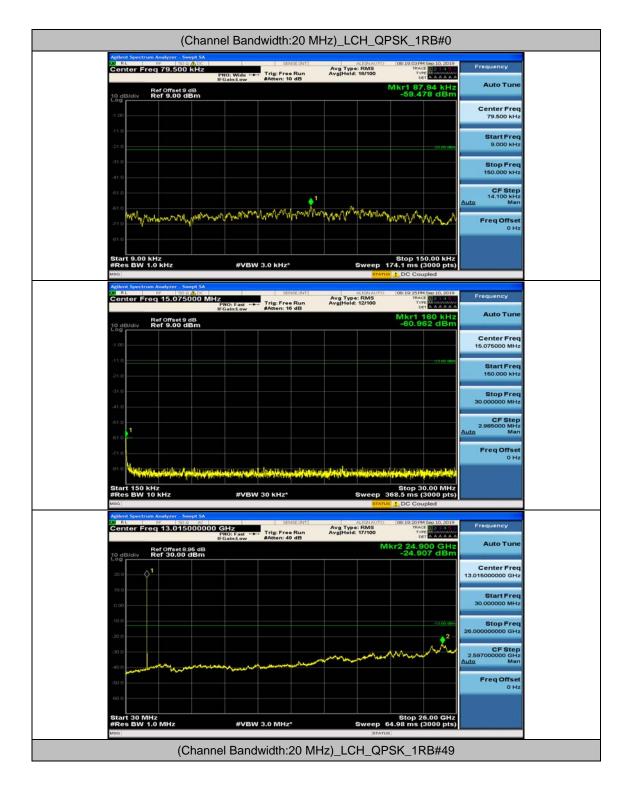
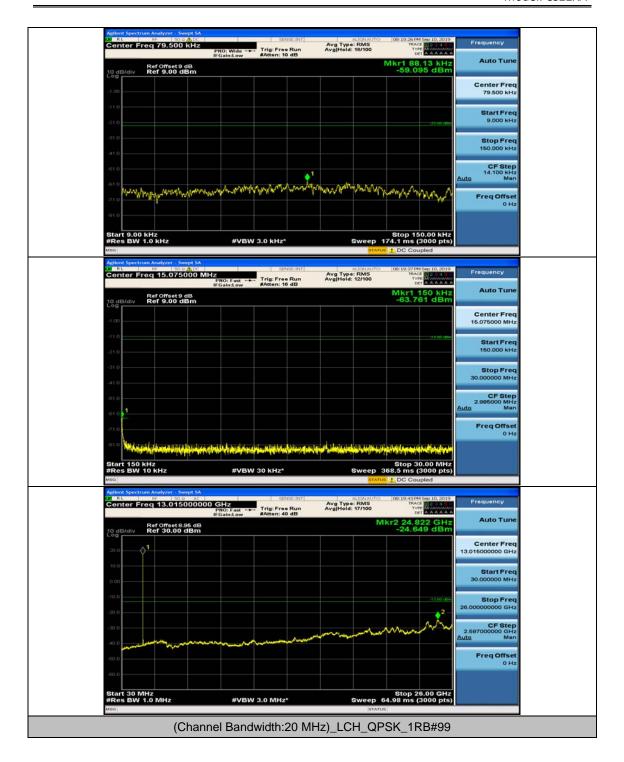




