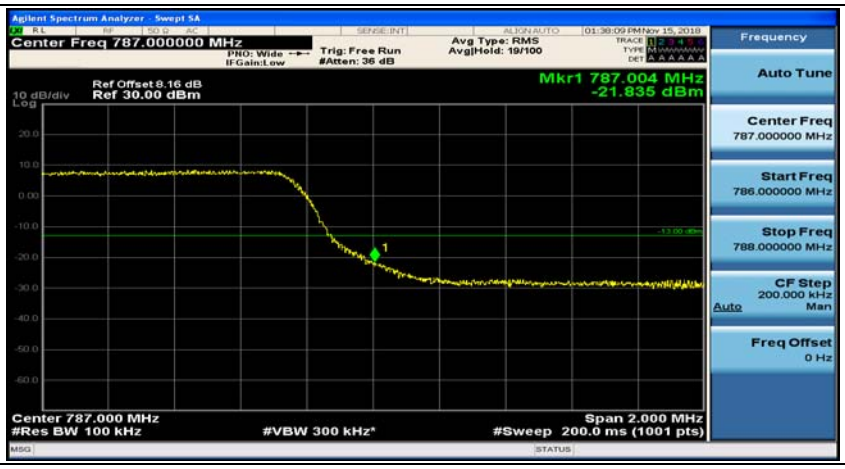
(Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#6

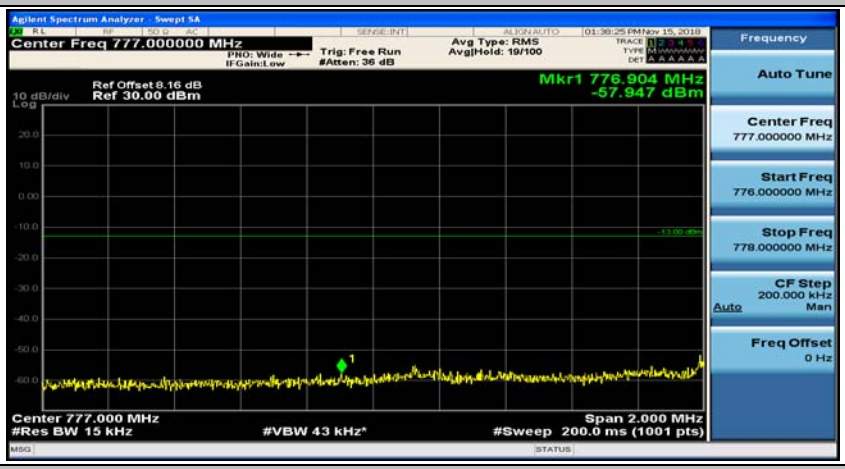
(Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#13

(Channel Bandwidth: 5 MHz)_HCH_16QAM_25RB#0

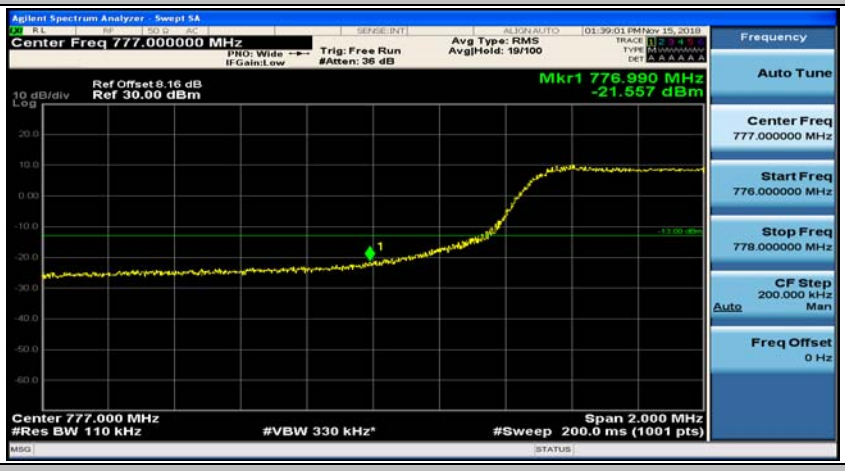


Channel Bandwidth: 10 MHz

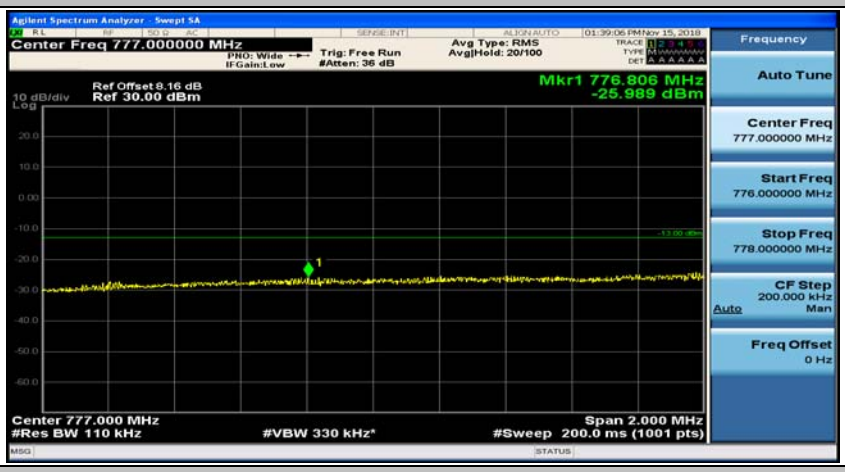
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0

Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24

Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49

Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#0



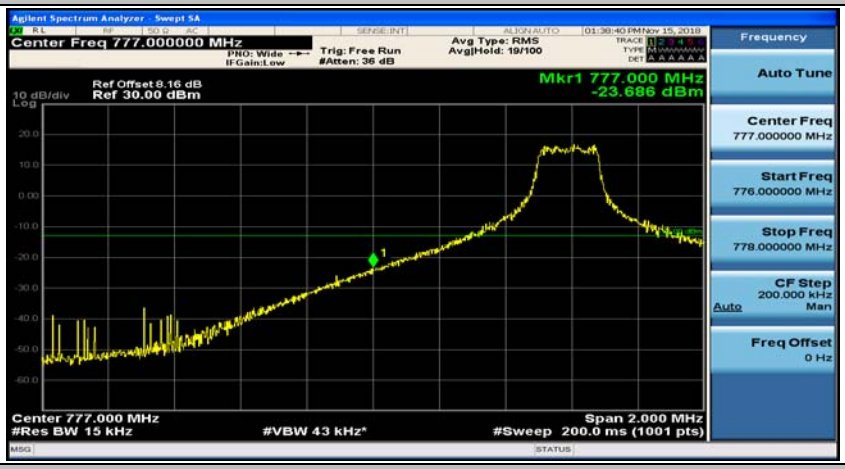
Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#12



