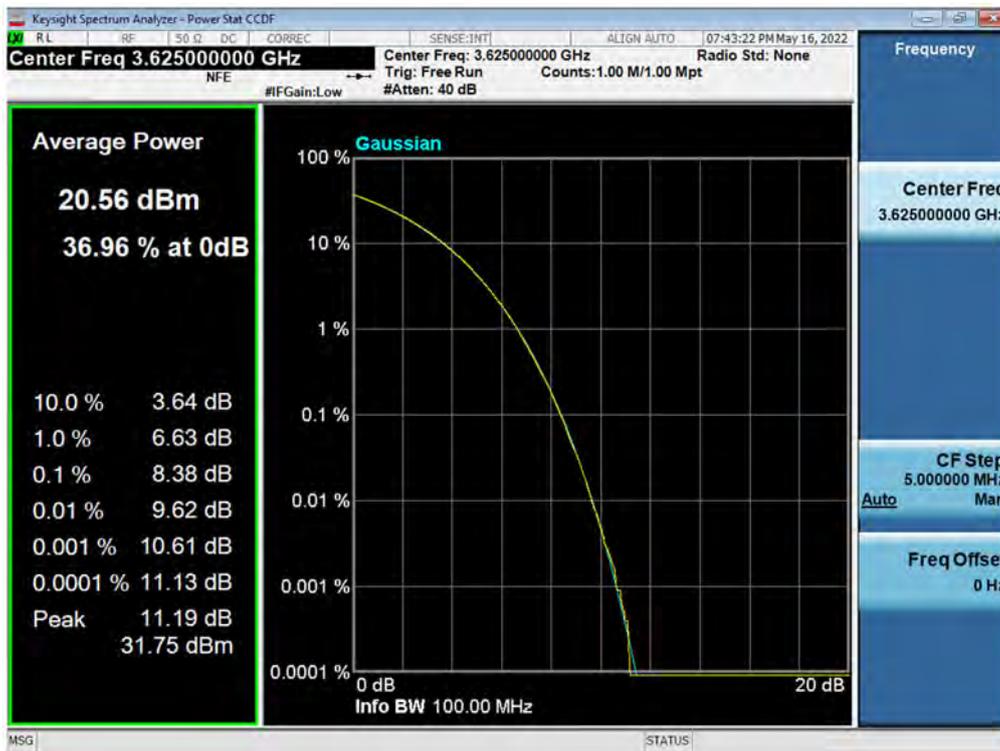
Antenna 1 / CBRS NR 60 MHz 1 Carrier / 16QAM / Low



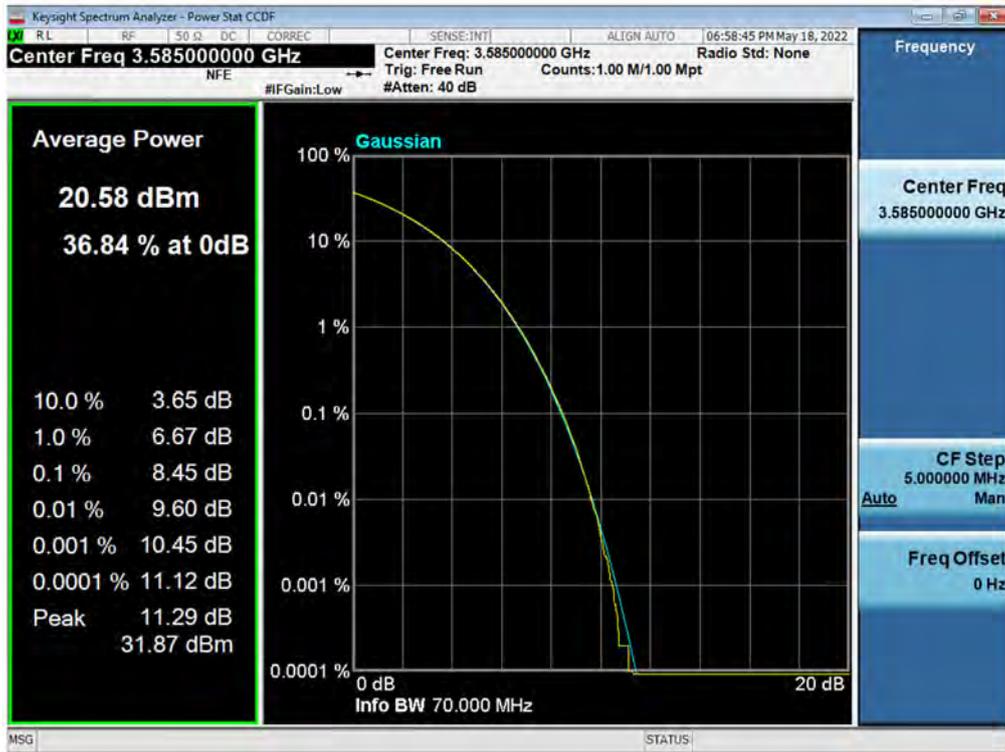
Antenna 1 / CBRS NR 80 MHz 1 Carrier / 64QAM / Low



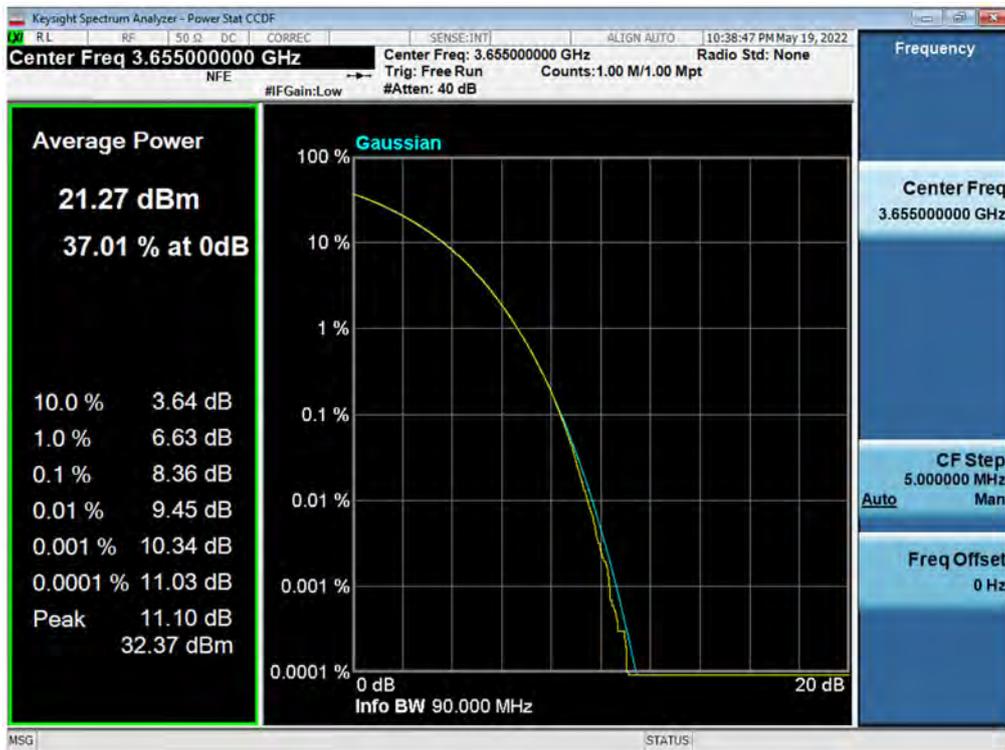
Antenna 1 / CBRS NR 100 MHz 1 Carrier / QPSK / Middle



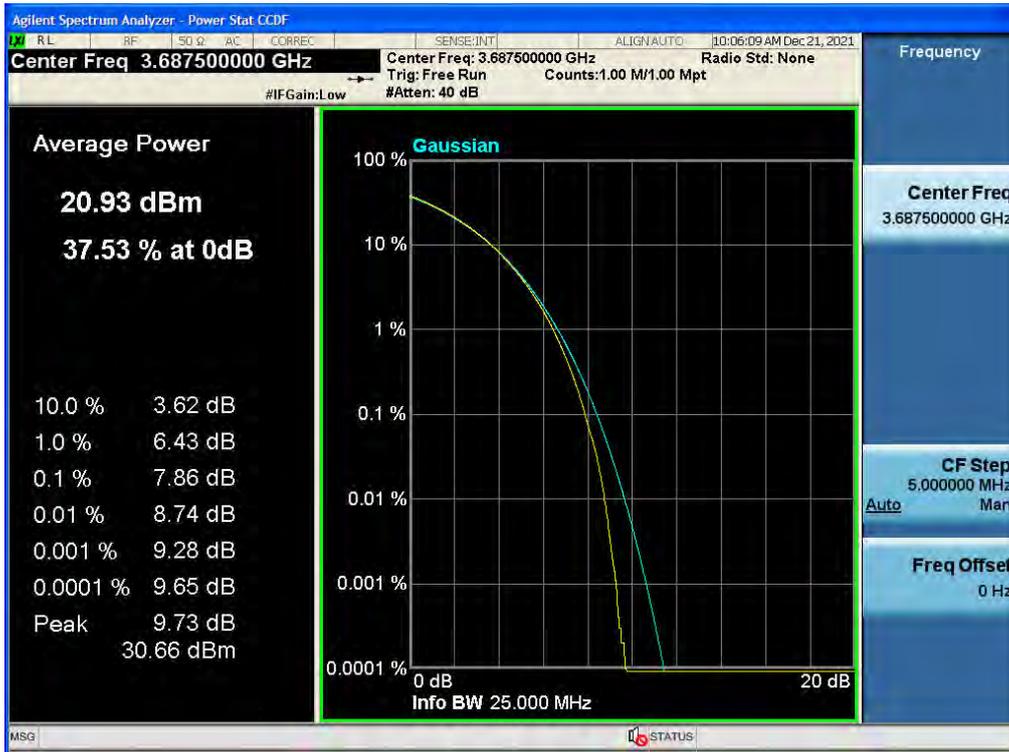
Antenna 0 / CBRS NR(60 MHz 1C + 10 MHz 1C)[2C] / Contiguous / QPSK / Low



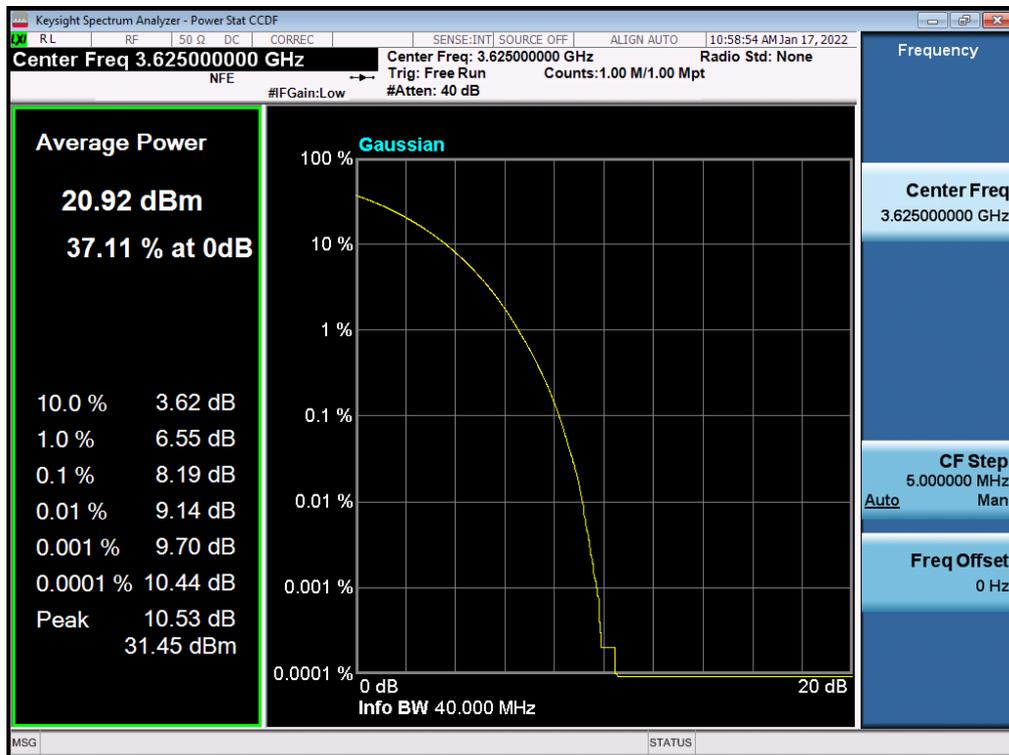
Antenna 0 / CBRS NR(80 MHz 1C + 10 MHz 1C)[2C] / Contiguous / QPSK / High



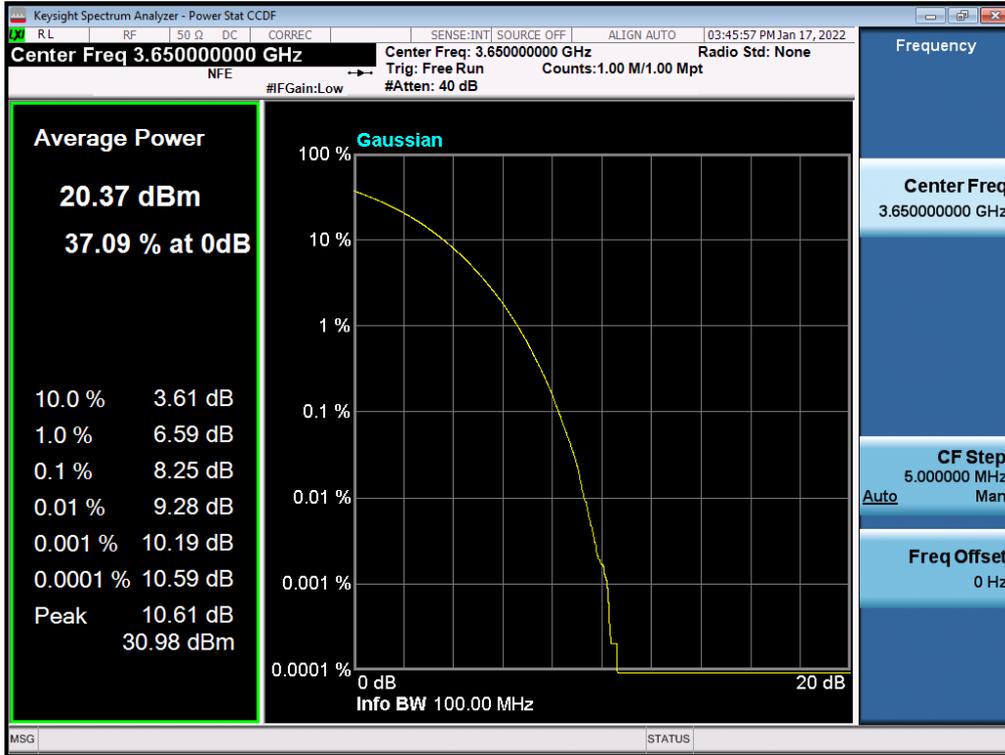
Antenna 1 / CBRS LTE(5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C)[5C] / Contiguous / 16QAM / High



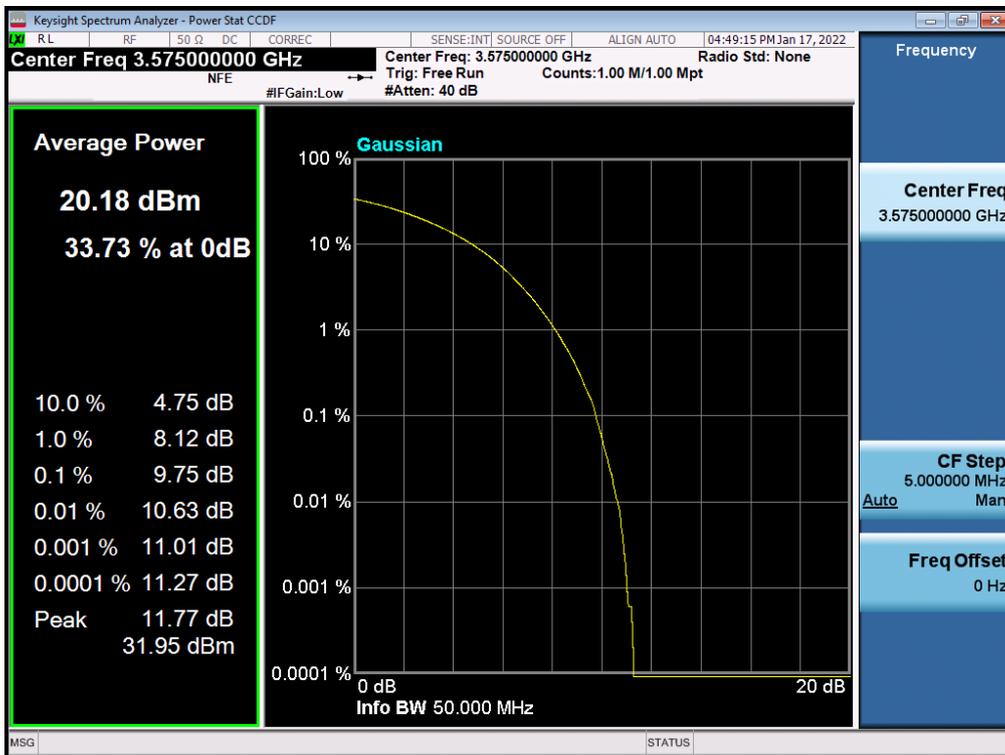
Antenna 1 / CBRS LTE(20 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C)[5C] / Contiguous / 256QAM / Middle

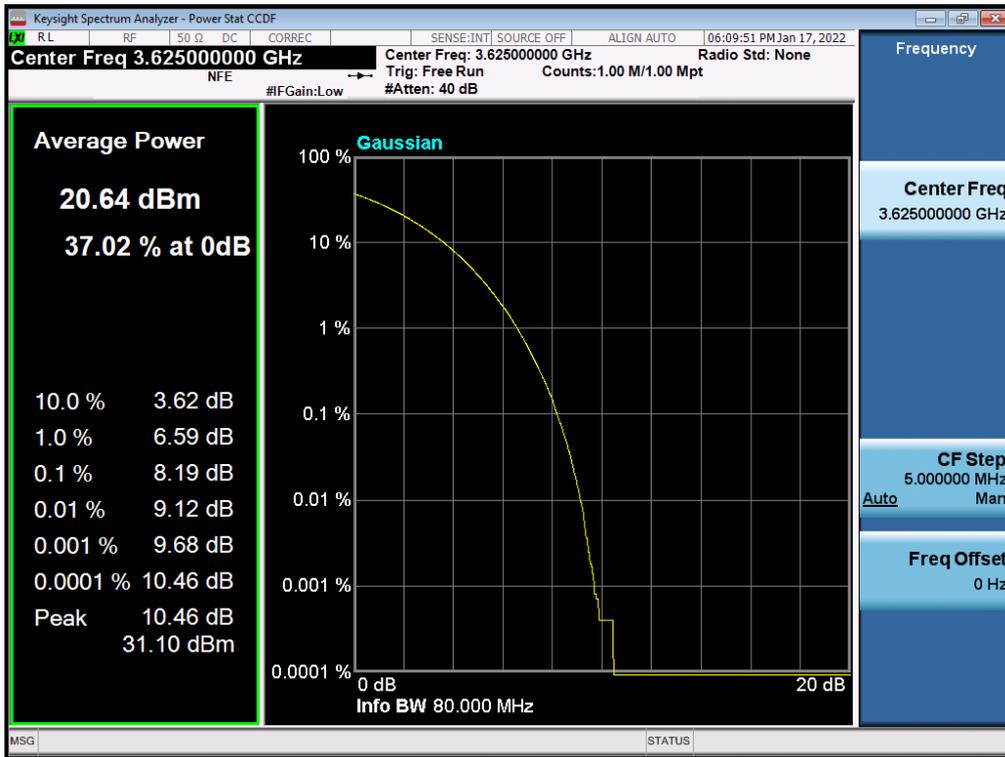
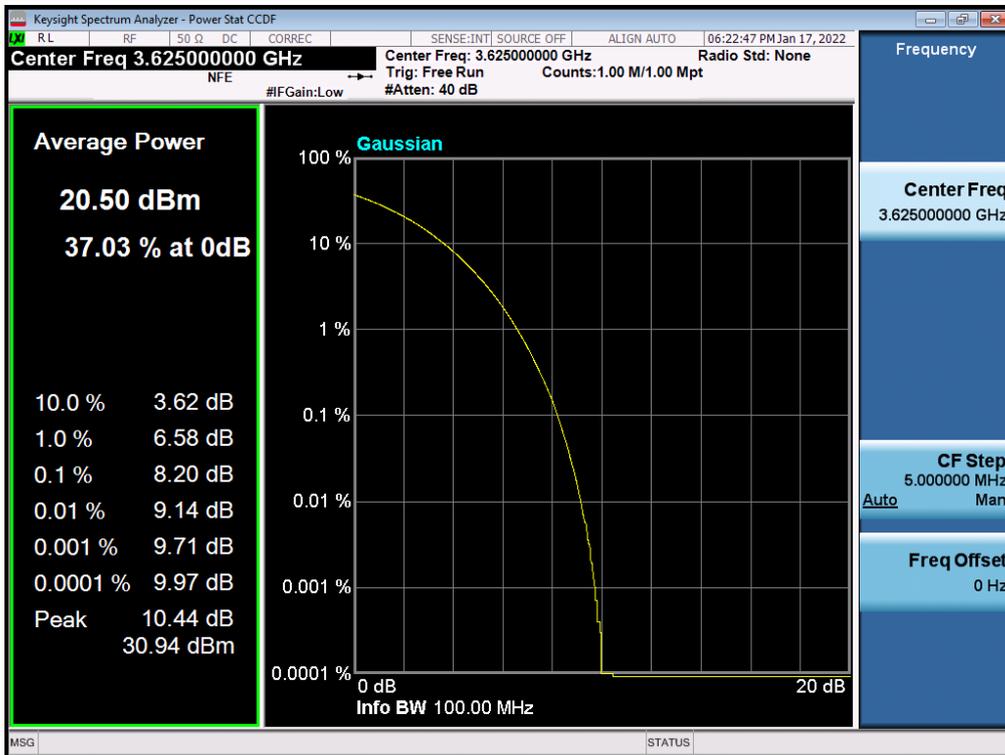


Antenna 1 / CBRS LTE(20 MHz 1C + 20 MHz 1C + 20 MHz 1C + 20 MHz 1C + 20 MHz 1C)[5C] / Contiguous / QPSK / High

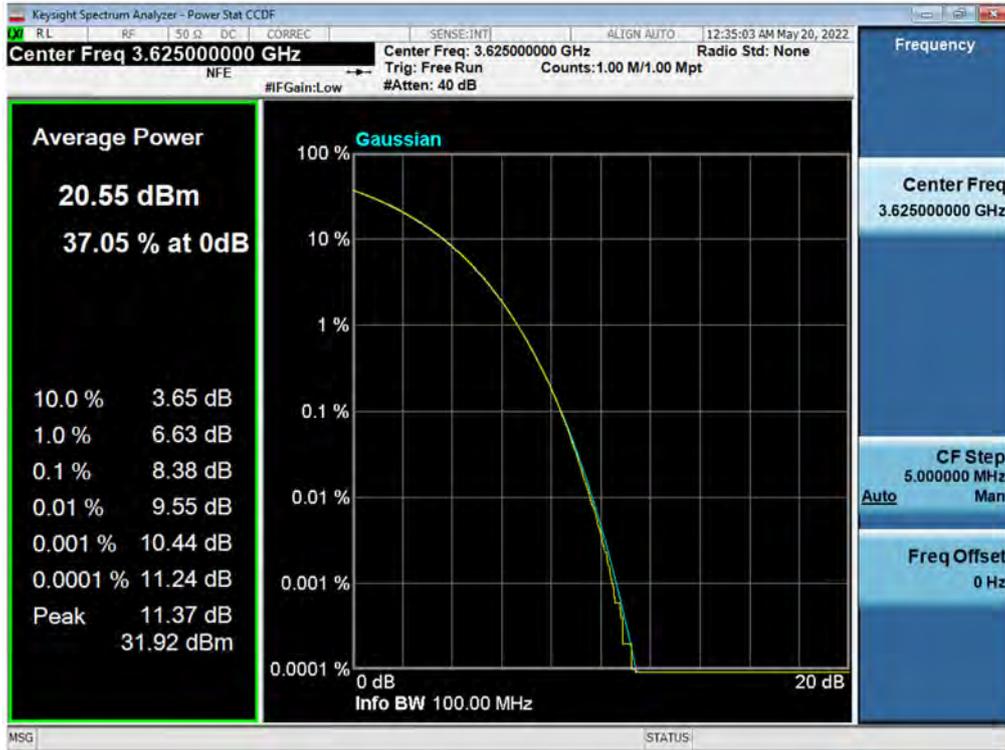


Antenna 0 / CBRS NR(10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C)[5C] / Contiguous / 256QAM / Low

