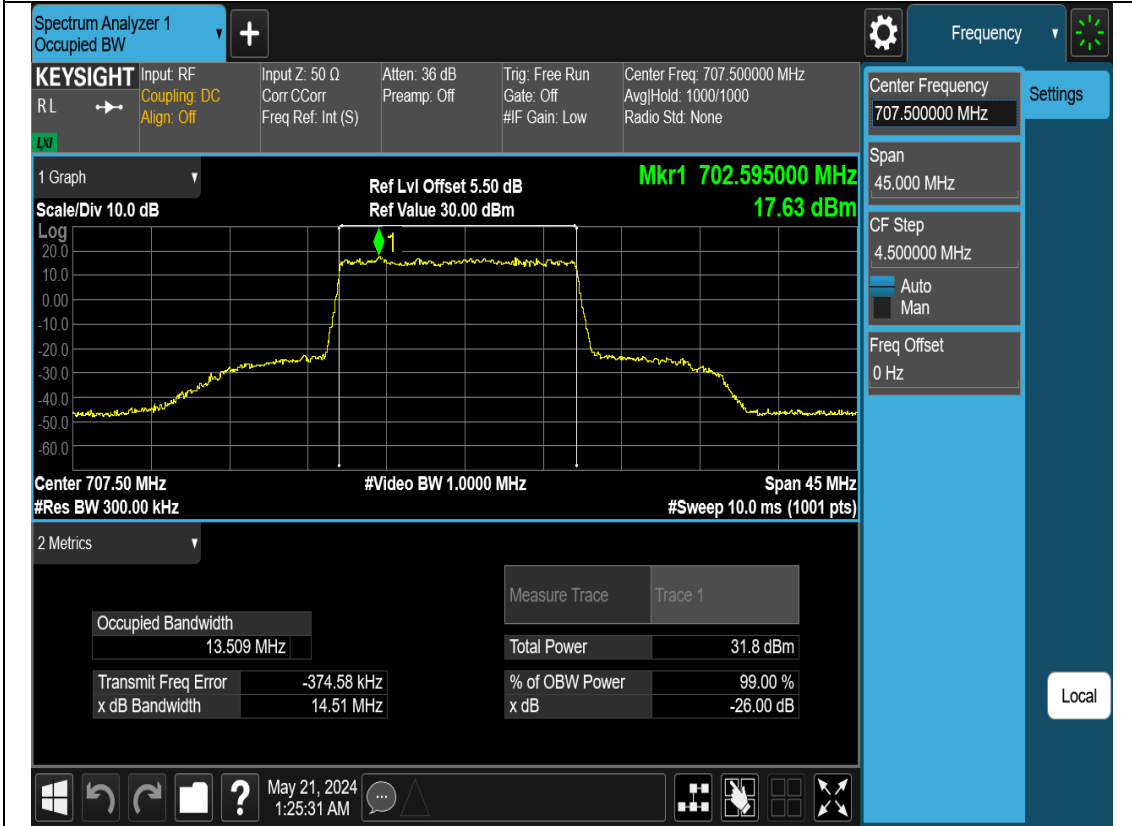
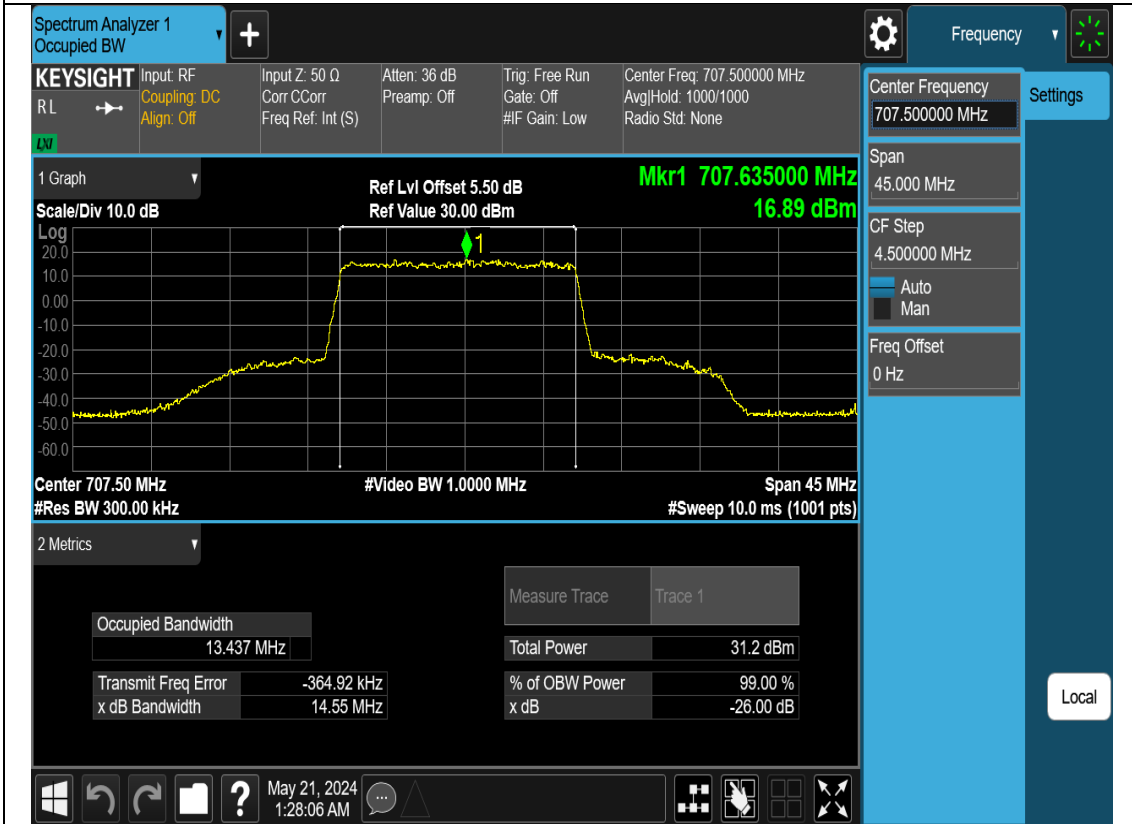


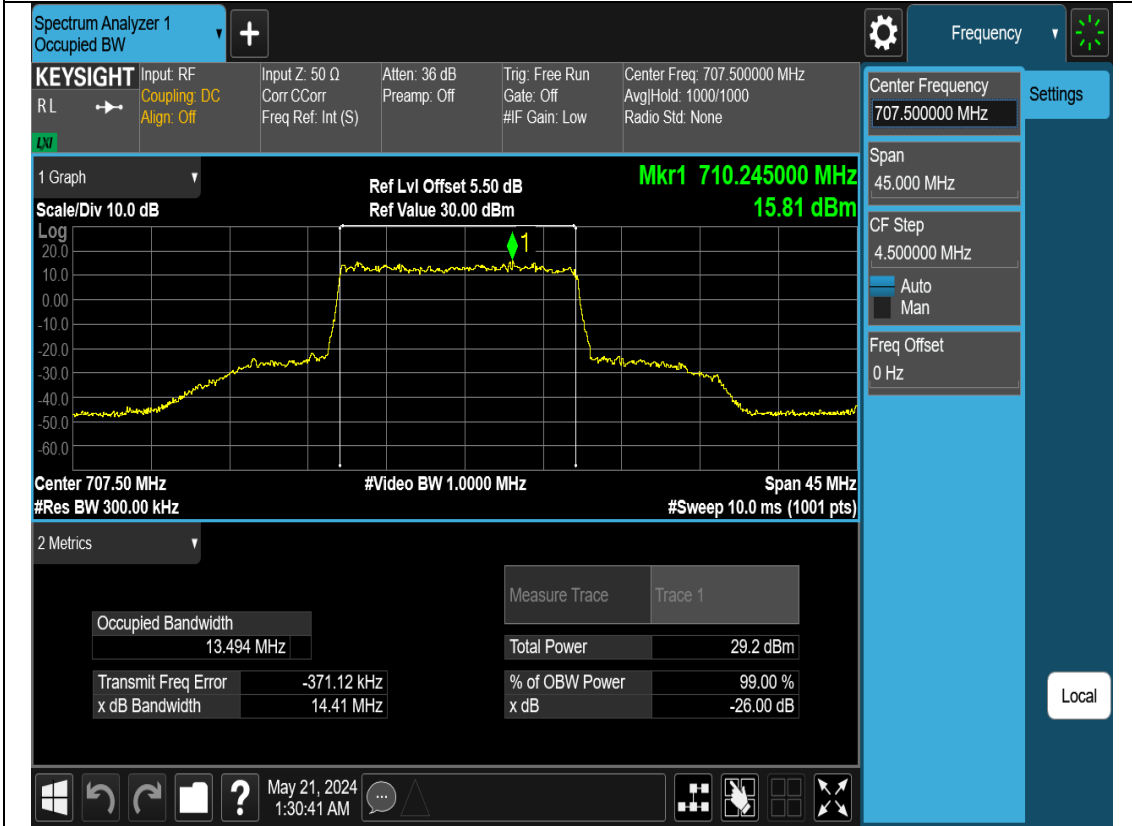
N12-15M-OBW-M-DFT-s-OFDM-16QAM



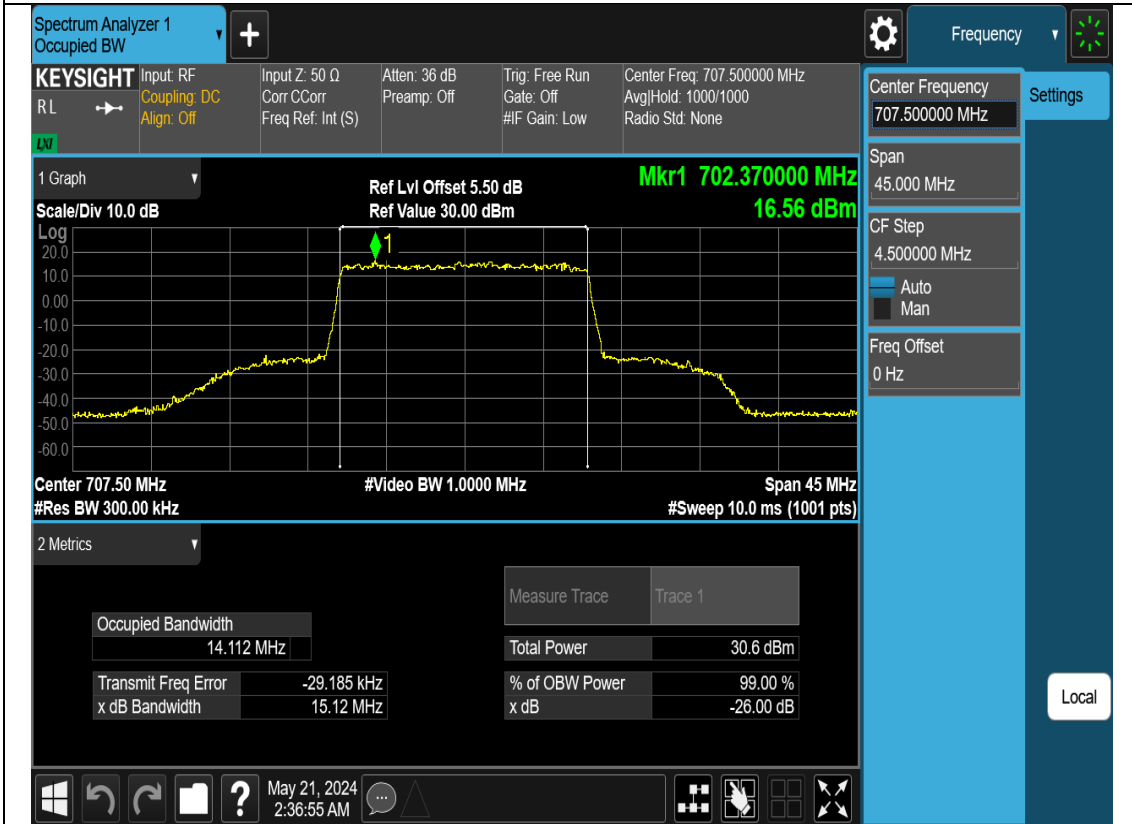
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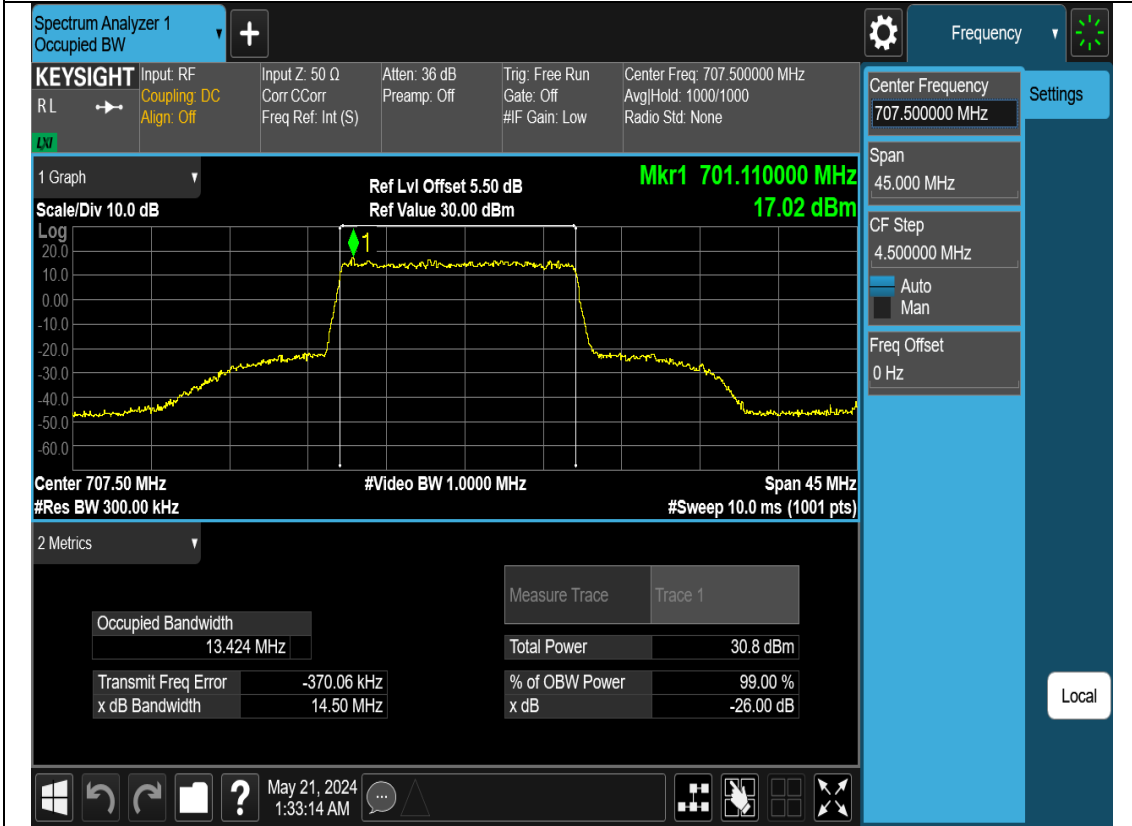
N12-15M-OBW-M-DFT-s-OFDM-256QAM



