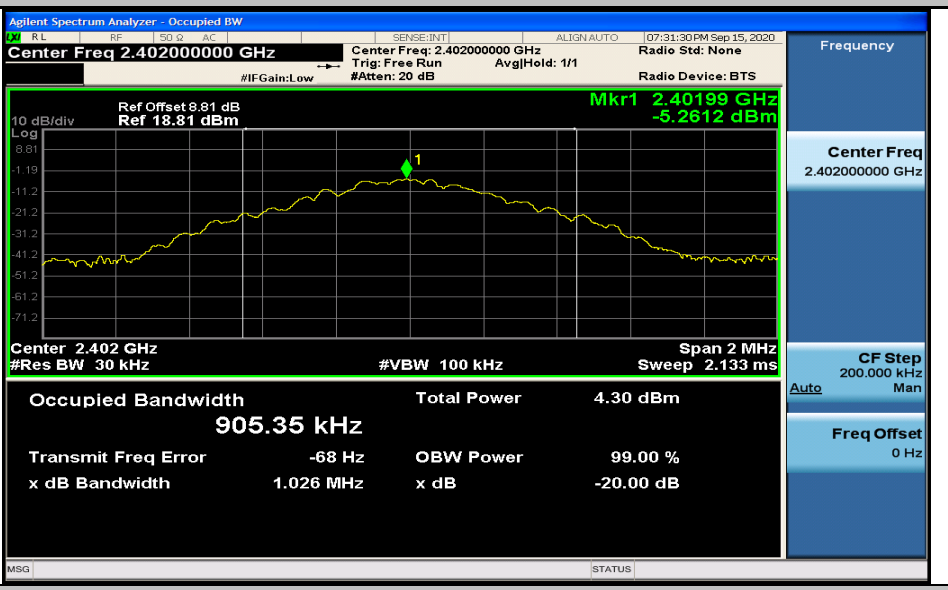
Appendix A for SHEM200900733101

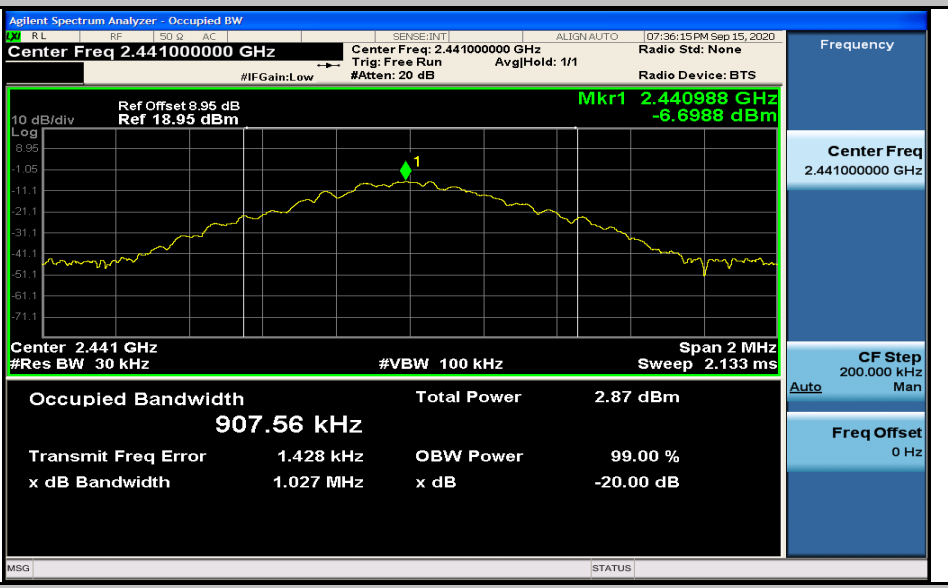
1.20 dB Bandwidth

Test Mode	Test Channel	EBW[MHz]	Limit[MHz]	Verdict
DH5	2402	1.03	---	PASS
DH5	2441	1.03	---	PASS
DH5	2480	1.03	---	PASS
2DH5	2402	1.37	---	PASS
2DH5	2441	1.36	---	PASS
2DH5	2480	1.37	---	PASS
3DH5	2402	1.35	---	PASS
3DH5	2441	1.35	---	PASS
3DH5	2480	1.35	---	PASS

20 dB Bandwidth_DH5_2402

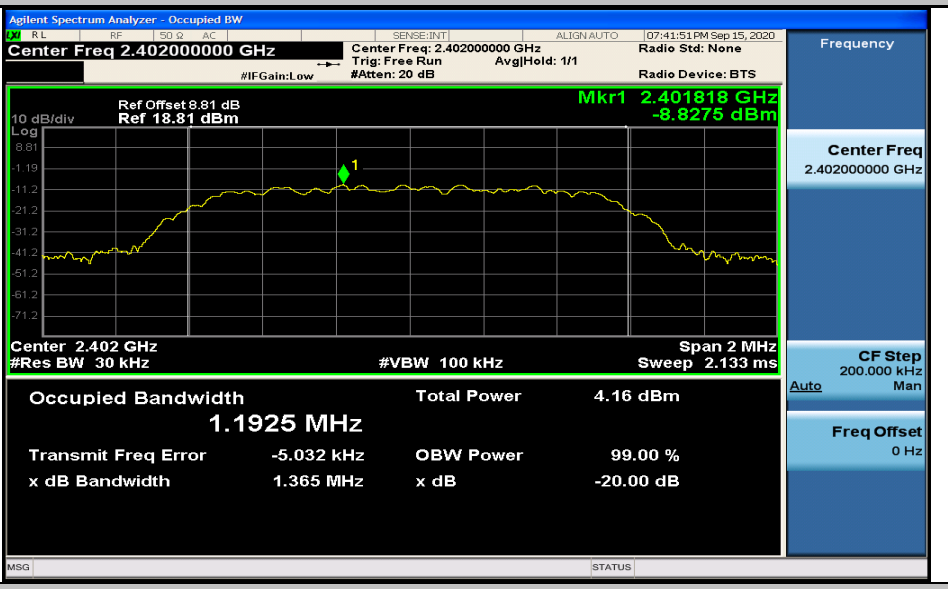


20 dB Bandwidth_DH5_2441

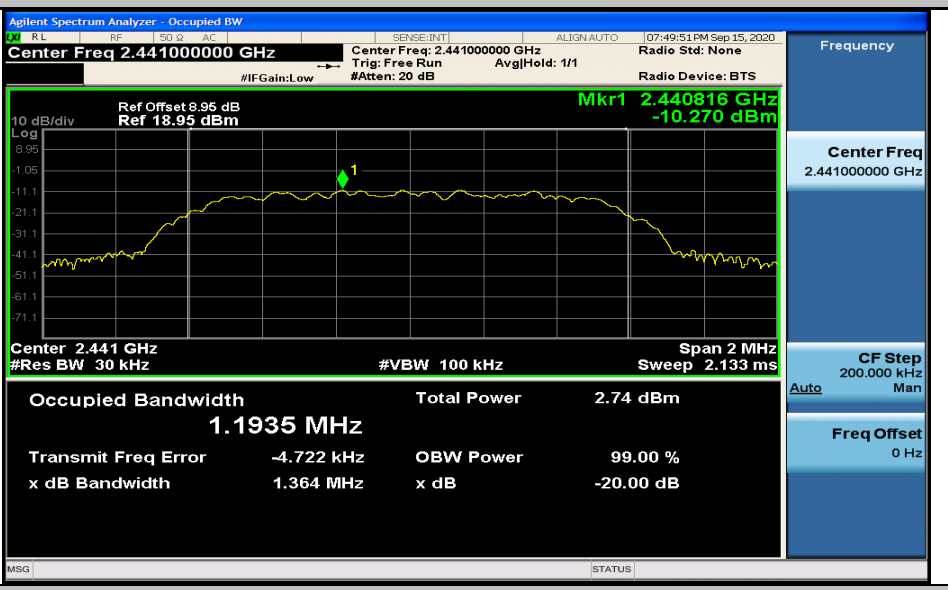


20 dB Bandwidth_DH5_2480

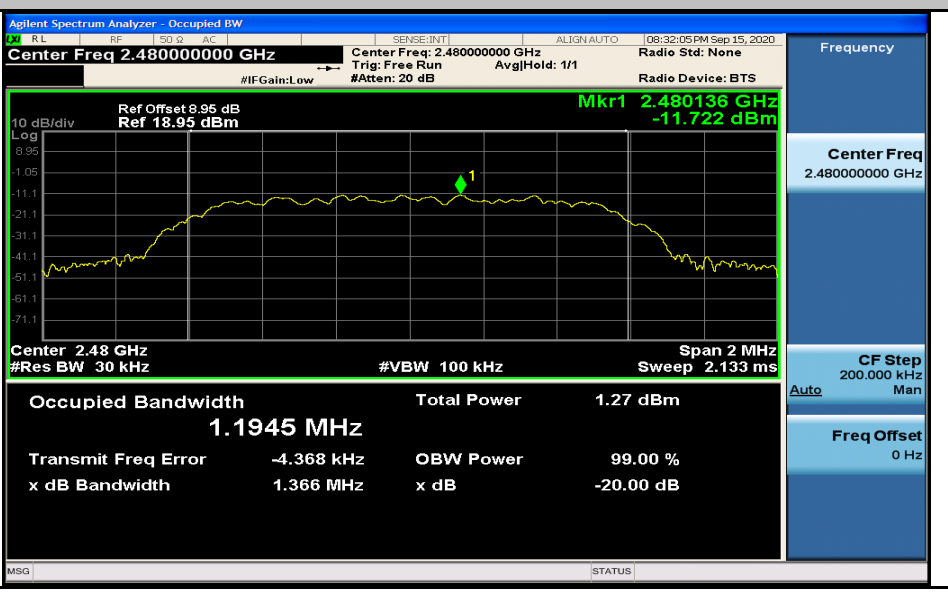
20 dB Bandwidth_2DH5_2402



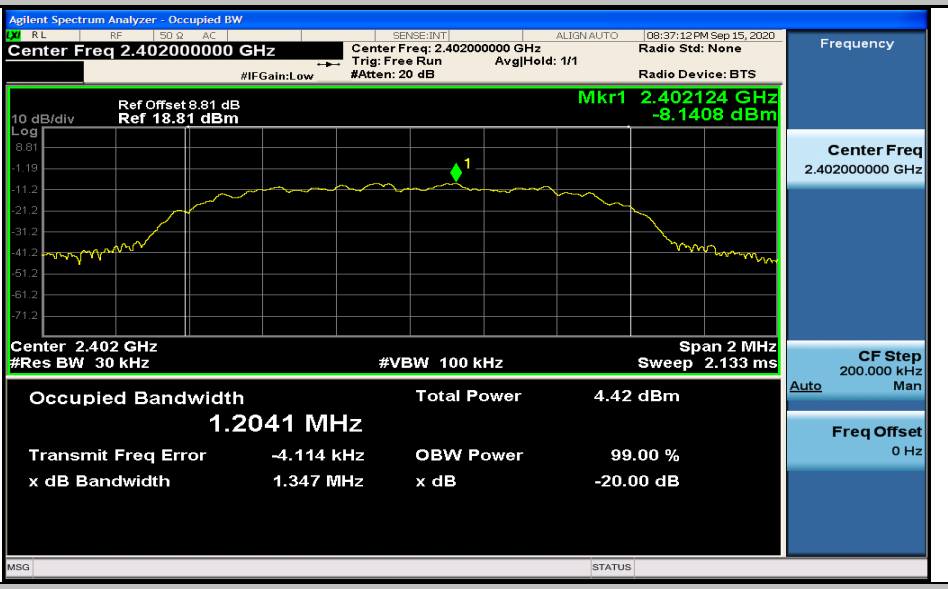
20 dB Bandwidth_2DH5_2441



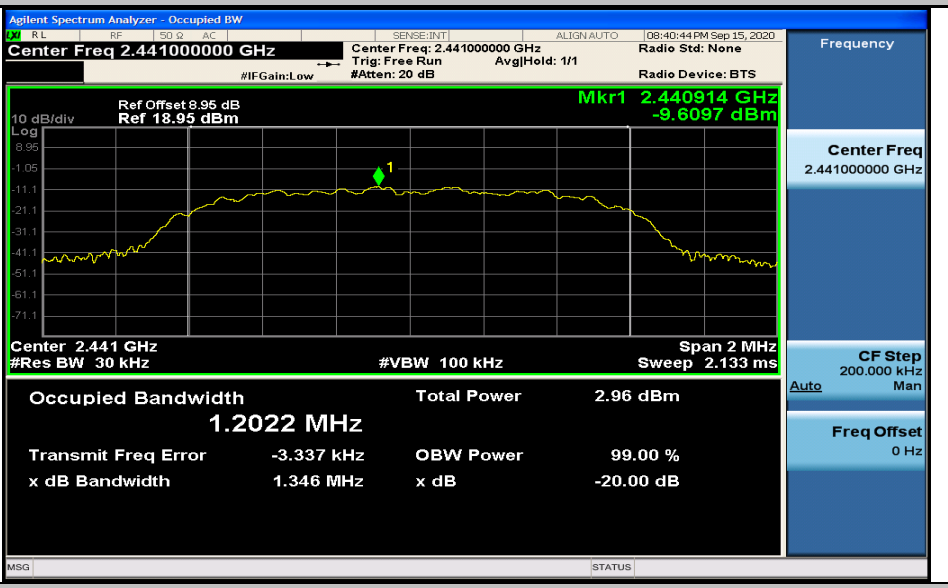
20 dB Bandwidth_2DH5_2480



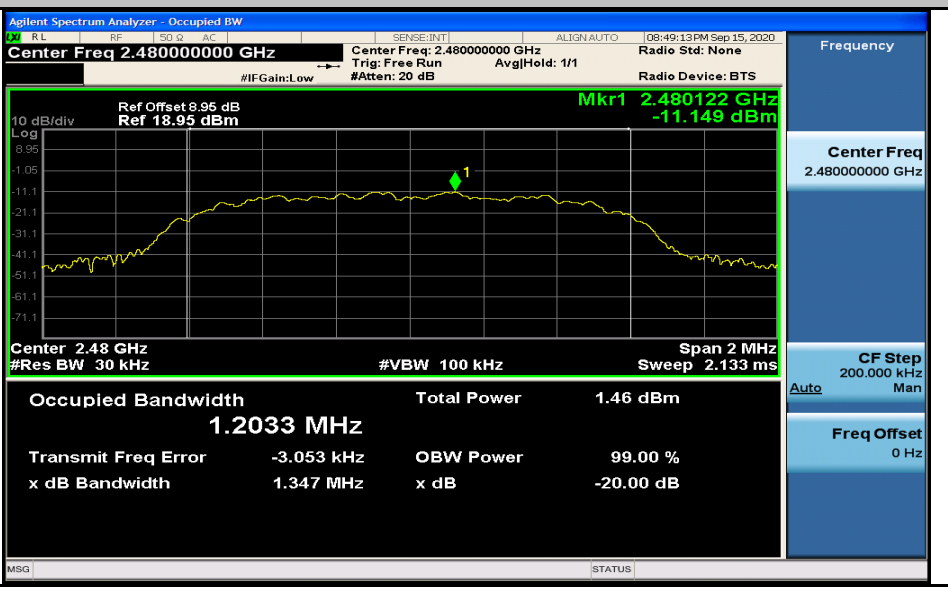
20 dB Bandwidth_3DH5_2402



20 dB Bandwidth_3DH5_2441



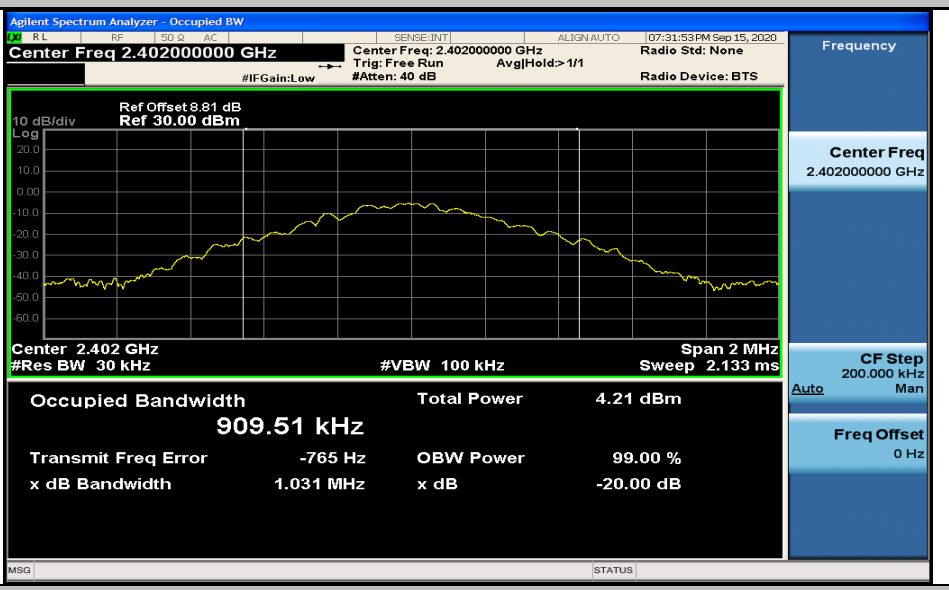
20 dB Bandwidth_3DH5_2480



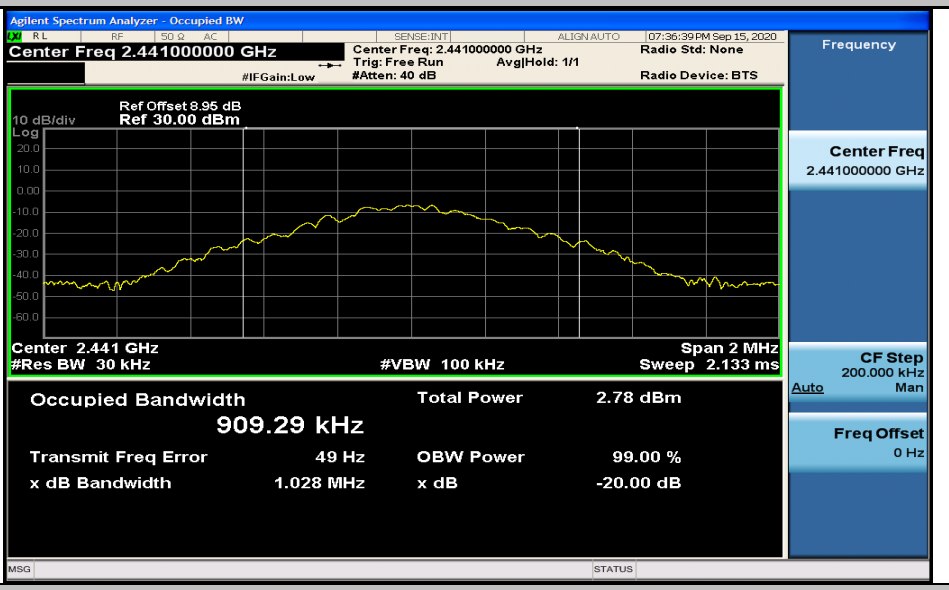
2.Occupied Bandwidth

Test Mode	Test Channel	OBW[MHz]	Limit[MHz]	Verdict
DH5	2402	0.91	---	PASS
DH5	2441	0.91	---	PASS
DH5	2480	0.91	---	PASS
2DH5	2402	1.19	---	PASS
2DH5	2441	1.19	---	PASS
2DH5	2480	1.20	---	PASS
3DH5	2402	1.20	---	PASS
3DH5	2441	1.20	---	PASS
3DH5	2480	1.20	---	PASS