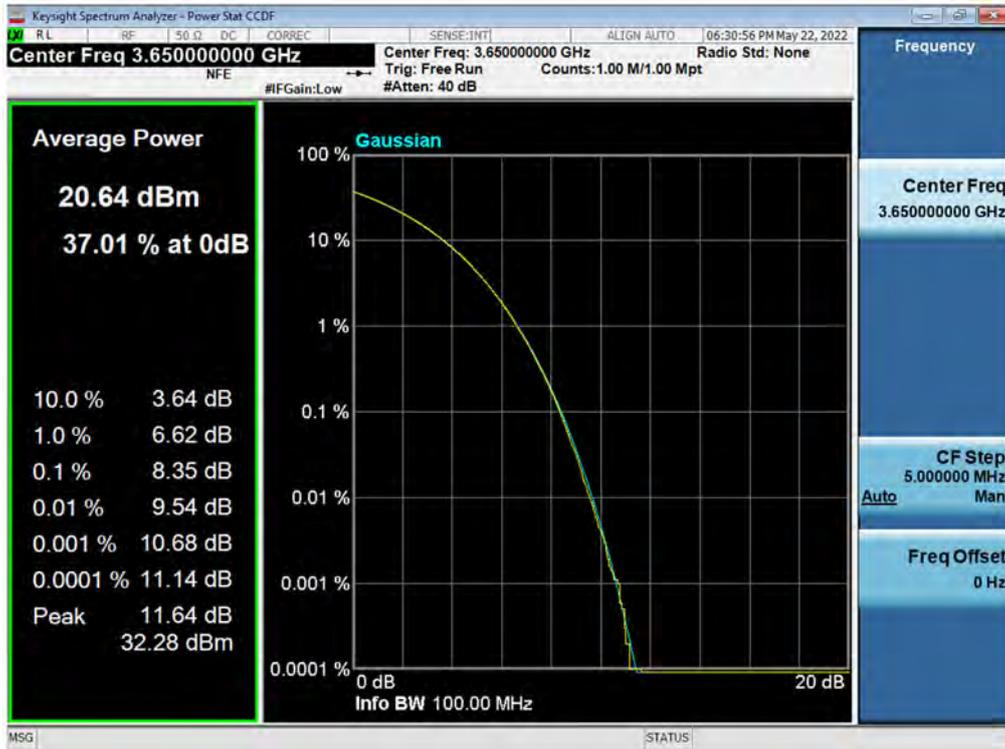


Antenna 0 / CBRS NR(40 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C)[5C] / Contiguous / 256QAM / Middle

Antenna 1 / CBRS NR(40 MHz 1C + 30 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C)[5C] / Contiguous / QPSK / Middle


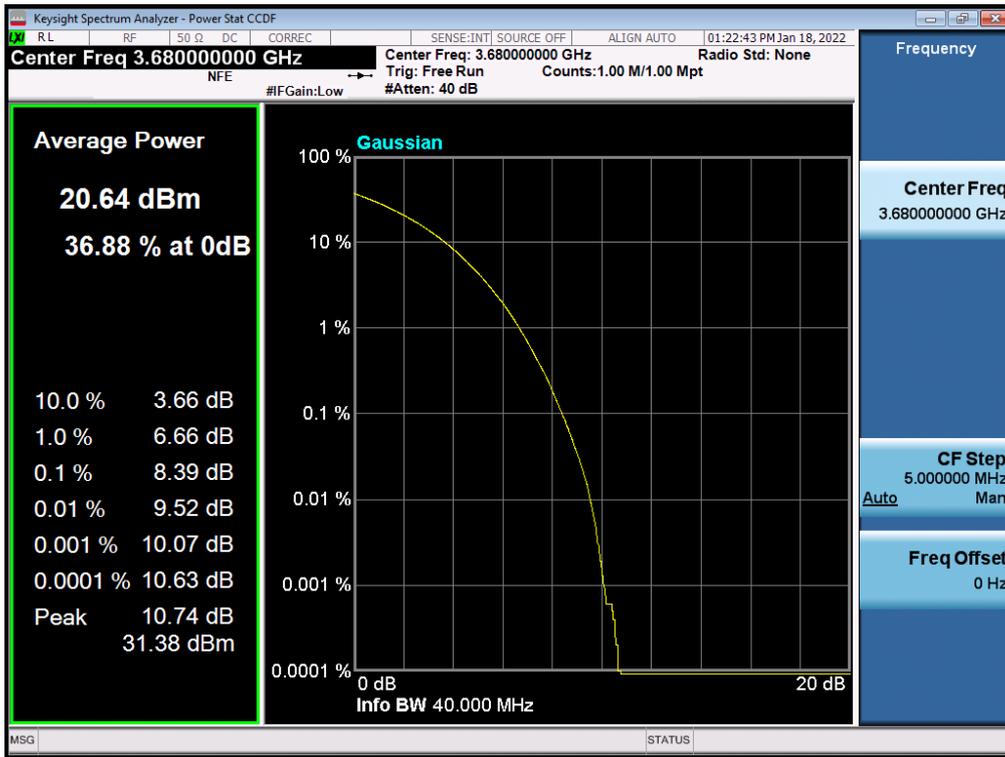
Antenna 0 / CBRS NR(60 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C) [5C] / Contiguous / QPSK / Middle



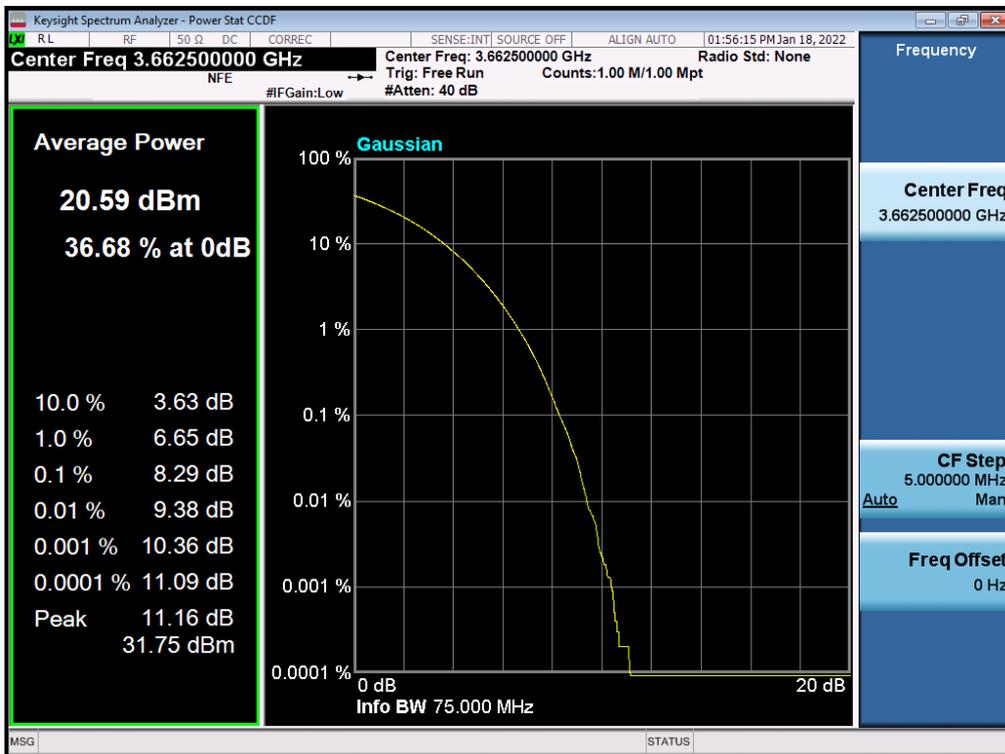
Antenna 0 / CBRS NR 60 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 10 MHz 1C [5C] / Contiguous / QPSK / High



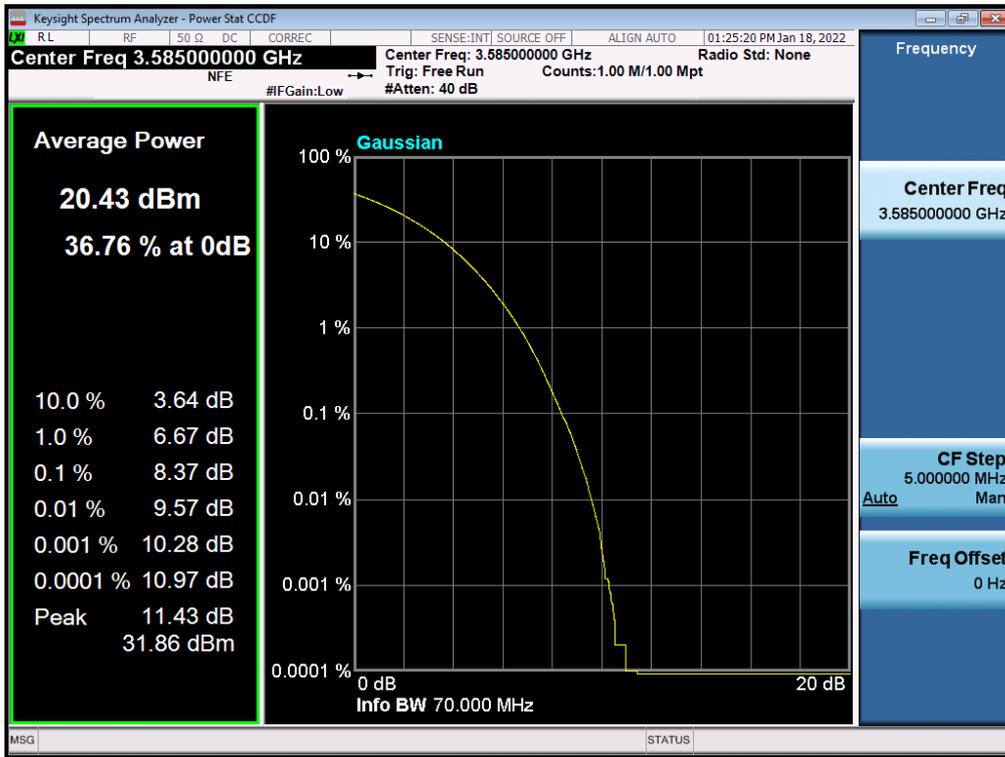
Antenna 0 / CBRS NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C + LTE 5 MHz 1C [5C] / Contiguous / 256QAM / High



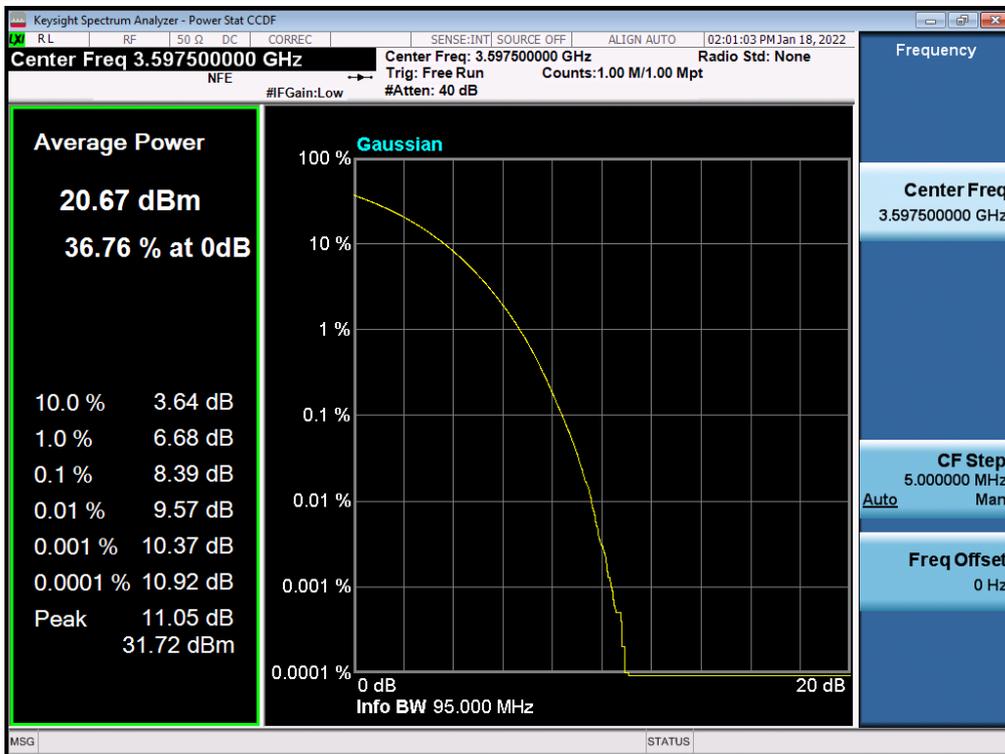
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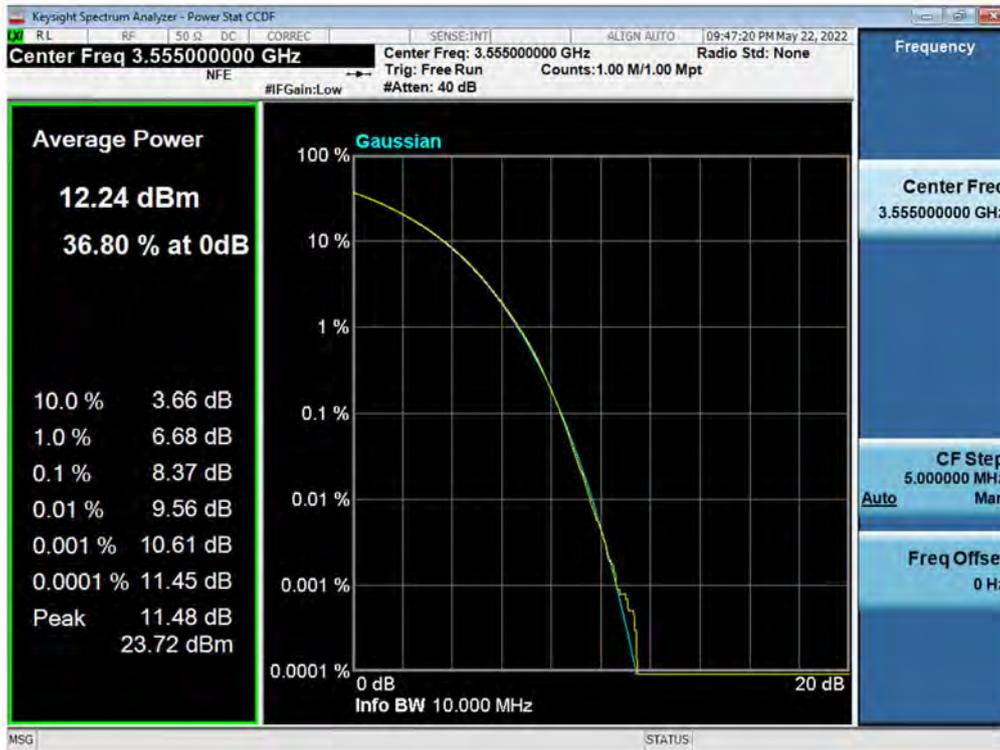
Antenna 0 / CBRS NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C + LTE 5 MHz 1C [5C] / Contiguous / QPSK / Low



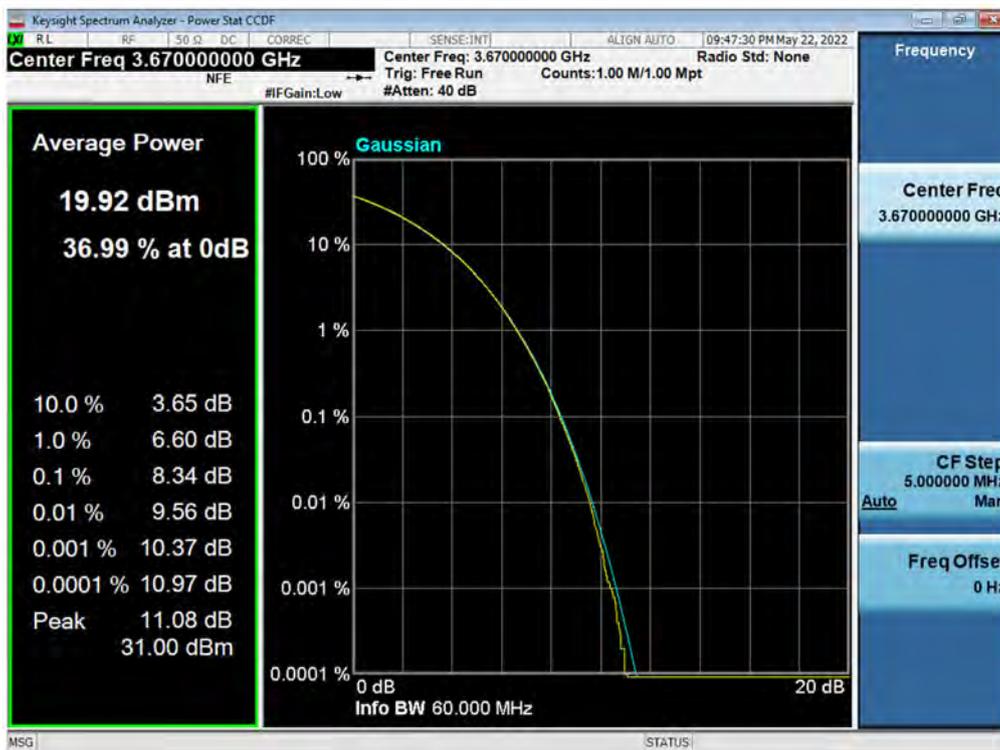
Antenna 1 / CBRS NR 40 MHz 1C + NR 40 MHz 1C + LTE 5 MHz 1C + LTE 5 MHz 1C + LTE 5 MHz 1C [5C] / Contiguous / 64QAM / Low



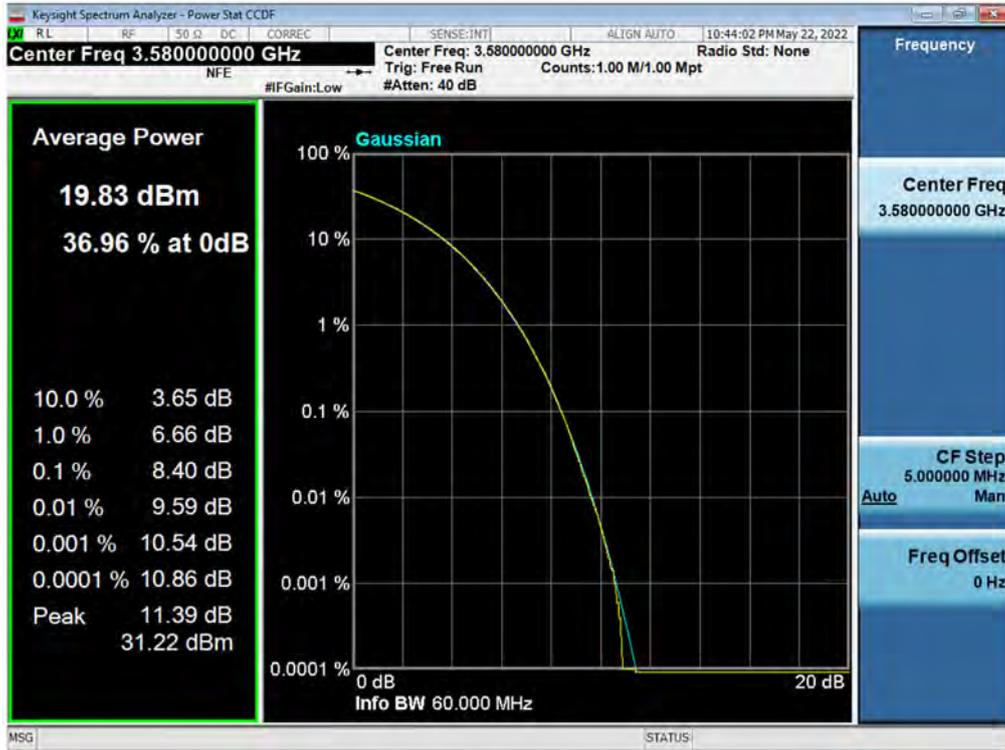
Antenna 0 / CBRS NR(10 MHz 1C + 60 MHz 1C)[2C]/ NR 10 MHz 1C / Non-Contiguous / 64QAM / Low



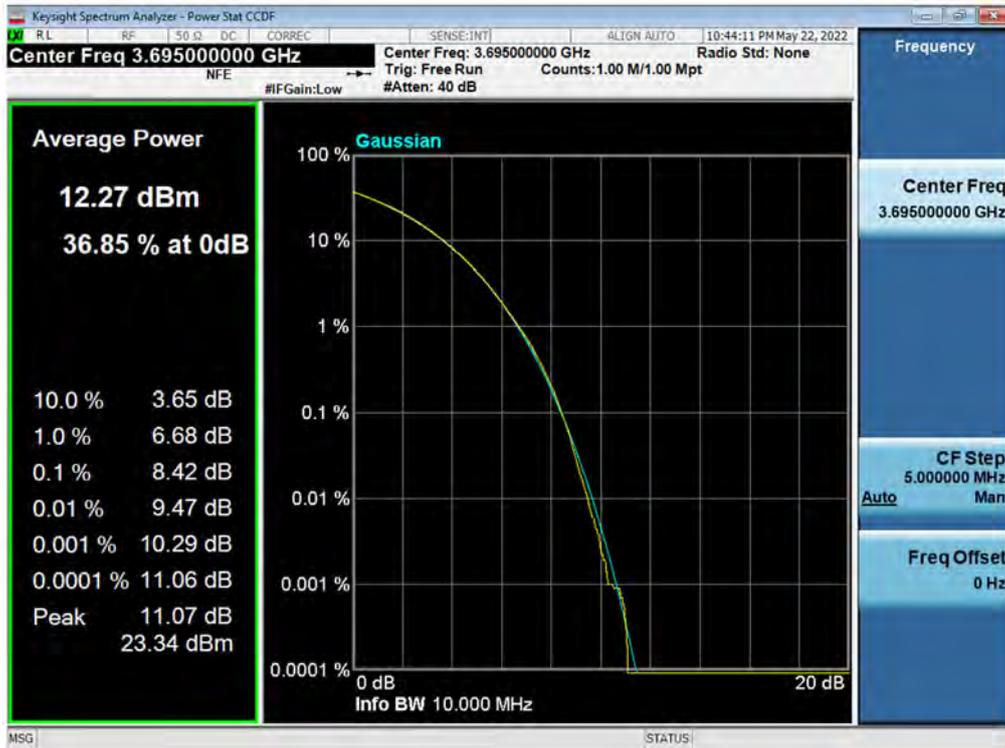
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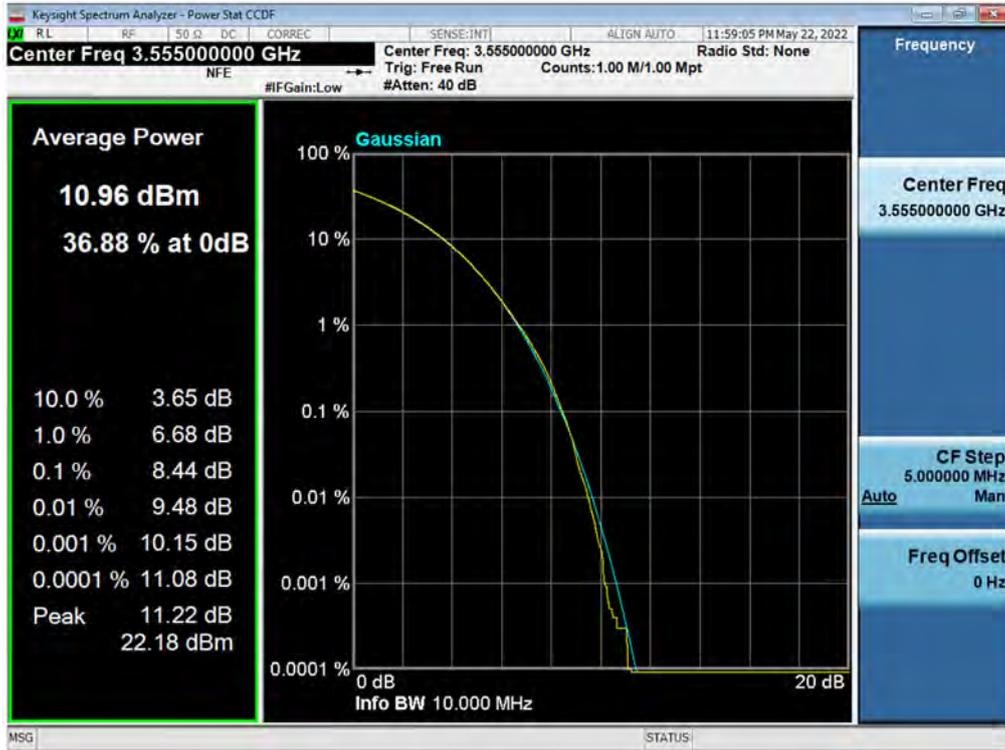
Antenna 1 / CBRS NR(60 MHz 1C + 10 MHz 1C)[2C] / NR 60 MHz 1C / Non-Contiguous / QPSK / Low



