Appendix G: Test Data for E-UTRA Band 66

Product Name: CellCOM Prime 7 4G

Trade Mark: AES

Test Model: PRIME7-PX-IMPK-PED/4GA

Environmental Conditions

Temperature:	21.1 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Carl Fu
Supervised by:	Li Huan

G.1 Conducted Output Power

Test Result

Conducted Output Power Test Result (Channel Bandwidth: 1.4 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm] QPSK	Average Power [dBm] 16QAM	Verdict
		Size	Offset			
QPSK / 16QAM	LCH	1	0	23.28	24.27	PASS
		1	3	24.12	24.29	PASS
		1	5	24.07	24.18	PASS
		3	0	24.12	23.21	PASS
		3	2	24.11	23.07	PASS
		3	3	24.13	23.12	PASS
		6	0	23.29	22.62	PASS
	MCH	1	0	22.34	22.72	PASS
		1	3	22.33	22.58	PASS
		1	5	22.35	22.65	PASS
		3	0	22.14	21.03	PASS
		3	2	22.16	21.37	PASS
		3	3	22.24	21.37	PASS
		6	0	21.28	20.78	PASS
	HCH	1	0	22.54	22.40	PASS
		1	3	22.59	22.46	PASS
		1	5	22.46	22.35	PASS
		3	0	22.58	21.79	PASS
		3	2	22.64	21.68	PASS
		3	3	22.58	21.67	PASS
		6	0	21.85	21.31	PASS

Conducted Output Power Test Result (Channel Bandwidth: 3 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm] QPSK	Average Power [dBm] 16QAM	Verdict
		Size	Offset			
QPSK / 16QAM	LCH	1	0	24.28	23.56	PASS
		1	7	23.50	23.56	PASS
		1	14	24.26	23.55	PASS
		8	0	23.44	22.91	PASS
		8	4	23.51	22.89	PASS
		8	7	23.48	22.90	PASS
		15	0	23.52	22.73	PASS
	MCH	1	0	23.69	23.58	PASS
		1	7	23.65	23.66	PASS
		1	14	23.47	23.43	PASS

		8	0	23.09	22.52	PASS
		8	4	23.04	22.51	PASS
		8	7	23.06	22.51	PASS
		15	0	23.06	22.36	PASS
	HCH	1	0	22.19	22.15	PASS
		1	7	22.29	22.40	PASS
		1	14	22.67	22.25	PASS
		8	0	22.45	21.82	PASS
		8	4	22.52	21.87	PASS
		8	7	22.33	21.82	PASS
		15	0	22.40	21.73	PASS

Conducted Output Power Test Result (Channel Bandwidth: 5 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	24.39	23.60	PASS
		1	12	24.46	23.66	PASS
		1	24	23.54	23.70	PASS
		12	0	23.64	22.86	PASS
		12	6	23.64	22.85	PASS
		12	13	23.61	22.85	PASS
		25	0	23.51	22.92	PASS
	MCH	1	0	24.06	22.69	PASS
		1	12	23.75	23.14	PASS
		1	24	23.99	23.31	PASS
		12	0	23.08	22.32	PASS
		12	6	23.09	22.45	PASS
		12	13	23.25	22.32	PASS
		25	0	23.14	22.43	PASS
	HCH	1	0	22.75	21.98	PASS
		1	12	22.39	21.82	PASS
		1	24	21.95	22.08	PASS
		12	0	22.46	21.71	PASS
		12	6	22.45	21.70	PASS
		12	13	22.20	21.78	PASS
		25	0	22.42	21.87	PASS

Conducted Output Power Test Result (Channel Bandwidth: 10 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	23.48	23.24	PASS
		1	24	24.24	22.87	PASS
		1	49	23.95	23.21	PASS
		25	0	23.59	22.96	PASS
		25	12	23.60	23.01	PASS
		25	25	23.47	22.80	PASS
		50	0	23.43	22.81	PASS
	MCH	1	0	24.07	23.66	PASS
		1	24	23.33	22.94	PASS
		1	49	23.80	23.38	PASS
		25	0	22.97	22.63	PASS
		25	12	22.97	22.32	PASS
		25	25	23.32	22.32	PASS
		50	0	23.17	22.50	PASS
	HCH	1	0	22.70	22.44	PASS
		1	24	22.03	21.99	PASS
		1	49	22.49	22.41	PASS
		25	0	22.37	21.75	PASS
		25	12	22.42	21.70	PASS
		25	25	22.40	21.72	PASS
		50	0	22.42	21.80	PASS

Conducted Output Power Test Result (Channel Bandwidth: 15 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	23.37	23.94	PASS
		1	37	23.30	22.97	PASS
		1	74	24.18	23.89	PASS
		37	0	22.86	23.75	PASS
		37	18	23.66	22.93	PASS
		37	38	23.79	23.67	PASS
		75	0	23.28	22.67	PASS
	MCH	1	0	24.12	23.46	PASS
		1	37	23.80	23.69	PASS
		1	74	23.09	22.73	PASS
		37	0	22.73	23.41	PASS
		37	18	23.69	22.73	PASS
		37	38	23.45	23.70	PASS
		75	0	23.13	22.48	PASS
	HCH	1	0	21.79	21.78	PASS
		1	37	22.67	22.66	PASS
		1	74	23.10	22.44	PASS
		37	0	22.44	22.62	PASS
		37	18	22.63	21.75	PASS
		37	38	21.74	22.52	PASS
		75	0	22.54	21.78	PASS

Conducted Output Power Test Result (Channel Bandwidth: 20 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	23.26	23.92	PASS
		1	49	24.22	23.71	PASS
		1	99	23.95	22.67	PASS
		50	0	23.54	21.96	PASS
		50	25	23.51	22.89	PASS
		50	50	22.66	22.89	PASS
		100	0	23.06	22.45	PASS
	MCH	1	0	23.95	22.57	PASS
		1	49	22.81	23.40	PASS
		1	99	23.70	23.02	PASS
		50	0	22.84	22.12	PASS
		50	25	22.75	22.86	PASS
		50	50	23.36	22.12	PASS
		100	0	23.08	22.33	PASS
	HCH	1	0	24.02	22.84	PASS
		1	49	22.74	21.90	PASS
		1	99	22.11	22.41	PASS
		50	0	22.72	22.07	PASS
		50	25	22.70	22.06	PASS
		50	50	22.48	21.80	PASS
		100	0	22.63	21.89	PASS

G.2 Peak-to-Average Ratio(CCDF)

Test Result

Peak-to Average Ratio Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	4.46	<13	PASS
	MCH	4.02	<13	PASS
	HCH	2.25	<13	PASS
16QAM	LCH	5.15	<13	PASS
	MCH	4.66	<13	PASS
	HCH	3.02	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	3.89	<13	PASS
	MCH	3.15	<13	PASS
	HCH	1.87	<13	PASS
16QAM	LCH	4.54	<13	PASS
	MCH	3.91	<13	PASS
	HCH	2.53	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	3.96	<13	PASS
	MCH	3.13	<13	PASS
	HCH	1.90	<13	PASS
16QAM	LCH	4.54	<13	PASS
	MCH	3.80	<13	PASS
	HCH	2.68	<13	PASS

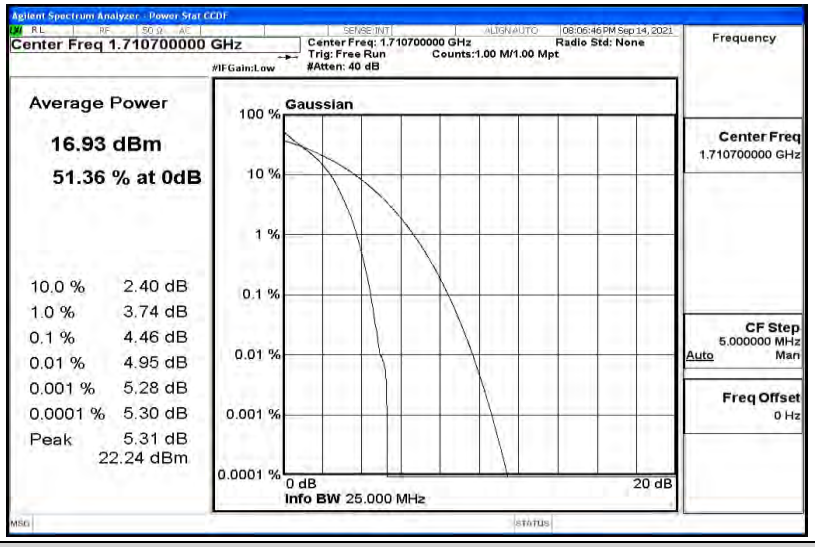
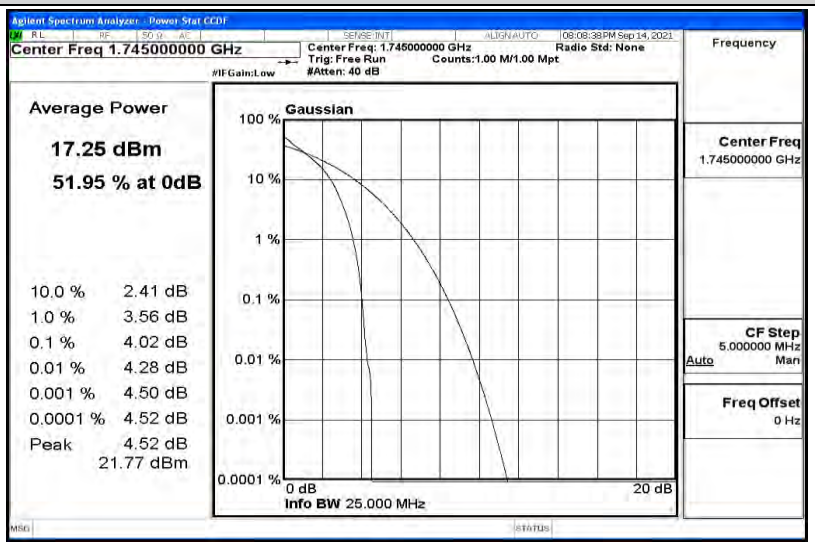
Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	4.10	<13	PASS
	MCH	3.14	<13	PASS
	HCH	2.55	<13	PASS
16QAM	LCH	4.81	<13	PASS

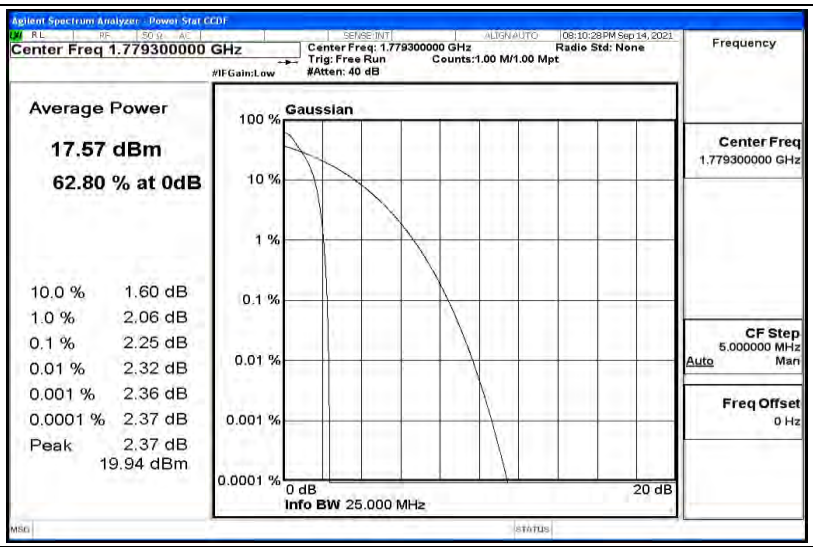
	MCH	3.84	<13	PASS
	HCH	3.31	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	4.65	<13	PASS
	MCH	3.81	<13	PASS
	HCH	3.54	<13	PASS
16QAM	LCH	5.16	<13	PASS
	MCH	4.33	<13	PASS
	HCH	4.25	<13	PASS

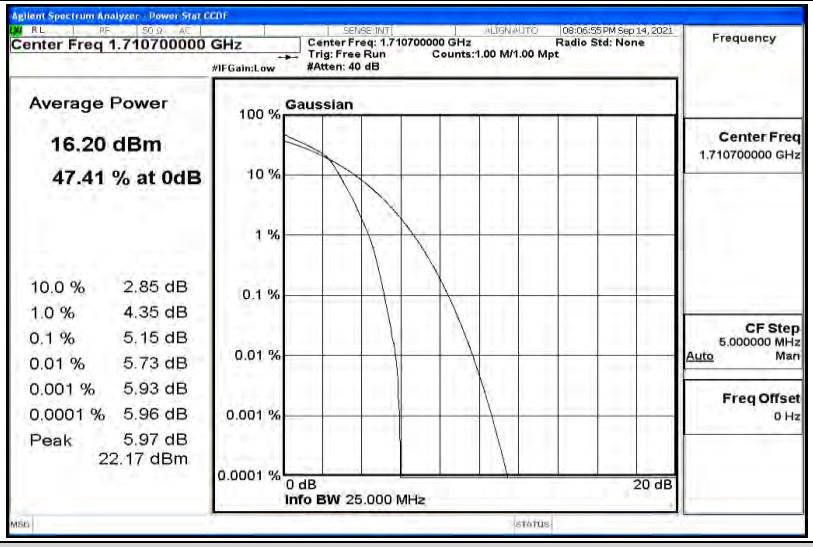
Peak-to Average Ratio Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	4.74	<13	PASS
	MCH	4.16	<13	PASS
	HCH	4.23	<13	PASS
16QAM	LCH	5.37	<13	PASS
	MCH	4.70	<13	PASS
	HCH	4.93	<13	PASS