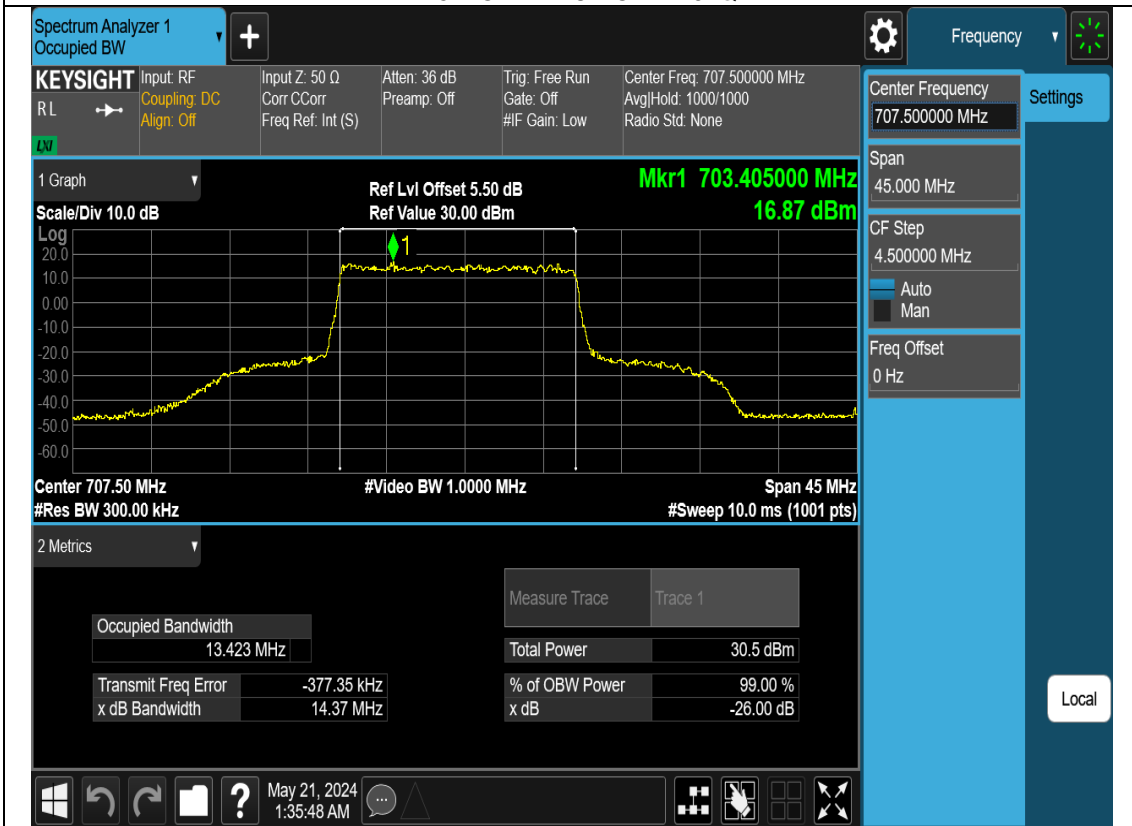
N12-15M-OBW-M-CP-OFDM-QPSK



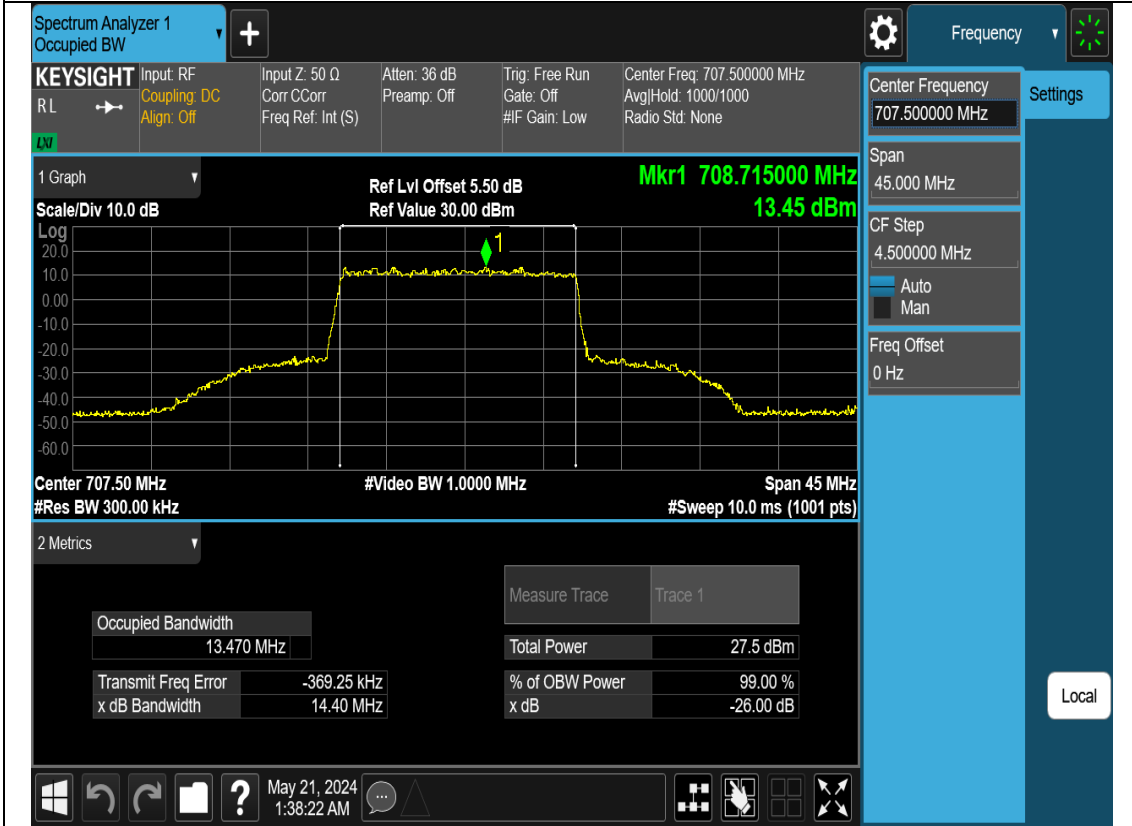
N12-15M-OBW-M-CP-OFDM-16QAM



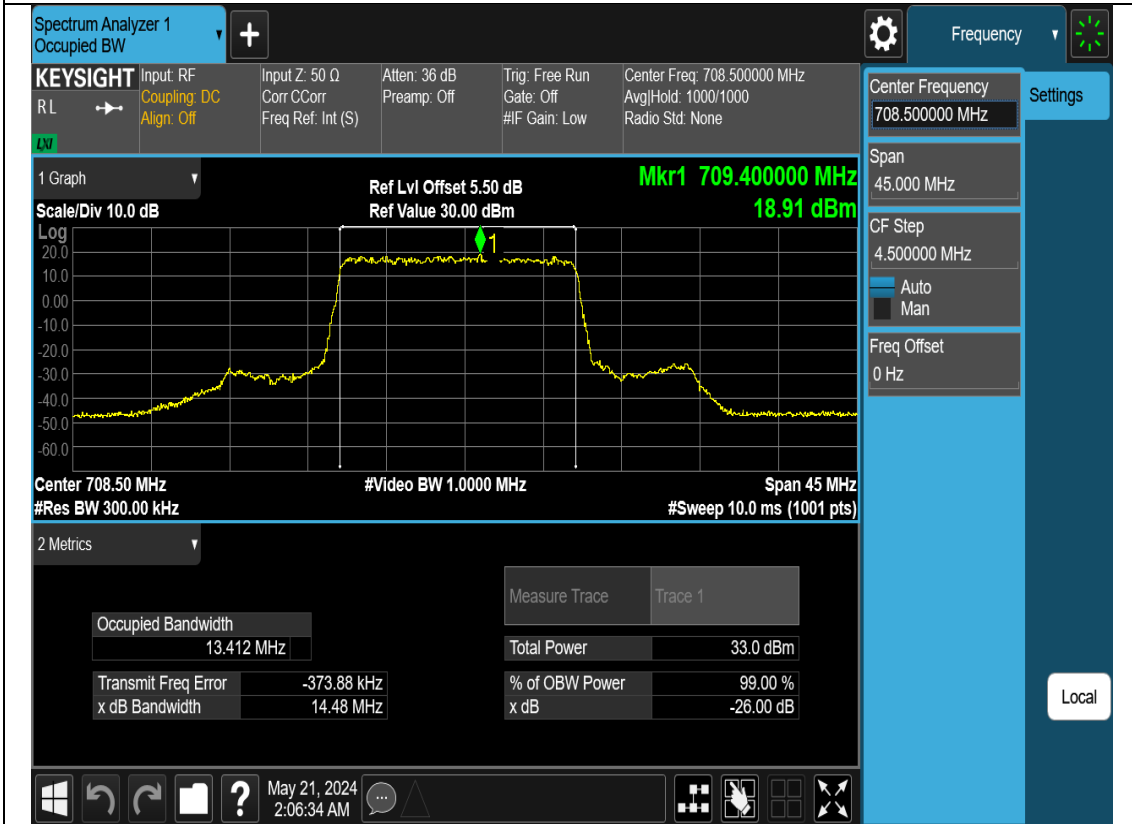
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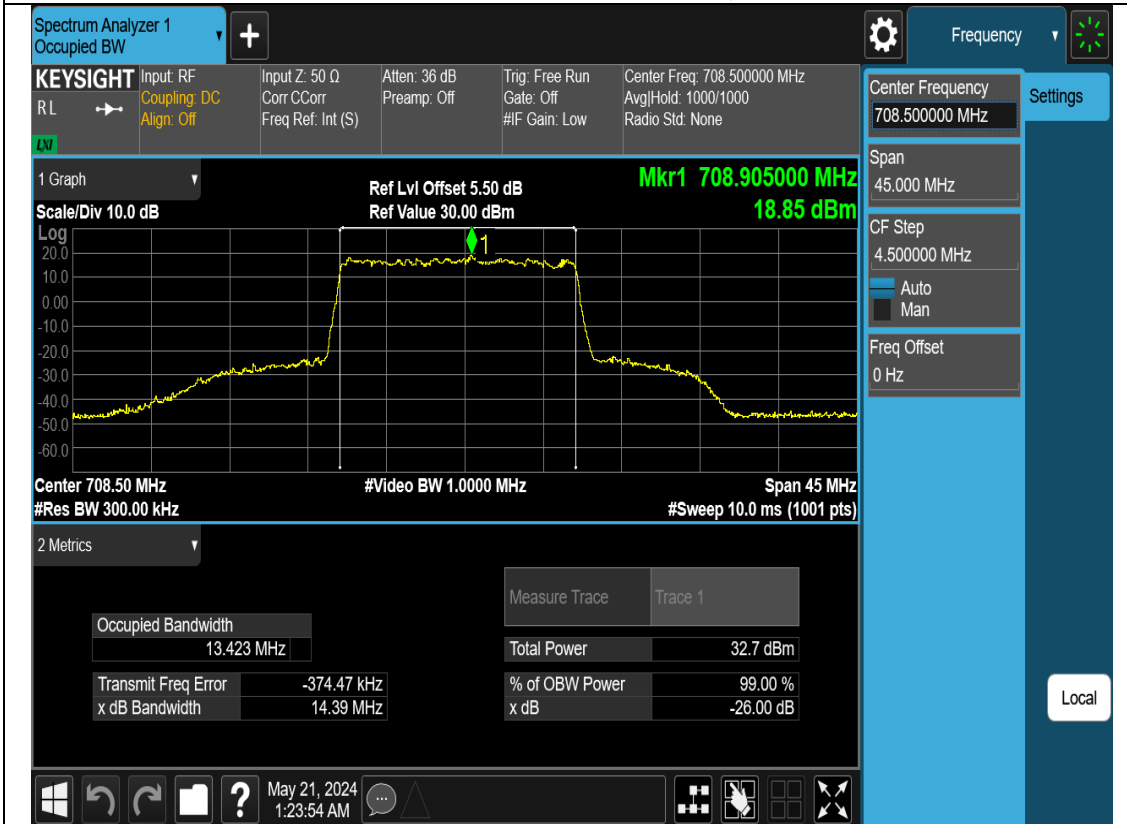
N12-15M-OBW-M-CP-OFDM-256QAM



