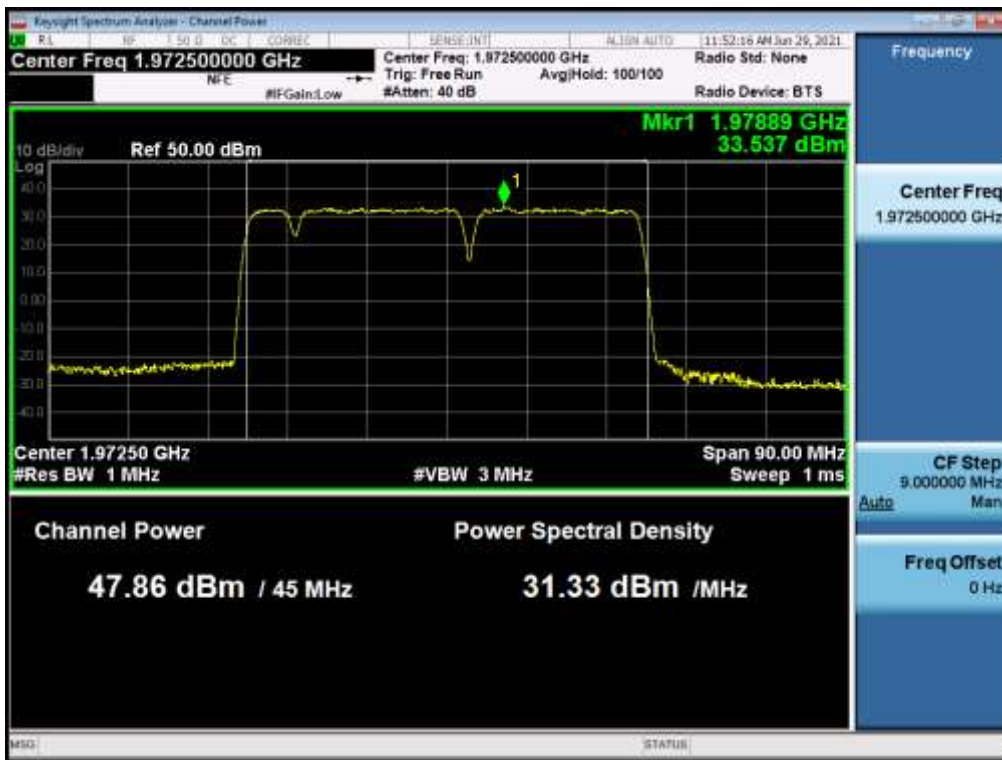
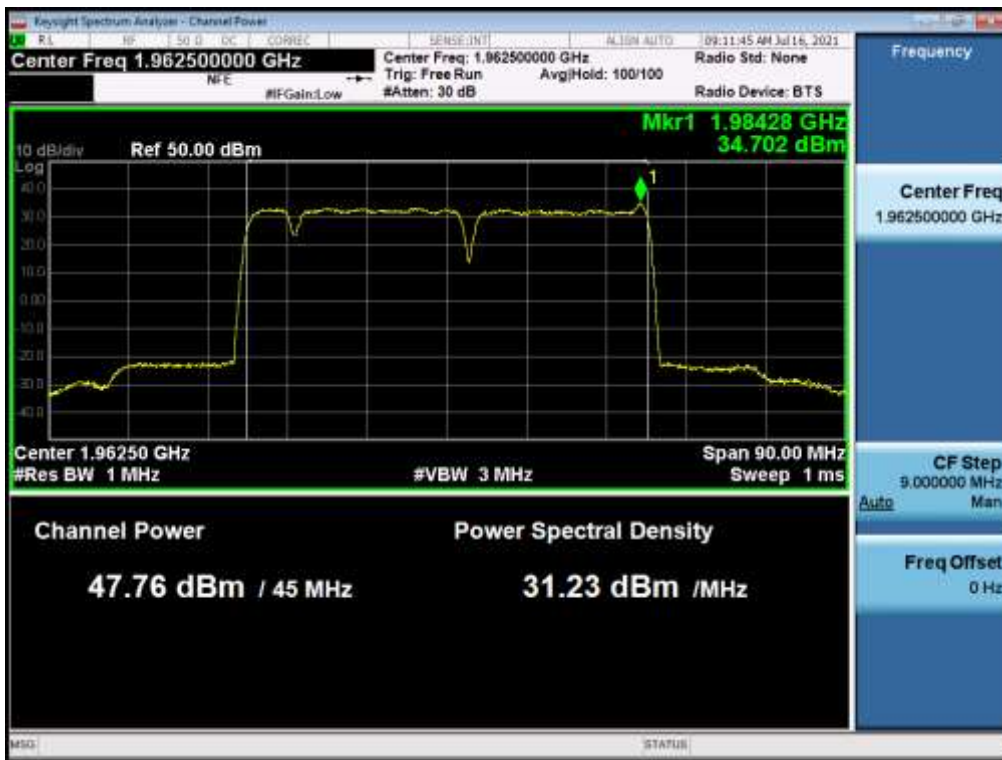
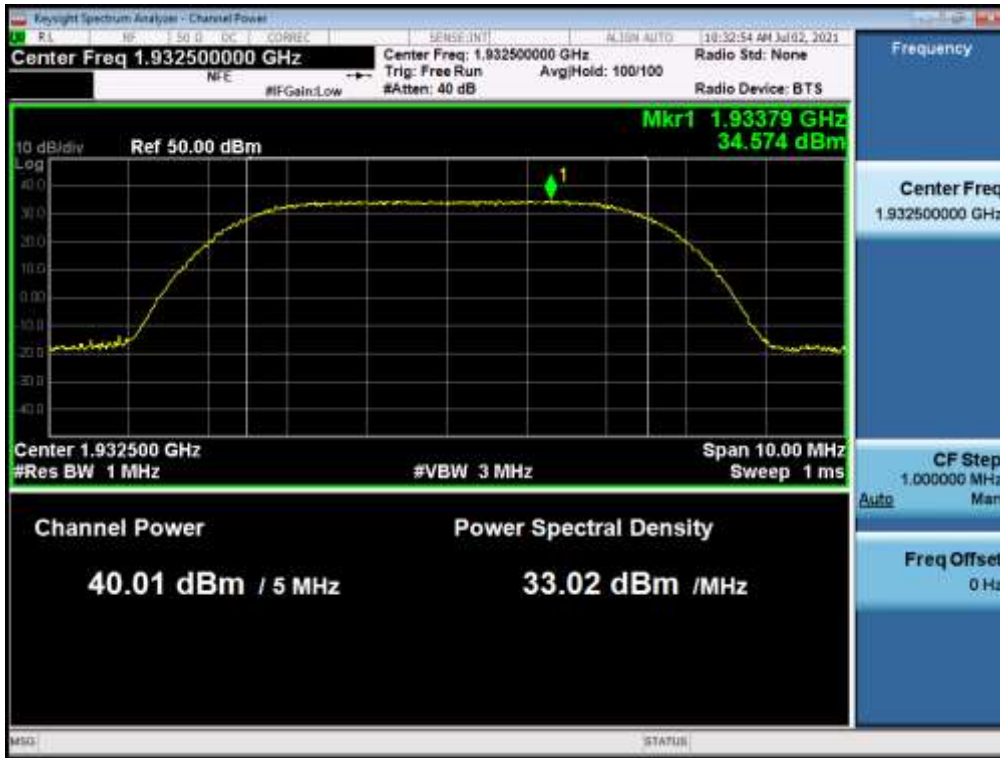
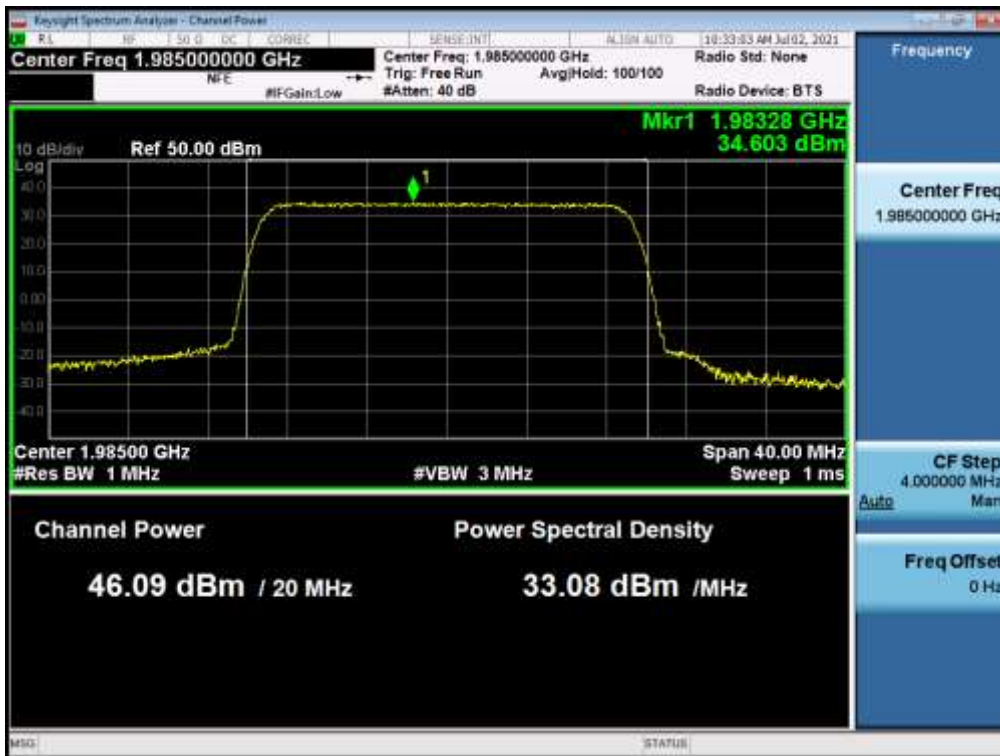


Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] / Contiguous / 16QAM / High

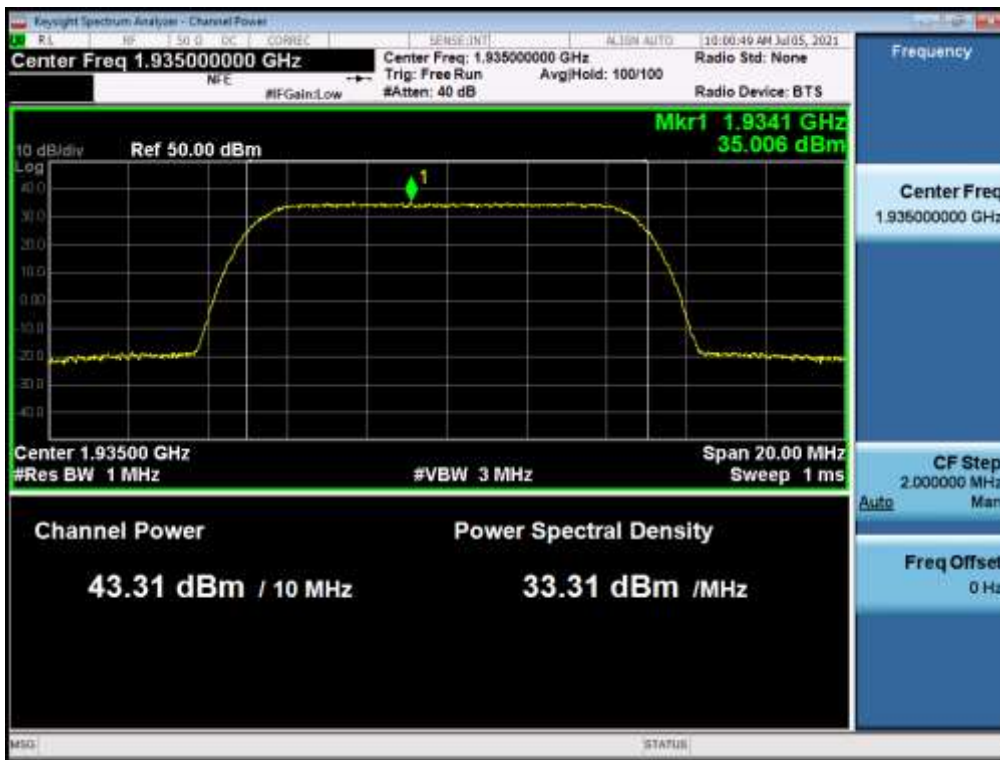


Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] / Contiguous / 16QAM / Middle

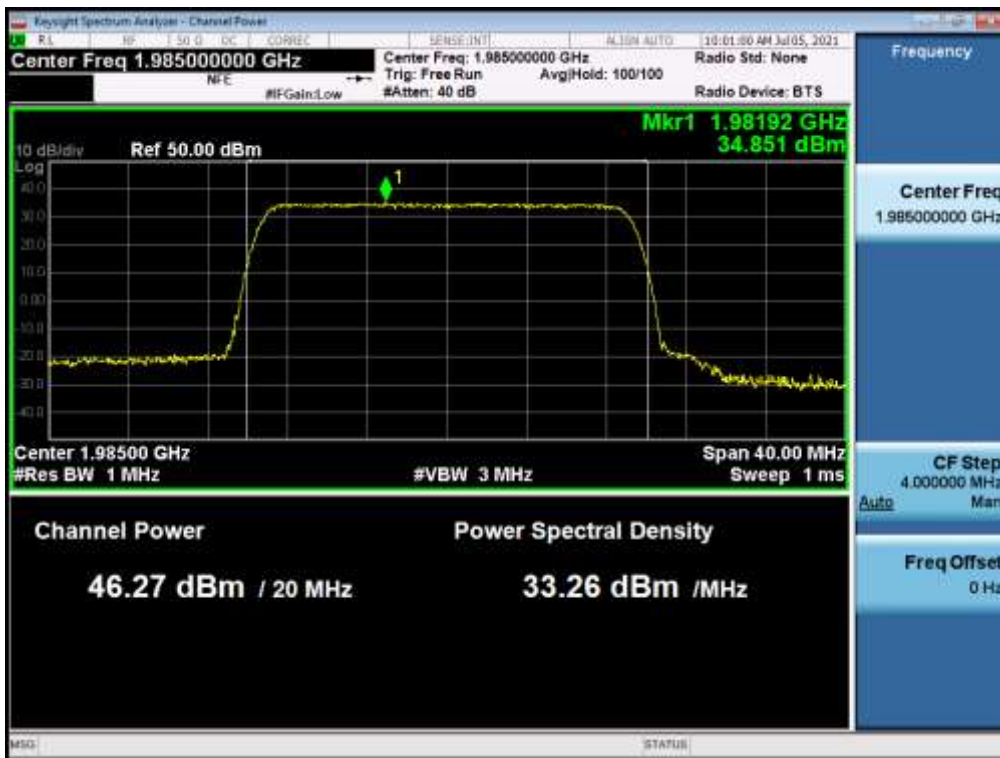


**Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 5 MHz / QPSK / Low**

**Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz / QPSK / High**


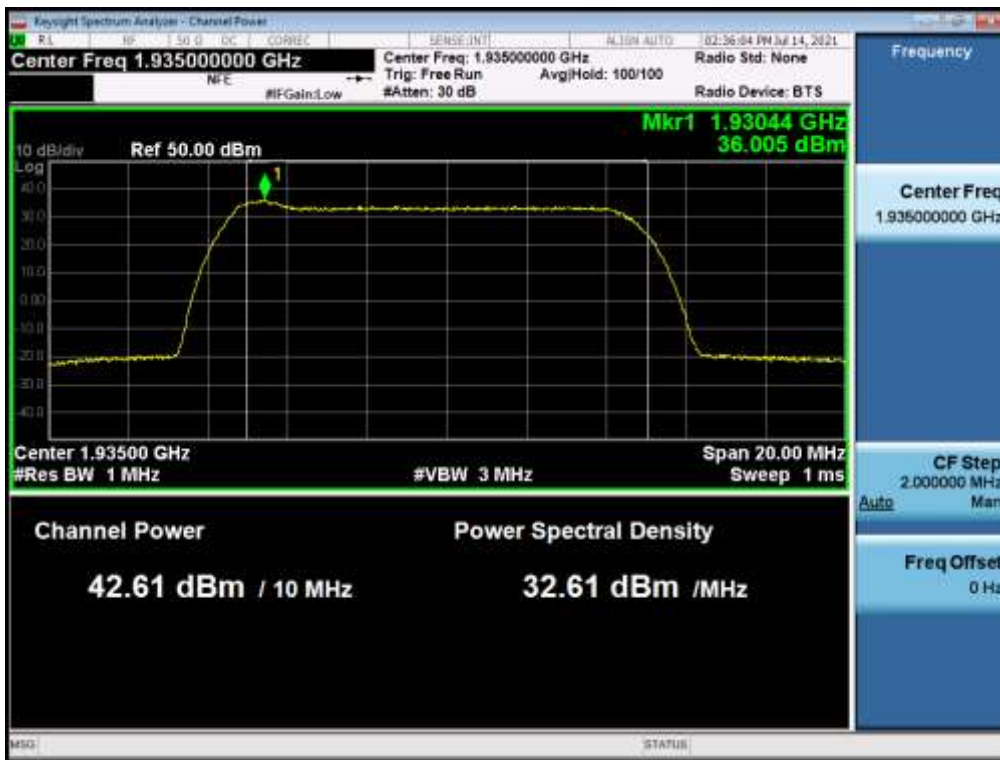
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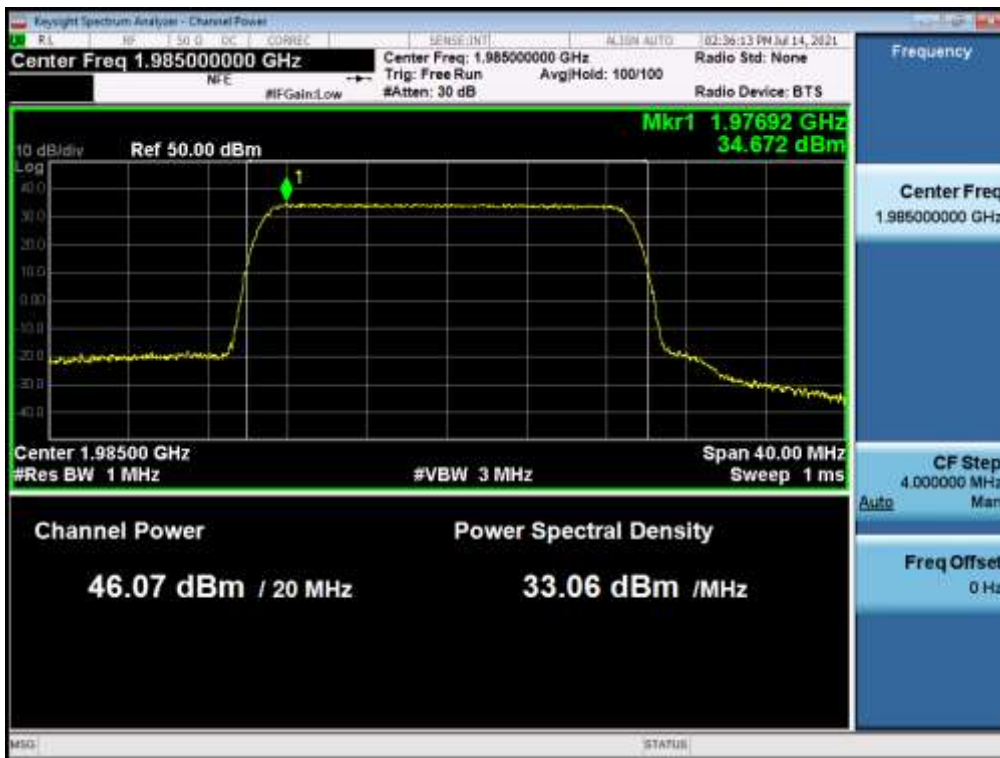
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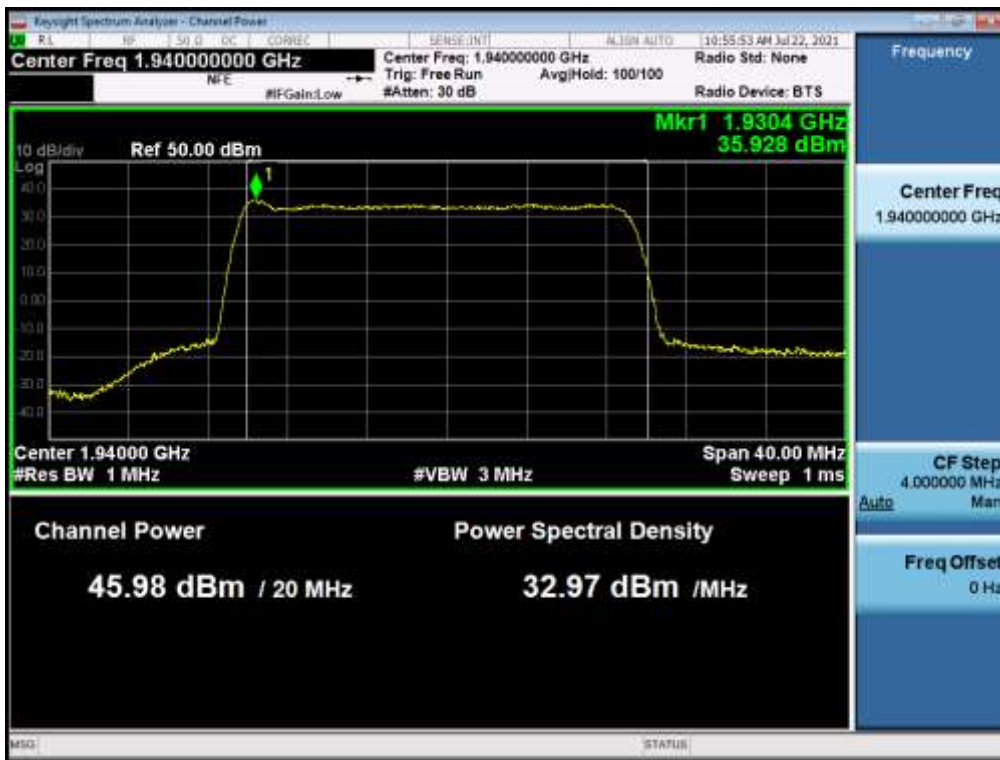
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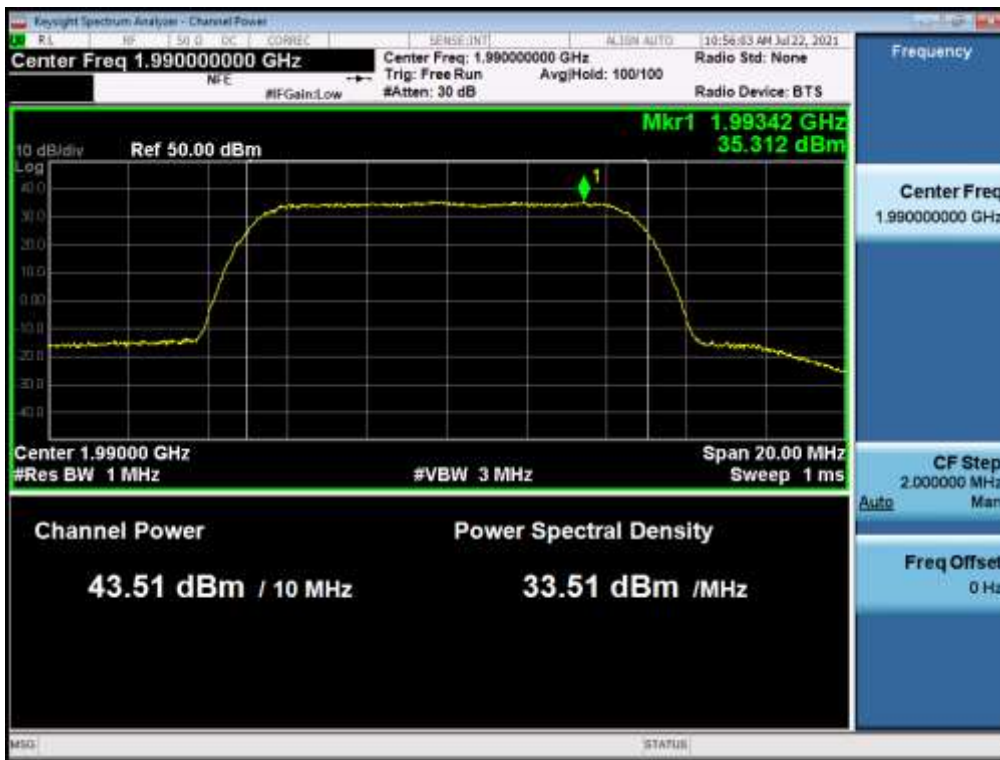
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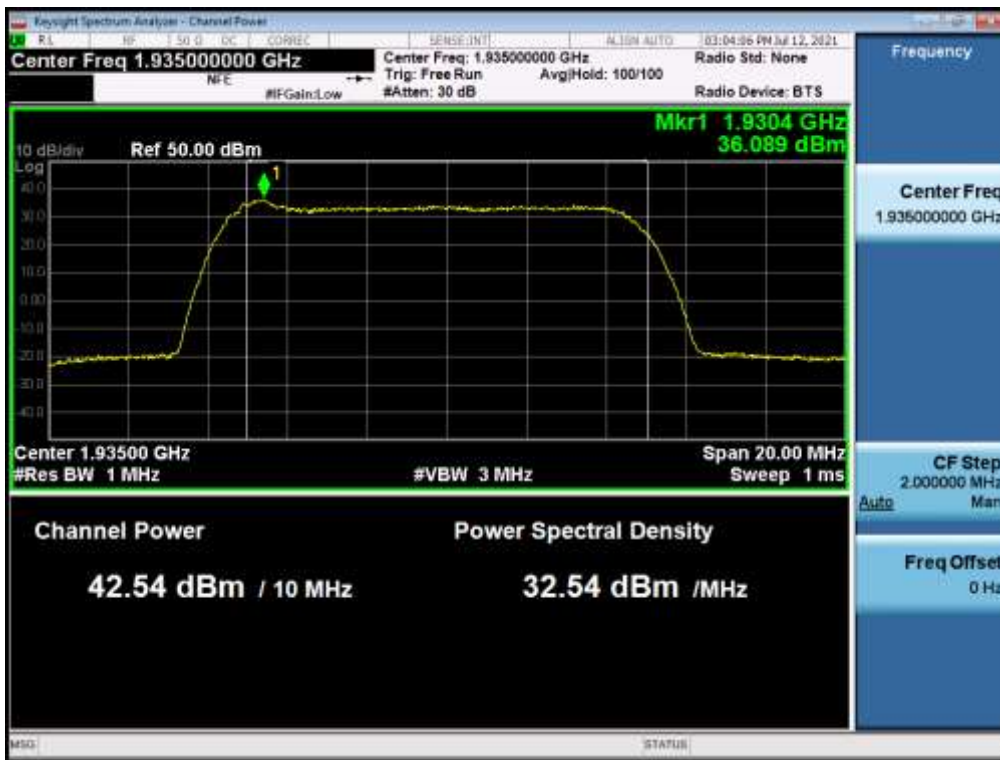
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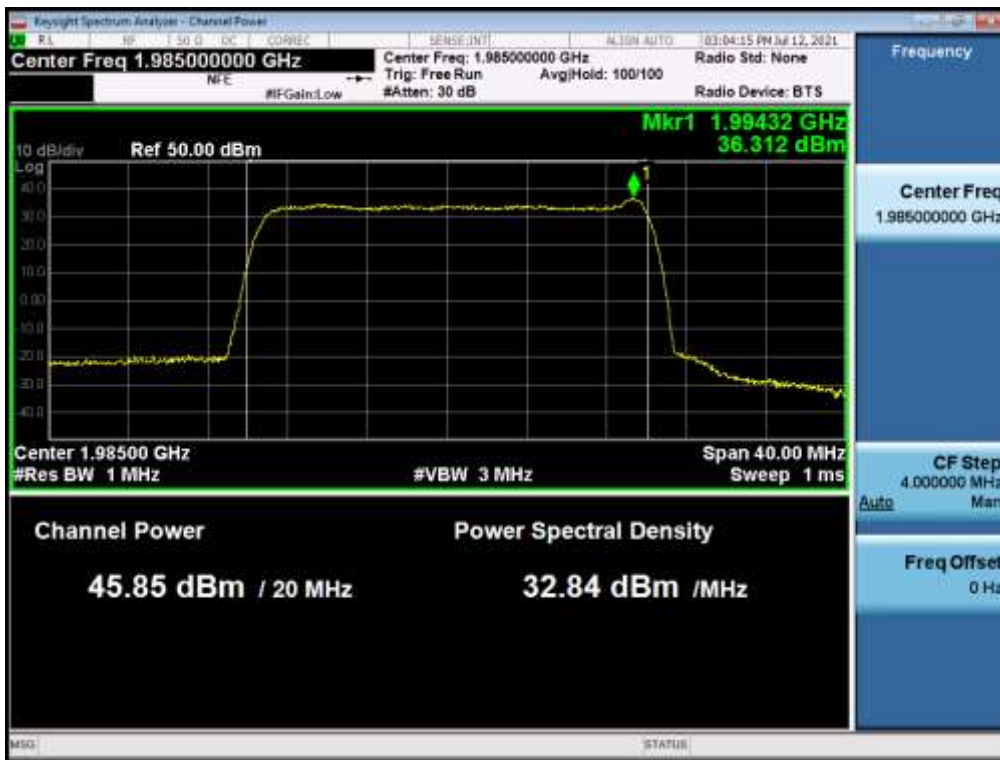
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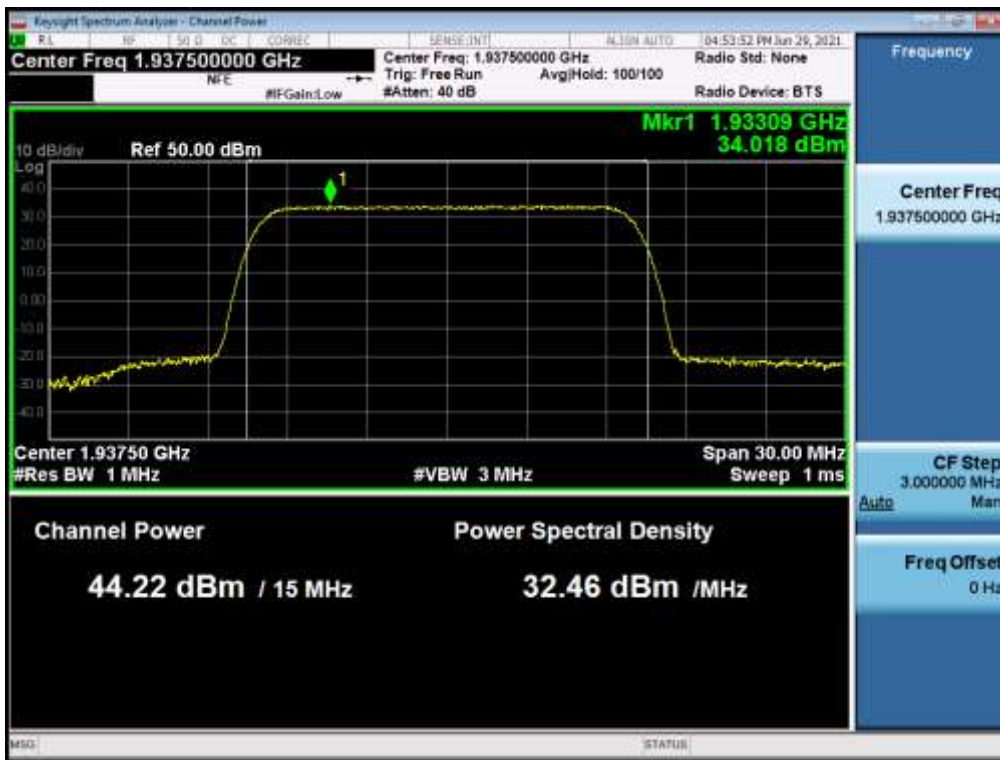
Antenna 1 / B25 LTE 10 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 10 MHz & NB-IoT / 16QAM / Low



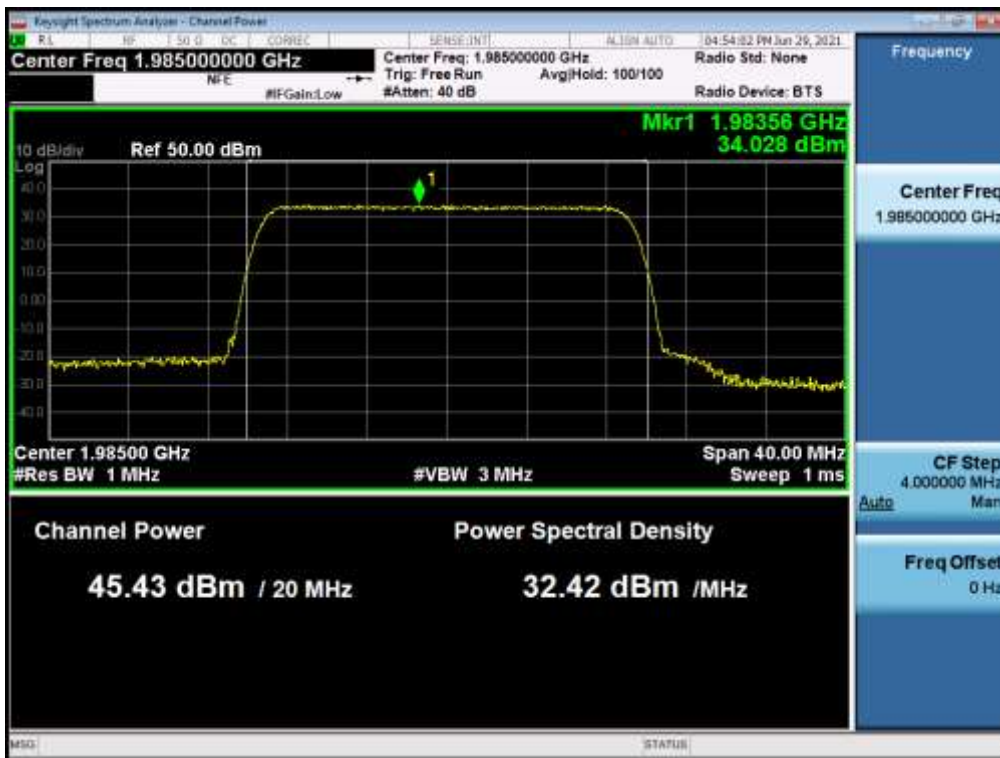
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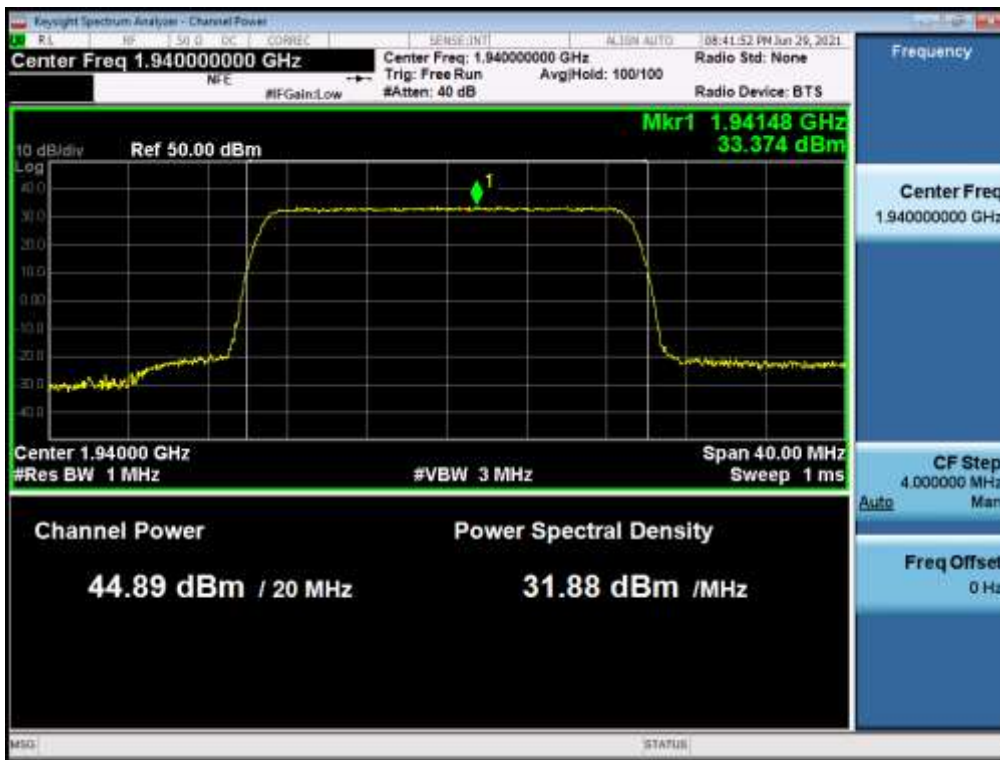
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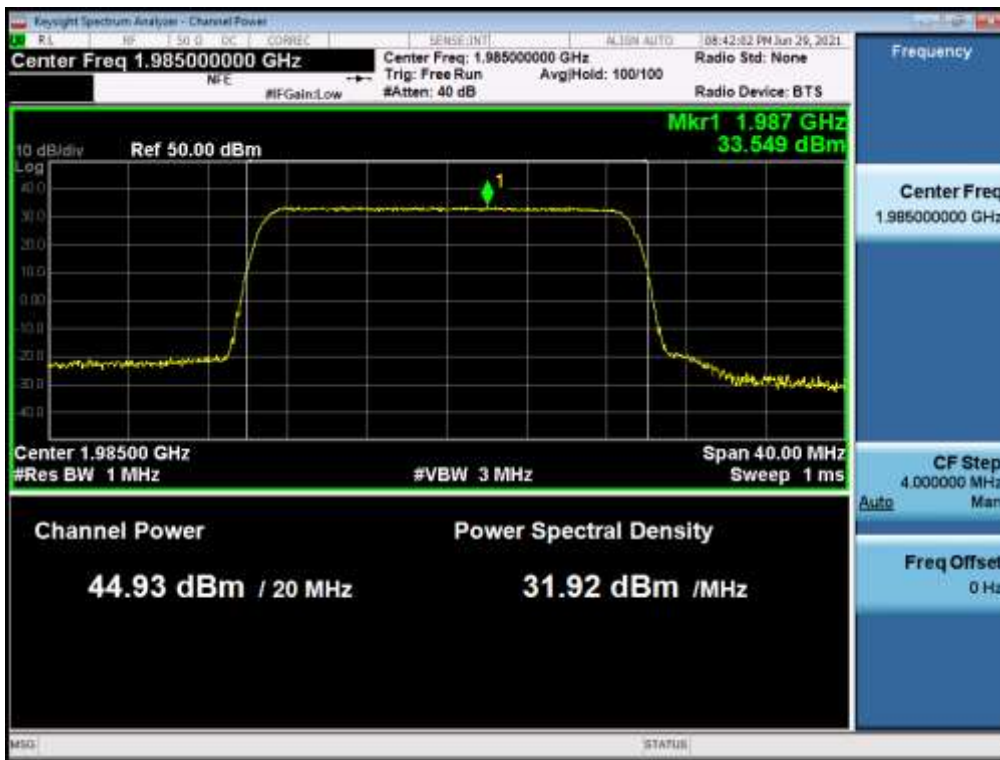
Antenna 1 / B25 LTE 15 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz / 64QAM / High



Antenna 1 / B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz / 64QAM / Low

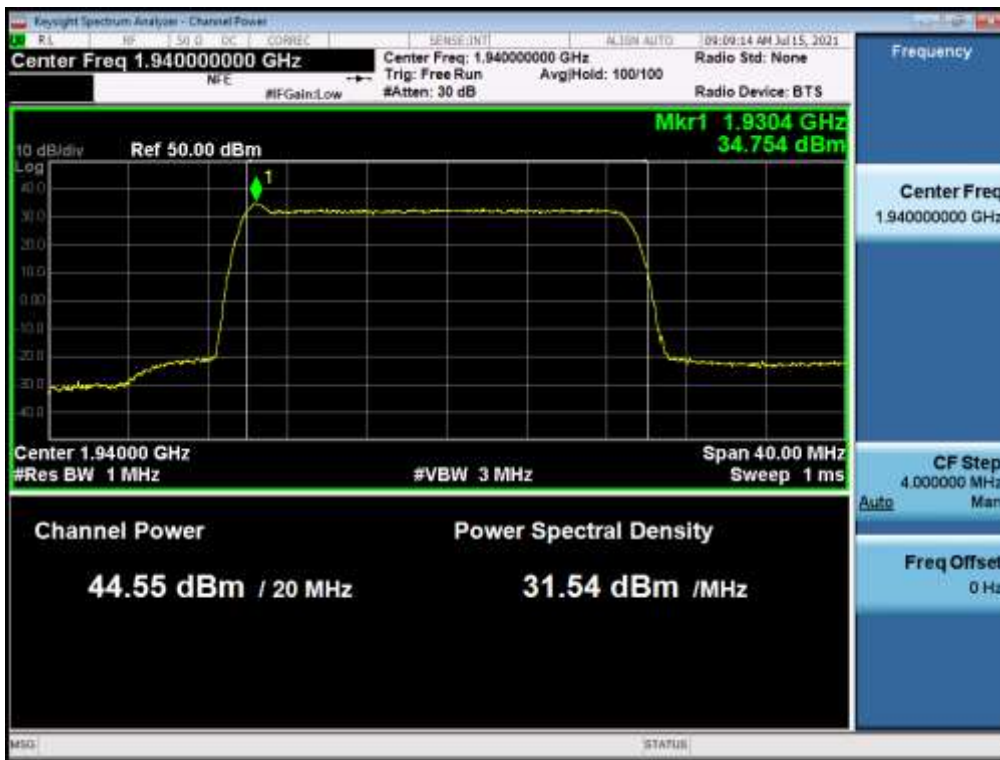


Antenna 1 / B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz / 64QAM / High

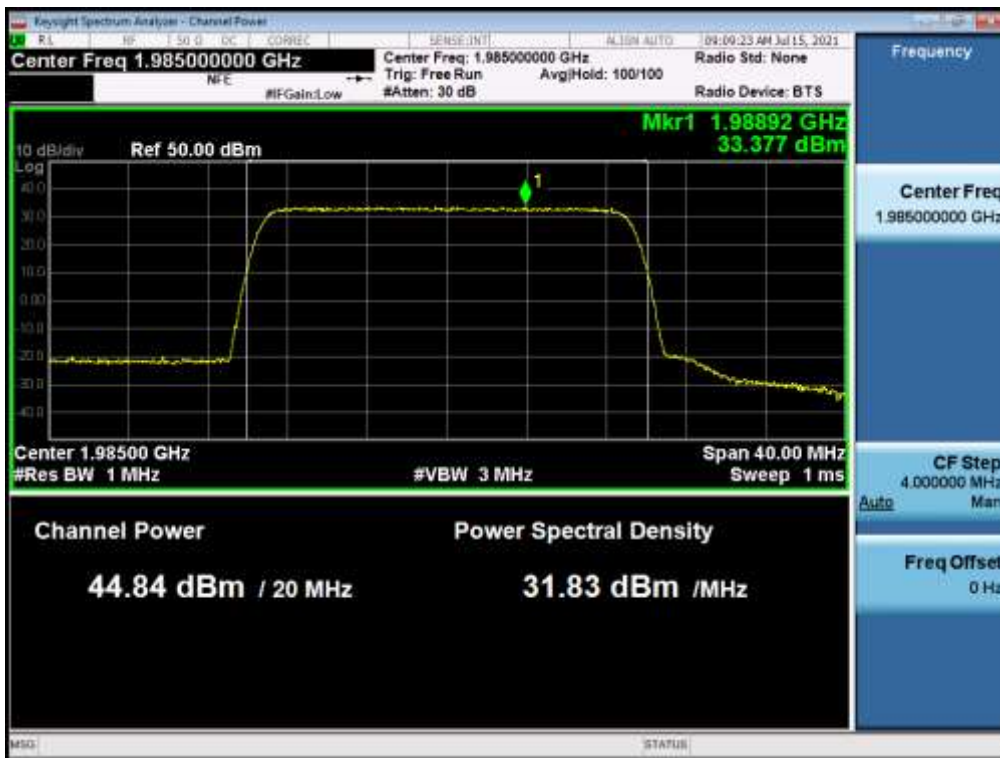




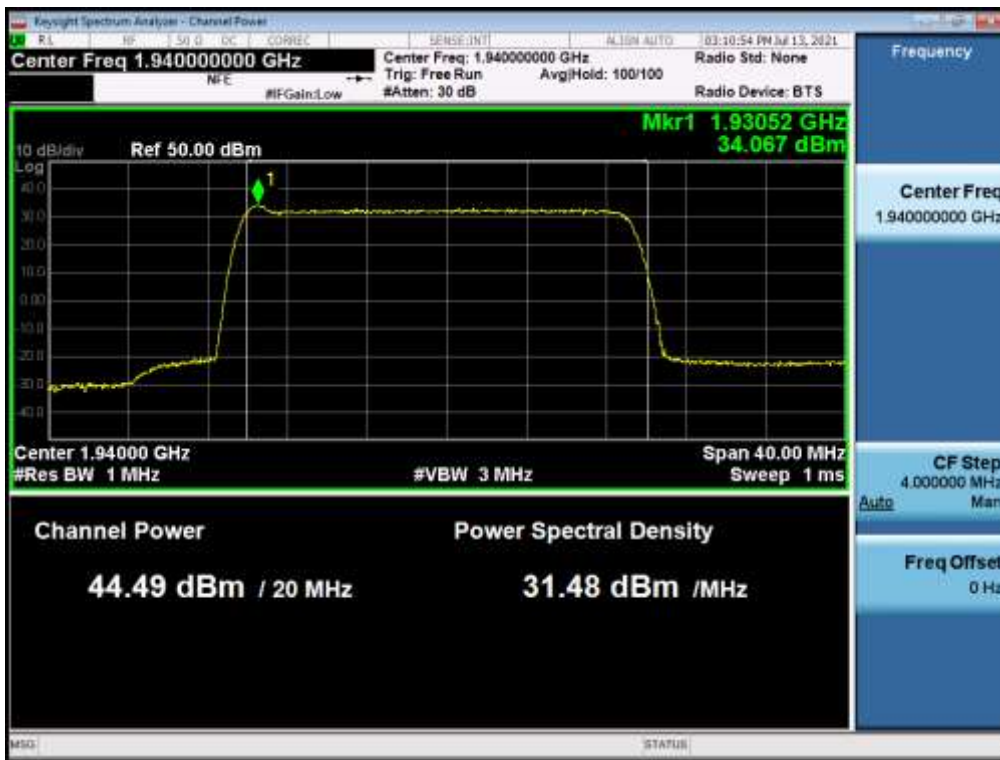
Antenna 1 / B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz & NB-IoT / QPSK / Low