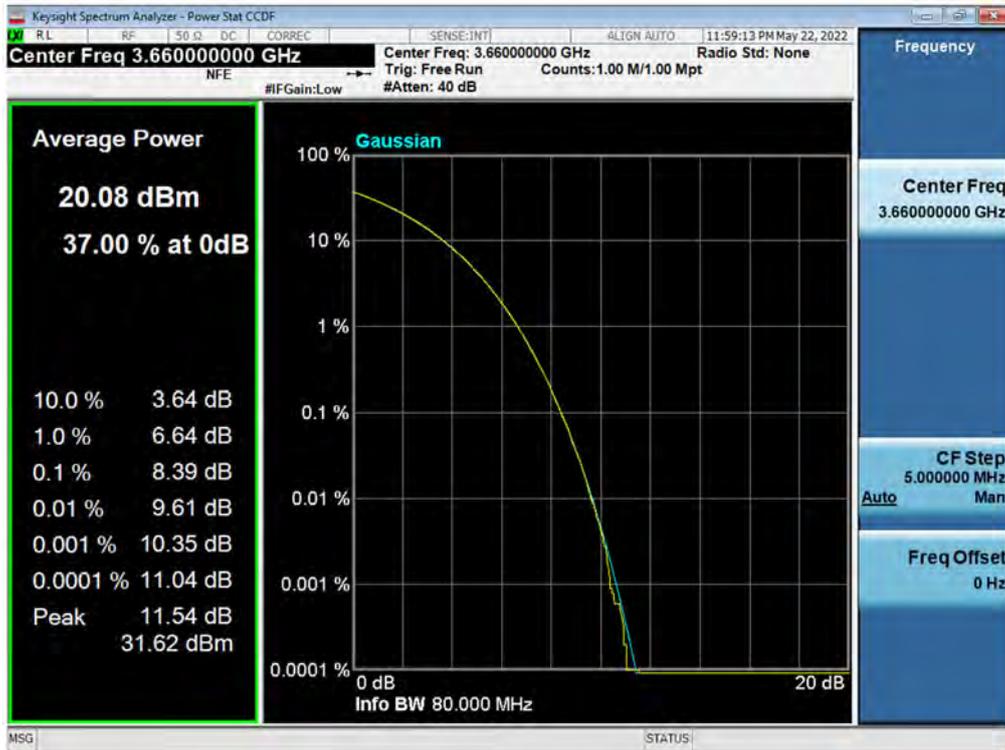
Antenna 1 / CBRS NR(60 MHz 1C + 10 MHz 1C)[2C] / NR 10 MHz 1C / Non-Contiguous / QPSK / High



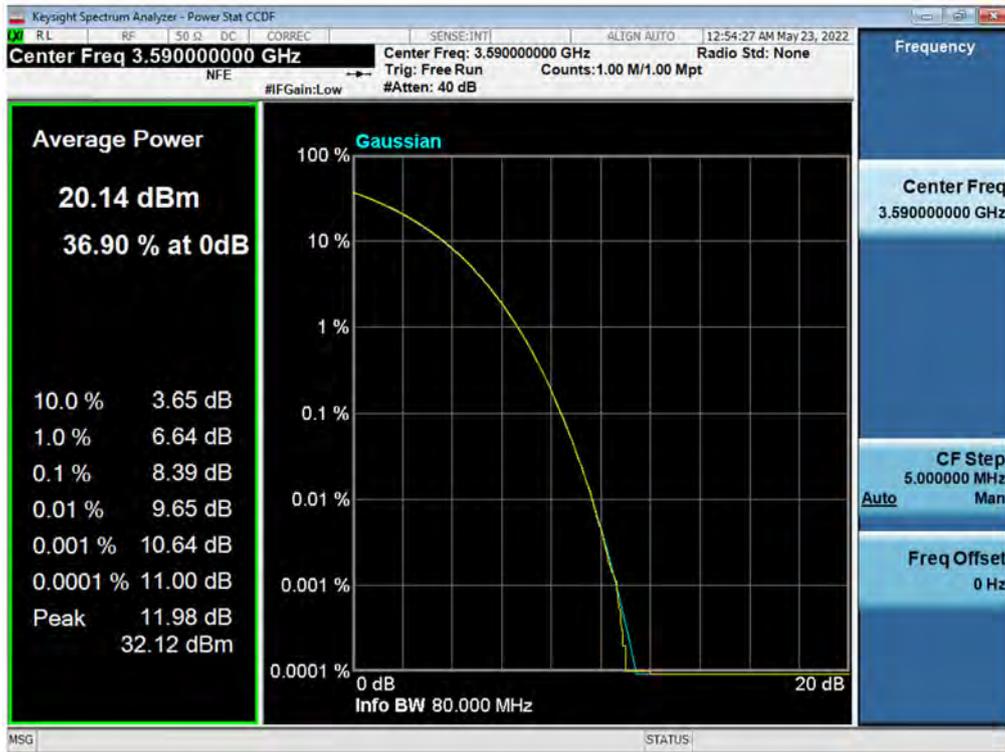
Antenna 0 / CBRS NR(10 MHz 1C + 80 MHz 1C)[2C] / NR 10 MHz 1C / Non-Contiguous / QPSK / Low



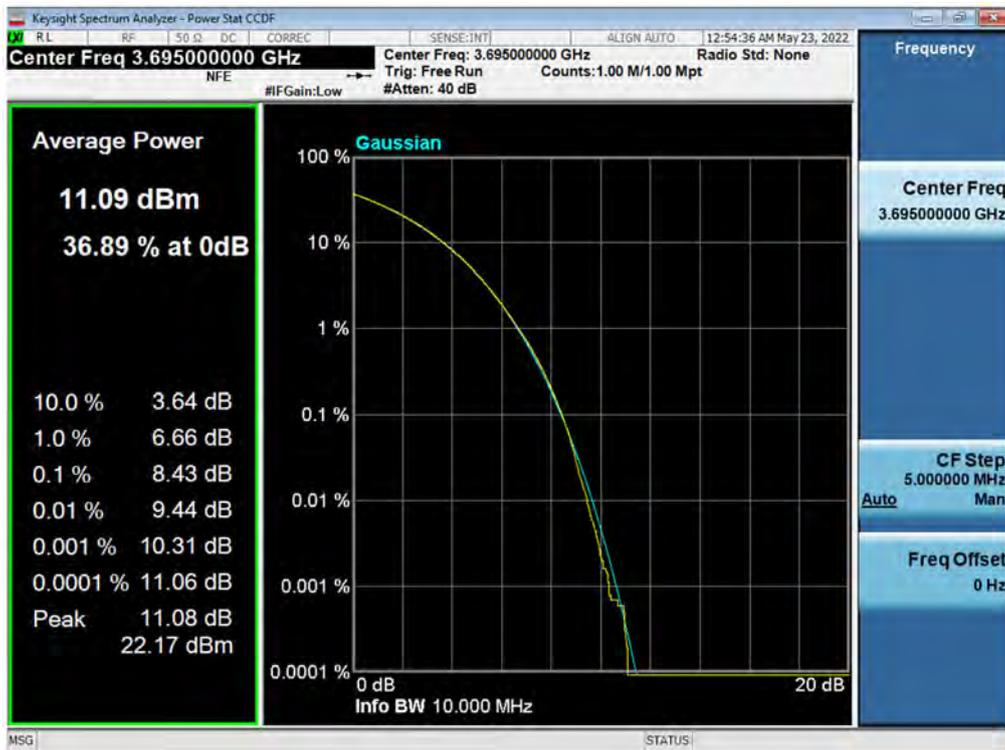
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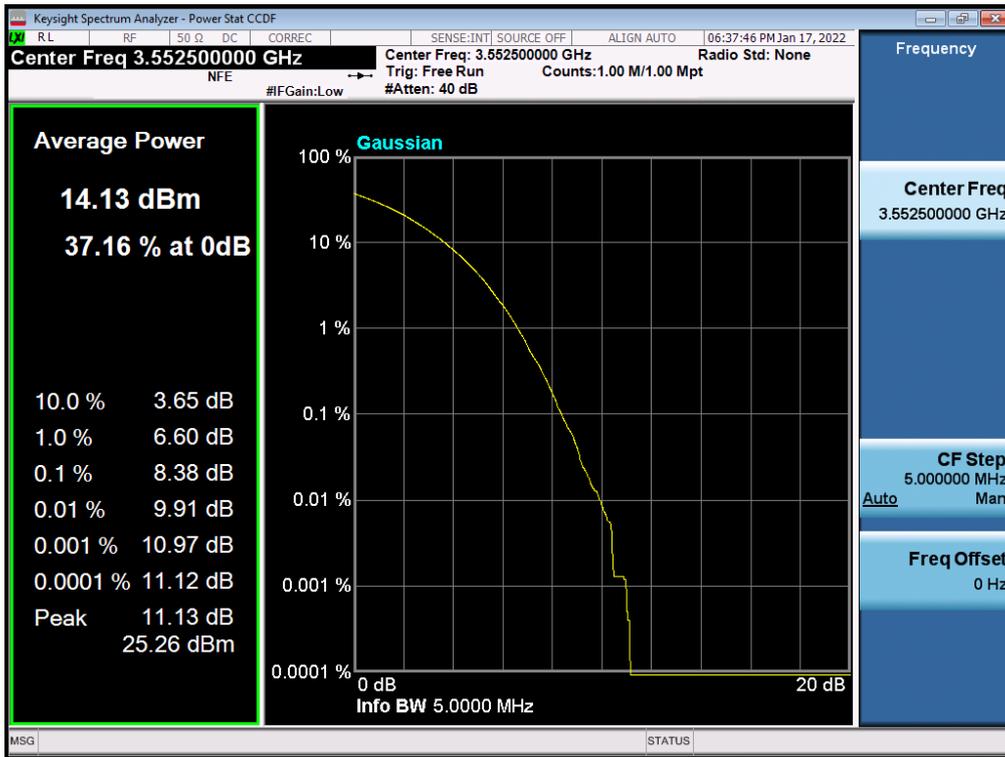
Antenna 0 / CBRS NR(80 MHz 1C + 10 MHz 1C)[2C] / NR 80 MHz 1C / Non-Contiguous / 16QAM / Low



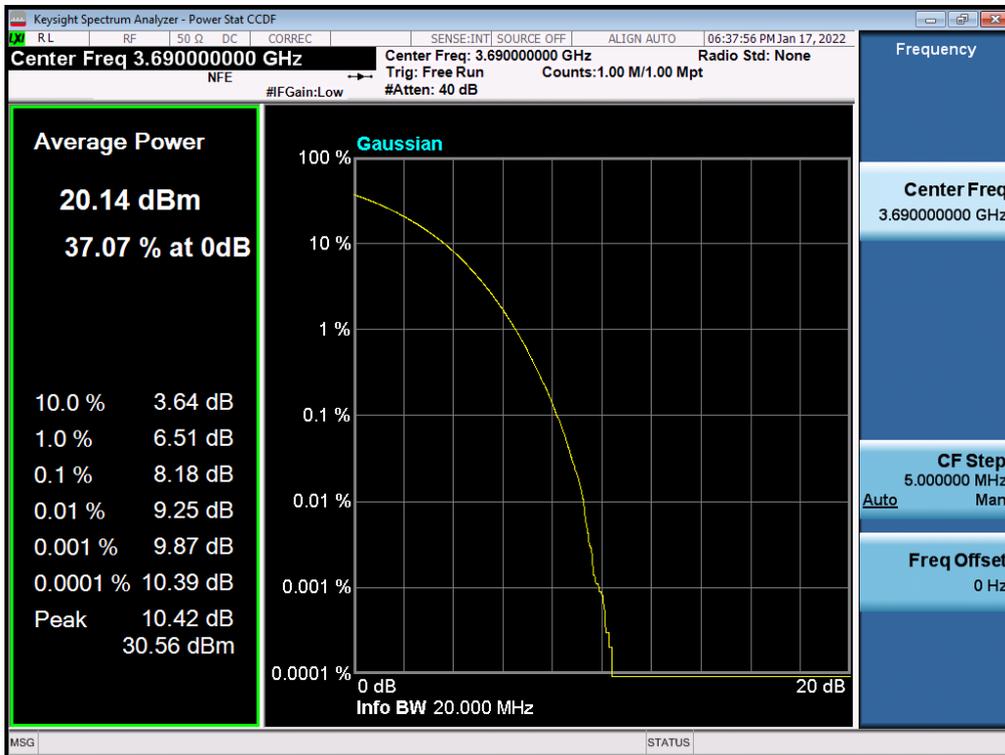
Antenna 0 / CBRS NR(80 MHz 1C + 10 MHz 1C)[2C] / NR 10 MHz 1C / Non-Contiguous / 16QAM / High



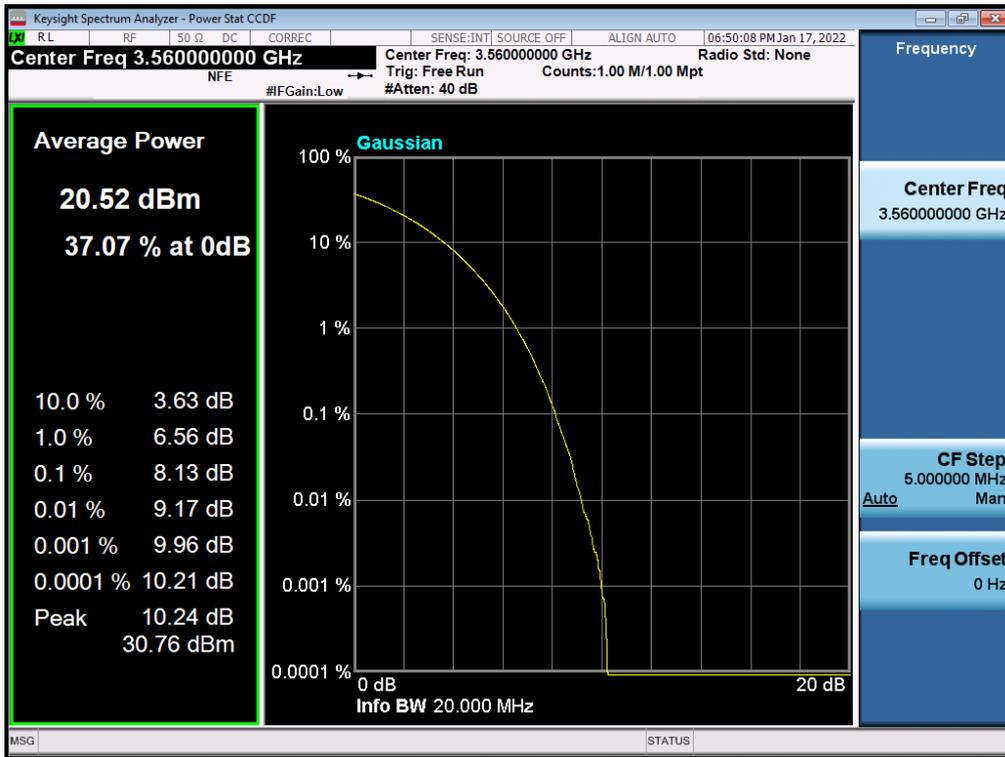
Antenna 1 / CBRS LTE[5 MHz 1C + (5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C)][5C(1C+4C)] / 5 MHz 1C / Non-Contiguous / 16QAM / Low



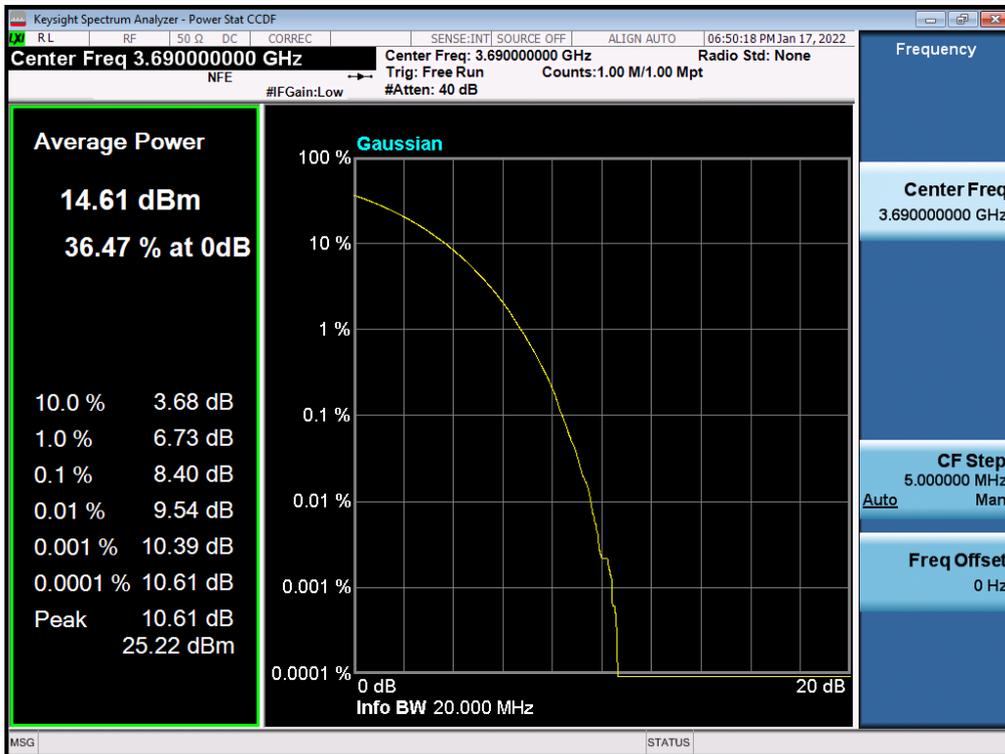
Antenna 1 / CBRS LTE[5 MHz 1C + (5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C)][5C(1C+4C)] / 5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C / Non-Contiguous / 16QAM / High



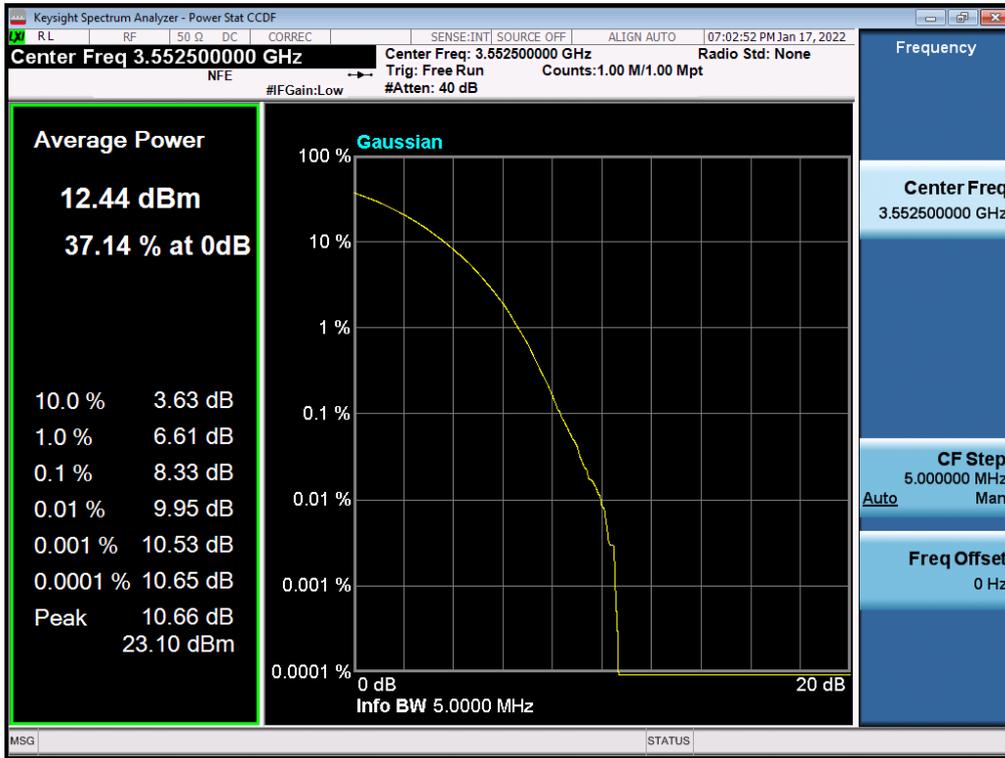
Antenna 0 / CBRS LTE[(5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C) + 5 MHz 1C][5C(4C+1C)] / 5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C / Non-Contiguous / QPSK / Low



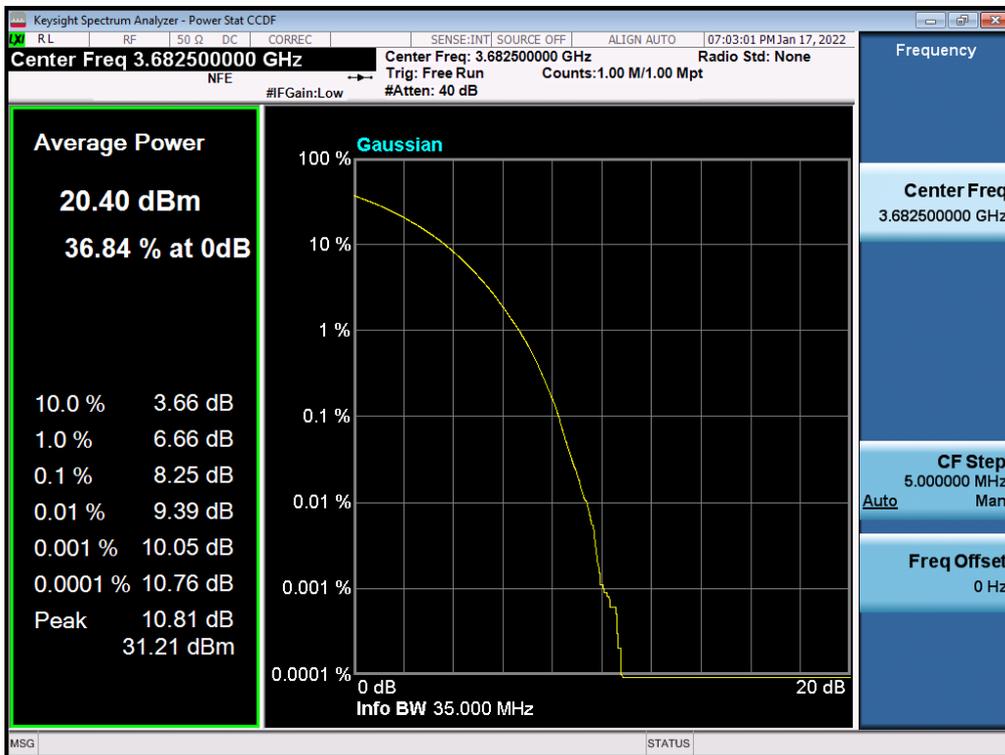
Antenna 0 / CBRS LTE[(5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C) + 5 MHz 1C][5C(4C+1C)] / 5 MHz 1C / Non-Contiguous / QPSK / High



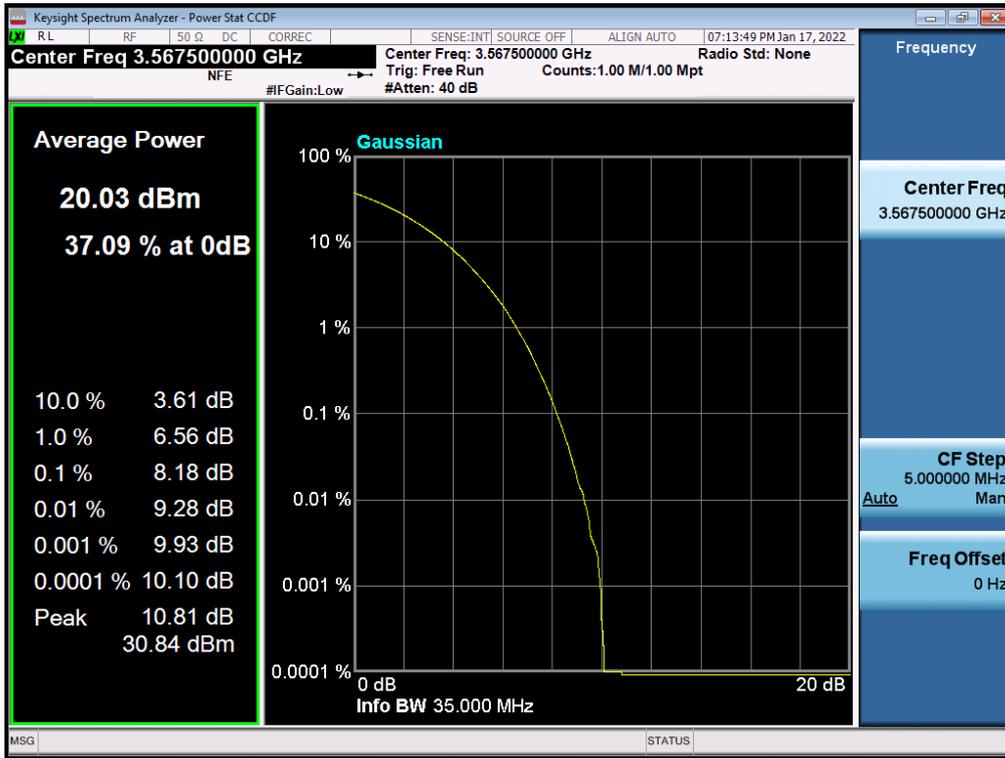
Antenna 1 / CBRS LTE[5 MHz 1C + (5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 20 MHz 1C)][5C(1C+4C)] / 5 MHz 1C / Non-Contiguous / 256QAM / Low