Test Graphs

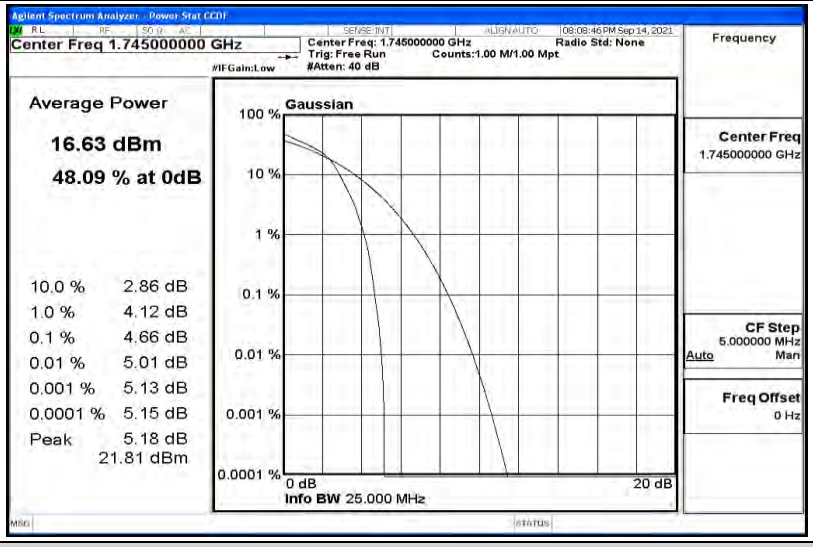
Band66-1.4MHz-QPSK-131979

Band66-1.4MHz-QPSK-132322

Band66-1.4MHz-QPSK-132665



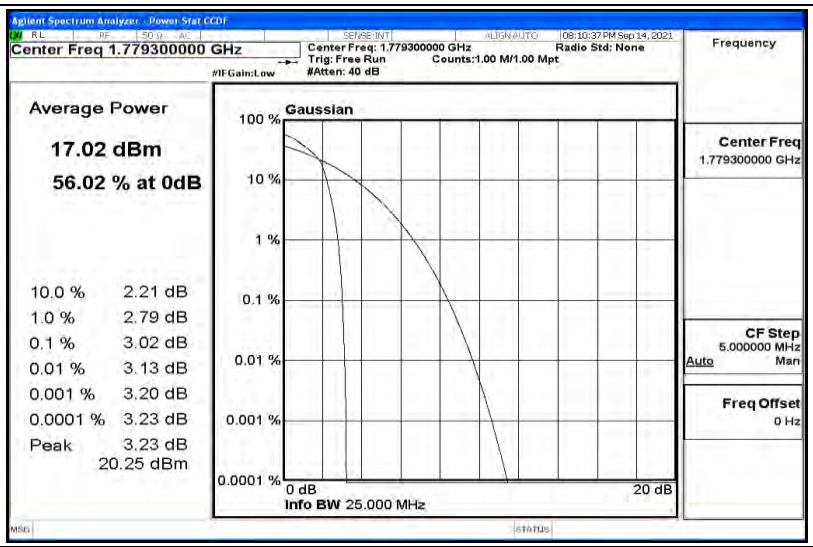
Band66-1.4MHz-16QAM-131979



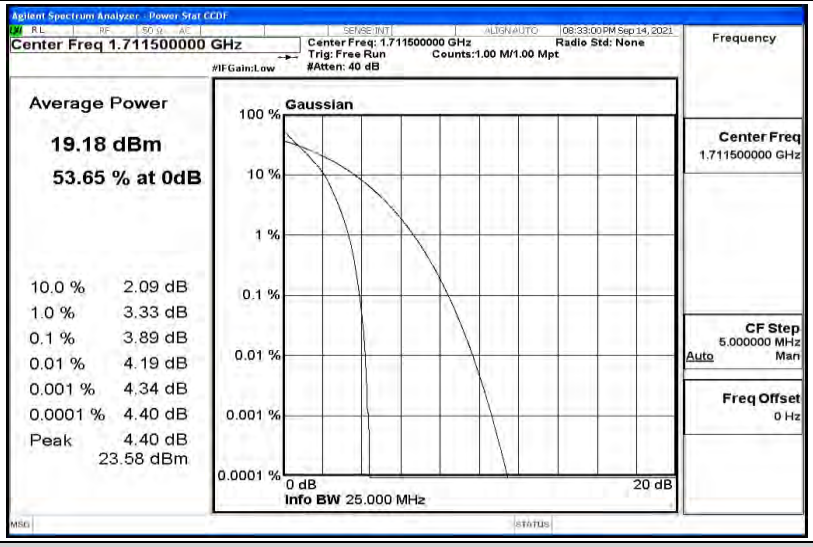
Band66-1.4MHz-16QAM-132322



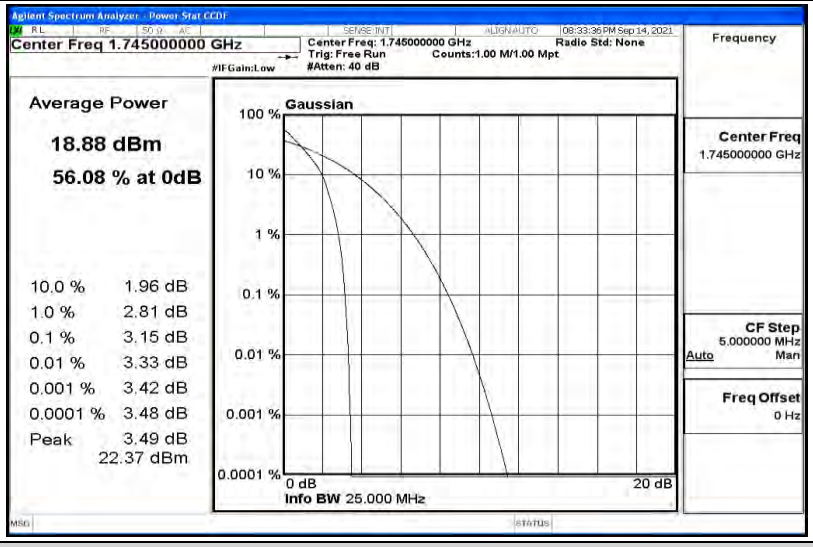
Band66-1.4MHz-16QAM-132665



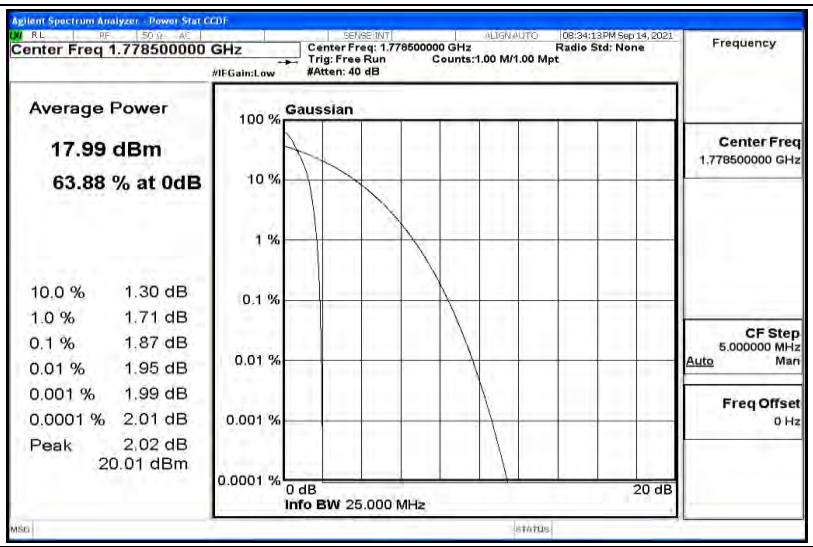
Band66-3MHz-QPSK-131987



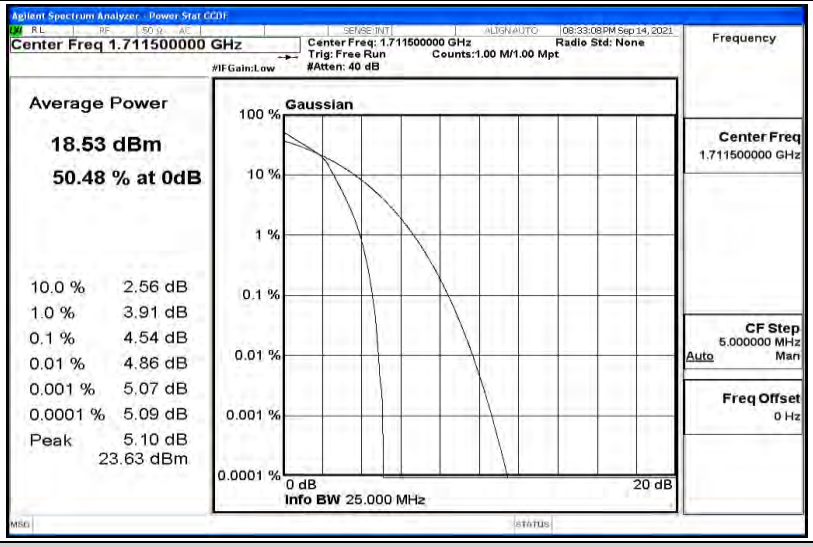
Band66-3MHz-QPSK-132322



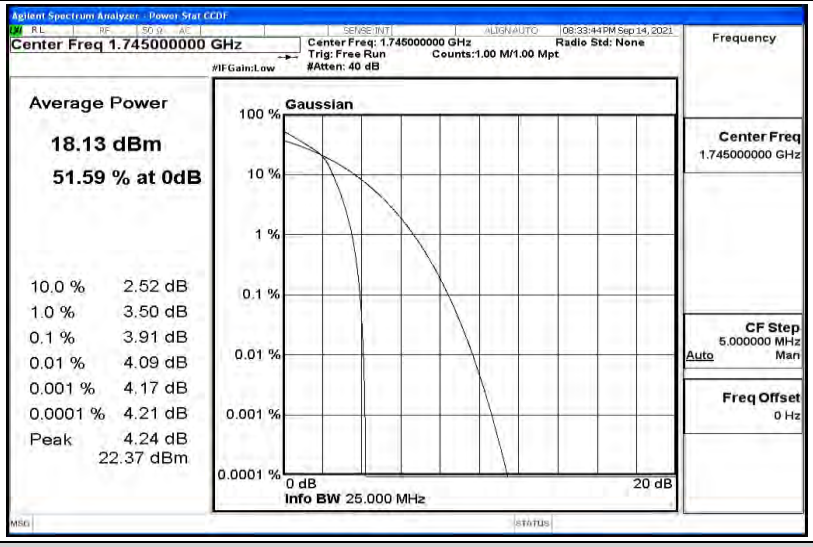
Band66-3MHz-QPSK-132657



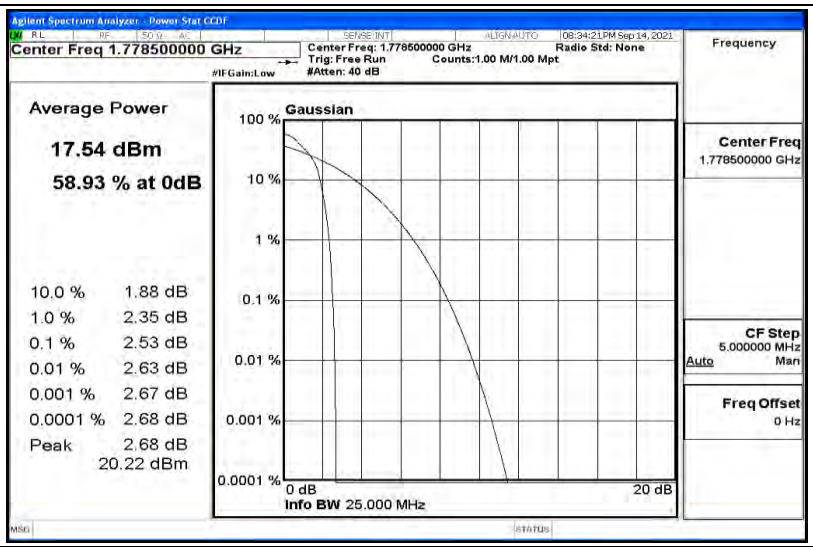
Band66-3MHz-16QAM-131987



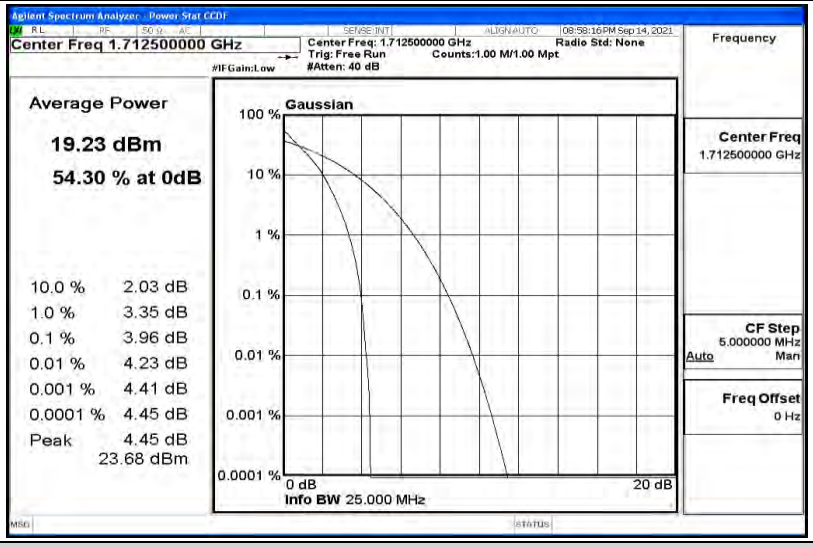
Band66-3MHz-16QAM-132322



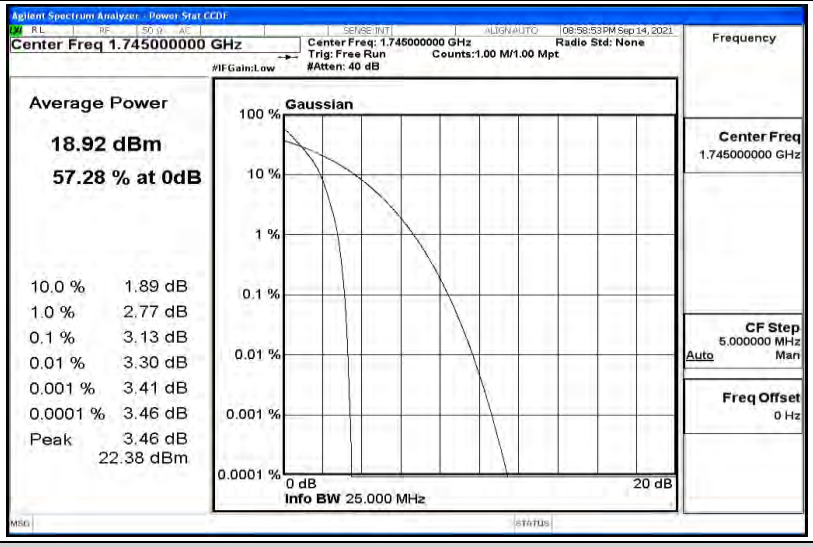
Band66-3MHz-16QAM-132657



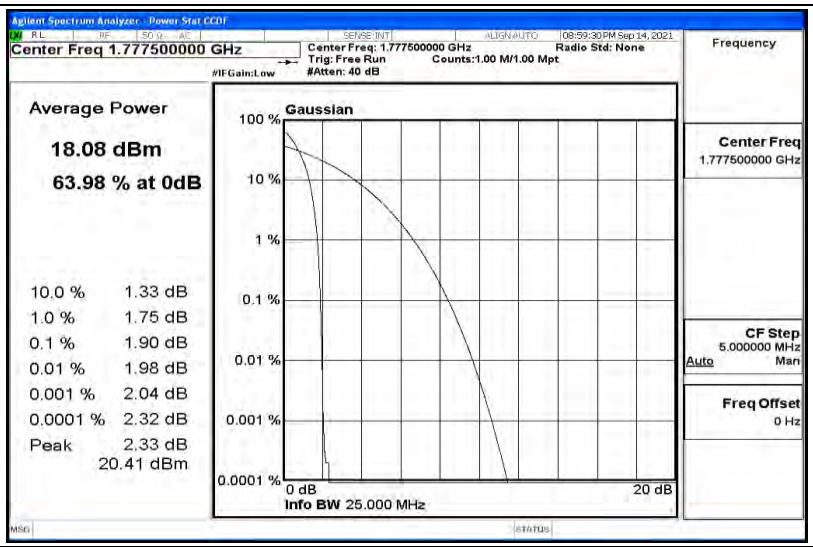
Band66-5MHz-QPSK-131997



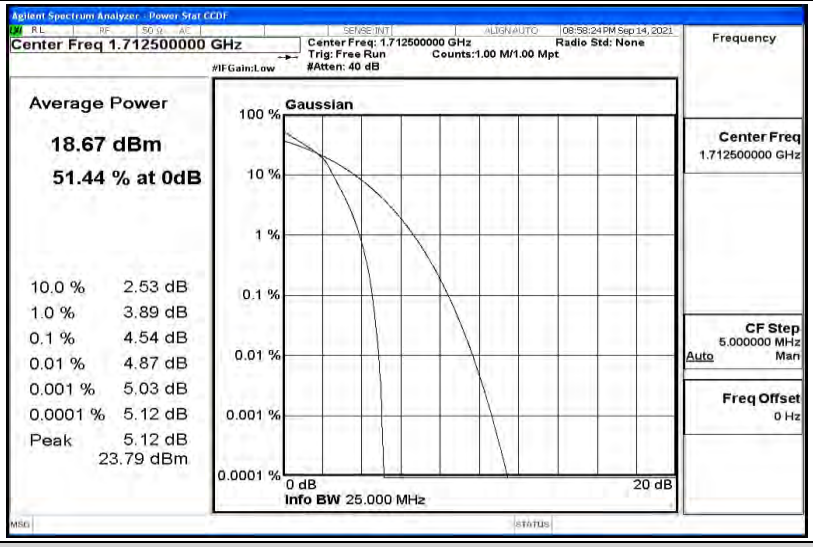
Band66-5MHz-QPSK-132322



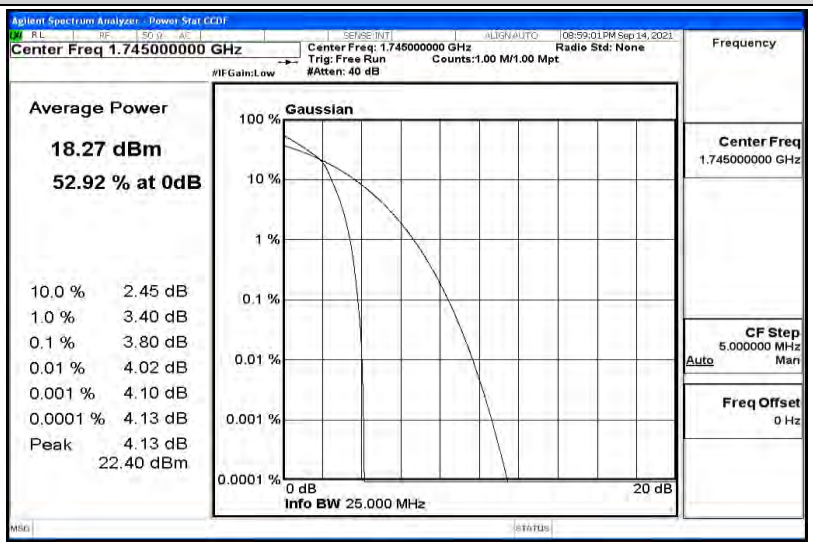
Band66-5MHz-QPSK-132647



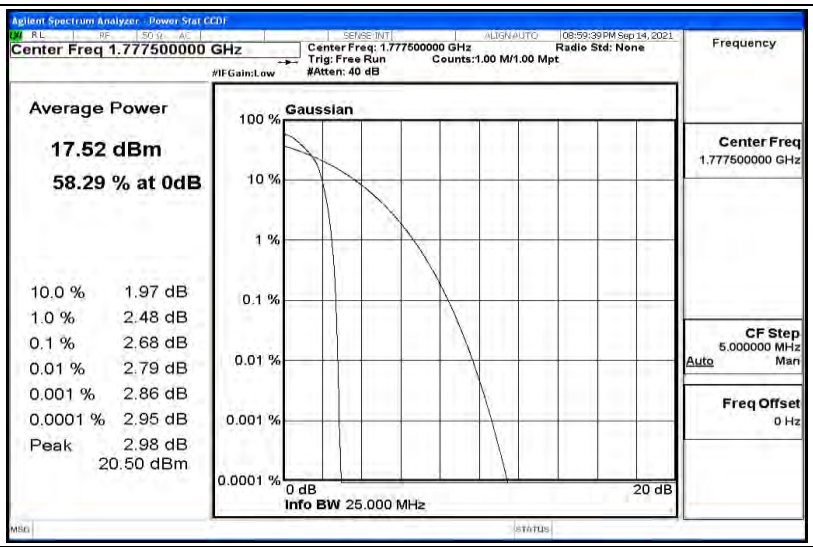
Band66-5MHz-16QAM-131997



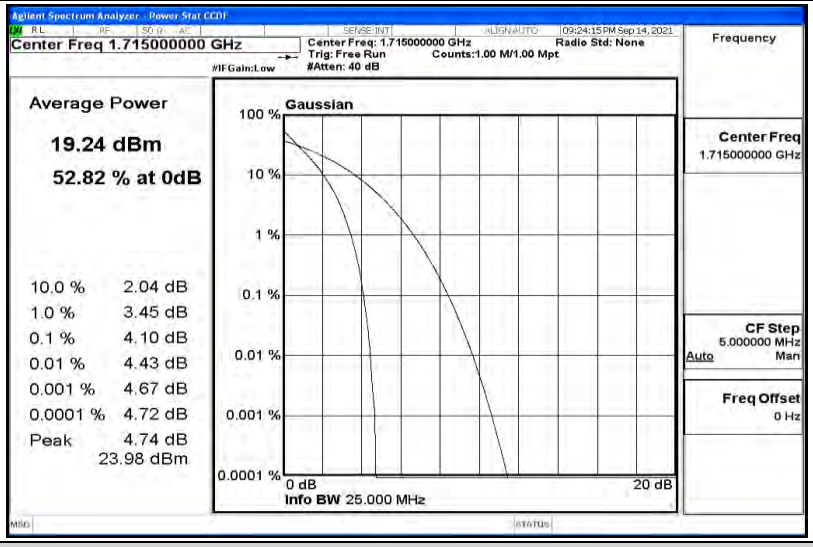
Band66-5MHz-16QAM-132322



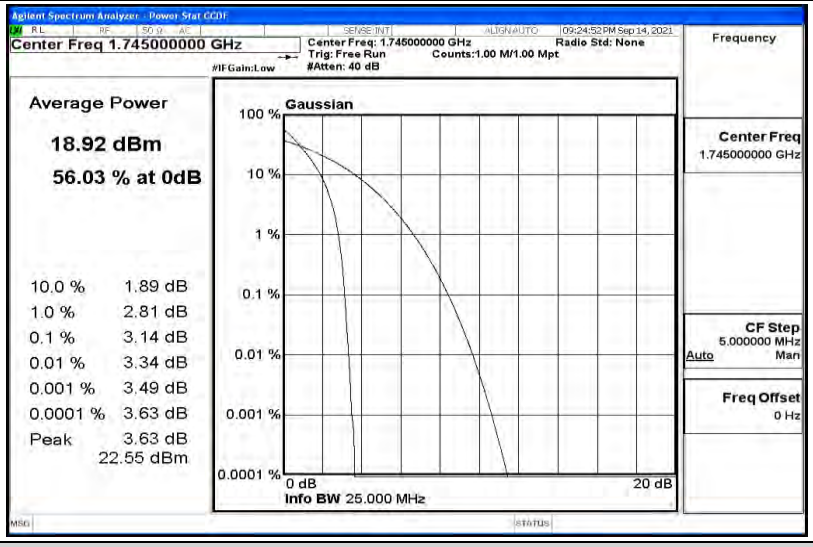
Band66-5MHz-16QAM-132647



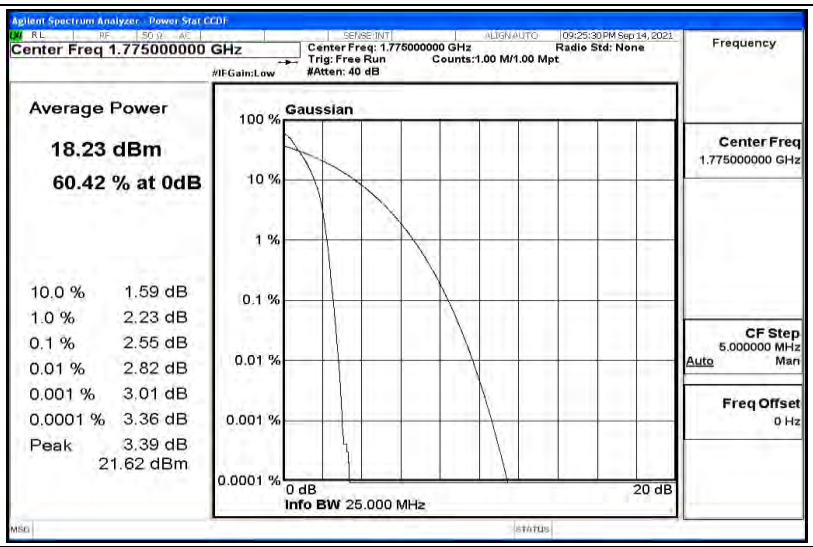
Band66-10MHz-QPSK-132022



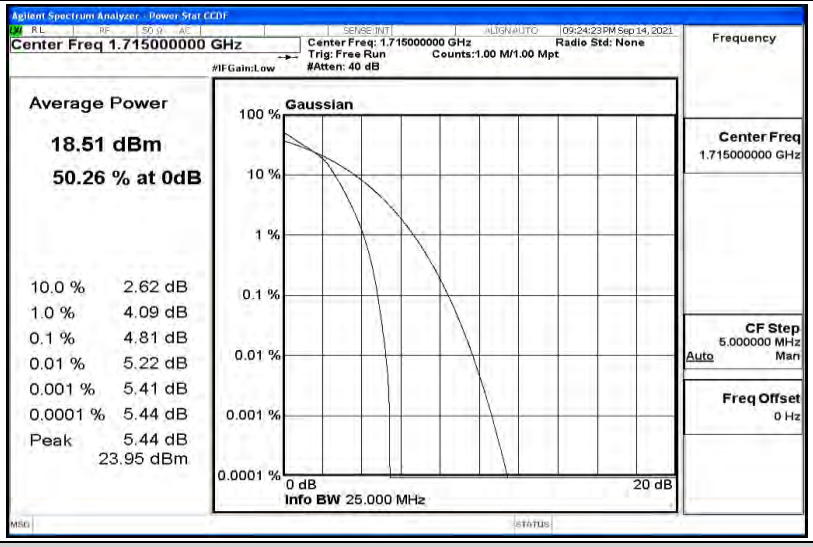
Band66-10MHz-QPSK-132322



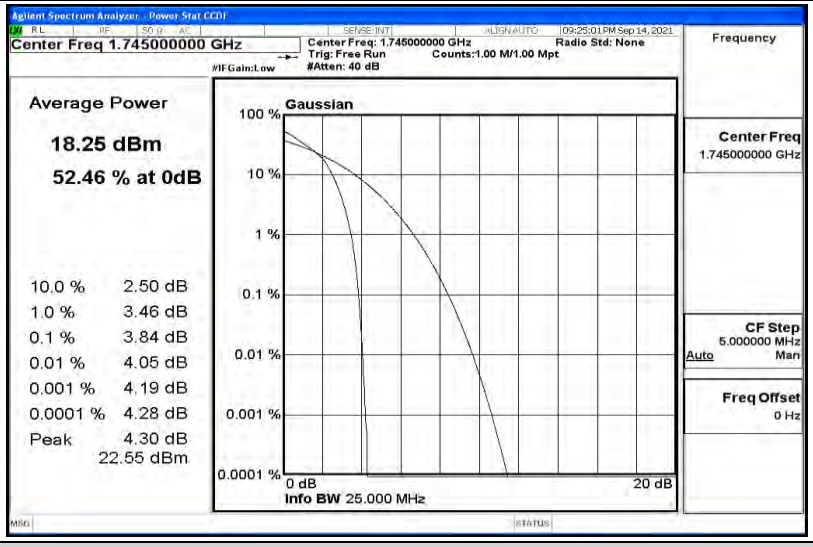
Band66-10MHz-QPSK-132622



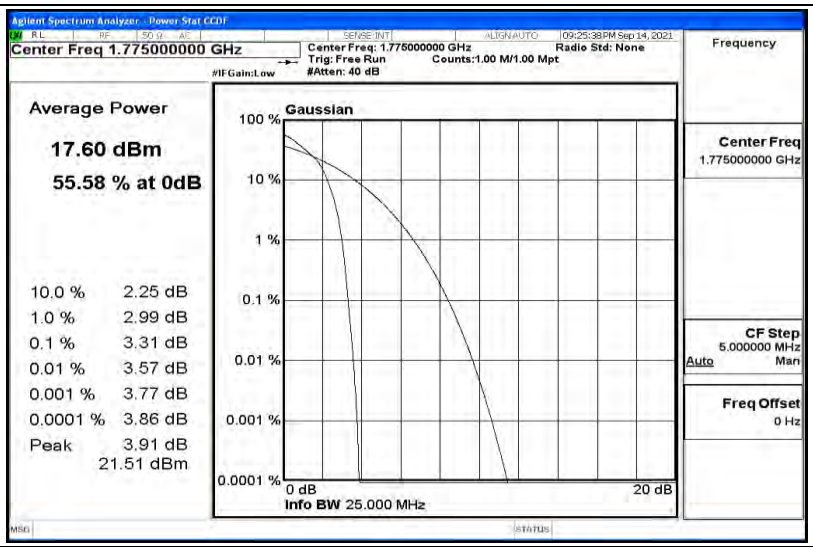
Band66-10MHz-16QAM-132022



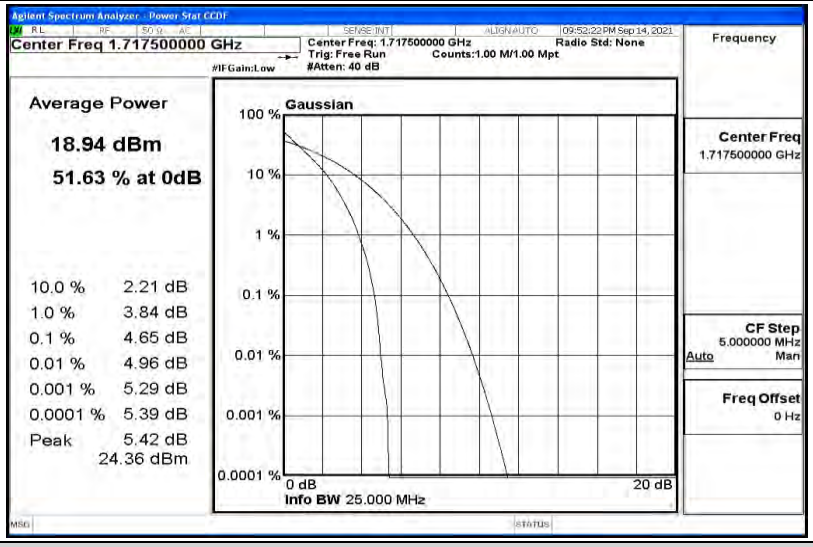
Band66-10MHz-16QAM-132322



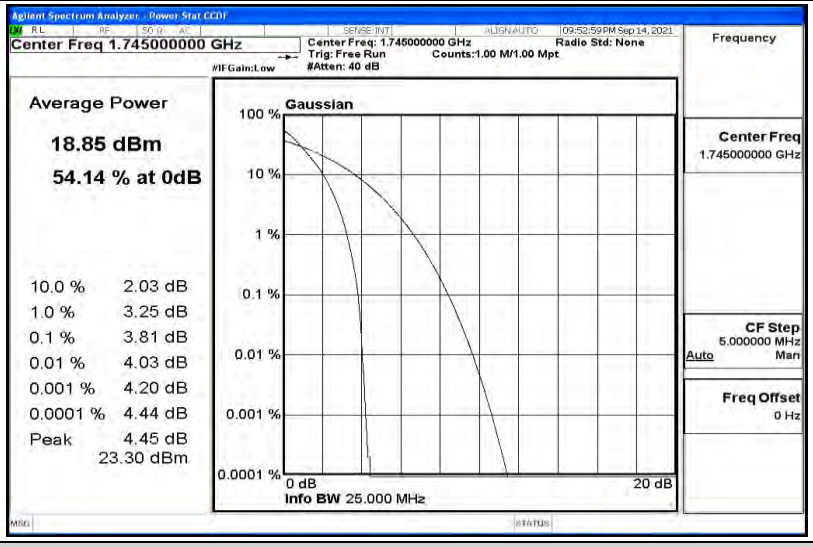
Band66-10MHz-16QAM-132622



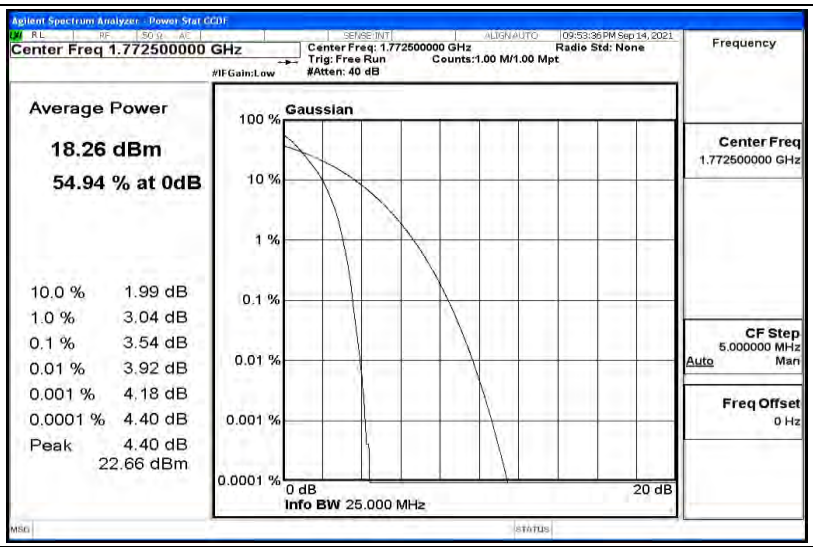
Band66-15MHz-QPSK-132047



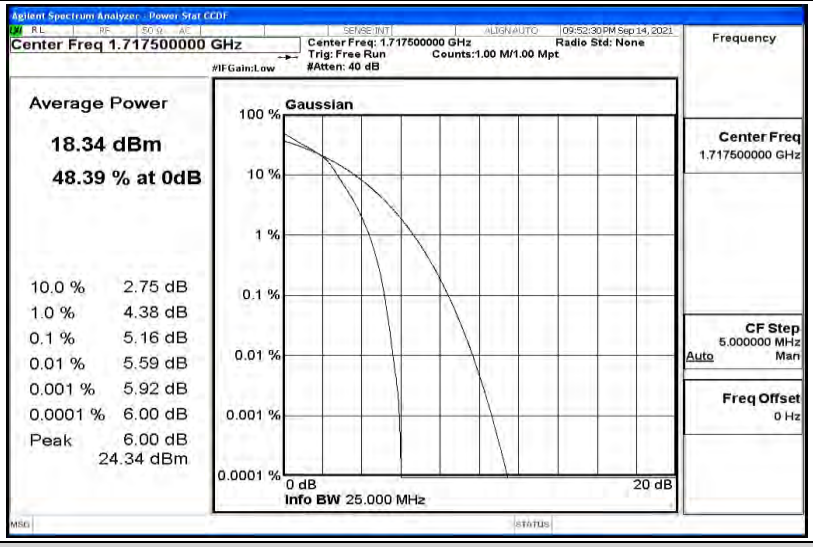
Band66-15MHz-QPSK-132322



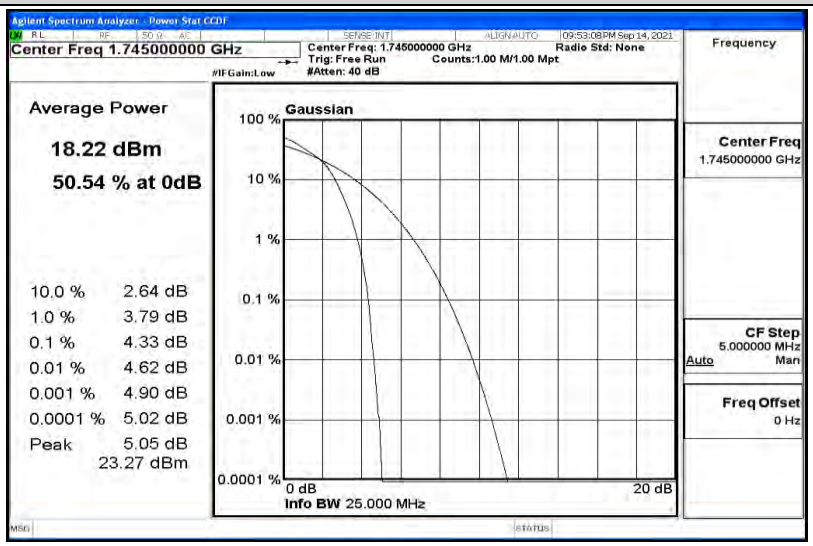
Band66-15MHz-QPSK-132597



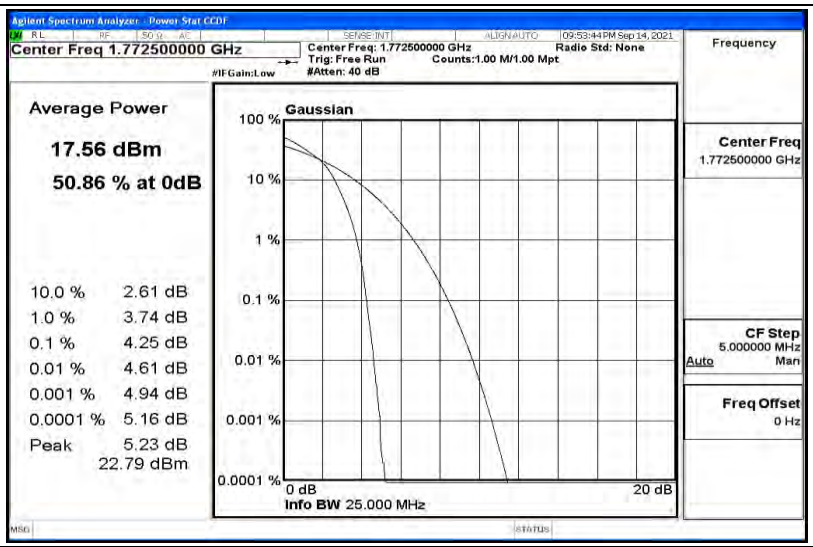
Band66-15MHz-16QAM-132047



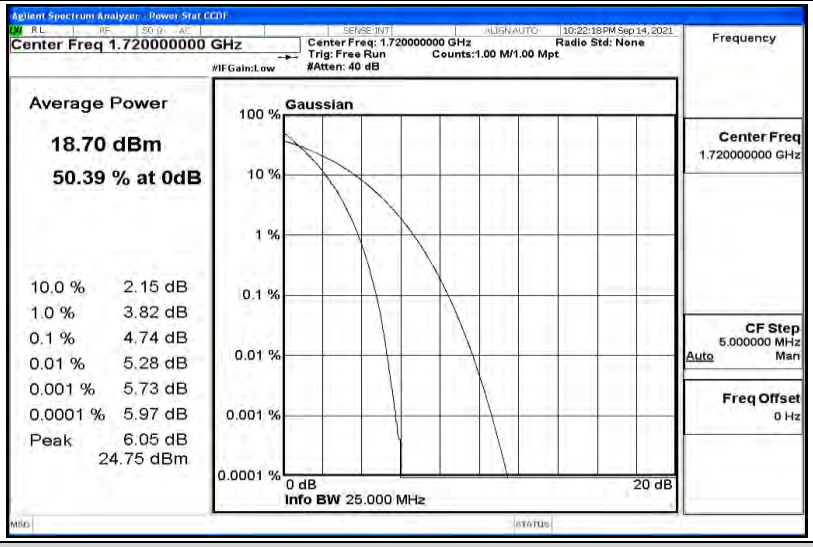
Band66-15MHz-16QAM-132322



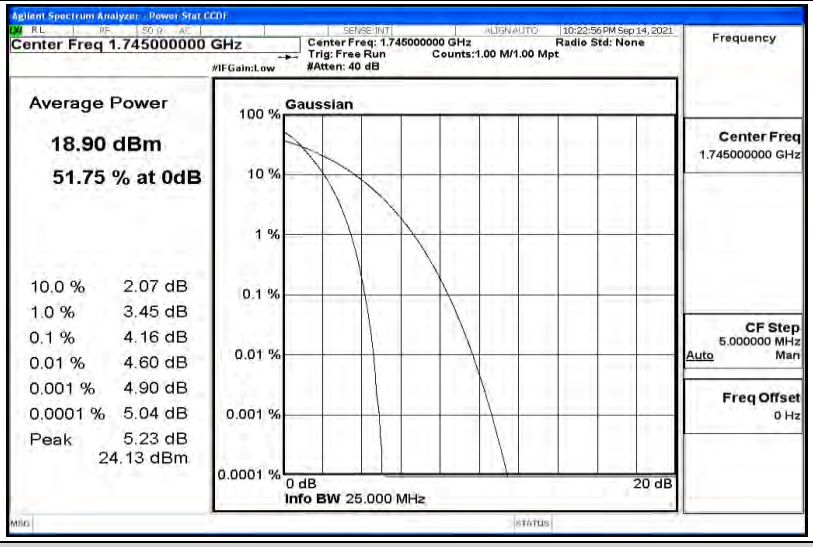
Band66-15MHz-16QAM-132597



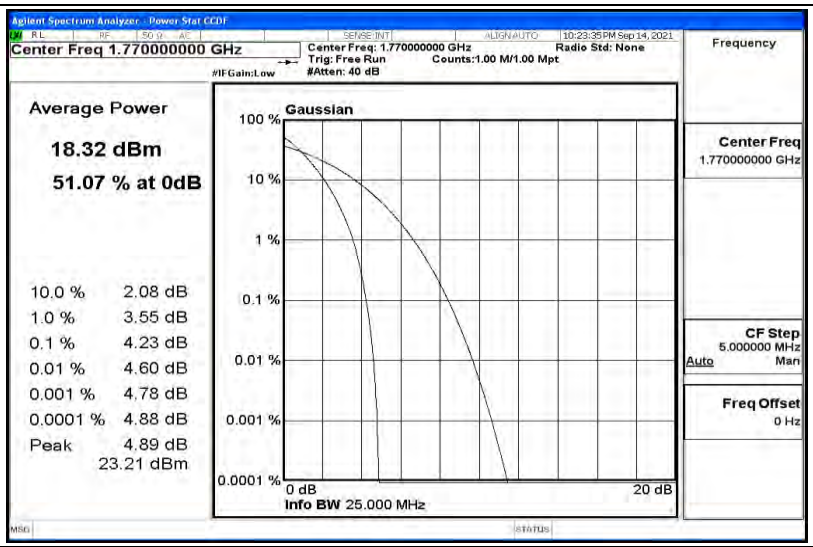
Band66-20MHz-QPSK-132072



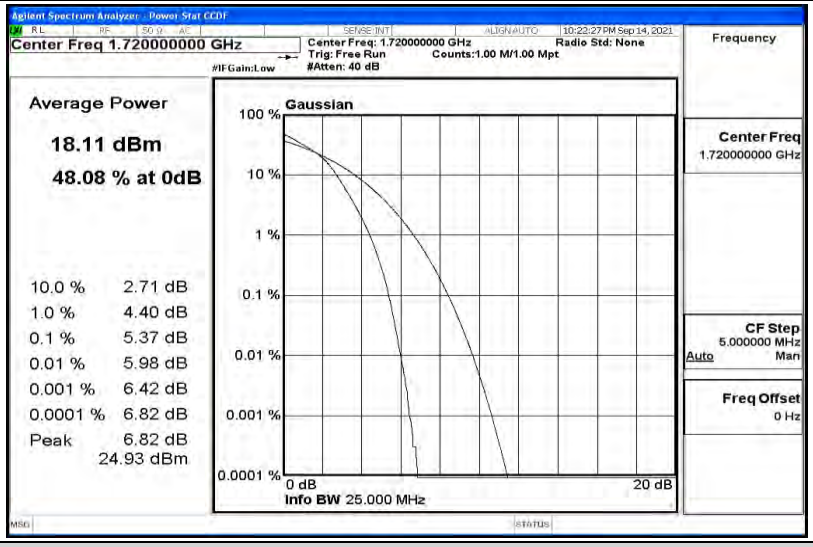
Band66-20MHz-QPSK-132322



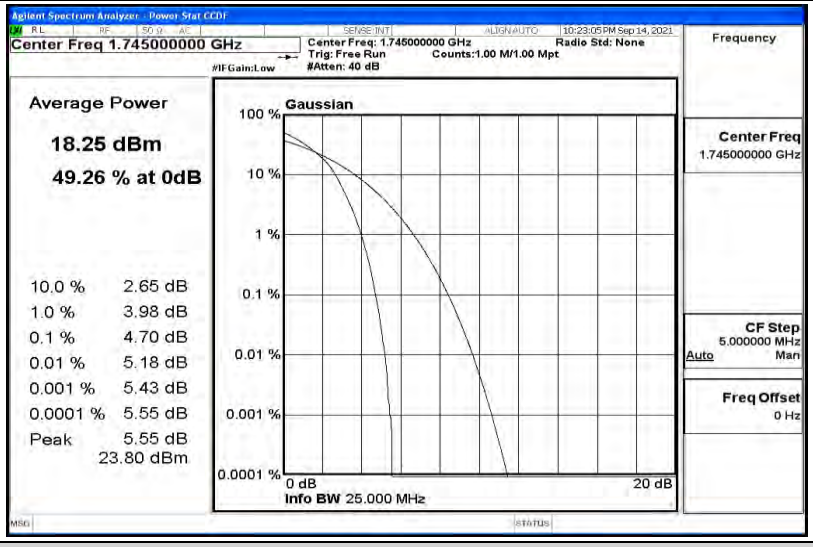
Band66-20MHz-QPSK-132572



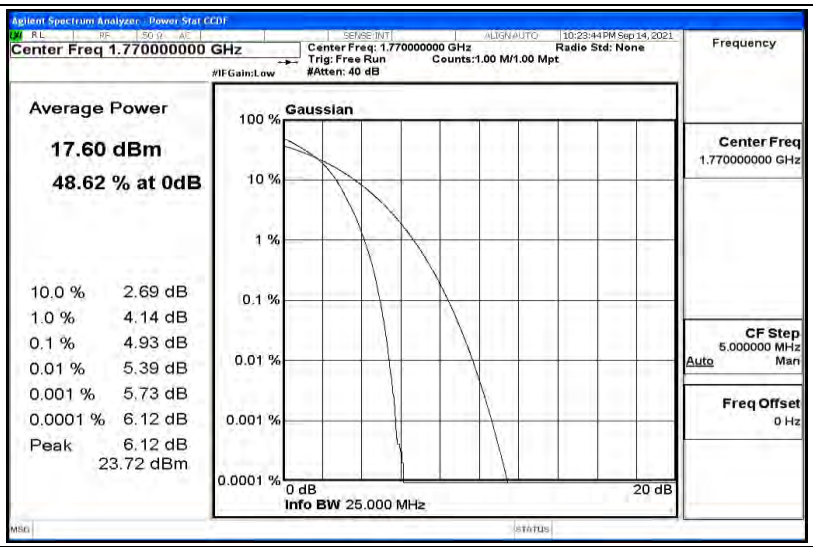
Band66-20MHz-16QAM-132072



Band66-20MHz-16QAM-132322



Band66-20MHz-16QAM-132572


Agilent Spectrum Analyzer - Power Stat CCDF
Center Freq 1.770000000 GHz
Center Freq: 1.770000000 GHz
Trig: Free Run
#Atten: 40 dB
Counts:1.00 M/1.00 Mpt
Radio Std: None
#IFGain:Low
Frequency
Average Power
17.60 dBm
48.62 % at 0dB
10.0 % 2.69 dB
1.0 % 4.14 dB
0.1 % 4.93 dB
0.01 % 5.39 dB
0.001 % 5.73 dB
0.0001 % 6.12 dB
Peak 6.12 dB
23.72 dBm
Gaussian
100 %
10 %
1 %
0.1 %
0.01 %
0.001 %
0.0001 %
0 dB
20 dB
Info BW 25.000 MHz
Center Freq
1.770000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

G.3 26dB Bandwidth and Occupied Bandwidth

Test Result

EBW & OBW Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	1.0951	1.255	PASS
	MCH	1.0953	1.255	PASS
	HCH	1.1041	1.935	PASS
16QAM	LCH	1.0918	1.241	PASS
	MCH	1.0920	1.263	PASS
	HCH	1.1018	1.662	PASS

EBW & OBW Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	2.7009	3.016	PASS
	MCH	2.7115	4.227	PASS
	HCH	2.7370	5.516	PASS
16QAM	LCH	2.7021	3.100	PASS
	MCH	2.7140	3.060	PASS
	HCH	2.7353	5.513	PASS

EBW & OBW Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	4.5034	5.006	PASS
	MCH	4.5235	6.614	PASS
	HCH	4.6294	9.799	PASS
16QAM	LCH	4.5036	4.999	PASS
	MCH	4.5217	5.082	PASS
	HCH	4.5658	8.694	PASS