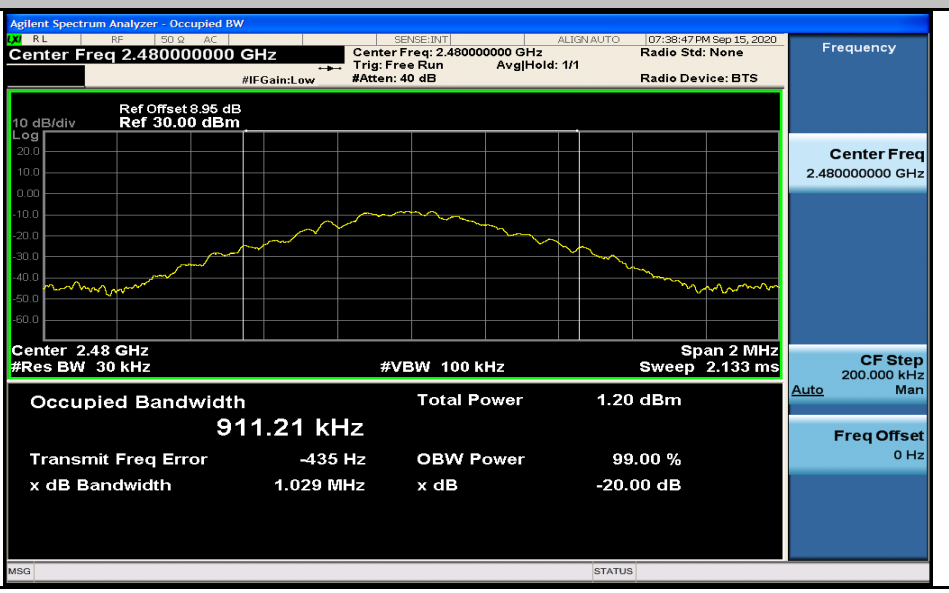
Occupied Bandwidth_DH5_2402



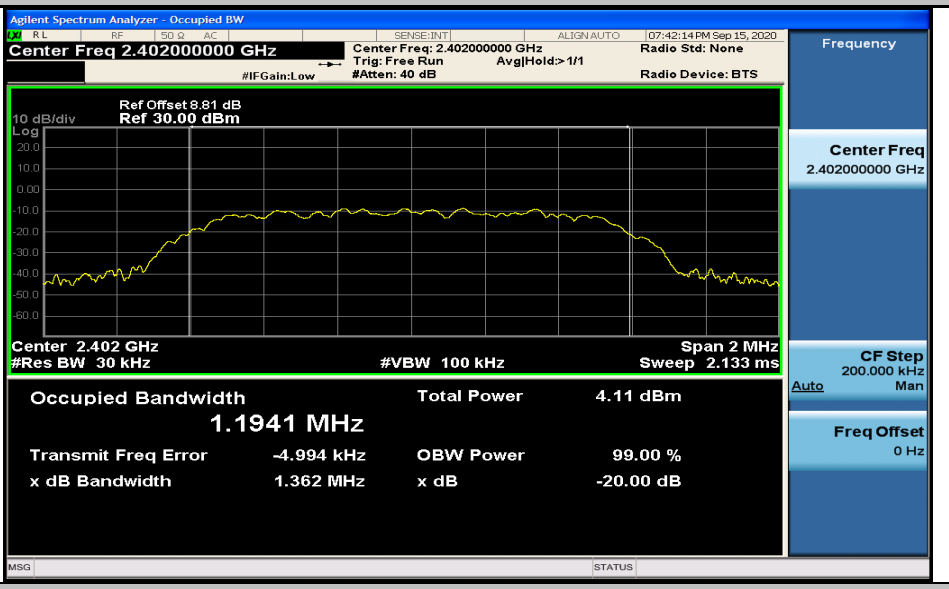
Occupied Bandwidth_DH5_2441



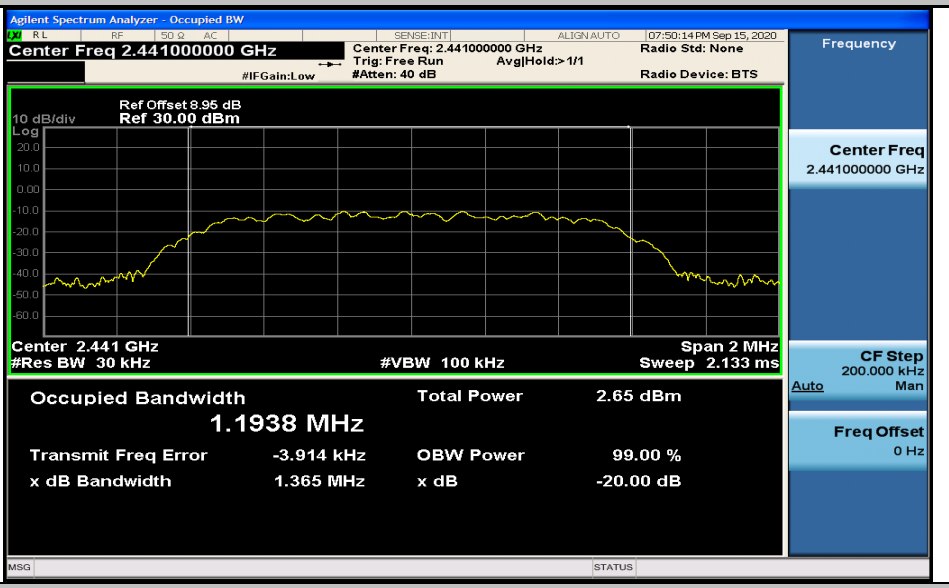
Occupied Bandwidth_DH5_2480



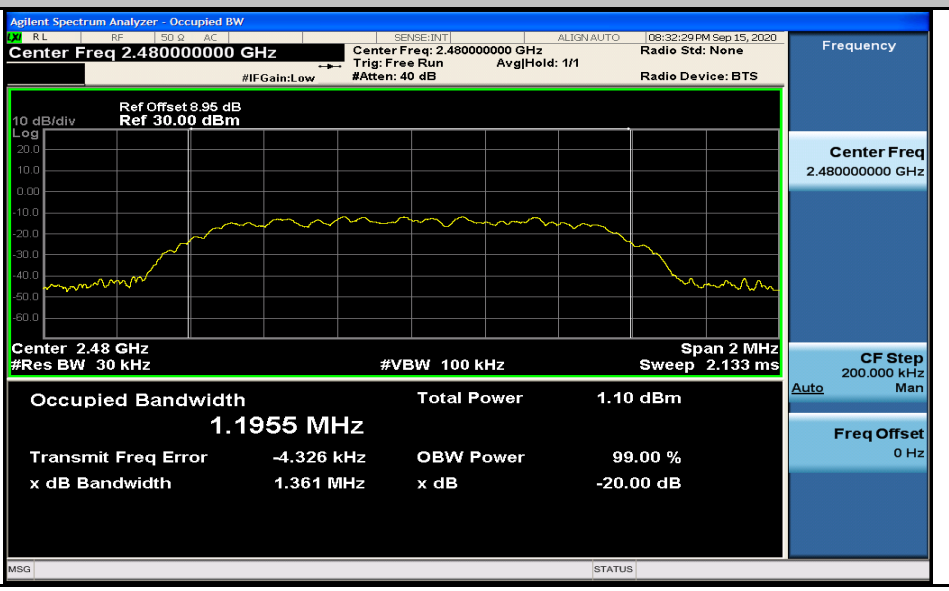
Occupied Bandwidth_2DH5_2402



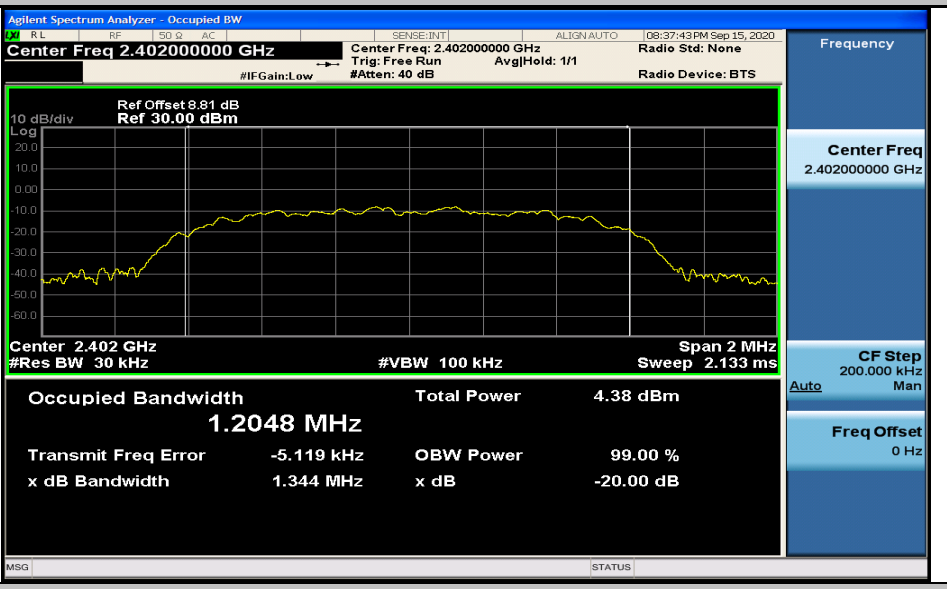
Occupied Bandwidth_2DH5_2441



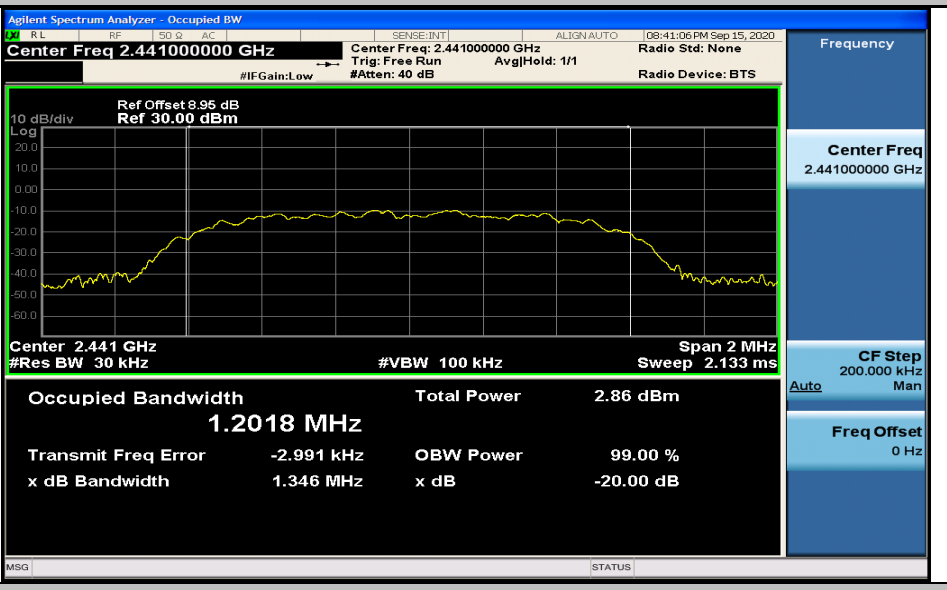
Occupied Bandwidth_2DH5_2480



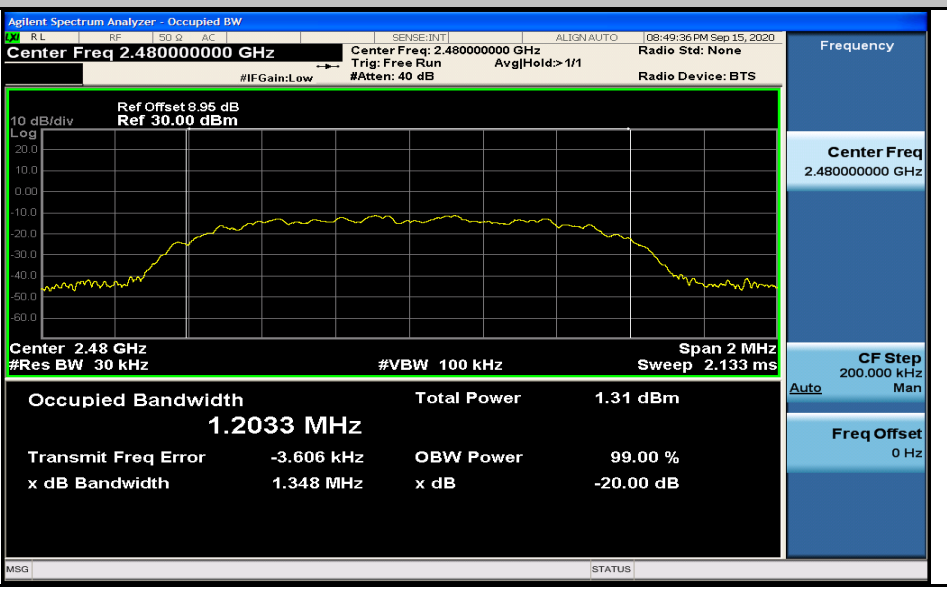
Occupied Bandwidth_3DH5_2402



Occupied Bandwidth_3DH5_2441



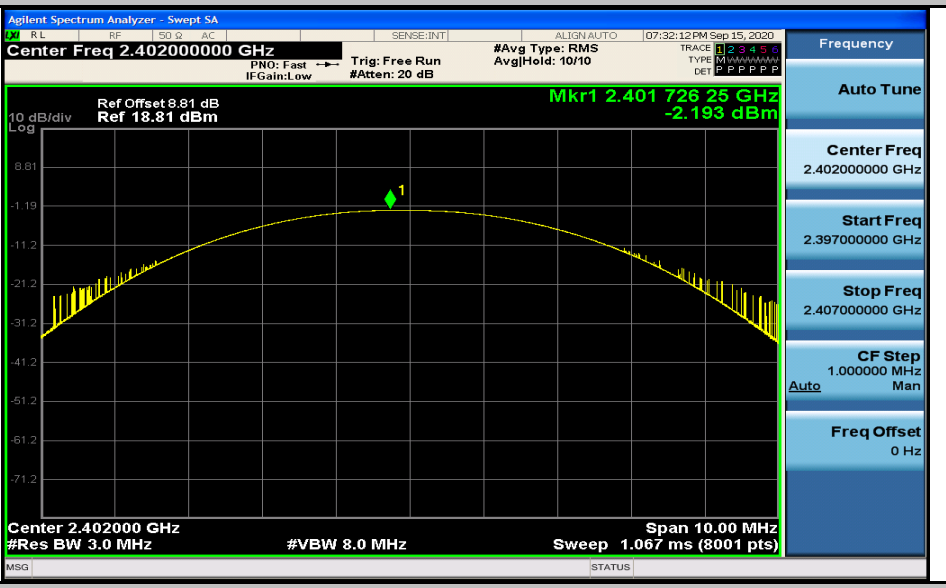
Occupied Bandwidth_3DH5_2480



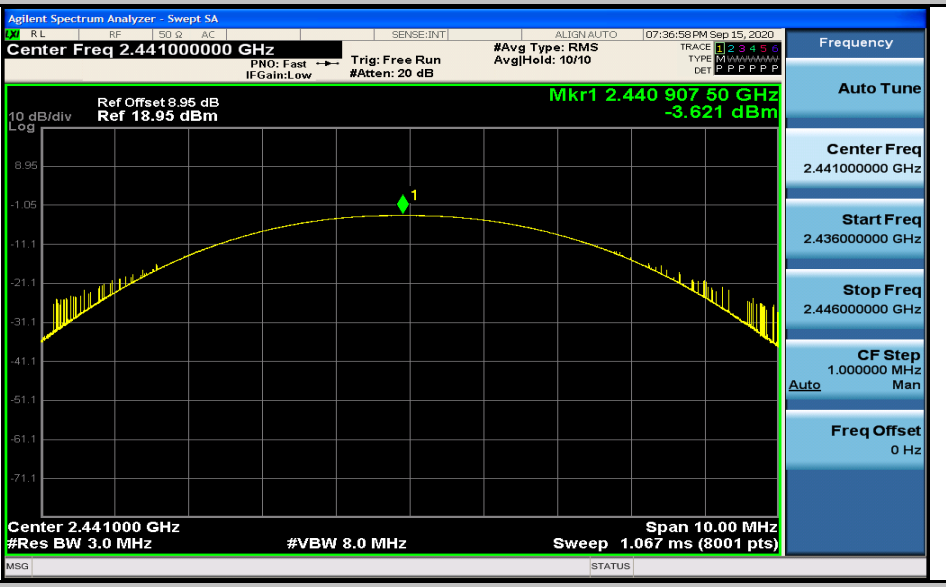
3.Conducted Peak Output Power

Test Mode	Test Channel	Power[dBm]	Limit[dBm]	Verdict
DH5	2402	-2.19	21	PASS
DH5	2441	-3.62	21	PASS
DH5	2480	-5.14	21	PASS
2DH5	2402	-0.08	21	PASS
2DH5	2441	-1.51	21	PASS
2DH5	2480	-2.96	21	PASS
3DH5	2402	0.3	21	PASS
3DH5	2441	-1.25	21	PASS
3DH5	2480	-2.6	21	PASS