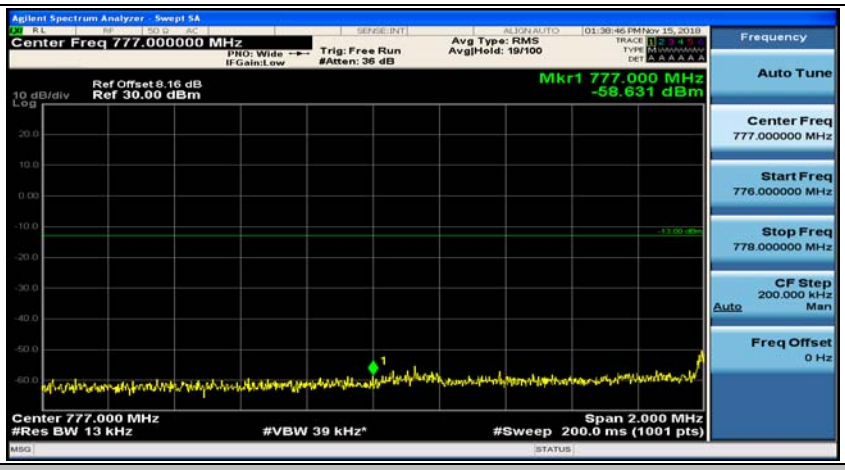
Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#25

Channel Bandwidth: 10 MHz_MCH_QPSK_50RB#0

Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0



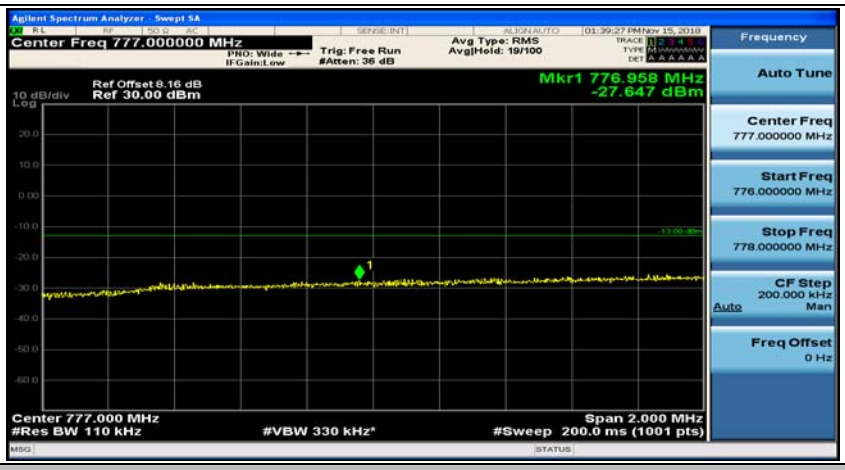
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24



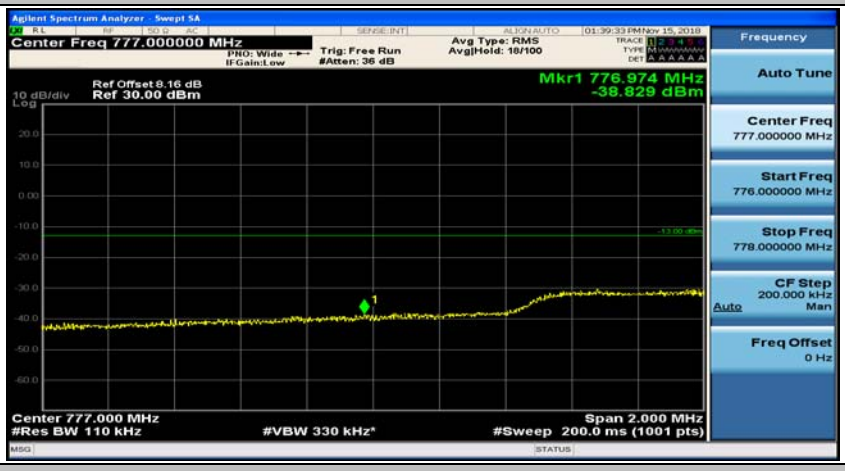
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49

Channel Bandwidth: 10 MHz_MCH_16QAM_25RB#0

Channel Bandwidth: 10 MHz_MCH_16QAM_25RB#12



Channel Bandwidth: 10 MHz_MCH_16QAM_25RB#25



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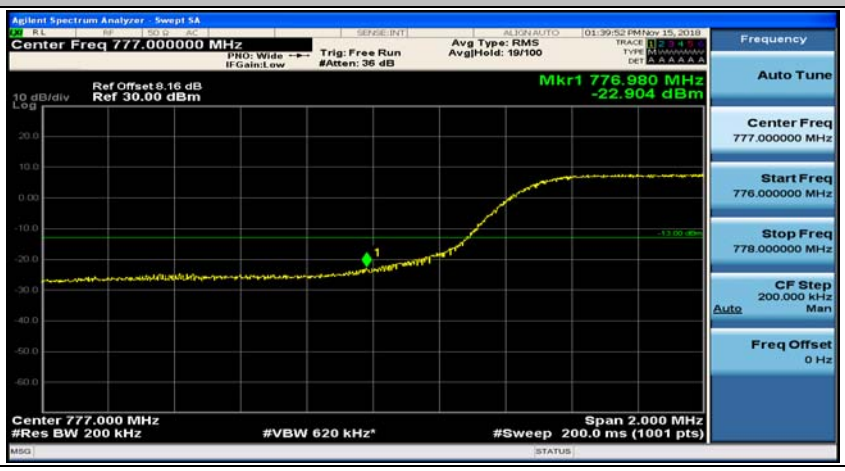


