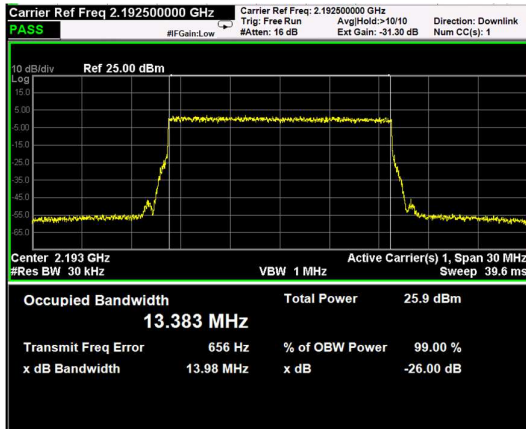
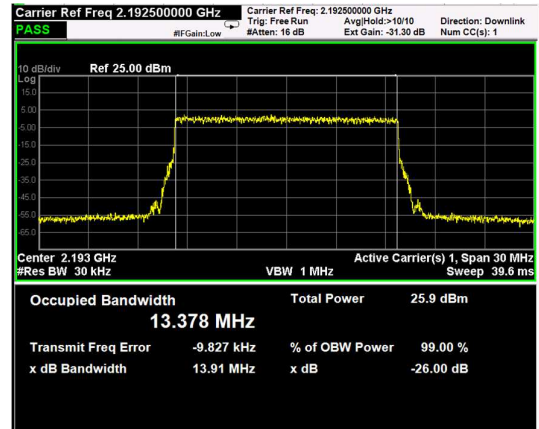
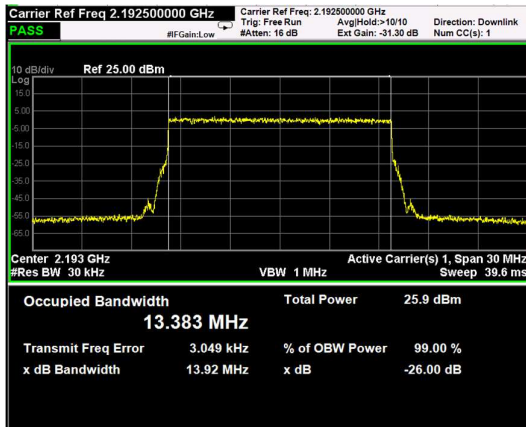
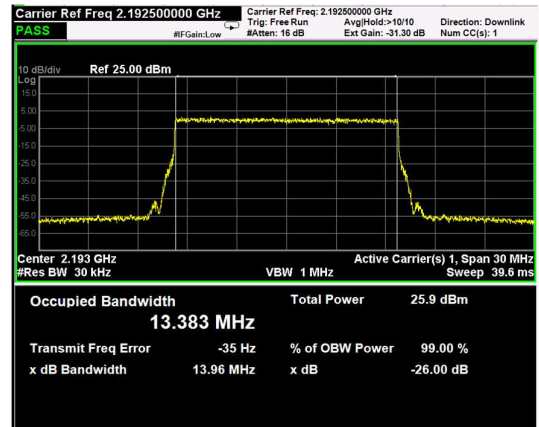
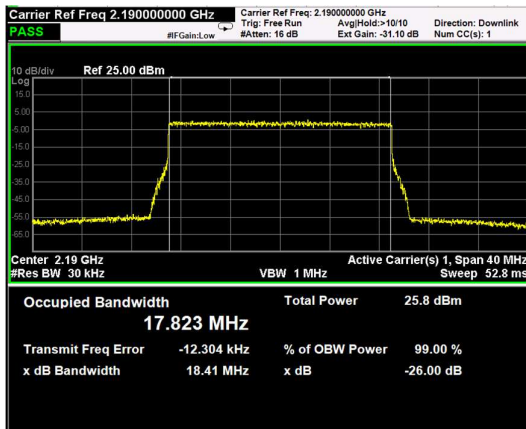
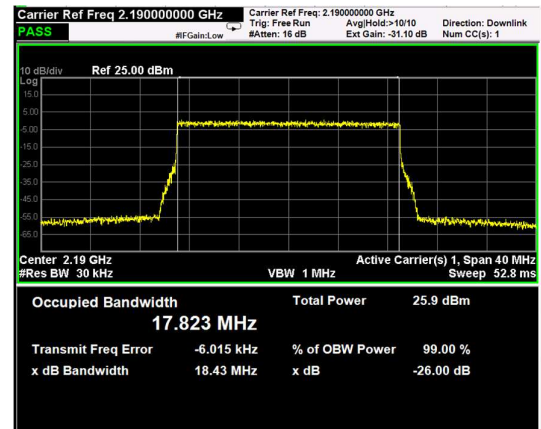
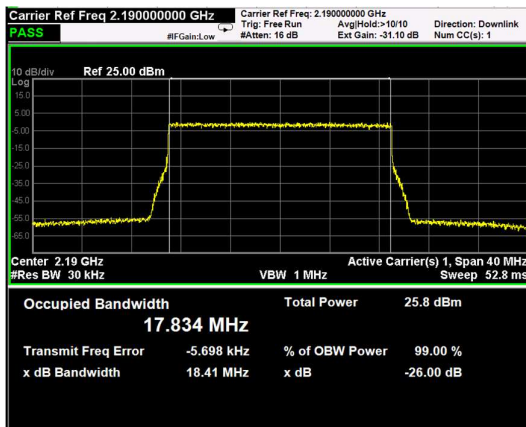
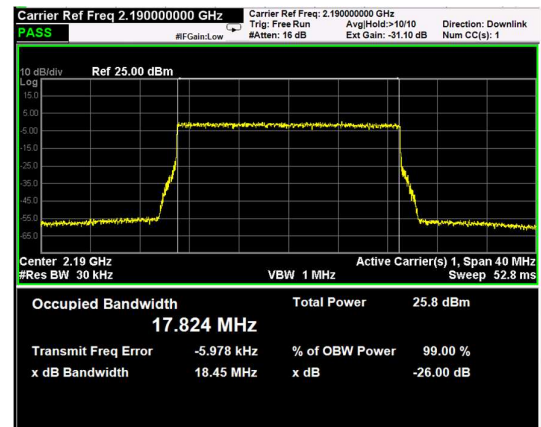



Channel: TOP, Modulation: QPSK,
 BW=15MHz

Channel: TOP, Modulation: 16QAM,
 BW=15MHz

Channel: TOP, Modulation: 64QAM,
 BW=15MHz

Channel: TOP, Modulation: 256QAM,
 BW=15MHz


Channel: MIDDLE, Modulation: QPSK,
 BW=20MHz

Channel: MIDDLE, Modulation: 16QAM,
 BW=20MHz

Channel: MIDDLE, Modulation: 64QAM,
 BW=20MHz

Channel: MIDDLE, Modulation: 256QAM,
 BW=20MHz

Clause 27.50(d) Peak output power at RF antenna connector

§ 27.50(d) The following power and antenna height requirements apply to stations transmitting in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz and 2180-2200 MHz bands:

- (2) The power of each fixed or base station transmitting in the 1995-2000 MHz, the 2110-2155 MHz 2155-2180 MHz band, or 2180-2200 MHz band and situated in any geographic location other than that described in paragraph (d)(1) of this section is limited to:
 - (i) An equivalent isotropically radiated power (EIRP) of 1640 watts when transmitting with an emission bandwidth of 1 MHz or less;
 - (ii) An EIRP of 1640 watts/MHz when transmitting with an emission bandwidth greater than 1 MHz.
- (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.
- (8) A licensee operating a base or fixed station in the 2180-2200 MHz band utilizing a power greater than 1640 watts EIRP and greater than 1640 watts/MHz EIRP must be coordinated in advance with all AWS licensees authorized to operate on adjacent frequency blocks in the 2180-2200 MHz band.

