

Plot data of PAPR - 3 MHz Bandwidth + 5 MHz Bandwidth / 2 Carriers

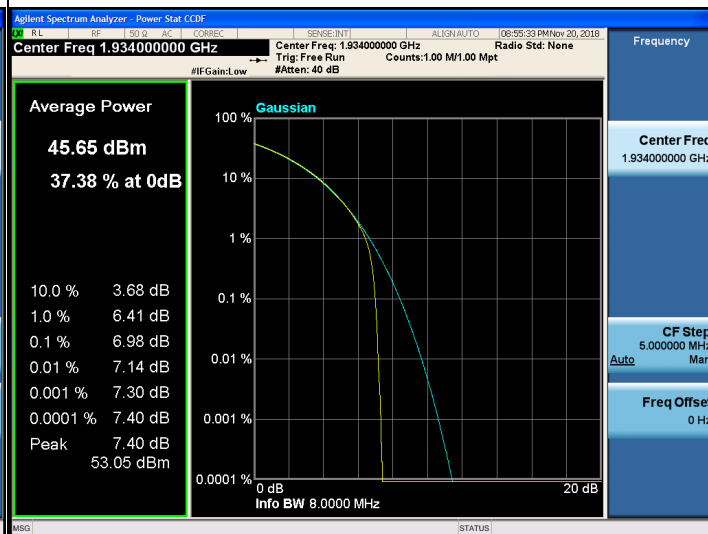
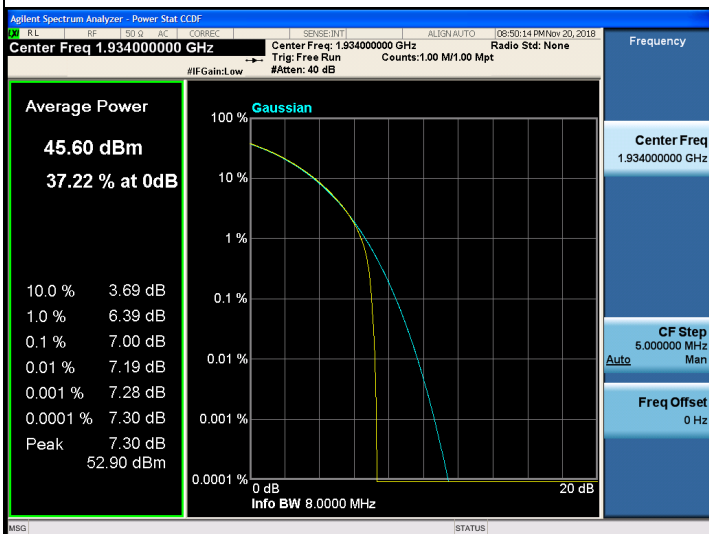
Port 0

Port 0			
Modulation:		QPSK	
Channel:		Low	
Agilent Spectrum Analyzer - Power Stat CCDF RL RF 150 GHz AC CORRECT SENSE:INT1 ALIGN: AUTO 07:03:45 PM Nov 20, 2018 Center Freq 1.934000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None #IF Gain: Low Average Power 45.64 dBm 37.49 % at 0dB 10.0 % 3.69 dB 1.0 % 6.36 dB 0.1 % 6.93 dB 0.01 % 7.16 dB 0.001 % 7.28 dB 0.0001 % 7.34 dB Peak 7.36 dB 53.00 dBm Gaussian 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 8.0000 MHz Frequency Center Freq 1.934000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz			
Modulation:		16QAM	
Channel:		High	
Agilent Spectrum Analyzer - Power Stat CCDF RL RF 150 GHz AC CORRECT SENSE:INT1 ALIGN: AUTO 07:40:54 PM Nov 20, 2018 Center Freq 1.991000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None #IF Gain: Low Average Power 45.83 dBm 37.46 % at 0dB 10.0 % 3.67 dB 1.0 % 6.43 dB 0.1 % 6.99 dB 0.01 % 7.19 dB 0.001 % 7.27 dB 0.0001 % 7.29 dB Peak 7.29 dB 53.12 dBm Gaussian 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 8.0000 MHz Frequency Center Freq 1.991000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz			
Modulation:		64QAM	
Channel:		High	
Agilent Spectrum Analyzer - Power Stat CCDF RL RF 150 GHz AC CORRECT SENSE:INT1 ALIGN: AUTO 07:46:16 PM Nov 20, 2018 Center Freq 1.991000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None #IF Gain: Low Average Power 45.86 dBm 37.39 % at 0dB 10.0 % 3.69 dB 1.0 % 6.42 dB 0.1 % 7.02 dB 0.01 % 7.20 dB 0.001 % 7.30 dB 0.0001 % 7.34 dB Peak 7.34 dB 53.20 dBm Gaussian 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 8.0000 MHz Frequency Center Freq 1.991000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz			
Modulation:		256QAM	
Channel:		High	
Agilent Spectrum Analyzer - Power Stat CCDF RL RF 150 GHz AC CORRECT SENSE:INT1 ALIGN: AUTO 07:51:38 PM Nov 20, 2018 Center Freq 1.991000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None #IF Gain: Low Average Power 45.85 dBm 37.40 % at 0dB 10.0 % 3.67 dB 1.0 % 6.38 dB 0.1 % 7.00 dB 0.01 % 7.22 dB 0.001 % 7.35 dB 0.0001 % 7.38 dB Peak 7.40 dB 53.25 dBm Gaussian 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 8.0000 MHz Frequency Center Freq 1.991000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz			

Port 1

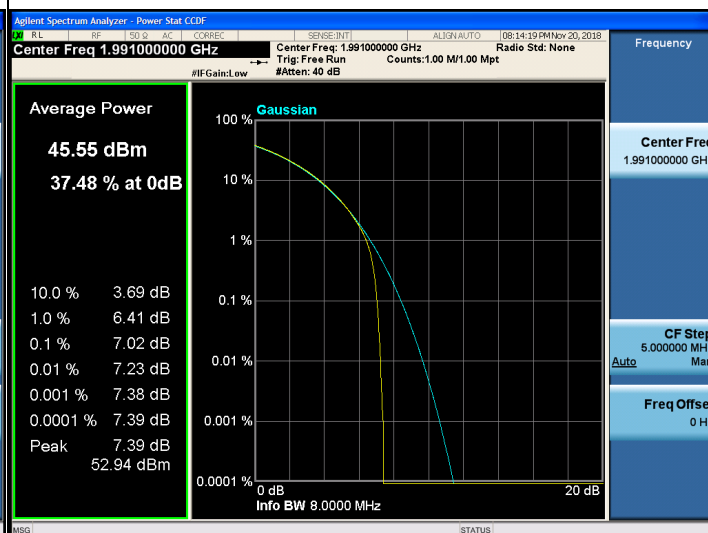
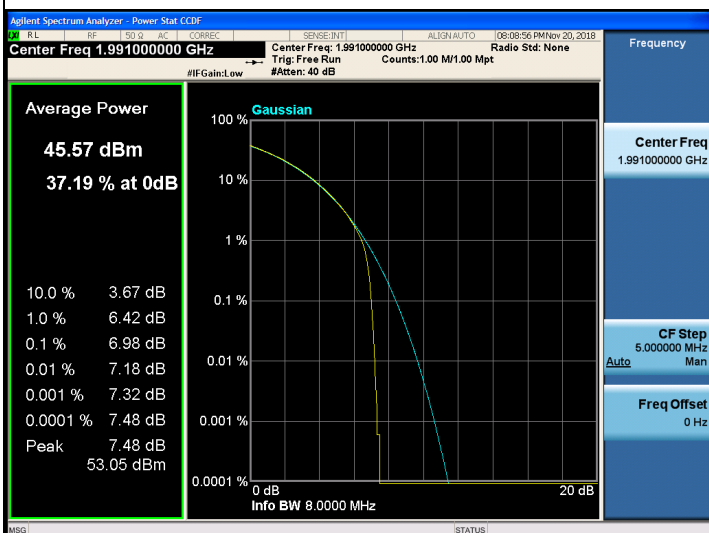
Modulation: QPSK
Channel: Low

Modulation: 16QAM
Channel: Low



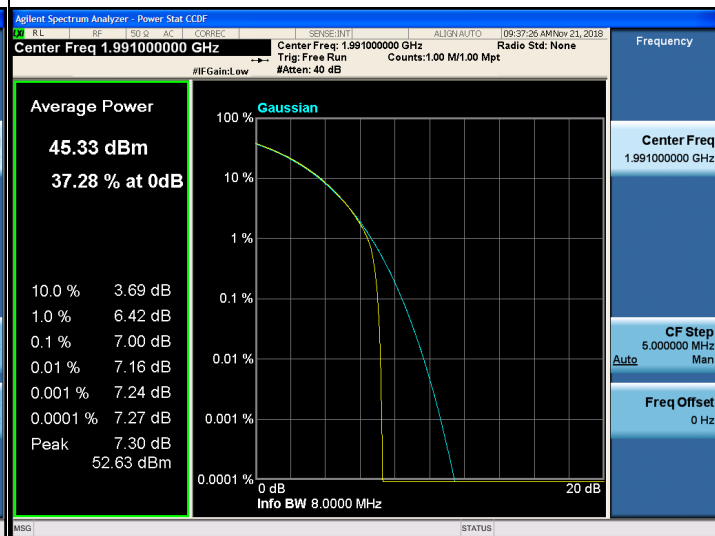
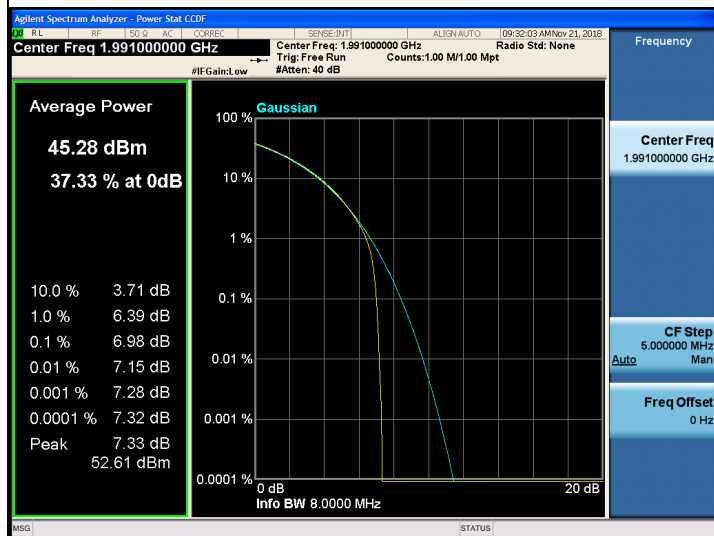
Modulation: 64QAM
Channel: High

Modulation: 256QAM
Channel: High

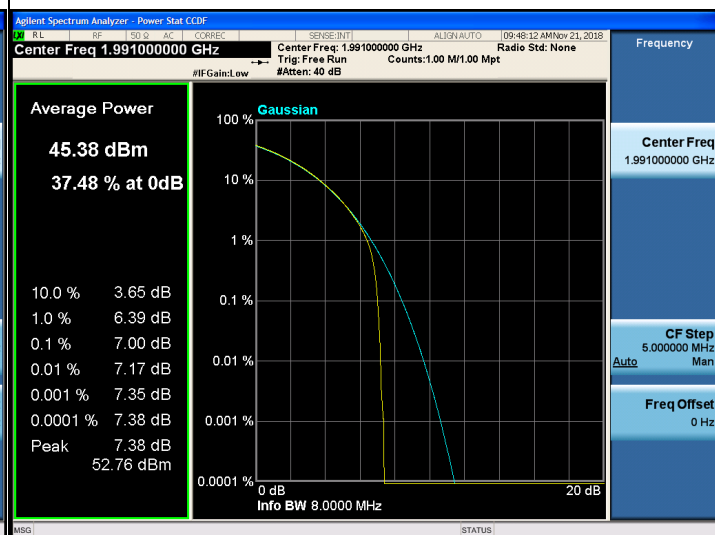
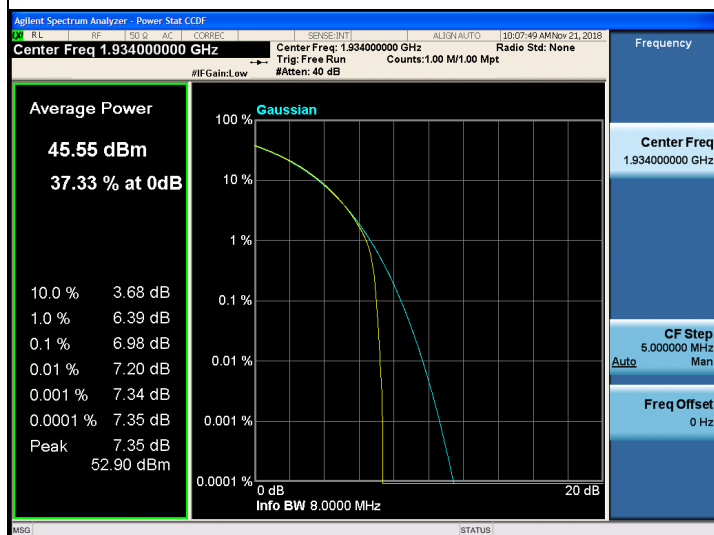


Port 2

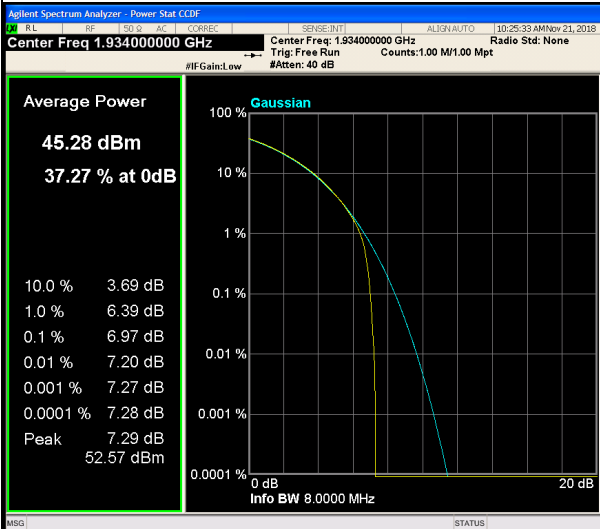
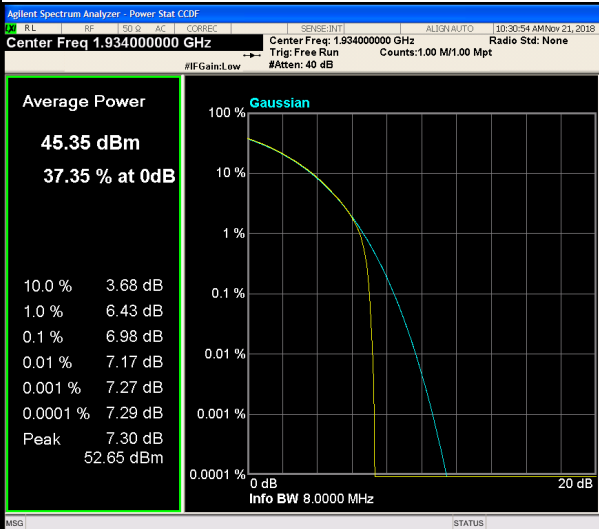
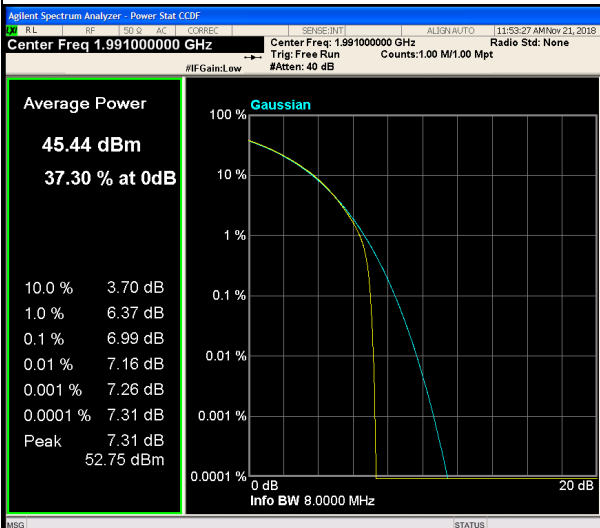
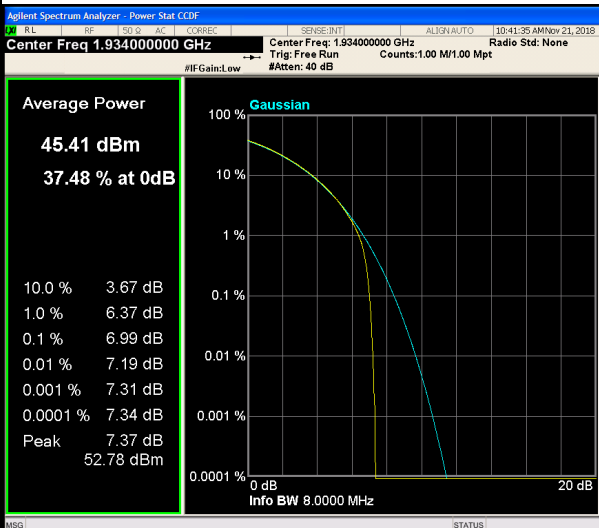
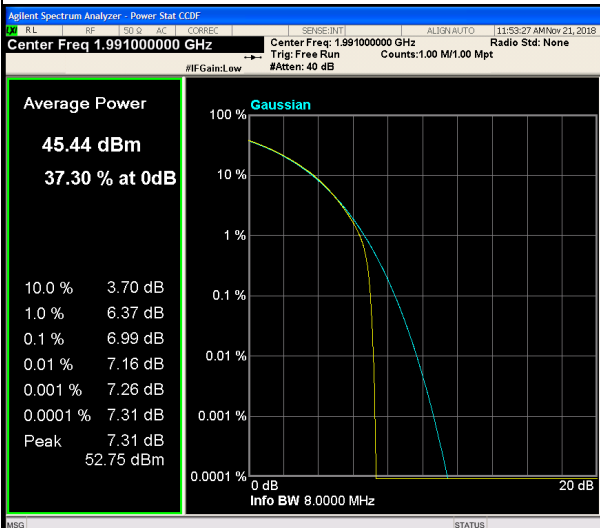
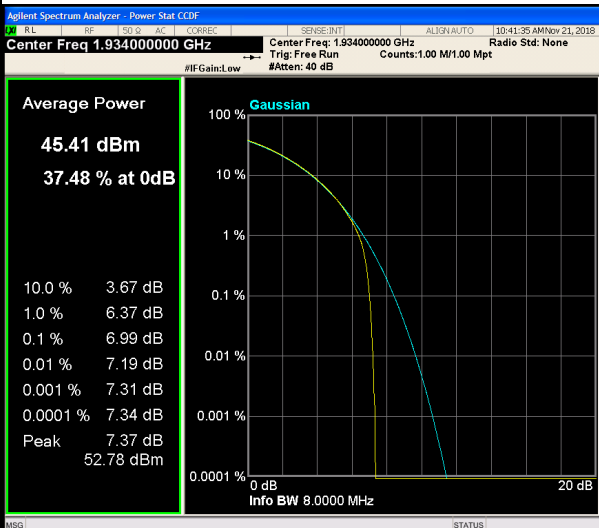
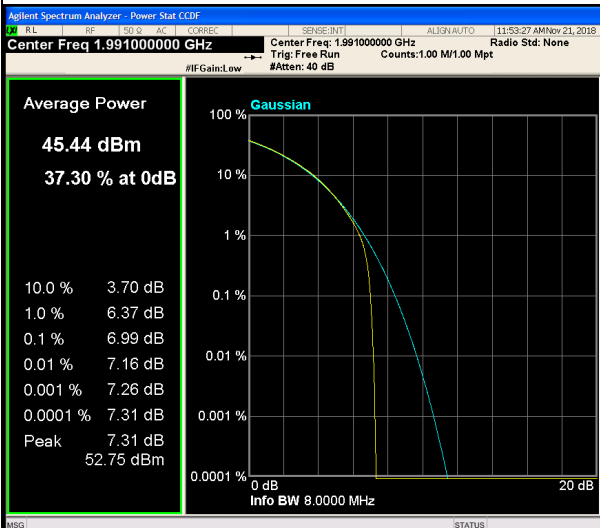
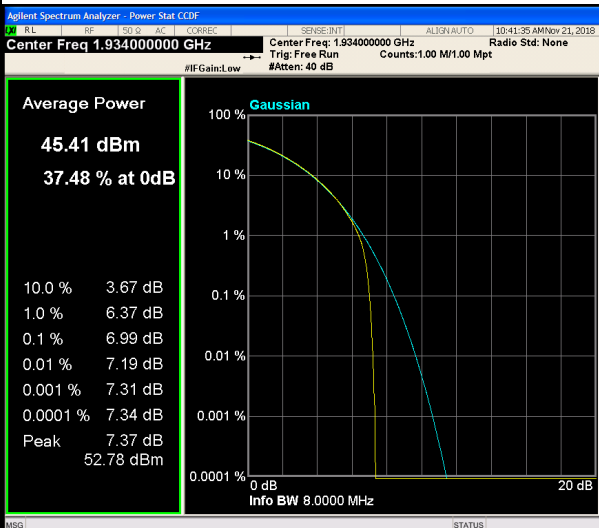
Modulation:	QPSK	Modulation:	16QAM
Channel:	High	Channel:	High