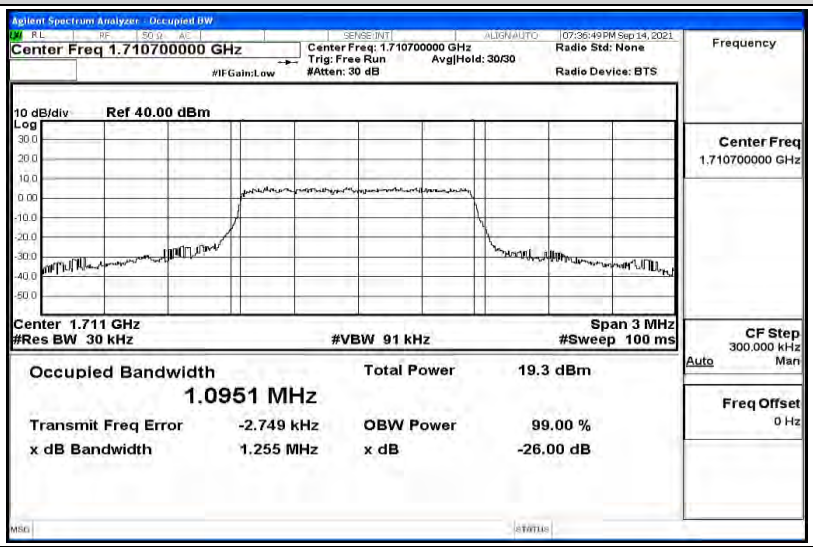
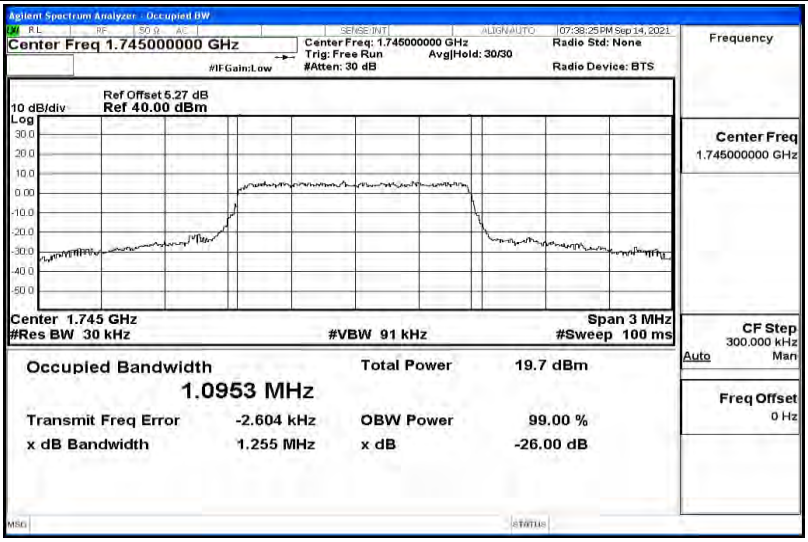
EBW & OBW Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	9.0012	9.707	PASS
	MCH	9.0055	11.56	PASS
	HCH	9.0650	16.04	PASS
16QAM	LCH	8.9835	9.661	PASS
	MCH	9.0103	12.07	PASS
	HCH	9.0284	15.04	PASS

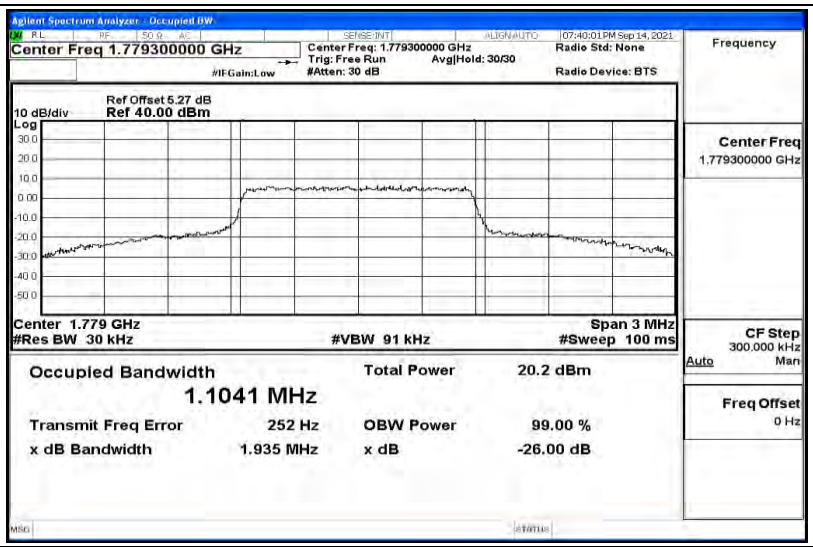
EBW & OBW Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	13.441	14.35	PASS
	MCH	13.507	19.57	PASS
	HCH	13.542	21.78	PASS
16QAM	LCH	13.445	14.34	PASS
	MCH	13.517	19.46	PASS
	HCH	13.538	21.56	PASS

EBW & OBW Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	17.954	19.05	PASS
	MCH	17.997	21.30	PASS
	HCH	18.059	20.37	PASS
16QAM	LCH	17.941	19.08	PASS
	MCH	17.988	21.48	PASS
	HCH	18.066	22.75	PASS