Test date: 04/03/2019 to 05/10/2019

Test results: Pass

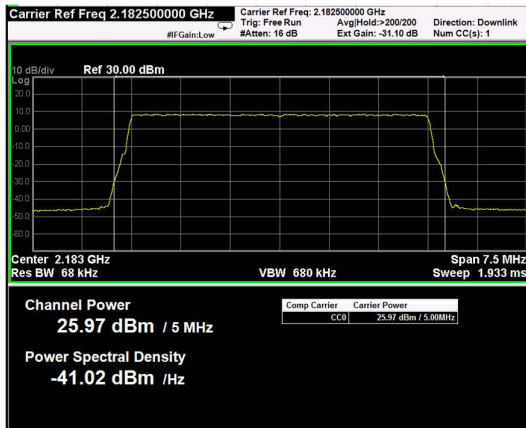
Special notes

Clause 27.50(d) Peak output power at RF antenna connector

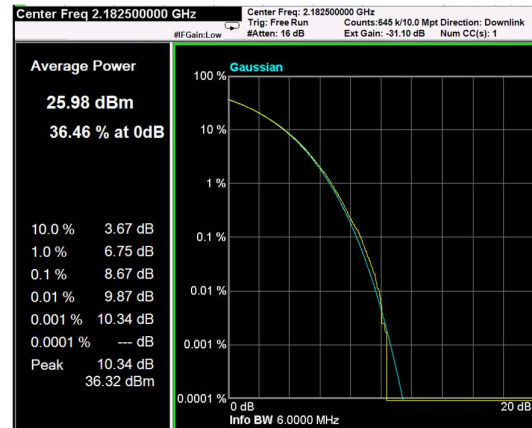
Test data

RF PORT 1

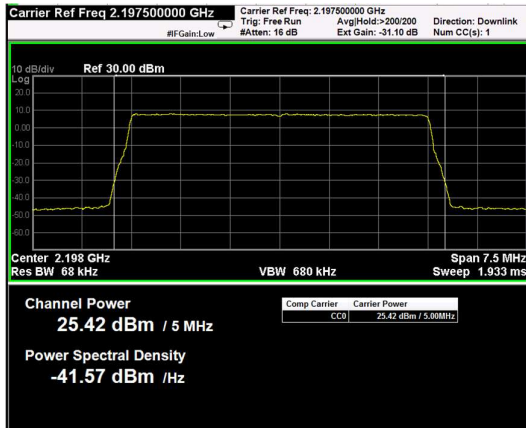
Test data					
Direction	Modulation	Frequency (MHz)	RF output Power (dBm)	RF output channel Power (W)	PAR (dB)
Down-link	LTE 5MHz (QPSK)	2182.5	25.97	0.395	10.34
Down-link	LTE 5MHz (QPSK)	2190	25.42	0.348	10.39
Down-link	LTE 5MHz (QPSK)	2197.5	25.43	0.349	10.46
Down-link	LTE 5MHz (16QAM)	2182.5	25.99	0.397	10.33
Down-link	LTE 5MHz (16QAM)	2190	25.8	0.380	10.2
Down-link	LTE 5MHz (16QAM)	2197.5	25.45	0.351	10.37
Down-link	LTE 5MHz (64QAM)	2182.5	25.99	0.397	10.31
Down-link	LTE 5MHz (64QAM)	2190	25.68	0.370	10.36
Down-link	LTE 5MHz (64QAM)	2197.5	25.45	0.351	10.34
Down-link	LTE 5MHz (256QAM)	2182.5	25.92	0.391	10.34
Down-link	LTE 5MHz (256QAM)	2190	25.75	0.376	10.33
Down-link	LTE 5MHz (256QAM)	2197.5	25.42	0.348	10.37



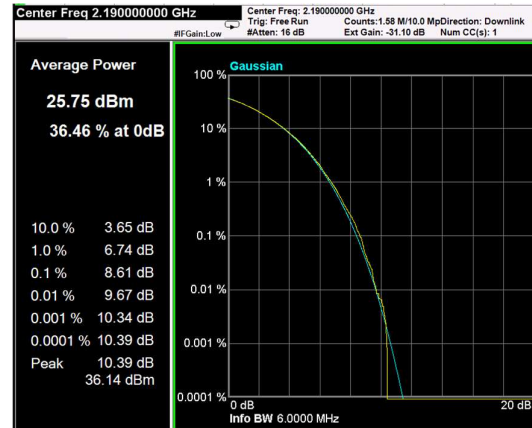
Channel: BOTTOM, Modulation: QPSK, BW=5MHz, Channel Power



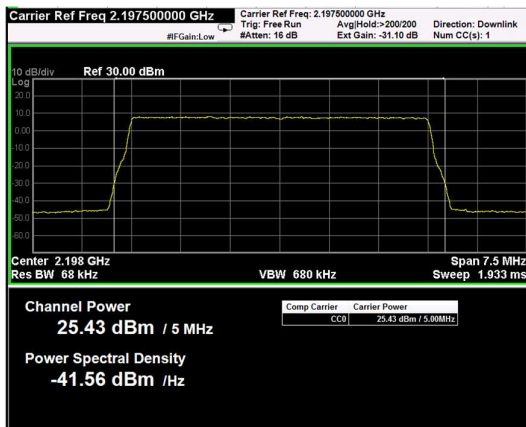
Channel: BOTTOM, Modulation: QPSK, BW=5MHz, CCDF



Channel: MIDDLE, Modulation: QPSK, BW=5MHz, Channel Power



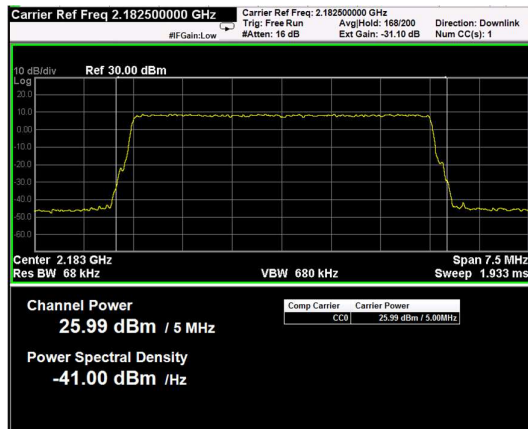
Channel: MIDDLE, Modulation: QPSK, BW=5MHz, CCDF



Channel: TOP, Modulation: QPSK, BW=5MHz, Channel Power



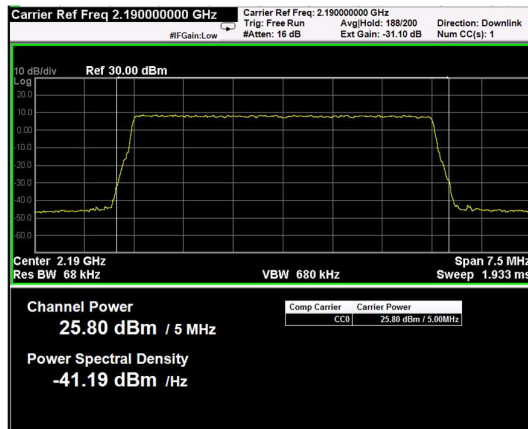
Channel: TOP, Modulation: QPSK, BW=5MHz, CCDF



Channel: BOTTOM, Modulation: 16QAM, BW=5MHz, Channel Power



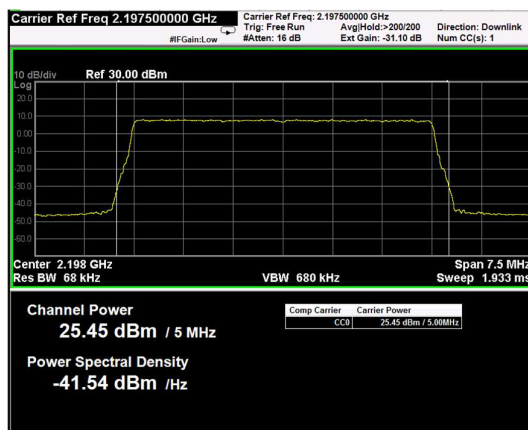
Channel: BOTTOM, Modulation: 16QAM, BW=5MHz, CCDF



Channel: MIDDLE, Modulation: 16QAM, BW=5MHz, Channel Power



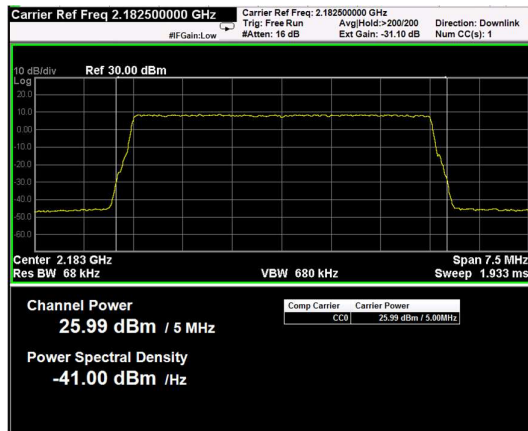
Channel: MIDDLE, Modulation: 16QAM, BW=5MHz, CCDF



