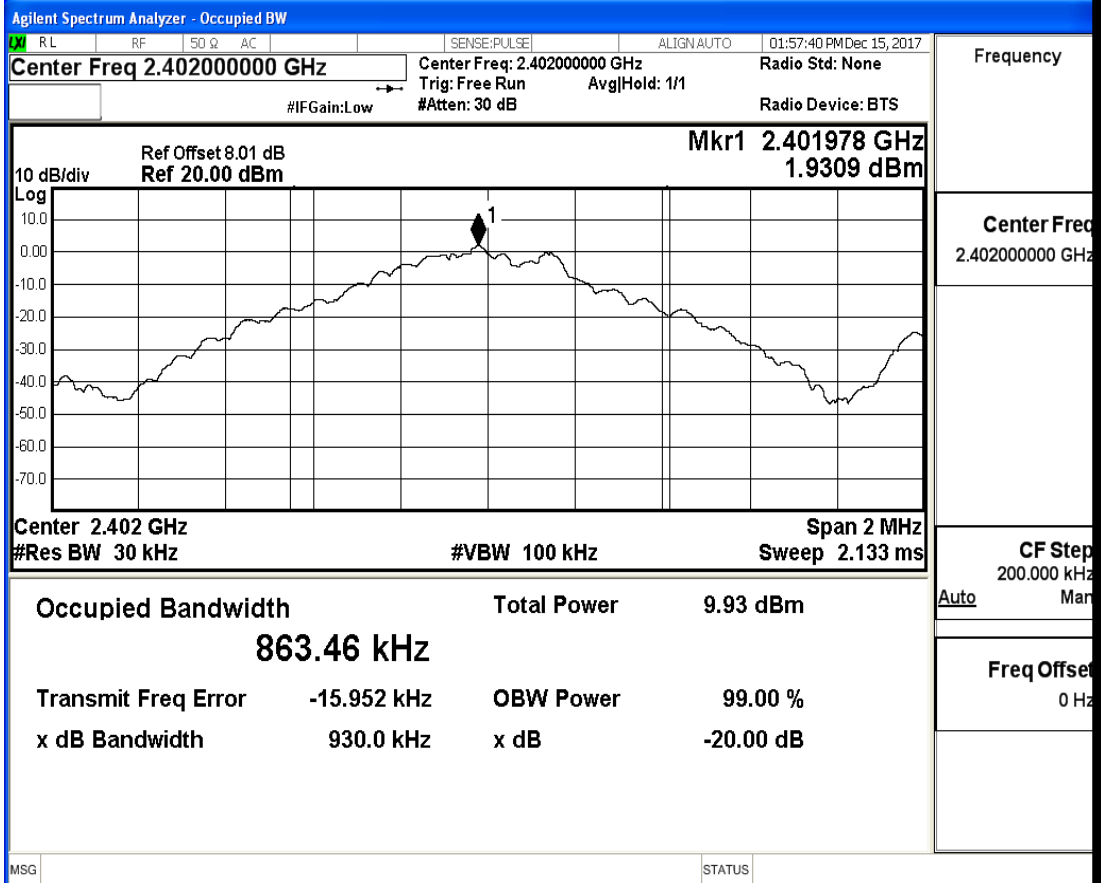


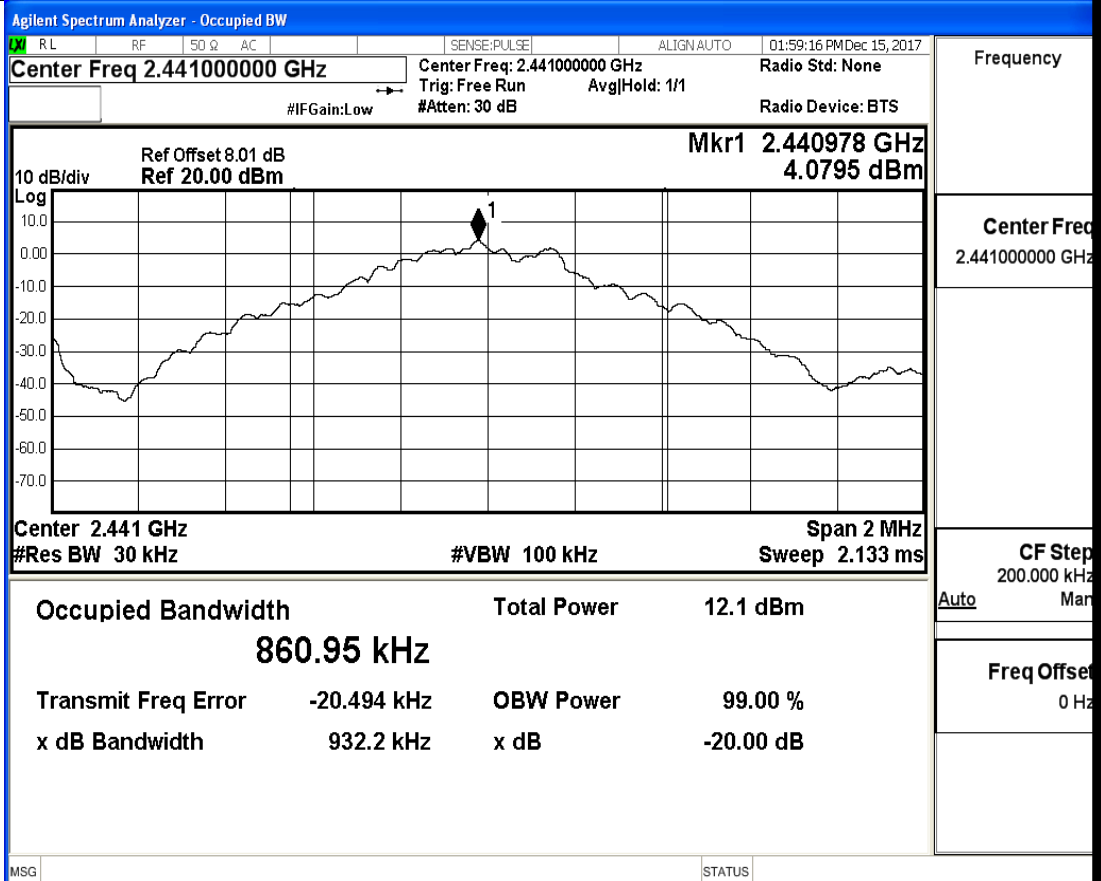
1.20 dB Bandwidth

Test Mode	Test Channel	EBW[MHz]	Limit[MHz]	Verdict
GFSK	2402	0.9300	---	PASS
GFSK	2441	0.9322	---	PASS
GFSK	2480	0.9336	---	PASS
$\pi/4$ DQPSK	2402	1.341	---	PASS
$\pi/4$ DQPSK	2441	1.344	---	PASS
$\pi/4$ DQPSK	2480	1.352	---	PASS
8DPSK	2402	1.321	---	PASS
8DPSK	2441	1.319	---	PASS
8DPSK	2480	1.318	---	PASS

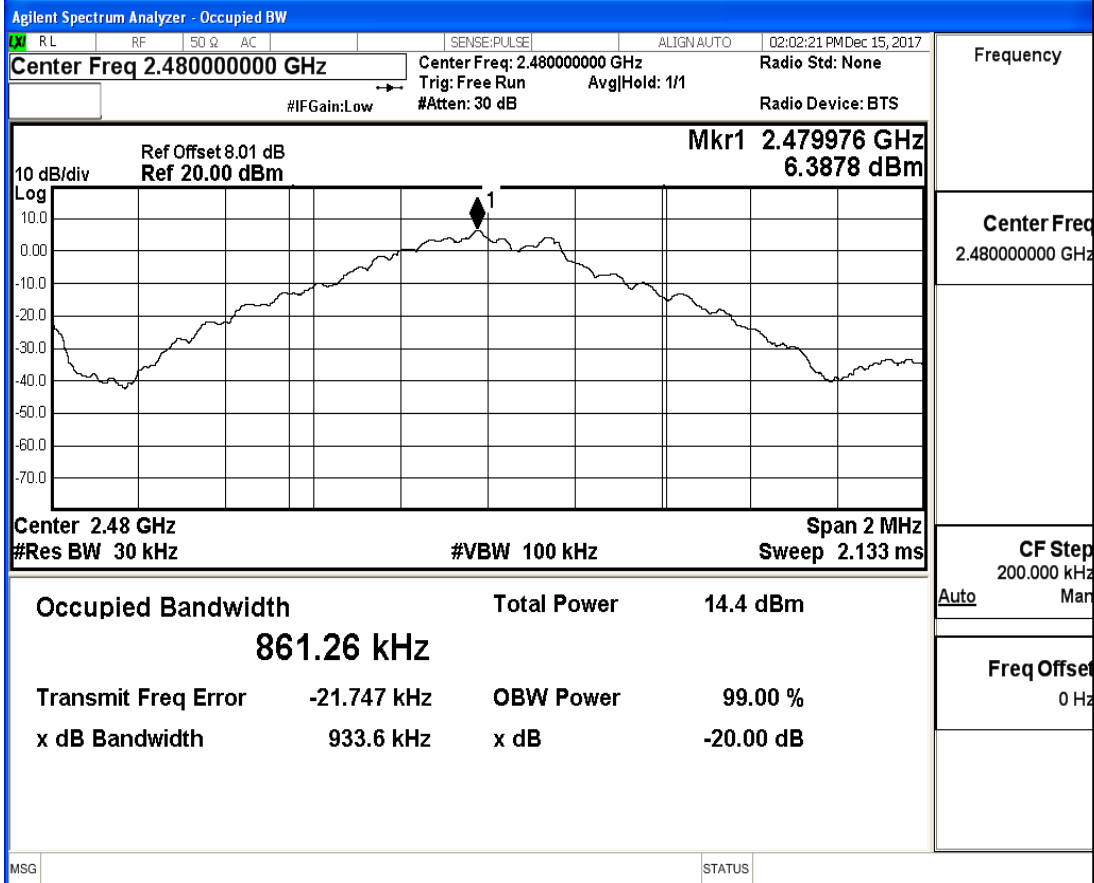
20 dB Bandwidth_GFSK_2402



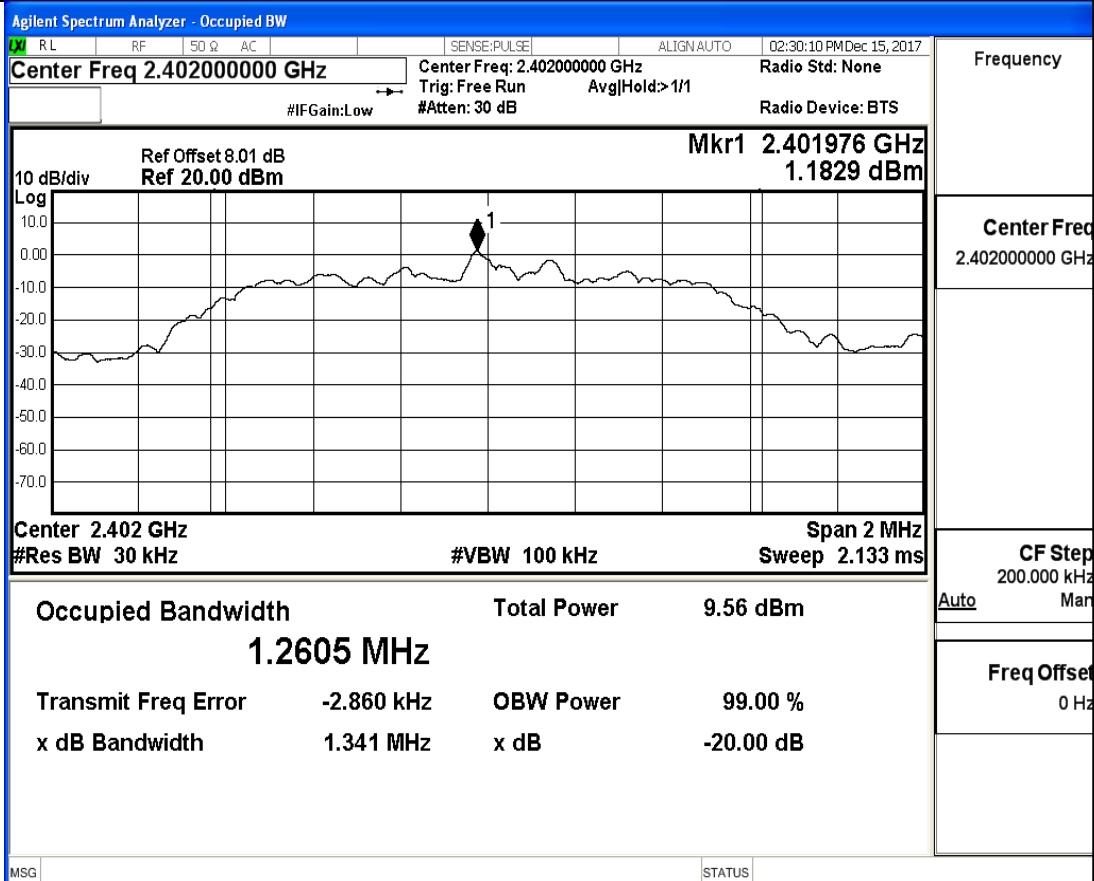
20 dB Bandwidth_GFSK_2441



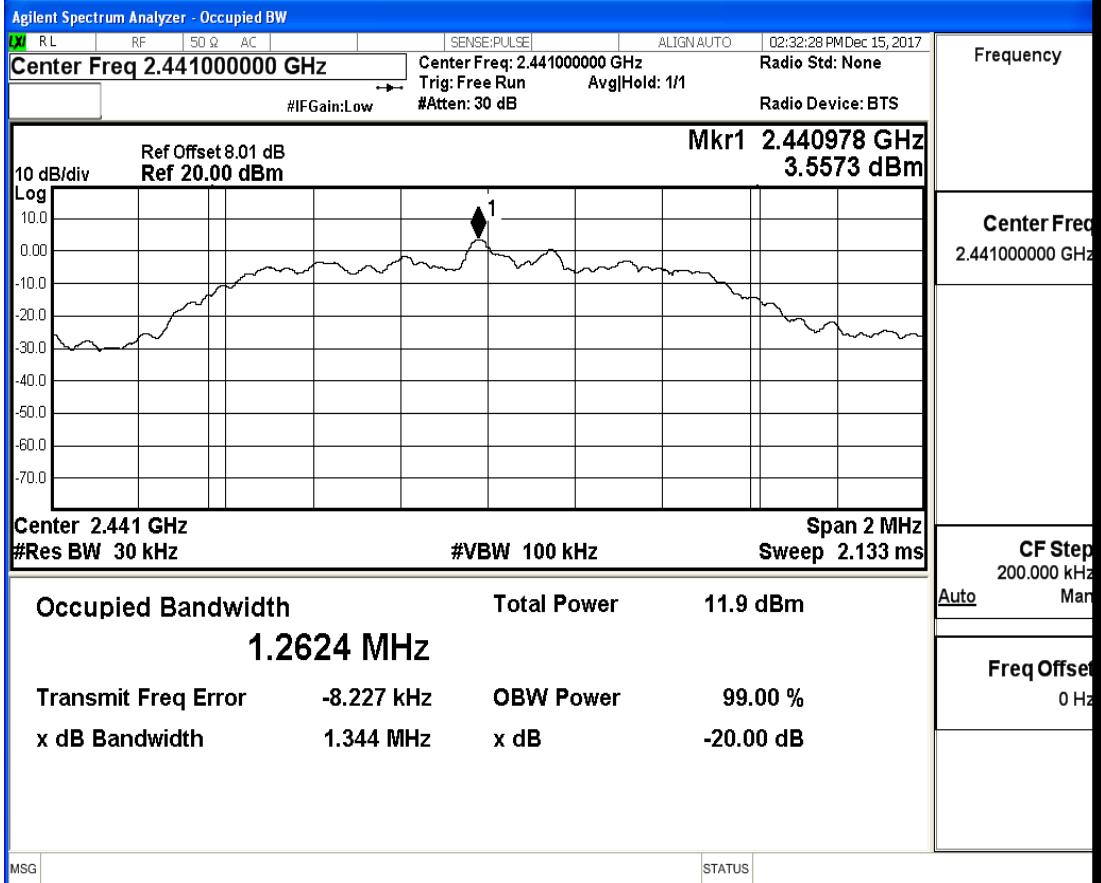
20 dB Bandwidth_GFSK_2480



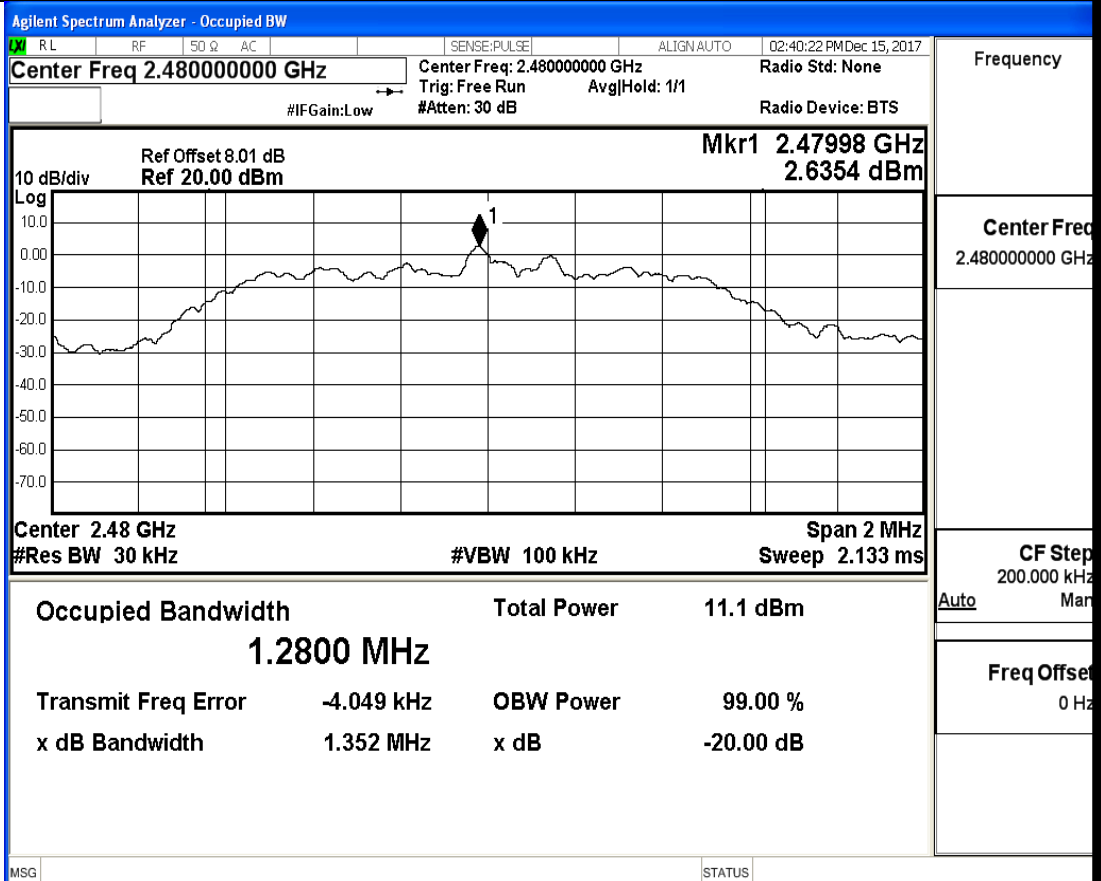
20 dB Bandwidth_π/4DQPSK_2402



20 dB Bandwidth_π/4DQPSK_2441



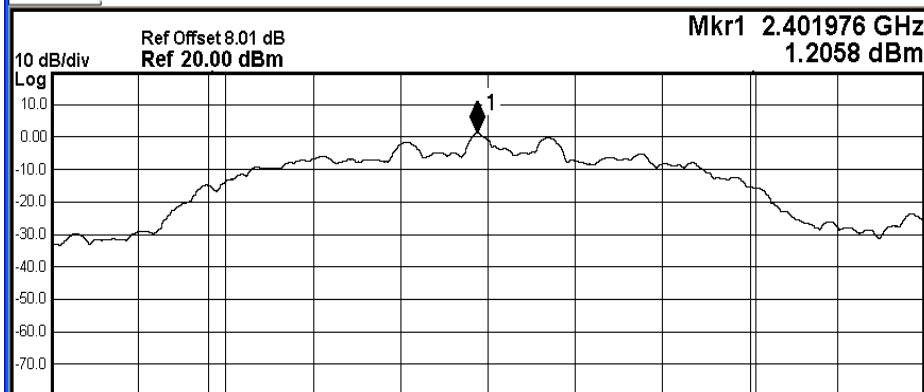
20 dB Bandwidth_π/4DQPSK_2480



20 dB Bandwidth_8-DPSK_2402

Agilent Spectrum Analyzer - Occupied BW

Center Freq 2.40200000 GHz
 Center Freq: 2.40200000 GHz
 Radio Std: None
 Trig: Free Run
 Avg|Hold: 1/1
 #IFGain: Low
 #Atten: 30 dB
 Radio Device: BTS



Center 2.402 GHz
 #Res BW 30 kHz
 #VBW 100 kHz
 Span 2 MHz
 Sweep 2.133 ms

Occupied Bandwidth
 1.2518 MHz
 Total Power
 10.2 dBm
 Transmit Freq Error
 -12.438 kHz
 OBW Power
 99.00 %
 x dB Bandwidth
 1.321 MHz
 x dB
 -20.00 dB

MSG

STATUS

Frequency

Center Freq
 2.40200000 GHz

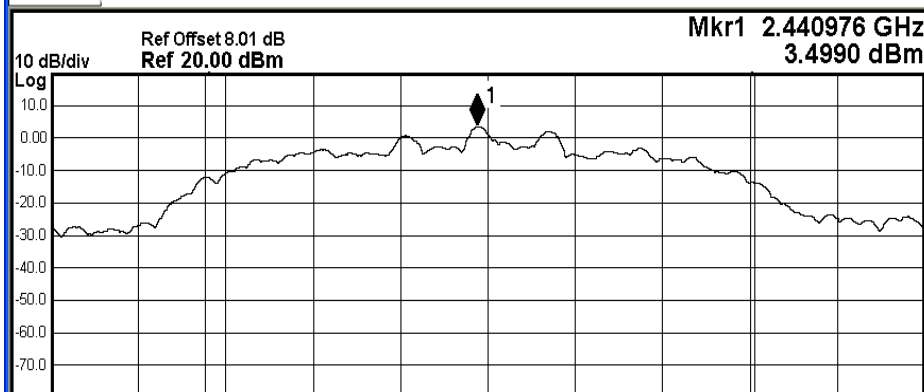
CF Step
 200.000 kHz
 Auto

Freq Offset
 0 Hz

20 dB Bandwidth_8-DPSK_2441

Agilent Spectrum Analyzer - Occupied BW

Center Freq 2.44100000 GHz
 Center Freq: 2.44100000 GHz
 Radio Std: None
 Trig: Free Run
 Avg|Hold: >1/1
 #IFGain: Low
 #Atten: 30 dB
 Radio Device: BTS



Center 2.441 GHz
 #Res BW 30 kHz
 #VBW 100 kHz
 Span 2 MHz
 Sweep 2.133 ms

Occupied Bandwidth
 1.2540 MHz
 Total Power
 12.4 dBm
 Transmit Freq Error
 -16.798 kHz
 OBW Power
 99.00 %
 x dB Bandwidth
 1.319 MHz
 x dB
 -20.00 dB