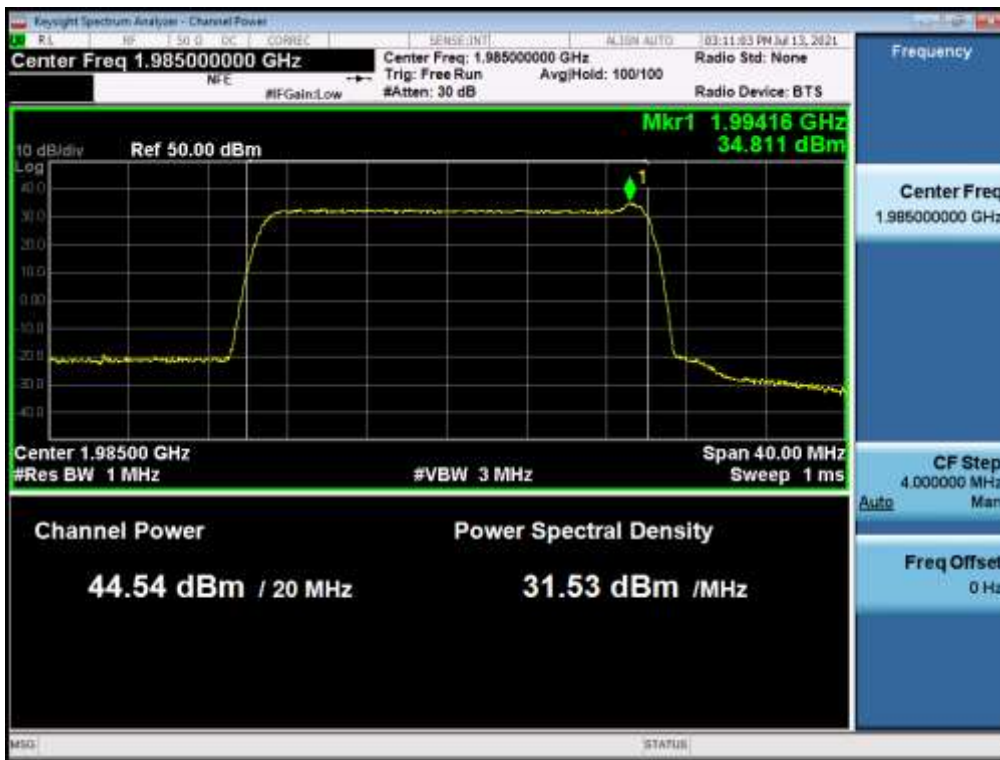
Antenna 1 / B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz / QPSK / High

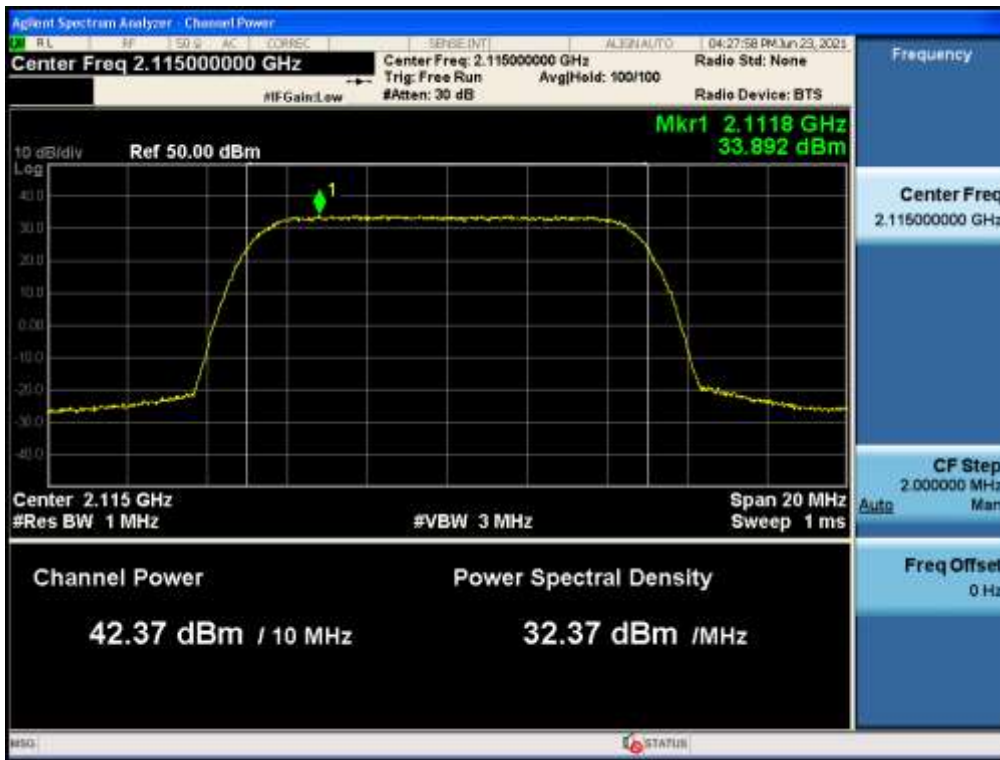


Antenna 1 / B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz & NB-IoT / 64QAM / Low



Antenna 1 / B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz & NB-IoT / 64QAM / High

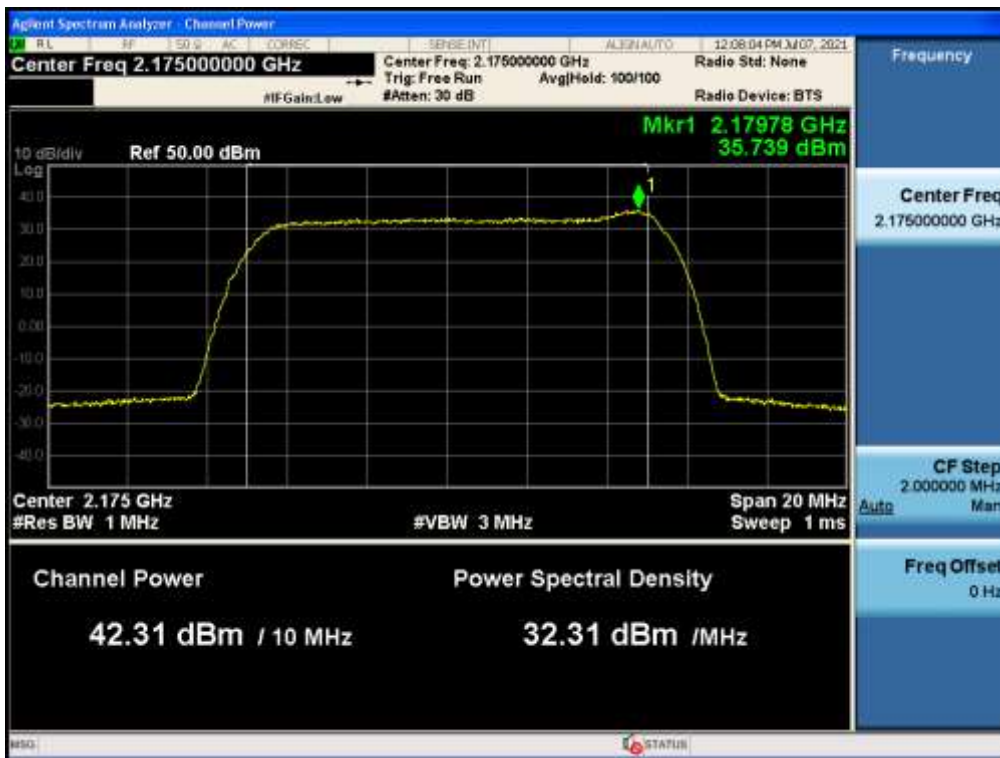


**Antenna 1 / B66 LTE 10 MHz 1 Carrier + B66 LTE 5 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 10 MHz / 64QAM / Low**

**Antenna 1 / B66 LTE 10 MHz 1 Carrier + B66 LTE 5 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 5 MHz / 64QAM / High**


Antenna 1 / B66 LTE 5 MHz 1 Carrier + B66 LTE 10 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 5 MHz / 16QAM / Low



Antenna 1 / B66 LTE 5 MHz 1 Carrier + B66 LTE 10 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / 16QAM / B66 LTE 10 MHz & NB-IoT / High



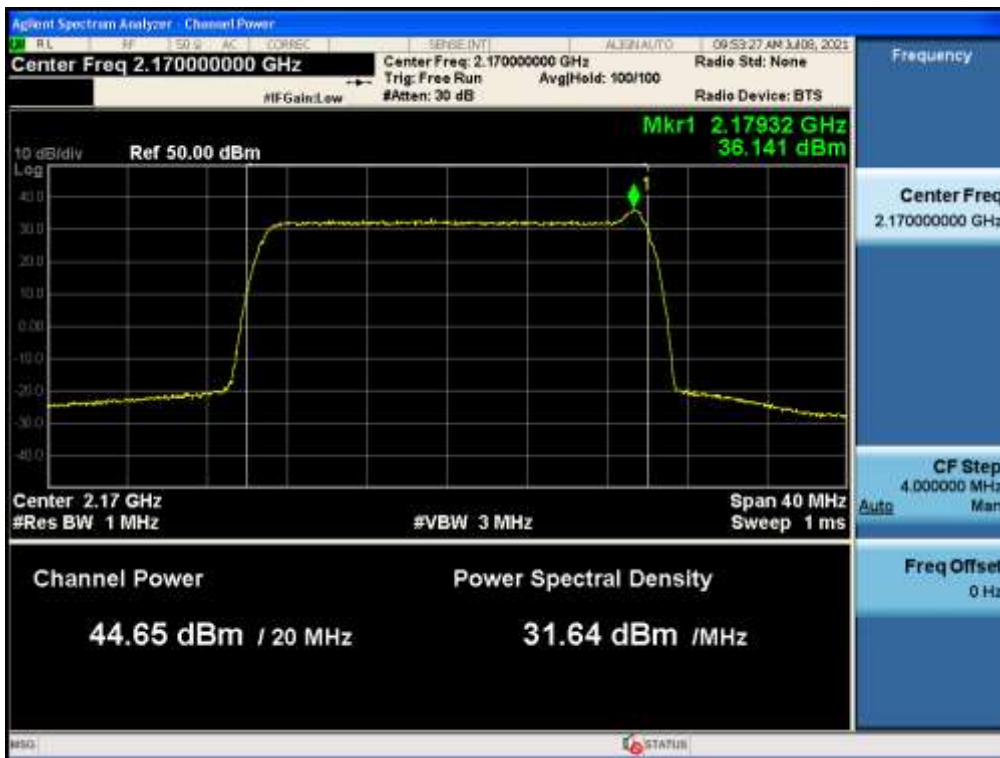
**Antenna 0 / B66 LTE 5 MHz 1 Carrier + B66 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 5 MHz / 64QAM / Low**

**Antenna 0 / B66 LTE 5 MHz 1 Carrier + B66 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 20 MHz / 64QAM / High**


Antenna 0 / B66 LTE 5 MHz 1 Carrier + B66 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 5 MHz / 64QAM / Low



Antenna 0 / B66 LTE 5 MHz 1 Carrier + B66 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 20 MHz & NB-IoT / 64QAM / High



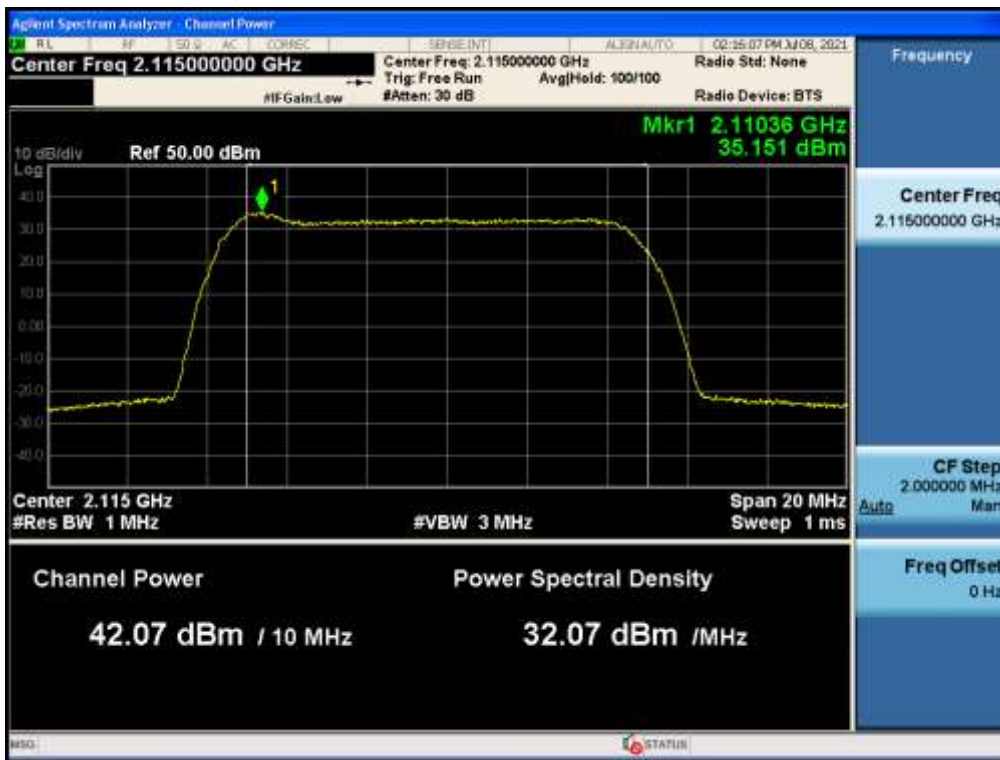
Antenna 3 / B66 LTE 10 MHz 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 10 MHz / 16QAM / Low



Antenna 3 / B66 LTE 10 MHz 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 10 MHz / 16QAM / High



Antenna 3 / B66 LTE 10 MHz & NB-IoT 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 10 MHz & NB-IoT / 16QAM / Low



Antenna 3 / B66 LTE 10 MHz & NB-IoT 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 10 MHz / 16QAM / High

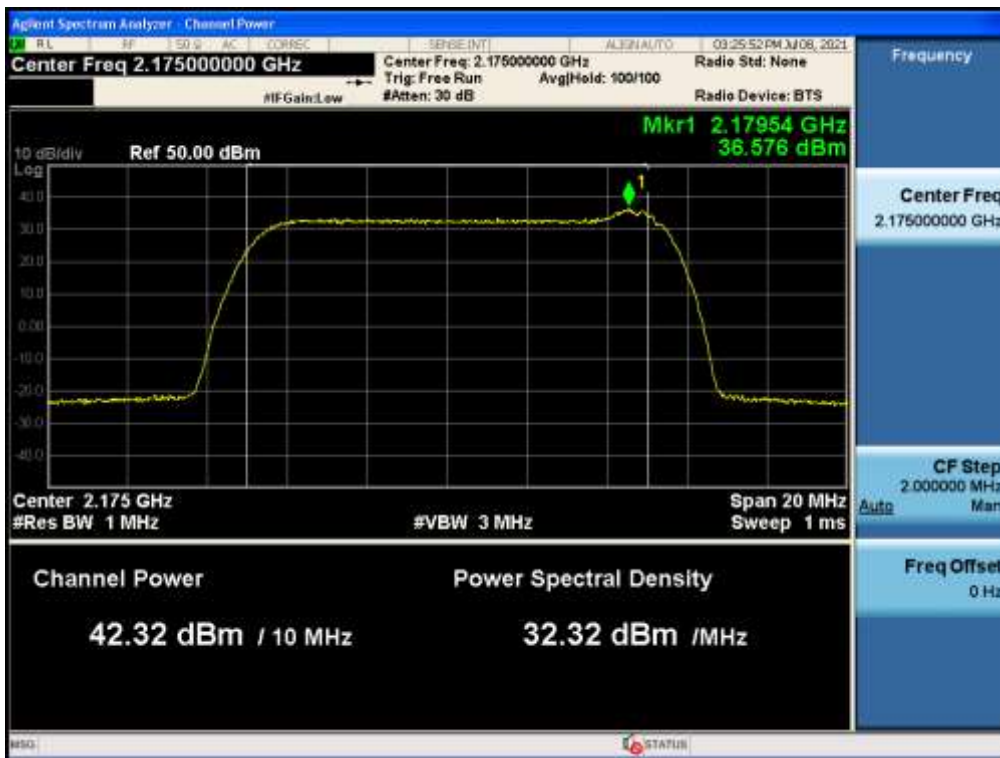




Antenna 3 / B66 LTE 10 MHz & NB-IoT 1 Carrier + B66 LTE 10 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 10 MHz & NB-IoT / 256QAM / Low



Antenna 3 / B66 LTE 10 MHz & NB-IoT 1 Carrier + B66 LTE 10 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 10 MHz & NB-IoT / 256QAM / High



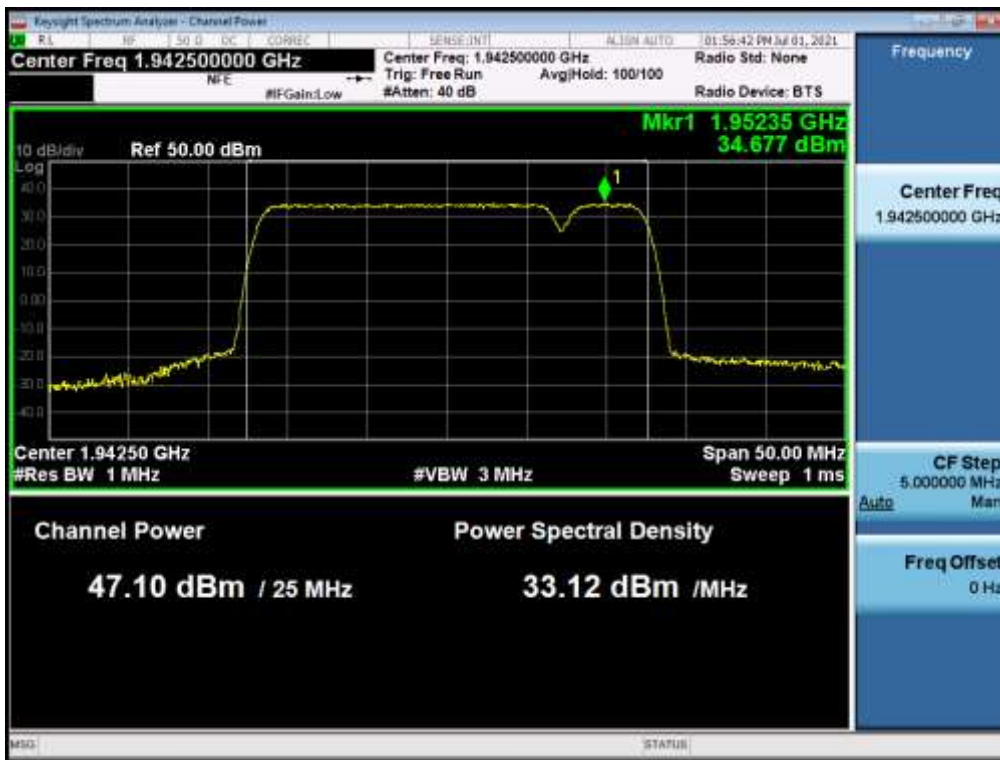
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] (1C+2C) / Non-Contiguous / B25 LTE 5 MHz / 64QAM / Low



Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] (1C+2C) / Non-Contiguous / B25 LTE 5 MHz + B25 LTE 20 MHz / 64QAM / High



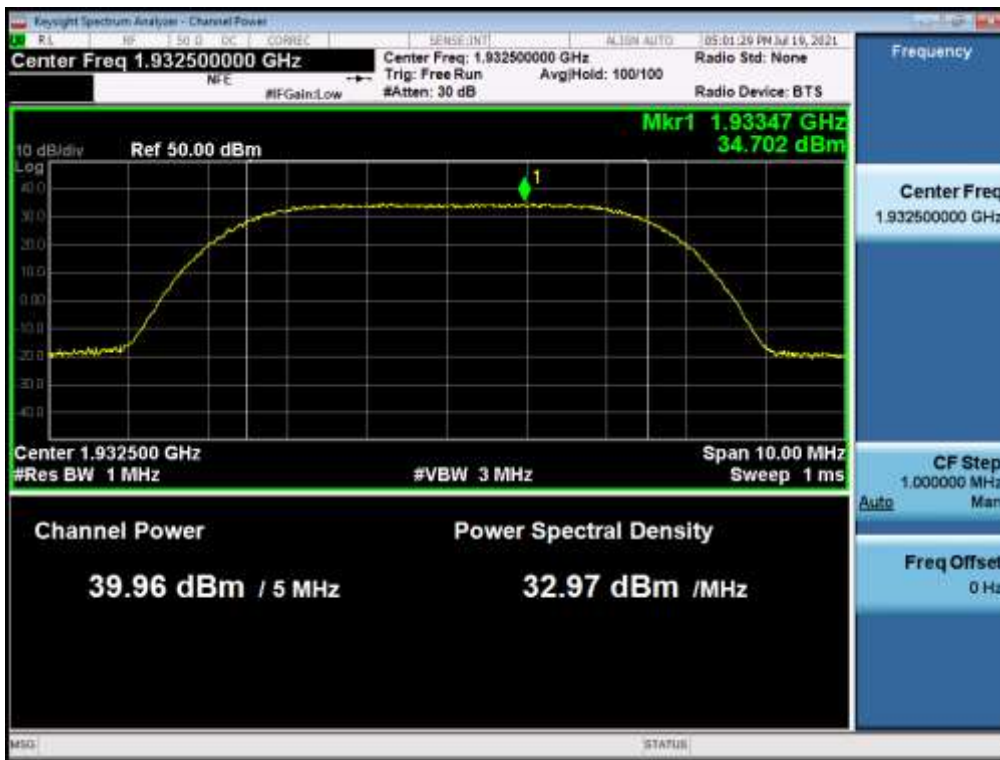
Antenna 1 / B25 LTE 20 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier [3 Carrier] (2C+1C) / Non-Contiguous / B25 LTE 20 MHz + B25 LTE 5 MHz / 256QAM / Low



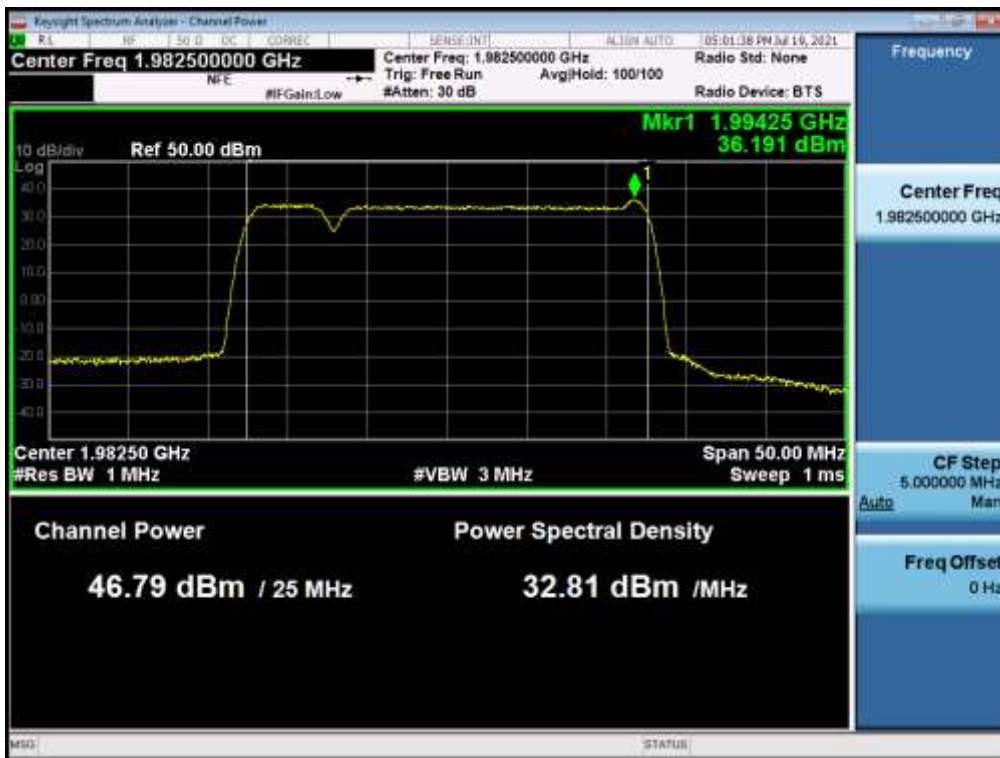
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] (2C+1C) / Non-Contiguous / B25 LTE 5 MHz / 256QAM / High



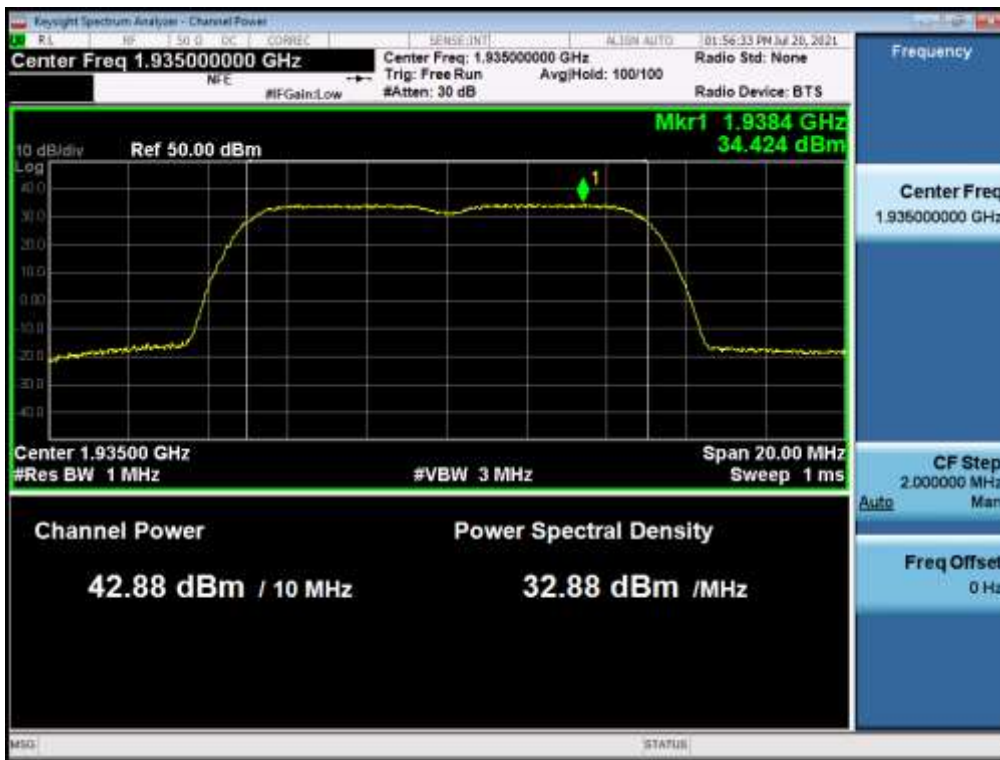
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (1C+2C) / Non-Contiguous / B25 LTE 5 MHz / 256QAM / Low



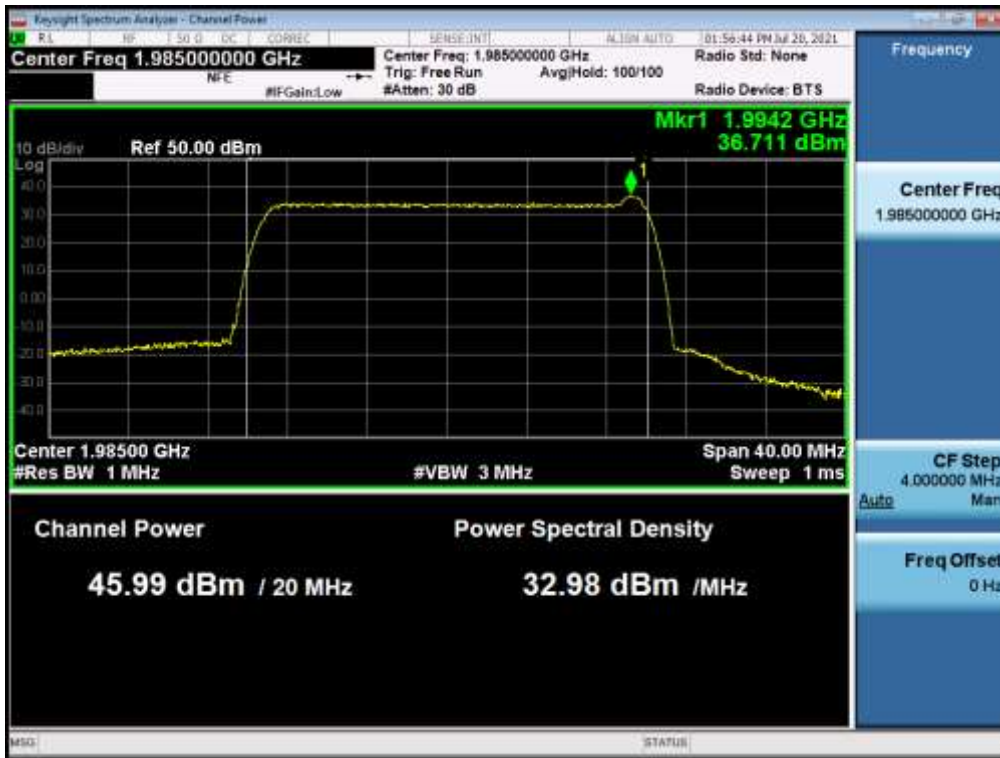
Antenna 0 / B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (1C+2C) / Non-Contiguous / B25 LTE 5 MHz + B25 LTE 20 MHz & NB-IoT / 256QAM / High



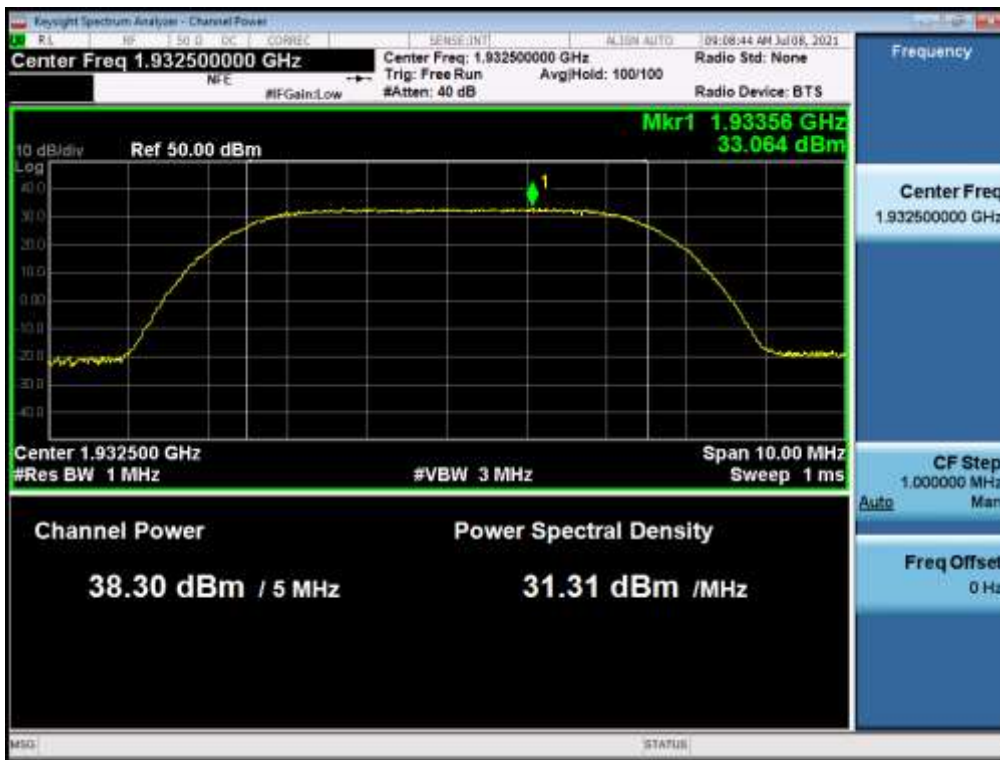
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (2C+1C) / Non-Contiguous / B25 LTE 5 MHz + B25 LTE 5 MHz / 256QAM / Low



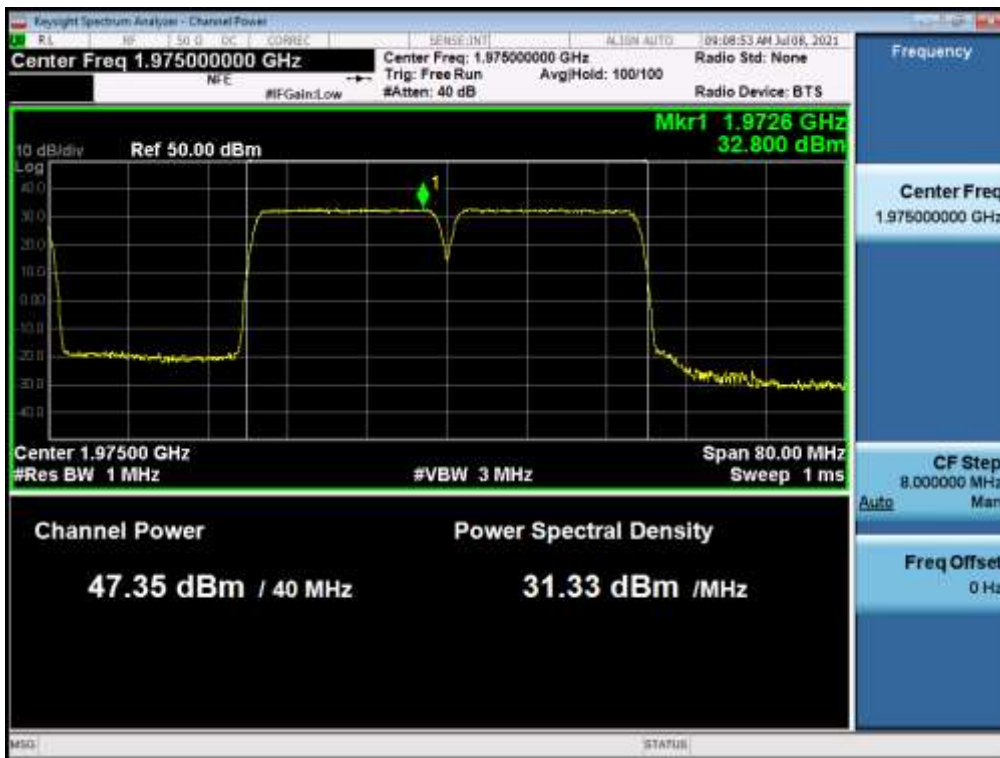
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (2C+1C) / Non-Contiguous / B25 LTE 20 MHz & NB-IoT / 256QAM / High



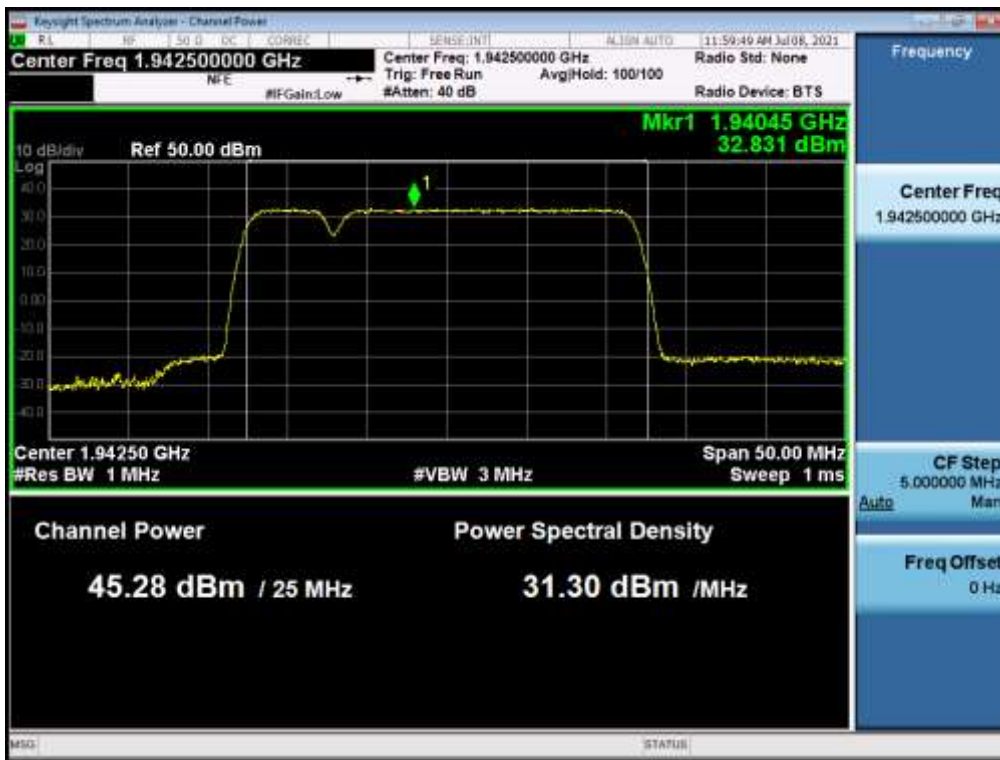
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] (1C+2C) / Non-Contiguous / B25 LTE 5 MHz / 256QAM / Low



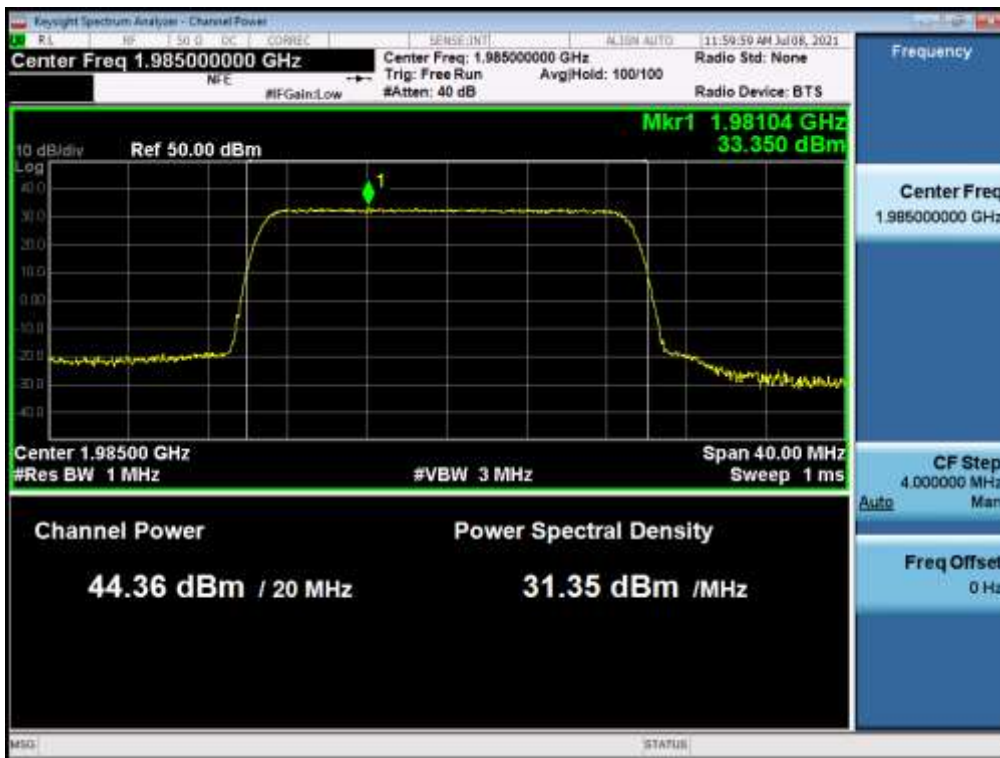
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] (1C+2C) / Non-Contiguous / B25 LTE 20 MHz + B25 LTE 20 MHz / 256QAM / High



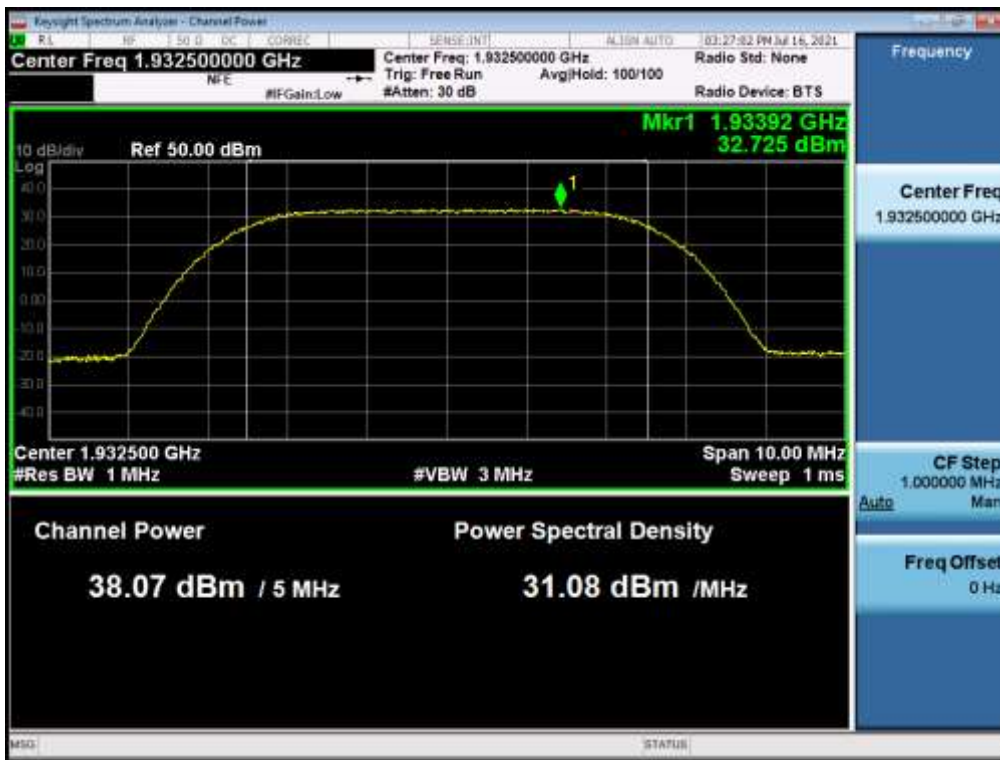
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] (2C+1C) / Non-Contiguous / B25 LTE 5 MHz + B25 LTE 20 MHz / 64QAM / Low



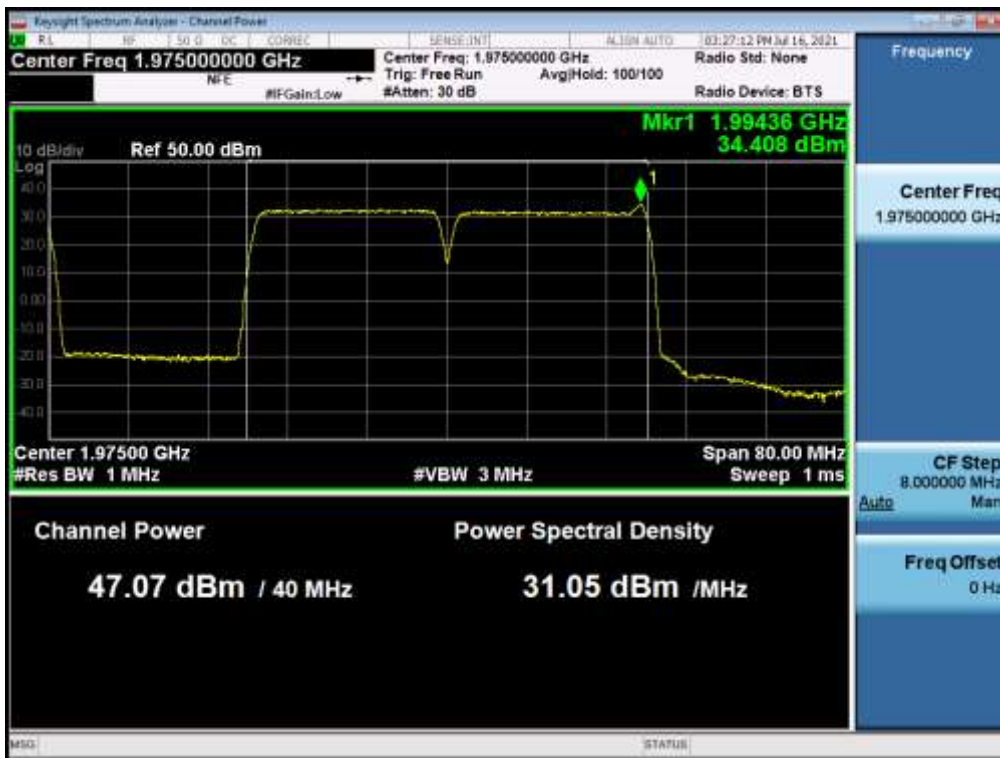
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] (2C+1C) / Non-Contiguous / B25 LTE 20 MHz / 64QAM / High



Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (1C+2C) / Non-Contiguous / B25 LTE 5 MHz / QPSK / Low

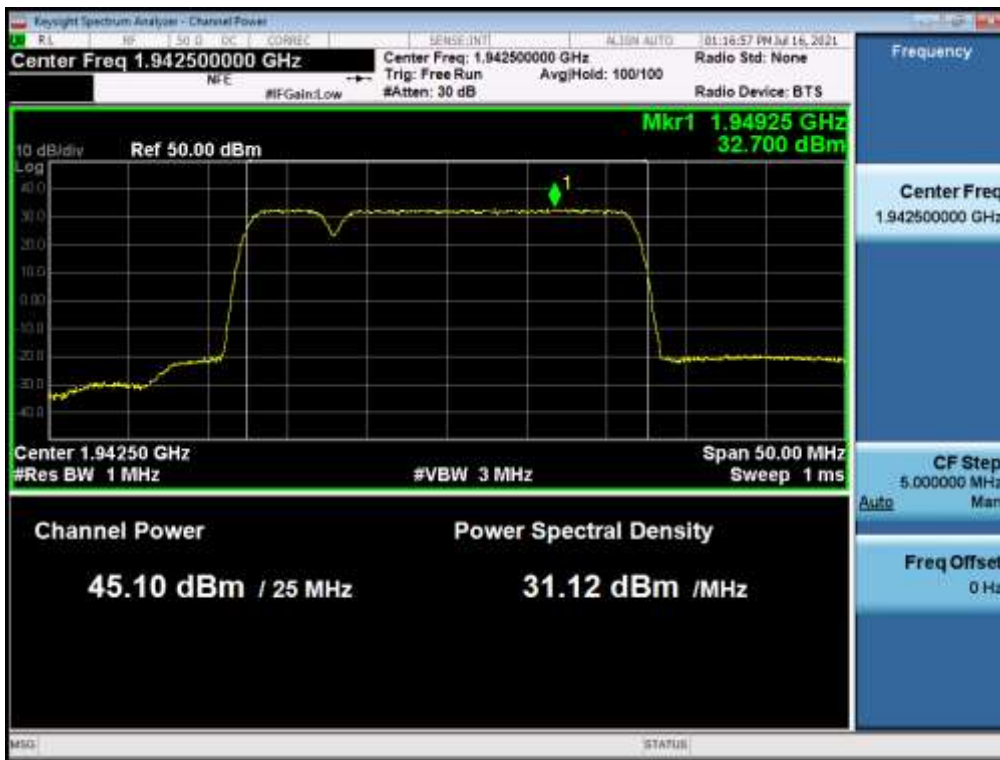


Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (1C+2C) / Non-Contiguous / B25 LTE 20 MHz + B25 LTE 20 MHz & NB-IoT / QPSK / High

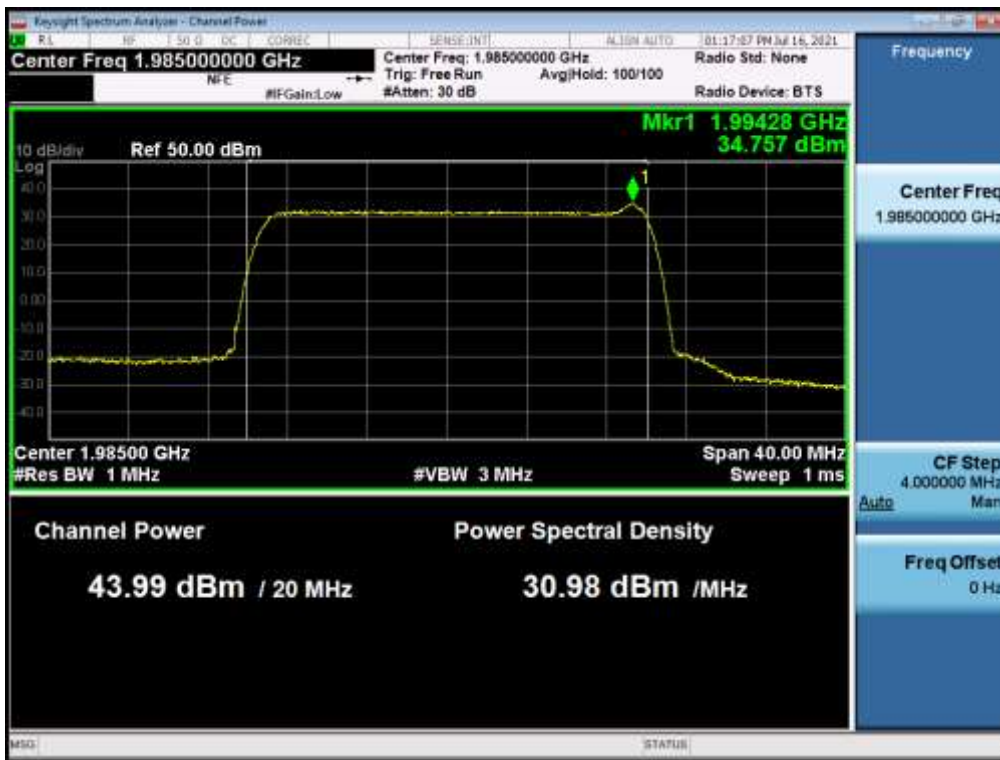




Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (2C+1C) / Non-Contiguous / B25 LTE 5 MHz + B25 LTE 20 MHz / 64QAM / Low



Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (2C+1C) / Non-Contiguous / B25 LTE 20 MHz & NB-IoT / 64QAM / High



## 5.2. PAPR

**Test Requirements:****§ 24.232 Power and antenna height limits.**

- (d) Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

**§ 27.50 Power limits and duty cycle.**

- (d) (5) Equipment employed must be authorized in accordance with the provisions of §24.51. Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (d)(6) of this section. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

**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:** The results of PAPR test shown above the frequency measured values are very small and similar trend for each port, so we are attached only the worst case plot.