Channel: TOP, Modulation: 16QAM, BW=5MHz, Channel Power



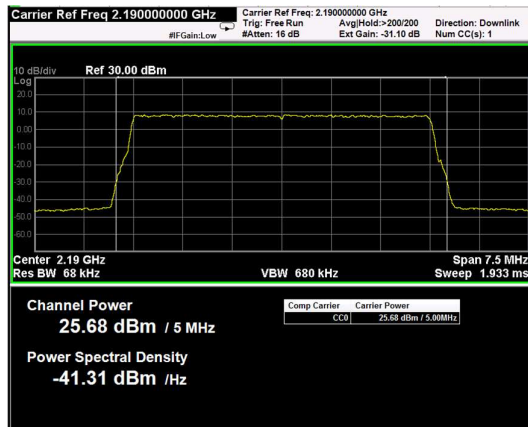
Channel: TOP, Modulation: 16QAM, BW=5MHz, CCDF



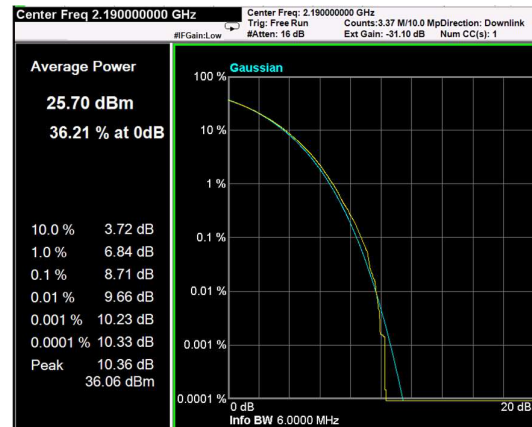
Channel: BOTTOM, Modulation: 64QAM, BW=5MHz, Channel Power



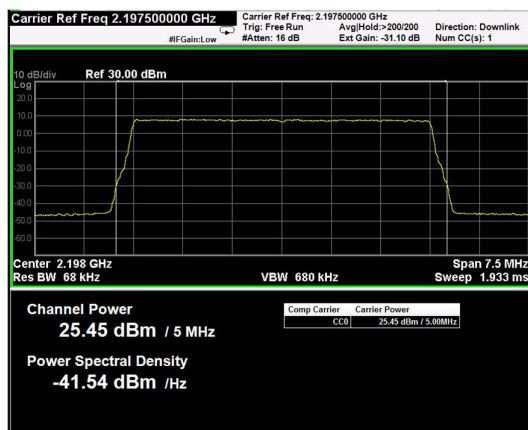
Channel: BOTTOM, Modulation: 64QAM, BW=5MHz, CCDF



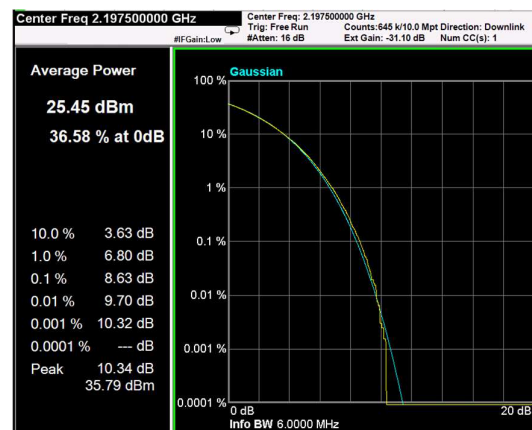
Channel: MIDDLE, Modulation: 64QAM, BW=5MHz, Channel Power



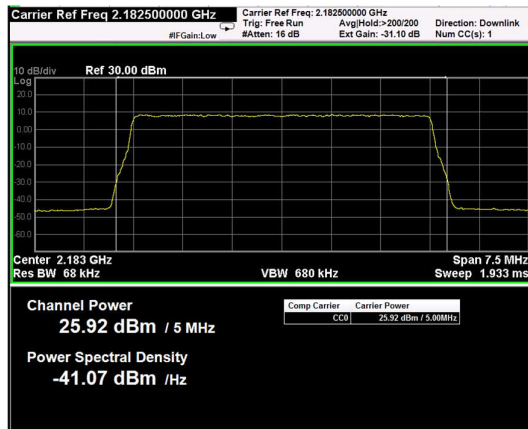
Channel: MIDDLE, Modulation: 64QAM, BW=5MHz, CCDF



Channel: TOP, Modulation: 64QAM, BW=5MHz, Channel Power



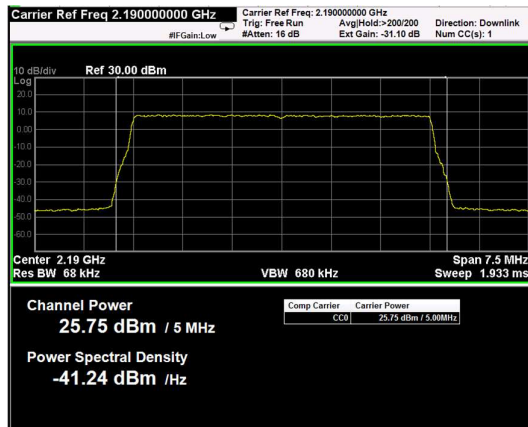
Channel: TOP, Modulation: 64QAM, BW=5MHz, CCDF



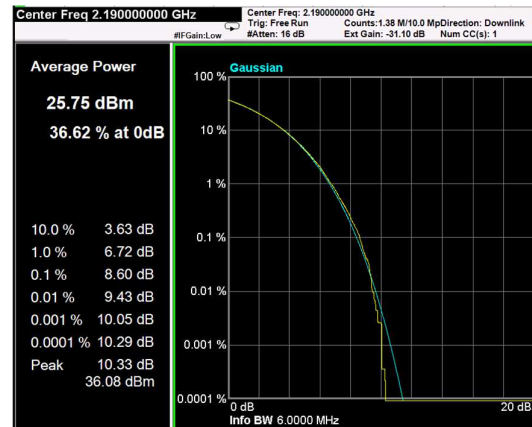
Channel: BOTTOM, Modulation: 256QAM, BW=5MHz, Channel Power



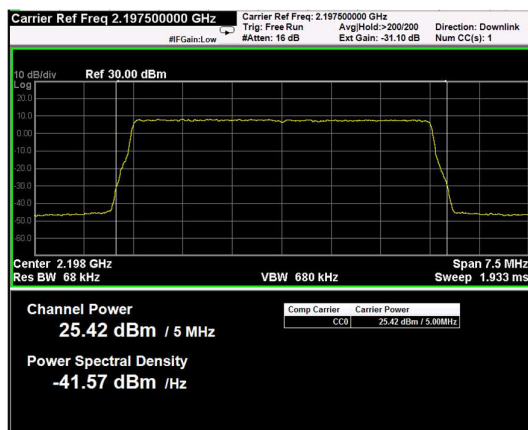
Channel: BOTTOM, Modulation: 256QAM, BW=5MHz, CCDF



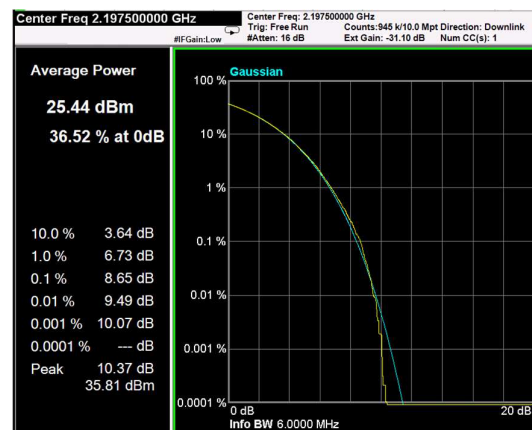
Channel: MIDDLE, Modulation: 256QAM, BW=5MHz, Channel Power