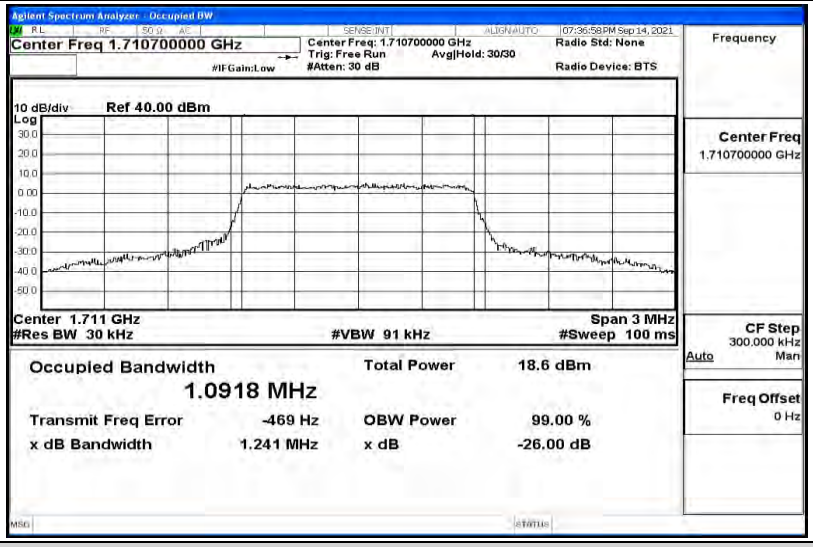
7

Test Graphs

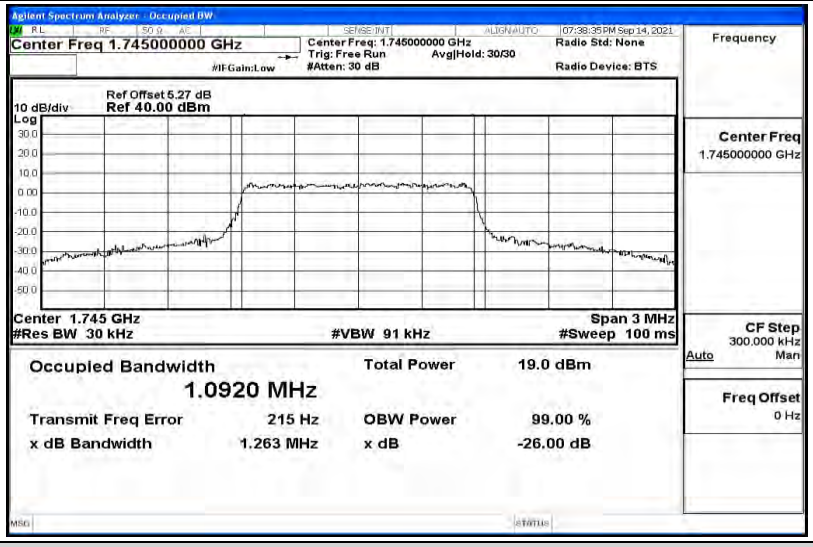
Band66-1.4MHz-QPSK-131979

Band66-1.4MHz-QPSK-132322

Band66-1.4MHz-QPSK-132665



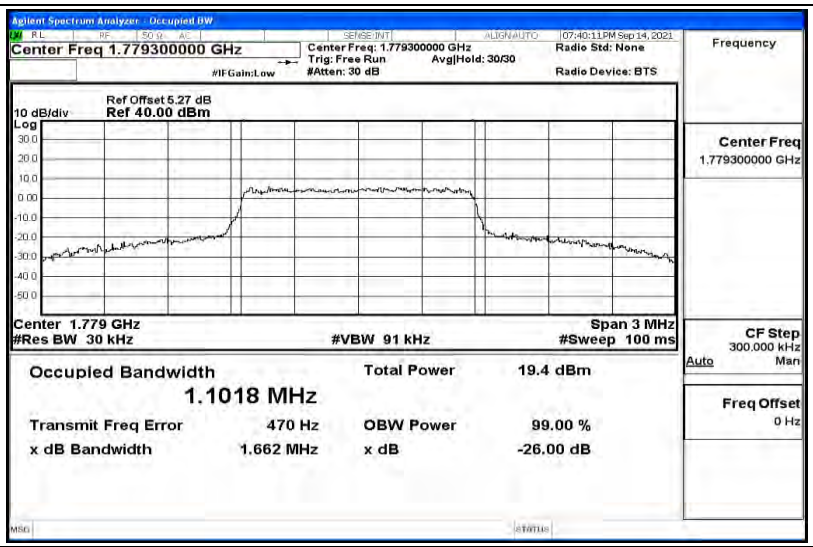
Band66-1.4MHz-16QAM-131979



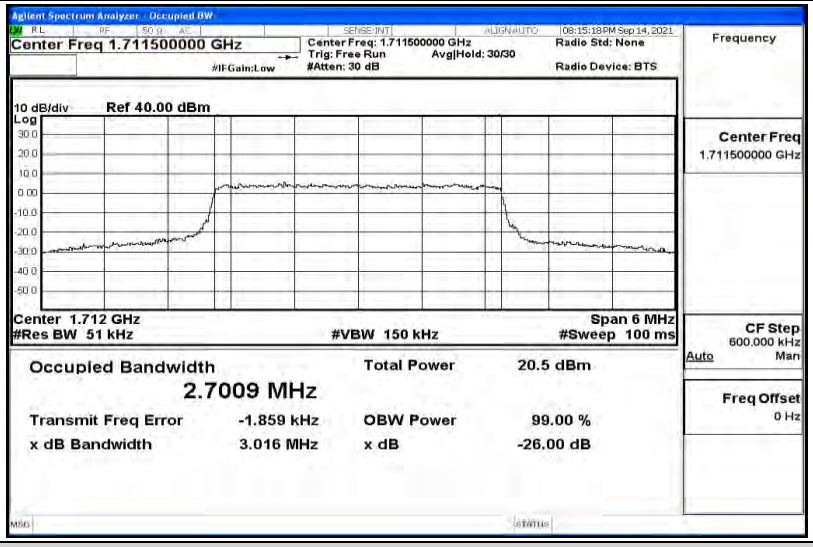
Band66-1.4MHz-16QAM-132322



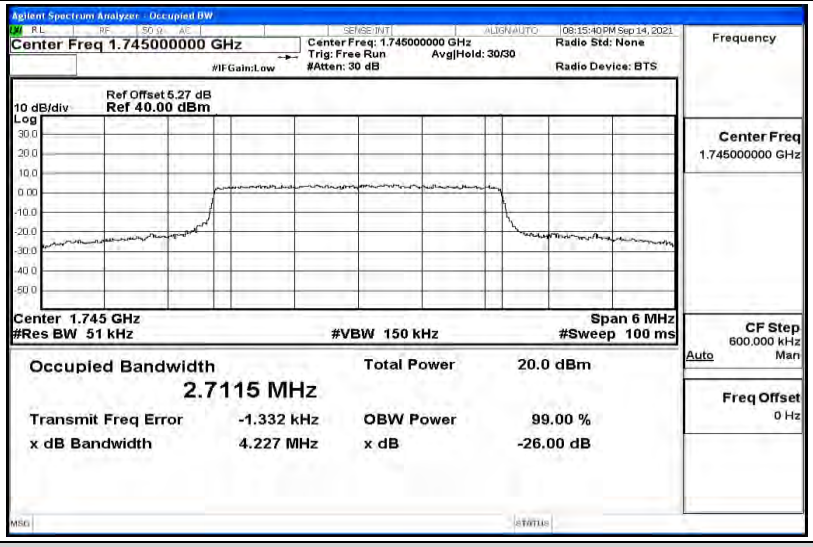
Band66-1.4MHz-16QAM-132665



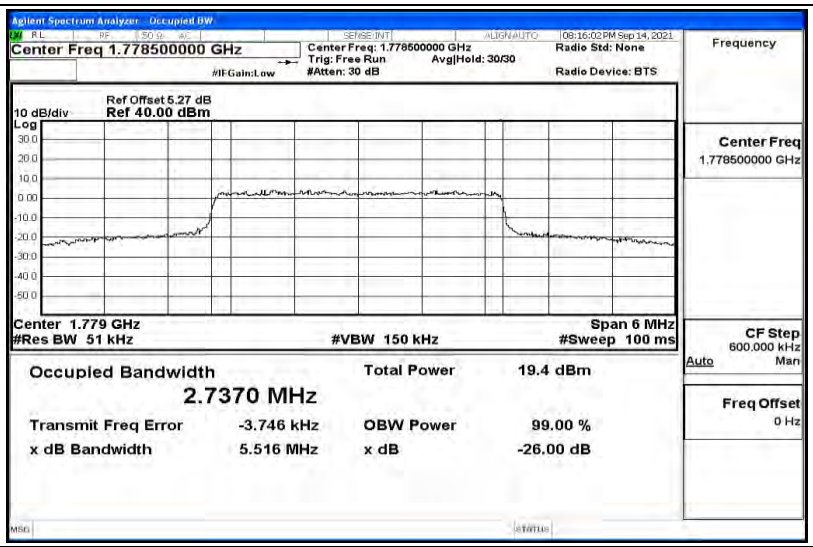
Band66-3MHz-QPSK-131987



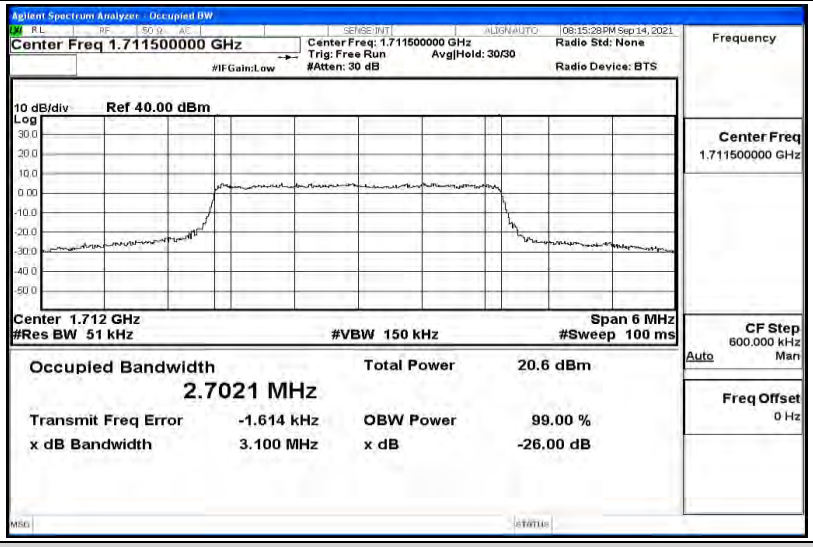
Band66-3MHz-QPSK-132322



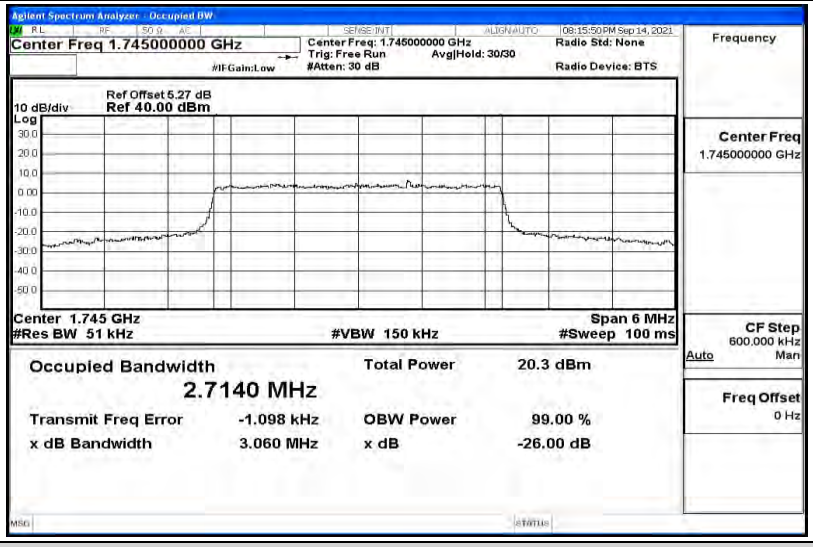
Band66-3MHz-QPSK-132657



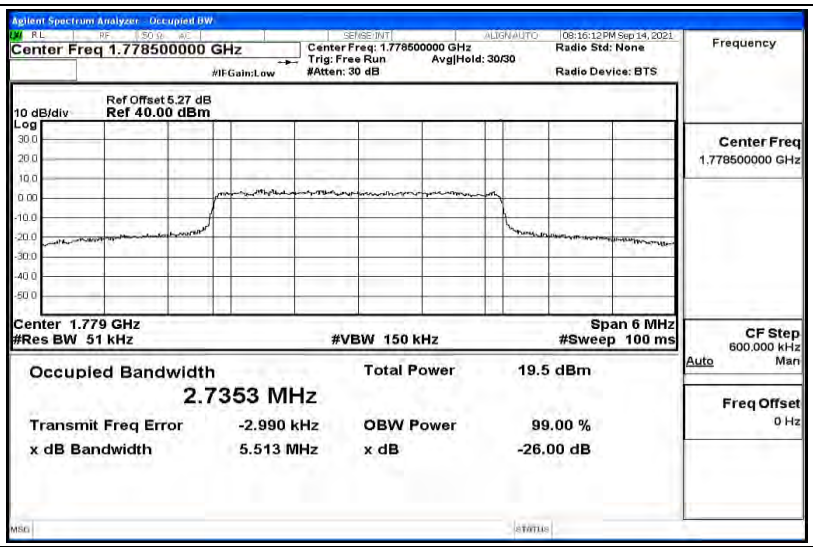
Band66-3MHz-16QAM-131987



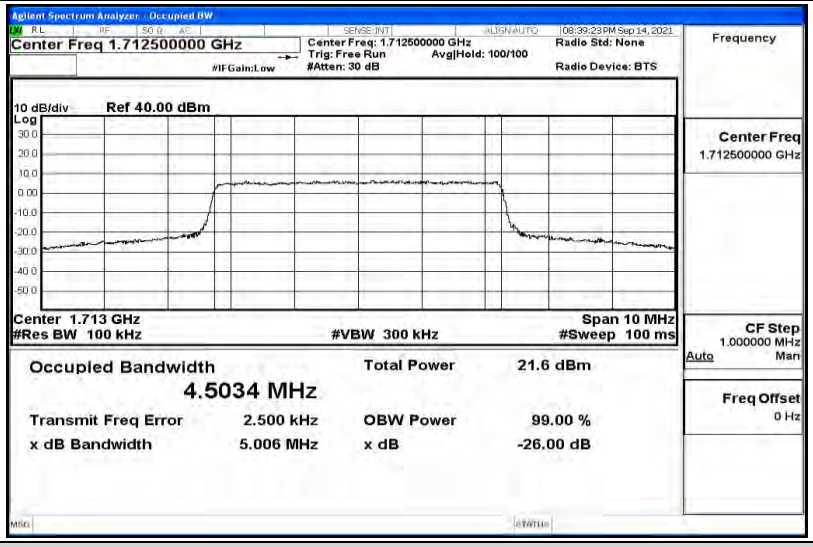
Band66-3MHz-16QAM-132322



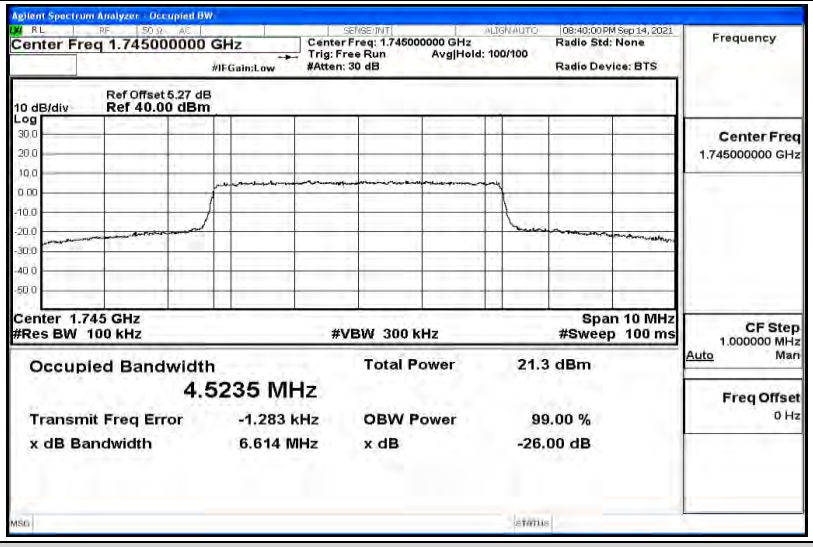
Band66-3MHz-16QAM-132657



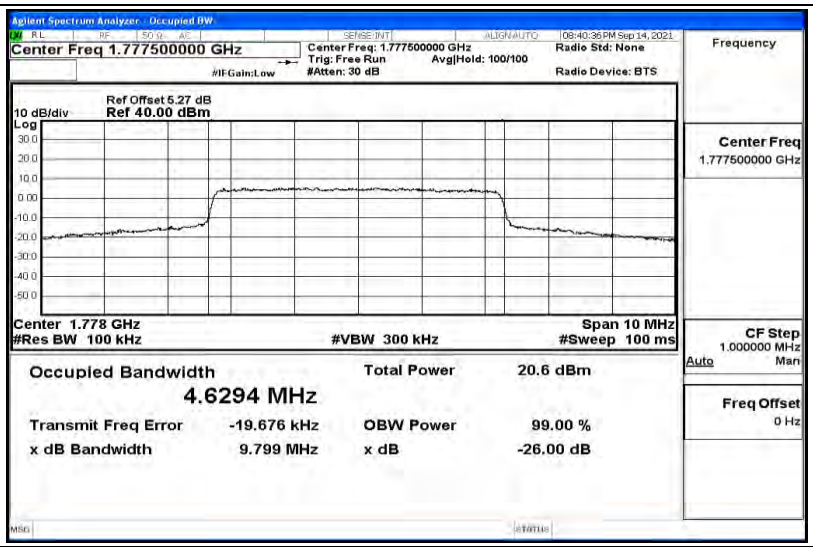
Band66-5MHz-QPSK-131997



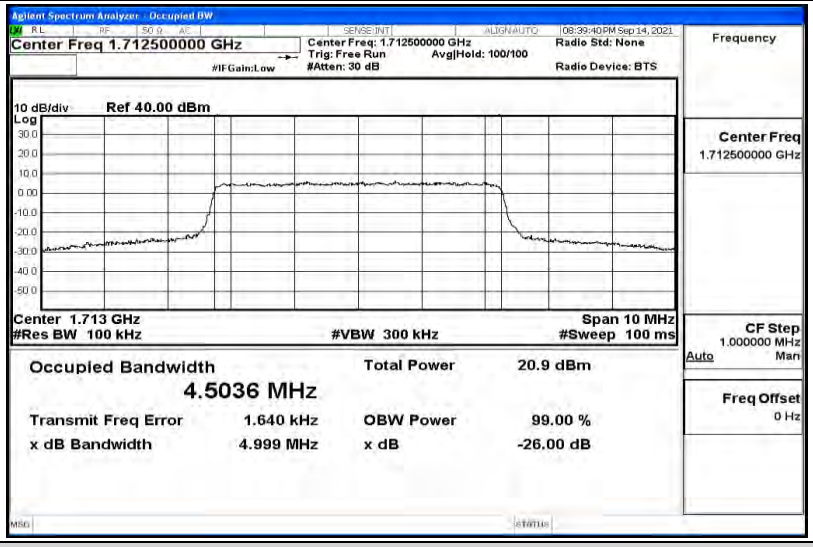
Band66-5MHz-QPSK-132322



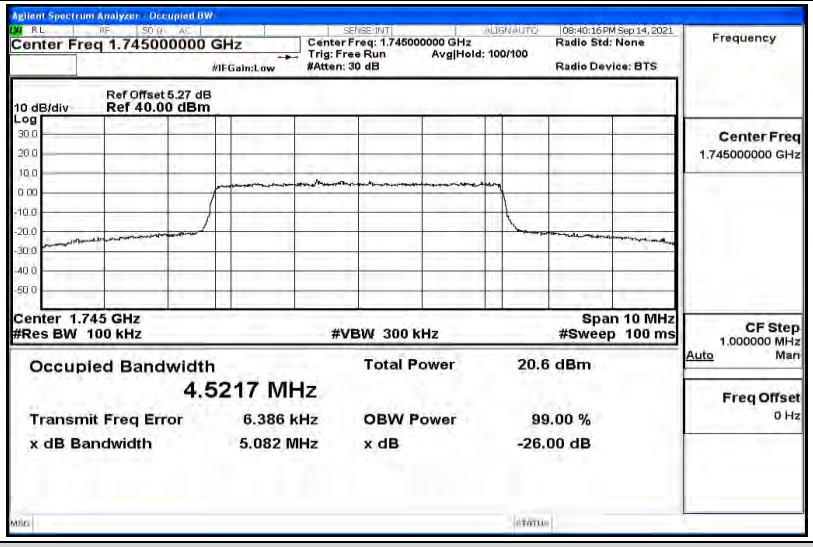
Band66-5MHz-QPSK-132647



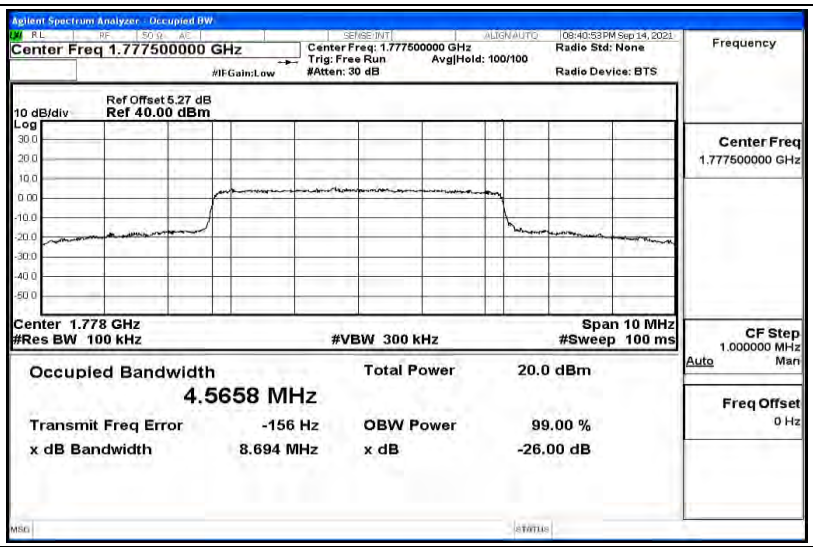
Band66-5MHz-16QAM-131997



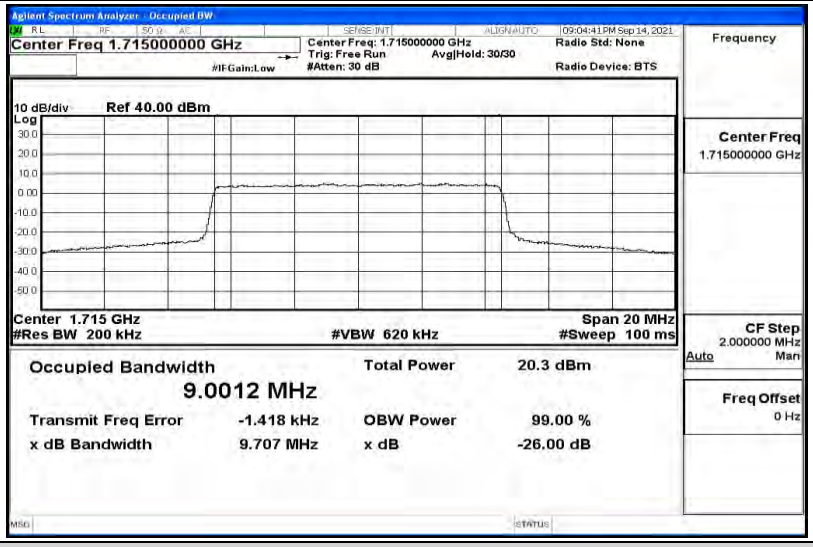
Band66-5MHz-16QAM-132322



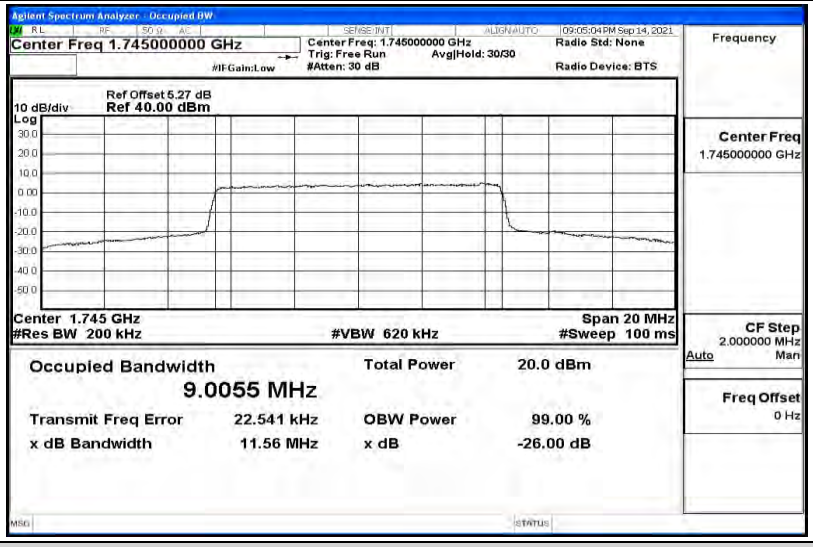
Band66-5MHz-16QAM-132647



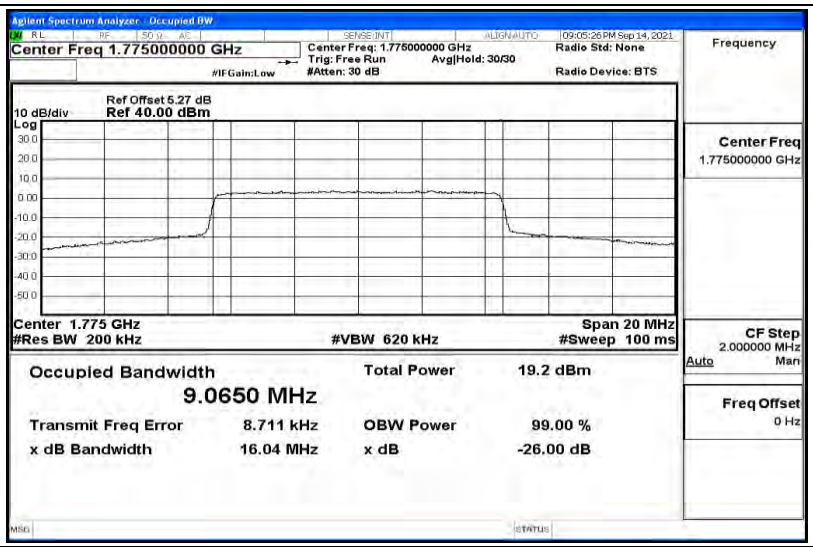
Band66-10MHz-QPSK-132022



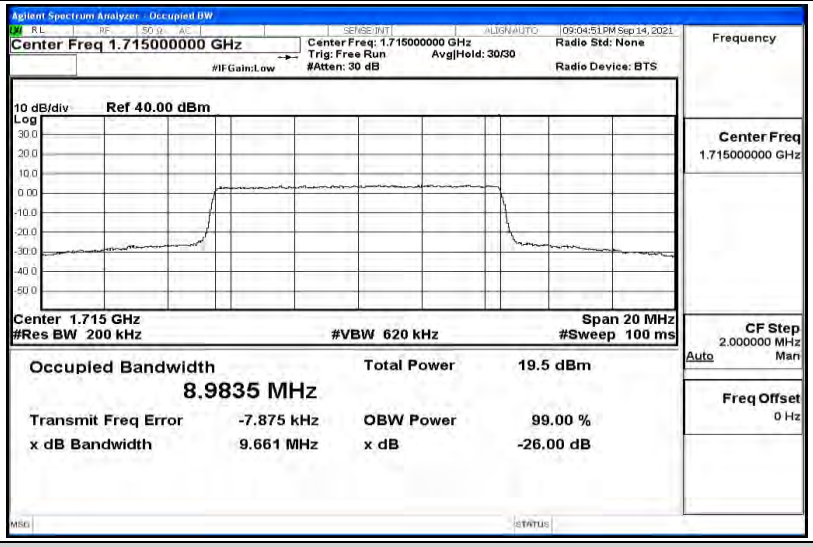
Band66-10MHz-QPSK-132322



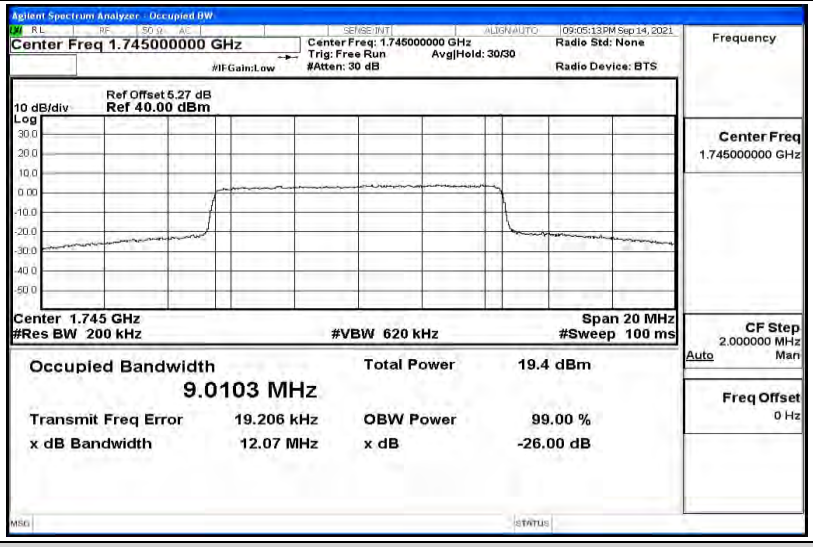
Band66-10MHz-QPSK-132622



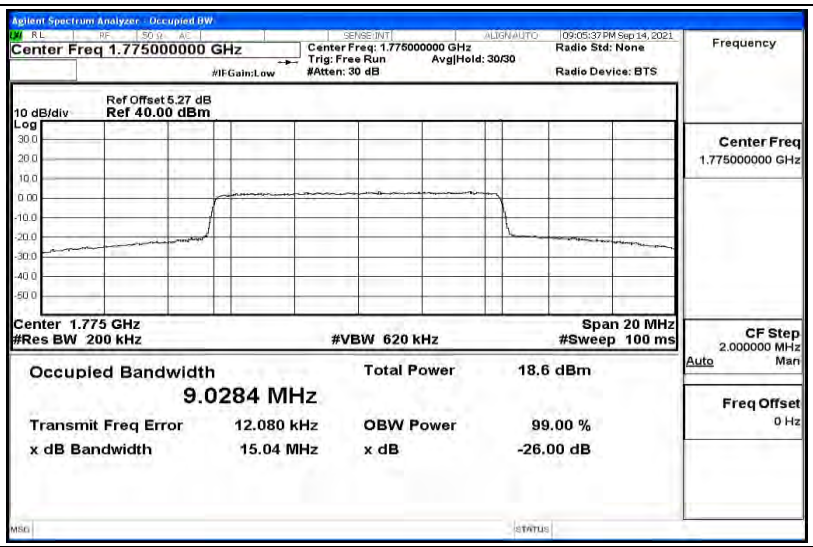
Band66-10MHz-16QAM-132022



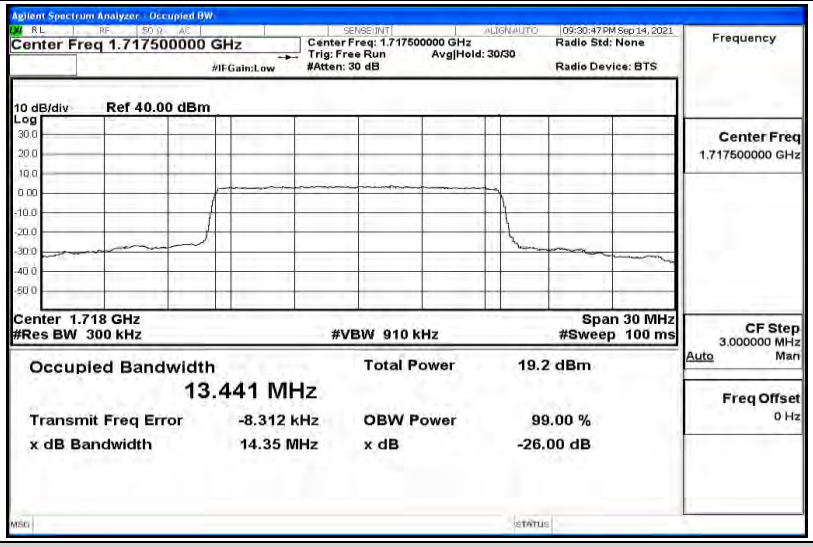
Band66-10MHz-16QAM-132322



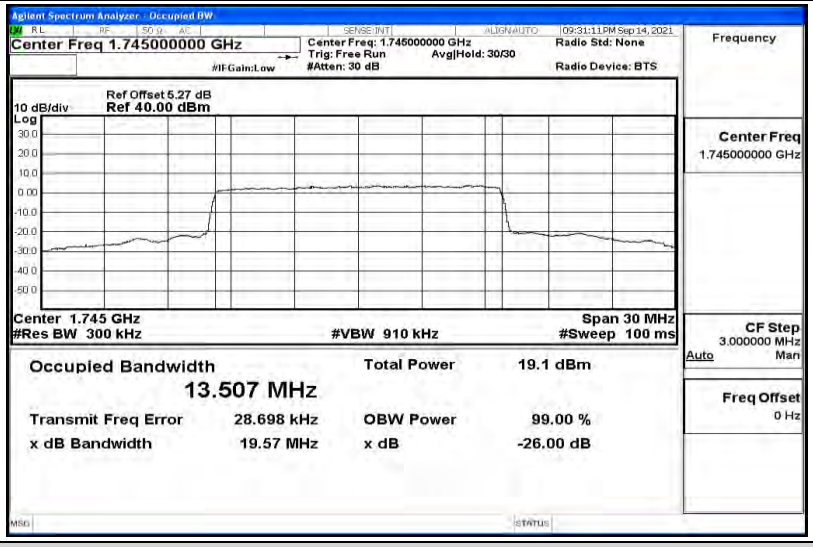
Band66-10MHz-16QAM-132622



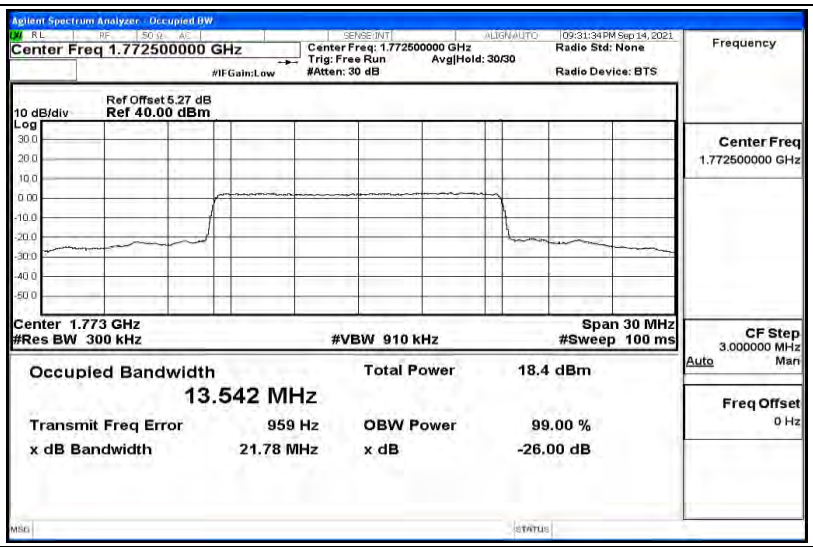
Band66-15MHz-QPSK-132047



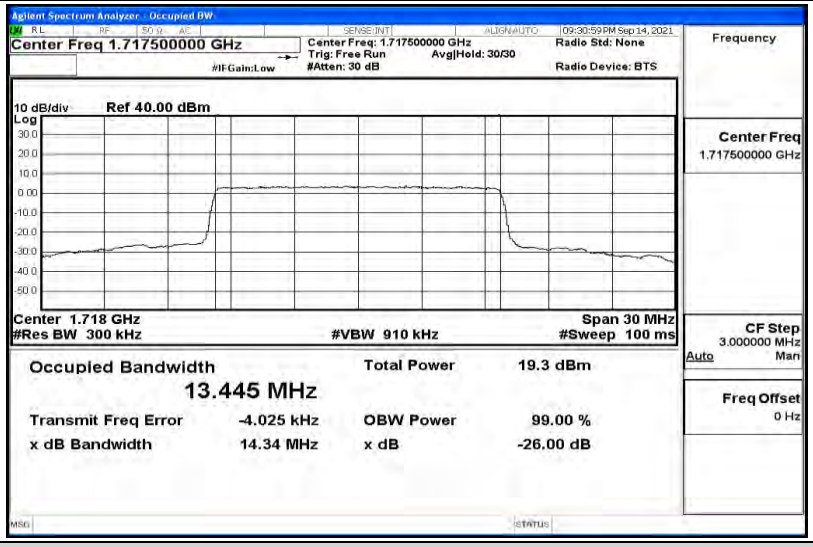
Band66-15MHz-QPSK-132322



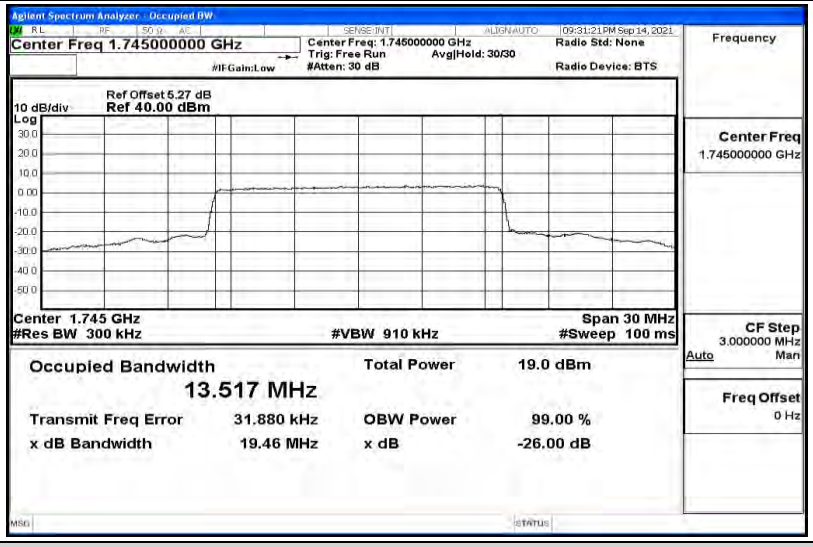
Band66-15MHz-QPSK-132597



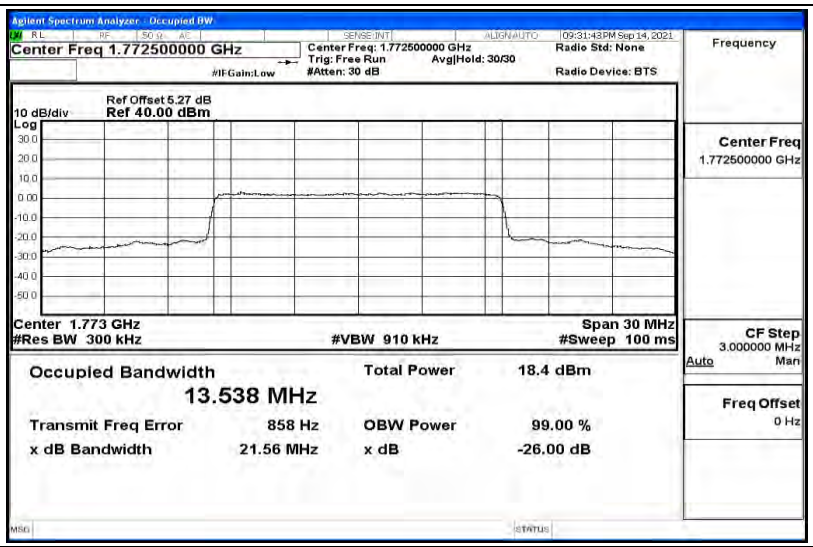
Band66-15MHz-16QAM-132047



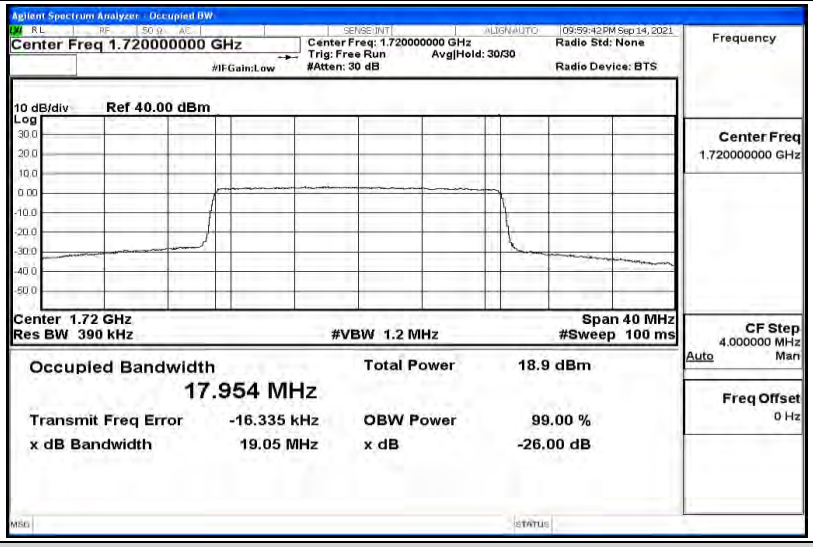
Band66-15MHz-16QAM-132322



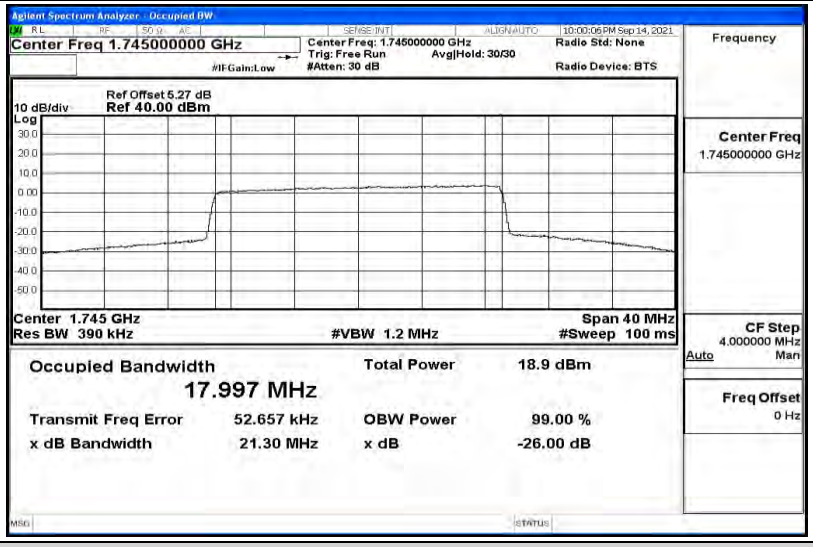
Band66-15MHz-16QAM-132597



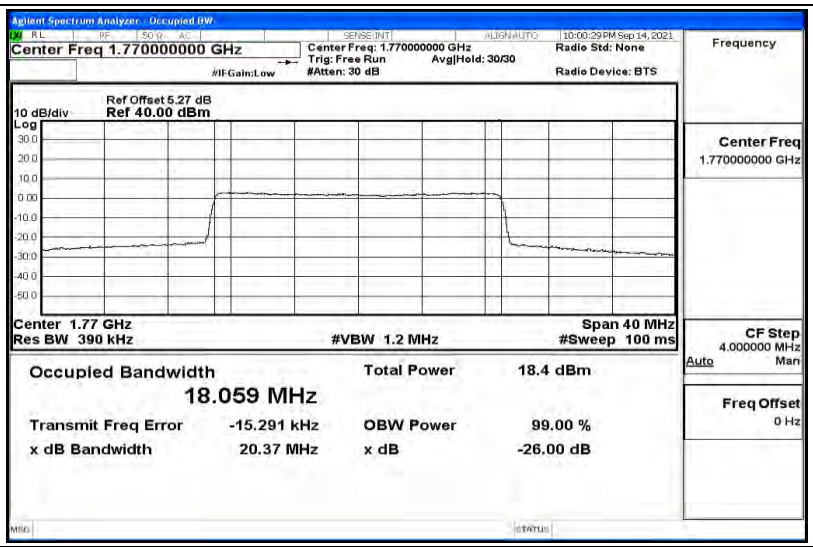
Band66-20MHz-QPSK-132072



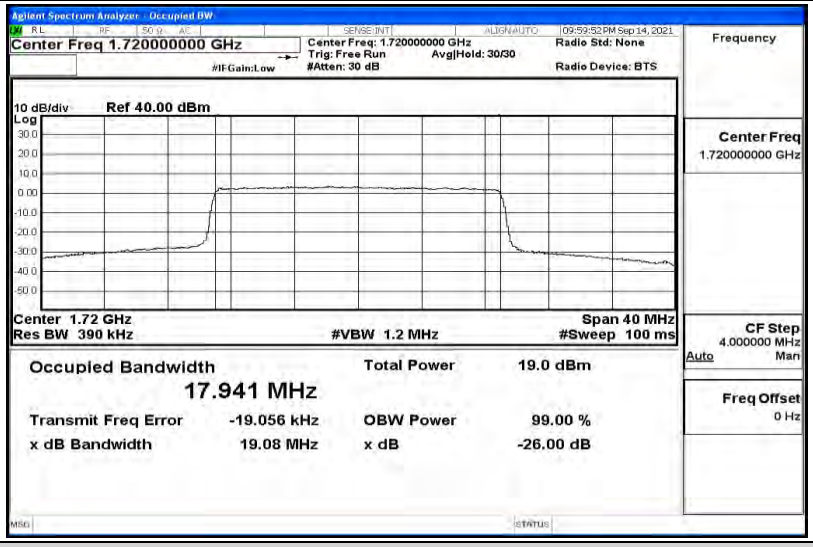
Band66-20MHz-QPSK-132322



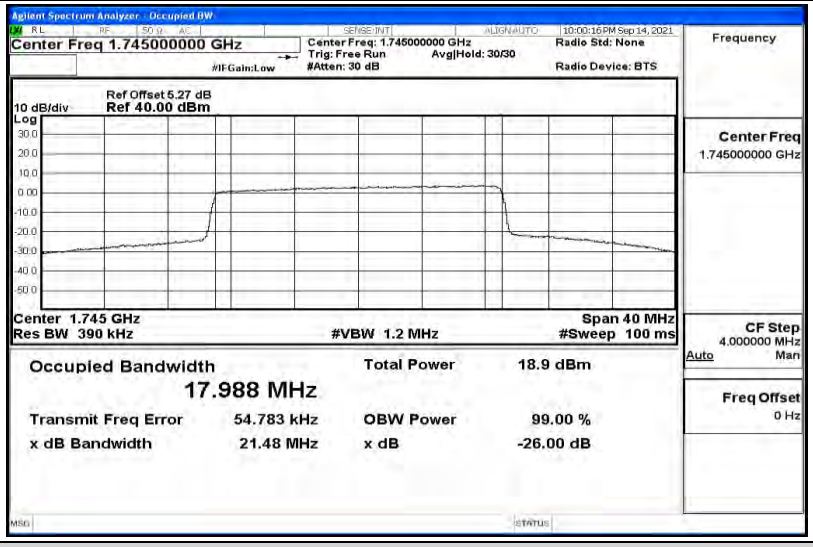
Band66-20MHz-QPSK-132572



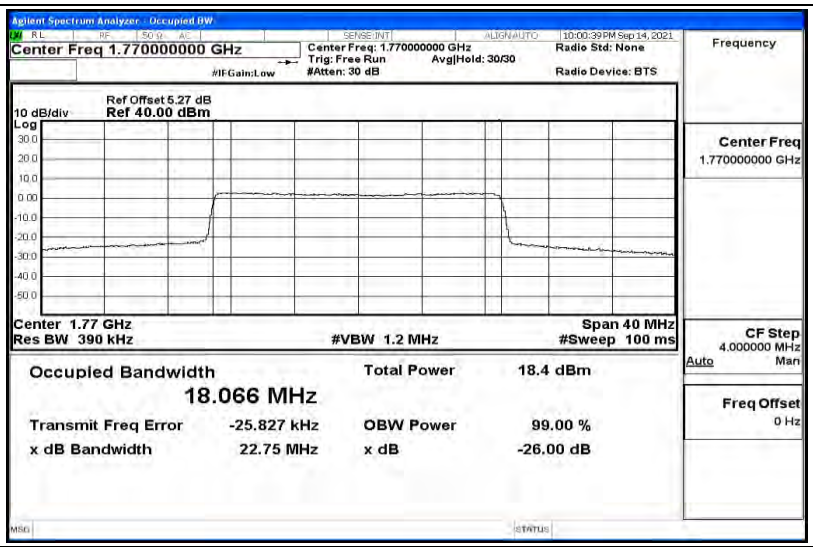
Band66-20MHz-16QAM-132072



Band66-20MHz-16QAM-132322

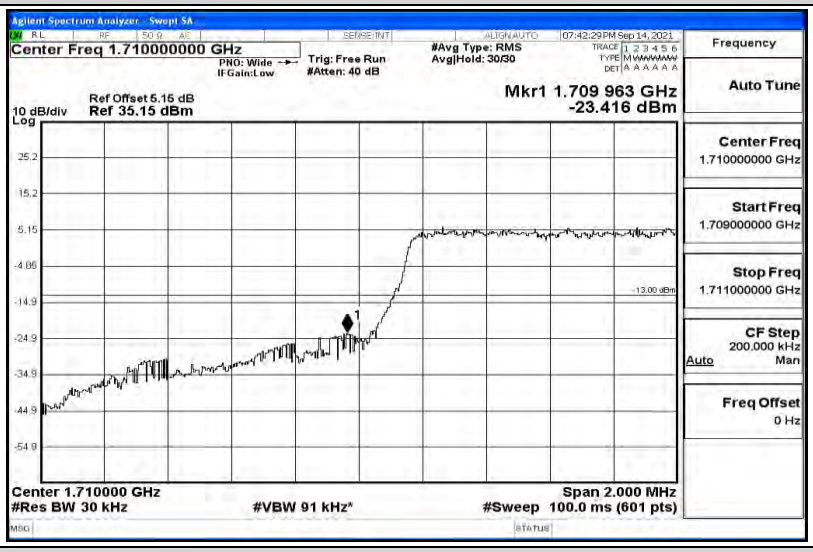
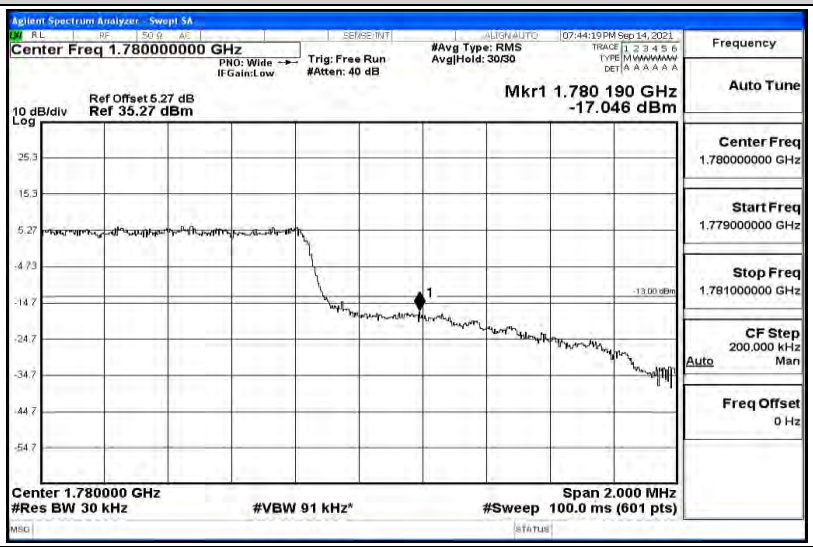


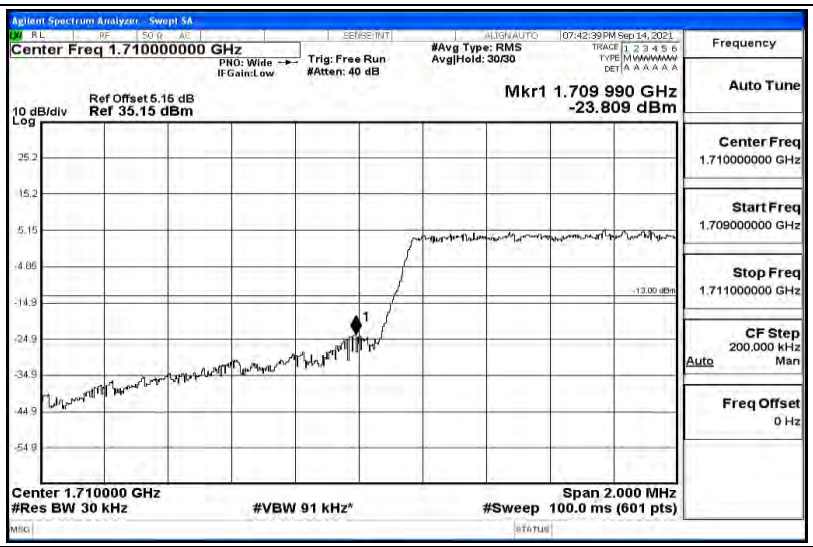
Band66-20MHz-16QAM-132572


Agilent Spectrum Analyzer - Occupied BW
Center Freq 1.770000000 GHz
Center Freq: 1.770000000 GHz
Trig: Free Run
Avg|Hold: 30/30
#Atten: 30 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 5.27 dB
10 dB/div
Ref 40.00 dBm
Log
30.0
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
Center Freq
1.770000000 GHz
Center 1.77 GHz
Res BW 390 kHz
#VBW 1.2 MHz
Span 40 MHz
#Sweep 100 ms
CF Step
4.000000 MHz
Auto
Man
Occupied Bandwidth
18.066 MHz
Total Power
18.4 dBm
Freq Offset
0 Hz
Transmit Freq Error
-25.827 kHz
OBW Power
99.00 %
x dB Bandwidth
22.75 MHz
x dB
-26.00 dB
MSG
STATUS