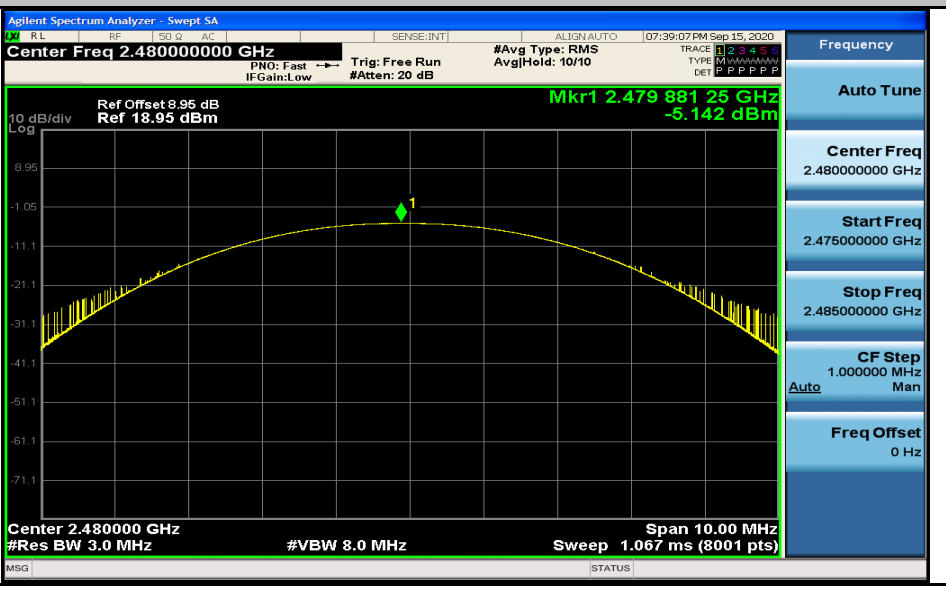
Conducted Peak Output Power_DH5_2402



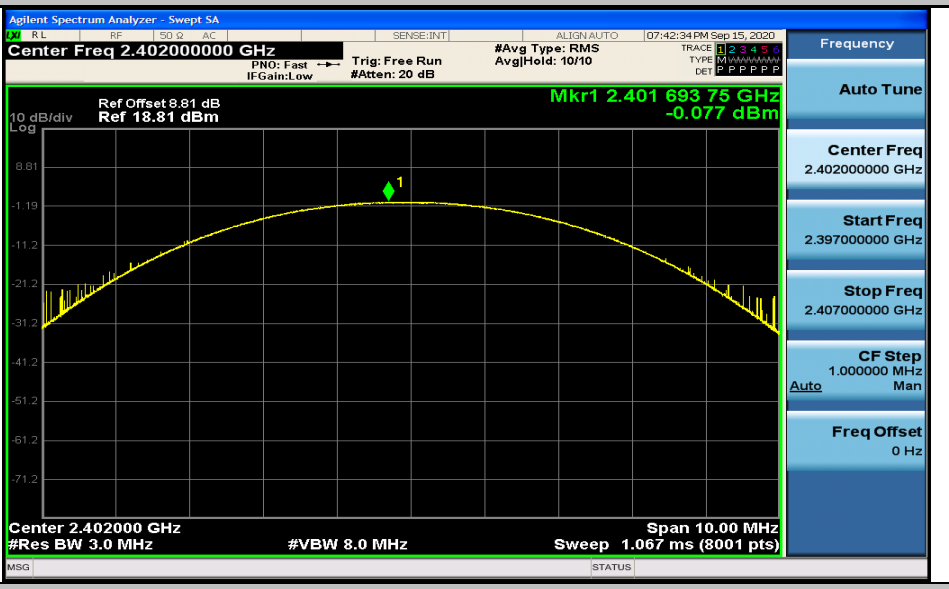
Conducted Peak Output Power_DH5_2441



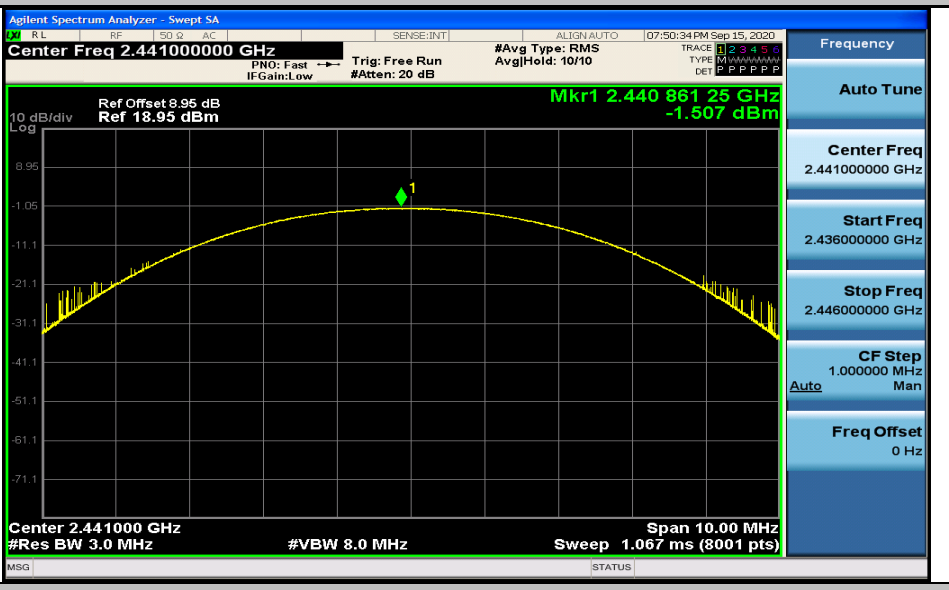
Conducted Peak Output Power_DH5_2480



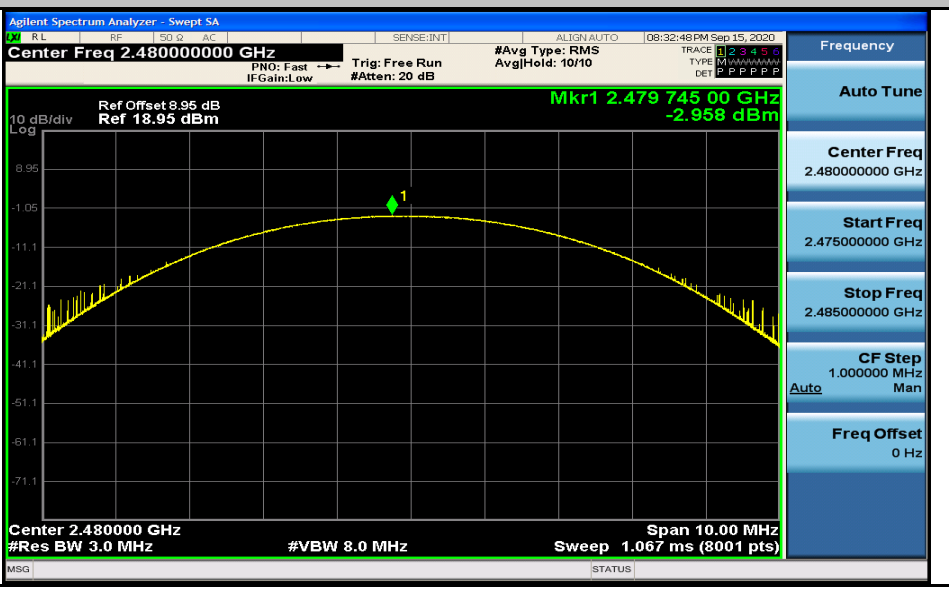
Conducted Peak Output Power_2DH5_2402



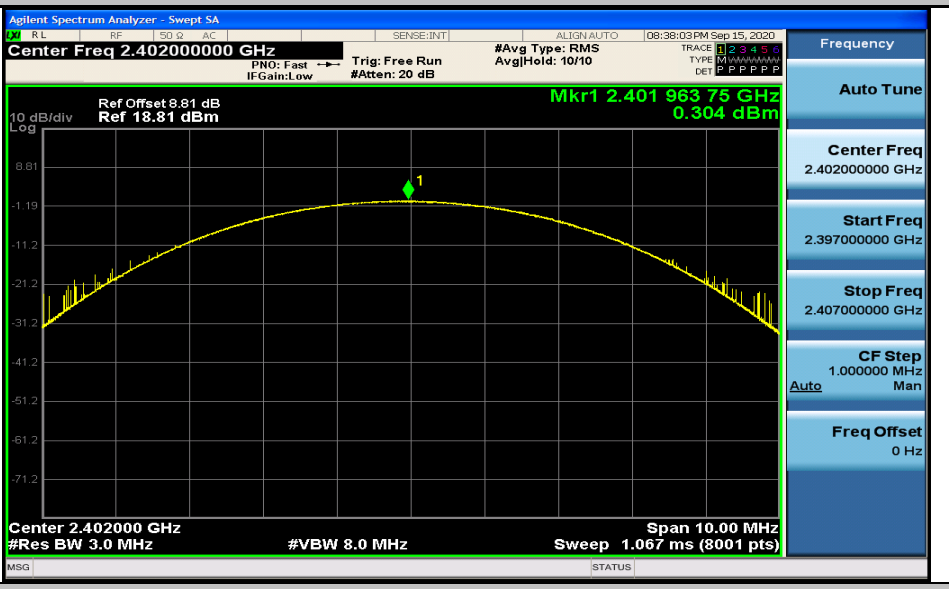
Conducted Peak Output Power_2DH5_2441



Conducted Peak Output Power_2DH5_2480

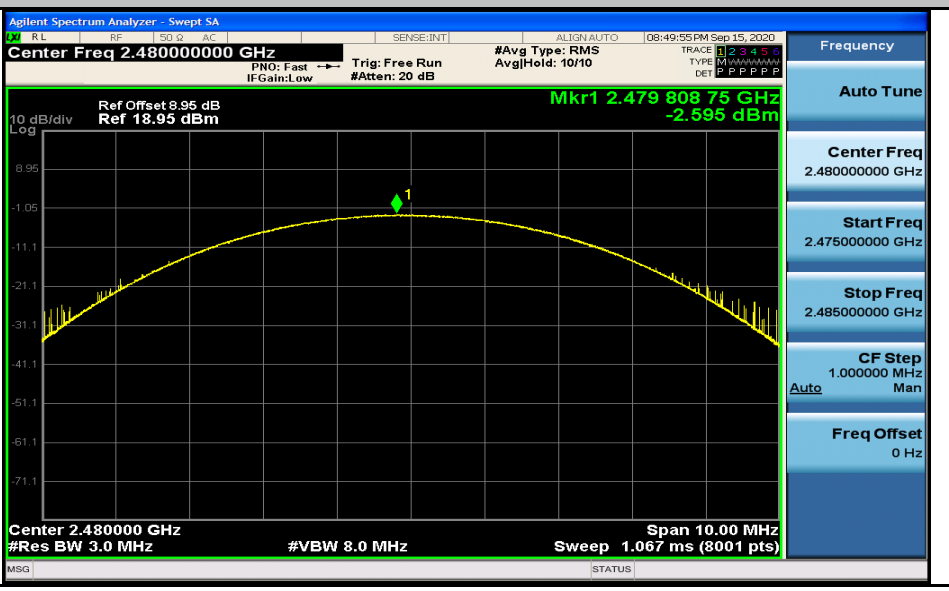


Conducted Peak Output Power_3DH5_2402



Conducted Peak Output Power_3DH5_2441

Conducted Peak Output Power_3DH5_2480

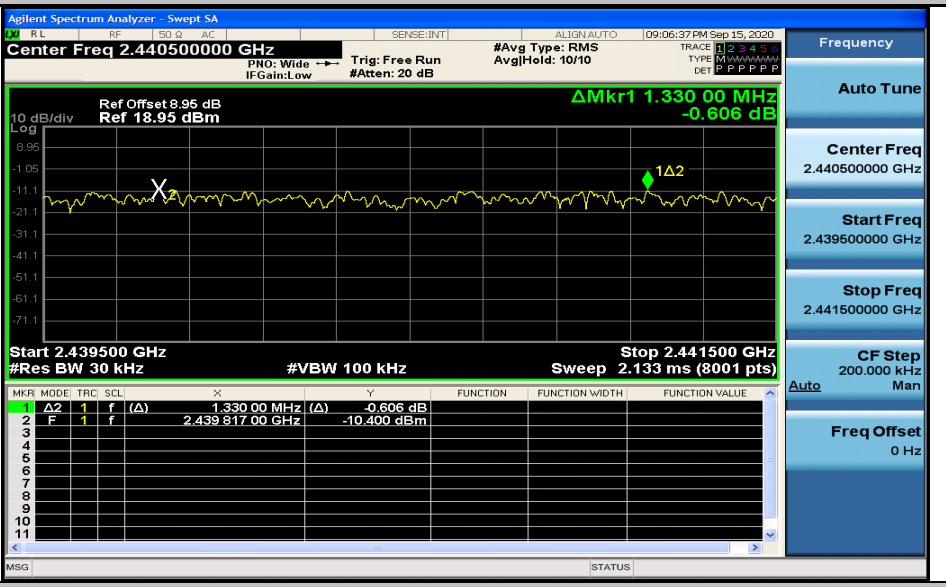


4.Carrier Frequency Separation

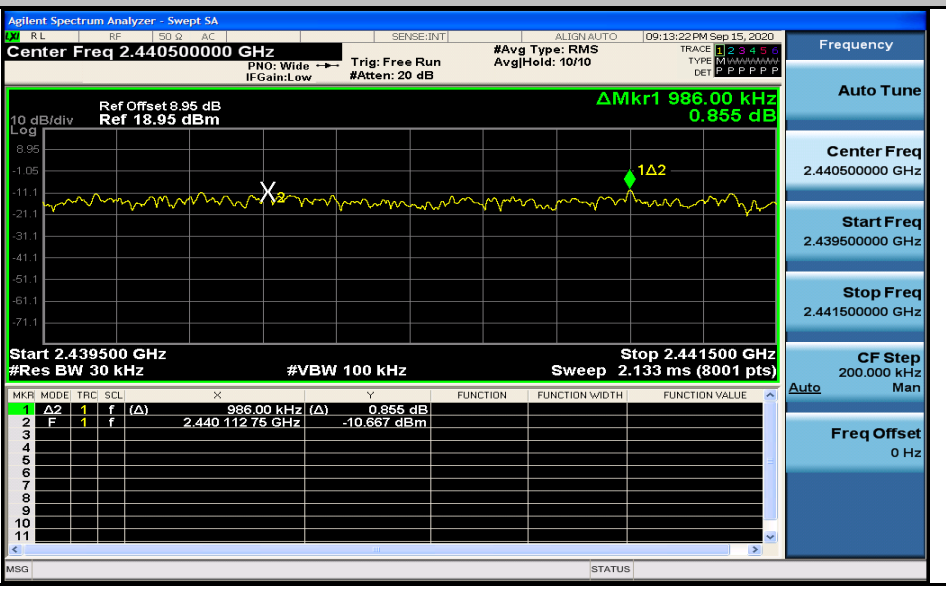
Test Mode	Test Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	2441	1.08	0.68	PASS
2DH5	2441	1.33	0.91	PASS
3DH5	2441	0.99	0.90	PASS

Carrier Frequency Separation_DH5_2441

Carrier Frequency Separation_2DH5_2441



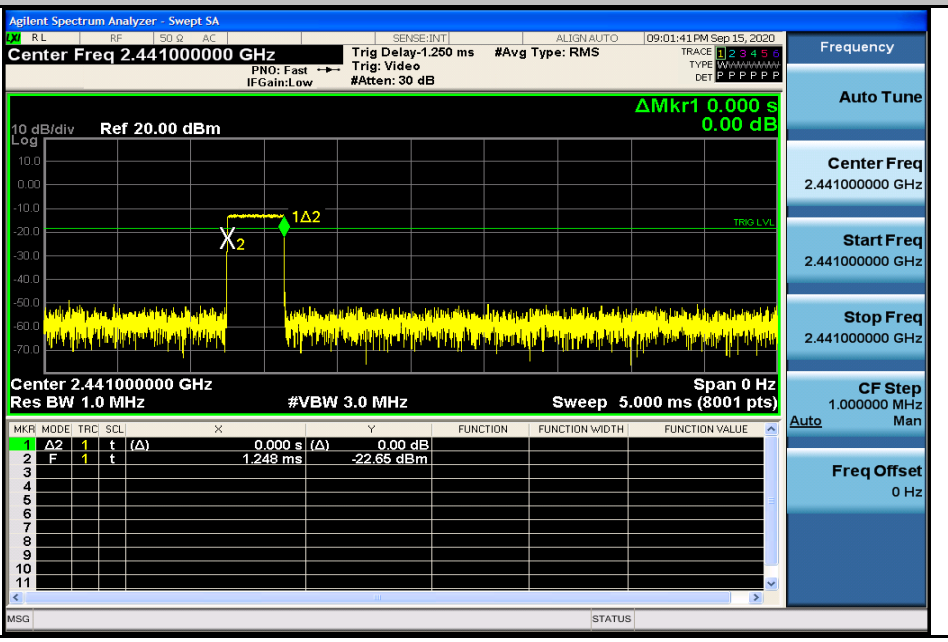
Carrier Frequency Separation_3DH5_2441

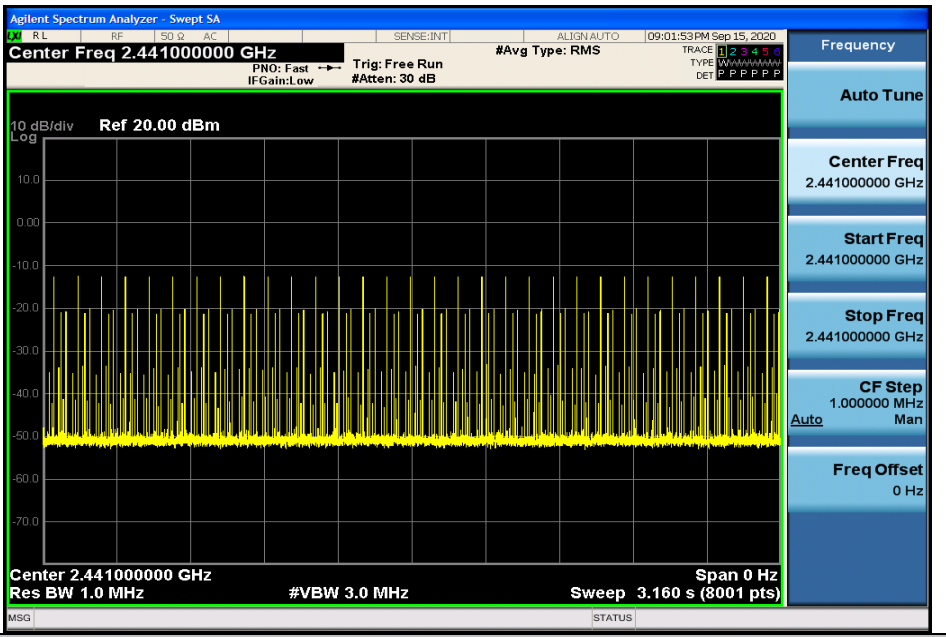


5.Dwell Time

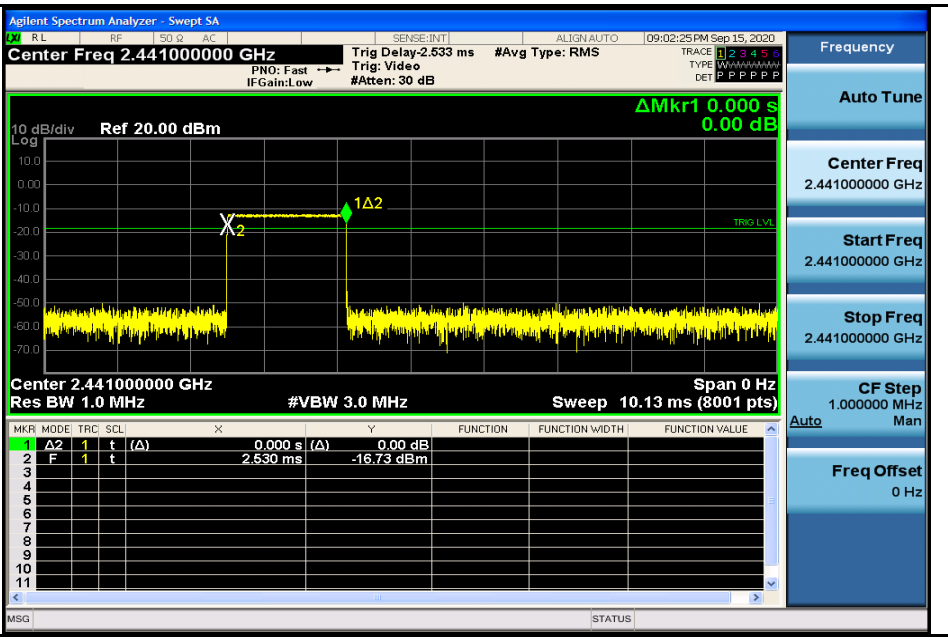
Test Mode	Test Channel	Burst Width[ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit[s]	Verdict
DH1	2441	0.39	310	0.12	0.4	PASS
DH3	2441	1.65	160	0.26	0.4	PASS
DH5	2441	2.92	110	0.32	0.4	PASS
2DH1	2441	0.38	310	0.12	0.4	PASS
2DH3	2441	1.67	150	0.25	0.4	PASS
2DH5	2441	2.93	100	0.29	0.4	PASS
3DH1	2441	0.38	310	0.12	0.4	PASS
3DH3	2441	1.65	150	0.25	0.4	PASS
3DH5	2441	2.93	110	0.32	0.4	PASS

