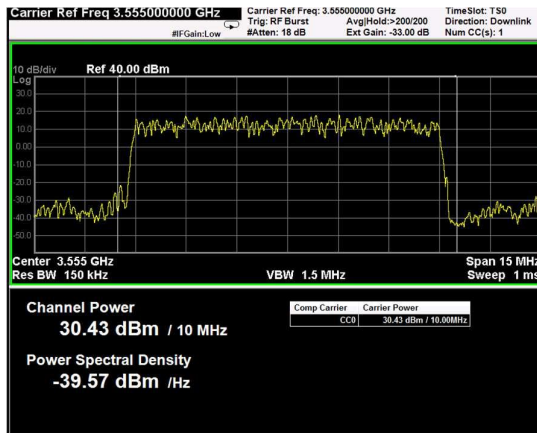
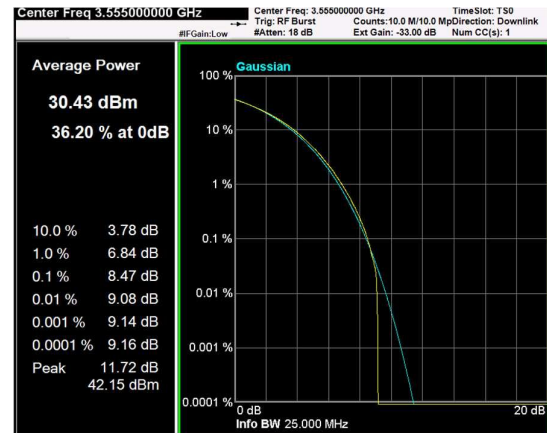
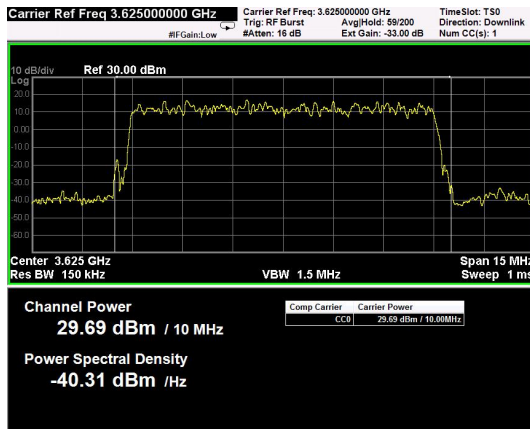




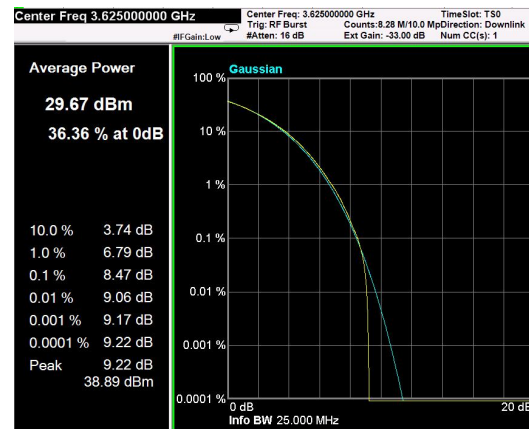
Channel: BOTTOM, Modulation: 64QAM, BW=10MHz, Channel Power



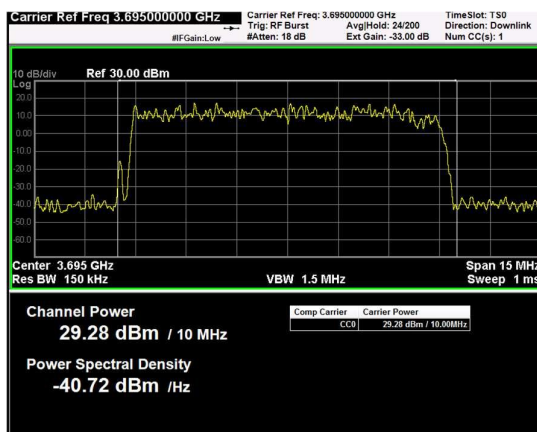
Channel: BOTTOM, Modulation: 64QAM, BW=10MHz, CCDF



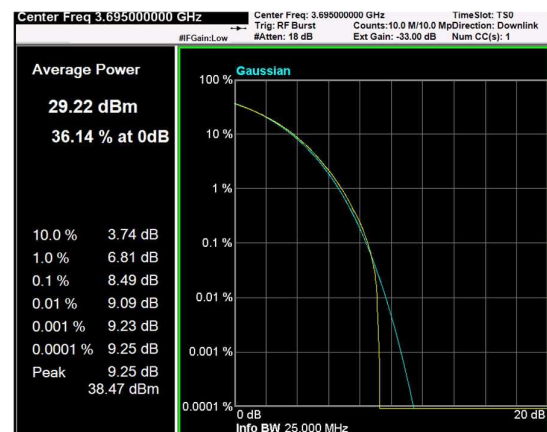
Channel: MIDDLE, Modulation: 64QAM, BW=10MHz, Channel Power



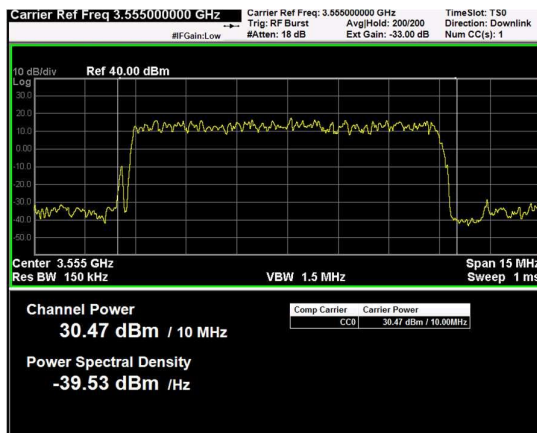
Channel: MIDDLE, Modulation: 64QAM, BW=10MHz, CCDF



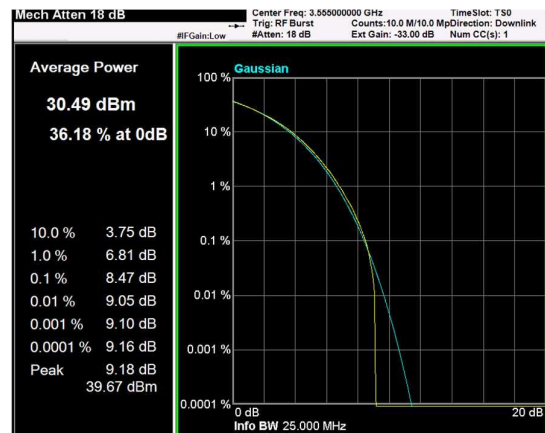
Channel: TOP, Modulation: 64QAM, BW=10MHz, Channel Power



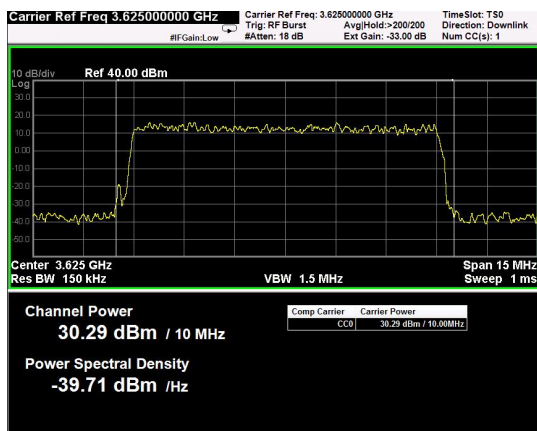
Channel: TOP, Modulation: 64QAM, BW=10MHz, CCDF



