































































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	4.37	0.002349	± 2.5	PASS
	LCH	VN	TN	-0.88	-0.000473	± 2.5	PASS
		VH	TN	2.66	0.001430	± 2.5	PASS
		VL	TN	3.05	0.001622	± 2.5	PASS
QPSK	MCH	VN	TN	1.32	0.000702	± 2.5	PASS
		VH	TN	2.41	0.001282	± 2.5	PASS
		VL	TN	-1.03	-0.000542	± 2.5	PASS
	HCH	VN	TN	3.59	0.001889	± 2.5	PASS
		VH	TN	2.22	0.001168	± 2.5	PASS
		VL	TN	2.23	0.001199	± 2.5	PASS
	LCH	VN	TN	-1.46	-0.000785	± 2.5	PASS
		VH	TN	2.54	0.001366	± 2.5	PASS
		VL	TN	-1.44	-0.000766	± 2.5	PASS
16QAM	MCH	VN	TN	-1.53	-0.000814	± 2.5	PASS
		VH	TN	2.49	0.001324	± 2.5	PASS
		VL	TN	4.44	0.002337	± 2.5	PASS
	HCH	VN	TN	4.41	0.002321	± 2.5	PASS
		VH	TN	2.55	0.001342	± 2.5	PASS
			Tempe	erature			
Modulation	Channe I	Voltage [Vdc]	Temperature $(^{\circ}\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!$	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
		VN	-30	-1.41	-0.000758	± 2.5	PASS
		VN	-20	3.38	0.001817	± 2.5	PASS
		VN	-10	1.42	0.000763	± 2.5	PASS
		VN	0	0.17	0.000091	± 2.5	PASS
QPSK	LCH	VN	10	1.54	0.000828	± 2.5	PASS
ur'sn		VN	20	4.02	0.002161	± 2.5	PASS
		VN	30	3.97	0.002134	± 2.5	PASS
		VN	40	-1.79	-0.000962	± 2.5	PASS
		VN	50	-0.74	-0.000398	± 2.5	PASS
	MCH	VN	-30	1.88	0.001000	± 2.5	PASS

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		VN	-20	1.05	0.000559	± 2.5	PASS
		VN	-10	2.97	0.000539	± 2.5	PASS
		VN	0	0.04	0.001380	± 2.5	PASS
		VN	10	-0.23	-0.000122	± 2.5	PASS
		VN	20	-1.3	-0.000122	± 2.5	PASS
		VN	30	0.72	0.000383	± 2.5	PASS
		VN	40	2.03	0.000383	± 2.5	PASS
		VN	50	3.9	0.001080	± 2.5	PASS
		VN	-30	4.78	0.002074	± 2.5	PASS
		VN	-20	2.02	0.002310	± 2.5	PASS
		VN	-10	1.65	0.001063	± 2.5	PASS
		VN	0	-0.01	-0.000005	± 2.5	PASS
	НСН	VN	10	-1.41	-0.000003	± 2.5	PASS
	11011	VN	20	3.99	0.002100	± 2.5	PASS
		VN	30	3.99	0.002100	± 2.5	PASS
		VN	40	4.63	0.001669	± 2.5	PASS
		VN	50	-1.54	-0.002437	± 2.5	PASS
		VN	-30	1.67	0.000898	± 2.5	PASS
		VN	-20	-1.14	-0.000698	± 2.5	PASS
		VN	-10	3.04	0.001634	± 2.5	PASS
		VN	0	0.01	0.000005	± 2.5	PASS
	LCH	VN	10	2.87	0.000003	± 2.5	PASS
	LOIT	VN	20	0.77	0.001343	± 2.5	PASS
		VN	30	2.9	0.000414	± 2.5	PASS
		VN	40	-0.14	-0.000075	± 2.5	PASS
		VN	50	-0.14	-0.000073	± 2.5	PASS
		VN	-30	-0.47	-0.000440	± 2.5	PASS
		VN	-20	2.05	0.001090	± 2.5	PASS
		VN	-10	3.01	0.001690	± 2.5	PASS
16QAM		VN	0	0.46	0.001001	± 2.5	PASS
	MCH	VN	10	0.40	0.000243	± 2.5	PASS
	WIGHT	VN	20	3.97	0.002112	± 2.5	PASS
		VN	30	-1.55	-0.000824	± 2.5	PASS
		VN	40	1.14	0.000606	± 2.5	PASS
		VN	50	0.93	0.000495	± 2.5	PASS
		VN	-30	3.52	0.000453	± 2.5	PASS
		VN	-20	4.47	0.001853	± 2.5	PASS
		VN	-10	0.67	0.002353	± 2.5	PASS
	HCH	VN	0	4.79	0.000533	± 2.5	PASS
		VN	10	-1.31	-0.000689	± 2.5	PASS
		VN	20	0.08	0.000042	± 2.5	PASS
	<u> </u>	VIN	20	0.00	0.000042	<u> </u>	1 700



