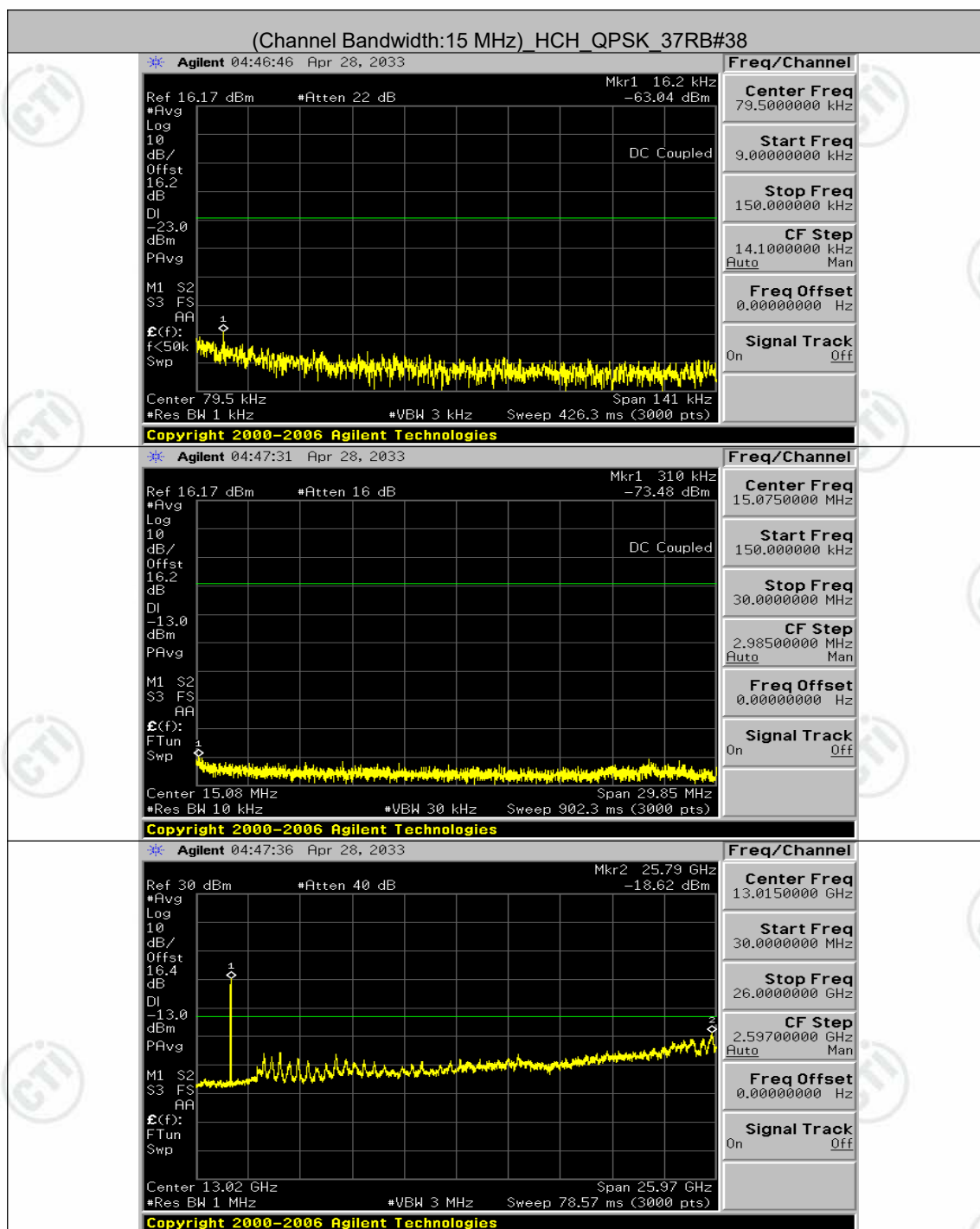