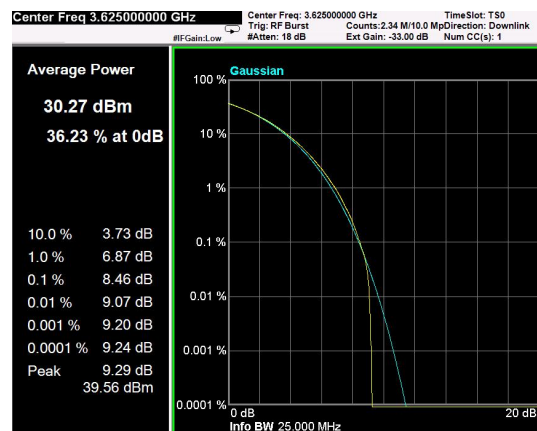
Channel: BOTTOM, Modulation: 256QAM, BW=10MHz, Channel Power



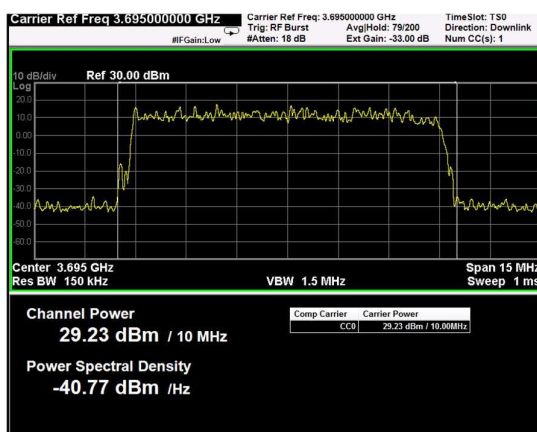
Channel: BOTTOM, Modulation: 256QAM, BW=10MHz, CCDF



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

RF PORT 1

Test data							
Direction	Modulation	Frequency (MHz)	RF output Power (dBm)	RF output channel Power (W)	PSD (dBm/Hz)	PSD (dBm/MHz)	PAR (dB)
Down-link	LTE 15MHz (QPSK)	3557.5	30.0	0.993	-41.8	18.2	10.2
Down-link	LTE 15MHz (QPSK)	3625	29.9	0.986	-41.8	18.2	9.8
Down-link	LTE 15MHz (QPSK)	3692.5	30.0	1.009	-41.7	18.3	9.7
Down-link	LTE 15MHz (16QAM)	3557.5	30.2	1.050	-41.6	18.5	9.7
Down-link	LTE 15MHz (16QAM)	3625	30.4	1.096	-41.4	18.6	9.7
Down-link	LTE 15MHz (16QAM)	3692.5	29.8	0.964	-41.9	18.1	9.8
Down-link	LTE 15MHz (64QAM)	3557.5	29.6	0.902	-42.2	17.8	10.0
Down-link	LTE 15MHz (64QAM)	3625	29.9	0.968	-41.9	18.1	9.7
Down-link	LTE 15MHz (64QAM)	3692.5	30.1	1.028	-41.6	18.4	9.7
Down-link	LTE 15MHz (256QAM)	3557.5	30.0	1.002	-41.8	18.3	11.0
Down-link	LTE 15MHz (256QAM)	3625	30.1	1.012	-41.7	18.3	9.6
Down-link	LTE 15MHz (256QAM)	3692.5	29.5	0.885	-42.3	17.7	9.8

RF PORT 2

Test data							
Direction	Modulation	Frequency (MHz)	RF output Power (dBm)	RF output channel Power (W)	PSD (dBm/Hz)	PSD (dBm/MHz)	PAR (dB)
Down-link	LTE 15MHz (QPSK)	3557.5	29.6	0.902	-42.2	17.8	10.5
Down-link	LTE 15MHz (QPSK)	3625.0	29.3	0.849	-42.5	17.5	9.7
Down-link	LTE 15MHz (QPSK)	3692.5	29.5	0.895	-42.2	17.8	9.8
Down-link	LTE 15MHz (16QAM)	3557.5	29.5	0.887	-42.3	17.7	9.8
Down-link	LTE 15MHz (16QAM)	3625.0	30.2	1.054	-41.5	18.5	9.7
Down-link	LTE 15MHz (16QAM)	3692.5	29.2	0.822	-42.6	17.4	9.7
Down-link	LTE 15MHz (64QAM)	3557.5	29.8	0.962	-41.9	18.1	9.8
Down-link	LTE 15MHz (64QAM)	3625.0	30.1	1.014	-41.7	18.3	9.7
Down-link	LTE 15MHz (64QAM)	3692.5	29.4	0.861	-42.4	17.6	9.7
Down-link	LTE 15MHz (256QAM)	3557.5	29.8	0.957	-42.0	18.1	9.6
Down-link	LTE 15MHz (256QAM)	3625.0	29.5	0.887	-42.3	17.7	9.4
Down-link	LTE 15MHz (256QAM)	3692.5	29.4	0.865	-42.4	17.6	9.7

Special notes

Maximum EIRP $\leq 30\text{dBm}/10\text{MHz}$

Maximum PSD eirp $\leq 20\text{dBm}/1\text{MHz}$

PSD eirp (in 1 MHz) = $\text{PSD}_{\text{max}} - N + G_{\text{max}} = 18,24 - N + G_{\text{max}} \leq 20$

$G_{\text{max}} \leq (20 - 18,24 + N) = N + 1,76$

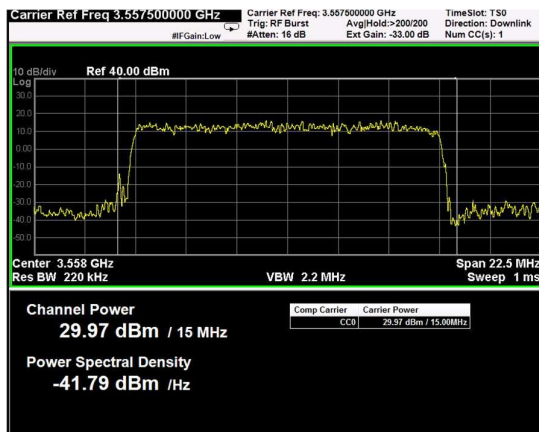
Where:

- PSD_{max} is the maximum PSD value measured on the antenna connector of the equipment and it depends on the LTE bandwidth signal
- N is system path loss (in dB) due to cable insertion, splitter, etc....
- G_{max} is the maximum antenna gain (in dBi)

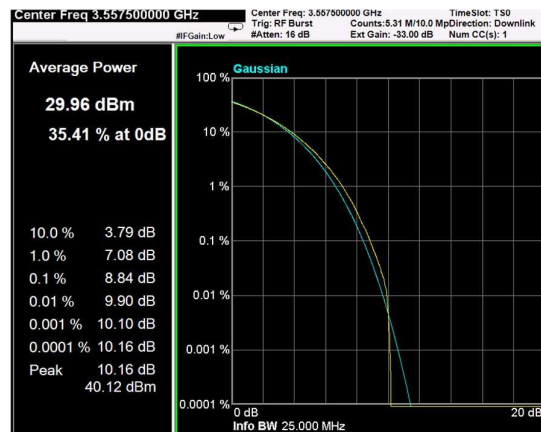
Therefore:

- Maximum antenna gain $G_{\text{max}} = N + 1,50$ and Output power setting = 30 dBm