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VN	30	4.18	0.002200	± 2.5	PASS
VN	40	0.81	0.000426	± 2.5	PASS
VN	50	-1.22	-0.000642	± 2.5	PASS

Channel Bandwidth: 3 MHz

			Channel Band	lwidth: 3 MHz+			
				tage			
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
		VL	TN	3.94	0.002118	± 2.5	PASS
	LCH	VN	TN	4.13	0.002220	± 2.5	PASS
		VH	TN	-0.57	-0.000306	± 2.5	PASS
		VL	TN	-0.3	-0.000160	± 2.5	PASS
QPSK	MCH	VN	TN	-1.16	-0.000617	± 2.5	PASS
		VH	TN	4.84	0.002574	± 2.5	PASS
		VL	TN	0.04	0.000021	± 2.5	PASS
	HCH	VN	TN	-1.65	-0.000868	± 2.5	PASS
		VH	TN	-0.03	-0.000016	± 2.5	PASS
		VL	TN	2.14	0.001151	± 2.5	PASS
	LCH	VN	TN	-0.06	-0.000032	± 2.5	PASS
		VH	TN	1.77	0.000952	± 2.5	PASS
		VL	TN	4.16	0.002213	± 2.5	PASS
16QAM	MCH	VN	TN	-0.72	-0.000383	± 2.5	PASS
		VH	TN	5	0.002660	± 2.5	PASS
		VL	TN	0.59	0.000311	± 2.5	PASS
	НСН	VN	TN	-0.64	-0.000337	± 2.5	PASS
		VH	TN	4.9	0.002579	± 2.5	PASS
			Tempe	erature			
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
		VN	-30	2.25	0.001210	± 2.5	PASS
		VN	-20	-1.11	-0.000597	± 2.5	PASS
		VN	-10	-0.13	-0.000070	± 2.5	PASS
		VN	0	-0.61	-0.000328	± 2.5	PASS
	LCH	VN	10	-0.49	-0.000263	± 2.5	PASS
QPSK		VN	20	0.64	0.000344	± 2.5	PASS
		VN	30	0.89	0.000478	± 2.5	PASS
		VN	40	0.36	0.000194	± 2.5	PASS
		VN	50	0.31	0.000167	± 2.5	PASS
	MOLL	VN	-30	2.44	0.001298	± 2.5	PASS
	MCH	VN	-20	-0.51	-0.000271	± 2.5	PASS