Appendix E: Conducted Spurious Emission

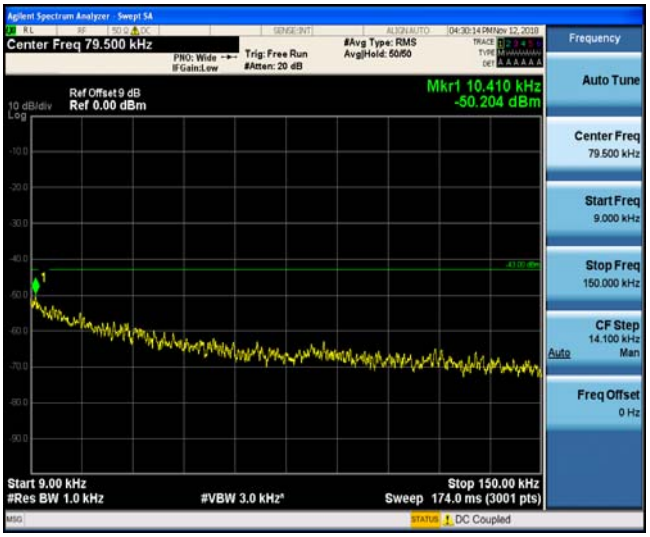
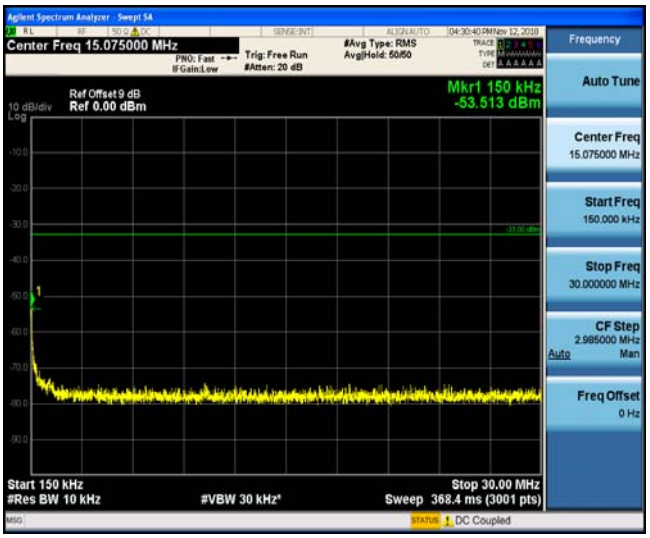
Test Result

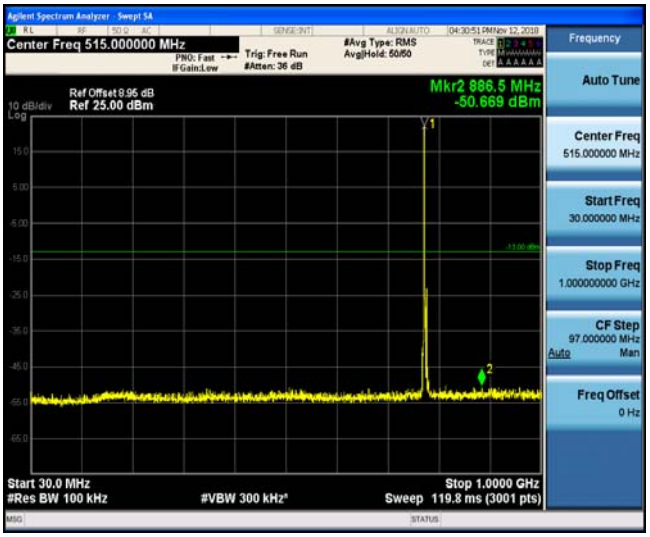
Band	Bandwidth	Modulation	Channel	RB Configuration	Frequency Range	Result (dBm)	Verdict
Band13	5MHz	QPSK	23205	1RB#0	Range1:0.009~0.15MHz	-50.20	PASS
Band13	5MHz	QPSK	23205	1RB#0	Range2:0.15~30MHz	-53.51	PASS
Band13	5MHz	QPSK	23205	1RB#0	Range3:30~1000MHz	-50.67	PASS
Band13	5MHz	QPSK	23205	1RB#0	Range4:1000~5000MHz	-42.18	PASS
Band13	5MHz	QPSK	23205	1RB#0	Range5:5000~12000MHz	-53.4	PASS
Band13	5MHz	QPSK	23205	1RB#0	Range6:12000~18000MHz	-40.53	PASS
Band13	5MHz	QPSK	23230	1RB#0	Range1:0.009~0.15MHz	-51.18	PASS
Band13	5MHz	QPSK	23230	1RB#0	Range2:0.15~30MHz	-54.04	PASS
Band13	5MHz	QPSK	23230	1RB#0	Range3:30~1000MHz	-50.56	PASS
Band13	5MHz	QPSK	23230	1RB#0	Range4:1000~5000MHz	-42.4	PASS
Band13	5MHz	QPSK	23230	1RB#0	Range5:5000~12000MHz	-53.05	PASS
Band13	5MHz	QPSK	23230	1RB#0	Range6:12000~18000MHz	-40.55	PASS
Band13	5MHz	QPSK	23255	1RB#0	Range1:0.009~0.15MHz	-49.76	PASS
Band13	5MHz	QPSK	23255	1RB#0	Range2:0.15~30MHz	-51.09	PASS
Band13	5MHz	QPSK	23255	1RB#0	Range3:30~1000MHz	-49.98	PASS
Band13	5MHz	QPSK	23255	1RB#0	Range4:1000~5000MHz	-42.31	PASS
Band13	5MHz	QPSK	23255	1RB#0	Range5:5000~12000MHz	-53.3	PASS
Band1	5MHz	QPSK	23255	1RB#0	Range6:12000~18000	-40.62	PASS

3					MHz		
Band13	5MHz	16QAM	23205	1RB#0	Range1:0.009~0.15MHz	-49.08	PASS
Band13	5MHz	16QAM	23205	1RB#0	Range2:0.15~30MHz	-53.09	PASS
Band13	5MHz	16QAM	23205	1RB#0	Range3:30~1000MHz	-49.64	PASS
Band13	5MHz	16QAM	23205	1RB#0	Range4:1000~5000MHz	-42.47	PASS
Band13	5MHz	16QAM	23205	1RB#0	Range5:5000~12000MHz	-52.99	PASS
Band13	5MHz	16QAM	23205	1RB#0	Range6:12000~18000MHz	-40.38	PASS
Band13	5MHz	16QAM	23230	1RB#0	Range1:0.009~0.15MHz	-49.5	PASS
Band13	5MHz	16QAM	23230	1RB#0	Range2:0.15~30MHz	-53.69	PASS
Band13	5MHz	16QAM	23230	1RB#0	Range3:30~1000MHz	-50.4	PASS
Band13	5MHz	16QAM	23230	1RB#0	Range4:1000~5000MHz	-42.23	PASS
Band13	5MHz	16QAM	23230	1RB#0	Range5:5000~12000MHz	-53.23	PASS
Band13	5MHz	16QAM	23230	1RB#0	Range6:12000~18000MHz	-40.16	PASS
Band13	5MHz	16QAM	23255	1RB#0	Range1:0.009~0.15MHz	-49.32	PASS
Band13	5MHz	16QAM	23255	1RB#0	Range2:0.15~30MHz	-52.34	PASS
Band13	5MHz	16QAM	23255	1RB#0	Range3:30~1000MHz	-50.49	PASS
Band13	5MHz	16QAM	23255	1RB#0	Range4:1000~5000MHz	-42.46	PASS
Band13	5MHz	16QAM	23255	1RB#0	Range5:5000~12000MHz	-53.08	PASS
Band13	5MHz	16QAM	23255	1RB#0	Range6:12000~18000MHz	-39.99	PASS
Band13	10MHz	QPSK	23230	1RB#0	Range1:0.009~0.15MHz	-50.27	PASS
Band13	10MHz	QPSK	23230	1RB#0	Range2:0.15~30MHz	-54.25	PASS
Band13	10MHz	QPSK	23230	1RB#0	Range3:30~1000MHz	-50.18	PASS