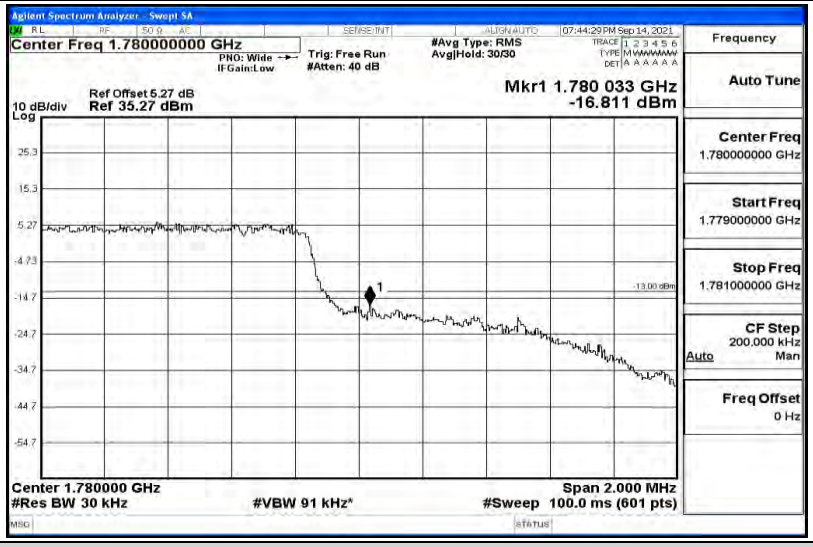
G.4 Band Edge

Test Graphs

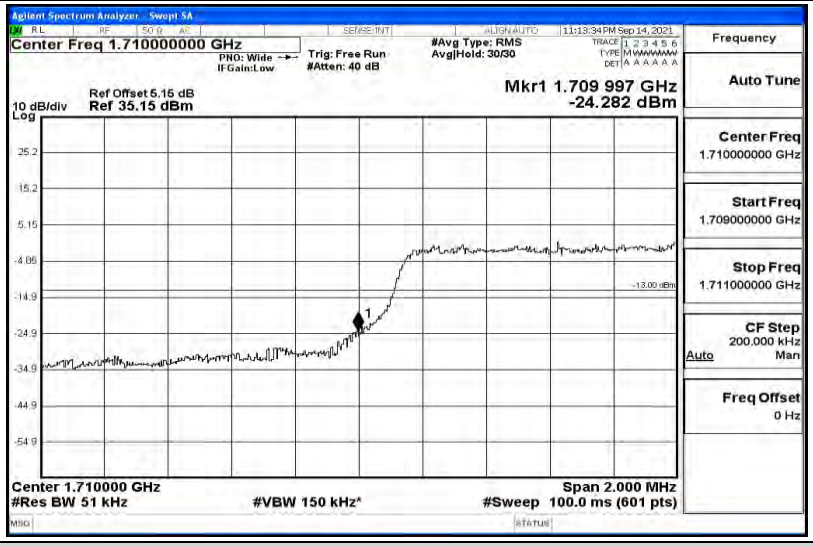
Band66-1.4MHz-QPSK-131979

Band66-1.4MHz-QPSK-132665

Band66-1.4MHz-16QAM-131979



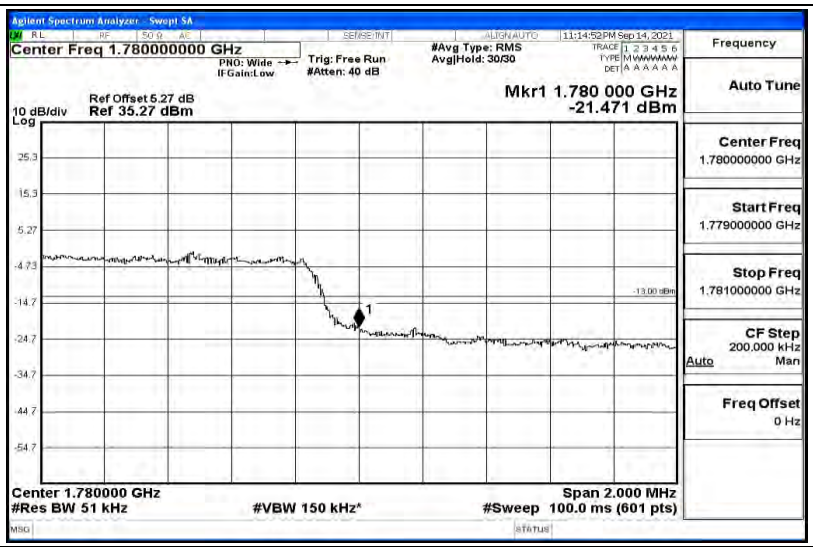
Band66-1.4MHz-16QAM-132665



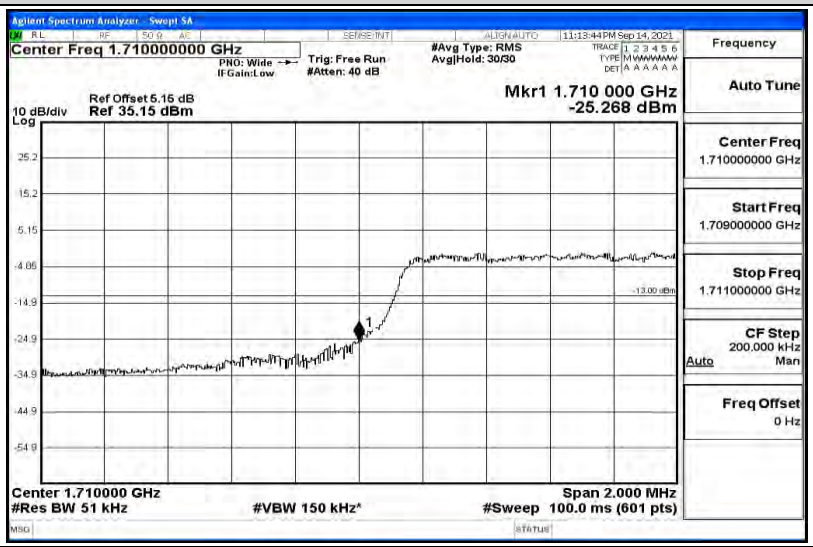
Band66-3MHz-QPSK-131987



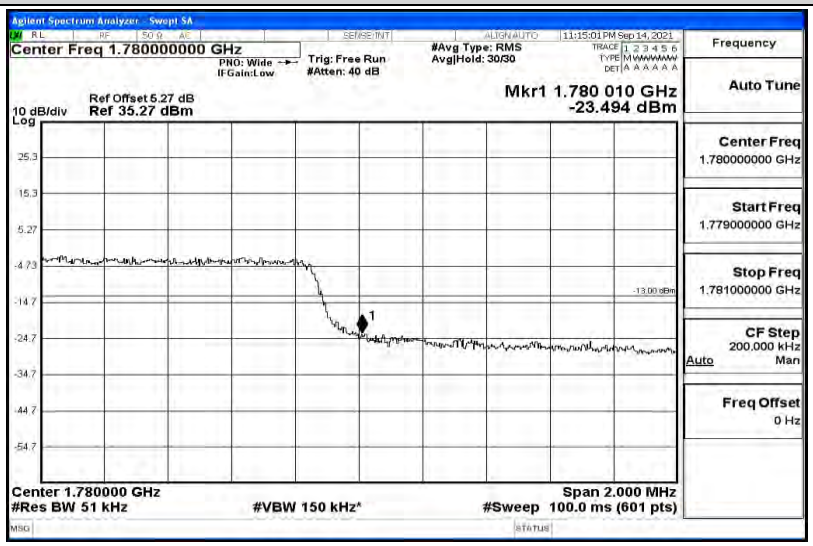
Band66-3MHz-QPSK-132657



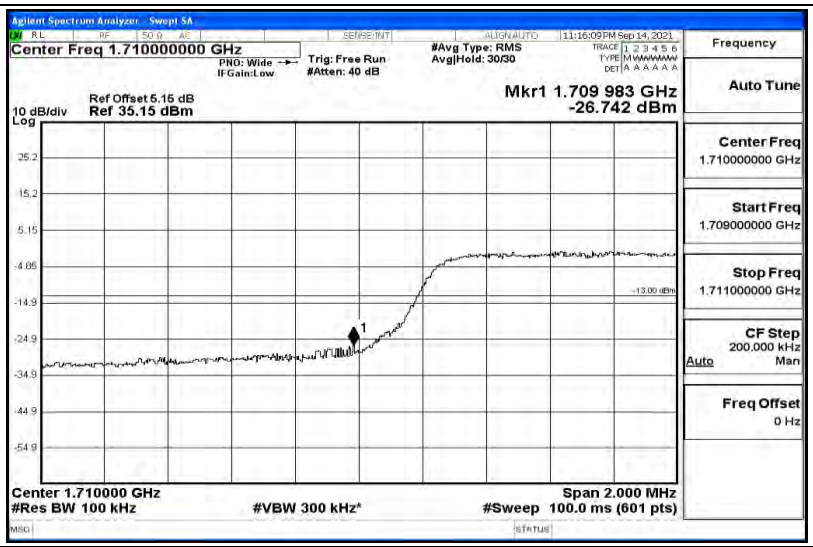
Band66-3MHz-16QAM-131987



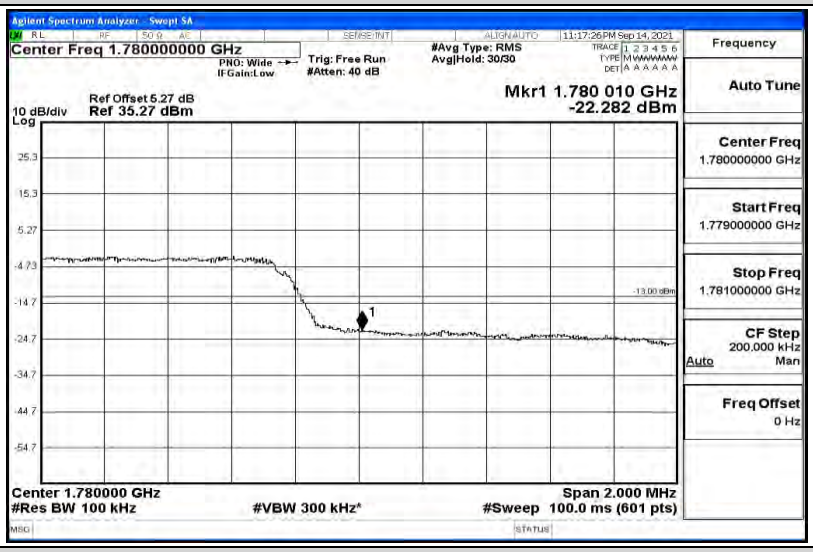
Band66-3MHz-16QAM-132657



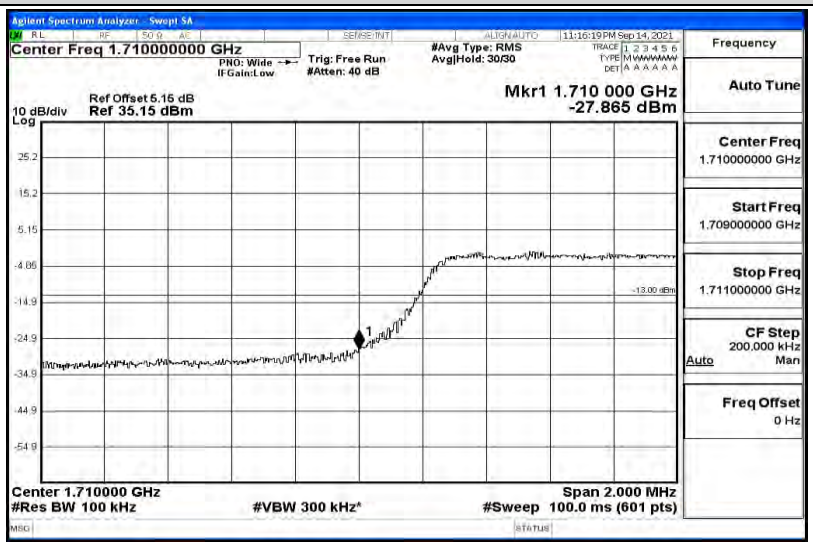
Band66-5MHz-QPSK-131997



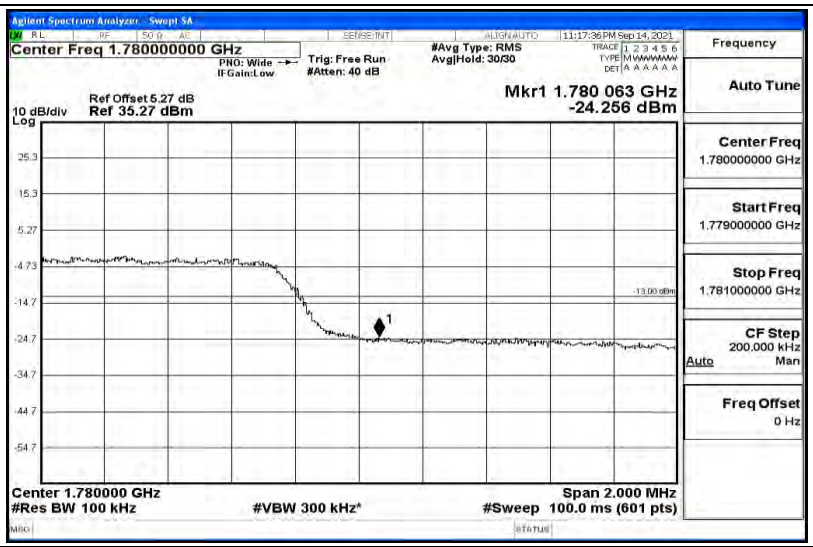
Band66-5MHz-QPSK-132647



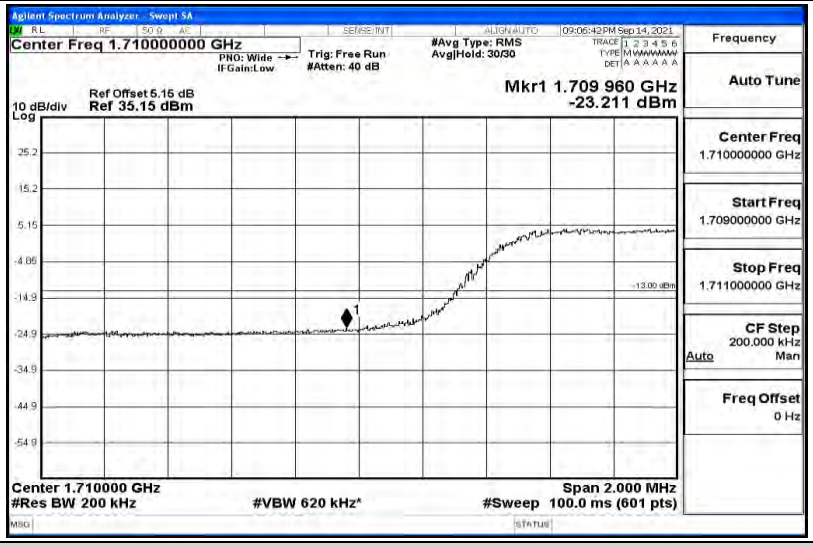
Band66-5MHz-16QAM-131997



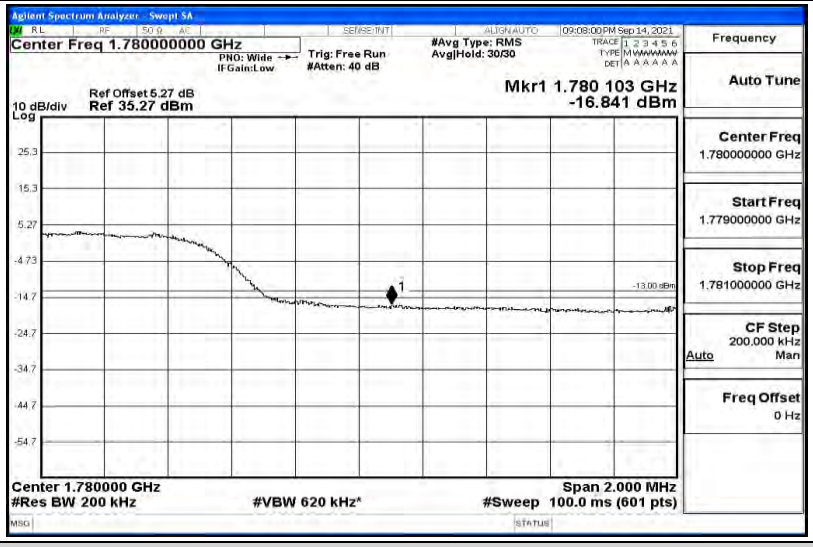
Band66-5MHz-16QAM-132647



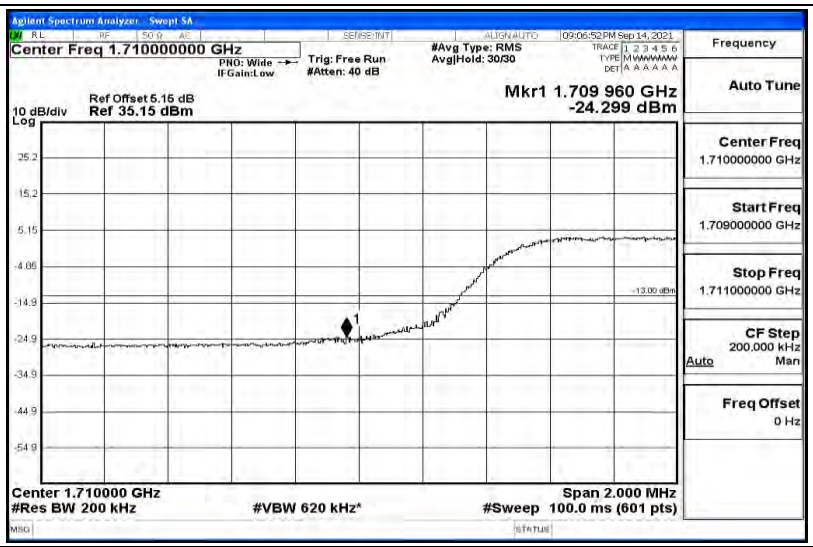
Band66-10MHz-QPSK-132022



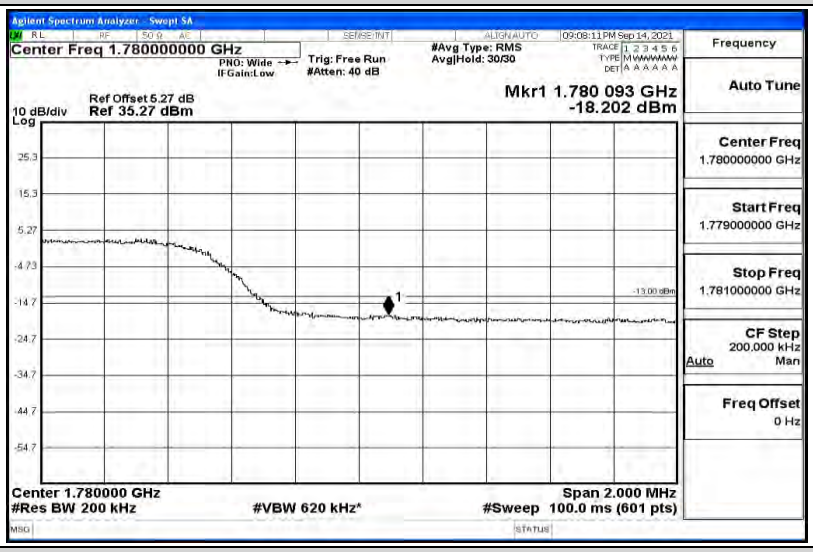
Band66-10MHz-QPSK-132622



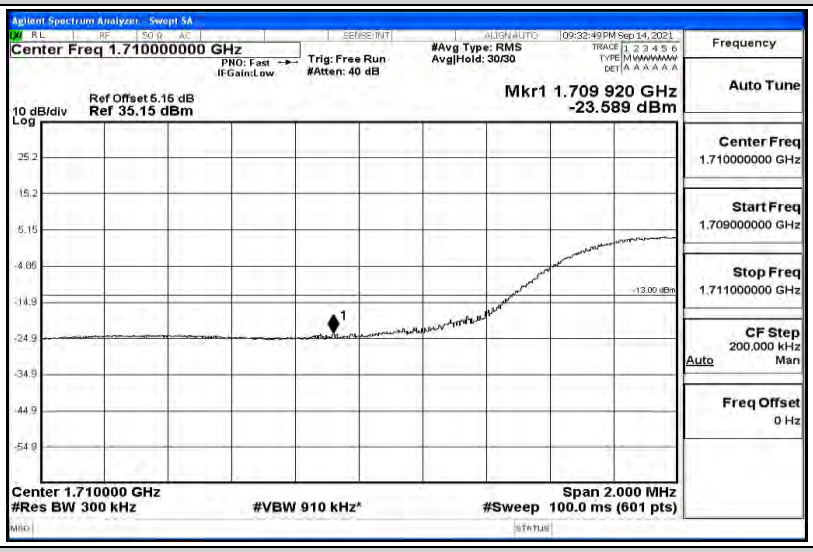
Band66-10MHz-16QAM-132022



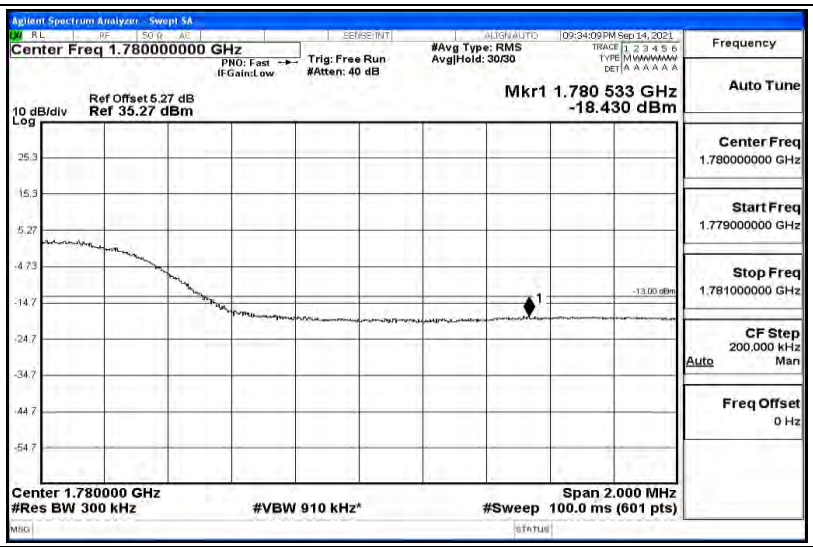
Band66-10MHz-16QAM-132622



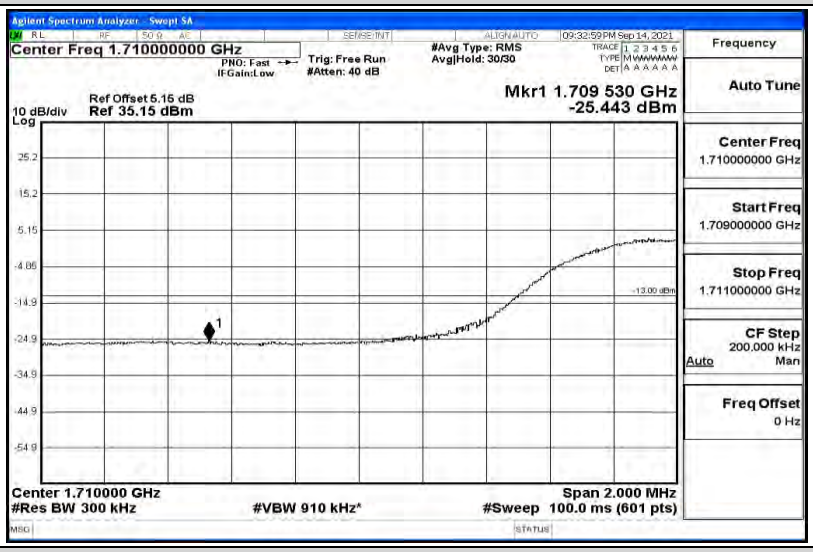
Band66-15MHz-QPSK-132047



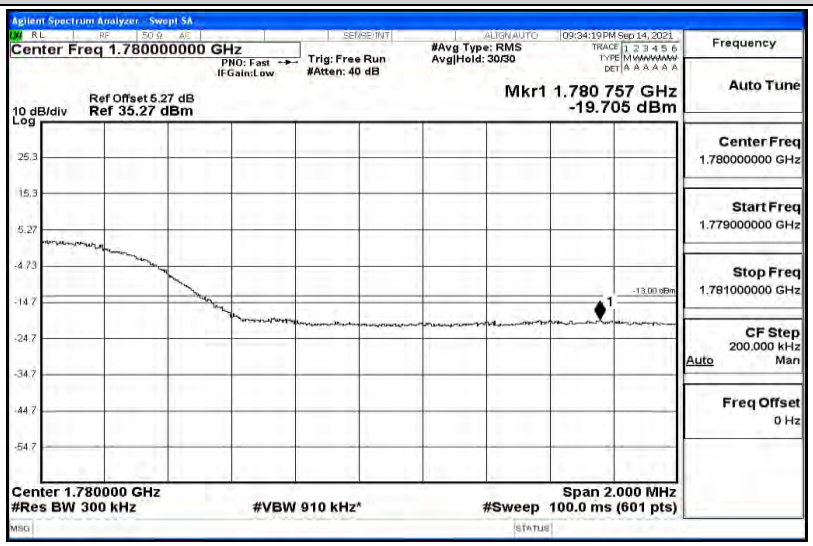
Band66-15MHz-QPSK-132597



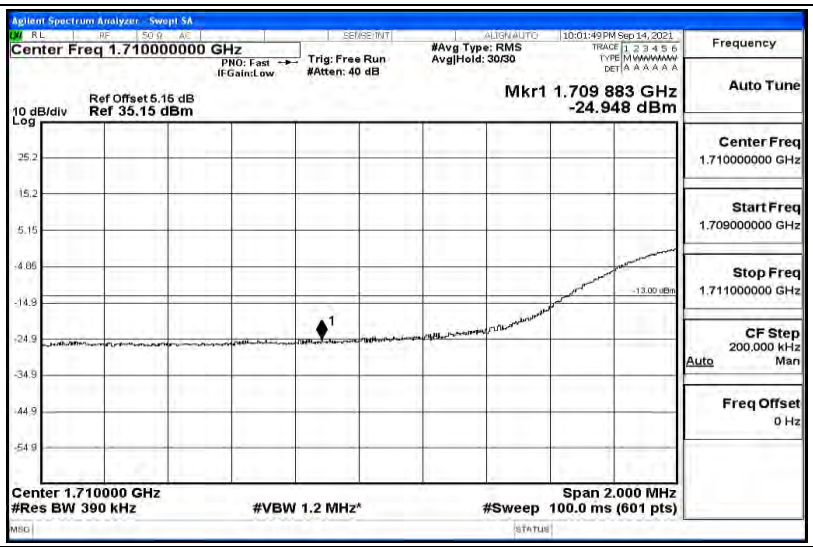
Band66-15MHz-16QAM-132047



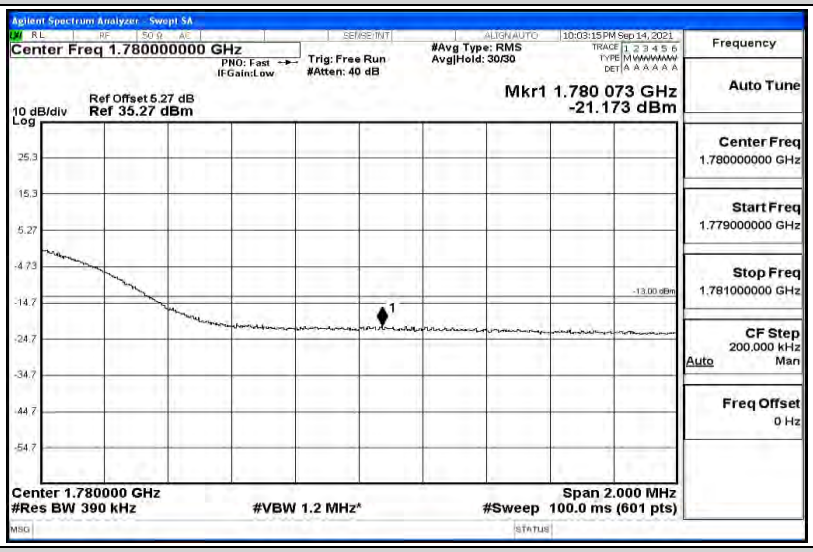
Band66-15MHz-16QAM-132597



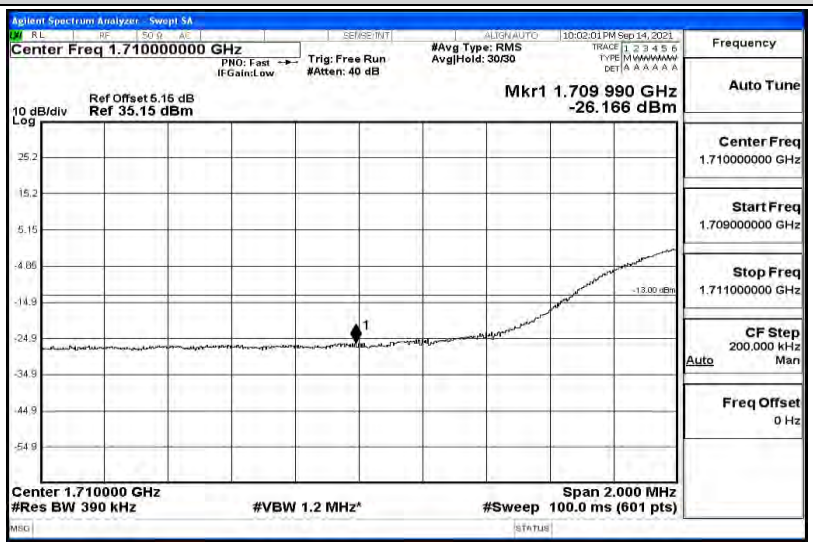
Band66-20MHz-QPSK-132072



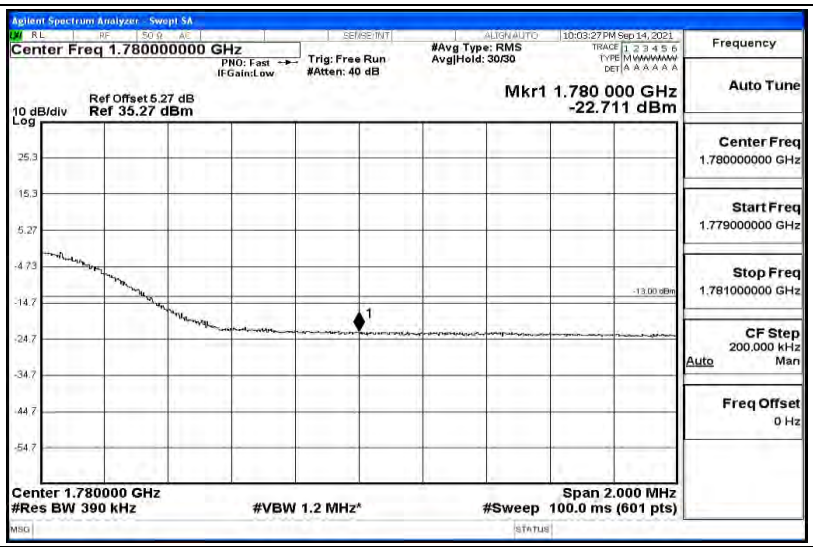
Band66-20MHz-QPSK-132572



Band66-20MHz-16QAM-132072

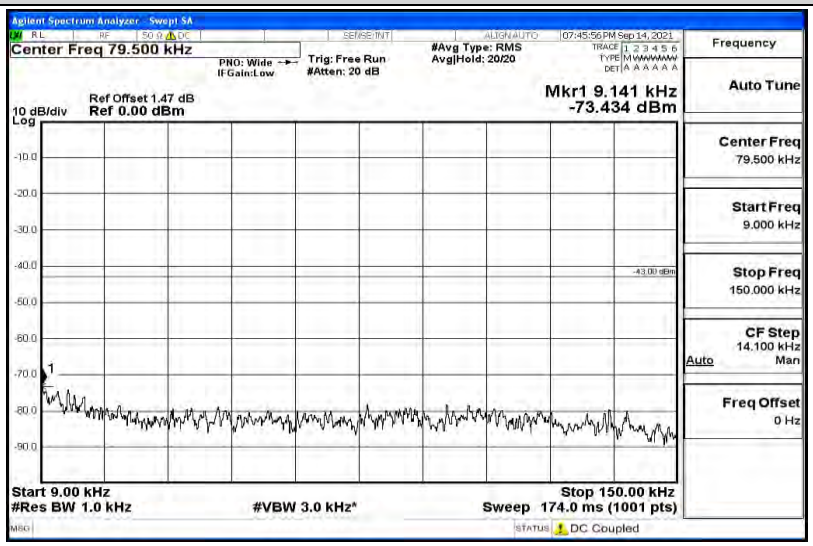
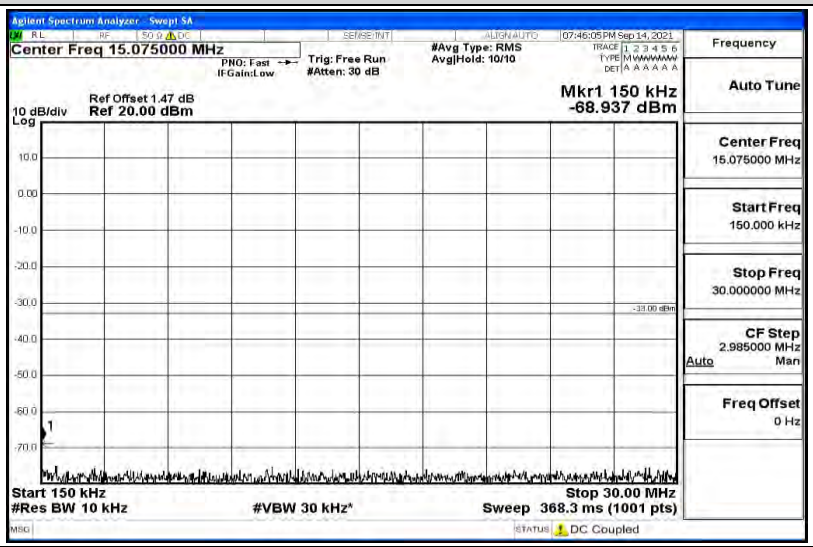


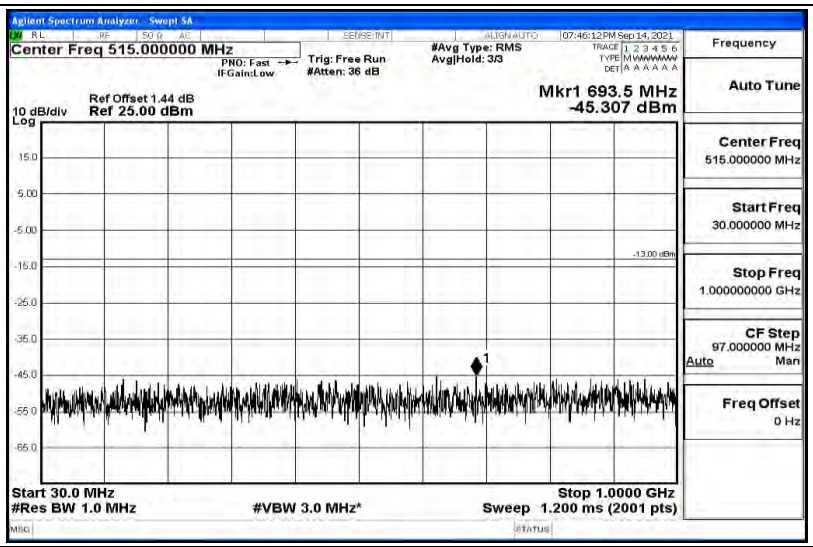
Band66-20MHz-16QAM-132572


Agilent Spectrum Analyzer - Swept SA
Center Freq 1.780000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 30/30
10:03:27 PM Sep 14, 2021
Mkr1 1.780 000 GHz
-22.711 dBm
Ref Offset 5.27 dB
10 dB/div
Log
Ref 35.27 dBm
25.3
15.3
5.27
-4.73
-14.7
-24.7
-34.7
-44.7
-54.7
-13.00 dBm
Center 1.780000 GHz
#Res BW 390 kHz
#VBW 1.2 MHz
Span 2.000 MHz
#Sweep 100.0 ms (601 pts)
Frequency
Auto Tune
Center Freq
1.780000000 GHz
Start Freq
1.779000000 GHz
Stop Freq
1.781000000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