Modulation:	64QAM	Modulation:	256QAM
Channel:	Low	Channel:	High

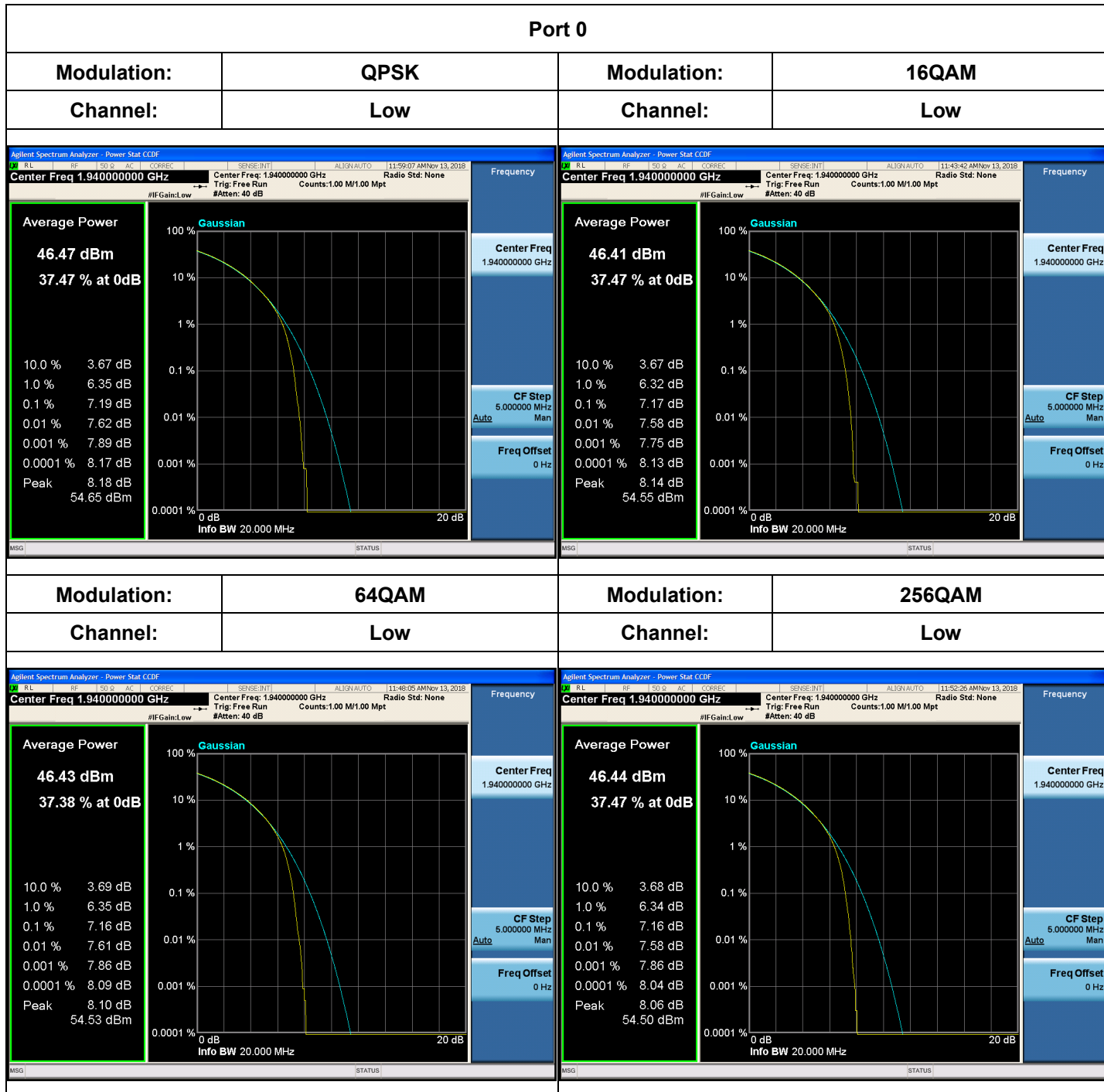


Port 3

Port 3			
Modulation:		QPSK	
Channel:		Low	
			
Modulation:		16QAM	
Channel:		Low	
			
Modulation:		64QAM	
Channel:		High	
			
Modulation:		256QAM	
Channel:		Low	
			

Plot data of PAPR - 20 MHz Bandwidth / 1 Carrier

Port 0



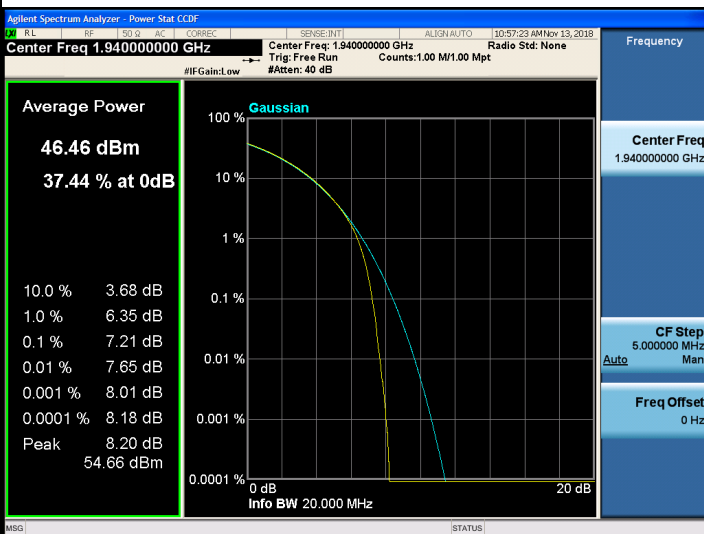
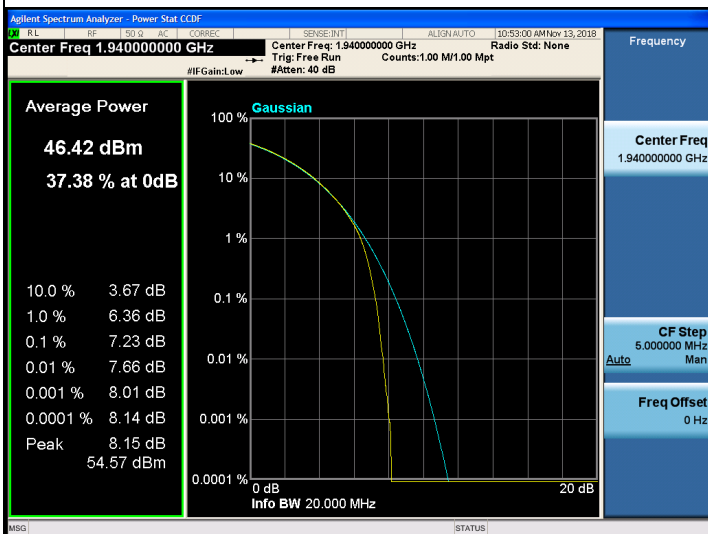
Port 1

Modulation: QPSK

Channel: Low

Modulation: 16QAM

Channel: Low

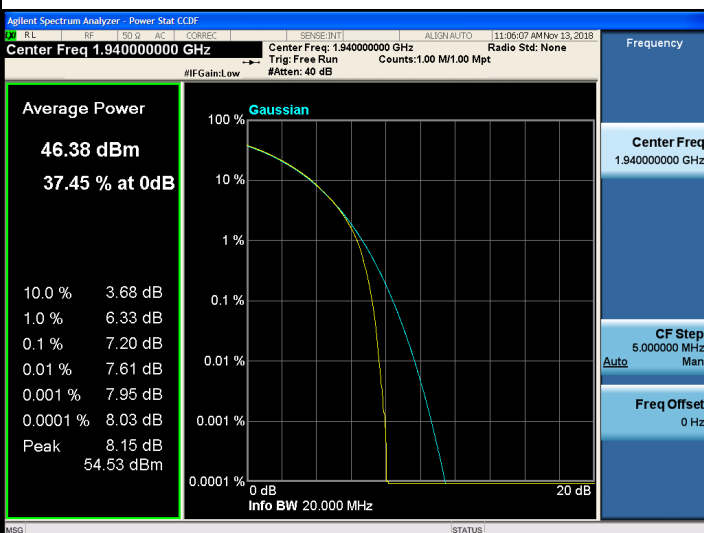
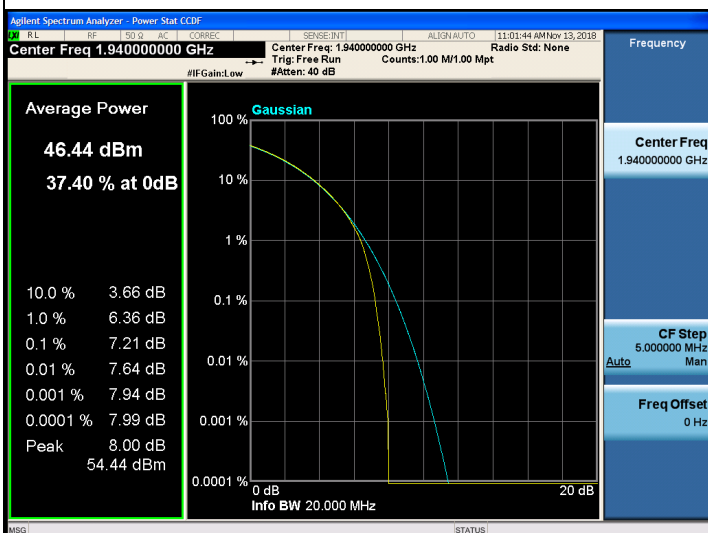


Modulation: 64QAM

Channel: Low

Modulation: 256QAM

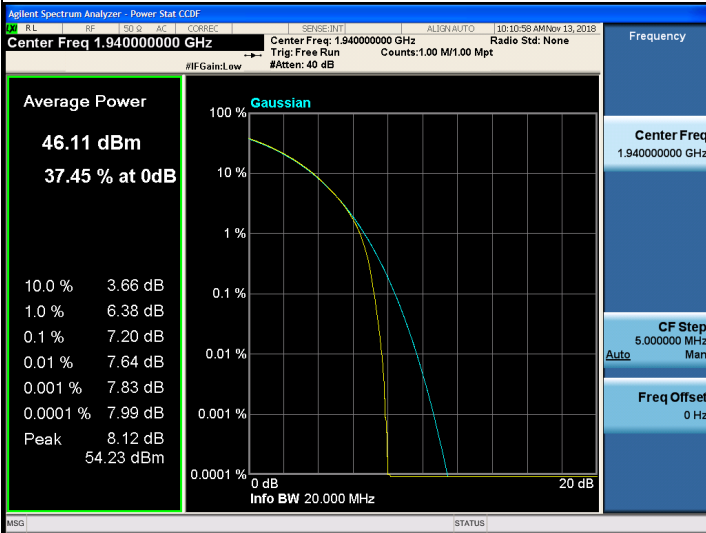
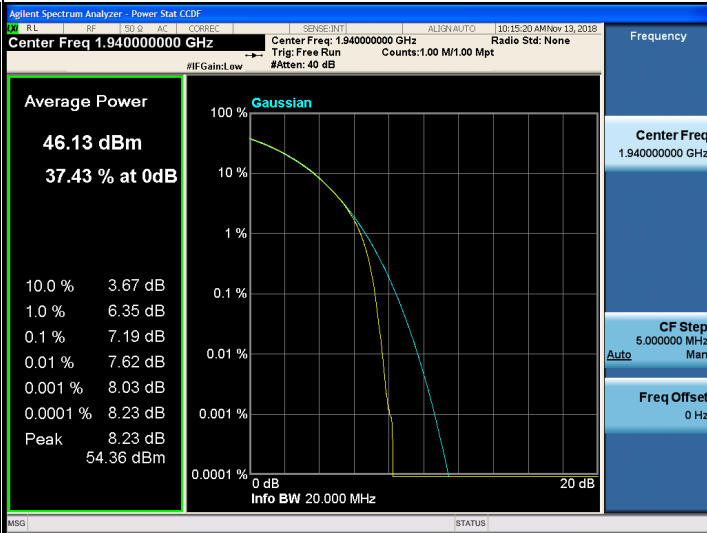
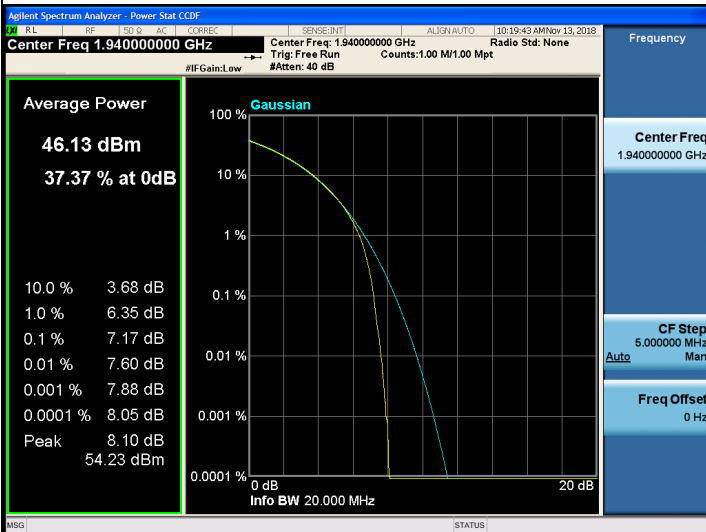
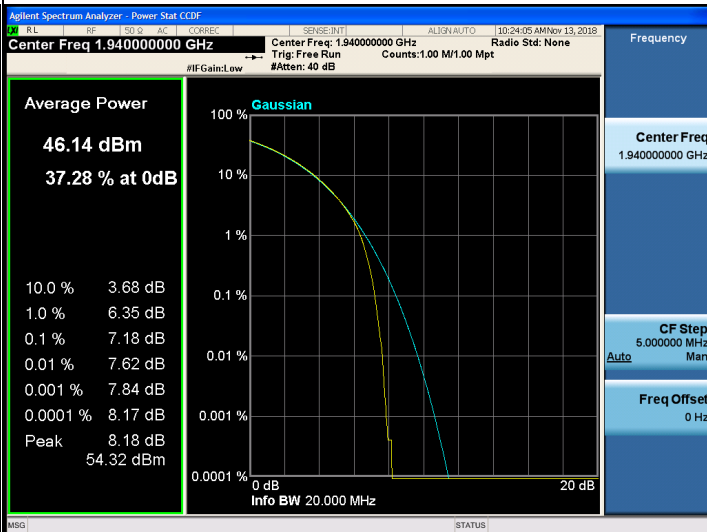
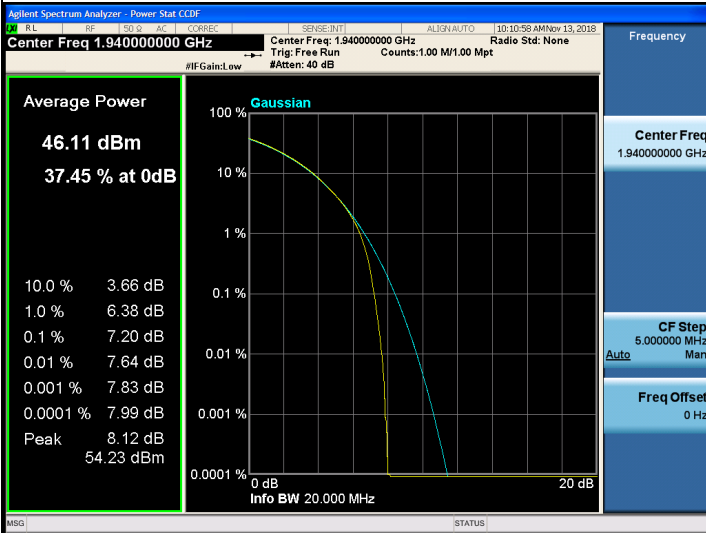
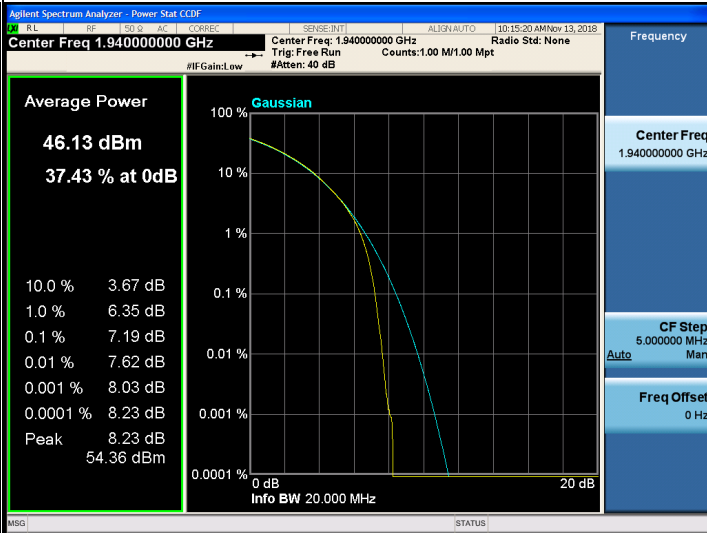
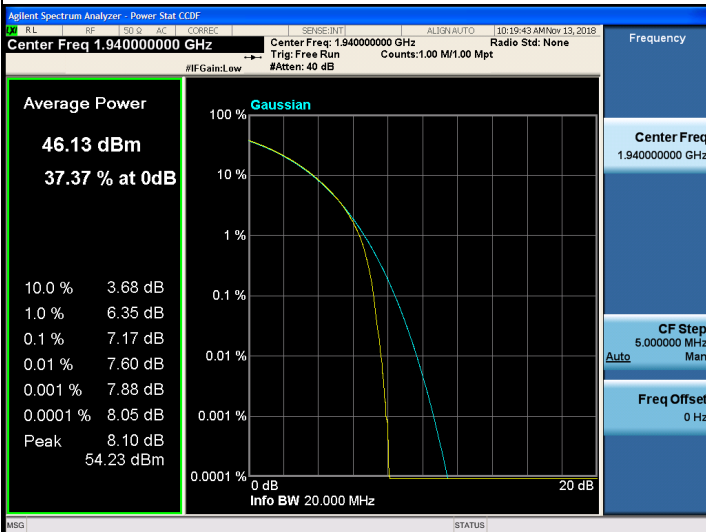
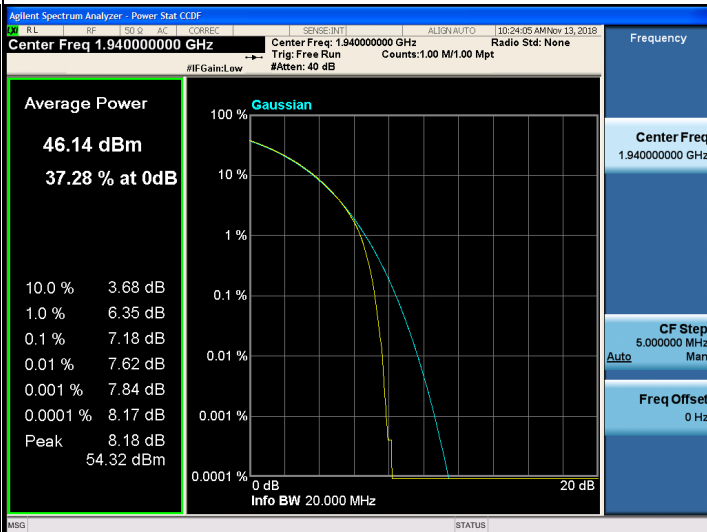
Channel: Low