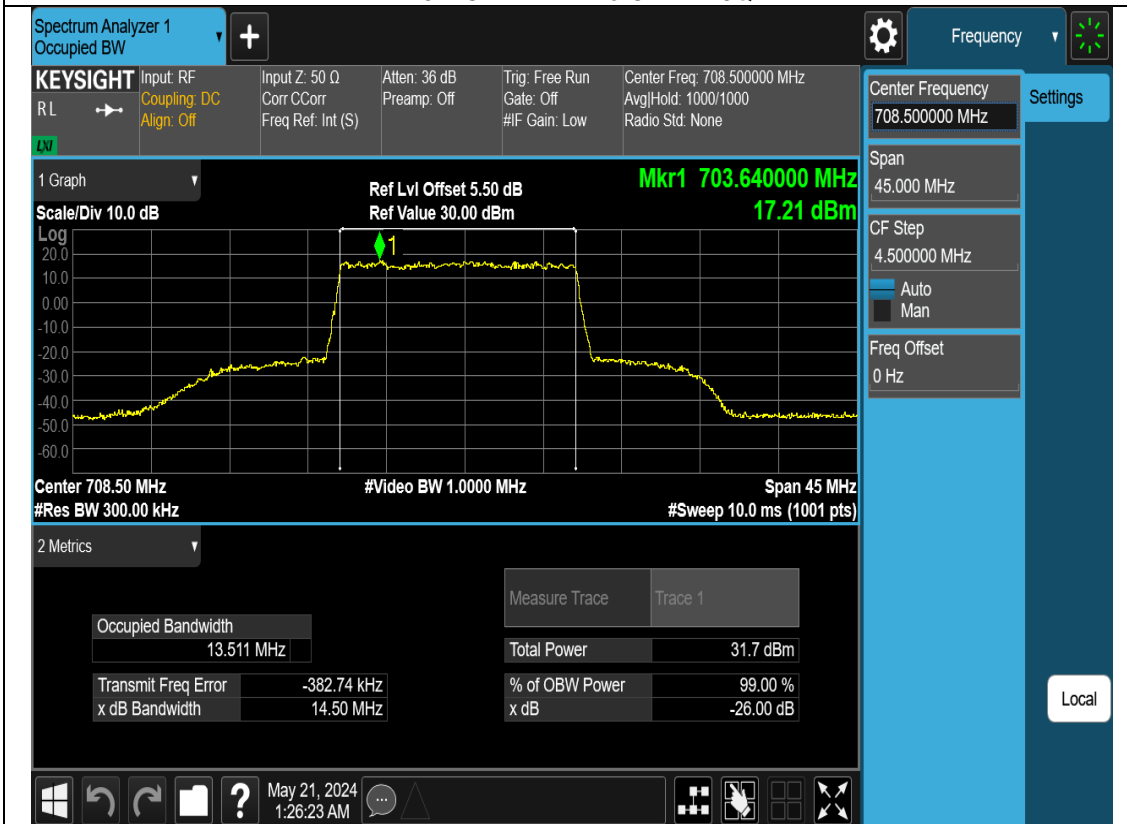
N12-15M-OBW-H-DFT-s-OFDM-Pi2 BPSK



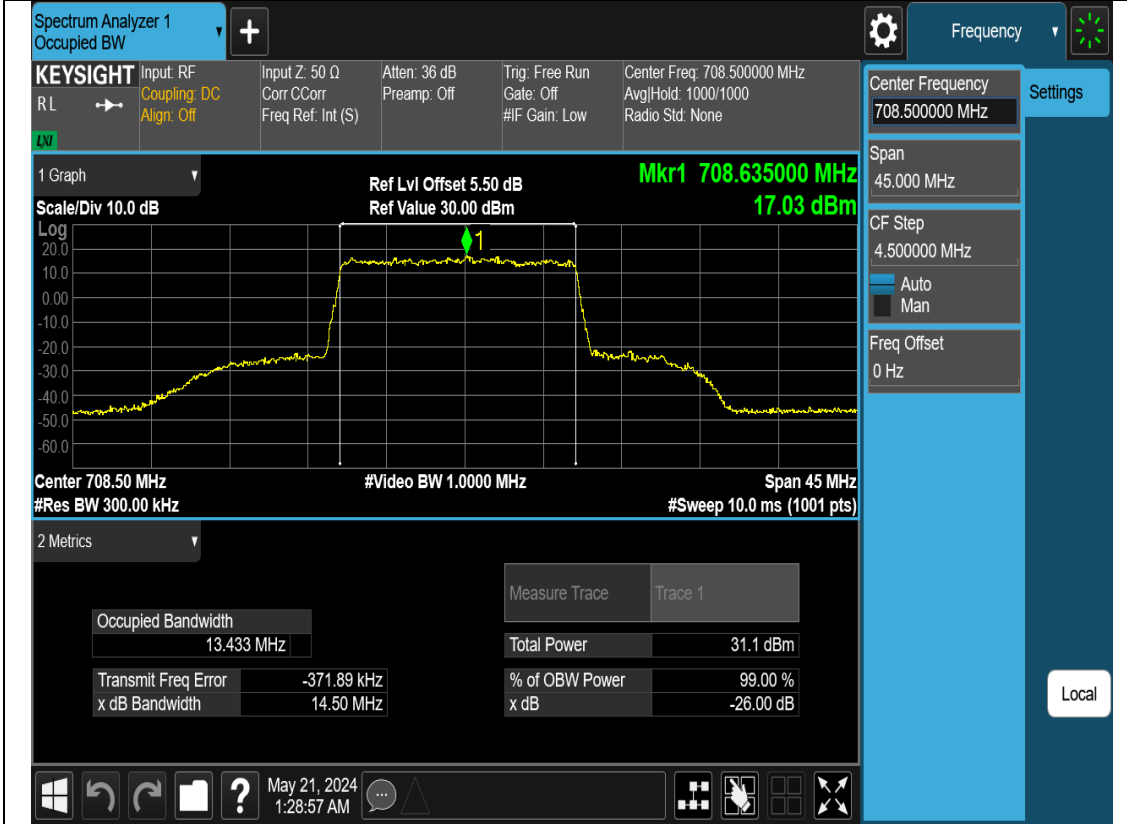
N12-15M-OBW-H-DFT-s-OFDM-QPSK



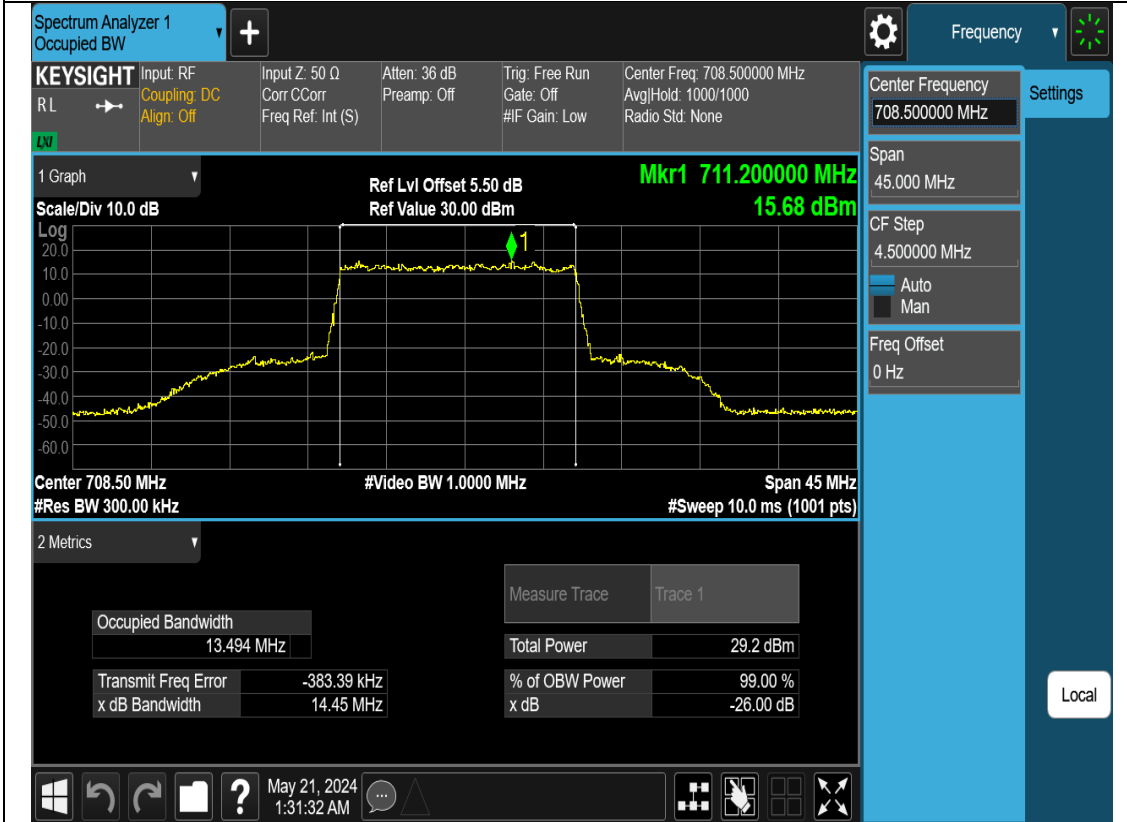
N12-15M-OBW-H-DFT-s-OFDM-16QAM



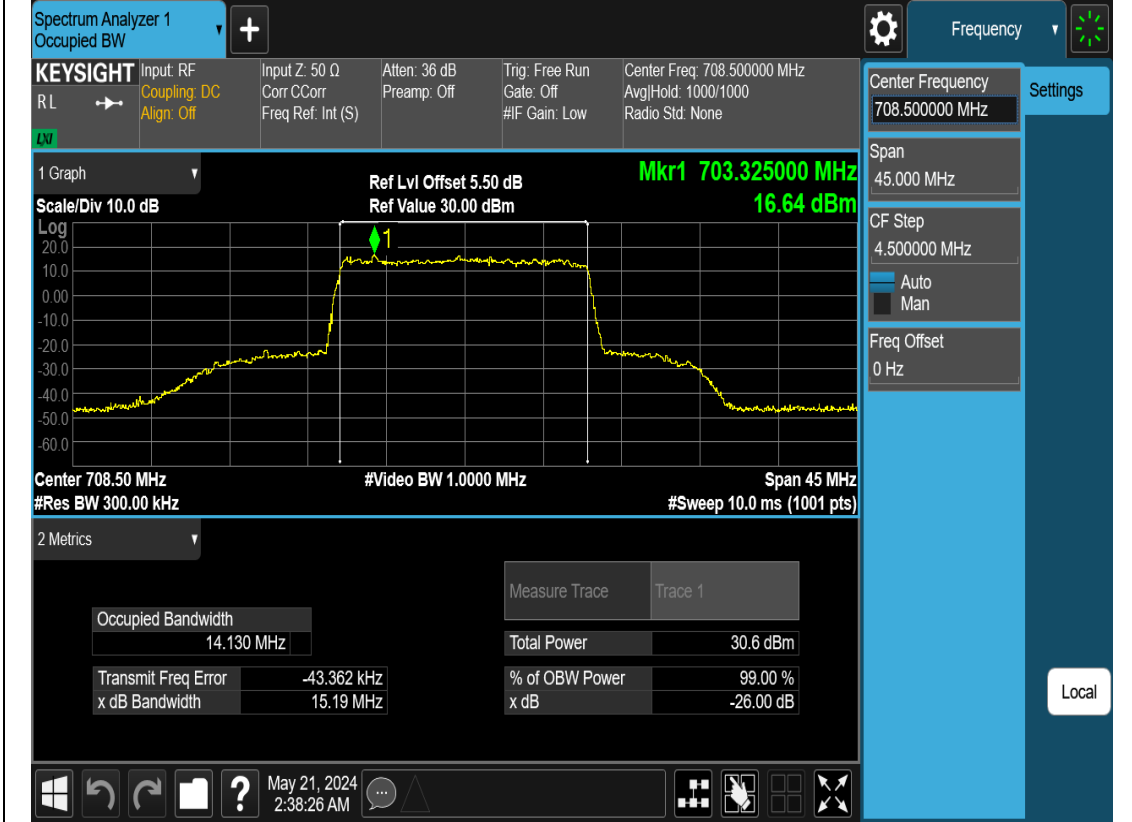
N12-15M-OBW-H-DFT-s-OFDM-64QAM



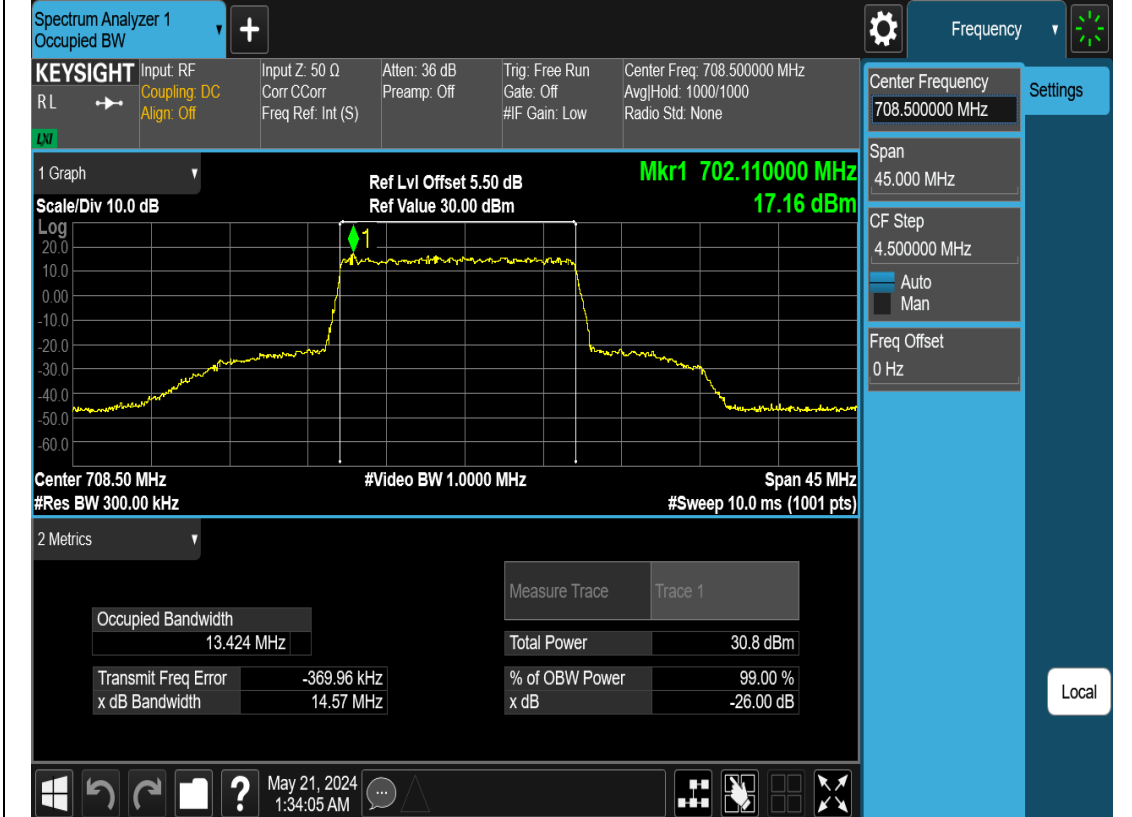
N12-15M-OBW-H-DFT-s-OFDM-256QAM



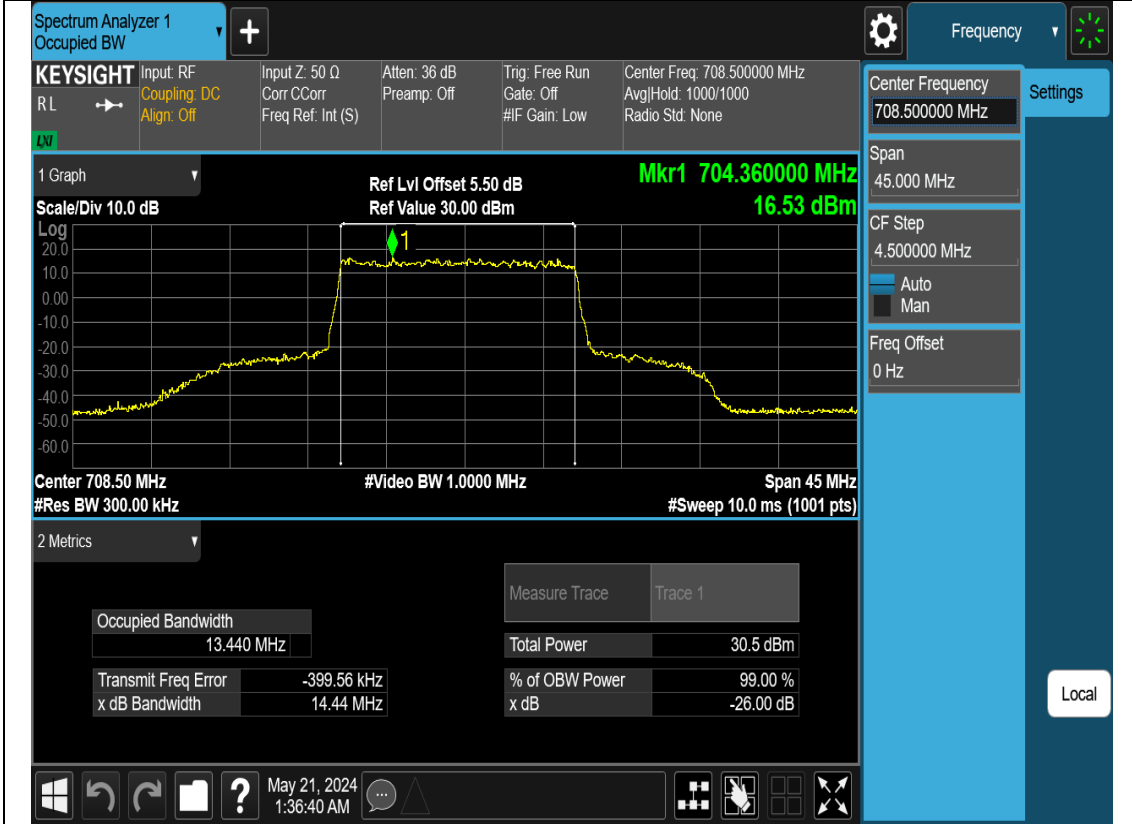
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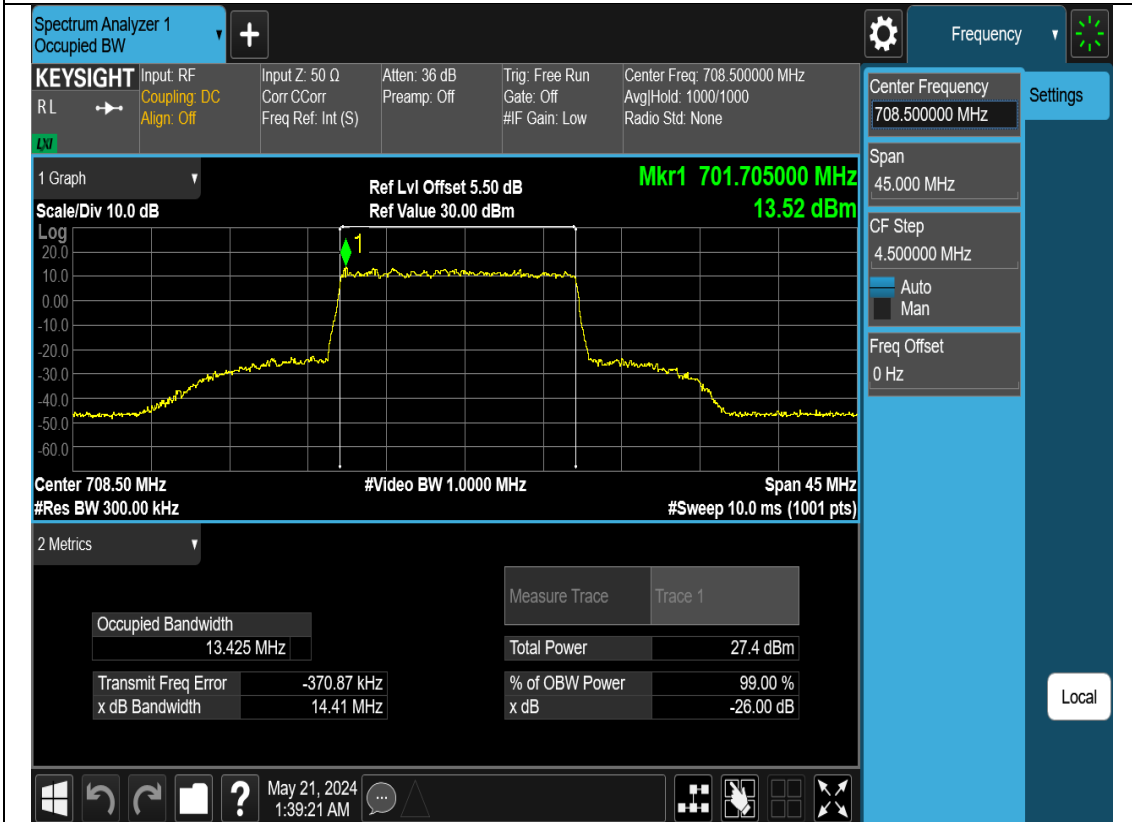
N12-15M-OBW-H-CP-OFDM-16QAM