## Tabular data of PAPR

## B25 LTE 5 MHz 1 Carrier

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1932.50	8.45
		Middle	1962.50	8.44
		High	1992.50	8.46
	16QAM	Low	1932.50	8.40
		Middle	1962.50	8.41
		High	1992.50	8.37
	64QAM	Low	1932.50	8.33
		Middle	1962.50	8.40
		High	1992.50	8.47
	256QAM	Low	1932.50	8.39
		Middle	1962.50	8.42
		High	1992.50	8.44
1	QPSK	Low	1932.50	8.37
		Middle	1962.50	8.56
		High	1992.50	8.47
	16QAM	Low	1932.50	8.38
		Middle	1962.50	8.34
		High	1992.50	8.43
	64QAM	Low	1932.50	8.35
		Middle	1962.50	8.56
		High	1992.50	8.52
	256QAM	Low	1932.50	8.35
		Middle	1962.50	8.57
		High	1992.50	8.53

2	QPSK	Low	1932.50	8.53
		Middle	1962.50	8.48
		High	1992.50	8.35
	16QAM	Low	1932.50	8.43
		Middle	1962.50	8.38
		High	1992.50	8.37
	64QAM	Low	1932.50	8.51
		Middle	1962.50	8.55
		High	1992.50	8.34
	256QAM	Low	1932.50	8.54
		Middle	1962.50	8.48
		High	1992.50	8.30
3	QPSK	Low	1932.50	8.44
		Middle	1962.50	8.52
		High	1992.50	8.36
	16QAM	Low	1932.50	8.38
		Middle	1962.50	8.40
		High	1992.50	8.37
	64QAM	Low	1932.50	8.43
		Middle	1962.50	8.59
		High	1992.50	8.38
	256QAM	Low	1932.50	8.39
		Middle	1962.50	8.52
		High	1992.50	8.43

**B25 LTE 10 MHz 1 Carrier**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1935.00	8.45
		Middle	1962.50	8.46
		High	1990.00	8.40
	16QAM	Low	1935.00	8.48
		Middle	1962.50	8.47
		High	1990.00	8.45
	64QAM	Low	1935.00	8.42
		Middle	1962.50	8.41
		High	1990.00	8.42
	256QAM	Low	1935.00	8.43
		Middle	1962.50	8.39
		High	1990.00	8.43
1	QPSK	Low	1935.00	8.40
		Middle	1962.50	8.42
		High	1990.00	8.56
	16QAM	Low	1935.00	8.44
		Middle	1962.50	8.40
		High	1990.00	8.48
	64QAM	Low	1935.00	8.42
		Middle	1962.50	8.42
		High	1990.00	8.41
	256QAM	Low	1935.00	8.37
		Middle	1962.50	8.40
		High	1990.00	8.47

2	QPSK	Low	1935.00	8.34
		Middle	1962.50	8.42
		High	1990.00	8.43
	16QAM	Low	1935.00	8.42
		Middle	1962.50	8.46
		High	1990.00	8.45
	64QAM	Low	1935.00	8.42
		Middle	1962.50	8.45
		High	1990.00	8.43
	256QAM	Low	1935.00	8.41
		Middle	1962.50	8.41
		High	1990.00	8.44
3	QPSK	Low	1935.00	8.43
		Middle	1962.50	8.41
		High	1990.00	8.42
	16QAM	Low	1935.00	8.51
		Middle	1962.50	8.46
		High	1990.00	8.48
	64QAM	Low	1935.00	8.47
		Middle	1962.50	8.42
		High	1990.00	8.42
	256QAM	Low	1935.00	8.43
		Middle	1962.50	8.39
		High	1990.00	8.43

**B25 LTE 15 MHz 1 Carrier**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1937.50	8.35
		Middle	1962.50	8.34
		High	1987.50	8.36
	16QAM	Low	1937.50	8.40
		Middle	1962.50	8.43
		High	1987.50	8.43
	64QAM	Low	1937.50	8.35
		Middle	1962.50	8.38
		High	1987.50	8.39
	256QAM	Low	1937.50	8.35
		Middle	1962.50	8.34
		High	1987.50	8.35
1	QPSK	Low	1937.50	8.33
		Middle	1962.50	8.33
		High	1987.50	8.35
	16QAM	Low	1937.50	8.42
		Middle	1962.50	8.42
		High	1987.50	8.41
	64QAM	Low	1937.50	8.30
		Middle	1962.50	8.34
		High	1987.50	8.33
	256QAM	Low	1937.50	8.32
		Middle	1962.50	8.36
		High	1987.50	8.32

2	QPSK	Low	1937.50	8.36
		Middle	1962.50	8.40
		High	1987.50	8.37
	16QAM	Low	1937.50	8.43
		Middle	1962.50	8.43
		High	1987.50	8.37
	64QAM	Low	1937.50	8.36
		Middle	1962.50	8.35
		High	1987.50	8.35
	256QAM	Low	1937.50	8.37
		Middle	1962.50	8.37
		High	1987.50	8.36
3	QPSK	Low	1937.50	8.34
		Middle	1962.50	8.34
		High	1987.50	8.36
	16QAM	Low	1937.50	8.42
		Middle	1962.50	8.41
		High	1987.50	8.41
	64QAM	Low	1937.50	8.33
		Middle	1962.50	8.36
		High	1987.50	8.36
	256QAM	Low	1937.50	8.35
		Middle	1962.50	8.33
		High	1987.50	8.36



**B25 LTE 20 MHz 1 Carrier**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1940.00	7.97
		Middle	1962.50	7.98
		High	1985.00	7.99
	16QAM	Low	1940.00	7.96
		Middle	1962.50	7.98
		High	1985.00	7.99
	64QAM	Low	1940.00	7.97
		Middle	1962.50	7.96
		High	1985.00	8.00
	256QAM	Low	1940.00	7.97
		Middle	1962.50	7.95
		High	1985.00	7.97
1	QPSK	Low	1940.00	7.98
		Middle	1962.50	8.22
		High	1985.00	7.97
	16QAM	Low	1940.00	8.00
		Middle	1962.50	8.01
		High	1985.00	7.94
	64QAM	Low	1940.00	7.97
		Middle	1962.50	7.99
		High	1985.00	8.00
	256QAM	Low	1940.00	7.95
		Middle	1962.50	7.98
		High	1985.00	8.01

2	QPSK	Low	1940.00	7.99
		Middle	1962.50	7.99
		High	1985.00	8.28
	16QAM	Low	1940.00	7.97
		Middle	1962.50	8.02
		High	1985.00	7.94
	64QAM	Low	1940.00	8.00
		Middle	1962.50	7.97
		High	1985.00	8.03
	256QAM	Low	1940.00	7.97
		Middle	1962.50	7.99
		High	1985.00	8.02
3	QPSK	Low	1940.00	7.98
		Middle	1962.50	7.98
		High	1985.00	8.00
	16QAM	Low	1940.00	8.02
		Middle	1962.50	8.02
		High	1985.00	7.97
	64QAM	Low	1940.00	7.98
		Middle	1962.50	7.99
		High	1985.00	8.00
	256QAM	Low	1940.00	7.99
		Middle	1962.50	8.01
		High	1985.00	8.02

**B66 LTE 5 MHz 1 Carrier**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	2112.50	8.39
		Middle	2145.00	8.41
		High	2177.50	8.38
	16QAM	Low	2112.50	8.45
		Middle	2145.00	8.40
		High	2177.50	8.47
	64QAM	Low	2112.50	8.43
		Middle	2145.00	8.43
		High	2177.50	8.43
	256QAM	Low	2112.50	8.39
		Middle	2145.00	8.39
		High	2177.50	8.41
1	QPSK	Low	2112.50	8.45
		Middle	2145.00	8.44
		High	2177.50	8.39
	16QAM	Low	2112.50	8.35
		Middle	2145.00	8.40
		High	2177.50	8.39
	64QAM	Low	2112.50	8.33
		Middle	2145.00	8.28
		High	2177.50	8.30
	256QAM	Low	2112.50	8.44
		Middle	2145.00	8.45
		High	2177.50	8.39

2	QPSK	Low	2112.50	8.43
		Middle	2145.00	8.41
		High	2177.50	8.38
	16QAM	Low	2112.50	8.44
		Middle	2145.00	8.42
		High	2177.50	8.36
	64QAM	Low	2112.50	8.33
		Middle	2145.00	8.33
		High	2177.50	8.30
	256QAM	Low	2112.50	8.43
		Middle	2145.00	8.38
		High	2177.50	8.41
3	QPSK	Low	2112.50	8.42
		Middle	2145.00	8.45
		High	2177.50	8.42
	16QAM	Low	2112.50	8.35
		Middle	2145.00	8.41
		High	2177.50	8.40
	64QAM	Low	2112.50	8.35
		Middle	2145.00	8.45
		High	2177.50	8.41
	256QAM	Low	2112.50	8.33
		Middle	2145.00	8.44
		High	2177.50	8.39

**B66 LTE 10 MHz 1 Carrier**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	2115.00	8.43
		Middle	2145.00	8.41
		High	2175.00	8.41
	16QAM	Low	2115.00	8.34
		Middle	2145.00	8.38
		High	2175.00	8.34
	64QAM	Low	2115.00	8.35
		Middle	2145.00	8.41
		High	2175.00	8.41
	256QAM	Low	2115.00	8.43
		Middle	2145.00	8.47
		High	2175.00	8.43
1	QPSK	Low	2115.00	8.45
		Middle	2145.00	8.42
		High	2175.00	8.44
	16QAM	Low	2115.00	8.32
		Middle	2145.00	8.35
		High	2175.00	8.36
	64QAM	Low	2115.00	8.43
		Middle	2145.00	8.44
		High	2175.00	8.42
	256QAM	Low	2115.00	8.46
		Middle	2145.00	8.42
		High	2175.00	8.42

2	QPSK	Low	2115.00	8.42
		Middle	2145.00	8.40
		High	2175.00	8.41
	16QAM	Low	2115.00	8.32
		Middle	2145.00	8.32
		High	2175.00	8.34
	64QAM	Low	2115.00	8.43
		Middle	2145.00	8.44
		High	2175.00	8.46
	256QAM	Low	2115.00	8.41
		Middle	2145.00	8.41
		High	2175.00	8.42
3	QPSK	Low	2115.00	8.44
		Middle	2145.00	8.43
		High	2175.00	8.41
	16QAM	Low	2115.00	8.34
		Middle	2145.00	8.35
		High	2175.00	8.32
	64QAM	Low	2115.00	8.46
		Middle	2145.00	8.41
		High	2175.00	8.41
	256QAM	Low	2115.00	8.45
		Middle	2145.00	8.44
		High	2175.00	8.44

**B66 LTE 15 MHz 1 Carrier**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	2117.50	7.61
		Middle	2145.00	8.10
		High	2172.50	7.61
	16QAM	Low	2117.50	7.72
		Middle	2145.00	7.60
		High	2172.50	7.59
	64QAM	Low	2117.50	7.60
		Middle	2145.00	7.63
		High	2172.50	7.63
	256QAM	Low	2117.50	7.60
		Middle	2145.00	7.63
		High	2172.50	7.62
1	QPSK	Low	2117.50	7.59
		Middle	2145.00	7.97
		High	2172.50	7.60
	16QAM	Low	2117.50	7.61
		Middle	2145.00	7.61
		High	2172.50	7.58
	64QAM	Low	2117.50	7.62
		Middle	2145.00	7.67
		High	2172.50	7.64
	256QAM	Low	2117.50	7.63
		Middle	2145.00	7.62
		High	2172.50	7.64

2	QPSK	Low	2117.50	7.59
		Middle	2145.00	7.61
		High	2172.50	8.08
	16QAM	Low	2117.50	7.60
		Middle	2145.00	7.61
		High	2172.50	7.59
	64QAM	Low	2117.50	7.58
		Middle	2145.00	7.63
		High	2172.50	7.62
	256QAM	Low	2117.50	7.61
		Middle	2145.00	7.61
		High	2172.50	7.63
3	QPSK	Low	2117.50	7.61
		Middle	2145.00	7.61
		High	2172.50	7.60
	16QAM	Low	2117.50	7.61
		Middle	2145.00	7.61
		High	2172.50	7.59
	64QAM	Low	2117.50	7.60
		Middle	2145.00	7.63
		High	2172.50	7.61
	256QAM	Low	2117.50	7.95
		Middle	2145.00	7.61
		High	2172.50	7.61



**B66 LTE 20 MHz 1 Carrier**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	2120.00	7.59
		Middle	2145.00	7.57
		High	2170.00	7.56
	16QAM	Low	2120.00	7.61
		Middle	2145.00	7.56
		High	2170.00	7.65
	64QAM	Low	2120.00	7.61
		Middle	2145.00	7.65
		High	2170.00	7.68
	256QAM	Low	2120.00	7.63
		Middle	2145.00	7.64
		High	2170.00	7.57
1	QPSK	Low	2120.00	7.58
		Middle	2145.00	7.55
		High	2170.00	7.66
	16QAM	Low	2120.00	7.57
		Middle	2145.00	7.60
		High	2170.00	7.56
	64QAM	Low	2120.00	7.61
		Middle	2145.00	7.58
		High	2170.00	7.69
	256QAM	Low	2120.00	7.65
		Middle	2145.00	7.63
		High	2170.00	7.67

2	QPSK	Low	2120.00	7.56
		Middle	2145.00	7.56
		High	2170.00	7.57
	16QAM	Low	2120.00	7.60
		Middle	2145.00	7.55
		High	2170.00	7.56
	64QAM	Low	2120.00	7.62
		Middle	2145.00	7.58
		High	2170.00	7.60
	256QAM	Low	2120.00	7.57
		Middle	2145.00	7.56
		High	2170.00	7.58
3	QPSK	Low	2120.00	7.58
		Middle	2145.00	7.57
		High	2170.00	7.56
	16QAM	Low	2120.00	7.60
		Middle	2145.00	7.57
		High	2170.00	7.55
	64QAM	Low	2120.00	7.60
		Middle	2145.00	7.64
		High	2170.00	7.57
	256QAM	Low	2120.00	7.57
		Middle	2145.00	7.58
		High	2170.00	7.57

## Tabular data of Contiguous PAPR

**B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1942.50	8.01
		Middle	1962.50	7.88
		High	1982.50	7.91
	16QAM	Low	1942.50	8.02
		Middle	1962.50	7.87
		High	1982.50	7.91
	64QAM	Low	1942.50	8.03
		Middle	1962.50	7.86
		High	1982.50	7.88
	256QAM	Low	1942.50	8.02
		Middle	1962.50	7.85
		High	1982.50	7.91
1	QPSK	Low	1942.50	7.98
		Middle	1962.50	7.86
		High	1982.50	7.91
	16QAM	Low	1942.50	7.99
		Middle	1962.50	7.88
		High	1982.50	7.88
	64QAM	Low	1942.50	7.96
		Middle	1962.50	7.85
		High	1982.50	7.86
	256QAM	Low	1942.50	7.96
		Middle	1962.50	7.85
		High	1982.50	7.88

2	QPSK	Low	1942.50	8.00
		Middle	1962.50	7.89
		High	1982.50	7.88
	16QAM	Low	1942.50	8.03
		Middle	1962.50	7.93
		High	1982.50	7.92
	64QAM	Low	1942.50	8.03
		Middle	1962.50	7.89
		High	1982.50	7.90
	256QAM	Low	1942.50	8.00
		Middle	1962.50	7.89
		High	1982.50	7.91
3	QPSK	Low	1942.50	8.01
		Middle	1962.50	7.92
		High	1982.50	7.89
	16QAM	Low	1942.50	8.04
		Middle	1962.50	7.92
		High	1982.50	7.90
	64QAM	Low	1942.50	8.03
		Middle	1962.50	7.91
		High	1982.50	7.88
	256QAM	Low	1942.50	8.07
		Middle	1962.50	7.90
		High	1982.50	7.88

**B25 LTE 10 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1945.00	8.03
		Middle	1962.50	7.86
		High	1980.00	7.93
	16QAM	Low	1945.00	8.02
		Middle	1962.50	7.82
		High	1980.00	7.88
	64QAM	Low	1945.00	8.03
		Middle	1962.50	7.85
		High	1980.00	7.91
	256QAM	Low	1945.00	8.02
		Middle	1962.50	7.84
		High	1980.00	7.96
1	QPSK	Low	1945.00	8.01
		Middle	1962.50	7.84
		High	1980.00	7.89
	16QAM	Low	1945.00	8.06
		Middle	1962.50	7.86
		High	1980.00	7.87
	64QAM	Low	1945.00	8.01
		Middle	1962.50	7.84
		High	1980.00	7.87
	256QAM	Low	1945.00	8.01
		Middle	1962.50	7.85
		High	1980.00	7.88

2	QPSK	Low	1945.00	7.98
		Middle	1962.50	7.89
		High	1980.00	7.91
	16QAM	Low	1945.00	8.03
		Middle	1962.50	7.87
		High	1980.00	7.92
	64QAM	Low	1945.00	8.04
		Middle	1962.50	7.87
		High	1980.00	7.91
	256QAM	Low	1945.00	8.01
		Middle	1962.50	7.89
		High	1980.00	7.91
3	QPSK	Low	1945.00	8.03
		Middle	1962.50	7.92
		High	1980.00	7.96
	16QAM	Low	1945.00	8.01
		Middle	1962.50	7.89
		High	1980.00	7.91
	64QAM	Low	1945.00	8.01
		Middle	1962.50	7.90
		High	1980.00	7.93
	256QAM	Low	1945.00	8.01
		Middle	1962.50	7.89
		High	1980.00	7.94

**B25 LTE 10 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1945.00	8.08
		Middle	1962.50	7.93
		High	1980.00	7.93
	16QAM	Low	1945.00	8.09
		Middle	1962.50	7.90
		High	1980.00	7.95
	64QAM	Low	1945.00	8.09
		Middle	1962.50	7.92
		High	1980.00	7.92
	256QAM	Low	1945.00	8.10
		Middle	1962.50	7.89
		High	1980.00	7.97
1	QPSK	Low	1945.00	8.07
		Middle	1962.50	7.90
		High	1980.00	7.93
	16QAM	Low	1945.00	8.05
		Middle	1962.50	7.91
		High	1980.00	7.90
	64QAM	Low	1945.00	8.11
		Middle	1962.50	7.89
		High	1980.00	7.89
	256QAM	Low	1945.00	8.11
		Middle	1962.50	7.88
		High	1980.00	7.91

2	QPSK	Low	1945.00	8.03
		Middle	1962.50	7.95
		High	1980.00	7.99
	16QAM	Low	1945.00	8.04
		Middle	1962.50	7.94
		High	1980.00	7.97
	64QAM	Low	1945.00	8.06
		Middle	1962.50	7.95
		High	1980.00	7.99
	256QAM	Low	1945.00	8.08
		Middle	1962.50	7.95
		High	1980.00	7.98
3	QPSK	Low	1945.00	8.09
		Middle	1962.50	7.94
		High	1980.00	7.97
	16QAM	Low	1945.00	8.10
		Middle	1962.50	7.95
		High	1980.00	7.86
	64QAM	Low	1945.00	8.12
		Middle	1962.50	7.92
		High	1980.00	7.98
	256QAM	Low	1945.00	8.06
		Middle	1962.50	7.94
		High	1980.00	7.97



**B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 10 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1945.00	8.06
		Middle	1962.50	8.00
		High	1980.00	7.99
	16QAM	Low	1945.00	8.07
		Middle	1962.50	8.00
		High	1980.00	8.02
	64QAM	Low	1945.00	8.05
		Middle	1962.50	8.00
		High	1980.00	7.97
	256QAM	Low	1945.00	8.05
		Middle	1962.50	7.97
		High	1980.00	8.00
1	QPSK	Low	1945.00	7.83
		Middle	1962.50	7.71
		High	1980.00	7.89
	16QAM	Low	1945.00	7.73
		Middle	1962.50	7.71
		High	1980.00	7.78
	64QAM	Low	1945.00	7.82
		Middle	1962.50	7.68
		High	1980.00	7.85
	256QAM	Low	1945.00	7.80
		Middle	1962.50	7.67
		High	1980.00	7.84

2	QPSK	Low	1945.00	8.03
		Middle	1962.50	7.92
		High	1980.00	8.01
	16QAM	Low	1945.00	8.04
		Middle	1962.50	7.96
		High	1980.00	8.00
	64QAM	Low	1945.00	8.04
		Middle	1962.50	7.95
		High	1980.00	7.99
	256QAM	Low	1945.00	8.06
		Middle	1962.50	7.96
		High	1980.00	8.03
3	QPSK	Low	1945.00	8.05
		Middle	1962.50	7.98
		High	1980.00	8.05
	16QAM	Low	1945.00	8.07
		Middle	1962.50	7.95
		High	1980.00	8.01
	64QAM	Low	1945.00	8.05
		Middle	1962.50	7.98
		High	1980.00	8.08
	256QAM	Low	1945.00	8.04
		Middle	1962.50	7.97
		High	1980.00	8.08

**B25 LTE 10 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1945.00	8.12
		Middle	1962.50	7.95
		High	1980.00	8.10
	16QAM	Low	1945.00	8.18
		Middle	1962.50	7.99
		High	1980.00	8.10
	64QAM	Low	1945.00	8.17
		Middle	1962.50	7.97
		High	1980.00	8.05
	256QAM	Low	1945.00	8.15
		Middle	1962.50	7.99
		High	1980.00	8.08
1	QPSK	Low	1945.00	8.07
		Middle	1962.50	8.00
		High	1980.00	8.12
	16QAM	Low	1945.00	8.19
		Middle	1962.50	7.98
		High	1980.00	8.04
	64QAM	Low	1945.00	8.15
		Middle	1962.50	7.99
		High	1980.00	8.05
	256QAM	Low	1945.00	8.18
		Middle	1962.50	8.00
		High	1980.00	8.10

2	QPSK	Low	1945.00	8.20
		Middle	1962.50	8.05
		High	1980.00	8.07
	16QAM	Low	1945.00	8.17
		Middle	1962.50	8.03
		High	1980.00	8.06
	64QAM	Low	1945.00	8.23
		Middle	1962.50	8.02
		High	1980.00	8.07
	256QAM	Low	1945.00	8.24
		Middle	1962.50	7.99
		High	1980.00	8.10
3	QPSK	Low	1945.00	8.24
		Middle	1962.50	8.04
		High	1980.00	8.12
	16QAM	Low	1945.00	8.23
		Middle	1962.50	8.02
		High	1980.00	8.11
	64QAM	Low	1945.00	8.22
		Middle	1962.50	8.05
		High	1980.00	8.10
	256QAM	Low	1945.00	8.18
		Middle	1962.50	8.04
		High	1980.00	8.11

**B25 LTE 15 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1947.50	8.01
		Middle	1962.50	7.88
		High	1977.50	7.91
	16QAM	Low	1947.50	8.03
		Middle	1962.50	7.87
		High	1977.50	7.92
	64QAM	Low	1947.50	7.98
		Middle	1962.50	7.85
		High	1977.50	7.90
	256QAM	Low	1947.50	8.00
		Middle	1962.50	7.85
		High	1977.50	7.90
1	QPSK	Low	1947.50	8.03
		Middle	1962.50	7.86
		High	1977.50	7.88
	16QAM	Low	1947.50	7.99
		Middle	1962.50	7.85
		High	1977.50	7.91
	64QAM	Low	1947.50	8.04
		Middle	1962.50	7.82
		High	1977.50	7.87
	256QAM	Low	1947.50	8.00
		Middle	1962.50	7.80
		High	1977.50	7.87

2	QPSK	Low	1947.50	8.02
		Middle	1962.50	7.89
		High	1977.50	7.92
	16QAM	Low	1947.50	8.04
		Middle	1962.50	7.89
		High	1977.50	7.94
	64QAM	Low	1947.50	7.99
		Middle	1962.50	7.87
		High	1977.50	7.89
	256QAM	Low	1947.50	8.03
		Middle	1962.50	7.86
		High	1977.50	7.90
3	QPSK	Low	1947.50	8.02
		Middle	1962.50	7.91
		High	1977.50	7.95
	16QAM	Low	1947.50	8.02
		Middle	1962.50	7.90
		High	1977.50	7.95
	64QAM	Low	1947.50	8.08
		Middle	1962.50	7.87
		High	1977.50	7.91
	256QAM	Low	1947.50	8.08
		Middle	1962.50	7.89
		High	1977.50	7.92

**B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1950.00	8.01
		Middle	1962.50	7.88
		High	1975.00	7.95
	16QAM	Low	1950.00	8.04
		Middle	1962.50	7.86
		High	1975.00	7.95
	64QAM	Low	1950.00	7.99
		Middle	1962.50	7.86
		High	1975.00	7.94
	256QAM	Low	1950.00	7.99
		Middle	1962.50	7.87
		High	1975.00	7.95
1	QPSK	Low	1950.00	8.07
		Middle	1962.50	7.88
		High	1975.00	7.91
	16QAM	Low	1950.00	8.08
		Middle	1962.50	7.85
		High	1975.00	7.91
	64QAM	Low	1950.00	8.03
		Middle	1962.50	7.87
		High	1975.00	7.91
	256QAM	Low	1950.00	8.01
		Middle	1962.50	7.85
		High	1975.00	7.91

2	QPSK	Low	1950.00	8.04
		Middle	1962.50	7.89
		High	1975.00	7.93
	16QAM	Low	1950.00	8.02
		Middle	1962.50	7.87
		High	1975.00	7.97
	64QAM	Low	1950.00	8.03
		Middle	1962.50	7.88
		High	1975.00	7.91
	256QAM	Low	1950.00	8.05
		Middle	1962.50	7.88
		High	1975.00	7.91
3	QPSK	Low	1950.00	8.02
		Middle	1962.50	7.87
		High	1975.00	7.96
	16QAM	Low	1950.00	8.06
		Middle	1962.50	7.89
		High	1975.00	7.95
	64QAM	Low	1950.00	8.04
		Middle	1962.50	7.88
		High	1975.00	7.94
	256QAM	Low	1950.00	8.05
		Middle	1962.50	7.90
		High	1975.00	7.92



**B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1950.00	8.13
		Middle	1962.50	7.90
		High	1975.00	7.97
	16QAM	Low	1950.00	8.13
		Middle	1962.50	7.93
		High	1975.00	8.00
	64QAM	Low	1950.00	8.14
		Middle	1962.50	7.93
		High	1975.00	7.96
	256QAM	Low	1950.00	8.10
		Middle	1962.50	7.93
		High	1975.00	7.98
1	QPSK	Low	1950.00	8.09
		Middle	1962.50	7.96
		High	1975.00	7.97
	16QAM	Low	1950.00	8.15
		Middle	1962.50	7.93
		High	1975.00	7.94
	64QAM	Low	1950.00	8.06
		Middle	1962.50	7.92
		High	1975.00	7.91
	256QAM	Low	1950.00	8.09
		Middle	1962.50	7.94
		High	1975.00	7.91

2	QPSK	Low	1950.00	8.12
		Middle	1962.50	7.94
		High	1975.00	7.98
	16QAM	Low	1950.00	8.16
		Middle	1962.50	7.94
		High	1975.00	8.01
	64QAM	Low	1950.00	8.12
		Middle	1962.50	7.94
		High	1975.00	7.98
	256QAM	Low	1950.00	8.12
		Middle	1962.50	7.94
		High	1975.00	7.98
3	QPSK	Low	1950.00	8.07
		Middle	1962.50	7.92
		High	1975.00	8.02
	16QAM	Low	1950.00	8.15
		Middle	1962.50	7.95
		High	1975.00	7.99
	64QAM	Low	1950.00	8.10
		Middle	1962.50	7.93
		High	1975.00	8.02
	256QAM	Low	1950.00	8.12
		Middle	1962.50	7.92
		High	1975.00	8.02

**B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1950.00	8.14
		Middle	1962.50	7.97
		High	1975.00	8.08
	16QAM	Low	1950.00	8.20
		Middle	1962.50	7.98
		High	1975.00	8.06
	64QAM	Low	1950.00	8.19
		Middle	1962.50	7.99
		High	1975.00	8.13
	256QAM	Low	1950.00	8.16
		Middle	1962.50	7.99
		High	1975.00	8.10
1	QPSK	Low	1950.00	8.21
		Middle	1962.50	7.90
		High	1975.00	8.03
	16QAM	Low	1950.00	8.16
		Middle	1962.50	7.96
		High	1975.00	8.03
	64QAM	Low	1950.00	8.19
		Middle	1962.50	7.92
		High	1975.00	7.98
	256QAM	Low	1950.00	8.21
		Middle	1962.50	7.92
		High	1975.00	8.01

2	QPSK	Low	1950.00	8.16
		Middle	1962.50	7.99
		High	1975.00	8.09
	16QAM	Low	1950.00	8.19
		Middle	1962.50	8.03
		High	1975.00	8.12
	64QAM	Low	1950.00	8.14
		Middle	1962.50	8.00
		High	1975.00	8.11
	256QAM	Low	1950.00	8.13
		Middle	1962.50	7.97
		High	1975.00	8.08
3	QPSK	Low	1950.00	8.15
		Middle	1962.50	7.99
		High	1975.00	8.09
	16QAM	Low	1950.00	8.19
		Middle	1962.50	8.02
		High	1975.00	8.10
	64QAM	Low	1950.00	8.16
		Middle	1962.50	7.98
		High	1975.00	8.06
	256QAM	Low	1950.00	8.17
		Middle	1962.50	8.00
		High	1975.00	8.08

**B66 LTE 5 MHz 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	2117.50	8.32
		Middle	2145.00	8.30
		High	2172.50	7.93
	16QAM	Low	2117.50	7.89
		Middle	2145.00	7.91
		High	2172.50	7.89
	64QAM	Low	2117.50	7.95
		Middle	2145.00	7.93
		High	2172.50	7.93
	256QAM	Low	2117.50	7.98
		Middle	2145.00	7.91
		High	2172.50	7.93
1	QPSK	Low	2117.50	7.95
		Middle	2145.00	8.16
		High	2172.50	8.30
	16QAM	Low	2117.50	7.90
		Middle	2145.00	7.91
		High	2172.50	7.87
	64QAM	Low	2117.50	7.94
		Middle	2145.00	7.95
		High	2172.50	7.89
	256QAM	Low	2117.50	7.92
		Middle	2145.00	7.93
		High	2172.50	7.86

2	QPSK	Low	2117.50	7.92
		Middle	2145.00	8.04
		High	2172.50	7.88
	16QAM	Low	2117.50	7.92
		Middle	2145.00	7.94
		High	2172.50	7.89
	64QAM	Low	2117.50	7.93
		Middle	2145.00	7.94
		High	2172.50	7.90
	256QAM	Low	2117.50	7.94
		Middle	2145.00	7.93
		High	2172.50	7.89
3	QPSK	Low	2117.50	7.92
		Middle	2145.00	8.28
		High	2172.50	7.91
	16QAM	Low	2117.50	8.14
		Middle	2145.00	7.91
		High	2172.50	7.88
	64QAM	Low	2117.50	7.94
		Middle	2145.00	7.92
		High	2172.50	7.91
	256QAM	Low	2117.50	7.88
		Middle	2145.00	7.90
		High	2172.50	7.91

**B66 LTE 5 MHz 1 Carrier + B66 LTE 10 MHz & NB-IoT 1 Carrier [2 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	2117.50	8.02
		Middle	2145.00	8.01
		High	2172.50	7.97
	16QAM	Low	2117.50	7.99
		Middle	2145.00	7.99
		High	2172.50	7.97
	64QAM	Low	2117.50	8.03
		Middle	2145.00	8.00
		High	2172.50	8.01
	256QAM	Low	2117.50	8.02
		Middle	2145.00	7.98
		High	2172.50	8.02
1	QPSK	Low	2117.50	8.00
		Middle	2145.00	8.01
		High	2172.50	7.98
	16QAM	Low	2117.50	8.03
		Middle	2145.00	7.97
		High	2172.50	7.98
	64QAM	Low	2117.50	8.02
		Middle	2145.00	7.97
		High	2172.50	7.95
	256QAM	Low	2117.50	8.00
		Middle	2145.00	8.00
		High	2172.50	7.97

2	QPSK	Low	2117.50	8.02
		Middle	2145.00	8.03
		High	2172.50	8.31
	16QAM	Low	2117.50	7.93
		Middle	2145.00	7.98
		High	2172.50	7.99
	64QAM	Low	2117.50	8.23
		Middle	2145.00	8.01
		High	2172.50	7.96
	256QAM	Low	2117.50	8.23
		Middle	2145.00	8.00
		High	2172.50	8.03
3	QPSK	Low	2117.50	8.05
		Middle	2145.00	8.01
		High	2172.50	8.17
	16QAM	Low	2117.50	8.03
		Middle	2145.00	8.01
		High	2172.50	7.96
	64QAM	Low	2117.50	7.98
		Middle	2145.00	8.05
		High	2172.50	8.00
	256QAM	Low	2117.50	7.98
		Middle	2145.00	8.05
		High	2172.50	7.98



**B66 LTE 5 MHz 1 Carrier + B66 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	2122.50	7.87
		Middle	2145.00	7.87
		High	2167.50	7.89
	16QAM	Low	2122.50	7.88
		Middle	2145.00	7.94
		High	2167.50	7.91
	64QAM	Low	2122.50	7.88
		Middle	2145.00	7.86
		High	2167.50	7.88
	256QAM	Low	2122.50	7.87
		Middle	2145.00	7.96
		High	2167.50	7.92
1	QPSK	Low	2122.50	7.93
		Middle	2145.00	7.91
		High	2167.50	7.89
	16QAM	Low	2122.50	7.92
		Middle	2145.00	7.90
		High	2167.50	7.87
	64QAM	Low	2122.50	7.93
		Middle	2145.00	7.93
		High	2167.50	7.86
	256QAM	Low	2122.50	7.94
		Middle	2145.00	7.91
		High	2167.50	7.86

2	QPSK	Low	2122.50	7.92
		Middle	2145.00	7.91
		High	2167.50	7.87
	16QAM	Low	2122.50	7.91
		Middle	2145.00	7.89
		High	2167.50	7.87
	64QAM	Low	2122.50	7.91
		Middle	2145.00	7.91
		High	2167.50	7.86
	256QAM	Low	2122.50	7.92
		Middle	2145.00	7.92
		High	2167.50	7.86
3	QPSK	Low	2122.50	7.94
		Middle	2145.00	7.89
		High	2167.50	7.91
	16QAM	Low	2122.50	7.93
		Middle	2145.00	7.89
		High	2167.50	7.89
	64QAM	Low	2122.50	7.93
		Middle	2145.00	7.89
		High	2167.50	7.89
	256QAM	Low	2122.50	7.96
		Middle	2145.00	7.89
		High	2167.50	7.92

**B66 LTE 5 MHz 1 Carrier + B66 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	2122.50	7.94
		Middle	2145.00	7.97
		High	2167.50	7.97
	16QAM	Low	2122.50	7.95
		Middle	2145.00	7.98
		High	2167.50	8.02
	64QAM	Low	2122.50	7.97
		Middle	2145.00	8.00
		High	2167.50	7.97
	256QAM	Low	2122.50	7.95
		Middle	2145.00	7.97
		High	2167.50	7.98
1	QPSK	Low	2122.50	8.01
		Middle	2145.00	7.99
		High	2167.50	7.97
	16QAM	Low	2122.50	8.05
		Middle	2145.00	7.99
		High	2167.50	8.00
	64QAM	Low	2122.50	8.01
		Middle	2145.00	8.00
		High	2167.50	8.00
	256QAM	Low	2122.50	8.02
		Middle	2145.00	8.00
		High	2167.50	7.99

2	QPSK	Low	2122.50	7.98
		Middle	2145.00	8.01
		High	2167.50	7.96
	16QAM	Low	2122.50	7.98
		Middle	2145.00	8.00
		High	2167.50	7.97
	64QAM	Low	2122.50	7.97
		Middle	2145.00	8.03
		High	2167.50	7.96
	256QAM	Low	2122.50	8.00
		Middle	2145.00	8.02
		High	2167.50	7.98
3	QPSK	Low	2122.50	8.00
		Middle	2145.00	7.99
		High	2167.50	8.03
	16QAM	Low	2122.50	7.99
		Middle	2145.00	8.00
		High	2167.50	8.00
	64QAM	Low	2122.50	8.02
		Middle	2145.00	8.00
		High	2167.50	8.04
	256QAM	Low	2122.50	8.02
		Middle	2145.00	7.99
		High	2167.50	8.00

**B66 LTE 10 MHz 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	2120.00	7.85
		Middle	2145.00	7.91
		High	2170.00	7.85
	16QAM	Low	2120.00	7.88
		Middle	2145.00	7.90
		High	2170.00	7.86
	64QAM	Low	2120.00	7.88
		Middle	2145.00	7.90
		High	2170.00	7.87
	256QAM	Low	2120.00	7.88
		Middle	2145.00	7.90
		High	2170.00	7.89
1	QPSK	Low	2120.00	7.86
		Middle	2145.00	7.90
		High	2170.00	7.93
	16QAM	Low	2120.00	7.84
		Middle	2145.00	7.90
		High	2170.00	7.93
	64QAM	Low	2120.00	7.87
		Middle	2145.00	7.91
		High	2170.00	7.93
	256QAM	Low	2120.00	7.90
		Middle	2145.00	7.91
		High	2170.00	7.93

2	QPSK	Low	2120.00	7.88
		Middle	2145.00	7.93
		High	2170.00	7.90
	16QAM	Low	2120.00	7.89
		Middle	2145.00	7.90
		High	2170.00	7.90
	64QAM	Low	2120.00	7.89
		Middle	2145.00	7.89
		High	2170.00	7.89
	256QAM	Low	2120.00	7.91
		Middle	2145.00	7.92
		High	2170.00	7.88
3	QPSK	Low	2120.00	7.83
		Middle	2145.00	7.89
		High	2170.00	7.89
	16QAM	Low	2120.00	7.86
		Middle	2145.00	7.91
		High	2170.00	7.89
	64QAM	Low	2120.00	7.88
		Middle	2145.00	7.90
		High	2170.00	7.89
	256QAM	Low	2120.00	7.90
		Middle	2145.00	7.91
		High	2170.00	7.89

**B66 LTE 10 MHz & NB-IoT 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	2120.00	7.93
		Middle	2145.00	7.97
		High	2170.00	7.93
	16QAM	Low	2120.00	7.96
		Middle	2145.00	7.99
		High	2170.00	7.92
	64QAM	Low	2120.00	7.93
		Middle	2145.00	7.99
		High	2170.00	7.94
	256QAM	Low	2120.00	7.94
		Middle	2145.00	8.01
		High	2170.00	7.93
1	QPSK	Low	2120.00	7.94
		Middle	2145.00	8.01
		High	2170.00	7.94
	16QAM	Low	2120.00	7.96
		Middle	2145.00	7.96
		High	2170.00	7.96
	64QAM	Low	2120.00	7.96
		Middle	2145.00	8.00
		High	2170.00	7.93
	256QAM	Low	2120.00	7.93
		Middle	2145.00	8.00
		High	2170.00	7.96

2	QPSK	Low	2120.00	7.99
		Middle	2145.00	8.01
		High	2170.00	7.98
	16QAM	Low	2120.00	7.97
		Middle	2145.00	7.97
		High	2170.00	7.95
	64QAM	Low	2120.00	7.96
		Middle	2145.00	8.03
		High	2170.00	7.97
	256QAM	Low	2120.00	7.96
		Middle	2145.00	8.01
		High	2170.00	7.97
3	QPSK	Low	2120.00	7.93
		Middle	2145.00	7.99
		High	2170.00	7.94
	16QAM	Low	2120.00	7.95
		Middle	2145.00	8.00
		High	2170.00	7.96
	64QAM	Low	2120.00	7.94
		Middle	2145.00	7.98
		High	2170.00	7.98
	256QAM	Low	2120.00	7.94
		Middle	2145.00	8.00
		High	2170.00	7.97



**B66 LTE 10 MHz & NB-IoT 1 Carrier + B66 LTE 10 MHz & NB-IoT 1 Carrier [2 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	2120.00	8.00
		Middle	2145.00	8.11
		High	2170.00	8.04
	16QAM	Low	2120.00	8.05
		Middle	2145.00	8.08
		High	2170.00	8.05
	64QAM	Low	2120.00	8.03
		Middle	2145.00	8.07
		High	2170.00	8.10
	256QAM	Low	2120.00	8.06
		Middle	2145.00	8.08
		High	2170.00	8.06
1	QPSK	Low	2120.00	8.08
		Middle	2145.00	8.07
		High	2170.00	8.05
	16QAM	Low	2120.00	8.01
		Middle	2145.00	8.12
		High	2170.00	8.07
	64QAM	Low	2120.00	8.02
		Middle	2145.00	8.07
		High	2170.00	8.08
	256QAM	Low	2120.00	8.09
		Middle	2145.00	8.06
		High	2170.00	8.06

2	QPSK	Low	2120.00	8.05
		Middle	2145.00	8.05
		High	2170.00	8.06
	16QAM	Low	2120.00	8.04
		Middle	2145.00	8.06
		High	2170.00	8.08
	64QAM	Low	2120.00	8.02
		Middle	2145.00	8.01
		High	2170.00	8.04
	256QAM	Low	2120.00	8.01
		Middle	2145.00	8.06
		High	2170.00	8.02
3	QPSK	Low	2120.00	8.07
		Middle	2145.00	8.07
		High	2170.00	8.06
	16QAM	Low	2120.00	8.14
		Middle	2145.00	8.10
		High	2170.00	8.06
	64QAM	Low	2120.00	8.08
		Middle	2145.00	8.07
		High	2170.00	8.04
	256QAM	Low	2120.00	8.07
		Middle	2145.00	8.09
		High	2170.00	8.04

**B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1945.00	8.01
		Middle	1962.50	7.80
		High	1980.00	7.89
	16QAM	Low	1945.00	8.09
		Middle	1962.50	7.85
		High	1980.00	7.91
	64QAM	Low	1945.00	8.04
		Middle	1962.50	7.80
		High	1980.00	7.89
	256QAM	Low	1945.00	8.03
		Middle	1962.50	7.81
		High	1980.00	7.88
1	QPSK	Low	1945.00	7.99
		Middle	1962.50	7.83
		High	1980.00	7.88
	16QAM	Low	1945.00	8.03
		Middle	1962.50	7.83
		High	1980.00	7.88
	64QAM	Low	1945.00	8.02
		Middle	1962.50	7.82
		High	1980.00	7.87
	256QAM	Low	1945.00	7.99
		Middle	1962.50	7.83
		High	1980.00	7.87