Port 2

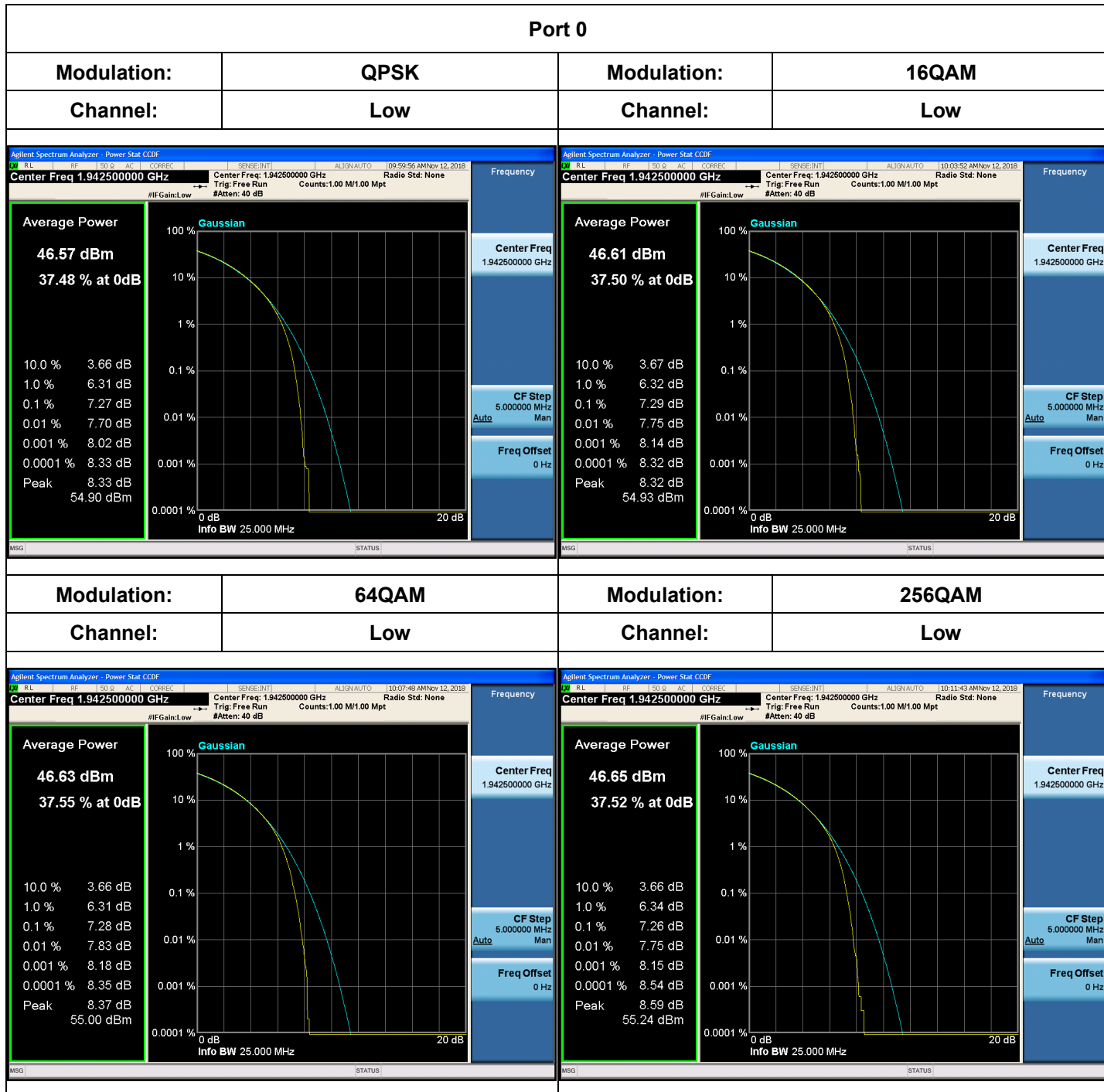
Port 2			
Modulation:		QPSK	
Channel:		Low	
Modulation:		16QAM	
Channel:		Low	
Agilent Spectrum Analyzer - Power Stat CCDF Center Freq: 1.940000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 46.21 dBm 37.54 % at 0dB 10.0 % 3.68 dB 1.0 % 6.31 dB 0.1 % 7.15 dB 0.01 % 7.57 dB 0.001 % 7.89 dB 0.0001 % 7.98 dB Peak 54.19 dBm 0 dB 20 dB Info BW 20.000 MHz Frequency Center Freq 1.940000000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz		Agilent Spectrum Analyzer - Power Stat CCDF Center Freq: 1.940000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 46.21 dBm 37.44 % at 0dB 10.0 % 3.67 dB 1.0 % 6.35 dB 0.1 % 7.16 dB 0.01 % 7.57 dB 0.001 % 7.78 dB 0.0001 % 7.86 dB Peak 54.07 dBm 0 dB 20 dB Info BW 20.000 MHz Frequency Center Freq 1.940000000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz	
Modulation:		64QAM	
Channel:		Low	
Modulation:		256QAM	
Channel:		Low	
Agilent Spectrum Analyzer - Power Stat CCDF Center Freq: 1.940000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 46.22 dBm 37.24 % at 0dB 10.0 % 3.69 dB 1.0 % 6.36 dB 0.1 % 7.19 dB 0.01 % 7.58 dB 0.001 % 7.82 dB 0.0001 % 8.06 dB Peak 54.31 dBm 0 dB 20 dB Info BW 20.000 MHz Frequency Center Freq 1.940000000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz		Agilent Spectrum Analyzer - Power Stat CCDF Center Freq: 1.940000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 46.26 dBm 37.37 % at 0dB 10.0 % 3.68 dB 1.0 % 6.36 dB 0.1 % 7.17 dB 0.01 % 7.57 dB 0.001 % 7.80 dB 0.0001 % 7.95 dB Peak 54.21 dBm 0 dB 20 dB Info BW 20.000 MHz Frequency Center Freq 1.940000000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz	

Port 3

Port 3			
Modulation:		QPSK	
Channel:		Low	
			
Modulation:		16QAM	
Channel:		Low	
			
Modulation:		64QAM	
Channel:		Low	
			
Modulation:		256QAM	
Channel:		Low	
			

Plot data of PAPR - 20 MHz Bandwidth + 5 MHz Bandwidth / 2 Carriers

Port 0

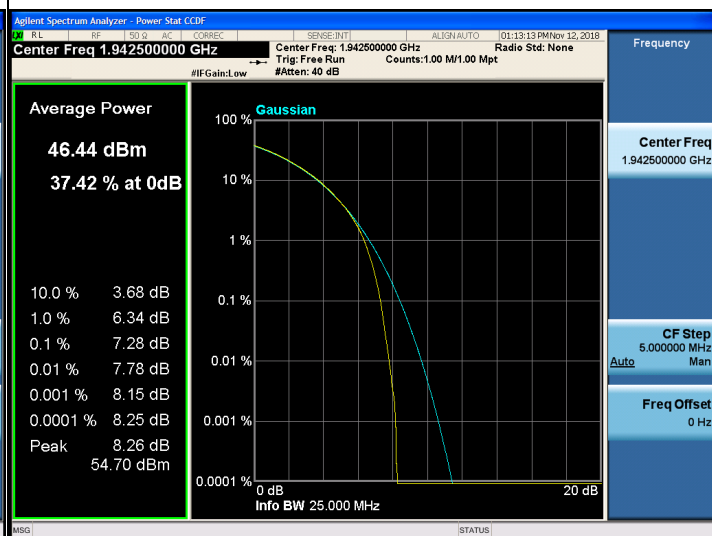
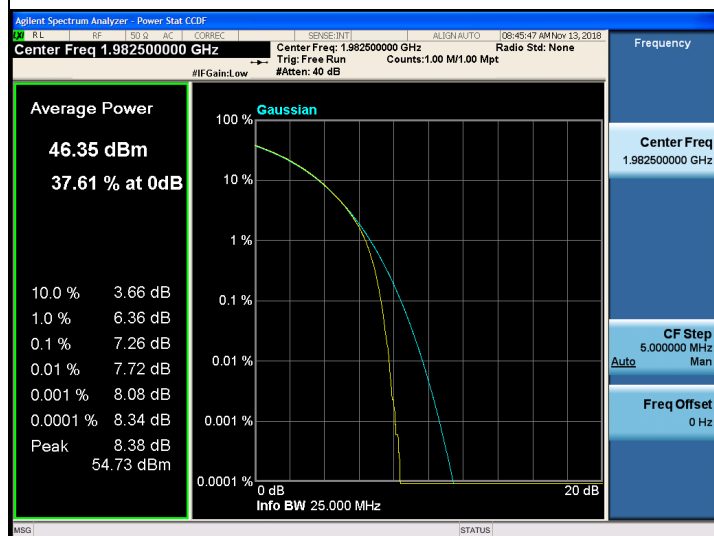


Port 1

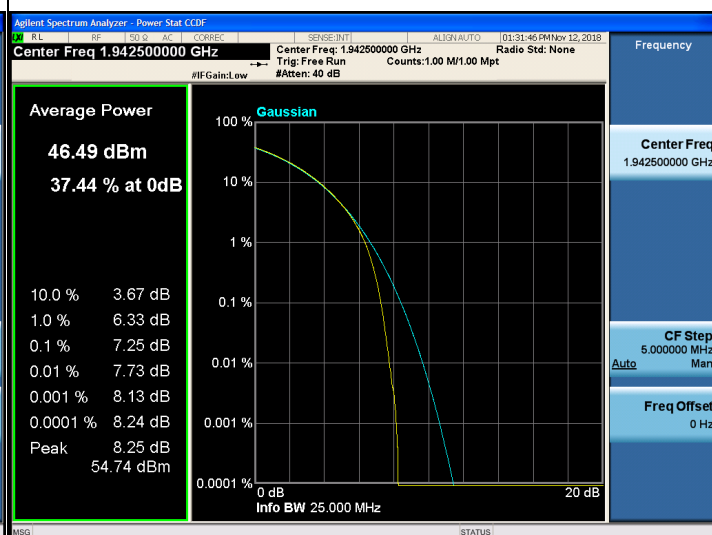
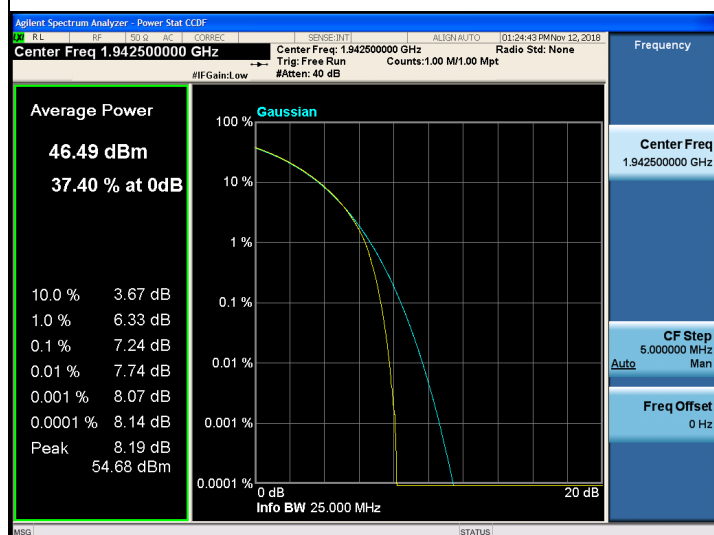
Port 1			
Modulation:		QPSK	
Channel:		Low	
Modulation:		16QAM	
Channel:		Low	
Agilent Spectrum Analyzer - Power Stat CCDF RL RF 50 dB AC CORREC SENSE INT ALIGN AUTO 12:40:29 PM Nov 12, 2018 Center Freq 1.942500000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None #IF Gain: Low Average Power 46.66 dBm 37.44 % at 0dB 10.0 % 3.66 dB 1.0 % 6.33 dB 0.1 % 7.29 dB 0.01 % 7.82 dB 0.001 % 8.13 dB 0.0001 % 8.28 dB Peak 8.31 dB 54.97 dBm 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 25.000 MHz Frequency Center Freq 1.942500000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz Agilent Spectrum Analyzer - Power Stat CCDF RL RF 50 dB AC CORREC SENSE INT ALIGN AUTO 12:48:36 PM Nov 12, 2018 Center Freq 1.942500000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None #IF Gain: Low Average Power 46.66 dBm 37.59 % at 0dB 10.0 % 3.66 dB 1.0 % 6.33 dB 0.1 % 7.27 dB 0.01 % 7.74 dB 0.001 % 8.06 dB 0.0001 % 8.52 dB Peak 8.52 dB 55.18 dBm 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 25.000 MHz Frequency Center Freq 1.942500000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz			
Modulation:		64QAM	
Channel:		Low	
Agilent Spectrum Analyzer - Power Stat CCDF RL RF 50 dB AC CORREC SENSE INT ALIGN AUTO 12:57:13 PM Nov 12, 2018 Center Freq 1.942500000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None #IF Gain: Low Average Power 46.64 dBm 37.36 % at 0dB 10.0 % 3.68 dB 1.0 % 6.33 dB 0.1 % 7.27 dB 0.01 % 7.80 dB 0.001 % 8.09 dB 0.0001 % 8.18 dB Peak 8.20 dB 54.84 dBm 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 25.000 MHz Frequency Center Freq 1.942500000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz Agilent Spectrum Analyzer - Power Stat CCDF RL RF 50 dB AC CORREC SENSE INT ALIGN AUTO 01:01:48 PM Nov 12, 2018 Center Freq 1.942500000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None #IF Gain: Low Average Power 46.61 dBm 37.39 % at 0dB 10.0 % 3.68 dB 1.0 % 6.35 dB 0.1 % 7.28 dB 0.01 % 7.80 dB 0.001 % 8.01 dB 0.0001 % 8.18 dB Peak 8.26 dB 54.87 dBm 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 25.000 MHz Frequency Center Freq 1.942500000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz			