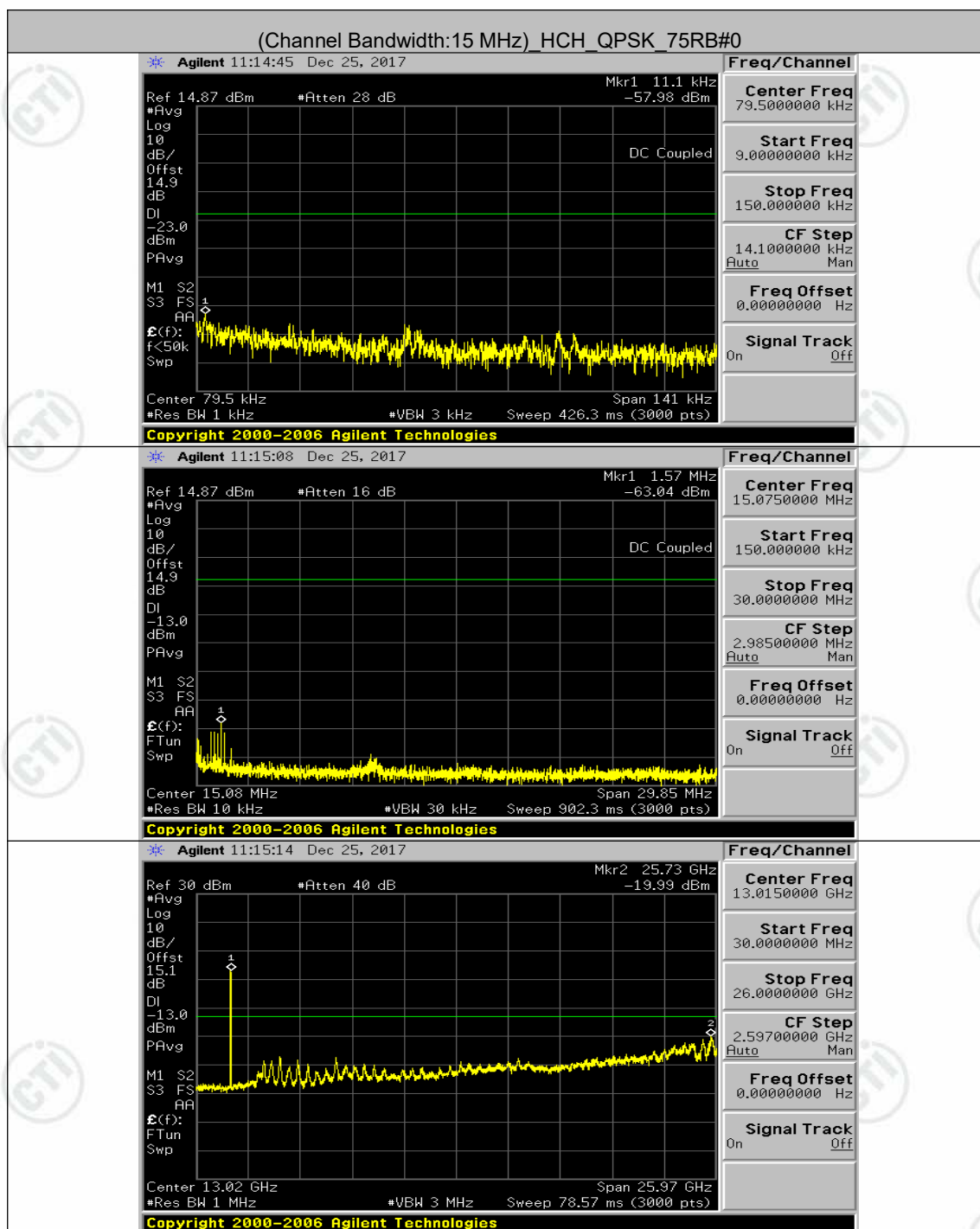