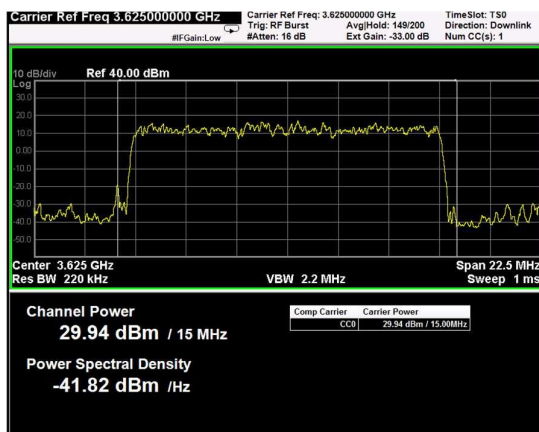
RF PORT 1 PLOT



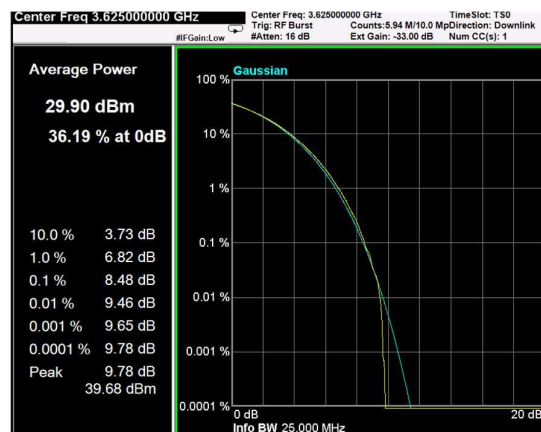
Channel: BOTTOM, Modulation: QPSK, BW=15MHz, Channel Power



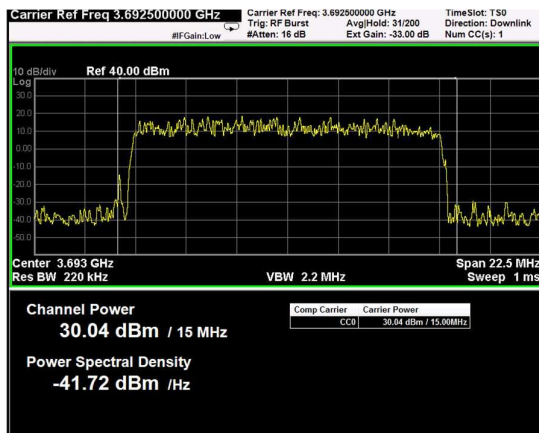
Channel: BOTTOM, Modulation: QPSK, BW=15MHz, CCDF



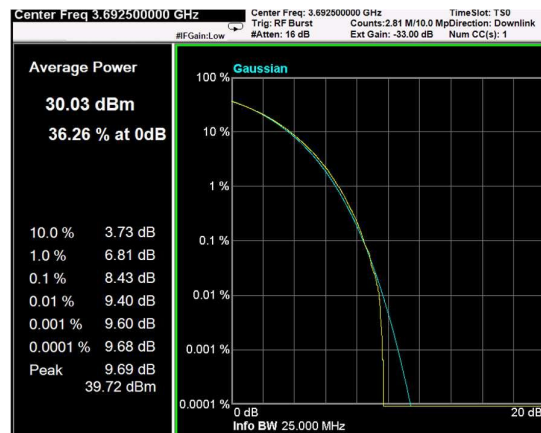
Channel: MIDDLE, Modulation: QPSK, BW=15MHz, Channel Power



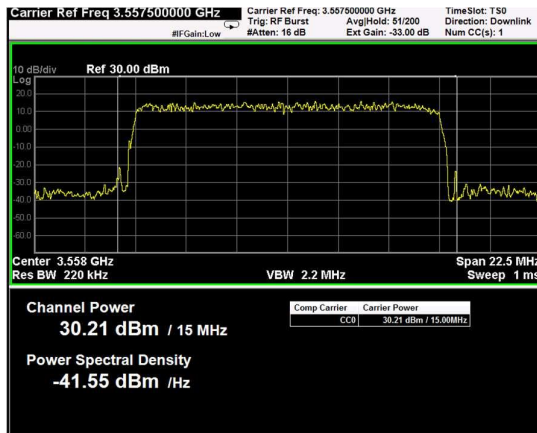
Channel: MIDDLE, Modulation: QPSK, BW=15MHz, CCDF



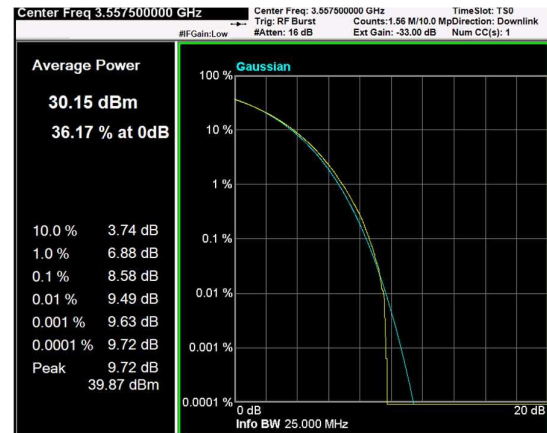
Channel: TOP, Modulation: QPSK, BW=15MHz, Channel Power



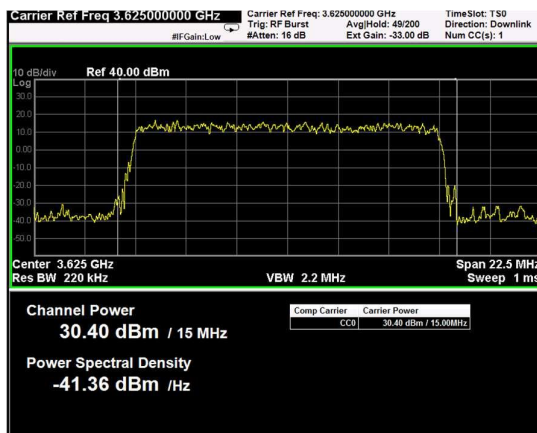
Channel: TOP, Modulation: QPSK, BW=15MHz, CCDF



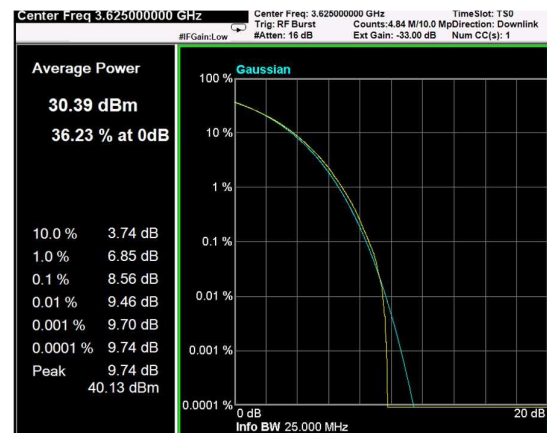
Channel: BOTTOM, Modulation: 16QAM, BW=15MHz, Channel Power



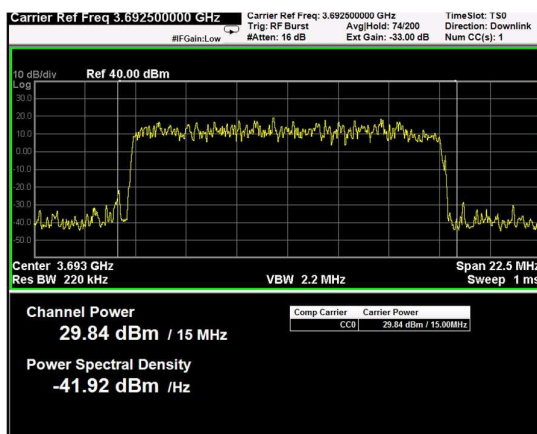
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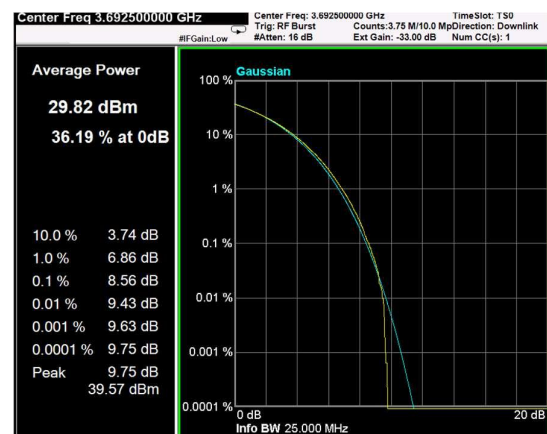
Channel: MIDDLE, Modulation: 16QAM, BW=15MHz, Channel Power