Port 2

Modulation:	QPSK	Modulation:	16QAM
Channel:	High	Channel:	Low



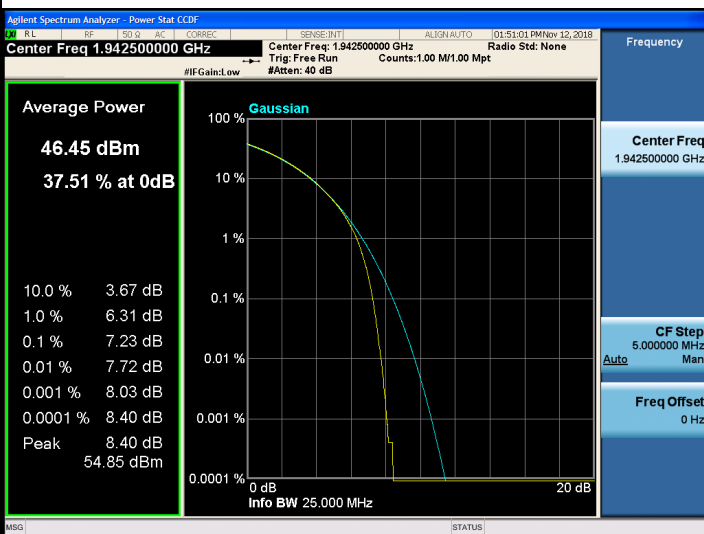
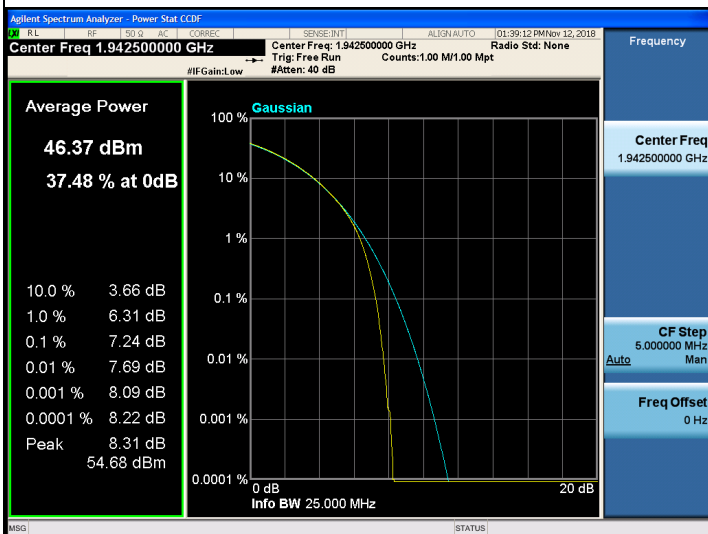
Modulation:	64QAM	Modulation:	256QAM
Channel:	Low	Channel:	Low



Port 3

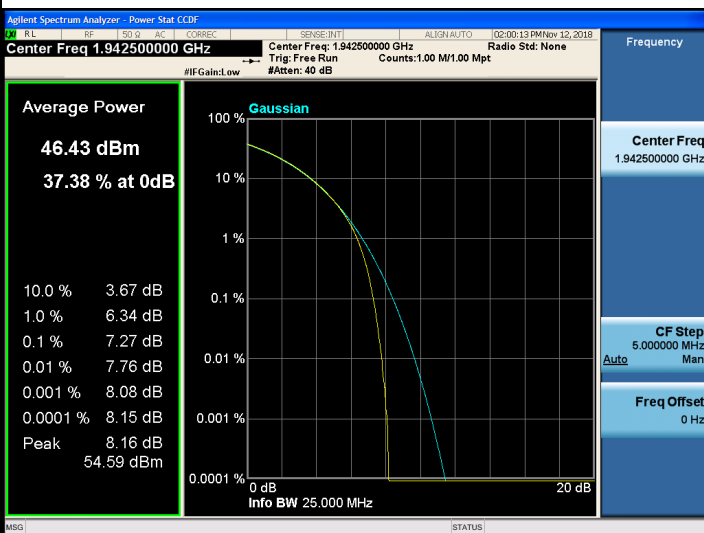
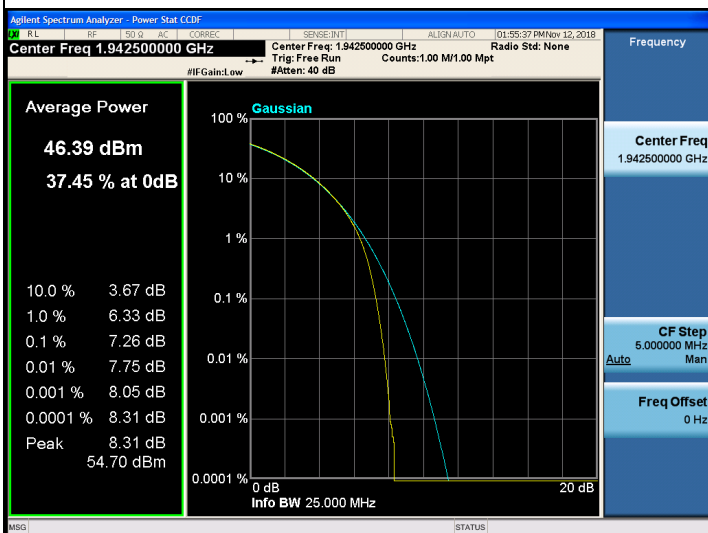
Modulation: QPSK
Channel: Low

Modulation: 16QAM
Channel: Low



Modulation: 64QAM
Channel: Low

Modulation: 256QAM
Channel: Low



Plot data of PAPR - 5 MHz Bandwidth / 1 Carrier

Port 0

Port 0																							
Modulation:		QPSK																					
Channel:		Middle																					
Modulation:		16QAM																					
Channel:		Low																					
Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.962500000 GHz Trig: Free Run Counts:1.00 M/1.00 Mpt Radio Std: None Center Freq 1.962500000 GHz Trig: Free Run Counts:1.00 M/1.00 Mpt Radio Std: None Average Power 42.98 dBm 36.93 % at 0dB 10.0 % 3.65 dB 1.0 % 6.62 dB 0.1 % 8.26 dB 0.01 % 8.62 dB 0.001 % 8.65 dB 0.0001 % 8.66 dB Peak 8.66 dB 51.64 dBm 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 5.0000 MHz Frequency Center Freq 1.962500000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.932500000 GHz Trig: Free Run Counts:1.00 M/1.00 Mpt Radio Std: None Center Freq 1.932500000 GHz Trig: Free Run Counts:1.00 M/1.00 Mpt Radio Std: None Average Power 43.33 dBm 37.10 % at 0dB 10.0 % 3.60 dB 1.0 % 6.62 dB 0.1 % 8.23 dB 0.01 % 8.63 dB 0.001 % 8.69 dB 0.0001 % 8.74 dB Peak 8.74 dB 52.07 dBm 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 5.0000 MHz Frequency Center Freq 1.932500000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz <tr><td colspan="2">Modulation:</td><td colspan="2">64QAM</td></tr> <tr><td colspan="2">Channel:</td><td colspan="2">Low</td></tr> <tr><td colspan="2">Modulation:</td><td colspan="2">256QAM</td></tr> <tr><td colspan="2">Channel:</td><td colspan="2">High</td></tr> <tr><td colspan="4"> Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.932500000 GHz Trig: Free Run Counts:1.00 M/1.00 Mpt Radio Std: None Center Freq 1.932500000 GHz Trig: Free Run Counts:1.00 M/1.00 Mpt Radio Std: None Average Power 43.27 dBm 36.91 % at 0dB 10.0 % 3.64 dB 1.0 % 6.64 dB 0.1 % 8.24 dB 0.01 % 8.65 dB 0.001 % 8.69 dB 0.0001 % 8.70 dB Peak 8.71 dB 51.98 dBm 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 5.0000 MHz Frequency Center Freq 1.932500000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.992500000 GHz Trig: Free Run Counts:1.00 M/1.00 Mpt Radio Std: None Center Freq 1.992500000 GHz Trig: Free Run Counts:1.00 M/1.00 Mpt Radio Std: None Average Power 43.38 dBm 36.91 % at 0dB 10.0 % 3.65 dB 1.0 % 6.61 dB 0.1 % 8.28 dB 0.01 % 8.69 dB 0.001 % 8.82 dB 0.0001 % 8.82 dB Peak 8.85 dB 52.23 dBm 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 5.0000 MHz Frequency Center Freq 1.992500000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz </td></tr>				Modulation:		64QAM		Channel:		Low		Modulation:		256QAM		Channel:		High		Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.932500000 GHz Trig: Free Run Counts:1.00 M/1.00 Mpt Radio Std: None Center Freq 1.932500000 GHz Trig: Free Run Counts:1.00 M/1.00 Mpt Radio Std: None Average Power 43.27 dBm 36.91 % at 0dB 10.0 % 3.64 dB 1.0 % 6.64 dB 0.1 % 8.24 dB 0.01 % 8.65 dB 0.001 % 8.69 dB 0.0001 % 8.70 dB Peak 8.71 dB 51.98 dBm 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 5.0000 MHz Frequency Center Freq 1.932500000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.992500000 GHz Trig: Free Run Counts:1.00 M/1.00 Mpt Radio Std: None Center Freq 1.992500000 GHz Trig: Free Run Counts:1.00 M/1.00 Mpt Radio Std: None Average Power 43.38 dBm 36.91 % at 0dB 10.0 % 3.65 dB 1.0 % 6.61 dB 0.1 % 8.28 dB 0.01 % 8.69 dB 0.001 % 8.82 dB 0.0001 % 8.82 dB Peak 8.85 dB 52.23 dBm 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 5.0000 MHz Frequency Center Freq 1.992500000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz			
Modulation:		64QAM																					
Channel:		Low																					
Modulation:		256QAM																					
Channel:		High																					
Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.932500000 GHz Trig: Free Run Counts:1.00 M/1.00 Mpt Radio Std: None Center Freq 1.932500000 GHz Trig: Free Run Counts:1.00 M/1.00 Mpt Radio Std: None Average Power 43.27 dBm 36.91 % at 0dB 10.0 % 3.64 dB 1.0 % 6.64 dB 0.1 % 8.24 dB 0.01 % 8.65 dB 0.001 % 8.69 dB 0.0001 % 8.70 dB Peak 8.71 dB 51.98 dBm 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 5.0000 MHz Frequency Center Freq 1.932500000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.992500000 GHz Trig: Free Run Counts:1.00 M/1.00 Mpt Radio Std: None Center Freq 1.992500000 GHz Trig: Free Run Counts:1.00 M/1.00 Mpt Radio Std: None Average Power 43.38 dBm 36.91 % at 0dB 10.0 % 3.65 dB 1.0 % 6.61 dB 0.1 % 8.28 dB 0.01 % 8.69 dB 0.001 % 8.82 dB 0.0001 % 8.82 dB Peak 8.85 dB 52.23 dBm 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 5.0000 MHz Frequency Center Freq 1.992500000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz																							

Port 1

Port 1				
Modulation:		QPSK		
Channel:		Middle		
Modulation:		16QAM		
Channel:		High		
Agilent Spectrum Analyzer - Power Stat CCDF RL RF 150 GHz AC CORRECT SENSE:INT1 ALIGN:AUTO 01:25:09 PM Nov 15, 2018 Center Freq: 1.962500000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None #IF Gain: Low Average Power 42.93 dBm 36.88 % at 0dB 10.0 % 3.64 dB 1.0 % 6.64 dB 0.1 % 8.24 dB 0.01 % 8.65 dB 0.001 % 8.67 dB 0.0001 % 8.67 dB Peak 8.68 dB 51.61 dBm Gaussian 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 5.0000 MHz Frequency Center Freq 1.962500000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz MSG STATUS				Agilent Spectrum Analyzer - Power Stat CCDF RL RF 150 GHz AC CORRECT SENSE:INT1 ALIGN:AUTO 02:30:45 PM Nov 15, 2018 Center Freq: 1.992500000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None #IF Gain: Low Average Power 43.03 dBm 37.01 % at 0dB 10.0 % 3.60 dB 1.0 % 6.64 dB 0.1 % 8.30 dB 0.01 % 8.71 dB 0.001 % 8.82 dB 0.0001 % 8.84 dB Peak 8.84 dB 51.87 dBm Gaussian 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 5.0000 MHz Frequency Center Freq 1.992500000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz MSG STATUS
Modulation:		64QAM		
Channel:		High		
Modulation:		256QAM		
Channel:		Middle		
Agilent Spectrum Analyzer - Power Stat CCDF RL RF 150 GHz AC CORRECT SENSE:INT1 ALIGN:AUTO 02:39:13 PM Nov 15, 2018 Center Freq: 1.992500000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None #IF Gain: Low Average Power 43.13 dBm 36.85 % at 0dB 10.0 % 3.62 dB 1.0 % 6.66 dB 0.1 % 8.20 dB 0.01 % 8.68 dB 0.001 % 8.77 dB 0.0001 % 8.79 dB Peak 8.79 dB 51.92 dBm Gaussian 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 5.0000 MHz Frequency Center Freq 1.992500000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz MSG STATUS				Agilent Spectrum Analyzer - Power Stat CCDF RL RF 150 GHz AC CORRECT SENSE:INT1 ALIGN:AUTO 01:37:53 PM Nov 15, 2018 Center Freq: 1.962500000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None #IF Gain: Low Average Power 42.96 dBm 36.89 % at 0dB 10.0 % 3.63 dB 1.0 % 6.62 dB 0.1 % 8.22 dB 0.01 % 8.64 dB 0.001 % 8.66 dB 0.0001 % 8.66 dB Peak 8.67 dB 51.63 dBm Gaussian 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % 0 dB 20 dB Info BW 5.0000 MHz Frequency Center Freq 1.962500000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz MSG STATUS

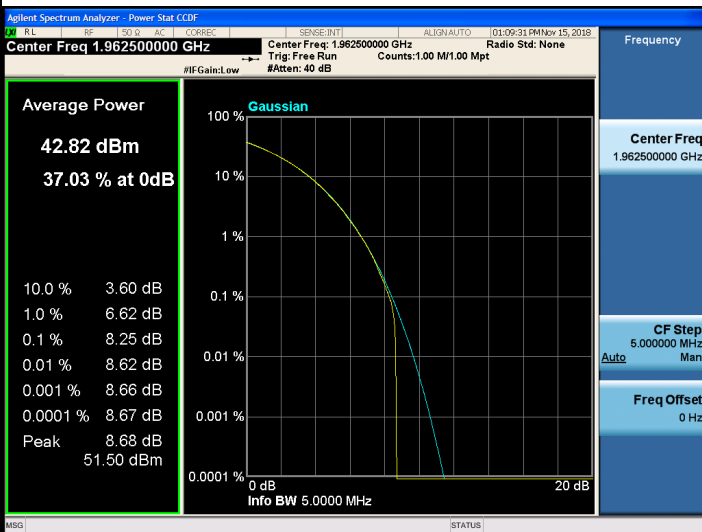
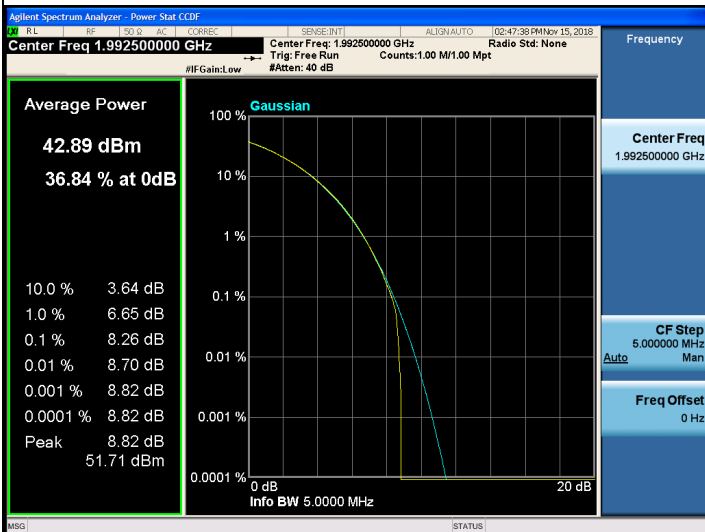
Port 2

Modulation: QPSK

Channel: High

Modulation: 16QAM

Channel: Middle

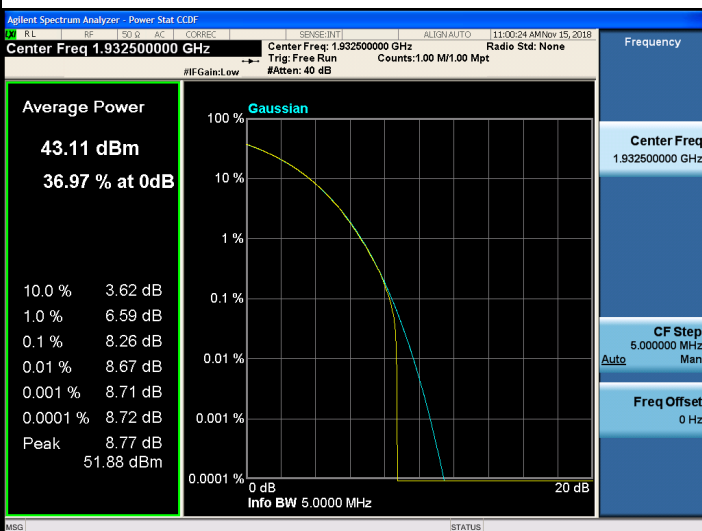
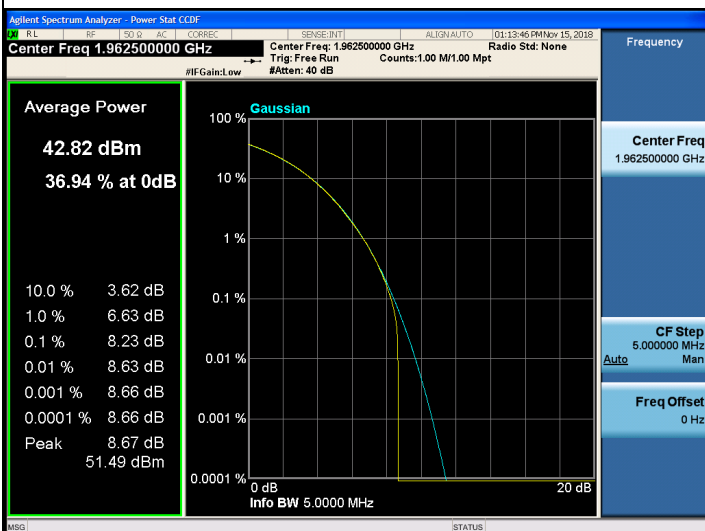