Channel: MIDDLE, Modulation: 256QAM, BW=5MHz, CCDF

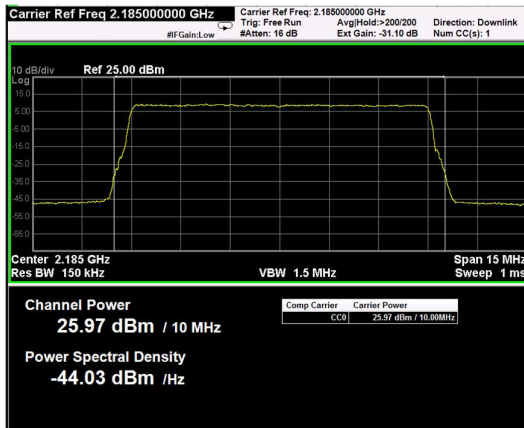
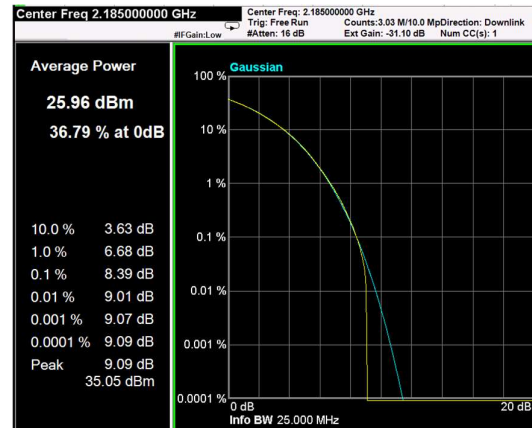
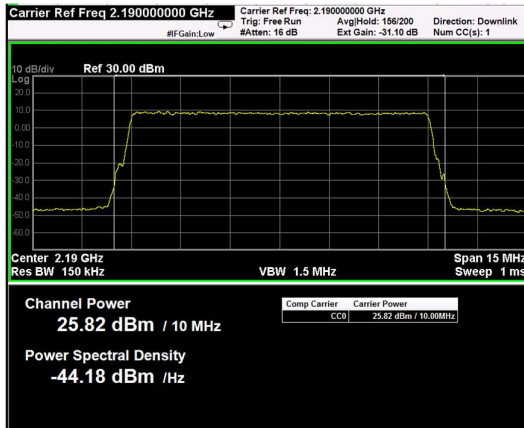
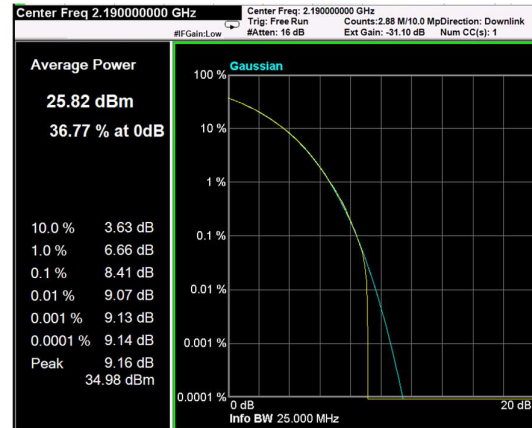
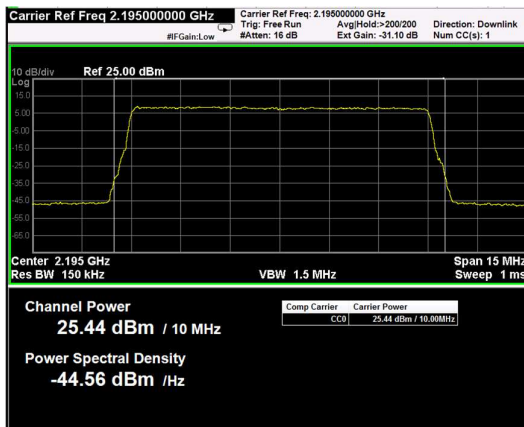
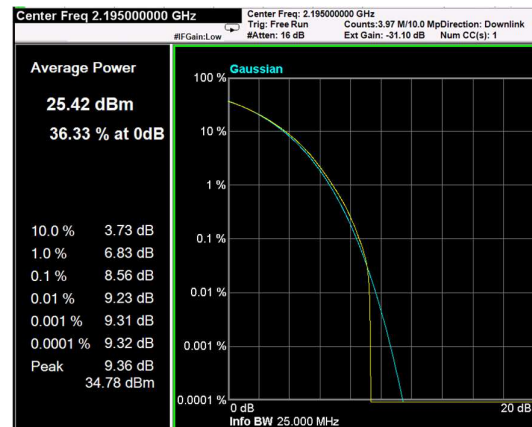


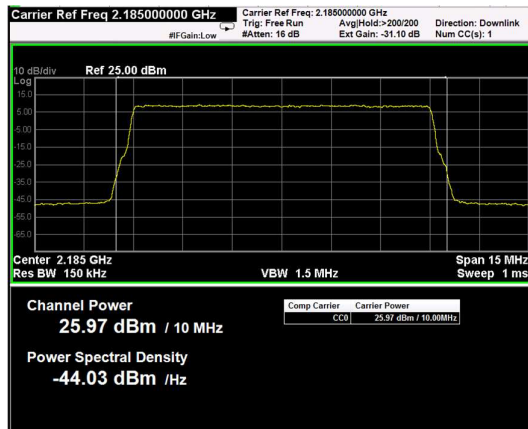
Channel: TOP, Modulation: 256QAM, BW=5MHz, Channel Power



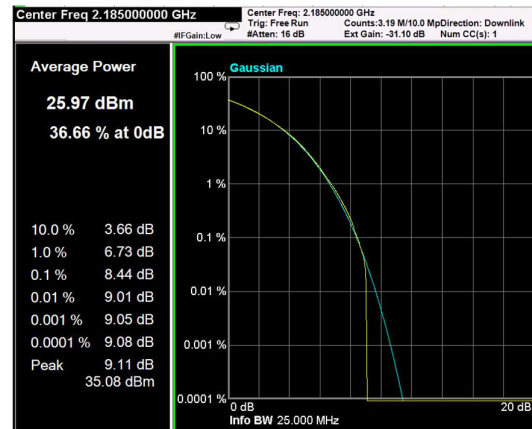
Channel: TOP, Modulation: 256QAM, BW=5MHz, CCDF

Test data					
Direction	Modulation	Frequency (MHz)	RF output Power (dBm)	RF output channel Power (W)	PAR (dB)
Down-link	LTE 10MHz (QPSK)	2185	25.97	0.395	9.09
Down-link	LTE 10MHz (QPSK)	2190	25.82	0.382	9.16
Down-link	LTE 10MHz (QPSK)	2195	25.44	0.350	9.36
Down-link	LTE 10MHz (16QAM)	2185	25.97	0.395	9.11
Down-link	LTE 10MHz (16QAM)	2190	25.82	0.382	9.13
Down-link	LTE 10MHz (16QAM)	2195	25.59	0.362	9.17
Down-link	LTE 10MHz (64QAM)	2185	25.95	0.394	9.11
Down-link	LTE 10MHz (64QAM)	2190	25.82	0.382	9.14
Down-link	LTE 10MHz (64QAM)	2195	25.58	0.361	9.17
Down-link	LTE 10MHz (256QAM)	2185	26	0.398	9.1
Down-link	LTE 10MHz (256QAM)	2190	25.82	0.382	9.14
Down-link	LTE 10MHz (256QAM)	2195	25.6	0.363	9.2

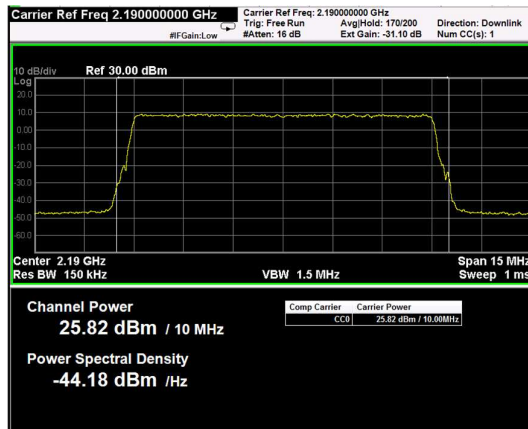

Channel: BOTTOM, Modulation: QPSK,
 BW=10MHz, Channel Power

Channel: BOTTOM, Modulation: QPSK,
 BW=10MHz, CCDF

Channel: MIDDLE, Modulation: QPSK,
 BW=10MHz, Channel Power

Channel: MIDDLE, Modulation: QPSK,
 BW=10MHz, CCDF

Channel: TOP, Modulation: QPSK,
 BW=10MHz, Channel Power

Channel: TOP, Modulation: QPSK,
 BW=10MHz, CCDF



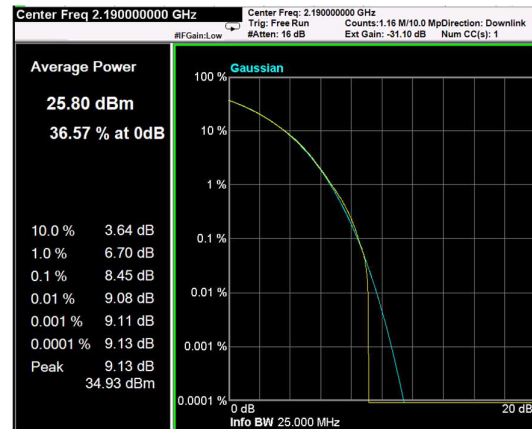
Channel: BOTTOM, Modulation: 16QAM, BW=10MHz, Channel Power