MSG

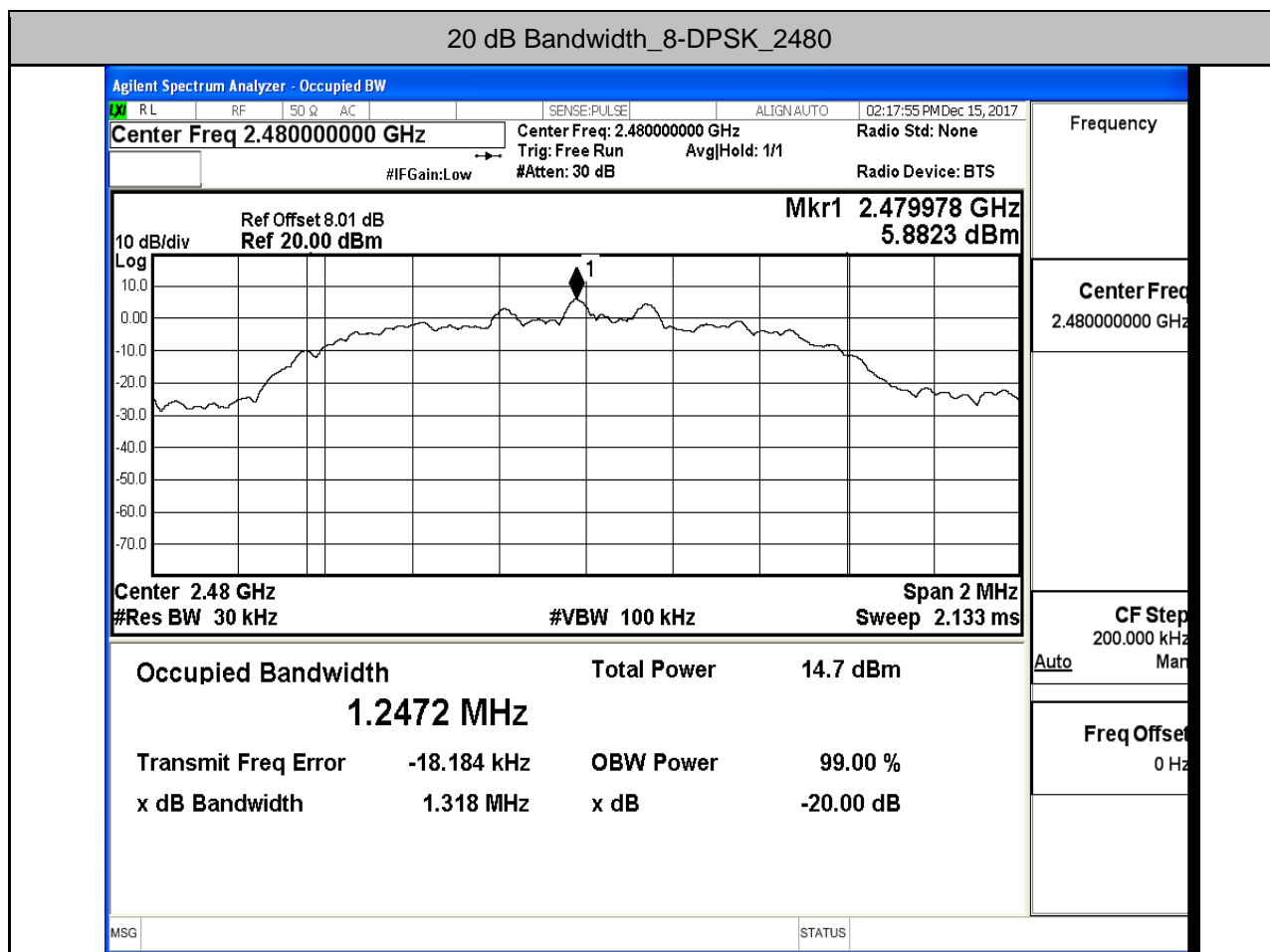
STATUS

Frequency

Center Freq
 2.44100000 GHz

CF Step
 200.000 kHz
 Auto

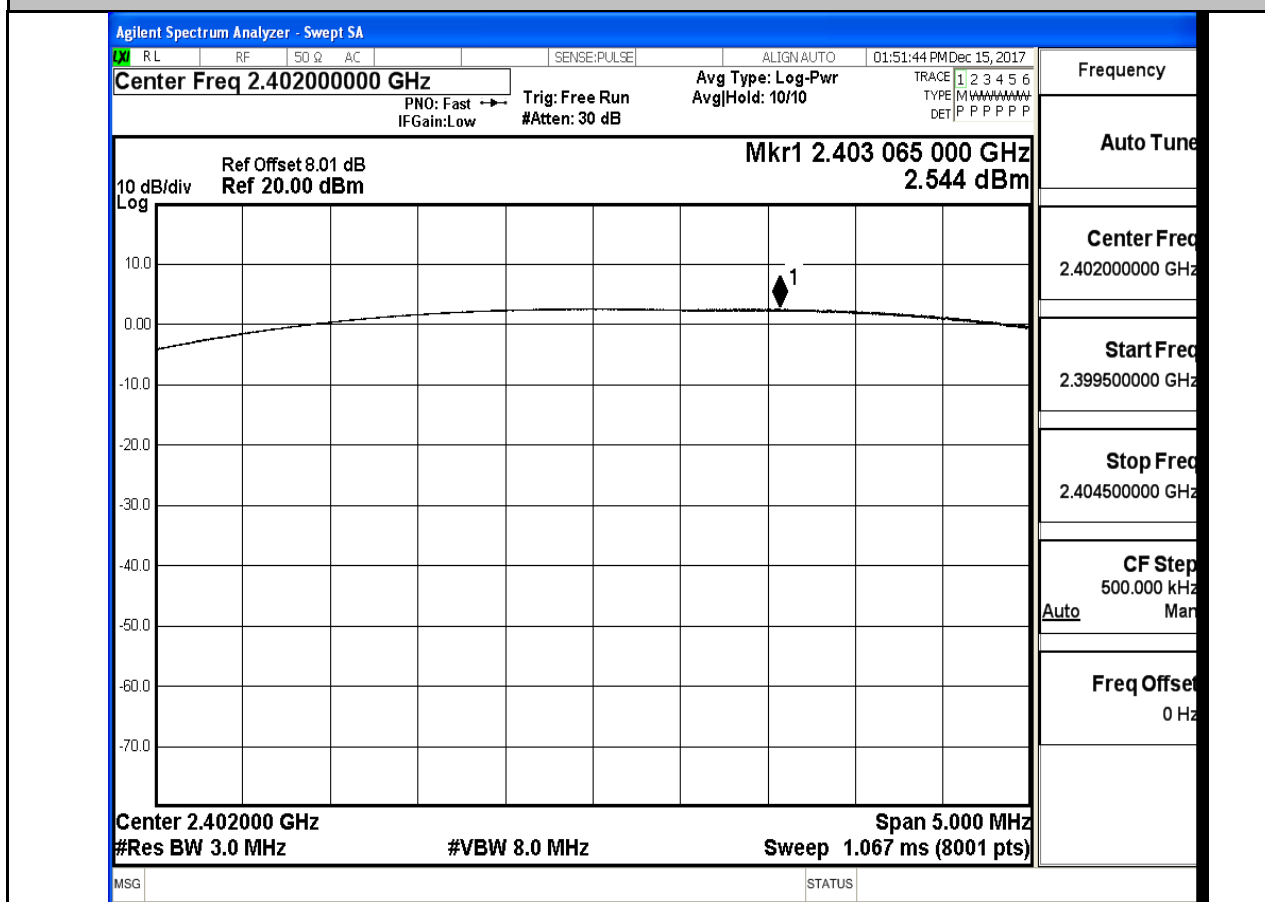
Freq Offset
 0 Hz



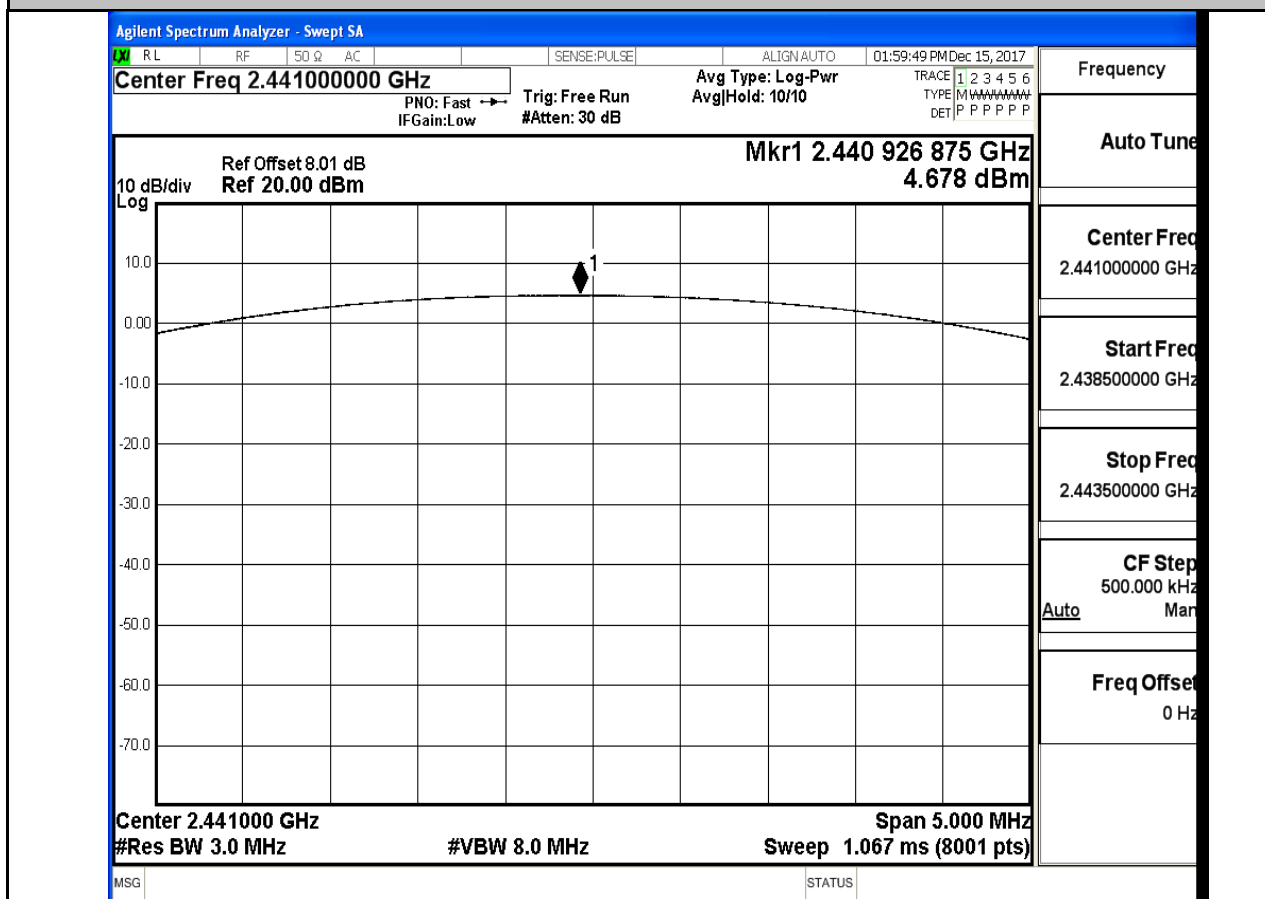
2. Conducted Peak Output Power

Test Mode	Test Channel	Power[dBm]	Limit[dBm]	Verdict
GFSK	2402	2.544	30	PASS
GFSK	2441	4.678	30	PASS
GFSK	2480	3.802	30	PASS
$\pi/4$ DQPSK	2402	4.733	21	PASS
$\pi/4$ DQPSK	2441	4.675	21	PASS
$\pi/4$ DQPSK	2480	4.87	21	PASS
8DPSK	2402	4.958	21	PASS
8DPSK	2441	4.92	21	PASS
8DPSK	2480	4.171	21	PASS

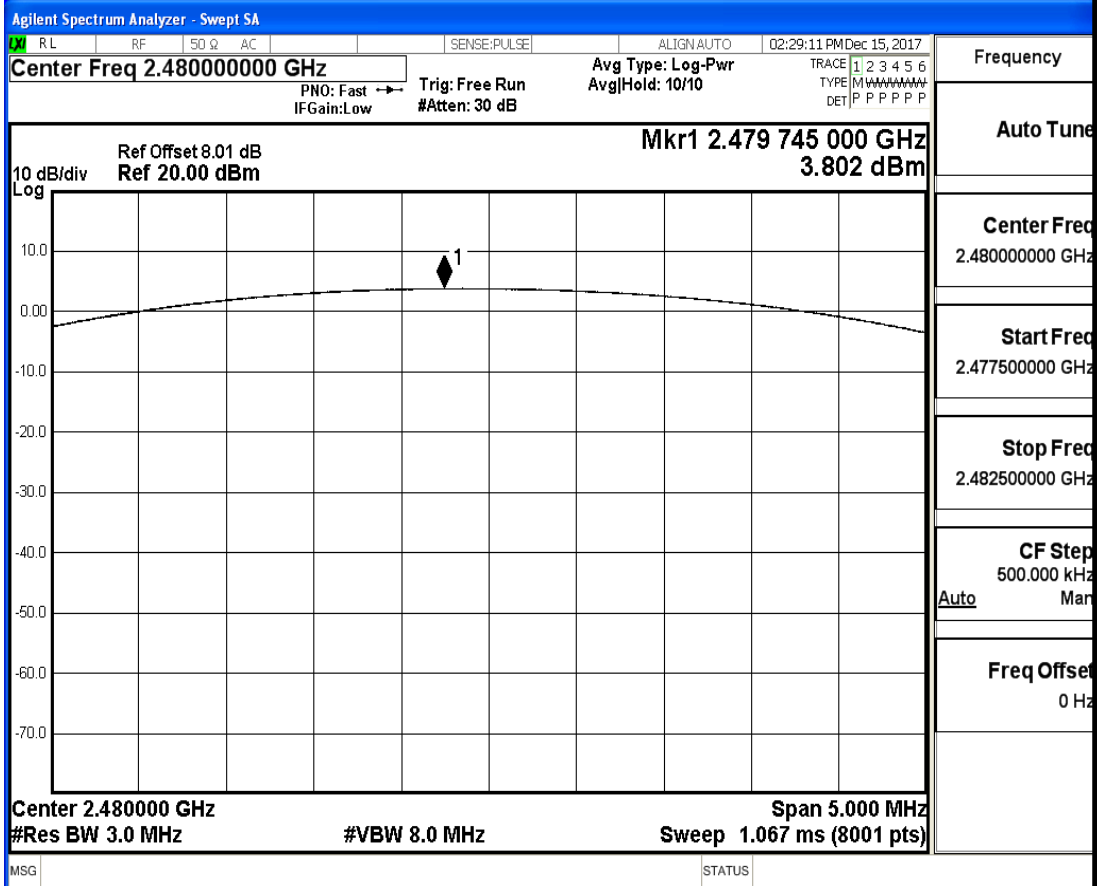
Conducted Peak Output Power_GFSK_2402



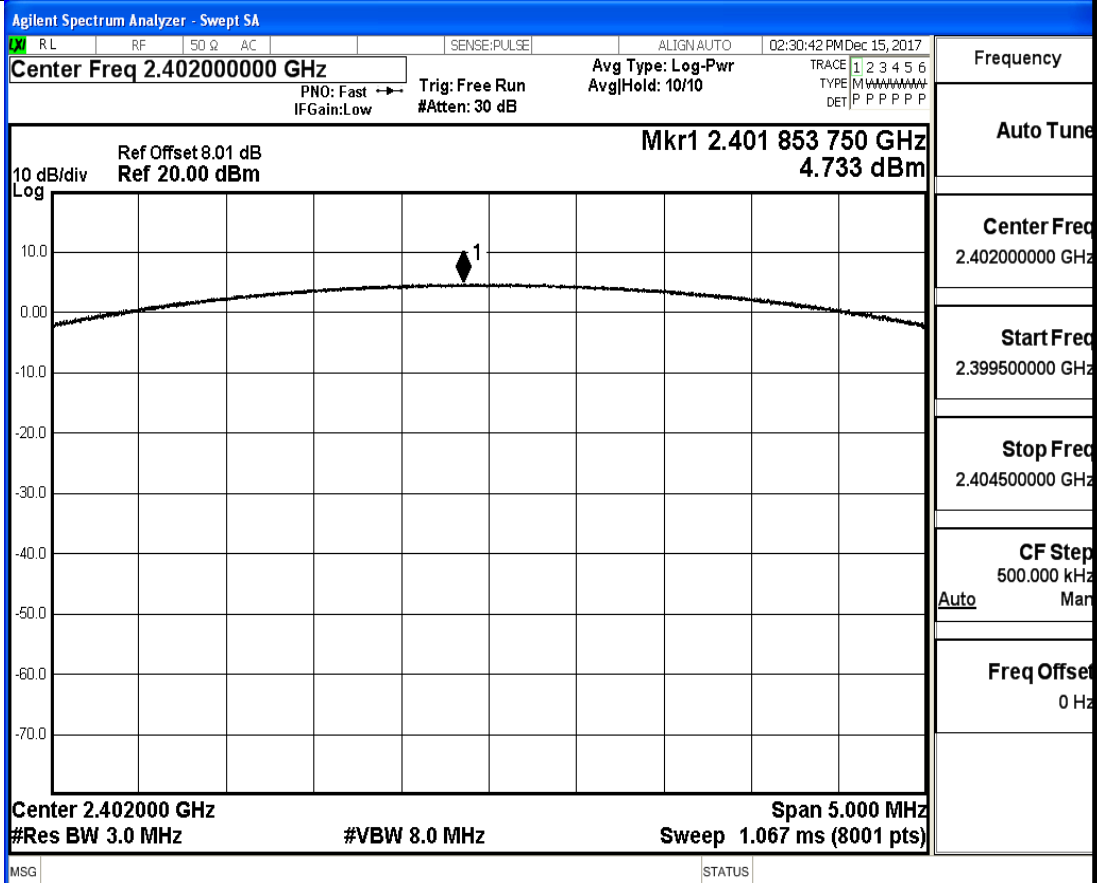
Conducted Peak Output Power_GFSK_2441



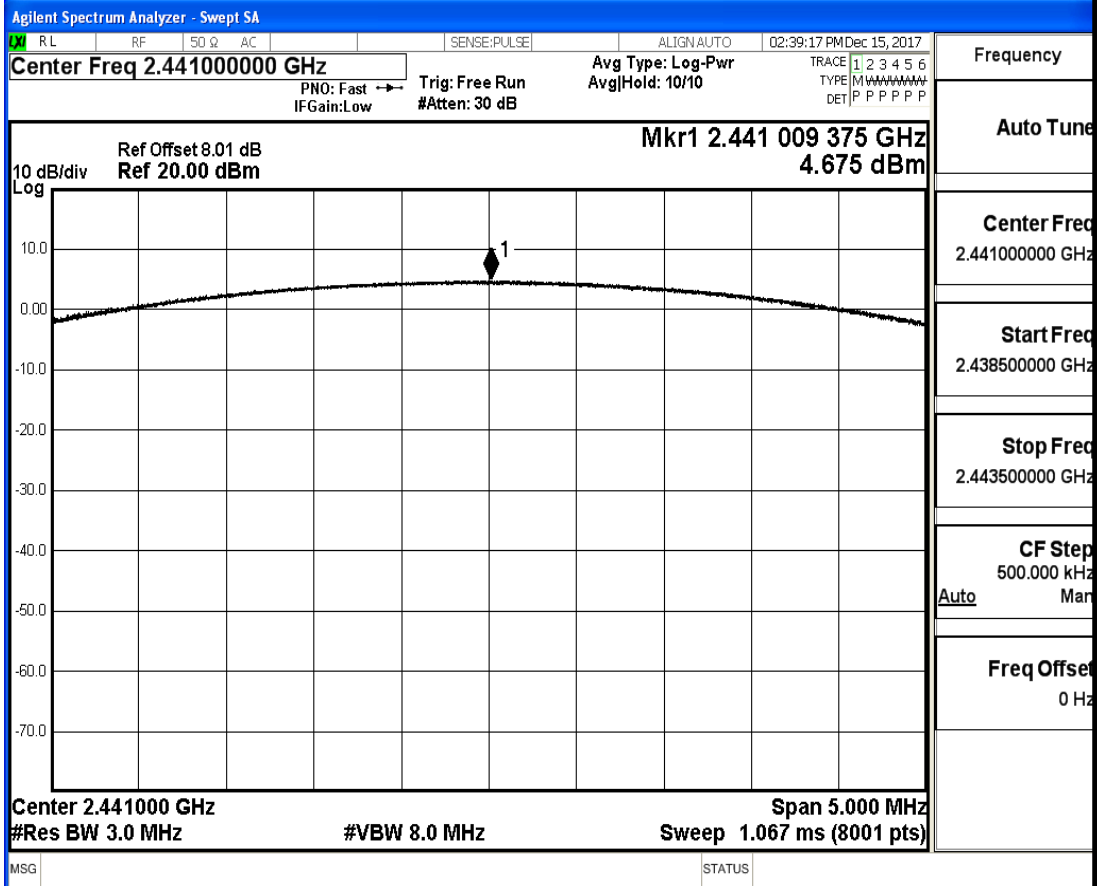
Conducted Peak Output Power_GFSK_2480



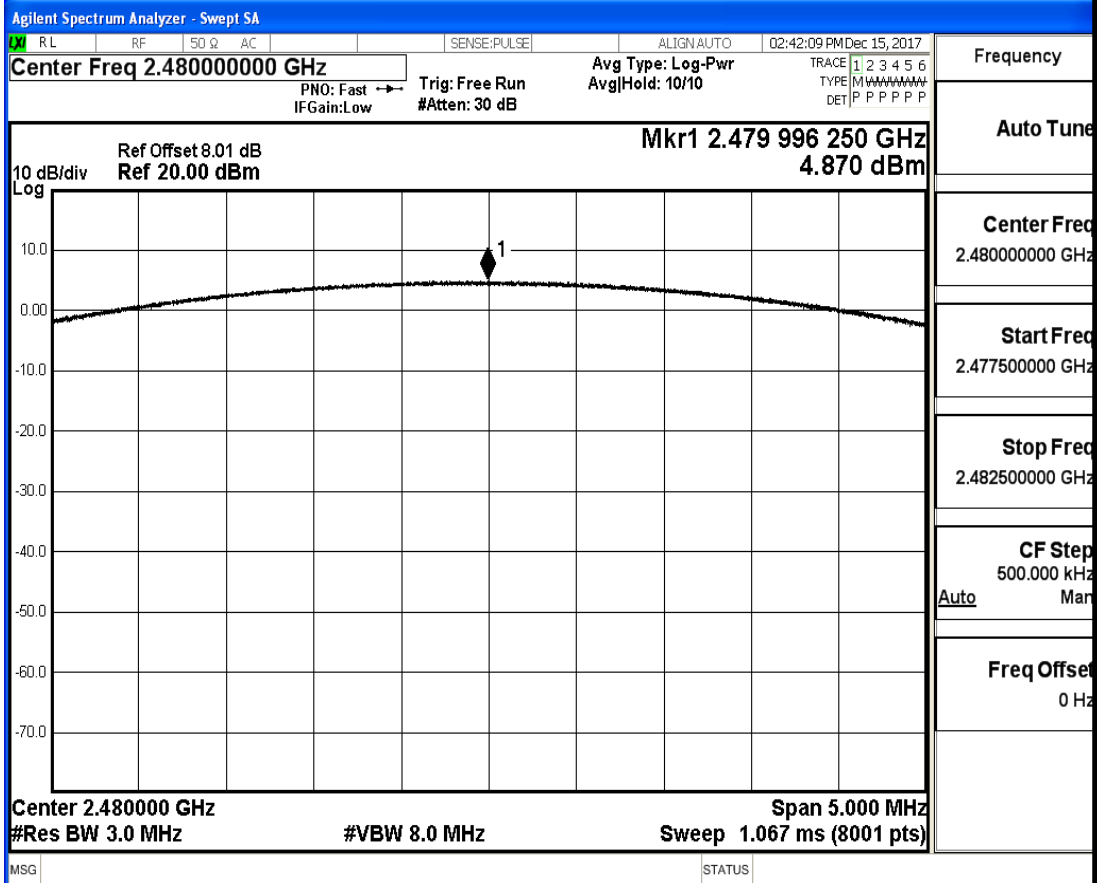
Conducted Peak Output Power_π/4DQPSK_2402



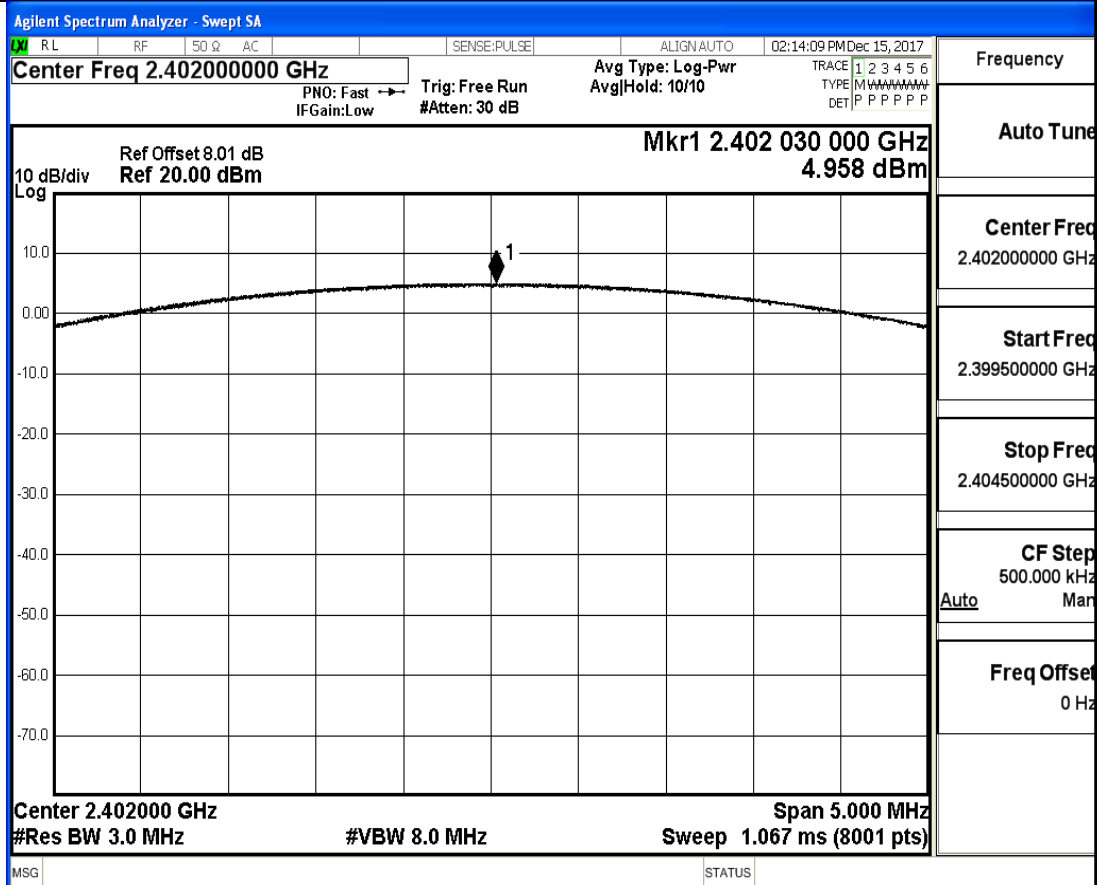
Conducted Peak Output Power_π/4DQPSK_2441



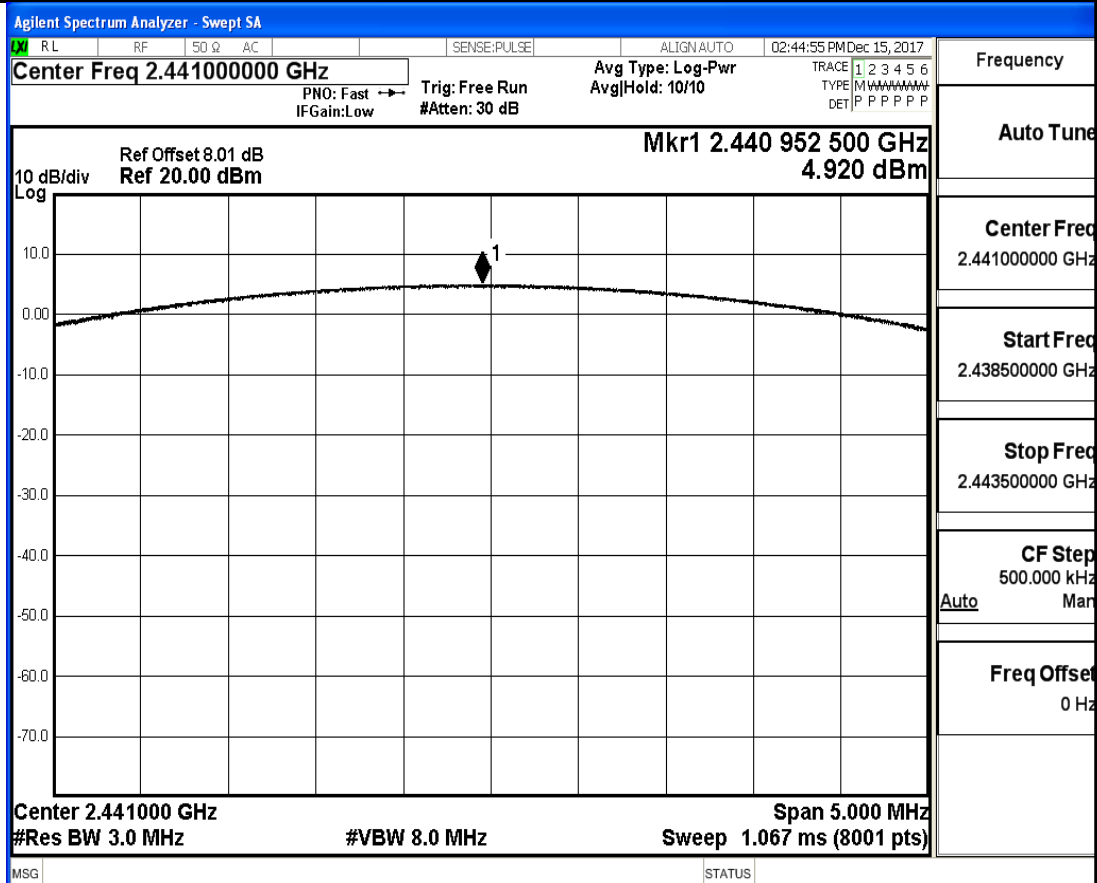
Conducted Peak Output Power_π/4DQPSK_2480