Modulation: 64QAM

Channel: Middle

Modulation: 256QAM

Channel: Low



Port 3

Port 3			
Modulation:		QPSK	
Channel:		Low	
Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.932500000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 42.98 dBm 36.95 % at 0dB 10.0 % 3.65 dB 1.0 % 6.63 dB 0.1 % 8.24 dB 0.01 % 8.65 dB 0.001 % 8.73 dB 0.0001 % 8.74 dB Peak 8.74 dB 51.72 dBm 0 dB Info BW 5.0000 MHz 20 dB Frequency Center Freq 1.932500000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz		Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.932500000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 43.00 dBm 37.17 % at 0dB 10.0 % 3.62 dB 1.0 % 6.61 dB 0.1 % 8.26 dB 0.01 % 8.62 dB 0.001 % 8.71 dB 0.0001 % 8.76 dB Peak 8.76 dB 51.76 dBm 0 dB Info BW 5.0000 MHz 20 dB Frequency Center Freq 1.932500000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz	
Modulation:		16QAM	
Channel:		Low	
Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.932500000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 42.90 dBm 36.89 % at 0dB 10.0 % 3.62 dB 1.0 % 6.62 dB 0.1 % 8.20 dB 0.01 % 8.64 dB 0.001 % 8.73 dB 0.0001 % 8.75 dB Peak 8.75 dB 51.65 dBm 0 dB Info BW 5.0000 MHz 20 dB Frequency Center Freq 1.992500000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz		Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.992500000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 42.89 dBm 36.94 % at 0dB 10.0 % 3.66 dB 1.0 % 6.62 dB 0.1 % 8.30 dB 0.01 % 8.68 dB 0.001 % 8.77 dB 0.0001 % 8.78 dB Peak 8.78 dB 51.67 dBm 0 dB Info BW 5.0000 MHz 20 dB Frequency Center Freq 1.992500000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz	
Modulation:		64QAM	
Channel:		High	
Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.992500000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 42.89 dBm 36.94 % at 0dB 10.0 % 3.66 dB 1.0 % 6.62 dB 0.1 % 8.30 dB 0.01 % 8.68 dB 0.001 % 8.77 dB 0.0001 % 8.78 dB Peak 8.78 dB 51.67 dBm 0 dB Info BW 5.0000 MHz 20 dB Frequency Center Freq 1.992500000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz		Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.992500000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 42.89 dBm 36.94 % at 0dB 10.0 % 3.66 dB 1.0 % 6.62 dB 0.1 % 8.30 dB 0.01 % 8.68 dB 0.001 % 8.77 dB 0.0001 % 8.78 dB Peak 8.78 dB 51.67 dBm 0 dB Info BW 5.0000 MHz 20 dB Frequency Center Freq 1.992500000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz	
Modulation:		256QAM	
Channel:		High	
Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.992500000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 42.90 dBm 36.89 % at 0dB 10.0 % 3.62 dB 1.0 % 6.62 dB 0.1 % 8.20 dB 0.01 % 8.64 dB 0.001 % 8.73 dB 0.0001 % 8.75 dB Peak 8.75 dB 51.65 dBm 0 dB Info BW 5.0000 MHz 20 dB Frequency Center Freq 1.992500000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz		Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.992500000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 42.89 dBm 36.94 % at 0dB 10.0 % 3.66 dB 1.0 % 6.62 dB 0.1 % 8.30 dB 0.01 % 8.68 dB 0.001 % 8.77 dB 0.0001 % 8.78 dB Peak 8.78 dB 51.67 dBm 0 dB Info BW 5.0000 MHz 20 dB Frequency Center Freq 1.992500000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz	

Plot data of PAPR - 5 MHz Bandwidth + 5 MHz Bandwidth / 2 Carriers

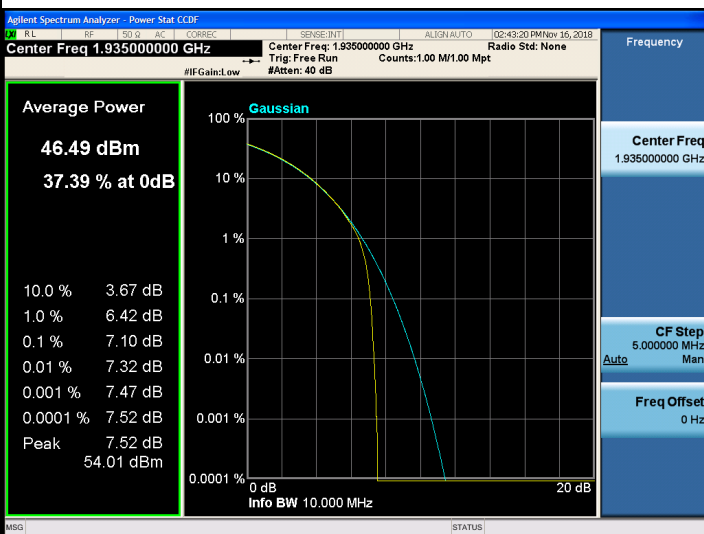
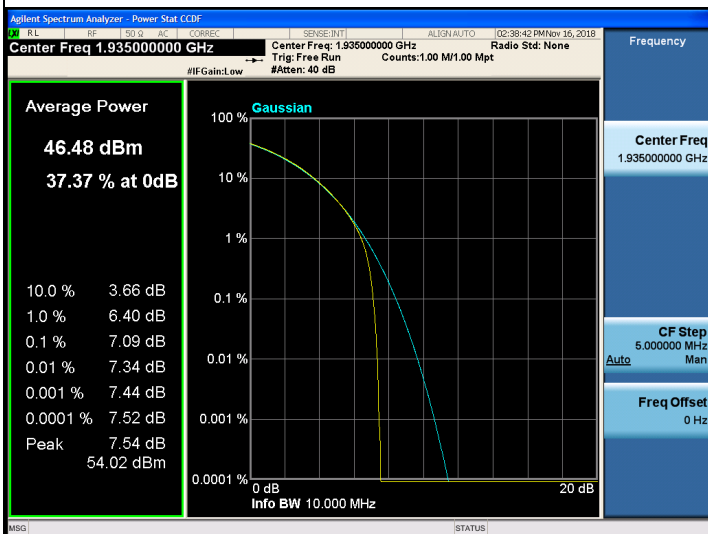
Port 0

Modulation: QPSK

Channel: Low

Modulation: 16QAM

Channel: Low

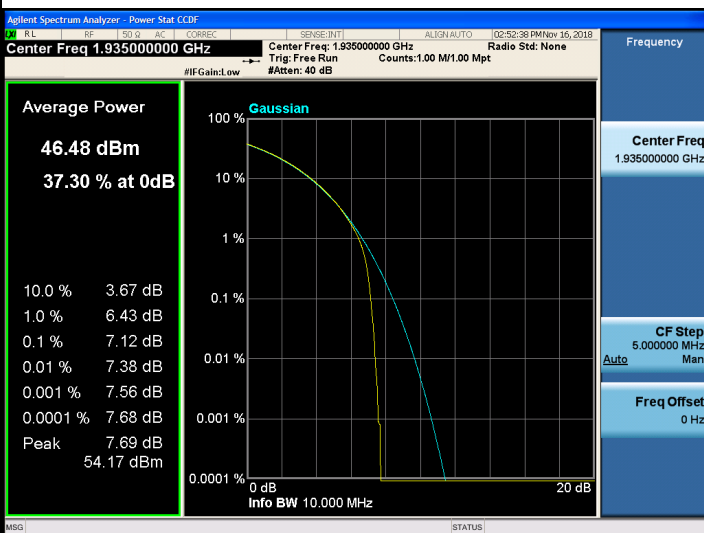
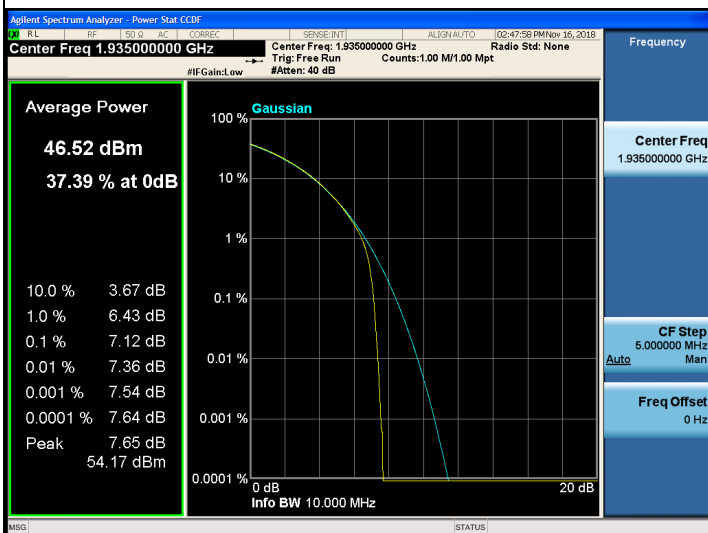


Modulation: 64QAM

Channel: Low

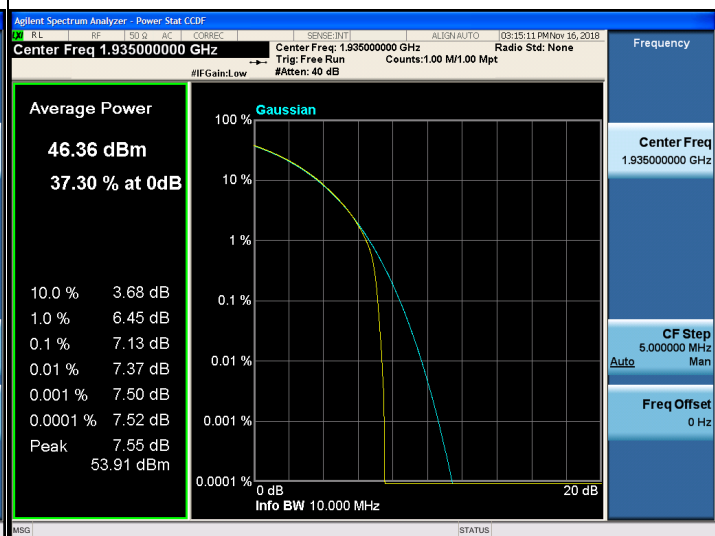
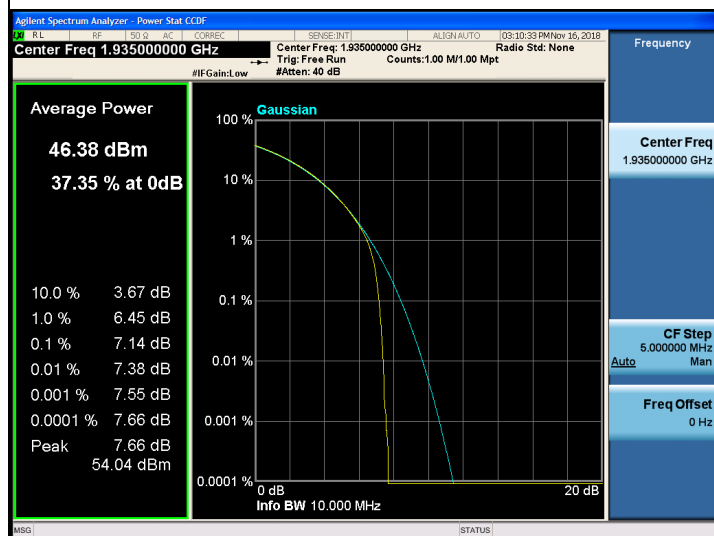
Modulation: 256QAM

Channel: Low

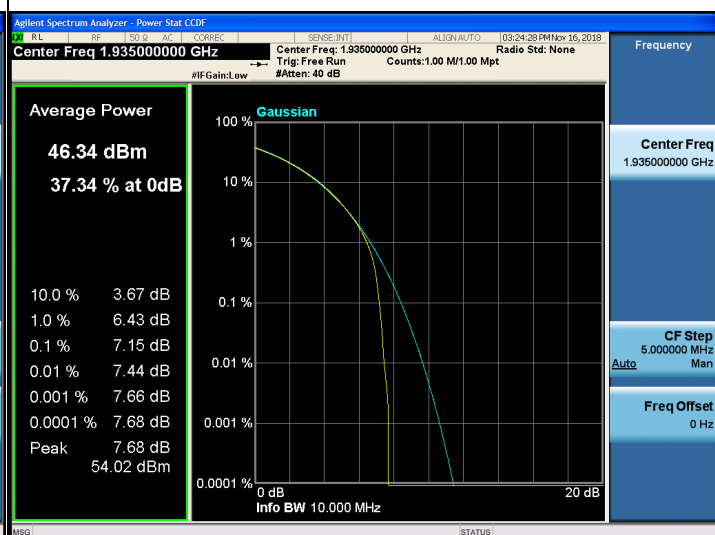
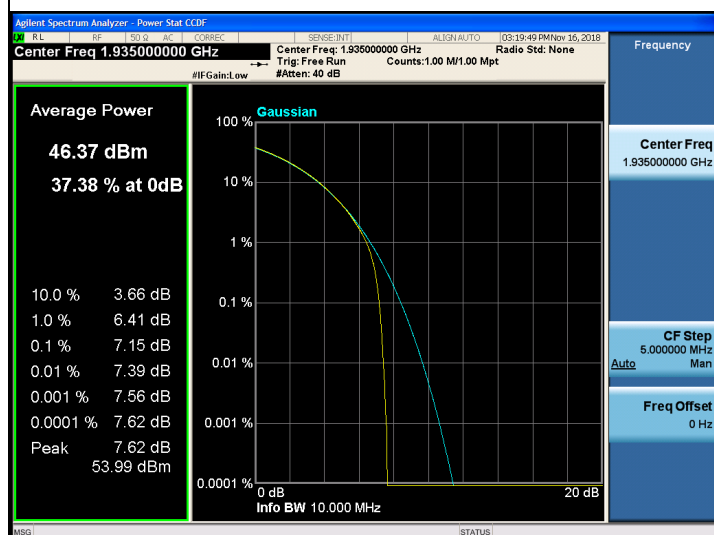