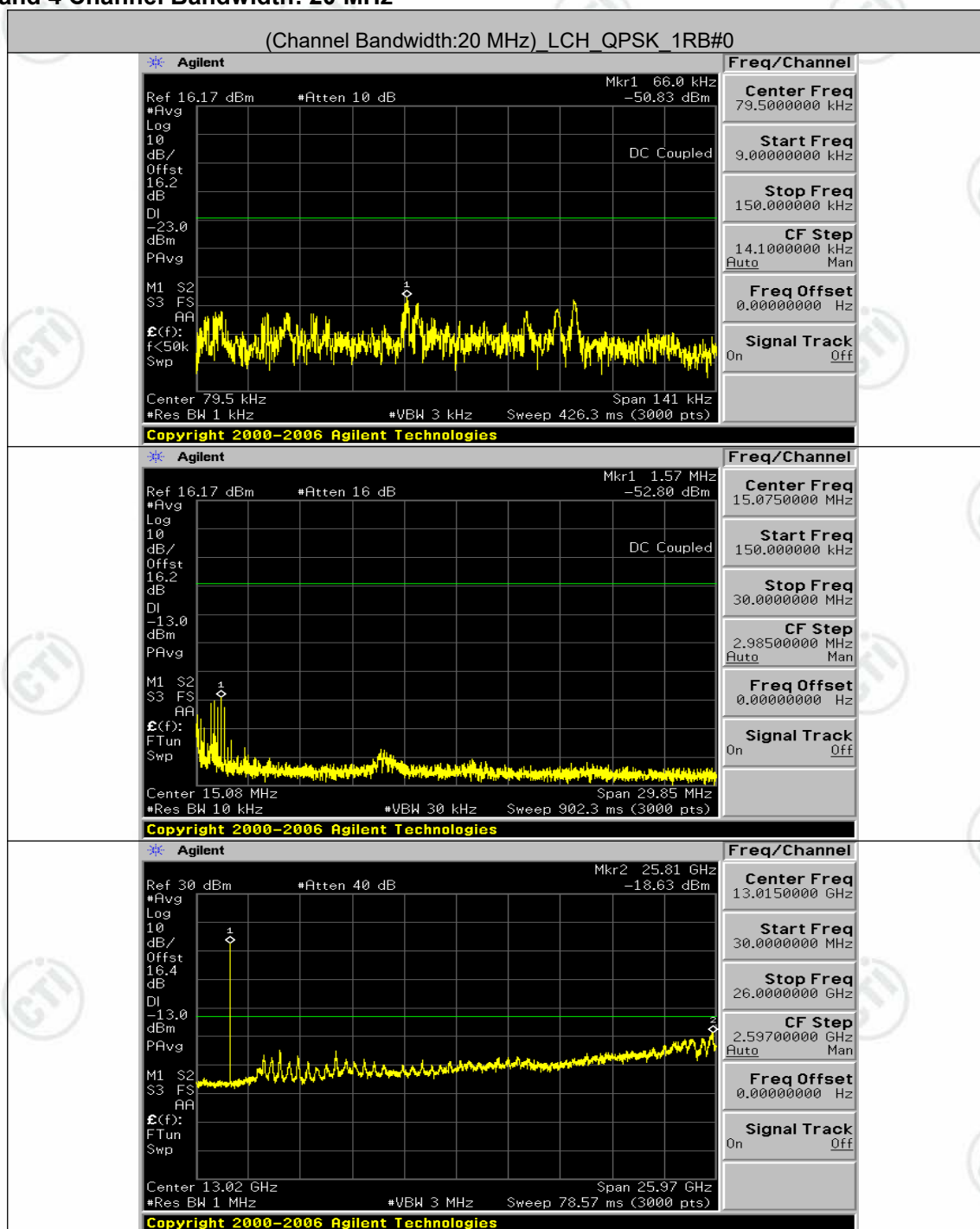