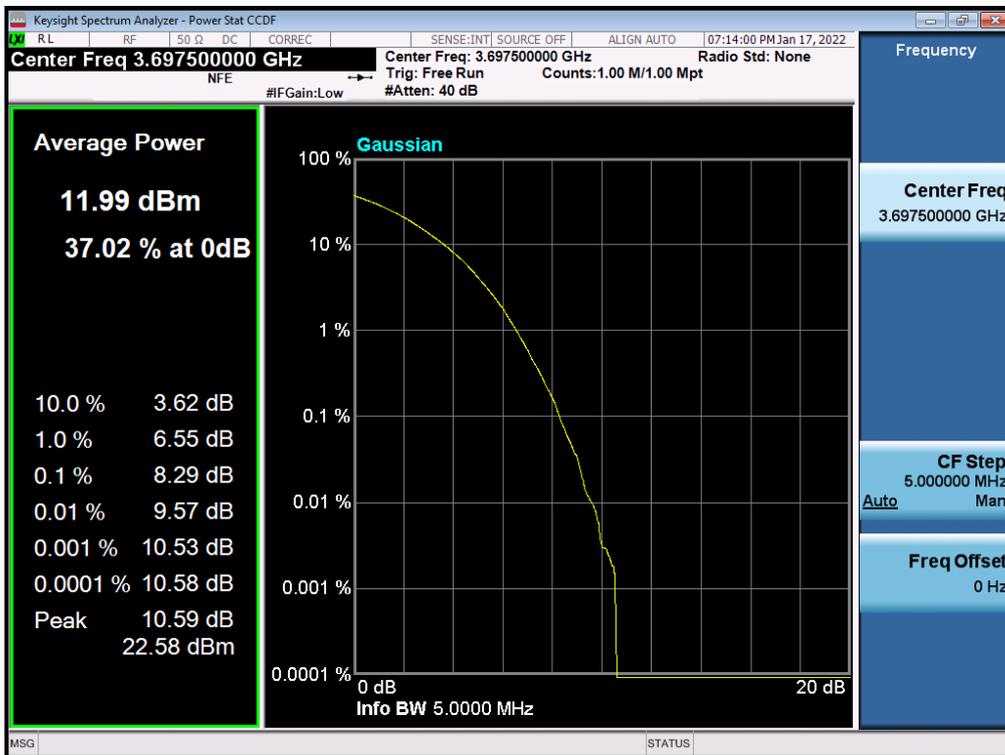
Antenna 1 / CBRS LTE[5 MHz 1C + (5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 20 MHz 1C)][5C(1C+4C)] / 5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 20 MHz 1C / Non-Contiguous / 256QAM / High



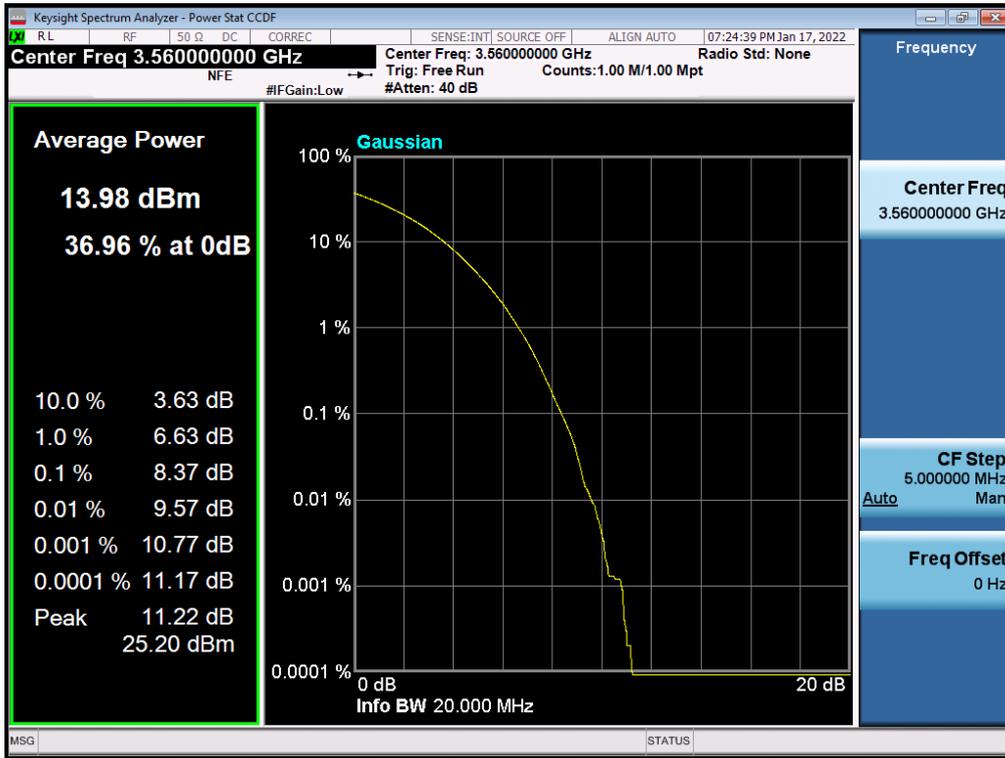
Antenna 1 / CBRS LTE[(20 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C) + 5 MHz 1C][5C(4C+1C)]
/ 20 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C / Non-Contiguous / QPSK / High



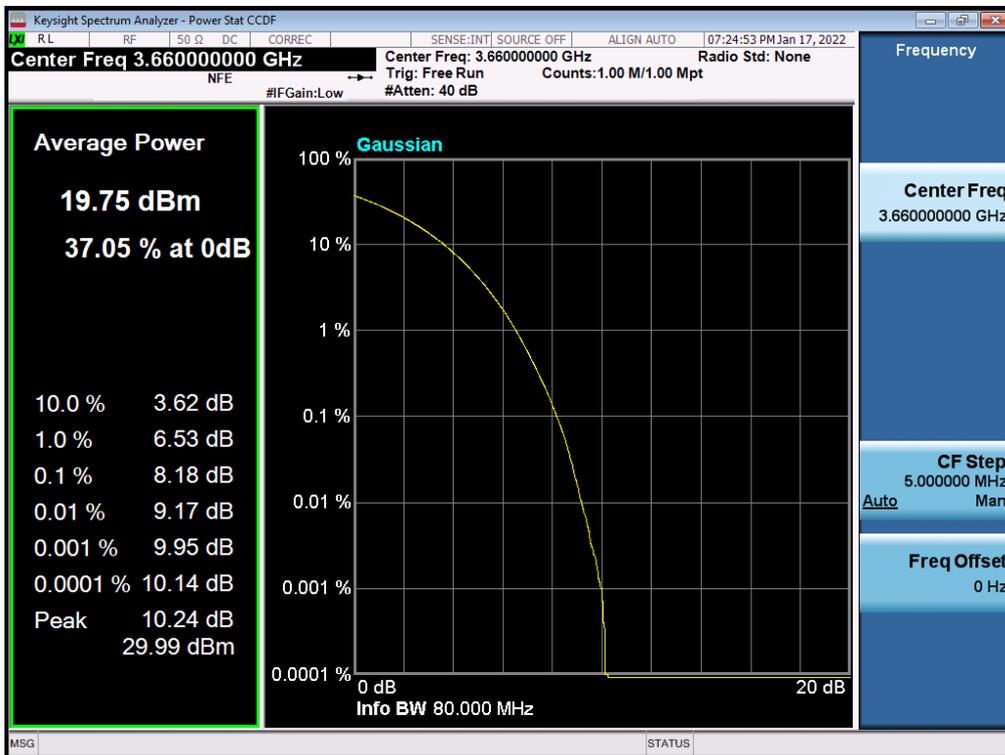
Antenna 1 / CBRS LTE[(20 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C) + 5 MHz 1C][5C(4C+1C)] / 5 MHz 1C
/ Non-Contiguous / QPSK / High



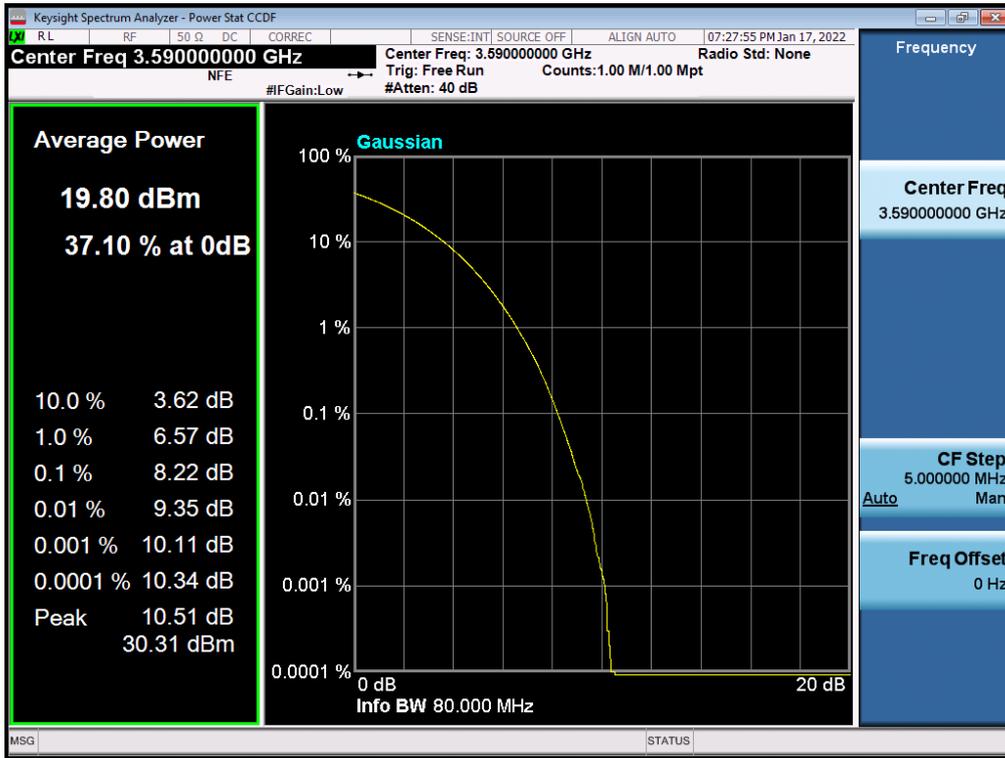
Antenna 0 / CBRS LTE[20 MHz 1C + (20 MHz 1C + 20 MHz 1C + 20 MHz 1C + 20 MHz 1C)][5C(1C+4C)] / 20 MHz 1C / Non-Contiguous / 1024QAM / Low



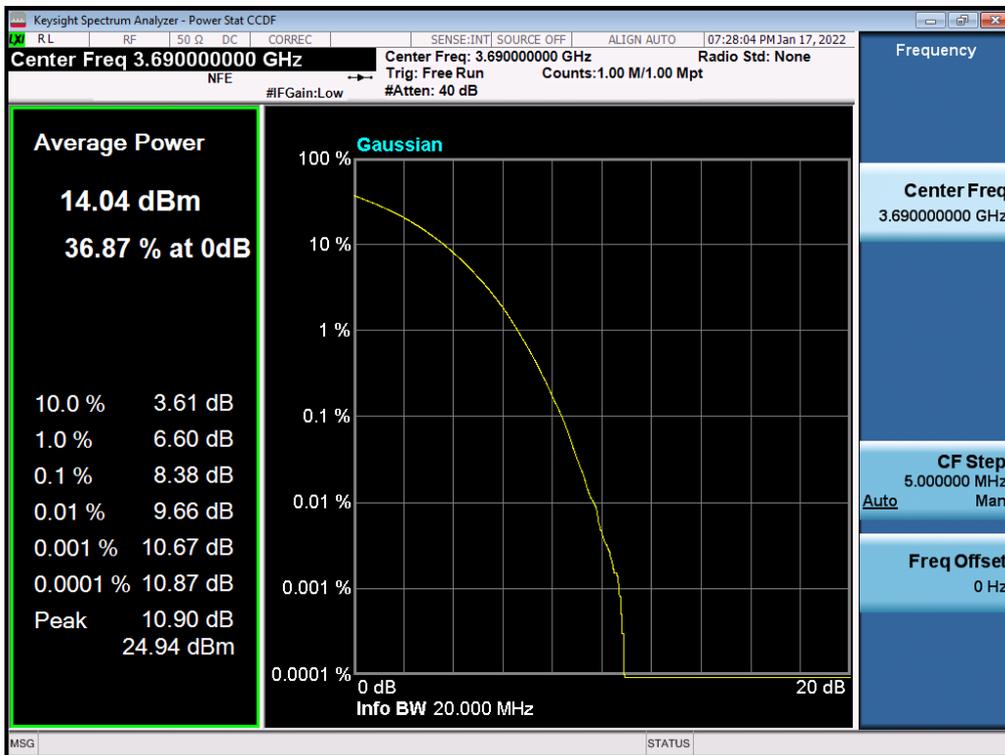
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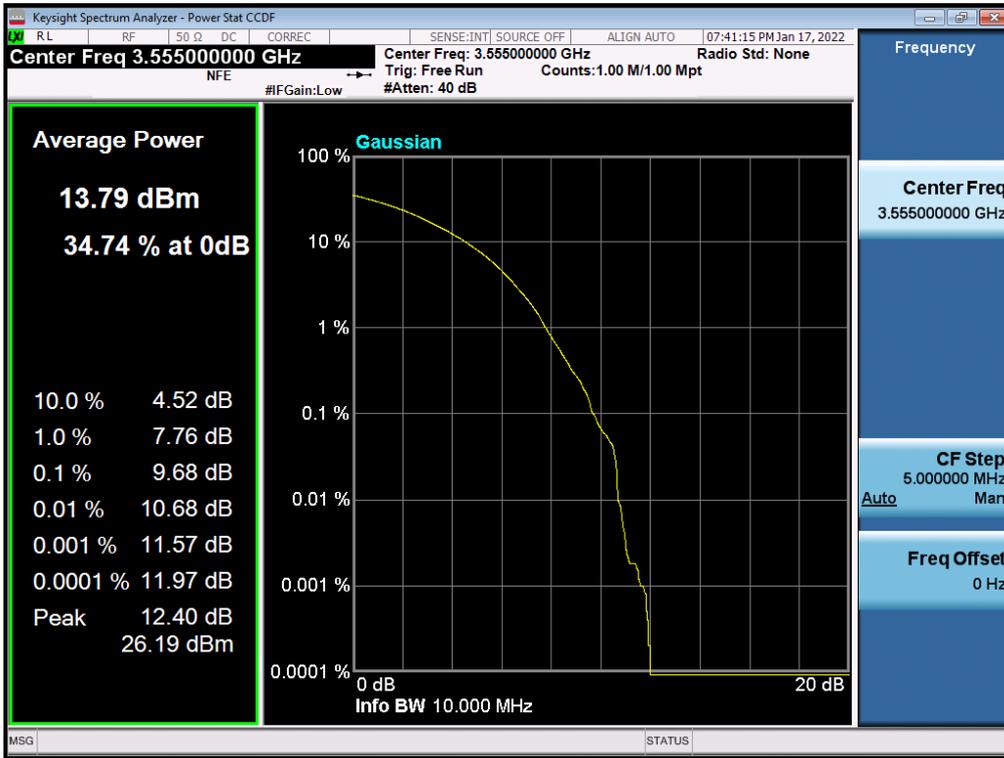
Antenna 0 / CBRS LTE[(20 MHz 1C + 20 MHz 1C + 20 MHz 1C + 20 MHz 1C) + 20 MHz 1C][5C(4C+1C)] / 20 MHz 1C + 20 MHz 1C + 20 MHz 1C + 20 MHz 1C / Non-Contiguous / 64QAM / Low



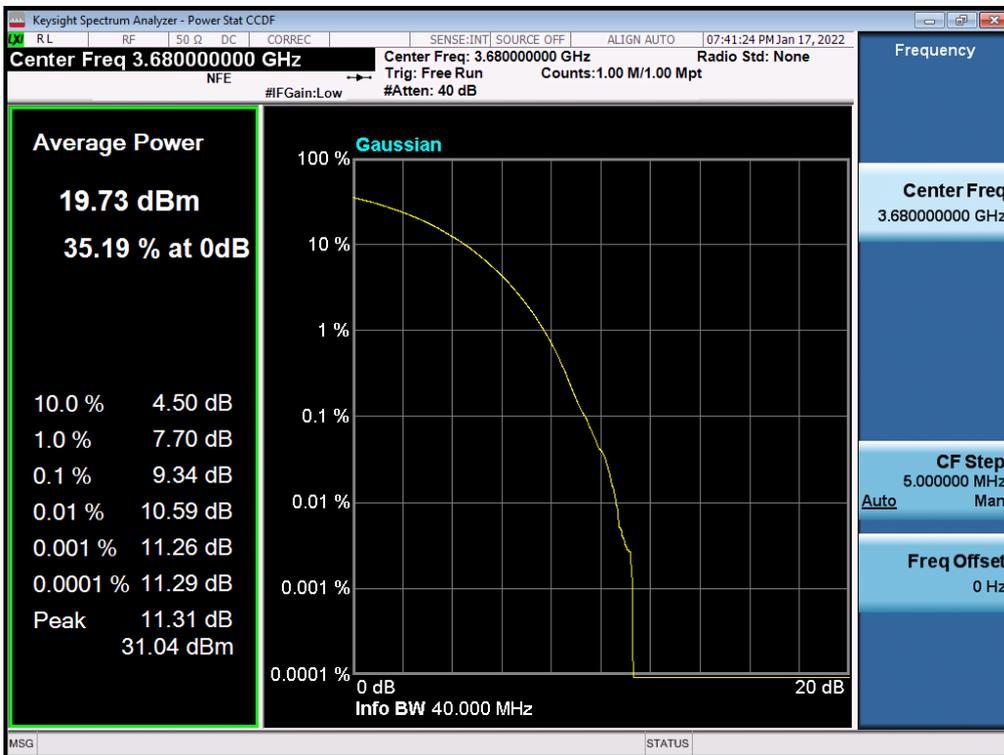
Antenna 0 / CBRS LTE[(20 MHz 1C + 20 MHz 1C + 20 MHz 1C + 20 MHz 1C) + 20 MHz 1C][5C(4C+1C)] / 20 MHz 1C / Non-Contiguous / 64QAM / High



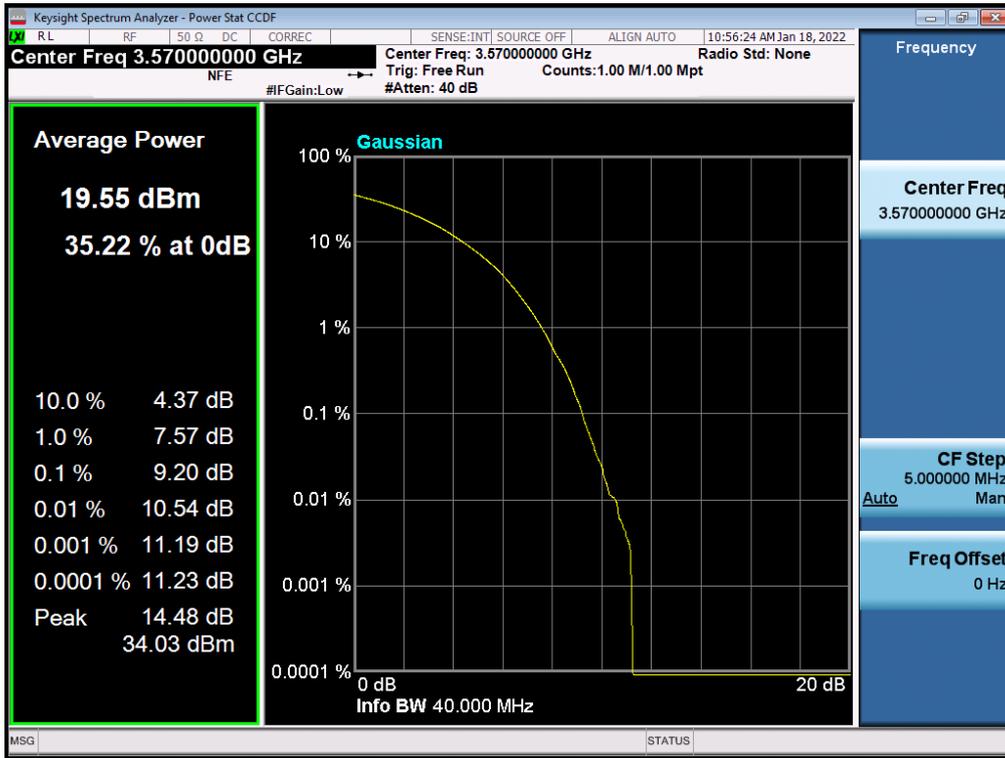
Antenna 0 / CBRS NR[10 MHz 1C + (10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C)][5C(1C+4C)] / 10 MHz 1C / Non-Contiguous / 64QAM / Low



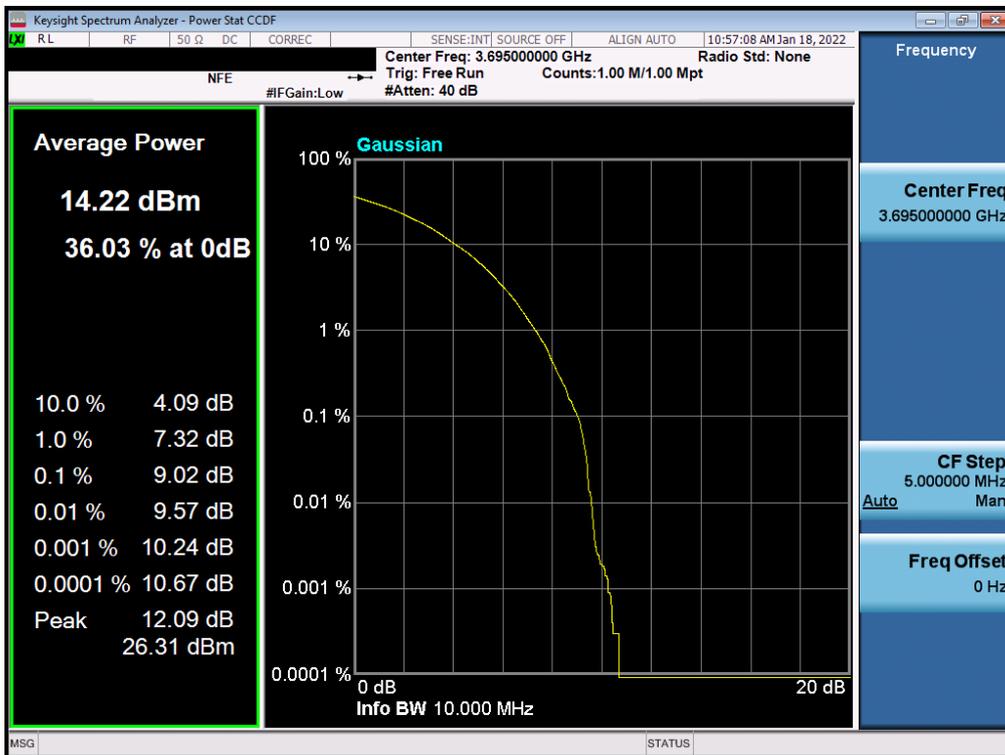
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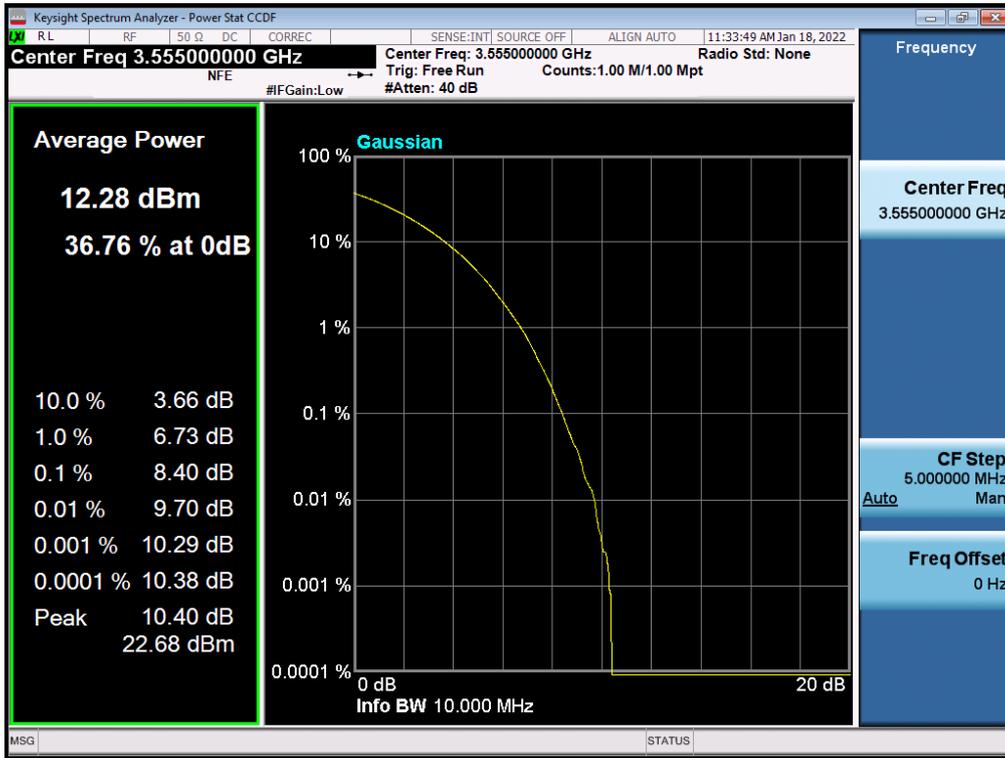
Antenna 1 / CBRS NR[(10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C) + 10 MHz 1C][5C(4C+1C)] / 10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C / Non-Contiguous / QPSK / Low