2	QPSK	Low	1945.00	8.06
		Middle	1962.50	7.89
		High	1980.00	7.94
	16QAM	Low	1945.00	8.04
		Middle	1962.50	7.87
		High	1980.00	7.93
	64QAM	Low	1945.00	8.03
		Middle	1962.50	7.86
		High	1980.00	7.93
	256QAM	Low	1945.00	8.02
		Middle	1962.50	7.86
		High	1980.00	7.90
3	QPSK	Low	1945.00	8.09
		Middle	1962.50	7.88
		High	1980.00	7.91
	16QAM	Low	1945.00	8.06
		Middle	1962.50	7.90
		High	1980.00	7.91
	64QAM	Low	1945.00	8.08
		Middle	1962.50	7.88
		High	1980.00	7.89
	256QAM	Low	1945.00	8.07
		Middle	1962.50	7.90
		High	1980.00	7.91

**B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1945.00	8.06
		Middle	1962.50	7.90
		High	1980.00	7.92
	16QAM	Low	1945.00	8.11
		Middle	1962.50	7.92
		High	1980.00	8.00
	64QAM	Low	1945.00	8.06
		Middle	1962.50	7.89
		High	1980.00	7.94
	256QAM	Low	1945.00	8.09
		Middle	1962.50	7.90
		High	1980.00	7.94
1	QPSK	Low	1945.00	8.11
		Middle	1962.50	7.89
		High	1980.00	7.97
	16QAM	Low	1945.00	8.07
		Middle	1962.50	7.87
		High	1980.00	7.93
	64QAM	Low	1945.00	8.11
		Middle	1962.50	7.90
		High	1980.00	8.00
	256QAM	Low	1945.00	8.09
		Middle	1962.50	7.93
		High	1980.00	8.00

2	QPSK	Low	1945.00	8.11
		Middle	1962.50	7.96
		High	1980.00	8.02
	16QAM	Low	1945.00	8.12
		Middle	1962.50	7.95
		High	1980.00	8.03
	64QAM	Low	1945.00	8.13
		Middle	1962.50	7.97
		High	1980.00	8.06
	256QAM	Low	1945.00	8.10
		Middle	1962.50	7.99
		High	1980.00	8.06
3	QPSK	Low	1945.00	8.13
		Middle	1962.50	7.88
		High	1980.00	8.02
	16QAM	Low	1945.00	8.17
		Middle	1962.50	7.97
		High	1980.00	8.02
	64QAM	Low	1945.00	8.13
		Middle	1962.50	7.90
		High	1980.00	7.99
	256QAM	Low	1945.00	8.16
		Middle	1962.50	7.92
		High	1980.00	8.04

**B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1952.50	8.11
		Middle	1962.50	7.89
		High	1972.50	7.91
	16QAM	Low	1952.50	8.10
		Middle	1962.50	7.89
		High	1972.50	7.94
	64QAM	Low	1952.50	8.11
		Middle	1962.50	7.87
		High	1972.50	7.92
	256QAM	Low	1952.50	8.18
		Middle	1962.50	7.86
		High	1972.50	7.93
1	QPSK	Low	1952.50	8.10
		Middle	1962.50	7.87
		High	1972.50	7.93
	16QAM	Low	1952.50	8.13
		Middle	1962.50	7.92
		High	1972.50	7.90
	64QAM	Low	1952.50	8.12
		Middle	1962.50	7.85
		High	1972.50	7.87
	256QAM	Low	1952.50	8.06
		Middle	1962.50	7.85
		High	1972.50	7.89

2	QPSK	Low	1952.50	8.10
		Middle	1962.50	7.89
		High	1972.50	7.96
	16QAM	Low	1952.50	8.16
		Middle	1962.50	7.92
		High	1972.50	7.95
	64QAM	Low	1952.50	8.10
		Middle	1962.50	7.90
		High	1972.50	7.91
	256QAM	Low	1952.50	8.07
		Middle	1962.50	7.90
		High	1972.50	7.92
3	QPSK	Low	1952.50	8.15
		Middle	1962.50	7.90
		High	1972.50	7.94
	16QAM	Low	1952.50	8.13
		Middle	1962.50	7.93
		High	1972.50	7.95
	64QAM	Low	1952.50	8.13
		Middle	1962.50	7.91
		High	1972.50	7.92
	256QAM	Low	1952.50	8.13
		Middle	1962.50	7.90
		High	1972.50	7.94



**B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier]**

Ant.	Modulation	Channel	Frequency (MHz)	0.1 % PAPR (dB)
0	QPSK	Low	1952.50	8.17
		Middle	1962.50	7.89
		High	1972.50	8.00
	16QAM	Low	1952.50	8.15
		Middle	1962.50	7.95
		High	1972.50	7.97
	64QAM	Low	1952.50	8.16
		Middle	1962.50	7.86
		High	1972.50	7.99
	256QAM	Low	1952.50	8.15
		Middle	1962.50	7.83
		High	1972.50	8.00
1	QPSK	Low	1952.50	8.17
		Middle	1962.50	7.93
		High	1972.50	7.93
	16QAM	Low	1952.50	8.16
		Middle	1962.50	7.93
		High	1972.50	7.97
	64QAM	Low	1952.50	8.17
		Middle	1962.50	7.88
		High	1972.50	7.95
	256QAM	Low	1952.50	8.16
		Middle	1962.50	7.91
		High	1972.50	7.97

2	QPSK	Low	1952.50	8.10
		Middle	1962.50	7.95
		High	1972.50	7.99
	16QAM	Low	1952.50	8.18
		Middle	1962.50	7.97
		High	1972.50	8.00
	64QAM	Low	1952.50	8.10
		Middle	1962.50	7.93
		High	1972.50	7.95
	256QAM	Low	1952.50	8.08
		Middle	1962.50	7.96
		High	1972.50	8.00
3	QPSK	Low	1952.50	8.11
		Middle	1962.50	7.96
		High	1972.50	7.99
	16QAM	Low	1952.50	8.16
		Middle	1962.50	7.98
		High	1972.50	8.05
	64QAM	Low	1952.50	8.15
		Middle	1962.50	8.00
		High	1972.50	8.00
	256QAM	Low	1952.50	8.13
		Middle	1962.50	8.00
		High	1972.50	8.00

## Tabular data of Non-Contiguous PAPR

**B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	B25 LTE 5 MHz		B25 LTE 20 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1932.50	8.30	1985.00	7.83
	16QAM	1932.50	8.26	1985.00	7.91
	64QAM	1932.50	8.27	1985.00	7.89
	256QAM	1932.50	8.24	1985.00	7.85
1	QPSK	1932.50	8.24	1985.00	7.95
	16QAM	1932.50	8.17	1985.00	7.93
	64QAM	1932.50	8.30	1985.00	7.88
	256QAM	1932.50	8.26	1985.00	7.92
2	QPSK	1932.50	8.31	1985.00	7.91
	16QAM	1932.50	8.25	1985.00	7.96
	64QAM	1932.50	8.30	1985.00	7.99
	256QAM	1932.50	8.24	1985.00	7.95
3	QPSK	1932.50	8.31	1985.00	7.99
	16QAM	1932.50	8.18	1985.00	7.95
	64QAM	1932.50	8.32	1985.00	7.90
	256QAM	1932.50	8.24	1985.00	7.96

**B25 LTE 10 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	B25 LTE 10 MHz		B25 LTE 20 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1935.00	8.27	1985.00	8.07
	16QAM	1935.00	8.33	1985.00	8.06
	64QAM	1935.00	8.28	1985.00	8.02
	256QAM	1935.00	8.24	1985.00	8.01
1	QPSK	1935.00	8.24	1985.00	8.07
	16QAM	1935.00	8.32	1985.00	8.05
	64QAM	1935.00	8.23	1985.00	8.09
	256QAM	1935.00	8.30	1985.00	8.04
2	QPSK	1935.00	8.28	1985.00	8.07
	16QAM	1935.00	8.25	1985.00	8.06
	64QAM	1935.00	8.23	1985.00	8.07
	256QAM	1935.00	8.24	1985.00	8.13
3	QPSK	1935.00	8.16	1985.00	8.10
	16QAM	1935.00	8.23	1985.00	8.14
	64QAM	1935.00	8.24	1985.00	8.07
	256QAM	1935.00	8.20	1985.00	8.13

**B25 LTE 10 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	B25 LTE 10 MHz & NB-IoT		B25 LTE 20 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1935.00	8.24	1985.00	8.07
	16QAM	1935.00	8.39	1985.00	8.04
	64QAM	1935.00	8.24	1985.00	8.06
	256QAM	1935.00	8.25	1985.00	8.08
1	QPSK	1935.00	8.27	1985.00	8.12
	16QAM	1935.00	8.37	1985.00	8.05
	64QAM	1935.00	8.27	1985.00	8.12
	256QAM	1935.00	8.23	1985.00	8.08
2	QPSK	1935.00	8.25	1985.00	8.13
	16QAM	1935.00	8.38	1985.00	8.08
	64QAM	1935.00	8.30	1985.00	8.08
	256QAM	1935.00	8.27	1985.00	8.12
3	QPSK	1935.00	8.22	1985.00	8.11
	16QAM	1935.00	8.42	1985.00	8.12
	64QAM	1935.00	8.24	1985.00	8.14
	256QAM	1935.00	8.26	1985.00	8.12

**B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 10 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	B25 LTE 20 MHz & NB-IoT		B25 LTE 10 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1940.00	8.12	1990.00	8.14
	16QAM	1940.00	8.15	1990.00	8.24
	64QAM	1940.00	8.17	1990.00	8.15
	256QAM	1940.00	8.17	1990.00	8.14
1	QPSK	1940.00	8.16	1990.00	8.15
	16QAM	1940.00	8.16	1990.00	8.24
	64QAM	1940.00	8.10	1990.00	8.14
	256QAM	1940.00	8.12	1990.00	8.14
2	QPSK	1940.00	8.09	1990.00	8.16
	16QAM	1940.00	8.08	1990.00	8.27
	64QAM	1940.00	8.13	1990.00	8.13
	256QAM	1940.00	8.10	1990.00	8.14
3	QPSK	1940.00	8.14	1990.00	8.14
	16QAM	1940.00	8.12	1990.00	8.27
	64QAM	1940.00	8.11	1990.00	8.17
	256QAM	1940.00	8.15	1990.00	8.15

**B25 LTE 10 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier]**

Ant.	Modulation	B25 LTE 10 MHz & NB-IoT		B25 LTE 20 MHz & NB-IoT	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1935.00	8.21	1985.00	8.10
	16QAM	1935.00	8.36	1985.00	8.07
	64QAM	1935.00	8.20	1985.00	8.07
	256QAM	1935.00	8.22	1985.00	8.12
1	QPSK	1935.00	8.22	1985.00	8.11
	16QAM	1935.00	8.36	1985.00	8.09
	64QAM	1935.00	8.22	1985.00	8.13
	256QAM	1935.00	8.21	1985.00	8.13
2	QPSK	1935.00	8.22	1985.00	8.15
	16QAM	1935.00	8.34	1985.00	8.13
	64QAM	1935.00	8.18	1985.00	8.18
	256QAM	1935.00	8.22	1985.00	8.18
3	QPSK	1935.00	8.23	1985.00	8.17
	16QAM	1935.00	8.35	1985.00	8.11
	64QAM	1935.00	8.20	1985.00	8.10
	256QAM	1935.00	8.17	1985.00	8.13

**B25 LTE 15 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	B25 LTE 15 MHz		B25 LTE 20 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1937.50	8.16	1985.00	8.16
	16QAM	1937.50	8.24	1985.00	8.11
	64QAM	1937.50	8.17	1985.00	8.17
	256QAM	1937.50	8.18	1985.00	8.13
1	QPSK	1937.50	8.20	1985.00	8.16
	16QAM	1937.50	8.20	1985.00	8.11
	64QAM	1937.50	8.18	1985.00	8.16
	256QAM	1937.50	8.15	1985.00	8.09
2	QPSK	1937.50	8.12	1985.00	8.21
	16QAM	1937.50	8.23	1985.00	8.16
	64QAM	1937.50	8.15	1985.00	8.16
	256QAM	1937.50	8.20	1985.00	8.18
3	QPSK	1937.50	8.16	1985.00	8.21
	16QAM	1937.50	8.22	1985.00	8.14
	64QAM	1937.50	8.15	1985.00	8.15
	256QAM	1937.50	8.23	1985.00	8.16



**B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	B25 LTE 20 MHz		B25 LTE 20 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1940.00	8.08	1985.00	8.20
	16QAM	1940.00	8.31	1985.00	8.25
	64QAM	1940.00	8.18	1985.00	8.26
	256QAM	1940.00	8.12	1985.00	8.28
1	QPSK	1940.00	8.19	1985.00	8.21
	16QAM	1940.00	8.27	1985.00	8.23
	64QAM	1940.00	8.10	1985.00	8.24
	256QAM	1940.00	8.12	1985.00	8.23
2	QPSK	1940.00	8.12	1985.00	8.26
	16QAM	1940.00	8.23	1985.00	8.19
	64QAM	1940.00	8.08	1985.00	8.24
	256QAM	1940.00	8.14	1985.00	8.24
3	QPSK	1940.00	8.19	1985.00	8.26
	16QAM	1940.00	8.15	1985.00	8.19
	64QAM	1940.00	8.11	1985.00	8.26
	256QAM	1940.00	8.11	1985.00	8.26

**B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	B25 LTE 20 MHz & NB-IoT		B25 LTE 20 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1940.00	8.23	1985.00	8.22
	16QAM	1940.00	8.24	1985.00	8.18
	64QAM	1940.00	8.26	1985.00	8.22
	256QAM	1940.00	8.26	1985.00	8.18
1	QPSK	1940.00	8.21	1985.00	8.28
	16QAM	1940.00	8.29	1985.00	8.19
	64QAM	1940.00	8.23	1985.00	8.22
	256QAM	1940.00	8.23	1985.00	8.24
2	QPSK	1940.00	8.22	1985.00	8.22
	16QAM	1940.00	8.22	1985.00	8.22
	64QAM	1940.00	8.21	1985.00	8.25
	256QAM	1940.00	8.19	1985.00	8.25
3	QPSK	1940.00	8.24	1985.00	8.26
	16QAM	1940.00	8.30	1985.00	8.23
	64QAM	1940.00	8.24	1985.00	8.24
	256QAM	1940.00	8.27	1985.00	8.24

**B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier]**

Ant.	Modulation	B25 LTE 20 MHz & NB-IoT		B25 LTE 20 MHz & NB-IoT	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1940.00	8.29	1985.00	8.23
	16QAM	1940.00	8.30	1985.00	8.19
	64QAM	1940.00	8.22	1985.00	8.26
	256QAM	1940.00	8.21	1985.00	8.27
1	QPSK	1940.00	8.22	1985.00	8.27
	16QAM	1940.00	8.28	1985.00	8.21
	64QAM	1940.00	8.17	1985.00	8.24
	256QAM	1940.00	8.19	1985.00	8.23
2	QPSK	1940.00	8.19	1985.00	8.22
	16QAM	1940.00	8.29	1985.00	8.22
	64QAM	1940.00	8.24	1985.00	8.25
	256QAM	1940.00	8.20	1985.00	8.23
3	QPSK	1940.00	8.20	1985.00	8.26
	16QAM	1940.00	8.27	1985.00	8.21
	64QAM	1940.00	8.18	1985.00	8.23
	256QAM	1940.00	8.21	1985.00	8.24

**B66 LTE 10 MHz 1 Carrier + B66 LTE 5 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	B66 LTE 10 MHz		B66 LTE 5 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	2115.00	8.02	2177.50	8.34
	16QAM	2115.00	7.97	2177.50	8.22
	64QAM	2115.00	8.04	2177.50	8.15
	256QAM	2115.00	8.01	2177.50	8.30
1	QPSK	2115.00	8.03	2177.50	8.29
	16QAM	2115.00	7.97	2177.50	8.24
	64QAM	2115.00	8.02	2177.50	8.16
	256QAM	2115.00	8.01	2177.50	8.29
2	QPSK	2115.00	8.04	2177.50	8.34
	16QAM	2115.00	8.01	2177.50	8.24
	64QAM	2115.00	8.01	2177.50	8.22
	256QAM	2115.00	8.05	2177.50	8.28
3	QPSK	2115.00	7.96	2177.50	8.35
	16QAM	2115.00	7.91	2177.50	8.20
	64QAM	2115.00	7.96	2177.50	8.16
	256QAM	2115.00	8.02	2177.50	8.34

**B66 LTE 5 MHz 1 Carrier + B66 LTE 10 MHz & NB-IoT 1 Carrier [2 Carrier]**

Ant.	Modulation	B66 LTE 5 MHz		B66 LTE 10 MHz & NB-IoT	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	2112.50	8.35	2175.00	8.01
	16QAM	2112.50	8.26	2175.00	8.05
	64QAM	2112.50	8.32	2175.00	8.04
	256QAM	2112.50	8.30	2175.00	8.04
1	QPSK	2112.50	8.33	2175.00	8.10
	16QAM	2112.50	8.19	2175.00	8.03
	64QAM	2112.50	8.32	2175.00	8.05
	256QAM	2112.50	8.22	2175.00	8.06
2	QPSK	2112.50	8.34	2175.00	8.05
	16QAM	2112.50	8.28	2175.00	8.01
	64QAM	2112.50	8.29	2175.00	8.13
	256QAM	2112.50	8.28	2175.00	8.09
3	QPSK	2112.50	8.25	2175.00	8.11
	16QAM	2112.50	8.26	2175.00	8.06
	64QAM	2112.50	8.32	2175.00	8.06
	256QAM	2112.50	8.26	2175.00	8.11

**B66 LTE 5 MHz 1 Carrier + B66 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	B66 LTE 5 MHz		B66 LTE 20 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	2112.50	8.23	2170.00	7.86
	16QAM	2112.50	8.25	2170.00	7.85
	64QAM	2112.50	8.28	2170.00	7.84
	256QAM	2112.50	8.29	2170.00	7.81
1	QPSK	2112.50	8.33	2170.00	7.92
	16QAM	2112.50	8.27	2170.00	7.87
	64QAM	2112.50	8.27	2170.00	7.93
	256QAM	2112.50	8.28	2170.00	7.91
2	QPSK	2112.50	8.32	2170.00	7.85
	16QAM	2112.50	8.28	2170.00	7.81
	64QAM	2112.50	8.29	2170.00	7.86
	256QAM	2112.50	8.27	2170.00	7.85
3	QPSK	2112.50	8.25	2170.00	7.93
	16QAM	2112.50	8.26	2170.00	7.89
	64QAM	2112.50	8.25	2170.00	7.93
	256QAM	2112.50	8.29	2170.00	7.93

**B66 LTE 5 MHz 1 Carrier + B66 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier]**

Ant.	Modulation	B66 LTE 5 MHz		B66 LTE 20 MHz & NB-IoT	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	2112.50	8.30	2170.00	7.99
	16QAM	2112.50	8.21	2170.00	7.94
	64QAM	2112.50	8.32	2170.00	7.96
	256QAM	2112.50	8.32	2170.00	7.98
1	QPSK	2112.50	8.19	2170.00	7.98
	16QAM	2112.50	8.28	2170.00	7.97
	64QAM	2112.50	8.36	2170.00	8.06
	256QAM	2112.50	8.32	2170.00	8.05
2	QPSK	2112.50	8.28	2170.00	7.96
	16QAM	2112.50	8.26	2170.00	7.91
	64QAM	2112.50	8.26	2170.00	7.96
	256QAM	2112.50	8.29	2170.00	7.94
3	QPSK	2112.50	8.31	2170.00	8.04
	16QAM	2112.50	8.27	2170.00	8.01
	64QAM	2112.50	8.30	2170.00	8.04
	256QAM	2112.50	8.26	2170.00	8.00

**B66 LTE 10 MHz 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	B66 LTE 10 MHz		B66 LTE 10 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	2115.00	8.26	2175.00	8.18
	16QAM	2115.00	8.16	2175.00	8.12
	64QAM	2115.00	8.21	2175.00	8.19
	256QAM	2115.00	8.24	2175.00	8.21
1	QPSK	2115.00	8.23	2175.00	8.20
	16QAM	2115.00	8.13	2175.00	8.08
	64QAM	2115.00	8.17	2175.00	8.15
	256QAM	2115.00	8.20	2175.00	8.16
2	QPSK	2115.00	8.23	2175.00	8.17
	16QAM	2115.00	8.13	2175.00	8.10
	64QAM	2115.00	8.22	2175.00	8.15
	256QAM	2115.00	8.17	2175.00	8.22
3	QPSK	2115.00	8.18	2175.00	8.23
	16QAM	2115.00	8.13	2175.00	8.11
	64QAM	2115.00	8.15	2175.00	8.15
	256QAM	2115.00	8.14	2175.00	8.28



**B66 LTE 10 MHz & NB-IoT 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier]**

Ant.	Modulation	B66 LTE 10 MHz & NB-IoT		B66 LTE 10 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	2115.00	8.28	2175.00	8.16
	16QAM	2115.00	8.16	2175.00	8.11
	64QAM	2115.00	8.24	2175.00	8.22
	256QAM	2115.00	8.32	2175.00	8.26
1	QPSK	2115.00	8.28	2175.00	8.23
	16QAM	2115.00	8.23	2175.00	8.09
	64QAM	2115.00	8.23	2175.00	8.22
	256QAM	2115.00	8.23	2175.00	8.23
2	QPSK	2115.00	8.28	2175.00	8.27
	16QAM	2115.00	8.13	2175.00	8.11
	64QAM	2115.00	8.29	2175.00	8.23
	256QAM	2115.00	8.35	2175.00	8.26
3	QPSK	2115.00	8.22	2175.00	8.19
	16QAM	2115.00	8.18	2175.00	8.14
	64QAM	2115.00	8.29	2175.00	8.28
	256QAM	2115.00	8.29	2175.00	8.28

**B66 LTE 10 MHz & NB-IoT 1 Carrier + B66 LTE 10 MHz & NB-IoT 1 Carrier [2 Carrier]**

Ant.	Modulation	B25 DSS 10 MHz		B25 LTE 5 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	2115.00	8.18	2175.00	8.22
	16QAM	2115.00	8.13	2175.00	8.16
	64QAM	2115.00	8.10	2175.00	8.23
	256QAM	2115.00	8.18	2175.00	8.21
1	QPSK	2115.00	8.22	2175.00	8.28
	16QAM	2115.00	8.20	2175.00	8.19
	64QAM	2115.00	8.21	2175.00	8.24
	256QAM	2115.00	8.19	2175.00	8.22
2	QPSK	2115.00	8.22	2175.00	8.21
	16QAM	2115.00	8.10	2175.00	8.19
	64QAM	2115.00	8.16	2175.00	8.25
	256QAM	2115.00	8.19	2175.00	8.19
3	QPSK	2115.00	8.15	2175.00	8.24
	16QAM	2115.00	8.11	2175.00	8.19
	64QAM	2115.00	8.13	2175.00	8.27
	256QAM	2115.00	8.15	2175.00	8.23

**B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] (1C+2C)**

Ant.	Modulation	B25 LTE 5 MHz		B25 LTE 5 MHz + B25 LTE 20 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1932.50	8.30	1982.50	7.89
	16QAM	1932.50	8.23	1982.50	7.86
	64QAM	1932.50	8.38	1982.50	7.85
	256QAM	1932.50	8.24	1982.50	7.88
1	QPSK	1932.50	8.27	1982.50	7.89
	16QAM	1932.50	8.19	1982.50	7.87
	64QAM	1932.50	8.25	1982.50	7.88
	256QAM	1932.50	8.27	1982.50	7.85
2	QPSK	1932.50	8.36	1982.50	7.92
	16QAM	1932.50	8.15	1982.50	7.95
	64QAM	1932.50	8.26	1982.50	7.92
	256QAM	1932.50	8.35	1982.50	7.96
3	QPSK	1932.50	8.31	1982.50	7.96
	16QAM	1932.50	8.17	1982.50	7.93
	64QAM	1932.50	8.22	1982.50	7.92
	256QAM	1932.50	8.23	1982.50	7.96

**B25 LTE 20 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier [3 Carrier] (2C+1C)**

Ant.	Modulation	B25 LTE 20 MHz + B25 LTE 5 MHz		B25 LTE 5 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1942.50	8.01	1992.50	8.23
	16QAM	1942.50	7.90	1992.50	8.21
	64QAM	1942.50	7.97	1992.50	8.23
	256QAM	1942.50	7.98	1992.50	8.29
1	QPSK	1942.50	7.94	1992.50	8.26
	16QAM	1942.50	7.94	1992.50	8.24
	64QAM	1942.50	7.94	1992.50	8.28
	256QAM	1942.50	7.94	1992.50	8.20
2	QPSK	1942.50	7.92	1992.50	8.22
	16QAM	1942.50	7.86	1992.50	8.20
	64QAM	1942.50	7.86	1992.50	8.27
	256QAM	1942.50	7.90	1992.50	8.26
3	QPSK	1942.50	7.92	1992.50	8.26
	16QAM	1942.50	7.90	1992.50	8.19
	64QAM	1942.50	7.94	1992.50	8.26
	256QAM	1942.50	7.86	1992.50	8.21

**B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (1C+2C)**

Ant.	Modulation	B25 LTE 5 MHz		B25 LTE 5 MHz + B25 LTE 20 MHz & NB-IoT	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1932.50	8.32	1982.50	8.01
	16QAM	1932.50	8.18	1982.50	8.00
	64QAM	1932.50	8.29	1982.50	8.02
	256QAM	1932.50	8.29	1982.50	8.00
1	QPSK	1932.50	8.30	1982.50	7.98
	16QAM	1932.50	8.20	1982.50	7.96
	64QAM	1932.50	8.22	1982.50	7.97
	256QAM	1932.50	8.23	1982.50	7.99
2	QPSK	1932.50	8.27	1982.50	8.01
	16QAM	1932.50	8.15	1982.50	8.02
	64QAM	1932.50	8.24	1982.50	8.00
	256QAM	1932.50	8.27	1982.50	8.03
3	QPSK	1932.50	8.28	1982.50	8.01
	16QAM	1932.50	8.22	1982.50	8.04
	64QAM	1932.50	8.24	1982.50	8.02
	256QAM	1932.50	8.28	1982.50	8.01

**B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (2C+1C)**

Ant.	Modulation	B25 LTE 5 MHz + B25 LTE 5 MHz		B25 LTE 20 MHz & NB-IoT	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1935.00	8.29	1985.00	8.11
	16QAM	1935.00	8.30	1985.00	8.07
	64QAM	1935.00	8.31	1985.00	8.10
	256QAM	1935.00	8.32	1985.00	8.10
1	QPSK	1935.00	8.27	1985.00	8.07
	16QAM	1935.00	8.27	1985.00	8.06
	64QAM	1935.00	8.29	1985.00	8.04
	256QAM	1935.00	8.25	1985.00	8.08
2	QPSK	1935.00	8.33	1985.00	8.14
	16QAM	1935.00	8.31	1985.00	8.11
	64QAM	1935.00	8.30	1985.00	8.10
	256QAM	1935.00	8.26	1985.00	8.14
3	QPSK	1935.00	8.29	1985.00	8.14
	16QAM	1935.00	8.26	1985.00	8.14
	64QAM	1935.00	8.30	1985.00	8.16
	256QAM	1935.00	8.39	1985.00	8.11

**B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] (1C+2C)**

Ant.	Modulation	B25 LTE 5 MHz		B25 LTE 20 MHz + B25 LTE 20 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1932.50	8.39	1975.00	7.96
	16QAM	1932.50	8.29	1975.00	8.01
	64QAM	1932.50	8.32	1975.00	8.01
	256QAM	1932.50	8.35	1975.00	8.00
1	QPSK	1932.50	8.37	1975.00	7.94
	16QAM	1932.50	8.35	1975.00	8.03
	64QAM	1932.50	8.46	1975.00	7.94
	256QAM	1932.50	8.40	1975.00	7.95
2	QPSK	1932.50	8.41	1975.00	8.04
	16QAM	1932.50	8.34	1975.00	8.02
	64QAM	1932.50	8.41	1975.00	8.05
	256QAM	1932.50	8.39	1975.00	8.08
3	QPSK	1932.50	8.41	1975.00	8.02
	16QAM	1932.50	8.38	1975.00	8.11
	64QAM	1932.50	8.44	1975.00	8.06
	256QAM	1932.50	8.35	1975.00	8.07

**B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] (2C+1C)**

Ant.	Modulation	B25 LTE 5 MHz + B25 LTE 20 MHz		B25 LTE 20 MHz	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1942.50	8.22	1985.00	8.30
	16QAM	1942.50	8.23	1985.00	8.27
	64QAM	1942.50	8.23	1985.00	8.28
	256QAM	1942.50	8.22	1985.00	8.21
1	QPSK	1942.50	8.22	1985.00	8.20
	16QAM	1942.50	8.25	1985.00	8.18
	64QAM	1942.50	8.24	1985.00	8.20
	256QAM	1942.50	8.28	1985.00	8.29
2	QPSK	1942.50	8.28	1985.00	8.32
	16QAM	1942.50	8.20	1985.00	8.20
	64QAM	1942.50	8.26	1985.00	8.33
	256QAM	1942.50	8.27	1985.00	8.24
3	QPSK	1942.50	8.27	1985.00	8.30
	16QAM	1942.50	8.23	1985.00	8.27
	64QAM	1942.50	8.26	1985.00	8.29
	256QAM	1942.50	8.26	1985.00	8.22



**B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (1C+2C)**

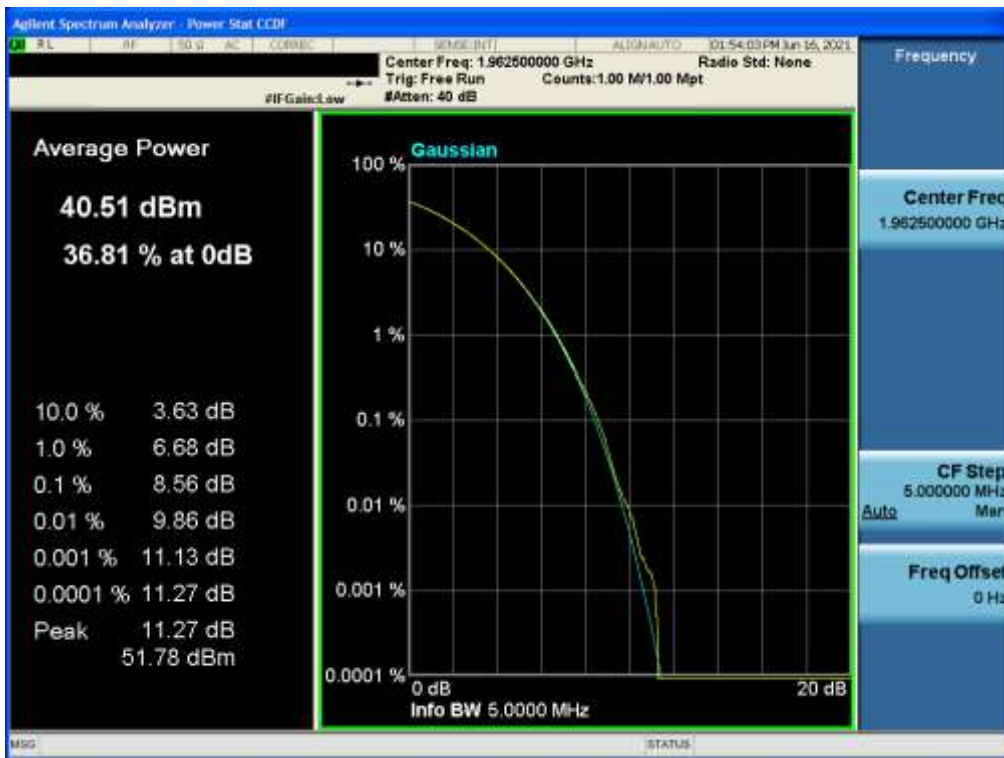
Ant.	Modulation	B25 LTE 5 MHz		B25 LTE 20 MHz + B25 LTE 20 MHz & NB-IoT	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1932.50	8.38	1975.00	8.08
	16QAM	1932.50	8.31	1975.00	8.12
	64QAM	1932.50	8.40	1975.00	8.10
	256QAM	1932.50	8.40	1975.00	8.08
1	QPSK	1932.50	8.39	1975.00	8.08
	16QAM	1932.50	8.33	1975.00	8.09
	64QAM	1932.50	8.38	1975.00	8.08
	256QAM	1932.50	8.41	1975.00	8.08
2	QPSK	1932.50	8.41	1975.00	8.08
	16QAM	1932.50	8.29	1975.00	8.11
	64QAM	1932.50	8.38	1975.00	8.10
	256QAM	1932.50	8.48	1975.00	8.08
3	QPSK	1932.50	8.42	1975.00	8.14
	16QAM	1932.50	8.32	1975.00	8.17
	64QAM	1932.50	8.44	1975.00	8.12
	256QAM	1932.50	8.39	1975.00	8.12

**B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (2C+1C)**

Ant.	Modulation	B25 LTE 5 MHz + B25 LTE 20 MHz		B25 LTE 20 MHz & NB-IoT	
		Frequency (MHz)	Measured Value (dB)	Frequency (MHz)	Measured Value (dB)
0	QPSK	1942.50	8.22	1985.00	8.24
	16QAM	1942.50	8.22	1985.00	8.25
	64QAM	1942.50	8.24	1985.00	8.30
	256QAM	1942.50	8.24	1985.00	8.23
1	QPSK	1942.50	8.25	1985.00	8.22
	16QAM	1942.50	8.23	1985.00	8.26
	64QAM	1942.50	8.21	1985.00	8.25
	256QAM	1942.50	8.23	1985.00	8.23
2	QPSK	1942.50	8.24	1985.00	8.28
	16QAM	1942.50	8.27	1985.00	8.29
	64QAM	1942.50	8.23	1985.00	8.23
	256QAM	1942.50	8.22	1985.00	8.26
3	QPSK	1942.50	8.25	1985.00	8.26
	16QAM	1942.50	8.25	1985.00	8.26
	64QAM	1942.50	8.23	1985.00	8.27
	256QAM	1942.50	8.29	1985.00	8.36

## Plot Data of PAPR

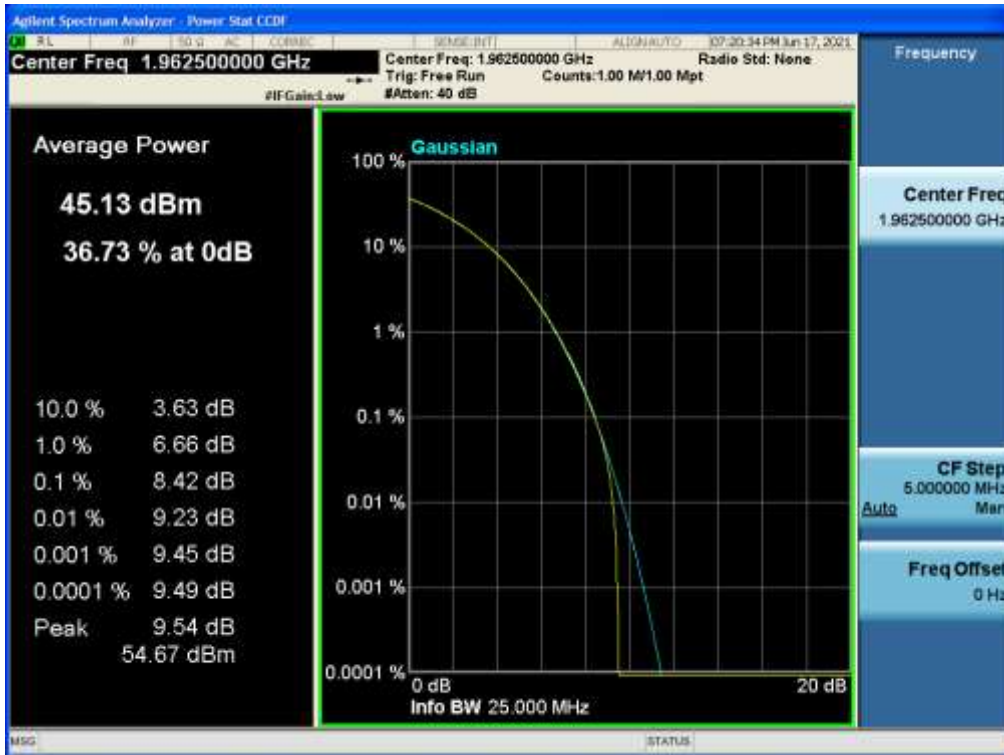
## Antenna 1 / B25 LTE 5 MHz 1 Carrier / 64QAM / Middle



## Antenna 1 / B25 LTE 10 MHz 1 Carrier / QPSK / Low



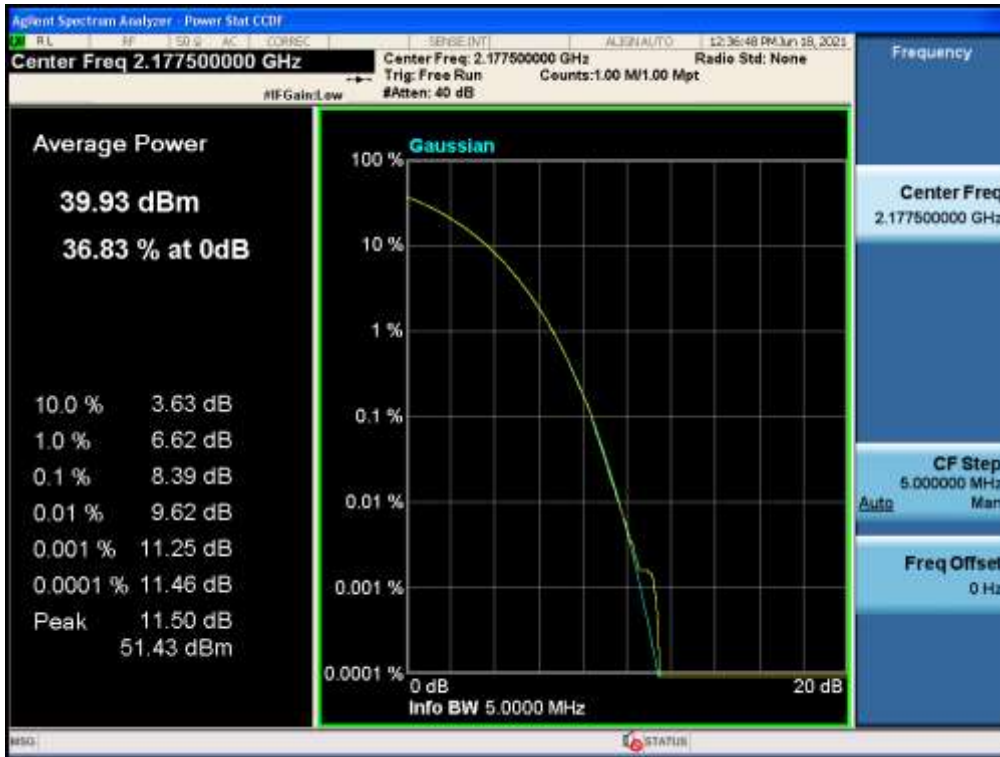
## Antenna 1 / B25 LTE 15 MHz 1 Carrier / 16QAM / Middle



## Antenna 1 / B25 LTE 20 MHz 1 Carrier / 16QAM / High



## Antenna 1 / B66 LTE 5 MHz 1 Carrier / QPSK / High



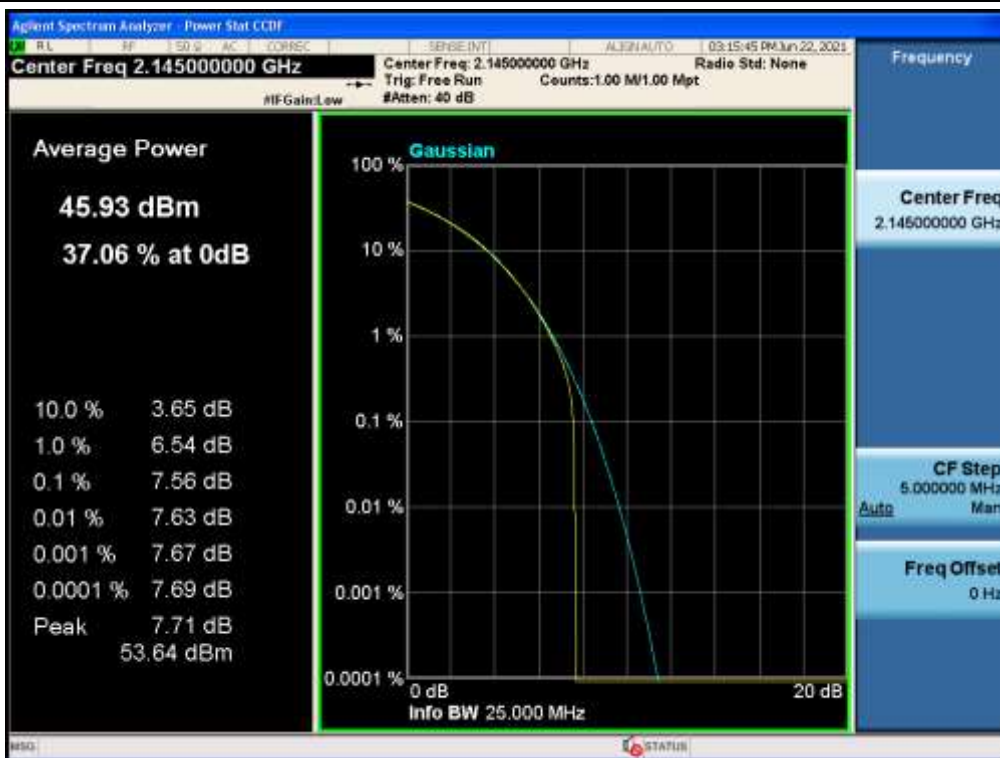
## Antenna 1 / B66 LTE 10 MHz 1 Carrier / QPSK / High



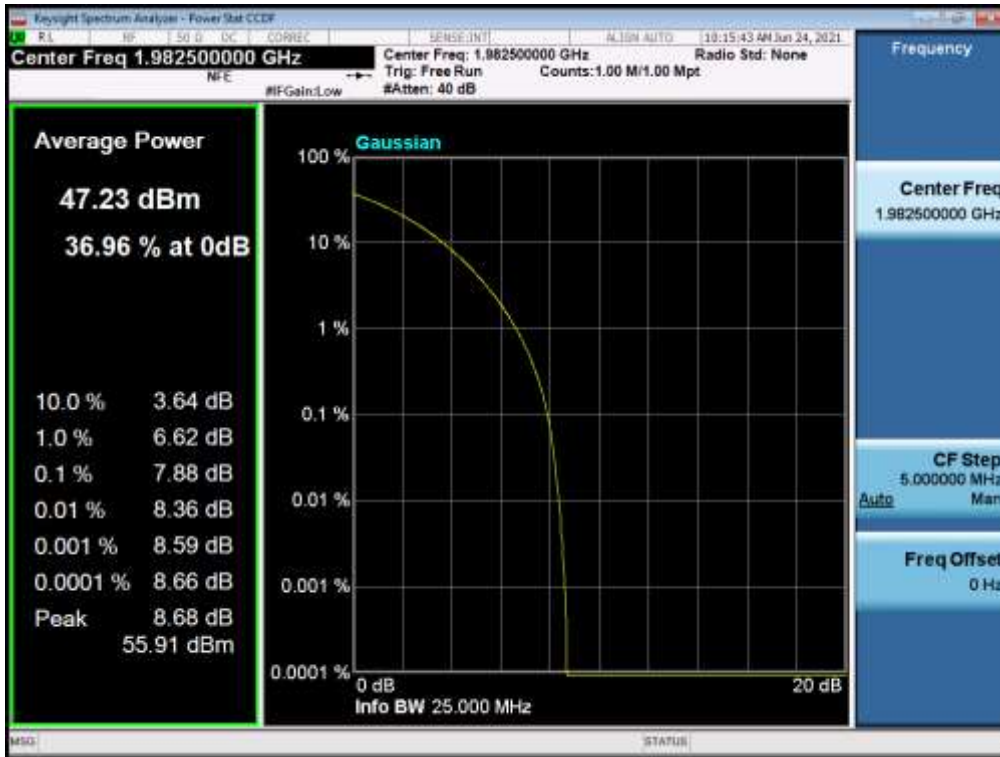
## Antenna 0 / B66 LTE 15 MHz 1 Carrier / 16QAM / Middle



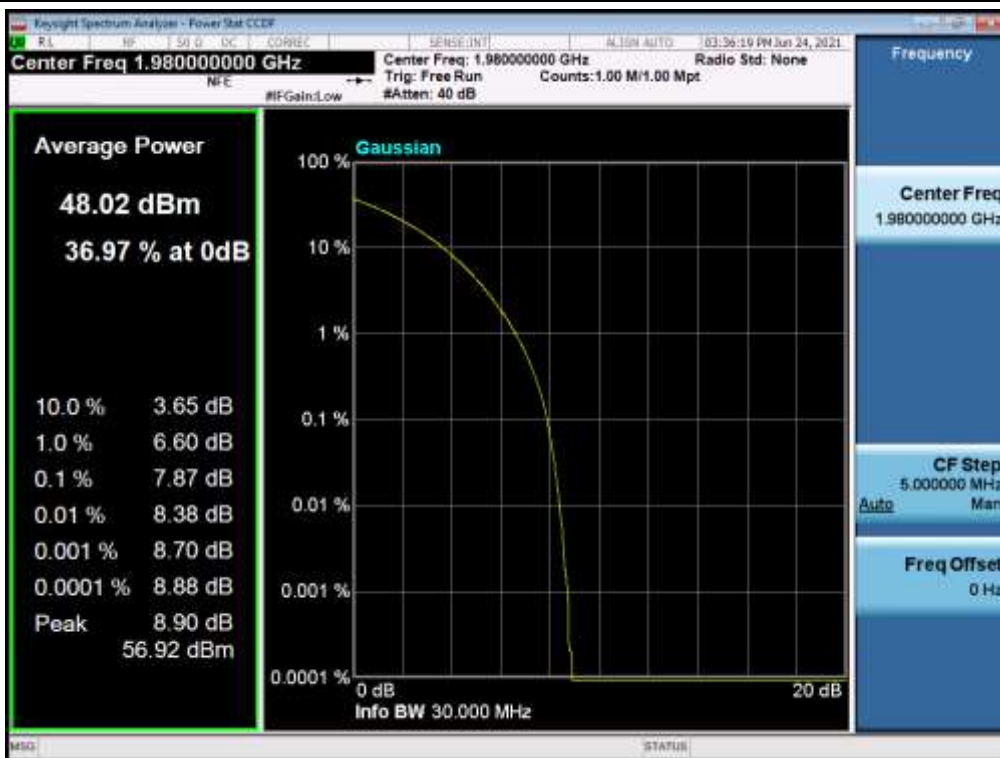
## Antenna 0 / B66 LTE 20 MHz 1 Carrier / 16QAM / Middle