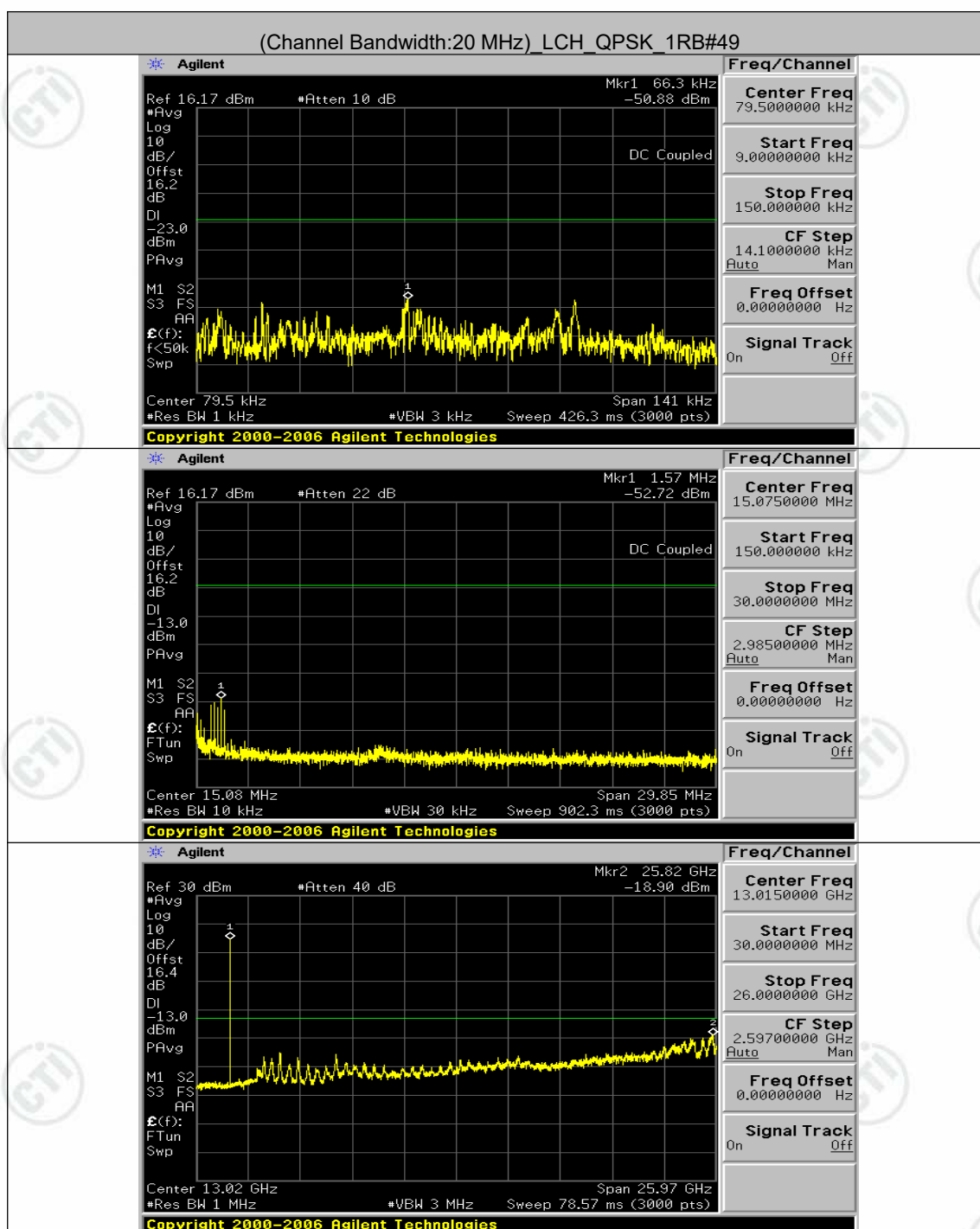


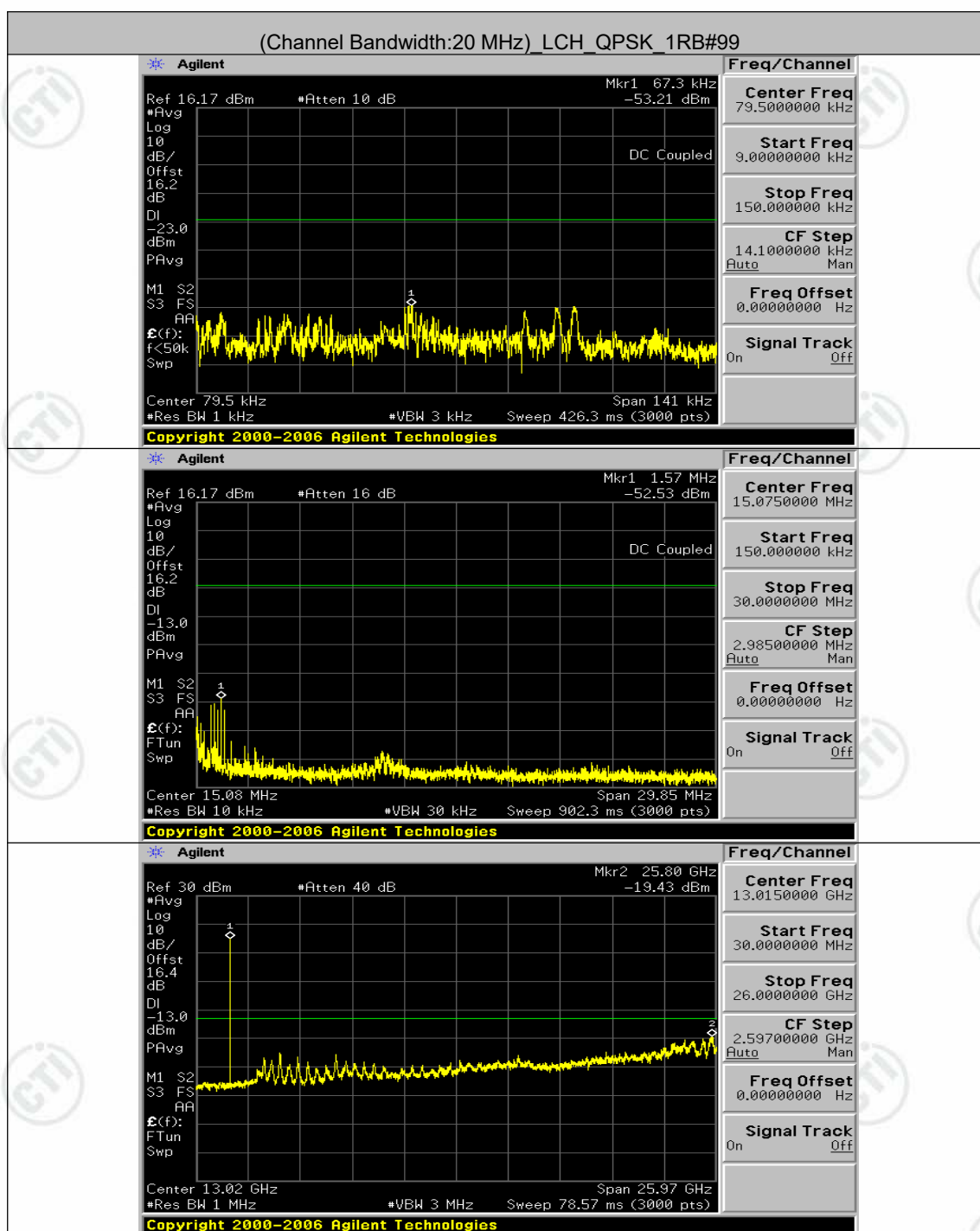