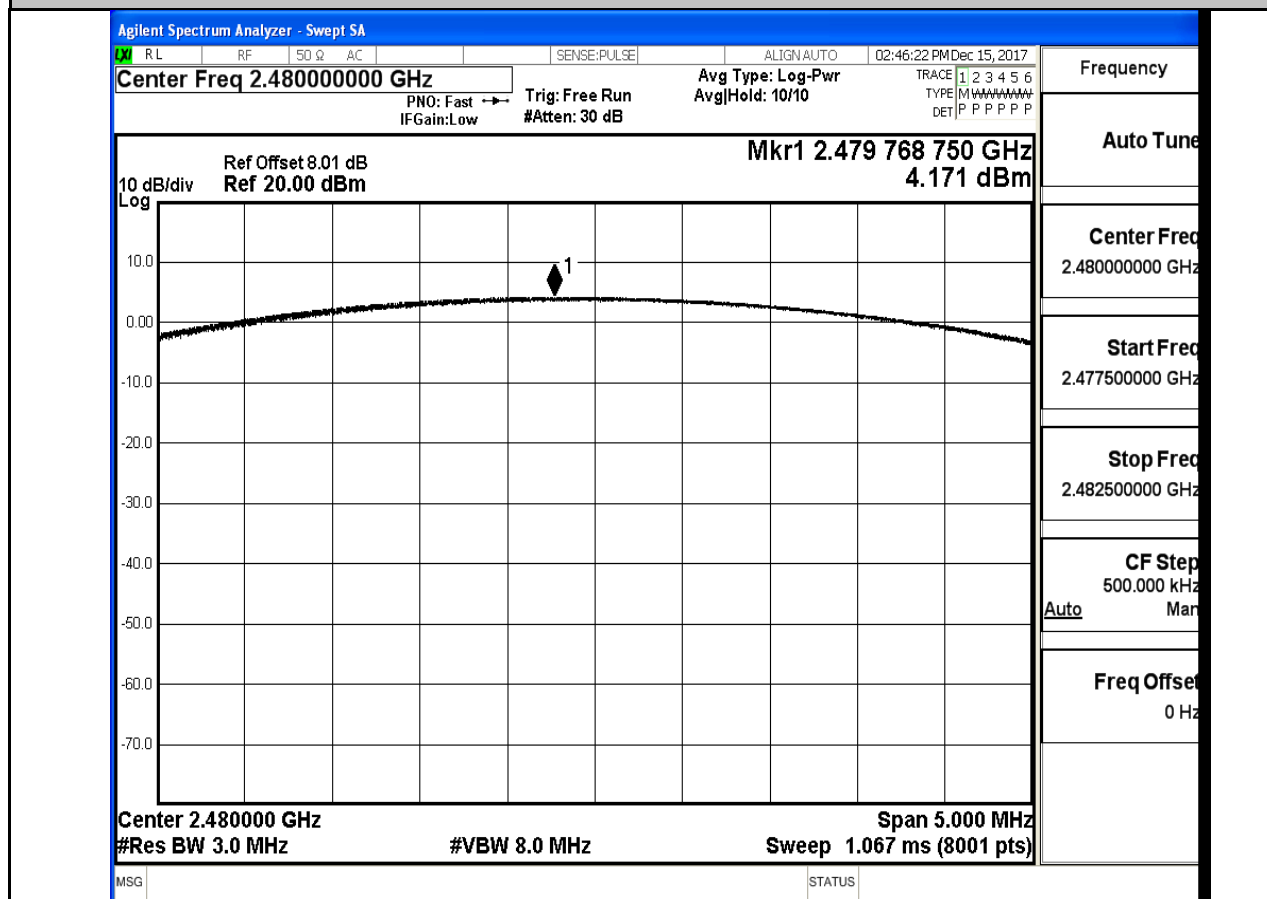
Conducted Peak Output Power 8-DPSK 2402



Conducted Peak Output Power_8-DPSK_2441



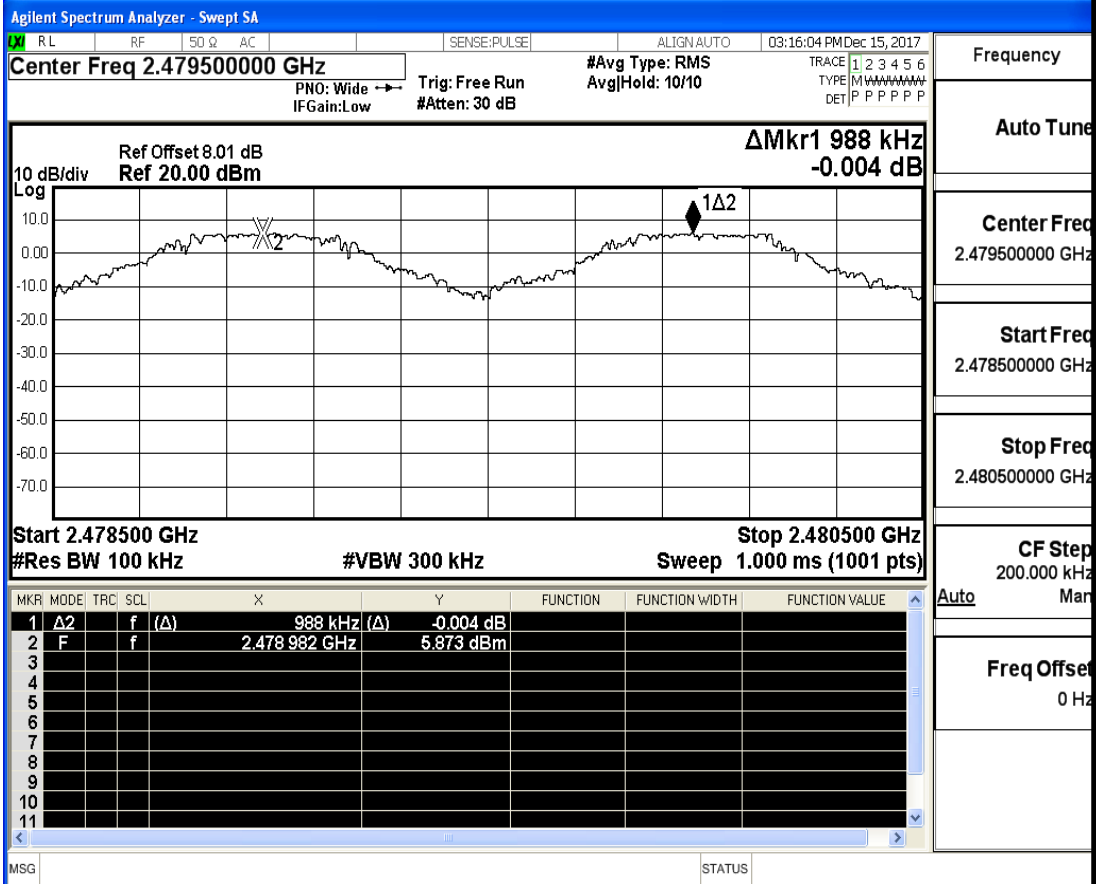
Conducted Peak Output Power_8-DPSK_2480



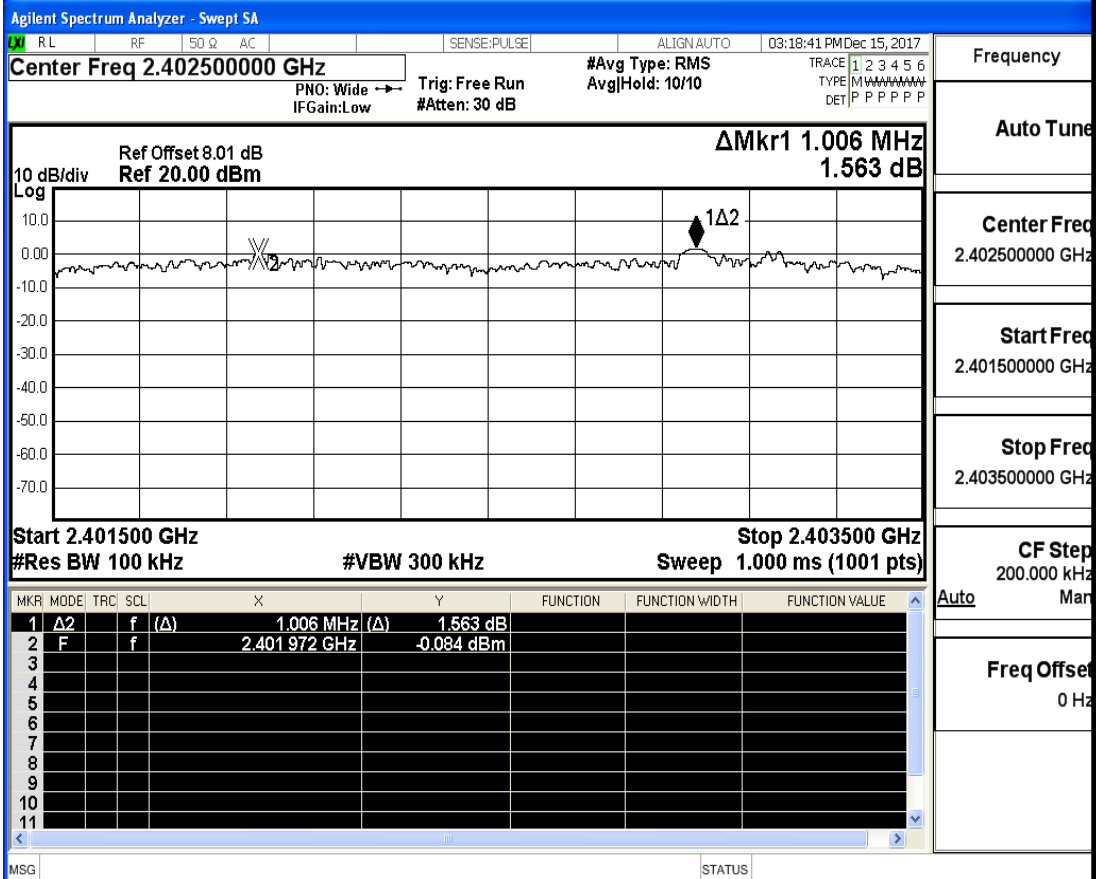
3.Carrier Frequency Separation

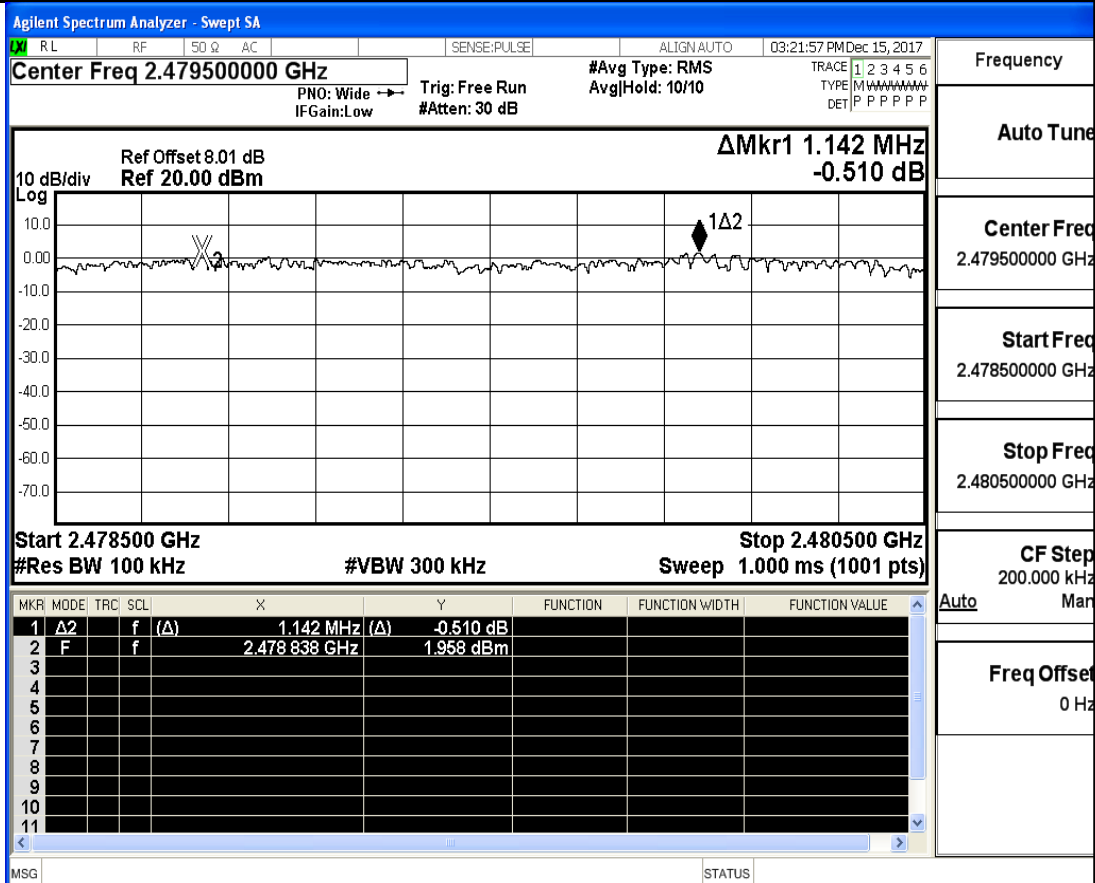
Test Mode	Test Channel	Result[MHz]	Limit[MHz]	Verdict
GFSK	2402	1.064	0.9300	PASS
GFSK	2441	1.07	0.9322	PASS
GFSK	2480	0.988	0.9336	PASS
$\pi/4$ DQPSK	2402	1.006	0.89	PASS
$\pi/4$ DQPSK	2441	0.968	0.90	PASS
$\pi/4$ DQPSK	2480	1.142	0.90	PASS
8DPSK	2402	0.998	0.88	PASS
8DPSK	2441	1.284	0.88	PASS
8DPSK	2480	1.064	0.88	PASS

Carrier Frequency Separation_GFSK_2480



Carrier Frequency Separation_ π /4DQPSK_2402

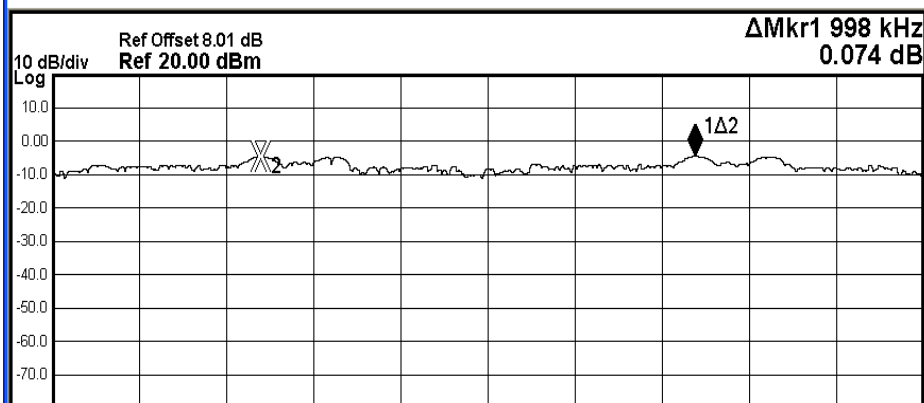




Carrier Frequency Separation_8-DPSK_2402

Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:PULSE ALIGN:AUTO 03:30:45 PM Dec 15, 2017
Center Freq 2.402500000 GHz #Avg Type: RMS Avg/Hold: 10/10
 PNO: Wide Trg: Free Run #Atten: 30 dB
 IFGain:Low



Start 2.401500 GHz Stop 2.403500 GHz
 #Res BW 100 kHz #VBW 300 kHz Sweep 1.000 ms (1001 pts)

MR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ 2	f	(Δ)	998 kHz	(Δ)	0.074 dB		
2	F	f		2.401 978 GHz		-4.780 dBm		
3								
4								
5								
6								
7								
8								
9								
10								
11								

MSG

STATUS

Frequency

Auto Tune

Center Freq
2.402500000 GHz

Start Freq
2.401500000 GHz

Stop Freq
2.403500000 GHz

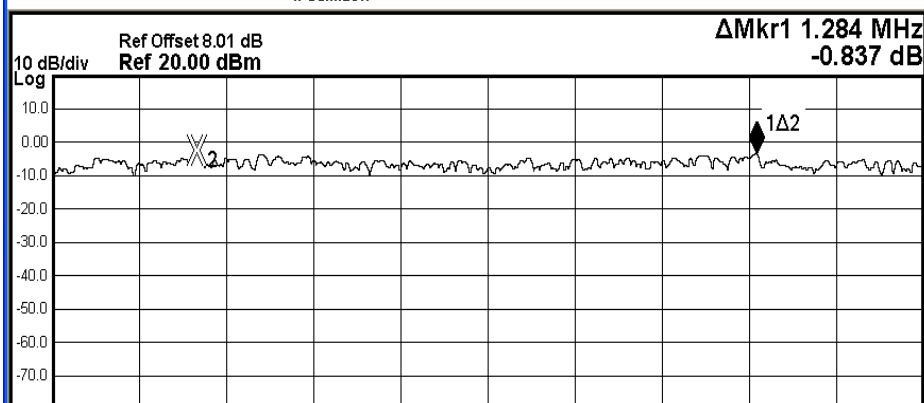
CF Step
200.000 kHz
Man

Freq Offset
0 Hz

Carrier Frequency Separation_8-DPSK_2441

Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:PULSE ALIGN:AUTO 03:32:22 PM Dec 15, 2017
Center Freq 2.441500000 GHz #Avg Type: RMS Avg/Hold: 10/10
 PNO: Wide Trg: Free Run #Atten: 30 dB
 IFGain:Low



Start 2.440500 GHz Stop 2.442500 GHz
 #Res BW 100 kHz #VBW 300 kHz Sweep 1.000 ms (1001 pts)

MR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ 2	f	(Δ)	1.284 MHz	(Δ)	-0.837 dB		
2	F	f		2.440 832 GHz		-2.778 dBm		
3								
4								
5								
6								
7								
8								
9								
10								
11								

MSG

STATUS

Frequency

Auto Tune

Center Freq
2.441500000 GHz

Start Freq
2.440500000 GHz

Stop Freq
2.442500000 GHz

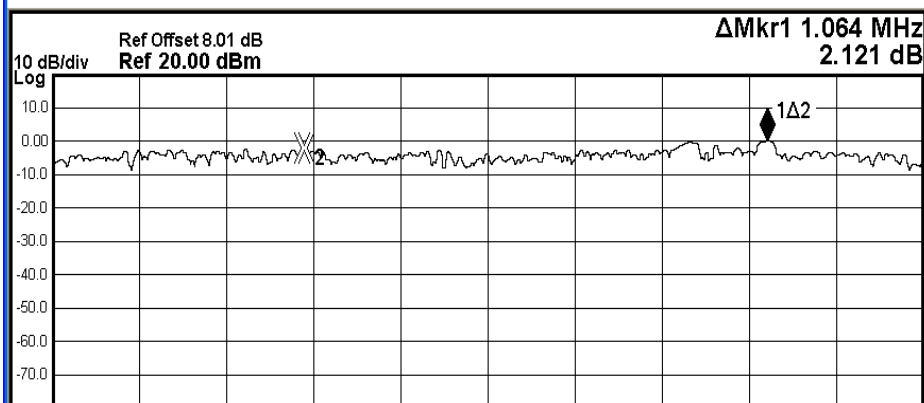
CF Step
200.000 kHz
Man

Freq Offset
0 Hz

Carrier Frequency Separation_8-DPSK_2480

Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:PULSE ALIGN: AUTO 03:32:45 PM Dec 15, 2017
Center Freq 2.479500000 GHz #Avg Type: RMS AvgHold: 10/10
 PNO: Wide Trig: Free Run IFGain: Low #Atten: 30 dB



Start 2.478500 GHz Stop 2.480500 GHz
 #Res BW 100 kHz #VBW 300 kHz Sweep 1.000 ms (1001 pts)

MR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ 2	f	(Δ)	1.064 MHz	(Δ)	2.121 dB		
2	F	f		2.479 078 GHz		-2.265 dBm		
3								
4								
5								
6								
7								
8								
9								
10								
11								

MSG

STATUS

Frequency

Auto Tune

Center Freq
2.479500000 GHz

Start Freq
2.478500000 GHz

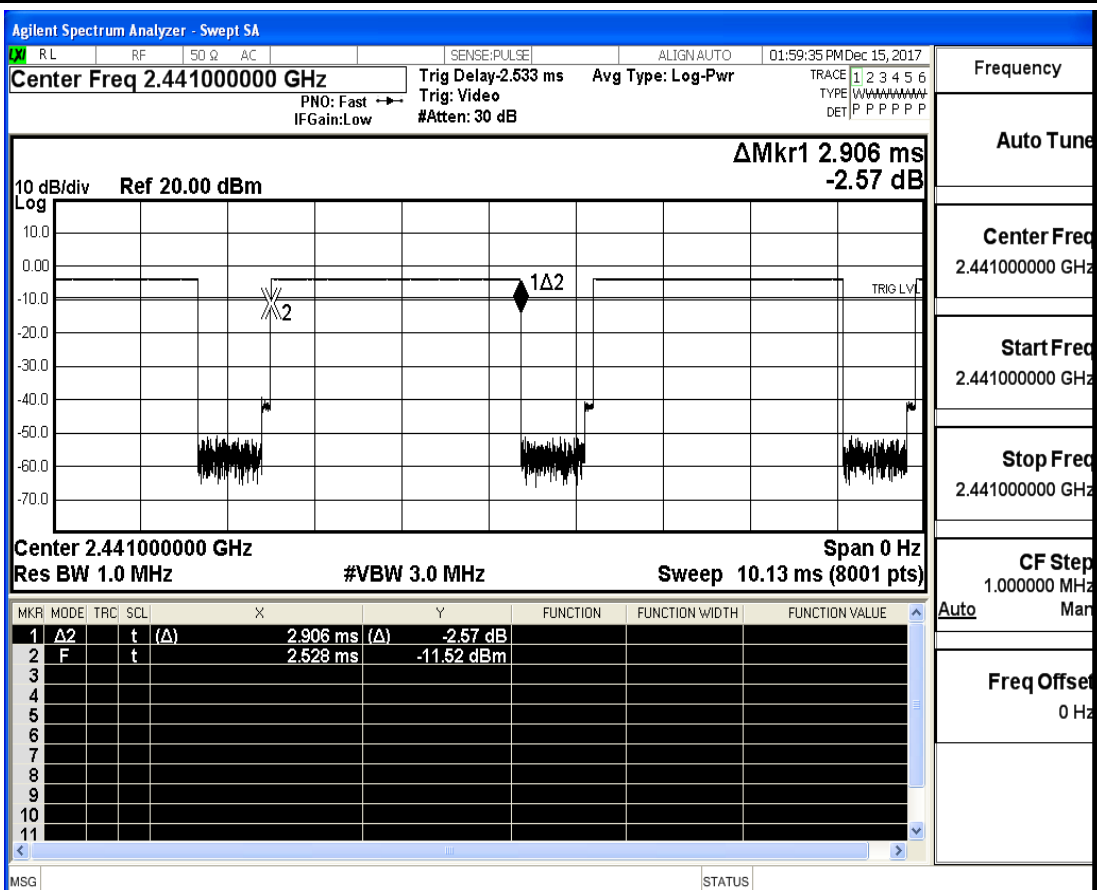
Stop Freq
2.480500000 GHz

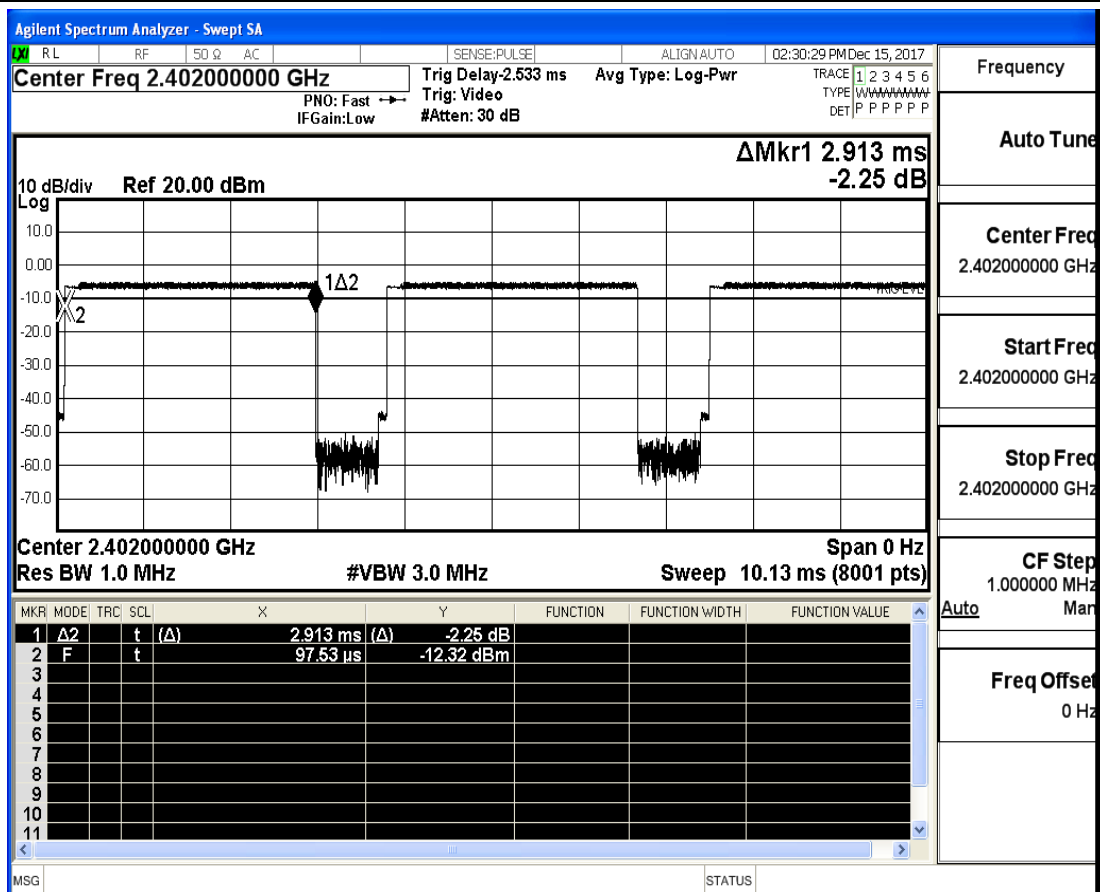
CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