Port 1

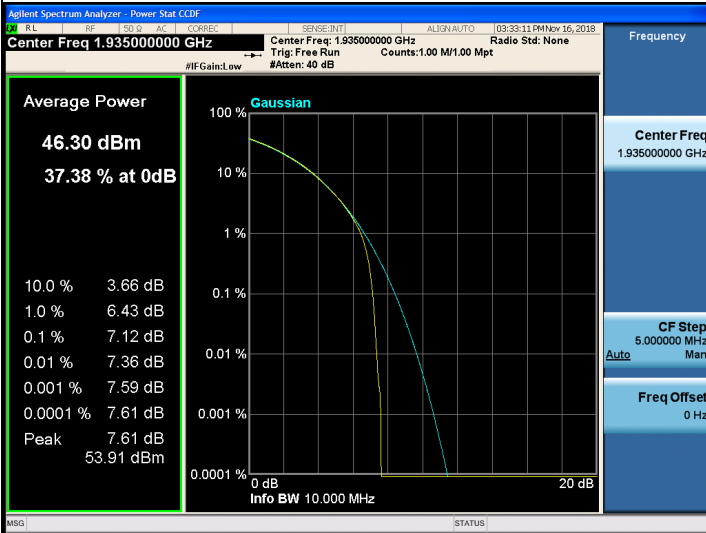
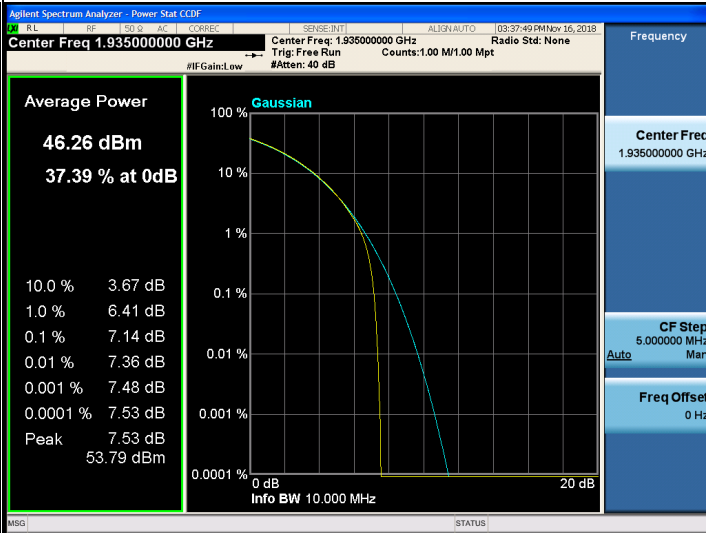
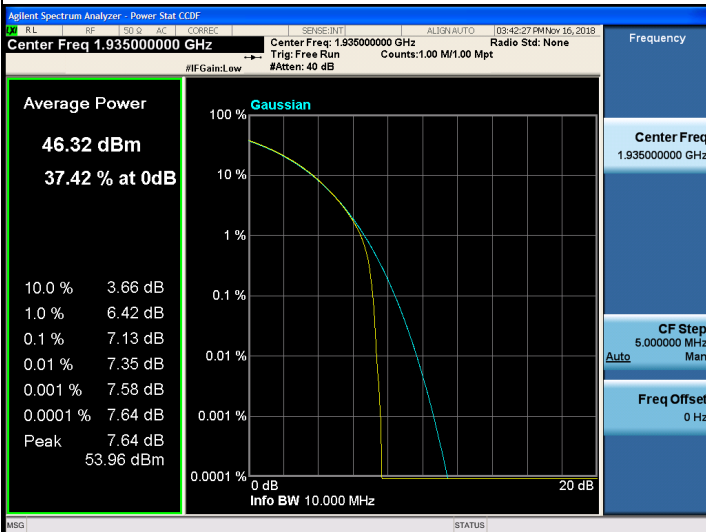
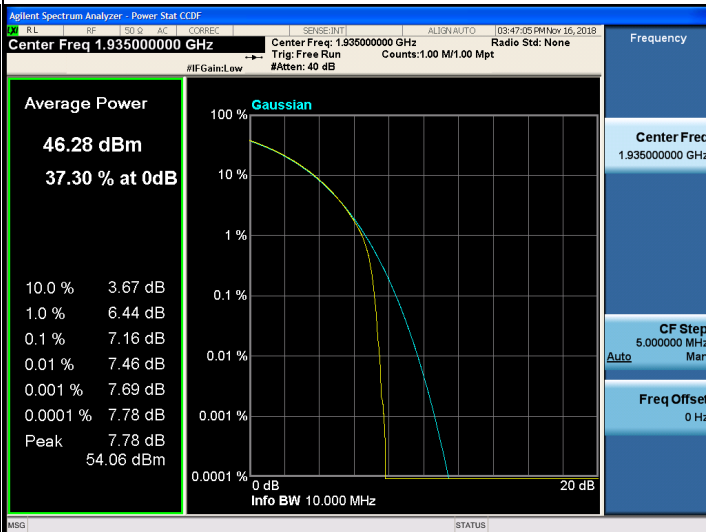
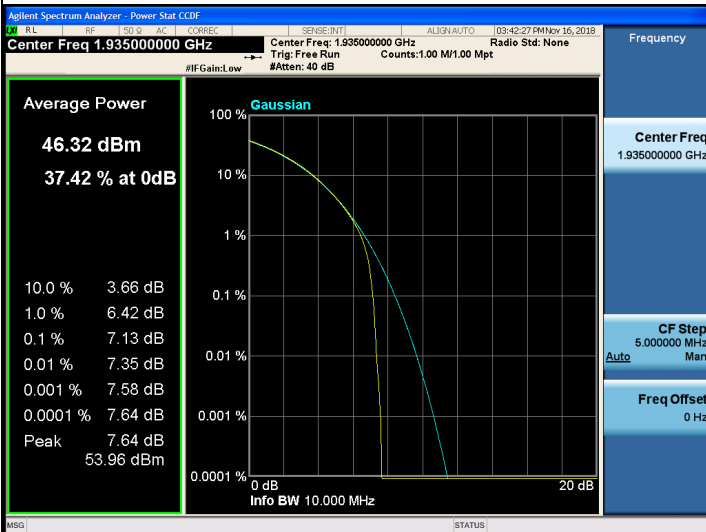
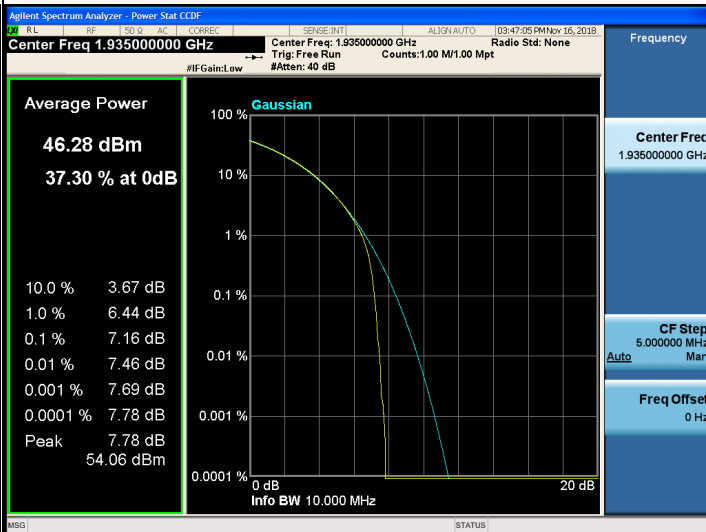
Modulation:	QPSK	Modulation:	16QAM
Channel:	Low	Channel:	Low



Modulation:	64QAM	Modulation:	256QAM
Channel:	Low	Channel:	Low



Port 2

Port 2			
Modulation:		QPSK	
Channel:		Low	
			
Modulation:		16QAM	
Channel:		Low	
			
Modulation:		64QAM	
Channel:		Low	
			
Modulation:		256QAM	
Channel:		Low	

Port 3

Port 3																											
Modulation:		QPSK																									
Channel:		Low																									
Modulation:		16QAM																									
Channel:		Low																									
Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.935000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 46.15 dBm 37.46 % at 0dB 10.0 % 3.66 dB 1.0 % 6.43 dB 0.1 % 7.13 dB 0.01 % 7.35 dB 0.001 % 7.52 dB 0.0001 % 7.56 dB Peak 7.56 dB 53.71 dBm 0 dB Info BW 10.000 MHz 20 dB 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % Gaussian Frequency Center Freq 1.935000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz <tr><td colspan="2">Modulation:</td><td colspan="2">64QAM</td></tr> <tr><td colspan="2">Channel:</td><td colspan="2">Low</td></tr> <tr><td colspan="4"> Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.935000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 46.21 dBm 37.34 % at 0dB 10.0 % 3.66 dB 1.0 % 6.42 dB 0.1 % 7.14 dB 0.01 % 7.39 dB 0.001 % 7.57 dB 0.0001 % 7.65 dB Peak 7.65 dB 53.86 dBm 0 dB Info BW 10.000 MHz 20 dB 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % Gaussian Frequency Center Freq 1.935000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz <tr><td colspan="2">Modulation:</td><td colspan="2">256QAM</td></tr><tr><td colspan="2">Channel:</td><td colspan="2">Low</td></tr><tr><td colspan="4"> Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.935000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 46.16 dBm 37.38 % at 0dB 10.0 % 3.67 dB 1.0 % 6.45 dB 0.1 % 7.14 dB 0.01 % 7.42 dB 0.001 % 7.54 dB 0.0001 % 7.62 dB Peak 7.62 dB 53.78 dBm 0 dB Info BW 10.000 MHz 20 dB 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % Gaussian Frequency Center Freq 1.935000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz </td></tr></td></tr>				Modulation:		64QAM		Channel:		Low		Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.935000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 46.21 dBm 37.34 % at 0dB 10.0 % 3.66 dB 1.0 % 6.42 dB 0.1 % 7.14 dB 0.01 % 7.39 dB 0.001 % 7.57 dB 0.0001 % 7.65 dB Peak 7.65 dB 53.86 dBm 0 dB Info BW 10.000 MHz 20 dB 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % Gaussian Frequency Center Freq 1.935000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz <tr><td colspan="2">Modulation:</td><td colspan="2">256QAM</td></tr> <tr><td colspan="2">Channel:</td><td colspan="2">Low</td></tr> <tr><td colspan="4"> Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.935000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 46.16 dBm 37.38 % at 0dB 10.0 % 3.67 dB 1.0 % 6.45 dB 0.1 % 7.14 dB 0.01 % 7.42 dB 0.001 % 7.54 dB 0.0001 % 7.62 dB Peak 7.62 dB 53.78 dBm 0 dB Info BW 10.000 MHz 20 dB 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % Gaussian Frequency Center Freq 1.935000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz </td></tr>				Modulation:		256QAM		Channel:		Low		Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.935000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 46.16 dBm 37.38 % at 0dB 10.0 % 3.67 dB 1.0 % 6.45 dB 0.1 % 7.14 dB 0.01 % 7.42 dB 0.001 % 7.54 dB 0.0001 % 7.62 dB Peak 7.62 dB 53.78 dBm 0 dB Info BW 10.000 MHz 20 dB 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % Gaussian Frequency Center Freq 1.935000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz			
Modulation:		64QAM																									
Channel:		Low																									
Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.935000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 46.21 dBm 37.34 % at 0dB 10.0 % 3.66 dB 1.0 % 6.42 dB 0.1 % 7.14 dB 0.01 % 7.39 dB 0.001 % 7.57 dB 0.0001 % 7.65 dB Peak 7.65 dB 53.86 dBm 0 dB Info BW 10.000 MHz 20 dB 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % Gaussian Frequency Center Freq 1.935000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz <tr><td colspan="2">Modulation:</td><td colspan="2">256QAM</td></tr> <tr><td colspan="2">Channel:</td><td colspan="2">Low</td></tr> <tr><td colspan="4"> Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.935000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 46.16 dBm 37.38 % at 0dB 10.0 % 3.67 dB 1.0 % 6.45 dB 0.1 % 7.14 dB 0.01 % 7.42 dB 0.001 % 7.54 dB 0.0001 % 7.62 dB Peak 7.62 dB 53.78 dBm 0 dB Info BW 10.000 MHz 20 dB 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % Gaussian Frequency Center Freq 1.935000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz </td></tr>				Modulation:		256QAM		Channel:		Low		Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.935000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 46.16 dBm 37.38 % at 0dB 10.0 % 3.67 dB 1.0 % 6.45 dB 0.1 % 7.14 dB 0.01 % 7.42 dB 0.001 % 7.54 dB 0.0001 % 7.62 dB Peak 7.62 dB 53.78 dBm 0 dB Info BW 10.000 MHz 20 dB 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % Gaussian Frequency Center Freq 1.935000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz															
Modulation:		256QAM																									
Channel:		Low																									
Agilent Spectrum Analyzer - Power Stat CCDF Center Freq 1.935000000 GHz Trig: Free Run Counts: 1.00 M/1.00 Mpt Radio Std: None Average Power 46.16 dBm 37.38 % at 0dB 10.0 % 3.67 dB 1.0 % 6.45 dB 0.1 % 7.14 dB 0.01 % 7.42 dB 0.001 % 7.54 dB 0.0001 % 7.62 dB Peak 7.62 dB 53.78 dBm 0 dB Info BW 10.000 MHz 20 dB 100 % 10 % 1 % 0.1 % 0.01 % 0.001 % 0.0001 % Gaussian Frequency Center Freq 1.935000000 GHz CF Step 5.000000 MHz Auto Man Freq Offset 0 Hz																											

5.2. 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

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 $\geq 3 \times \text{RBW}$.

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) 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

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).

Test Results:
3 MHz Bandwidth / 1 Carrier

Port	Modulation	Channel	Frequency (MHz)	Measured Bandwidth (MHz)
Port 0	QPSK	Low	1 931.50	2.709 0
		Middle	1 962.50	2.709 1
		High	1 993.50	2.702 7
	16QAM	Low	1 931.50	2.705 1
		Middle	1 962.50	2.707 7
		High	1 993.50	2.706 5
	64QAM	Low	1 931.50	2.704 6
		Middle	1 962.50	2.706 3
		High	1 993.50	2.701 6
	256QAM	Low	1 931.50	2.703 1
		Middle	1 962.50	2.707 5
		High	1 993.50	2.708 9
Port 1	QPSK	Low	1 931.50	2.714 2
		Middle	1 962.50	2.709 4
		High	1 993.50	2.698 2
	16QAM	Low	1 931.50	2.705 5
		Middle	1 962.50	2.707 6
		High	1 993.50	2.713 4
	64QAM	Low	1 931.50	2.700 6
		Middle	1 962.50	2.708 7
		High	1 993.50	2.702 0
	256QAM	Low	1 931.50	2.704 3
		Middle	1 962.50	2.711 9
		High	1 993.50	2.705 0
Port 2	QPSK	Low	1 931.50	2.714 5
		Middle	1 962.50	2.703 5
		High	1 993.50	2.702 4
	16QAM	Low	1 931.50	2.718 0
		Middle	1 962.50	2.704 4
		High	1 993.50	2.709 3

Port	Modulation	Channel	Frequency (MHz)	Measured Bandwidth (MHz)
	64QAM	Low	1 931.50	2.709 0
		Middle	1 962.50	2.701 9
		High	1 993.50	2.704 2
	256QAM	Low	1 931.50	2.709 0
		Middle	1 962.50	2.706 3
		High	1 993.50	2.710 8
Port 3	QPSK	Low	1 931.50	2.710 2
		Middle	1 962.50	2.704 0
		High	1 993.50	2.704 8
	16QAM	Low	1 931.50	2.697 9
		Middle	1 962.50	2.710 3
		High	1 993.50	2.698 3
	64QAM	Low	1 931.50	2.705 7
		Middle	1 962.50	2.705 2
		High	1 993.50	2.705 8
	256QAM	Low	1 931.50	2.702 9
		Middle	1 962.50	2.705 7
		High	1 993.50	2.702 7

* This test report only contains the worst case plot data for each port and modulation.

3 MHz Bandwidth + 5 MHz Bandwidth / 2 Carriers

Port	Modulation	Channel	Frequency (MHz)	Measured Bandwidth (MHz)
Port 0	QPSK	Low	1 934.00	7.566 1
		Middle	1 962.50	7.558 4
		High	1 991.00	7.556 5
	16QAM	Low	1 934.00	7.575 1
		Middle	1 962.50	7.572 8
		High	1 991.00	7.575 8
	64QAM	Low	1 934.00	7.609 5
		Middle	1 962.50	7.583 8
		High	1 991.00	7.589 9
	256QAM	Low	1 934.00	7.589 4
		Middle	1 962.50	7.568 7
		High	1 991.00	7.584 6
Port 1	QPSK	Low	1 934.00	7.584 5
		Middle	1 962.50	7.560 8
		High	1 991.00	7.585 5
	16QAM	Low	1 934.00	7.581 4
		Middle	1 962.50	7.593 2
		High	1 991.00	7.567 5
	64QAM	Low	1 934.00	7.571 4
		Middle	1 962.50	7.585 1
		High	1 991.00	7.575 3
	256QAM	Low	1 934.00	7.590 0
		Middle	1 962.50	7.562 7
		High	1 991.00	7.581 1
Port 2	QPSK	Low	1 934.00	7.584 0
		Middle	1 962.50	7.590 1
		High	1 991.00	7.573 4
	16QAM	Low	1 934.00	7.587 5
		Middle	1 962.50	7.584 2
		High	1 991.00	7.593 3

Port	Modulation	Channel	Frequency (MHz)	Measured Bandwidth (MHz)
	64QAM	Low	1 934.00	7.584 8
		Middle	1 962.50	7.591 6
		High	1 991.00	7.582 9
	256QAM	Low	1 934.00	7.569 6
		Middle	1 962.50	7.572 0
		High	1 991.00	7.611 4
Port 3	QPSK	Low	1 934.00	7.569 1
		Middle	1 962.50	7.595 7
		High	1 991.00	7.565 7
	16QAM	Low	1 934.00	7.610 6
		Middle	1 962.50	7.609 9
		High	1 991.00	7.595 8
	64QAM	Low	1 934.00	7.571 6
		Middle	1 962.50	7.572 7
		High	1 991.00	7.579 5
	256QAM	Low	1 934.00	7.575 7
		Middle	1 962.50	7.584 5
		High	1 991.00	7.585 1

* This test report only contains the worst case plot data for each port and modulation.

20 MHz Bandwidth / 1 Carrier

Port	Modulation	Channel	Frequency (MHz)	Measured Bandwidth (MHz)
Port 0	QPSK	Low	1 940.00	17.912
		Middle	1 962.50	17.907
		High	1 985.00	17.878
	16QAM	Low	1 940.00	17.868
		Middle	1 962.50	17.918
		High	1 985.00	17.876
	64QAM	Low	1 940.00	17.902
		Middle	1 962.50	17.934
		High	1 985.00	17.928
	256QAM	Low	1 940.00	17.896
		Middle	1 962.50	17.933
		High	1 985.00	17.913
Port 1	QPSK	Low	1 940.00	17.917
		Middle	1 962.50	17.950
		High	1 985.00	17.922
	16QAM	Low	1 940.00	17.948
		Middle	1 962.50	17.965
		High	1 985.00	17.970
	64QAM	Low	1 940.00	17.919
		Middle	1 962.50	17.927
		High	1 985.00	17.894
	256QAM	Low	1 940.00	17.889
		Middle	1 962.50	17.890
		High	1 985.00	17.915
Port 2	QPSK	Low	1 940.00	17.948
		Middle	1 962.50	17.928
		High	1 985.00	17.916
	16QAM	Low	1 940.00	17.950
		Middle	1 962.50	17.967
		High	1 985.00	17.969

Port	Modulation	Channel	Frequency (MHz)	Measured Bandwidth (MHz)
	64QAM	Low	1 940.00	17.912
		Middle	1 962.50	17.964
		High	1 985.00	17.884
	256QAM	Low	1 940.00	17.909
		Middle	1 962.50	17.888
		High	1 985.00	17.911
Port 3	QPSK	Low	1 940.00	17.858
		Middle	1 962.50	17.894
		High	1 985.00	17.902
	16QAM	Low	1 940.00	17.894
		Middle	1 962.50	17.895
		High	1 985.00	17.915
	64QAM	Low	1 940.00	17.896
		Middle	1 962.50	17.938
		High	1 985.00	17.959
	256QAM	Low	1 940.00	17.891
		Middle	1 962.50	17.920
		High	1 985.00	17.884

* This test report only contains the worst case plot data for each port and modulation.

20 MHz Bandwidth + 5 MHz Bandwidth / 2 Carriers

Port	Modulation	Channel	Frequency (MHz)	Measured Bandwidth (MHz)
Port 0	QPSK	Low	1 942.50	23.654
		Middle	1 962.50	23.740
		High	1 982.50	23.715
	16QAM	Low	1 942.50	23.689
		Middle	1 962.50	23.683
		High	1 982.50	23.720
	64QAM	Low	1 942.50	23.697
		Middle	1 962.50	23.703
		High	1 982.50	23.684
	256QAM	Low	1 942.50	23.667
		Middle	1 962.50	23.717
		High	1 982.50	23.676
Port 1	QPSK	Low	1 942.50	23.695
		Middle	1 962.50	23.712
		High	1 982.50	23.694
	16QAM	Low	1 942.50	23.622
		Middle	1 962.50	23.732
		High	1 982.50	23.677
	64QAM	Low	1 942.50	23.716
		Middle	1 962.50	23.724
		High	1 982.50	23.720
	256QAM	Low	1 942.50	23.671
		Middle	1 962.50	23.718
		High	1 982.50	23.734
Port 2	QPSK	Low	1 942.50	23.668
		Middle	1 962.50	23.687
		High	1 982.50	23.627
	16QAM	Low	1 942.50	23.688
		Middle	1 962.50	23.663
		High	1 982.50	23.712

Port	Modulation	Channel	Frequency (MHz)	Measured Bandwidth (MHz)
	64QAM	Low	1 942.50	23.644
		Middle	1 962.50	23.718
		High	1 982.50	23.737
	256QAM	Low	1 942.50	23.656
		Middle	1 962.50	23.746
		High	1 982.50	23.660
Port 3	QPSK	Low	1 942.50	23.679
		Middle	1 962.50	23.724
		High	1 982.50	23.722
	16QAM	Low	1 942.50	23.712
		Middle	1 962.50	23.743
		High	1 982.50	23.640
	64QAM	Low	1 942.50	23.699
		Middle	1 962.50	23.740
		High	1 982.50	23.702
	256QAM	Low	1 942.50	23.639
		Middle	1 962.50	23.691
		High	1 982.50	23.698

* This test report only contains the worst case plot data for each port and modulation.