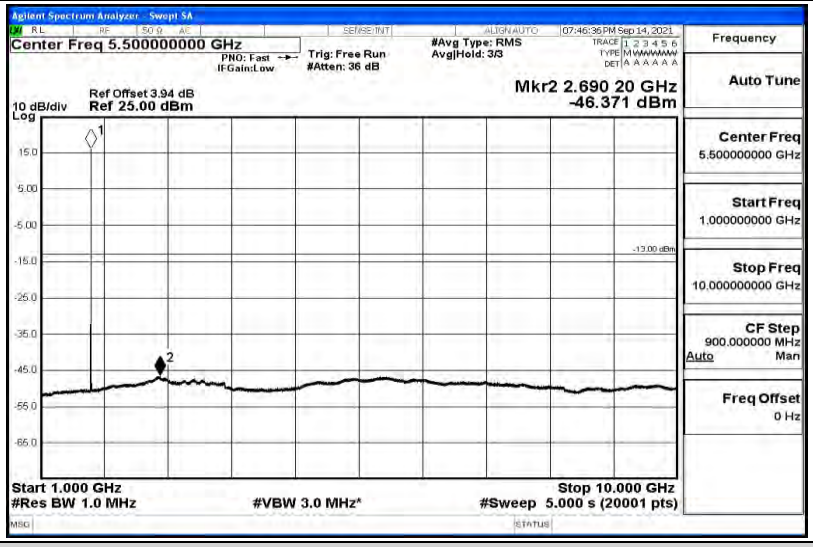
G.5 Conducted Spurious Emission

Test Graphs

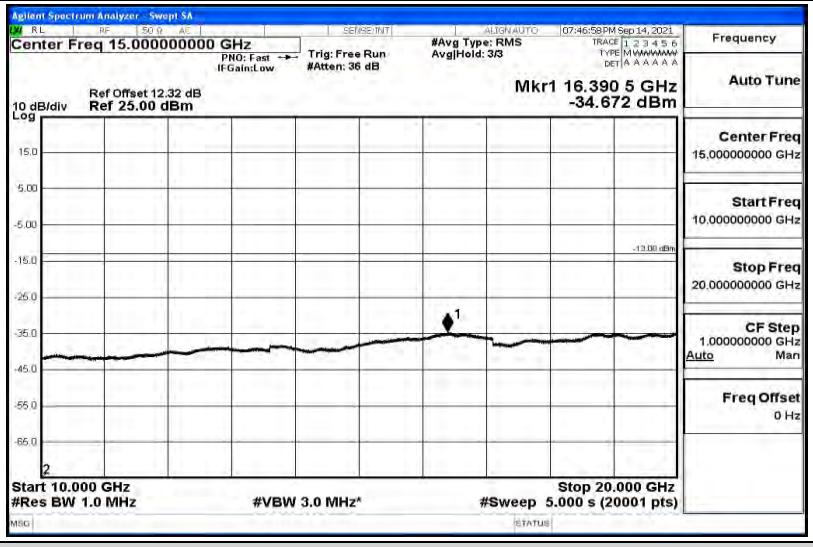
Band66-1.4MHz-QPSK-131979-Range1:0.009~0.15MHz

Band66-1.4MHz-QPSK-131979-Range2:0.15~30MHz

Band66-1.4MHz-QPSK-131979-Range3:30~1000MHz



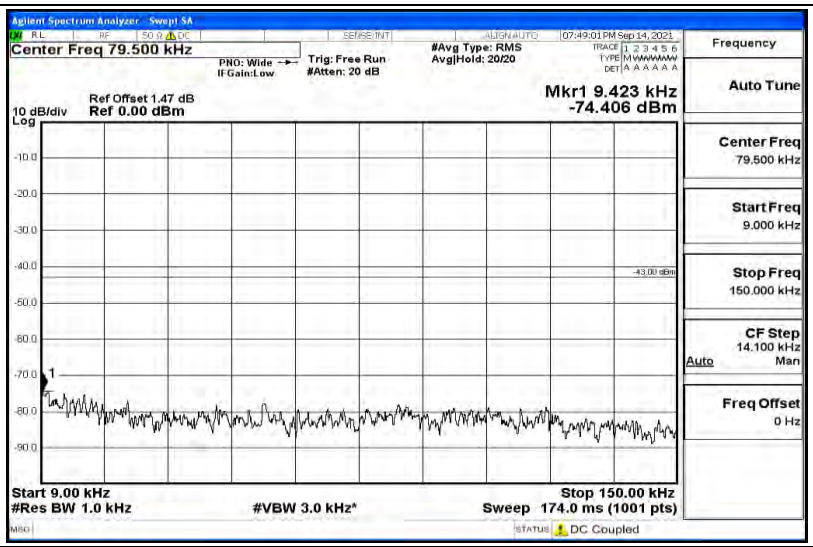
Band66-1.4MHz-QPSK-131979-Range4:1000~10000MHz



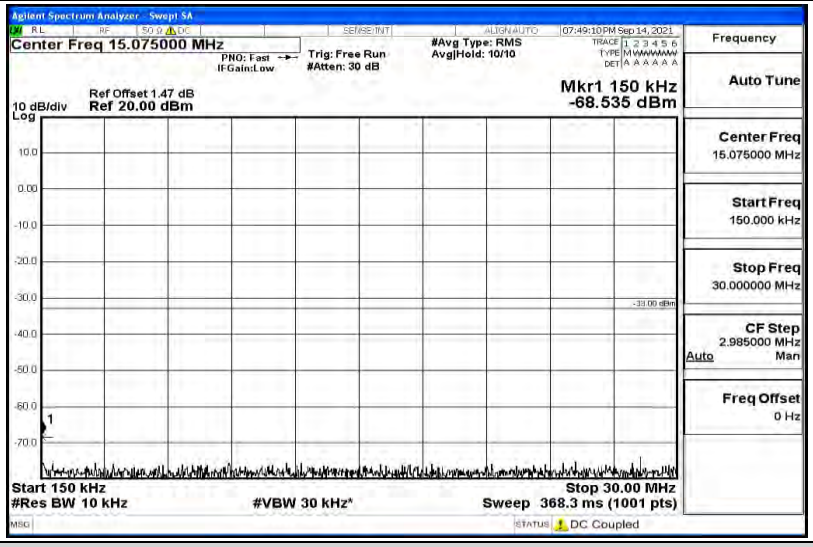
Band66-1.4MHz-QPSK-131979-Range5:10000~20000MHz



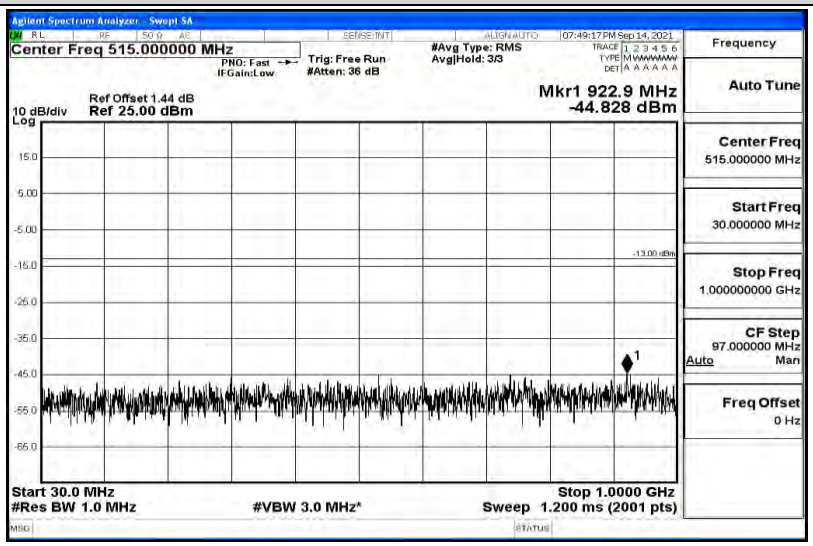
Band66-1.4MHz-QPSK-132322-Range1:0.009~0.15MHz



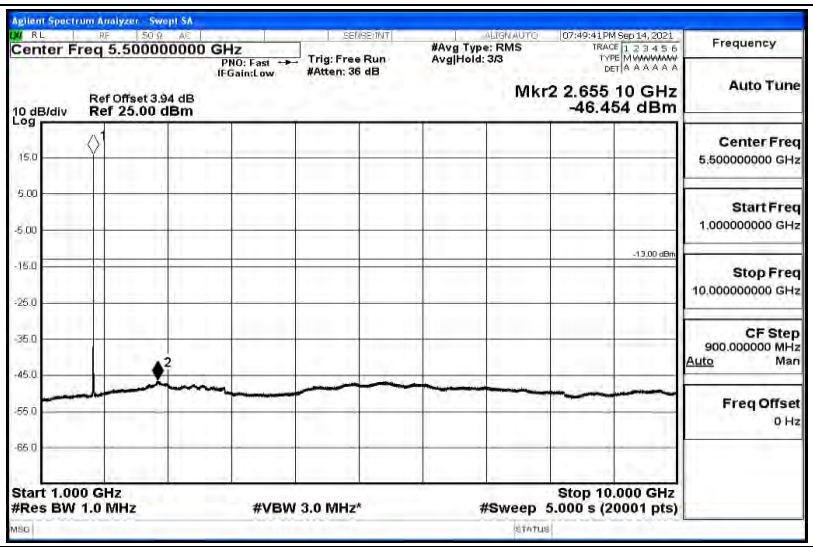
Band66-1.4MHz-QPSK-132322-Range2:0.15~30MHz



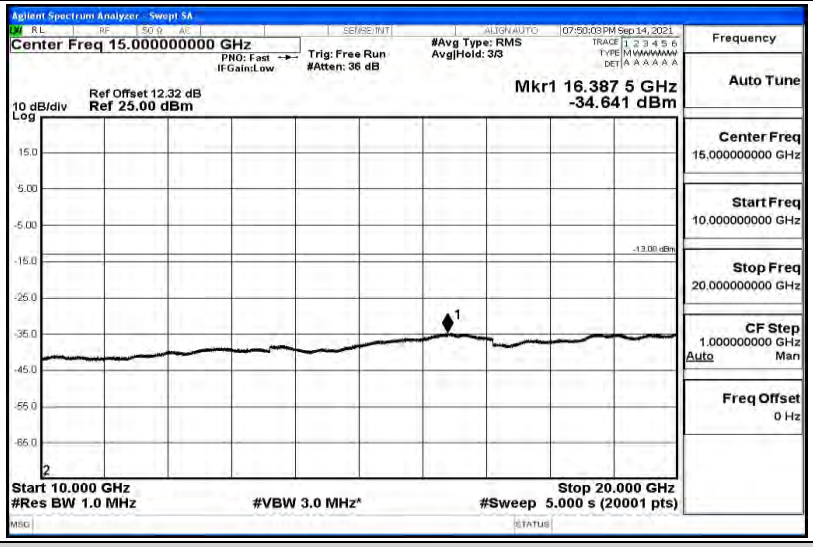
Band66-1.4MHz-QPSK-132322-Range3:30~1000MHz



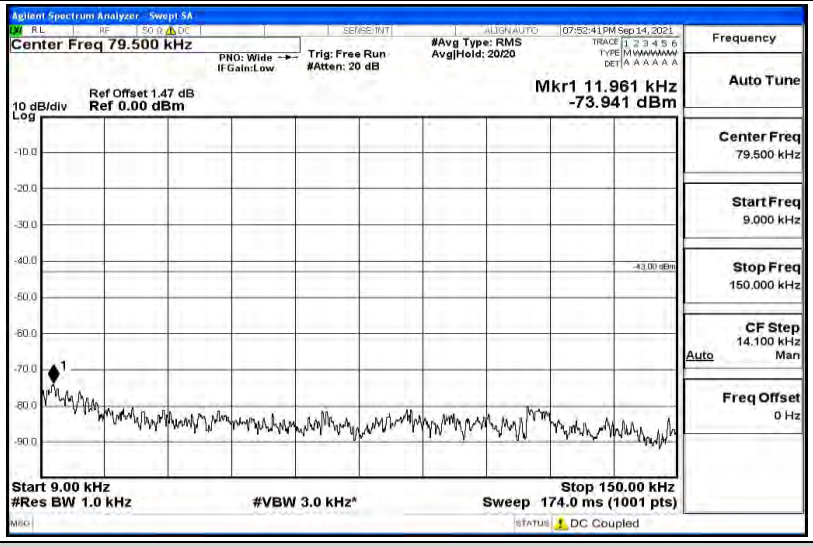
Band66-1.4MHz-QPSK-132322-Range4:1000~10000MHz



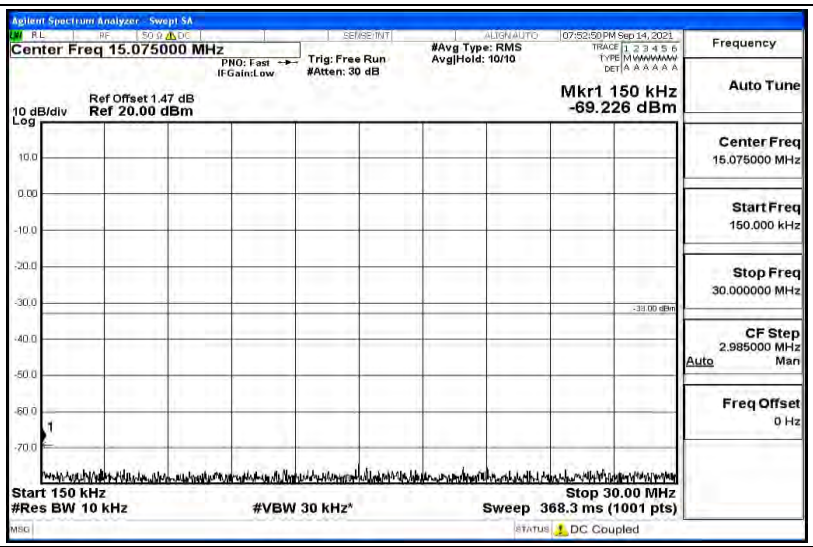
Band66-1.4MHz-QPSK-132322-Range5:10000~20000MHz



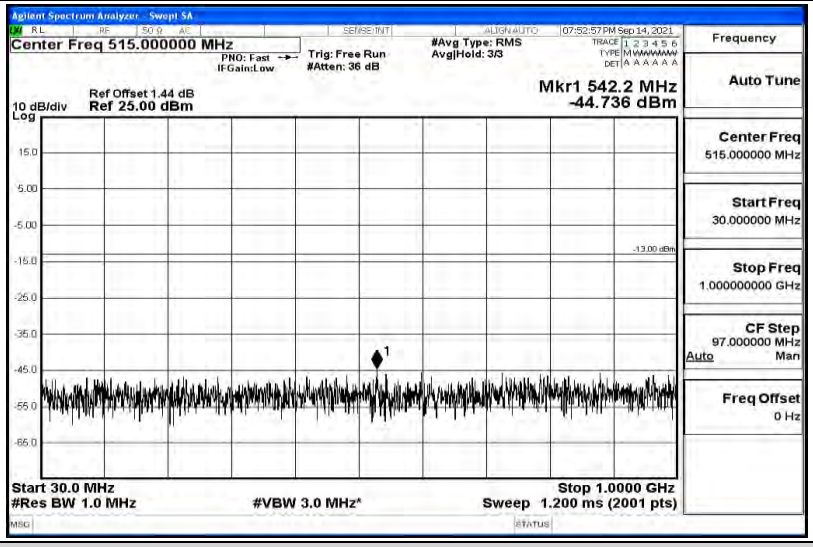
Band66-1.4MHz-QPSK-132665-Range1:0.009~0.15MHz



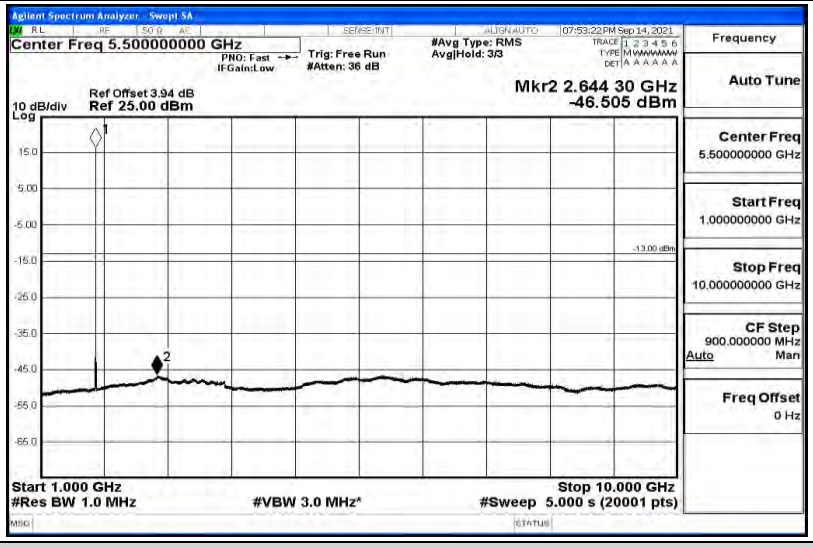
Band66-1.4MHz-QPSK-132665-Range2:0.15~30MHz



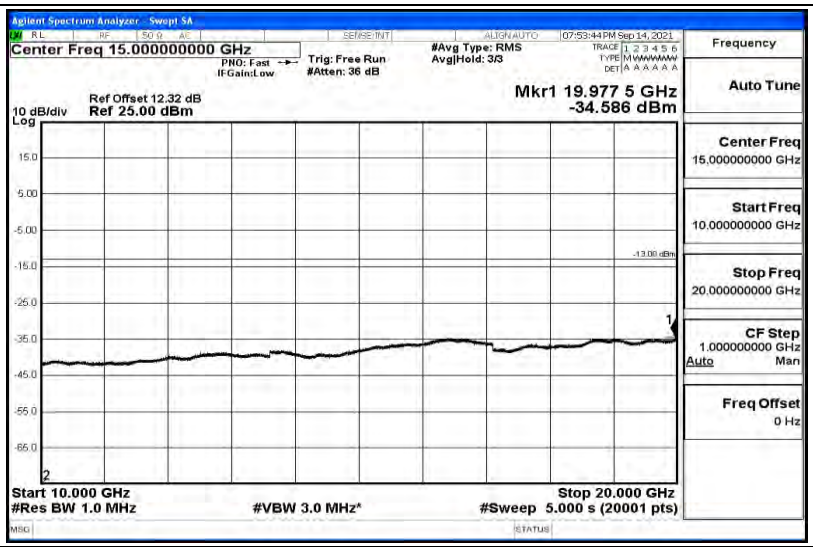
Band66-1.4MHz-QPSK-132665-Range3:30~1000MHz



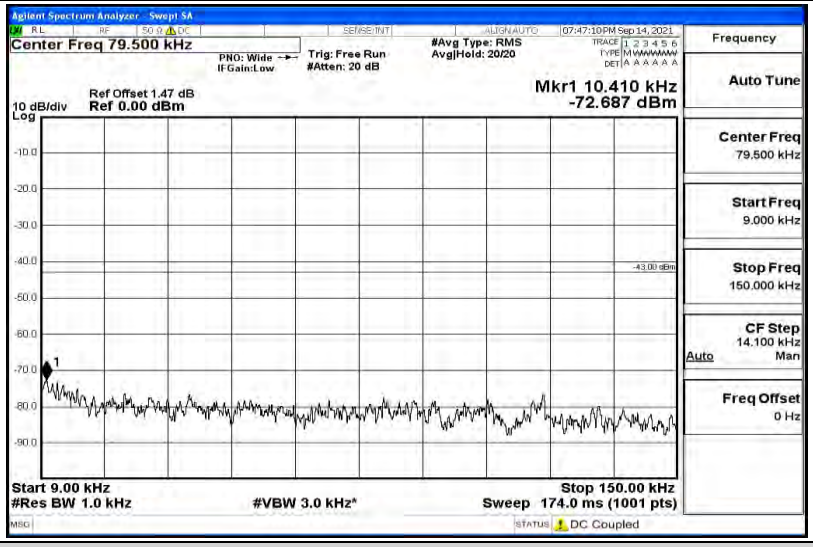
Band66-1.4MHz-QPSK-132665-Range4:1000~10000MHz



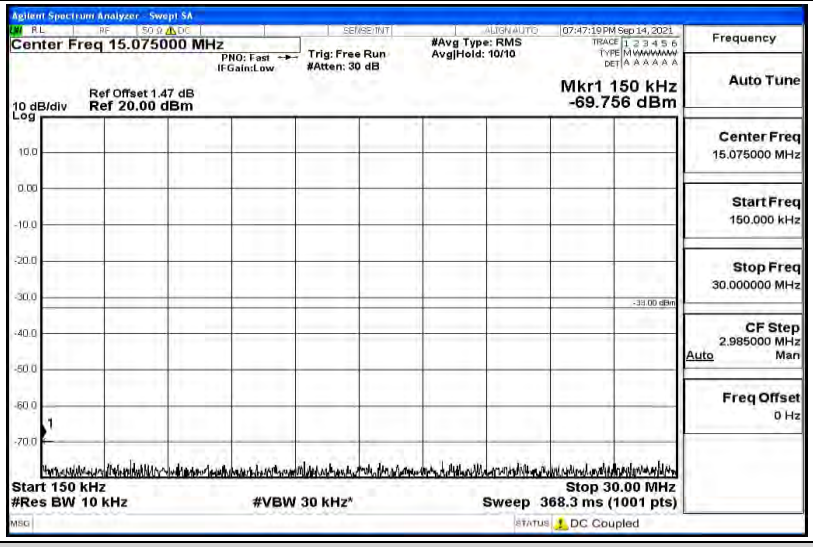
Band66-1.4MHz-QPSK-132665-Range5:10000~20000MHz



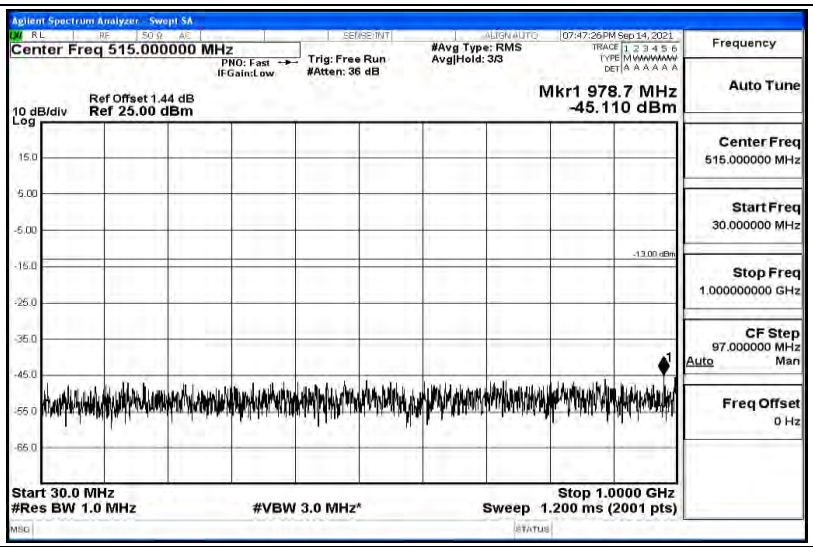
Band66-1.4MHz-16QAM-131979-Range1:0.009~0.15MHz



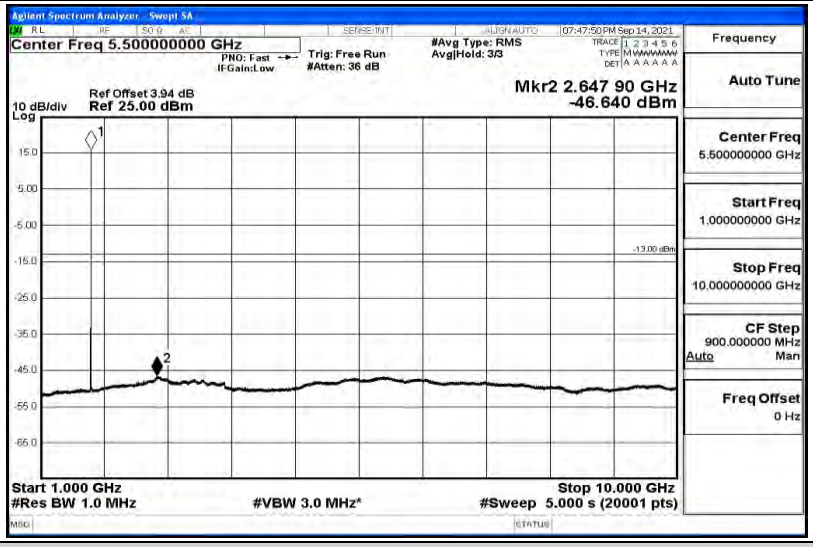
Band66-1.4MHz-16QAM-131979-Range2:0.15~30MHz



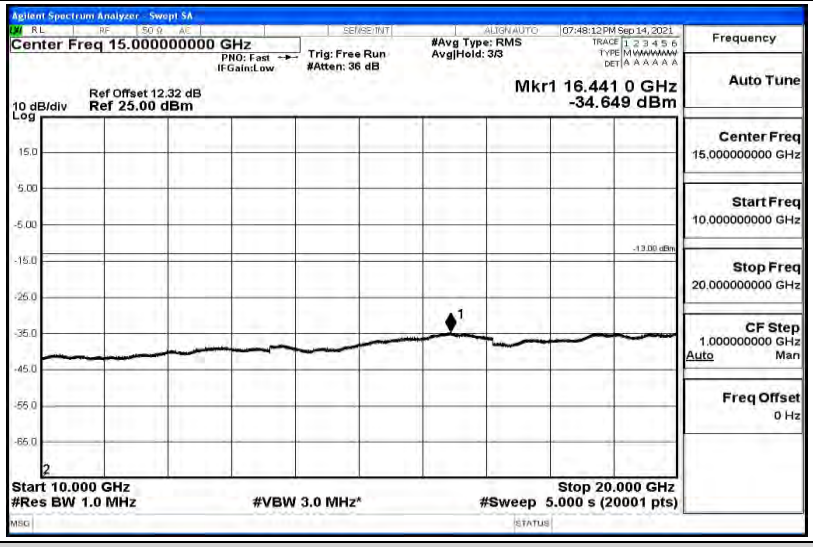
Band66-1.4MHz-16QAM-131979-Range3:30~1000MHz



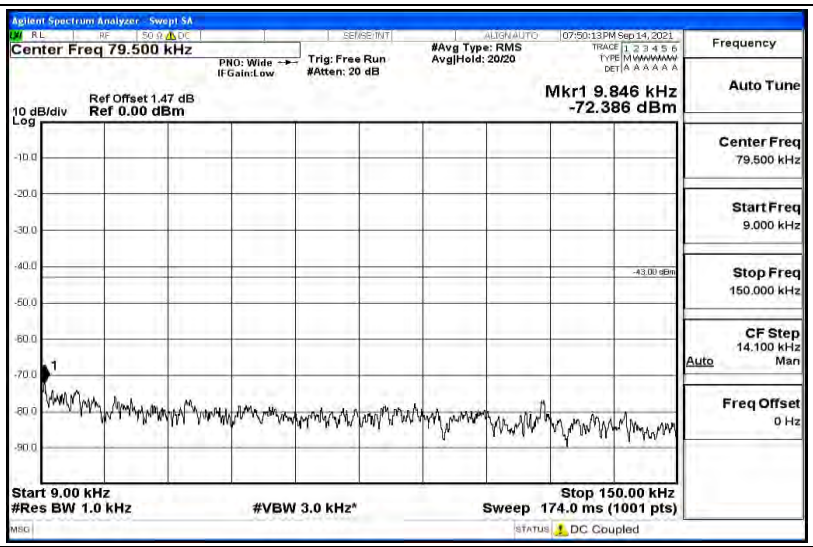
Band66-1.4MHz-16QAM-131979-Range4:1000~10000MHz



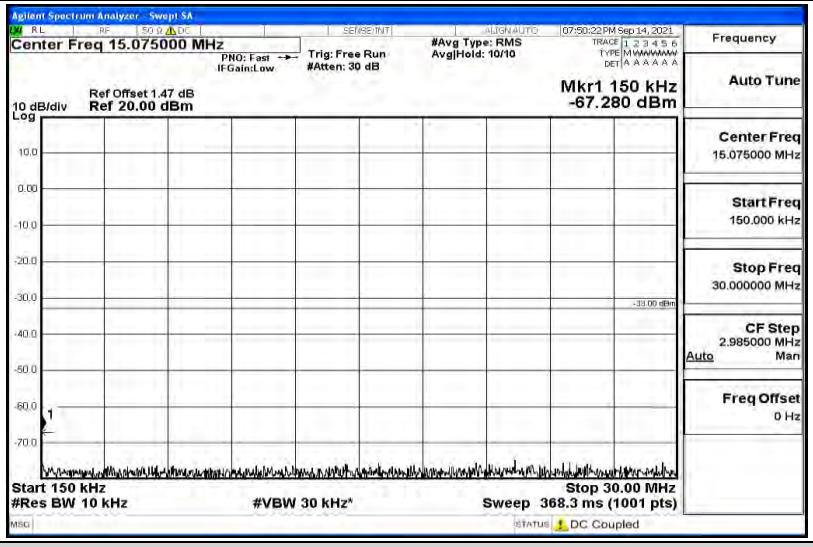
Band66-1.4MHz-16QAM-131979-Range5:10000~20000MHz



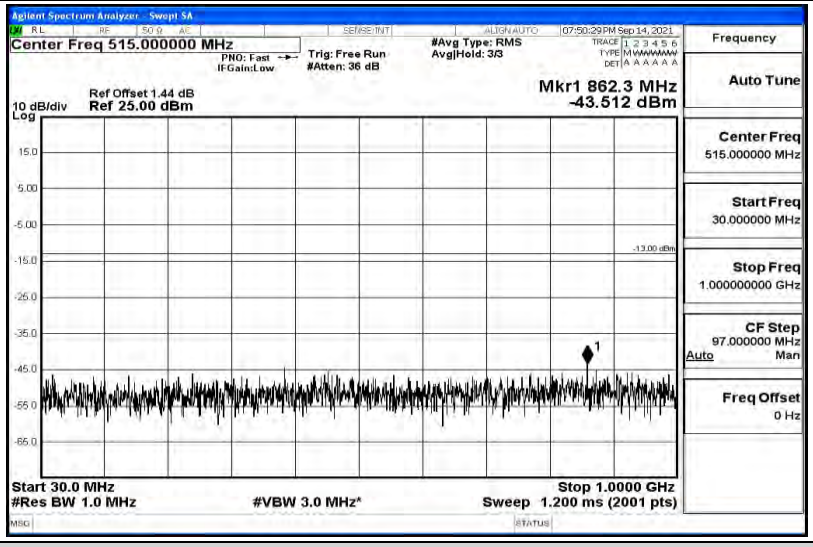
Band66-1.4MHz-16QAM-132322-Range1:0.009~0.15MHz