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		VN	-10	0.94	0.000500	± 2.5	PASS
		VN	0	-0.12	-0.000064	± 2.5	PASS
		VN	10	-1.07	-0.000569	± 2.5	PASS
		VN	20	3.12	0.001660	± 2.5	PASS
		VN	30	-1.47	-0.000782	± 2.5	PASS
		VN	40	-0.74	-0.000394	± 2.5	PASS
		VN	50	4.32	0.002298	± 2.5	PASS
		VN	-30	2.94	0.001547	± 2.5	PASS
		VN	-20	0.31	0.000163	± 2.5	PASS
		VN	-10	0.99	0.000521	± 2.5	PASS
		VN	0	4.19	0.002205	± 2.5	PASS
	нсн	VN	10	4.25	0.002237	± 2.5	PASS
		VN	20	-1.67	-0.000879	± 2.5	PASS
		VN	30	-0.8	-0.000421	± 2.5	PASS
		VN	40	1.61	0.000847	± 2.5	PASS
		VN	50	-0.87	-0.000458	± 2.5	PASS
		VN	-30	4.21	0.002263	± 2.5	PASS
		VN	-20	-1.11	-0.000597	± 2.5	PASS
		VN	-10	1.74	0.000935	± 2.5	PASS
		VN	0	2	0.001075	± 2.5	PASS
	LCH	VN	10	3.68	0.001978	± 2.5	PASS
		VN	20	0.95	0.000511	± 2.5	PASS
		VN	30	-0.14	-0.000075	± 2.5	PASS
		VN	40	0.61	0.000328	± 2.5	PASS
		VN	50	1.22	0.000656	± 2.5	PASS
		VN	-30	3.91	0.002080	± 2.5	PASS
		VN	-20	-1.96	-0.001043	± 2.5	PASS
		VN	-10	1.96	0.001043	± 2.5	PASS
QPSK		VN	0	3.43	0.001824	± 2.5	PASS
	MCH	VN	10	-1.63	-0.000867	± 2.5	PASS
		VN	20	3.78	0.002011	± 2.5	PASS
		VN	30	-0.87	-0.000463	± 2.5	PASS
		VN	40	2.87	0.001527	± 2.5	PASS
		VN	50	0.95	0.000505	± 2.5	PASS
		VN	-30	4.85	0.002553	± 2.5	PASS
		VN	-20	4.91	0.002584	± 2.5	PASS
		VN	-10	3.39	0.001784	± 2.5	PASS
	HCH	VN	0	0.38	0.000200	± 2.5	PASS
		VN	10	-1.77	-0.000932	± 2.5	PASS
		VN	20	0.67	0.000353	± 2.5	PASS
		VN	30	4.78	0.002516	± 2.5	PASS



TEST Model: Philips S338

	VN	40	-1.7	-0.000895	± 2.5	PASS
	VN	50	2.87	0.001511	± 2.5	PASS

Channel Bandwidth: 5 MHz

			Channel Ban	dwidth: 5 MHz			
				tage			
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
		VL	TN	0.73	0.000392	± 2.5	PASS
	LCH	VN	TN	0.08	0.000043	± 2.5	PASS
		VH	TN	4.75	0.002554	± 2.5	PASS
		VL	TN	2.02	0.001074	± 2.5	PASS
QPSK	MCH	VN	TN	-0.98	-0.000521	± 2.5	PASS
		VH	TN	3.24	0.001723	± 2.5	PASS
		VL	TN	3.56	0.001874	± 2.5	PASS
	HCH	VN	TN	1.25	0.000658	± 2.5	PASS
		VH	TN	2.42	0.001274	± 2.5	PASS
		VL	TN	-1.24	-0.000667	± 2.5	PASS
	LCH	VN	TN	2.71	0.001457	± 2.5	PASS
		VH	TN	0.33	0.000177	± 2.5	PASS
		VL	TN	-0.5	-0.000266	± 2.5	PASS
16QAM	MCH	VN	TN	2.09	0.001112	± 2.5	PASS
		VH	TN	0.45	0.000239	± 2.5	PASS
		VL	TN	2.1	0.001105	± 2.5	PASS
	HCH	VN	TN	-1.05	-0.000553	± 2.5	PASS
		VH	TN	2.83	0.001489	± 2.5	PASS
			Tempe	erature		ı	
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
		VN	-30	0.31	0.000167	± 2.5	PASS
		VN	-20	0.51	0.000274	± 2.5	PASS
		VN	-10	-1.97	-0.001059	± 2.5	PASS
		VN	0	3.46	0.001860	± 2.5	PASS
	LCH	VN	10	3.93	0.002113	± 2.5	PASS
QPSK		VN	20	2.53	0.001360	± 2.5	PASS
QI SIN		VN	30	4.83	0.002597	± 2.5	PASS
		VN	40	-0.49	-0.000263	± 2.5	PASS
		VN	50	4.13	0.002220	± 2.5	PASS
		VN	-30	1.81	0.000963	± 2.5	PASS
	MCH	VN	-20	3.56	0.001894	± 2.5	PASS
		VN	-10	-1.4	-0.000745	± 2.5	PASS