#### **Channel Bandwidth: 20 MHz**

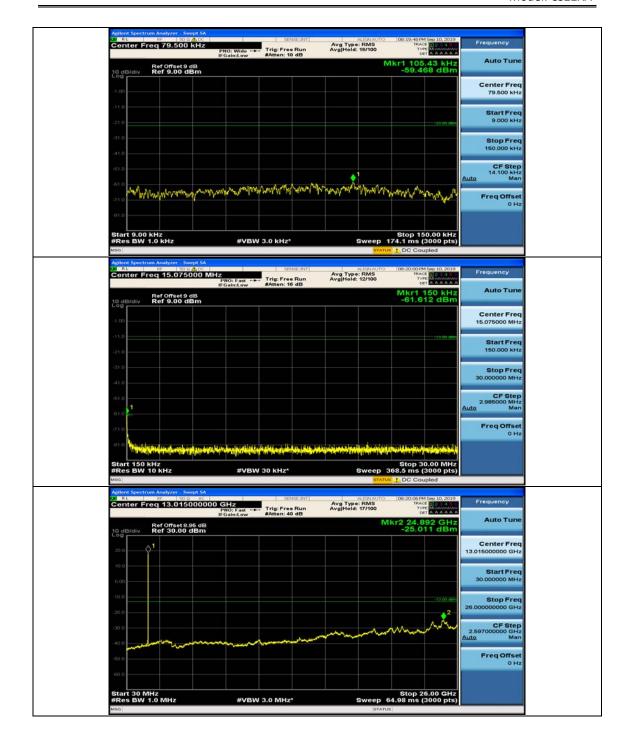




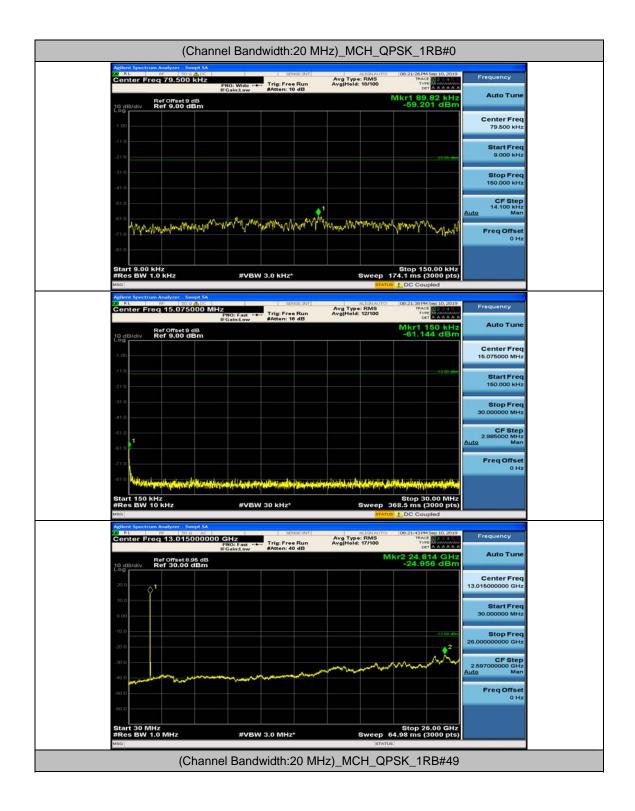




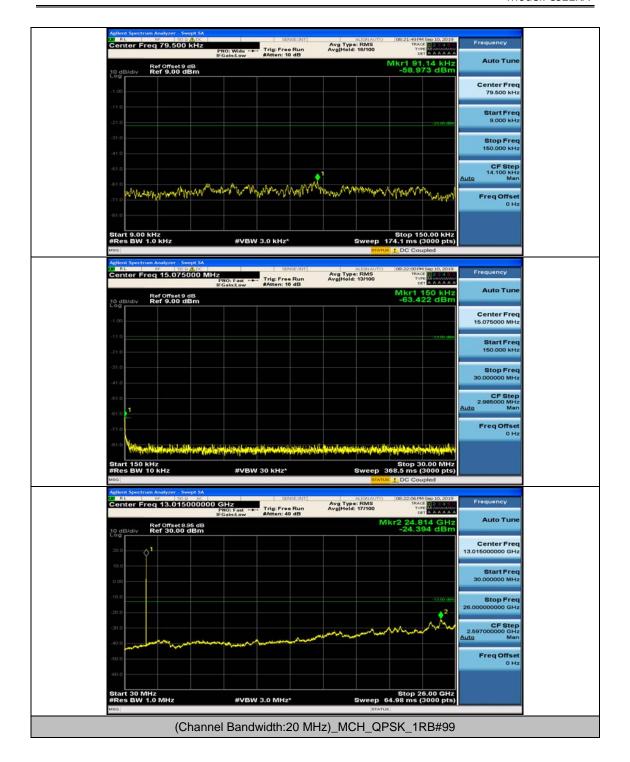






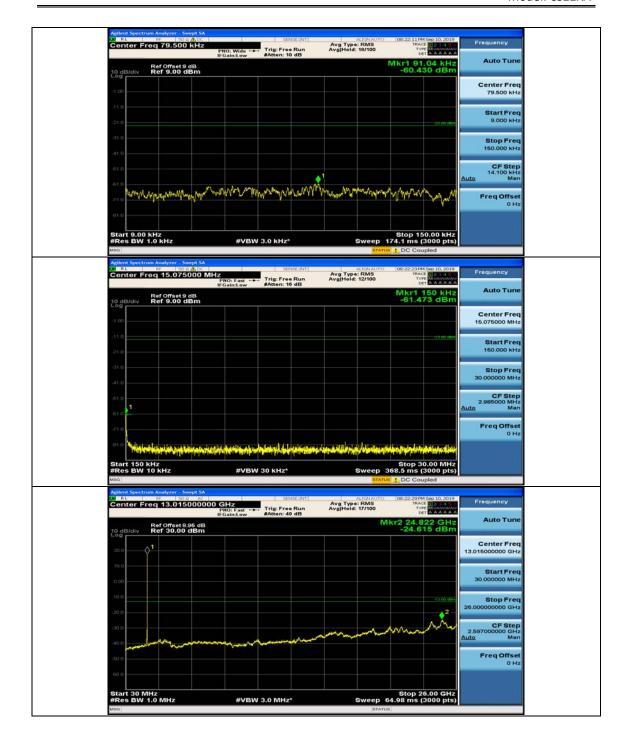




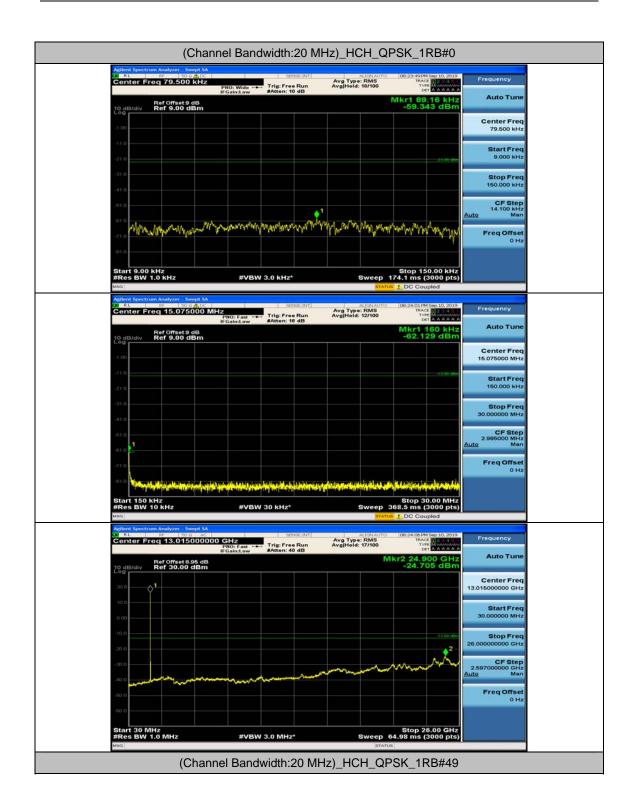




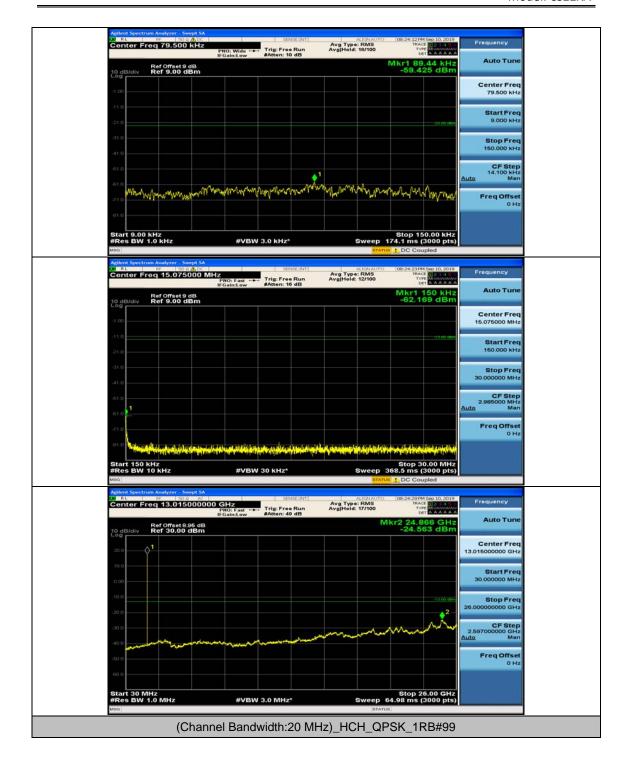






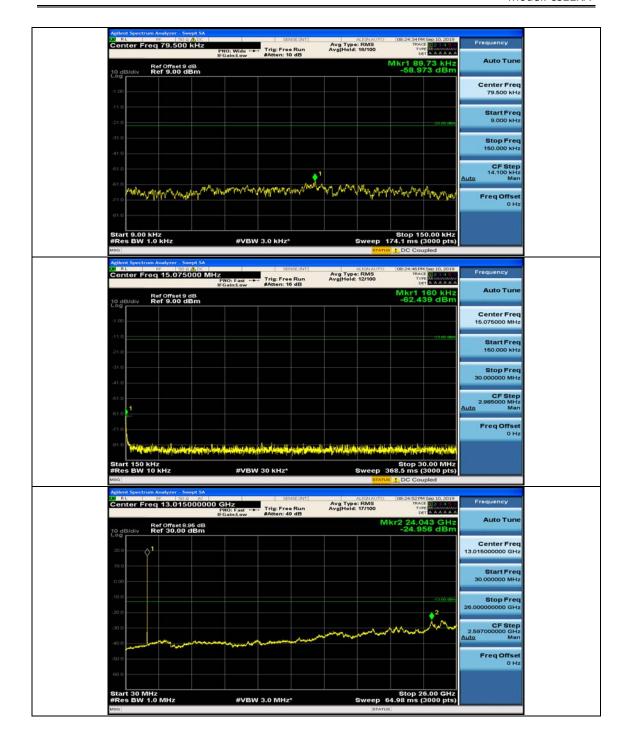




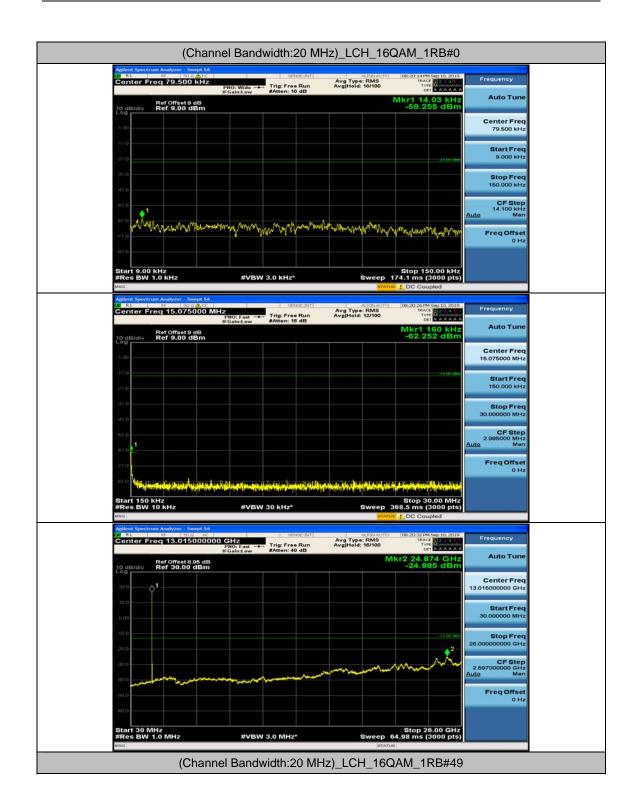




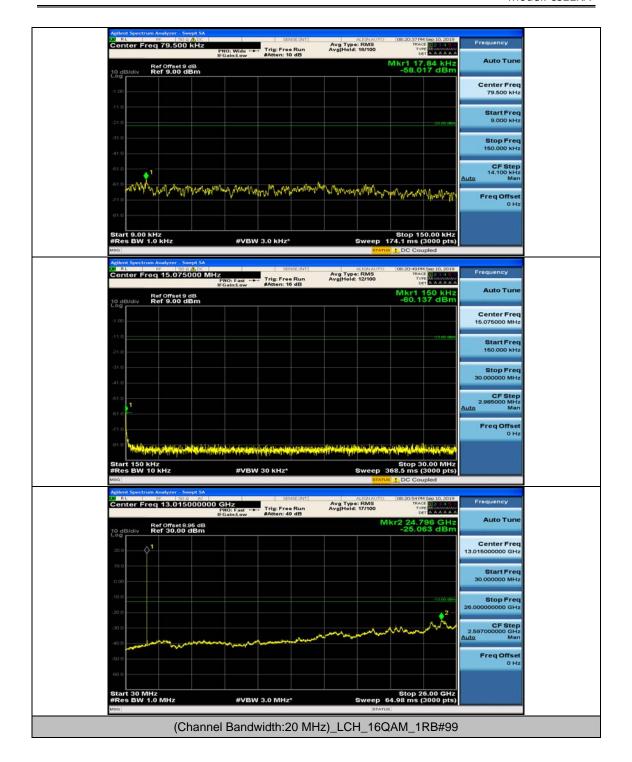






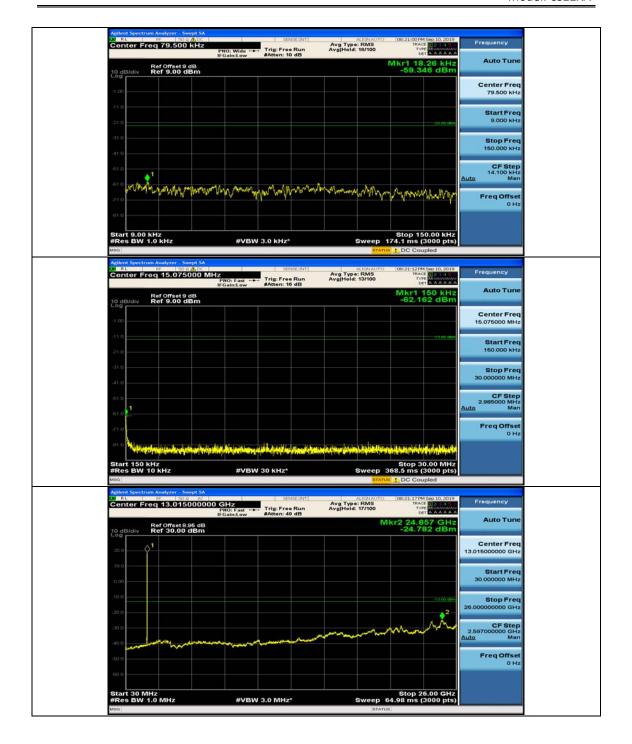




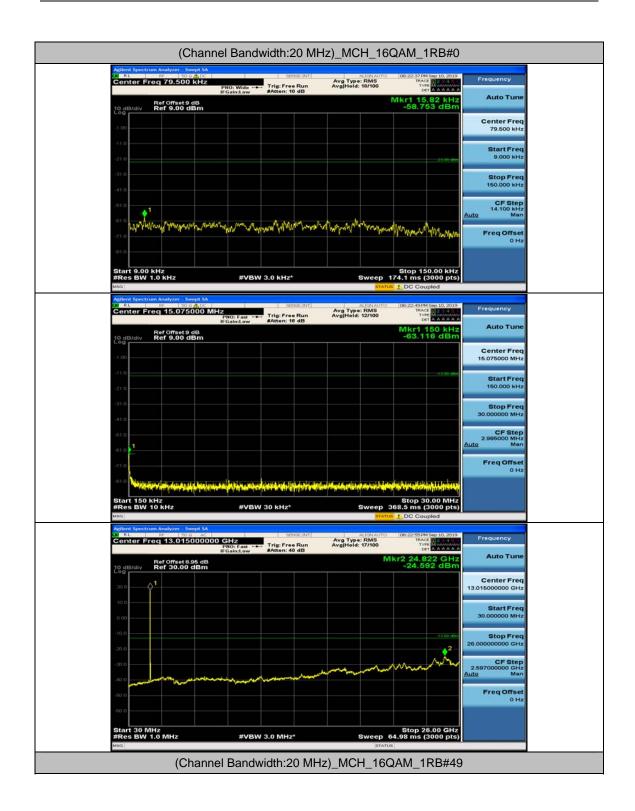




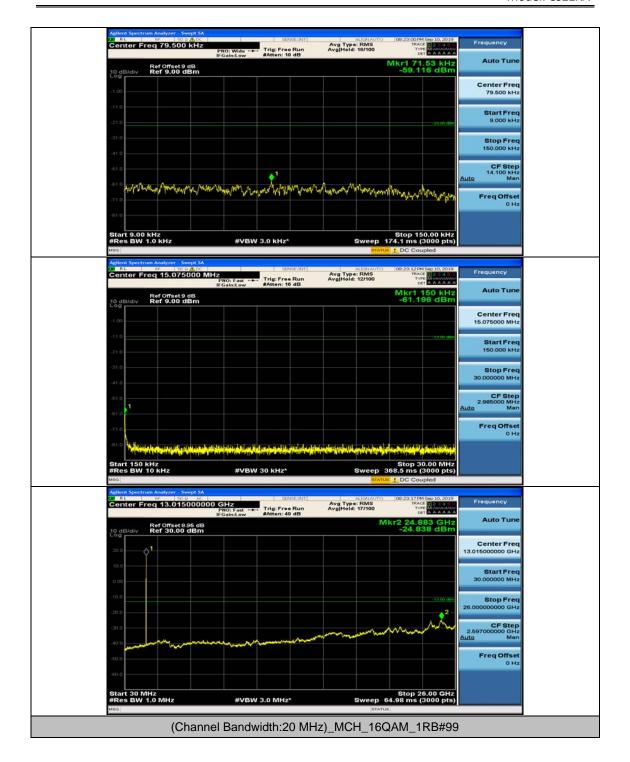






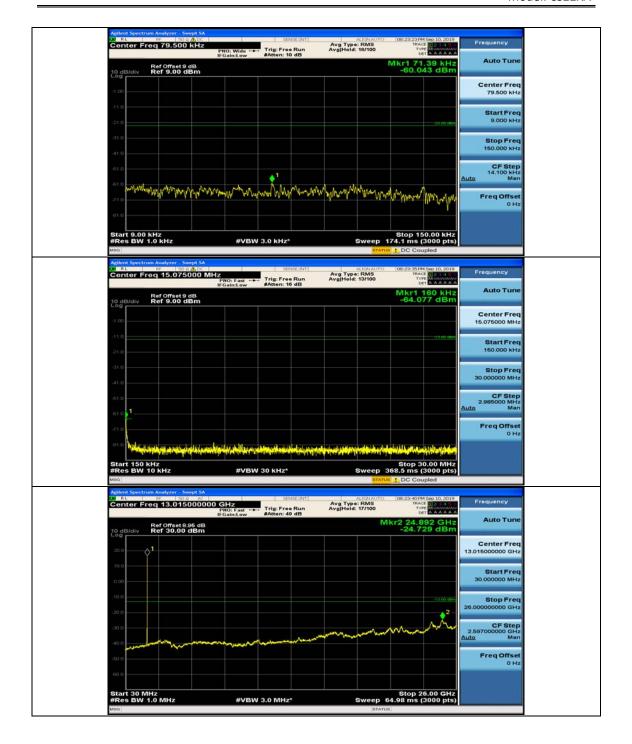




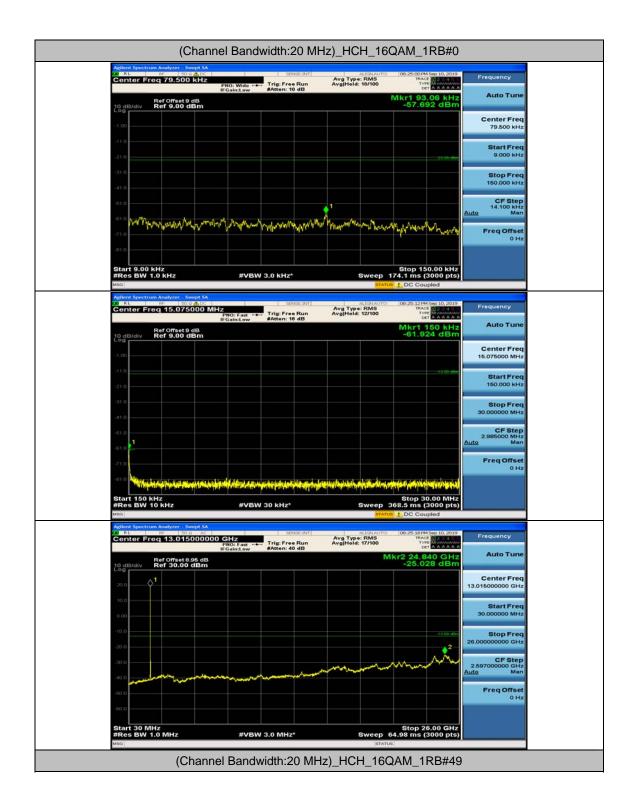