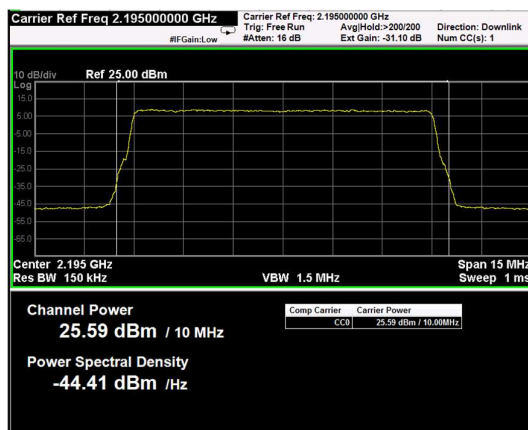
Channel: BOTTOM, Modulation: 16QAM, BW=10MHz, CCDF



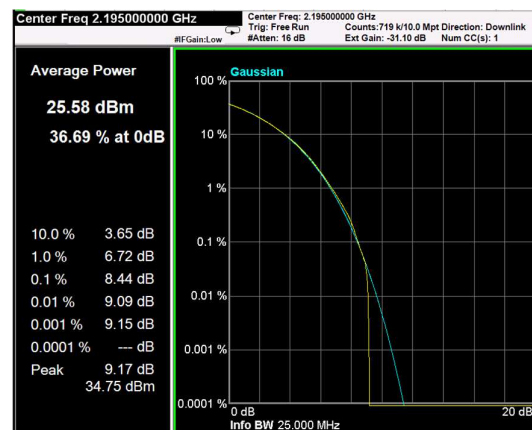
Channel: MIDDLE, Modulation: 16QAM, BW=10MHz, Channel Power



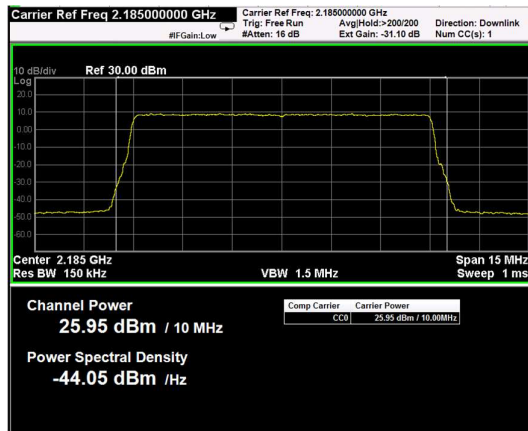
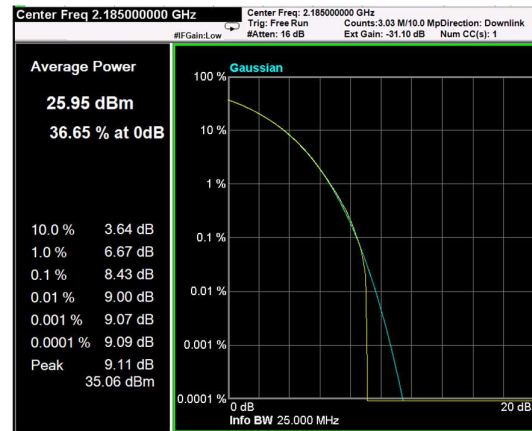
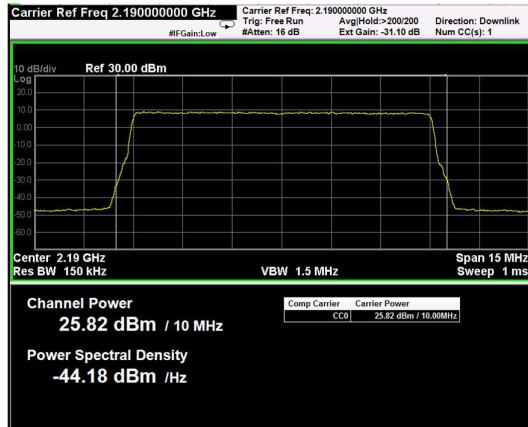
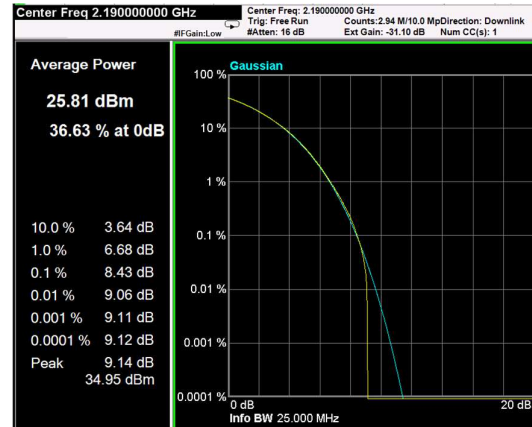
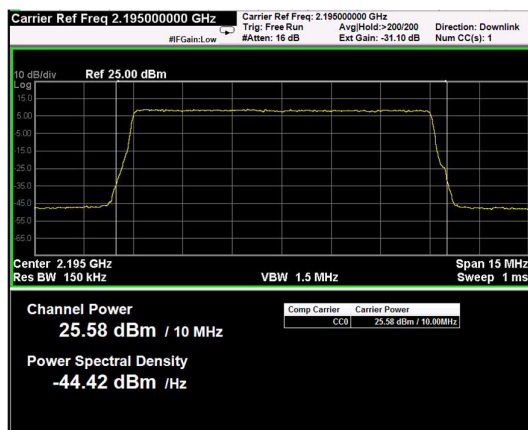
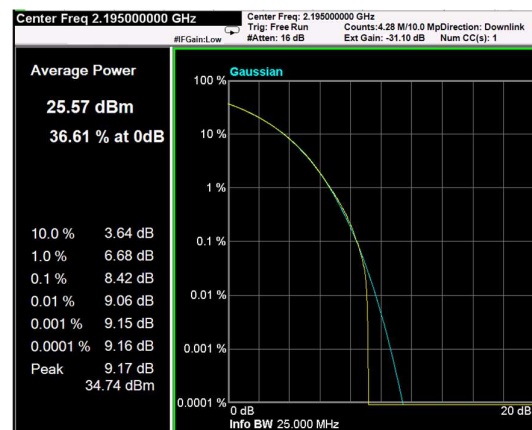
Channel: MIDDLE, Modulation: 16QAM, BW=10MHz, CCDF