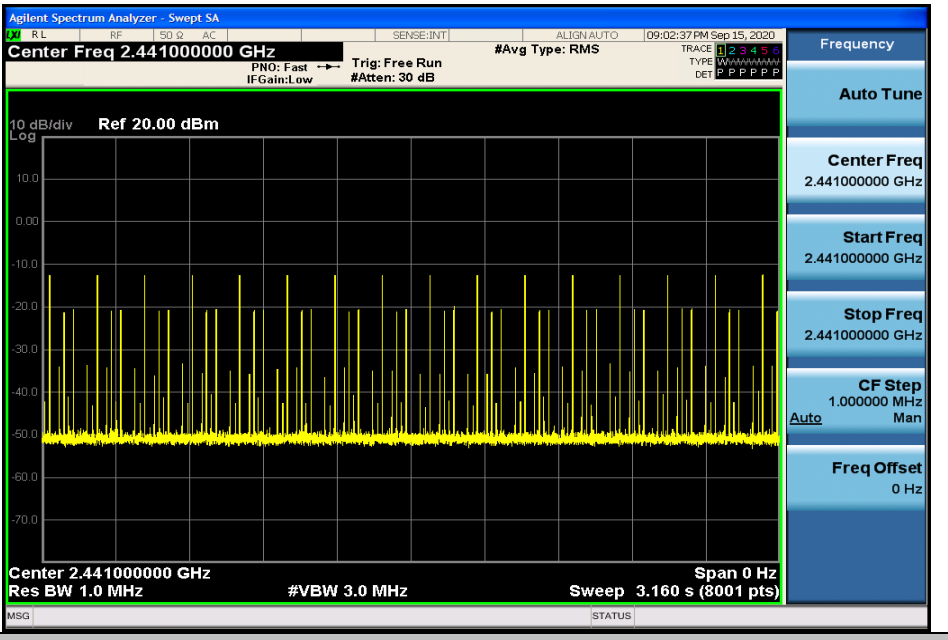
Dwell Time_DH1_2441



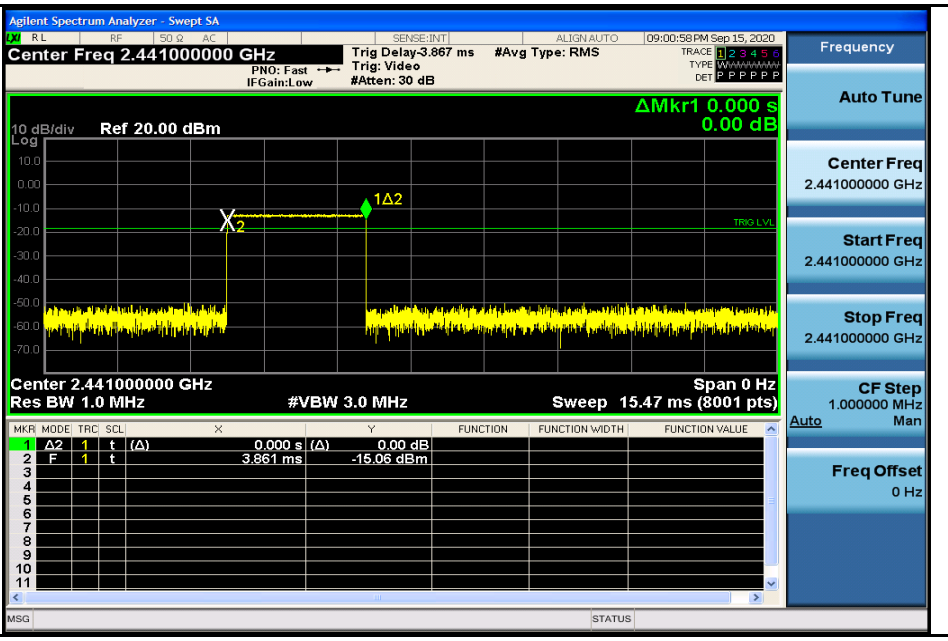


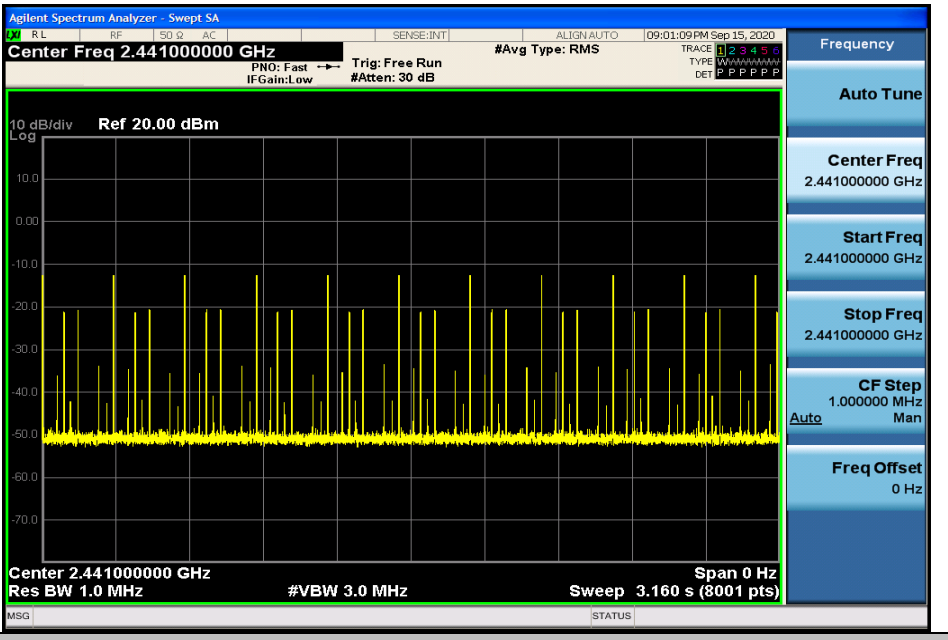
Dwell Time_DH3_2441



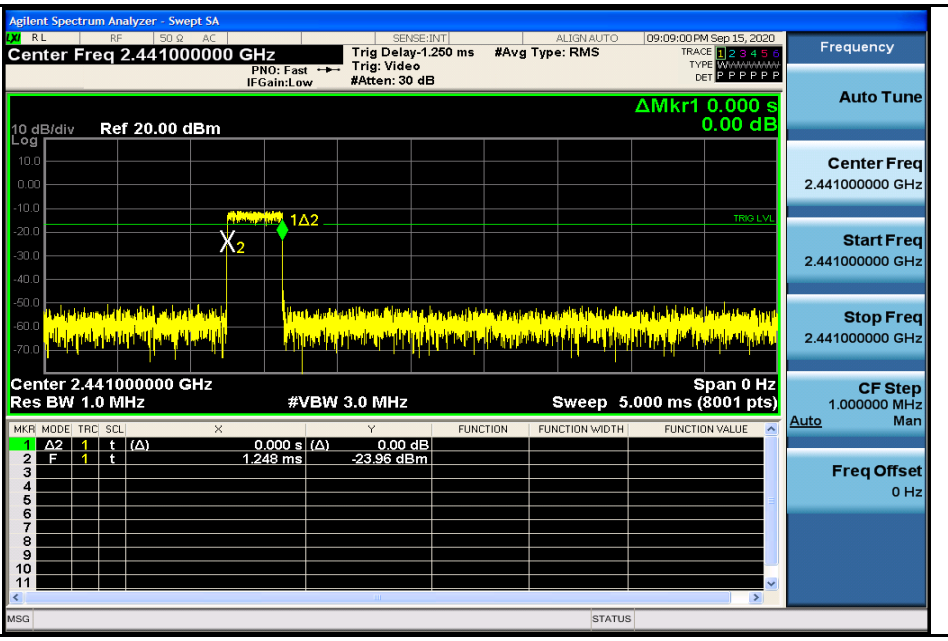


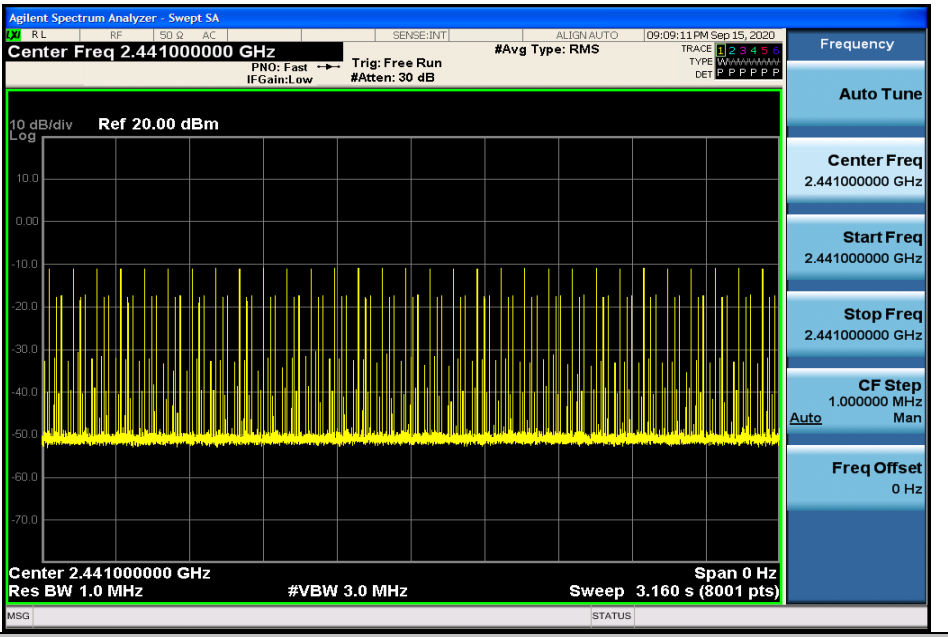
Dwell Time_DH5_2441



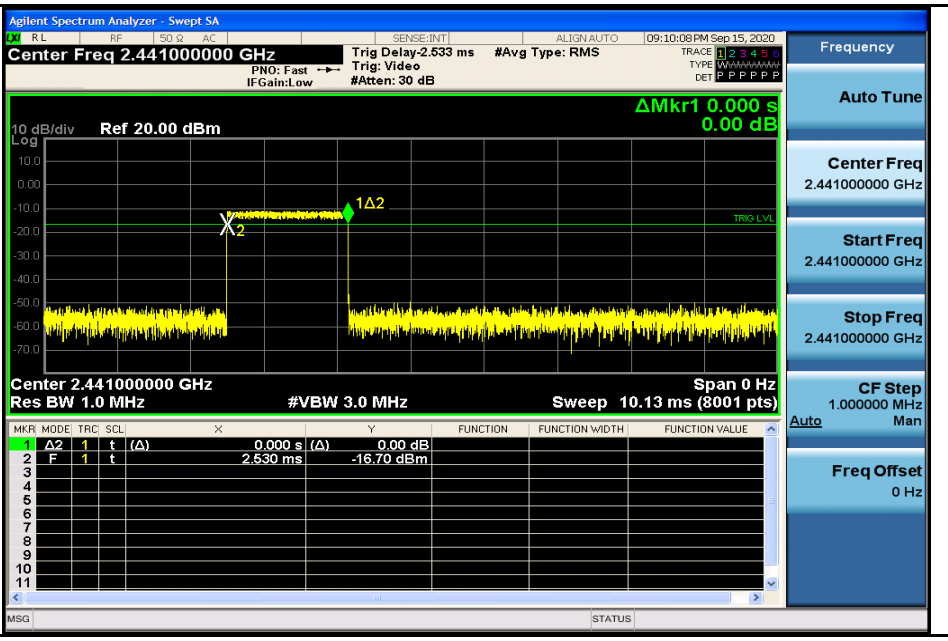


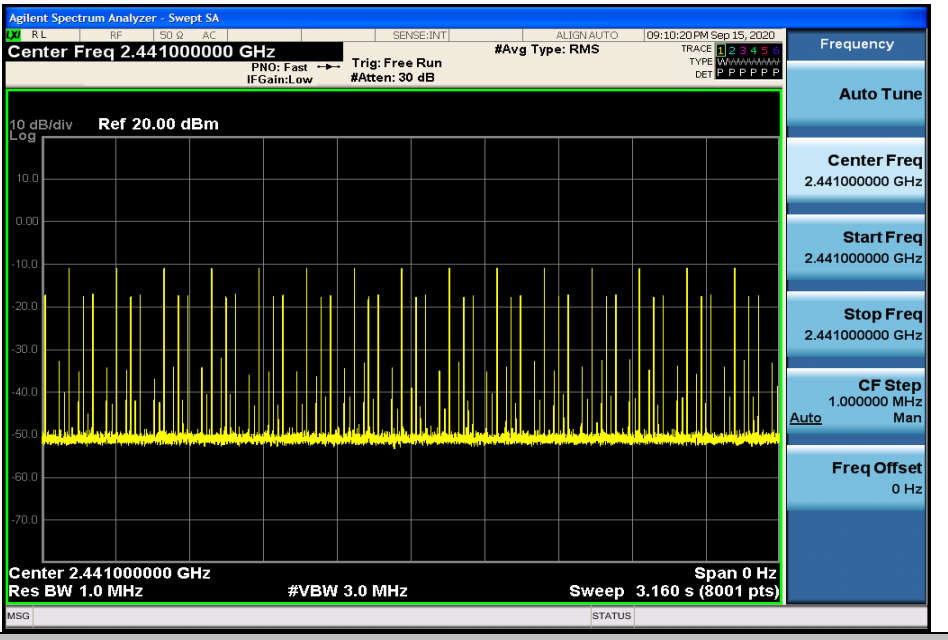
Dwell Time_2DH1_2441



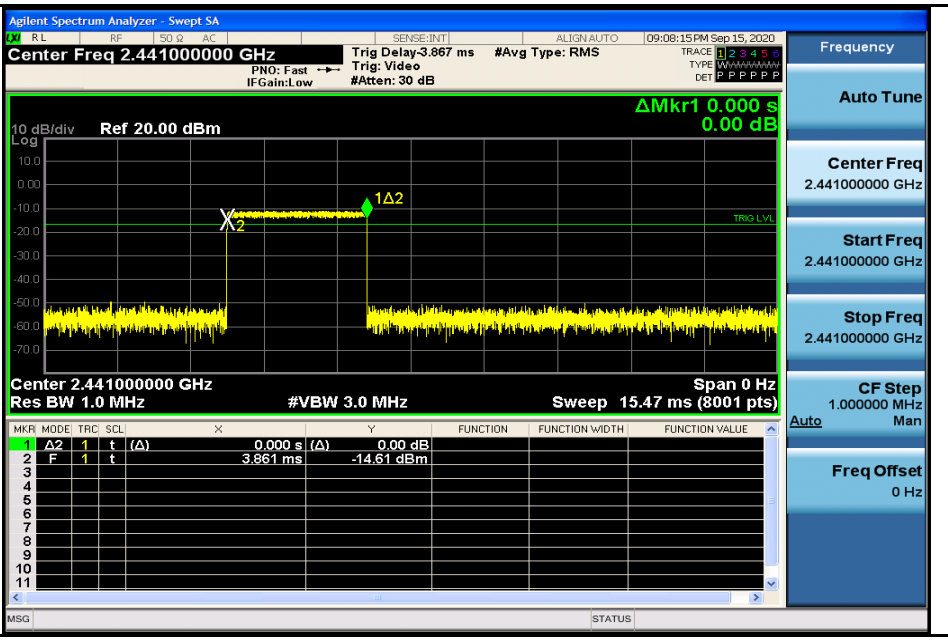


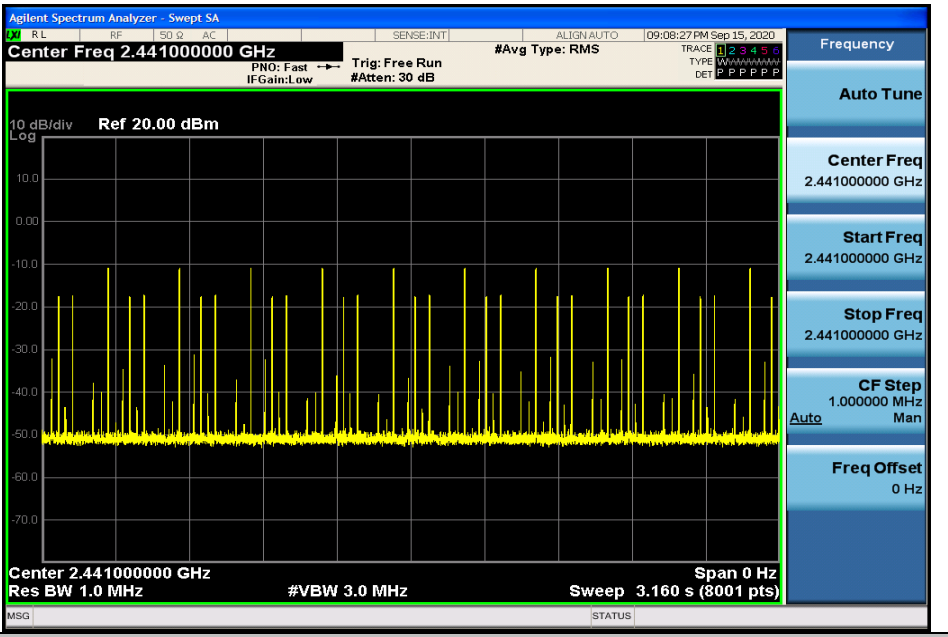
Dwell Time_2DH3_2441



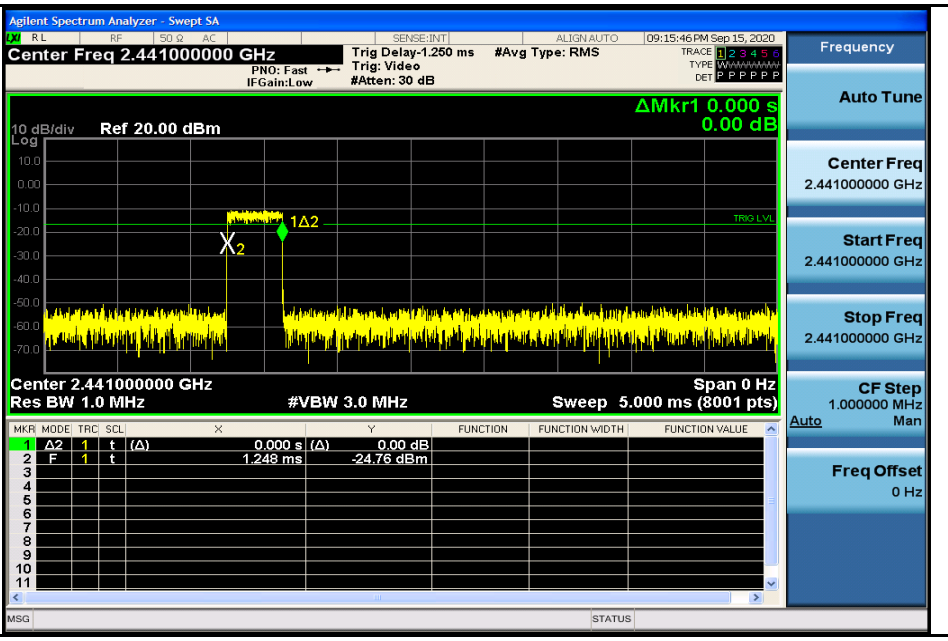


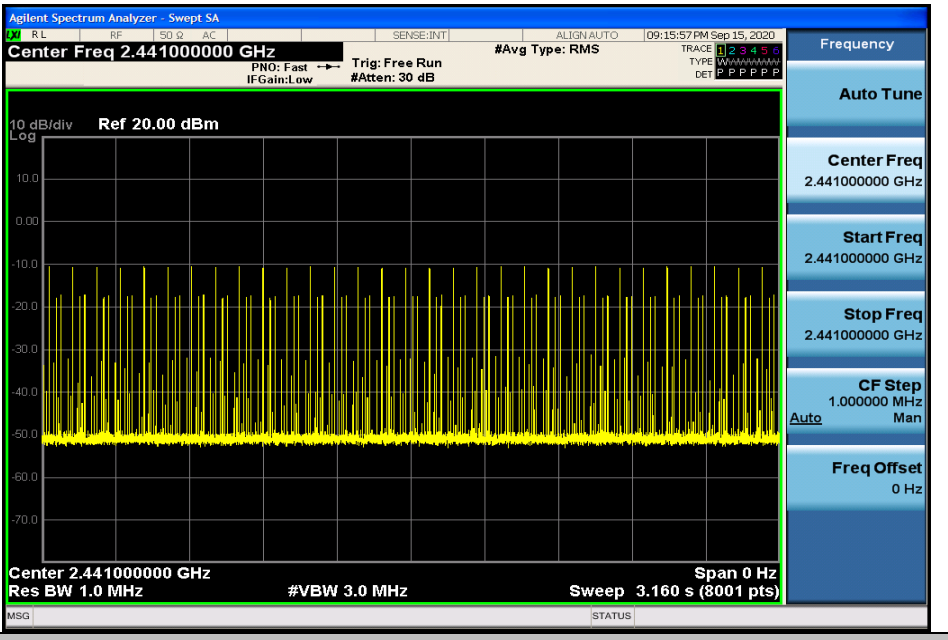
Dwell Time_2DH5_2441



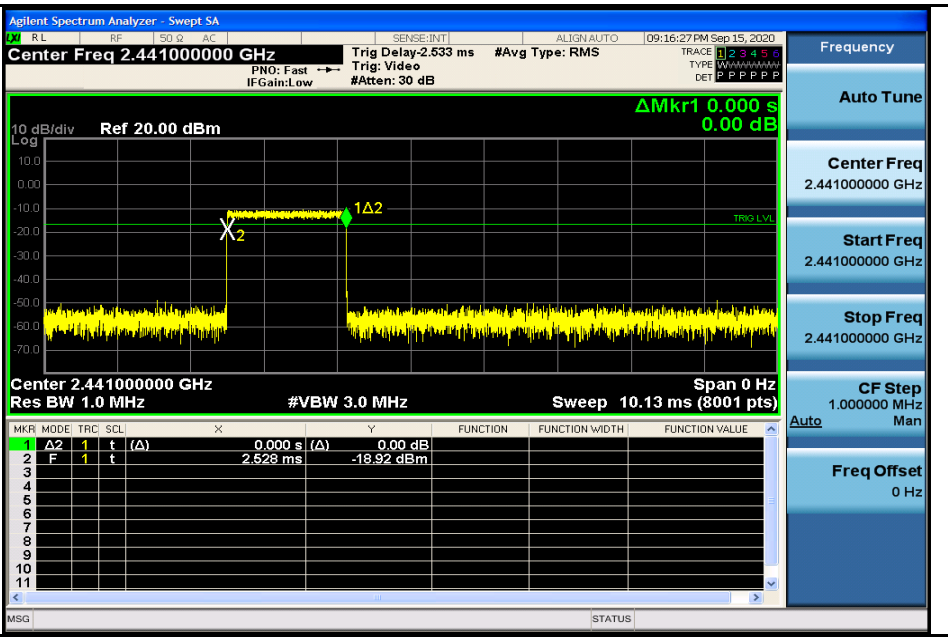


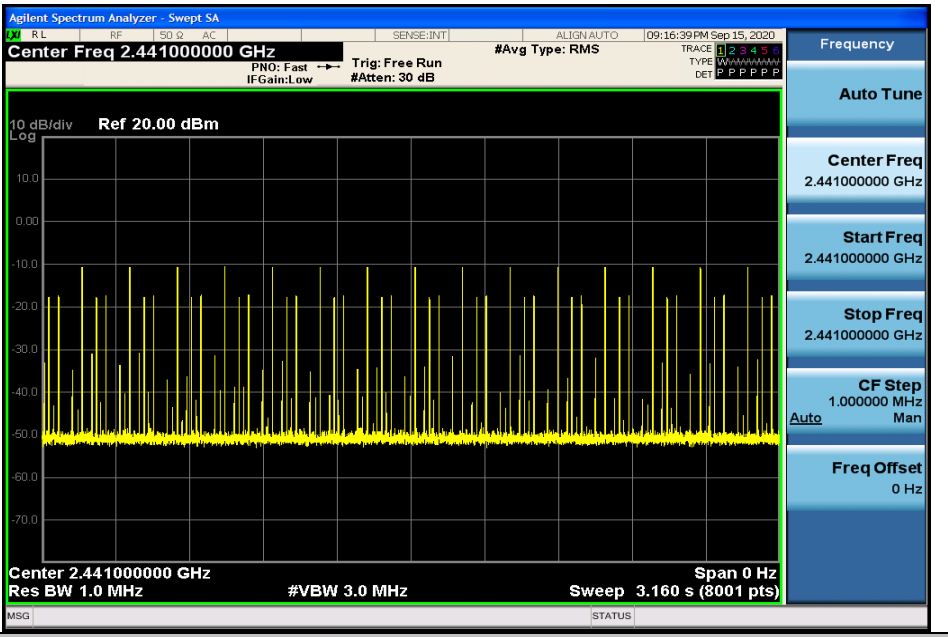
Dwell Time_3DH1_2441



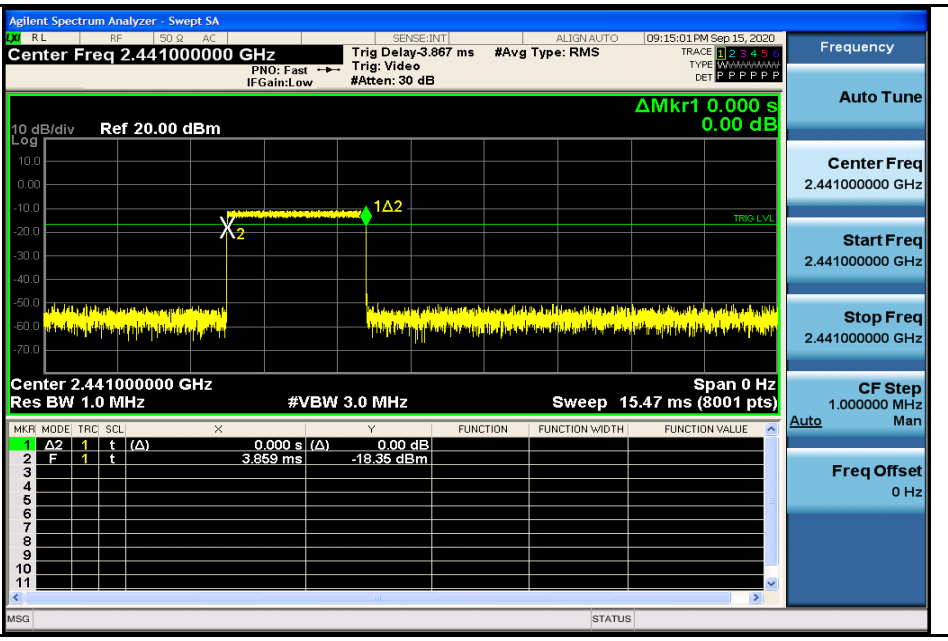


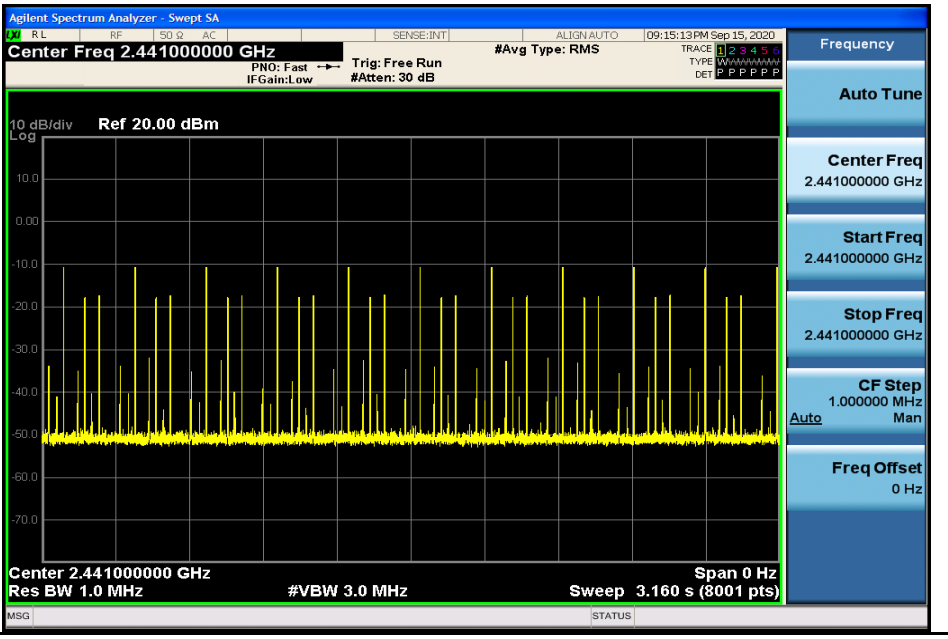
Dwell Time_3DH3_2441





Dwell Time_3DH5_2441

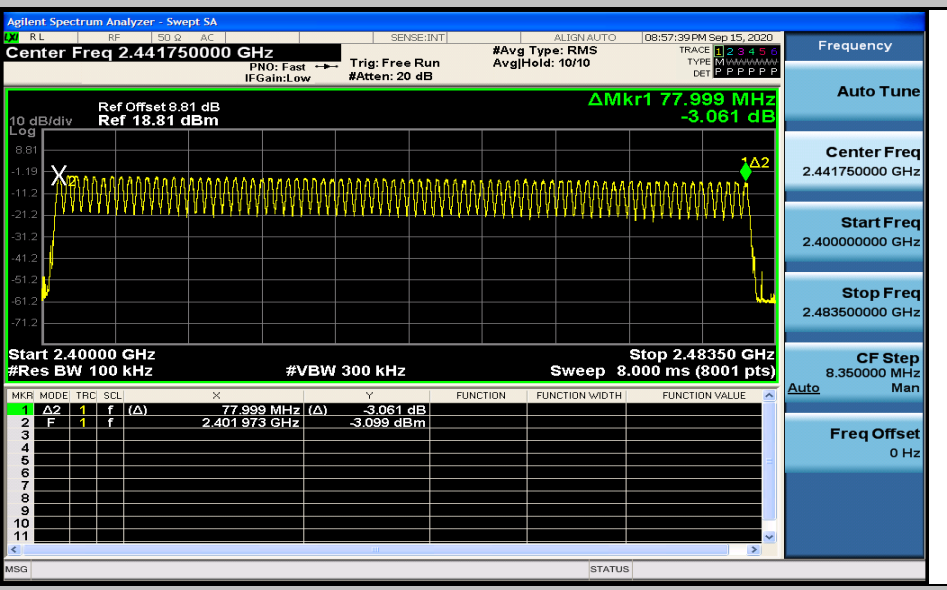

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-3.867 ms
Trig: Video
#Atten: 30 dB
#Avg Type: RMS
09:15:01 PM Sep 15, 2020
ΔMkr1 0.000 s
0.00 dB
10 dB/div
Log
Ref 20.00 dBm
1Δ2
TRIG LVL
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 15.47 ms (8001 pts)
1 Δ2 1 t (Δ) 0.000 s (Δ) 0.00 dB
2 F 1 t 3.859 ms -18.35 dBm
Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
09:15:13 PM Sep 15, 2020
10 dB/div
Log
Ref 20.00 dBm
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 3.160 s (8001 pts)
Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

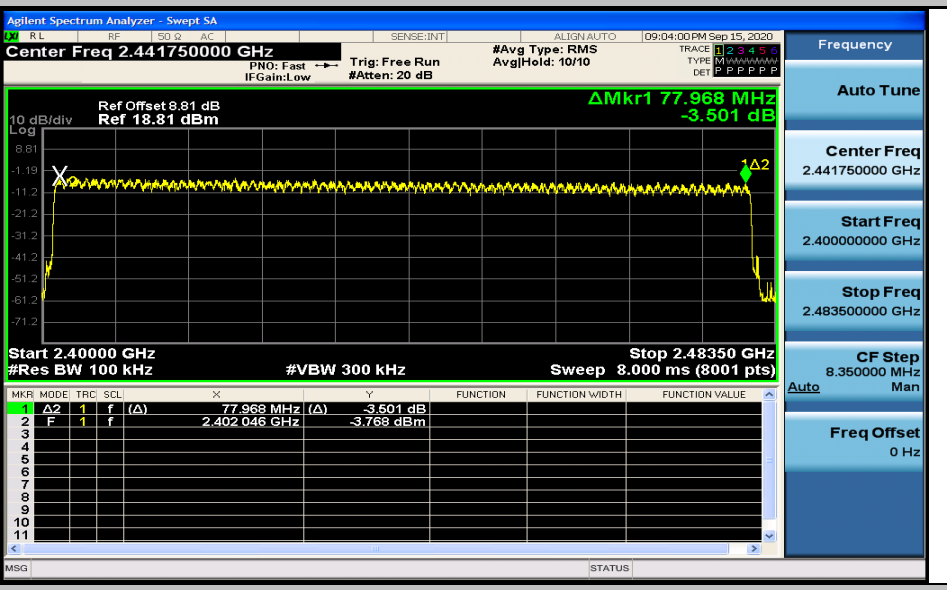
6.Hopping Channel Number

Test Mode	Number of Hopping Channel[N]	Limit[N]	Verdict
DH5	79	>=15	PASS
2DH5	79	>=15	PASS
3DH5	79	>=15	PASS

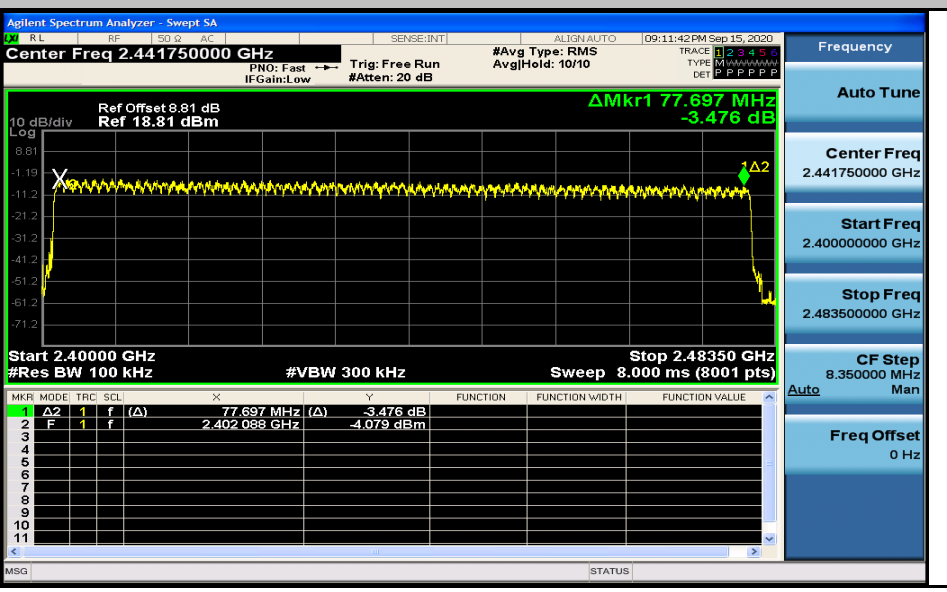
Hopping Channel Number_DH5



Hopping Channel Number_2DH5



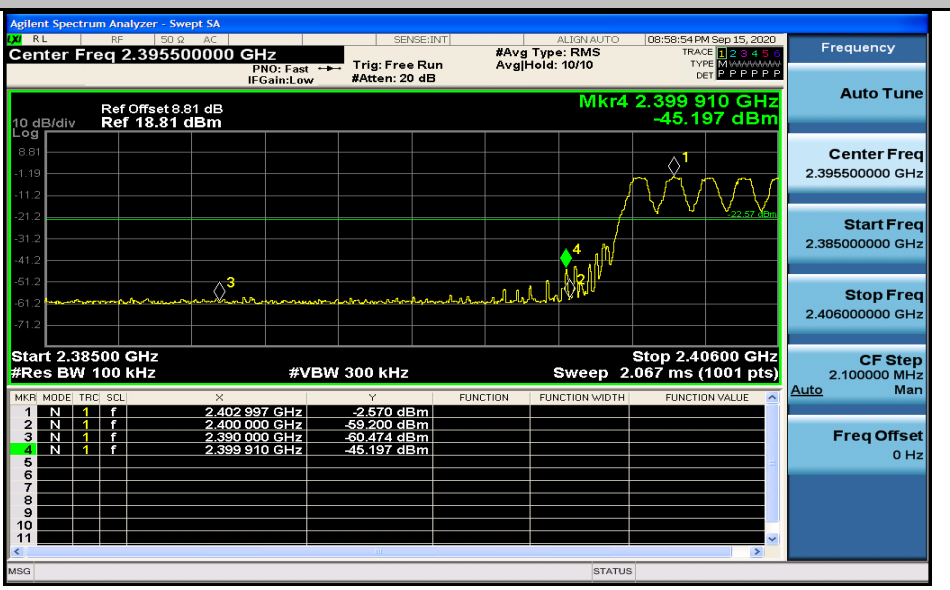
Hopping Channel Number_3DH5



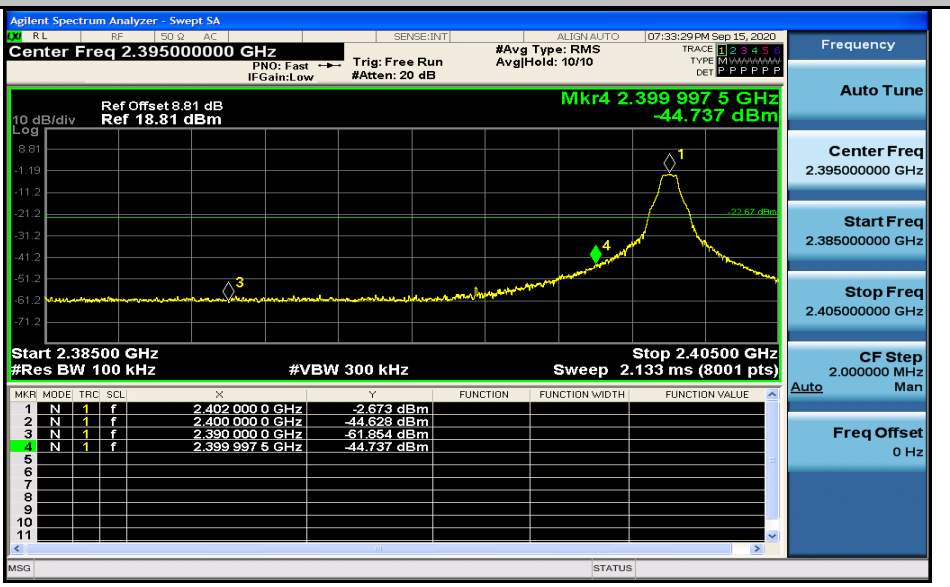
7.Band-edge for RF Conducted Emissions

Test Mode	Test Channel	Hopping	Carrier Power[dBm]	Max. Spurious Level [dBm]	Limit[dBm]	Verdict
DH5	2402	On	-2.57	-45.20	-22.57	PASS
DH5	2402	Off	-2.67	-44.63	-22.67	PASS
DH5	2480	On	-5.62	-56.43	-25.62	PASS
DH5	2480	Off	-5.63	-54.53	-25.63	PASS
2DH5	2402	On	-4.13	-48.99	-24.13	PASS
2DH5	2402	Off	-3.94	-43.48	-23.94	PASS
2DH5	2480	On	-6.90	-54.14	-26.90	PASS
2DH5	2480	Off	-6.78	-53.35	-26.78	PASS
3DH5	2402	On	-3.73	-44.76	-23.73	PASS
3DH5	2402	Off	-3.64	-43.87	-23.64	PASS
3DH5	2480	On	-6.32	-56.21	-26.32	PASS
3DH5	2480	Off	-6.57	-54.12	-26.57	PASS