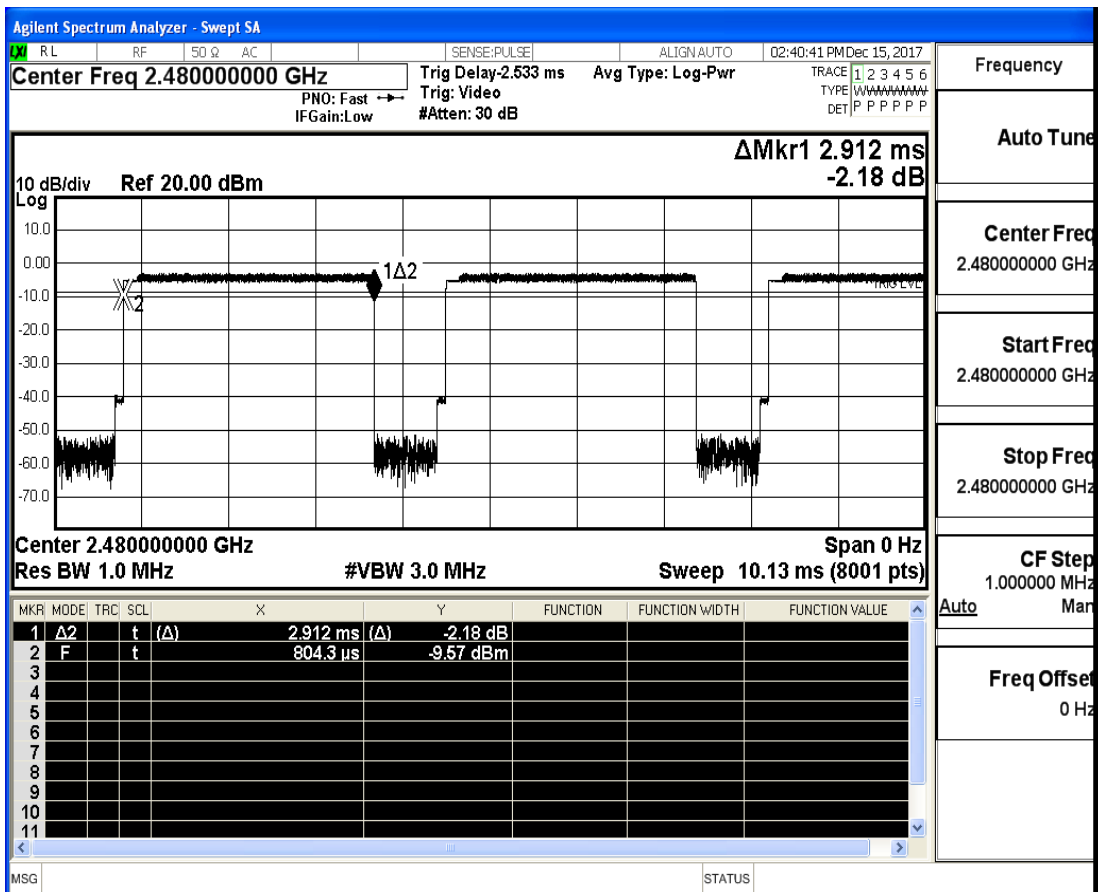
4.Dwell Time

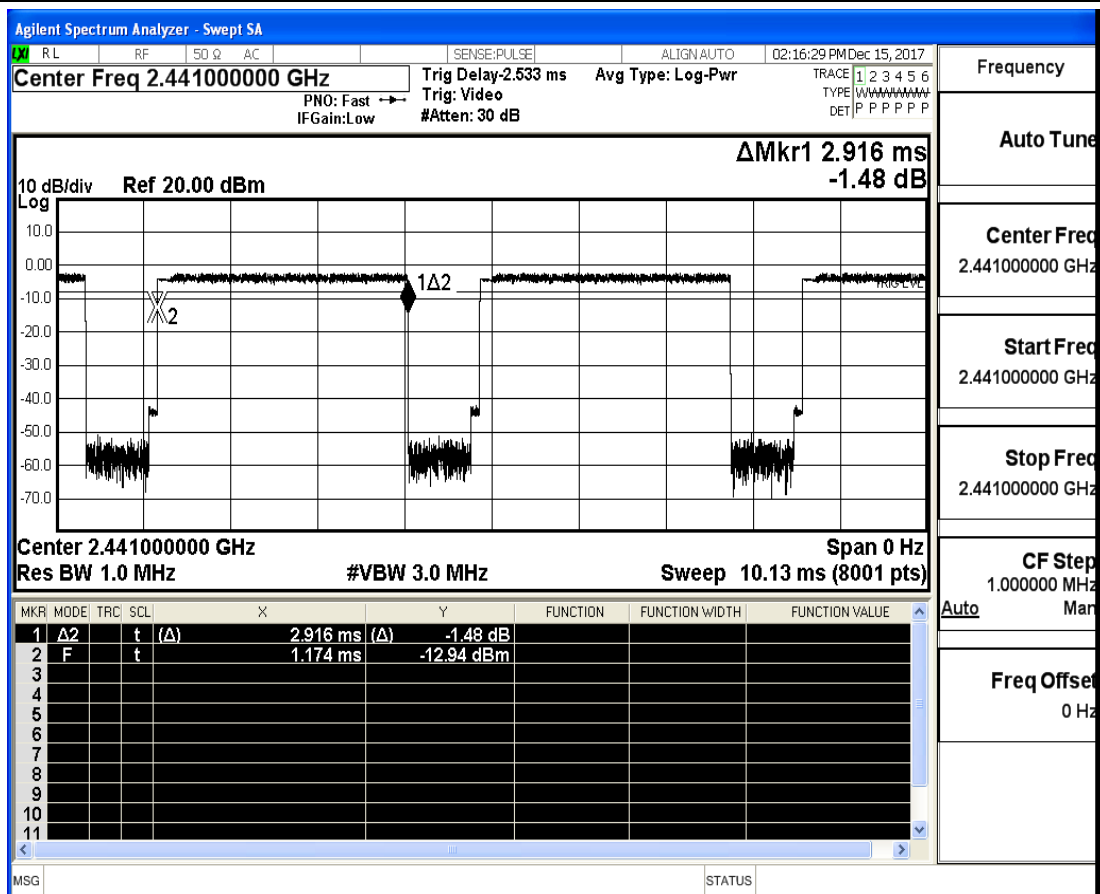
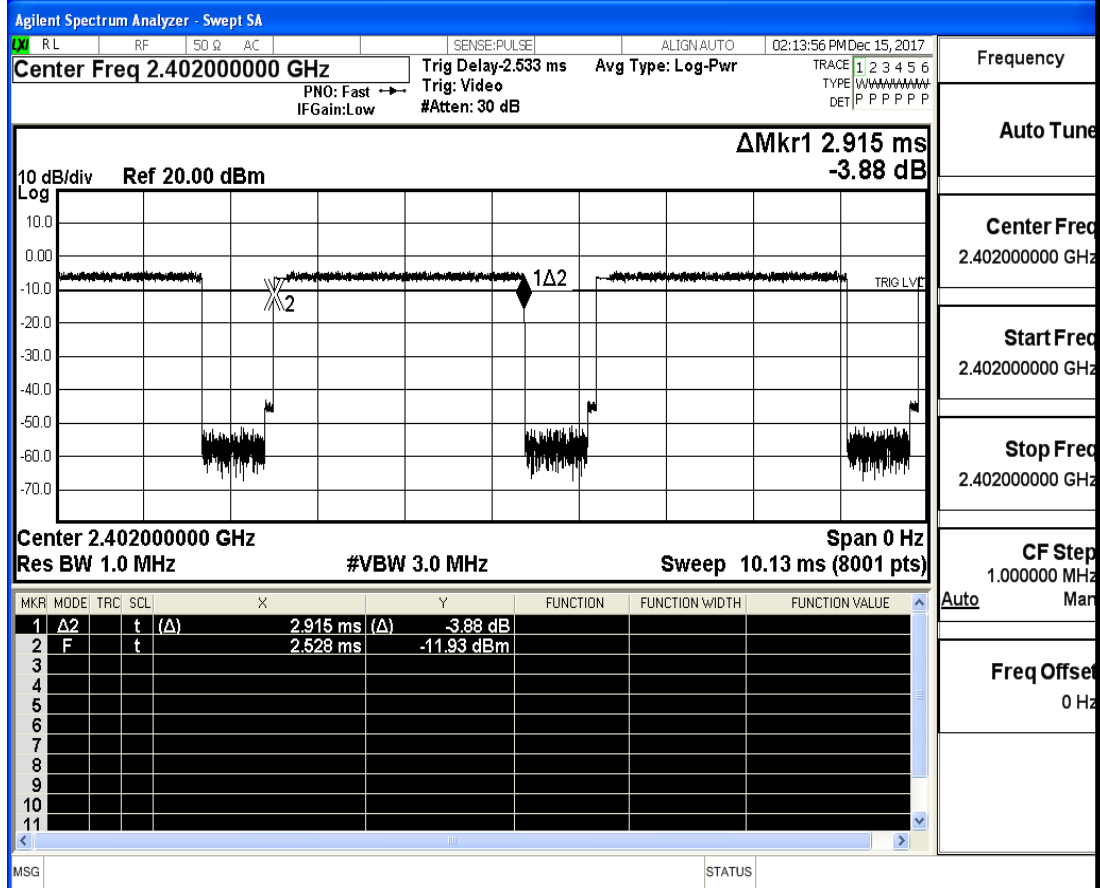
Test Mode	Test Channel	Burst Width[ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit[s]	Verdict
GFSK	2402	2.91	106.7	0.31	0.4	PASS
GFSK	2441	2.91	106.7	0.31	0.4	PASS
GFSK	2480	2.91	106.7	0.31	0.4	PASS
$\pi/4$ DQPSK	2402	2.91	106.7	0.31	0.4	PASS
$\pi/4$ DQPSK	2441	2.91	106.7	0.31	0.4	PASS
$\pi/4$ DQPSK	2480	2.91	106.7	0.31	0.4	PASS
8DPSK	2402	2.92	106.7	0.312	0.4	PASS
8DPSK	2441	2.92	106.7	0.312	0.4	PASS
8DPSK	2480	2.92	106.7	0.312	0.4	PASS



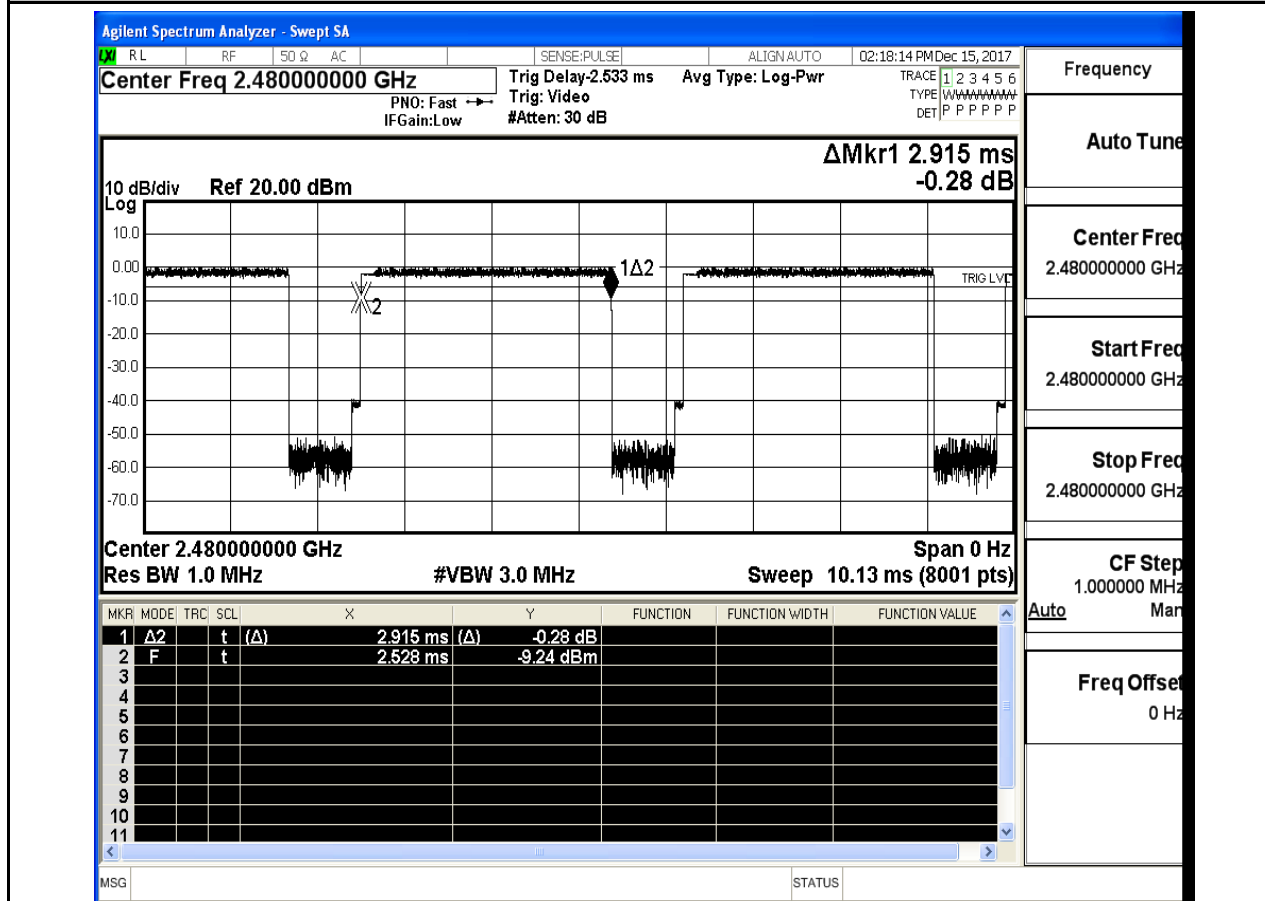


Dwell Time_π/4DQPSK_2480





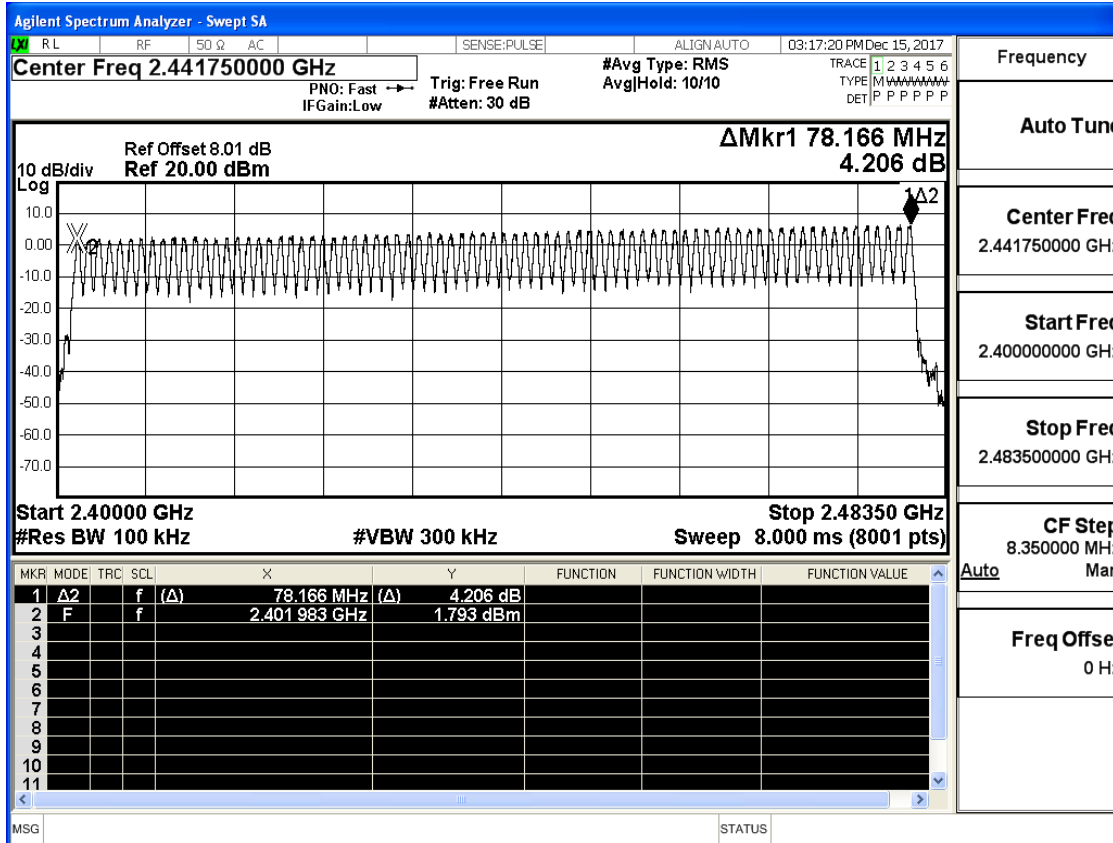
Dwell Time_8-DPSK_2480



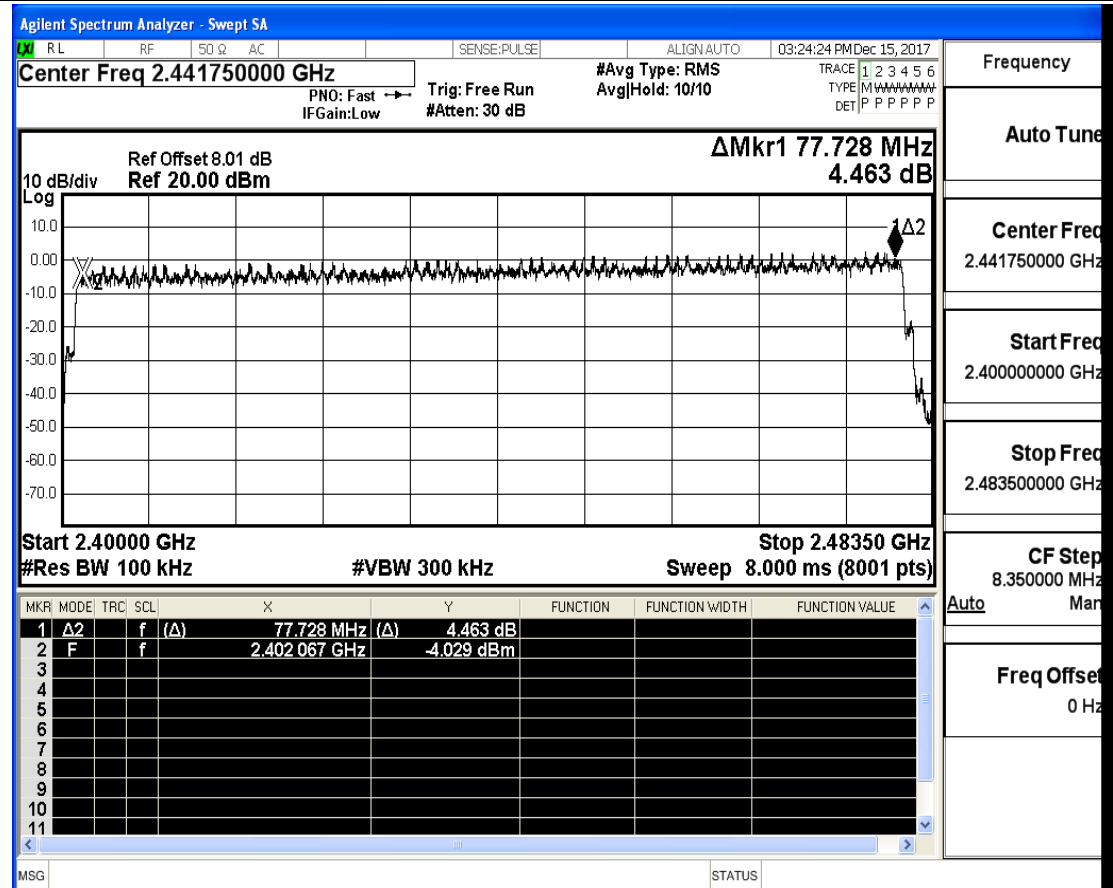
5.Hopping Channel Number

Test Mode	Test Channel	Number of Hopping Channel[N]	Limit[N]	Verdict
GFSK	2402	79	≥ 15	PASS
$\pi/4$ DQPSK	2402	79	≥ 15	PASS
8DPSK	2402	79	≥ 15	PASS

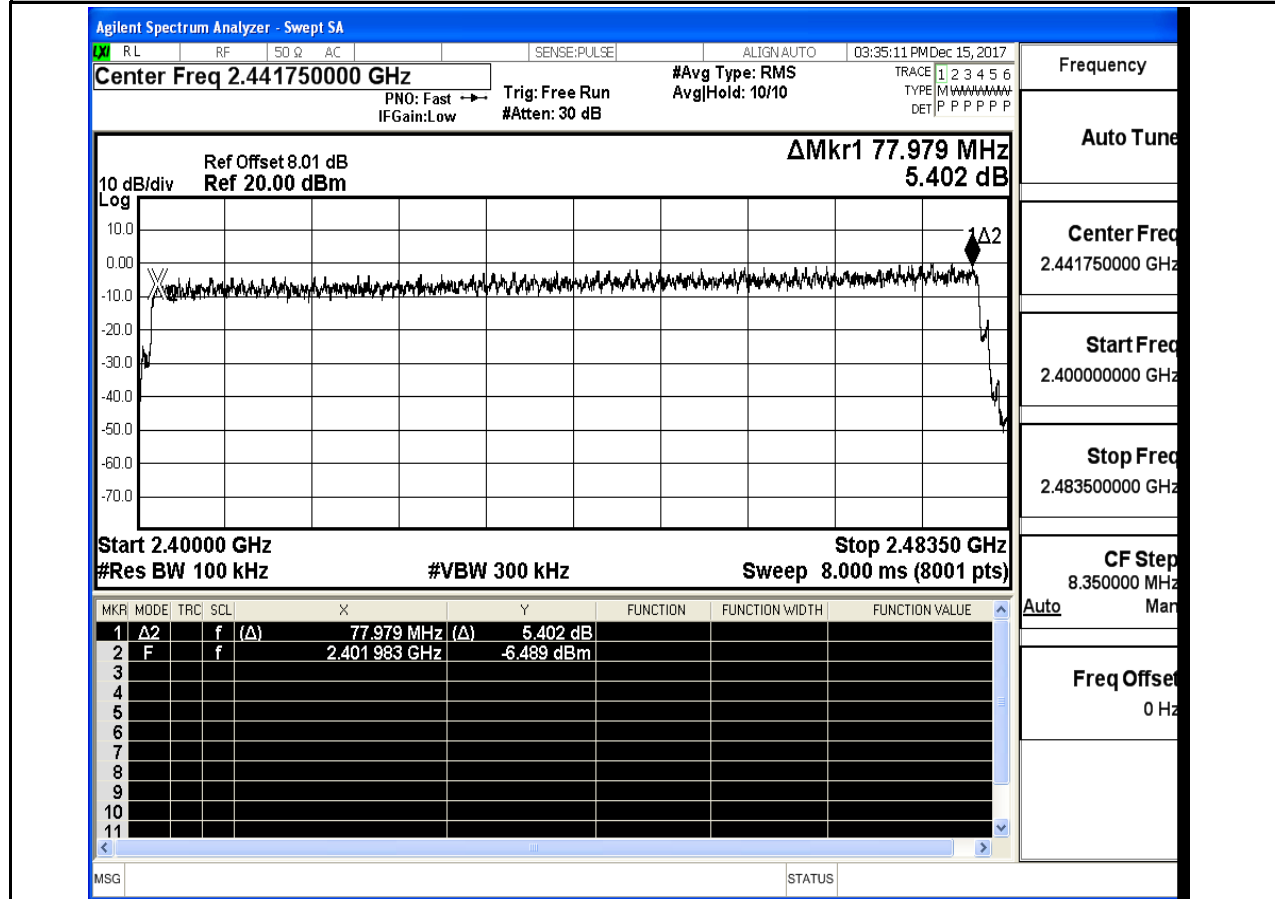
Hopping Channel Number_GFSK_2402



Hopping Channel Number_π/4DQPSK_2402



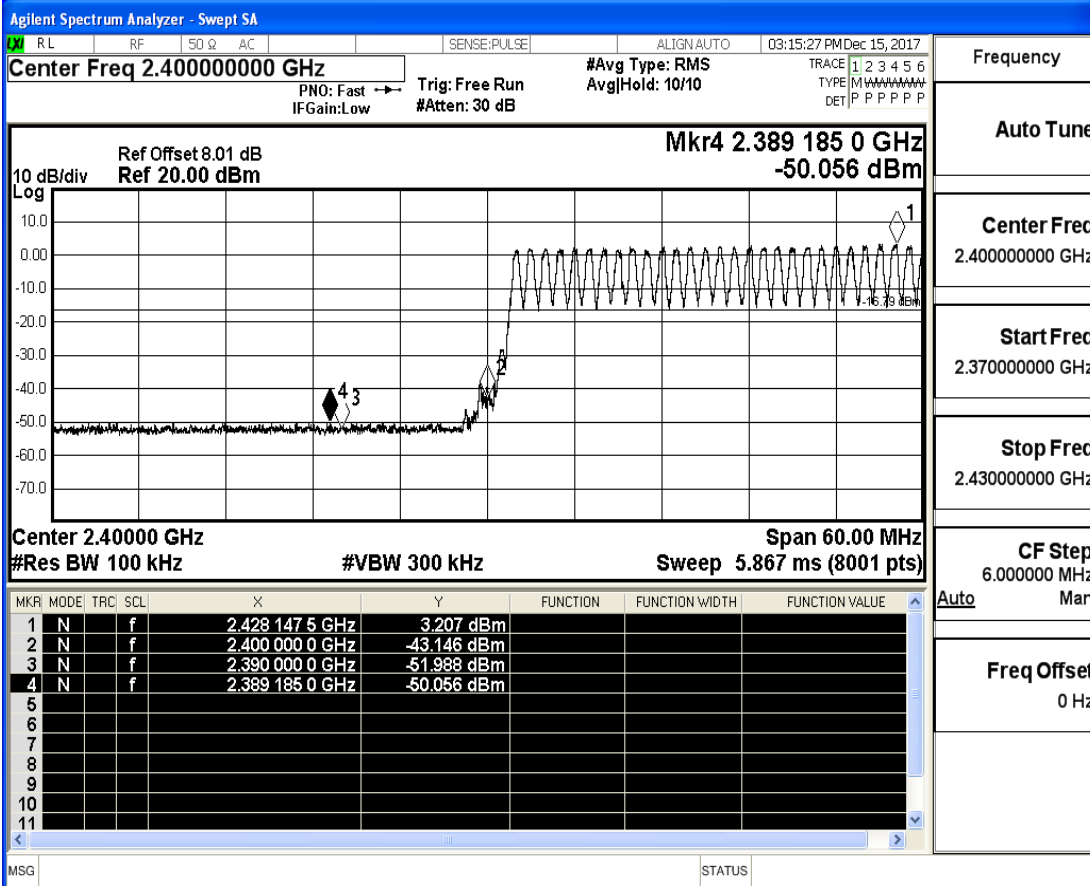
Hopping Channel Number_8-DPSK_2402



6.Band-edge for RF Conducted Emissions

Test Mode	Test Channel	Hopping	Carrier Power[dBm]	Max. Spurious Level [dBm]	Limit[dBm]	Verdict
GFSK	2402	On	3.207	-50.056	-16.79	PASS
GFSK	2402	Off	2.193	-50.043	-17.81	PASS
GFSK	2480	On	6.324	-47.077	-13.68	PASS
GFSK	2480	Off	6.595	-47.326	-13.41	PASS
$\pi/4$ DQPSK	2402	On	2.750	-49.311	-17.25	PASS
$\pi/4$ DQPSK	2402	Off	1.426	-49.706	-18.57	PASS
$\pi/4$ DQPSK	2480	On	2.701	-47.555	-17.3	PASS
$\pi/4$ DQPSK	2480	Off	-0.114	-44.192	-20.11	PASS
8-DPSK	2402	On	-3.588	-49.848	-23.59	PASS
8-DPSK	2402	Off	1.497	-50.389	-18.5	PASS
8-DPSK	2480	On	-0.125	-46.524	-20.13	PASS
8-DPSK	2480	Off	6.011	-41.910	-13.99	PASS