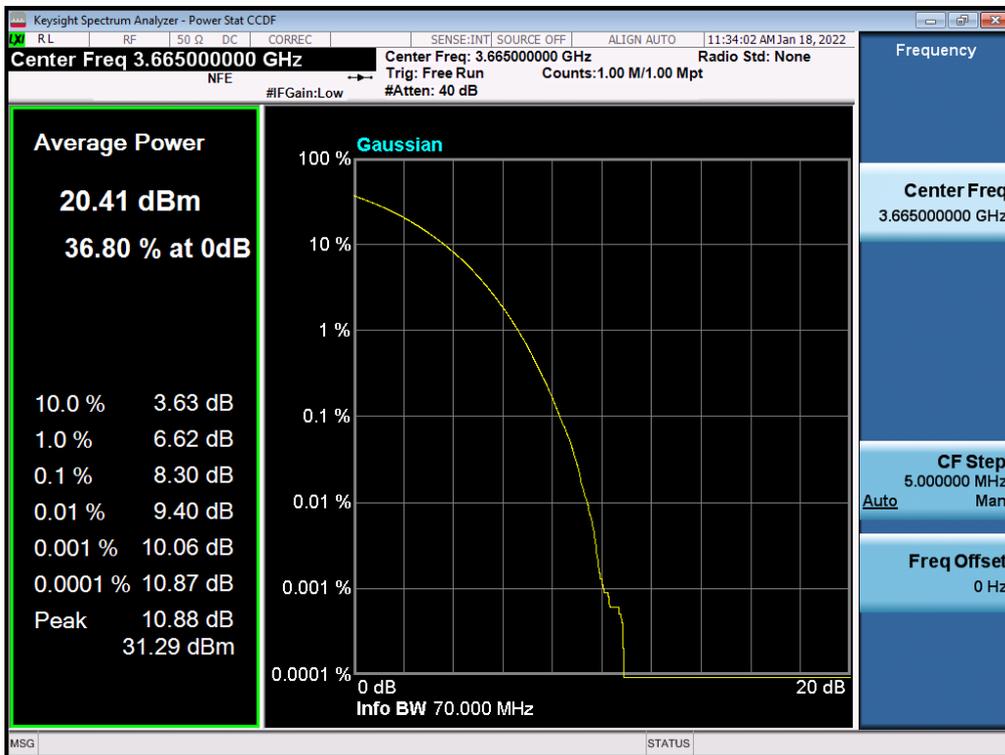
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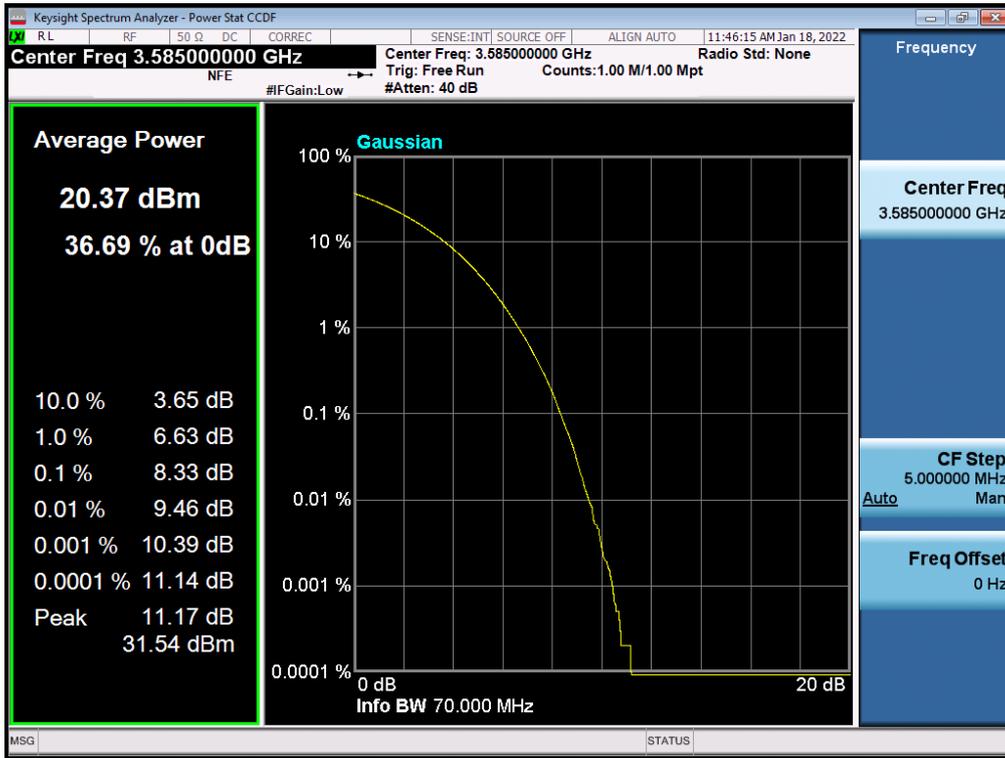
Antenna 0 / CBRS NR[10 MHz 1C + (10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 40 MHz 1C)][5C(1C+4C)] / 10 MHz 1C / Non-Contiguous / 64QAM / Low



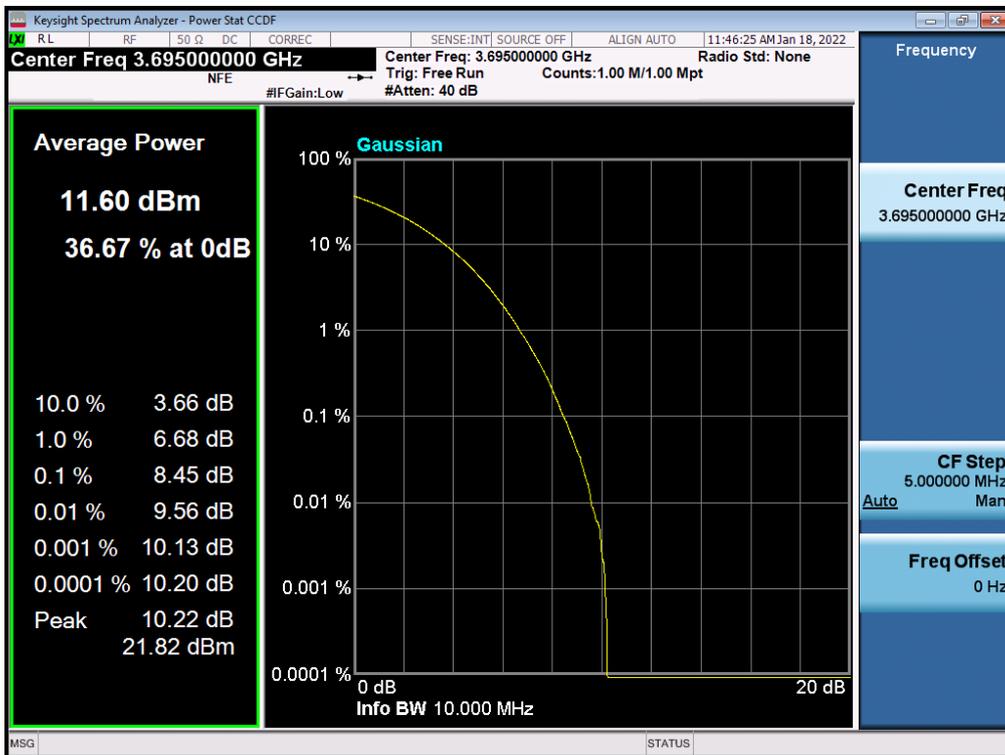
Antenna 0 / CBRS NR[10 MHz 1C + (10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 40 MHz 1C)][5C(1C+4C)] / 10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 40 MHz 1C / Non-Contiguous / 64QAM / High



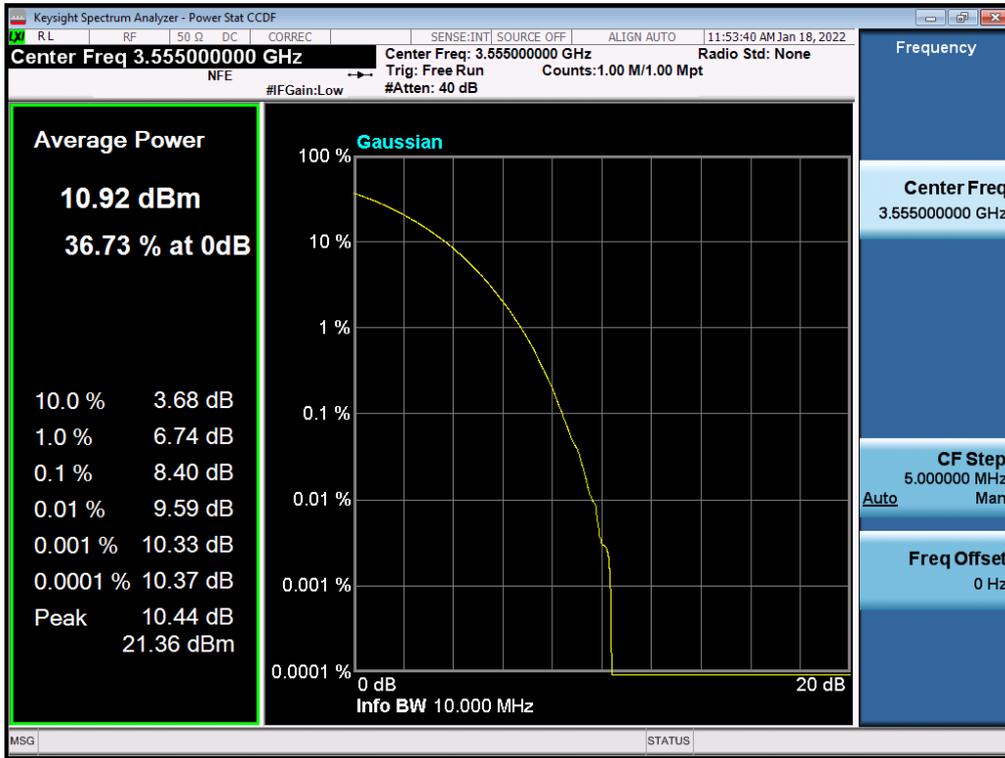
Antenna 1 / CBRS NR[(40 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C) + 10 MHz 1C][5C(4C+1C)] / 40 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C / Non-Contiguous / 256QAM/ Low



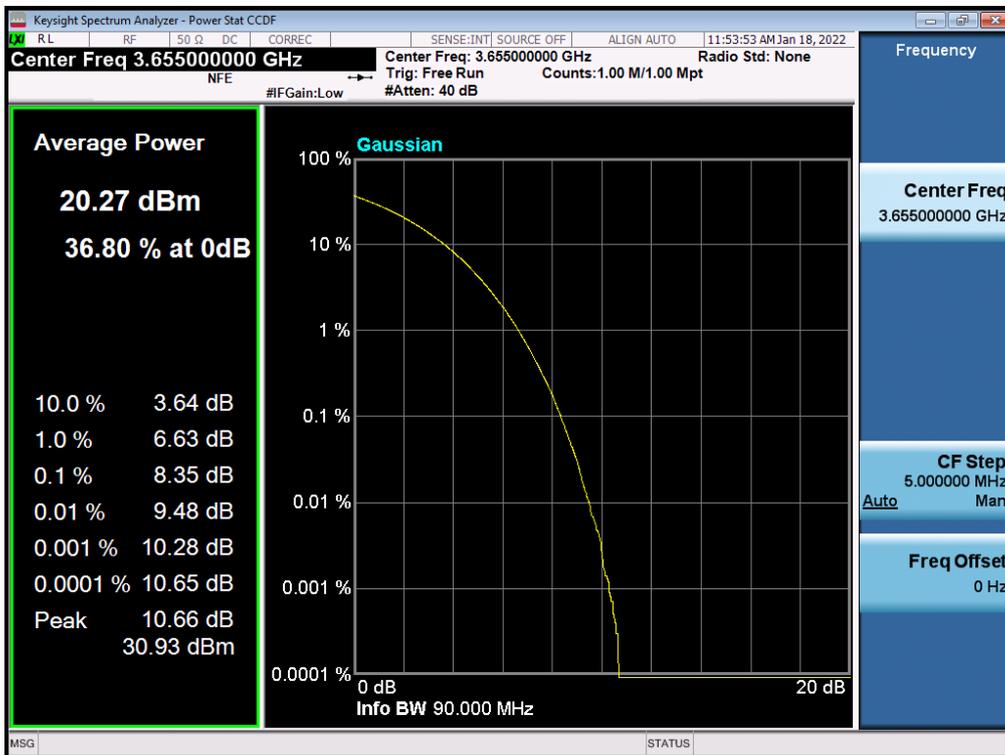
Antenna 1 / CBRS NR[(40 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C) + 10 MHz 1C][5C(4C+1C)] / 10 MHz 1C / Non-Contiguous / 256QAM / High



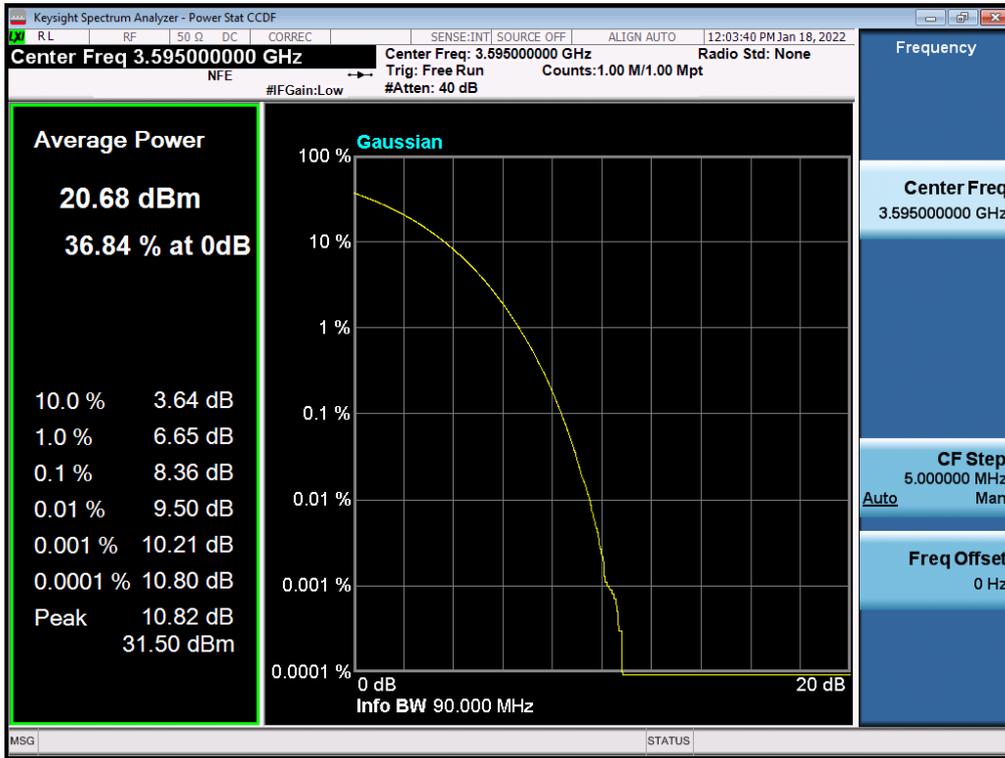
Antenna 0 / CBRS NR[10 MHz 1C + (10 MHz 1C + 10 MHz 1C + 30 MHz 1C + 40 MHz 1C)][5C(1C+4C)] / 10 MHz 1C / Non-Contiguous / QPSK / Low



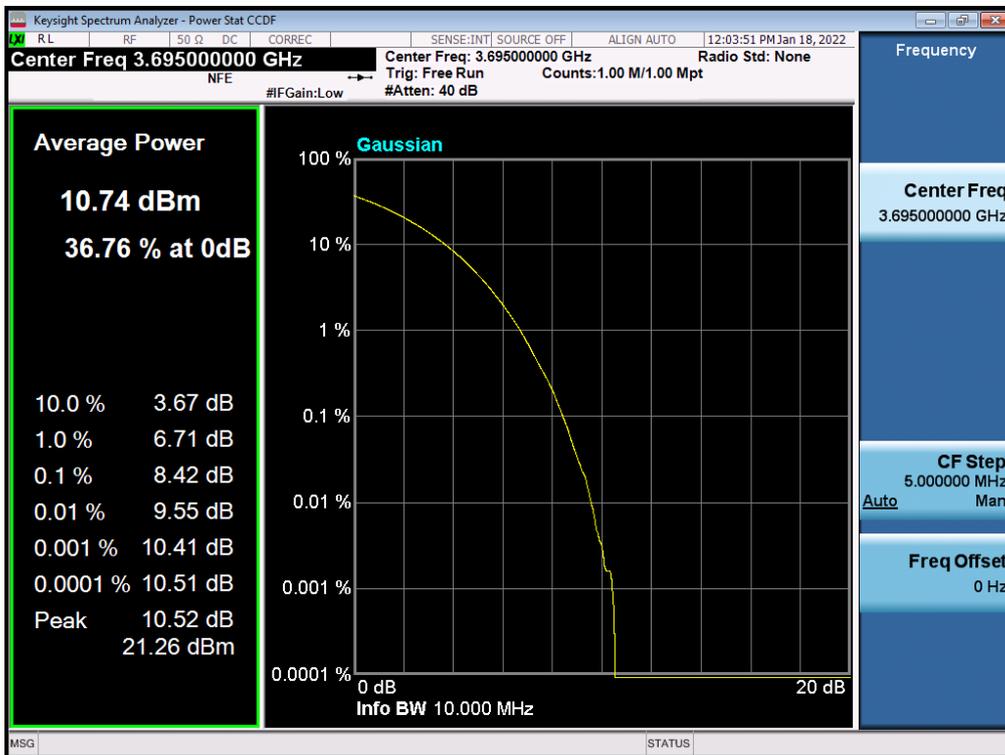
Antenna 0 / CBRS NR[10 MHz 1C + (10 MHz 1C + 10 MHz 1C + 30 MHz 1C + 40 MHz 1C)][5C(1C+4C)] / 10 MHz 1C + 10 MHz 1C + 30 MHz 1C + 40 MHz 1C / Non-Contiguous / QPSK / High



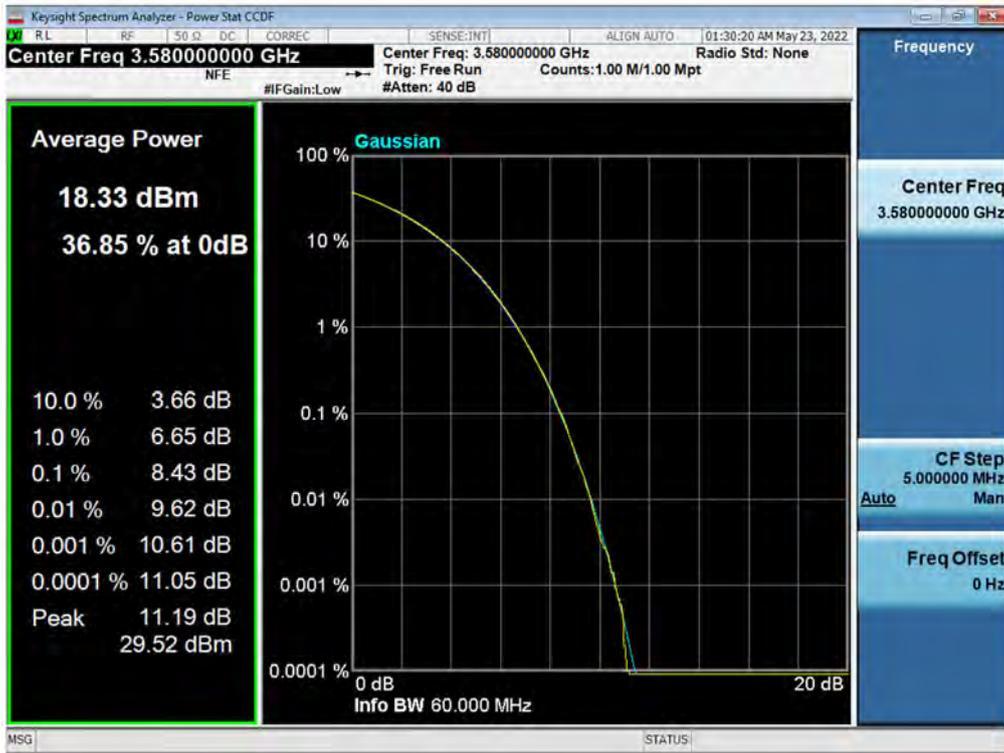
Antenna 1 / CBRS NR[(40 MHz 1C + 30 MHz 1C + 10 MHz 1C + 10 MHz 1C) + 10 MHz 1C][5C(4C+1C)] / 40 MHz 1C + 30 MHz 1C + 10 MHz 1C + 10 MHz 1C / Non-Contiguous / QPSK / Low



Antenna 1 / CBRS NR[(40 MHz 1C + 30 MHz 1C + 10 MHz 1C + 10 MHz 1C) + 10 MHz 1C][5C(4C+1C)] / 10 MHz 1C / Non-Contiguous / QPSK / High



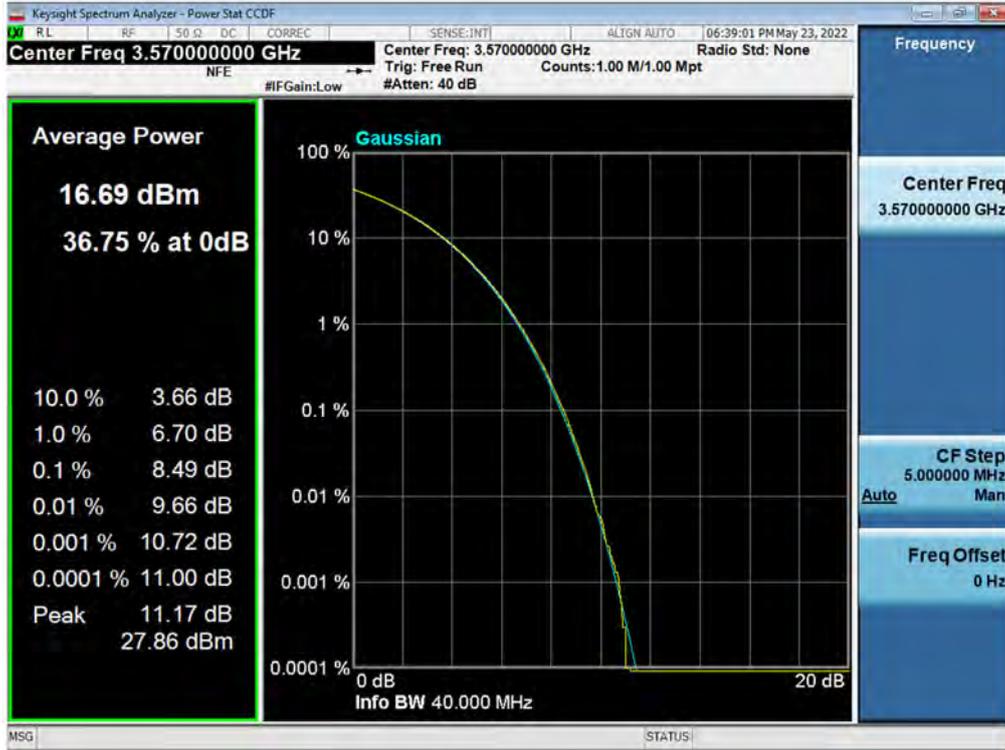
Antenna 1 / CBRS NR[60 MHz 1C + (10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C)][5C(1C+4C)]
/ NR 60 MHz 1C / Non-Contiguous / 16QAM / Low