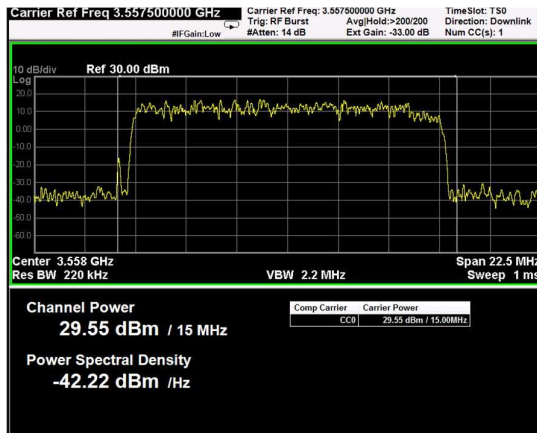
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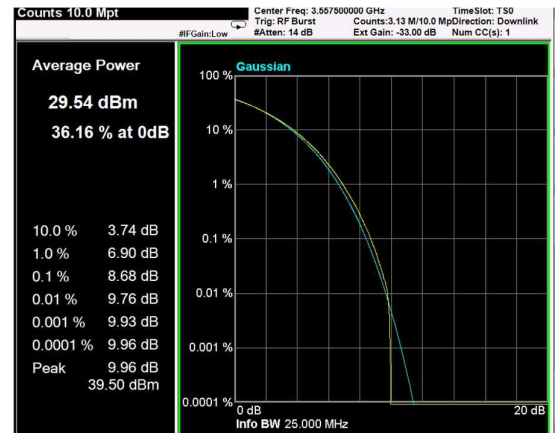
Channel: TOP, Modulation: 16QAM, BW=15MHz, Channel Power



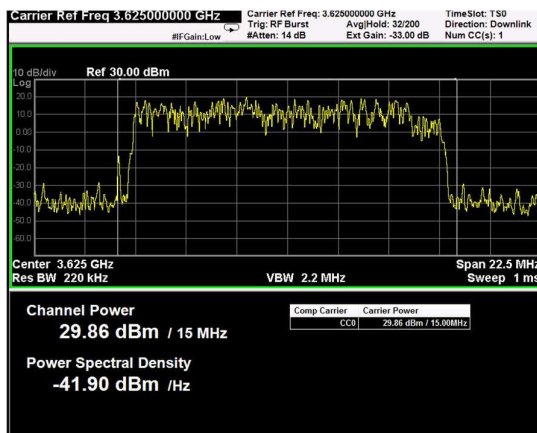
Channel: TOP, Modulation: 16QAM, BW=15MHz, CCDF



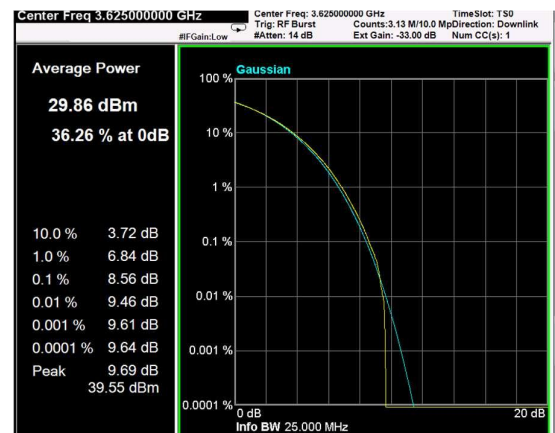
Channel: BOTTOM, Modulation: 64QAM,
 BW=15MHz, Channel Power



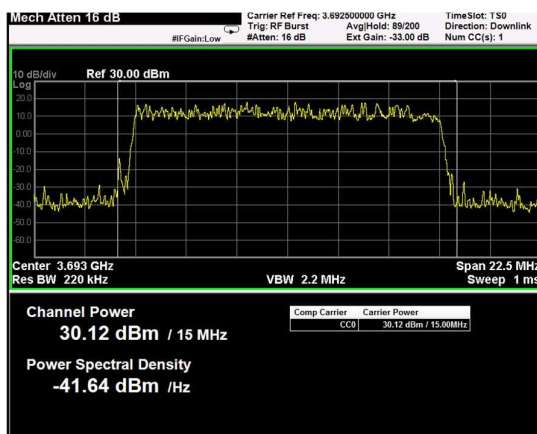
Channel: BOTTOM, Modulation: 64QAM,
 BW=15MHz, CCDF



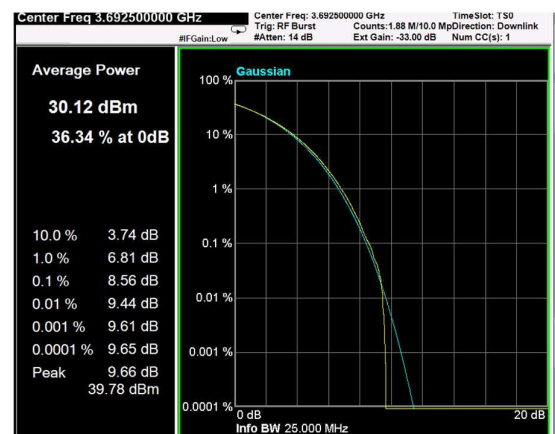
Channel: MIDDLE, Modulation: 64QAM,
 BW=15MHz, Channel Power



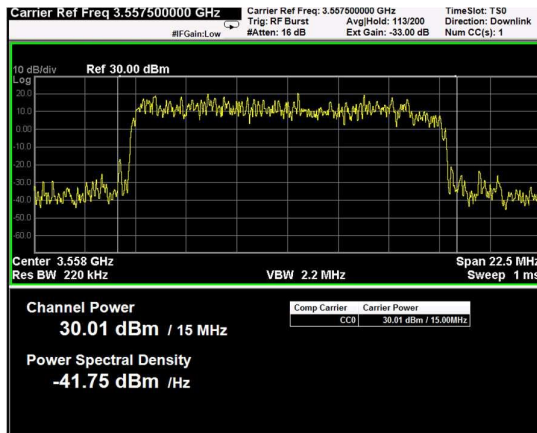
Channel: MIDDLE, Modulation: 64QAM,
 BW=15MHz, CCDF



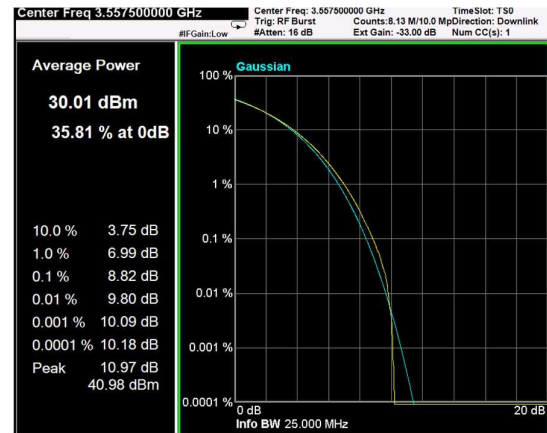
Channel: TOP, Modulation: 64QAM,
 BW=15MHz, Channel Power