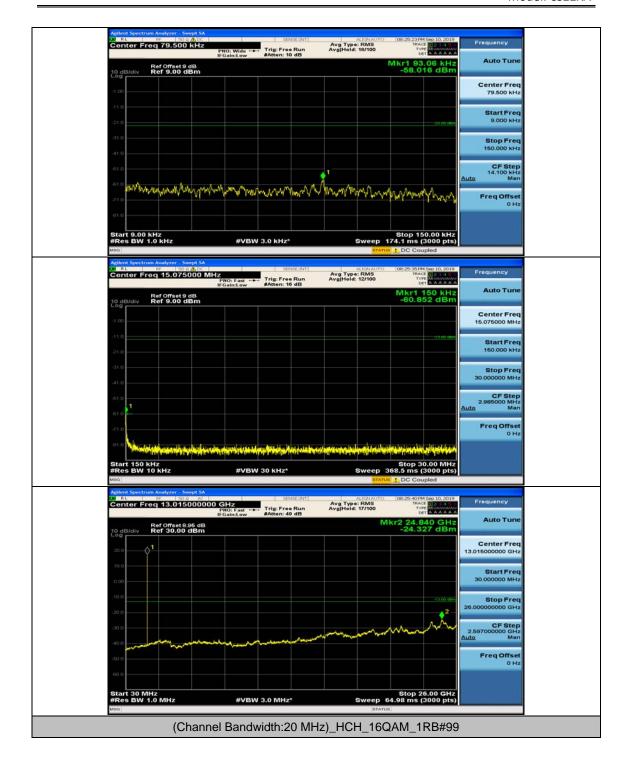






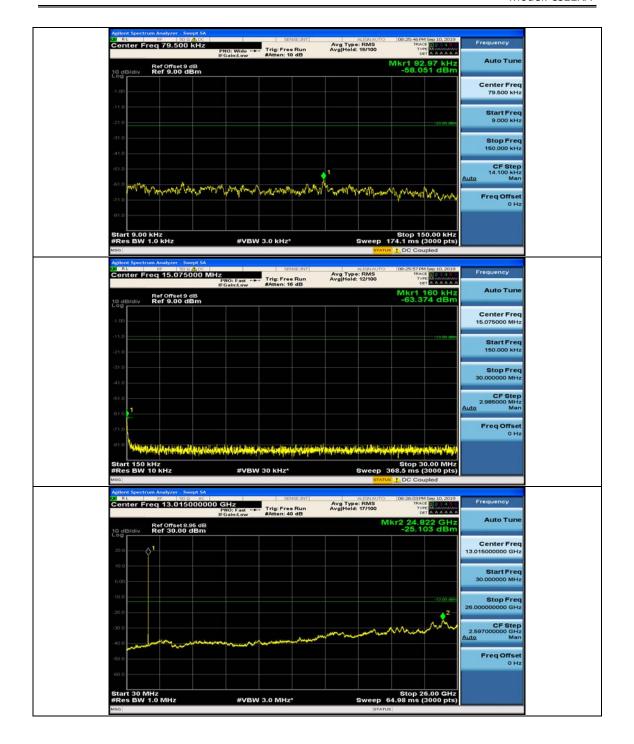














# **Appendix F: Frequency Stability**

#### **Test Result**

**Channel Bandwidth: 1.4 MHz** 

			Channel Band	width: 1.4 MHz			
				tage			
Modulation	Channel	Voltage [Vdc]	Temperature (°ℂ)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
		VL	TN	3.56	0.002081	± 2.5	PASS
	LCH	VN	TN	3.26	0.001906	± 2.5	PASS
		VH	TN	4.35	0.002543	± 2.5	PASS
		VL	TN	-0.58	-0.000335	± 2.5	PASS
QPSK	MCH	VN	TN	-0.17	-0.000098	± 2.5	PASS
		VH	TN	-1.7	-0.000981	± 2.5	PASS
		VL	TN	3	0.001710	± 2.5	PASS
	HCH	VN	TN	4.24	0.002417	± 2.5	PASS
		VH	TN	4.96	0.002827	± 2.5	PASS
		VL	TN	-1.08	-0.000631	± 2.5	PASS
	LCH	VN	TN	4.58	0.002677	± 2.5	PASS
		VH	TN	0.52	0.000304	± 2.5	PASS
		VL	TN	-0.2	-0.000115	± 2.5	PASS
16QAM	MCH	VN	TN	2.26	0.001304	± 2.5	PASS
		VH	TN	1	0.000577	± 2.5	PASS
	НСН	VL	TN	-0.28	-0.000160	± 2.5	PASS
		VN	TN	4.9	0.002793	± 2.5	PASS
		VH	TN	2.62	0.001493	± 2.5	PASS
			Tempe	erature			
Modulation	Channe I	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
		VN	-30	1.54	0.000900	± 2.5	PASS
		VN	-20	-0.97	-0.000567	± 2.5	PASS
		VN	-10	2.69	0.001572	± 2.5	PASS
QPSK		VN	0	4	0.002338	± 2.5	PASS
	LCH	VN	10	2.93	0.001713	± 2.5	PASS
		VN	20	0.11	0.000064	± 2.5	PASS
		VN	30	3.83	0.002239	± 2.5	PASS
		VN	40	1.09	0.000637	± 2.5	PASS
		VN	50	3.04	0.001777	± 2.5	PASS
	MCH	VN	-30	2.1	0.001212	± 2.5	PASS