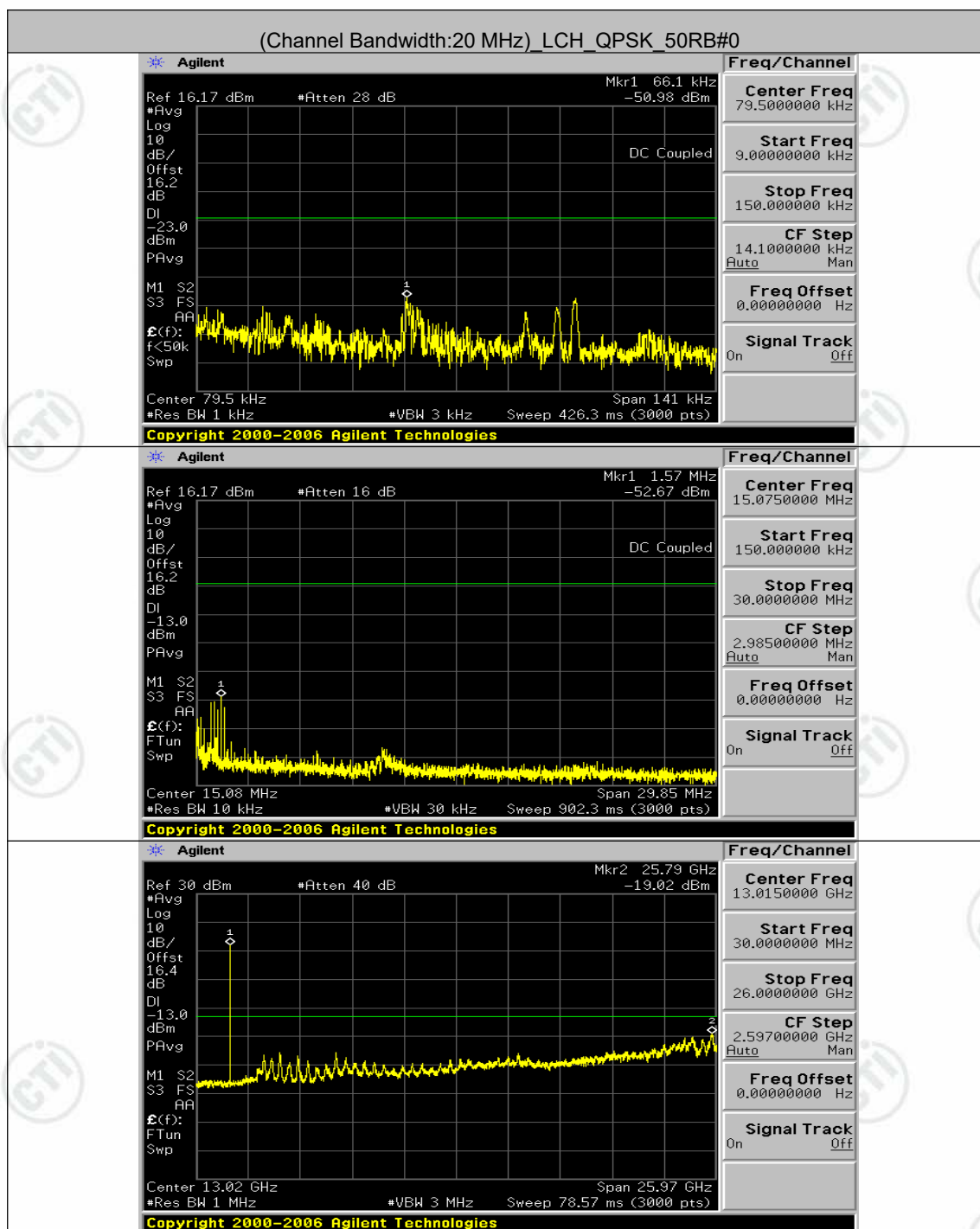