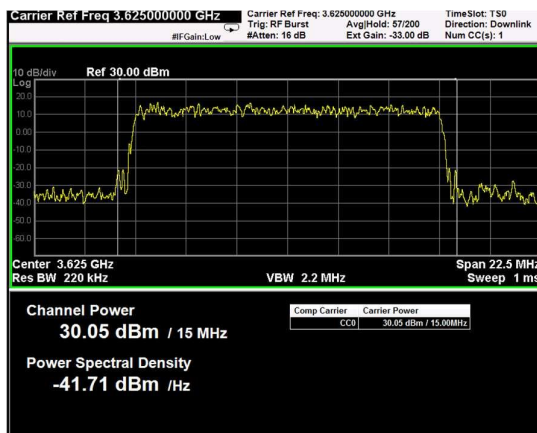
Channel: TOP, Modulation: 64QAM,
 BW=15MHz, CCDF



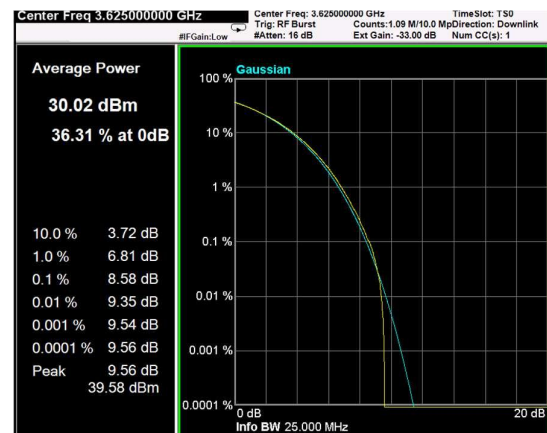
Channel: BOTTOM, Modulation: 256QAM, BW=15MHz, Channel Power



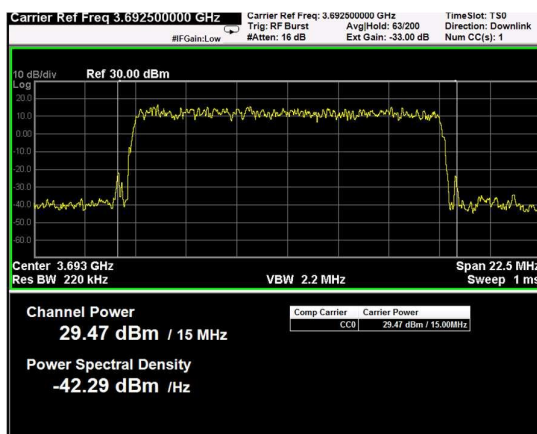
Channel: BOTTOM, Modulation: 256QAM, BW=15MHz, CCDF



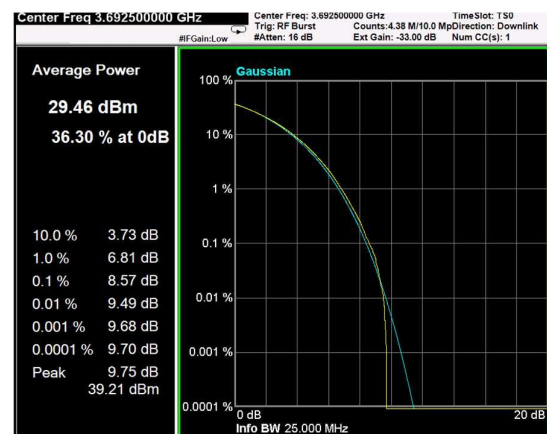
Channel: MIDDLE, Modulation: 256QAM, BW=15MHz, Channel Power



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

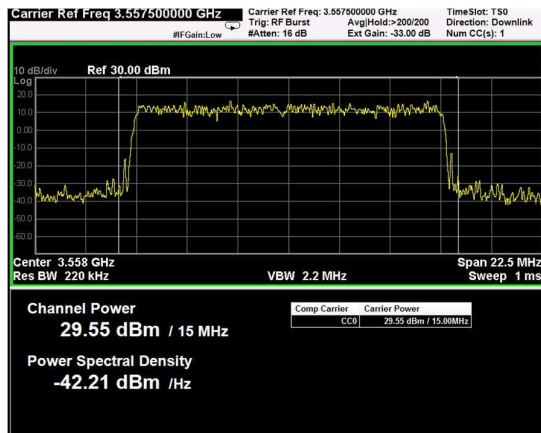


Channel: TOP, Modulation: 256QAM, BW=15MHz, Channel Power

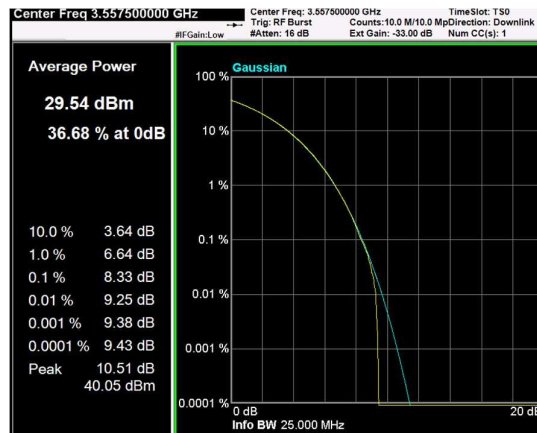


Channel: TOP, Modulation: 256QAM, BW=15MHz, CCDF

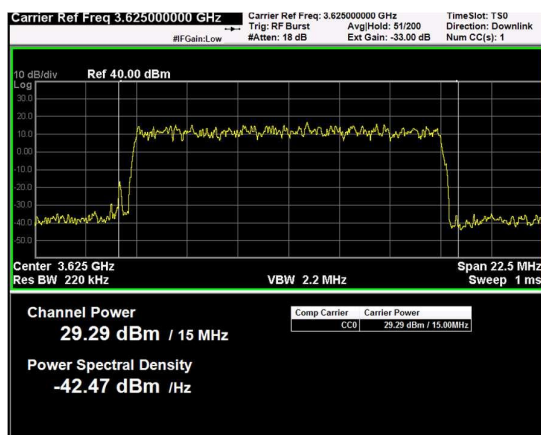
RF PORT 2



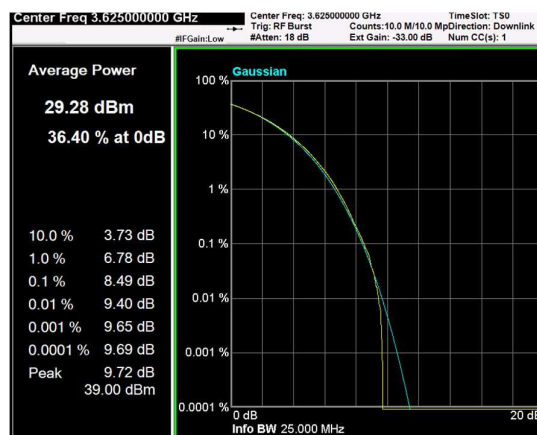
Channel: BOTTOM, Modulation: QPSK,
 BW=15MHz, Channel Power



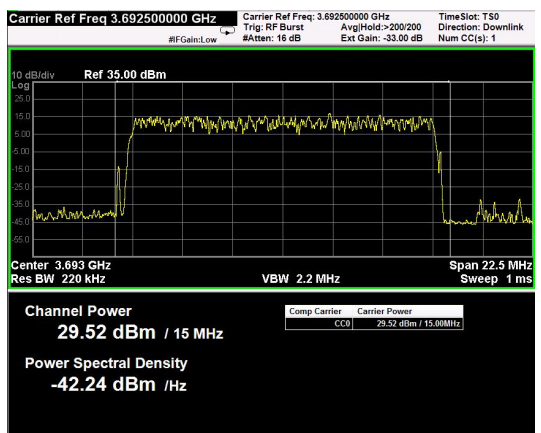
Channel: BOTTOM, Modulation: QPSK,
 BW=15MHz, CCDF