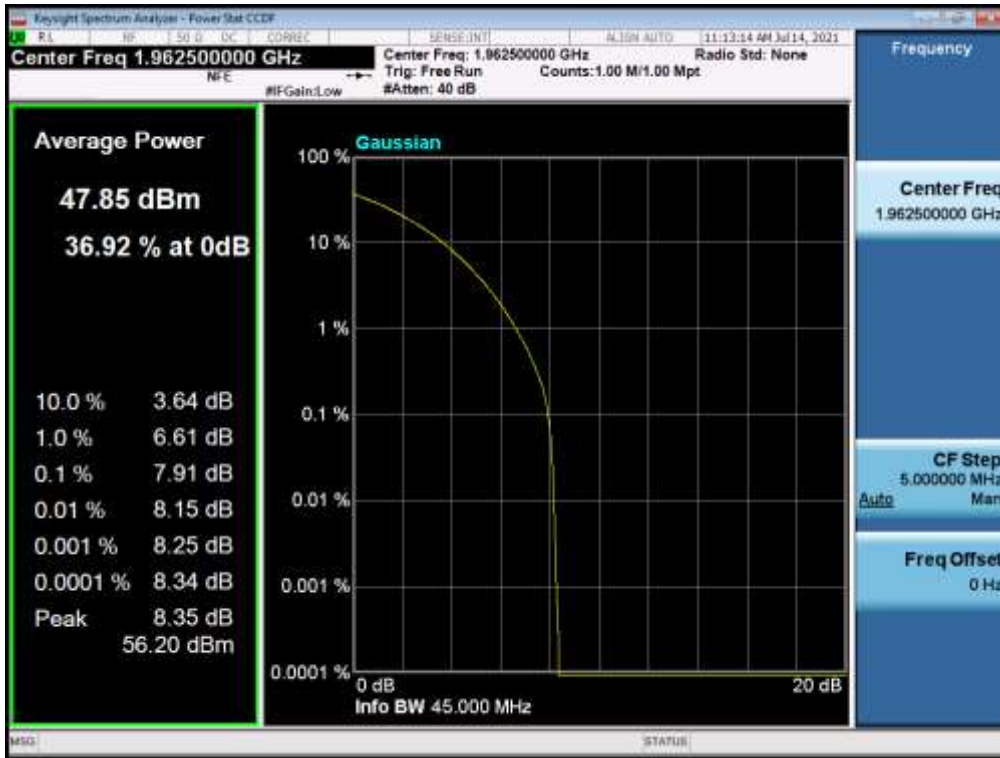
## Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Contiguous / 256QAM / High



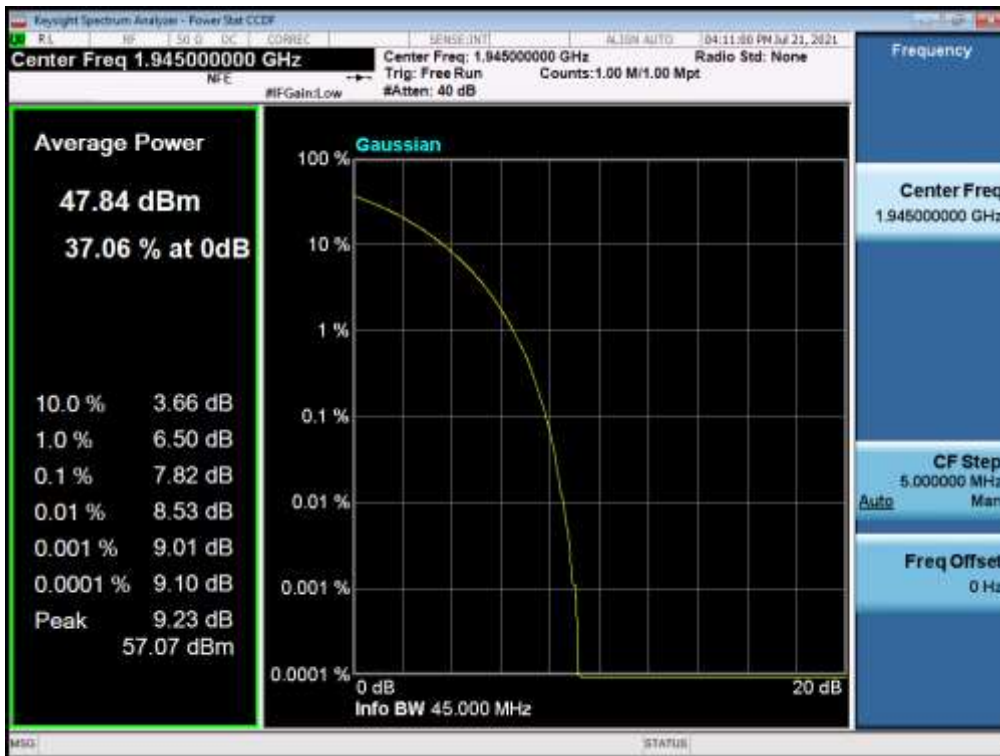
## Antenna 1 / B25 LTE 10 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Contiguous / 64QAM / High



## Antenna 1 / B25 LTE 10 MHz &amp; NB-IoT 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Contiguous / 16QAM / Middle

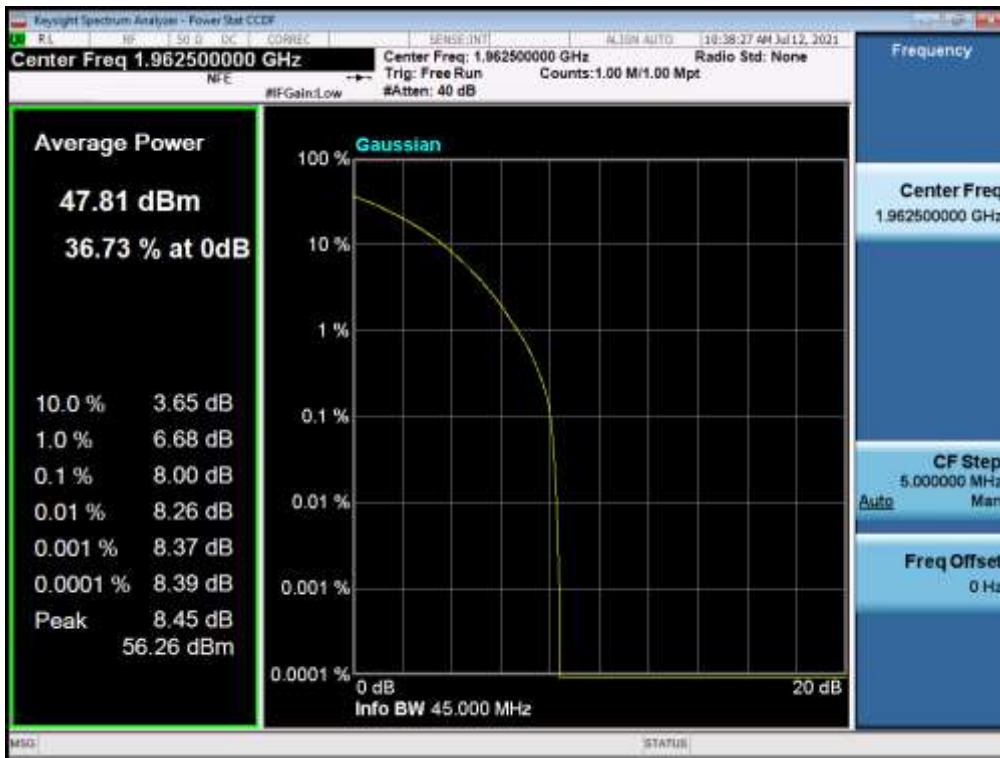


## Antenna 1 / B25 LTE 20 MHz &amp; NB-IoT 1 Carrier + B25 LTE 10 MHz 1 Carrier [2 Carrier] / Contiguous / 64QAM / Low

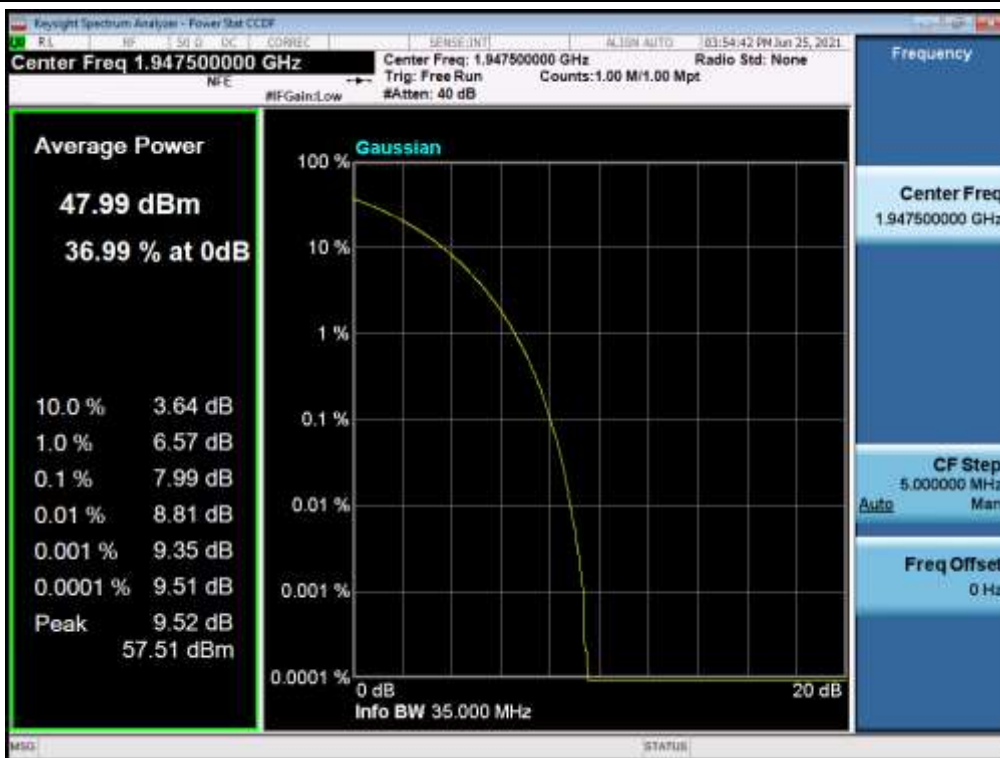




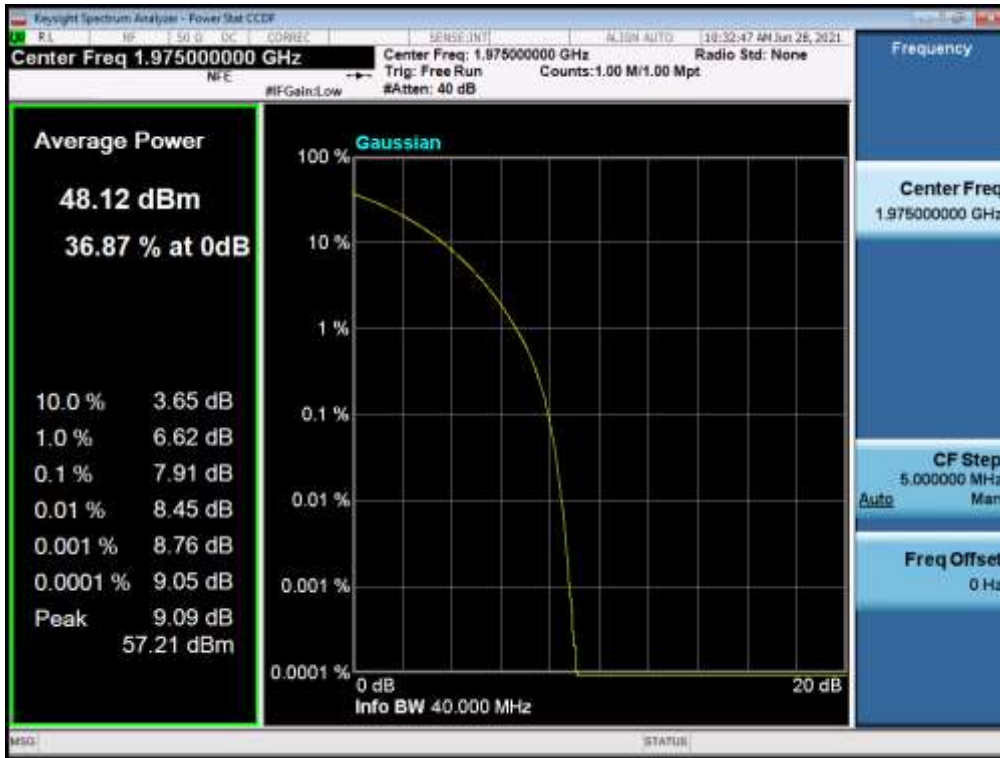
Antenna 1 / B25 LTE 10 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier] / Contiguous / 256QAM / Middle



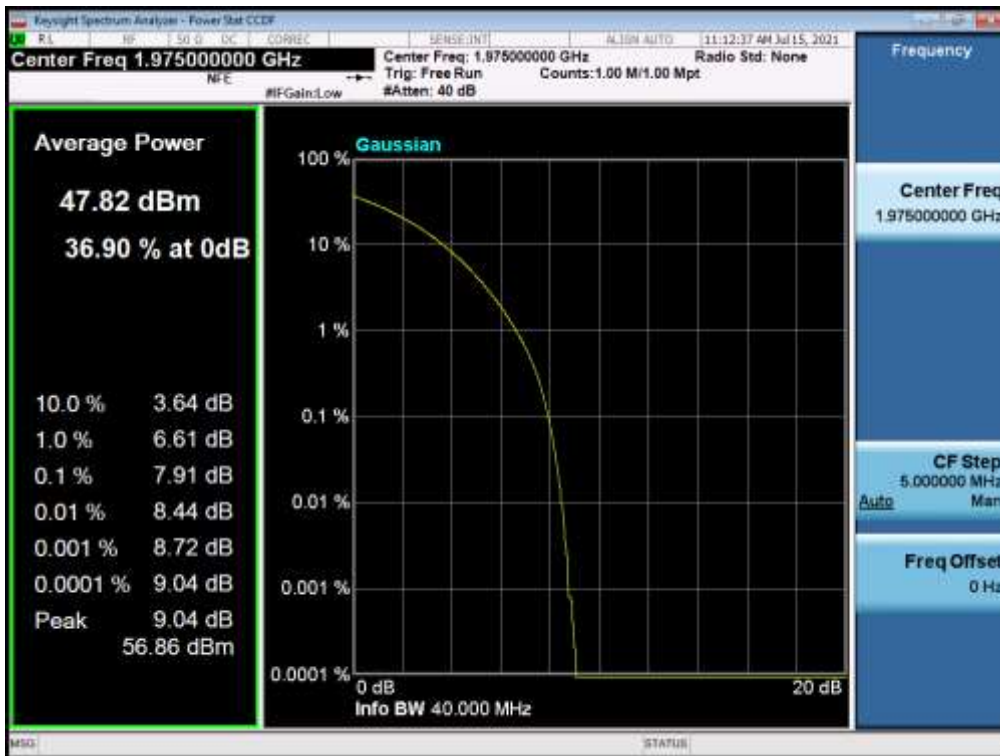
Antenna 1 / B25 LTE 15 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Contiguous / 16QAM / Low



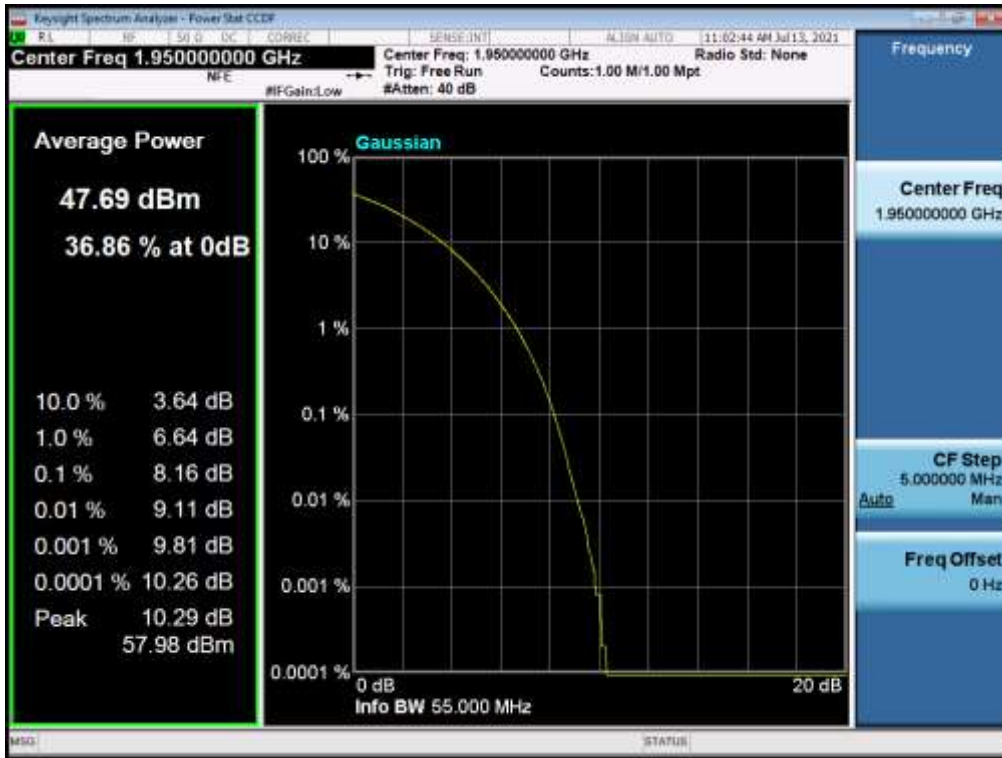
## Antenna 1 / B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Contiguous / QPSK / High



## Antenna 1 / B25 LTE 20 MHz &amp; NB-IoT 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Contiguous / 256QAM / High

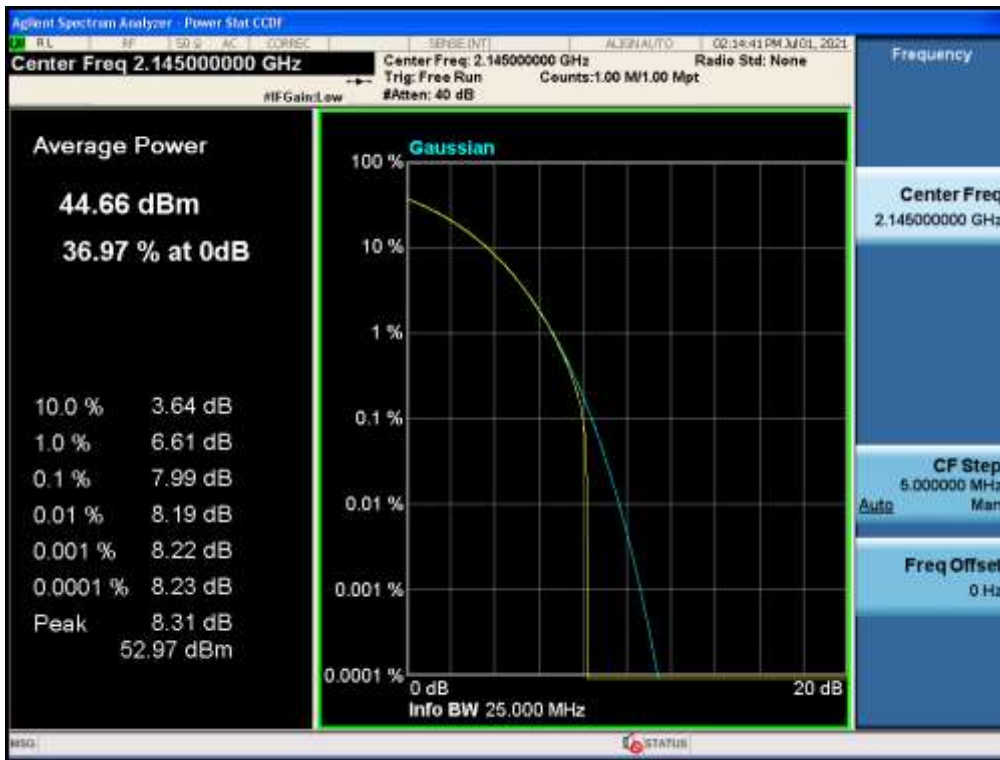


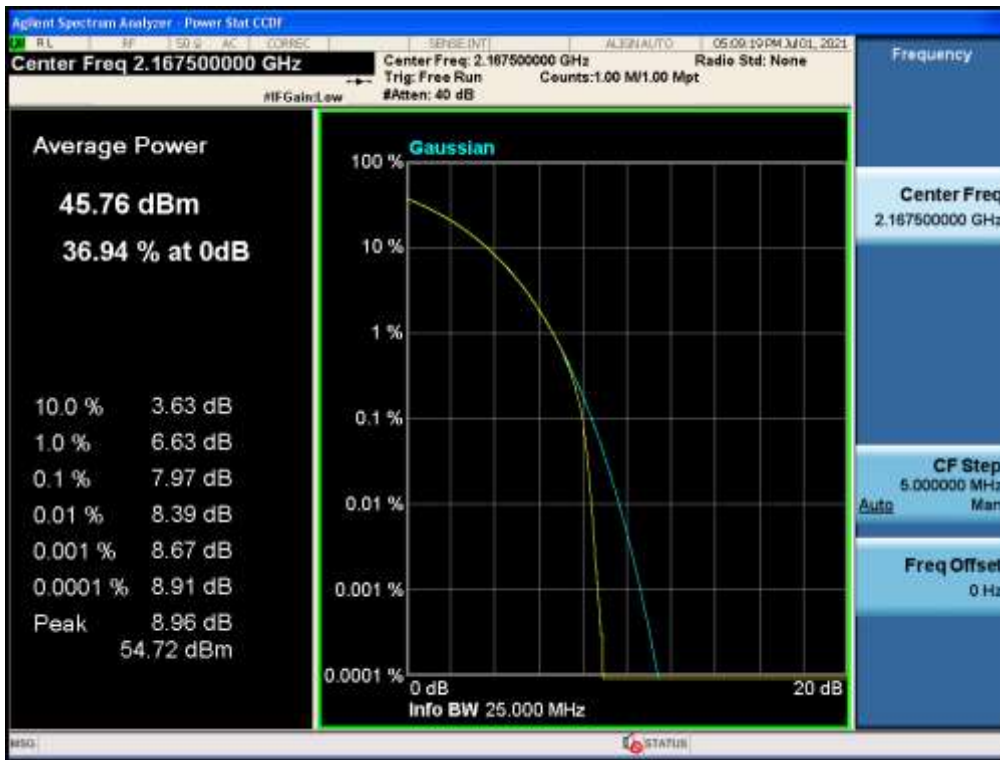
Antenna 1 / B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier] / Contiguous / 16QAM / Low

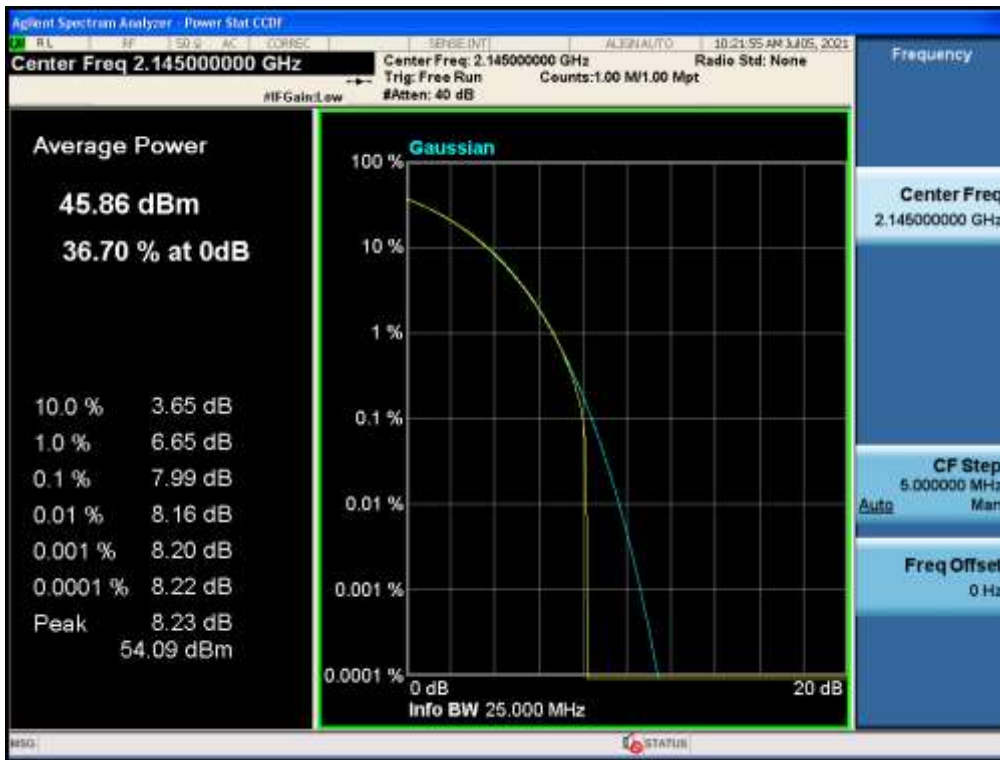


Antenna 0 / B66 LTE 5 MHz 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier] / Contiguous / 64QAM / Middle

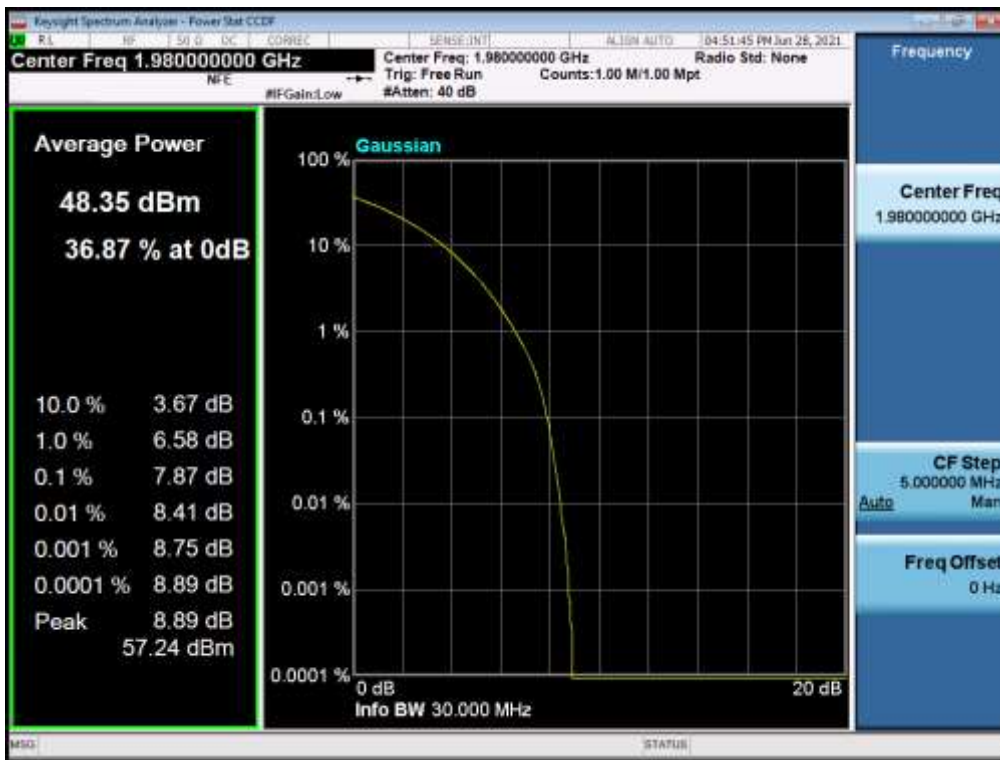


**Antenna 0 / B66 LTE 5 MHz 1 Carrier + B66 LTE 10 MHz & NB-IoT 1 Carrier [2 Carrier] / Contiguous / 16QAM / Middle**

**Antenna 0 / B66 LTE 5 MHz 1 Carrier + B66 LTE 20 MHz 1 Carrier [2 Carrier] / Contiguous / QPSK / Middle**

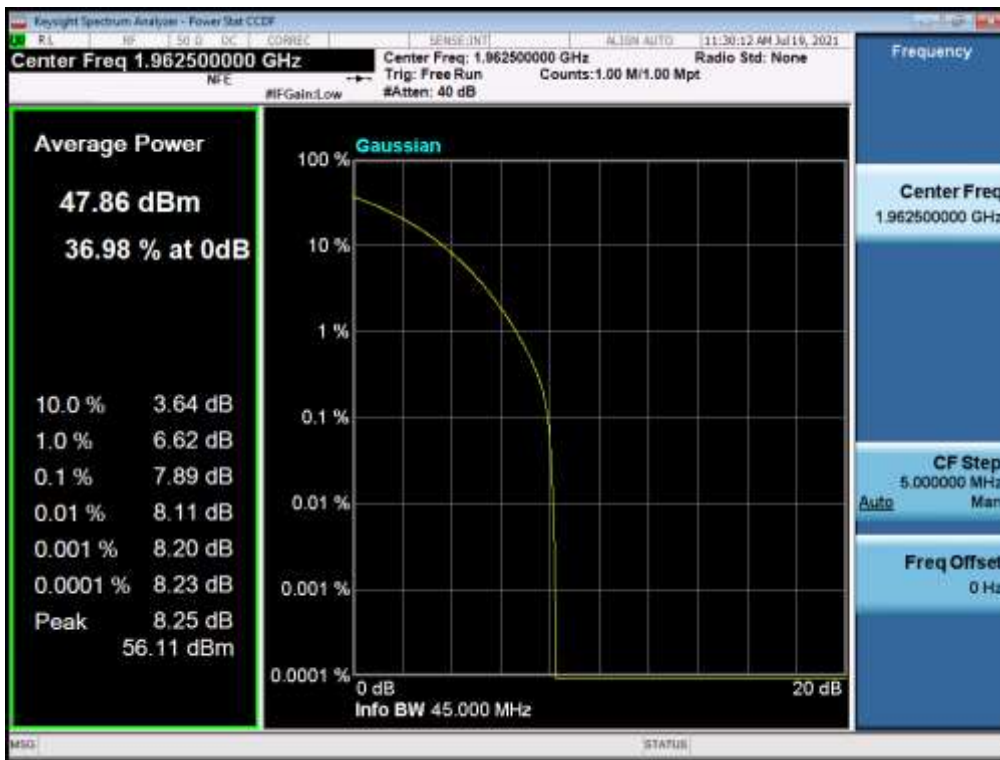

**Antenna 0 / B66 LTE 5 MHz 1 Carrier + B66 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier] / Contiguous / QPSK / High**

**Antenna 3 / B66 LTE 10 MHz 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier] / Contiguous / 64QAM / Middle**


**Antenna 3 / B66 LTE 10 MHz & NB-IoT 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier] / Contiguous / QPSK / Middle**

**Antenna 2 / B66 LTE 10 MHz & NB-IoT 1 Carrier + B66 LTE 10 MHz & NB-IoT 1 Carrier [2 Carrier] / Contiguous / QPSK / High**

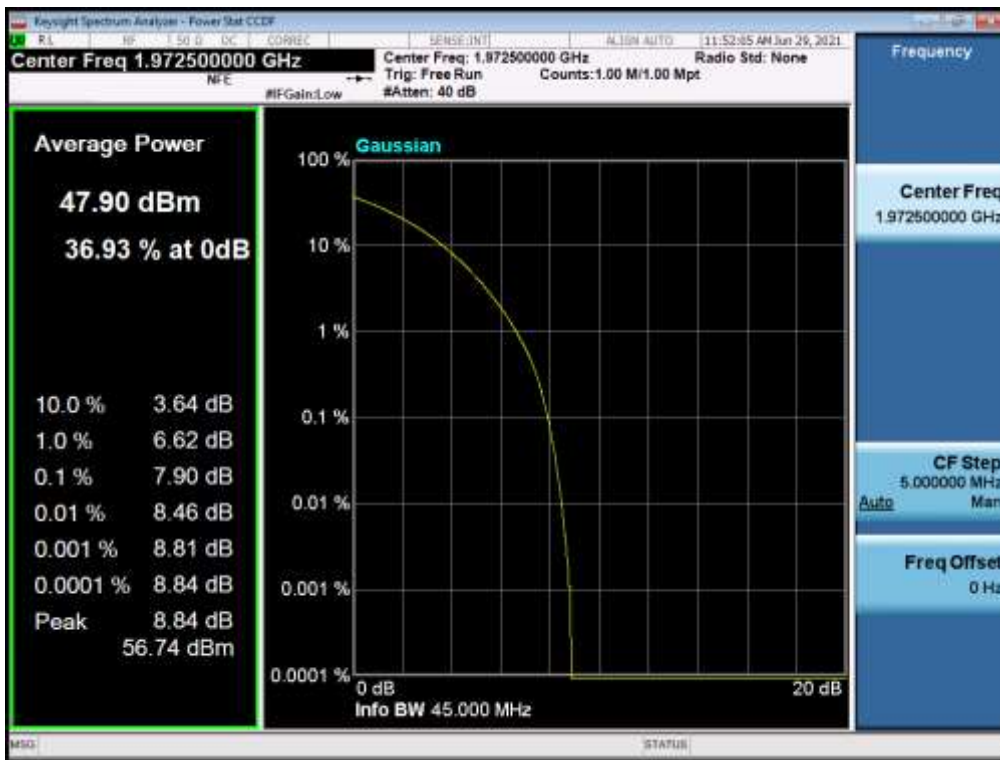

Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] / Contiguous / 64QAM / High



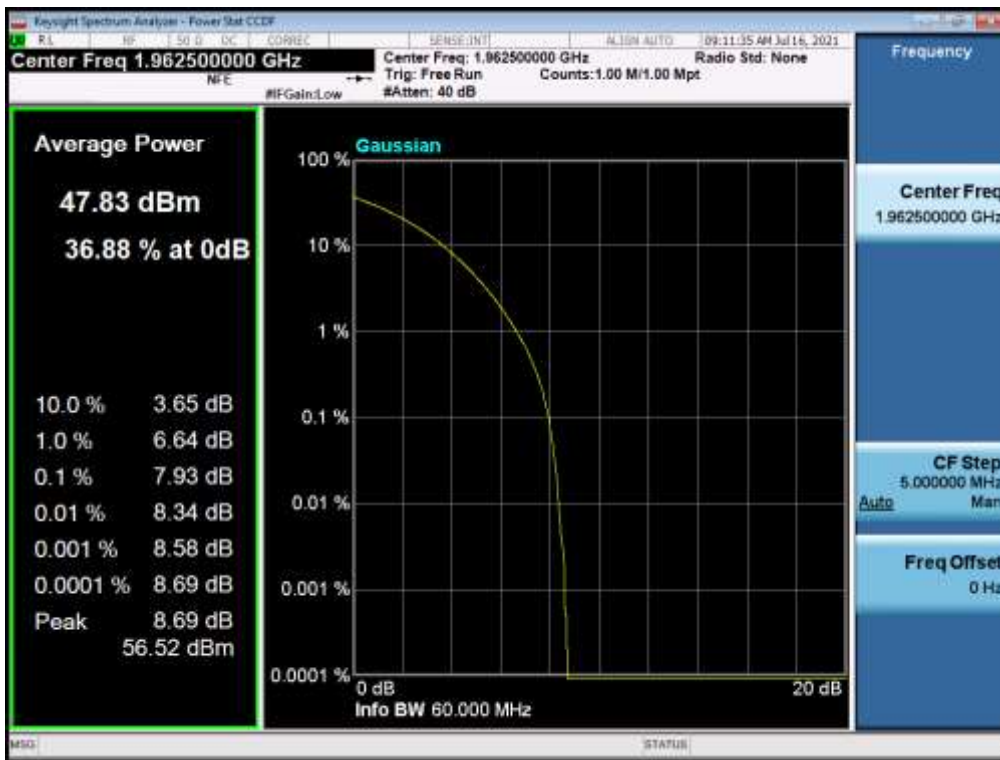
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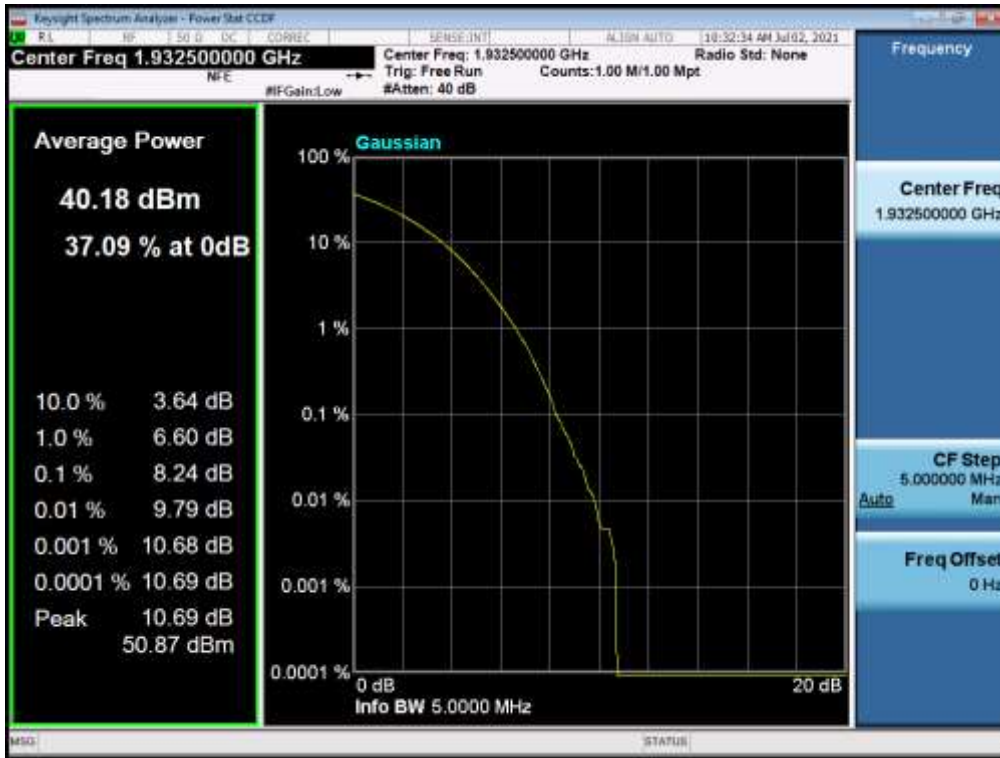
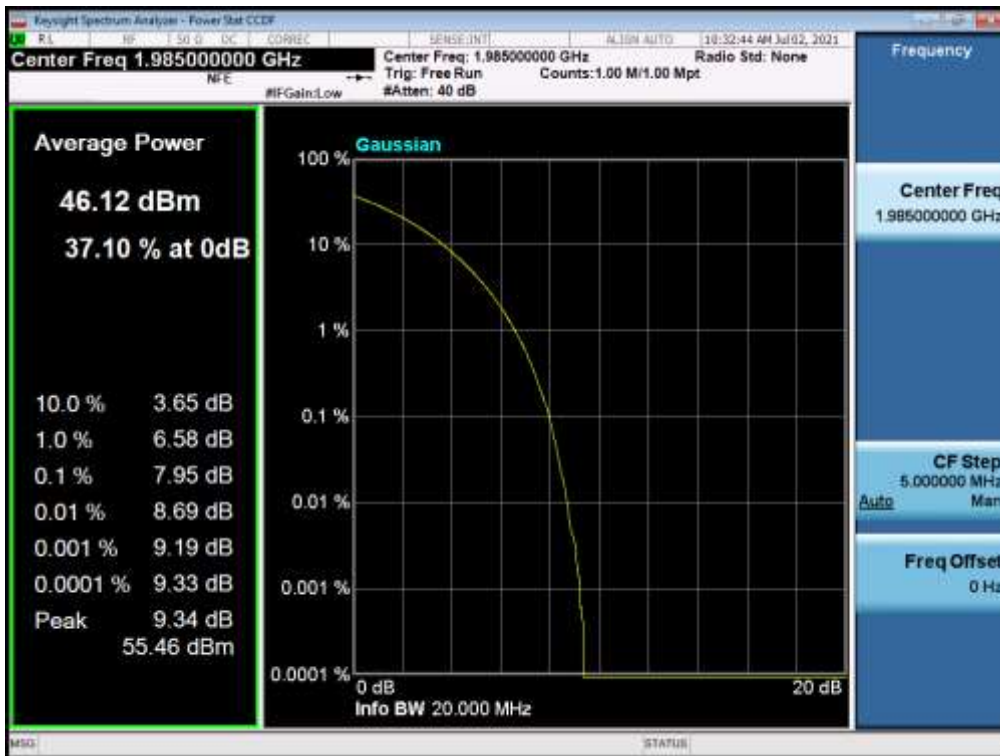
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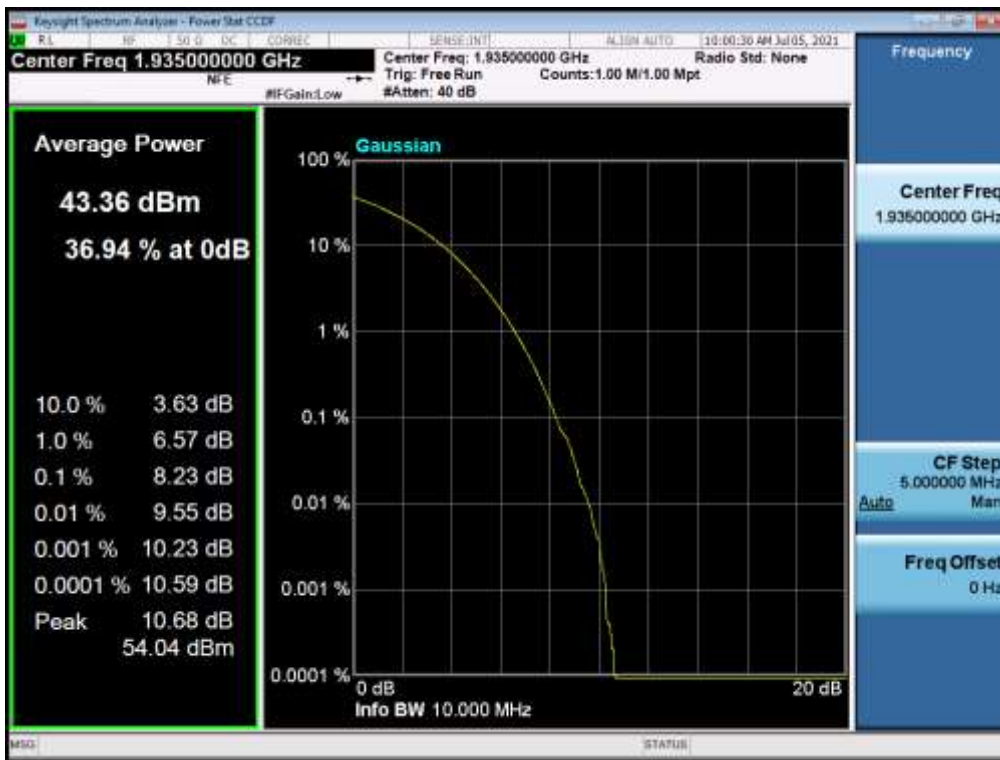
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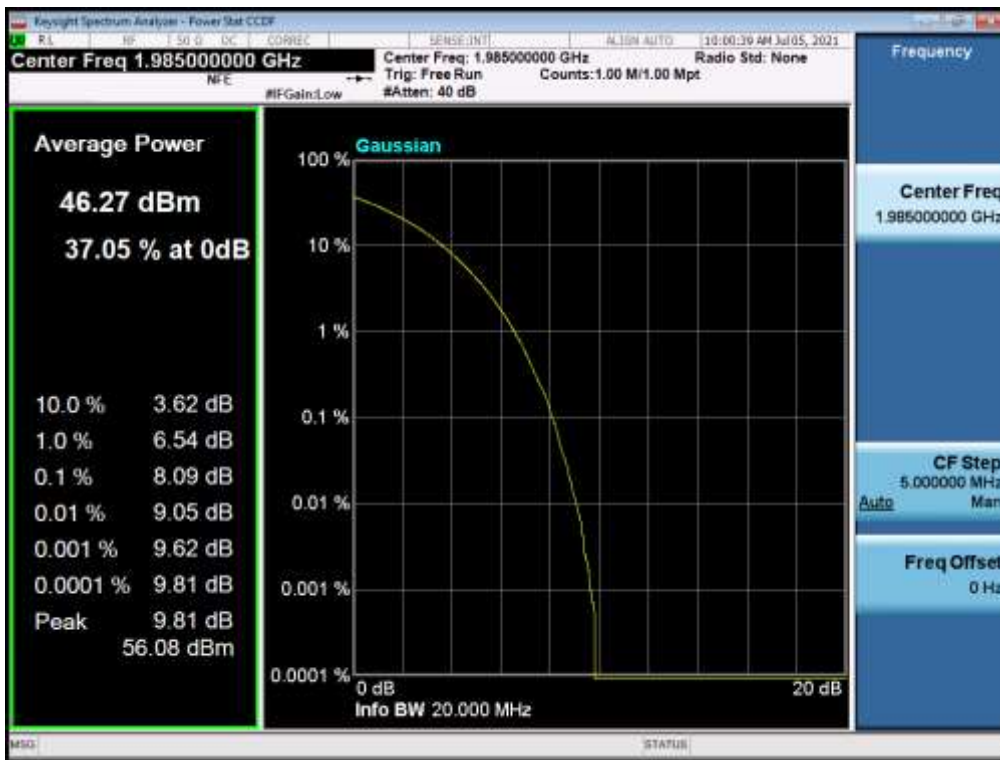


**Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 5 MHz / QPSK / Low**

**Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz / QPSK / High**


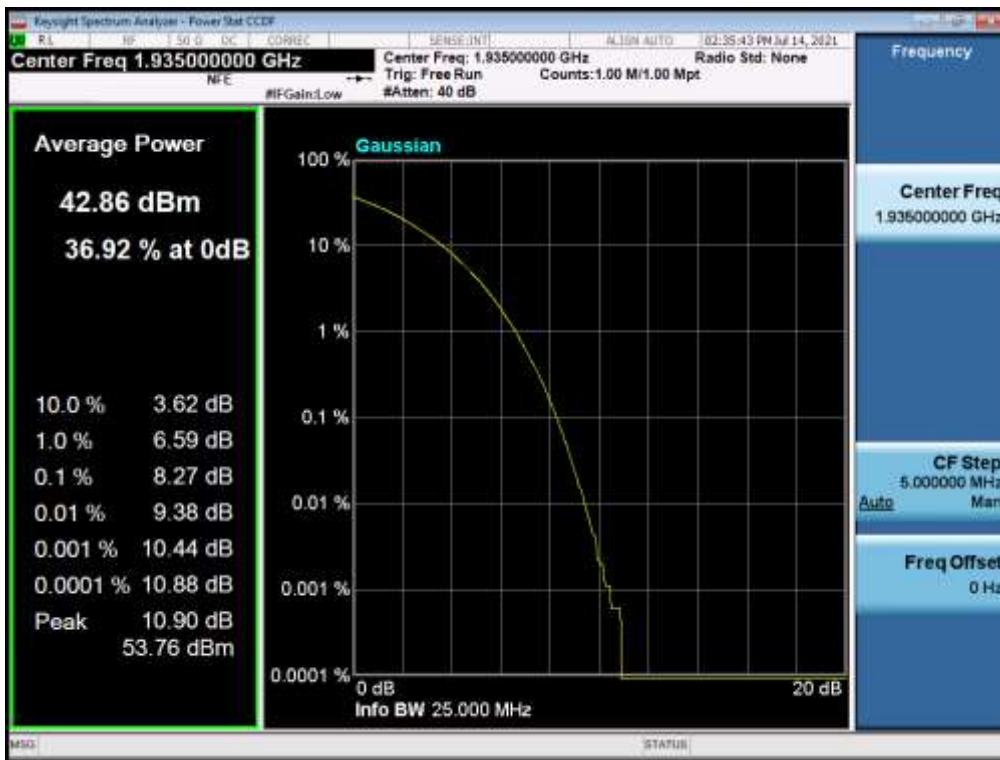
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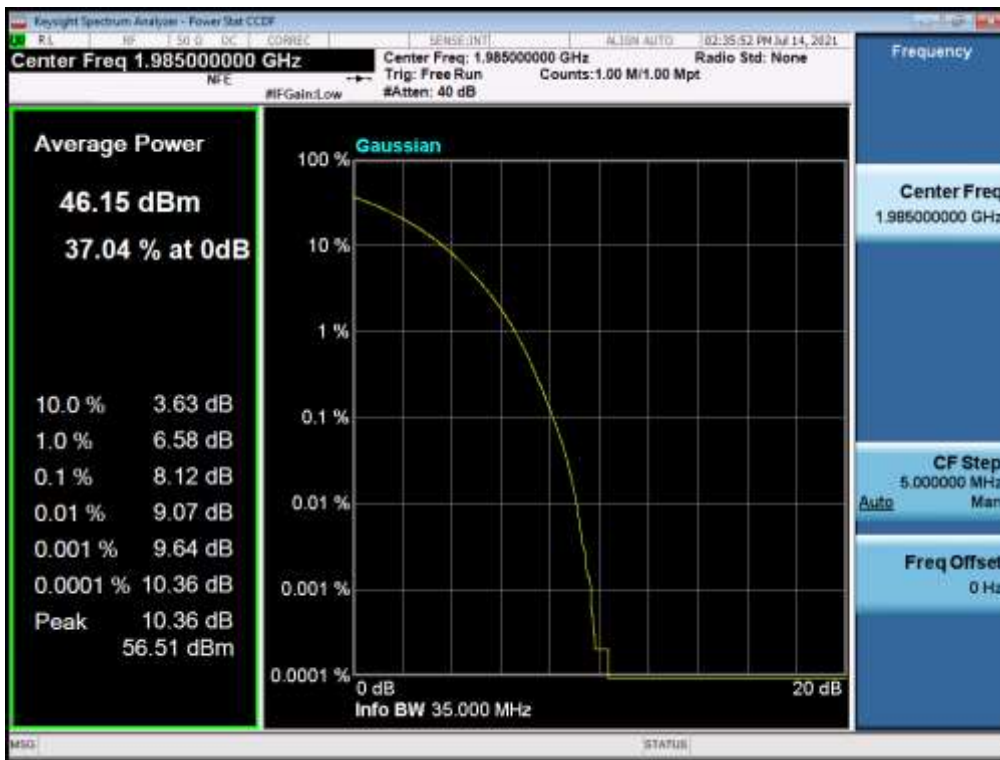
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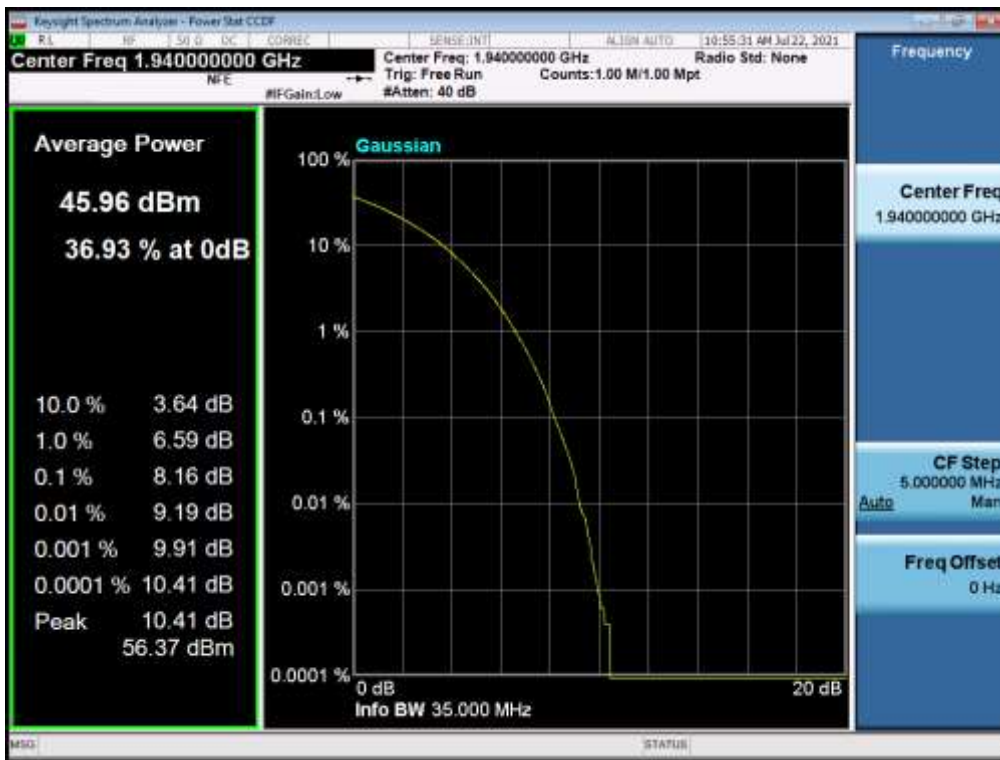
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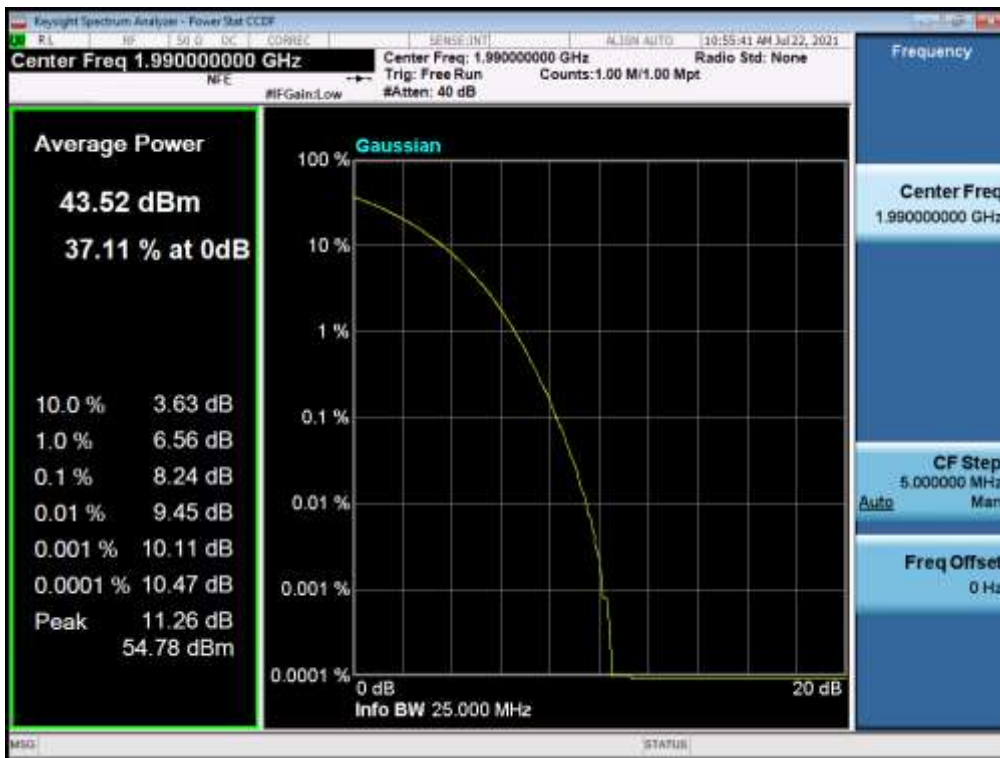
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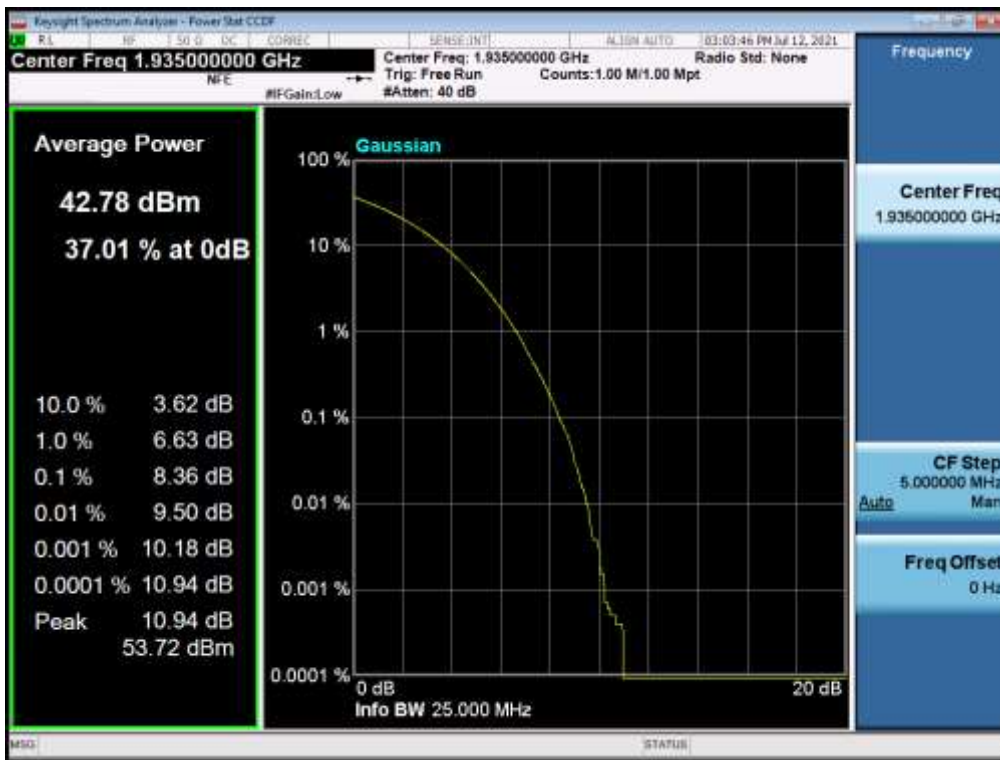
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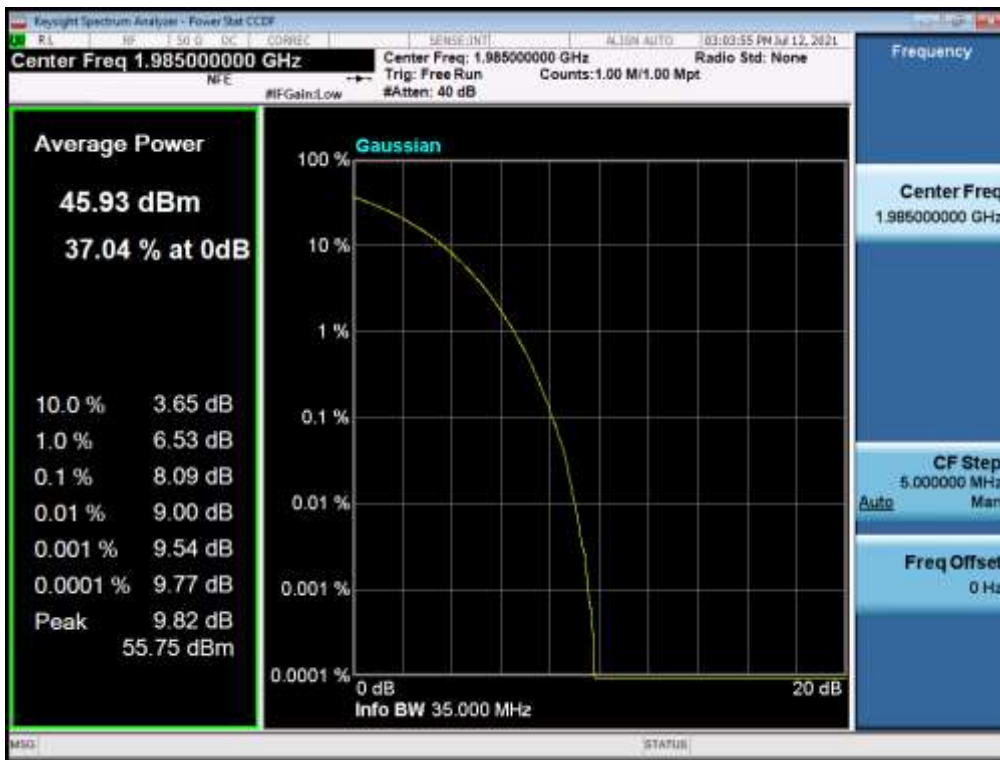
Antenna 1 / B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 10 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 10 MHz / 16QAM / High



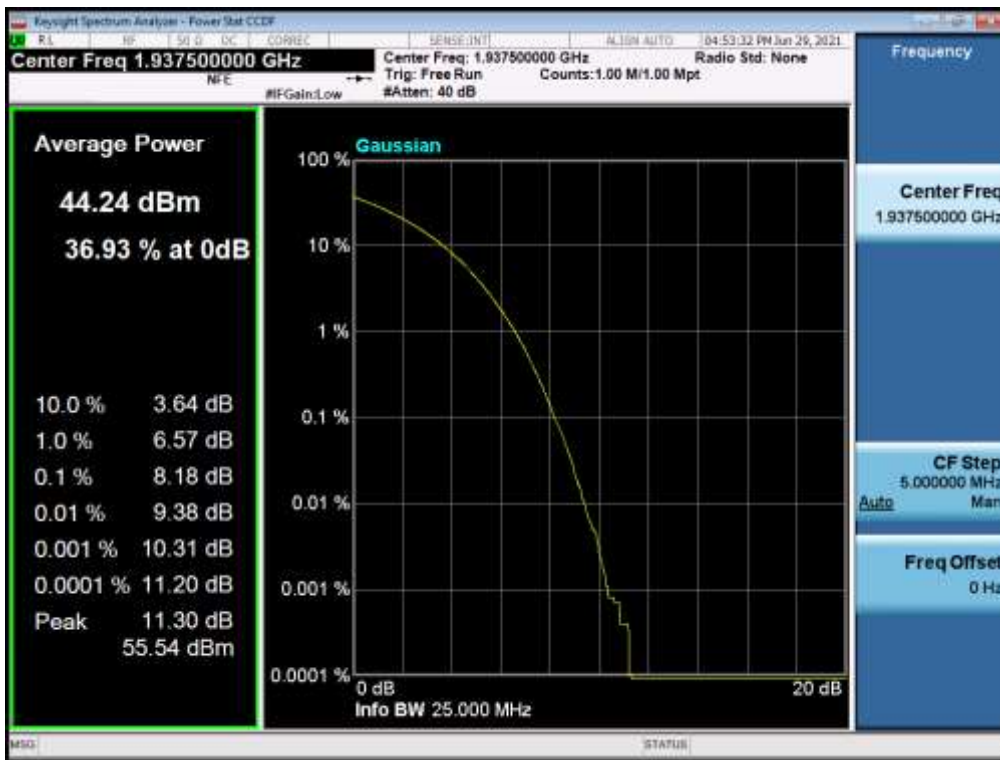
Antenna 1 / B25 LTE 10 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 10 MHz & NB-IoT / 16QAM / Low



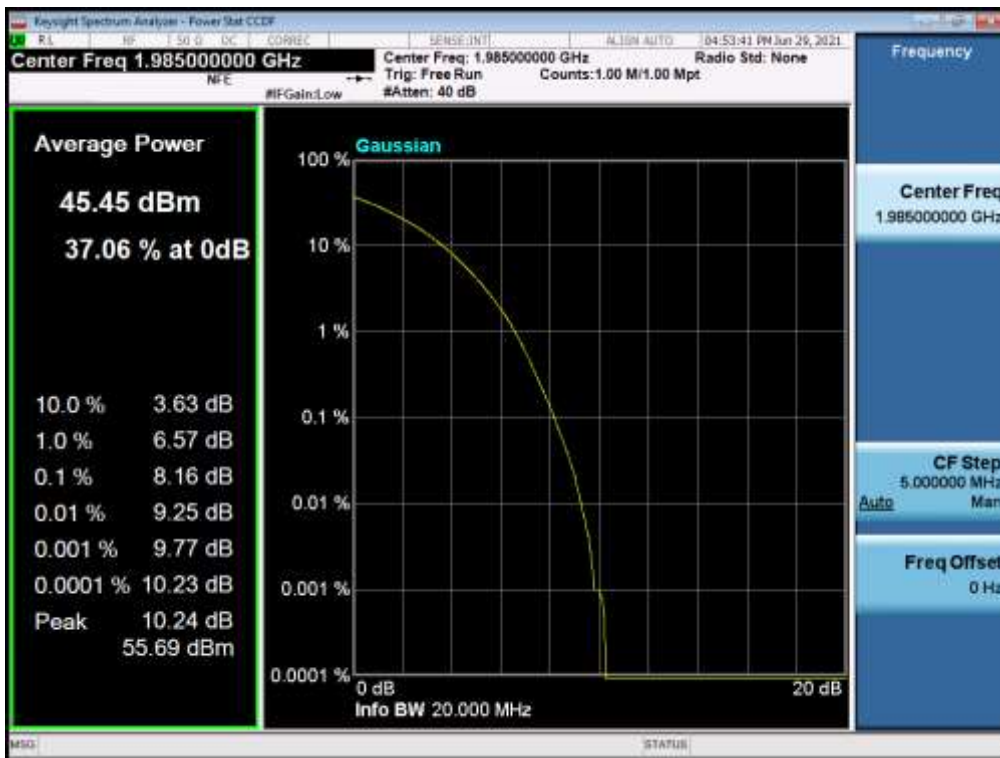
Antenna 1 / B25 LTE 10 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz & NB-IoT / 16QAM / High



Antenna 1 / B25 LTE 15 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 15 MHz / 64QAM / Low



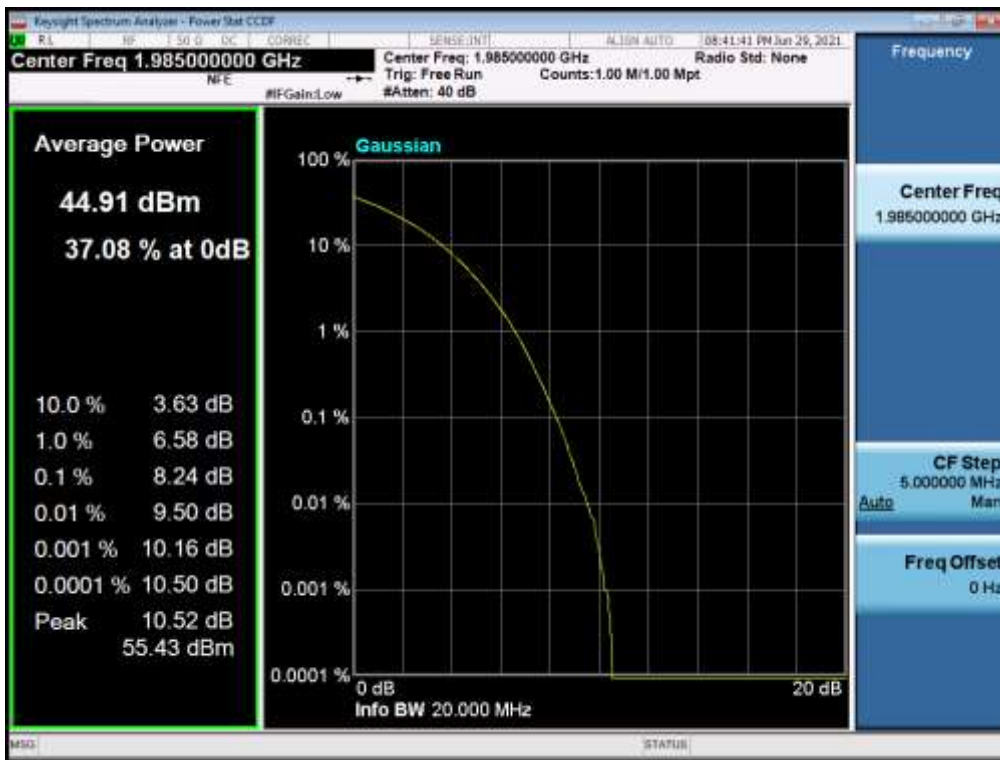
Antenna 1 / B25 LTE 15 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz / 64QAM / High



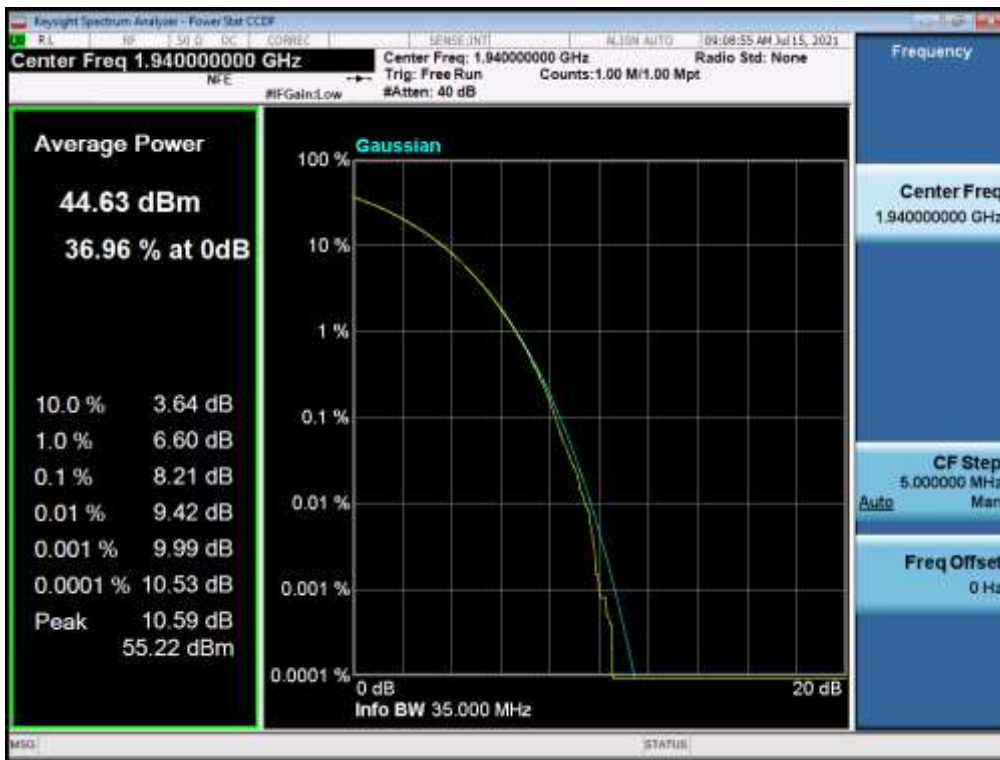
Antenna 1 / B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz / 64QAM / Low



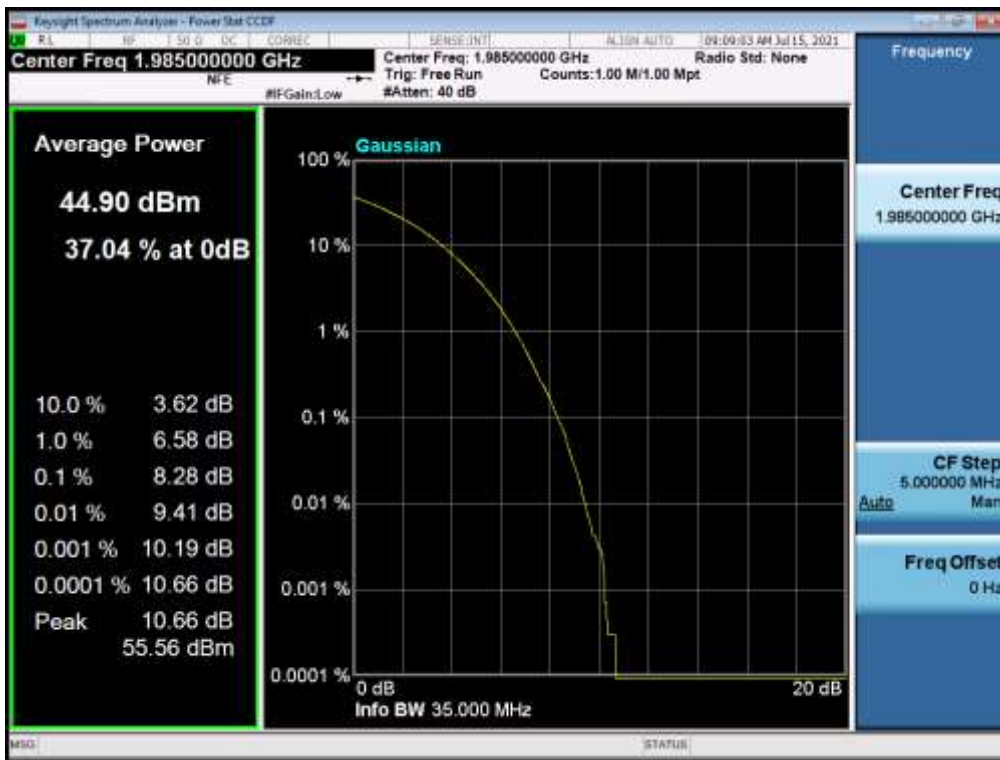
Antenna 1 / B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz / 64QAM / High



Antenna 1 / B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz & NB-IoT / QPSK / Low

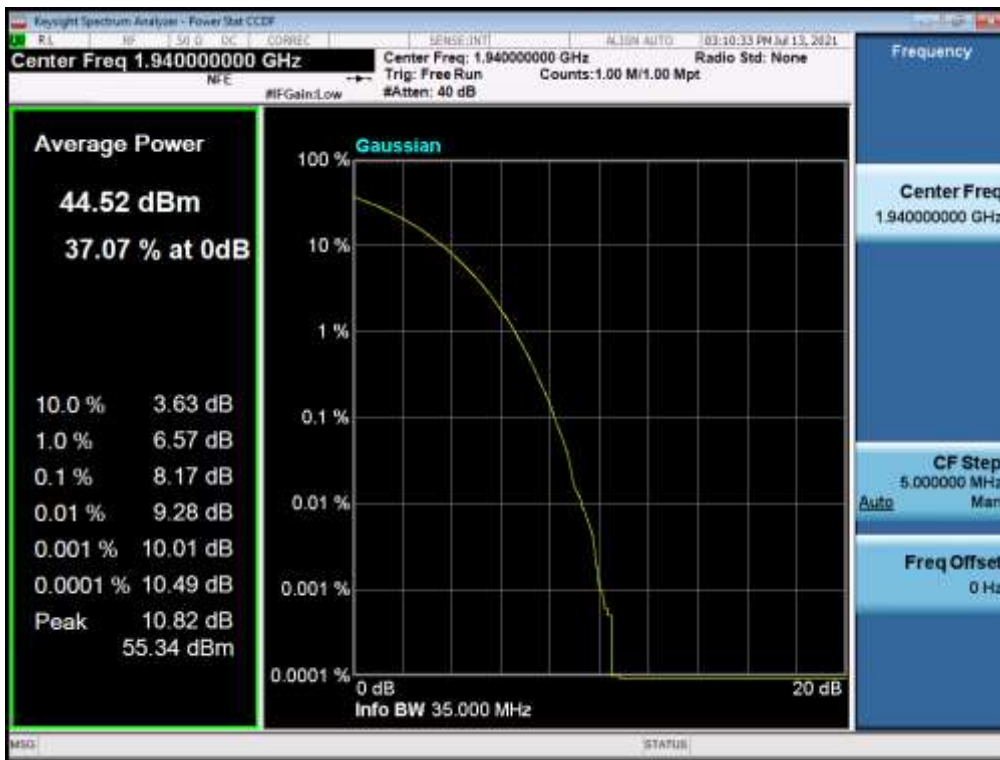


Antenna 1 / B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz / QPSK / High

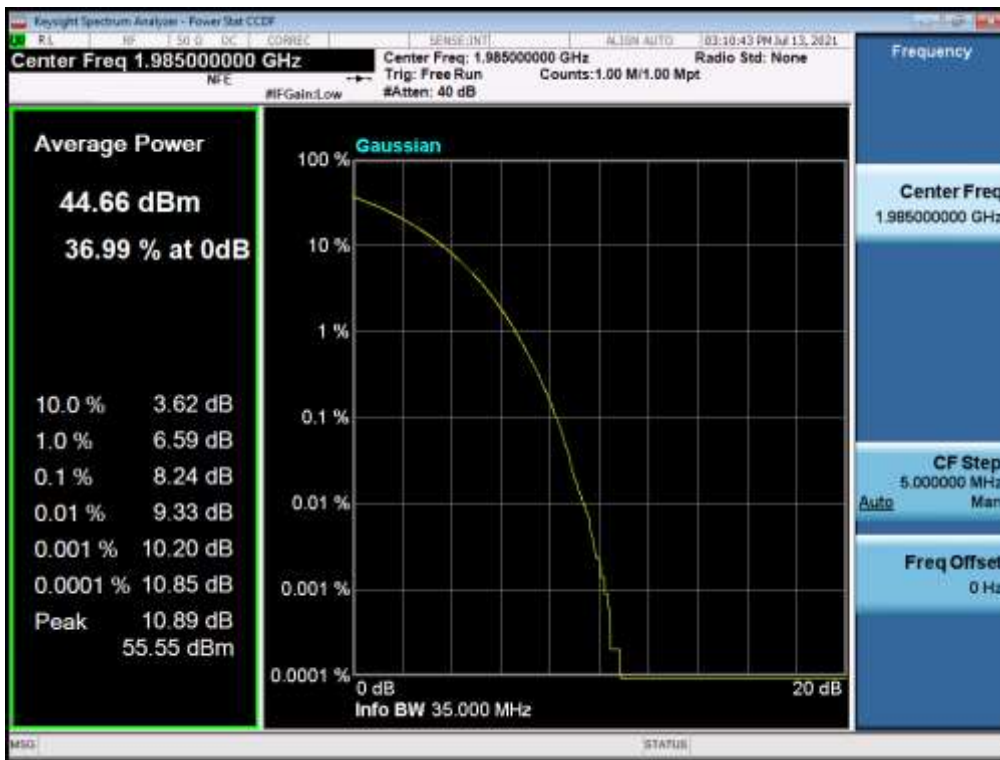


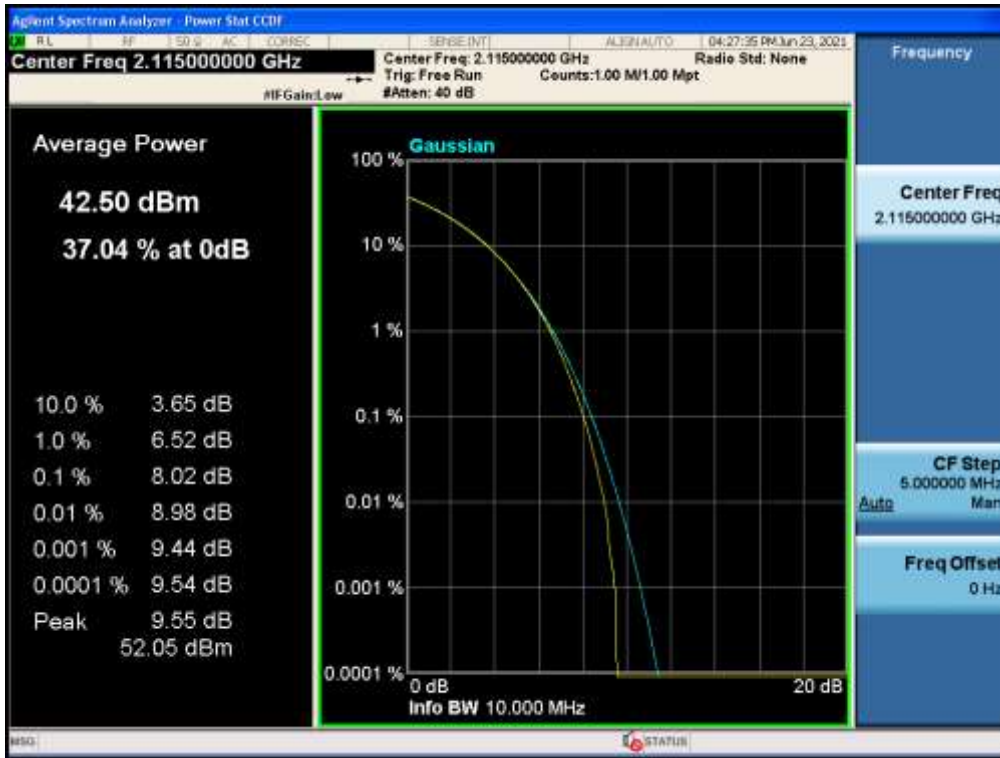


Antenna 1 / B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz & NB-IoT / 64QAM / Low



Antenna 1 / B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B25 LTE 20 MHz & NB-IoT / 64QAM / High



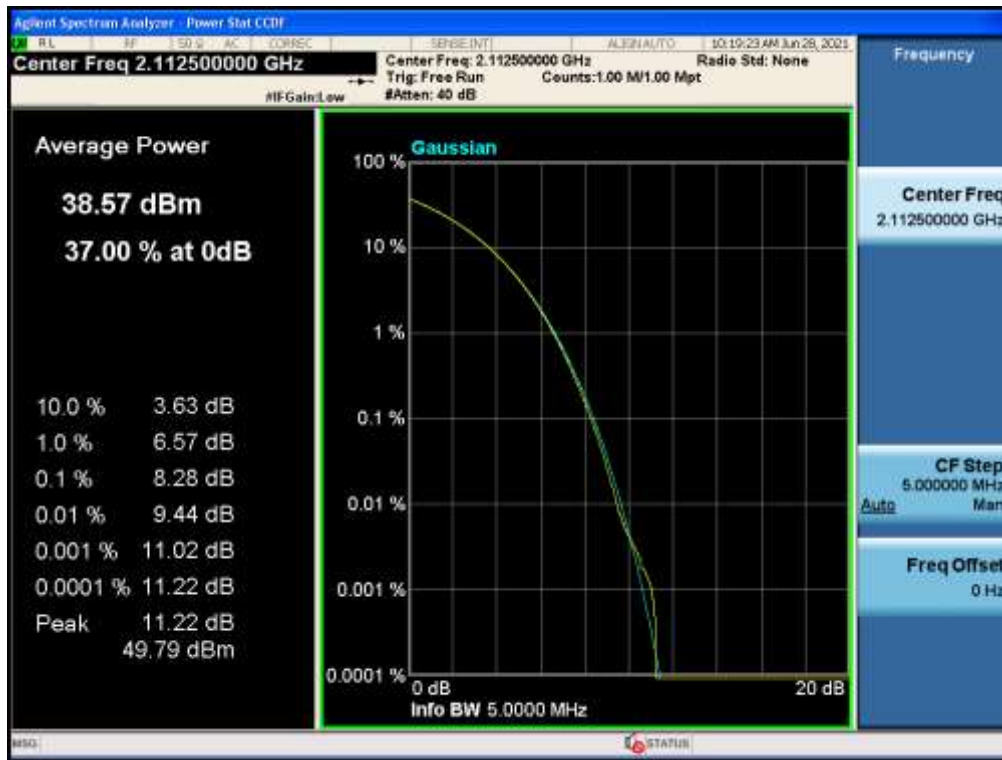
**Antenna 1 / B66 LTE 10 MHz 1 Carrier + B66 LTE 5 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 10 MHz / 64QAM / Low**

**Antenna 1 / B66 LTE 10 MHz 1 Carrier + B66 LTE 5 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 5 MHz / 64QAM / High**


Antenna 1 / B66 LTE 5 MHz 1 Carrier + B66 LTE 10 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 5 MHz / 16QAM / Low

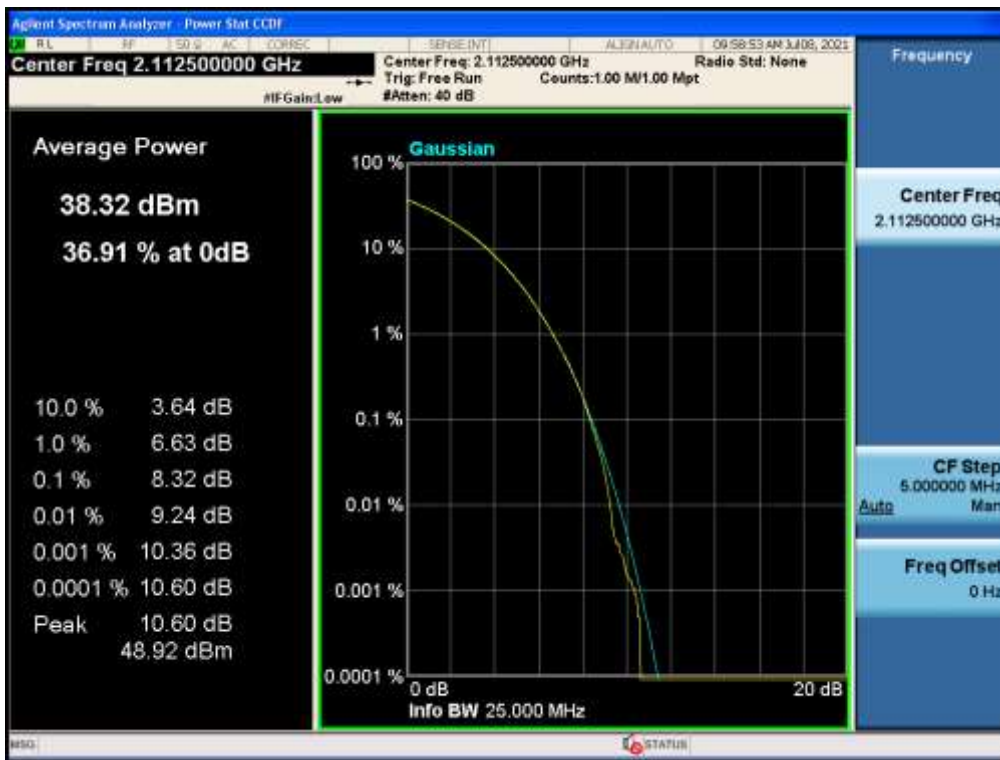


Antenna 1 / B66 LTE 5 MHz 1 Carrier + B66 LTE 10 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / 16QAM / B66 LTE 10 MHz & NB-IoT / High



**Antenna 0 / B66 LTE 5 MHz 1 Carrier + B66 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 5 MHz / 64QAM / Low**

**Antenna 0 / B66 LTE 5 MHz 1 Carrier + B66 LTE 20 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 20 MHz / 64QAM / High**


Antenna 0 / B66 LTE 5 MHz 1 Carrier + B66 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 5 MHz / 64QAM / Low



Antenna 0 / B66 LTE 5 MHz 1 Carrier + B66 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 20 MHz & NB-IoT / 64QAM / High



Antenna 3 / B66 LTE 10 MHz 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 10 MHz / 16QAM / Low



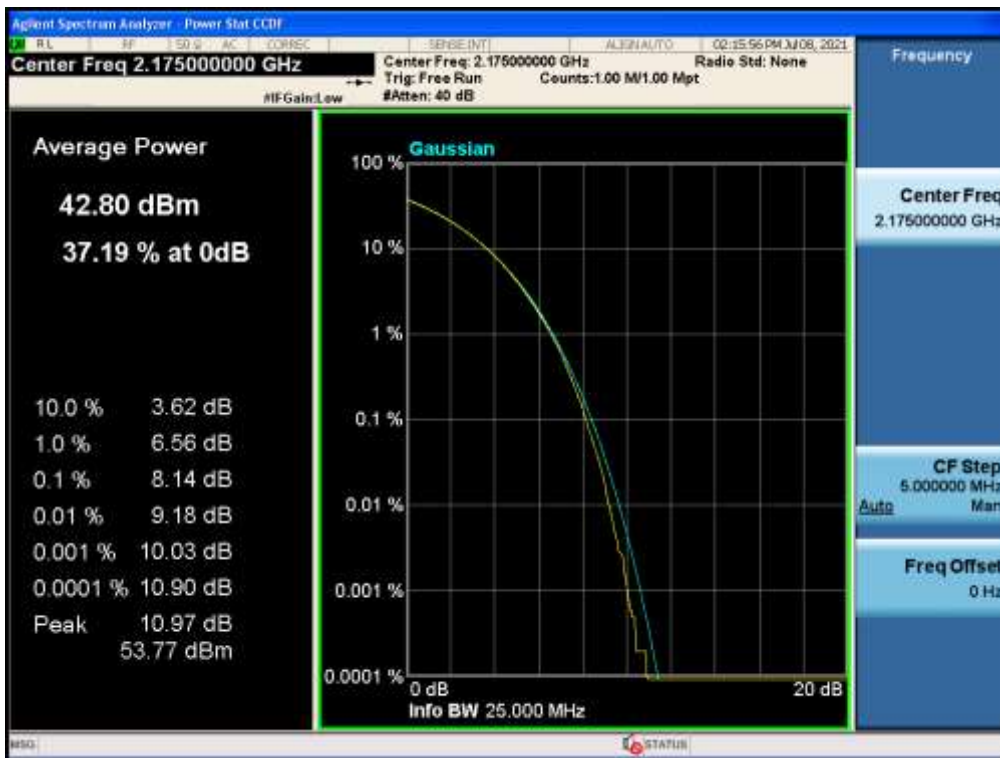
Antenna 3 / B66 LTE 10 MHz 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 10 MHz / 16QAM / High



Antenna 3 / B66 LTE 10 MHz & NB-IoT 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 10 MHz & NB-IoT / 16QAM / Low



Antenna 3 / B66 LTE 10 MHz & NB-IoT 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 10 MHz / 16QAM / High



Antenna 3 / B66 LTE 10 MHz & NB-IoT 1 Carrier + B66 LTE 10 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 10 MHz & NB-IoT / 256QAM / Low

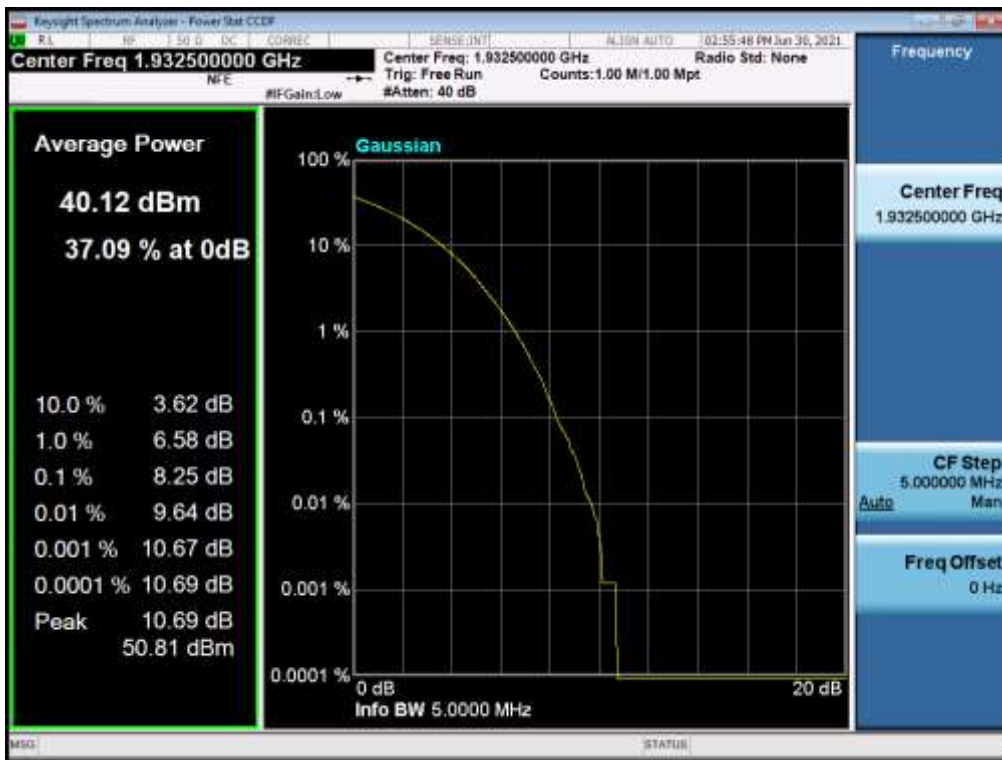


Antenna 3 / B66 LTE 10 MHz & NB-IoT 1 Carrier + B66 LTE 10 MHz & NB-IoT 1 Carrier [2 Carrier] / Non-Contiguous / B66 LTE 10 MHz & NB-IoT / 256QAM / High