VN								
VN			VN	-20	3.11	0.001795	± 2.5	PASS
VN			VN	-10	0.92	0.000531	± 2.5	PASS
VN   20			VN	0	4.56	0.002632	± 2.5	PASS
VN   30   -0.41   -0.000237   ±2.5   PASS			VN	10	2.3	0.001328	± 2.5	PASS
VN			VN	20	-0.52	-0.000300	± 2.5	PASS
VN   50   4.91   0.002834   ±2.5   PASS			VN	30	-0.41	-0.000237	± 2.5	PASS
VN			VN	40	4.75	0.002742	± 2.5	PASS
HCH			VN	50	4.91	0.002834	± 2.5	PASS
HCH    HCH			VN	-30	-1.54	-0.000878	± 2.5	PASS
HCH    HCH   VN			VN	-20	0.82	0.000467	± 2.5	PASS
HCH			VN	-10	-0.92	-0.000524	± 2.5	PASS
VN   20   0.97   0.000553   ±2.5   PASS			VN	0	-1.1	-0.000627	± 2.5	PASS
VN 30 3.75 0.002138 ±2.5 PASS VN 40 3.24 0.001847 ±2.5 PASS VN 50 3.66 0.002086 ±2.5 PASS VN -30 4.25 0.002484 ±2.5 PASS VN -20 -0.49 -0.000286 ±2.5 PASS VN -10 -1.5 -0.00877 ±2.5 PASS VN 0 3.76 0.002198 ±2.5 PASS VN 20 1.1 0.000643 ±2.5 PASS VN 30 1.82 0.001064 ±2.5 PASS VN 40 0.66 0.000386 ±2.5 PASS VN 40 0.66 0.000386 ±2.5 PASS VN 50 1.3 0.000760 ±2.5 PASS VN -30 2.26 0.001288 ±2.5 PASS VN -20 -1.88 -0.001072 ±2.5 PASS VN -20 -1.88 -0.001072 ±2.5 PASS VN 0 3.81 0.002172 ±2.5 PASS VN 0 3.81 0.002172 ±2.5 PASS VN 20 -1.21 -0.000690 ±2.5 PASS VN 20 -1.21 -0.000690 ±2.5 PASS VN 40 0.13 0.00074 ±2.5 PASS VN 40 0.13 0.00074 ±2.5 PASS VN 50 -0.68 -0.000388 ±2.5 PASS VN -30 1.01 0.000576 ±2.5 PASS VN -30 1.01 0.000576 ±2.5 PASS VN -30 1.01 0.000576 ±2.5 PASS VN -20 -0.75 -0.000428 ±2.5 PASS VN -20 -0.75 -0.000428 ±2.5 PASS		HCH	VN	10	4.95	0.002822	± 2.5	PASS
VN			VN	20	0.97	0.000553	± 2.5	PASS
VN   50   3.66   0.002086   ±2.5   PASS			VN	30	3.75	0.002138	± 2.5	PASS
VN			VN	40	3.24	0.001847	± 2.5	PASS
LCH			VN	50	3.66	0.002086	± 2.5	PASS
No.   10   1.5   -0.000877   ± 2.5   PASS			VN	-30	4.25	0.002484	± 2.5	PASS
LCH			VN	-20	-0.49	-0.000286	± 2.5	PASS
LCH			VN	-10	-1.5	-0.000877	± 2.5	PASS
VN   20			VN	0	3.76	0.002198	± 2.5	PASS
VN   30   1.82   0.001064   ± 2.5   PASS   VN   40   0.66   0.000386   ± 2.5   PASS   VN   50   1.3   0.000760   ± 2.5   PASS   VN   -30   2.26   0.001288   ± 2.5   PASS   VN   -20   -1.88   -0.001072   ± 2.5   PASS   VN   -10   -0.59   -0.000336   ± 2.5   PASS   VN   0   3.81   0.002172   ± 2.5   PASS   VN   20   -1.21   -0.000690   ± 2.5   PASS   VN   30   2.76   0.001573   ± 2.5   PASS   VN   40   0.13   0.000074   ± 2.5   PASS   VN   50   -0.68   -0.000388   ± 2.5   PASS   VN   -30   1.01   0.000576   ± 2.5   PASS   VN   -20   -0.75   -0.000428   ± 2.5   PASS   VN   -20   -0.75   -0.000428   ± 2.5   PASS   VN   -10   2.03   0.001157   ± 2.5   PASS   VN   -10   2.03   0.001157   ± 2.5   PASS   PASS		LCH	VN	10	4.84	0.002829	± 2.5	PASS
VN			VN	20	1.1	0.000643	± 2.5	PASS
VN   50			VN	30	1.82	0.001064	± 2.5	PASS
No			VN	40	0.66	0.000386	± 2.5	PASS
N			VN	50	1.3	0.000760	± 2.5	PASS
NCH			VN	-30	2.26	0.001288	± 2.5	PASS
NCH			VN	-20	-1.88	-0.001072	± 2.5	PASS
MCH	16OAM		VN	-10	-0.59	-0.000336	± 2.5	PASS
VN 20 -1.21 -0.000690 ±2.5 PASS  VN 30 2.76 0.001573 ±2.5 PASS  VN 40 0.13 0.000074 ±2.5 PASS  VN 50 -0.68 -0.000388 ±2.5 PASS  VN -30 1.01 0.000576 ±2.5 PASS  VN -20 -0.75 -0.000428 ±2.5 PASS  VN -10 2.03 0.001157 ±2.5 PASS  VN 0 -0.82 -0.000467 ±2.5 PASS	TOQAW		VN	0	3.81	0.002172	± 2.5	PASS
VN         30         2.76         0.001573         ± 2.5         PASS           VN         40         0.13         0.000074         ± 2.5         PASS           VN         50         -0.68         -0.000388         ± 2.5         PASS           VN         -30         1.01         0.000576         ± 2.5         PASS           VN         -20         -0.75         -0.000428         ± 2.5         PASS           VN         -10         2.03         0.001157         ± 2.5         PASS           VN         0         -0.82         -0.000467         ± 2.5         PASS		MCH	VN	10	0.33	0.000188	± 2.5	PASS
VN         40         0.13         0.000074         ± 2.5         PASS           VN         50         -0.68         -0.000388         ± 2.5         PASS           VN         -30         1.01         0.000576         ± 2.5         PASS           VN         -20         -0.75         -0.000428         ± 2.5         PASS           VN         -10         2.03         0.001157         ± 2.5         PASS           VN         0         -0.82         -0.000467         ± 2.5         PASS			VN	20	-1.21	-0.000690	± 2.5	PASS
VN 50 -0.68 -0.000388 ± 2.5 PASS  VN -30 1.01 0.000576 ± 2.5 PASS  VN -20 -0.75 -0.000428 ± 2.5 PASS  VN -10 2.03 0.001157 ± 2.5 PASS  VN 0 -0.82 -0.000467 ± 2.5 PASS			VN	30	2.76	0.001573	± 2.5	PASS
VN         -30         1.01         0.000576         ± 2.5         PASS           VN         -20         -0.75         -0.000428         ± 2.5         PASS           VN         -10         2.03         0.001157         ± 2.5         PASS           VN         0         -0.82         -0.000467         ± 2.5         PASS	-		VN	40	0.13	0.000074	± 2.5	PASS
VN         -20         -0.75         -0.000428         ± 2.5         PASS           VN         -10         2.03         0.001157         ± 2.5         PASS           VN         0         -0.82         -0.000467         ± 2.5         PASS			VN	50	-0.68	-0.000388	± 2.5	PASS
HCH			VN	-30	1.01	0.000576	± 2.5	PASS
HCH VN 0 -0.82 -0.000467 ± 2.5 PASS			VN	-20	-0.75	-0.000428	± 2.5	PASS
VN 0 -0.82 -0.000467 ± 2.5 PASS		ПСП	VN	-10	2.03	0.001157	± 2.5	PASS
VN 40 400 000007 00 500		1100	VN	0	-0.82	-0.000467	± 2.5	PASS
VIN 10 1.03 0.000587 ± 2.5 PASS			VN	10	1.03	0.000587	± 2.5	PASS
VN 20 1.76 0.001003 ± 2.5 PASS			VN	20	1.76	0.001003	± 2.5	PASS