N12-15M-OBW-H-CP-OFDM-64QAM



N12-15M-OBW-H-CP-OFDM-256QAM



Peak-Average Ratio

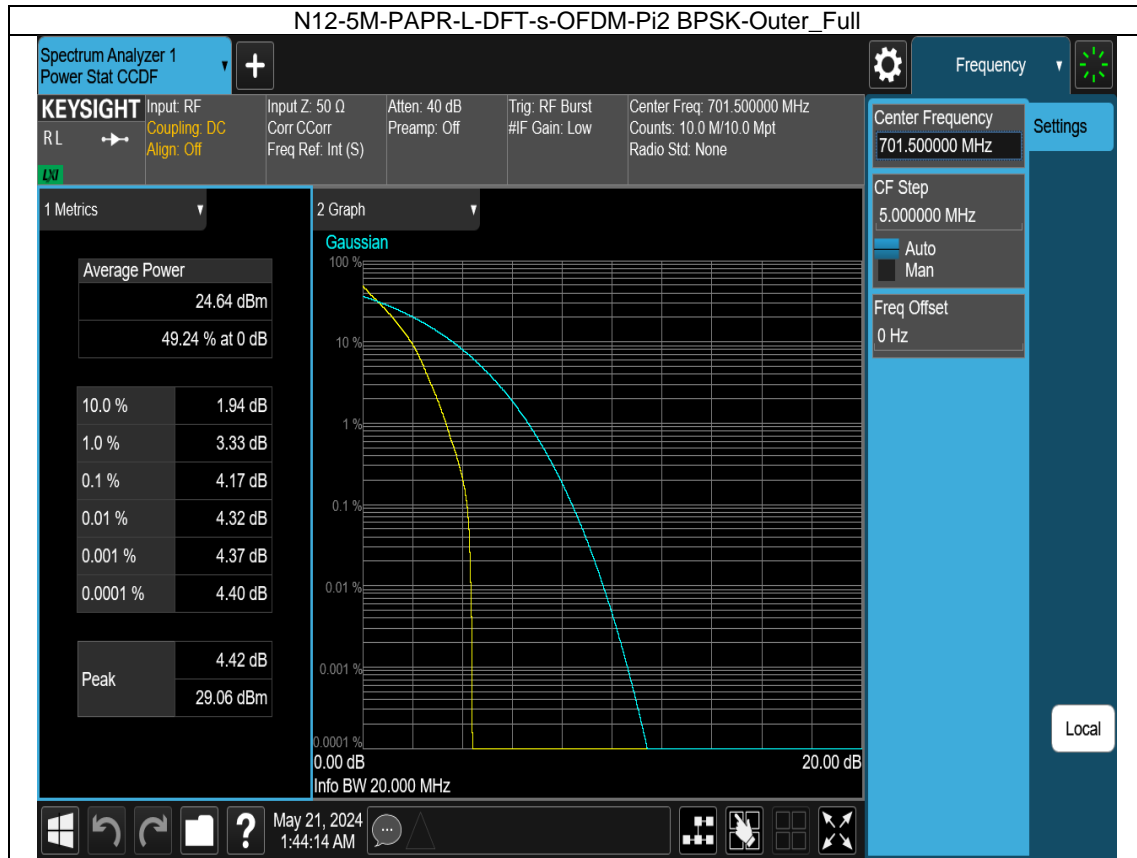
Test Result

5G NR n12 SCS=15kHz 5MHz					
Modulation	CH	RB Allocation	Peak-Average Ratio (dB)	Limit	Verdict
DFT-s-OFDM PI/2 BPSK	Low CH	Outer_Full	4.17	<=13	Pass
DFT-s-OFDM QPSK		Outer_Full	5.57	<=13	Pass
DFT-s-OFDM 16QAM		Outer_Full	6.33	<=13	Pass
DFT-s-OFDM 64QAM		Outer_Full	6.34	<=13	Pass
DFT-s-OFDM 256QAM		Outer_Full	6.40	<=13	Pass
CP-OFDM QPSK		Outer_Full	6.72	<=13	Pass
CP-OFDM 16QAM		Outer_Full	6.98	<=13	Pass
CP-OFDM 64QAM		Outer_Full	7.47	<=13	Pass
CP-OFDM 256QAM		Outer_Full	7.85	<=13	Pass
DFT-s-OFDM PI/2 BPSK	Middle CH	Outer_Full	4.09	<=13	Pass
DFT-s-OFDM QPSK		Outer_Full	5.41	<=13	Pass
DFT-s-OFDM 16QAM		Outer_Full	6.15	<=13	Pass
DFT-s-OFDM 64QAM		Outer_Full	6.34	<=13	Pass
DFT-s-OFDM 256QAM		Outer_Full	6.56	<=13	Pass
CP-OFDM QPSK		Outer_Full	6.59	<=13	Pass
CP-OFDM 16QAM		Outer_Full	6.83	<=13	Pass
CP-OFDM 64QAM		Outer_Full	7.29	<=13	Pass
CP-OFDM 256QAM		Outer_Full	7.85	<=13	Pass
DFT-s-OFDM PI/2 BPSK	High CH	Outer_Full	3.86	<=13	Pass
DFT-s-OFDM QPSK		Outer_Full	5.41	<=13	Pass
DFT-s-OFDM 16QAM		Outer_Full	6.30	<=13	Pass
DFT-s-OFDM 64QAM		Outer_Full	6.31	<=13	Pass
DFT-s-OFDM 256QAM		Outer_Full	6.75	<=13	Pass
CP-OFDM QPSK		Outer_Full	6.69	<=13	Pass
CP-OFDM 16QAM		Outer_Full	7.74	<=13	Pass
CP-OFDM 64QAM		Outer_Full	7.26	<=13	Pass
CP-OFDM 256QAM		Outer_Full	8.14	<=13	Pass

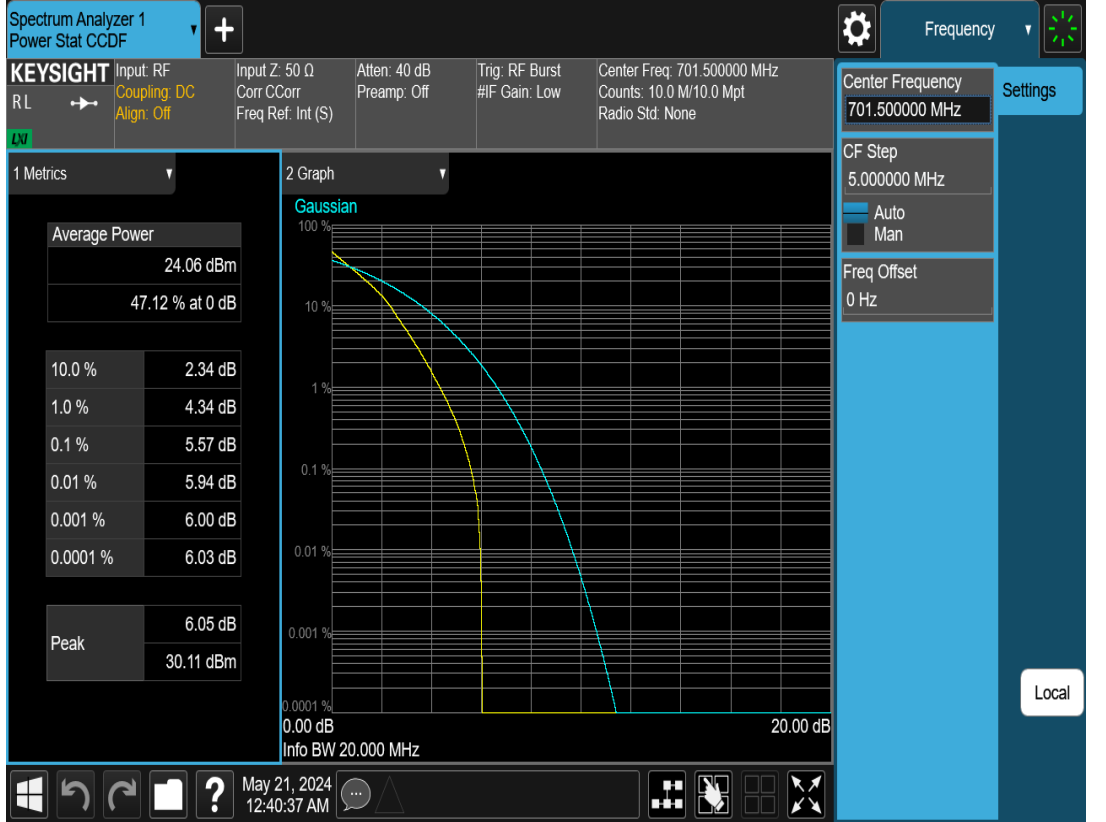
5G NR n12 SCS=15kHz 10MHz					
Modulation	CH	RB Allocation	Peak-Average Ratio (dB)	Limit	Verdict
DFT-s-OFDM PI/2 BPSK	Low CH	Outer_Full	4.15	<=13	Pass
DFT-s-OFDM QPSK		Outer_Full	5.57	<=13	Pass
DFT-s-OFDM 16QAM		Outer_Full	6.29	<=13	Pass
DFT-s-OFDM 64QAM		Outer_Full	6.61	<=13	Pass
DFT-s-OFDM 256QAM		Outer_Full	6.76	<=13	Pass
CP-OFDM QPSK		Outer_Full	7.69	<=13	Pass
CP-OFDM 16QAM		Outer_Full	7.72	<=13	Pass
CP-OFDM 64QAM		Outer_Full	7.25	<=13	Pass
CP-OFDM 256QAM		Outer_Full	8.35	<=13	Pass
DFT-s-OFDM PI/2 BPSK	Middle CH	Outer_Full	4.08	<=13	Pass
DFT-s-OFDM QPSK		Outer_Full	5.47	<=13	Pass
DFT-s-OFDM 16QAM		Outer_Full	6.25	<=13	Pass
DFT-s-OFDM 64QAM		Outer_Full	6.58	<=13	Pass
DFT-s-OFDM 256QAM		Outer_Full	6.56	<=13	Pass
CP-OFDM QPSK		Outer_Full	6.74	<=13	Pass
CP-OFDM 16QAM		Outer_Full	7.66	<=13	Pass
CP-OFDM 64QAM		Outer_Full	7.24	<=13	Pass
CP-OFDM 256QAM		Outer_Full	8.08	<=13	Pass
DFT-s-OFDM PI/2 BPSK	High CH	Outer_Full	4.01	<=13	Pass
DFT-s-OFDM QPSK		Outer_Full	5.48	<=13	Pass
DFT-s-OFDM 16QAM		Outer_Full	6.23	<=13	Pass
DFT-s-OFDM 64QAM		Outer_Full	6.58	<=13	Pass
DFT-s-OFDM 256QAM		Outer_Full	6.60	<=13	Pass
CP-OFDM QPSK		Outer_Full	6.78	<=13	Pass
CP-OFDM 16QAM		Outer_Full	7.68	<=13	Pass
CP-OFDM 64QAM		Outer_Full	7.34	<=13	Pass
CP-OFDM 256QAM		Outer_Full	7.96	<=13	Pass

5G NR n12 SCS=15kHz 15MHz					
Modulation	CH	RB Allocation	Peak-Average Ratio (dB)	Limit	Verdict
DFT-s-OFDM PI/2 BPSK	Low CH	Outer_Full	4.06	<=13	Pass
DFT-s-OFDM QPSK		Outer_Full	5.53	<=13	Pass
DFT-s-OFDM 16QAM		Outer_Full	6.24	<=13	Pass
DFT-s-OFDM 64QAM		Outer_Full	6.48	<=13	Pass
DFT-s-OFDM 256QAM		Outer_Full	6.39	<=13	Pass
CP-OFDM QPSK		Outer_Full	7.73	<=13	Pass
CP-OFDM 16QAM		Outer_Full	7.80	<=13	Pass
CP-OFDM 64QAM		Outer_Full	7.33	<=13	Pass
CP-OFDM 256QAM		Outer_Full	8.17	<=13	Pass
DFT-s-OFDM PI/2 BPSK	Middle CH	Outer_Full	4.03	<=13	Pass
DFT-s-OFDM QPSK		Outer_Full	5.51	<=13	Pass
DFT-s-OFDM 16QAM		Outer_Full	6.23	<=13	Pass
DFT-s-OFDM 64QAM		Outer_Full	6.46	<=13	Pass
DFT-s-OFDM 256QAM		Outer_Full	6.40	<=13	Pass
CP-OFDM QPSK		Outer_Full	7.71	<=13	Pass
CP-OFDM 16QAM		Outer_Full	7.81	<=13	Pass
CP-OFDM 64QAM		Outer_Full	7.30	<=13	Pass
CP-OFDM 256QAM		Outer_Full	8.07	<=13	Pass
DFT-s-OFDM PI/2 BPSK	High CH	Outer_Full	4.02	<=13	Pass
DFT-s-OFDM QPSK		Outer_Full	5.50	<=13	Pass
DFT-s-OFDM 16QAM		Outer_Full	6.23	<=13	Pass
DFT-s-OFDM 64QAM		Outer_Full	6.45	<=13	Pass
DFT-s-OFDM 256QAM		Outer_Full	6.39	<=13	Pass
CP-OFDM QPSK		Outer_Full	7.74	<=13	Pass
CP-OFDM 16QAM		Outer_Full	7.82	<=13	Pass
CP-OFDM 64QAM		Outer_Full	7.32	<=13	Pass
CP-OFDM 256QAM		Outer_Full	8.32	<=13	Pass