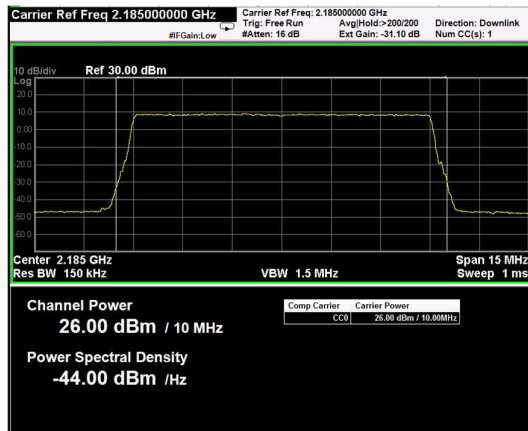


Channel: TOP, Modulation: 16QAM, BW=10MHz, Channel Power

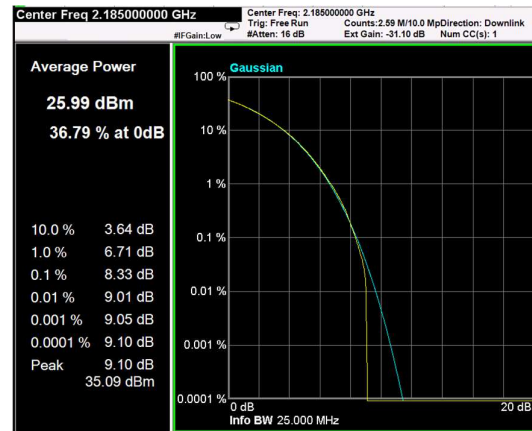


Channel: TOP, Modulation: 16QAM, BW=10MHz, CCDF

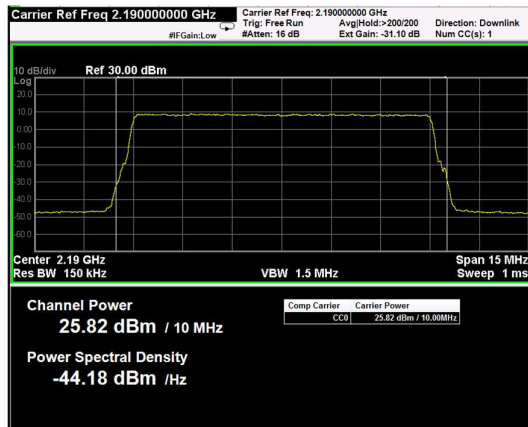

Channel: BOTTOM, Modulation: 64QAM,
BW=10MHz, Channel Power

Channel: BOTTOM, Modulation: 64QAM,
BW=10MHz, CCDF

Channel: MIDDLE, Modulation: 64QAM,
BW=10MHz, Channel Power

Channel: MIDDLE, Modulation: 64QAM,
BW=10MHz, CCDF

Channel: TOP, Modulation: 64QAM,
BW=10MHz, Channel Power

Channel: TOP, Modulation: 64QAM,
BW=10MHz, CCDF



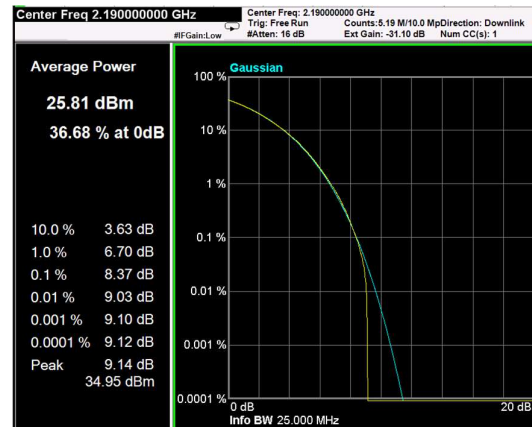
Channel: BOTTOM, Modulation: 256QAM, BW=10MHz, Channel Power



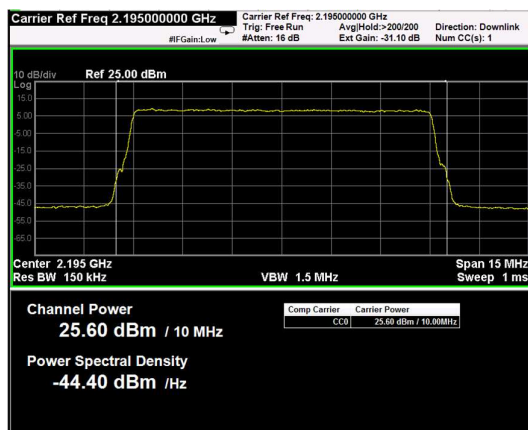
Channel: BOTTOM, Modulation: 256QAM, BW=10MHz, CCDF



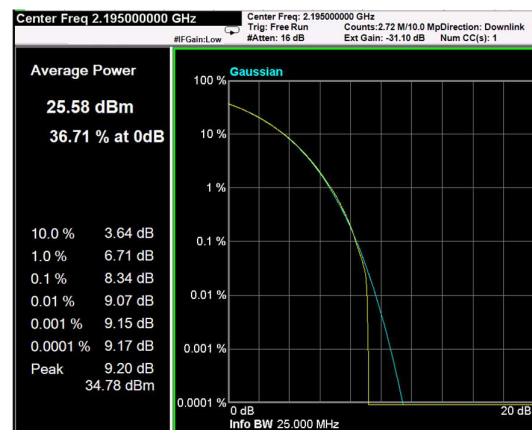
Channel: MIDDLE, Modulation: 256QAM, BW=10MHz, Channel Power



Channel: MIDDLE, Modulation: 256QAM, BW=10MHz, CCDF

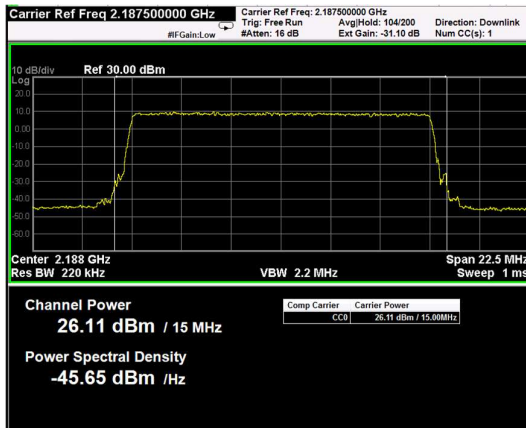


Channel: TOP, Modulation: 256QAM, BW=10MHz, Channel Power

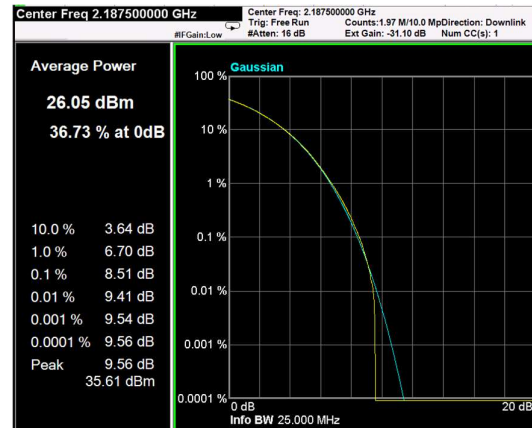


Channel: TOP, Modulation: 256QAM, BW=10MHz, CCDF

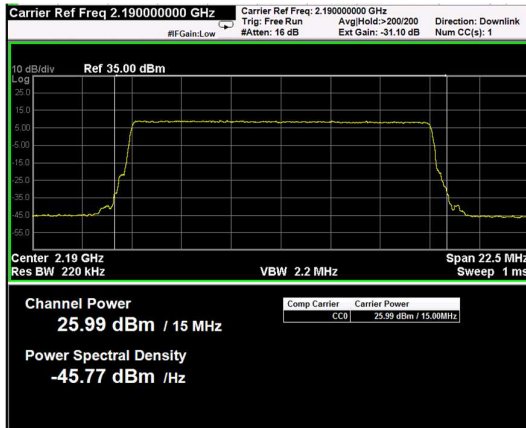
Test data					
Direction	Modulation	Frequency (MHz)	RF output Power (dBm)	RF output channel Power (W)	PAR (dB)
Down-link	LTE 15MHz (QPSK)	2187.5	26.11	0.408	9.56
Down-link	LTE 15MHz (QPSK)	2190	25.99	0.397	9.65
Down-link	LTE 15MHz (QPSK)	2192.5	25.74	0.375	9.81
Down-link	LTE 15MHz (16QAM)	2187.5	26.07	0.405	9.62
Down-link	LTE 15MHz (16QAM)	2190	25.99	0.397	9.65
Down-link	LTE 15MHz (16QAM)	2192.5	25.9	0.389	9.65
Down-link	LTE 15MHz (64QAM)	2187.5	26.07	0.405	9.57
Down-link	LTE 15MHz (64QAM)	2190	26.01	0.399	9.64
Down-link	LTE 15MHz (64QAM)	2192.5	25.89	0.388	9.59
Down-link	LTE 15MHz (256QAM)	2187.5	26.07	0.405	9.58
Down-link	LTE 15MHz (256QAM)	2190	25.98	0.396	9.69
Down-link	LTE 15MHz (256QAM)	2192.5	25.91	0.390	9.62



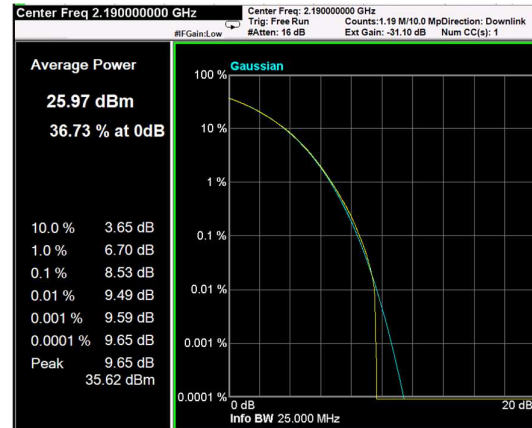
Channel: BOTTOM, Modulation: QPSK, BW=15MHz, Channel Power