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VN								
NN 20			VN	0	2.07	0.001101	± 2.5	PASS
NN			VN	10	1.3	0.000691	± 2.5	PASS
NN			VN	20	-0.67	-0.000356	± 2.5	PASS
VN 50			VN	30	1.43	0.000761	± 2.5	PASS
No. 10 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0			VN	40	4.54	0.002415	± 2.5	PASS
HCH			VN	50	-1.3	-0.000691	± 2.5	PASS
HCH			VN	-30	2.3	0.001211	± 2.5	PASS
HCH HCH HCH HCH VN 10 2.79 0.001468 ±2.5 PASS VN 20 -0.92 -0.000484 ±2.5 PASS VN 30 3.94 0.002074 ±2.5 PASS VN 40 -1.22 -0.000642 ±2.5 PASS VN 50 1.86 0.000979 ±2.5 PASS VN -30 2.64 0.001419 ±2.5 PASS VN -20 3.5 0.001882 ±2.5 PASS VN -10 2.83 0.001522 ±2.5 PASS VN -10 2.83 0.001522 ±2.5 PASS VN -10 2.83 0.001710 ±2.5 PASS VN -10 3.18 0.001710 ±2.5 PASS VN -10 -1.66 0.000871 ±2.5 PASS VN -20 4.25 0.000261 ±2.5 PASS VN -10 -1.51 -0.000803 ±2.5 PASS VN -20 4.25 0.000261 ±2.5 PASS VN -20 -1.66 -0.000803 ±2.5 PASS VN -10 -1.51 -0.000803 ±2.5 PASS VN -20 -1.64 -0.00047 ±2.5 PASS VN -20 -1.77 -0.000904 ±2.5 PASS VN -20 -1.77 -0.000905 ±2.5 PASS VN -20 -1.77 -1.000905 ±2.5 PASS VN -1.06 -1.06 -1.06 -1.06 -1.06 -1.06 -1.06 -1.06 -1.06 -1.06 -1.0			VN	-20	4.99	0.002626	± 2.5	PASS
HCH			VN	-10	-1.7	-0.000895	± 2.5	PASS
VN 20			VN	0	3.9	0.002053	± 2.5	PASS
VN		HCH	VN	10	2.79	0.001468	± 2.5	PASS
VN			VN	20	-0.92	-0.000484	± 2.5	PASS
No			VN	30	3.94	0.002074	± 2.5	PASS
No			VN	40	-1.22	-0.000642	± 2.5	PASS
No. 10 2.83 0.001882 ±2.5 PASS			VN	50	1.86	0.000979	± 2.5	PASS
LCH			VN	-30	2.64	0.001419	± 2.5	PASS
LCH			VN	-20	3.5	0.001882	± 2.5	PASS
LCH			VN	-10	2.83	0.001522	± 2.5	PASS
N			VN	0	4.54	0.002441	± 2.5	PASS
N		LCH	VN	10	3.18	0.001710	± 2.5	PASS
NN			VN	20	1.62	0.000871	± 2.5	PASS
VN 50			VN	30	-0.1	-0.000054	± 2.5	PASS
VN			VN	40	3.58	0.001925	± 2.5	PASS
No			VN	50	-1.56	-0.000839	± 2.5	PASS
MCH			VN	-30	-0.84	-0.000447	± 2.5	PASS
MCH			VN	-20	4.25	0.002261	± 2.5	PASS
MCH			VN	-10	-1.51	-0.000803	± 2.5	PASS
MCH			VN	0	0.48	0.000255	± 2.5	PASS
VN 30 -1.43 -0.000761 ± 2.5 PASS VN 40 -1.7 -0.000904 ± 2.5 PASS VN 50 1.78 0.000947 ± 2.5 PASS VN -30 2.08 0.001095 ± 2.5 PASS VN -20 -1.77 -0.000932 ± 2.5 PASS VN -10 -1.13 -0.000595 ± 2.5 PASS VN 0 -1.06 -0.000558 ± 2.5 PASS VN 10 3.98 0.002095 ± 2.5 PASS VN 20 4.07 0.002142 ± 2.5 PASS VN 30 -0.21 -0.000111 ± 2.5 PASS	16QAM	MCH	VN	10	1.92	0.001021	± 2.5	PASS
VN 40 -1.7 -0.000904 ± 2.5 PASS VN 50 1.78 0.000947 ± 2.5 PASS VN -30 2.08 0.001095 ± 2.5 PASS VN -20 -1.77 -0.000932 ± 2.5 PASS VN -10 -1.13 -0.000595 ± 2.5 PASS VN 0 -1.06 -0.000558 ± 2.5 PASS VN 10 3.98 0.002095 ± 2.5 PASS VN 20 4.07 0.002142 ± 2.5 PASS VN 30 -0.21 -0.000111 ± 2.5 PASS			VN	20	3.8	0.002021	± 2.5	PASS
VN 50 1.78 0.000947 ± 2.5 PASS VN -30 2.08 0.001095 ± 2.5 PASS VN -20 -1.77 -0.000932 ± 2.5 PASS VN -10 -1.13 -0.000595 ± 2.5 PASS VN 0 -1.06 -0.000558 ± 2.5 PASS VN 10 3.98 0.002095 ± 2.5 PASS VN 20 4.07 0.002142 ± 2.5 PASS VN 30 -0.21 -0.000111 ± 2.5 PASS			VN	30	-1.43	-0.000761	± 2.5	PASS
HCH			VN	40	-1.7	-0.000904	± 2.5	PASS
HCH			VN	50	1.78	0.000947	± 2.5	PASS
HCH			VN	-30	2.08	0.001095	± 2.5	PASS
HCH			VN	-20	-1.77	-0.000932	± 2.5	PASS
VN 10 3.98 0.002095 ± 2.5 PASS VN 20 4.07 0.002142 ± 2.5 PASS VN 30 -0.21 -0.000111 ± 2.5 PASS			VN	-10	-1.13	-0.000595	± 2.5	PASS
VN 10 3.98 0.002095 ± 2.5 PASS VN 20 4.07 0.002142 ± 2.5 PASS VN 30 -0.21 -0.000111 ± 2.5 PASS			VN	0	-1.06	-0.000558	± 2.5	PASS
VN 30 -0.21 -0.000111 ± 2.5 PASS		HCH	VN	10	3.98	0.002095	± 2.5	PASS
VN 30 -0.21 -0.000111 ± 2.5 PASS			VN	20	4.07	0.002142	± 2.5	PASS
\/N 40 000 0004400 005 B400			VN	30			± 2.5	PASS
			VN	40	2.83	0.001489	± 2.5	PASS