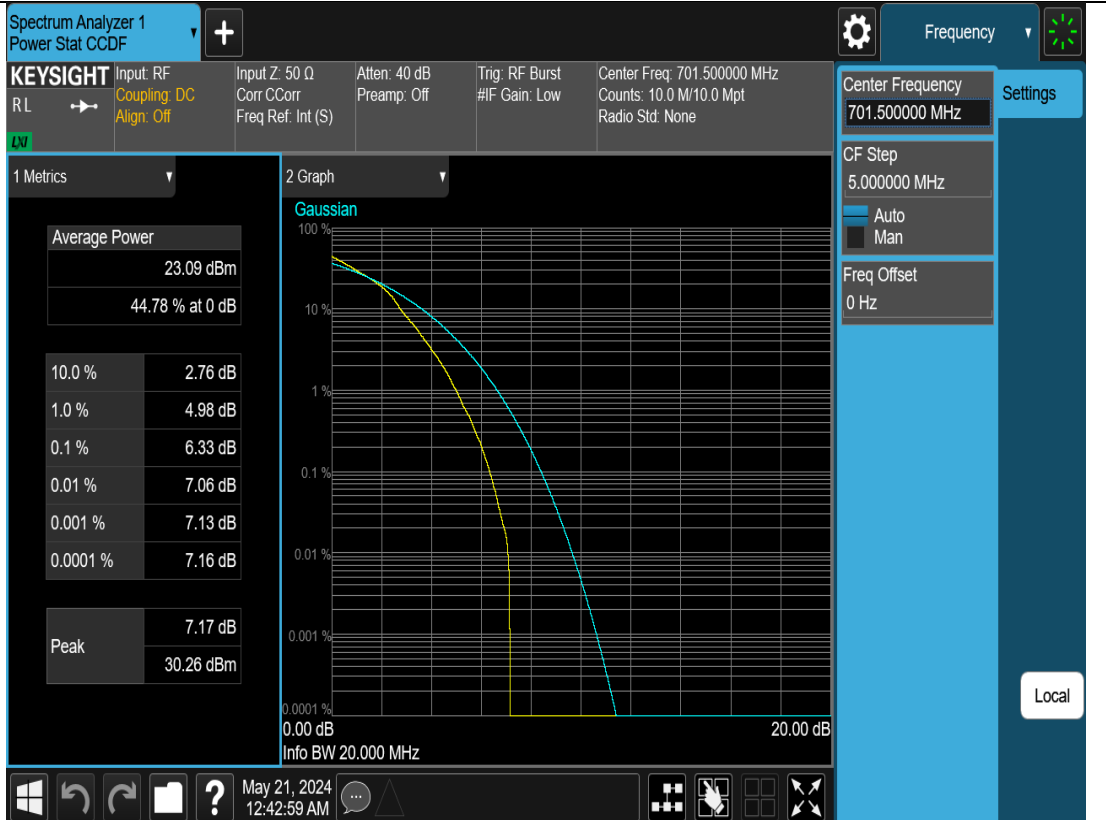
Test Graph



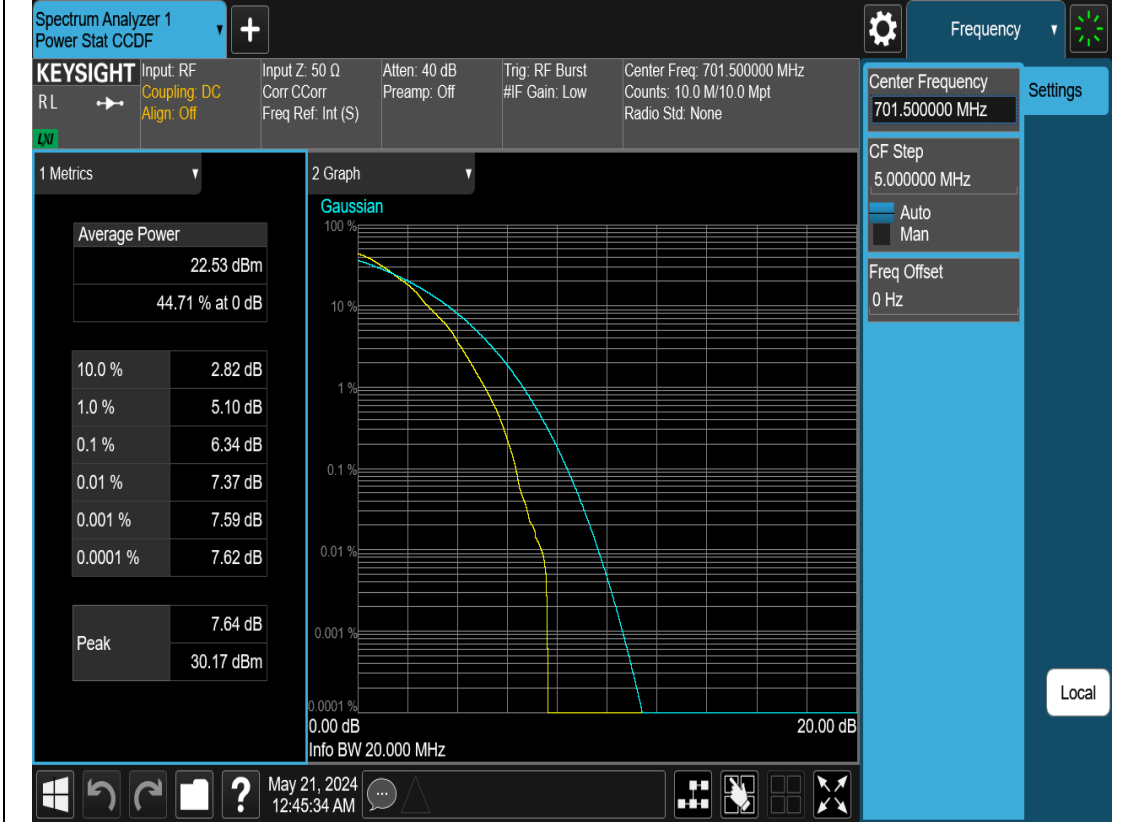
N12-5M-PAPR-L-DFT-s-OFDM-QPSK-Outer_Full



N12-5M-PAPR-L-DFT-s-OFDM-16QAM-Outer_Full



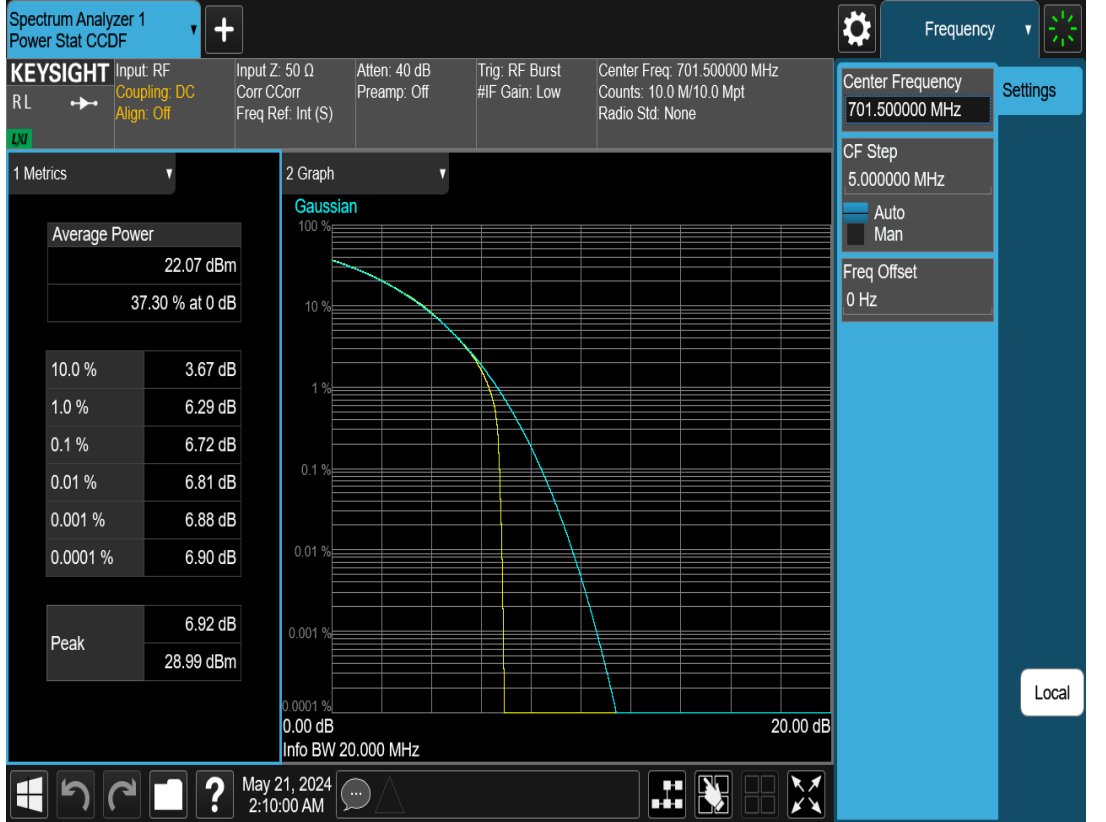
N12-5M-PAPR-L-DFT-s-OFDM-64QAM-Outer_Full



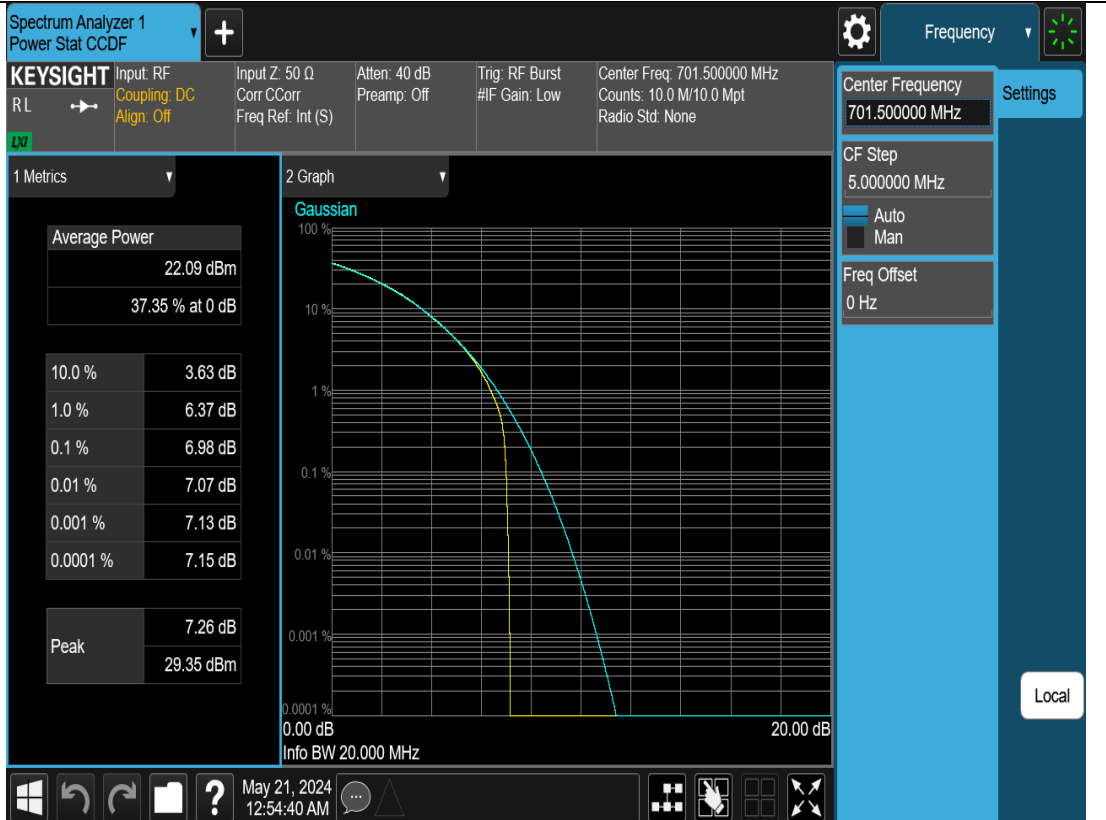
N12-5M-PAPR-L-DFT-s-OFDM-256QAM-Outer_Full