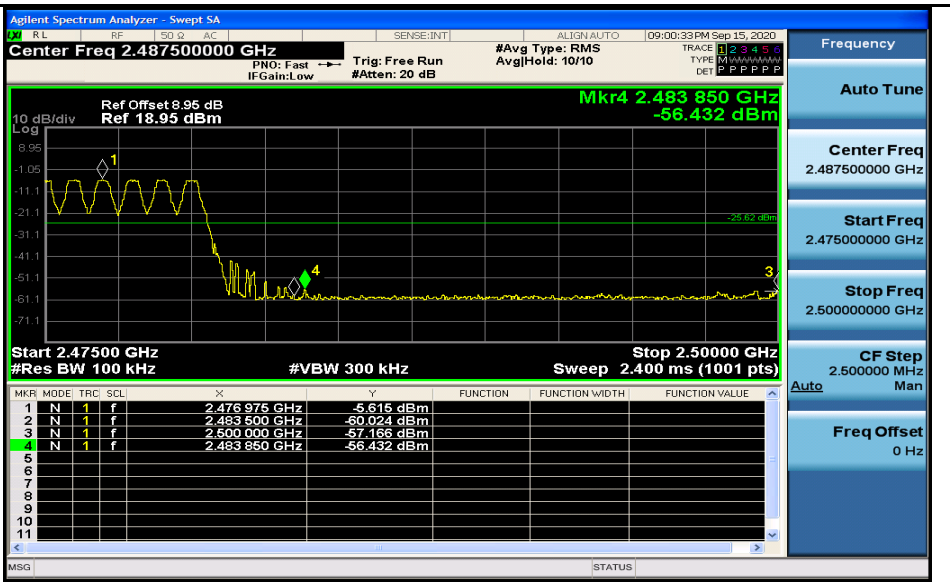
Band-edge for RF Conducted Emissions_DH5_2402_Hopping On



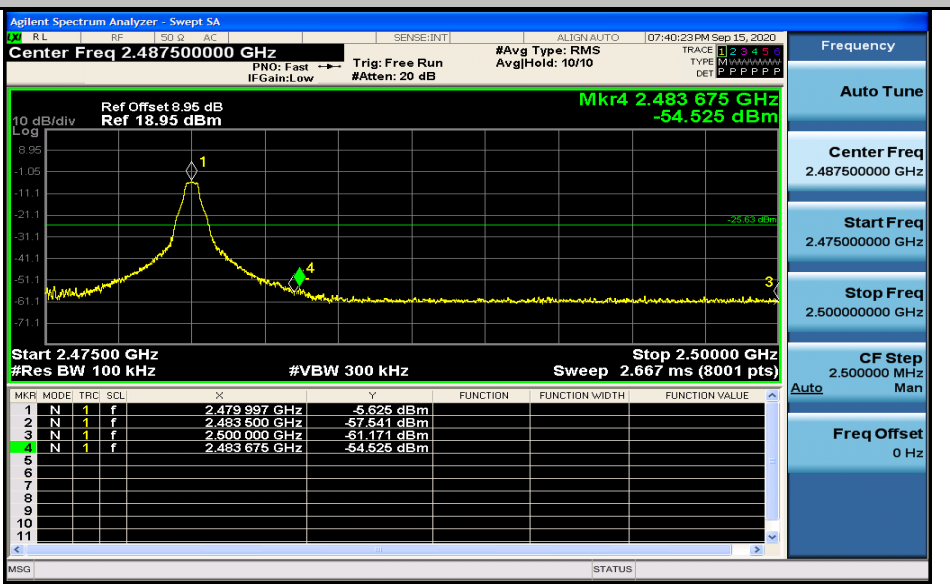
Band-edge for RF Conducted Emissions_DH5_2402_Hopping Off



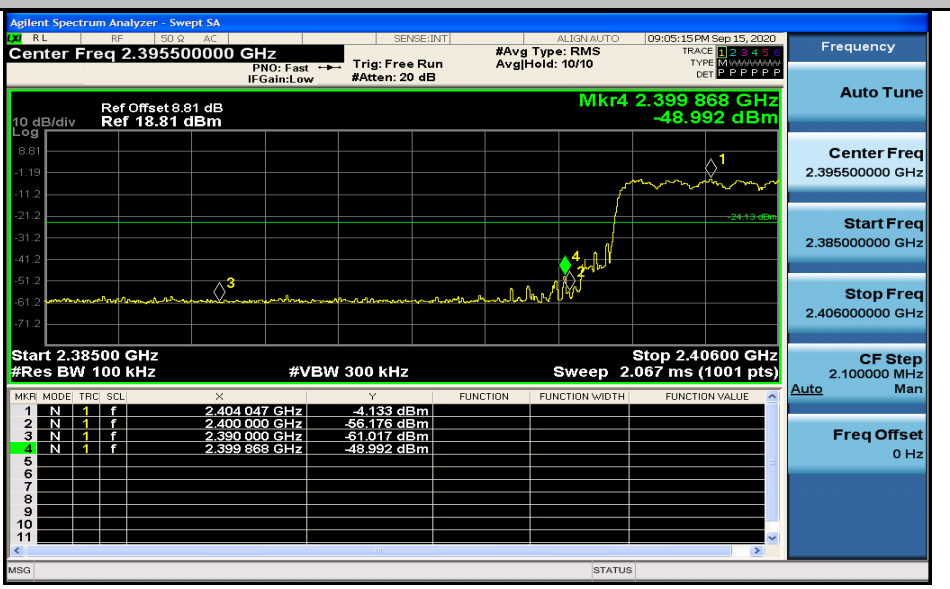
Band-edge for RF Conducted Emissions_DH5_2480_Hopping On



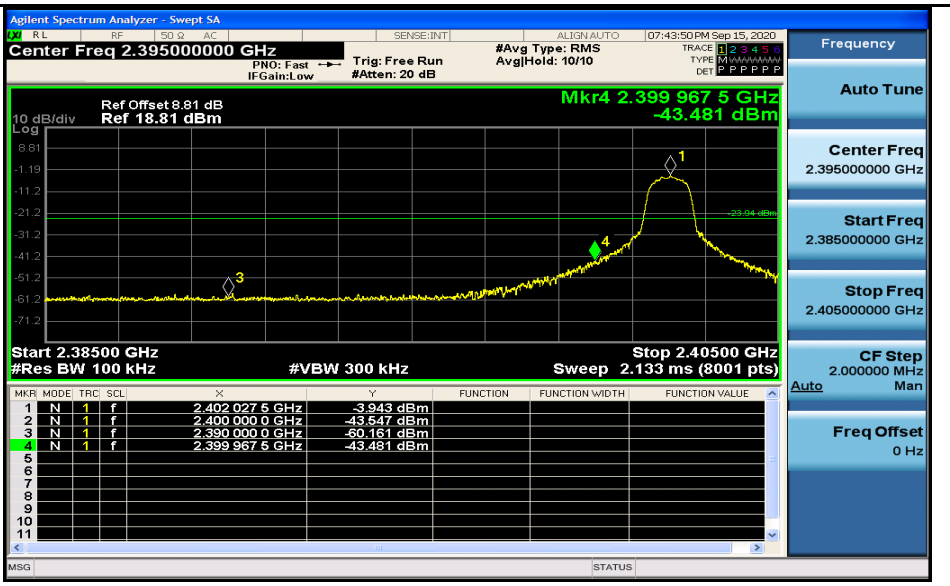
Band-edge for RF Conducted Emissions_DH5_2480_Hopping Off



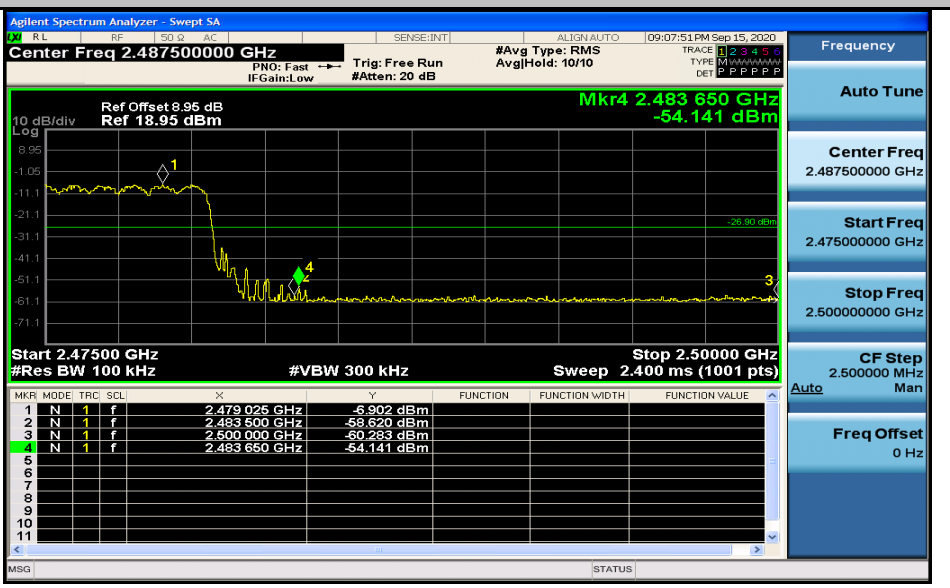
Band-edge for RF Conducted Emissions_2DH5_2402_Hopping On



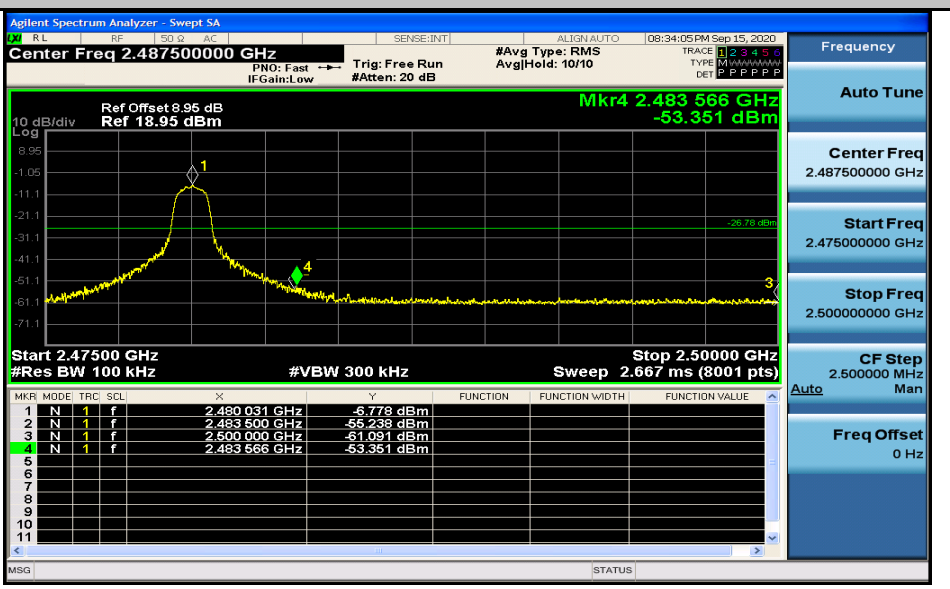
Band-edge for RF Conducted Emissions_2DH5_2402_Hopping Off



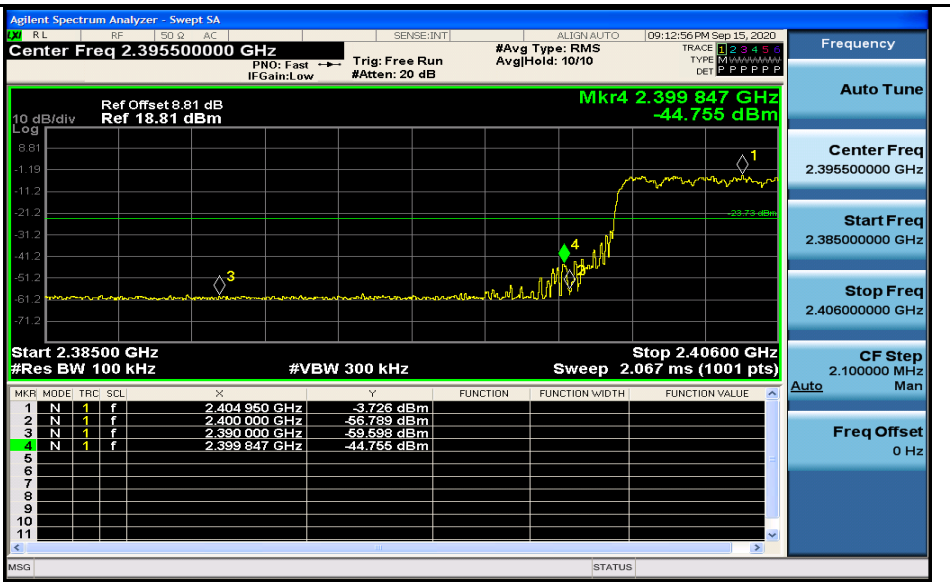
Band-edge for RF Conducted Emissions_2DH5_2480_Hopping On



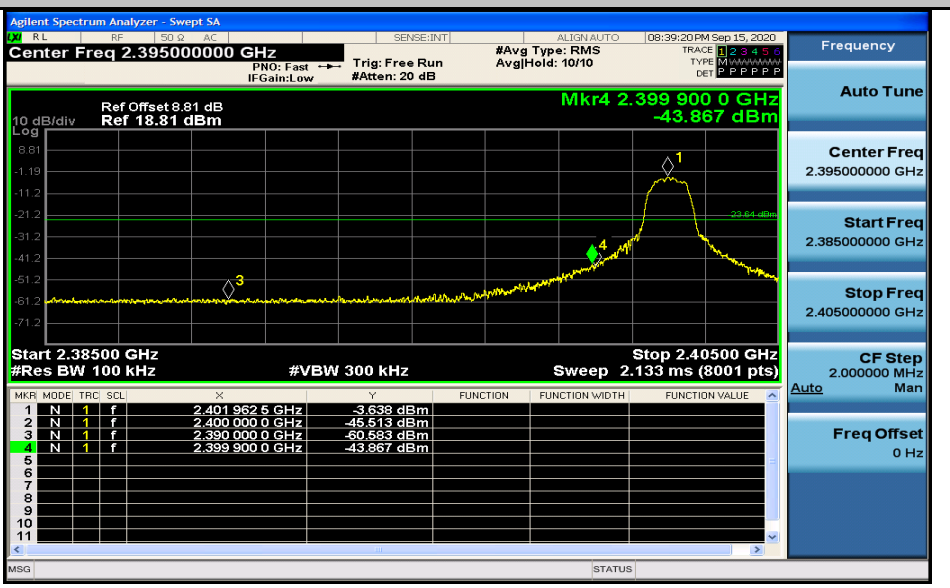
Band-edge for RF Conducted Emissions_2DH5_2480_Hopping Off



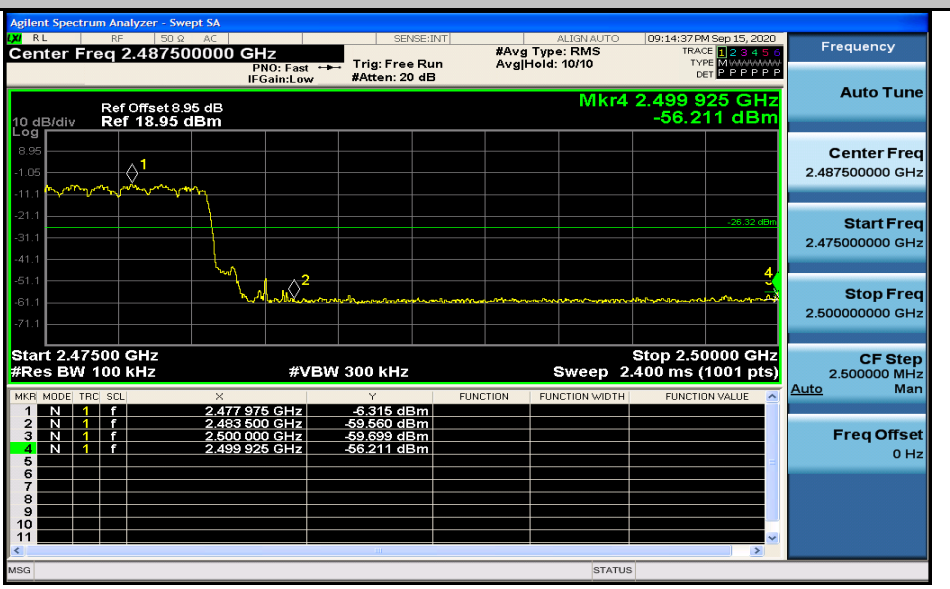
Band-edge for RF Conducted Emissions_3DH5_2402_Hopping On