Band13	10MHz	QPSK	23230	1RB#0	Range4:1000~5000MHz	-42.4	PASS
Band13	10MHz	QPSK	23230	1RB#0	Range5:5000~12000MHz	-53.14	PASS
Band13	10MHz	QPSK	23230	1RB#0	Range6:12000~18000MHz	-40.51	PASS
Band13	10MHz	16QAM	23230	1RB#0	Range1:0.009~0.15MHz	-50.35	PASS
Band13	10MHz	16QAM	23230	1RB#0	Range2:0.15~30MHz	-52.72	PASS
Band13	10MHz	16QAM	23230	1RB#0	Range3:30~1000MHz	-49.88	PASS
Band13	10MHz	16QAM	23230	1RB#0	Range4:1000~5000MHz	-42.34	PASS
Band13	10MHz	16QAM	23230	1RB#0	Range5:5000~12000MHz	-53.29	PASS
Band13	10MHz	16QAM	23230	1RB#0	Range6:12000~18000MHz	-40.5	PASS

Test Graphs

Band13_5MHz_QPSK_23205_1RB#0

Band13_5MHz_QPSK_23205_1RB#0

Band13_5MHz_QPSK_23205_1RB#0



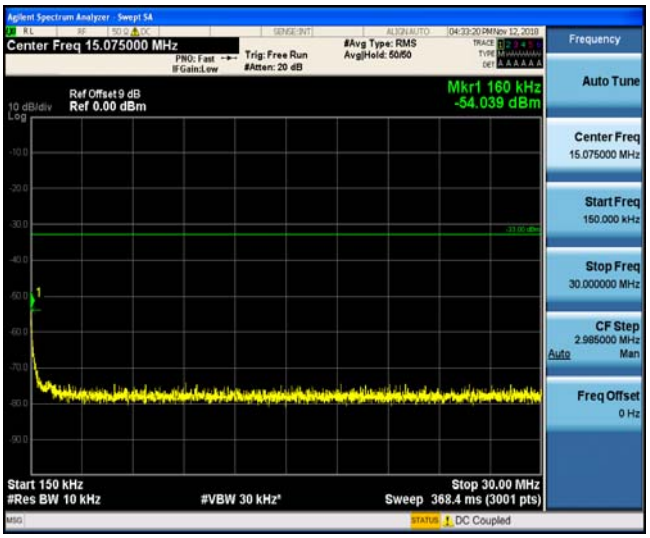
Band13_5MHz_QPSK_23205_1RB#0

Band13_5MHz_QPSK_23205_1RB#0

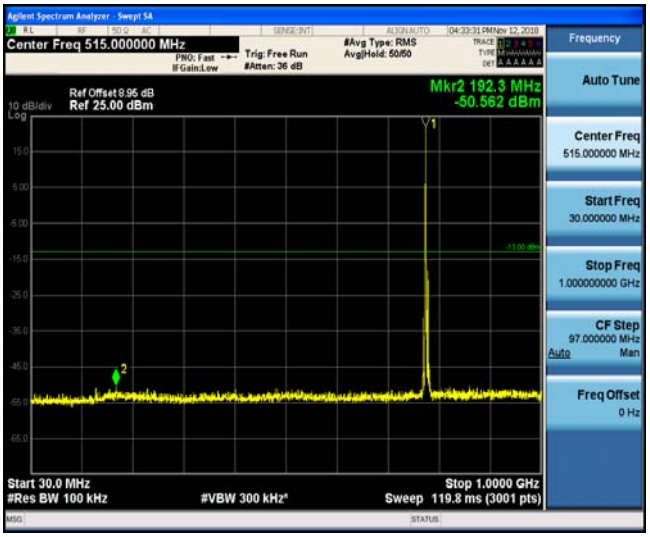
Band13_5MHz_QPSK_23205_1RB#0

Band13_5MHz_QPSK_23230_1RB#0

Band13_5MHz_QPSK_23230_1RB#0



Band13_5MHz_QPSK_23230_1RB#0

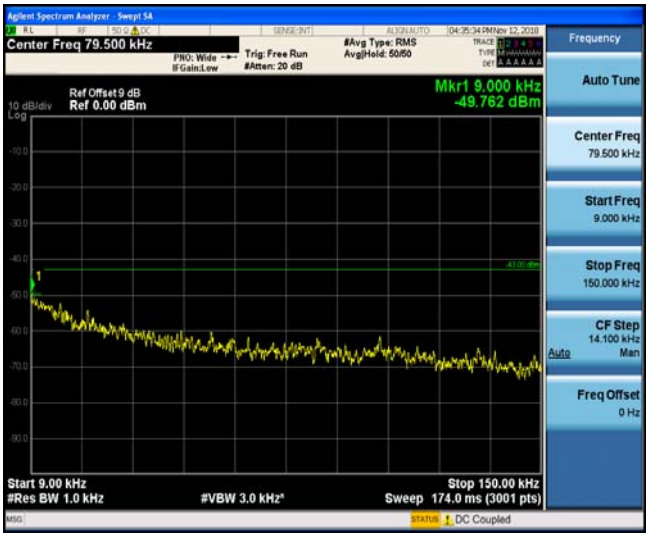


Band13_5MHz_QPSK_23230_1RB#0

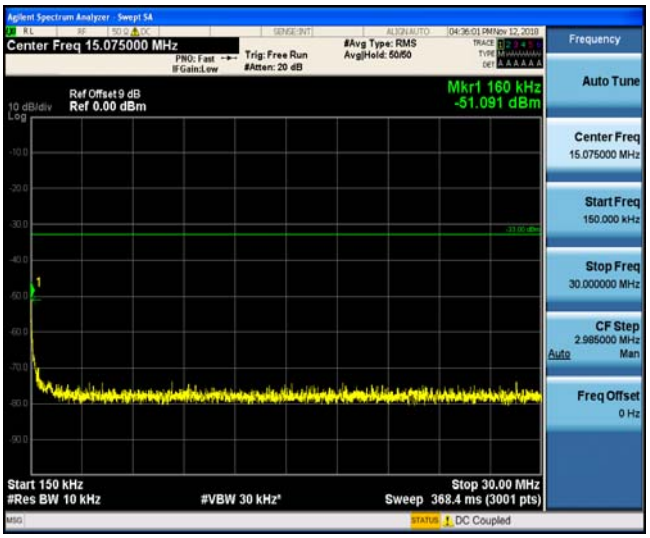
Band13_5MHz_QPSK_23230_1RB#0

Band13_5MHz_QPSK_23230_1RB#0

Band13_5MHz_QPSK_23255_1RB#0



Band13_5MHz_QPSK_23255_1RB#0



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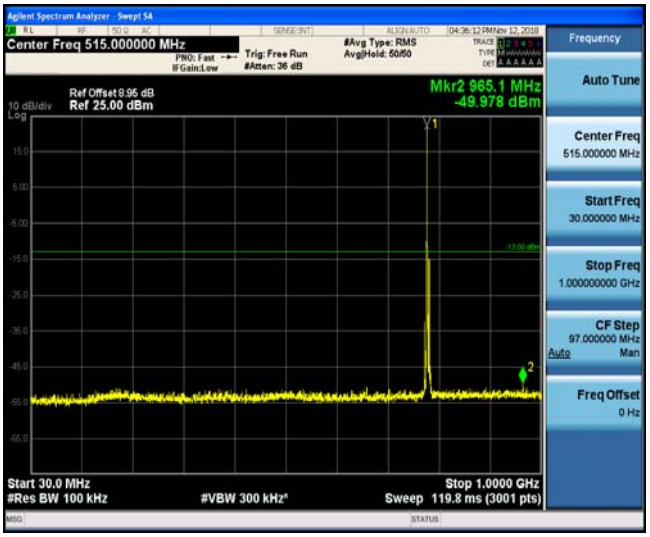
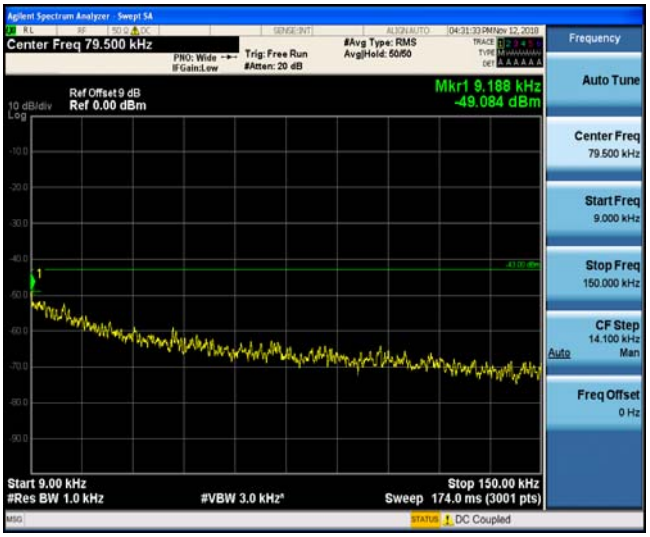