	VN	30	4.58	0.002611	± 2.5	PASS
	VN	40	4.53	0.002582	± 2.5	PASS
	VN	50	3.65	0.002081	± 2.5	PASS

#### **Channel Bandwidth: 3 MHz**

			Channel Band	lwidth: 3 MHz+					
Voltage									
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict		
		VL	TN	3.08	0.001800	± 2.5	PASS		
	LCH	VN	TN	1.26	0.000736	± 2.5	PASS		
		VH	TN	2.88	0.001683	± 2.5	PASS		
		VL	TN	0.63	0.000364	± 2.5	PASS		
QPSK	MCH	VN	TN	0.23	0.000133	± 2.5	PASS		
		VH	TN	1.78	0.001027	± 2.5	PASS		
		VL	TN	3.72	0.002121	± 2.5	PASS		
	HCH	VN	TN	2.76	0.001574	± 2.5	PASS		
		VH	TN	3.41	0.001945	± 2.5	PASS		
		VL	TN	3.69	0.002156	± 2.5	PASS		
	LCH	VN	TN	4.89	0.002857	± 2.5	PASS		
		VH	TN	-1.65	-0.000964	± 2.5	PASS		
		VL	TN	-0.99	-0.000571	± 2.5	PASS		
16QAM	MCH	VN	TN	2.16	0.001247	± 2.5	PASS		
		VH	TN	-0.98	-0.000566	± 2.5	PASS		
		VL	TN	4.71	0.002686	± 2.5	PASS		
	HCH	VN	TN	1.17	0.000667	± 2.5	PASS		
		VH	TN	1.87	0.001066	± 2.5	PASS		
			Tempe	erature					
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict		
		VN	-30	1.33	0.000777	± 2.5	PASS		
		VN	-20	3.82	0.002232	± 2.5	PASS		
		VN	-10	1.17	0.000684	± 2.5	PASS		
QPSK		VN	0	2.97	0.001735	± 2.5	PASS		
	LCH	VN	10	2.68	0.001566	± 2.5	PASS		
		VN	20	2.92	0.001706	± 2.5	PASS		
		VN	30	3.84	0.002244	± 2.5	PASS		
		VN	40	-1.17	-0.000684	± 2.5	PASS		
		VN	50	1.7	0.000993	± 2.5	PASS		
	MCII	VN	-30	0.54	0.000312	± 2.5	PASS		
	MCH	VN	-20	-0.8	-0.000462	± 2.5	PASS		





		VN	-10	-0.23	-0.000133	± 2.5	PASS
		VN	0	1.16	0.000670	± 2.5	PASS
		VN	10	0.11	0.000063	± 2.5	PASS
		VN	20	-0.6	-0.000346	± 2.5	PASS
		VN	30	0.03	0.000017	± 2.5	PASS
		VN	40	-0.62	-0.000358	± 2.5	PASS
		VN	50	2.19	0.001264	± 2.5	PASS
		VN	-30	1.29	0.000736	± 2.5	PASS
		VN	-20	4.71	0.002686	± 2.5	PASS
		VN	-10	4.78	0.002726	± 2.5	PASS
		VN	0	0.15	0.000086	± 2.5	PASS
	нсн	VN	10	1.3	0.000741	± 2.5	PASS
		VN	20	-1.97	-0.001123	± 2.5	PASS
		VN	30	-1.78	-0.001015	± 2.5	PASS
		VN	40	-0.23	-0.000131	± 2.5	PASS
		VN	50	3.44	0.001962	± 2.5	PASS
		VN	-30	4.39	0.002534	± 2.5	PASS
		VN	-20	4	0.002309	± 2.5	PASS
		VN	-10	2.04	0.001177	± 2.5	PASS
		VN	0	4.51	0.002603	± 2.5	PASS
	LCH	VN	10	-1.73	-0.000999	± 2.5	PASS
		VN	20	0.37	0.000214	± 2.5	PASS
		VN	30	4.55	0.002626	± 2.5	PASS
		VN	40	1.81	0.001045	± 2.5	PASS
		VN	50	-0.65	-0.000375	± 2.5	PASS
		VN	-30	-1.95	-0.001112	± 2.5	PASS
		VN	-20	2.71	0.001545	± 2.5	PASS
		VN	-10	0.24	0.000137	± 2.5	PASS
QPSK		VN	0	-1.38	-0.000787	± 2.5	PASS
	МСН	VN	10	-1.17	-0.000667	± 2.5	PASS
		VN	20	2.54	0.001449	± 2.5	PASS
		VN	30	4.83	0.002754	± 2.5	PASS
		VN	40	-1.16	-0.000662	± 2.5	PASS
		VN	50	1.8	0.001027	± 2.5	PASS
		VN	-30	2.7	0.001540	± 2.5	PASS
		VN	-20	-1.28	-0.000730	± 2.5	PASS
		VN	-10	-0.16	-0.000091	± 2.5	PASS
	нсн	VN	0	1.87	0.001066	± 2.5	PASS
		VN	10	-1.3	-0.000741	± 2.5	PASS
		VN	20	-1.86	-0.001061	± 2.5	PASS
		VN	30	2.38	0.001357	± 2.5	PASS
		_					





	VN	40	4.58	0.002612	± 2.5	PASS
	VN	50	4.08	0.002327	± 2.5	PASS

# **Channel Bandwidth: 5 MHz**

			Channel Ban	dwidth: 5 MHz						
Voltage										
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict			
	LCH	VL	TN	1.59	0.000928	± 2.5	PASS			
		VN	TN	-1.17	-0.000683	± 2.5	PASS			
		VH	TN	2.09	0.001220	± 2.5	PASS			
		VL	TN	-0.52	-0.000300	± 2.5	PASS			
QPSK	MCH	VN	TN	2.1	0.001212	± 2.5	PASS			
		VH	TN	-1.64	-0.000947	± 2.5	PASS			
		VL	TN	5	0.002853	± 2.5	PASS			
	HCH	VN	TN	-1.77	-0.001010	± 2.5	PASS			
		VH	TN	4.82	0.002750	± 2.5	PASS			
		VL	TN	1.37	0.000800	± 2.5	PASS			
	LCH	VN	TN	0.33	0.000193	± 2.5	PASS			
		VH	TN	4.11	0.002400	± 2.5	PASS			
	MCH	VL	TN	1.92	0.001108	± 2.5	PASS			
16QAM		VN	TN	0.07	0.000040	± 2.5	PASS			
		VH	TN	2.29	0.001322	± 2.5	PASS			
		VL	TN	0.84	0.000479	± 2.5	PASS			
	HCH	VN	TN	4.83	0.002756	± 2.5	PASS			
		VH	TN	2.28	0.001301	± 2.5	PASS			
			Tempe	erature		_				
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict			
		VN	-30	4.24	0.002476	± 2.5	PASS			
		VN	-20	0.03	0.000018	± 2.5	PASS			
		VN	-10	2.34	0.001366	± 2.5	PASS			
		VN	0	4.04	0.002359	± 2.5	PASS			
	LCH	VN	10	1.39	0.000812	± 2.5	PASS			
QPSK		VN	20	4.5	0.002628	± 2.5	PASS			
		VN	30	2.99	0.001746	± 2.5	PASS			
		VN	40	-0.81	-0.000473	± 2.5	PASS			
		VN	50	-1.01	-0.000590	± 2.5	PASS			
		VN	-30	1.43	0.000825	± 2.5	PASS			
	MCH	VN	-20	2.52	0.001455	± 2.5	PASS			
		VN	-10	1.49	0.000860	± 2.5	PASS			





					-		
		VN	0	0.68	0.000392	± 2.5	PASS
		VN	10	-1.8	-0.001039	± 2.5	PASS
		VN	20	-1.87	-0.001079	± 2.5	PASS
		VN	30	-0.28	-0.000162	± 2.5	PASS
		VN	40	1.97	0.001137	± 2.5	PASS
		VN	50	3.75	0.002165	± 2.5	PASS
		VN	-30	1.41	0.000805	± 2.5	PASS
		VN	-20	0.41	0.000215	± 2.5	PASS
		VN	-10	-1.52	-0.000797	± 2.5	PASS
		VN	0	3.15	0.001651	± 2.5	PASS
	HCH	VN	10	2.73	0.001431	± 2.5	PASS
		VN	20	-0.61	-0.000320	± 2.5	PASS
		VN	30	1.23	0.000645	± 2.5	PASS
		VN	40	2.73	0.001431	± 2.5	PASS
		VN	50	-1.46	-0.000765	± 2.5	PASS
		VN	-30	4.06	0.002343	± 2.5	PASS
		VN	-20	3.27	0.001887	± 2.5	PASS
		VN	-10	-0.44	-0.000254	± 2.5	PASS
		VN	0	-0.84	-0.000485	± 2.5	PASS
	LCH	VN	10	-1.01	-0.000583	± 2.5	PASS
		VN	20	-0.37	-0.000214	± 2.5	PASS
		VN	30	-1.07	-0.000618	± 2.5	PASS
		VN	40	1.6	0.000924	± 2.5	PASS
		VN	50	0.42	0.000242	± 2.5	PASS
		VN	-30	3.18	0.001815	± 2.5	PASS
		VN	-20	0.82	0.000468	± 2.5	PASS
		VN	-10	2.69	0.001535	± 2.5	PASS
400 414		VN	0	0.24	0.000137	± 2.5	PASS
16QAM	MCH	VN	10	3.96	0.002260	± 2.5	PASS
		VN	20	3.63	0.002071	± 2.5	PASS
		VN	30	-0.69	-0.000394	± 2.5	PASS
		VN	40	4.62	0.002636	± 2.5	PASS
		VN	50	3.79	0.002163	± 2.5	PASS
		VN	-30	4.45	0.002333	± 2.5	PASS
		VN	-20	4.39	0.002301	± 2.5	PASS
		VN	-10	-1.17	-0.000613	± 2.5	PASS
		VN	0	3.93	0.002060	± 2.5	PASS
	HCH	VN	10	3.61	0.001893	± 2.5	PASS
		VN	20	-0.39	-0.000204	± 2.5	PASS
		VN	30	4.04	0.002118	± 2.5	PASS
		VN	40	1.76	0.000923	± 2.5	PASS