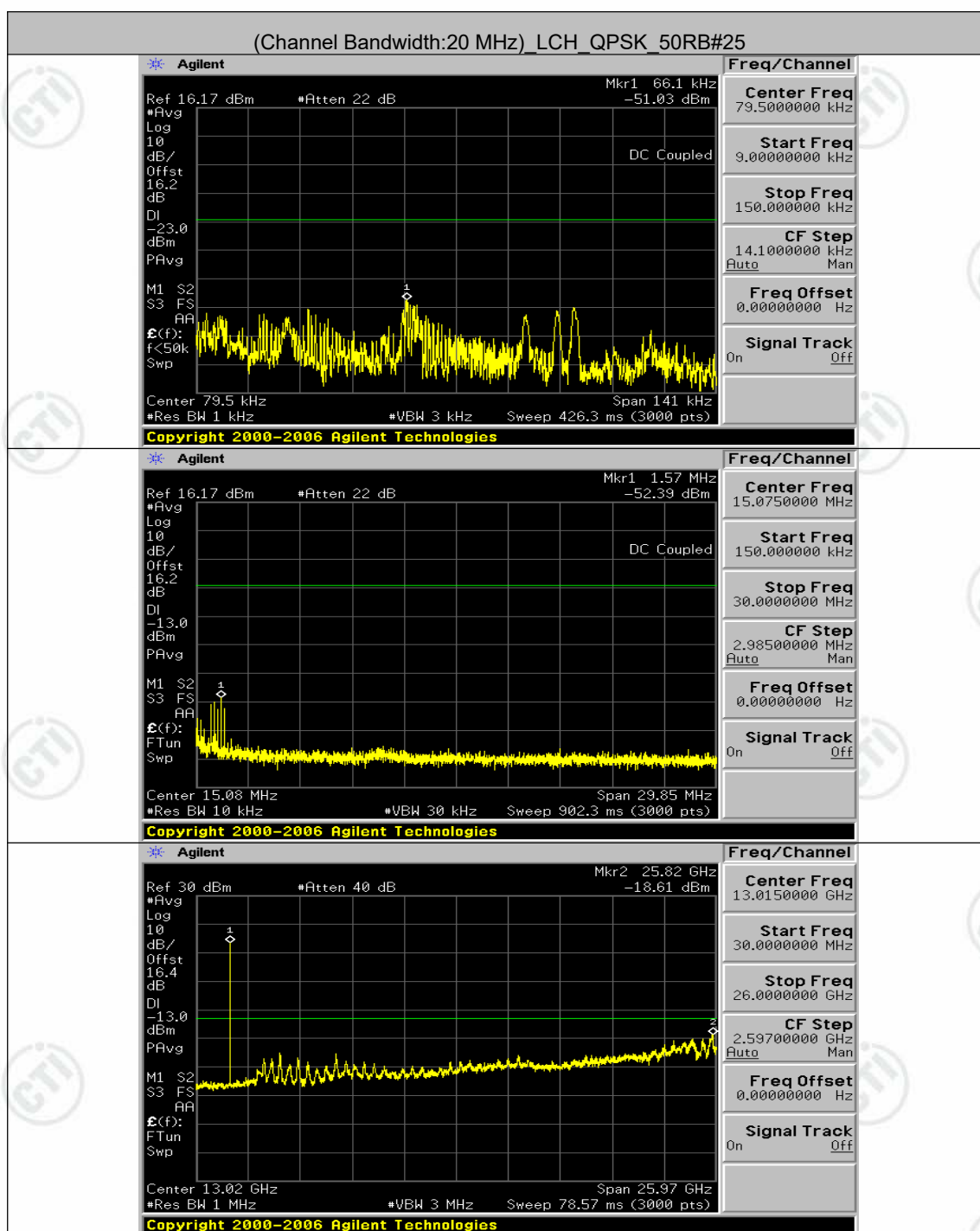