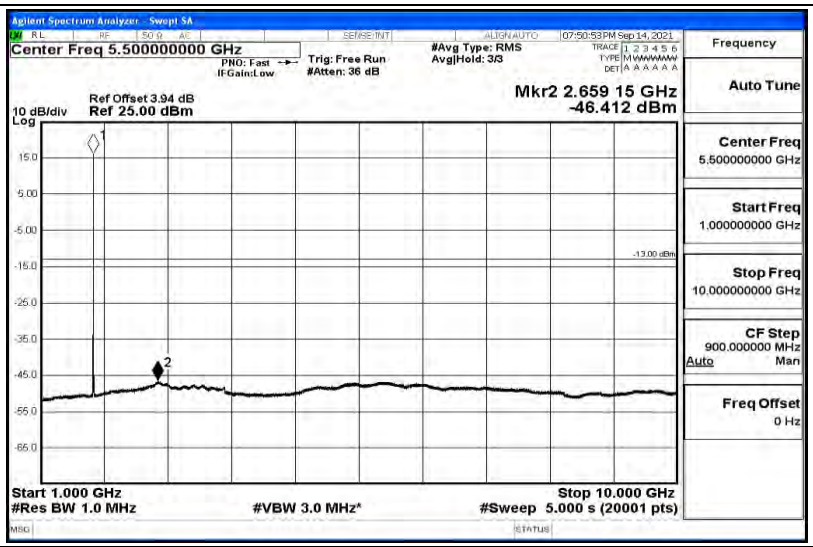
Band66-1.4MHz-16QAM-132322-Range2:0.15~30MHz



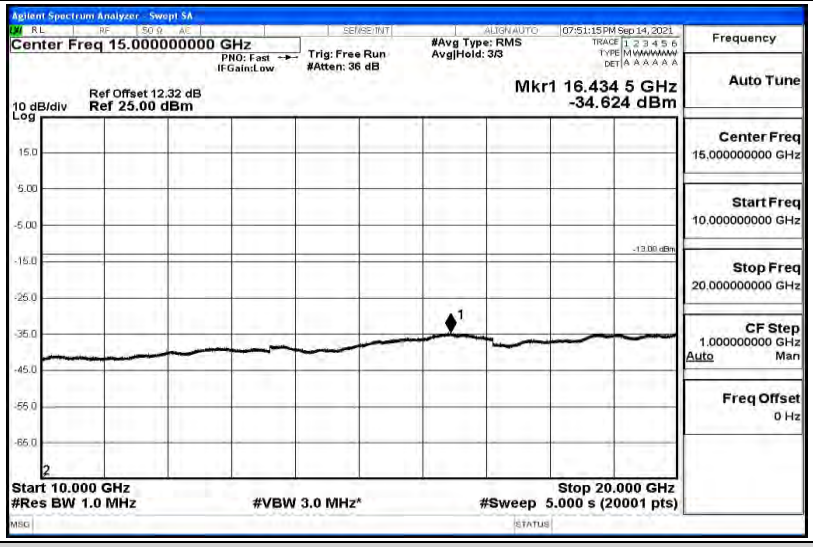
Band66-1.4MHz-16QAM-132322-Range3:30~1000MHz



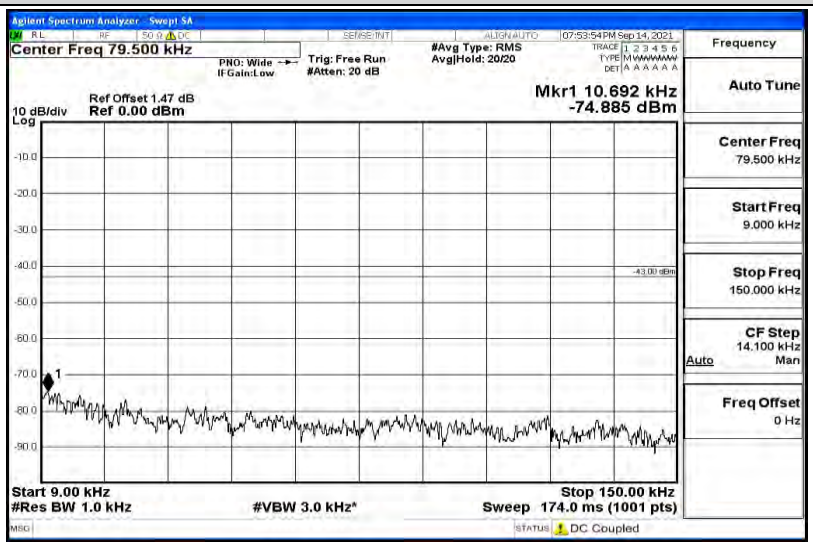
Band66-1.4MHz-16QAM-132322-Range4:1000~10000MHz



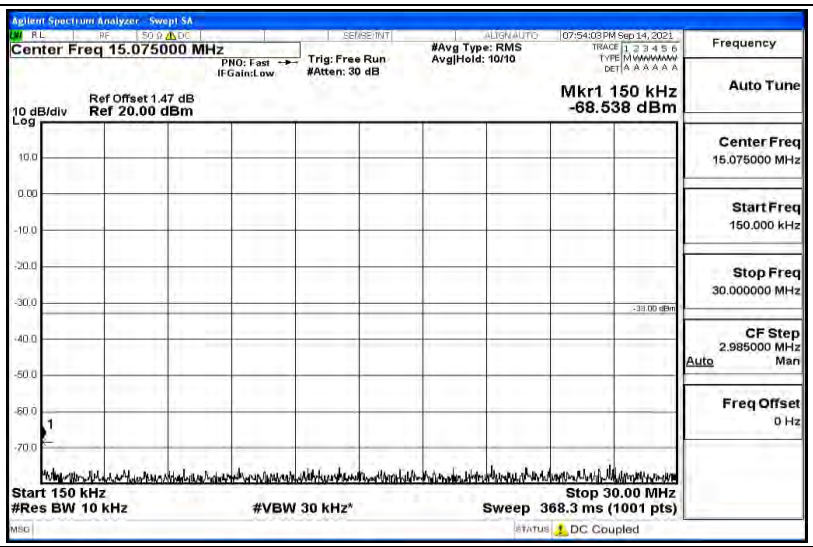
Band66-1.4MHz-16QAM-132322-Range5:10000~20000MHz



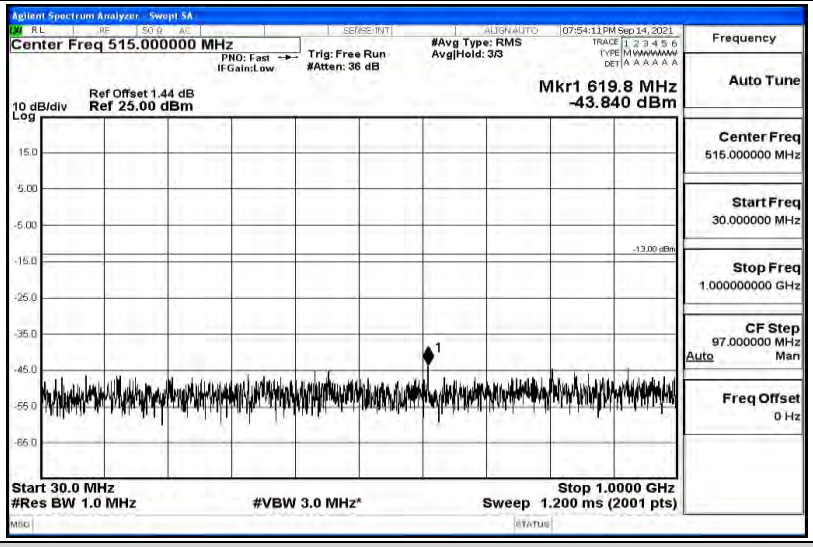
Band66-1.4MHz-16QAM-132665-Range1:0.009~0.15MHz



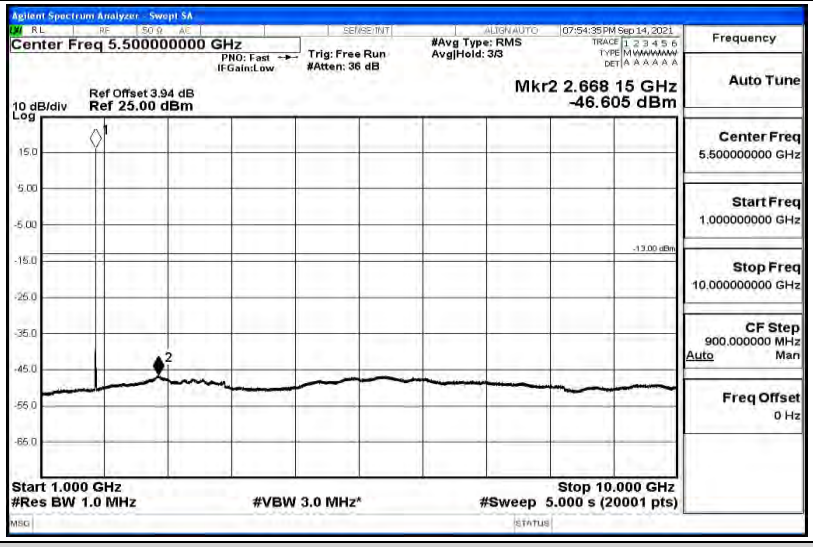
Band66-1.4MHz-16QAM-132665-Range2:0.15~30MHz



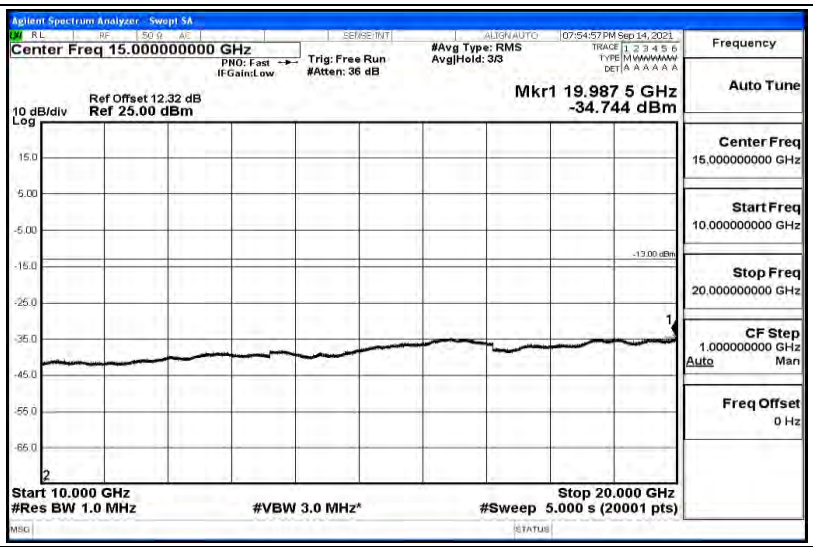
Band66-1.4MHz-16QAM-132665-Range3:30~1000MHz



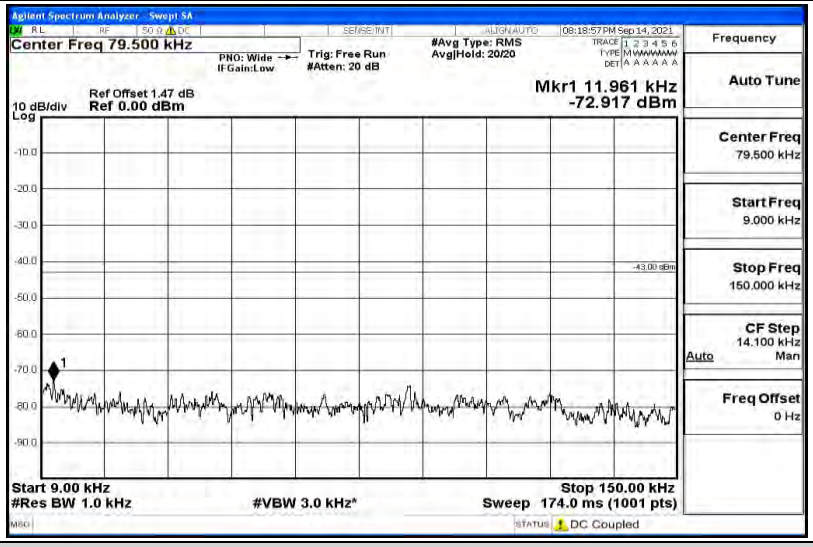
Band66-1.4MHz-16QAM-132665-Range4:1000~10000MHz



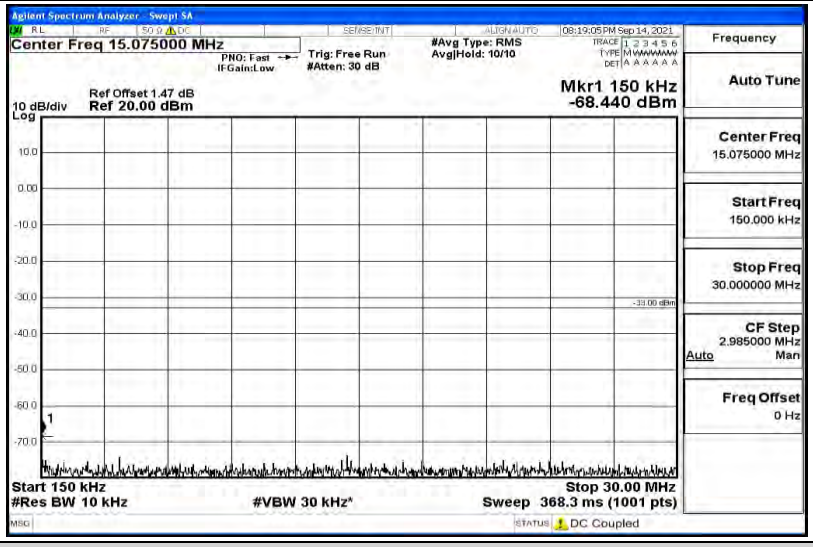
Band66-1.4MHz-16QAM-132665-Range5:10000~20000MHz



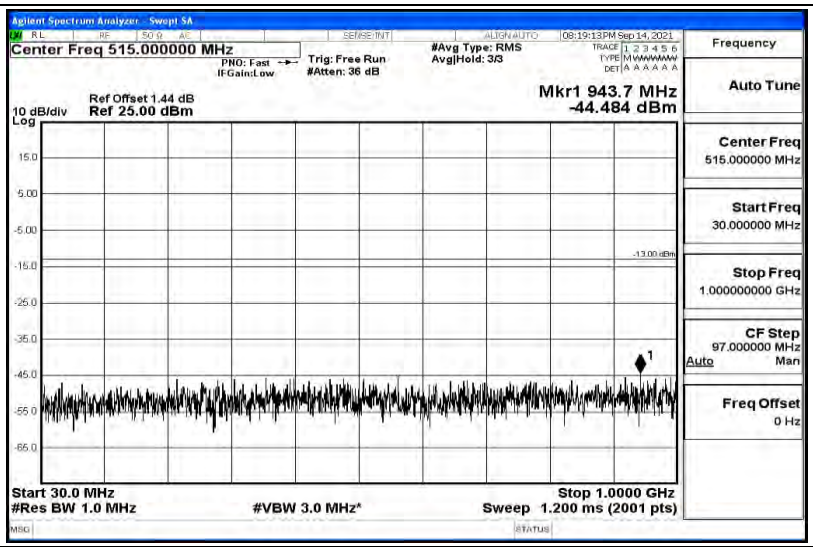
Band66-3MHz-QPSK-131987-Range1:0.009~0.15MHz



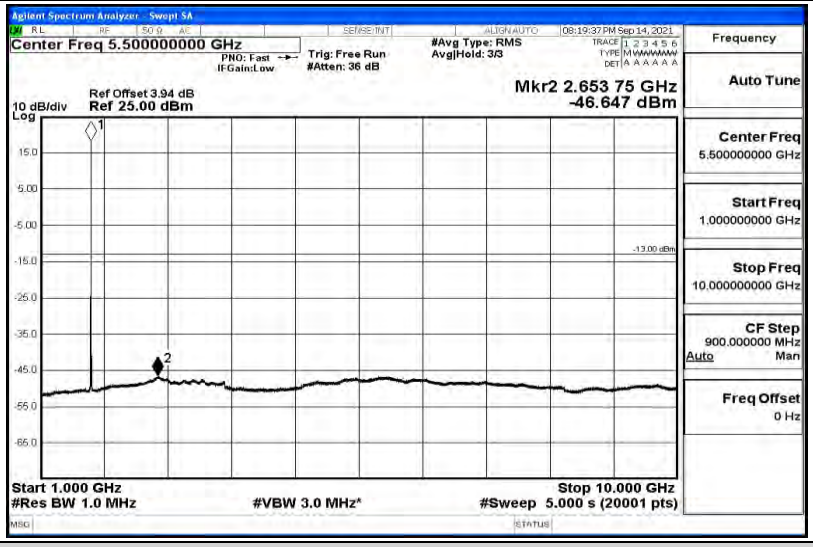
Band66-3MHz-QPSK-131987-Range2:0.15~30MHz



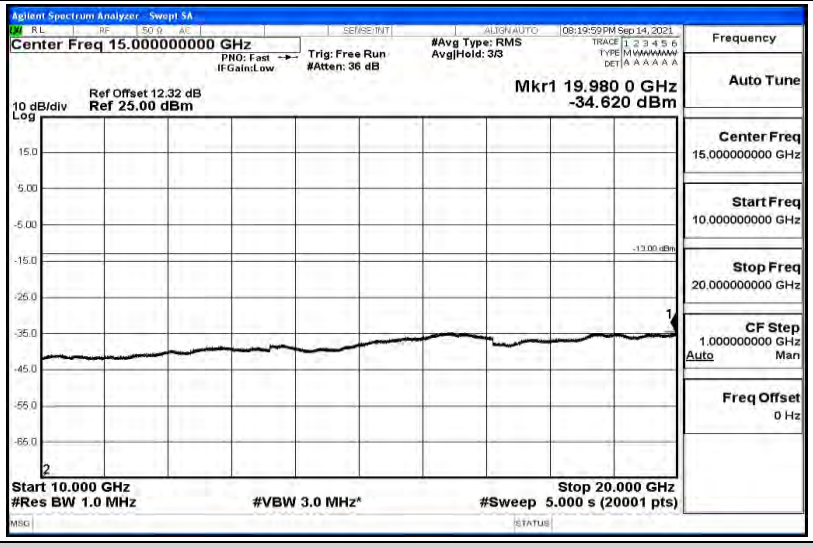
Band66-3MHz-QPSK-131987-Range3:30~1000MHz



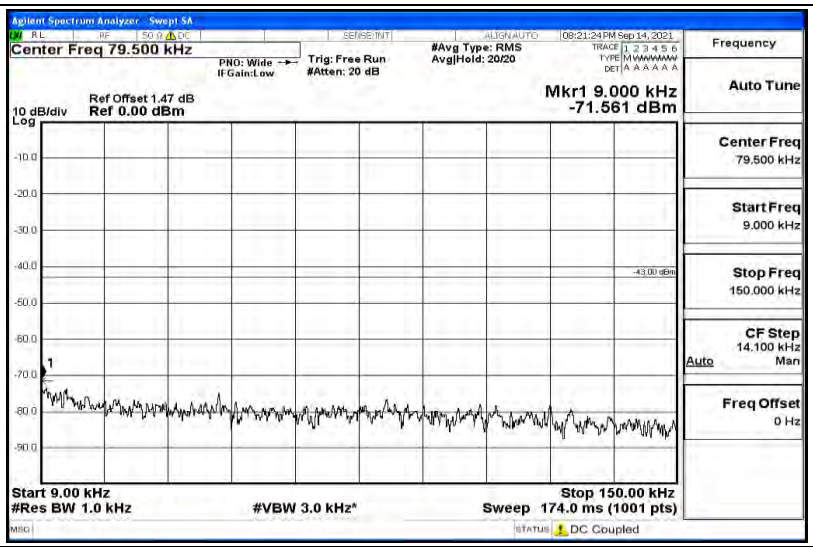
Band66-3MHz-QPSK-131987--Range4:1000~10000MHz



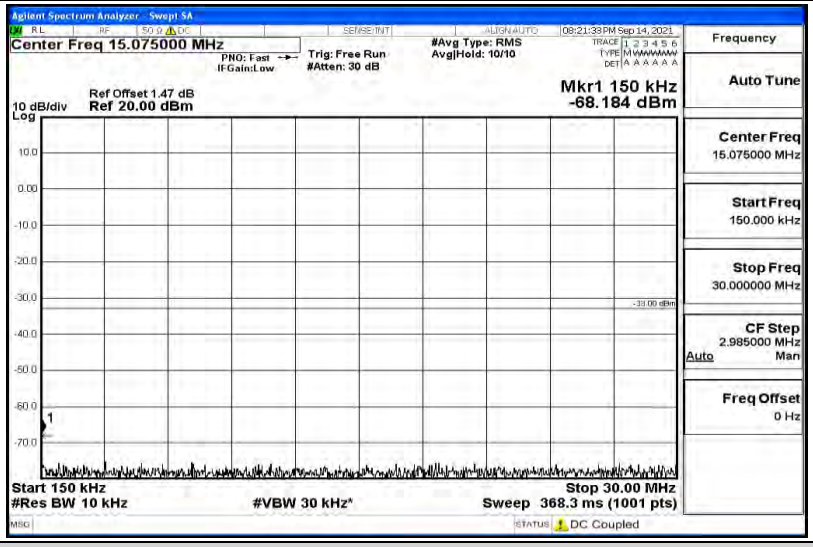
Band66-3MHz-QPSK-131987-Range5:10000~20000MHz



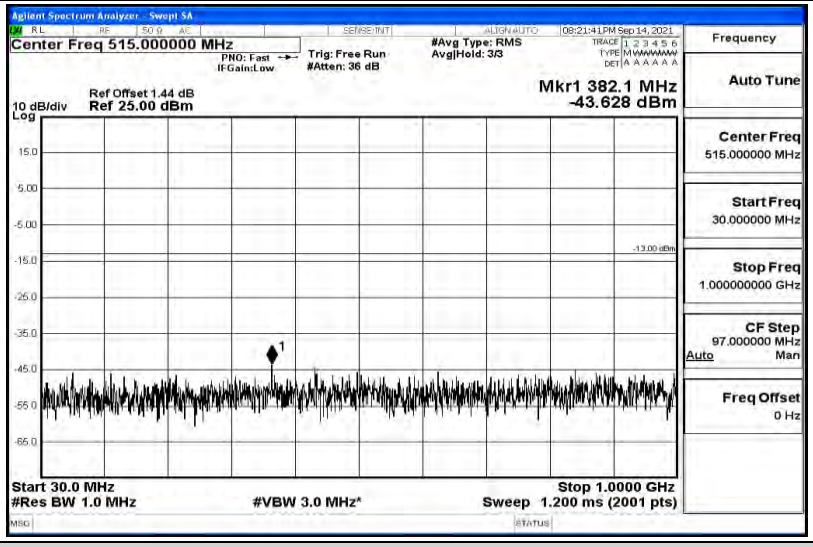
Band66-3MHz-QPSK-132322-Range1:0.009~0.15MHz



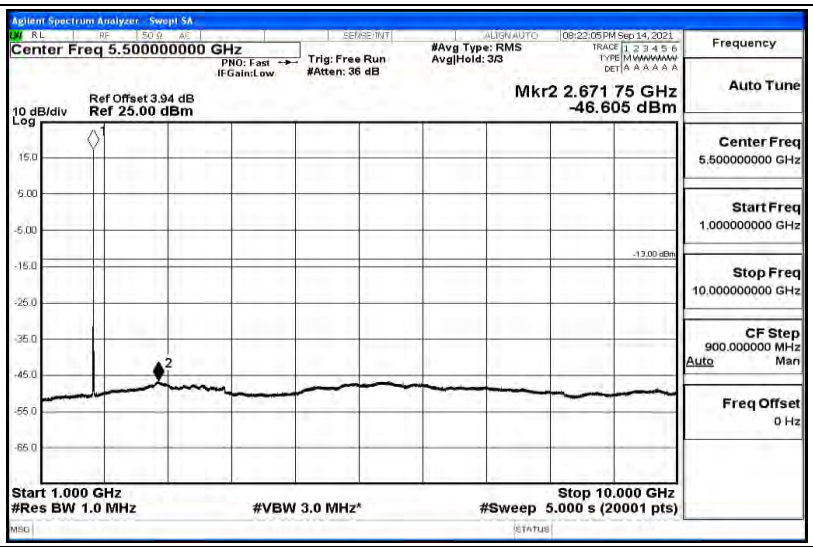
Band66-3MHz-QPSK-132322-Range2:0.15~30MHz



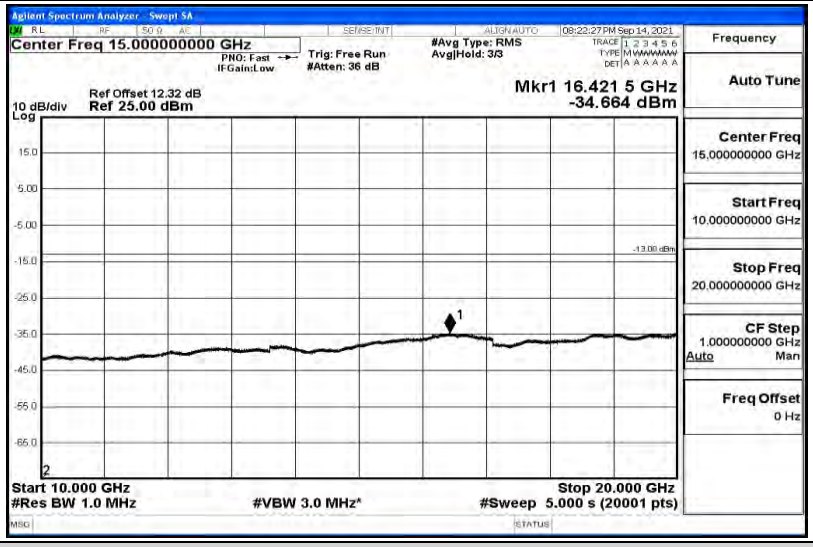
Band66-3MHz-QPSK-132322-Range3:30~1000MHz



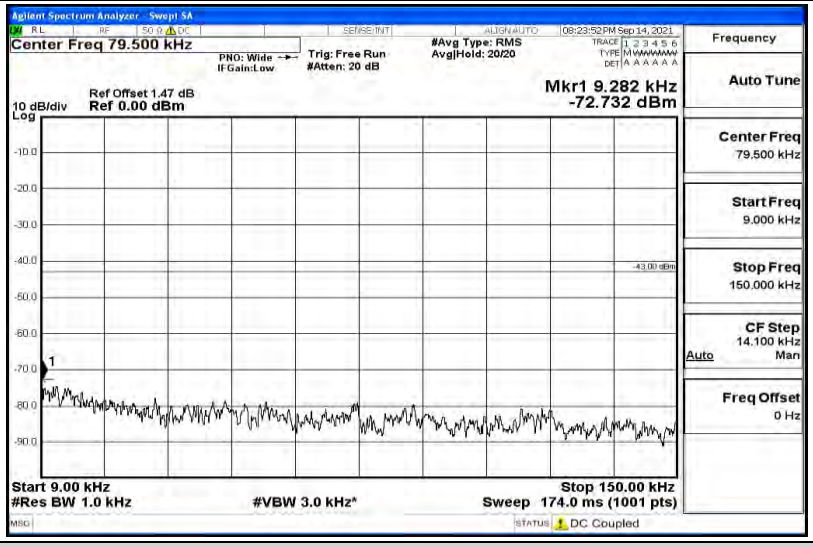
Band66-3MHz-QPSK-132322-Range4:1000~10000MHz



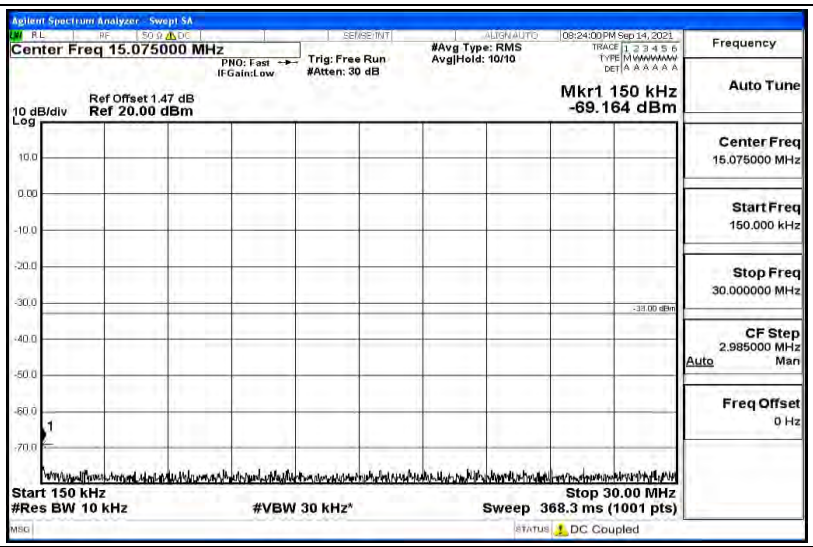
Band66-3MHz-QPSK-132322-Range5:10000~20000MHz



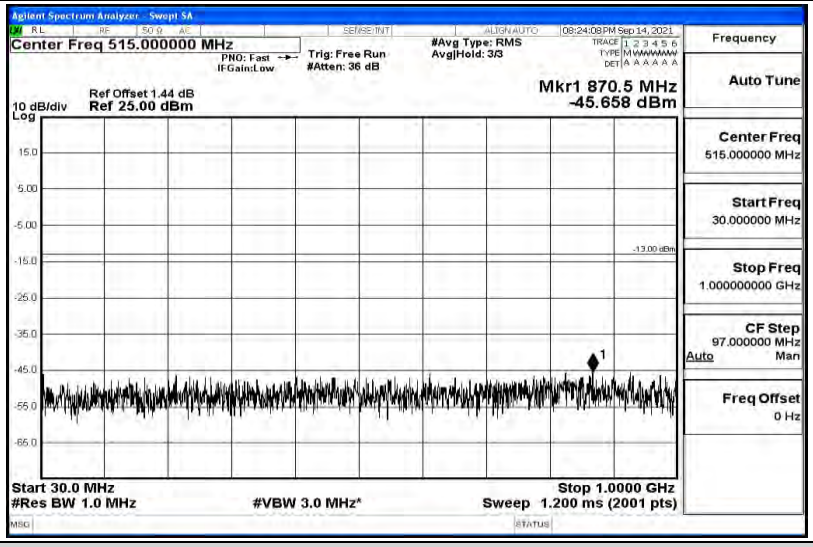
Band66-3MHz-QPSK-132657-Range1:0.009~0.15MHz



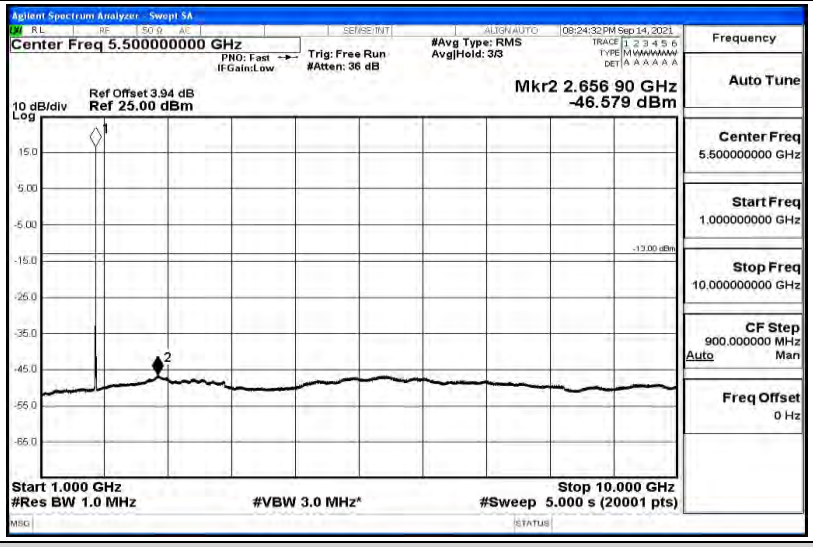
Band66-3MHz-QPSK-132657-Range2:0.15~30MHz