Band13_5MHz_QPSK_23255_1RB#0

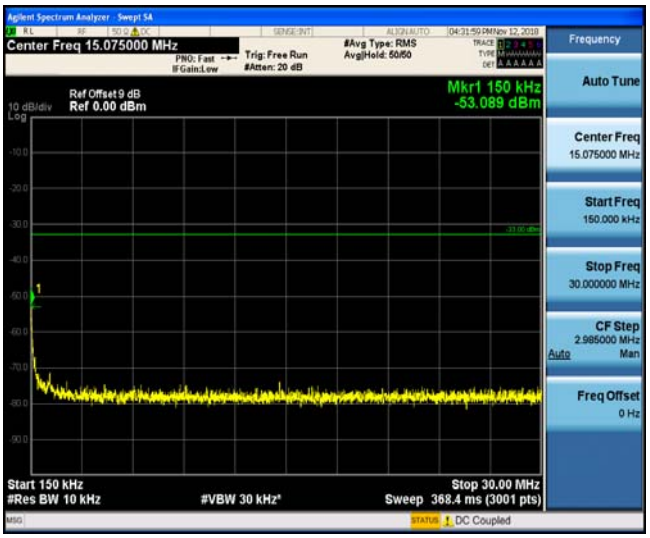
Band13_5MHz_QPSK_23255_1RB#0

Band13_5MHz_QPSK_23255_1RB#0

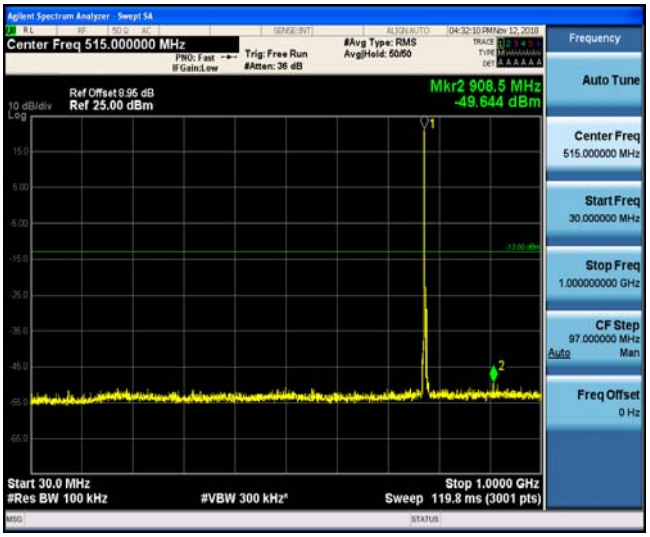
Band13_5MHz_16QAM_23205_1RB#0



Band13_5MHz_16QAM_23205_1RB#0



Band13_5MHz_16QAM_23205_1RB#0

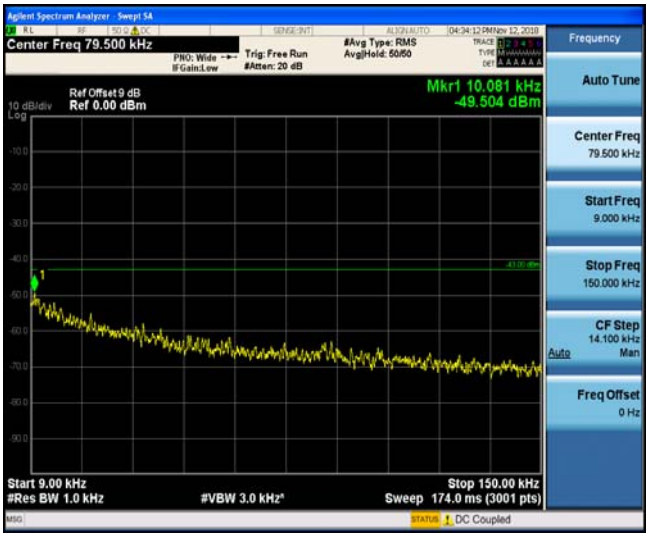


Band13_5MHz_16QAM_23205_1RB#0

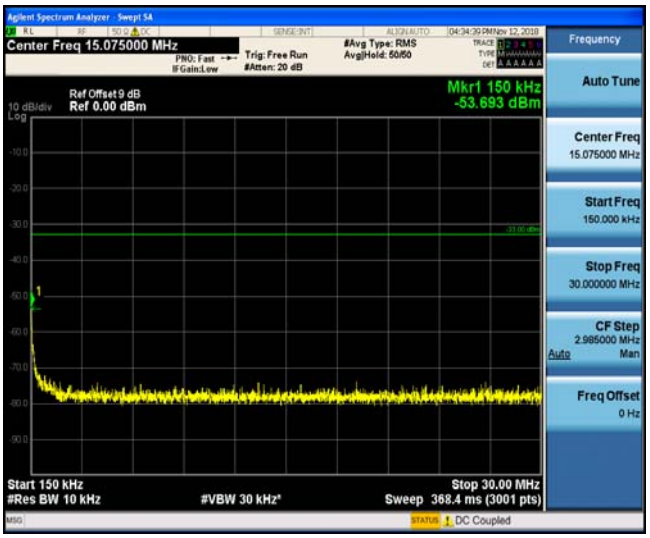
Band13_5MHz_16QAM_23205_1RB#0

Band13_5MHz_16QAM_23205_1RB#0

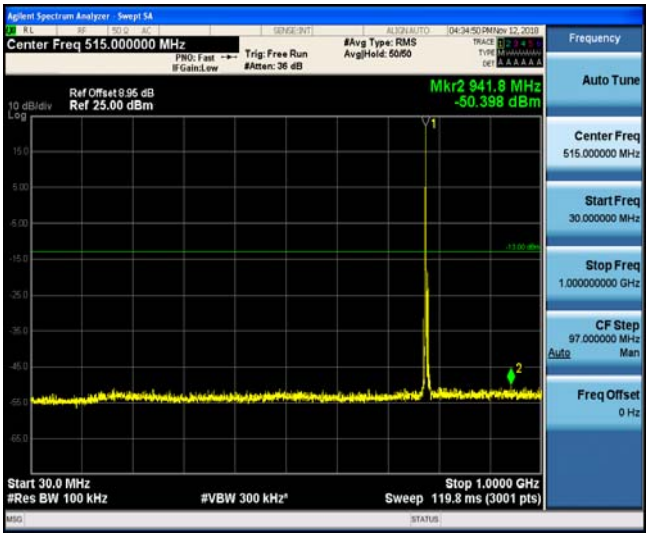
Band13_5MHz_16QAM_23230_1RB#0



Band13_5MHz_16QAM_23230_1RB#0



Band13_5MHz_16QAM_23230_1RB#0

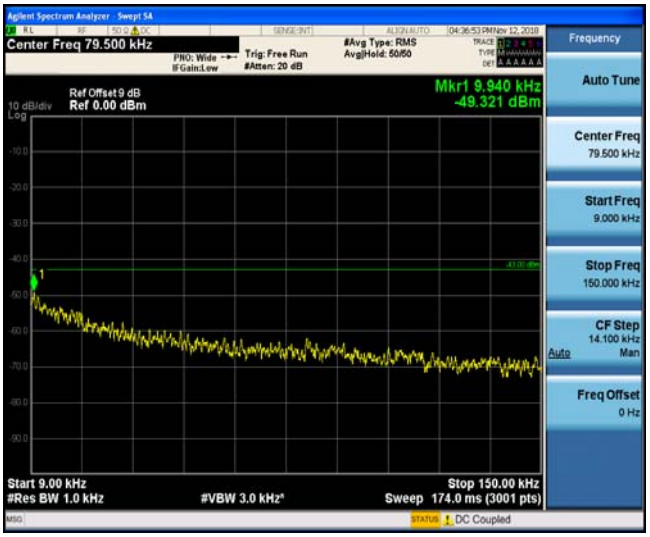


Band13_5MHz_16QAM_23230_1RB#0

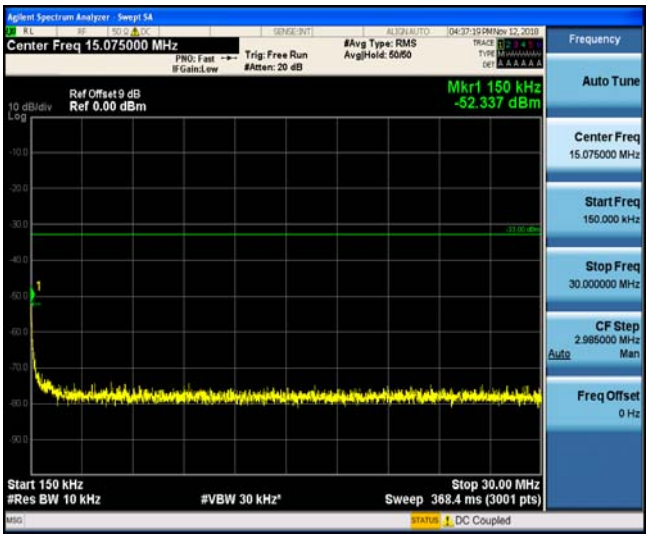