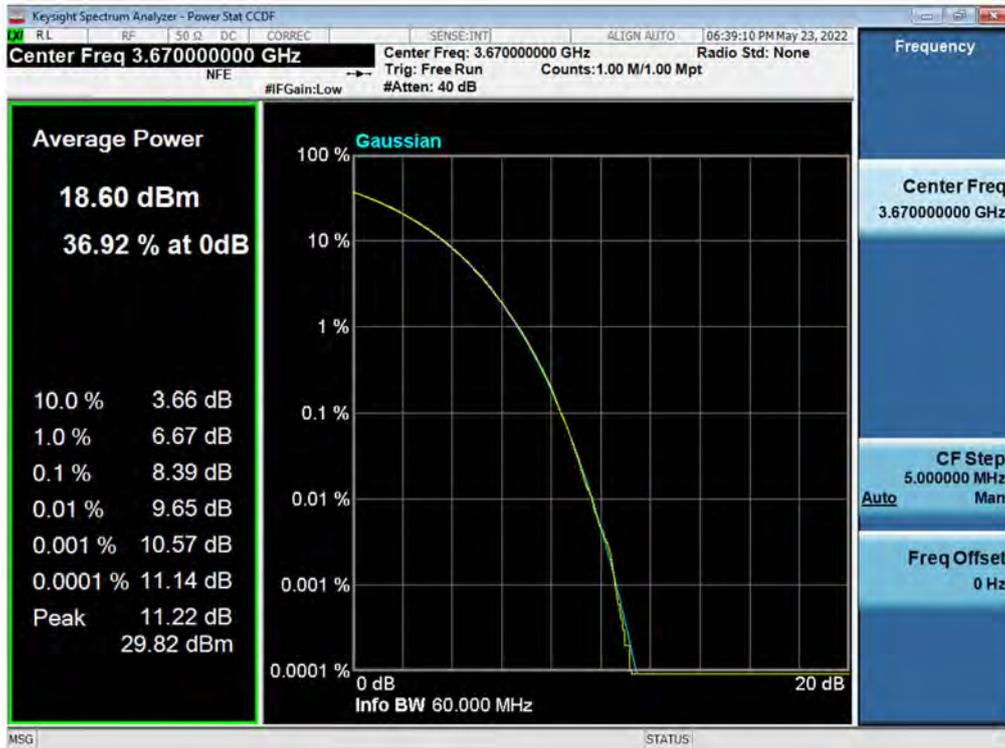
Antenna 1 / CBRS NR[60 MHz 1C + (10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C)][5C(1C+4C)]
/ NR 10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C / Non-Contiguous / 16QAM / High



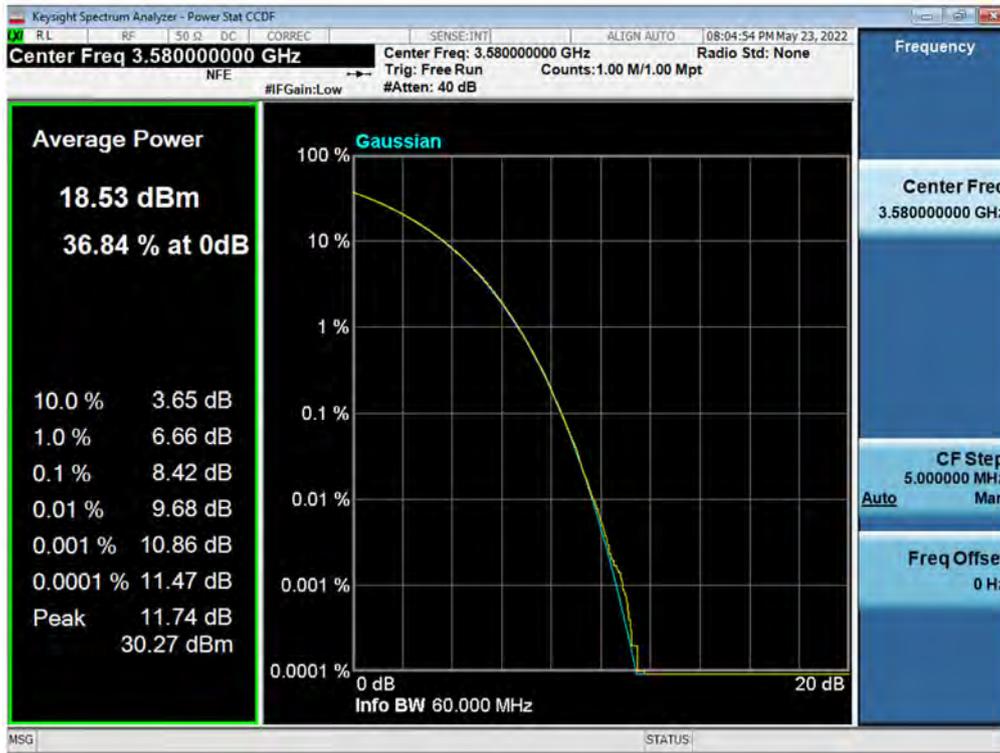
Antenna 0 / CBRS NR[(10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C) + 60 MHz 1C][5C(4C+1C)]
 / NR 10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C / Non-Contiguous / 16QAM / Low



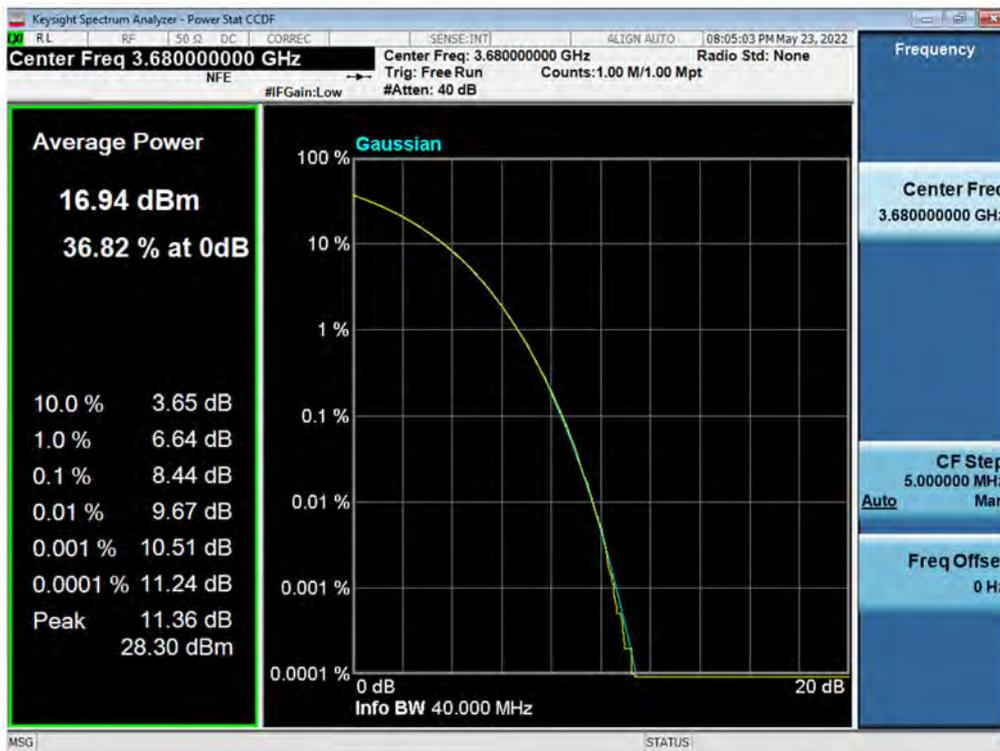
Antenna 0 / CBRS NR[(10 MHz 1C + 10 MHz 1C + 10 MHz 1C + 10 MHz 1C) + 60 MHz 1C][5C(4C+1C)]
 / NR 60 MHz 1C / Non-Contiguous / 16QAM / High



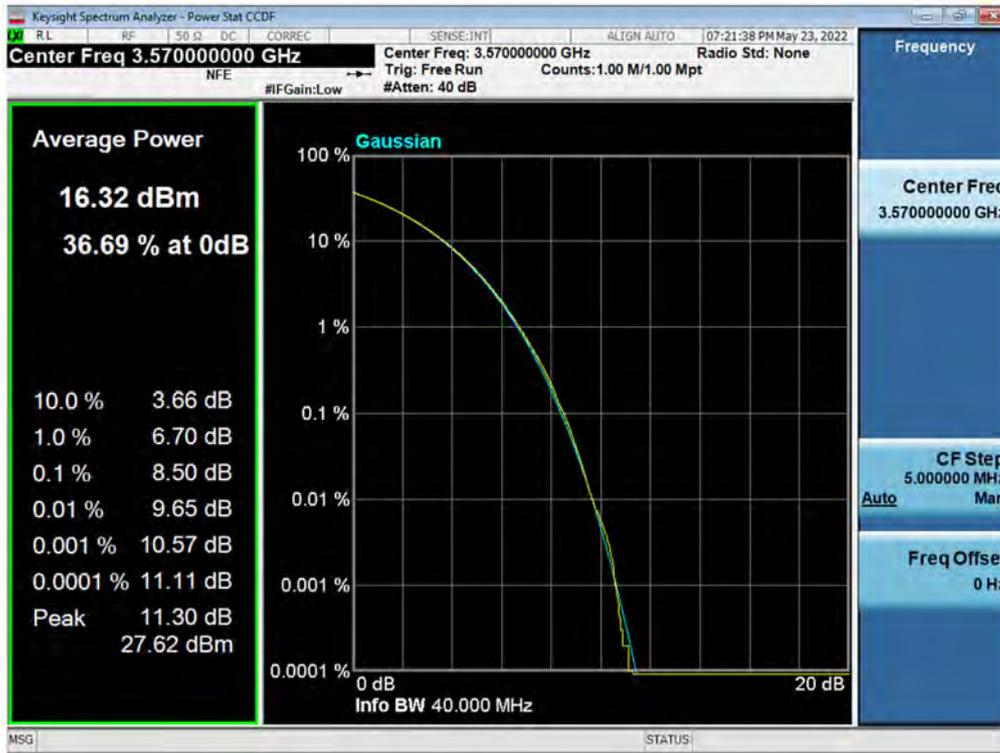
Antenna 1 / CBRS NR 60 MHz 1C + (NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 10 MHz 1C)[5C(1C+4C)]
 / CBRS NR 60 MHz 1C / Non-Contiguous / 256QAM / Low



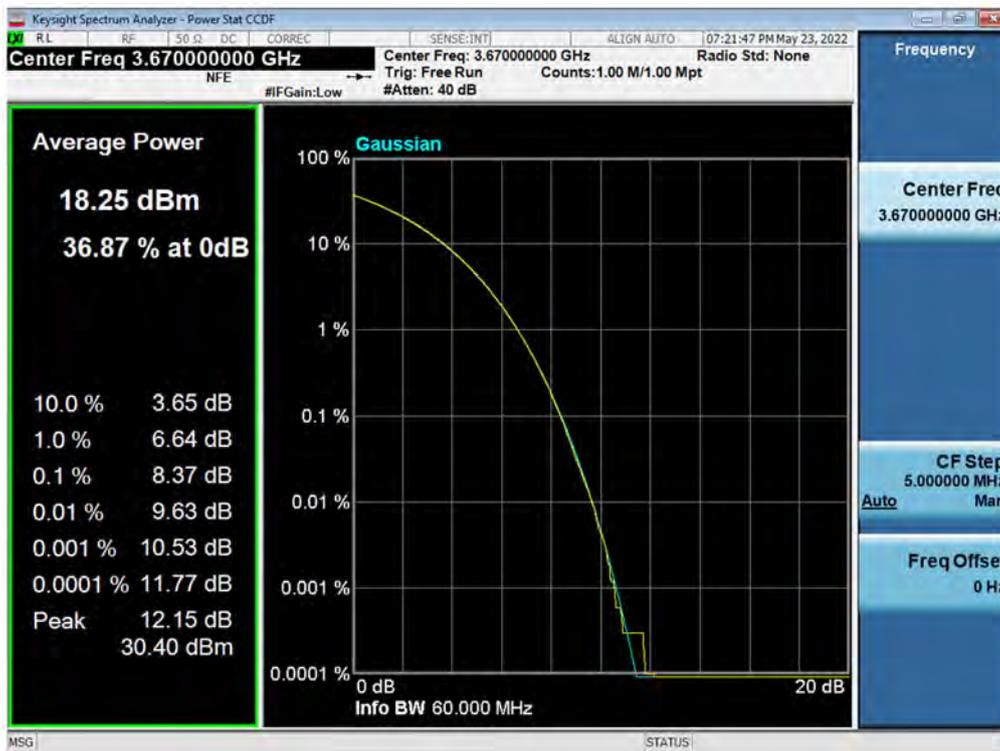
Antenna 1 / CBRS NR 60 MHz 1C + (NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 10 MHz 1C)[5C(1C+4C)]
 / NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 10 MHz 1C / Non-Contiguous / 256QAM / High



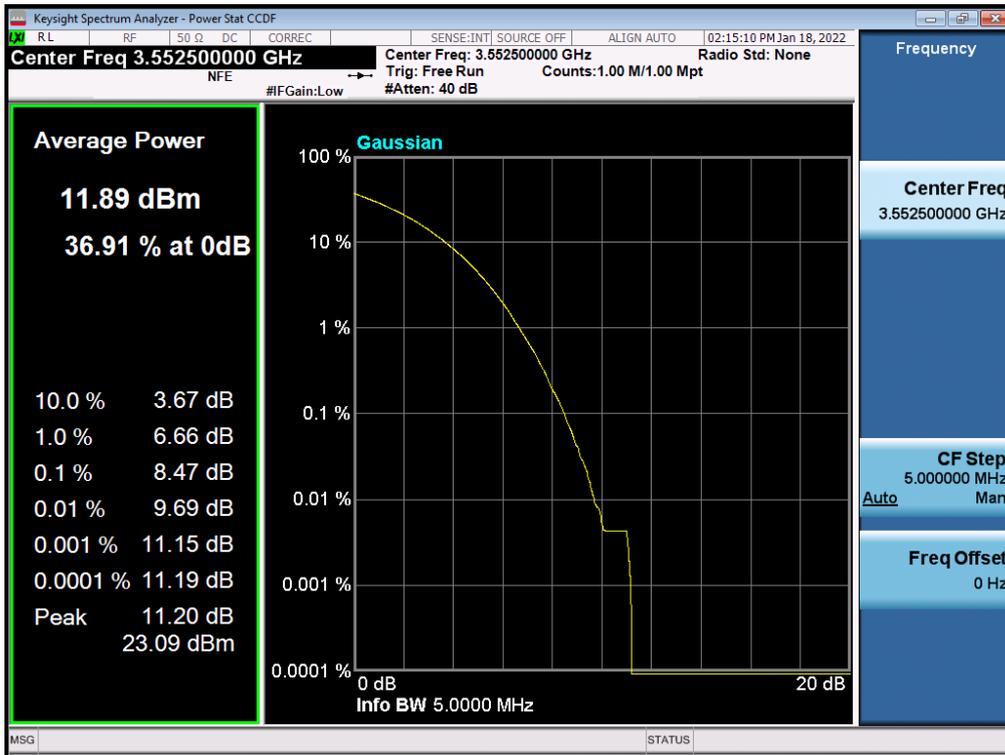
Antenna 0 / CBRS (LTE 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C) + NR 60 MHz 1C [5C(4C+1C)]
 / LTE 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C / Non-Contiguous / 64QAM / Low



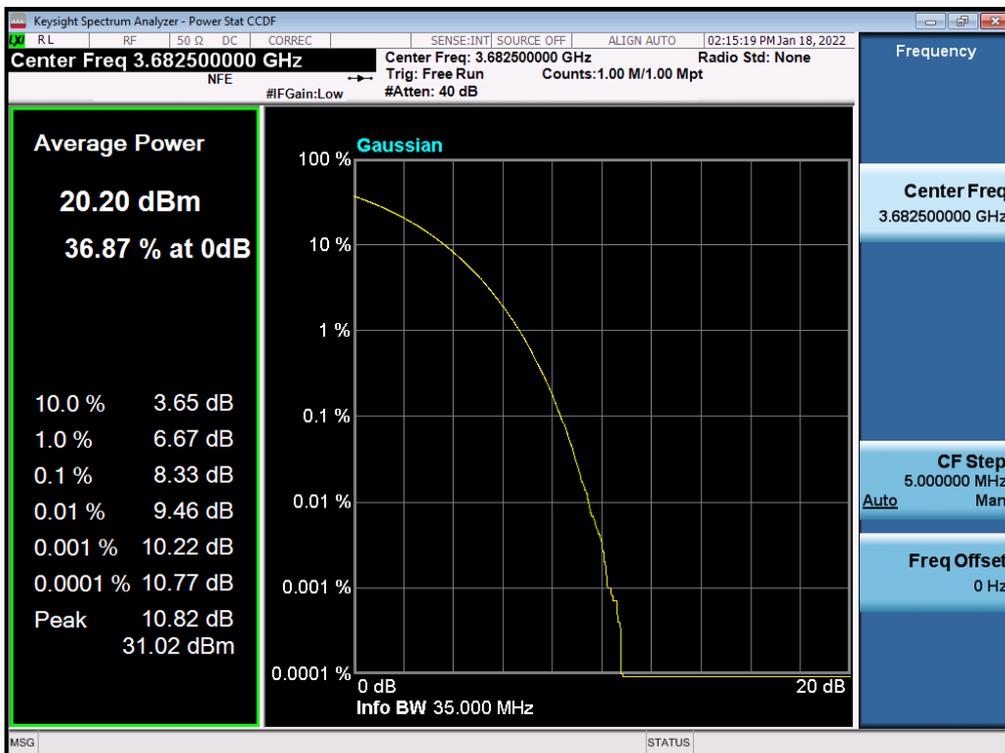
Antenna 0 / CBRS (LTE 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C) + NR 60 MHz 1C [5C(4C+1C)]
 / NR 60 MHz 1C / Non-Contiguous / 64QAM / High



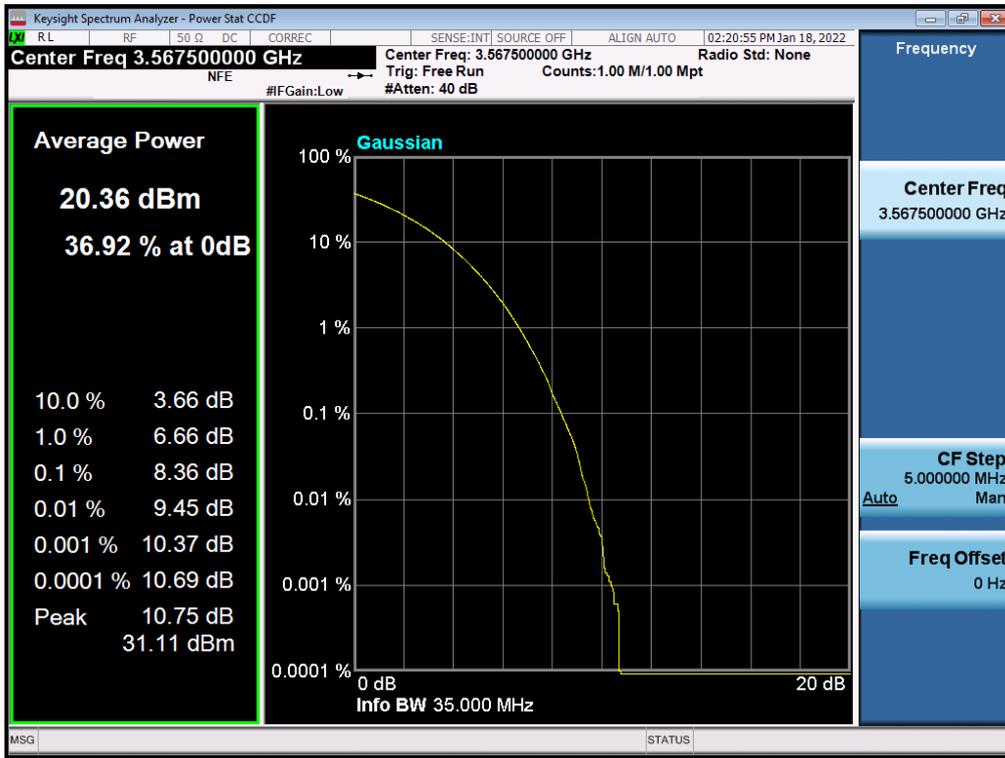
Antenna 1 / CBRs LTE 5 MHz 1C + (LTE 5 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C) [5C(1C+4C)]
/ LTE 5 MHz 1C / Non-Contiguous / QPSK / Low



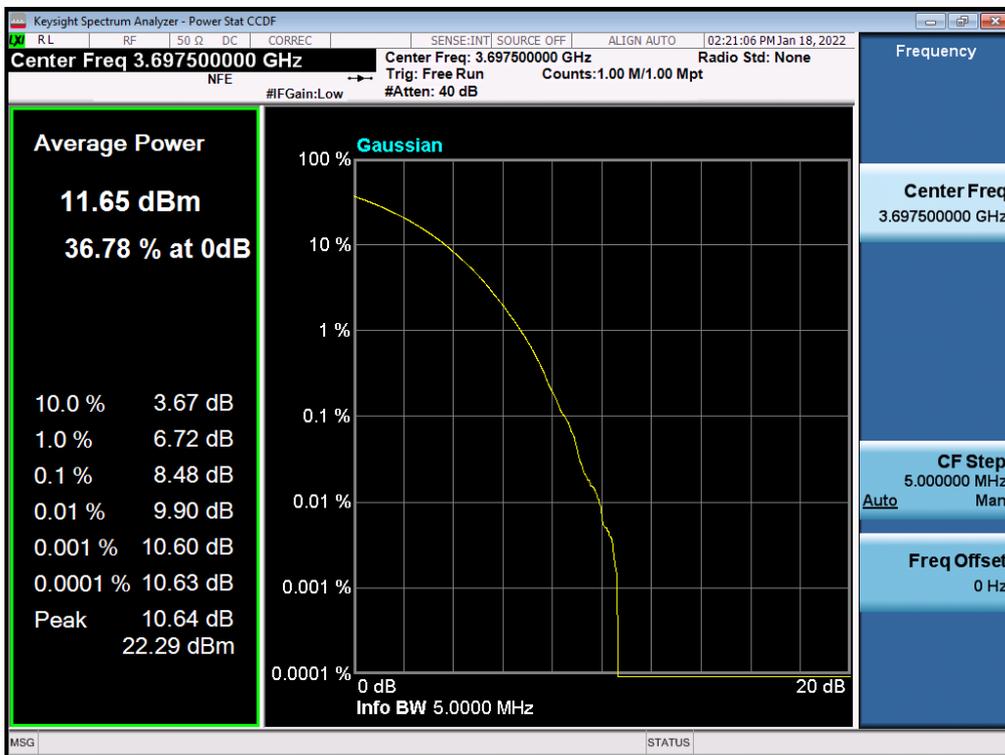
Antenna 1 / CBRs LTE 5 MHz 1C + (LTE 5 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C) [5C(1C+4C)]
/ LTE 5 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C / Non-Contiguous / QPSK / High



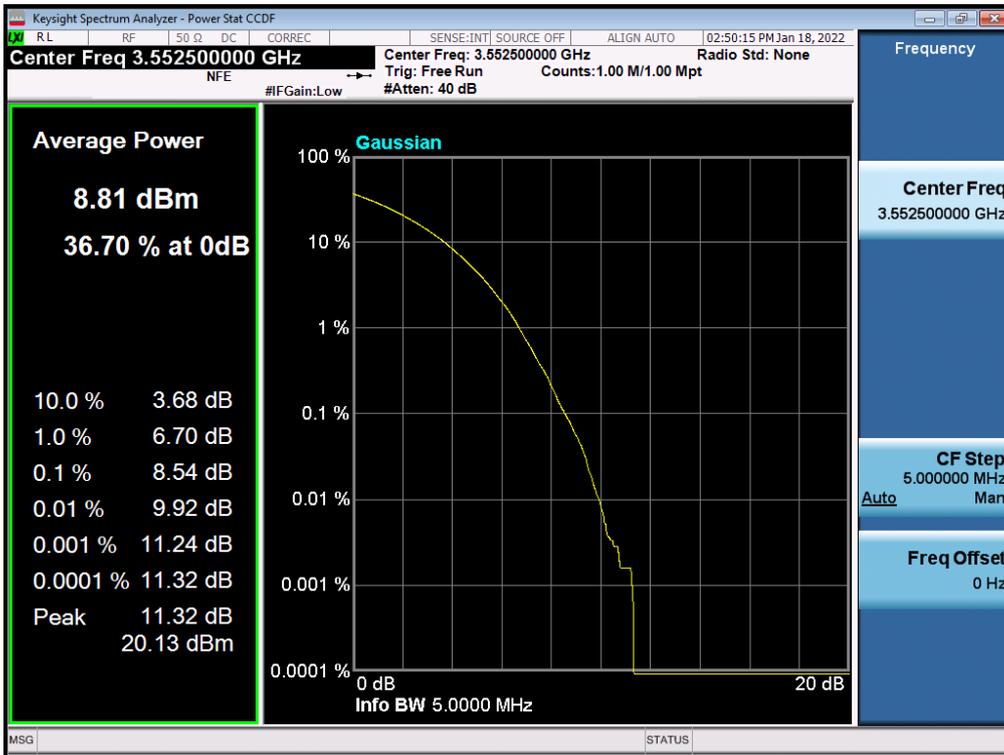
Antenna 0 / CBRS (NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]
/ NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C / Non-Contiguous / 16QAM / Low