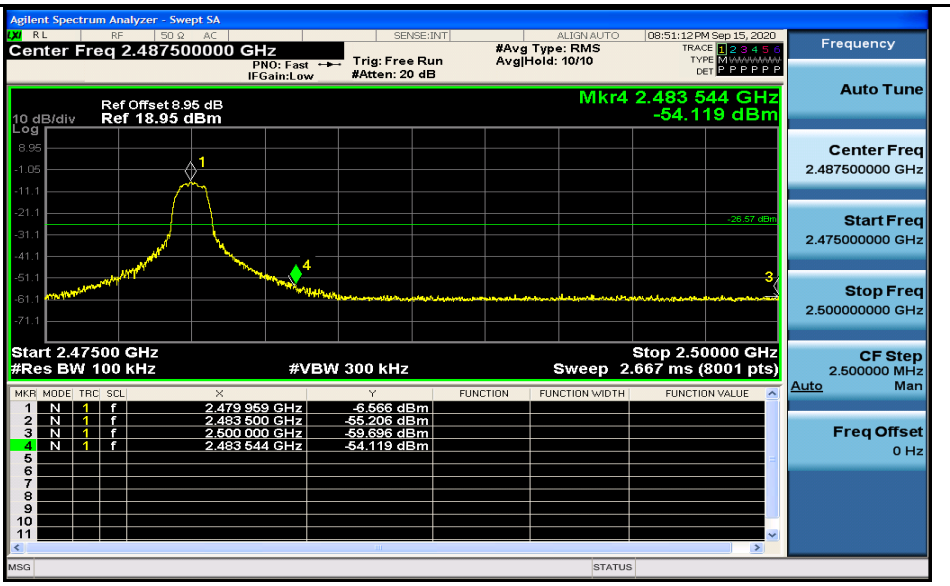
Band-edge for RF Conducted Emissions_3DH5_2402_Hopping Off



Band-edge for RF Conducted Emissions_3DH5_2480_Hopping On



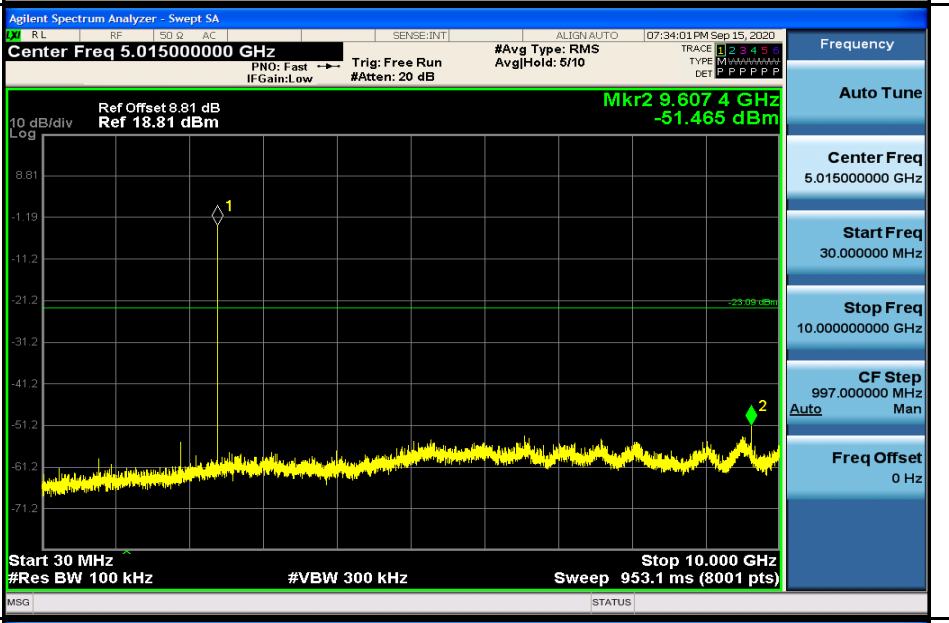
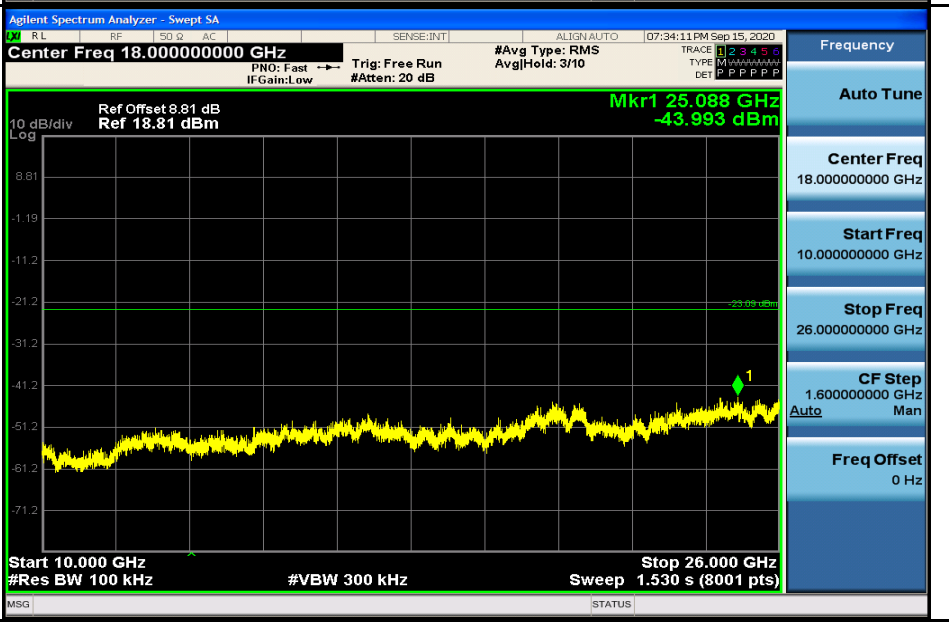
Band-edge for RF Conducted Emissions_3DH5_2480_Hopping Off


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.487500000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
#Avg Type: RMS
Avg|Hold: 10/10
08:51:12 PM Sep 15, 2020
Ref Offset 8.95 dB
10 dB/div
Log
Ref 18.95 dBm
Mkr4 2.483 544 GHz
-54.119 dBm
-26.57 dBm
Start 2.47500 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.50000 GHz
Sweep 2.667 ms (8001 pts)
1 N 1 f 2.479 969 GHz -6.566 dBm
2 N 1 f 2.483 500 GHz -55.206 dBm
3 N 1 f 2.500 000 GHz -59.696 dBm
4 N 1 f 2.483 544 GHz -54.119 dBm
Frequency
Auto Tune
Center Freq
2.487500000 GHz
Start Freq
2.475000000 GHz
Stop Freq
2.500000000 GHz
CF Step
2.500000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

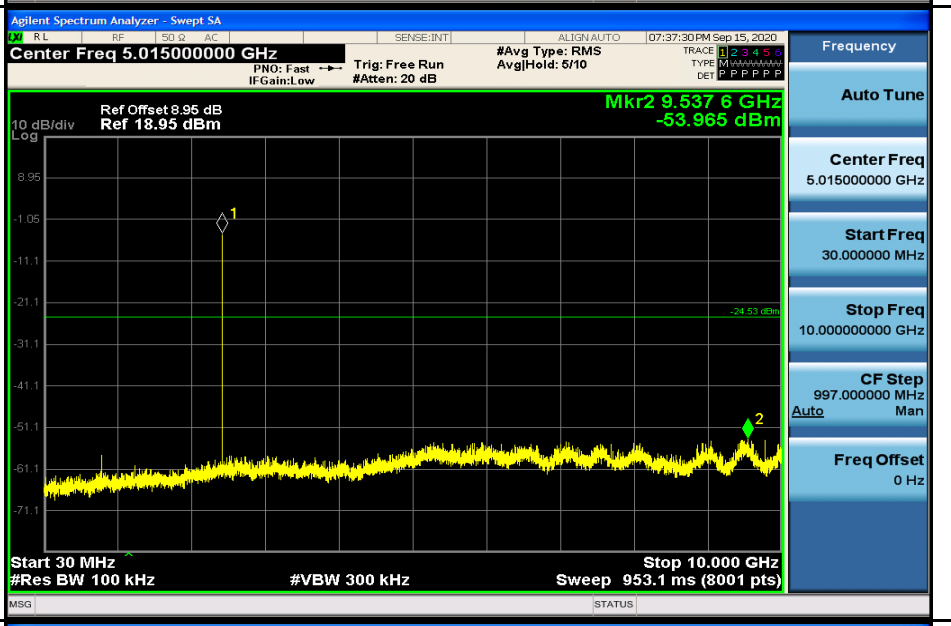
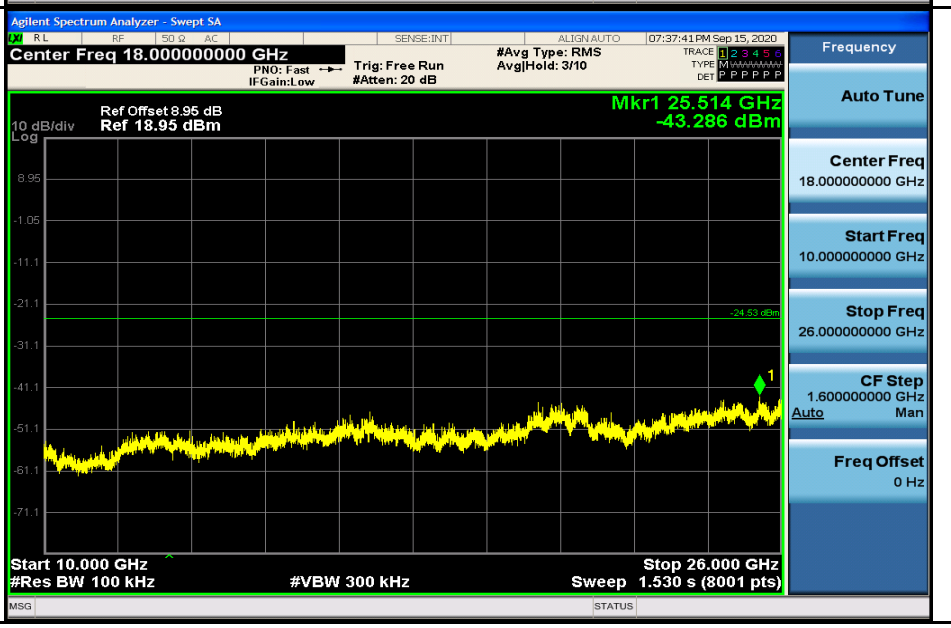
8.RF Conducted Spurious Emissions

Test Mode	Test Channel	StartFre [MHz]	StopFre [MHz]	RBW [kHz]	VBW [kHz]	Pref[dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
DH5	2402	30	10000	100	300	-3.09	-51.47	<-23.09	PASS
DH5	2402	10000	26000	100	300	-3.092	-43.993	<-23.092	PASS
DH5	2441	30	10000	100	300	-4.53	-53.97	<-24.53	PASS
DH5	2441	10000	26000	100	300	-4.53	-43.286	<-24.53	PASS
DH5	2480	30	10000	100	300	-6.01	-53.15	<-26.01	PASS
DH5	2480	10000	26000	100	300	-6.009	-43.741	<-26.009	PASS
2DH5	2402	30	10000	100	300	-4.28	-52.95	<-24.28	PASS
2DH5	2402	10000	26000	100	300	-4.281	-43.516	<-24.281	PASS
2DH5	2441	30	10000	100	300	-5.64	-53.13	<-25.64	PASS
2DH5	2441	10000	26000	100	300	-5.642	-44.099	<-25.642	PASS
2DH5	2480	30	10000	100	300	-7.12	-54.28	<-27.12	PASS
2DH5	2480	10000	26000	100	300	-7.115	-43.439	<-27.115	PASS
3DH5	2402	30	10000	100	300	-4.09	-53.43	<-24.09	PASS
3DH5	2402	10000	26000	100	300	-4.089	-44.629	<-24.089	PASS
3DH5	2441	30	10000	100	300	-5.59	-53.63	<-25.59	PASS
3DH5	2441	10000	26000	100	300	-5.592	-43.375	<-25.592	PASS
3DH5	2480	30	10000	100	300	-7.06	-54.11	<-27.06	PASS
3DH5	2480	10000	26000	100	300	-7.056	-43.901	<-27.056	PASS

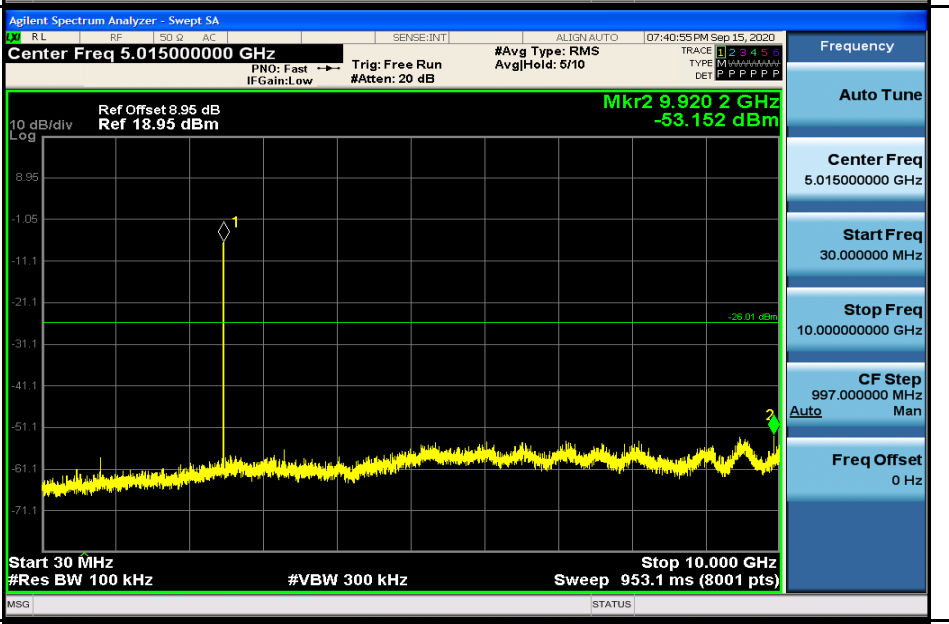
RF Conducted Spurious Emissions_DH5_2402

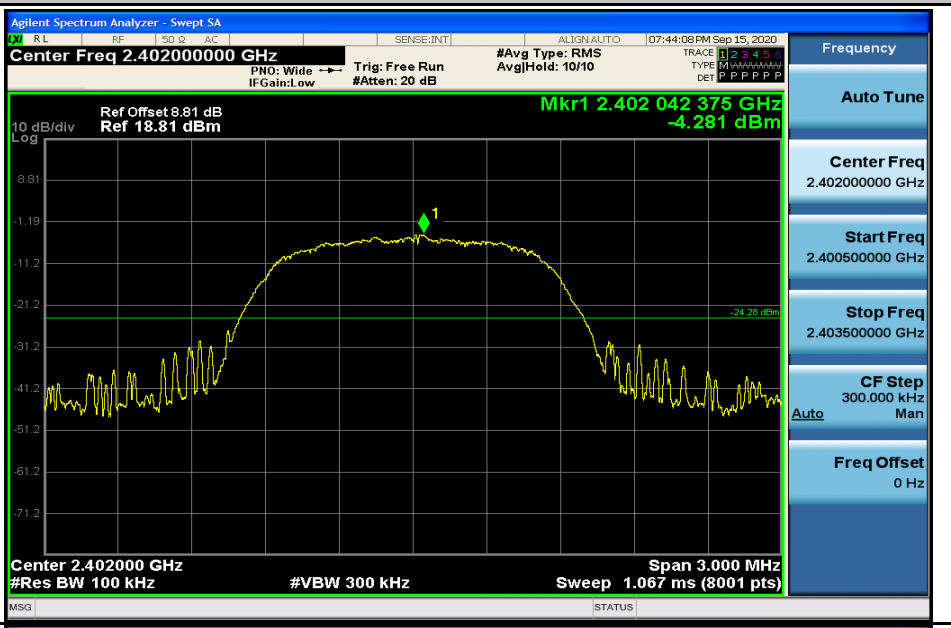
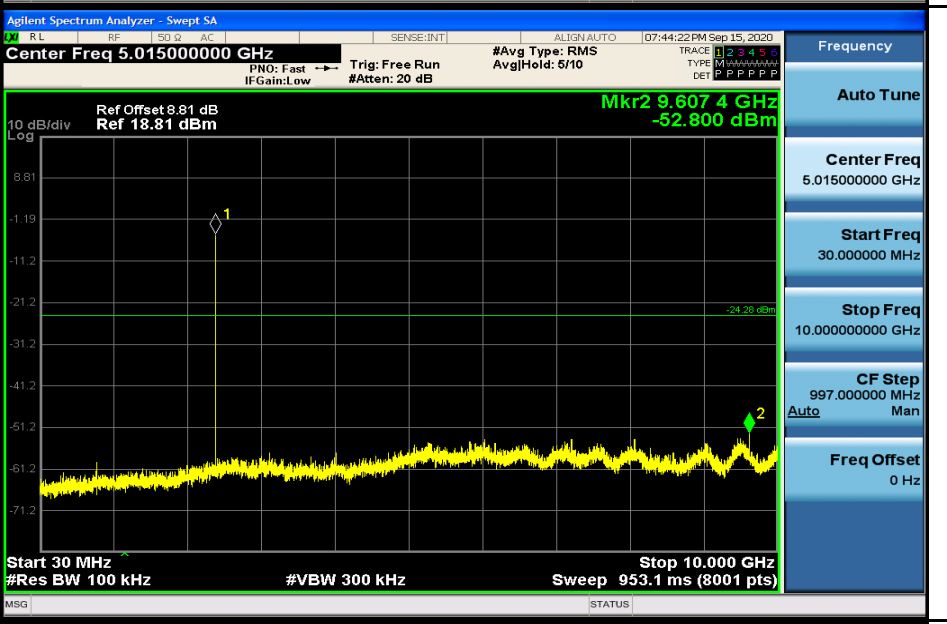
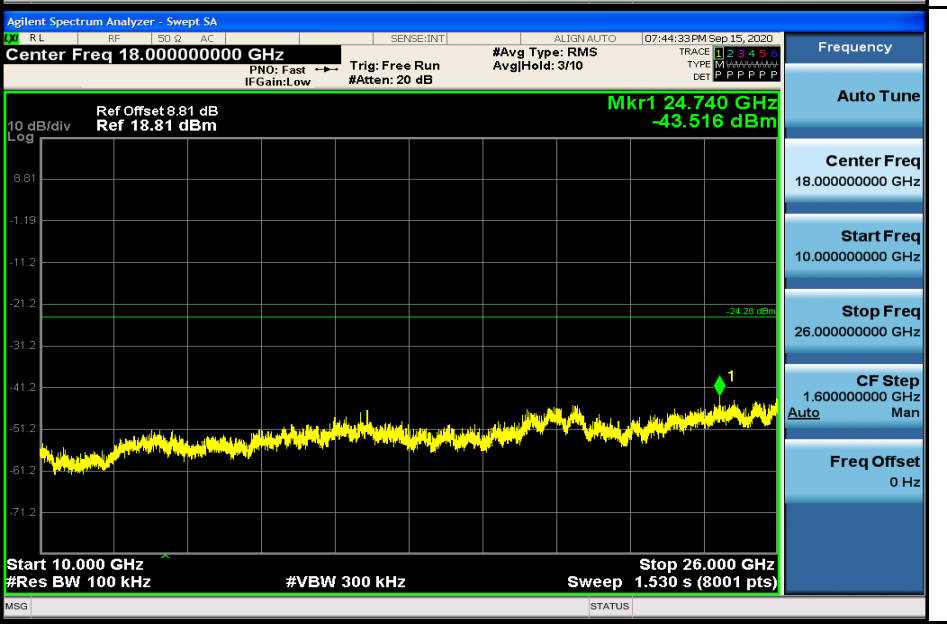