TEST Model: Philips S338

VN 50 1.79 0.000942 ± 2.5 PASS		VN	50	1.79	0.000942	± 2.5	PASS
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Channel Bandwidth: 10 MHz

			Channel Band	lwidth: 10 MHz						
Voltage										
Modulation	Channel	Voltage [Vdc]	Temperature (°ℂ)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict			
		VL	TN	3.13	0.001683	± 2.5	PASS			
	LCH	VN	TN	1.22	0.000656	± 2.5	PASS			
		VH	TN	1.36	0.000731	± 2.5	PASS			
		VL	TN	-0.96	-0.000511	± 2.5	PASS			
QPSK	MCH	VN	TN	0.07	0.000037	± 2.5	PASS			
		VH	TN	3.73	0.001984	± 2.5	PASS			
		VL	TN	0.49	0.000258	± 2.5	PASS			
	HCH	VN	TN	3.71	0.001953	± 2.5	PASS			
		VH	TN	3.4	0.001789	± 2.5	PASS			
		VL	TN	0.24	0.000129	± 2.5	PASS			
	LCH	VN	TN	-1.77	-0.000952	± 2.5	PASS			
		VH	TN	-0.92	-0.000495	± 2.5	PASS			
		VL	TN	2.51	0.001335	± 2.5	PASS			
16QAM	MCH	VN	TN	4.66	0.002479	± 2.5	PASS			
		VH	TN	3.32	0.001766	± 2.5	PASS			
		VL	TN	0.49	0.000258	± 2.5	PASS			
	HCH	VN	TN	4.23	0.002226	± 2.5	PASS			
		VH	TN	4.08	0.002147	± 2.5	PASS			
	•		Tempe	erature						
Modulation	Channel	Voltage [Vdc]	Temperature $(^{\circ}\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!$	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict			
		VN	-30	2.71	0.001457	± 2.5	PASS			
		VN	-20	-0.66	-0.000355	± 2.5	PASS			
		VN	-10	0.28	0.000151	± 2.5	PASS			
		VN	0	-1.97	-0.001059	± 2.5	PASS			
	LCH	VN	10	-0.67	-0.000360	± 2.5	PASS			
		VN	20	1.55	0.000833	± 2.5	PASS			
16QAM		VN	30	4.79	0.002575	± 2.5	PASS			
		VN	40	0.09	0.000048	± 2.5	PASS			
		VN	50	2.97	0.001597	± 2.5	PASS			
		VN	-30	3.68	0.001957	± 2.5	PASS			
	MCH	VN	-20	2.34	0.001245	± 2.5	PASS			
	IVICII	VN	-10	3.21	0.001707	± 2.5	PASS			
		VN	0	1.24	0.000660	± 2.5	PASS			