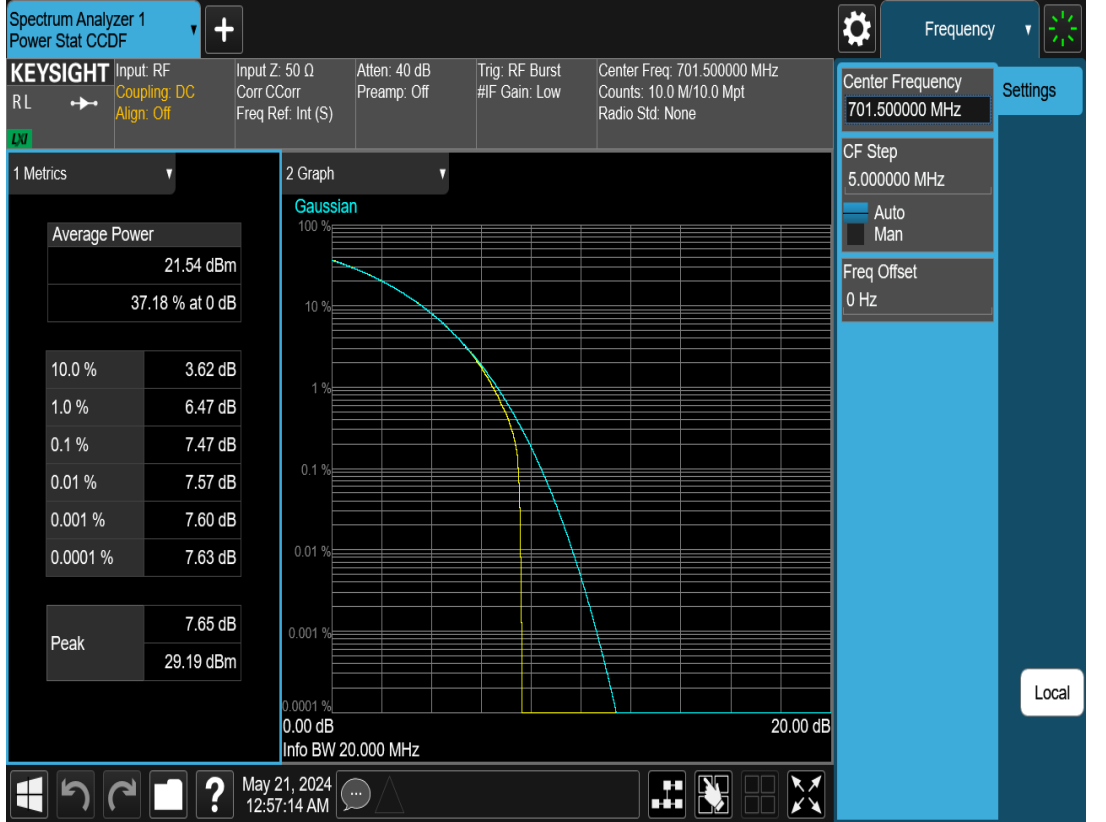
N12-5M-PAPR-L-CP-OFDM-QPSK-Outer_Full



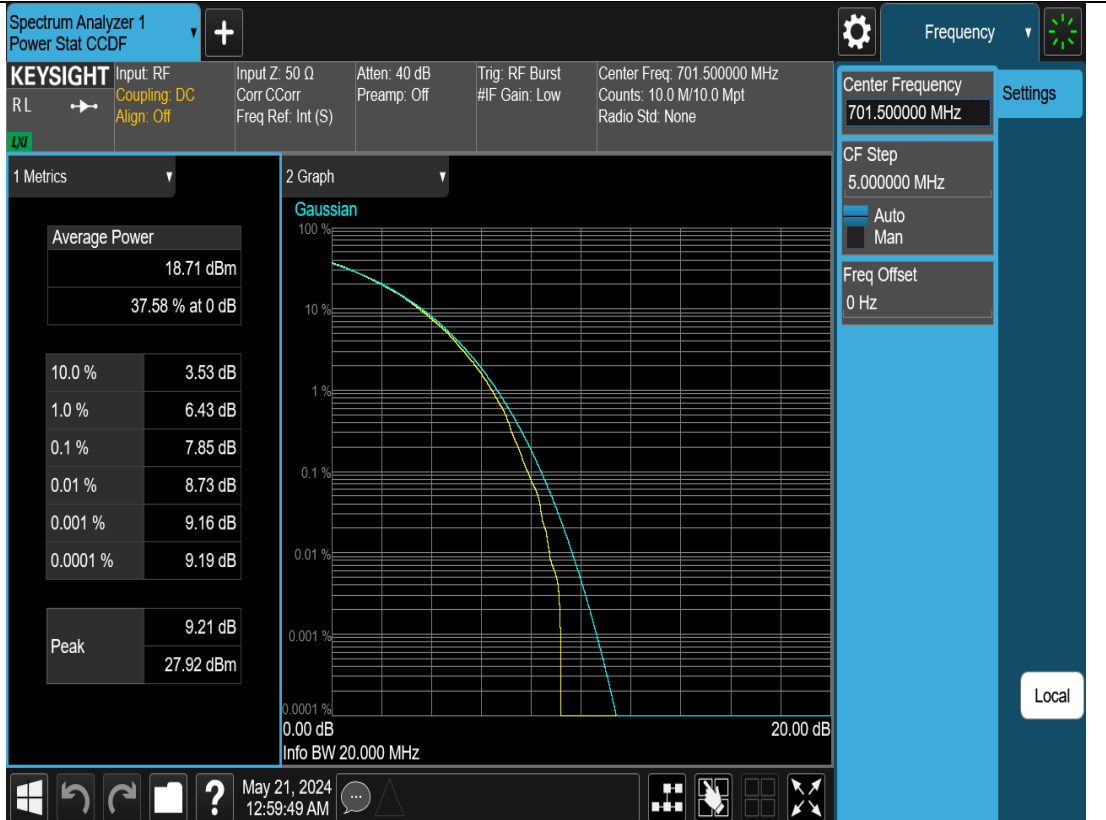
N12-5M-PAPR-L-CP-OFDM-16QAM-Outer_Full



N12-5M-PAPR-L-CP-OFDM-64QAM-Outer_Full



N12-5M-PAPR-L-CP-OFDM-256QAM-Outer_Full



N12-5M-PAPR-M-DFT-s-OFDM-Pi2 BPSK-Outer_Full



N12-5M-PAPR-M-DFT-s-OFDM-QPSK-Outer_Full



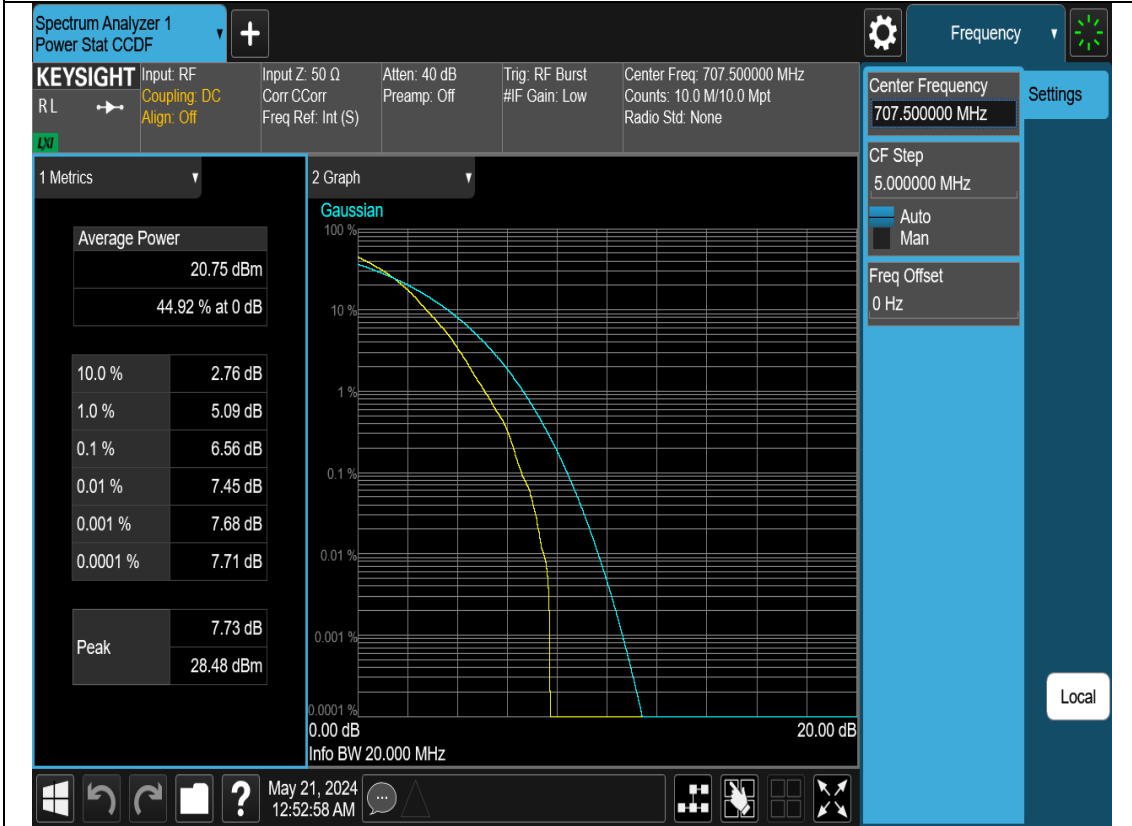
N12-5M-PAPR-M-DFT-s-OFDM-16QAM-Outer_Full



N12-5M-PAPR-M-DFT-s-OFDM-64QAM-Outer_Full



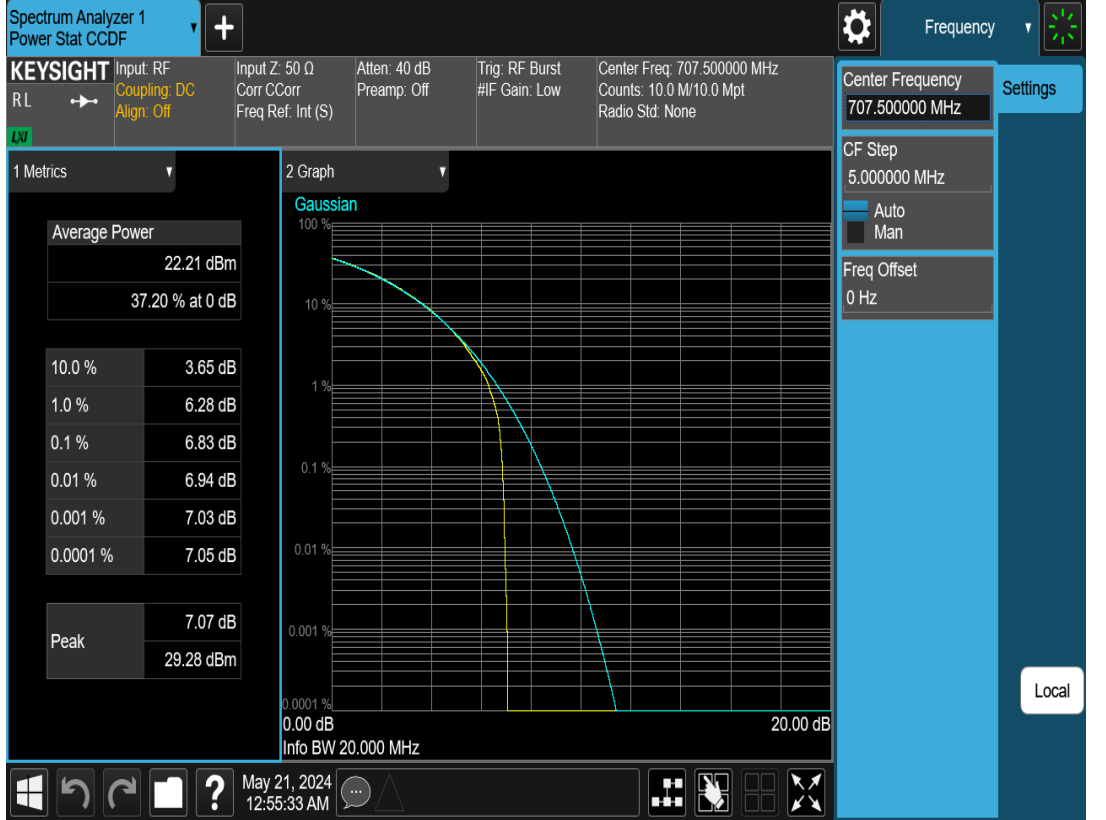
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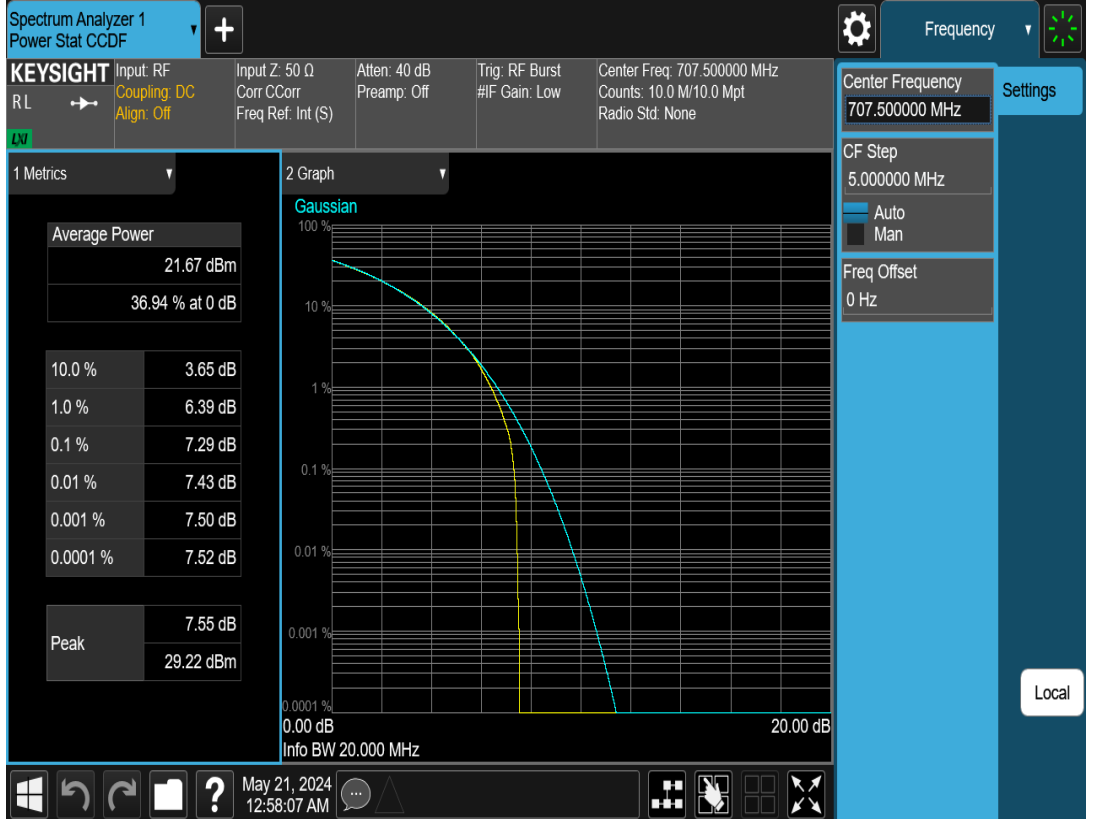
N12-5M-PAPR-M-CP-OFDM-QPSK-Outer_Full



N12-5M-PAPR-M-CP-OFDM-16QAM-Outer_Full



N12-5M-PAPR-M-CP-OFDM-64QAM-Outer_Full



N12-5M-PAPR-M-CP-OFDM-256QAM-Outer_Full

Spectrum Analyzer 1
Power Stat CCDF

KEYSIGHT Input: RF
R L Coupling: DC
Align: Off

Input Z: 50 Ω
Corr: CCorr
Freq Ref: Int (S)

Atten: 40 dB
Preamp: Off

Trig: RF Burst
#IF Gain: Low

Center Freq: 707.500000 MHz
Counts: 10.0 M/10.0 Mpt
Radio Std: None

Center Frequency: 707.500000 MHz
CF Step: 5.000000 MHz
Freq Offset: 0 Hz

1 Metrics

Average Power
18.72 dBm
37.53 % at 0 dB

10.0 %	3.51 dB
1.0 %	6.46 dB
0.1 %	7.85 dB
0.01 %	8.88 dB
0.001 %	9.10 dB
0.0001 %	9.12 dB

Peak
9.13 dB
27.85 dBm

2 Graph
Gaussian

0.0001 %
0.001 %
0.01 %
0.1 %
1 %
10 %
100 %

0.00 dB
20.00 dB

Info BW 20.000 MHz

May 21, 2024 1:00:39 AM

Local

N12-5M-PAPR-H-DFT-s-OFDM-Pi2 BPSK-Outer_Full

Spectrum Analyzer 1
Power Stat CCDF

KEYSIGHT Input: RF
R L Coupling: DC
Align: Off

Input Z: 50 Ω
Corr: CCorr
Freq Ref: Int (S)

Atten: 40 dB
Preamp: Off

Trig: RF Burst
#IF Gain: Low

Center Freq: 713.500000 MHz
Counts: 10.0 M/10.0 Mpt
Radio Std: None

Center Frequency: 713.500000 MHz
CF Step: 5.000000 MHz
Freq Offset: 0 Hz

1 Metrics

Average Power
24.64 dBm
49.08 % at 0 dB

10.0 %	1.92 dB
1.0 %	3.26 dB
0.1 %	3.86 dB
0.01 %	4.06 dB
0.001 %	4.11 dB
0.0001 %	4.14 dB

Peak
4.15 dB
28.79 dBm

2 Graph
Gaussian

0.0001 %
0.001 %
0.01 %
0.1 %
1 %
10 %
100 %

0.00 dB
20.00 dB

Info BW 20.000 MHz

May 21, 2024 1:47:48 AM

Local

N12-5M-PAPR-H-DFT-s-OFDM-QPSK-Outer_Full



N12-5M-PAPR-H-DFT-s-OFDM-16QAM-Outer_Full



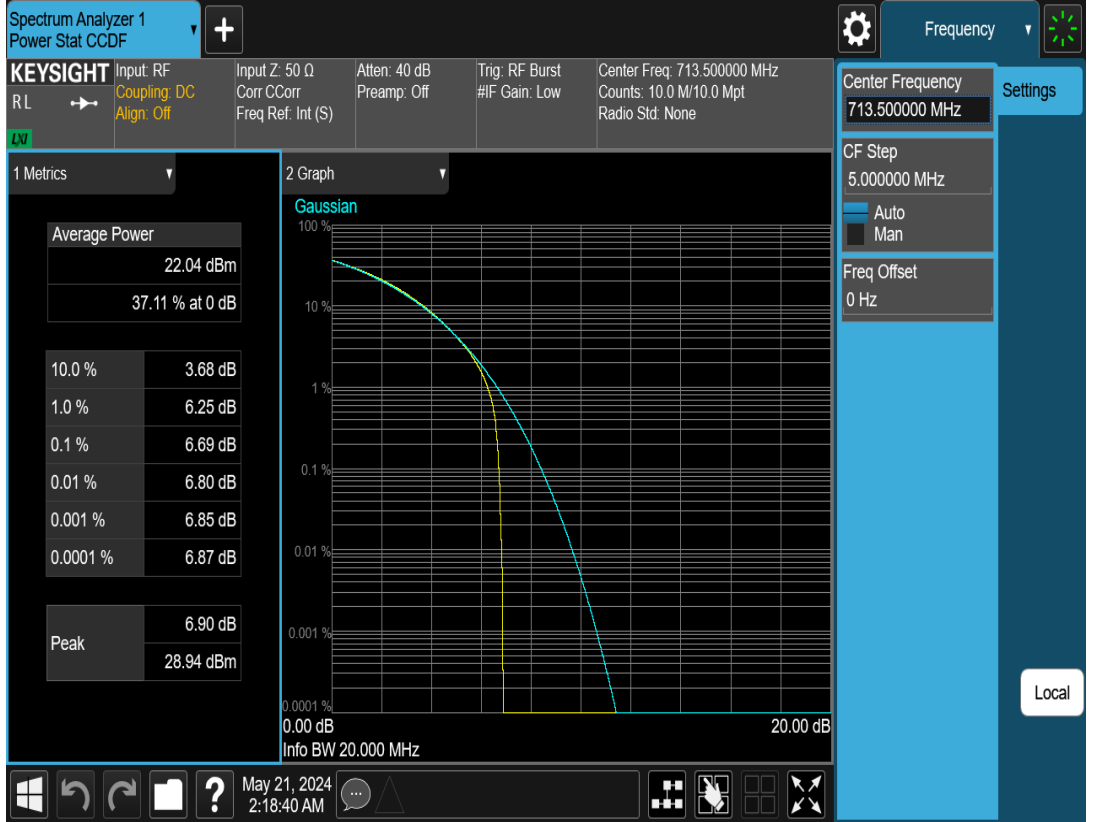
N12-5M-PAPR-H-DFT-s-OFDM-64QAM-Outer_Full



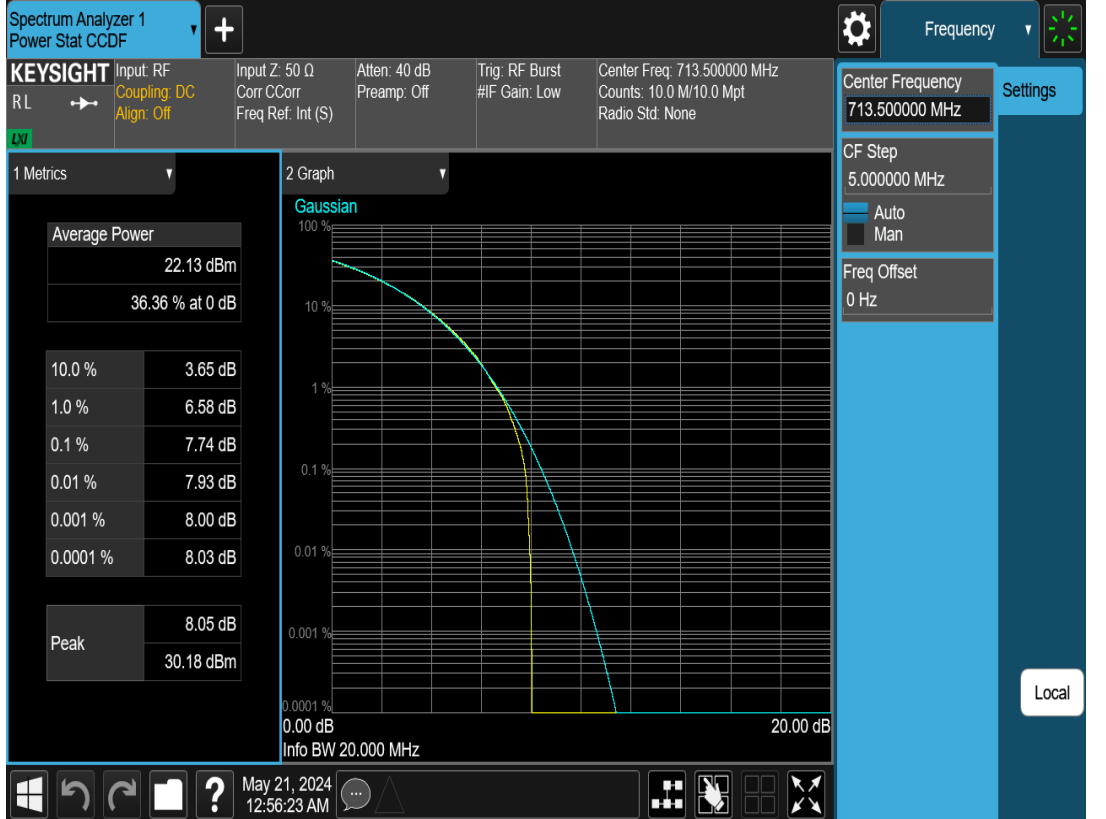
N12-5M-PAPR-H-DFT-s-OFDM-256QAM-Outer_Full