Band-edge for RF Conducted Emissions_GFSK_2402_Hopping On



Frequency

Auto Tune

Center Freq
2.40000000 GHz

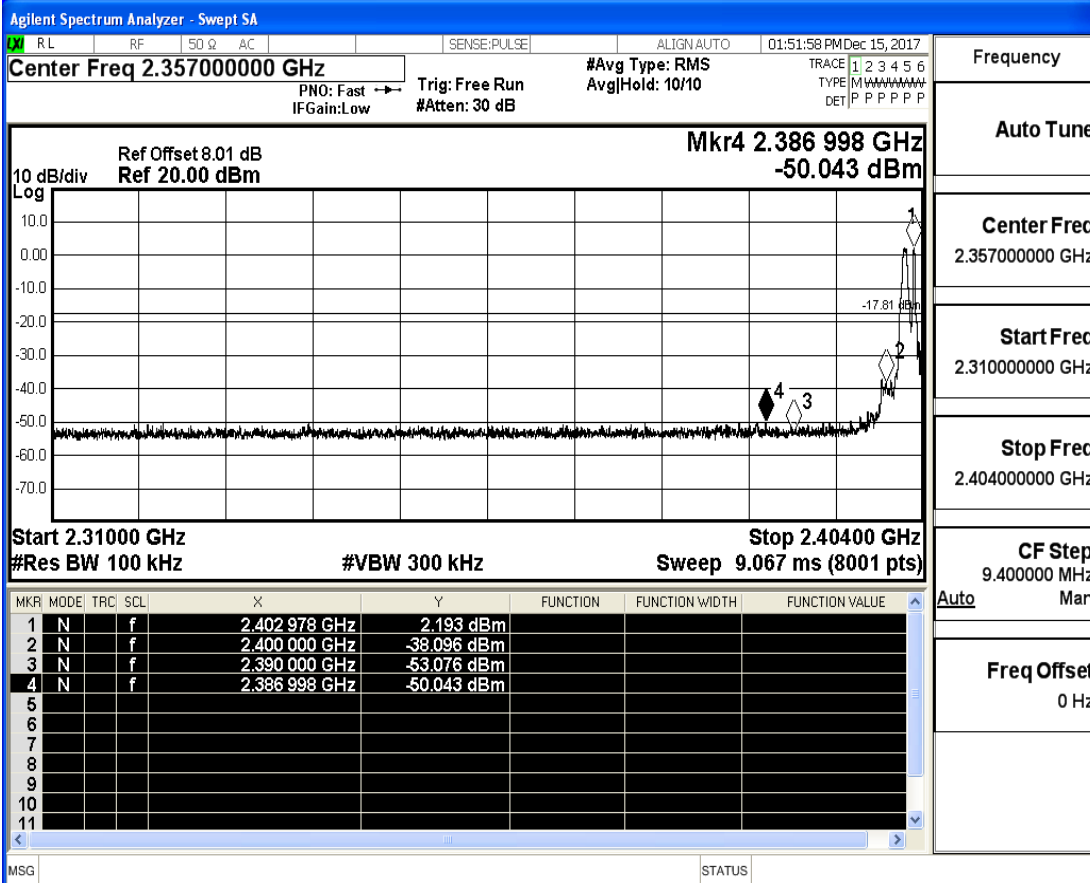
Start Freq
2.37000000 GHz

Stop Freq
2.43000000 GHz

CF Step
6.000000 MHz
Auto

Freq Offset
0 Hz

Band-edge for RF Conducted Emissions_GFSK_2402_Hopping Off



Frequency

Auto Tune

Center Freq
2.35700000 GHz

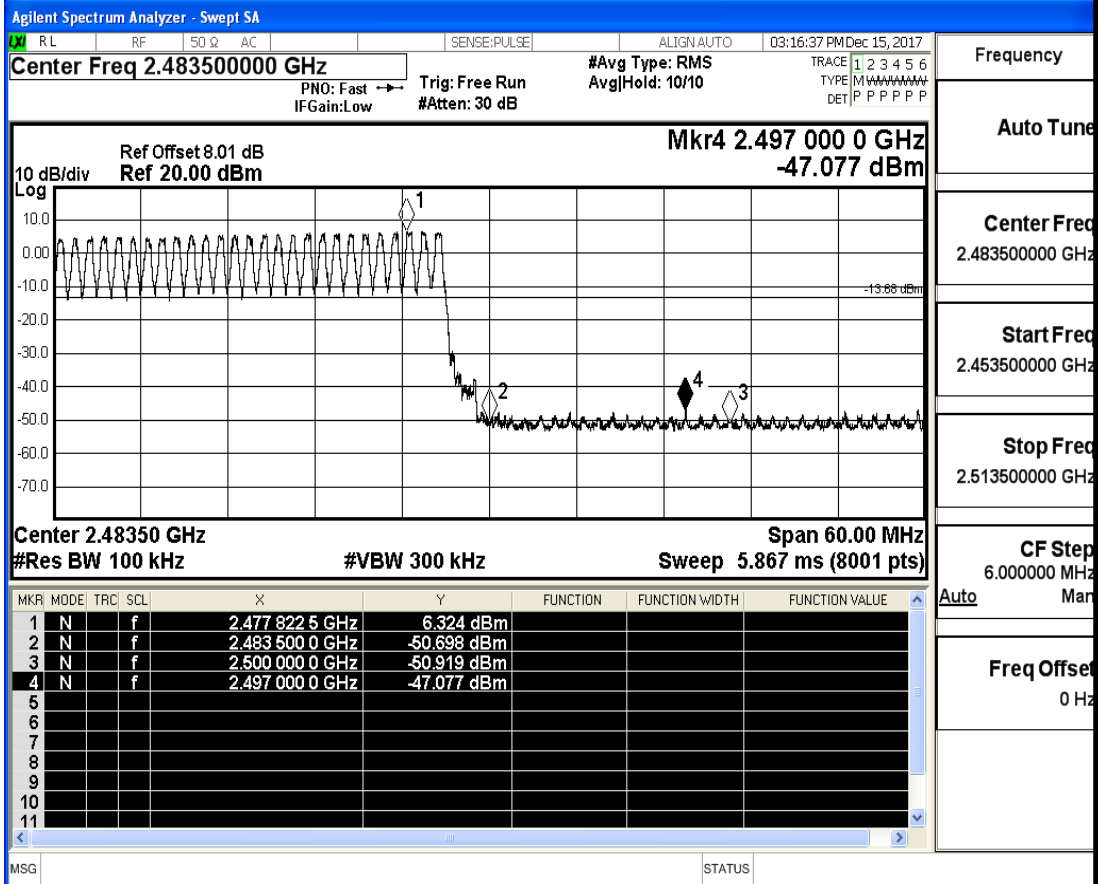
Start Freq
2.31000000 GHz

Stop Freq
2.40400000 GHz

CF Step
9.400000 MHz
Auto

Freq Offset
0 Hz

Band-edge for RF Conducted Emissions_GFSK_2480_Hopping On



Frequency

Auto Tune

Center Freq
2.483500000 GHz

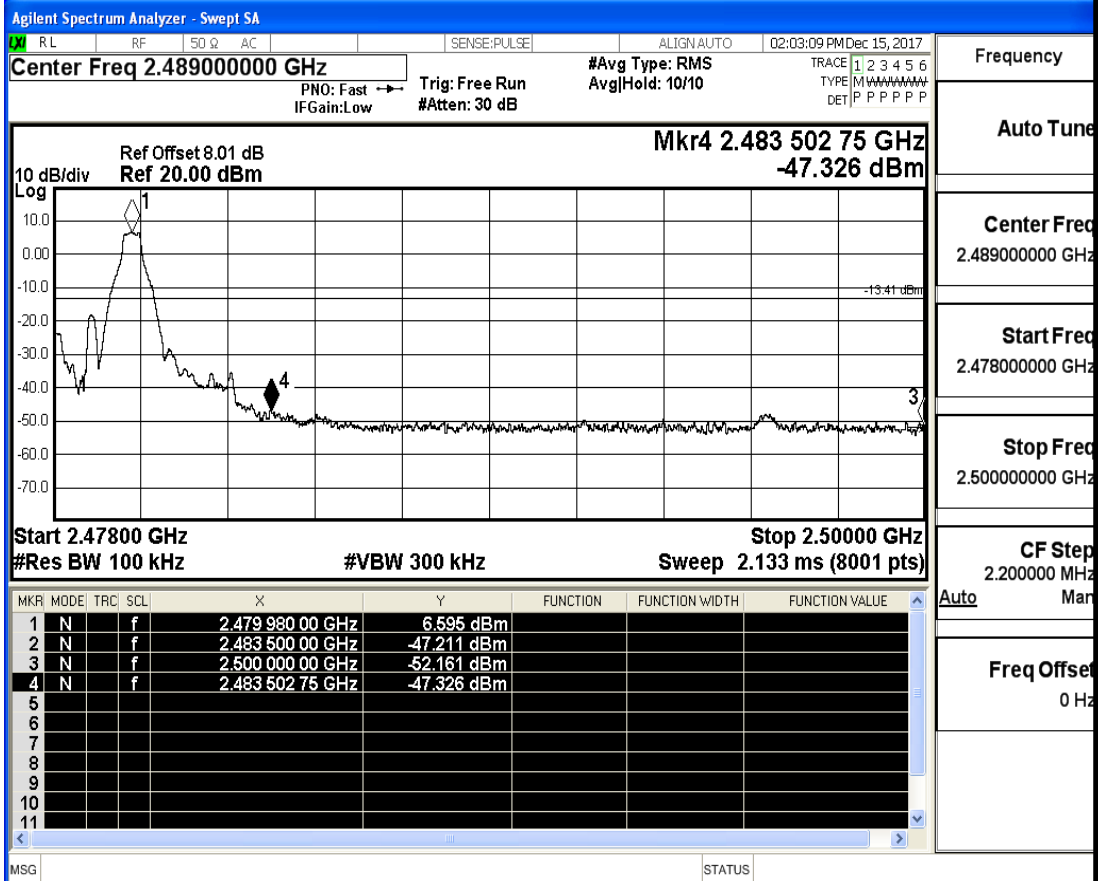
Start Freq
2.453500000 GHz

Stop Freq
2.513500000 GHz

CF Step
6.000000 MHz
Auto

Freq Offset
0 Hz

Band-edge for RF Conducted Emissions_GFSK_2480_Hopping Off



Frequency

Auto Tune

Center Freq
2.489000000 GHz

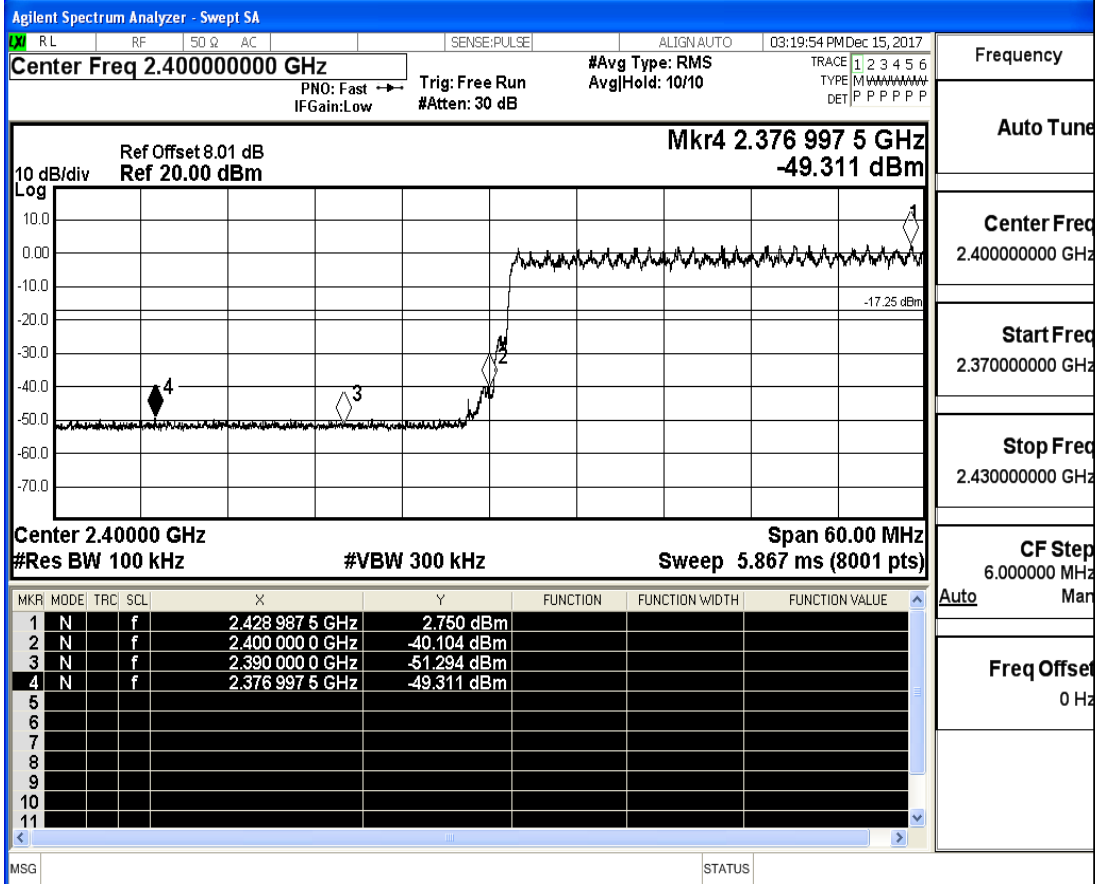
Start Freq
2.478000000 GHz

Stop Freq
2.500000000 GHz

CF Step
2.200000 MHz
Auto

Freq Offset
0 Hz

Band-edge for RF Conducted Emissions_π/4DQPSK_2402_Hopping On



Frequency

Auto Tune

Center Freq
2.40000000 GHz

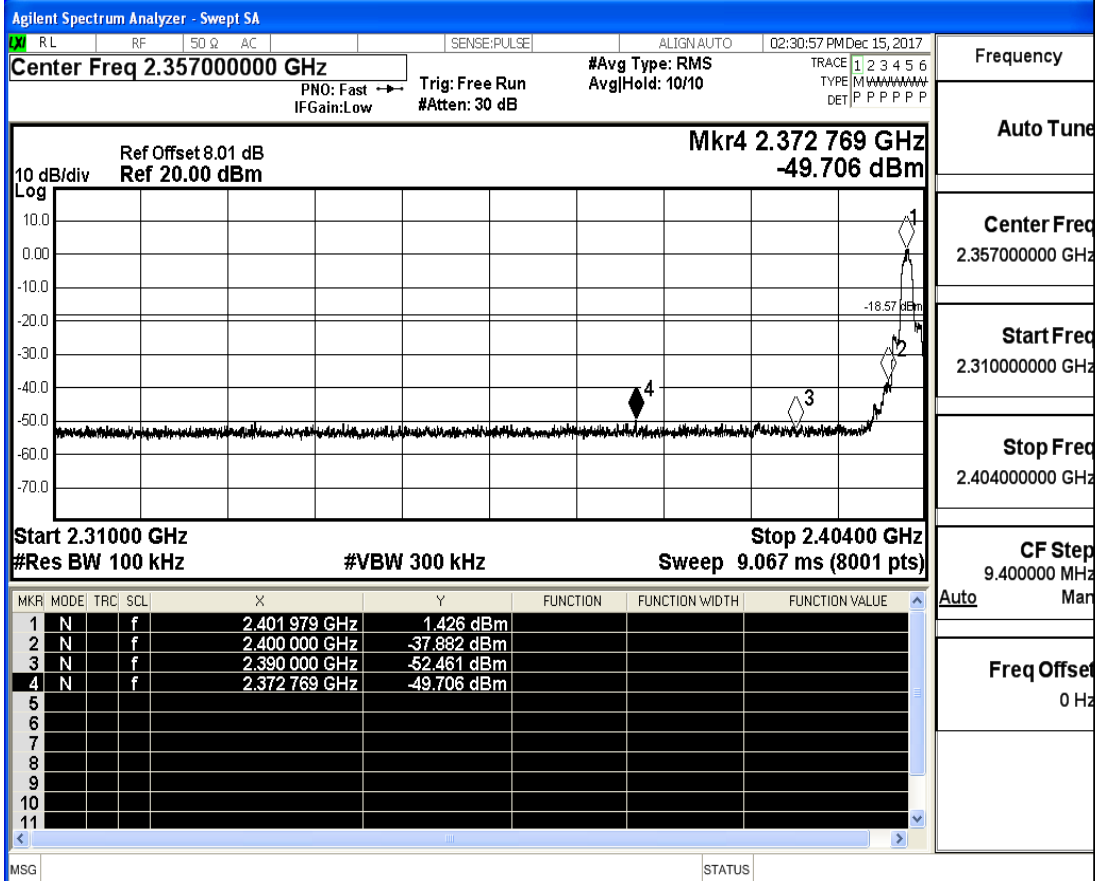
Start Freq
2.37000000 GHz

Stop Freq
2.43000000 GHz

CF Step
6.000000 MHz

Freq Offset
0 Hz

Band-edge for RF Conducted Emissions_π/4DQPSK_2402_Hopping Off



Frequency

Auto Tune

Center Freq
2.35700000 GHz

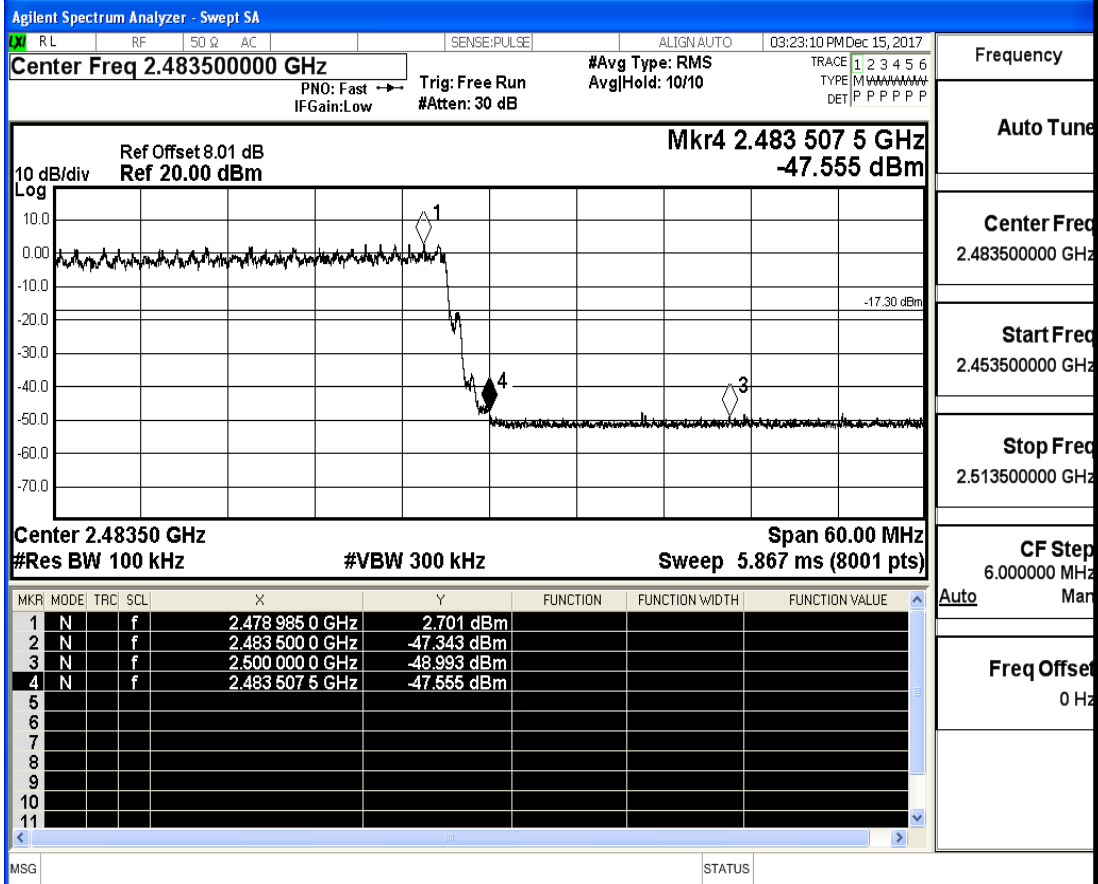
Start Freq
2.31000000 GHz

Stop Freq
2.40400000 GHz

CF Step
9.400000 MHz

Freq Offset
0 Hz

Band-edge for RF Conducted Emissions_π/4DQPSK_2480_Hopping On



Frequency

Auto Tune

Center Freq
2.483500000 GHz

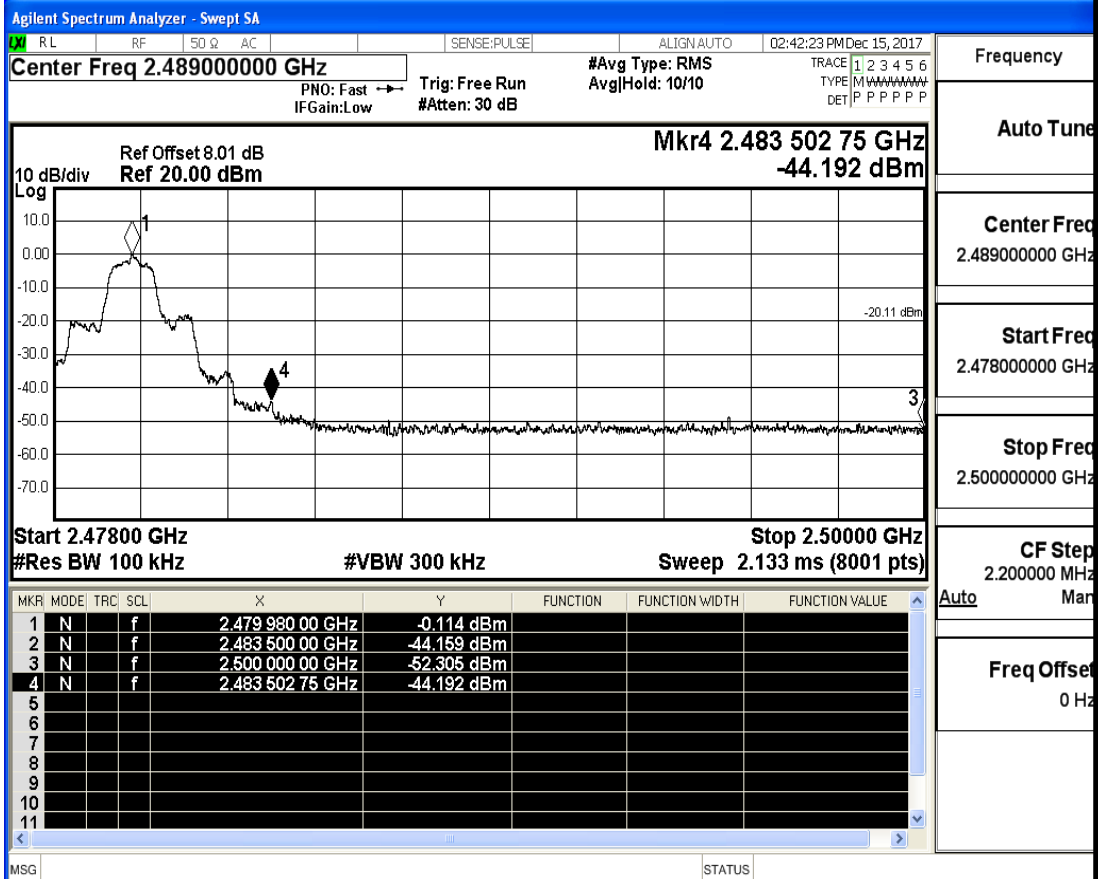
Start Freq
2.453500000 GHz

Stop Freq
2.513500000 GHz

CF Step
6.000000 MHz
Auto

Freq Offset
0 Hz

Band-edge for RF Conducted Emissions_π/4DQPSK_2480_Hopping Off



Frequency

Auto Tune

Center Freq
2.489000000 GHz

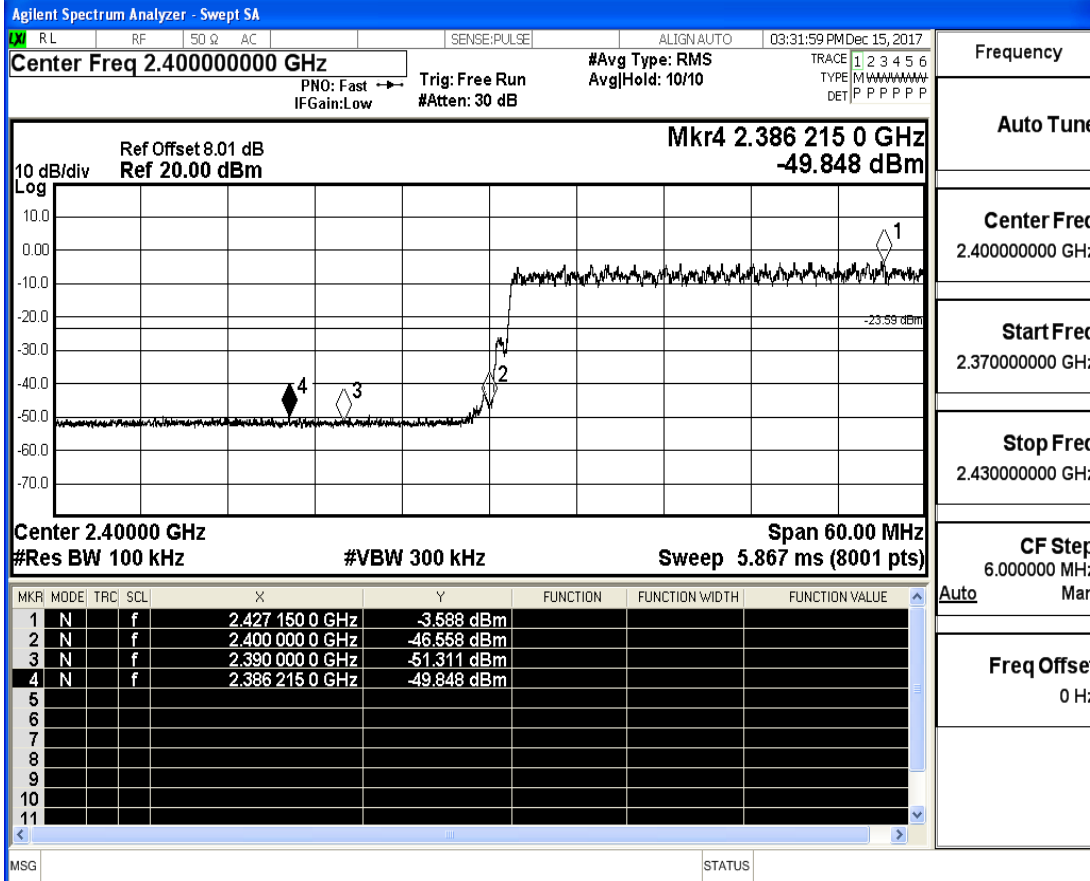
Start Freq
2.478000000 GHz

Stop Freq
2.500000000 GHz

CF Step
2.200000 MHz
Auto

Freq Offset
0 Hz