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		VN	10	0.66	0.000351	± 2.5	PASS
		VN	20	1.41	0.000750	± 2.5	PASS
		VN	30	-0.73	-0.000388	± 2.5	PASS
		VN	40	2.62	0.001394	± 2.5	PASS
		VN	50	-1.76	-0.000936	± 2.5	PASS
		VN	-30	1.56	0.000821	± 2.5	PASS
		VN	-20	-1.78	-0.000937	± 2.5	PASS
		VN	-10	1.63	0.000858	± 2.5	PASS
		VN	0	1.34	0.000705	± 2.5	PASS
	HCH	VN	10	2.2	0.001158	± 2.5	PASS
		VN	20	3.4	0.001789	± 2.5	PASS
		VN	30	2.72	0.001432	± 2.5	PASS
		VN	40	1.11	0.000584	± 2.5	PASS
		VN	50	0.59	0.000311	± 2.5	PASS
		VN	-30	2.84	0.001527	± 2.5	PASS
		VN	-20	1.71	0.000919	± 2.5	PASS
		VN	-10	3.85	0.002070	± 2.5	PASS
		VN	0	-0.78	-0.000419	± 2.5	PASS
	LCH	VN	10	-0.88	-0.000473	± 2.5	PASS
		VN	20	2.49	0.001339	± 2.5	PASS
		VN	30	1.48	0.000796	± 2.5	PASS
		VN	40	2.5	0.001344	± 2.5	PASS
		VN	50	-1.2	-0.000645	± 2.5	PASS
		VN	-30	4.43	0.002356	± 2.5	PASS
		VN	-20	3.87	0.002059	± 2.5	PASS
		VN	-10	0.63	0.000335	± 2.5	PASS
		VN	0	3.04	0.001617	± 2.5	PASS
QPSK	MCH	VN	10	-0.06	-0.000032	± 2.5	PASS
		VN	20	0.22	0.000117	± 2.5	PASS
		VN	30	-0.31	-0.000165	± 2.5	PASS
		VN	40	4.26	0.002266	± 2.5	PASS
		VN	50	-0.59	-0.000314	± 2.5	PASS
		VN	-30	-1.4	-0.000737	± 2.5	PASS
		VN	-20	-0.62	-0.000326	± 2.5	PASS
		VN	-10	3.8	0.002000	± 2.5	PASS
		VN	0	-1.07	-0.000563	± 2.5	PASS
	HCH	VN	10	1.58	0.000832	± 2.5	PASS
		VN	20	-1.45	-0.000763	± 2.5	PASS
		VN	30	2.75	0.001447	± 2.5	PASS
		VN	40	2.62	0.001379	± 2.5	PASS
		VN	50	-0.99	-0.000521	± 2.5	PASS



TEST Model: Philips S338

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	4.05	0.002177	± 2.5	PASS			
	LCH	VN	TN	-1.18	-0.000634	± 2.5	PASS			
		VH	TN	3.07	0.001651	± 2.5	PASS			
		VL	TN	-1.44	-0.000766	± 2.5	PASS			
QPSK	MCH	VN	TN	3.78	0.002011	± 2.5	PASS			
		VH	TN	1.99	0.001059	± 2.5	PASS			
		VL	TN	1.29	0.000679	± 2.5	PASS			
	HCH	VN	TN	-0.48	-0.000253	± 2.5	PASS			
		VH	TN	1.21	0.000637	± 2.5	PASS			
		VL	TN	4.7	0.002527	± 2.5	PASS			
	LCH	VN	TN	2.48	0.001333	± 2.5	PASS			
		VH	TN	2.5	0.001344	± 2.5	PASS			
		VL	TN	4.2	0.002234	± 2.5	PASS			
16QAM	MCH	VN	TN	-2	-0.001064	± 2.5	PASS			
		VH	TN	3.07	0.001633	± 2.5	PASS			
		VL	TN	3.48	0.001832	± 2.5	PASS			
	HCH	VN	TN	0.47	0.000247	± 2.5	PASS			
		VH	TN	3.16	0.001663	± 2.5	PASS			
			Tempe	erature						
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict			
		VN	-30	1.65	0.000887	± 2.5	PASS			
		VN	-20	-1.21	-0.000651	± 2.5	PASS			
		VN	-10	0.26	0.000140	± 2.5	PASS			
		VN	0	4.77	0.002565	± 2.5	PASS			
	LCH	VN	10	-0.06	-0.000032	± 2.5	PASS			
		VN	20	2.77	0.001489	± 2.5	PASS			
		VN	30	2.85	0.001532	± 2.5	PASS			
QPSK		VN	40	-0.51	-0.000274	± 2.5	PASS			
		VN	50	2.16	0.001161	± 2.5	PASS			
		VN	-30	3.05	0.001622	± 2.5	PASS			
		VN	-20	0.44	0.000234	± 2.5	PASS			
	MCH	VN	-10	4.31	0.002293	± 2.5	PASS			
	IVICH	VN	0	2.44	0.001298	± 2.5	PASS			
		VN	10	3.87	0.002059	± 2.5	PASS			
		VN	20	-1.75	-0.000931					