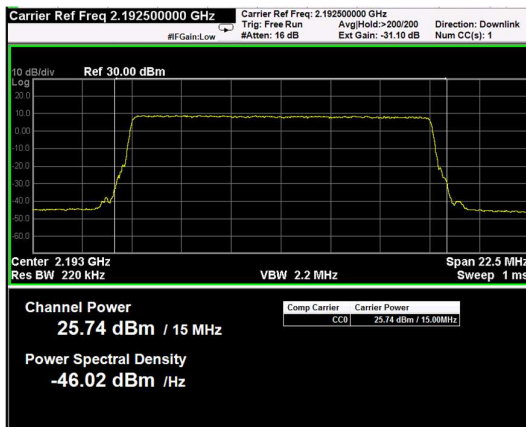
Channel: BOTTOM, Modulation: QPSK, BW=15MHz, CCDF



Channel: MIDDLE, Modulation: QPSK, BW=15MHz, Channel Power



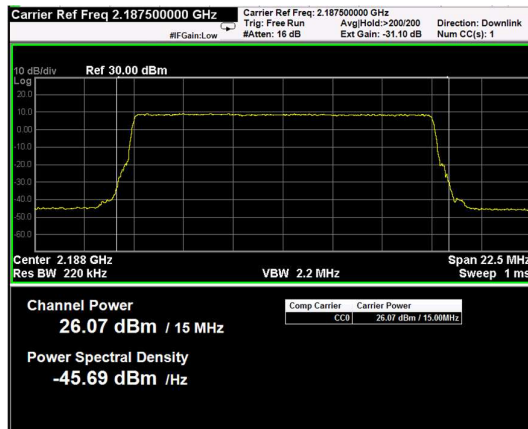
Channel: MIDDLE, Modulation: QPSK, BW=15MHz, CCDF



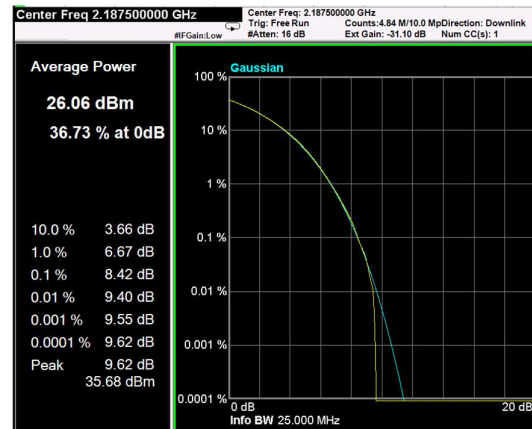
Channel: TOP, Modulation: QPSK, BW=15MHz, Channel Power



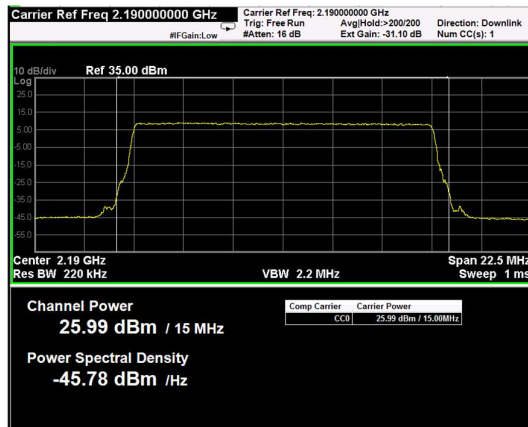
Channel: TOP, Modulation: QPSK, BW=15MHz, CCDF



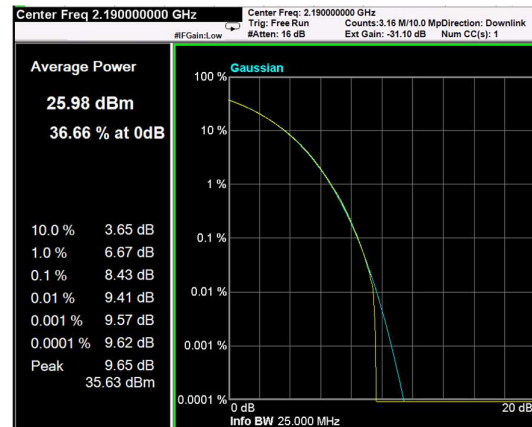
Channel: BOTTOM, Modulation: 16QAM, BW=15MHz, Channel Power



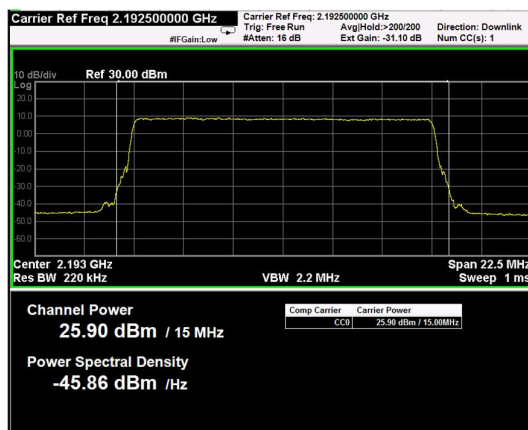
Channel: BOTTOM, Modulation: 16QAM, BW=15MHz, CCDF



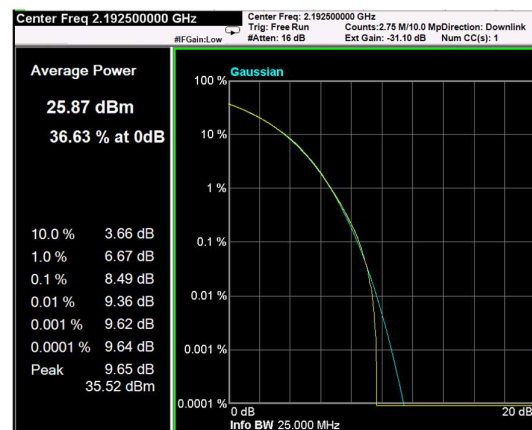
Channel: MIDDLE, Modulation: 16QAM, BW=15MHz, Channel Power



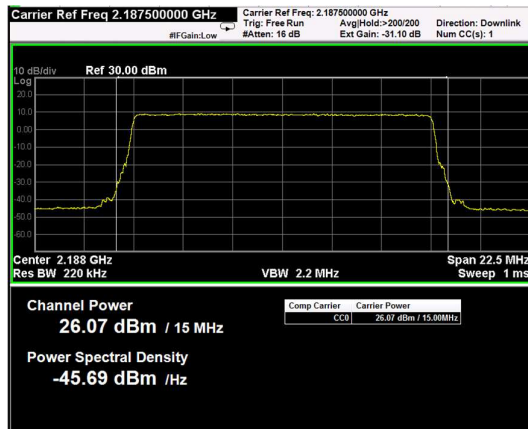
Channel: MIDDLE, Modulation: 16QAM, BW=15MHz, CCDF



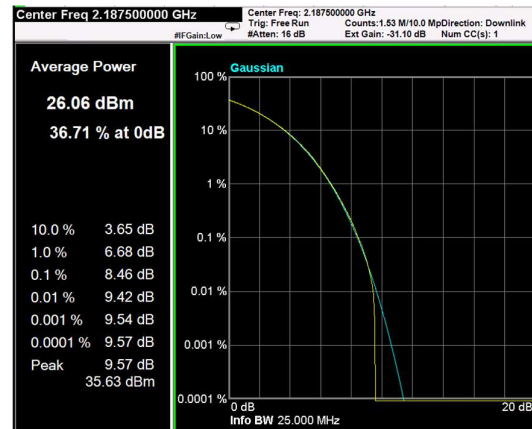
Channel: TOP, Modulation: 16QAM, BW=15MHz, Channel Power