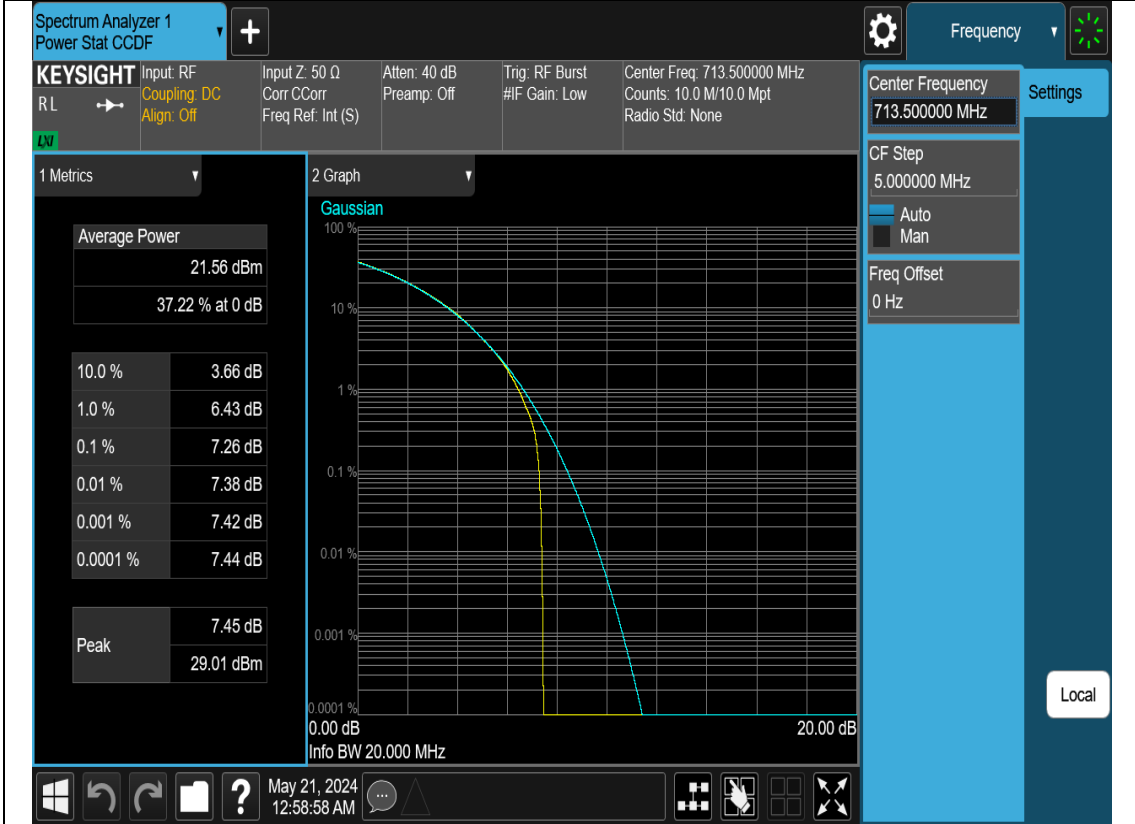
N12-5M-PAPR-H-CP-OFDM-QPSK-Outer_Full



N12-5M-PAPR-H-CP-OFDM-16QAM-Outer_Full



N12-5M-PAPR-H-CP-OFDM-64QAM-Outer_Full



N12-5M-PAPR-H-CP-OFDM-256QAM-Outer_Full



N12-10M-PAPR-L-DFT-s-OFDM-Pi2 BPSK-Outer_Full



N12-10M-PAPR-L-DFT-s-OFDM-QPSK-Outer_Full



N12-10M-PAPR-L-DFT-s-OFDM-16QAM-Outer_Full

Spectrum Analyzer 1
Power Stat CCDF

KEYSIGHT Input: RF
R L Coupling: DC
Align: Off

Input Z: 50 Ω
Corr: CCorr
Freq Ref: Int (S)

Atten: 40 dB
Preamp: Off

Trig: RF Burst
#IF Gain: Low

Center Freq: 704.000000 MHz
Counts: 10.0 M/10.0 Mpt
Radio Std: None

Center Frequency: 704.000000 MHz
CF Step: 5.000000 MHz
Auto Man
Freq Offset: 0 Hz

1 Metrics

Average Power

23.30 dBm
44.60 % at 0 dB

10.0 %	2.82 dB
1.0 %	4.99 dB
0.1 %	6.29 dB
0.01 %	6.85 dB
0.001 %	6.97 dB
0.0001 %	6.99 dB

Peak

7.01 dB
30.31 dBm

2 Graph

Gaussian

0.0001 %
0.001 %
0.01 %
0.1 %
1 %
10 %
100 %

0.00 dB
20.00 dB

Info BW 20.000 MHz

May 21, 2024
1:06:16 AM

Local

N12-10M-PAPR-L-DFT-s-OFDM-64QAM-Outer_Full

Spectrum Analyzer 1
Power Stat CCDF

KEYSIGHT Input: RF
R L Coupling: DC
Align: Off

Input Z: 50 Ω
Corr: CCorr
Freq Ref: Int (S)

Atten: 40 dB
Preamp: Off

Trig: RF Burst
#IF Gain: Low

Center Freq: 704.000000 MHz
Counts: 10.0 M/10.0 Mpt
Radio Std: None

Center Frequency: 704.000000 MHz
CF Step: 5.000000 MHz
Auto Man
Freq Offset: 0 Hz

1 Metrics

Average Power

22.81 dBm
43.66 % at 0 dB

10.0 %	2.88 dB
1.0 %	5.26 dB
0.1 %	6.61 dB
0.01 %	7.38 dB
0.001 %	7.57 dB
0.0001 %	7.60 dB

Peak

7.61 dB
30.42 dBm

2 Graph

Gaussian

0.0001 %
0.001 %
0.01 %
0.1 %
1 %
10 %
100 %

0.00 dB
20.00 dB

Info BW 20.000 MHz

May 21, 2024
1:08:51 AM

Local

N12-10M-PAPR-L-DFT-s-OFDM-256QAM-Outer_Full

Spectrum Analyzer 1
Power Stat CCDF

KEYSIGHT Input: RF
R L Coupling: DC
Align: Off

Input Z: 50 Ω
Corr: CCorr
Freq Ref: Int (S)

Atten: 40 dB
Preamp: Off

Trig: RF Burst
#IF Gain: Low

Center Freq: 704.000000 MHz
Counts: 10.0 M/10.0 Mpt
Radio Std: None

Center Frequency: 704.000000 MHz
CF Step: 5.000000 MHz
Auto Man
Freq Offset: 0 Hz

1 Metrics

Average Power
20.79 dBm
43.66 % at 0 dB

10.0 %	2.86 dB
1.0 %	5.17 dB
0.1 %	6.76 dB
0.01 %	8.01 dB
0.001 %	8.77 dB
0.0001 %	8.82 dB

Peak
8.84 dB
29.63 dBm

2 Graph
Gaussian

0.0001 %
0.001 %
0.01 %
0.1 %
1 %
10 %
100 %

0.0001 dB
0.00 dB
20.00 dB

Info BW 20.000 MHz

May 21, 2024
1:11:27 AM

Local

N12-10M-PAPR-L-CP-OFDM-QPSK-Outer_Full

Spectrum Analyzer 1
Power Stat CCDF

KEYSIGHT Input: RF
R L Coupling: DC
Align: Off

Input Z: 50 Ω
Corr: CCorr
Freq Ref: Int (S)

Atten: 40 dB
Preamp: Off

Trig: RF Burst
#IF Gain: Low

Center Freq: 704.000000 MHz
Counts: 10.0 M/10.0 Mpt
Radio Std: None

Center Frequency: 704.000000 MHz
CF Step: 5.000000 MHz
Auto Man
Freq Offset: 0 Hz

1 Metrics

Average Power
22.06 dBm
36.32 % at 0 dB

10.0 %	3.69 dB
1.0 %	6.66 dB
0.1 %	7.69 dB
0.01 %	7.90 dB
0.001 %	8.00 dB
0.0001 %	8.08 dB