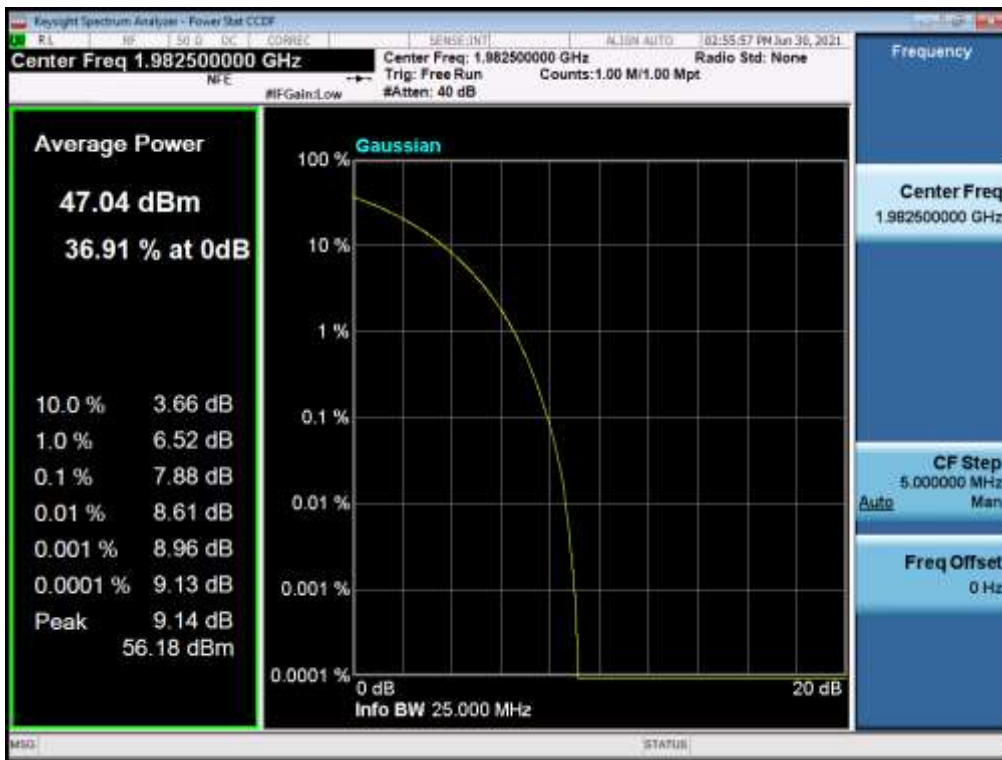




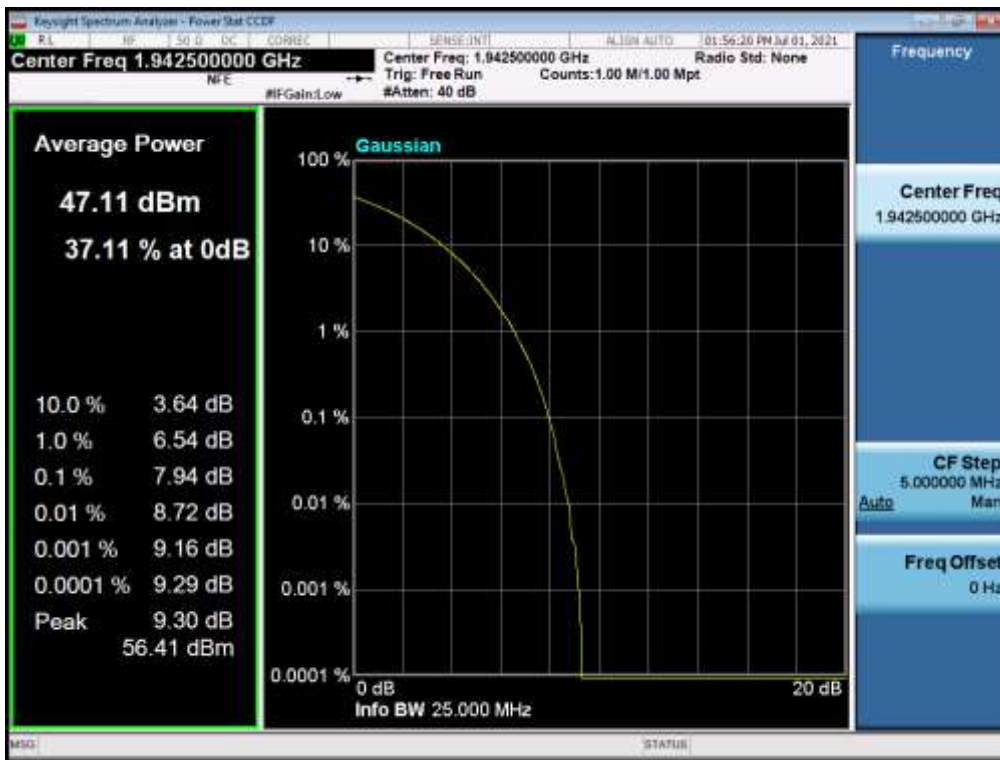
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] (1C+2C) / Non-Contiguous / B25 LTE 5 MHz / 64QAM / Low



Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] (1C+2C) / Non-Contiguous / B25 LTE 5 MHz + B25 LTE 20 MHz / 64QAM / High



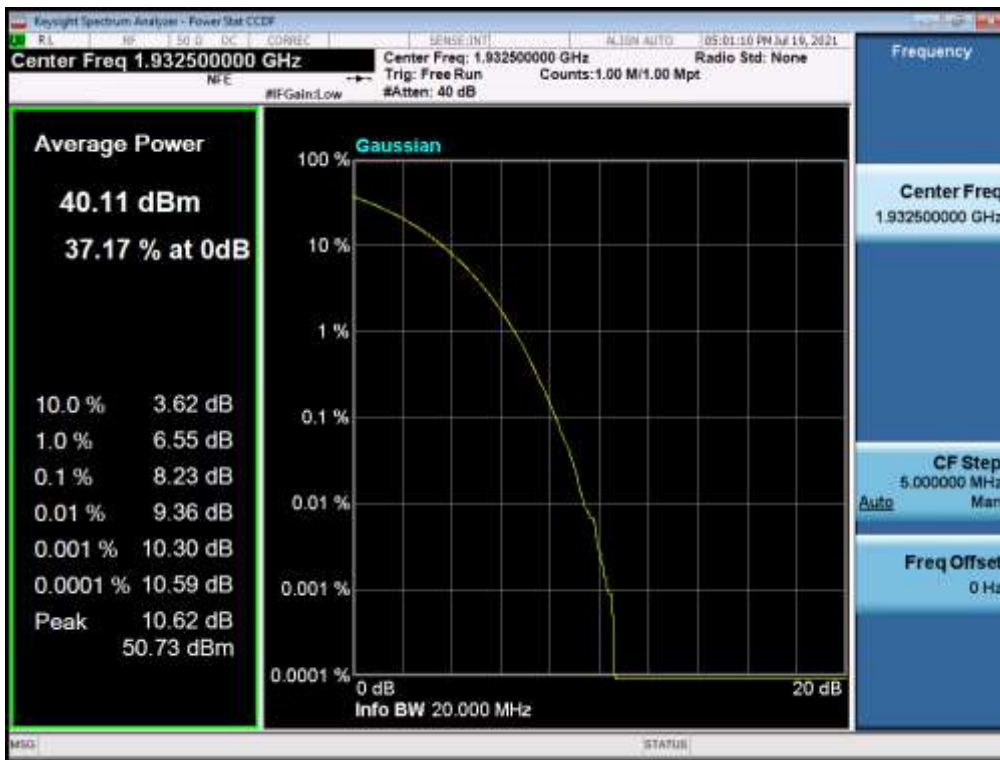
Antenna 1 / B25 LTE 20 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier [3 Carrier] (2C+1C) / Non-Contiguous / B25 LTE 20 MHz + B25 LTE 5 MHz / 256QAM / Low



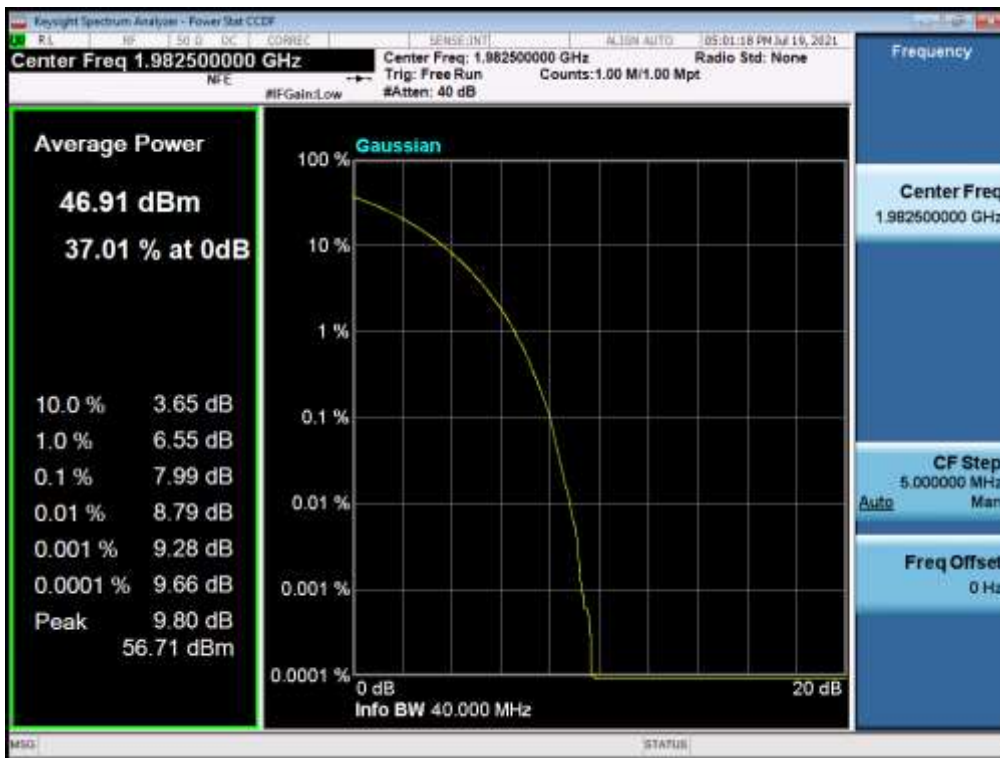
Antenna 1 / B25 LTE 20 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier [3 Carrier] (2C+1C) / Non-Contiguous / B25 LTE 5 MHz / 256QAM / High



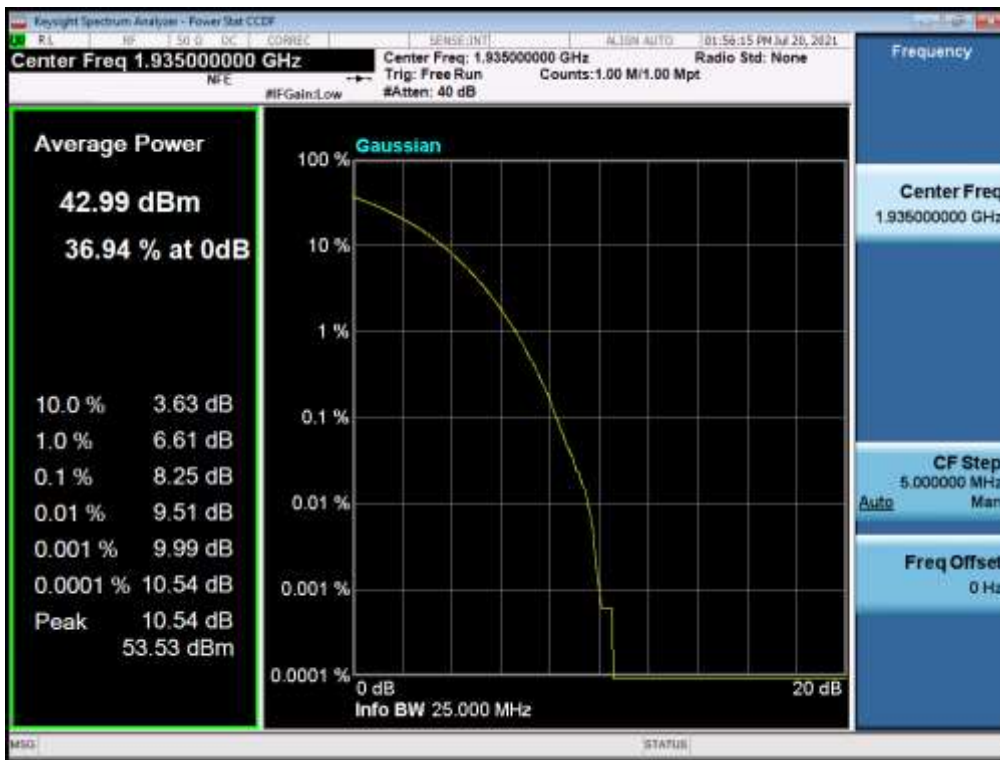
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (1C+2C) / Non-Contiguous / B25 LTE 5 MHz / 256QAM / Low



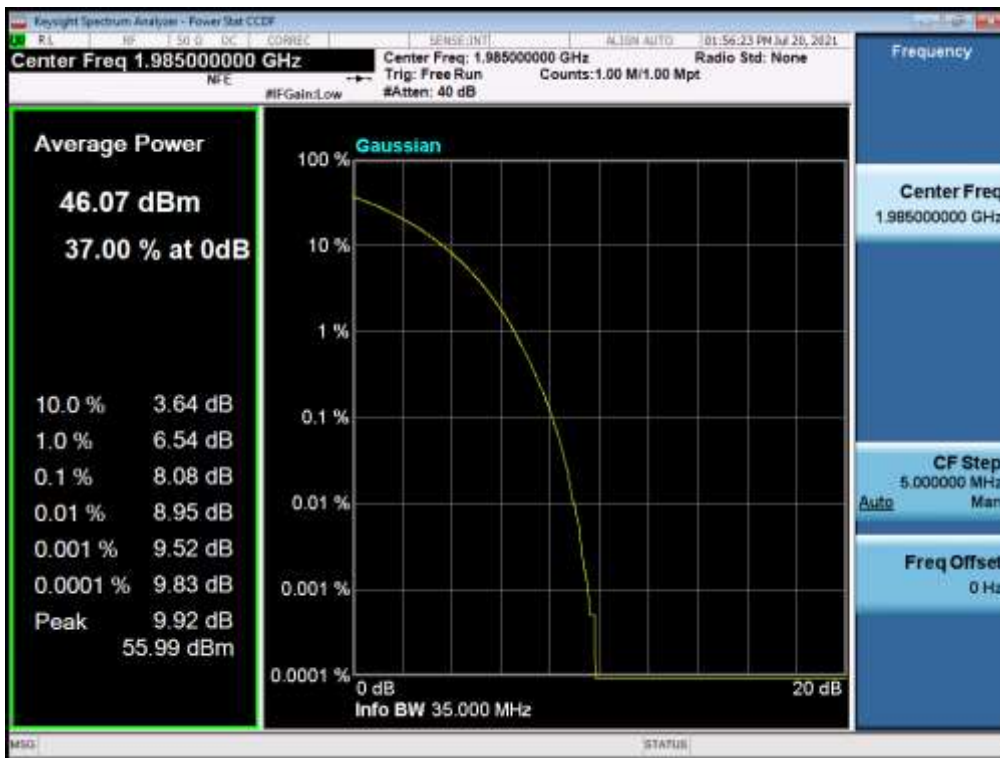
Antenna 0 / B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (1C+2C) / Non-Contiguous / B25 LTE 5 MHz + B25 LTE 20 MHz & NB-IoT / 256QAM / High



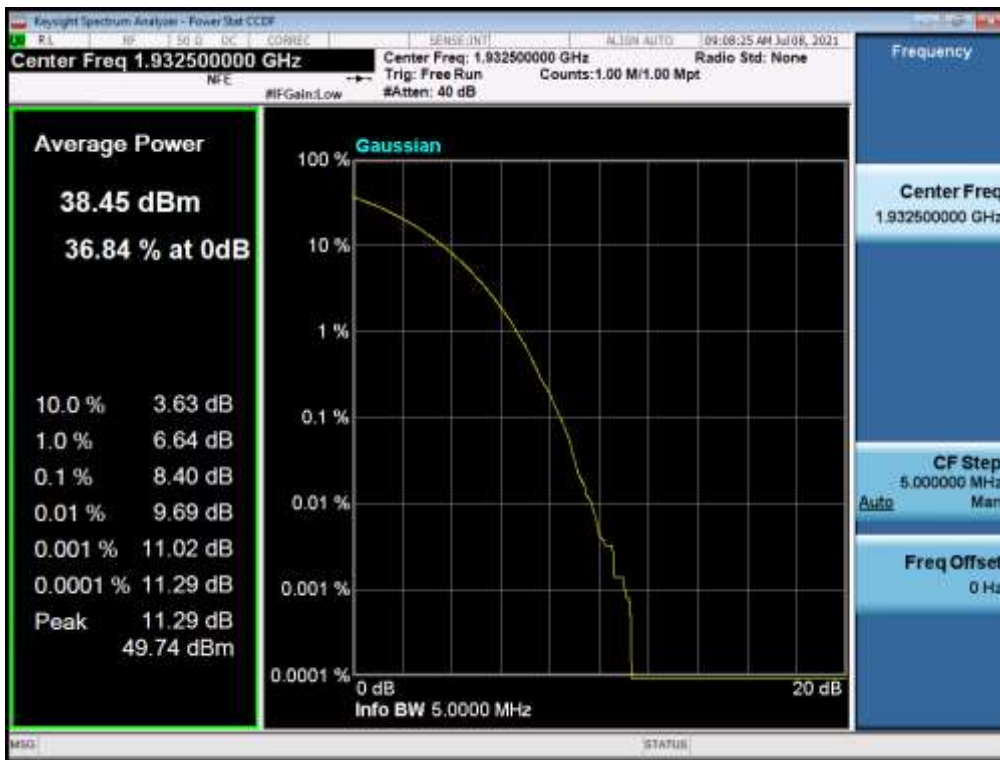
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (2C+1C) / Non-Contiguous / B25 LTE 5 MHz + B25 LTE 5 MHz / 256QAM / Low



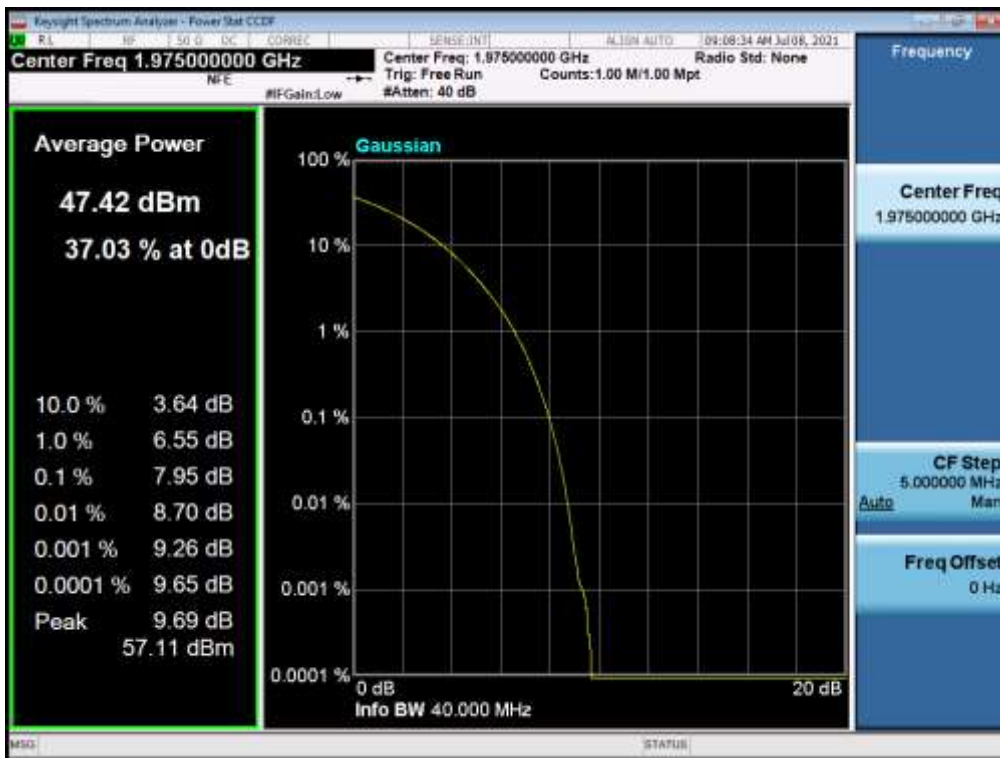
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (2C+1C) / Non-Contiguous / B25 LTE 20 MHz & NB-IoT / 256QAM / High



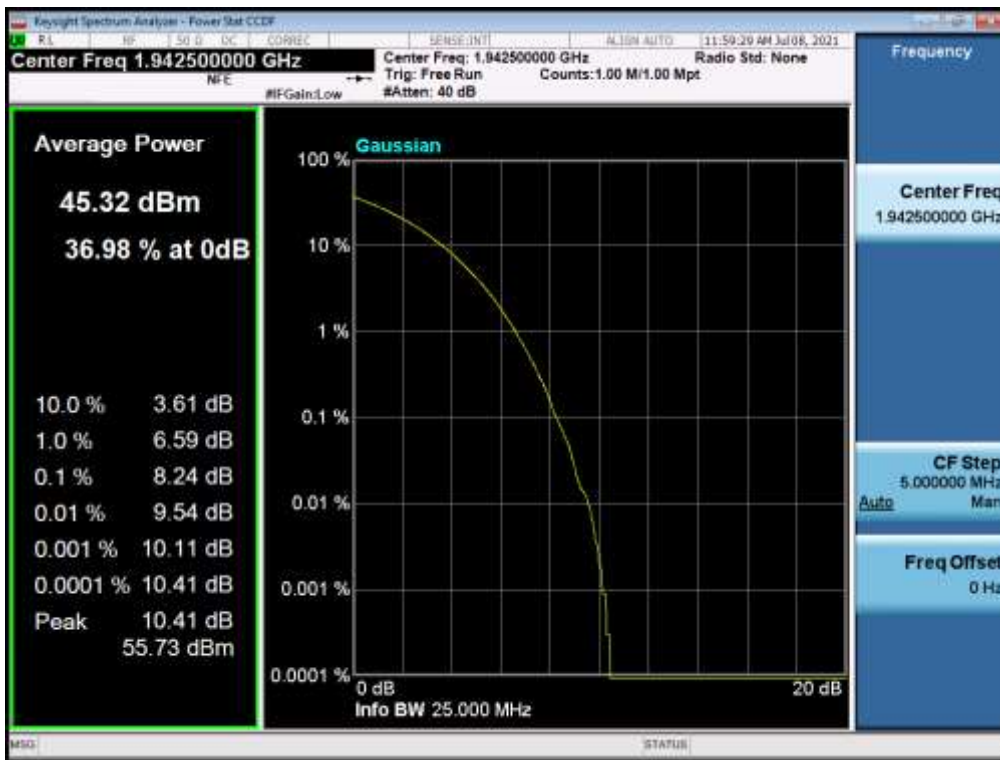
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] (1C+2C) / Non-Contiguous / B25 LTE 5 MHz / 256QAM / Low



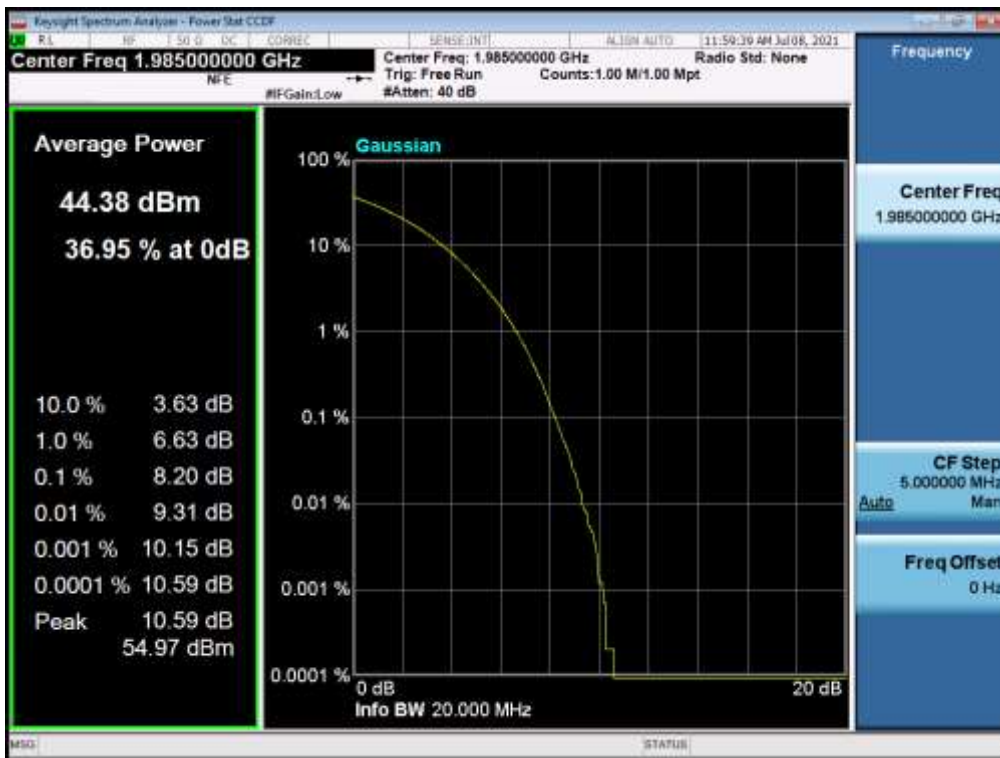
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] (1C+2C) / Non-Contiguous / B25 LTE 20 MHz + B25 LTE 20 MHz / 256QAM / High



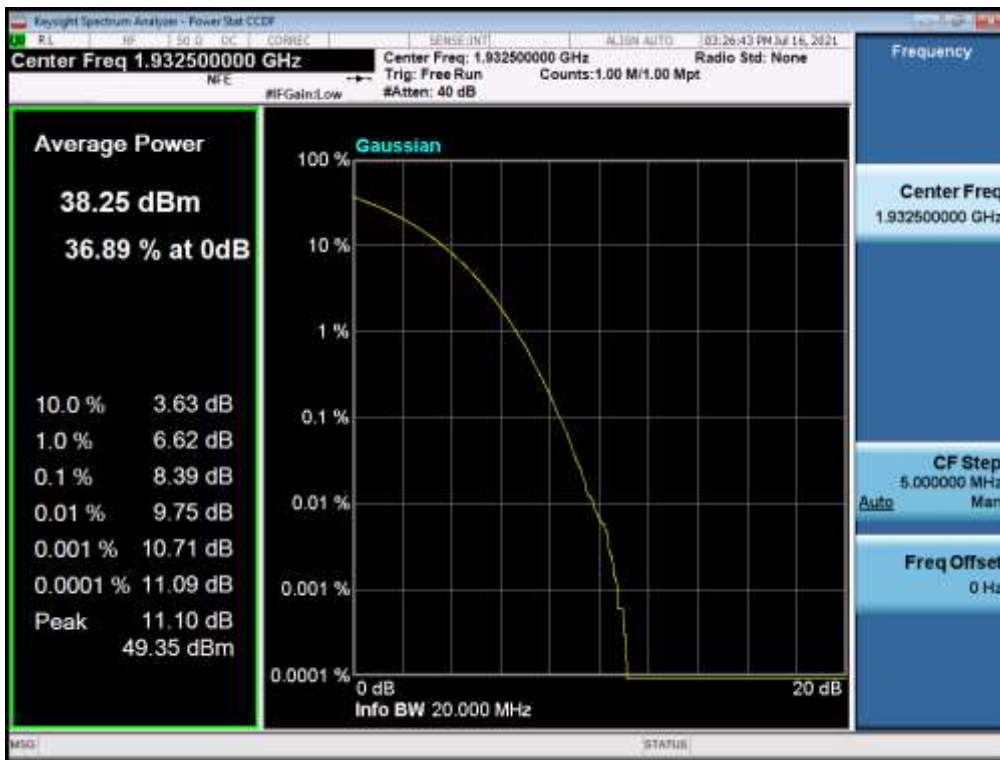
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] (2C+1C) / Non-Contiguous / B25 LTE 5 MHz + B25 LTE 20 MHz / 64QAM / Low



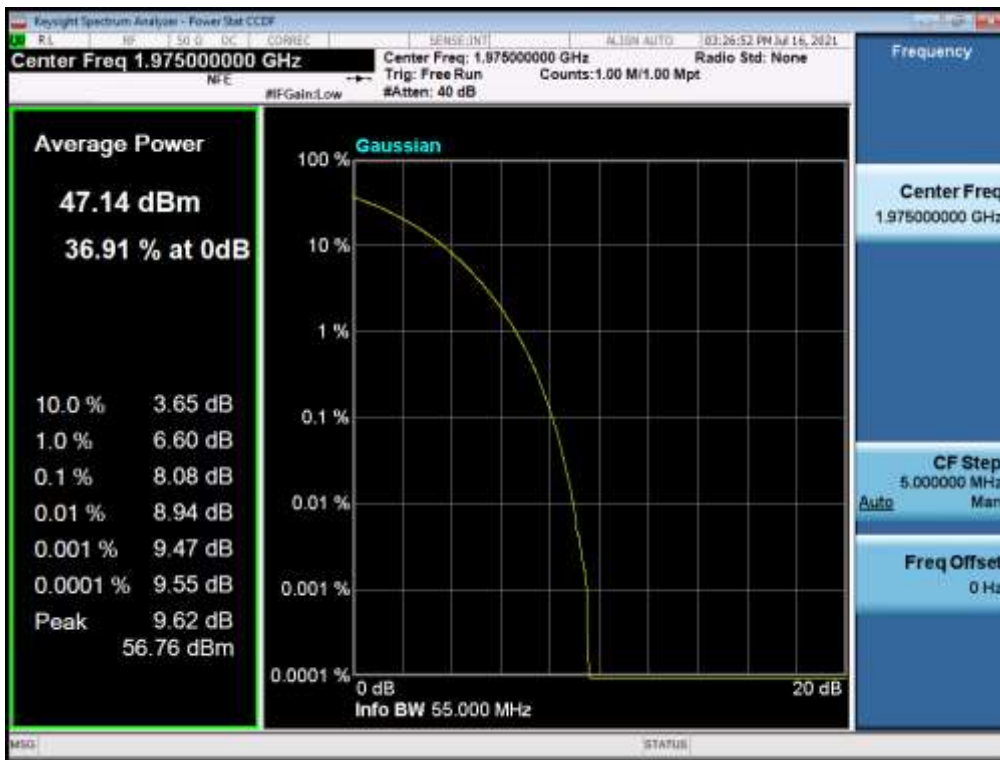
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier] (2C+1C) / Non-Contiguous / B25 LTE 20 MHz / 64QAM / High



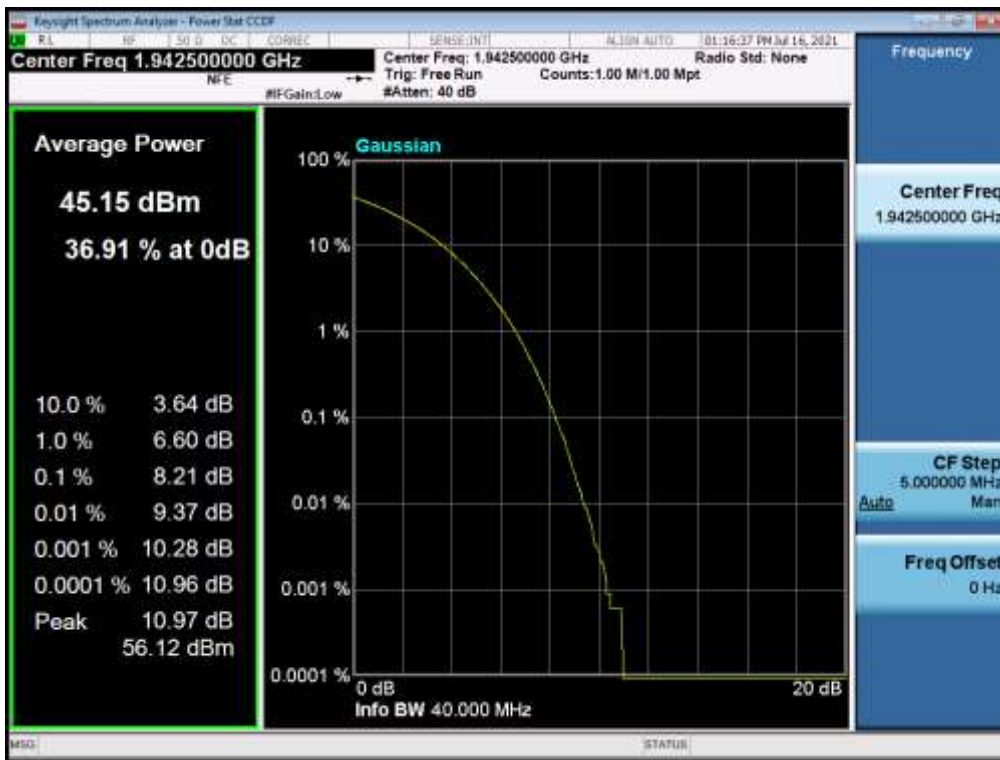
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (1C+2C) / Non-Contiguous / B25 LTE 5 MHz / QPSK / Low



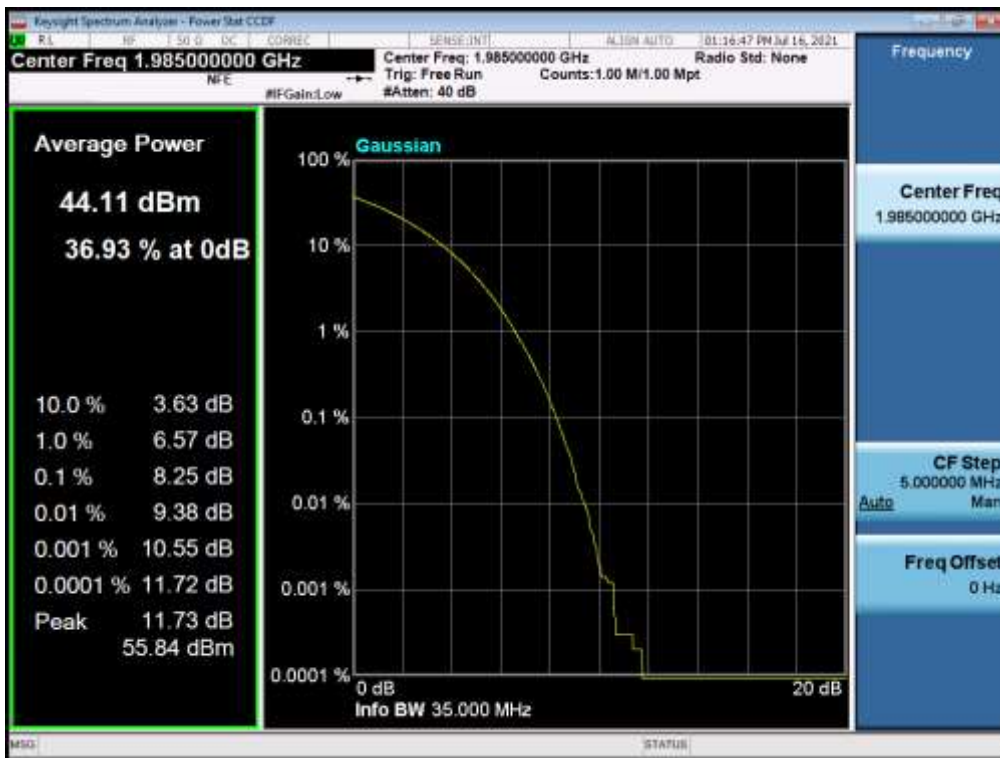
Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (1C+2C) / Non-Contiguous / B25 LTE 20 MHz + B25 LTE 20 MHz & NB-IoT / QPSK / High



Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (2C+1C) / Non-Contiguous / B25 LTE 5 MHz + B25 LTE 20 MHz / 64QAM / Low



Antenna 1 / B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier] (2C+1C) / Non-Contiguous / B25 LTE 20 MHz & NB-IoT / 64QAM / 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:** The results of the Occupied Bandwidth test shown above the frequency measured values are very small and similar trend for each port, so we are attached only the worst case plot.

**Test Results:**
**Tabular Data of Occupied Bandwidth**
**B25 LTE 5 MHz 1 Carrier**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1932.50	4.4930
		Middle	1962.50	4.4878
		High	1992.50	4.4857
	16QAM	Low	1932.50	4.4849
		Middle	1962.50	4.4988
		High	1992.50	4.5035
	64QAM	Low	1932.50	4.5033
		Middle	1962.50	4.4903
		High	1992.50	4.5046
	256QAM	Low	1932.50	4.5022
		Middle	1962.50	4.5014
		High	1992.50	4.4993
1	QPSK	Low	1932.50	4.5079
		Middle	1962.50	4.4934
		High	1992.50	4.4916
	16QAM	Low	1932.50	4.4968
		Middle	1962.50	4.4886
		High	1992.50	4.4821
	64QAM	Low	1932.50	4.4969
		Middle	1962.50	4.4924
		High	1992.50	4.4862
	256QAM	Low	1932.50	4.5054
		Middle	1962.50	4.5009
		High	1992.50	4.4849

2	QPSK	Low	1932.50	4.4806
		Middle	1962.50	4.4942
		High	1992.50	4.5092
	16QAM	Low	1932.50	4.4691
		Middle	1962.50	4.4850
		High	1992.50	4.4857
	64QAM	Low	1932.50	4.4951
		Middle	1962.50	4.4850
		High	1992.50	4.5017
	256QAM	Low	1932.50	4.4873
		Middle	1962.50	4.5054
		High	1992.50	4.4836
3	QPSK	Low	1932.50	4.5042
		Middle	1962.50	4.4956
		High	1992.50	4.4986
	16QAM	Low	1932.50	4.4929
		Middle	1962.50	4.5087
		High	1992.50	4.4879
	64QAM	Low	1932.50	4.4981
		Middle	1962.50	4.4887
		High	1992.50	4.4959
	256QAM	Low	1932.50	4.4897
		Middle	1962.50	4.4970
		High	1992.50	4.4997

**B25 LTE 10 MHz 1 Carrier**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1935.00	9.0032
		Middle	1962.50	9.0004
		High	1990.00	8.9872
	16QAM	Low	1935.00	8.9933
		Middle	1962.50	8.9871
		High	1990.00	9.0387
	64QAM	Low	1935.00	8.9805
		Middle	1962.50	9.0045
		High	1990.00	9.0044
	256QAM	Low	1935.00	8.9961
		Middle	1962.50	8.9990
		High	1990.00	9.0174
1	QPSK	Low	1935.00	8.9855
		Middle	1962.50	8.9787
		High	1990.00	8.9923
	16QAM	Low	1935.00	9.0133
		Middle	1962.50	9.0149
		High	1990.00	8.9966
	64QAM	Low	1935.00	8.9938
		Middle	1962.50	8.9838
		High	1990.00	8.9767
	256QAM	Low	1935.00	8.9666
		Middle	1962.50	8.9843
		High	1990.00	8.9932

2	QPSK	Low	1935.00	8.9903
		Middle	1962.50	9.0212
		High	1990.00	9.0083
	16QAM	Low	1935.00	8.9957
		Middle	1962.50	9.0097
		High	1990.00	8.9989
	64QAM	Low	1935.00	9.0011
		Middle	1962.50	8.9822
		High	1990.00	8.9954
	256QAM	Low	1935.00	8.9888
		Middle	1962.50	9.0121
		High	1990.00	8.9700
3	QPSK	Low	1935.00	9.0091
		Middle	1962.50	9.0069
		High	1990.00	8.9735
	16QAM	Low	1935.00	8.9942
		Middle	1962.50	9.0052
		High	1990.00	9.0122
	64QAM	Low	1935.00	8.9812
		Middle	1962.50	9.0064
		High	1990.00	8.9954
	256QAM	Low	1935.00	9.0047
		Middle	1962.50	9.0061
		High	1990.00	8.9682

**B25 LTE 15 MHz 1 Carrier**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1937.50	13.452
		Middle	1962.50	13.468
		High	1987.50	13.474
	16QAM	Low	1937.50	13.481
		Middle	1962.50	13.522
		High	1987.50	13.476
	64QAM	Low	1937.50	13.454
		Middle	1962.50	13.479
		High	1987.50	13.486
	256QAM	Low	1937.50	13.440
		Middle	1962.50	13.462
		High	1987.50	13.475
1	QPSK	Low	1937.50	13.474
		Middle	1962.50	13.475
		High	1987.50	13.496
	16QAM	Low	1937.50	13.549
		Middle	1962.50	13.474
		High	1987.50	13.474
	64QAM	Low	1937.50	13.453
		Middle	1962.50	13.451
		High	1987.50	13.505
	256QAM	Low	1937.50	13.454
		Middle	1962.50	13.489
		High	1987.50	13.463

2	QPSK	Low	1937.50	13.470
		Middle	1962.50	13.462
		High	1987.50	13.491
	16QAM	Low	1937.50	13.519
		Middle	1962.50	13.461
		High	1987.50	13.510
	64QAM	Low	1937.50	13.495
		Middle	1962.50	13.479
		High	1987.50	13.495
	256QAM	Low	1937.50	13.489
		Middle	1962.50	13.477
		High	1987.50	13.492
3	QPSK	Low	1937.50	13.456
		Middle	1962.50	13.520
		High	1987.50	13.500
	16QAM	Low	1937.50	13.509
		Middle	1962.50	13.512
		High	1987.50	13.518
	64QAM	Low	1937.50	13.486
		Middle	1962.50	13.472
		High	1987.50	13.471
	256QAM	Low	1937.50	13.460
		Middle	1962.50	13.473
		High	1987.50	13.490



**B25 LTE 20 MHz 1 Carrier**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1940.00	17.921
		Middle	1962.50	17.970
		High	1985.00	17.905
	16QAM	Low	1940.00	17.939
		Middle	1962.50	17.965
		High	1985.00	17.932
	64QAM	Low	1940.00	17.941
		Middle	1962.50	17.965
		High	1985.00	17.916
	256QAM	Low	1940.00	17.939
		Middle	1962.50	17.968
		High	1985.00	17.975
1	QPSK	Low	1940.00	17.929
		Middle	1962.50	17.962
		High	1985.00	17.940
	16QAM	Low	1940.00	17.929
		Middle	1962.50	17.888
		High	1985.00	17.983
	64QAM	Low	1940.00	17.936
		Middle	1962.50	17.973
		High	1985.00	17.934
	256QAM	Low	1940.00	17.949
		Middle	1962.50	17.959
		High	1985.00	17.961

2	QPSK	Low	1940.00	17.961
		Middle	1962.50	17.965
		High	1985.00	18.005
	16QAM	Low	1940.00	17.948
		Middle	1962.50	17.979
		High	1985.00	17.967
	64QAM	Low	1940.00	17.968
		Middle	1962.50	17.946
		High	1985.00	17.938
	256QAM	Low	1940.00	17.912
		Middle	1962.50	18.009
		High	1985.00	17.958
3	QPSK	Low	1940.00	17.975
		Middle	1962.50	17.935
		High	1985.00	17.928
	16QAM	Low	1940.00	17.922
		Middle	1962.50	17.978
		High	1985.00	17.962
	64QAM	Low	1940.00	17.947
		Middle	1962.50	17.950
		High	1985.00	17.939
	256QAM	Low	1940.00	17.961
		Middle	1962.50	17.929
		High	1985.00	17.959

**B66 LTE 5 MHz 1 Carrier**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	2112.50	4.5010
		Middle	2145.00	4.4939
		High	2177.50	4.5087
	16QAM	Low	2112.50	4.5039
		Middle	2145.00	4.4587
		High	2177.50	4.4961
	64QAM	Low	2112.50	4.4922
		Middle	2145.00	4.4968
		High	2177.50	4.5038
	256QAM	Low	2112.50	4.4969
		Middle	2145.00	4.4955
		High	2177.50	4.5016
1	QPSK	Low	2112.50	4.5041
		Middle	2145.00	4.5040
		High	2177.50	4.5009
	16QAM	Low	2112.50	4.4728
		Middle	2145.00	4.4988
		High	2177.50	4.4769
	64QAM	Low	2112.50	4.5019
		Middle	2145.00	4.4924
		High	2177.50	4.5105
	256QAM	Low	2112.50	4.5008
		Middle	2145.00	4.5181
		High	2177.50	4.5185

2	QPSK	Low	2112.50	4.5028
		Middle	2145.00	4.4994
		High	2177.50	4.5165
	16QAM	Low	2112.50	4.4875
		Middle	2145.00	4.4895
		High	2177.50	4.5027
	64QAM	Low	2112.50	4.5115
		Middle	2145.00	4.4920
		High	2177.50	4.5072
	256QAM	Low	2112.50	4.5155
		Middle	2145.00	4.5056
		High	2177.50	4.5118
3	QPSK	Low	2112.50	4.5092
		Middle	2145.00	4.5079
		High	2177.50	4.4935
	16QAM	Low	2112.50	4.4769
		Middle	2145.00	4.4867
		High	2177.50	4.5067
	64QAM	Low	2112.50	4.5020
		Middle	2145.00	4.5064
		High	2177.50	4.5105
	256QAM	Low	2112.50	4.5146
		Middle	2145.00	4.5031
		High	2177.50	4.5001

**B66 LTE 10 MHz 1 Carrier**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	2115.00	9.0085
		Middle	2145.00	9.0282
		High	2175.00	8.9798
	16QAM	Low	2115.00	8.9950
		Middle	2145.00	8.9926
		High	2175.00	9.0189
	64QAM	Low	2115.00	9.0046
		Middle	2145.00	8.9797
		High	2175.00	9.0258
	256QAM	Low	2115.00	8.9912
		Middle	2145.00	9.0159
		High	2175.00	9.0246
1	QPSK	Low	2115.00	9.0450
		Middle	2145.00	9.0044
		High	2175.00	9.0033
	16QAM	Low	2115.00	8.9994
		Middle	2145.00	9.0272
		High	2175.00	8.9923
	64QAM	Low	2115.00	9.0107
		Middle	2145.00	9.0020
		High	2175.00	9.0046
	256QAM	Low	2115.00	8.9929
		Middle	2145.00	9.0026
		High	2175.00	9.0256

2	QPSK	Low	2115.00	8.9963
		Middle	2145.00	8.9734
		High	2175.00	8.9937
	16QAM	Low	2115.00	9.0698
		Middle	2145.00	8.9609
		High	2175.00	9.0115
	64QAM	Low	2115.00	8.9949
		Middle	2145.00	8.9841
		High	2175.00	9.0120
	256QAM	Low	2115.00	9.0127
		Middle	2145.00	8.9980
		High	2175.00	8.9987
3	QPSK	Low	2115.00	8.9775
		Middle	2145.00	8.9857
		High	2175.00	8.9924
	16QAM	Low	2115.00	9.0230
		Middle	2145.00	8.9877
		High	2175.00	9.0054
	64QAM	Low	2115.00	9.0132
		Middle	2145.00	8.9743
		High	2175.00	9.0033
	256QAM	Low	2115.00	9.0079
		Middle	2145.00	8.9911
		High	2175.00	9.0016