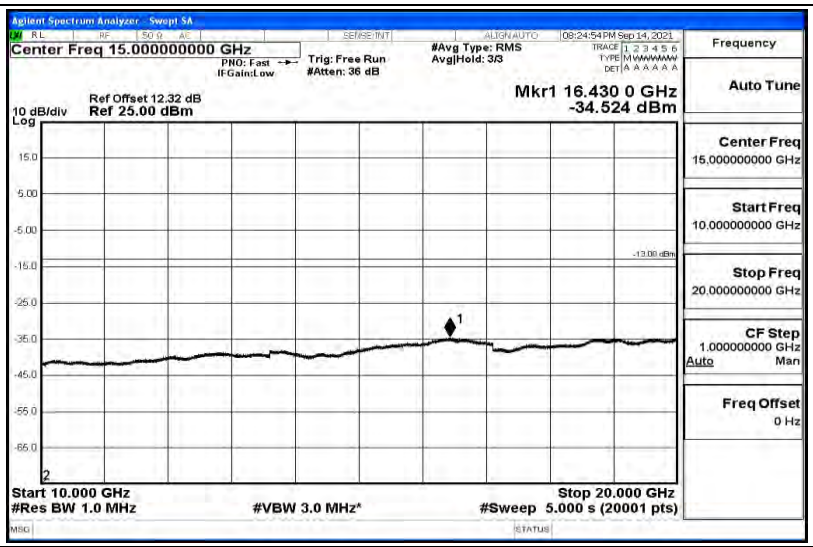
Band66-3MHz-QPSK-132657-Range3:30~1000MHz



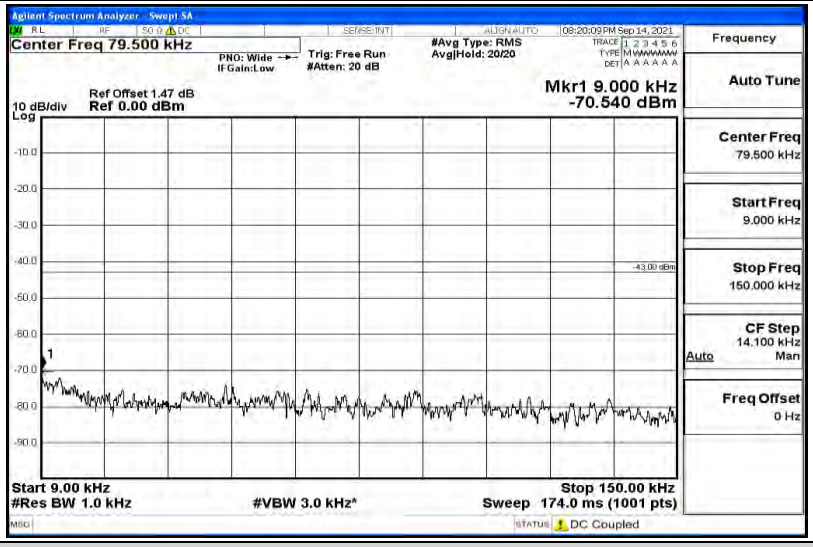
Band66-3MHz-QPSK-132657-Range4:1000~10000MHz



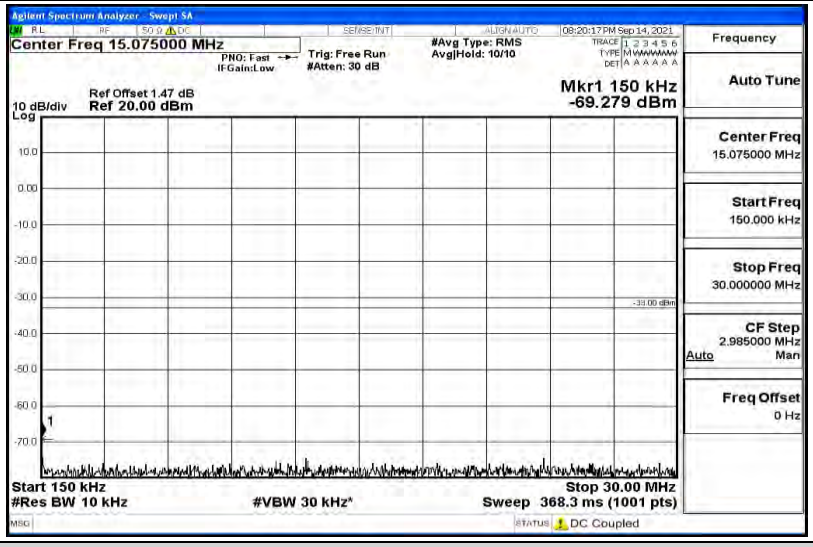
Band66-3MHz-QPSK-132657-Range5:10000~20000MHz



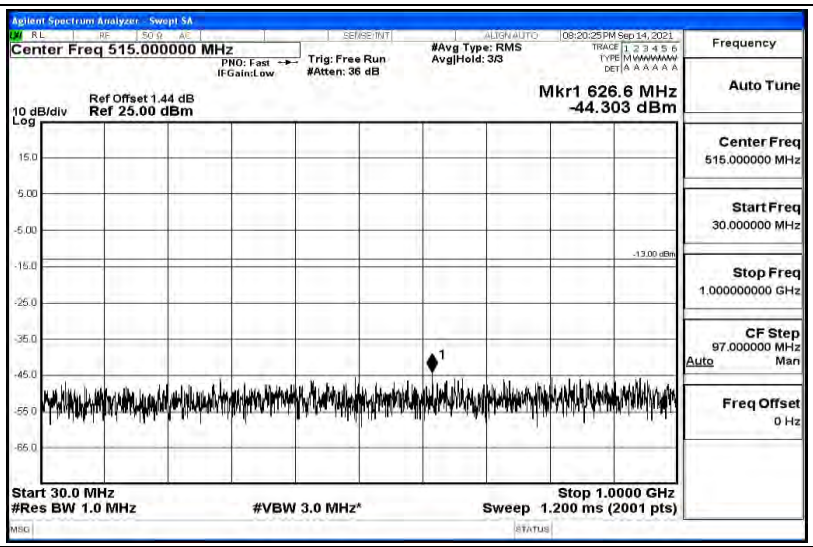
Band66-3MHz-16QAM-131987-Range1:0.009~0.15MHz



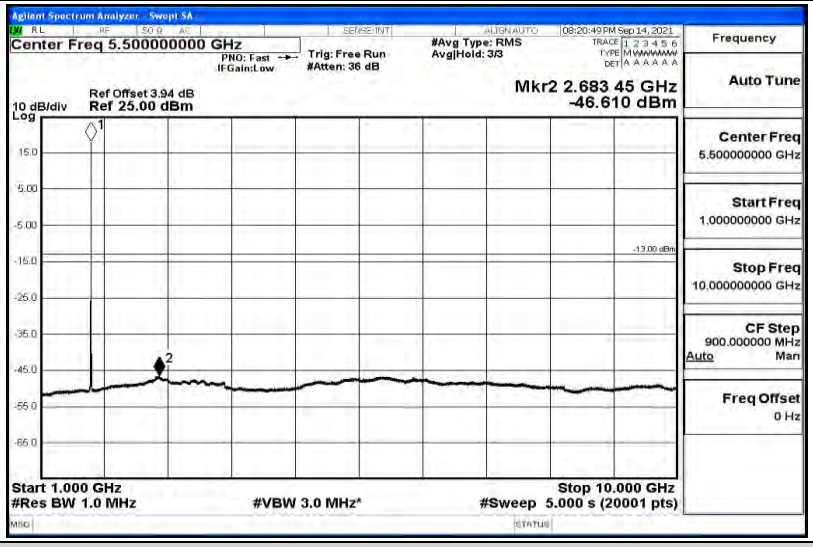
Band66-3MHz-16QAM-131987-Range2:0.15~30MHz



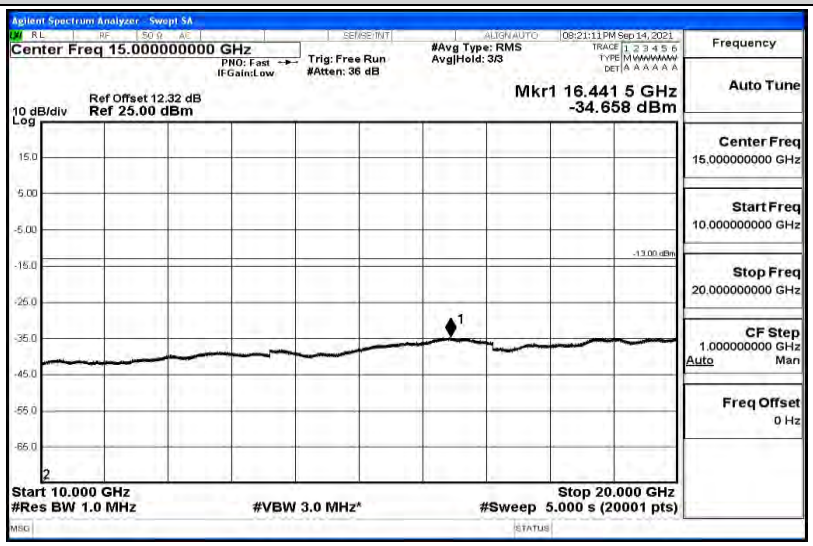
Band66-3MHz-16QAM-131987-Range3:30~1000MHz



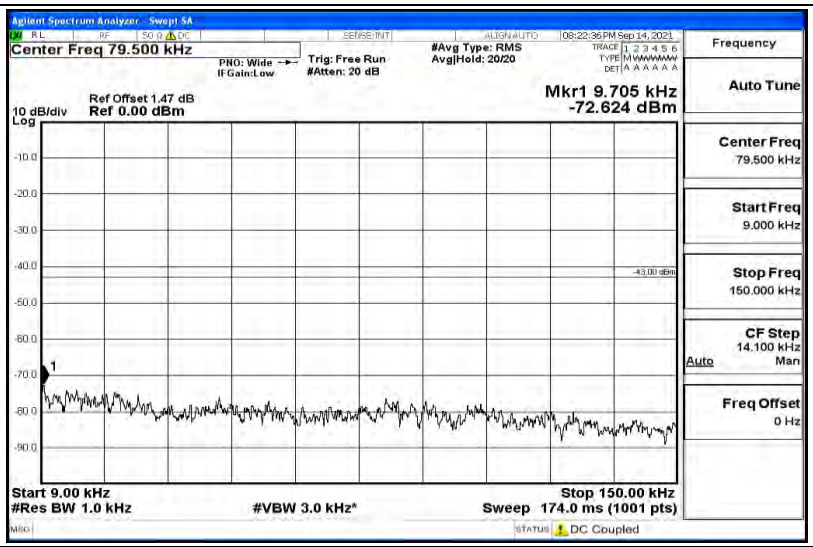
Band66-3MHz-16QAM-131987-Range4:1000~10000MHz



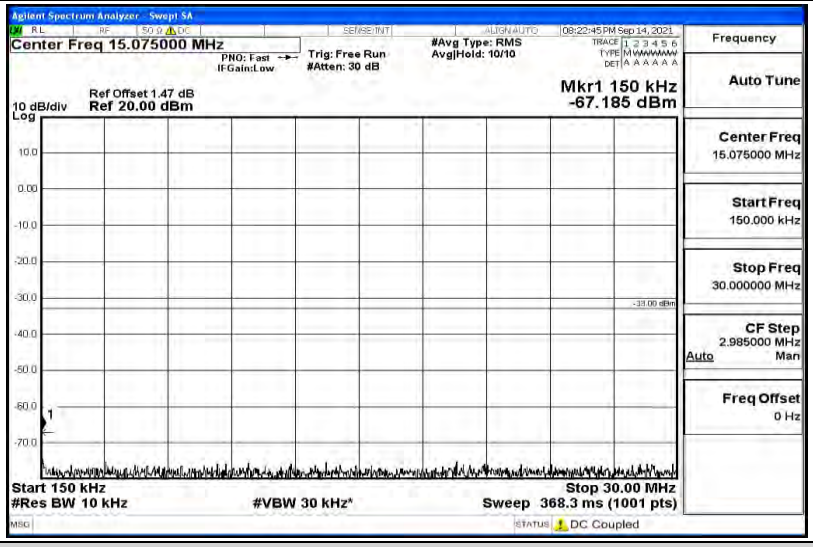
Band66-3MHz-16QAM-131987-Range5:10000~20000MHz



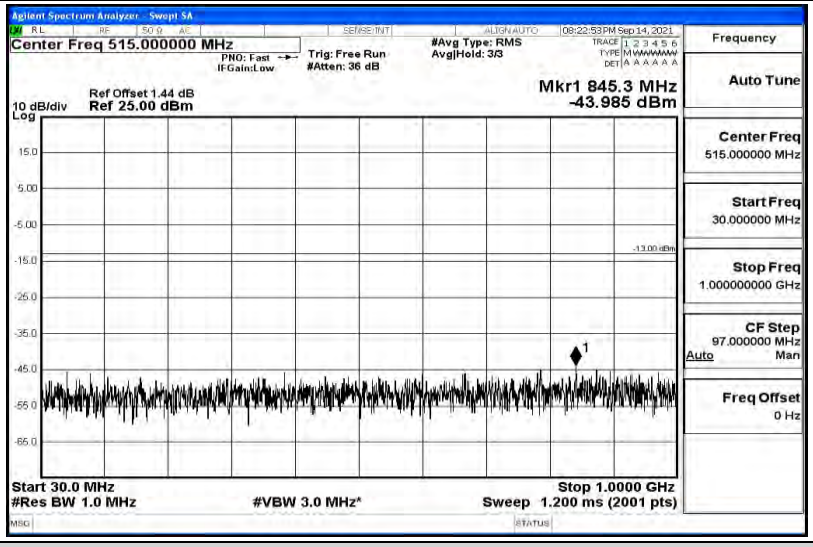
Band66-3MHz-16QAM-132322-Range1:0.009~0.15MHz



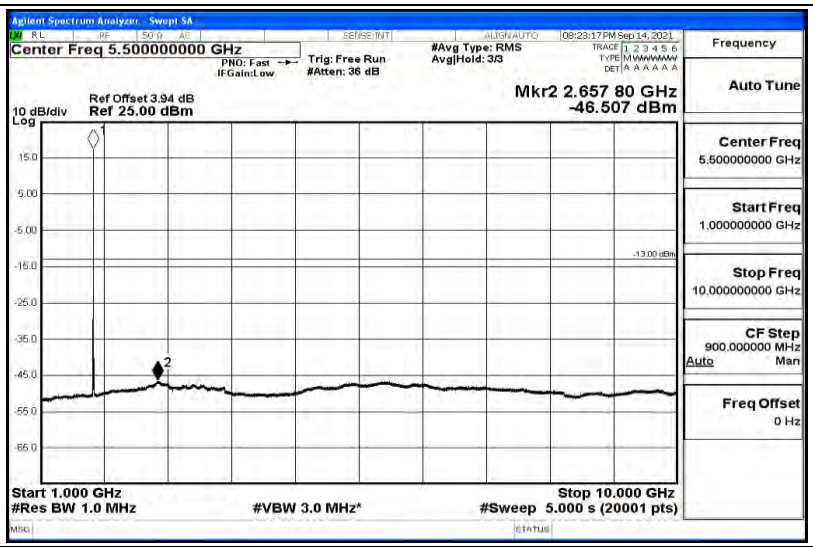
Band66-3MHz-16QAM-132322-Range2:0.15~30MHz



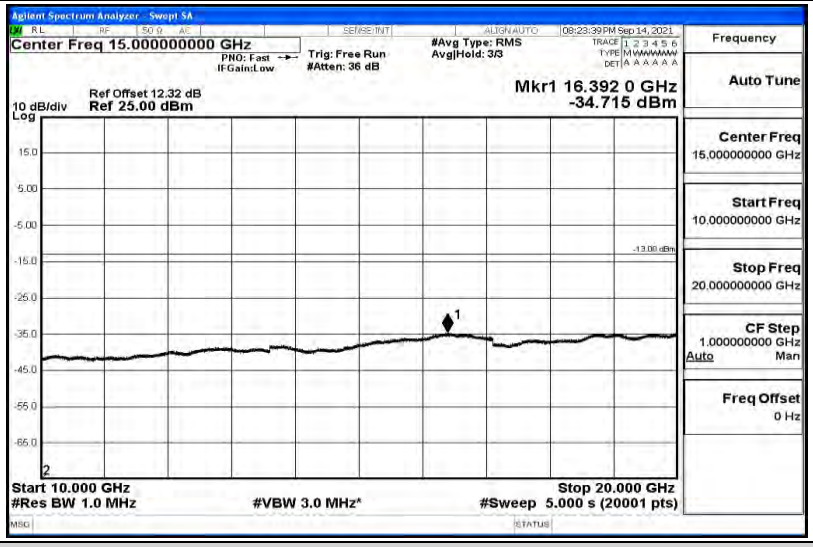
Band66-3MHz-16QAM-132322-Range3:30~1000MHz



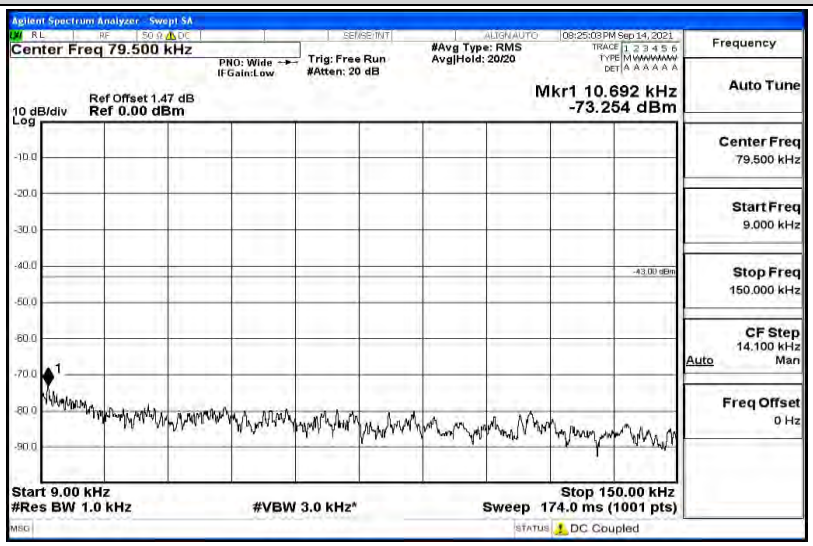
Band66-3MHz-16QAM-132322-Range4:1000~10000MHz



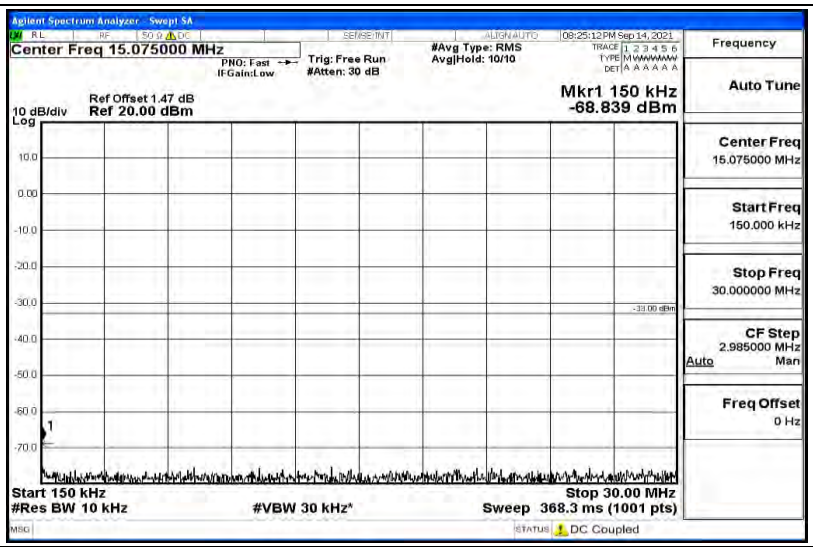
Band66-3MHz-16QAM-132322-Range5:10000~20000MHz



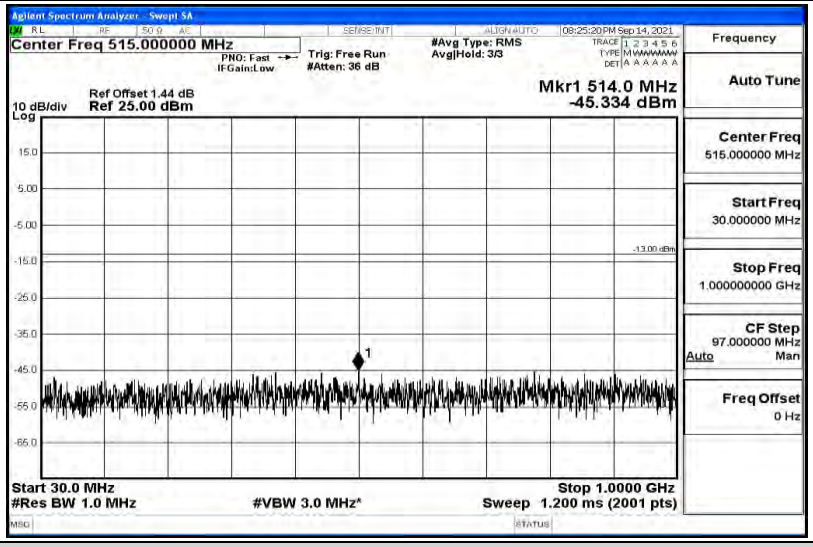
Band66-3MHz-16QAM-132657-Range1:0.009~0.15MHz



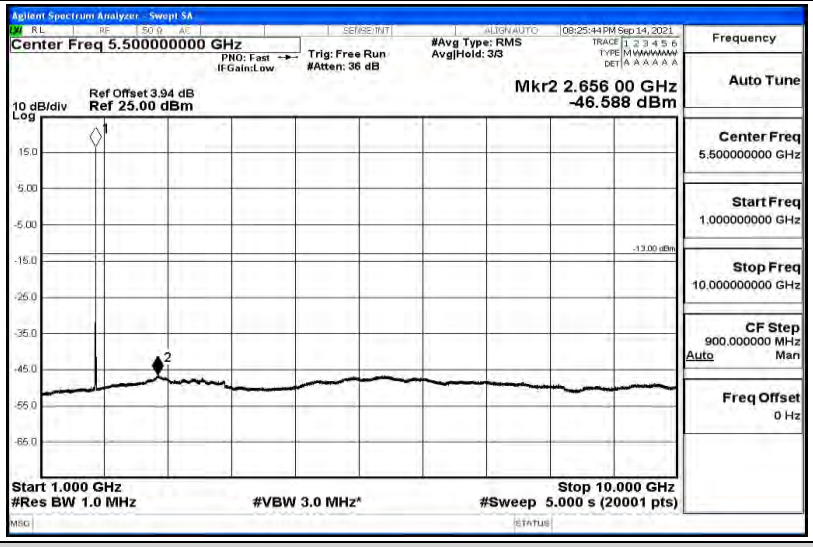
Band66-3MHz-16QAM-132657-Range2:0.15~30MHz



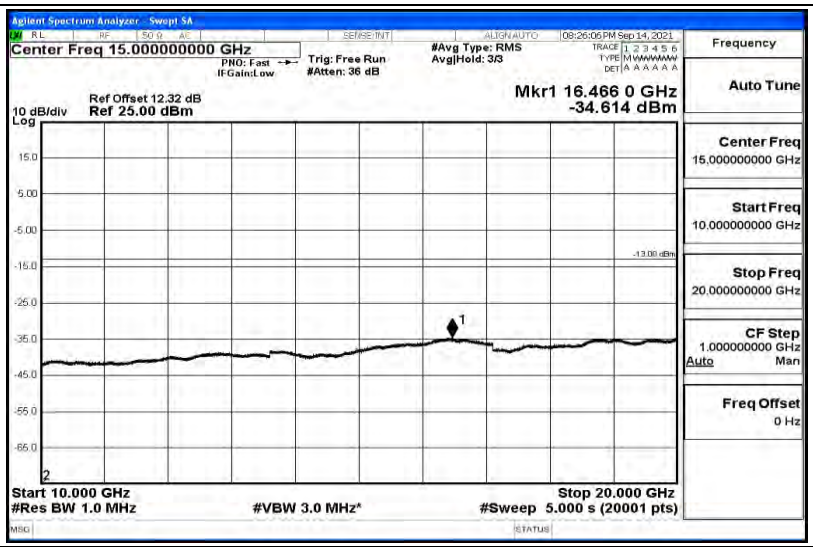
Band66-3MHz-16QAM-132657-Range3:30~1000MHz



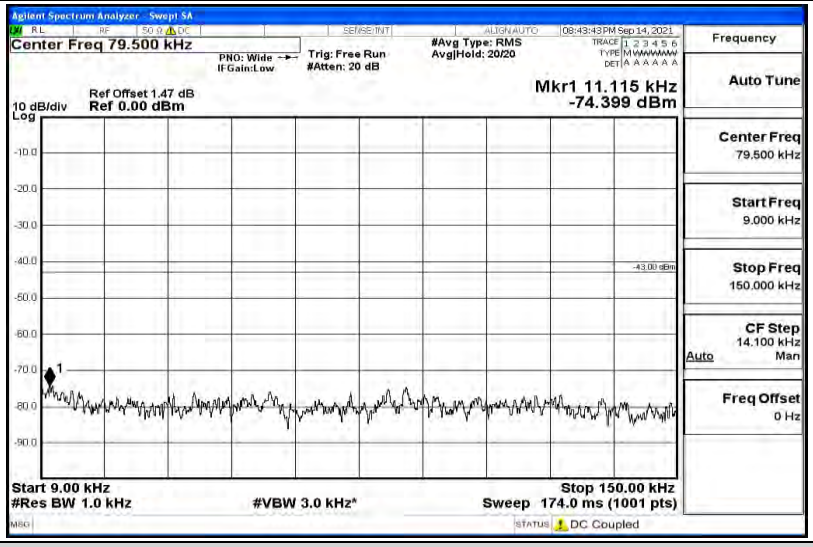
Band66-3MHz-16QAM-132657-Range4:1000~10000MHz



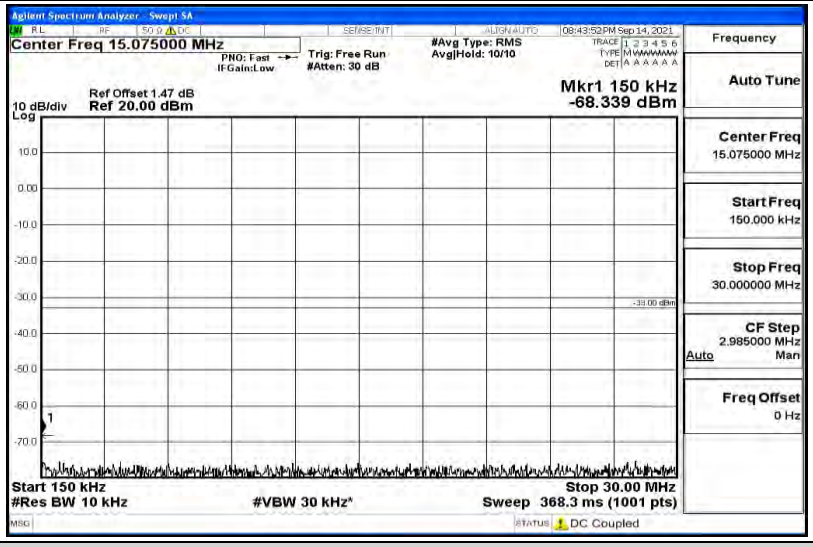
Band66-3MHz-16QAM-132657-Range5:10000~20000MHz



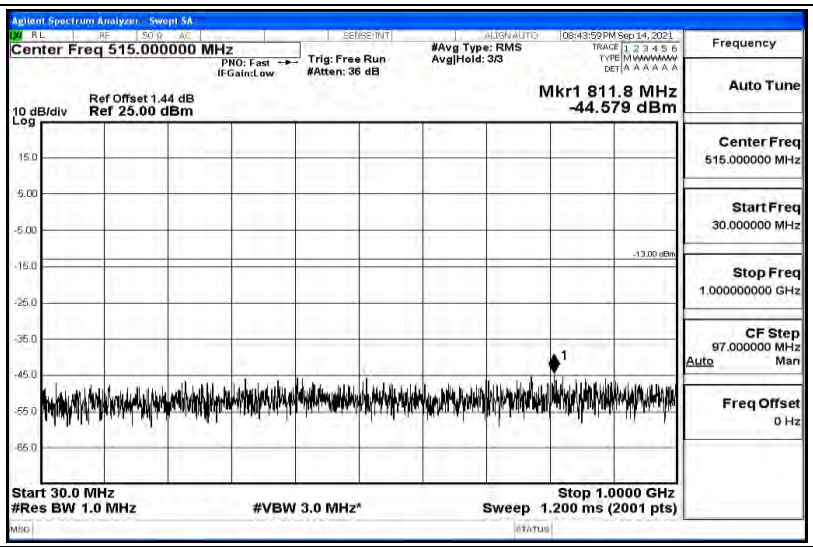
Band66-5MHz-QPSK-131997-Range1:0.009~0.15MHz



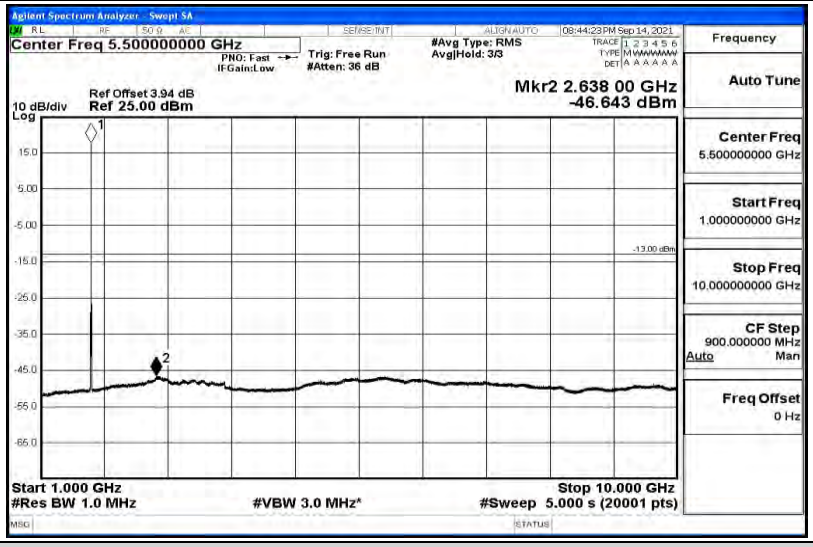
Band66-5MHz-QPSK-131997-Range2:0.15~30MHz



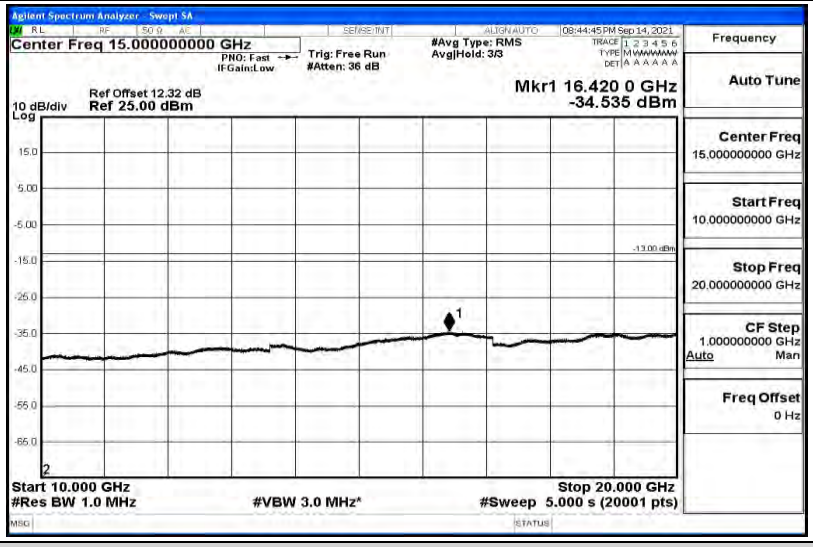
Band66-5MHz-QPSK-131997-Range3:30~1000MHz



Band66-5MHz-QPSK-131997-Range4:1000~10000MHz



Band66-5MHz-QPSK-131997-Range5:10000~20000MHz



Band66-5MHz-QPSK-132322-Range1:0.009~0.15MHz