Peak
8.09 dB
30.15 dBm

2 Graph
Gaussian

0.0001 %
0.001 %
0.01 %
0.1 %
1 %
10 %
100 %

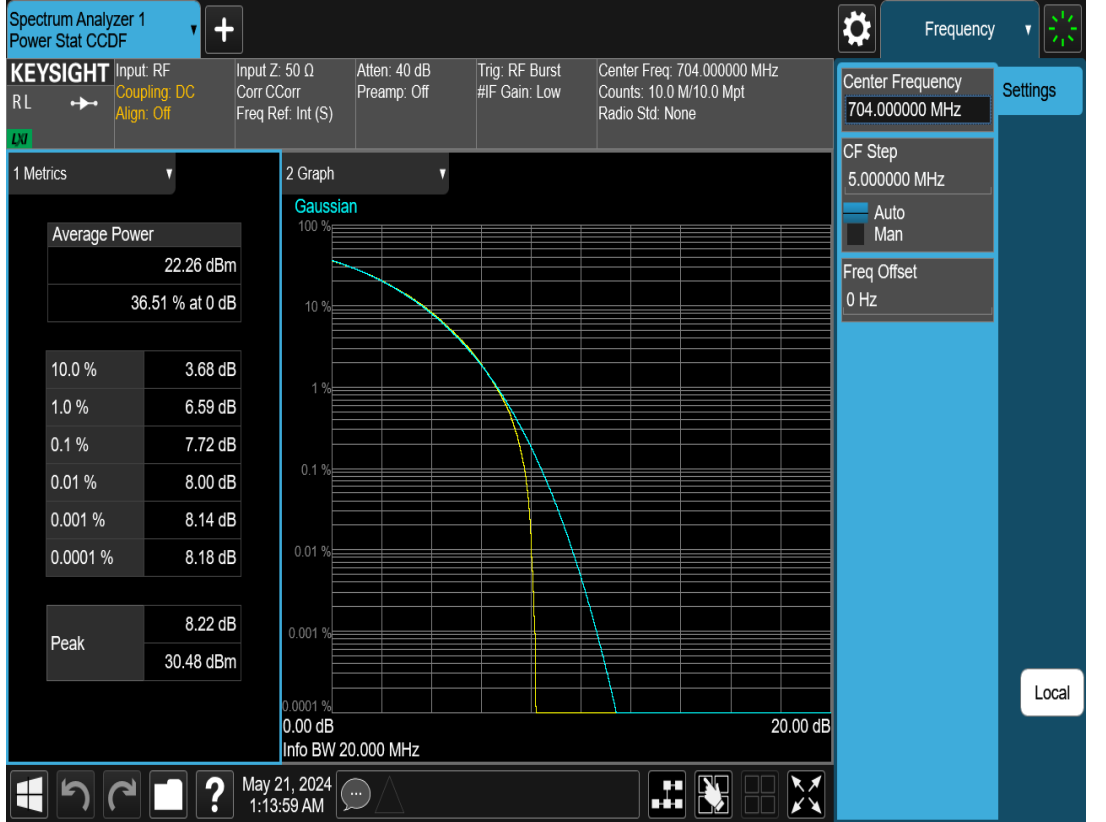
0.0001 dB
0.00 dB
20.00 dB

Info BW 20.000 MHz

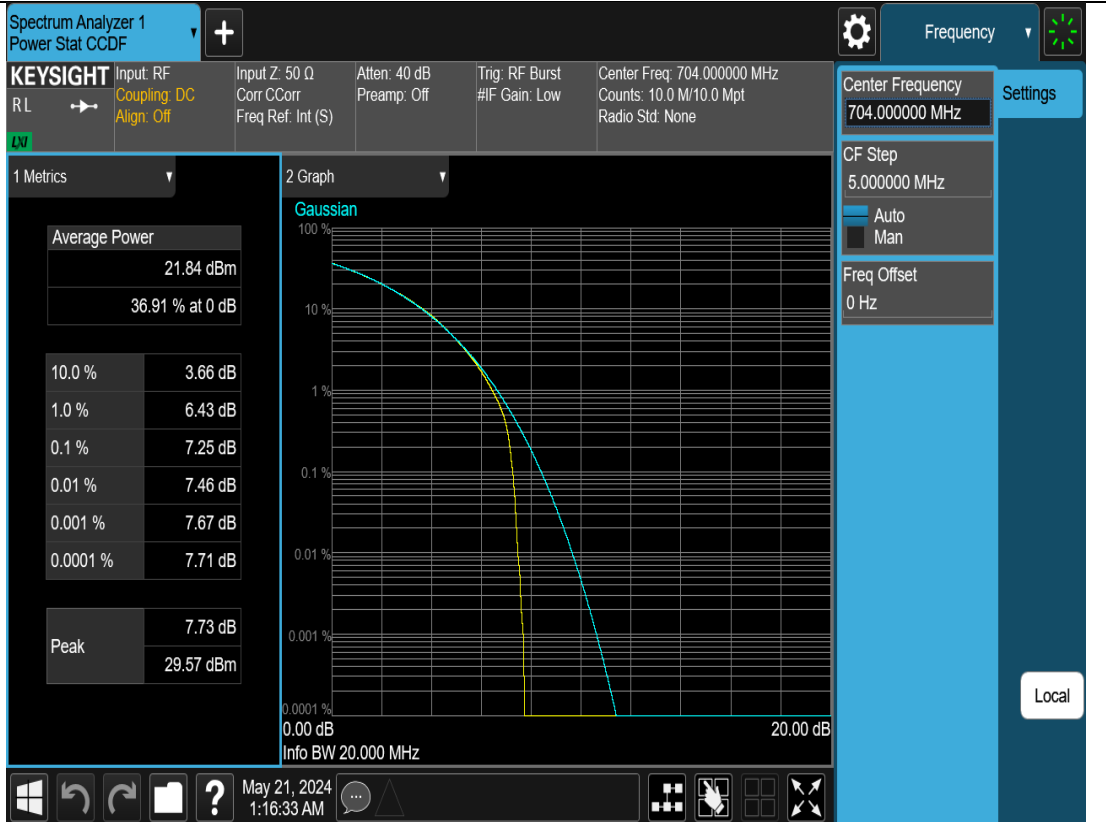
May 21, 2024
2:22:36 AM

Local

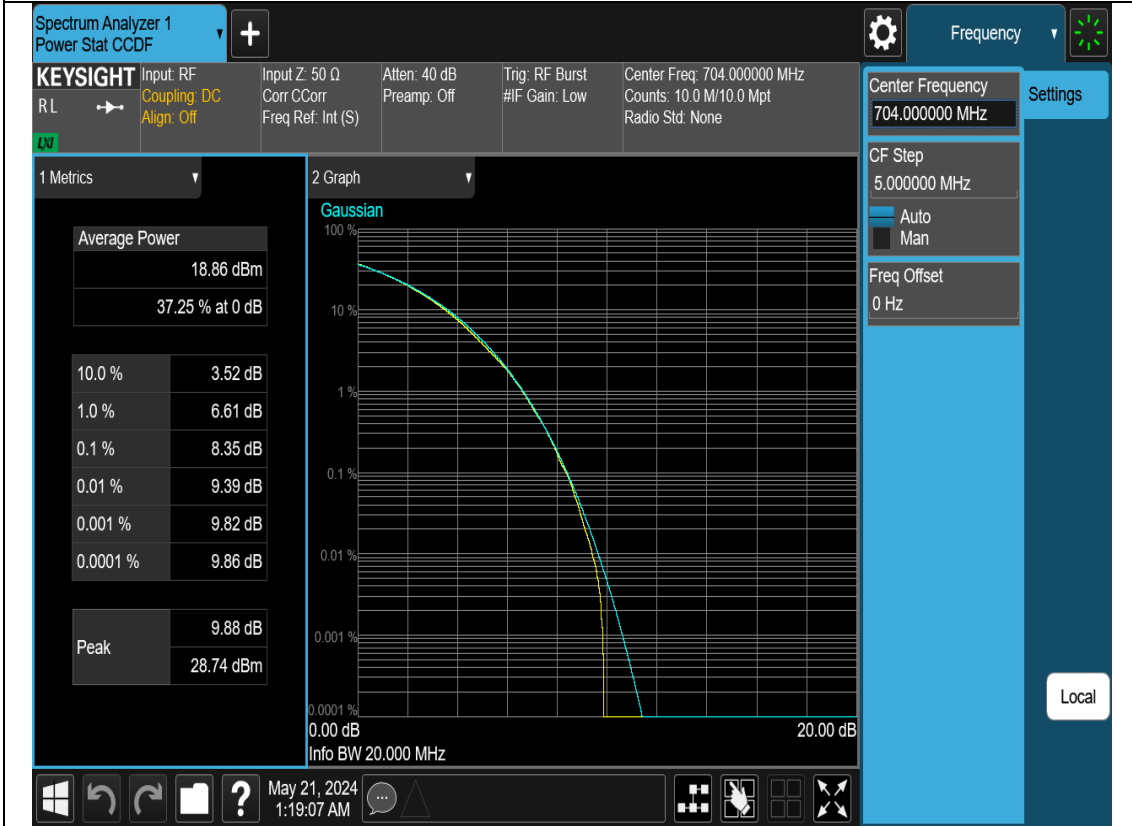
N12-10M-PAPR-L-CP-OFDM-16QAM-Outer_Full



N12-10M-PAPR-L-CP-OFDM-64QAM-Outer_Full



N12-10M-PAPR-L-CP-OFDM-256QAM-Outer_Full



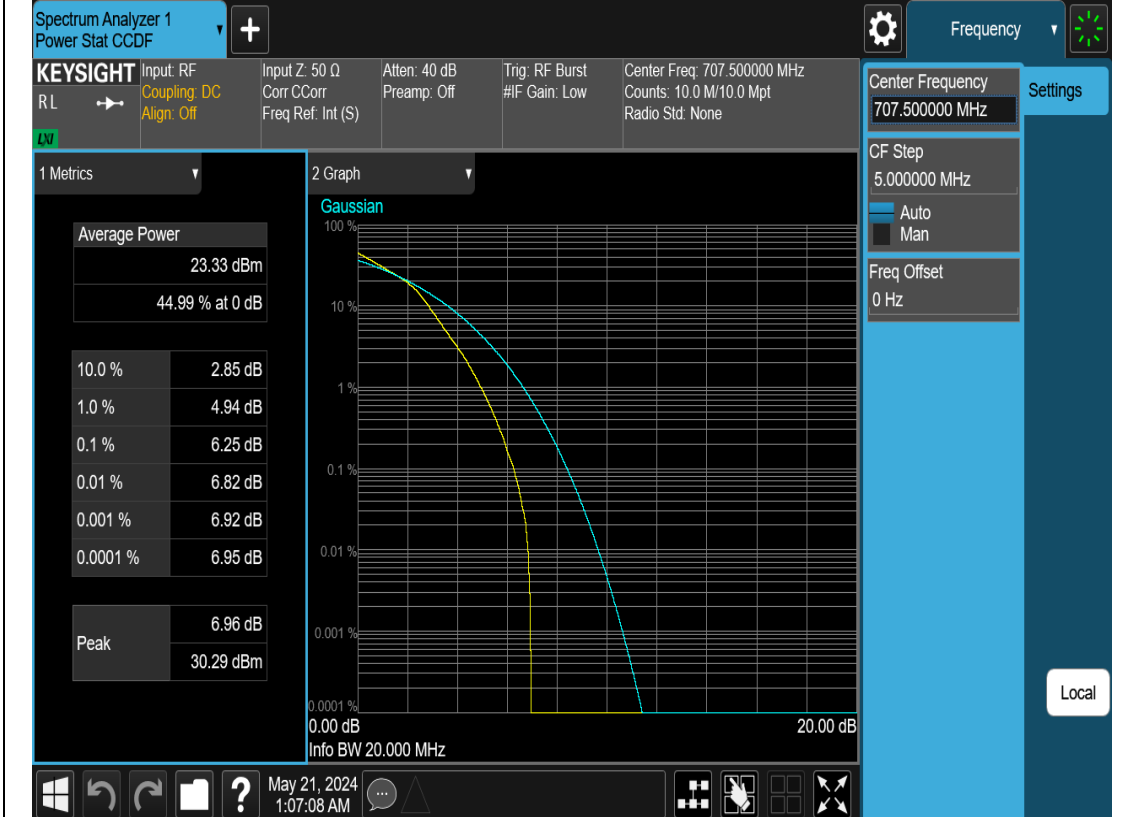
N12-10M-PAPR-M-DFT-s-OFDM-Pi2 BPSK-Outer_Full



N12-10M-PAPR-M-DFT-s-OFDM-QPSK-Outer_Full



N12-10M-PAPR-M-DFT-s-OFDM-16QAM-Outer_Full



N12-10M-PAPR-M-DFT-s-OFDM-64QAM-Outer_Full

Spectrum Analyzer 1
Power Stat CCDF

KEYSIGHT Input: RF
R.L. Coupling: DC
Align: Off

Input Z: 50 Ω
Corr: CCorr
Freq Ref: Int (S)

Atten: 40 dB
Preamp: Off

Trig: RF Burst
#IF Gain: Low

Center Freq: 707.500000 MHz
Counts: 10.0 M/10.0 Mpt
Radio Std: None

Center Frequency: 707.500000 MHz
CF Step: 5.000000 MHz
Freq Offset: 0 Hz

1 Metrics

Average Power

22.85 dBm
44.37 % at 0 dB

10.0 %	2.92 dB
1.0 %	5.24 dB
0.1 %	6.58 dB
0.01 %	7.29 dB
0.001 %	7.41 dB
0.0001 %	7.44 dB

Peak

7.46 dB
30.31 dBm

2 Graph

Gaussian

0.0001 %
0.001 %
0.01 %
0.1 %
1 %
10 %
100 %

0.00 dB
20.00 dB

Info BW 20.000 MHz

May 21, 2024
1:09:44 AM

Local

N12-10M-PAPR-M-DFT-s-OFDM-256QAM-Outer_Full

Spectrum Analyzer 1
Power Stat CCDF

KEYSIGHT Input: RF
R.L. Coupling: DC
Align: Off

Input Z: 50 Ω
Corr: CCorr
Freq Ref: Int (S)

Atten: 40 dB
Preamp: Off

Trig: RF Burst
#IF Gain: Low

Center Freq: 707.500000 MHz
Counts: 10.0 M/10.0 Mpt
Radio Std: None

Center Frequency: 707.500000 MHz
CF Step: 5.000000 MHz
Freq Offset: 0 Hz

1 Metrics

Average Power

20.83 dBm
44.63 % at 0 dB

10.0 %	2.88 dB
1.0 %	5.08 dB
0.1 %	6.56 dB
0.01 %	7.68 dB
0.001 %	8.25 dB
0.0001 %	8.29 dB

Peak

8.31 dB
29.14 dBm

2 Graph

Gaussian

0.0001 %
0.001 %
0.01 %
0.1 %
1 %
10 %
100 %

0.00 dB
20.00 dB

Info BW 20.000 MHz

May 21, 2024
1:12:17 AM

Local

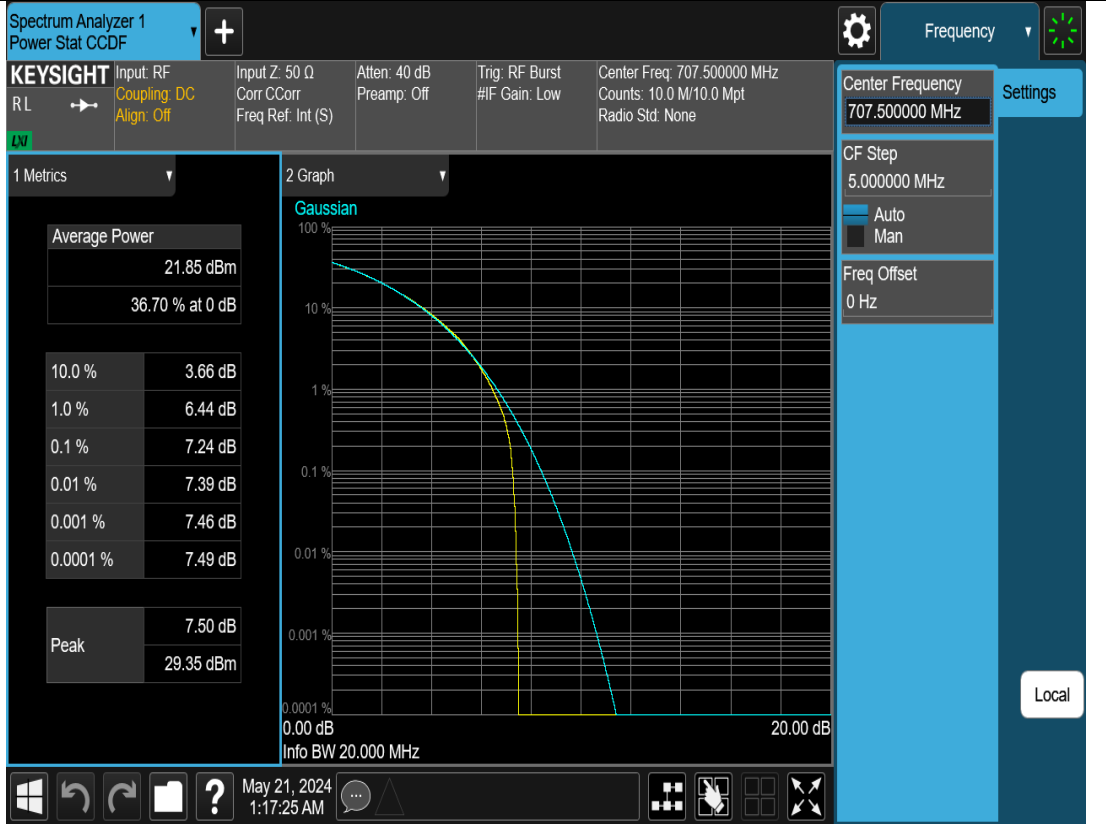
N12-10M-PAPR-M-CP-OFDM-QPSK-Outer_Full



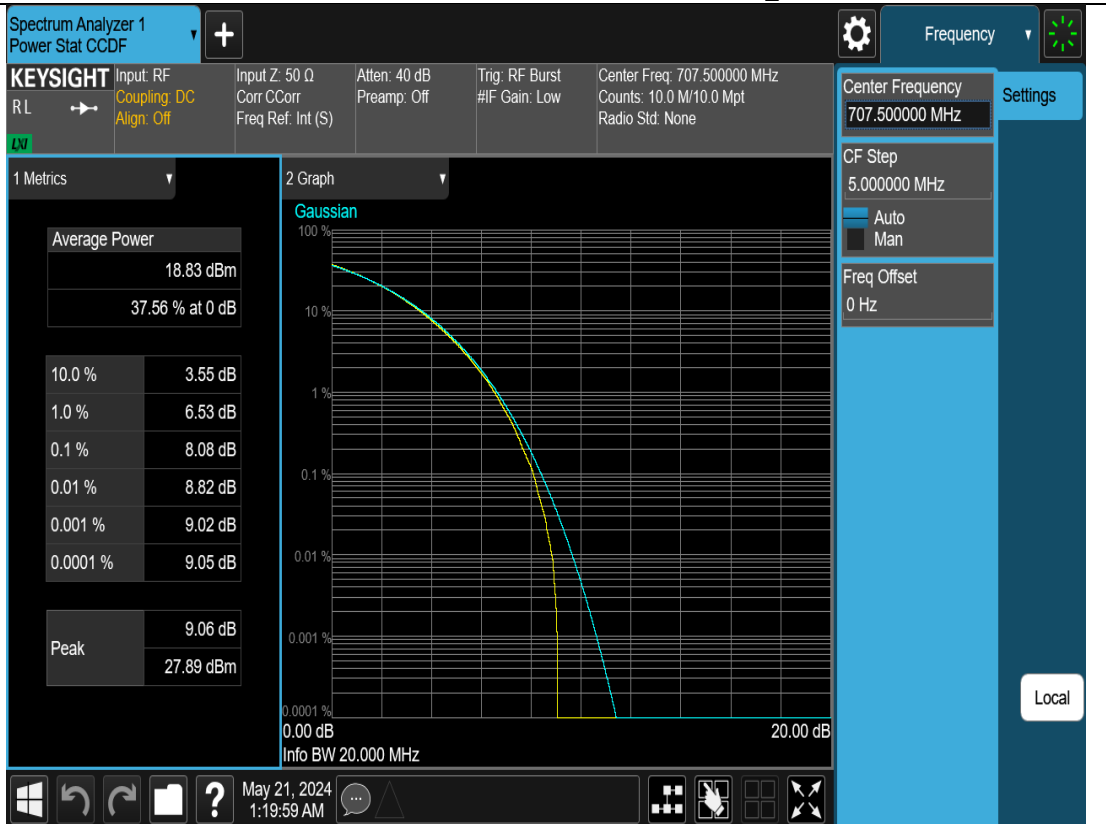
N12-10M-PAPR-M-CP-OFDM-16QAM-Outer_Full



N12-10M-PAPR-M-CP-OFDM-64QAM-Outer_Full



N12-10M-PAPR-M-CP-OFDM-256QAM-Outer_Full



N12-10M-PAPR-H-DFT-s-OFDM-Pi2 BPSK-Outer_Full

Spectrum Analyzer 1
Power Stat CCDF

KEYSIGHT Input: RF
R L Coupling: DC
Align: Off

Input Z: 50 Ω
Corr: CCorr
Freq Ref: Int (S)

Atten: 40 dB
Preamp: Off

Trig: RF Burst
#F Gain: Low

Center Freq: 711.000000 MHz
Counts: 10.0 M/10.0 Mpt
Radio Std: None

Center Frequency: 711.000000 MHz
CF Step: 5.000000 MHz
Freq Offset: 0 Hz

1 Metrics

Average Power
24.76 dBm
48.45 % at 0 dB

10.0 %	1.91 dB
1.0 %	3.23 dB
0.1 %	4.01 dB
0.01 %	4.37 dB
0.001 %	4.43 dB
0.0001 %	4.45 dB

Peak
4.47 dB
29.23 dBm

2 Graph
Gaussian

0.0001 %
0.001 %
0.01 %
0.1 %
1 %
10 %
100 %

0.00 dB
20.00 dB

Info BW 20.000 MHz

May 21, 2024 2:00:09 AM

Local

N12-10M-PAPR-H-DFT-s-OFDM-QPSK-Outer_Full

Spectrum Analyzer 1
Power Stat CCDF

KEYSIGHT Input: RF
R L Coupling: DC
Align: Off

Input Z: 50 Ω
Corr: CCorr
Freq Ref: Int (S)

Atten: 40 dB
Preamp: Off

Trig: RF Burst
#F Gain: Low

Center Freq: 711.000000 MHz
Counts: 10.0 M/10.0 Mpt
Radio Std: None

Center Frequency: 711.000000 MHz
CF Step: 5.000000 MHz
Freq Offset: 0 Hz

1 Metrics

Average Power
24.30 dBm
47.01 % at 0 dB

10.0 %	2.37 dB
1.0 %	4.37 dB
0.1 %	5.48 dB
0.01 %	5.94 dB
0.001 %	6.06 dB
0.0001 %	6.10 dB

Peak
6.12 dB
30.42 dBm

2 Graph
Gaussian

0.0001 %
0.001 %
0.01 %
0.1 %
1 %
10 %
100 %

0.00 dB
20.00 dB

Info BW 20.000 MHz

May 21, 2024 1:05:24 AM

Local

N12-10M-PAPR-H-DFT-s-OFDM-16QAM-Outer_Full



N12-10M-PAPR-H-DFT-s-OFDM-64QAM-Outer_Full