Band-edge for RF Conducted Emissions_8-DPSK_2402_Hopping On



Frequency

Auto Tune

Center Freq
2.40000000 GHz

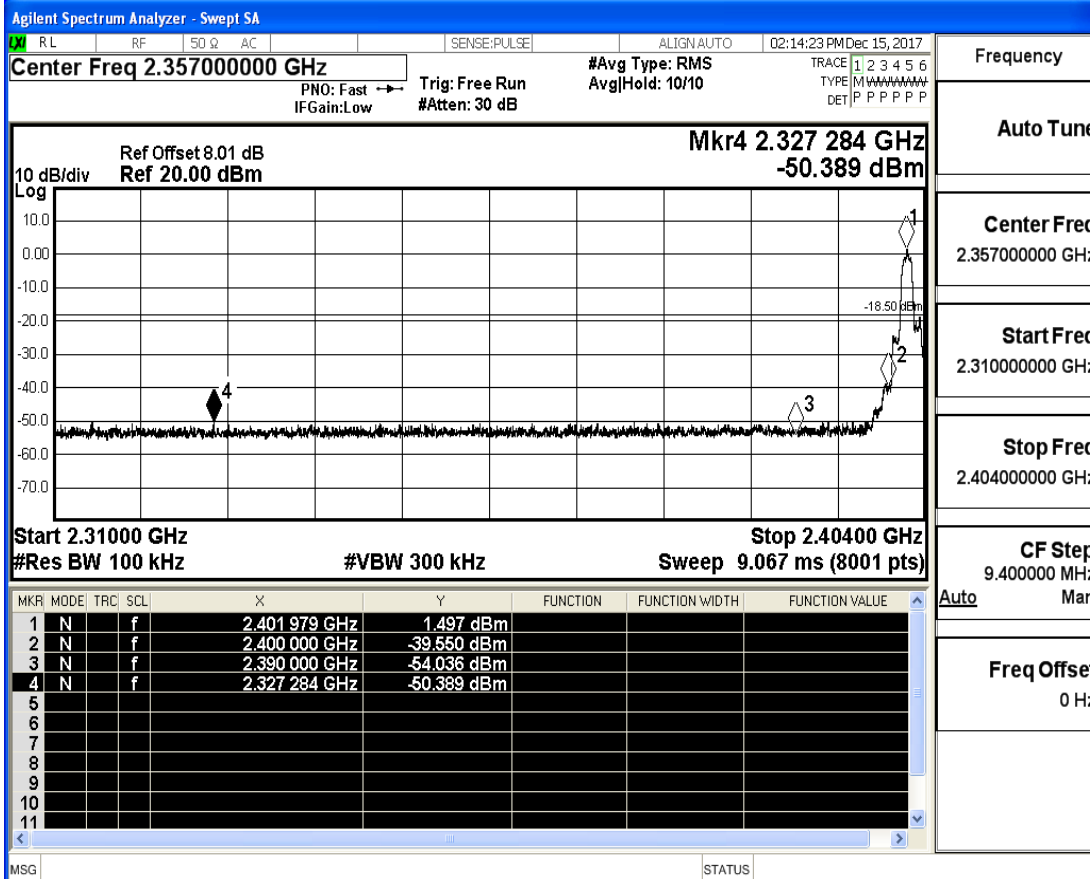
Start Freq
2.37000000 GHz

Stop Freq
2.43000000 GHz

CF Step
6.000000 MHz

Freq Offset
0 Hz

Band-edge for RF Conducted Emissions_8-DPSK_2402_Hopping Off



Frequency

Auto Tune

Center Freq
2.35700000 GHz

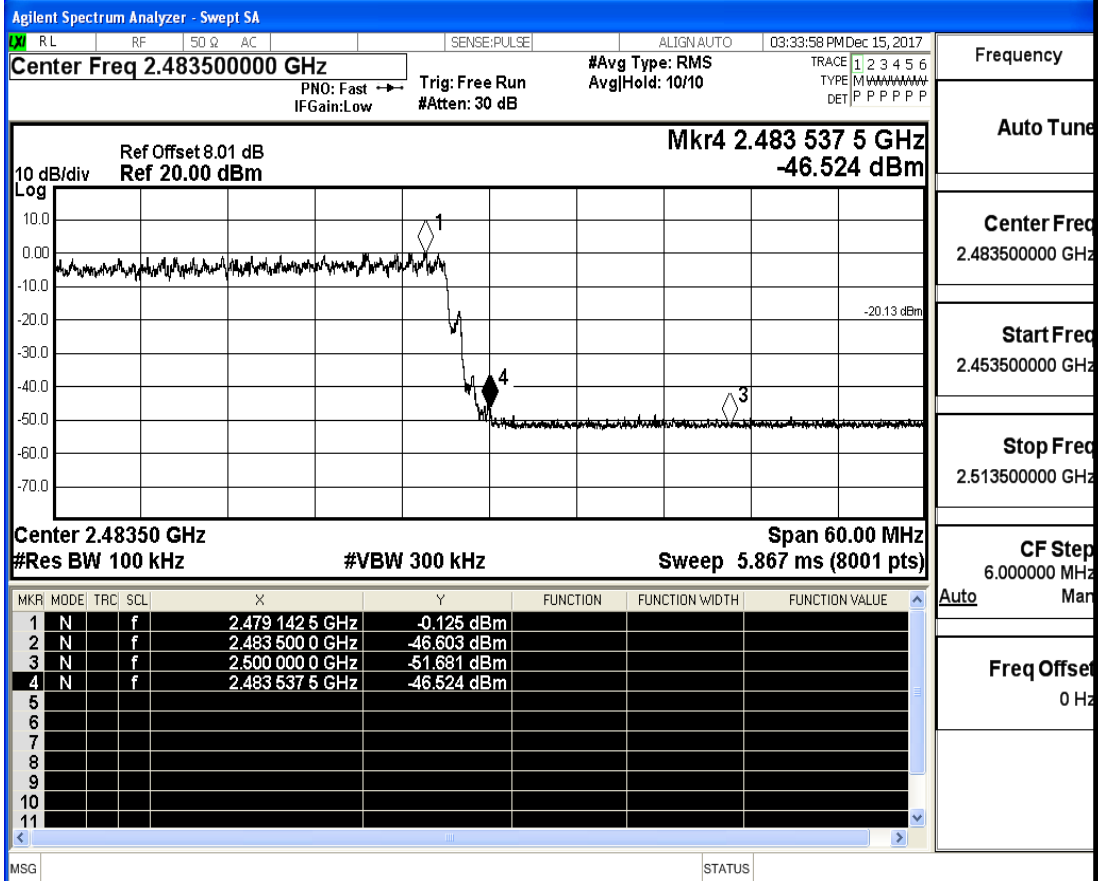
Start Freq
2.31000000 GHz

Stop Freq
2.40400000 GHz

CF Step
9.400000 MHz

Freq Offset
0 Hz

Band-edge for RF Conducted Emissions_8-DPSK_2480_Hopping On



Frequency

Auto Tune

Center Freq
2.483500000 GHz

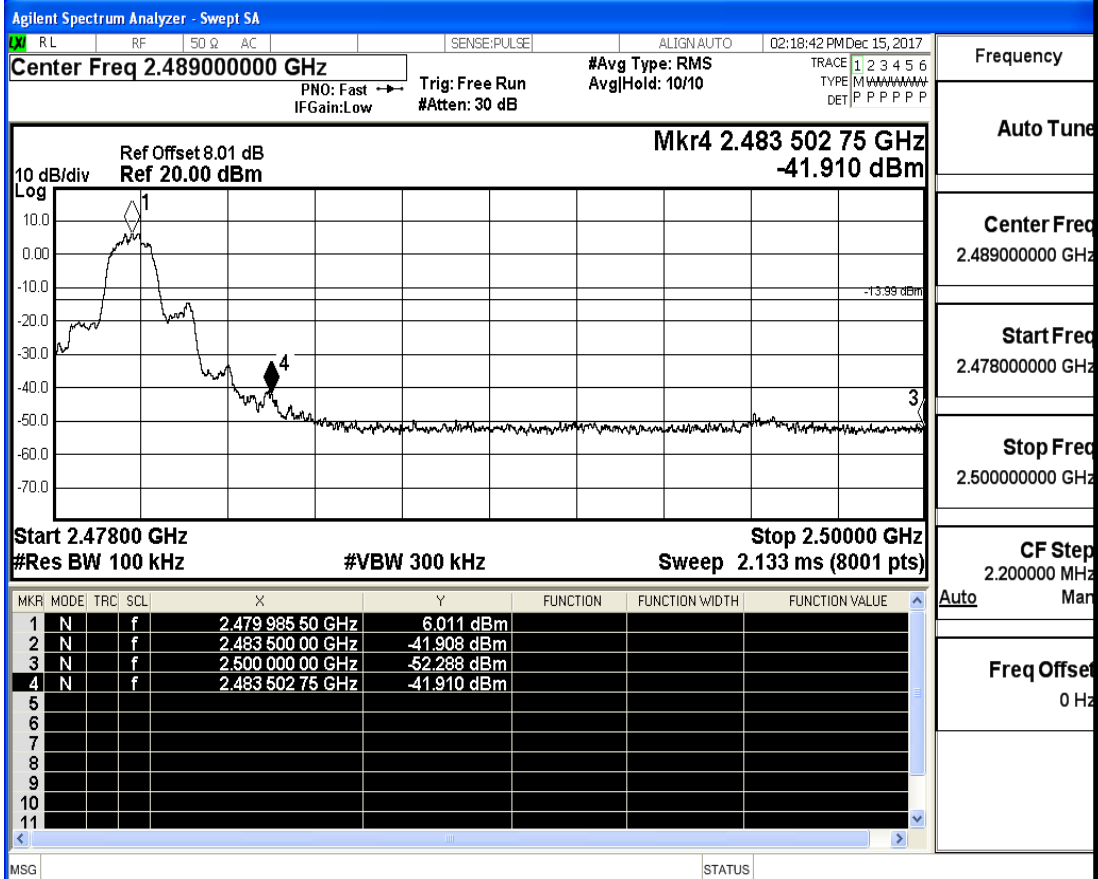
Start Freq
2.453500000 GHz

Stop Freq
2.513500000 GHz

CF Step
6.000000 MHz

Freq Offset
0 Hz

Band-edge for RF Conducted Emissions_8-DPSK_2480_Hopping Off



Frequency

Auto Tune

Center Freq
2.489000000 GHz

Start Freq
2.478000000 GHz

Stop Freq
2.500000000 GHz

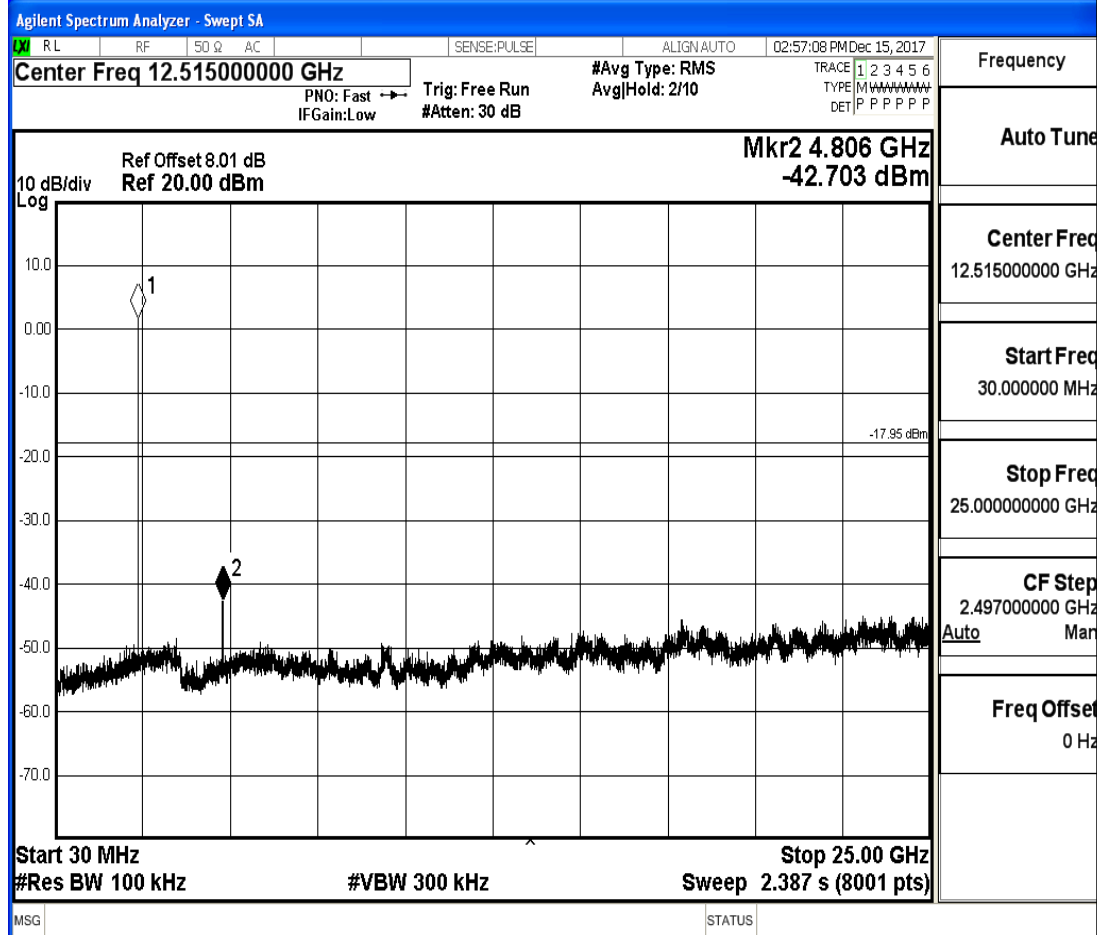
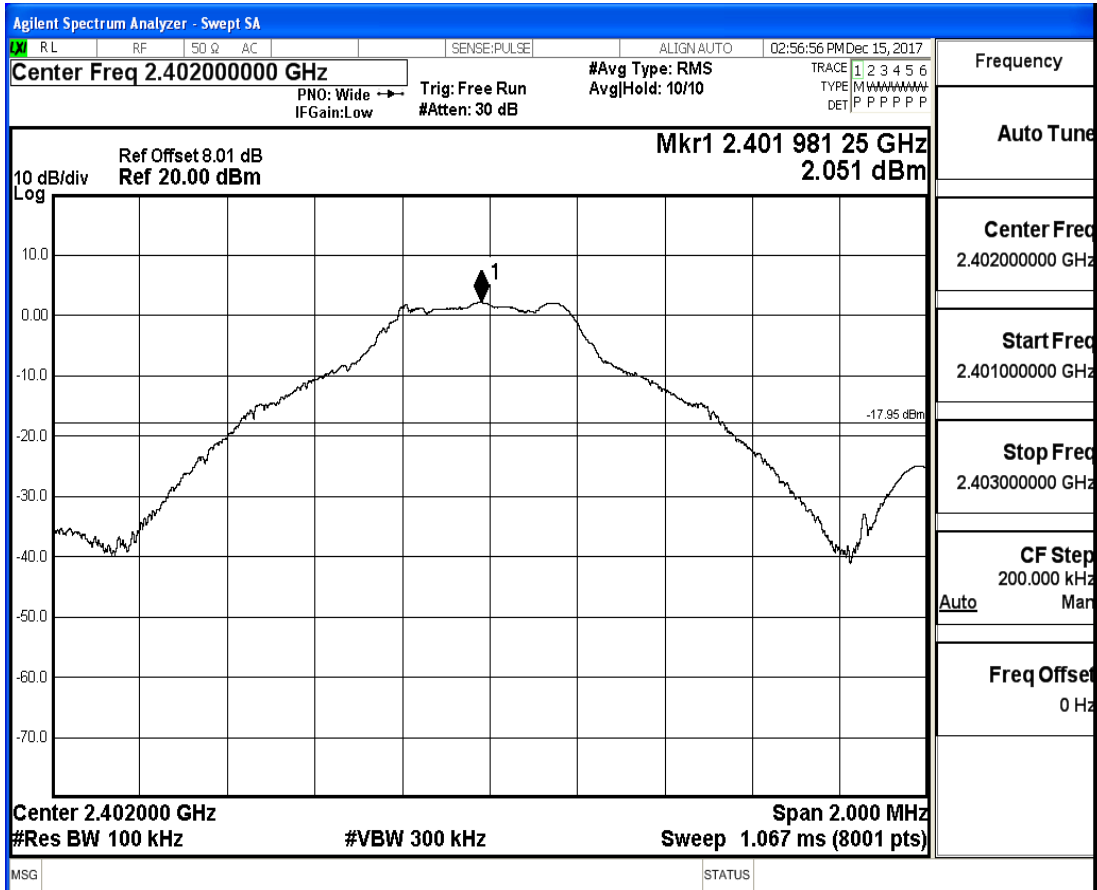
CF Step
2.200000 MHz

Freq Offset
0 Hz

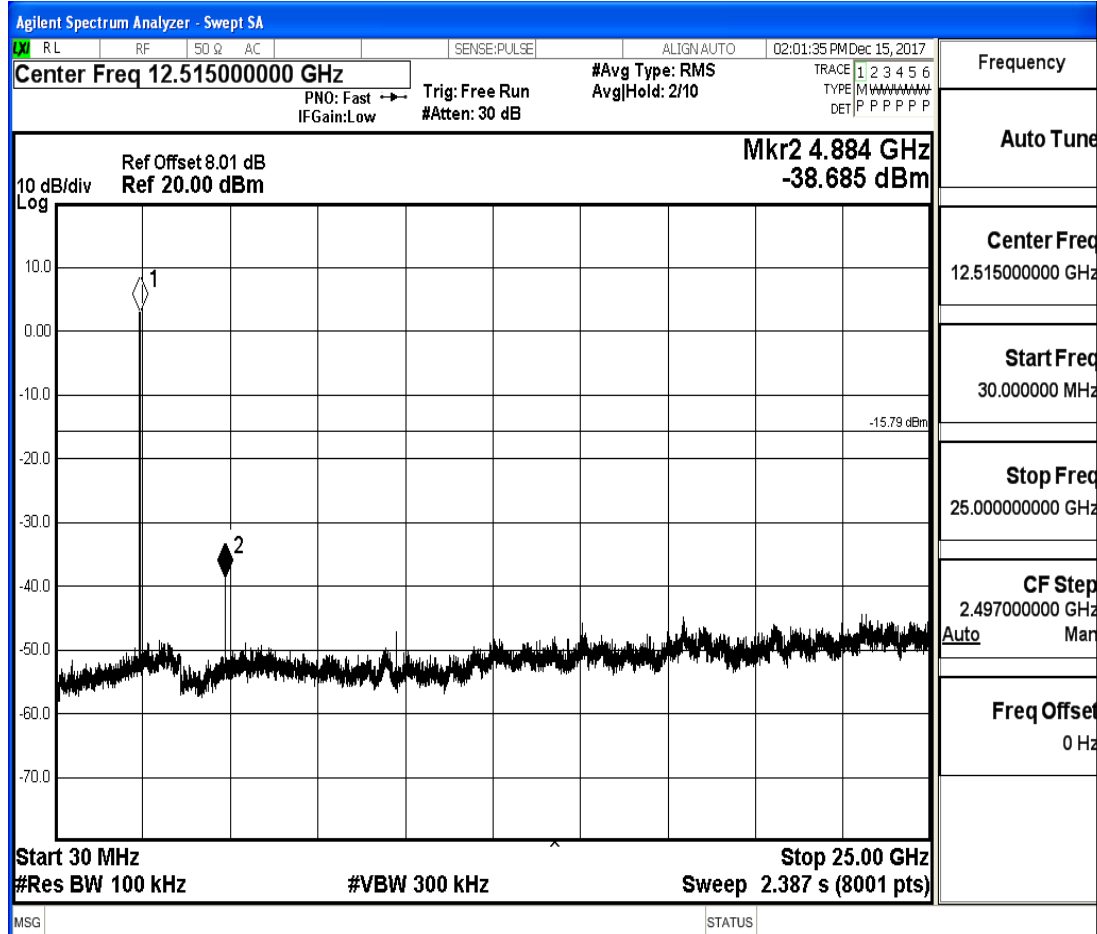
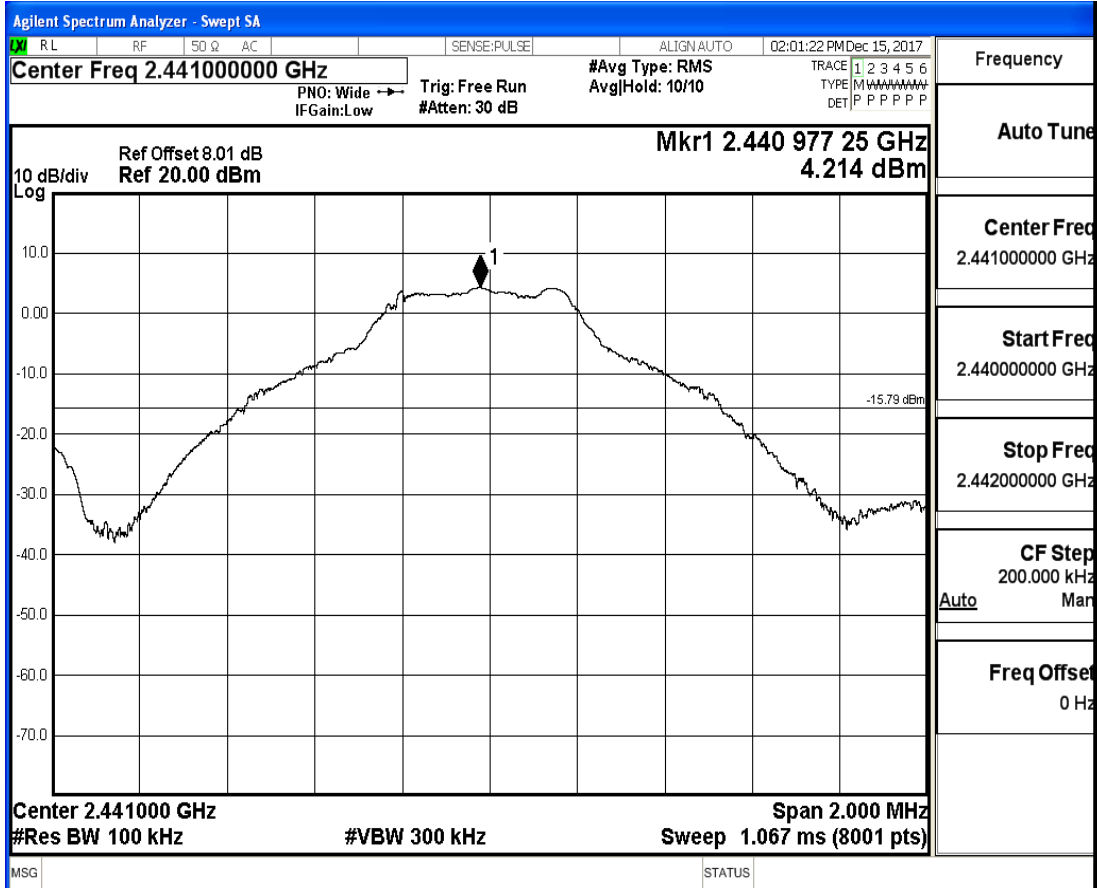
7.RF Conducted Spurious Emissions

Test Mode	Test Channel	StartFre [MHz]	StopFre [MHz]	RBW [kHz]	VBW [kHz]	Pref[dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	2402	30	25000	100	300	2.051	-42.703	<- 17.949	PASS
GFSK	2441	30	25000	100	300	4.214	-38.685	<- 15.786	PASS
GFSK	2480	30	25000	100	300	6.476	-39.572	<- 13.524	PASS
$\pi/4$ DQPSK	2402	30	25000	100	300	1.219	-44.276	<- 18.781	PASS
$\pi/4$ DQPSK	2441	30	25000	100	300	0.424	-44.596	<- 19.576	PASS
$\pi/4$ DQPSK	2480	30	25000	100	300	-0.099	-44.588	<- 20.099	PASS
8DPSK	2402	30	25000	100	300	1.263	-44.349	<- 18.737	PASS
8DPSK	2441	30	25000	100	300	3.566	-44.167	<- 16.434	PASS
8DPSK	2480	30	25000	100	300	5.547	-40.719	<- 14.453	PASS

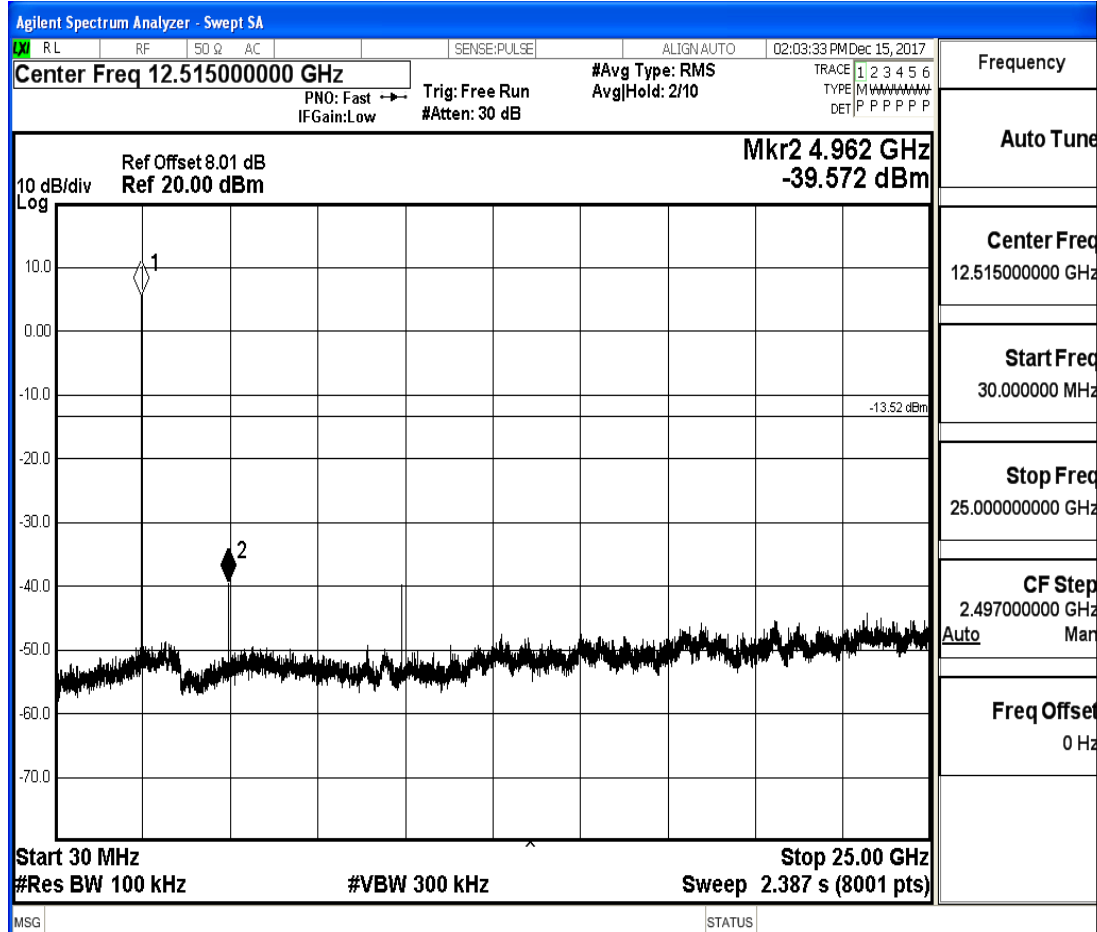
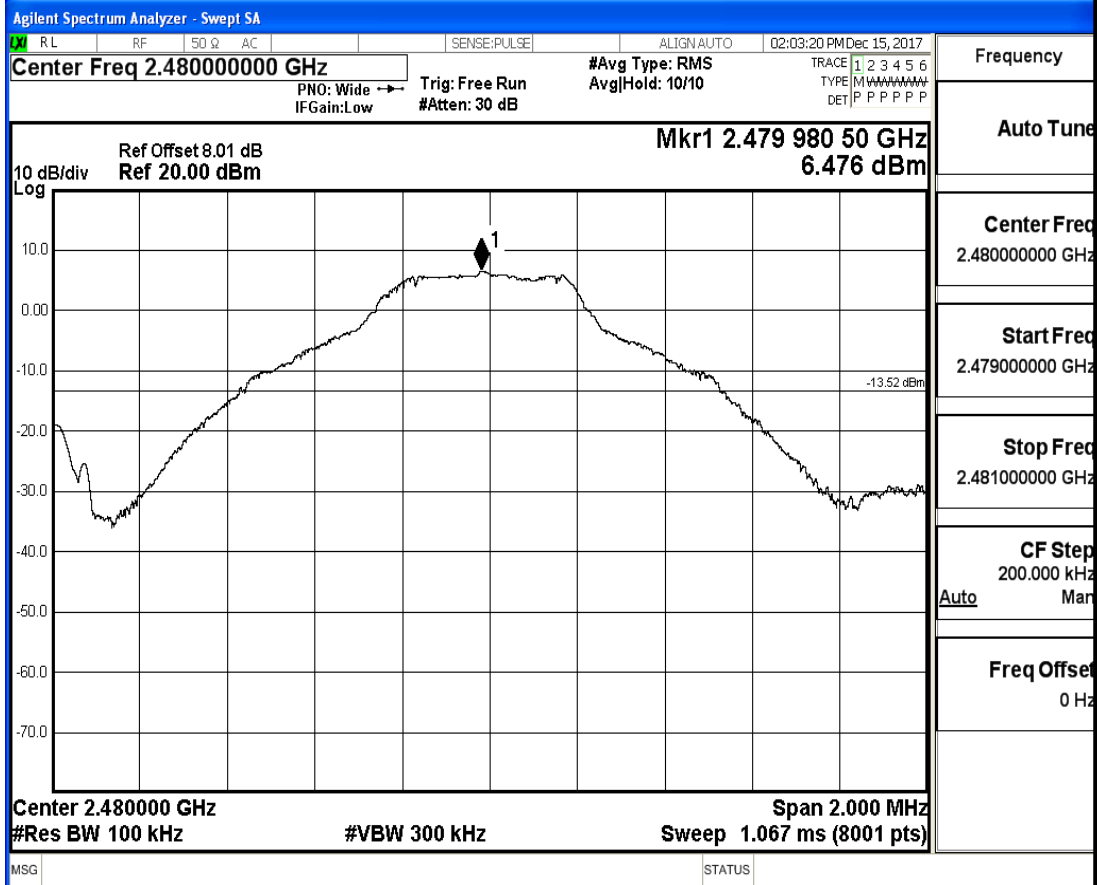
RF Conducted Spurious Emissions_GFSK_2402



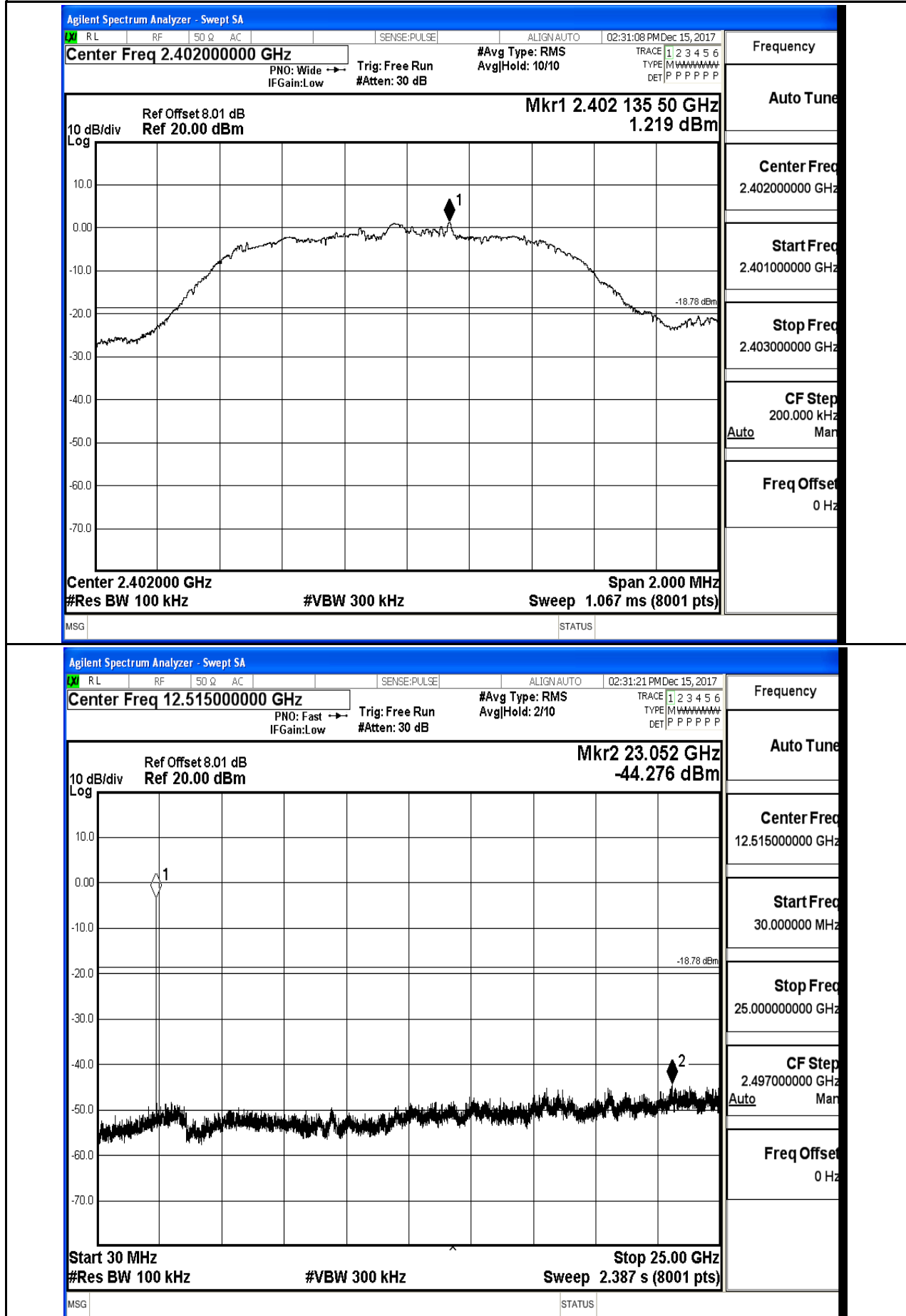
RF Conducted Spurious Emissions_GFSK_2441