5 MHz Bandwidth / 1 Carrier

Port	Modulation	Channel	Frequency (MHz)	Measured Bandwidth (MHz)
Port 0	QPSK	Low	1 932.50	4.487 7
		Middle	1 962.50	4.491 6
		High	1 992.50	4.491 9
	16QAM	Low	1 932.50	4.486 5
		Middle	1 962.50	4.491 1
		High	1 992.50	4.486 2
	64QAM	Low	1 932.50	4.486 2
		Middle	1 962.50	4.490 5
		High	1 992.50	4.502 4
	256QAM	Low	1 932.50	4.501 0
		Middle	1 962.50	4.497 9
		High	1 992.50	4.493 0
Port 1	QPSK	Low	1 932.50	4.499 3
		Middle	1 962.50	4.492 1
		High	1 992.50	4.496 0
	16QAM	Low	1 932.50	4.478 5
		Middle	1 962.50	4.490 0
		High	1 992.50	4.479 8
	64QAM	Low	1 932.50	4.504 5
		Middle	1 962.50	4.503 1
		High	1 992.50	4.498 3
	256QAM	Low	1 932.50	4.502 1
		Middle	1 962.50	4.497 3
		High	1 992.50	4.493 5
Port 2	QPSK	Low	1 932.50	4.494 0
		Middle	1 962.50	4.496 5
		High	1 992.50	4.487 8
	16QAM	Low	1 932.50	4.491 0
		Middle	1 962.50	4.488 3
		High	1 992.50	4.484 5

Port	Modulation	Channel	Frequency (MHz)	Measured Bandwidth (MHz)
	64QAM	Low	1 932.50	4.502 7
		Middle	1 962.50	4.504 7
		High	1 992.50	4.501 3
	256QAM	Low	1 932.50	4.506 3
		Middle	1 962.50	4.498 7
		High	1 992.50	4.506 7
Port 3	QPSK	Low	1 932.50	4.492 3
		Middle	1 962.50	4.500 8
		High	1 992.50	4.494 7
	16QAM	Low	1 932.50	4.479 1
		Middle	1 962.50	4.485 3
		High	1 992.50	4.459 7
	64QAM	Low	1 932.50	4.497 8
		Middle	1 962.50	4.499 8
		High	1 992.50	4.503 1
	256QAM	Low	1 932.50	4.497 7
		Middle	1 962.50	4.504 0
		High	1 992.50	4.498 2

* This test report only contains the worst case plot data for each port and modulation.

5 MHz Bandwidth + 5 MHz Bandwidth / 2 Carriers

Port	Modulation	Channel	Frequency (MHz)	Measured Bandwidth (MHz)
Port 0	QPSK	Low	1 935.00	9.467 2
		Middle	1 962.50	9.474 1
		High	1 990.00	9.470 3
	16QAM	Low	1 935.00	9.492 1
		Middle	1 962.50	9.450 2
		High	1 990.00	9.484 7
	64QAM	Low	1 935.00	9.482 0
		Middle	1 962.50	9.466 7
		High	1 990.00	9.475 5
	256QAM	Low	1 935.00	9.484 7
		Middle	1 962.50	9.483 4
		High	1 990.00	9.498 8
Port 1	QPSK	Low	1 935.00	9.487 7
		Middle	1 962.50	9.470 7
		High	1 990.00	9.456 6
	16QAM	Low	1 935.00	9.452 5
		Middle	1 962.50	9.419 7
		High	1 990.00	9.452 4
	64QAM	Low	1 935.00	9.481 3
		Middle	1 962.50	9.458 9
		High	1 990.00	9.454 6
	256QAM	Low	1 935.00	9.468 6
		Middle	1 962.50	9.455 5
		High	1 990.00	9.479 2
Port 2	QPSK	Low	1 935.00	9.466 2
		Middle	1 962.50	9.479 5
		High	1 990.00	9.487 0
	16QAM	Low	1 935.00	9.438 8
		Middle	1 962.50	9.451 7
		High	1 990.00	9.429 8

Port	Modulation	Channel	Frequency (MHz)	Measured Bandwidth (MHz)
	64QAM	Low	1 935.00	9.497 4
		Middle	1 962.50	9.479 6
		High	1 990.00	9.457 4
	256QAM	Low	1 935.00	9.474 8
		Middle	1 962.50	9.453 3
		High	1 990.00	9.486 8
Port 3	QPSK	Low	1 935.00	9.501 6
		Middle	1 962.50	9.444 0
		High	1 990.00	9.454 1
	16QAM	Low	1 935.00	9.461 0
		Middle	1 962.50	9.468 2
		High	1 990.00	9.446 5
	64QAM	Low	1 935.00	9.464 6
		Middle	1 962.50	9.471 5
		High	1 990.00	9.464 0
	256QAM	Low	1 935.00	9.518 7
		Middle	1 962.50	9.495 8
		High	1 990.00	9.494 3

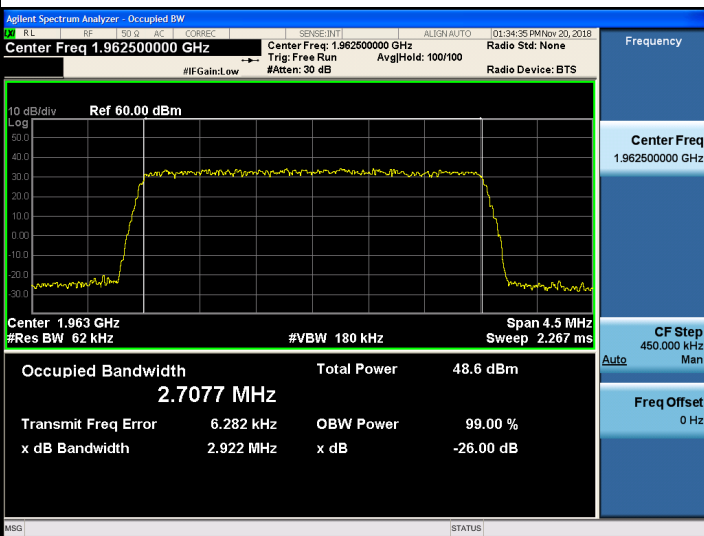
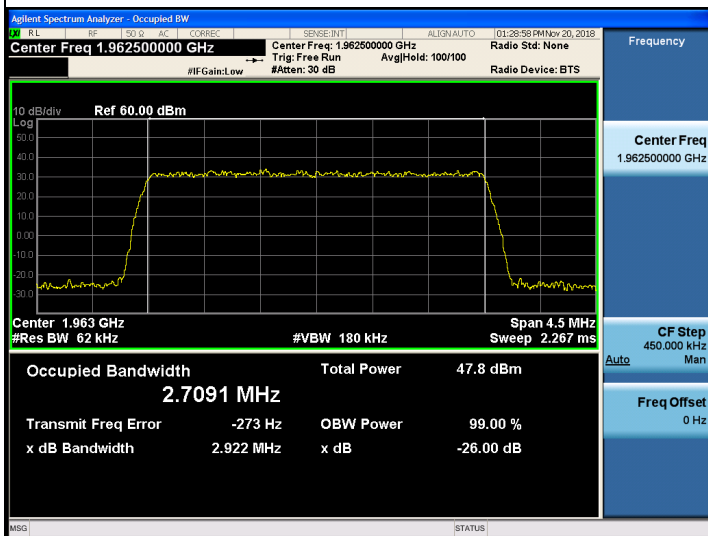
* This test report only contains the worst case plot data for each port and modulation.

Plots of Occupied Bandwidth - 3 MHz Bandwidth / 1 Carrier

Port 0

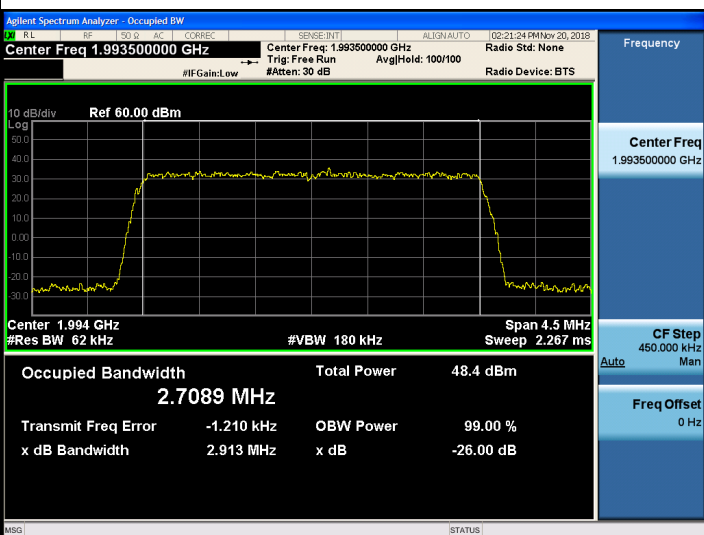
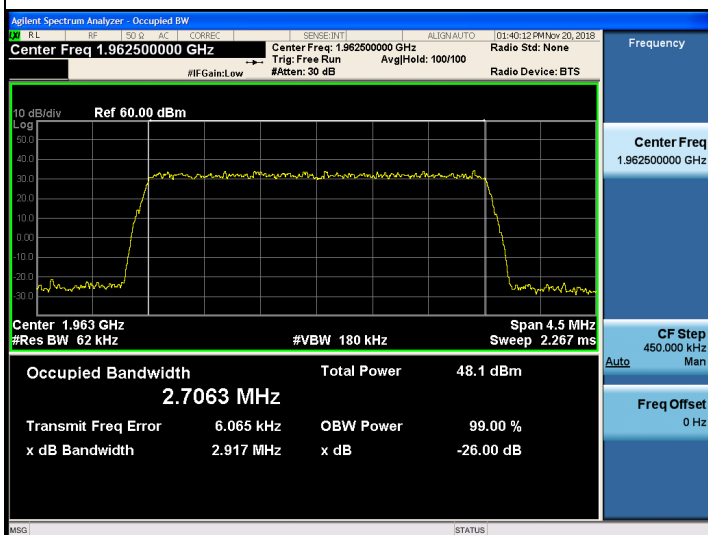
Modulation: QPSK
Channel: Middle

Modulation: 16QAM
Channel: Middle



Modulation: 64QAM
Channel: Middle

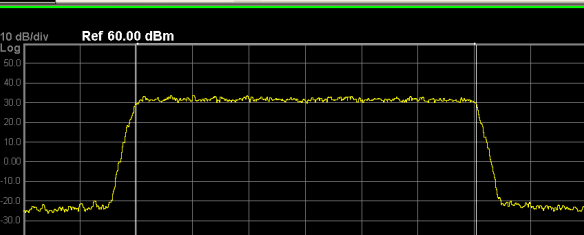
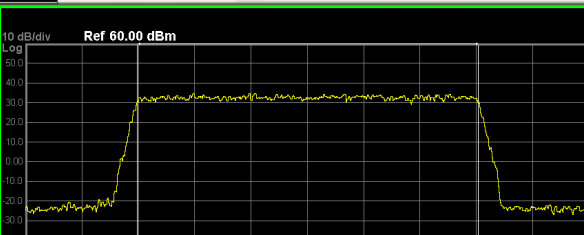
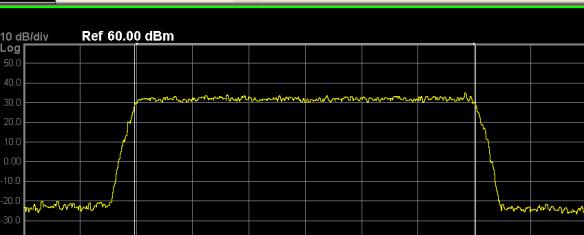
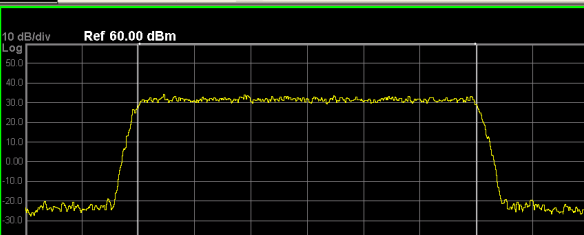
Modulation: 256QAM
Channel: High



Port 1

Port 1																																							
Modulation:		QPSK																																					
Channel:		Low																																					
Agilent Spectrum Analyzer - Occupied BW RL RF SD AC CORREC SENSE INT ALIGN AUTO 02:57:12 PM Nov 20, 2018 Center Freq 1.931500000 GHz Trig: Free Run AvgHld: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.932 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7142 MHz Total Power 47.8 dBm Transmit Freq Error 1.598 kHz OBW Power 99.00 % x dB Bandwidth 2.919 MHz x dB -26.00 dB MSG STATUS Frequency Center Freq 1.931500000 GHz CF Step 450.000 kHz Man Freq Offset 0 Hz <tr><td colspan="2">Modulation:</td><td colspan="2">16QAM</td></tr> <tr><td colspan="2">Channel:</td><td colspan="2">High</td></tr> <tr><td colspan="4"> Agilent Spectrum Analyzer - Occupied BW RL RF SD AC CORREC SENSE INT ALIGN AUTO 02:59:09 PM Nov 20, 2018 Center Freq 1.993500000 GHz Trig: Free Run AvgHld: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.994 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7134 MHz Total Power 48.7 dBm Transmit Freq Error -309 Hz OBW Power 99.00 % x dB Bandwidth 2.906 MHz x dB -26.00 dB MSG STATUS Frequency Center Freq 1.993500000 GHz CF Step 450.000 kHz Man Freq Offset 0 Hz <tr><td colspan="2">Modulation:</td><td colspan="2">64QAM</td></tr><tr><td colspan="2">Channel:</td><td colspan="2">Middle</td></tr><tr><td colspan="4"> Agilent Spectrum Analyzer - Occupied BW RL RF SD AC CORREC SENSE INT ALIGN AUTO 03:34:41 PM Nov 20, 2018 Center Freq 1.962500000 GHz Trig: Free Run AvgHld: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.963 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7087 MHz Total Power 48.1 dBm Transmit Freq Error 1.504 kHz OBW Power 99.00 % x dB Bandwidth 2.915 MHz x dB -26.00 dB MSG STATUS Frequency Center Freq 1.962500000 GHz CF Step 450.000 kHz Man Freq Offset 0 Hz <tr><td colspan="2">Modulation:</td><td colspan="2">256QAM</td></tr><tr><td colspan="2">Channel:</td><td colspan="2">Middle</td></tr><tr><td colspan="4"> Agilent Spectrum Analyzer - Occupied BW RL RF SD AC CORREC SENSE INT ALIGN AUTO 03:59:12 PM Nov 20, 2018 Center Freq 1.962500000 GHz Trig: Free Run AvgHld: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.963 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7119 MHz Total Power 48.0 dBm Transmit Freq Error -4.156 kHz OBW Power 99.00 % x dB Bandwidth 2.938 MHz x dB -26.00 dB MSG STATUS Frequency Center Freq 1.962500000 GHz CF Step 450.000 kHz Man Freq Offset 0 Hz </td></tr></td></tr></td></tr>				Modulation:		16QAM		Channel:		High		Agilent Spectrum Analyzer - Occupied BW RL RF SD AC CORREC SENSE INT ALIGN AUTO 02:59:09 PM Nov 20, 2018 Center Freq 1.993500000 GHz Trig: Free Run AvgHld: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.994 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7134 MHz Total Power 48.7 dBm Transmit Freq Error -309 Hz OBW Power 99.00 % x dB Bandwidth 2.906 MHz x dB -26.00 dB MSG STATUS Frequency Center Freq 1.993500000 GHz CF Step 450.000 kHz Man Freq Offset 0 Hz <tr><td colspan="2">Modulation:</td><td colspan="2">64QAM</td></tr> <tr><td colspan="2">Channel:</td><td colspan="2">Middle</td></tr> <tr><td colspan="4"> Agilent Spectrum Analyzer - Occupied BW RL RF SD AC CORREC SENSE INT ALIGN AUTO 03:34:41 PM Nov 20, 2018 Center Freq 1.962500000 GHz Trig: Free Run AvgHld: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.963 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7087 MHz Total Power 48.1 dBm Transmit Freq Error 1.504 kHz OBW Power 99.00 % x dB Bandwidth 2.915 MHz x dB -26.00 dB MSG STATUS Frequency Center Freq 1.962500000 GHz CF Step 450.000 kHz Man Freq Offset 0 Hz <tr><td colspan="2">Modulation:</td><td colspan="2">256QAM</td></tr><tr><td colspan="2">Channel:</td><td colspan="2">Middle</td></tr><tr><td colspan="4"> Agilent Spectrum Analyzer - 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Occupied BW RL RF SD AC CORREC SENSE INT ALIGN AUTO 03:59:12 PM Nov 20, 2018 Center Freq 1.962500000 GHz Trig: Free Run AvgHld: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.963 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7119 MHz Total Power 48.0 dBm Transmit Freq Error -4.156 kHz OBW Power 99.00 % x dB Bandwidth 2.938 MHz x dB -26.00 dB MSG STATUS Frequency Center Freq 1.962500000 GHz CF Step 450.000 kHz Man Freq Offset 0 Hz </td></tr>				Modulation:		256QAM		Channel:		Middle		Agilent Spectrum Analyzer - Occupied BW RL RF SD AC CORREC SENSE INT ALIGN AUTO 03:59:12 PM Nov 20, 2018 Center Freq 1.962500000 GHz Trig: Free Run AvgHld: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.963 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7119 MHz Total Power 48.0 dBm Transmit Freq Error -4.156 kHz OBW Power 99.00 % x dB Bandwidth 2.938 MHz x dB -26.00 dB MSG STATUS Frequency Center Freq 1.962500000 GHz CF Step 450.000 kHz Man Freq Offset 0 Hz			
Modulation:		16QAM																																					
Channel:		High																																					
Agilent Spectrum Analyzer - Occupied BW RL RF SD AC CORREC SENSE INT ALIGN AUTO 02:59:09 PM Nov 20, 2018 Center Freq 1.993500000 GHz Trig: Free Run AvgHld: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.994 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7134 MHz Total Power 48.7 dBm Transmit Freq Error -309 Hz OBW Power 99.00 % x dB Bandwidth 2.906 MHz x dB -26.00 dB MSG STATUS Frequency Center Freq 1.993500000 GHz CF Step 450.000 kHz Man Freq Offset 0 Hz <tr><td colspan="2">Modulation:</td><td colspan="2">64QAM</td></tr> <tr><td colspan="2">Channel:</td><td colspan="2">Middle</td></tr> <tr><td colspan="4"> Agilent Spectrum Analyzer - Occupied BW RL RF SD AC CORREC SENSE INT ALIGN AUTO 03:34:41 PM Nov 20, 2018 Center Freq 1.962500000 GHz Trig: Free Run AvgHld: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.963 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7087 MHz Total Power 48.1 dBm Transmit Freq Error 1.504 kHz OBW Power 99.00 % x dB Bandwidth 2.915 MHz x dB -26.00 dB MSG STATUS Frequency Center Freq 1.962500000 GHz CF Step 450.000 kHz Man Freq Offset 0 Hz <tr><td colspan="2">Modulation:</td><td colspan="2">256QAM</td></tr><tr><td colspan="2">Channel:</td><td colspan="2">Middle</td></tr><tr><td colspan="4"> Agilent Spectrum Analyzer - Occupied BW RL RF SD AC CORREC SENSE INT ALIGN AUTO 03:59:12 PM Nov 20, 2018 Center Freq 1.962500000 GHz Trig: Free Run AvgHld: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.963 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7119 MHz Total Power 48.0 dBm Transmit Freq Error -4.156 kHz OBW Power 99.00 % x dB Bandwidth 2.938 MHz x dB -26.00 dB MSG STATUS Frequency Center Freq 1.962500000 GHz CF Step 450.000 kHz Man Freq Offset 0 Hz </td></tr></td></tr>				Modulation:		64QAM		Channel:		Middle		Agilent Spectrum Analyzer - Occupied BW RL RF SD AC CORREC SENSE INT ALIGN AUTO 03:34:41 PM Nov 20, 2018 Center Freq 1.962500000 GHz Trig: Free Run AvgHld: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.963 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7087 MHz Total Power 48.1 dBm Transmit Freq Error 1.504 kHz OBW Power 99.00 % x dB Bandwidth 2.915 MHz x dB -26.00 dB MSG STATUS Frequency Center Freq 1.962500000 GHz CF Step 450.000 kHz Man Freq Offset 0 Hz <tr><td colspan="2">Modulation:</td><td colspan="2">256QAM</td></tr> <tr><td colspan="2">Channel:</td><td colspan="2">Middle</td></tr> <tr><td colspan="4"> Agilent Spectrum Analyzer - Occupied BW RL RF SD AC CORREC SENSE INT ALIGN AUTO 03:59:12 PM Nov 20, 2018 Center Freq 1.962500000 GHz Trig: Free Run AvgHld: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.963 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7119 MHz Total Power 48.0 dBm Transmit Freq Error -4.156 kHz OBW Power 99.00 % x dB Bandwidth 2.938 MHz x dB -26.00 dB MSG STATUS Frequency Center Freq 1.962500000 GHz CF Step 450.000 kHz Man Freq Offset 0 Hz </td></tr>				Modulation:		256QAM		Channel:		Middle		Agilent Spectrum Analyzer - Occupied BW RL RF SD AC CORREC SENSE INT ALIGN AUTO 03:59:12 PM Nov 20, 2018 Center Freq 1.962500000 GHz Trig: Free Run AvgHld: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.963 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7119 MHz Total Power 48.0 dBm Transmit Freq Error -4.156 kHz OBW Power 99.00 % x dB Bandwidth 2.938 MHz x dB -26.00 dB MSG STATUS Frequency Center Freq 1.962500000 GHz CF Step 450.000 kHz Man Freq Offset 0 Hz															
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Modulation:		256QAM																																					
Channel:		Middle																																					
Agilent Spectrum Analyzer - Occupied BW RL RF SD AC CORREC SENSE INT ALIGN AUTO 03:59:12 PM Nov 20, 2018 Center Freq 1.962500000 GHz Trig: Free Run AvgHld: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.963 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7119 MHz Total Power 48.0 dBm Transmit Freq Error -4.156 kHz OBW Power 99.00 % x dB Bandwidth 2.938 MHz x dB -26.00 dB MSG STATUS Frequency Center Freq 1.962500000 GHz CF Step 450.000 kHz Man Freq Offset 0 Hz																																							