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		VN	30	1.83	0.000973	± 2.5	PASS
		VN	40	1.74	0.000926	± 2.5	PASS
		VN	50	3.85	0.002048	± 2.5	PASS
		VN	-30	2.9	0.001526	± 2.5	PASS
	НСН	VN	-20	1.04	0.000547	± 2.5	PASS
		VN	-10	-1.72	-0.000905	± 2.5	PASS
		VN	0	0.58	0.000305	± 2.5	PASS
		VN	10	3.58	0.001884	± 2.5	PASS
		VN	20	0.32	0.000168	± 2.5	PASS
		VN	30	3.19	0.001679	± 2.5	PASS
		VN	40	0.98	0.000516	± 2.5	PASS
		VN	50	0.19	0.000100	± 2.5	PASS
		VN	-30	0.71	0.000382	± 2.5	PASS
		VN	-20	4.14	0.002226	± 2.5	PASS
		VN	-10	3.21	0.001726	± 2.5	PASS
		VN	0	-0.43	-0.000231	± 2.5	PASS
	LCH	VN	10	-1.46	-0.000785	± 2.5	PASS
		VN	20	2.36	0.001269	± 2.5	PASS
		VN	30	-0.18	-0.000097	± 2.5	PASS
		VN	40	1.94	0.001043	± 2.5	PASS
		VN	50	1.42	0.000763	± 2.5	PASS
	MCH	VN	-30	0.99	0.000527	± 2.5	PASS
		VN	-20	1.3	0.000691	± 2.5	PASS
		VN	-10	5	0.002660	± 2.5	PASS
QPSK		VN	0	-1.49	-0.000793	± 2.5	PASS
		VN	10	0.58	0.000309	± 2.5	PASS
		VN	20	-0.56	-0.000298	± 2.5	PASS
		VN	30	3.4	0.001809	± 2.5	PASS
		VN	40	1.71	0.000910	± 2.5	PASS
		VN	50	3.75	0.001995	± 2.5	PASS
	НСН	VN	-30	-1.57	-0.000826	± 2.5	PASS
		VN	-20	0.91	0.000479	± 2.5	PASS
		VN	-10	-0.72	-0.000379	± 2.5	PASS
		VN	0	3.58	0.001884	± 2.5	PASS
		VN	10	0.27	0.000142	± 2.5	PASS
		VN	20	2.43	0.001279	± 2.5	PASS
		VN	30	-0.08	-0.000042	± 2.5	PASS
		VN	40	-1.98	-0.001042	± 2.5	PASS
		VN	50	2.45	0.001289	± 2.5	PASS
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Model: Philips S338