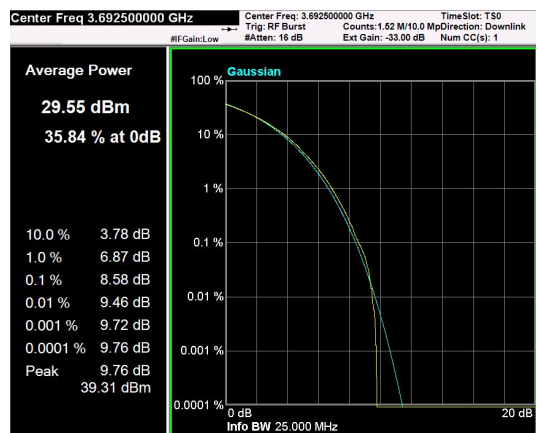
Channel: MIDDLE, Modulation: QPSK,
 BW=15MHz, Channel Power



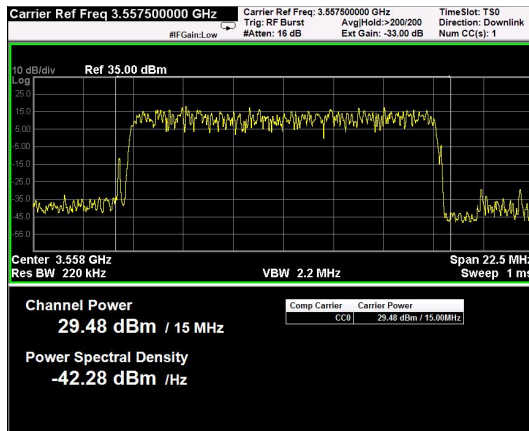
Channel: MIDDLE, Modulation: QPSK,
 BW=15MHz, CCDF



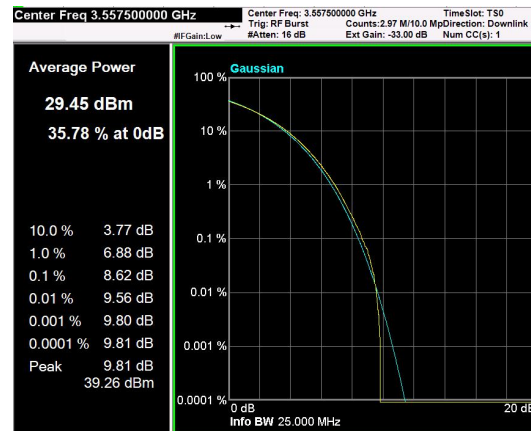
Channel: TOP, Modulation: QPSK,
 BW=15MHz, Channel Power



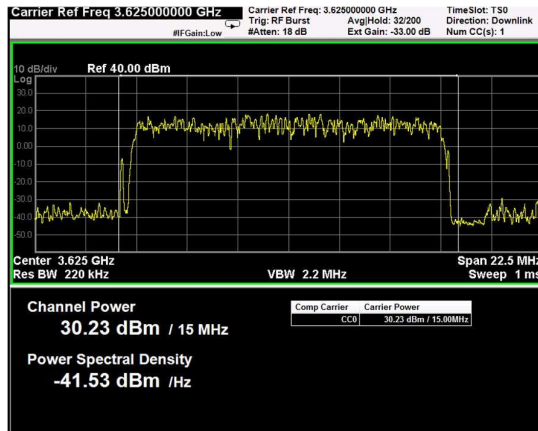
Channel: TOP, Modulation: QPSK,
 BW=15MHz, CCDF



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



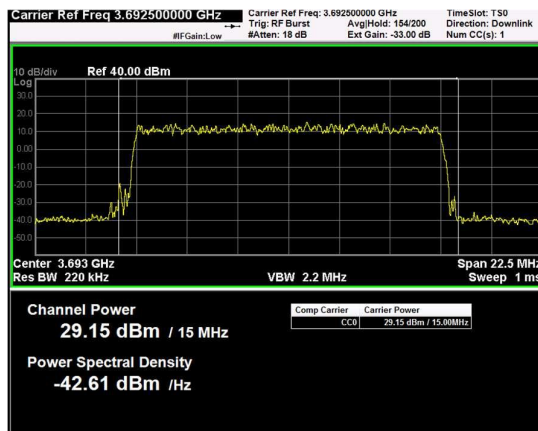
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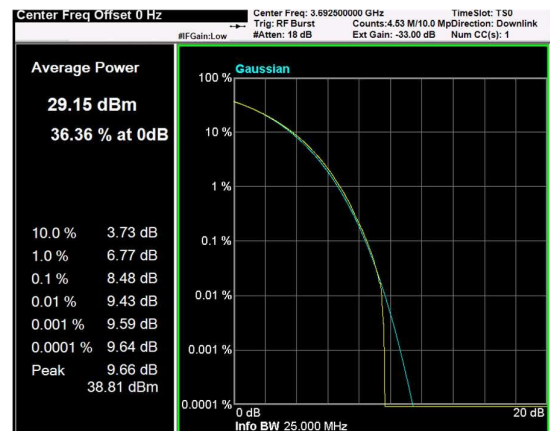
Channel: MIDDLE, Modulation: 16QAM, BW=15MHz, Channel Power



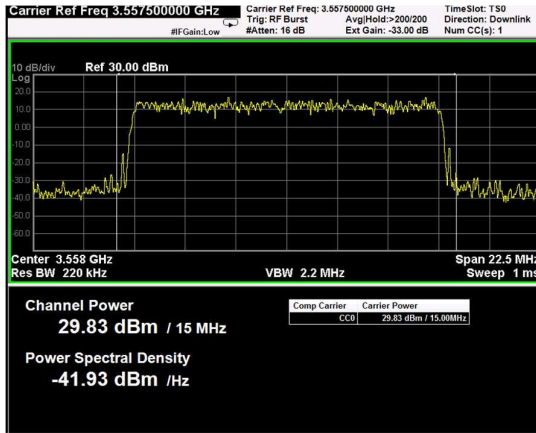
Channel: MIDDLE, Modulation: 16QAM, BW=15MHz, CCDF



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



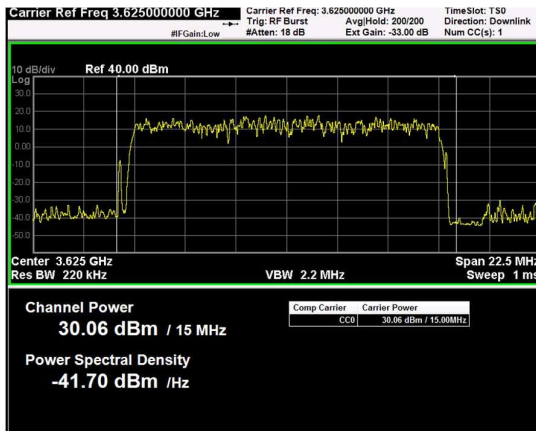
Channel: TOP, Modulation: 16QAM, BW=15MHz, CCDF