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	VN	50	1.57	0.000823	± 2.5	PASS
				0.000020		

# **Channel Bandwidth: 10 MHz**

			Channel Band	dwidth: 10 MHz						
Voltage										
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict			
	LCH	VL	TN	4.3	0.002507	± 2.5	PASS			
		VN	TN	4.63	0.002700	± 2.5	PASS			
		VH	TN	3.66	0.002134	± 2.5	PASS			
		VL	TN	3.87	0.002234	± 2.5	PASS			
QPSK	МСН	VN	TN	1	0.000577	± 2.5	PASS			
		VH	TN	-0.71	-0.000410	± 2.5	PASS			
		VL	TN	-0.35	-0.000200	± 2.5	PASS			
	НСН	VN	TN	1.99	0.001137	± 2.5	PASS			
		VH	TN	2.61	0.001491	± 2.5	PASS			
		VL	TN	2.09	0.001219	± 2.5	PASS			
	LCH	VN	TN	3.63	0.002117	± 2.5	PASS			
		VH	TN	2.28	0.001329	± 2.5	PASS			
	MCH	VL	TN	2.64	0.001524	± 2.5	PASS			
16QAM		VN	TN	0.32	0.000185	± 2.5	PASS			
		VH	TN	1.38	0.000797	± 2.5	PASS			
		VL	TN	-1.88	-0.001074	± 2.5	PASS			
	HCH	VN	TN	1.21	0.000691	± 2.5	PASS			
		VH	TN	4.84	0.002766	± 2.5	PASS			
			Tempe	erature						
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict			
		VN	-30	1.04	0.000606	± 2.5	PASS			
		VN	-20	4.24	0.002472	± 2.5	PASS			
		VN	-10	2.95	0.001720	± 2.5	PASS			
		VN	0	-0.51	-0.000297	± 2.5	PASS			
	LCH	VN	10	4.78	0.002787	± 2.5	PASS			
16QAM		VN	20	0.1	0.000058	± 2.5	PASS			
		VN	30	1.48	0.000863	± 2.5	PASS			
		VN	40	1.3	0.000758	± 2.5	PASS			
		VN	50	0.48	0.000280	± 2.5	PASS			
		VN	-30	1.21	0.000698	± 2.5	PASS			
	MCH	VN	-20	4.58	0.002644	± 2.5	PASS			
	IVICH	VN	-10	4.68	0.002701	± 2.5	PASS			
		VN	0	4.78	0.002759	± 2.5	PASS			





		VN	10	2.13	0.001229	± 2.5	PASS
		VN	20	3.82	0.002205	± 2.5	PASS
		VN	30	4.22	0.002436	± 2.5	PASS
		VN	40	0.4	0.000231	± 2.5	PASS
		VN	50	0.29	0.000167	± 2.5	PASS
		VN	-30	-1.72	-0.000983	± 2.5	PASS
		VN	-20	2.19	0.001251	± 2.5	PASS
		VN	-10	1.9	0.001086	± 2.5	PASS
		VN	0	2.08	0.001189	± 2.5	PASS
	HCH	VN	10	1.61	0.000920	± 2.5	PASS
		VN	20	3.58	0.002046	± 2.5	PASS
		VN	30	0	0.000000	± 2.5	PASS
		VN	40	-1.85	-0.001057	± 2.5	PASS
		VN	50	-1.13	-0.000646	± 2.5	PASS
		VN	-30	0.68	0.000392	± 2.5	PASS
		VN	-20	-0.77	-0.000444	± 2.5	PASS
		VN	-10	3.04	0.001755	± 2.5	PASS
		VN	0	1.09	0.000629	± 2.5	PASS
	LCH	VN	10	3.67	0.002118	± 2.5	PASS
		VN	20	4.15	0.002395	± 2.5	PASS
		VN	30	2.25	0.001299	± 2.5	PASS
		VN	40	2.37	0.001368	± 2.5	PASS
		VN	50	4.11	0.002372	± 2.5	PASS
		VN	-30	4.77	0.002726	± 2.5	PASS
		VN	-20	4.56	0.002606	± 2.5	PASS
		VN	-10	3.98	0.002274	± 2.5	PASS
		VN	0	4.67	0.002669	± 2.5	PASS
QPSK	MCH	VN	10	1.5	0.000857	± 2.5	PASS
		VN	20	-1.49	-0.000851	± 2.5	PASS
		VN	30	-0.96	-0.000549	± 2.5	PASS
		VN	40	0.35	0.000200	± 2.5	PASS
		VN	50	2.57	0.001469	± 2.5	PASS
		VN	-30	1.23	0.000703	± 2.5	PASS
		VN	-20	-0.64	-0.000366	± 2.5	PASS
		VN	-10	1.72	0.000983	± 2.5	PASS
		VN	0	4.11	0.002349	± 2.5	PASS
	HCH	VN	10	-1.57	-0.000897	± 2.5	PASS
		VN	20	1.08	0.000617	± 2.5	PASS
		VN	30	2.32	0.001326	± 2.5	PASS
		VN	40	1.56	0.000891	± 2.5	PASS
		VN	50	1.37	0.000783	± 2.5	PASS





# **Channel Bandwidth: 15 MHz**

			Channel Band	lwidth: 15 MHz					
Voltage									
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict		
		VL	TN	0.3	0.000175	± 2.5	PASS		
	LCH	VN	TN	4.49	0.002614	± 2.5	PASS		
		VH	TN	2.09	0.001217	± 2.5	PASS		
		VL	TN	3.73	0.002153	± 2.5	PASS		
QPSK	MCH	VN	TN	-1.76	-0.001016	± 2.5	PASS		
		VH	TN	4	0.002309	± 2.5	PASS		
		VL	TN	-1.23	-0.000704	± 2.5	PASS		
	HCH	VN	TN	-0.03	-0.000017	± 2.5	PASS		
		VH	TN	3.9	0.002232	± 2.5	PASS		
		VL	TN	0.89	0.000518	± 2.5	PASS		
	LCH	VN	TN	-1.82	-0.001060	± 2.5	PASS		
		VH	TN	2.73	0.001590	± 2.5	PASS		
		VL	TN	4.54	0.002620	± 2.5	PASS		
16QAM	MCH	VN	TN	1.52	0.000877	± 2.5	PASS		
		VH	TN	0.22	0.000127	± 2.5	PASS		
		VL	TN	2.38	0.001362	± 2.5	PASS		
	HCH	VN	TN	-1.63	-0.000933	± 2.5	PASS		
		VH	TN	-1.35	-0.000773	± 2.5	PASS		
			Tempe	erature		•			
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict		
		VN	-30	-0.39	-0.000227	± 2.5	PASS		
		VN	-20	4.62	0.002690	± 2.5	PASS		
		VN	-10	-0.56	-0.000326	± 2.5	PASS		
		VN	0	0.72	0.000419	± 2.5	PASS		
	LCH	VN	10	4.71	0.002742	± 2.5	PASS		
		VN	20	-0.21	-0.000122	± 2.5	PASS		
		VN	30	3.47	0.002020	± 2.5	PASS		
QPSK		VN	40	0.79	0.000460	± 2.5	PASS		
		VN	50	1.24	0.000722	± 2.5	PASS		
		VN	-30	0.04	0.000023	± 2.5	PASS		
		VN	-20	-1.38	-0.000797	± 2.5	PASS		
	MOLL	VN	-10	-1.51	-0.000872	± 2.5	PASS		
	MCH	VN	0	1.68	0.000970	± 2.5	PASS		
		VN	10	-1.66	-0.000958	± 2.5	PASS		
		VN	20	0.47	0.000271	± 2.5	PASS		