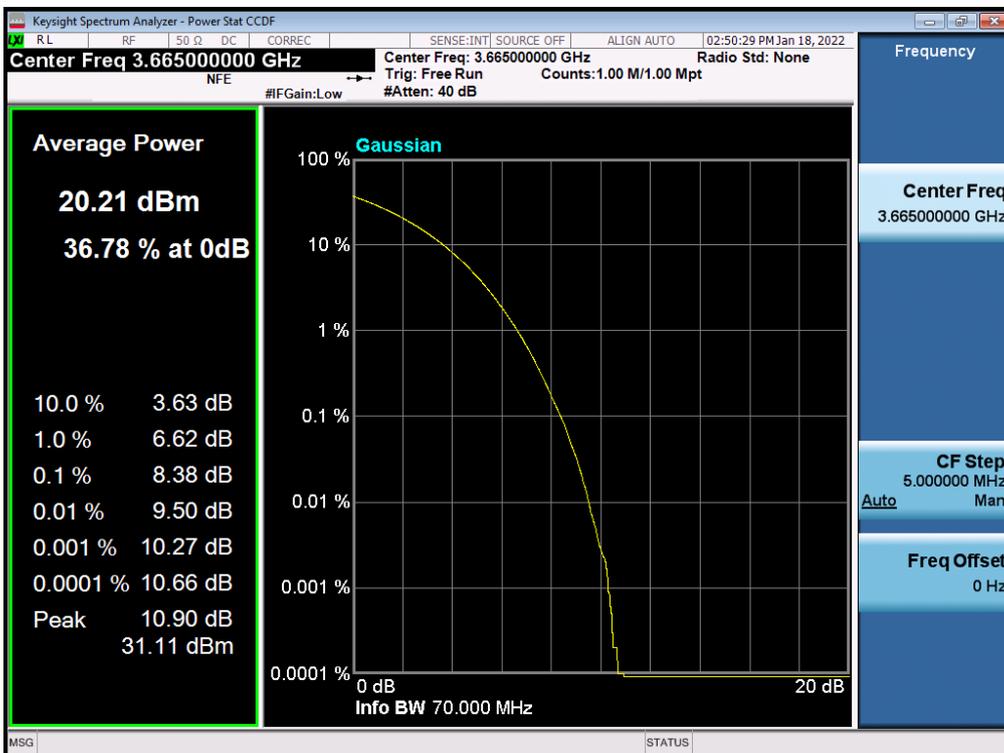
Antenna 0 / CBRS (NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]
/ LTE 5 MHz 1C / Non-Contiguous / 16QAM / High



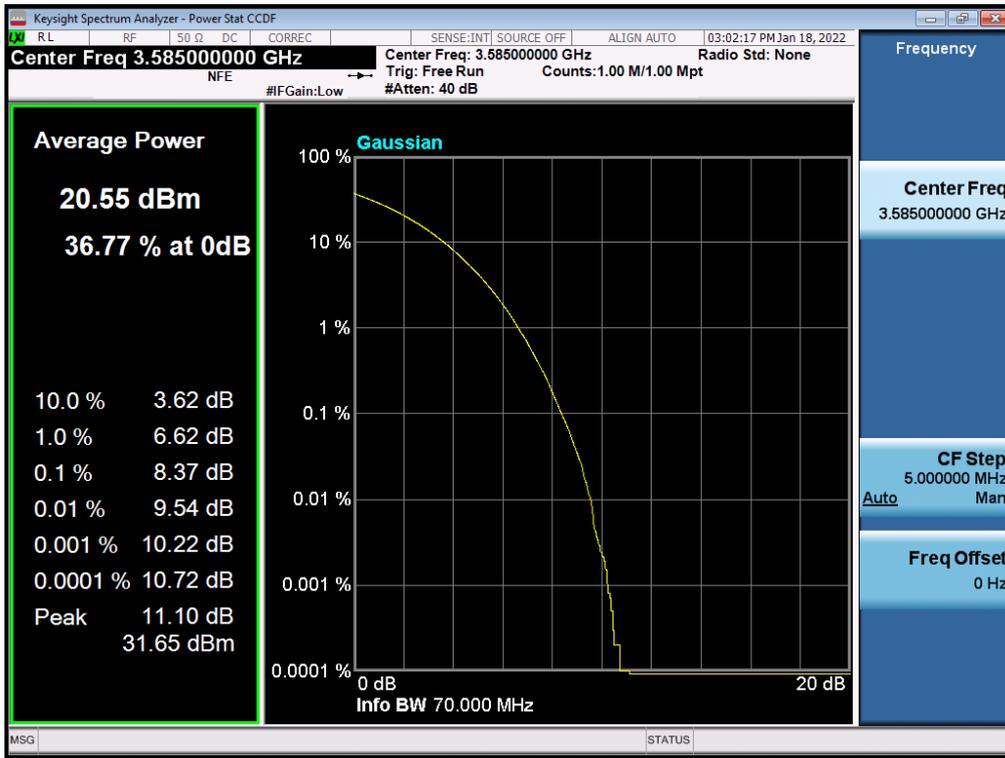
Antenna 1 / CBRS LTE 5 MHz 1C + (NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 40 MHz 1C) [5C(1C+4C)] / LTE 5 MHz 1C / Non-Contiguous / QPSK / Low



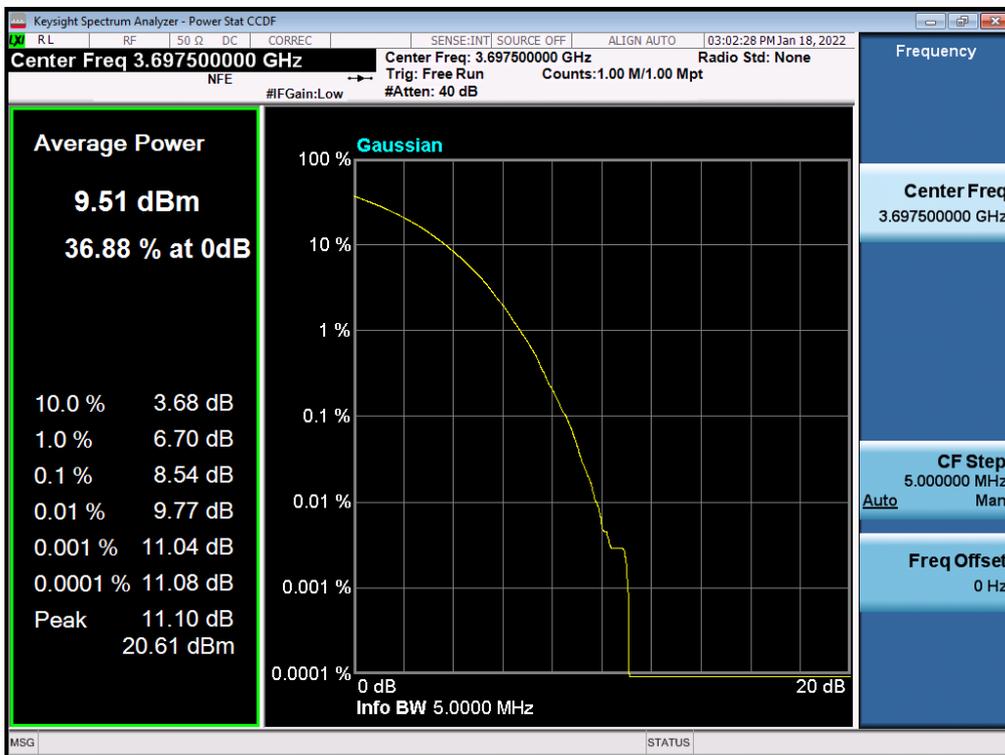
Antenna 1 / CBRS LTE 5 MHz 1C + (NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 40 MHz 1C) [5C(1C+4C)] / NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 40 MHz 1C / Non-Contiguous / QPSK / High



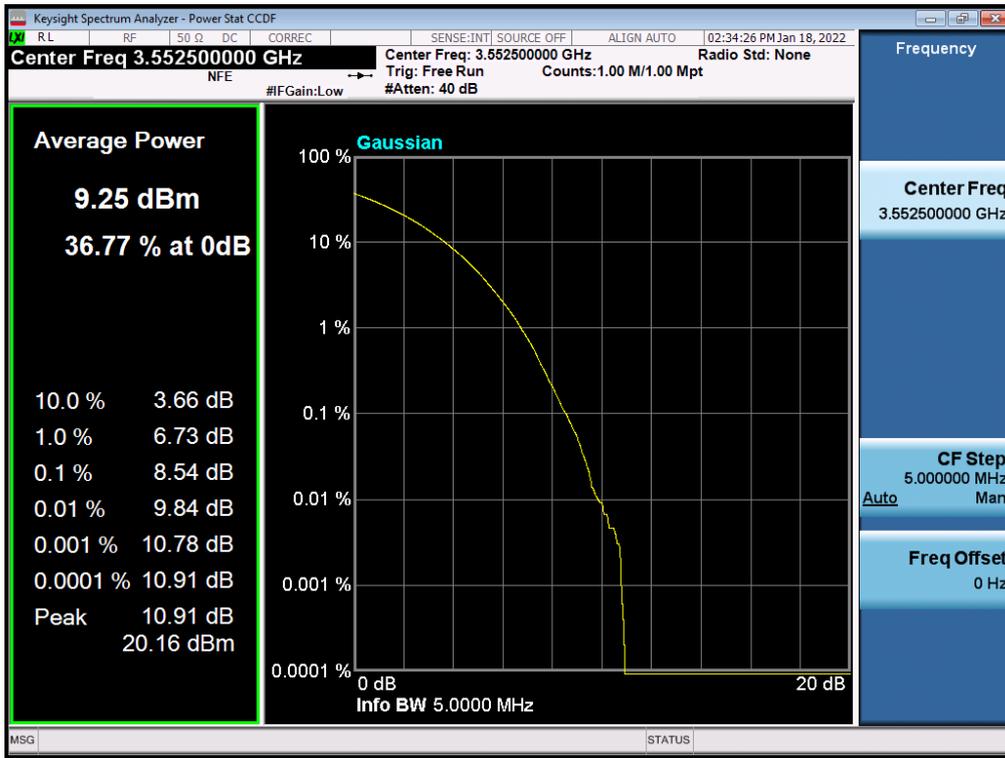
Antenna 0 / CBRS (NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]
 / NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C / Non-Contiguous / 256QAM / Low



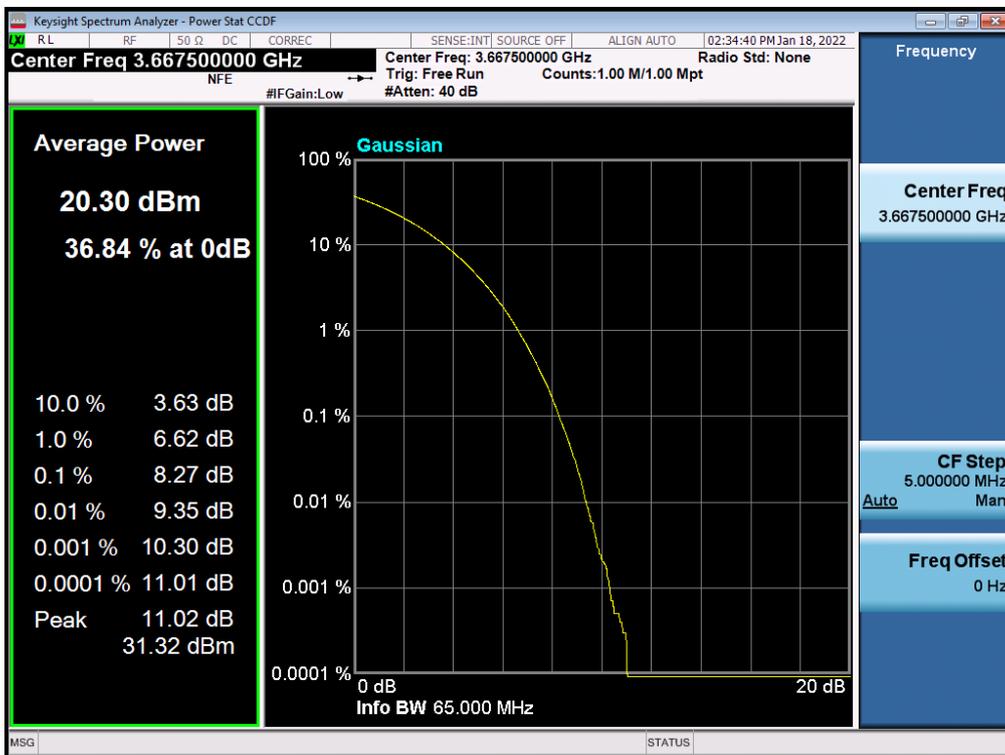
Antenna 0 / CBRS (NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]
 / LTE 5 MHz 1C / Non-Contiguous / 256QAM / High



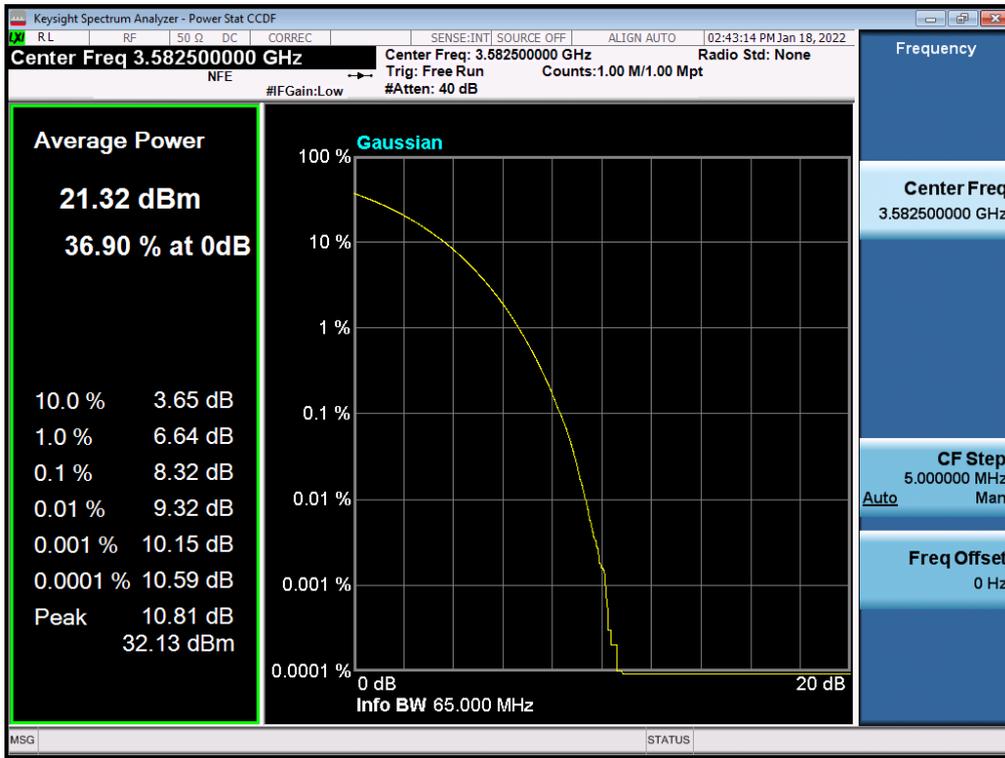
Antenna 0 / CBRS LTE 5 MHz 1C + (LTE 5 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 40 MHz 1C) [5C(1C+4C)]
/ LTE 5 MHz 1C / Non-Contiguous / 16QAM / Low



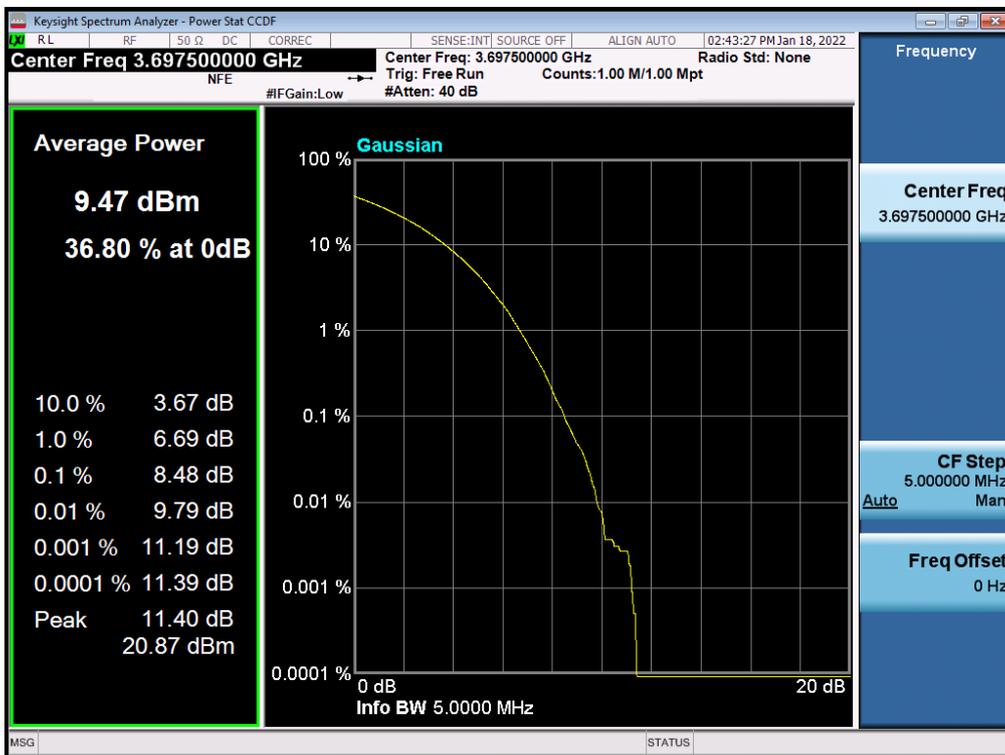
Antenna 0 / CBRS LTE 5 MHz 1C + (LTE 5 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 40 MHz 1C) [5C(1C+4C)]
/ LTE 5 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + NR 40 MHz 1C / Non-Contiguous / 16QAM / High



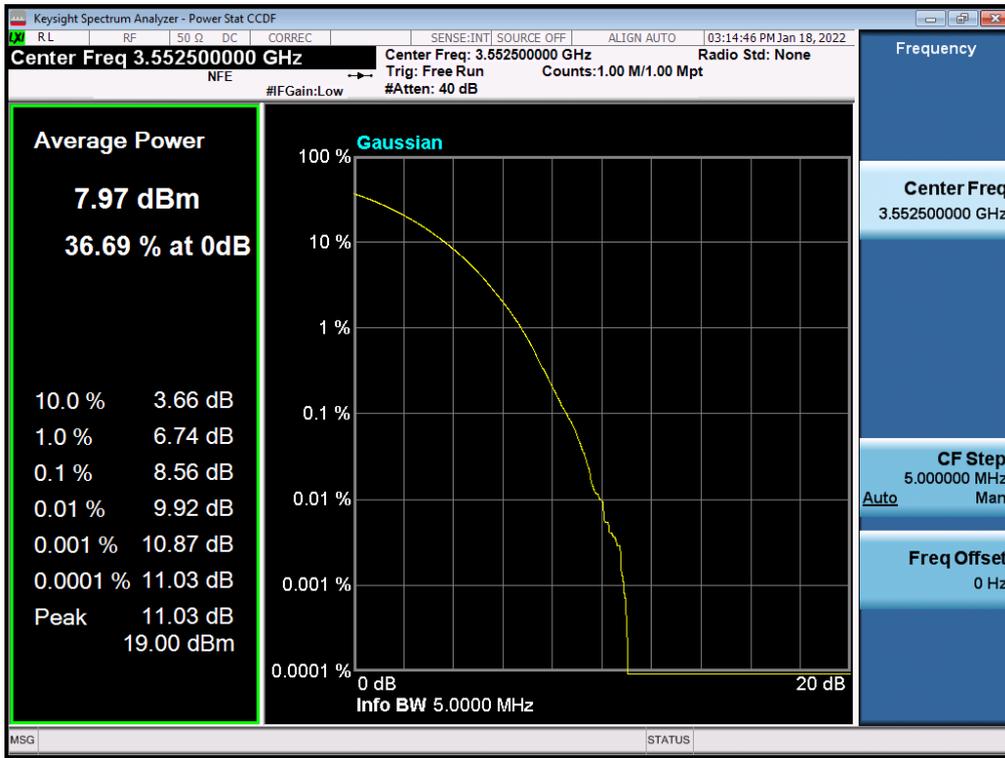
Antenna 1 / CBRS (NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]
 / NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C / Non-Contiguous / QPSK / Low



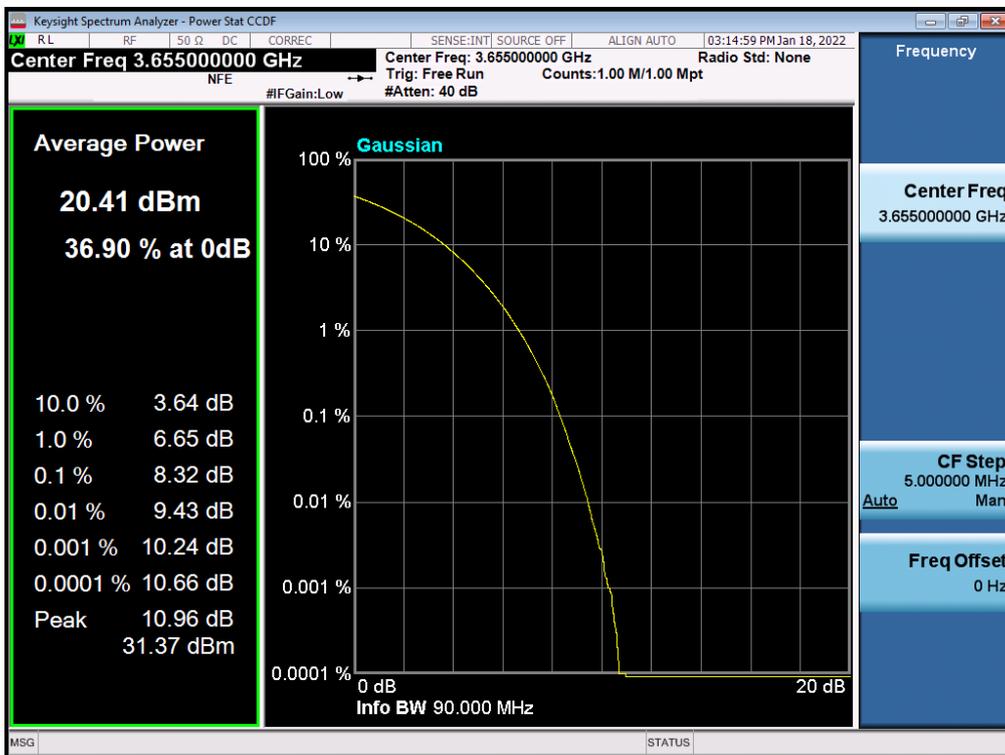
Antenna 1 / CBRS (NR 40 MHz 1C + NR 10 MHz 1C + NR 10 MHz 1C + LTE 5 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]
 / LTE 5 MHz 1C / Non-Contiguous / QPSK / High



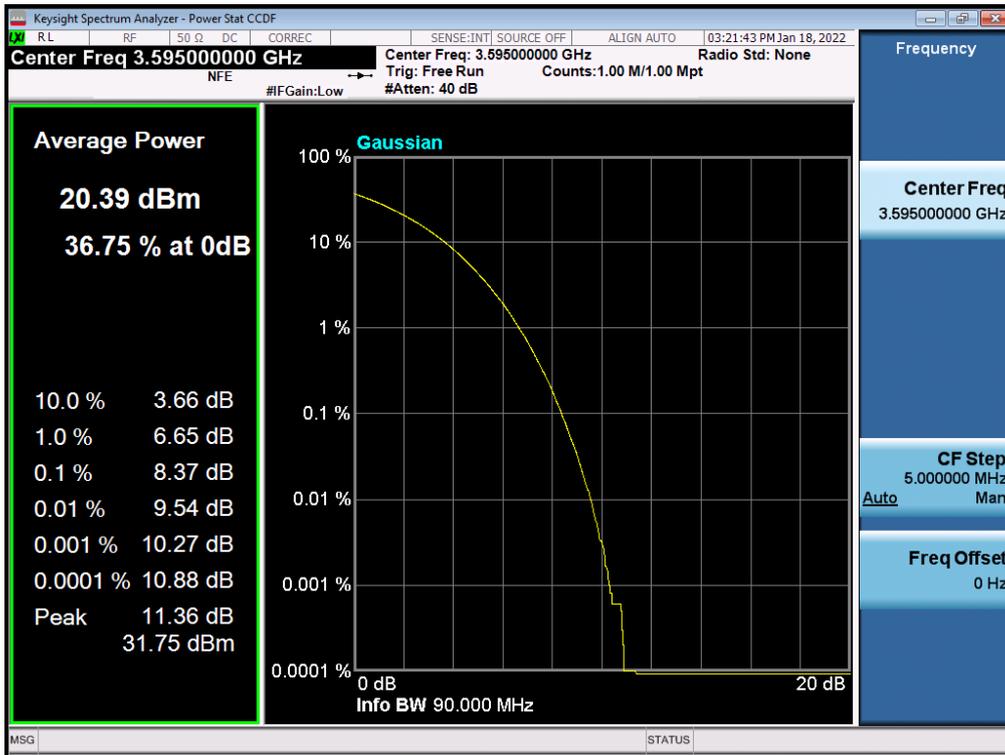
Antenna 0 / CBRS LTE 5 MHz 1C + (LTE 5 MHz 1C + LTE 5 MHz 1C + NR 40 MHz 1C + NR 40 MHz 1C) [5C(1C+4C)]
 / LTE 5 MHz 1C / Non-Contiguous / QPSK / Low