Band13_5MHz_16QAM_23230_1RB#0

Band13_5MHz_16QAM_23230_1RB#0

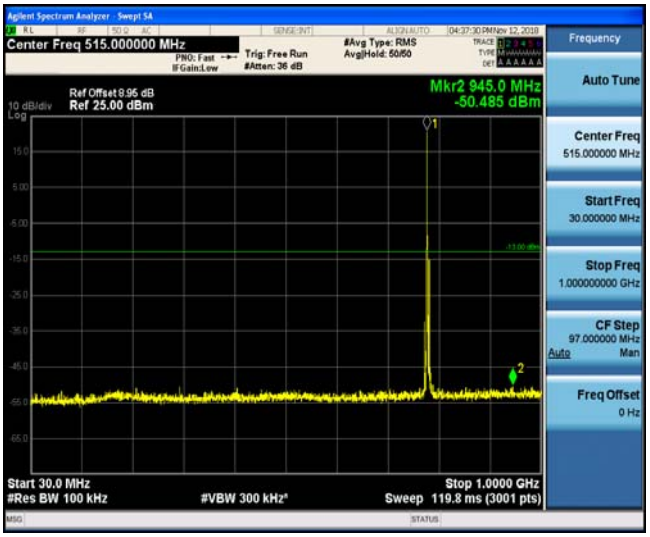
Band13_5MHz_16QAM_23255_1RB#0



Band13_5MHz_16QAM_23255_1RB#0



Band13_5MHz_16QAM_23255_1RB#0

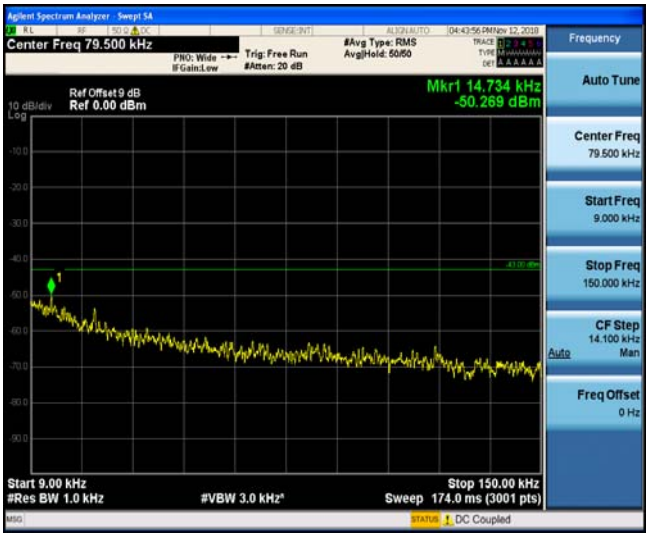


Band13_5MHz_16QAM_23255_1RB#0

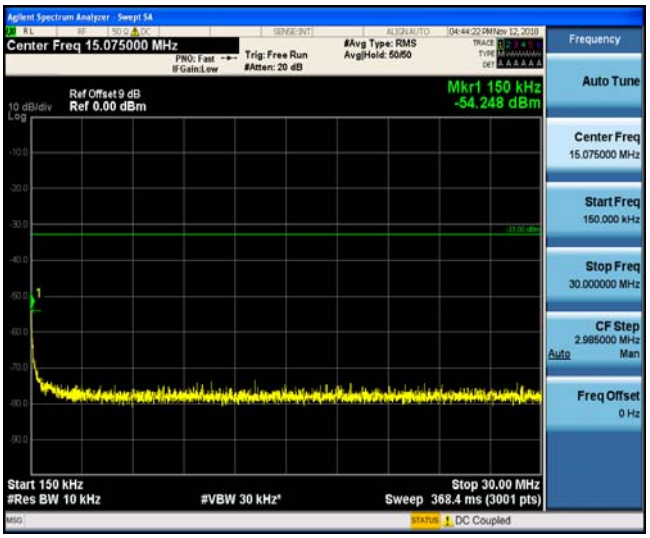
Band13_5MHz_16QAM_23255_1RB#0

Band13_5MHz_16QAM_23255_1RB#0

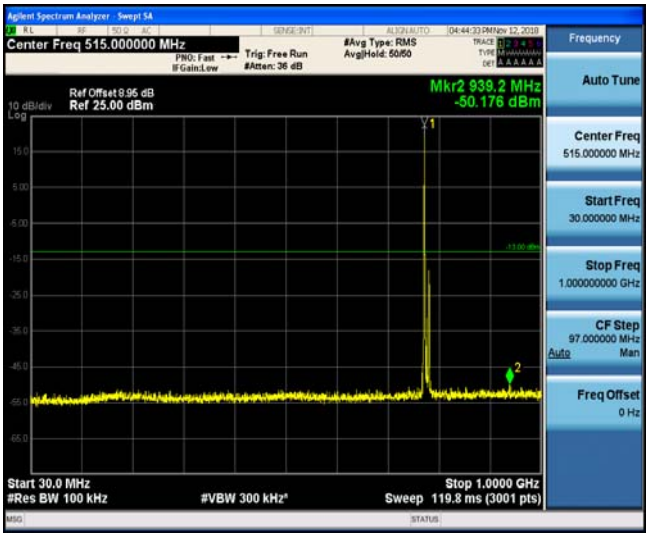
Band13_10MHz_QPSK_23230_1RB#0



Band13_10MHz_QPSK_23230_1RB#0



Band13_10MHz_QPSK_23230_1RB#0



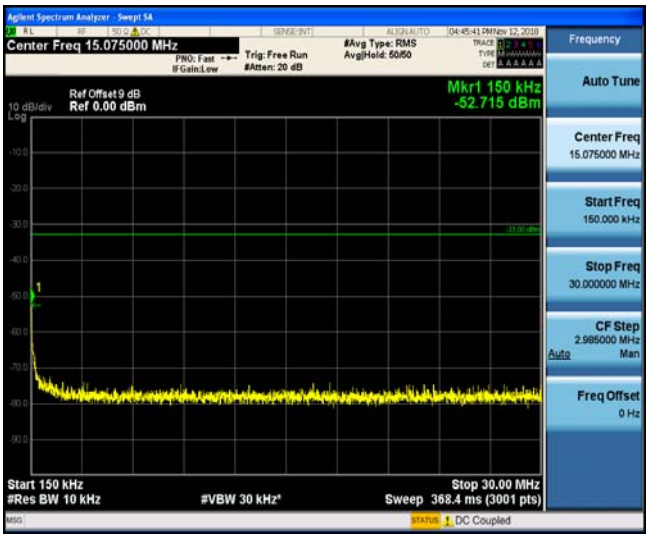
Band13_10MHz_QPSK_23230_1RB#0

Band13_10MHz_QPSK_23230_1RB#0

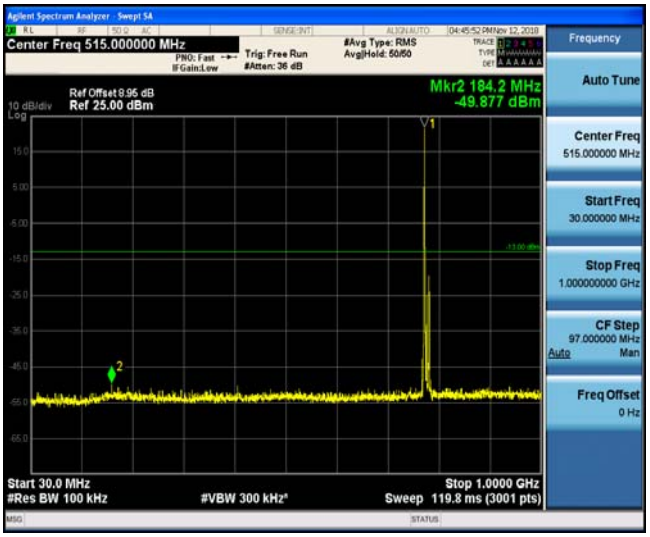
Band13_10MHz_QPSK_23230_1RB#0

Band13_10MHz_16QAM_23230_1RB#0

Band13_10MHz_16QAM_23230_1RB#0



Band13_10MHz_16QAM_23230_1RB#0



Band13_10MHz_16QAM_23230_1RB#0

Band13_10MHz_16QAM_23230_1RB#0

Band13_10MHz_16QAM_23230_1RB#0


Agilent Spectrum Analyzer - Swept SA
Center Freq 15.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
#Avg Type: RMS
Avg|Hold: 3/3
Frequency
Auto Tune
Mkr1 16.946 3 GHz
-40.496 dBm
Ref Offset 18.76 dB
10 dB/div
Log
Ref 10.00 dBm
Center Freq
15.000000000 GHz
Start Freq
12.000000000 GHz
Stop Freq
18.000000000 GHz
CF Step
600.000000 MHz
Auto
Man
Freq Offset
0 Hz
Start 12.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 18.000 GHz
#Sweep 1.001 s (15000 pts)