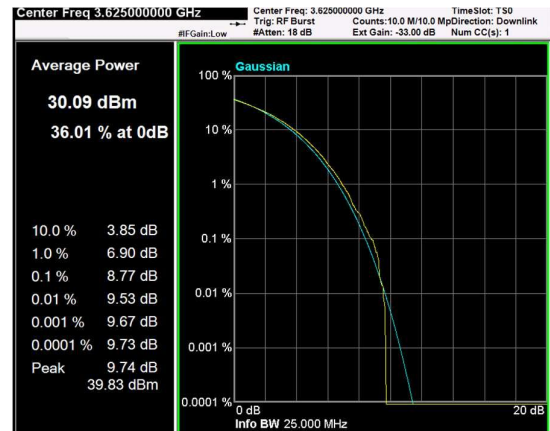
Channel: BOTTOM, Modulation: 64QAM, BW=15MHz, Channel Power



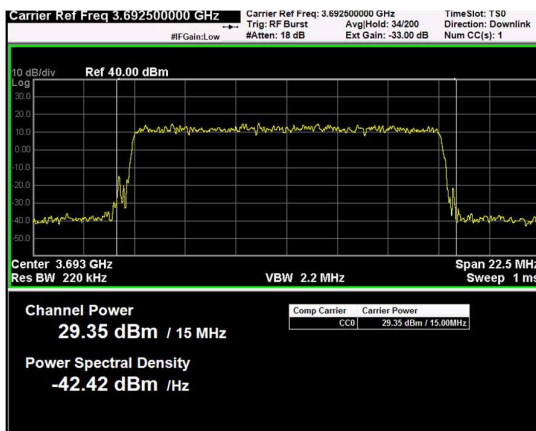
Channel: BOTTOM, Modulation: 64QAM, BW=15MHz, CCDF



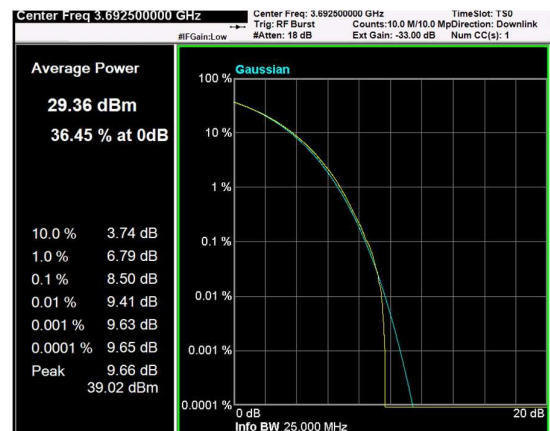
Channel: MIDDLE, Modulation: 64QAM, BW=15MHz, Channel Power



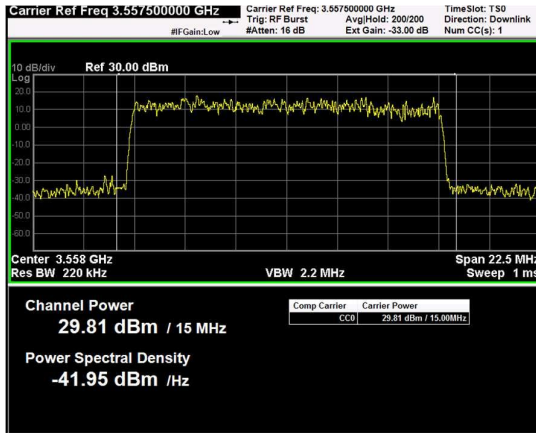
Channel: MIDDLE, Modulation: 64QAM, BW=15MHz, CCDF



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



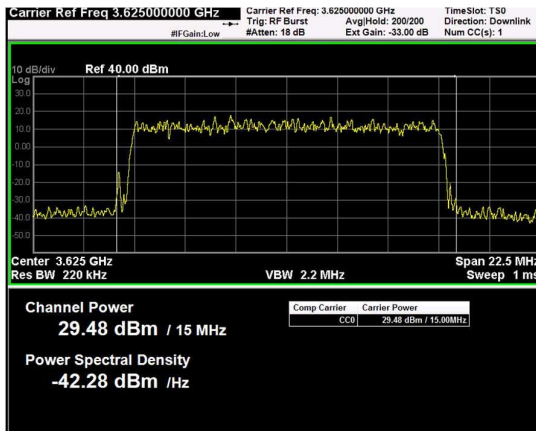
Channel: TOP, Modulation: 64QAM, BW=15MHz, CCDF



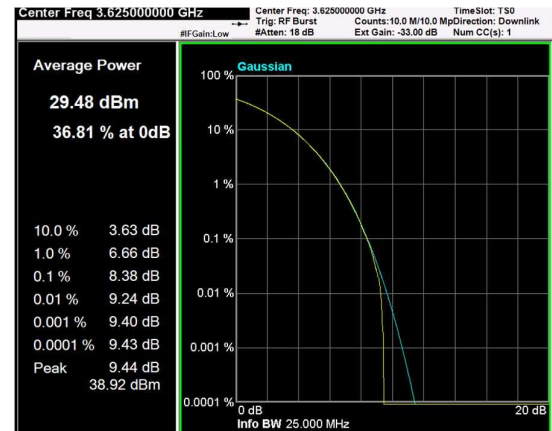
Channel: BOTTOM, Modulation: 256QAM, BW=15MHz, Channel Power



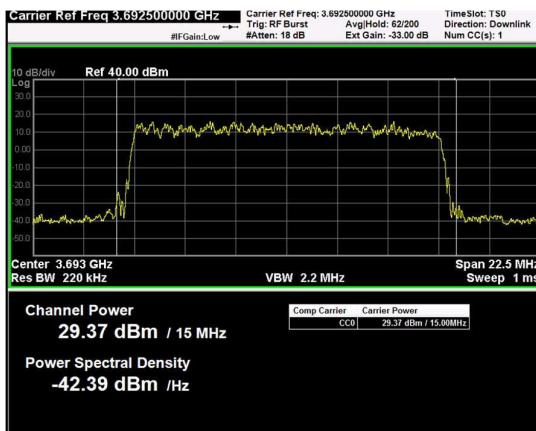
Channel: BOTTOM, Modulation: 256QAM, BW=15MHz, CCDF



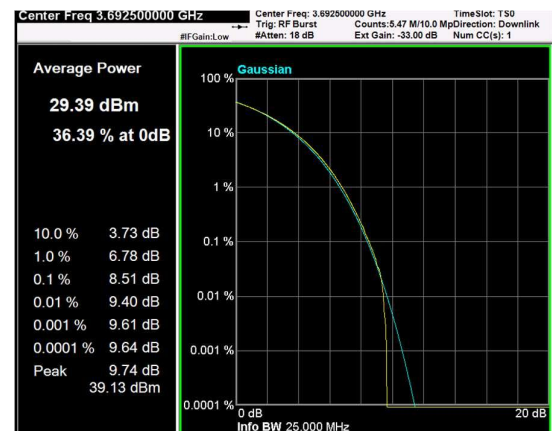
Channel: MIDDLE, Modulation: 256QAM, BW=15MHz, Channel Power