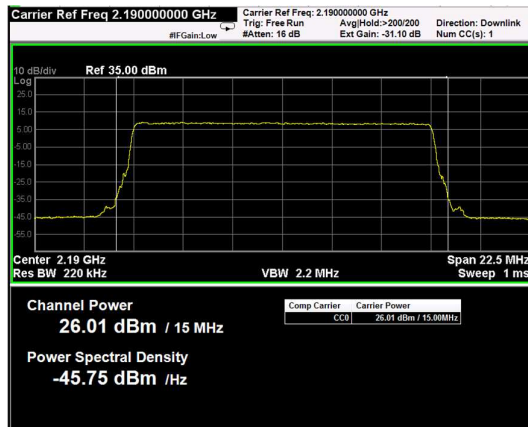
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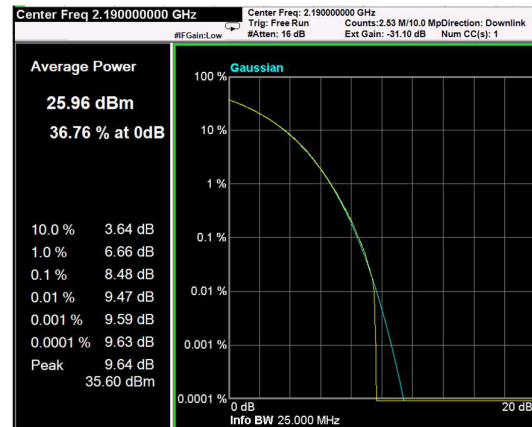
Channel: BOTTOM, Modulation: 64QAM, BW=15MHz, Channel Power



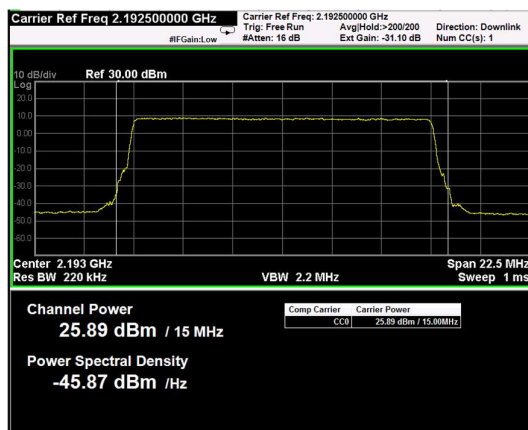
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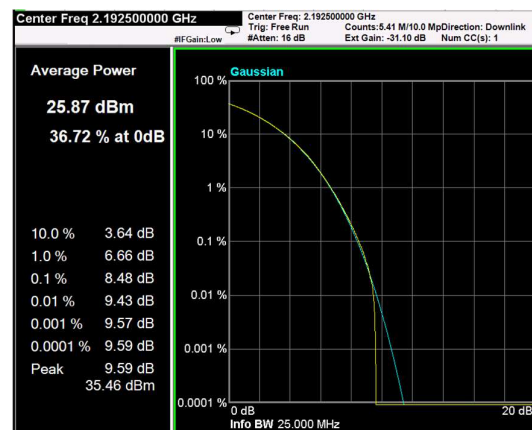
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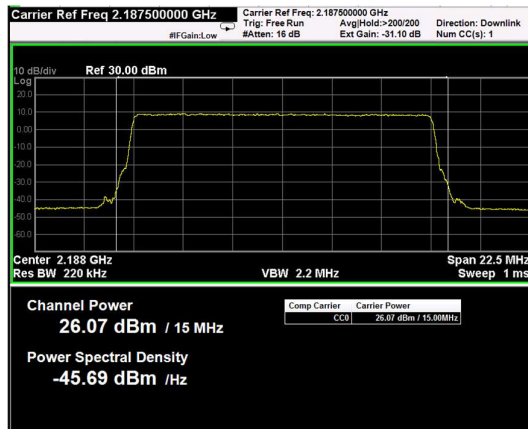
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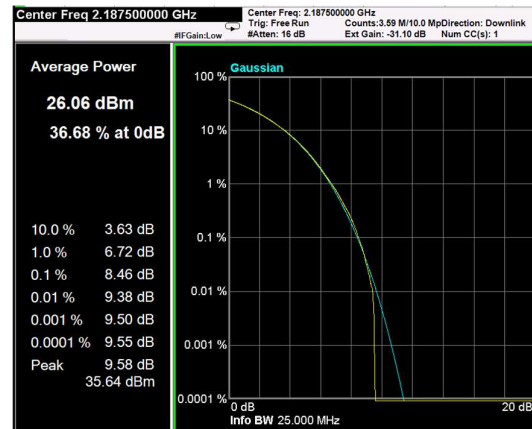
Channel: TOP, Modulation: 64QAM, BW=15MHz, Channel Power



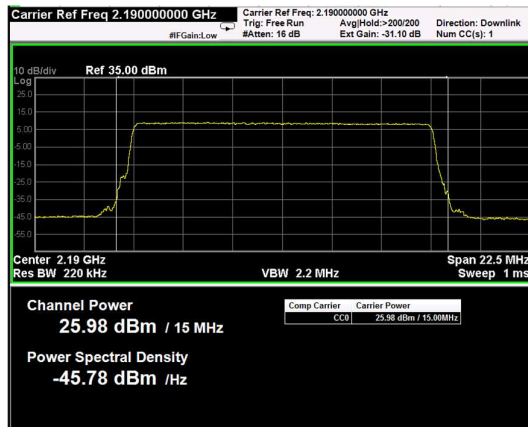
Channel: TOP, Modulation: 64QAM, BW=15MHz, CCDF



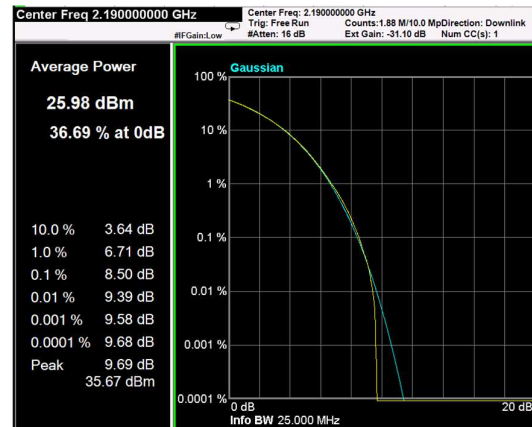
Channel: BOTTOM, Modulation: 256QAM, BW=15MHz, Channel Power



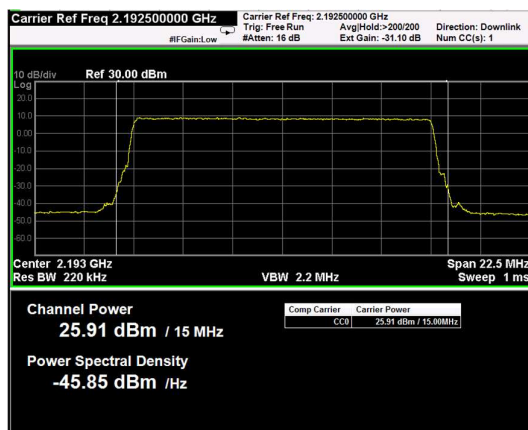
Channel: BOTTOM, Modulation: 256QAM, BW=15MHz, CCDF



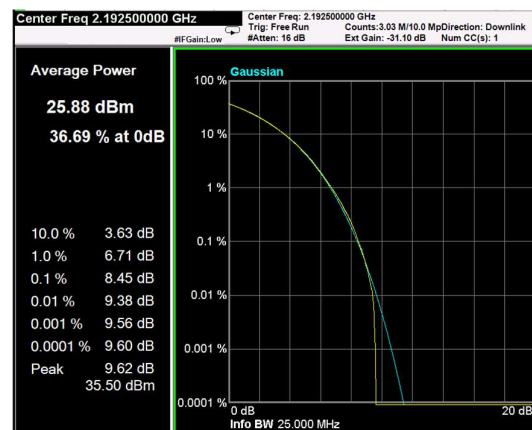
Channel: MIDDLE, Modulation: 256QAM, BW=15MHz, Channel Power



Channel: MIDDLE, Modulation: 256QAM, BW=15MHz, CCDF



Channel: TOP, Modulation: 256QAM, BW=15MHz, Channel Power



Channel: TOP, Modulation: 256QAM, BW=15MHz, CCDF

Test data					
Direction	Modulation	Frequency (MHz)	RF output Power (dBm)	RF output channel Power (W)	PAR (dB)
Down-link	LTE 20MHz (QPSK)	2190	25.48	0.353	9.39
Down-link	LTE 20MHz (16QAM)	2190	25.65	0.367	9.23
Down-link	LTE 20MHz (64QAM)	2190	25.65	0.367	9.25
Down-link	LTE 20MHz (256QAM)	2190	25.65	0.367	9.23