Appendix F: Frequency Stability

Test Result

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	3.82	0.004901	± 2.5	PASS
		VN	TN	3.82	0.004901	± 2.5	PASS
		VH	TN	3.82	0.004901	± 2.5	PASS
	MCH	VL	TN	3.82	0.004885	± 2.5	PASS
		VN	TN	3.82	0.004885	± 2.5	PASS
		VH	TN	3.82	0.004885	± 2.5	PASS
	HCH	VL	TN	3.82	0.004869	± 2.5	PASS
		VN	TN	3.82	0.004869	± 2.5	PASS
		VH	TN	3.82	0.004869	± 2.5	PASS
16QAM	LCH	VL	TN	3.82	0.004901	± 2.5	PASS
		VN	TN	3.82	0.004901	± 2.5	PASS
		VH	TN	3.82	0.004901	± 2.5	PASS
	MCH	VL	TN	3.82	0.004885	± 2.5	PASS
		VN	TN	3.82	0.004885	± 2.5	PASS
		VH	TN	3.82	0.004885	± 2.5	PASS
	HCH	VL	TN	3.82	0.004869	± 2.5	PASS
		VN	TN	3.82	0.004869	± 2.5	PASS
		VH	TN	3.82	0.004869	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	2.9	0.003720	± 2.5	PASS
		VN	-20	-0.94	-0.001206	± 2.5	PASS
		VN	-10	1.49	0.001911	± 2.5	PASS
		VN	0	3.73	0.004785	± 2.5	PASS
		VN	10	3.87	0.004965	± 2.5	PASS
		VN	20	-1.17	-0.001501	± 2.5	PASS
		VN	30	-1.29	-0.001655	± 2.5	PASS
		VN	40	0.77	0.000988	± 2.5	PASS
		VN	50	-0.67	-0.000860	± 2.5	PASS
	MCH	VN	-30	-0.9	-0.001151	± 2.5	PASS
		VN	-20	-1.13	-0.001445	± 2.5	PASS

		VN	-10	-0.37	-0.000473	± 2.5	PASS
		VN	0	-1.16	-0.001483	± 2.5	PASS
		VN	10	3.45	0.004412	± 2.5	PASS
		VN	20	-1.95	-0.002494	± 2.5	PASS
		VN	30	4.64	0.005934	± 2.5	PASS
		VN	40	3.27	0.004182	± 2.5	PASS
		VN	50	2.79	0.003568	± 2.5	PASS
	HCH	VN	-30	2.36	0.003008	± 2.5	PASS
		VN	-20	-1.73	-0.002205	± 2.5	PASS
		VN	-10	2.62	0.003340	± 2.5	PASS
		VN	0	-0.72	-0.000918	± 2.5	PASS
		VN	10	1.35	0.001721	± 2.5	PASS
		VN	20	3.98	0.005073	± 2.5	PASS
		VN	30	2.46	0.003136	± 2.5	PASS
		VN	40	3.31	0.004219	± 2.5	PASS
		VN	50	-0.68	-0.000867	± 2.5	PASS
16QAM	LCH	VN	-30	1.2	0.001539	± 2.5	PASS
		VN	-20	2.23	0.002861	± 2.5	PASS
		VN	-10	-1.96	-0.002514	± 2.5	PASS
		VN	0	-0.03	-0.000038	± 2.5	PASS
		VN	10	0.03	0.000038	± 2.5	PASS
		VN	20	3.69	0.004734	± 2.5	PASS
		VN	30	2.91	0.003733	± 2.5	PASS
		VN	40	-1.35	-0.001732	± 2.5	PASS
		VN	50	1.28	0.001642	± 2.5	PASS
	MCH	VN	-30	-0.11	-0.000141	± 2.5	PASS
		VN	-20	0.38	0.000486	± 2.5	PASS
		VN	-10	-1.53	-0.001957	± 2.5	PASS
		VN	0	0.59	0.000754	± 2.5	PASS
		VN	10	2.66	0.003402	± 2.5	PASS
		VN	20	2.35	0.003005	± 2.5	PASS
		VN	30	-0.71	-0.000908	± 2.5	PASS
		VN	40	3.54	0.004527	± 2.5	PASS
		VN	50	-1.68	-0.002148	± 2.5	PASS
	HCH	VN	-30	3.13	0.003990	± 2.5	PASS
		VN	-20	4.34	0.005532	± 2.5	PASS
		VN	-10	-0.92	-0.001173	± 2.5	PASS
		VN	0	-1.8	-0.002294	± 2.5	PASS
		VN	10	-0.61	-0.000778	± 2.5	PASS
		VN	20	3.1	0.003952	± 2.5	PASS
		VN	30	1.52	0.001938	± 2.5	PASS

		VN	40	-1.69	-0.002154	± 2.5	PASS
		VN	50	3.58	0.004563	± 2.5	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	MCH	VL	TN	3.82	0.004885	± 2.5	PASS
		VN	TN	3.82	0.004885	± 2.5	PASS
		VH	TN	3.82	0.004885	± 2.5	PASS
16QAM	MCH	VL	TN	3.82	0.004885	± 2.5	PASS
		VN	TN	3.82	0.004885	± 2.5	PASS
		VH	TN	3.82	0.004885	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
16QAM	MCH	VN	-30	-0.06	-0.000077	± 2.5	PASS
		VN	-20	2.35	0.003005	± 2.5	PASS
		VN	-10	0.84	0.001074	± 2.5	PASS
		VN	0	-0.72	-0.000921	± 2.5	PASS
		VN	10	3.15	0.004028	± 2.5	PASS
		VN	20	4.32	0.005524	± 2.5	PASS
		VN	30	0.85	0.001087	± 2.5	PASS
		VN	40	3.25	0.004156	± 2.5	PASS
		VN	50	2.19	0.002801	± 2.5	PASS
QPSK	MCH	VN	-30	0.97	0.001240	± 2.5	PASS
		VN	-20	2.29	0.002928	± 2.5	PASS
		VN	-10	4.23	0.005409	± 2.5	PASS
		VN	0	3.08	0.003939	± 2.5	PASS
		VN	10	4.94	0.006317	± 2.5	PASS
		VN	20	3.78	0.004834	± 2.5	PASS
		VN	30	1.65	0.002110	± 2.5	PASS
		VN	40	-1.23	-0.001573	± 2.5	PASS
		VN	50	0.63	0.000806	± 2.5	PASS