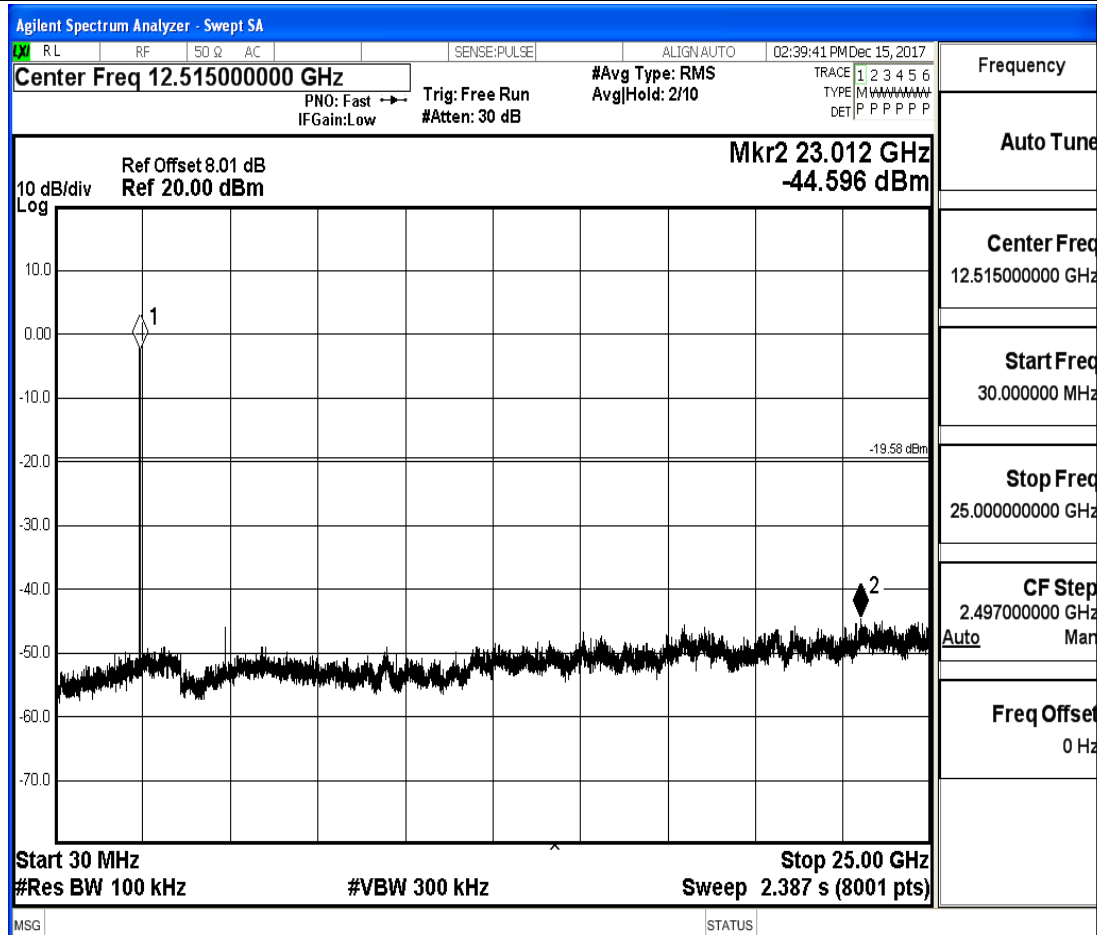
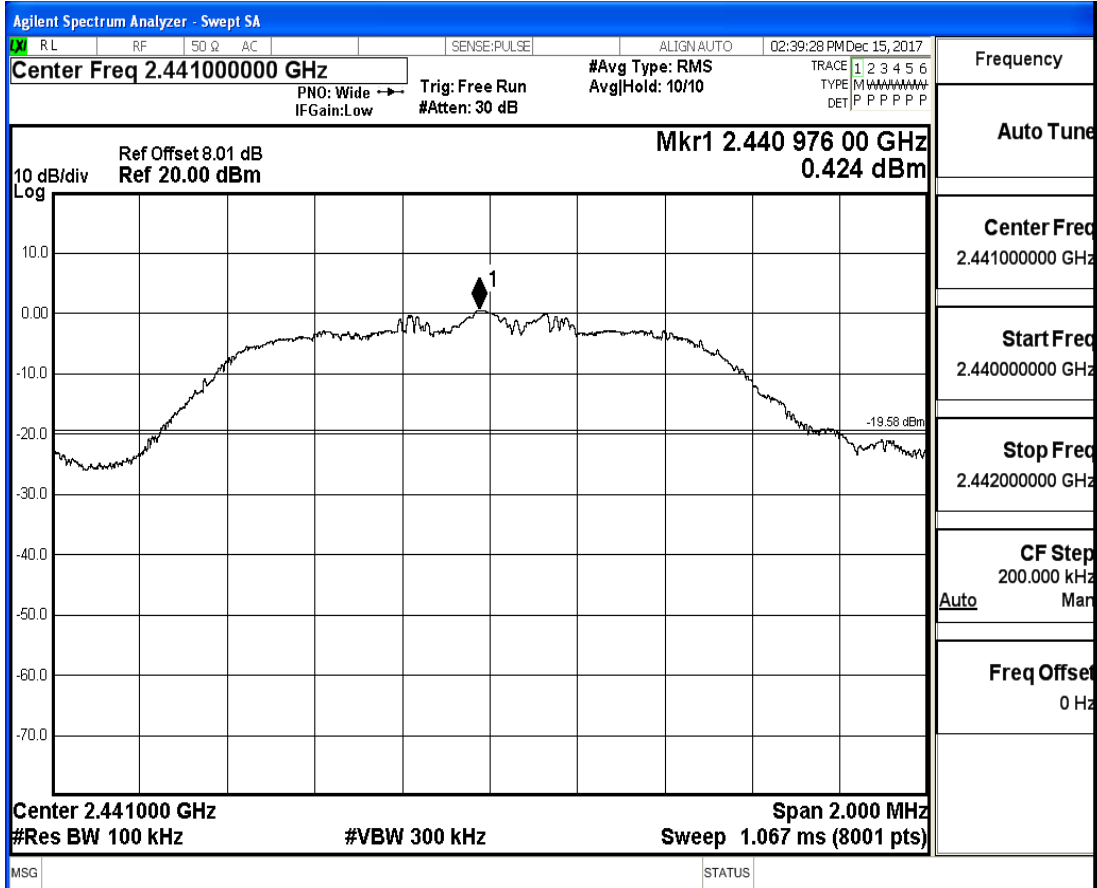
RF Conducted Spurious Emissions_GFSK_2480



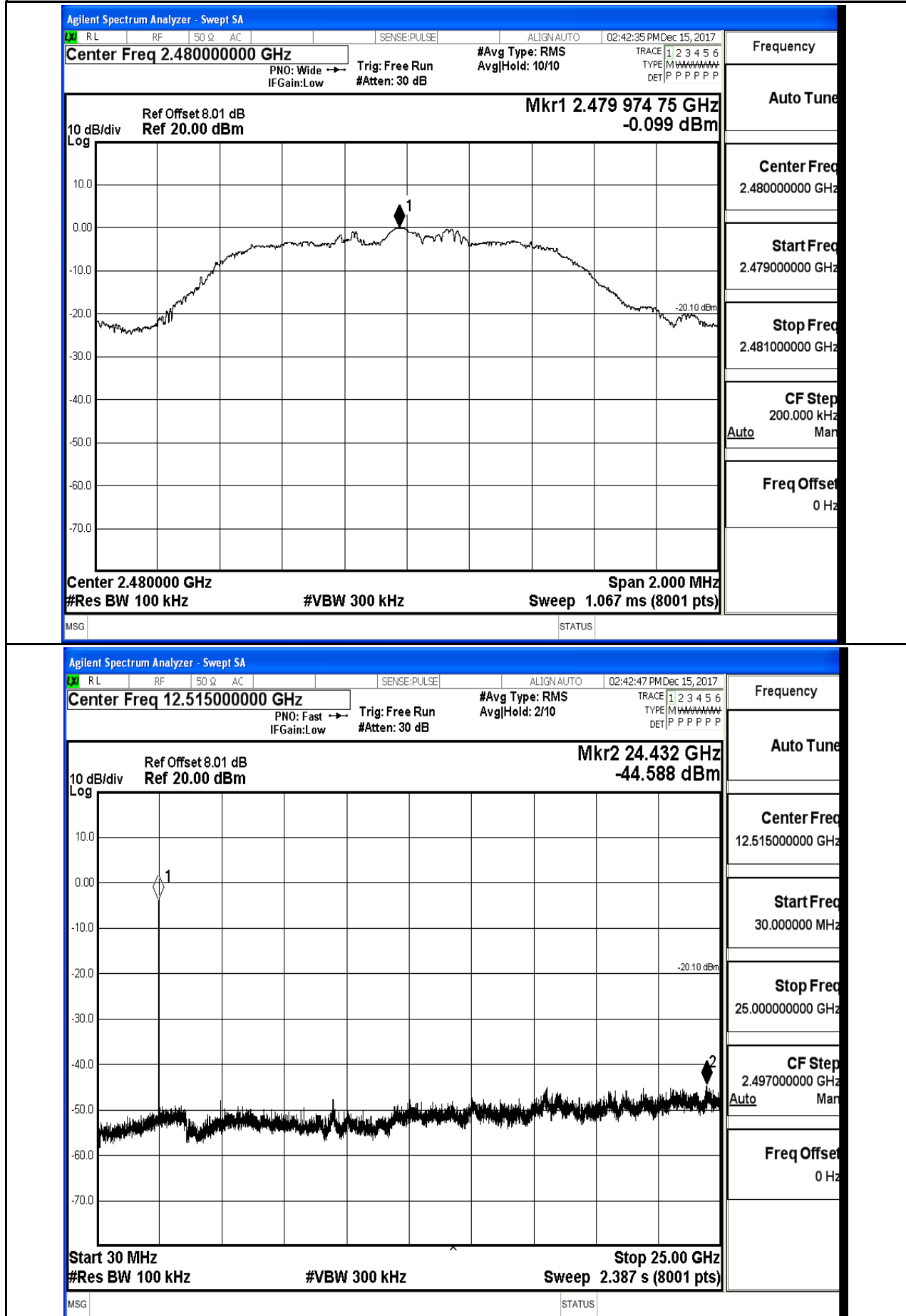
RF Conducted Spurious Emissions_π/4DQPSK_2402



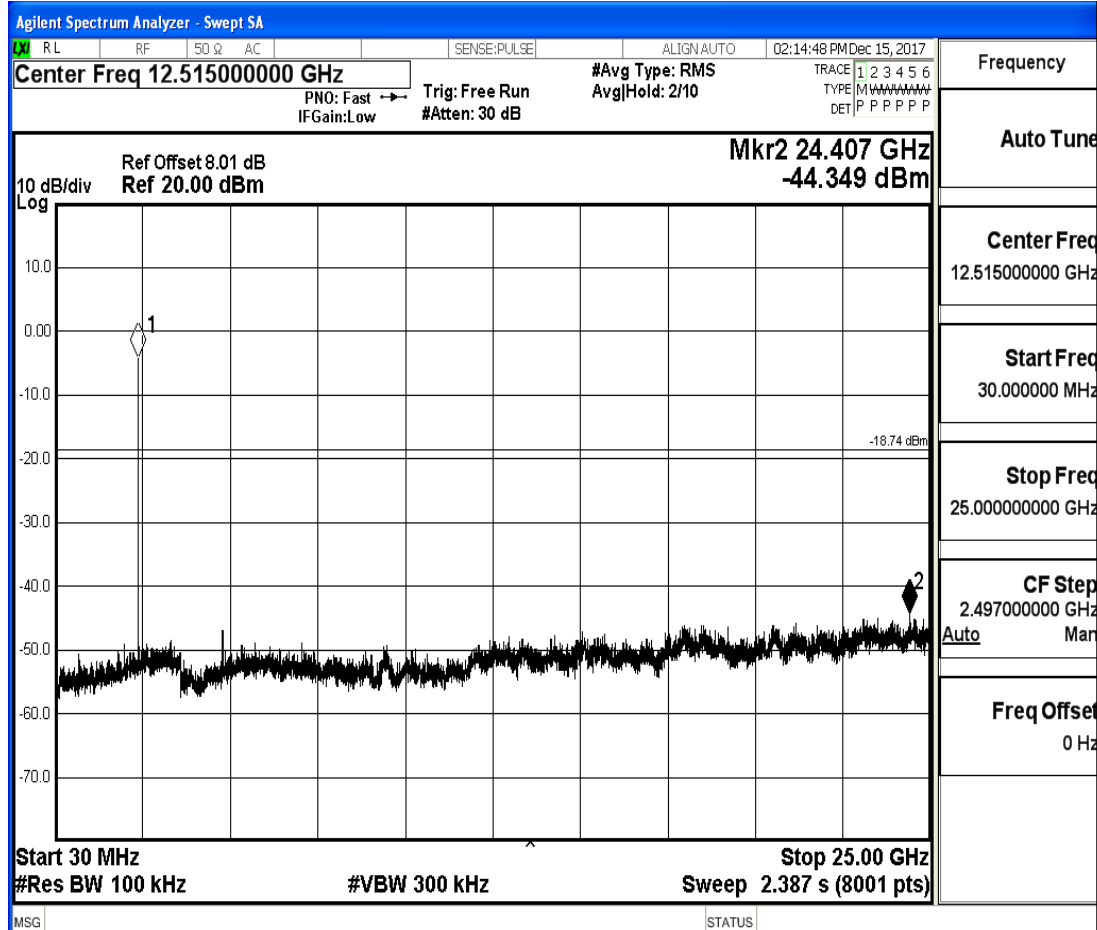
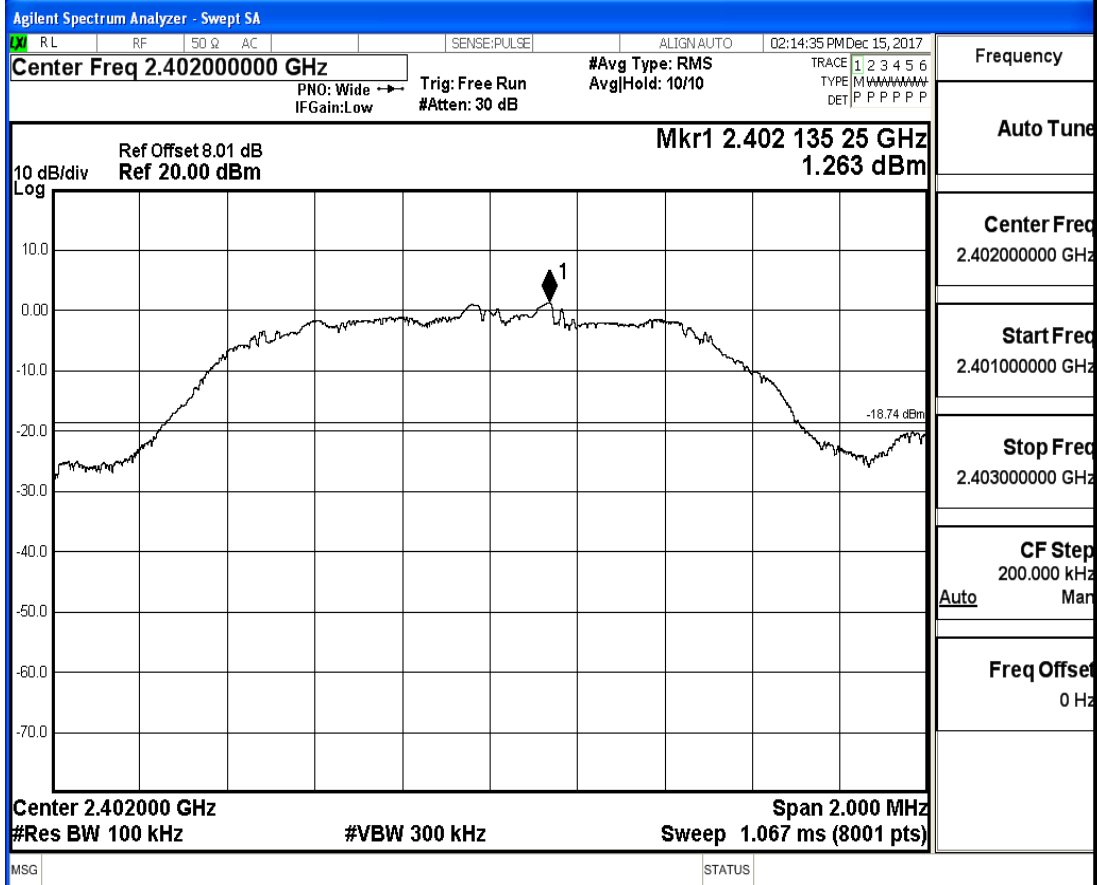
RF Conducted Spurious Emissions_π/4DQPSK_2441



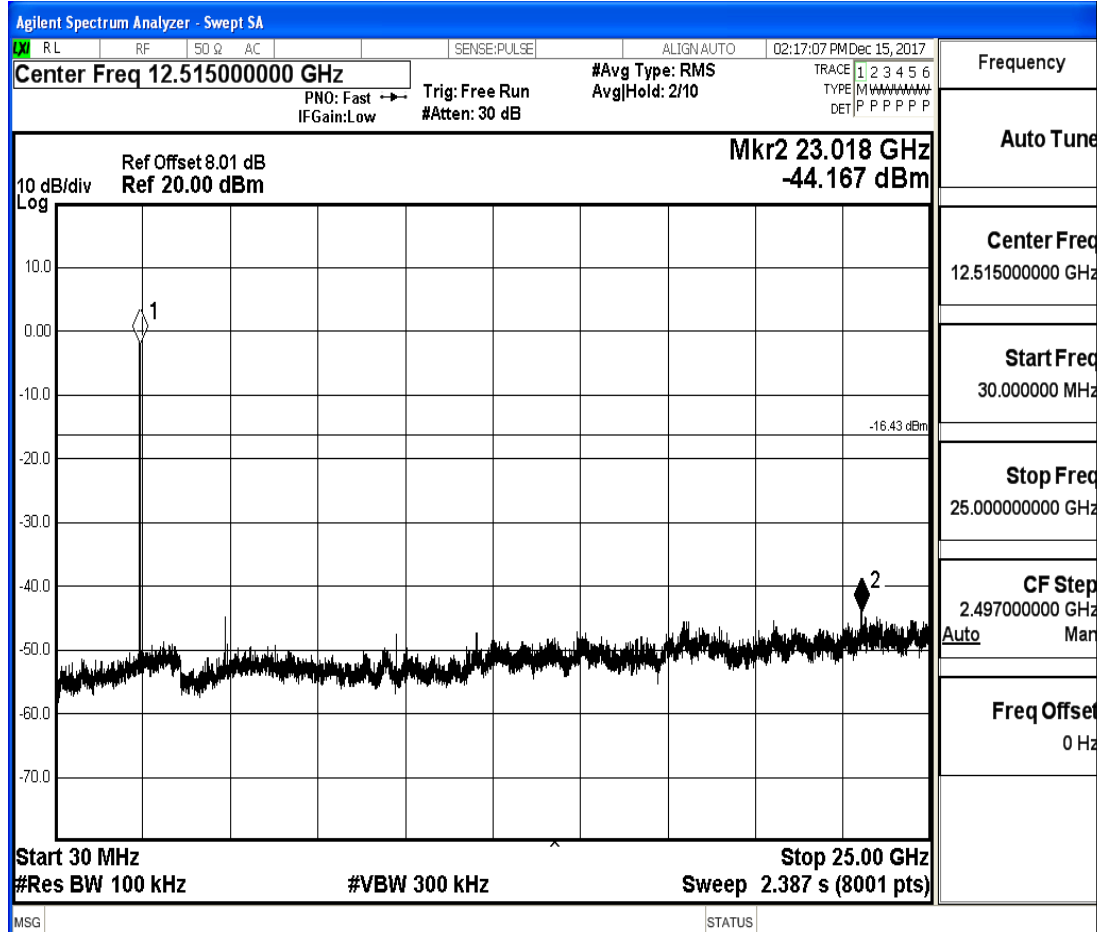
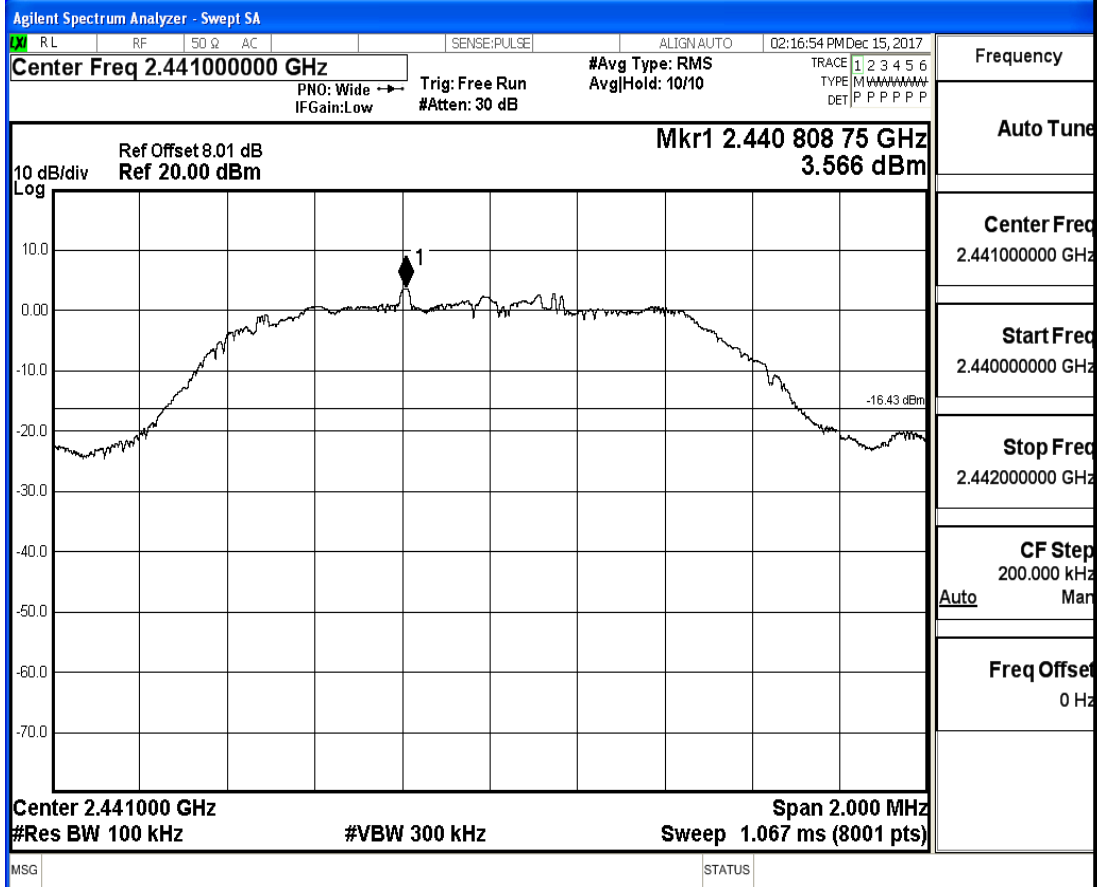
RF Conducted Spurious Emissions_π/4DQPSK_2480



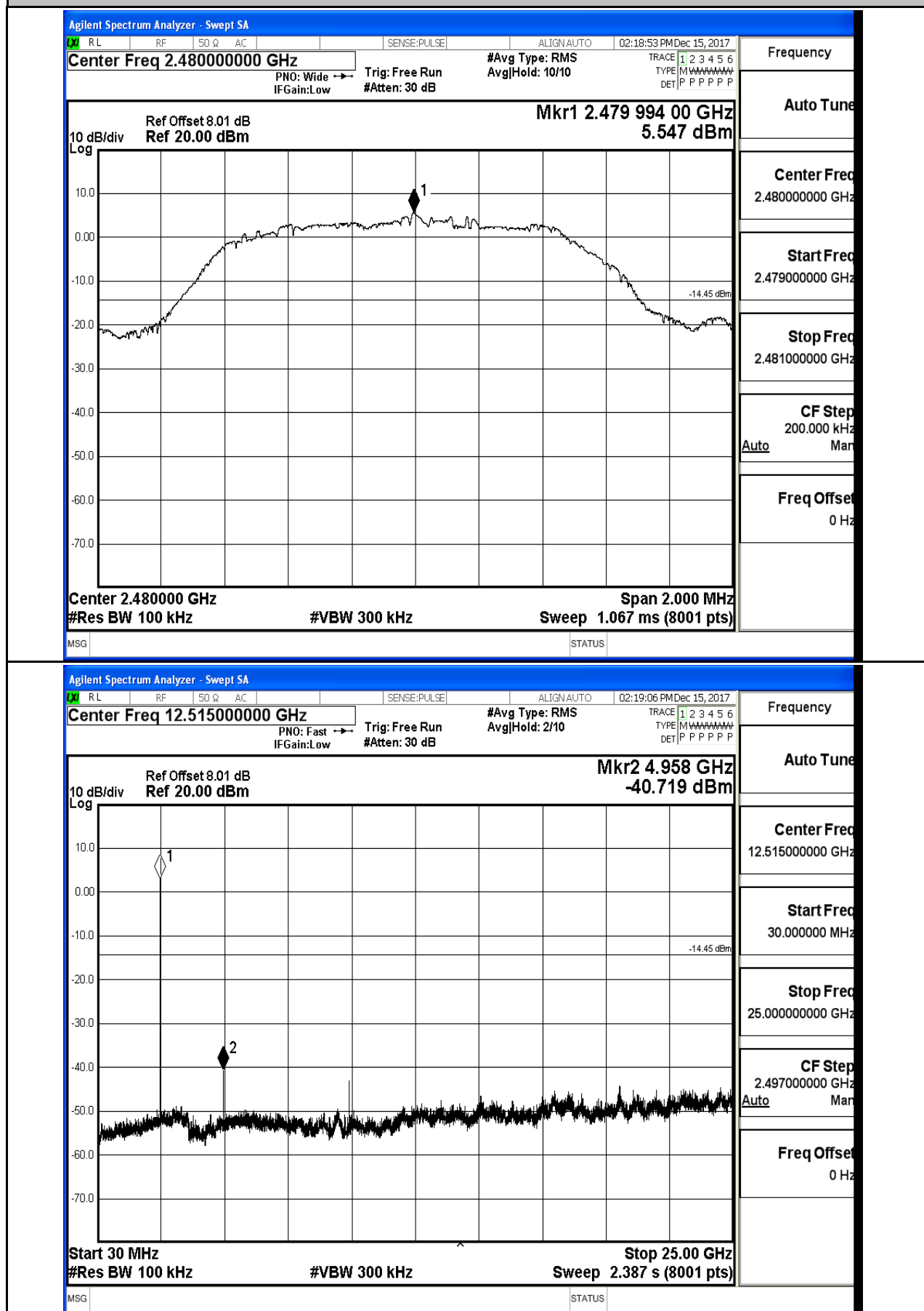
RF Conducted Spurious Emissions_8-DPSK_2402



RF Conducted Spurious Emissions_8-DPSK_2441



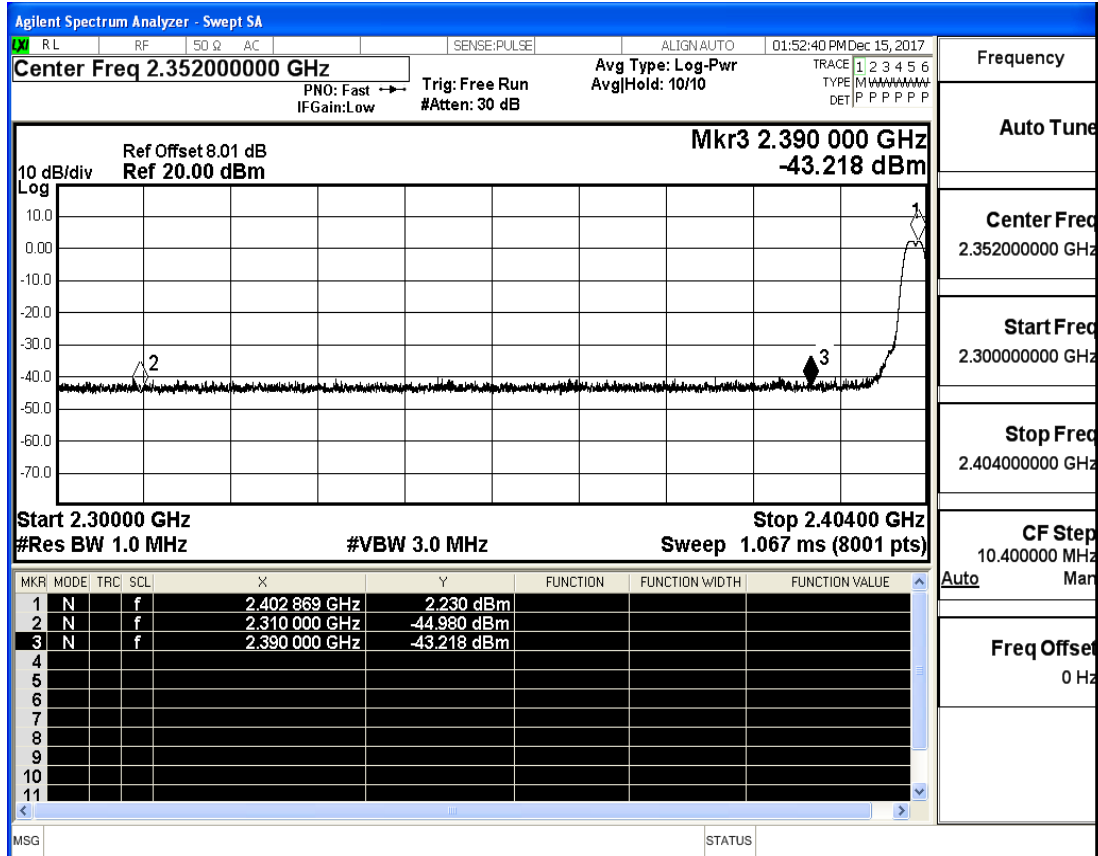
RF Conducted Spurious Emissions_8-DPSK_2480