		VN	30	-1.91	-0.001102	± 2.5	PASS
		VN	40	1.97	0.001137	± 2.5	PASS
		VN	50	3.33	0.001922	± 2.5	PASS
	нсн	VN	-30	-1.07	-0.000612	± 2.5	PASS
		VN	-20	-0.11	-0.000063	± 2.5	PASS
		VN	-10	0.53	0.000303	± 2.5	PASS
		VN	0	-1.54	-0.000881	± 2.5	PASS
		VN	10	-1.99	-0.001139	± 2.5	PASS
		VN	20	1.78	0.001019	± 2.5	PASS
		VN	30	-1.75	-0.001001	± 2.5	PASS
		VN	40	0.72	0.000412	± 2.5	PASS
		VN	50	2.49	0.001425	± 2.5	PASS
		VN	-30	-0.06	-0.000035	± 2.5	PASS
		VN	-20	0.16	0.000092	± 2.5	PASS
	LCH	VN	-10	1.97	0.001137	± 2.5	PASS
QPSK		VN	0	2.77	0.001599	± 2.5	PASS
		VN	10	-1.9	-0.001097	± 2.5	PASS
		VN	20	3.3	0.001905	± 2.5	PASS
		VN	30	-1.55	-0.000895	± 2.5	PASS
		VN	40	0.79	0.000456	± 2.5	PASS
		VN	50	-1.12	-0.000646	± 2.5	PASS
	мсн	VN	-30	-0.61	-0.000349	± 2.5	PASS
		VN	-20	4.98	0.002850	± 2.5	PASS
		VN	-10	-1.91	-0.001093	± 2.5	PASS
		VN	0	-1.8	-0.001030	± 2.5	PASS
		VN	10	2	0.001144	± 2.5	PASS
		VN	20	2.41	0.001379	± 2.5	PASS
		VN	30	2.27	0.001299	± 2.5	PASS
		VN	40	-0.06	-0.000034	± 2.5	PASS
		VN	50	3.98	0.002278	± 2.5	PASS
	НСН	VN	-30	1.26	0.000721	± 2.5	PASS
		VN	-20	0.07	0.000040	± 2.5	PASS
		VN	-10	4.13	0.002363	± 2.5	PASS
		VN	0	-0.05	-0.000029	± 2.5	PASS
		VN	10	-0.49	-0.000280	± 2.5	PASS
		VN	20	-1.25	-0.000715	± 2.5	PASS
		VN	30	-0.75	-0.000429	± 2.5	PASS
		VN	40	3.7	0.002117	± 2.5	PASS
		VN	50	3.38	0.001934	± 2.5	PASS





# **Channel Bandwidth: 20 MHz**

Channel Bandwidth: 20 MHz									
Voltage									
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict		
		VL	TN	0.26	0.000151	± 2.5	PASS		
QPSK	LCH	VN	TN	2.88	0.001674	± 2.5	PASS		
		VH	TN	3.83	0.002227	± 2.5	PASS		
	MCH	VL	TN	1.77	0.001022	± 2.5	PASS		
		VN	TN	0.77	0.000444	± 2.5	PASS		
		VH	TN	4.09	0.002361	± 2.5	PASS		
	НСН	VL	TN	3	0.001719	± 2.5	PASS		
		VN	TN	4.42	0.002533	± 2.5	PASS		
		VH	TN	1.87	0.001072	± 2.5	PASS		
	LCH	VL	TN	1.61	0.000936	± 2.5	PASS		
		VN	TN	1.85	0.001076	± 2.5	PASS		
		VH	TN	-1.73	-0.001006	± 2.5	PASS		
		VL	TN	1.23	0.000710	± 2.5	PASS		
16QAM	MCH	VN	TN	1.58	0.000912	± 2.5	PASS		
		VH	TN	0.12	0.000069	± 2.5	PASS		
	НСН	VL	TN	2.27	0.001301	± 2.5	PASS		
		VN	TN	2.22	0.001272	± 2.5	PASS		
		VH	TN	-1.5	-0.000860	± 2.5	PASS		
			Tempe	erature		ı			
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict		
	LCH	VN	-30	-1.45	-0.000843	± 2.5	PASS		
		VN	-20	0.68	0.000395	± 2.5	PASS		
		VN	-10	0.65	0.000378	± 2.5	PASS		
		VN	0	-0.05	-0.000029	± 2.5	PASS		
		VN	10	0.66	0.000384	± 2.5	PASS		
		VN	20	2.54	0.001477	± 2.5	PASS		
		VN	30	3.57	0.002076	± 2.5	PASS		
QPSK		VN	40	4.98	0.002895	± 2.5	PASS		
		VN	50	1.51	0.000878	± 2.5	PASS		
	MCH	VN	-30	0.23	0.000133	± 2.5	PASS		
		VN	-20	2.75	0.001587	± 2.5	PASS		
		VN	-10	1.39	0.000802	± 2.5	PASS		
		VN	0	-1.17	-0.000675	± 2.5	PASS		
		VN	10	4.13	0.002384	± 2.5	PASS		
		VN	20	2.01	0.001160	± 2.5	PASS		





		VN	30	0.89	0.000514	± 2.5	PASS
		VN	40	0.01	0.000006	± 2.5	PASS
		VN	50	4.69	0.002707	± 2.5	PASS
	нсн	VN	-30	4.33	0.002481	± 2.5	PASS
		VN	-20	-1.68	-0.000963	± 2.5	PASS
		VN	-10	0.88	0.000504	± 2.5	PASS
		VN	0	3.69	0.002115	± 2.5	PASS
		VN	10	2.44	0.001398	± 2.5	PASS
		VN	20	-0.09	-0.000052	± 2.5	PASS
		VN	30	-1.69	-0.000968	± 2.5	PASS
		VN	40	-0.34	-0.000195	± 2.5	PASS
		VN	50	0.46	0.000264	± 2.5	PASS
		VN	-30	0.91	0.000525	± 2.5	PASS
		VN	-20	1.88	0.001085	± 2.5	PASS
		VN	-10	-0.16	-0.000092	± 2.5	PASS
	LCH	VN	0	2.36	0.001362	± 2.5	PASS
		VN	10	4.29	0.002476	± 2.5	PASS
		VN	20	3.8	0.002193	± 2.5	PASS
		VN	30	-0.38	-0.000219	± 2.5	PASS
		VN	40	3.71	0.002141	± 2.5	PASS
		VN	50	3.57	0.002061	± 2.5	PASS
	MCH	VN	-30	0.14	0.000080	± 2.5	PASS
		VN	-20	1.14	0.000653	± 2.5	PASS
QPSK		VN	-10	-0.05	-0.000029	± 2.5	PASS
		VN	0	1.39	0.000797	± 2.5	PASS
		VN	10	-1.36	-0.000779	± 2.5	PASS
		VN	20	3.68	0.002109	± 2.5	PASS
		VN	30	3.42	0.001960	± 2.5	PASS
		VN	40	0.41	0.000235	± 2.5	PASS
		VN	50	1.94	0.001112	± 2.5	PASS
	НСН	VN	-30	4.45	0.002550	± 2.5	PASS
		VN	-20	3.18	0.001822	± 2.5	PASS
		VN	-10	0.69	0.000395	± 2.5	PASS
		VN	0	-1.71	-0.000980	± 2.5	PASS
		VN	10	1.52	0.000871	± 2.5	PASS
		VN	20	1.34	0.000768	± 2.5	PASS
		VN	30	-1.06	-0.000607	± 2.5	PASS
		VN	40	3.32	0.001903	± 2.5	PASS
		VN	50	4.7	0.002693	± 2.5	PASS