**B66 LTE 15 MHz 1 Carrier**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	2117.50	13.495
		Middle	2145.00	13.495
		High	2172.50	13.467
	16QAM	Low	2117.50	13.529
		Middle	2145.00	13.489
		High	2172.50	13.493
	64QAM	Low	2117.50	13.526
		Middle	2145.00	13.526
		High	2172.50	13.557
	256QAM	Low	2117.50	13.493
		Middle	2145.00	13.520
		High	2172.50	13.472
1	QPSK	Low	2117.50	13.477
		Middle	2145.00	13.451
		High	2172.50	13.527
	16QAM	Low	2117.50	13.520
		Middle	2145.00	13.509
		High	2172.50	13.479
	64QAM	Low	2117.50	13.533
		Middle	2145.00	13.490
		High	2172.50	13.489
	256QAM	Low	2117.50	13.481
		Middle	2145.00	13.499
		High	2172.50	13.502

2	QPSK	Low	2117.50	13.512
		Middle	2145.00	13.486
		High	2172.50	13.476
	16QAM	Low	2117.50	13.523
		Middle	2145.00	13.466
		High	2172.50	13.452
	64QAM	Low	2117.50	13.514
		Middle	2145.00	13.483
		High	2172.50	13.488
	256QAM	Low	2117.50	13.519
		Middle	2145.00	13.501
		High	2172.50	13.477
3	QPSK	Low	2117.50	13.496
		Middle	2145.00	13.513
		High	2172.50	13.509
	16QAM	Low	2117.50	13.489
		Middle	2145.00	13.498
		High	2172.50	13.515
	64QAM	Low	2117.50	13.495
		Middle	2145.00	13.468
		High	2172.50	13.417
	256QAM	Low	2117.50	13.492
		Middle	2145.00	13.541
		High	2172.50	13.481



**B66 LTE 20 MHz 1 Carrier**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	2120.00	17.944
		Middle	2145.00	17.954
		High	2170.00	17.982
	16QAM	Low	2120.00	17.931
		Middle	2145.00	17.979
		High	2170.00	18.097
	64QAM	Low	2120.00	17.943
		Middle	2145.00	17.968
		High	2170.00	17.962
	256QAM	Low	2120.00	17.977
		Middle	2145.00	17.951
		High	2170.00	18.017
1	QPSK	Low	2120.00	17.913
		Middle	2145.00	17.955
		High	2170.00	17.973
	16QAM	Low	2120.00	17.982
		Middle	2145.00	18.007
		High	2170.00	18.040
	64QAM	Low	2120.00	17.990
		Middle	2145.00	17.904
		High	2170.00	17.945
	256QAM	Low	2120.00	17.966
		Middle	2145.00	17.964
		High	2170.00	17.914

2	QPSK	Low	2120.00	17.950
		Middle	2145.00	17.941
		High	2170.00	17.950
	16QAM	Low	2120.00	18.014
		Middle	2145.00	17.940
		High	2170.00	18.023
	64QAM	Low	2120.00	17.955
		Middle	2145.00	17.979
		High	2170.00	17.989
256QAM	Low	2120.00	17.977	
	Middle	2145.00	17.925	
	High	2170.00	17.937	
3	QPSK	Low	2120.00	17.925
		Middle	2145.00	17.969
		High	2170.00	17.958
	16QAM	Low	2120.00	17.999
		Middle	2145.00	17.989
		High	2170.00	18.023
	64QAM	Low	2120.00	17.961
		Middle	2145.00	17.958
		High	2170.00	17.933
	256QAM	Low	2120.00	18.008
		Middle	2145.00	17.936
		High	2170.00	17.942

**Tabular Data of Contiguous Occupied Bandwidth**
**B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1942.50	23.675
		Middle	1962.50	23.676
		High	1982.50	23.667
	16QAM	Low	1942.50	23.616
		Middle	1962.50	23.634
		High	1982.50	23.684
	64QAM	Low	1942.50	23.635
		Middle	1962.50	23.676
		High	1982.50	23.578
	256QAM	Low	1942.50	23.595
		Middle	1962.50	23.645
		High	1982.50	23.646
1	QPSK	Low	1942.50	23.646
		Middle	1962.50	23.673
		High	1982.50	23.643
	16QAM	Low	1942.50	23.650
		Middle	1962.50	23.614
		High	1982.50	23.637
	64QAM	Low	1942.50	23.697
		Middle	1962.50	23.652
		High	1982.50	23.668
	256QAM	Low	1942.50	23.638
		Middle	1962.50	23.620
		High	1982.50	23.646

2	QPSK	Low	1942.50	23.642
		Middle	1962.50	23.620
		High	1982.50	23.615
	16QAM	Low	1942.50	23.685
		Middle	1962.50	23.664
		High	1982.50	23.697
	64QAM	Low	1942.50	23.640
		Middle	1962.50	23.715
		High	1982.50	23.622
	256QAM	Low	1942.50	23.685
		Middle	1962.50	23.637
		High	1982.50	23.671
3	QPSK	Low	1942.50	23.650
		Middle	1962.50	23.684
		High	1982.50	23.584
	16QAM	Low	1942.50	23.660
		Middle	1962.50	23.593
		High	1982.50	23.627
	64QAM	Low	1942.50	23.628
		Middle	1962.50	23.662
		High	1982.50	23.651
	256QAM	Low	1942.50	23.659
		Middle	1962.50	23.660
		High	1982.50	23.598

**B25 LTE 10 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1945.00	28.395
		Middle	1962.50	28.417
		High	1980.00	28.374
	16QAM	Low	1945.00	28.304
		Middle	1962.50	28.491
		High	1980.00	28.458
	64QAM	Low	1945.00	28.396
		Middle	1962.50	28.355
		High	1980.00	28.336
	256QAM	Low	1945.00	28.402
		Middle	1962.50	28.413
		High	1980.00	28.393
1	QPSK	Low	1945.00	28.397
		Middle	1962.50	28.392
		High	1980.00	28.343
	16QAM	Low	1945.00	28.436
		Middle	1962.50	28.362
		High	1980.00	28.379
	64QAM	Low	1945.00	28.393
		Middle	1962.50	28.389
		High	1980.00	28.375
	256QAM	Low	1945.00	28.353
		Middle	1962.50	28.424
		High	1980.00	28.292

2	QPSK	Low	1945.00	28.436
		Middle	1962.50	28.365
		High	1980.00	28.334
	16QAM	Low	1945.00	28.361
		Middle	1962.50	28.384
		High	1980.00	28.386
	64QAM	Low	1945.00	28.343
		Middle	1962.50	28.429
		High	1980.00	28.412
	256QAM	Low	1945.00	28.352
		Middle	1962.50	28.410
		High	1980.00	28.358
3	QPSK	Low	1945.00	28.386
		Middle	1962.50	28.445
		High	1980.00	28.378
	16QAM	Low	1945.00	28.414
		Middle	1962.50	28.377
		High	1980.00	28.460
	64QAM	Low	1945.00	28.417
		Middle	1962.50	28.404
		High	1980.00	28.390
	256QAM	Low	1945.00	28.361
		Middle	1962.50	28.411
		High	1980.00	28.379

**B25 LTE 10 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1945.00	29.069
		Middle	1962.50	29.113
		High	1980.00	29.055
	16QAM	Low	1945.00	29.046
		Middle	1962.50	29.143
		High	1980.00	29.089
	64QAM	Low	1945.00	29.049
		Middle	1962.50	29.103
		High	1980.00	29.055
	256QAM	Low	1945.00	29.084
		Middle	1962.50	29.122
		High	1980.00	29.066
1	QPSK	Low	1945.00	29.010
		Middle	1962.50	29.082
		High	1980.00	29.082
	16QAM	Low	1945.00	29.035
		Middle	1962.50	29.085
		High	1980.00	29.145
	64QAM	Low	1945.00	29.085
		Middle	1962.50	29.082
		High	1980.00	29.076
	256QAM	Low	1945.00	29.085
		Middle	1962.50	29.082
		High	1980.00	29.094

2	QPSK	Low	1945.00	29.097
		Middle	1962.50	29.068
		High	1980.00	29.113
	16QAM	Low	1945.00	29.116
		Middle	1962.50	29.097
		High	1980.00	29.045
	64QAM	Low	1945.00	29.124
		Middle	1962.50	29.146
		High	1980.00	29.096
	256QAM	Low	1945.00	29.093
		Middle	1962.50	29.092
		High	1980.00	29.029
3	QPSK	Low	1945.00	29.076
		Middle	1962.50	29.088
		High	1980.00	29.023
	16QAM	Low	1945.00	29.136
		Middle	1962.50	29.154
		High	1980.00	29.066
	64QAM	Low	1945.00	29.036
		Middle	1962.50	29.105
		High	1980.00	29.146
	256QAM	Low	1945.00	29.128
		Middle	1962.50	29.152
		High	1980.00	29.075



**B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 10 MHz 1 Carrier [2 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1945.00	29.433
		Middle	1962.50	29.454
		High	1980.00	29.412
	16QAM	Low	1945.00	29.412
		Middle	1962.50	29.403
		High	1980.00	29.441
	64QAM	Low	1945.00	29.423
		Middle	1962.50	29.459
		High	1980.00	29.405
	256QAM	Low	1945.00	29.433
		Middle	1962.50	29.430
		High	1980.00	29.426
1	QPSK	Low	1945.00	29.437
		Middle	1962.50	29.409
		High	1980.00	29.427
	16QAM	Low	1945.00	29.459
		Middle	1962.50	29.392
		High	1980.00	29.440
	64QAM	Low	1945.00	29.475
		Middle	1962.50	29.440
		High	1980.00	29.446
	256QAM	Low	1945.00	29.394
		Middle	1962.50	29.435
		High	1980.00	29.450

2	QPSK	Low	1945.00	29.443
		Middle	1962.50	29.385
		High	1980.00	29.376
	16QAM	Low	1945.00	29.395
		Middle	1962.50	29.463
		High	1980.00	29.429
	64QAM	Low	1945.00	29.441
		Middle	1962.50	29.401
		High	1980.00	29.391
	256QAM	Low	1945.00	29.467
		Middle	1962.50	29.451
		High	1980.00	29.471
3	QPSK	Low	1945.00	29.414
		Middle	1962.50	29.440
		High	1980.00	29.413
	16QAM	Low	1945.00	29.377
		Middle	1962.50	29.450
		High	1980.00	29.372
	64QAM	Low	1945.00	29.432
		Middle	1962.50	29.432
		High	1980.00	29.400
	256QAM	Low	1945.00	29.480
		Middle	1962.50	29.445
		High	1980.00	29.455

**B25 LTE 10 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1945.00	29.984
		Middle	1962.50	29.954
		High	1980.00	29.920
	16QAM	Low	1945.00	29.841
		Middle	1962.50	29.969
		High	1980.00	29.924
	64QAM	Low	1945.00	29.927
		Middle	1962.50	29.929
		High	1980.00	29.963
	256QAM	Low	1945.00	29.959
		Middle	1962.50	29.932
		High	1980.00	29.942
1	QPSK	Low	1945.00	29.928
		Middle	1962.50	29.983
		High	1980.00	29.959
	16QAM	Low	1945.00	29.906
		Middle	1962.50	29.896
		High	1980.00	29.922
	64QAM	Low	1945.00	29.948
		Middle	1962.50	29.963
		High	1980.00	29.971
	256QAM	Low	1945.00	29.951
		Middle	1962.50	29.999
		High	1980.00	29.918

2	QPSK	Low	1945.00	29.939
		Middle	1962.50	29.922
		High	1980.00	29.930
	16QAM	Low	1945.00	29.924
		Middle	1962.50	29.888
		High	1980.00	29.877
	64QAM	Low	1945.00	29.950
		Middle	1962.50	29.977
		High	1980.00	29.931
	256QAM	Low	1945.00	29.962
		Middle	1962.50	29.978
		High	1980.00	29.909
3	QPSK	Low	1945.00	29.932
		Middle	1962.50	30.030
		High	1980.00	29.951
	16QAM	Low	1945.00	29.874
		Middle	1962.50	29.945
		High	1980.00	29.925
	64QAM	Low	1945.00	29.925
		Middle	1962.50	29.986
		High	1980.00	29.957
	256QAM	Low	1945.00	29.909
		Middle	1962.50	29.932
		High	1980.00	29.894

**B25 LTE 15 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1947.50	33.119
		Middle	1962.50	33.094
		High	1977.50	33.073
	16QAM	Low	1947.50	33.041
		Middle	1962.50	33.159
		High	1977.50	33.165
	64QAM	Low	1947.50	33.051
		Middle	1962.50	33.113
		High	1977.50	33.041
	256QAM	Low	1947.50	33.114
		Middle	1962.50	33.155
		High	1977.50	33.044
1	QPSK	Low	1947.50	33.093
		Middle	1962.50	33.089
		High	1977.50	33.021
	16QAM	Low	1947.50	33.021
		Middle	1962.50	33.094
		High	1977.50	33.134
	64QAM	Low	1947.50	33.057
		Middle	1962.50	33.137
		High	1977.50	33.056
	256QAM	Low	1947.50	33.107
		Middle	1962.50	33.083
		High	1977.50	33.084

2	QPSK	Low	1947.50	33.051
		Middle	1962.50	33.134
		High	1977.50	33.083
	16QAM	Low	1947.50	33.138
		Middle	1962.50	33.149
		High	1977.50	33.112
	64QAM	Low	1947.50	33.074
		Middle	1962.50	33.137
		High	1977.50	33.052
256QAM	Low	1947.50	33.118	
	Middle	1962.50	33.128	
	High	1977.50	33.101	
3	QPSK	Low	1947.50	33.077
		Middle	1962.50	33.045
		High	1977.50	33.101
	16QAM	Low	1947.50	33.123
		Middle	1962.50	33.135
		High	1977.50	33.148
	64QAM	Low	1947.50	33.063
		Middle	1962.50	33.117
		High	1977.50	33.085
256QAM	Low	1947.50	33.070	
	Middle	1962.50	33.105	
	High	1977.50	33.091	

**B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1950.00	37.822
		Middle	1962.50	37.788
		High	1975.00	37.828
	16QAM	Low	1950.00	37.850
		Middle	1962.50	37.986
		High	1975.00	37.963
	64QAM	Low	1950.00	37.758
		Middle	1962.50	37.771
		High	1975.00	37.800
	256QAM	Low	1950.00	37.835
		Middle	1962.50	37.817
		High	1975.00	37.828
1	QPSK	Low	1950.00	37.877
		Middle	1962.50	37.774
		High	1975.00	37.856
	16QAM	Low	1950.00	37.814
		Middle	1962.50	37.929
		High	1975.00	37.869
	64QAM	Low	1950.00	37.827
		Middle	1962.50	37.841
		High	1975.00	37.788
	256QAM	Low	1950.00	37.876
		Middle	1962.50	37.824
		High	1975.00	37.781

2	QPSK	Low	1950.00	37.843
		Middle	1962.50	37.804
		High	1975.00	37.803
	16QAM	Low	1950.00	37.826
		Middle	1962.50	37.853
		High	1975.00	37.881
	64QAM	Low	1950.00	37.766
		Middle	1962.50	37.846
		High	1975.00	37.838
	256QAM	Low	1950.00	37.820
		Middle	1962.50	37.876
		High	1975.00	37.836
3	QPSK	Low	1950.00	37.819
		Middle	1962.50	37.787
		High	1975.00	37.825
	16QAM	Low	1950.00	37.801
		Middle	1962.50	37.980
		High	1975.00	37.869
	64QAM	Low	1950.00	37.814
		Middle	1962.50	37.864
		High	1975.00	37.784
	256QAM	Low	1950.00	37.853
		Middle	1962.50	37.835
		High	1975.00	37.781



**B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1950.00	39.024
		Middle	1962.50	38.920
		High	1975.00	38.909
	16QAM	Low	1950.00	39.019
		Middle	1962.50	39.019
		High	1975.00	38.908
	64QAM	Low	1950.00	38.916
		Middle	1962.50	38.958
		High	1975.00	38.990
	256QAM	Low	1950.00	38.968
		Middle	1962.50	38.932
		High	1975.00	39.027
1	QPSK	Low	1950.00	38.931
		Middle	1962.50	38.962
		High	1975.00	38.908
	16QAM	Low	1950.00	38.976
		Middle	1962.50	39.013
		High	1975.00	38.882
	64QAM	Low	1950.00	38.972
		Middle	1962.50	39.047
		High	1975.00	38.913
	256QAM	Low	1950.00	38.878
		Middle	1962.50	38.983
		High	1975.00	38.947

2	QPSK	Low	1950.00	38.982
		Middle	1962.50	38.890
		High	1975.00	38.970
	16QAM	Low	1950.00	39.006
		Middle	1962.50	38.930
		High	1975.00	38.930
	64QAM	Low	1950.00	38.970
		Middle	1962.50	38.928
		High	1975.00	38.966
	256QAM	Low	1950.00	38.949
		Middle	1962.50	38.943
		High	1975.00	38.863
3	QPSK	Low	1950.00	38.927
		Middle	1962.50	38.947
		High	1975.00	38.998
	16QAM	Low	1950.00	38.966
		Middle	1962.50	38.944
		High	1975.00	38.952
	64QAM	Low	1950.00	38.915
		Middle	1962.50	38.949
		High	1975.00	38.847
	256QAM	Low	1950.00	38.991
		Middle	1962.50	38.897
		High	1975.00	38.940

**B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1950.00	39.872
		Middle	1962.50	39.865
		High	1975.00	39.906
	16QAM	Low	1950.00	39.888
		Middle	1962.50	39.860
		High	1975.00	39.887
	64QAM	Low	1950.00	39.863
		Middle	1962.50	39.861
		High	1975.00	39.887
	256QAM	Low	1950.00	39.884
		Middle	1962.50	39.876
		High	1975.00	39.886
1	QPSK	Low	1950.00	39.917
		Middle	1962.50	39.812
		High	1975.00	39.831
	16QAM	Low	1950.00	39.938
		Middle	1962.50	39.857
		High	1975.00	39.848
	64QAM	Low	1950.00	39.897
		Middle	1962.50	39.823
		High	1975.00	39.855
	256QAM	Low	1950.00	39.927
		Middle	1962.50	39.887
		High	1975.00	39.862

2	QPSK	Low	1950.00	39.820
		Middle	1962.50	39.860
		High	1975.00	39.836
	16QAM	Low	1950.00	39.796
		Middle	1962.50	39.853
		High	1975.00	39.904
	64QAM	Low	1950.00	39.938
		Middle	1962.50	39.838
		High	1975.00	39.877
256QAM	Low	1950.00	39.916	
	Middle	1962.50	39.953	
	High	1975.00	39.882	
3	QPSK	Low	1950.00	39.911
		Middle	1962.50	39.853
		High	1975.00	39.986
	16QAM	Low	1950.00	39.858
		Middle	1962.50	39.793
		High	1975.00	39.805
	64QAM	Low	1950.00	39.903
		Middle	1962.50	39.905
		High	1975.00	39.880
256QAM	Low	1950.00	39.972	
	Middle	1962.50	40.011	
	High	1975.00	39.882	

**B66 LTE 5 MHz 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	2117.50	14.224
		Middle	2145.00	14.210
		High	2172.50	14.229
	16QAM	Low	2117.50	14.185
		Middle	2145.00	14.223
		High	2172.50	14.221
	64QAM	Low	2117.50	14.181
		Middle	2145.00	14.170
		High	2172.50	14.219
256QAM	Low	2117.50	14.223	
	Middle	2145.00	14.225	
	High	2172.50	14.172	
1	QPSK	Low	2117.50	14.230
		Middle	2145.00	14.203
		High	2172.50	14.174
	16QAM	Low	2117.50	14.221
		Middle	2145.00	14.185
		High	2172.50	14.223
	64QAM	Low	2117.50	14.226
		Middle	2145.00	14.222
		High	2172.50	14.174
256QAM	Low	2117.50	14.194	
	Middle	2145.00	14.249	
	High	2172.50	14.164	

2	QPSK	Low	2117.50	14.192
		Middle	2145.00	14.201
		High	2172.50	14.200
	16QAM	Low	2117.50	14.240
		Middle	2145.00	14.174
		High	2172.50	14.244
	64QAM	Low	2117.50	14.194
		Middle	2145.00	14.198
		High	2172.50	14.225
	256QAM	Low	2117.50	14.214
		Middle	2145.00	14.217
		High	2172.50	14.198
3	QPSK	Low	2117.50	14.222
		Middle	2145.00	14.189
		High	2172.50	14.241
	16QAM	Low	2117.50	14.199
		Middle	2145.00	14.235
		High	2172.50	14.186
	64QAM	Low	2117.50	14.205
		Middle	2145.00	14.209
		High	2172.50	14.206
	256QAM	Low	2117.50	14.202
		Middle	2145.00	14.227
		High	2172.50	14.275

**B66 LTE 5 MHz 1 Carrier + B66 LTE 10 MHz & NB-IoT 1 Carrier [2 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	2117.50	14.730
		Middle	2145.00	14.748
		High	2172.50	14.738
	16QAM	Low	2117.50	14.755
		Middle	2145.00	14.760
		High	2172.50	14.781
	64QAM	Low	2117.50	14.735
		Middle	2145.00	14.766
		High	2172.50	14.776
	256QAM	Low	2117.50	14.761
		Middle	2145.00	14.753
		High	2172.50	14.730
1	QPSK	Low	2117.50	14.749
		Middle	2145.00	14.771
		High	2172.50	14.755
	16QAM	Low	2117.50	14.747
		Middle	2145.00	14.770
		High	2172.50	14.727
	64QAM	Low	2117.50	14.750
		Middle	2145.00	14.784
		High	2172.50	14.736
	256QAM	Low	2117.50	14.752
		Middle	2145.00	14.724
		High	2172.50	14.762

2	QPSK	Low	2117.50	14.752
		Middle	2145.00	14.748
		High	2172.50	14.768
	16QAM	Low	2117.50	14.743
		Middle	2145.00	14.752
		High	2172.50	14.761
	64QAM	Low	2117.50	14.748
		Middle	2145.00	14.742
		High	2172.50	14.767
	256QAM	Low	2117.50	14.756
		Middle	2145.00	14.740
		High	2172.50	14.767
3	QPSK	Low	2117.50	14.743
		Middle	2145.00	14.741
		High	2172.50	14.751
	16QAM	Low	2117.50	14.712
		Middle	2145.00	14.736
		High	2172.50	14.782
	64QAM	Low	2117.50	14.754
		Middle	2145.00	14.745
		High	2172.50	14.749
	256QAM	Low	2117.50	14.722
		Middle	2145.00	14.777
		High	2172.50	14.746



**B66 LTE 5 MHz 1 Carrier + B66 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	2122.50	23.660
		Middle	2145.00	23.643
		High	2167.50	23.624
	16QAM	Low	2122.50	23.630
		Middle	2145.00	23.691
		High	2167.50	23.619
	64QAM	Low	2122.50	23.627
		Middle	2145.00	23.668
		High	2167.50	23.660
	256QAM	Low	2122.50	23.658
		Middle	2145.00	23.763
		High	2167.50	23.744
1	QPSK	Low	2122.50	23.644
		Middle	2145.00	23.659
		High	2167.50	23.690
	16QAM	Low	2122.50	23.710
		Middle	2145.00	23.609
		High	2167.50	23.645
	64QAM	Low	2122.50	23.626
		Middle	2145.00	23.637
		High	2167.50	23.674
	256QAM	Low	2122.50	23.707
		Middle	2145.00	23.704
		High	2167.50	23.645

2	QPSK	Low	2122.50	23.652
		Middle	2145.00	23.709
		High	2167.50	23.577
	16QAM	Low	2122.50	23.672
		Middle	2145.00	23.676
		High	2167.50	23.679
	64QAM	Low	2122.50	23.653
		Middle	2145.00	23.661
		High	2167.50	23.605
	256QAM	Low	2122.50	23.622
		Middle	2145.00	23.636
		High	2167.50	23.681
3	QPSK	Low	2122.50	23.691
		Middle	2145.00	23.727
		High	2167.50	23.643
	16QAM	Low	2122.50	23.711
		Middle	2145.00	23.605
		High	2167.50	23.740
	64QAM	Low	2122.50	23.655
		Middle	2145.00	23.667
		High	2167.50	23.644
	256QAM	Low	2122.50	23.659
		Middle	2145.00	23.696
		High	2167.50	23.723

**B66 LTE 5 MHz 1 Carrier + B66 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	2122.50	24.507
		Middle	2145.00	24.605
		High	2167.50	24.659
	16QAM	Low	2122.50	24.472
		Middle	2145.00	24.663
		High	2167.50	24.683
	64QAM	Low	2122.50	24.437
		Middle	2145.00	24.647
		High	2167.50	24.619
	256QAM	Low	2122.50	24.428
		Middle	2145.00	24.615
		High	2167.50	24.658
1	QPSK	Low	2122.50	24.445
		Middle	2145.00	24.622
		High	2167.50	24.649
	16QAM	Low	2122.50	24.382
		Middle	2145.00	24.599
		High	2167.50	24.696
	64QAM	Low	2122.50	24.413
		Middle	2145.00	24.641
		High	2167.50	24.633
	256QAM	Low	2122.50	24.407
		Middle	2145.00	24.619
		High	2167.50	24.585

2	QPSK	Low	2122.50	24.473
		Middle	2145.00	24.610
		High	2167.50	24.690
	16QAM	Low	2122.50	24.476
		Middle	2145.00	24.653
		High	2167.50	24.688
	64QAM	Low	2122.50	24.431
		Middle	2145.00	24.634
		High	2167.50	24.601
	256QAM	Low	2122.50	24.435
		Middle	2145.00	24.624
		High	2167.50	24.681
3	QPSK	Low	2122.50	24.509
		Middle	2145.00	24.623
		High	2167.50	24.623
	16QAM	Low	2122.50	24.435
		Middle	2145.00	24.634
		High	2167.50	24.667
	64QAM	Low	2122.50	24.458
		Middle	2145.00	24.617
		High	2167.50	24.679
	256QAM	Low	2122.50	24.488
		Middle	2145.00	24.654
		High	2167.50	24.659

**B66 LTE 10 MHz 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	2120.00	18.958
		Middle	2145.00	18.947
		High	2170.00	18.935
	16QAM	Low	2120.00	18.986
		Middle	2145.00	18.985
		High	2170.00	18.991
	64QAM	Low	2120.00	18.943
		Middle	2145.00	18.927
		High	2170.00	18.904
	256QAM	Low	2120.00	18.917
		Middle	2145.00	18.934
		High	2170.00	18.913
1	QPSK	Low	2120.00	18.951
		Middle	2145.00	18.933
		High	2170.00	18.947
	16QAM	Low	2120.00	18.979
		Middle	2145.00	18.960
		High	2170.00	18.952
	64QAM	Low	2120.00	18.914
		Middle	2145.00	18.938
		High	2170.00	18.920
	256QAM	Low	2120.00	18.869
		Middle	2145.00	18.970
		High	2170.00	18.879

2	QPSK	Low	2120.00	18.955
		Middle	2145.00	18.942
		High	2170.00	18.917
	16QAM	Low	2120.00	19.010
		Middle	2145.00	18.890
		High	2170.00	18.964
	64QAM	Low	2120.00	18.873
		Middle	2145.00	18.991
		High	2170.00	18.917
	256QAM	Low	2120.00	18.923
		Middle	2145.00	18.971
		High	2170.00	18.993
3	QPSK	Low	2120.00	18.987
		Middle	2145.00	18.965
		High	2170.00	18.940
	16QAM	Low	2120.00	18.929
		Middle	2145.00	18.992
		High	2170.00	18.952
	64QAM	Low	2120.00	18.927
		Middle	2145.00	18.923
		High	2170.00	18.904
	256QAM	Low	2120.00	18.940
		Middle	2145.00	19.008
		High	2170.00	18.964

**B66 LTE 10 MHz & NB-IoT 1 Carrier + B66 LTE 10 MHz 1 Carrier [2 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	2120.00	19.526
		Middle	2145.00	19.515
		High	2170.00	19.523
	16QAM	Low	2120.00	19.533
		Middle	2145.00	19.550
		High	2170.00	19.527
	64QAM	Low	2120.00	19.524
		Middle	2145.00	19.537
		High	2170.00	19.533
	256QAM	Low	2120.00	19.517
		Middle	2145.00	19.561
		High	2170.00	19.522
1	QPSK	Low	2120.00	19.550
		Middle	2145.00	19.531
		High	2170.00	19.496
	16QAM	Low	2120.00	19.530
		Middle	2145.00	19.560
		High	2170.00	19.513
	64QAM	Low	2120.00	19.516
		Middle	2145.00	19.524
		High	2170.00	19.561
	256QAM	Low	2120.00	19.548
		Middle	2145.00	19.493
		High	2170.00	19.550

2	QPSK	Low	2120.00	19.499
		Middle	2145.00	19.515
		High	2170.00	19.552
	16QAM	Low	2120.00	19.560
		Middle	2145.00	19.522
		High	2170.00	19.491
	64QAM	Low	2120.00	19.541
		Middle	2145.00	19.546
		High	2170.00	19.555
	256QAM	Low	2120.00	19.568
		Middle	2145.00	19.522
		High	2170.00	19.576
3	QPSK	Low	2120.00	19.530
		Middle	2145.00	19.582
		High	2170.00	19.551
	16QAM	Low	2120.00	19.530
		Middle	2145.00	19.549
		High	2170.00	19.592
	64QAM	Low	2120.00	19.525
		Middle	2145.00	19.541
		High	2170.00	19.553
	256QAM	Low	2120.00	19.517
		Middle	2145.00	19.530
		High	2170.00	19.519



**B66 LTE 10 MHz & NB-IoT 1 Carrier + B66 LTE 10 MHz & NB-IoT 1 Carrier [2 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	2120.00	20.147
		Middle	2145.00	20.178
		High	2170.00	20.125
	16QAM	Low	2120.00	20.119
		Middle	2145.00	20.120
		High	2170.00	20.095
	64QAM	Low	2120.00	20.138
		Middle	2145.00	20.151
		High	2170.00	20.128
	256QAM	Low	2120.00	20.158
		Middle	2145.00	20.155
		High	2170.00	20.143
1	QPSK	Low	2120.00	20.148
		Middle	2145.00	20.166
		High	2170.00	20.142
	16QAM	Low	2120.00	20.086
		Middle	2145.00	20.118
		High	2170.00	20.111
	64QAM	Low	2120.00	20.131
		Middle	2145.00	20.152
		High	2170.00	20.153
	256QAM	Low	2120.00	20.126
		Middle	2145.00	20.139
		High	2170.00	20.095

2	QPSK	Low	2120.00	20.185
		Middle	2145.00	20.148
		High	2170.00	20.151
	16QAM	Low	2120.00	20.073
		Middle	2145.00	20.134
		High	2170.00	20.113
	64QAM	Low	2120.00	20.119
		Middle	2145.00	20.150
		High	2170.00	20.129
	256QAM	Low	2120.00	20.128
		Middle	2145.00	20.164
		High	2170.00	20.114
3	QPSK	Low	2120.00	20.130
		Middle	2145.00	20.151
		High	2170.00	20.140
	16QAM	Low	2120.00	20.107
		Middle	2145.00	20.123
		High	2170.00	20.135
	64QAM	Low	2120.00	20.140
		Middle	2145.00	20.146
		High	2170.00	20.161
	256QAM	Low	2120.00	20.116
		Middle	2145.00	20.120
		High	2170.00	20.137

**B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1945.00	28.683
		Middle	1962.50	28.590
		High	1980.00	28.624
	16QAM	Low	1945.00	28.593
		Middle	1962.50	28.585
		High	1980.00	28.579
	64QAM	Low	1945.00	28.650
		Middle	1962.50	28.643
		High	1980.00	28.615
	256QAM	Low	1945.00	28.667
		Middle	1962.50	28.678
		High	1980.00	28.600
1	QPSK	Low	1945.00	28.649
		Middle	1962.50	28.674
		High	1980.00	28.618
	16QAM	Low	1945.00	28.562
		Middle	1962.50	28.604
		High	1980.00	28.674
	64QAM	Low	1945.00	28.654
		Middle	1962.50	28.673
		High	1980.00	28.595
	256QAM	Low	1945.00	28.682
		Middle	1962.50	28.703
		High	1980.00	28.565

2	QPSK	Low	1945.00	28.701
		Middle	1962.50	28.629
		High	1980.00	28.646
	16QAM	Low	1945.00	28.612
		Middle	1962.50	28.659
		High	1980.00	28.580
	64QAM	Low	1945.00	28.693
		Middle	1962.50	28.650
		High	1980.00	28.618
	256QAM	Low	1945.00	28.614
		Middle	1962.50	28.627
		High	1980.00	28.654
3	QPSK	Low	1945.00	28.635
		Middle	1962.50	28.625
		High	1980.00	28.617
	16QAM	Low	1945.00	28.584
		Middle	1962.50	28.579
		High	1980.00	28.543
	64QAM	Low	1945.00	28.578
		Middle	1962.50	28.653
		High	1980.00	28.636
	256QAM	Low	1945.00	28.647
		Middle	1962.50	28.566
		High	1980.00	28.647

**B25 LTE 5 MHz 1 Carrier + B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1945.00	29.478
		Middle	1962.50	29.477
		High	1980.00	29.473
	16QAM	Low	1945.00	29.481
		Middle	1962.50	29.449
		High	1980.00	29.401
	64QAM	Low	1945.00	29.473
		Middle	1962.50	29.462
		High	1980.00	29.494
	256QAM	Low	1945.00	29.483
		Middle	1962.50	29.480
		High	1980.00	29.451
1	QPSK	Low	1945.00	29.487
		Middle	1962.50	29.473
		High	1980.00	29.433
	16QAM	Low	1945.00	29.465
		Middle	1962.50	29.494
		High	1980.00	29.519
	64QAM	Low	1945.00	29.462
		Middle	1962.50	29.477
		High	1980.00	29.439
	256QAM	Low	1945.00	29.445
		Middle	1962.50	29.539
		High	1980.00	29.497

2	QPSK	Low	1945.00	29.513
		Middle	1962.50	29.464
		High	1980.00	29.509
	16QAM	Low	1945.00	29.432
		Middle	1962.50	29.379
		High	1980.00	29.398
	64QAM	Low	1945.00	29.488
		Middle	1962.50	29.467
		High	1980.00	29.406
	256QAM	Low	1945.00	29.502
		Middle	1962.50	29.436
		High	1980.00	29.498
3	QPSK	Low	1945.00	29.472
		Middle	1962.50	29.485
		High	1980.00	29.485
	16QAM	Low	1945.00	29.466
		Middle	1962.50	29.445
		High	1980.00	29.452
	64QAM	Low	1945.00	29.533
		Middle	1962.50	29.530
		High	1980.00	29.486
	256QAM	Low	1945.00	29.503
		Middle	1962.50	29.511
		High	1980.00	29.487

**B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [3 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1952.50	43.523
		Middle	1962.50	43.521
		High	1972.50	43.558
	16QAM	Low	1952.50	43.524
		Middle	1962.50	43.471
		High	1972.50	43.505
	64QAM	Low	1952.50	43.577
		Middle	1962.50	43.513
		High	1972.50	43.545
	256QAM	Low	1952.50	43.522
		Middle	1962.50	43.610
		High	1972.50	43.526
1	QPSK	Low	1952.50	43.558
		Middle	1962.50	43.536
		High	1972.50	43.461
	16QAM	Low	1952.50	43.499
		Middle	1962.50	43.579
		High	1972.50	43.511
	64QAM	Low	1952.50	43.521
		Middle	1962.50	43.493
		High	1972.50	43.431
	256QAM	Low	1952.50	43.532
		Middle	1962.50	43.482
		High	1972.50	43.490

2	QPSK	Low	1952.50	43.605
		Middle	1962.50	43.470
		High	1972.50	43.523
	16QAM	Low	1952.50	43.501
		Middle	1962.50	43.520
		High	1972.50	43.575
	64QAM	Low	1952.50	43.533
		Middle	1962.50	43.474
		High	1972.50	43.548
	256QAM	Low	1952.50	43.553
		Middle	1962.50	43.678
		High	1972.50	43.521
3	QPSK	Low	1952.50	43.550
		Middle	1962.50	43.556
		High	1972.50	43.494
	16QAM	Low	1952.50	43.474
		Middle	1962.50	43.461
		High	1972.50	43.522
	64QAM	Low	1952.50	43.554
		Middle	1962.50	43.532
		High	1972.50	43.542
	256QAM	Low	1952.50	43.556
		Middle	1962.50	43.557
		High	1972.50	43.559



**B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [3 Carrier]**

Ant	Mod	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
0	QPSK	Low	1952.50	44.553
		Middle	1962.50	44.519
		High	1972.50	44.557
	16QAM	Low	1952.50	44.473
		Middle	1962.50	44.580
		High	1972.50	44.433
	64QAM	Low	1952.50	44.514
		Middle	1962.50	44.527
		High	1972.50	44.484
	256QAM	Low	1952.50	44.468
		Middle	1962.50	44.518
		High	1972.50	44.556
1	QPSK	Low	1952.50	44.520
		Middle	1962.50	44.554
		High	1972.50	44.471
	16QAM	Low	1952.50	44.513
		Middle	1962.50	44.382
		High	1972.50	44.409
	64QAM	Low	1952.50	44.540
		Middle	1962.50	44.476
		High	1972.50	44.514
	256QAM	Low	1952.50	44.491
		Middle	1962.50	44.592
		High	1972.50	44.529

2	QPSK	Low	1952.50	44.557
		Middle	1962.50	44.478
		High	1972.50	44.552
	16QAM	Low	1952.50	44.489
		Middle	1962.50	44.453
		High	1972.50	44.421
	64QAM	Low	1952.50	44.492
		Middle	1962.50	44.474
		High	1972.50	44.516
	256QAM	Low	1952.50	44.482
		Middle	1962.50	44.541
		High	1972.50	44.549
3	QPSK	Low	1952.50	44.559
		Middle	1962.50	44.479
		High	1972.50	44.494
	16QAM	Low	1952.50	44.545
		Middle	1962.50	44.539
		High	1972.50	44.499
	64QAM	Low	1952.50	44.490
		Middle	1962.50	44.537
		High	1972.50	44.547
	256QAM	Low	1952.50	44.482
		Middle	1962.50	44.552
		High	1972.50	44.499

**Tabular Data of Non-Contiguous Occupied Bandwidth**
**B25 LTE 5 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant	Mod	B25 LTE 5 MHz		B25 LTE 20 MHz		Total OBW (MHz)
		Frequency (MHz)	Measured Value (MHz)	Frequency (MHz)	Measured Value (MHz)	
0	QPSK	1932.50	4.4907	1985.00	17.935	22.425
	16QAM	1932.50	4.4770	1985.00	17.944	22.421
	64QAM	1932.50	4.4875	1985.00	17.911	22.398
	256QAM	1932.50	4.4916	1985.00	17.957	22.449
1	QPSK	1932.50	4.4966	1985.00	17.899	22.396
	16QAM	1932.50	4.4803	1985.00	17.919	22.400
	64QAM	1932.50	4.4917	1985.00	17.985	22.476
	256QAM	1932.50	4.4938	1985.00	17.962	22.456
2	QPSK	1932.50	4.4915	1985.00	17.946	22.437
	16QAM	1932.50	4.4784	1985.00	17.933	22.412
	64QAM	1932.50	4.4907	1985.00	17.941	22.432
	256QAM	1932.50	4.4935	1985.00	17.948	22.442
3	QPSK	1932.50	4.4953	1985.00	17.944	22.439
	16QAM	1932.50	4.4917	1985.00	17.962	22.454
	64QAM	1932.50	4.4965	1985.00	17.949	22.445
	256QAM	1932.50	4.4876	1985.00	17.981	22.469

**B25 LTE 10 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant	Mod	B25 LTE 10 MHz		B25 LTE 20 MHz		Total OBW (MHz)
		Frequency (MHz)	Measured Value (MHz)	Frequency (MHz)	Measured Value (MHz)	
0	QPSK	1935.00	8.9921	1985.00	17.976	26.968
	16QAM	1935.00	8.9898	1985.00	17.992	26.982
	64QAM	1935.00	8.9825	1985.00	17.944	26.927
	256QAM	1935.00	8.9919	1985.00	17.942	26.934
1	QPSK	1935.00	9.0183	1985.00	17.946	26.965
	16QAM	1935.00	8.9999	1985.00	17.987	26.987
	64QAM	1935.00	9.0292	1985.00	17.896	26.925
	256QAM	1935.00	8.9944	1985.00	17.957	26.951
2	QPSK	1935.00	9.0066	1985.00	17.965	26.971
	16QAM	1935.00	8.9839	1985.00	17.919	26.903
	64QAM	1935.00	8.9782	1985.00	17.959	26.938
	256QAM	1935.00	8.9914	1985.00	17.976	26.968
3	QPSK	1935.00	8.9979	1985.00	17.993	26.991
	16QAM	1935.00	9.0062	1985.00	17.909	26.915
	64QAM	1935.00	8.9624	1985.00	17.911	26.874
	256QAM	1935.00	9.0164	1985.00	17.926	26.942

**B25 LTE 10 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant	Mod	B25 LTE 10 MHz & NB-IoT		B25 LTE 20 MHz		Total OBW (MHz)
		Frequency (MHz)	Measured Value (MHz)	Frequency (MHz)	Measured Value (MHz)	
0	QPSK	1935.00	9.4636	1985.00	17.944	27.407
	16QAM	1935.00	9.4461	1985.00	17.935	27.381
	64QAM	1935.00	9.4719	1985.00	17.917	27.389
	256QAM	1935.00	9.4664	1985.00	17.921	27.388
1	QPSK	1935.00	9.4571	1985.00	17.944	27.401
	16QAM	1935.00	9.4876	1985.00	17.935	27.423
	64QAM	1935.00	9.4503	1985.00	17.950	27.400
	256QAM	1935.00	9.4699	1985.00	17.978	27.448
2	QPSK	1935.00	9.4838	1985.00	17.950	27.434
	16QAM	1935.00	9.4669	1985.00	17.961	27.428
	64QAM	1935.00	9.4803	1985.00	17.995	27.476
	256QAM	1935.00	9.4741	1985.00	17.934	27.408
3	QPSK	1935.00	9.4514	1985.00	17.959	27.410
	16QAM	1935.00	9.4507	1985.00	17.962	27.412
	64QAM	1935.00	9.4690	1985.00	17.942	27.410
	256QAM	1935.00	9.4557	1985.00	17.961	27.416

**B25 LTE 20 MHz & NB-IoT 1 Carrier + B25 LTE 10 MHz 1 Carrier [2 Carrier]**

Ant	Mod	B25 LTE 20 MHz & NB-IoT		B25 LTE 10 MHz		Total OBW (MHz)
		Frequency (MHz)	Measured Value (MHz)	Frequency (MHz)	Measured Value (MHz)	
0	QPSK	1940.00	18.842	1990.00	8.9957	27.838
	16QAM	1940.00	18.815	1990.00	9.0037	27.818
	64QAM	1940.00	18.837	1990.00	8.9970	27.834
	256QAM	1940.00	18.848	1990.00	8.9937	27.841
1	QPSK	1940.00	18.866	1990.00	9.0039	27.870
	16QAM	1940.00	18.810	1990.00	8.9953	27.805
	64QAM	1940.00	18.843	1990.00	9.0124	27.856
	256QAM	1940.00	18.854	1990.00	8.9865	27.841
2	QPSK	1940.00	18.800	1990.00	8.9818	27.782
	16QAM	1940.00	18.819	1990.00	9.0009	27.820
	64QAM	1940.00	18.877	1990.00	8.9714	27.848
	256QAM	1940.00	18.849	1990.00	8.9799	27.829
3	QPSK	1940.00	18.844	1990.00	9.0054	27.849
	16QAM	1940.00	18.831	1990.00	9.0148	27.846
	64QAM	1940.00	18.825	1990.00	8.9786	27.804
	256QAM	1940.00	18.860	1990.00	9.0013	27.862

**B25 LTE 10 MHz & NB-IoT 1 Carrier + B25 LTE 20 MHz & NB-IoT 1 Carrier [2 Carrier]**

Ant	Mod	B25 LTE 10 MHz & NB-IoT		B25 LTE 20 MHz & NB-IoT		Total OBW (MHz)
		Frequency (MHz)	Measured Value (MHz)	Frequency (MHz)	Measured Value (MHz)	
0	QPSK	1935.00	9.4683	1985.00	18.641	28.109
	16QAM	1935.00	9.5005	1985.00	18.631	28.132
	64QAM	1935.00	9.4553	1985.00	18.668	28.123
	256QAM	1935.00	9.4696	1985.00	18.680	28.150
1	QPSK	1935.00	9.4627	1985.00	18.651	28.113
	16QAM	1935.00	9.4479	1985.00	18.633	28.080
	64QAM	1935.00	9.4590	1985.00	18.652	28.111
	256QAM	1935.00	9.4457	1985.00	18.670	28.116
2	QPSK	1935.00	9.4624	1985.00	18.682	28.145
	16QAM	1935.00	9.4633	1985.00	18.655	28.118
	64QAM	1935.00	9.4477	1985.00	18.676	28.124
	256QAM	1935.00	9.4745	1985.00	18.664	28.138
3	QPSK	1935.00	9.4629	1985.00	18.647	28.110
	16QAM	1935.00	9.4701	1985.00	18.652	28.122
	64QAM	1935.00	9.4565	1985.00	18.672	28.128
	256QAM	1935.00	9.4663	1985.00	18.669	28.135

**B25 LTE 15 MHz 1 Carrier + B25 LTE 20 MHz 1 Carrier [2 Carrier]**

Ant	Mod	B25 LTE 15 MHz		B25 LTE 20 MHz		Total OBW (MHz)
		Frequency (MHz)	Measured Value (MHz)	Frequency (MHz)	Measured Value (MHz)	
0	QPSK	1937.50	13.463	1985.00	17.936	31.398
	16QAM	1937.50	13.523	1985.00	18.027	31.550
	64QAM	1937.50	13.444	1985.00	17.947	31.391
	256QAM	1937.50	13.465	1985.00	17.941	31.406
1	QPSK	1937.50	13.474	1985.00	17.929	31.403
	16QAM	1937.50	13.497	1985.00	17.967	31.464
	64QAM	1937.50	13.445	1985.00	17.938	31.383
	256QAM	1937.50	13.468	1985.00	17.954	31.421
2	QPSK	1937.50	13.451	1985.00	17.962	31.414
	16QAM	1937.50	13.495	1985.00	17.958	31.453
	64QAM	1937.50	13.460	1985.00	17.937	31.396
	256QAM	1937.50	13.473	1985.00	17.965	31.438
3	QPSK	1937.50	13.462	1985.00	17.941	31.403
	16QAM	1937.50	13.518	1985.00	18.008	31.526
	64QAM	1937.50	13.451	1985.00	17.925	31.376
	256QAM	1937.50	13.444	1985.00	17.966	31.410