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz								
				tage				
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict	
	LCH	VL	TN	0.46	0.000247	± 2.5	PASS	
		VN	TN	0.35	0.000188	± 2.5	PASS	
		VH	TN	1.05	0.000565	± 2.5	PASS	
	MCH	VL	TN	2.33	0.001239	± 2.5	PASS	
QPSK		VN	TN	-0.11	-0.000059	± 2.5	PASS	
		VH	TN	1.31	0.000697	± 2.5	PASS	
		VL	TN	0.66	0.000347	± 2.5	PASS	
	НСН	VN	TN	0.76	0.000400	± 2.5	PASS	
		VH	TN	-0.81	-0.000426	± 2.5	PASS	
	LCH	VL	TN	2.17	0.001167	± 2.5	PASS	
		VN	TN	1.52	0.000817	± 2.5	PASS	
		VH	TN	1.18	0.000634	± 2.5	PASS	
	MCH	VL	TN	-0.32	-0.000170	± 2.5	PASS	
16QAM		VN	TN	1.82	0.000968	± 2.5	PASS	
		VH	TN	-1.77	-0.000941	± 2.5	PASS	
	НСН	VL	TN	-0.8	-0.000421	± 2.5	PASS	
		VN	TN	2.31	0.001216	± 2.5	PASS	
		VH	TN	1.53	0.000805	± 2.5	PASS	
			Tempe	erature				
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict	
	LCH	VN	-30	4.24	0.002280	± 2.5	PASS	
		VN	-20	3.85	0.002070	± 2.5	PASS	
		VN	-10	2.75	0.001478	± 2.5	PASS	
		VN	0	2.92	0.001570	± 2.5	PASS	
		VN	10	0.57	0.000306	± 2.5	PASS	
		VN	20	0.7	0.000376	± 2.5	PASS	
		VN	30	0.6	0.000323	± 2.5	PASS	
QPSK		VN	40	1.61	0.000866	± 2.5	PASS	
		VN	50	-0.2	-0.000108	± 2.5	PASS	
	МСН	VN	-30	4.33	0.002303	± 2.5	PASS	
		VN	-20	-0.21	-0.000112	± 2.5	PASS	
		VN	-10	-0.81	-0.000431	± 2.5	PASS	
		VN	0	3.52	0.001872	± 2.5	PASS	
		VN	10	3.99	0.002122	± 2.5	PASS	
		VN	20	0.17	0.000090	± 2.5	PASS	

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		VN	30	-1.17	-0.000622	± 2.5	PASS
		VN	40	-1.39	-0.000739	± 2.5	PASS
		VN	50	0.2	0.000106	± 2.5	PASS
		VN	-30	4.46	0.002347	± 2.5	PASS
	нсн	VN	-20	0.41	0.000216	± 2.5	PASS
		VN	-10	4.48	0.002358	± 2.5	PASS
		VN	0	-1.15	-0.000605	± 2.5	PASS
		VN	10	4.41	0.002321	± 2.5	PASS
		VN	20	0.83	0.000437	± 2.5	PASS
		VN	30	1.39	0.000732	± 2.5	PASS
		VN	40	-1.35	-0.000711	± 2.5	PASS
		VN	50	-0.66	-0.000347	± 2.5	PASS
		VN	-30	-0.91	-0.000489	± 2.5	PASS
		VN	-20	3.87	0.002081	± 2.5	PASS
		VN	-10	0.58	0.000312	± 2.5	PASS
		VN	0	1.96	0.001054	± 2.5	PASS
	LCH	VN	10	-1.37	-0.000737	± 2.5	PASS
		VN	20	-1.48	-0.000796	± 2.5	PASS
		VN	30	2.33	0.001253	± 2.5	PASS
		VN	40	1.08	0.000581	± 2.5	PASS
		VN	50	1.76	0.000946	± 2.5	PASS
	МСН	VN	-30	3.24	0.001723	± 2.5	PASS
		VN	-20	1	0.000532	± 2.5	PASS
		VN	-10	4.52	0.002404	± 2.5	PASS
QPSK		VN	0	1.35	0.000718	± 2.5	PASS
		VN	10	-0.87	-0.000463	± 2.5	PASS
		VN	20	0.09	0.000048	± 2.5	PASS
		VN	30	3.35	0.001782	± 2.5	PASS
		VN	40	0.5	0.000266	± 2.5	PASS
		VN	50	1.93	0.001027	± 2.5	PASS
	НСН	VN	-30	4.33	0.002279	± 2.5	PASS
		VN	-20	1.53	0.000805	± 2.5	PASS
		VN	-10	-0.49	-0.000258	± 2.5	PASS
		VN	0	2.3	0.001211	± 2.5	PASS
		VN	10	-1.72	-0.000905	± 2.5	PASS
		VN	20	0.39	0.000205	± 2.5	PASS
		VN	30	4.45	0.002342	± 2.5	PASS
		VN	40	2.4	0.001263	± 2.5	PASS
		VN	50	1.1	0.000579	± 2.5	PASS