Port 2

Port 2							
Modulation:		QPSK		Modulation:		16QAM	
Channel:		Low		Channel:		Low	
Agilent Spectrum Analyzer - Occupied BW RLCORRECTSENSEINT Center Freq 1.931500000 GHz Trig: Free Run Avg/Hold: 100/100 Radio Std: None #IF Gain: Low #Atten: 30 dB Radio Device: BTS 10 dB/div Log Ref 60.00 dBm  Center 1.932 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7145 MHz Total Power 47.9 dBm Transmit Freq Error 4.611 kHz OBW Power 99.00 % x dB Bandwidth 2.915 MHz x dB -26.00 dB MSG STATUS				Agilent Spectrum Analyzer - Occupied BW RLCORRECTSENSEINT Center Freq 1.931500000 GHz Trig: Free Run Avg/Hold: 100/100 Radio Std: None #IF Gain: Low #Atten: 30 dB Radio Device: BTS 10 dB/div Log Ref 60.00 dBm  Center 1.932 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7180 MHz Total Power 48.9 dBm Transmit Freq Error 5.771 kHz OBW Power 99.00 % x dB Bandwidth 2.899 MHz x dB -26.00 dB MSG STATUS			
Modulation:		64QAM		Modulation:		256QAM	
Channel:		Low		Channel:		High	
Agilent Spectrum Analyzer - Occupied BW RLCORRECTSENSEINT Center Freq 1.931500000 GHz Trig: Free Run Avg/Hold: 100/100 Radio Std: None #IF Gain: Low #Atten: 30 dB Radio Device: BTS 10 dB/div Log Ref 60.00 dBm  Center 1.932 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7090 MHz Total Power 48.2 dBm Transmit Freq Error 1.882 kHz OBW Power 99.00 % x dB Bandwidth 2.921 MHz x dB -26.00 dB MSG STATUS				Agilent Spectrum Analyzer - Occupied BW RLCORRECTSENSEINT Center Freq 1.993500000 GHz Trig: Free Run Avg/Hold: 100/100 Radio Std: None #IF Gain: Low #Atten: 30 dB Radio Device: BTS 10 dB/div Log Ref 60.00 dBm  Center 1.994 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms Occupied Bandwidth 2.7108 MHz Total Power 47.9 dBm Transmit Freq Error 58 Hz OBW Power 99.00 % x dB Bandwidth 2.910 MHz x dB -26.00 dB MSG STATUS			

Port 3

Port 3							
Modulation:		QPSK		Modulation:		16QAM	
Channel:		Low		Channel:		Middle	
Agilent Spectrum Analyzer - Occupied BW RL RF IF BB AC CORREC SENSE:INT ALIGN:AUTO 05:21:10 PM Nov 20, 2019 Center Freq 1.931500000 GHz Trig: Free Run Avg/Hold: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS Frequency Center Freq 1.931500000 GHz 10 dB/div Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.932 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms CF Step 450.000 kHz Man Auto Freq Offset 0 Hz Occupied Bandwidth 2.7102 MHz Total Power 47.7 dBm Transmit Freq Error 1.574 kHz OBW Power 99.00 % x dB Bandwidth 2.899 MHz x dB -26.00 dB MSG STATUS				Agilent Spectrum Analyzer - Occupied BW RL RF IF BB AC CORREC SENSE:INT ALIGN:AUTO 05:47:24 PM Nov 20, 2019 Center Freq 1.962500000 GHz Trig: Free Run Avg/Hold: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS Frequency Center Freq 1.962500000 GHz 10 dB/div Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.963 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms CF Step 450.000 kHz Man Auto Freq Offset 0 Hz Occupied Bandwidth 2.7103 MHz Total Power 48.6 dBm Transmit Freq Error 5.826 kHz OBW Power 99.00 % x dB Bandwidth 2.917 MHz x dB -26.00 dB MSG STATUS			
Modulation:		64QAM		Modulation:		256QAM	
Channel:		High		Channel:		Middle	
Agilent Spectrum Analyzer - Occupied BW RL RF IF BB AC CORREC SENSE:INT ALIGN:AUTO 06:14:42 PM Nov 20, 2019 Center Freq 1.993500000 GHz Trig: Free Run Avg/Hold: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS Frequency Center Freq 1.993500000 GHz 10 dB/div Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.994 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms CF Step 450.000 kHz Man Auto Freq Offset 0 Hz Occupied Bandwidth 2.7058 MHz Total Power 48.2 dBm Transmit Freq Error 1.278 kHz OBW Power 99.00 % x dB Bandwidth 2.911 MHz x dB -26.00 dB MSG STATUS				Agilent Spectrum Analyzer - Occupied BW RL RF IF BB AC CORREC SENSE:INT ALIGN:AUTO 05:56:40 PM Nov 20, 2019 Center Freq 1.962500000 GHz Trig: Free Run Avg/Hold: 100/100 Radio Std: None #IFGain:Low #Atten: 30 dB Radio Device: BTS Frequency Center Freq 1.962500000 GHz 10 dB/div Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.963 GHz #Res BW 62 kHz #VBW 180 kHz Span 4.5 MHz Sweep 2.267 ms CF Step 450.000 kHz Man Auto Freq Offset 0 Hz Occupied Bandwidth 2.7057 MHz Total Power 47.9 dBm Transmit Freq Error 3.775 kHz OBW Power 99.00 % x dB Bandwidth 2.896 MHz x dB -26.00 dB MSG STATUS			

Plots of Occupied Bandwidth - 3 MHz Bandwidth + 5 MHz Bandwidth / 2 Carriers

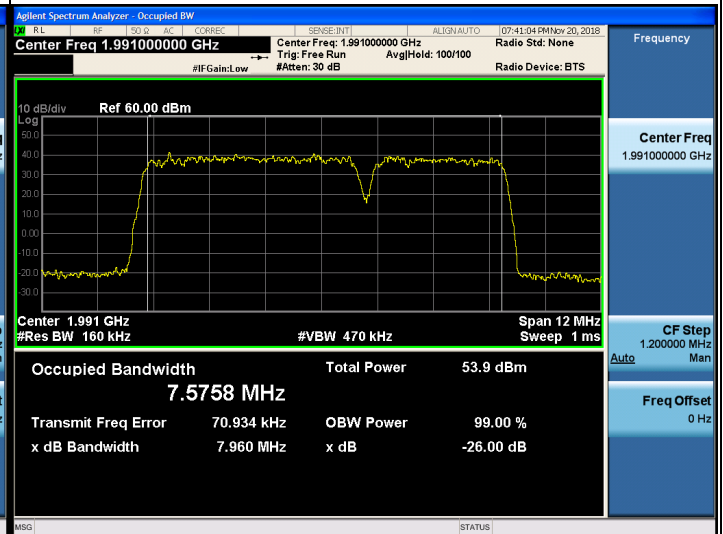
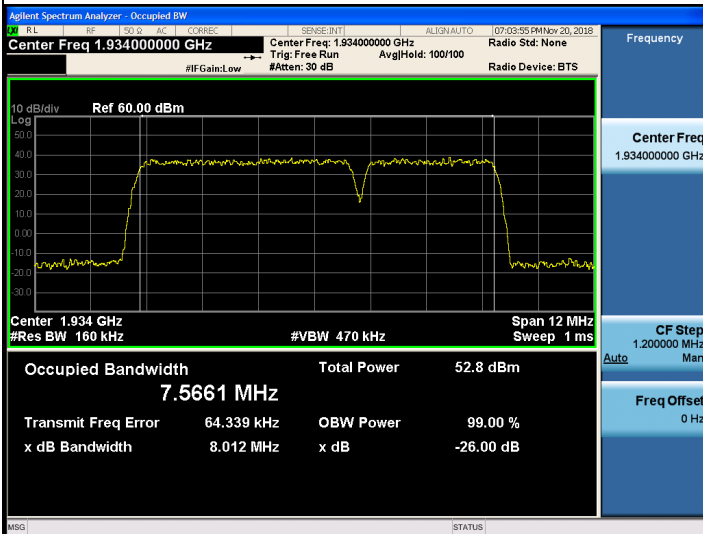
Port 0

Modulation: QPSK

Channel: Low

Modulation: 16QAM

Channel: High

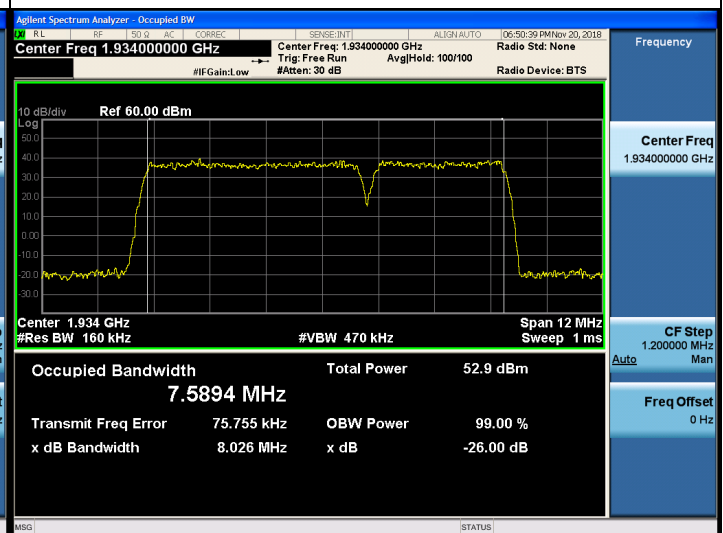
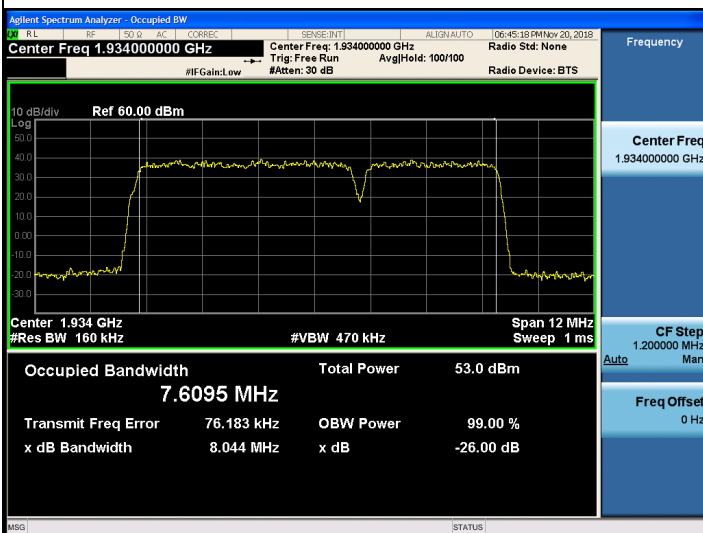


Modulation: 64QAM

Channel: Low

Modulation: 256QAM

Channel: Low



Port 1

Port 1							
Modulation:		QPSK		Modulation:		16QAM	
Channel:		High		Channel:		Middle	
Agilent Spectrum Analyzer - Occupied BW Center Freq 1.991000000 GHz Center Freq: 1.991000000 GHz Trig: Free Run AvglHold: 100/100 Radio Std: None Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.991 GHz #Res BW 160 kHz #VBW 470 kHz Span 12 MHz Sweep 1 ms Occupied Bandwidth 7.5855 MHz Total Power 52.7 dBm Transmit Freq Error 61.740 kHz OBW Power 99.00 % x dB Bandwidth 8.004 MHz x dB -26.00 dB MSG STATUS				Agilent Spectrum Analyzer - Occupied BW Center Freq 1.962500000 GHz Center Freq: 1.962500000 GHz Trig: Free Run AvglHold: 100/100 Radio Std: None Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.963 GHz #Res BW 160 kHz #VBW 470 kHz Span 12 MHz Sweep 1 ms Occupied Bandwidth 7.5932 MHz Total Power 53.5 dBm Transmit Freq Error 75.121 kHz OBW Power 99.00 % x dB Bandwidth 8.015 MHz x dB -26.00 dB MSG STATUS			
Modulation:		64QAM		Modulation:		256QAM	
Channel:		Middle		Channel:		Low	
Agilent Spectrum Analyzer - Occupied BW Center Freq 1.962500000 GHz Center Freq: 1.962500000 GHz Trig: Free Run AvglHold: 100/100 Radio Std: None Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.963 GHz #Res BW 160 kHz #VBW 470 kHz Span 12 MHz Sweep 1 ms Occupied Bandwidth 7.5851 MHz Total Power 52.7 dBm Transmit Freq Error 73.596 kHz OBW Power 99.00 % x dB Bandwidth 8.039 MHz x dB -26.00 dB MSG STATUS				Agilent Spectrum Analyzer - Occupied BW Center Freq 1.934000000 GHz Center Freq: 1.934000000 GHz Trig: Free Run AvglHold: 100/100 Radio Std: None Radio Device: BTS 10 dB/div Ref 60.00 dBm Log 50.0 40.0 30.0 20.0 10.0 0.00 -10.0 -20.0 -30.0 Center 1.934 GHz #Res BW 160 kHz #VBW 470 kHz Span 12 MHz Sweep 1 ms Occupied Bandwidth 7.5900 MHz Total Power 53.0 dBm Transmit Freq Error 67.338 kHz OBW Power 99.00 % x dB Bandwidth 7.986 MHz x dB -26.00 dB MSG STATUS			