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



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



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

RF PORT 1

Test data							
Direction	Modulation	Frequency (MHz)	RF output Power (dBm)	RF output channel Power (W)	PSD (dBm/Hz)	PSD (dBm/MHz)	PAR (dB)
Down-link	LTE 20MHz (QPSK)	3560.0	30.2	1.045	-42.8	17.2	9.3
Down-link	LTE 20MHz (QPSK)	3625.0	30.0	1.009	-43.0	17.0	9.4
Down-link	LTE 20MHz (QPSK)	3690.0	30.4	1.096	-42.6	17.4	9.3
Down-link	LTE 20MHz (16QAM)	3560.0	30.0	0.995	-43.0	17.0	9.5
Down-link	LTE 20MHz (16QAM)	3625.0	30.2	1.057	-42.8	17.2	9.3
Down-link	LTE 20MHz (16QAM)	3690.0	30.0	0.995	-43.0	17.0	10.4
Down-link	LTE 20MHz (64QAM)	3560.0	30.0	1.002	-43.0	17.0	10.1
Down-link	LTE 20MHz (64QAM)	3625.0	30.1	1.012	-43.0	17.0	9.7
Down-link	LTE 20MHz (64QAM)	3690.0	30.0	1.005	-43.0	17.0	10.0
Down-link	LTE 20MHz (256QAM)	3560.0	30.2	1.040	-42.8	17.2	9.3
Down-link	LTE 20MHz (256QAM)	3625.0	30.0	0.991	-43.1	17.0	9.4
Down-link	LTE 20MHz (256QAM)	3690.0	30.3	1.081	-42.7	17.3	9.4

RF PORT 2

Test data							
Direction	Modulation	Frequency (MHz)	RF output Power (dBm)	RF output channel Power (W)	PSD (dBm/Hz)	PSD (dBm/MHz)	PAR (dB)
Down-link	LTE 20MHz (QPSK)	3560.0	29.7	0.931	-43.3	16.7	9.3
Down-link	LTE 20MHz (QPSK)	3625.0	30.3	1.069	-42.7	17.3	9.2
Down-link	LTE 20MHz (QPSK)	3690.0	29.7	0.935	-43.3	16.7	9.3
Down-link	LTE 20MHz (16QAM)	3560.0	29.7	0.925	-43.4	16.7	9.3
Down-link	LTE 20MHz (16QAM)	3625.0	30.3	1.074	-42.7	17.3	9.1
Down-link	LTE 20MHz (16QAM)	3690.0	29.2	0.834	-43.8	16.2	9.4
Down-link	LTE 20MHz (64QAM)	3560.0	29.7	0.931	-43.3	16.7	9.6
Down-link	LTE 20MHz (64QAM)	3625.0	30.3	1.061	-42.8	17.3	9.1
Down-link	LTE 20MHz (64QAM)	3690.0	29.4	0.861	-43.7	16.3	9.7
Down-link	LTE 20MHz (256QAM)	3560.0	29.7	0.935	-43.3	16.7	9.3
Down-link	LTE 20MHz (256QAM)	3625.0	30.3	1.076	-42.7	17.3	9.1
Down-link	LTE 20MHz (256QAM)	3690.0	29.8	0.946	-43.3	16.8	9.1

Special notes

Maximum EIRP $\leq 30\text{dBm}/10\text{MHz}$
Maximum PSD eirp $\leq 20\text{dBm}/1\text{MHz}$

PSD eirp (in 1 MHz) = $\text{PSD}_{\text{max}} - N + G_{\text{max}} = 17 - N + G_{\text{max}} \leq 20$
 $G_{\text{max}} \leq (20 - 17 + N) = N + 3$

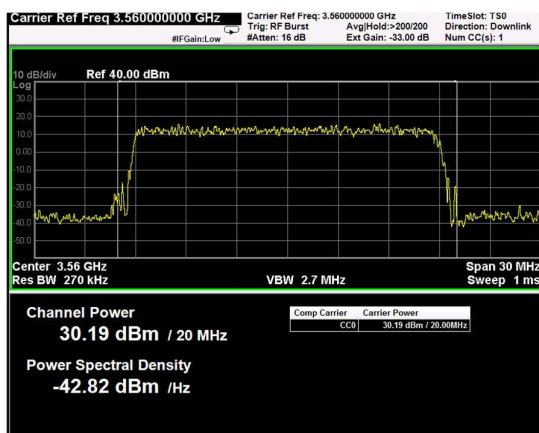
Where:

- PSD_{max} is the maximum PSD value measured on the antenna connector of the equipment and it depends on the LTE bandwidth signal
- N is system path loss (in dB) due to cable insertion, splitter, etc....
- G_{max} is the maximum antenna gain (in dBi)

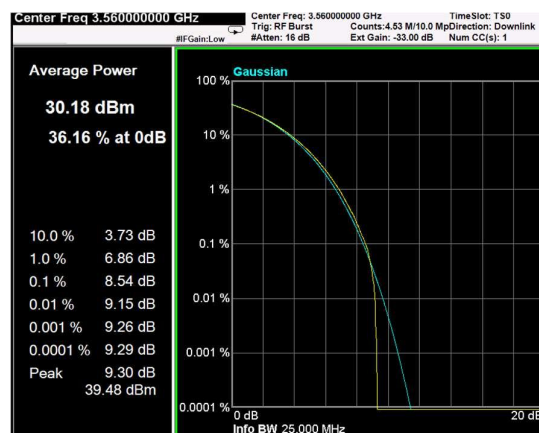
Therefore:

- Maximum antenna gain $G_{\text{max}} = N + 3$ and Output power setting = 30 dBm

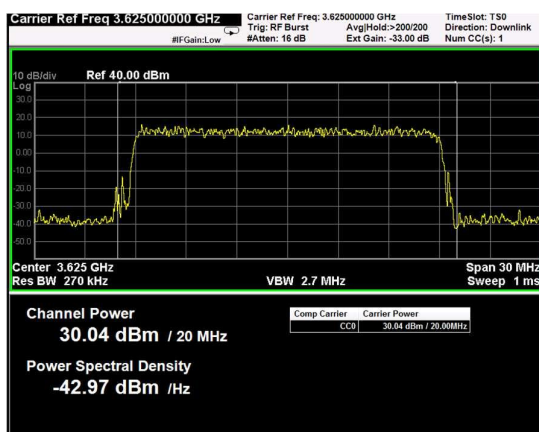
RF PORT 1 PLOT



Channel: BOTTOM, Modulation: QPSK, BW=20MHz, Channel Power



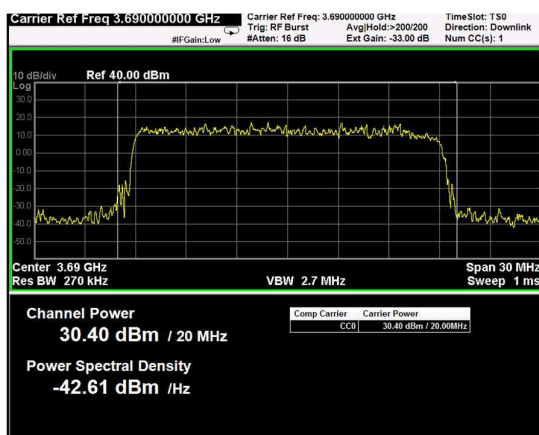
Channel: BOTTOM, Modulation: QPSK, BW=20MHz, CCDF



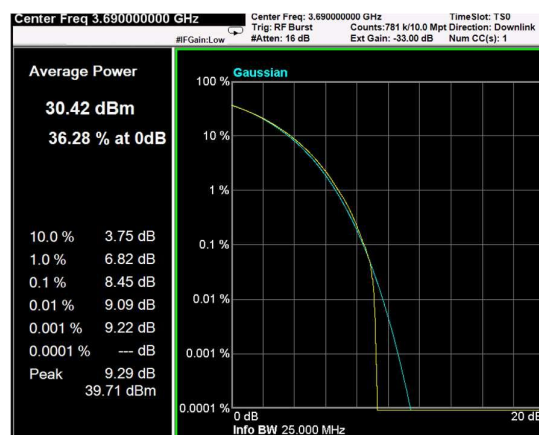
Channel: MIDDLE, Modulation: QPSK, BW=20MHz, Channel Power



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



Channel: TOP, Modulation: QPSK, BW=20MHz, Channel Power



Channel: TOP, Modulation: QPSK, BW=20MHz, CCDF