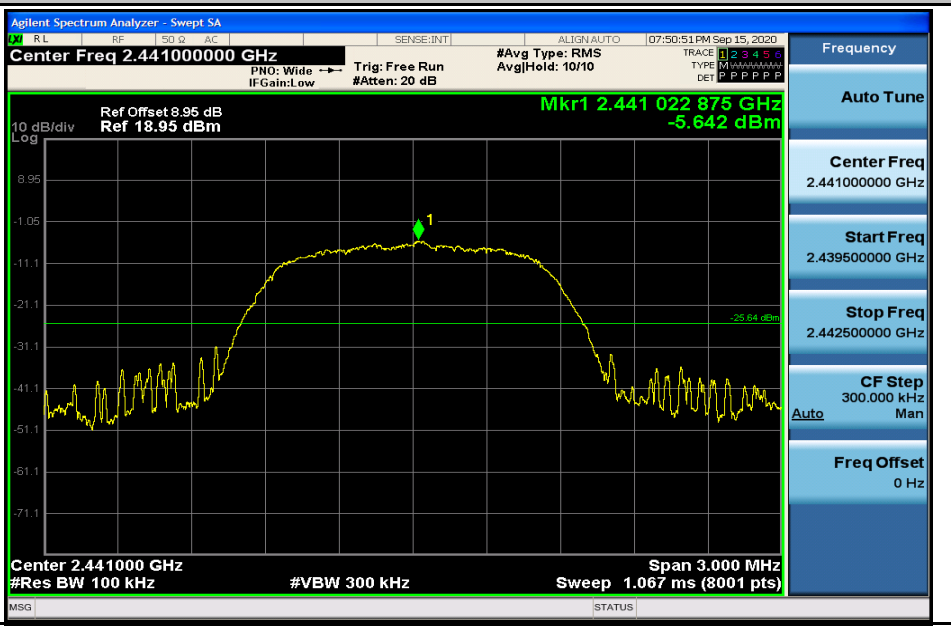
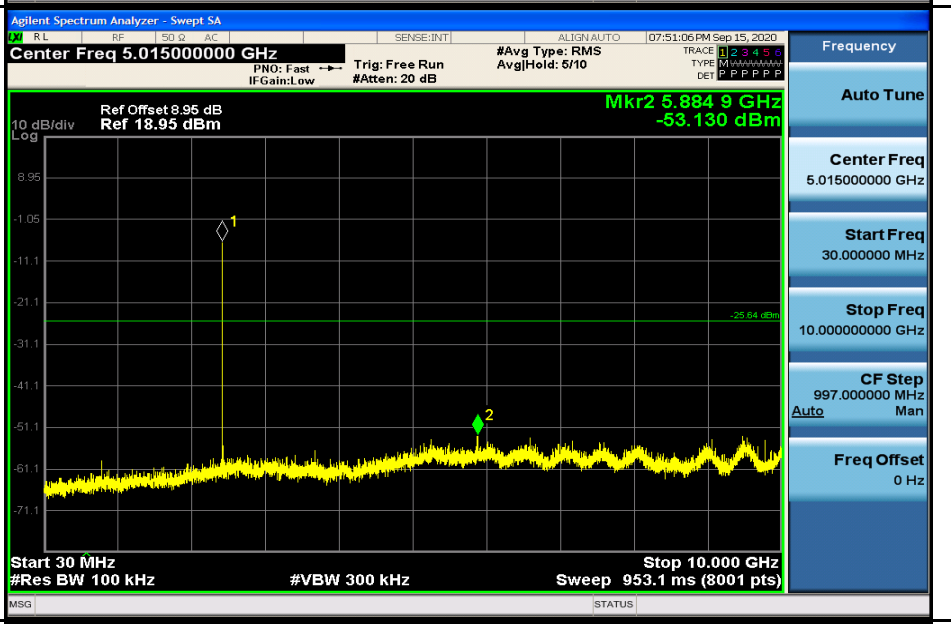
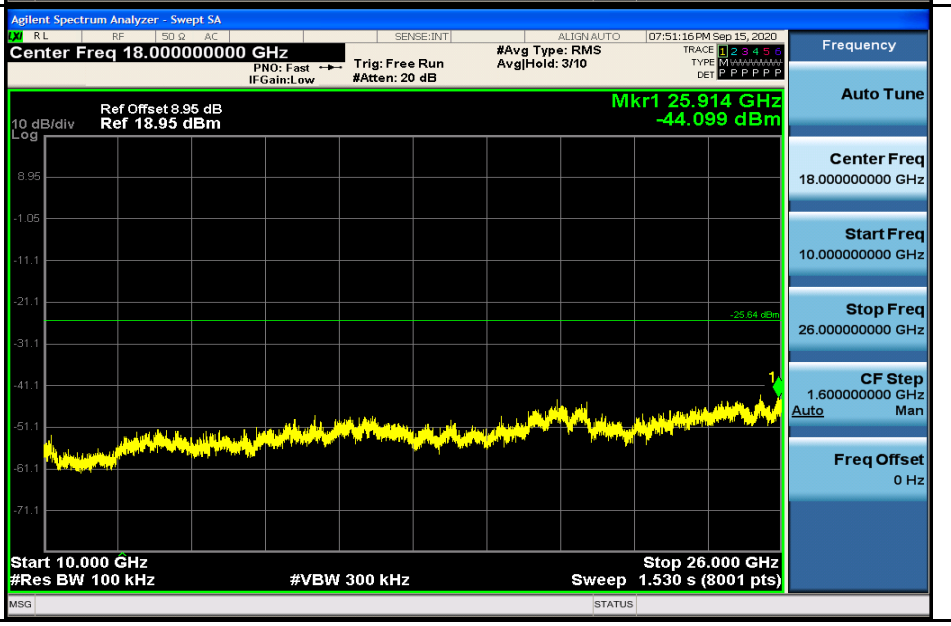
RF Conducted Spurious Emissions_DH5_2441

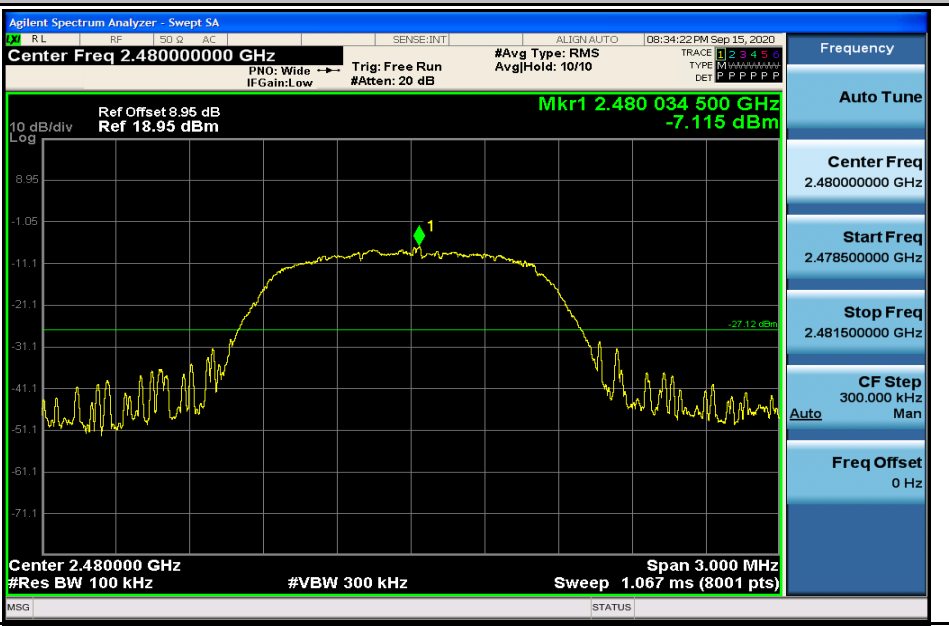
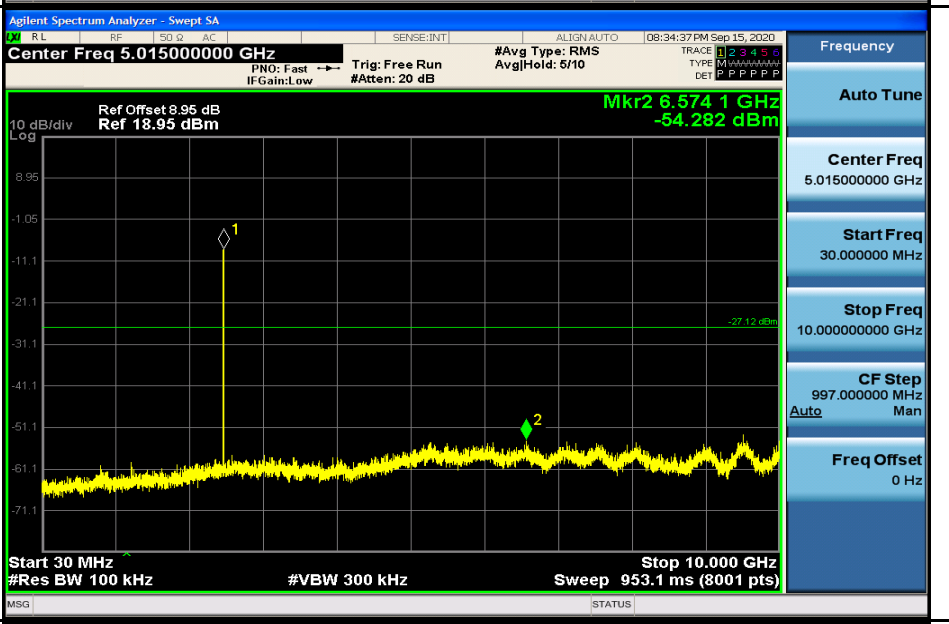
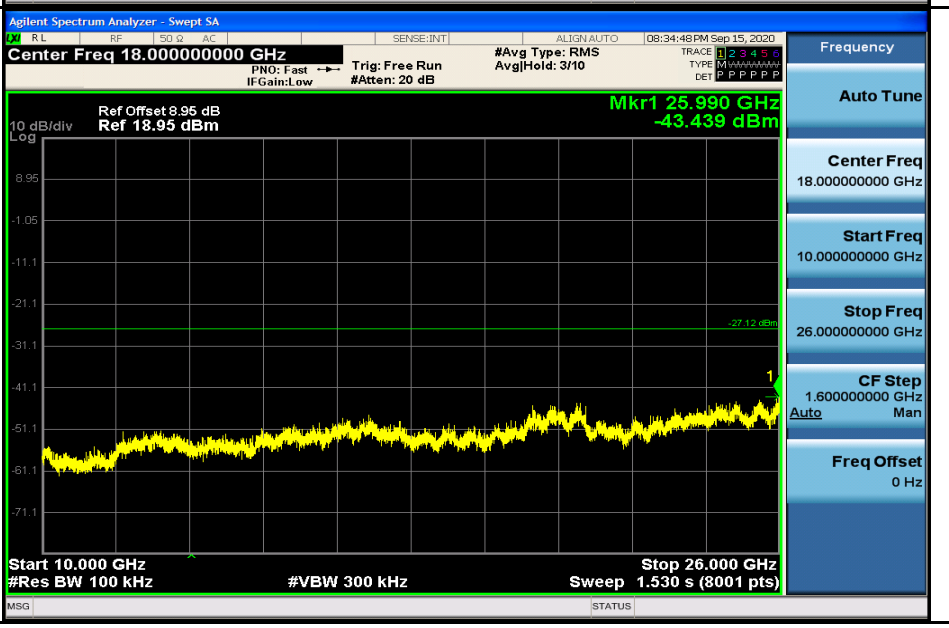



RF Conducted Spurious Emissions_DH5_2480

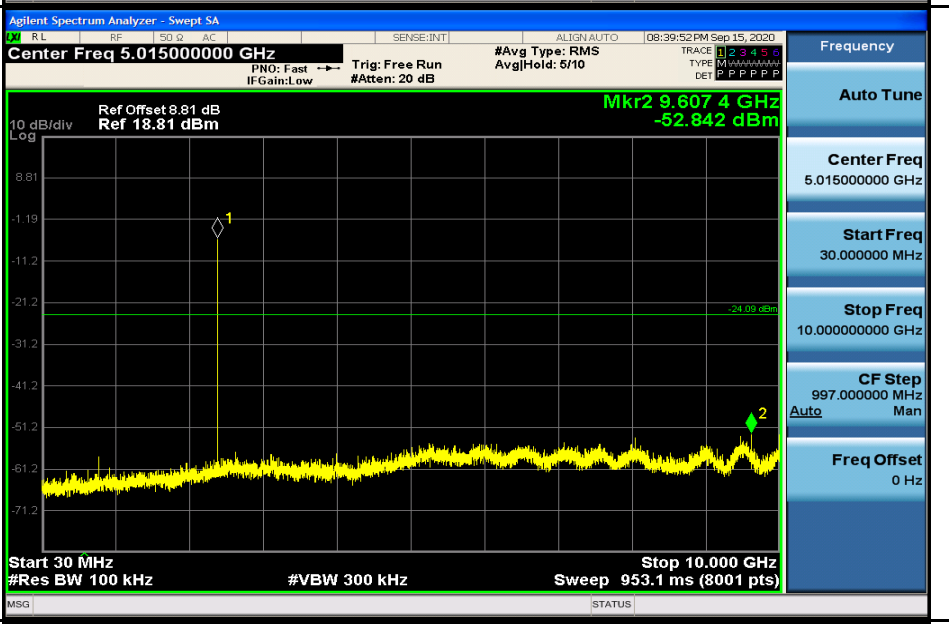
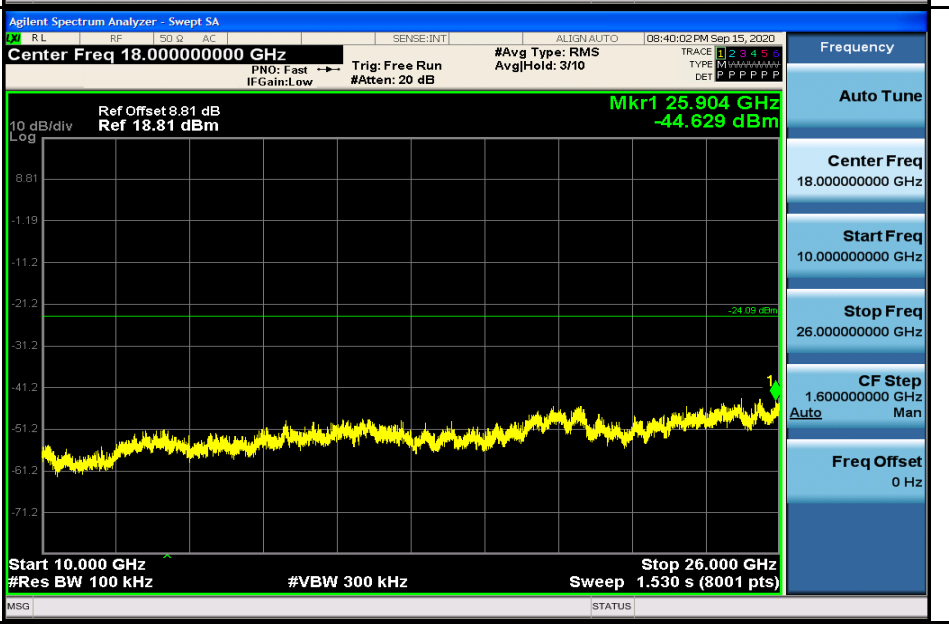



RF Conducted Spurious Emissions_2DH5_2402




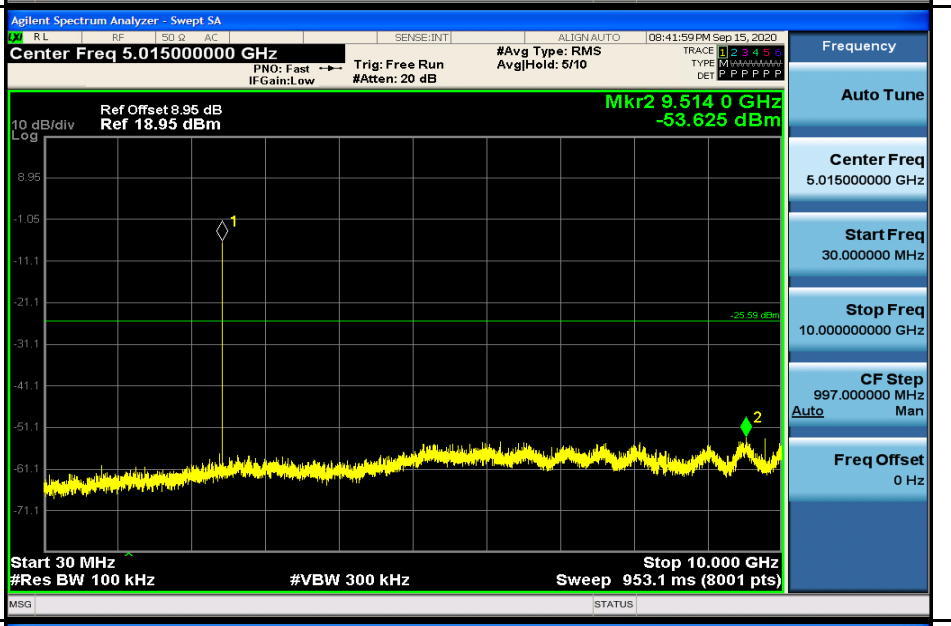
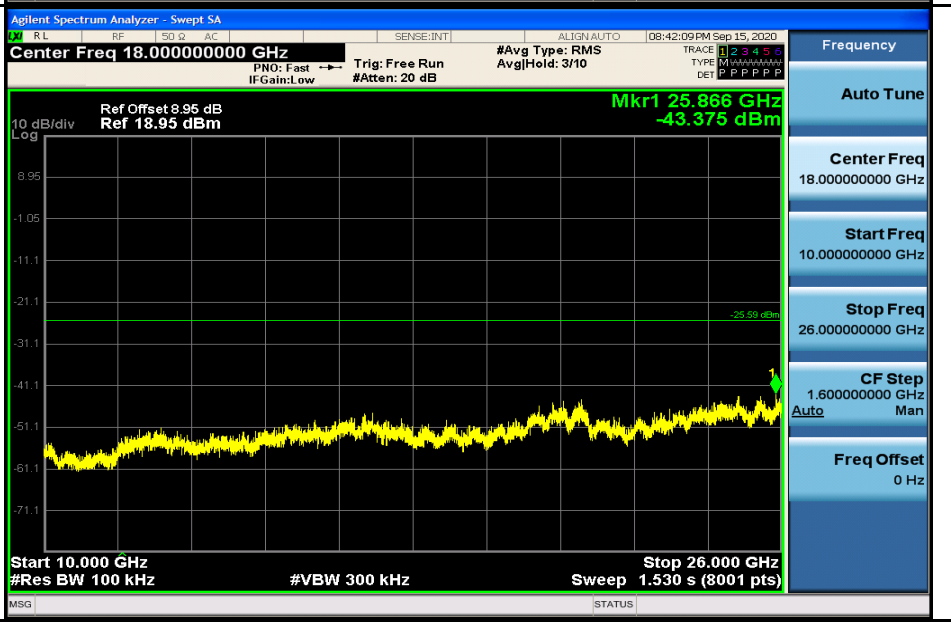
RF Conducted Spurious Emissions_2DH5_2441




RF Conducted Spurious Emissions_2DH5_2480




RF Conducted Spurious Emissions_3DH5_2402

RF Conducted Spurious Emissions_3DH5_2441

RF Conducted Spurious Emissions_3DH5_2480