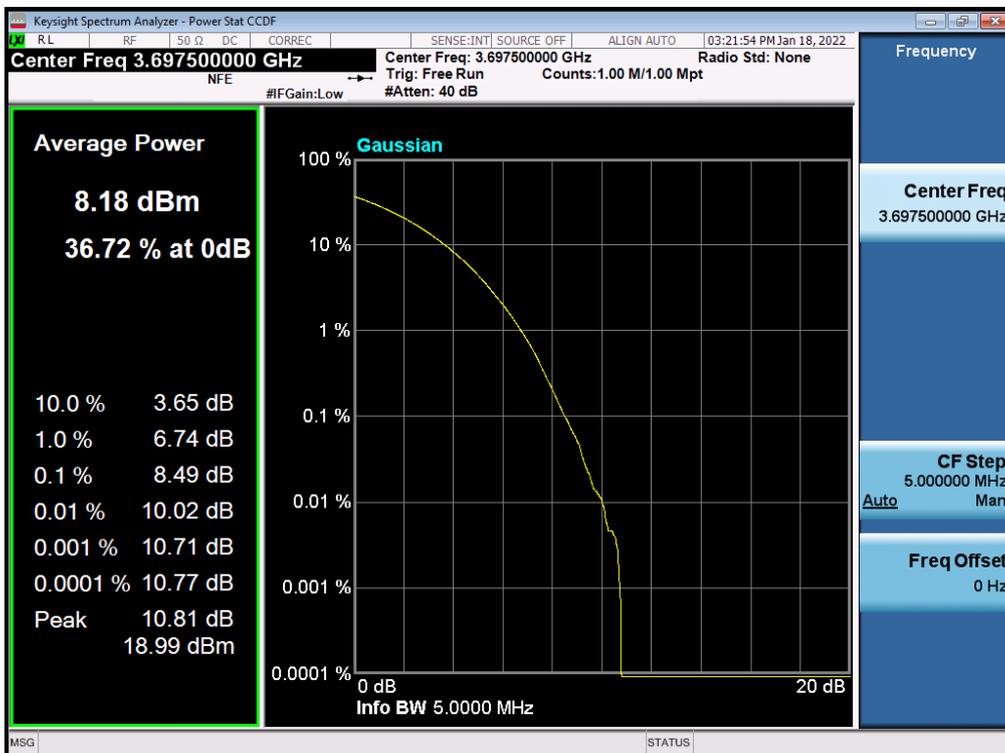
Antenna 0 / CBRS LTE 5 MHz 1C + (LTE 5 MHz 1C + LTE 5 MHz 1C + NR 40 MHz 1C + NR 40 MHz 1C) [5C(1C+4C)]
 / LTE 5 MHz 1C + LTE 5 MHz 1C + NR 40 MHz 1C + NR 40 MHz 1C / Non-Contiguous / QPSK / High



Antenna 1 / CBRS (NR 40 MHz 1C + NR 40 MHz 1C + LTE 5 MHz 1C + LTE 5 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]
 / NR 40 MHz 1C + NR 40 MHz 1C + LTE 5 MHz 1C + LTE 5 MHz 1C / Non-Contiguous / QPSK / Low



Antenna 1 / CBRS (NR 40 MHz 1C + NR 40 MHz 1C + LTE 5 MHz 1C + LTE 5 MHz 1C) + LTE 5 MHz 1C [5C(4C+1C)]
 / LTE 5 MHz 1C / Non-Contiguous / QPSK / High



5.3. OCCUPIED BANDWIDTH

Test Requirements:

§ 2.1049 Measurements required: Occupied bandwidth.

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 radiated by a given emission shall be measured under the specified conditions of § 2.1049 (a) through (i) as applicable.

Test Procedures:

The measurement is performed in accordance with Section 5.4.3 and 5.4.4 of ANSI C63.26.

5.4.3 Occupied bandwidth—Relative measurement procedure

The OBW is measured as the width of the spectral envelope of the modulated signal, at an amplitude level reduced from a reference value by a specified ratio (or in decibels, a specified number of dB down from the reference value). The typical ratio for transmitters is -26 dB, corresponding to the 26 dB BW; however, other ratios can be specified. In this subclause, the ratio is designated by “ $-X$ dB.”

- a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be wide enough to see sufficient roll off of the signal to make the measurement.
- b) The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set $\geq 3 \times$ RBW.
- c) Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.2.3.
NOTE—Step a), step b), and step c) may require iteration to adjust within the specified tolerances.
- d) The dynamic range of the spectrum analyzer at the selected RBW shall be more than 10 dB below the target “ $-X$ dB” requirement, i.e., if the requirement calls for measuring the -26 dB OBW, the spectrum analyzer noise floor at the selected RBW shall be at least 36 dB below the reference level.
- e) Set spectrum analyzer detection mode to peak, and the trace mode to max hold.
- f) Determine the reference value by either of the following:
 - 1) Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the Highest level of the displayed trace (this is the reference value).
 - 2) Set the EUT to transmit an unmodulated carrier. Set the spectrum analyzer marker to the level of the carrier.
- g) Determine the “ $-X$ dB amplitude” as equal to (Reference Value $- X$). Alternatively, this calculation can be performed on the spectrum analyzer using the delta-marker measurement function.
- h) If the reference value was determined using an unmodulated carrier, turn the EUT modulation on, then either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise the trace from step f) shall be used for step i).
- i) Place two markers, one at the lowest and the other at the Highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “ $-X$ dB amplitude” determined in step f). If a marker is below this “ $-X$ dB amplitude” value it should be as close as possible to this value. The OBW is the positive frequency difference between the two markers. The spectral envelope can cross the “ $-X$ dB amplitude” at multiple points. The lowest or Highest frequency

shall be selected as the frequencies that are the farthest away from the center frequency at which the spectral envelope crosses the “-X dB amplitude.”

- j) The OBW shall be reported by providing plot(s) of the measuring instrument display, to include markers depicting the relevant frequency and amplitude information (e.g., marker table). The frequency and amplitude axis and scale shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

5.4.4 Occupied bandwidth—Power bandwidth (99%) measurement procedure

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

The following procedure shall be used for measuring (99%) power bandwidth:

- a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (typically a span of $1.5 \times \text{OBW}$ is sufficient).
- b) The nominal IF filter 3 dB bandwidth (RBW) shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set $\geq 3 \times \text{RBW}$.
- c) Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.2.3.
NOTE—Step a), step b), and step c) may require iteration to adjust within the specified tolerances.
- d) Set the detection mode to peak, and the trace mode to max-hold.
- e) If the instrument does not have a 99% OBW function, recover the trace data points and sum directly in linear power terms. Place the recovered amplitude data points, beginning at the lowest frequency, in a running sum until 0.5% of the total is reached. Record that frequency as the lower OBW frequency. Repeat the process until 99.5% of the total is reached and record that frequency as the upper OBW frequency. The 99% power OBW can be determined by computing the difference these two frequencies.
- f) The OBW shall be reported and plot(s) of the measuring instrument display shall be provided with the test report. The frequency and amplitude axis and scale shall be clearly labeled. Tabular data can be reported in addition to the plot(s).

Note:

- (1) The results of the Occupied Bandwidth test shown below the frequency measured values are very small and similar trend for each port, so we are attached only the worst case plot.
- (2) All power supply of operation were investigated and the worst case configuration results are reported.
 - Mode: 48 V; 1.5 A / 57 V; 1.3 A(PoE)
 - Worst case: 48 V; 1.5 A

Test Results:
Tabular Data of Occupied Bandwidth

CBRS LTE 5 MHz 1 Carrier

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	3 552.50	4.5129
		Middle	3 625.00	4.5182
		High	3 697.50	4.5447
	16QAM	Low	3 552.50	4.5135
		Middle	3 625.00	4.5352
		High	3 697.50	4.5151
	64QAM	Low	3 552.50	4.5151
		Middle	3 625.00	4.5110
		High	3 697.50	4.5049
	256QAM	Low	3 552.50	4.4978
		Middle	3 625.00	4.5112
		High	3 697.50	4.5080
	1024QAM	Low	3 552.50	4.5062
		Middle	3 625.00	4.5168
		High	3 697.50	4.5320
1	QPSK	Low	3 552.50	4.5252
		Middle	3 625.00	4.5348
		High	3 697.50	4.5144
	16QAM	Low	3 552.50	4.5103
		Middle	3 625.00	4.5156
		High	3 697.50	4.5138
	64QAM	Low	3 552.50	4.5088
		Middle	3 625.00	4.5188
		High	3 697.50	4.5357
	256QAM	Low	3 552.50	4.5202
		Middle	3 625.00	4.5088
		High	3 697.50	4.5108
	1024QAM	Low	3 552.50	4.5391
		Middle	3 625.00	4.5081
		High	3 697.50	4.5145

CBRS LTE 10 MHz 1 Carrier

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	3 555.00	8.9986
		Middle	3 625.00	8.9375
		High	3 695.00	9.0076
	16QAM	Low	3 555.00	8.9801
		Middle	3 625.00	8.9692
		High	3 695.00	9.0018
	64QAM	Low	3 555.00	8.9705
		Middle	3 625.00	8.9891
		High	3 695.00	9.0083
	256QAM	Low	3 555.00	8.9765
		Middle	3 625.00	8.9654
		High	3 695.00	8.9743
	1024QAM	Low	3 555.00	8.9855
		Middle	3 625.00	8.9945
		High	3 695.00	8.9751
1	QPSK	Low	3 555.00	9.0140
		Middle	3 625.00	9.0157
		High	3 695.00	8.9628
	16QAM	Low	3 555.00	9.0172
		Middle	3 625.00	9.0180
		High	3 695.00	8.9841
	64QAM	Low	3 555.00	9.0068
		Middle	3 625.00	9.0071
		High	3 695.00	8.9878
	256QAM	Low	3 555.00	8.9685
		Middle	3 625.00	9.0082
		High	3 695.00	8.9799
	1024QAM	Low	3 555.00	8.9955
		Middle	3 625.00	8.9801
		High	3 695.00	8.9736

CBRS LTE 15 MHz 1 Carrier

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	3 557.50	13.503
		Middle	3 625.00	13.514
		High	3 692.50	13.508
	16QAM	Low	3 557.50	13.557
		Middle	3 625.00	13.570
		High	3 692.50	13.472
	64QAM	Low	3 557.50	13.439
		Middle	3 625.00	13.493
		High	3 692.50	13.447
	256QAM	Low	3 557.50	13.465
		Middle	3 625.00	13.474
		High	3 692.50	13.455
	1024QAM	Low	3 557.50	13.506
		Middle	3 625.00	13.533
		High	3 692.50	13.465
1	QPSK	Low	3 557.50	13.475
		Middle	3 625.00	13.470
		High	3 692.50	13.548
	16QAM	Low	3 557.50	13.500
		Middle	3 625.00	13.532
		High	3 692.50	13.543
	64QAM	Low	3 557.50	13.443
		Middle	3 625.00	13.451
		High	3 692.50	13.513
	256QAM	Low	3 557.50	13.467
		Middle	3 625.00	13.493
		High	3 692.50	13.500
	1024QAM	Low	3 557.50	13.478
		Middle	3 625.00	13.446
		High	3 692.50	13.474

CBRS LTE 20 MHz 1 Carrier

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	3 560.00	17.966
		Middle	3 625.00	17.890
		High	3 690.00	17.994
	16QAM	Low	3 560.00	18.014
		Middle	3 625.00	17.985
		High	3 690.00	17.943
	64QAM	Low	3 560.00	17.906
		Middle	3 625.00	17.957
		High	3 690.00	17.959
	256QAM	Low	3 560.00	17.941
		Middle	3 625.00	17.971
		High	3 690.00	17.969
	1024QAM	Low	3 560.00	17.927
		Middle	3 625.00	17.964
		High	3 690.00	17.967
1	QPSK	Low	3 560.00	17.948
		Middle	3 625.00	17.920
		High	3 690.00	17.909
	16QAM	Low	3 560.00	18.009
		Middle	3 625.00	17.965
		High	3 690.00	18.029
	64QAM	Low	3 560.00	17.991
		Middle	3 625.00	17.928
		High	3 690.00	17.970
	256QAM	Low	3 560.00	17.971
		Middle	3 625.00	17.966
		High	3 690.00	17.956
	1024QAM	Low	3 560.00	17.988
		Middle	3 625.00	17.963
		High	3 690.00	17.958

CBRS NR 10 MHz 1 Carrier

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	3 555.00	8.6396
		Middle	3 625.00	8.6635
		High	3 695.00	8.6486
	16QAM	Low	3 555.00	8.6385
		Middle	3 625.00	8.6401
		High	3 695.00	8.6463
	64QAM	Low	3 555.00	8.6259
		Middle	3 625.00	8.6366
		High	3 695.00	8.6401
	256QAM	Low	3 555.00	8.6102
		Middle	3 625.00	8.6280
		High	3 695.00	8.6263
1	QPSK	Low	3 555.00	8.6429
		Middle	3 625.00	8.6566
		High	3 695.00	8.6497
	16QAM	Low	3 555.00	8.6606
		Middle	3 625.00	8.6649
		High	3 695.00	8.6690
	64QAM	Low	3 555.00	8.6301
		Middle	3 625.00	8.6261
		High	3 695.00	8.6243
	256QAM	Low	3 555.00	8.6129
		Middle	3 625.00	8.6336
		High	3 695.00	8.6439

CBRS NR 20 MHz 1 Carrier

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	3 560.00	18.358
		Middle	3 625.00	18.386
		High	3 690.00	18.412
	16QAM	Low	3 560.00	18.341
		Middle	3 625.00	18.349
		High	3 690.00	18.391
	64QAM	Low	3 560.00	18.244
		Middle	3 625.00	18.283
		High	3 690.00	18.378
	256QAM	Low	3 560.00	18.274
		Middle	3 625.00	18.311
		High	3 690.00	18.341
1	QPSK	Low	3 560.00	18.365
		Middle	3 625.00	18.331
		High	3 690.00	18.363
	16QAM	Low	3 560.00	18.283
		Middle	3 625.00	18.290
		High	3 690.00	18.315
	64QAM	Low	3 560.00	18.281
		Middle	3 625.00	18.275
		High	3 690.00	18.252
	256QAM	Low	3 560.00	18.280
		Middle	3 625.00	18.265
		High	3 690.00	18.285

CBRS NR 30 MHz 1 Carrier

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	3 565.00	27.505
		Middle	3 625.00	27.514
		High	3 685.00	27.384
	16QAM	Low	3 565.00	27.766
		Middle	3 625.00	27.732
		High	3 685.00	27.763
	64QAM	Low	3 565.00	27.969
		Middle	3 625.00	27.955
		High	3 685.00	27.986
	256QAM	Low	3 565.00	27.967
		Middle	3 625.00	28.044
		High	3 685.00	27.966
1	QPSK	Low	3 565.00	27.548
		Middle	3 625.00	27.488
		High	3 685.00	27.519
	16QAM	Low	3 565.00	27.779
		Middle	3 625.00	27.709
		High	3 685.00	27.748
	64QAM	Low	3 565.00	27.946
		Middle	3 625.00	27.884
		High	3 685.00	28.020
	256QAM	Low	3 565.00	27.998
		Middle	3 625.00	27.941
		High	3 685.00	28.041

CBRS NR 40 MHz 1 Carrier

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	3 570.00	38.150
		Middle	3 625.00	38.142
		High	3 680.00	38.049
	16QAM	Low	3 570.00	38.133
		Middle	3 625.00	38.100
		High	3 680.00	38.014
	64QAM	Low	3 570.00	38.004
		Middle	3 625.00	37.993
		High	3 680.00	37.886
	256QAM	Low	3 570.00	37.932
		Middle	3 625.00	37.997
		High	3 680.00	37.805
1	QPSK	Low	3 570.00	38.027
		Middle	3 625.00	38.011
		High	3 680.00	38.164
	16QAM	Low	3 570.00	38.051
		Middle	3 625.00	38.061
		High	3 680.00	38.114
	64QAM	Low	3 570.00	37.890
		Middle	3 625.00	37.876
		High	3 680.00	38.019
	256QAM	Low	3 570.00	37.868
		Middle	3 625.00	37.956
		High	3 680.00	37.989

CBRS NR 50 MHz 1 Carrier

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	3 575.00	47.608
		Middle	3 625.00	47.604
		High	3 675.00	47.532
	16QAM	Low	3 575.00	47.605
		Middle	3 625.00	47.520
		High	3 675.00	47.510
	64QAM	Low	3 575.00	47.553
		Middle	3 625.00	47.641
		High	3 675.00	47.483
	256QAM	Low	3 575.00	47.599
		Middle	3 625.00	47.576
		High	3 675.00	47.602
1	QPSK	Low	3 575.00	47.599
		Middle	3 625.00	47.617
		High	3 675.00	47.536
	16QAM	Low	3 575.00	47.599
		Middle	3 625.00	47.558
		High	3 675.00	47.466
	64QAM	Low	3 575.00	47.487
		Middle	3 625.00	47.595
		High	3 675.00	47.512
	256QAM	Low	3 575.00	47.630
		Middle	3 625.00	47.622
		High	3 675.00	47.604

CBRS NR 60 MHz 1 Carrier

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	3 580.00	57.886
		Middle	3 625.00	57.920
		High	3 670.00	57.876
	16QAM	Low	3 580.00	57.941
		Middle	3 625.00	57.887
		High	3 670.00	57.959
	64QAM	Low	3 580.00	57.965
		Middle	3 625.00	57.954
		High	3 670.00	57.921
	256QAM	Low	3 580.00	57.945
		Middle	3 625.00	57.960
		High	3 670.00	57.819
1	QPSK	Low	3 580.00	57.995
		Middle	3 625.00	58.036
		High	3 670.00	57.882
	16QAM	Low	3 580.00	57.877
		Middle	3 625.00	57.871
		High	3 670.00	57.837
	64QAM	Low	3 580.00	57.927
		Middle	3 625.00	57.933
		High	3 670.00	57.903
	256QAM	Low	3 580.00	57.912
		Middle	3 625.00	57.883
		High	3 670.00	57.821

CBRS NR 80 MHz 1 Carrier

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	3 590.00	77.524
		Middle	3 625.00	77.545
		High	3 660.00	77.430
	16QAM	Low	3 590.00	77.611
		Middle	3 625.00	77.673
		High	3 660.00	77.487
	64QAM	Low	3 590.00	77.758
		Middle	3 625.00	77.584
		High	3 660.00	77.505
	256QAM	Low	3 590.00	77.626
		Middle	3 625.00	77.627
		High	3 660.00	77.430
1	QPSK	Low	3 590.00	77.611
		Middle	3 625.00	77.460
		High	3 660.00	77.486
	16QAM	Low	3 590.00	77.555
		Middle	3 625.00	77.603
		High	3 660.00	77.475
	64QAM	Low	3 590.00	77.625
		Middle	3 625.00	77.612
		High	3 660.00	77.502
	256QAM	Low	3 590.00	77.702
		Middle	3 625.00	77.486
		High	3 660.00	77.516

CBRS NR 100 MHz 1 Carrier

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	3 600.00	97.676
		Middle	3 625.00	97.445
		High	3 650.00	97.580
	16QAM	Low	3 600.00	97.598
		Middle	3 625.00	97.632
		High	3 650.00	97.397
	64QAM	Low	3 600.00	97.621
		Middle	3 625.00	97.567
		High	3 650.00	97.353
	256QAM	Low	3 600.00	97.450
		Middle	3 625.00	97.464
		High	3 650.00	97.307
1	QPSK	Low	3 600.00	97.535
		Middle	3 625.00	97.408
		High	3 650.00	97.381
	16QAM	Low	3 600.00	97.578
		Middle	3 625.00	97.515
		High	3 650.00	97.618
	64QAM	Low	3 600.00	97.649
		Middle	3 625.00	97.471
		High	3 650.00	97.335
	256QAM	Low	3 600.00	97.612
		Middle	3 625.00	97.528
		High	3 650.00	97.424

Tabular Data of Contiguous Occupied Bandwidth
CBRS NR(60 MHz 1C + 10 MHz 1C)[2C]

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	3 585.00	68.104
		Middle	3 625.00	68.090
		High	3 665.00	68.090
	16QAM	Low	3 585.00	67.972
		Middle	3 625.00	68.128
		High	3 665.00	67.880
	64QAM	Low	3 585.00	68.017
		Middle	3 625.00	68.127
		High	3 665.00	68.059
	256QAM	Low	3 585.00	68.145
		Middle	3 625.00	68.067
		High	3 665.00	68.082
1	QPSK	Low	3 585.00	68.087
		Middle	3 625.00	68.017
		High	3 665.00	68.105
	16QAM	Low	3 585.00	68.024
		Middle	3 625.00	68.058
		High	3 665.00	68.012
	64QAM	Low	3 585.00	68.035
		Middle	3 625.00	68.048
		High	3 665.00	67.991
	256QAM	Low	3 585.00	68.027
		Middle	3 625.00	68.161
		High	3 665.00	68.084

Note: 1C: 1 Carrier, 2C: 2 Carrier

CBRS NR(80 MHz 1C + 10 MHz 1C)[2C]

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	3 595.00	87.818
		Middle	3 625.00	87.785
		High	3 655.00	87.716
	16QAM	Low	3 595.00	87.806
		Middle	3 625.00	87.629
		High	3 655.00	87.783
	64QAM	Low	3 595.00	87.695
		Middle	3 625.00	87.751
		High	3 655.00	87.585
	256QAM	Low	3 595.00	87.732
		Middle	3 625.00	87.780
		High	3 655.00	87.683
1	QPSK	Low	3 595.00	87.643
		Middle	3 625.00	87.828
		High	3 655.00	87.653
	16QAM	Low	3 595.00	87.721
		Middle	3 625.00	87.683
		High	3 655.00	87.594
	64QAM	Low	3 595.00	87.661
		Middle	3 625.00	87.739
		High	3 655.00	87.734
	256QAM	Low	3 595.00	87.961
		Middle	3 625.00	87.961
		High	3 655.00	87.807

Note: 1C: 1 Carrier, 2C: 2 Carrier

CBRS LTE(5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C)[5C]

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	3 562.50	24.392
		Middle	3 625.00	24.388
		High	3 687.50	24.402
	16QAM	Low	3 562.50	24.385
		Middle	3 625.00	24.433
		High	3 687.50	24.426
	64QAM	Low	3 562.50	24.363
		Middle	3 625.00	24.405
		High	3 687.50	24.414
	256QAM	Low	3 562.50	24.441
		Middle	3 625.00	24.381
		High	3 687.50	24.453
	1024QAM	Low	3 562.50	24.419
		Middle	3 625.00	24.419
		High	3 687.50	24.386
1	QPSK	Low	3 562.50	24.411
		Middle	3 625.00	24.446
		High	3 687.50	24.429
	16QAM	Low	3 562.50	24.396
		Middle	3 625.00	24.415
		High	3 687.50	24.374
	64QAM	Low	3 562.50	24.359
		Middle	3 625.00	24.464
		High	3 687.50	24.433
	256QAM	Low	3 562.50	24.374
		Middle	3 625.00	24.375
		High	3 687.50	24.435
	1024QAM	Low	3 562.50	24.375
		Middle	3 625.00	24.411
		High	3 687.50	24.365

Note: 1C: 1 Carrier, 5C: 5 Carrier

CBRS LTE(20 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C + 5 MHz 1C)[5C]

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	3 570.00	38.574
		Middle	3 625.00	38.607
		High	3 680.00	38.670
	16QAM	Low	3 570.00	38.508
		Middle	3 625.00	38.618
		High	3 680.00	38.507
	64QAM	Low	3 570.00	38.576
		Middle	3 625.00	38.627
		High	3 680.00	38.681
	256QAM	Low	3 570.00	38.539
		Middle	3 625.00	38.583
		High	3 680.00	38.644
	1024QAM	Low	3 570.00	38.497
		Middle	3 625.00	38.629
		High	3 680.00	38.695
1	QPSK	Low	3 570.00	38.501
		Middle	3 625.00	38.640
		High	3 680.00	38.614
	16QAM	Low	3 570.00	38.522
		Middle	3 625.00	38.687
		High	3 680.00	38.632
	64QAM	Low	3 570.00	38.550
		Middle	3 625.00	38.605
		High	3 680.00	38.635
	256QAM	Low	3 570.00	38.538
		Middle	3 625.00	38.586
		High	3 680.00	38.606
	1024QAM	Low	3 570.00	38.552
		Middle	3 625.00	38.623
		High	3 680.00	38.608

Note: 1C: 1 Carrier, 5C: 5 Carrier