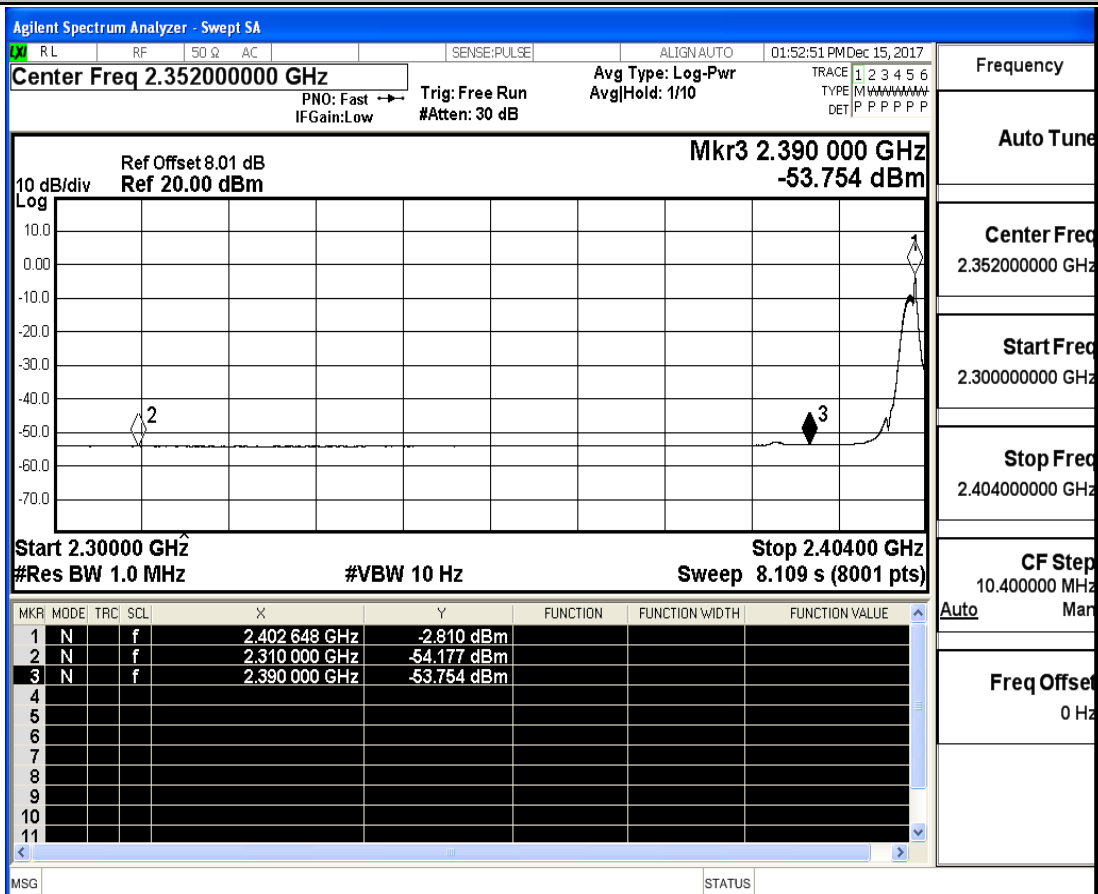
8.Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	On	2310.0	-44.98	2	0	52.28	PEAK	74	PASS
GFSK	On	2310.0	-54.18	2	0	43.08	AV	54	PASS
GFSK	On	2390.0	-43.22	2	0	54.04	PEAK	74	PASS
GFSK	On	2390.0	-53.75	2	0	43.50	AV	54	PASS
GFSK	On	2483.5	-37.10	2	0	60.16	PEAK	74	PASS
GFSK	On	2483.5	-49.22	2	0	48.03	AV	54	PASS
GFSK	On	2500.0	-43.79	2	0	53.47	PEAK	74	PASS
GFSK	On	2500.0	-53.29	2	0	43.97	AV	54	PASS
$\pi/4$ DQPSK	On	2310.0	-40.96	2	0	56.30	PEAK	74	PASS
$\pi/4$ DQPSK	On	2310.0	-54.17	2	0	43.09	AV	54	PASS
$\pi/4$ DQPSK	On	2390.0	-43.74	2	0	53.51	PEAK	74	PASS
$\pi/4$ DQPSK	On	2390.0	-53.82	2	0	43.44	AV	54	PASS
$\pi/4$ DQPSK	On	2483.5	-35.89	2	0	61.37	PEAK	74	PASS
$\pi/4$ DQPSK	On	2483.5	-49.26	2	0	48.00	AV	54	PASS
$\pi/4$ DQPSK	On	2500.0	-42.50	2	0	54.76	PEAK	74	PASS
$\pi/4$ DQPSK	On	2500.0	-53.49	2	0	43.77	AV	54	PASS
8-DPSK	On	2310.0	-41.87	2	0	55.39	PEAK	74	PASS
8-DPSK	On	2310.0	-54.20	2	0	43.06	AV	54	PASS
8-DPSK	On	2390.0	-42.77	2	0	54.49	PEAK	74	PASS
8-DPSK	On	2390.0	-53.80	2	0	43.46	AV	54	PASS
8-DPSK	On	2483.5	-31.76	2	0	65.50	PEAK	74	PASS
8-DPSK	On	2483.5	-47.99	2	0	49.27	AV	54	PASS
8-DPSK	On	2500.0	-43.14	2	0	54.12	PEAK	74	PASS
8-DPSK	On	2500.0	-53.31	2	0	43.95	AV	54	PASS

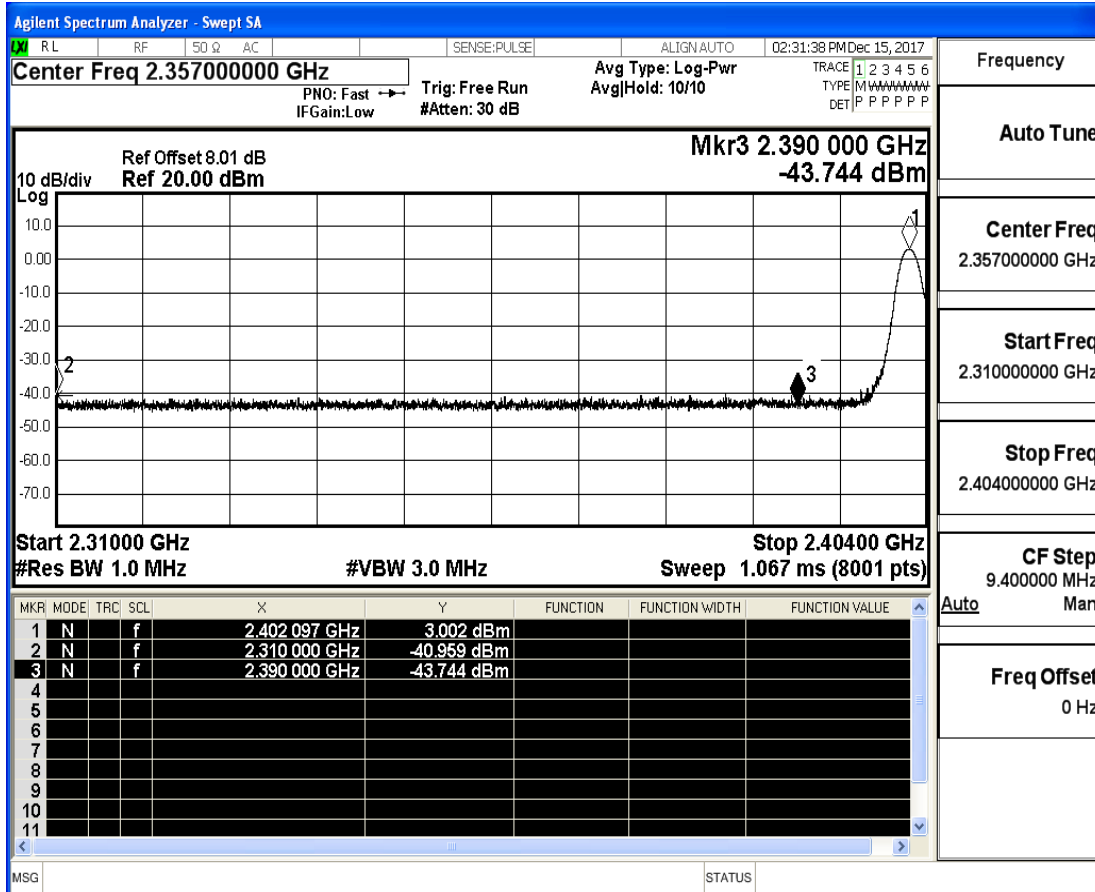
Restrict-band band-edge measurements_2402_PEAK



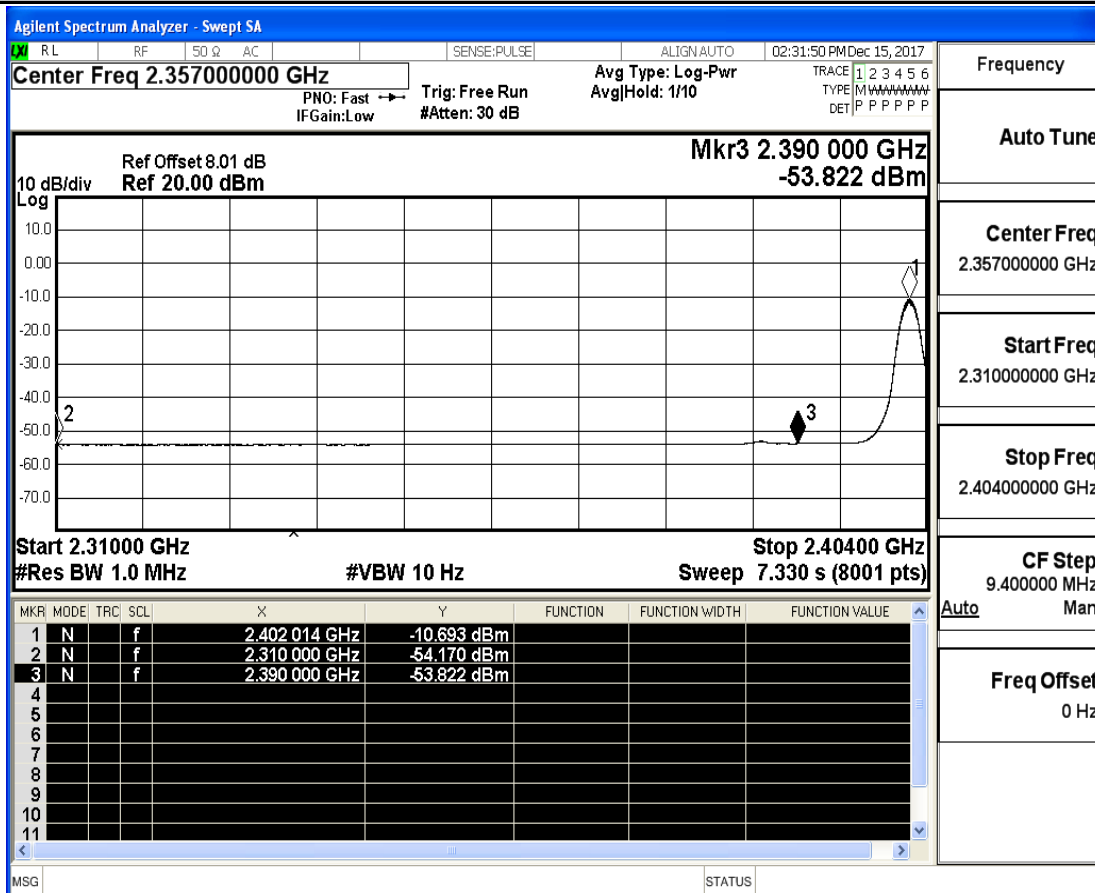
Restrict-band band-edge measurements_2402_AV



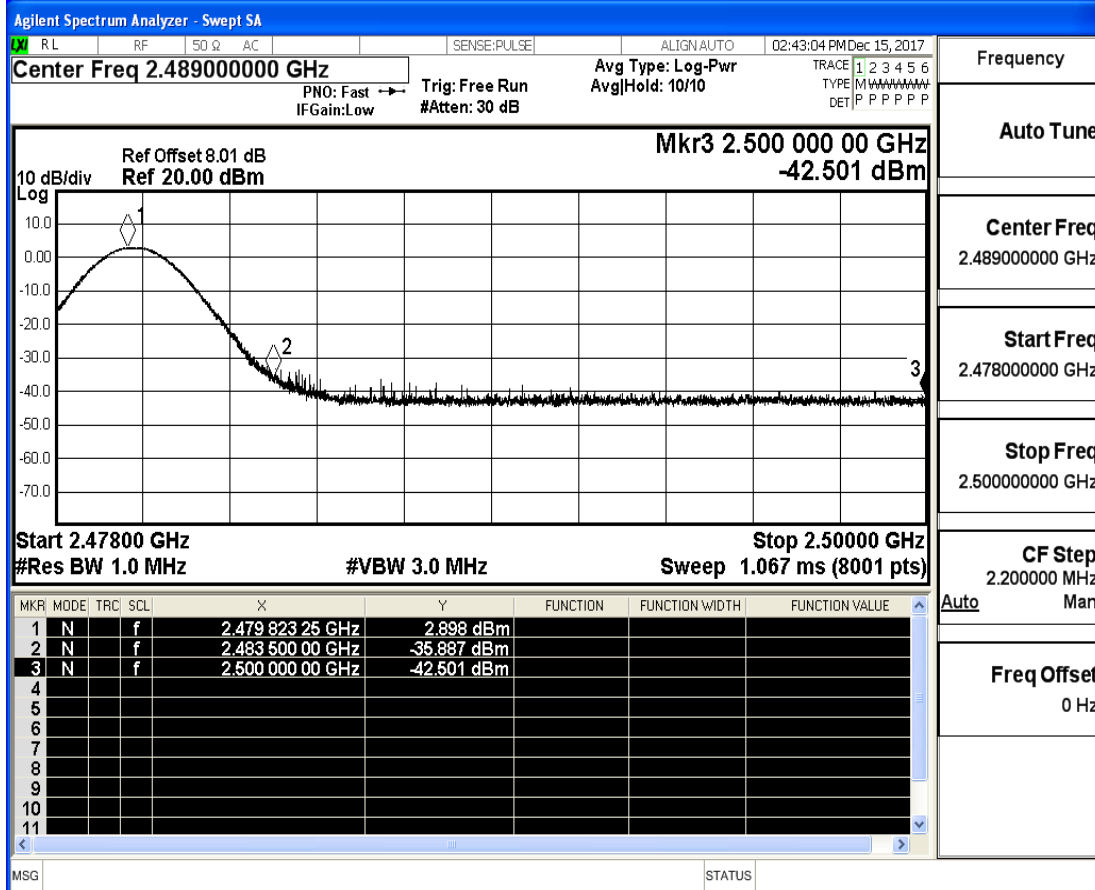
Restrict-band band-edge measurements_2402_PEAK



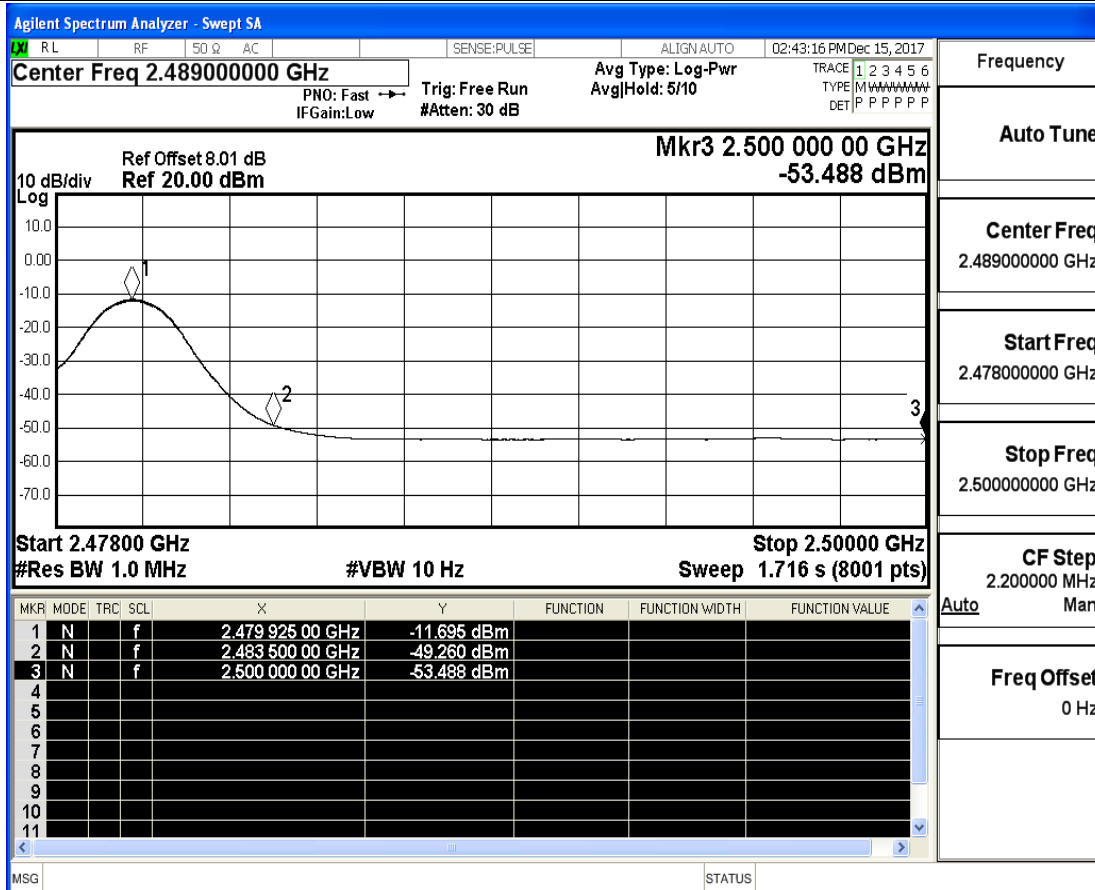
Restrict-band band-edge measurements_2402_AV



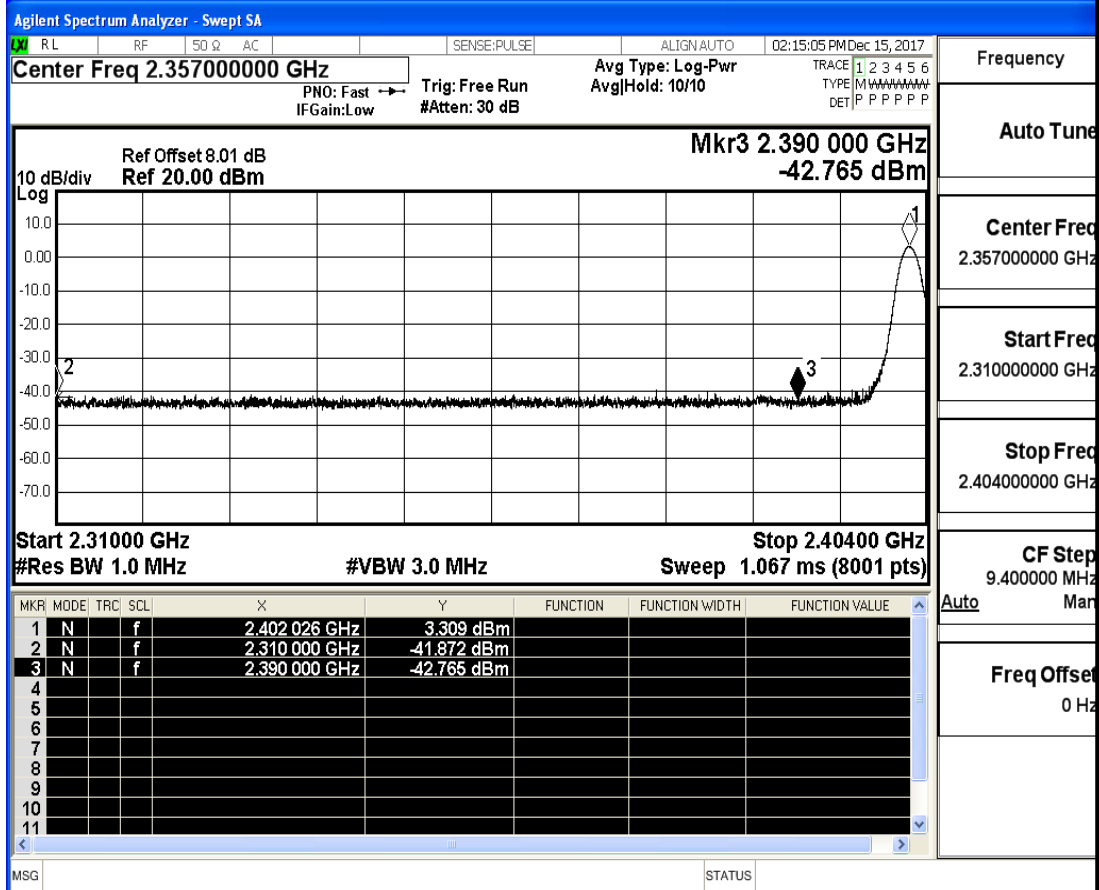
Restrict-band band-edge measurements_2480_PEAK



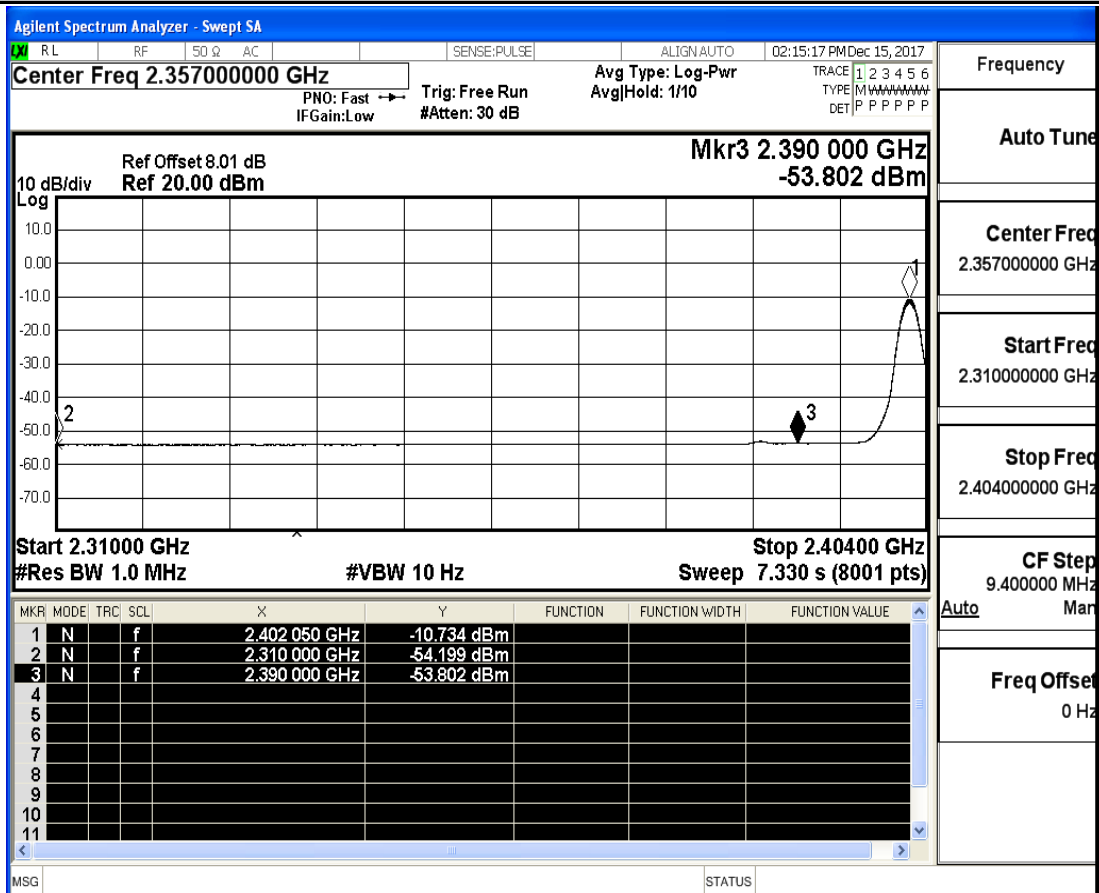
Restrict-band band-edge measurements_2480_AV



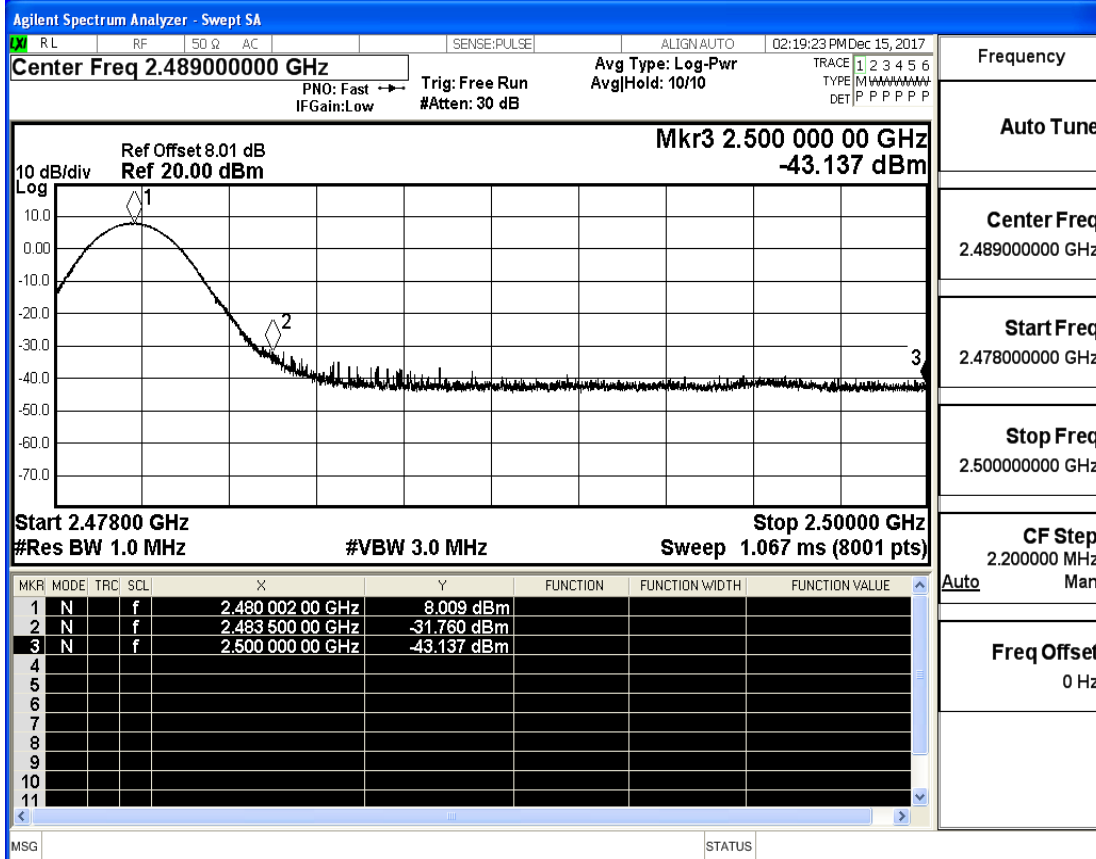
Restrict-band band-edge measurements_2402_PEAK



Restrict-band band-edge measurements_2402_AV



Restrict-band band-edge measurements_2480_PEAK



Restrict-band band-edge measurements_2480_AV