LTE Band 4 Channel Bandwidth: 20 MHz

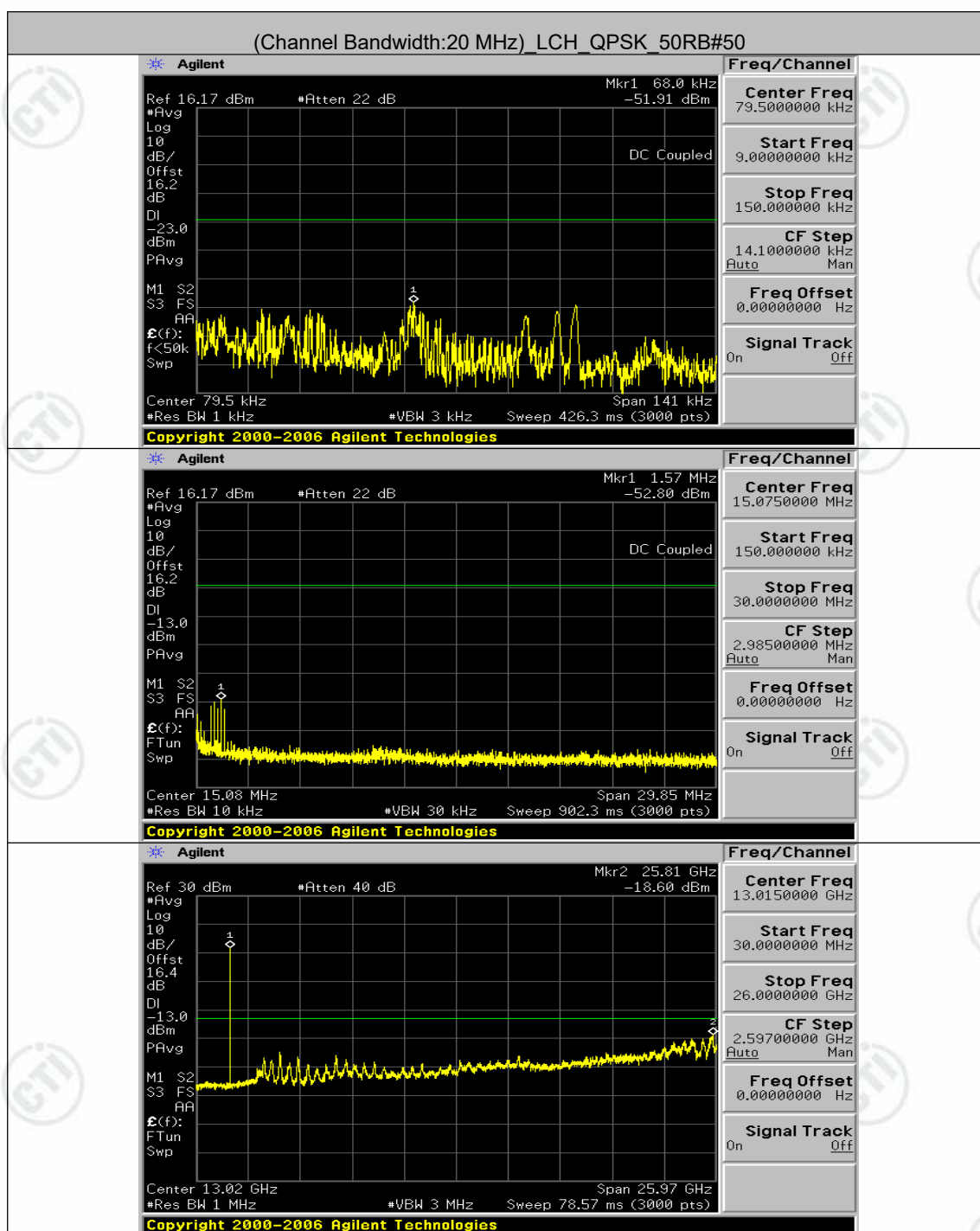


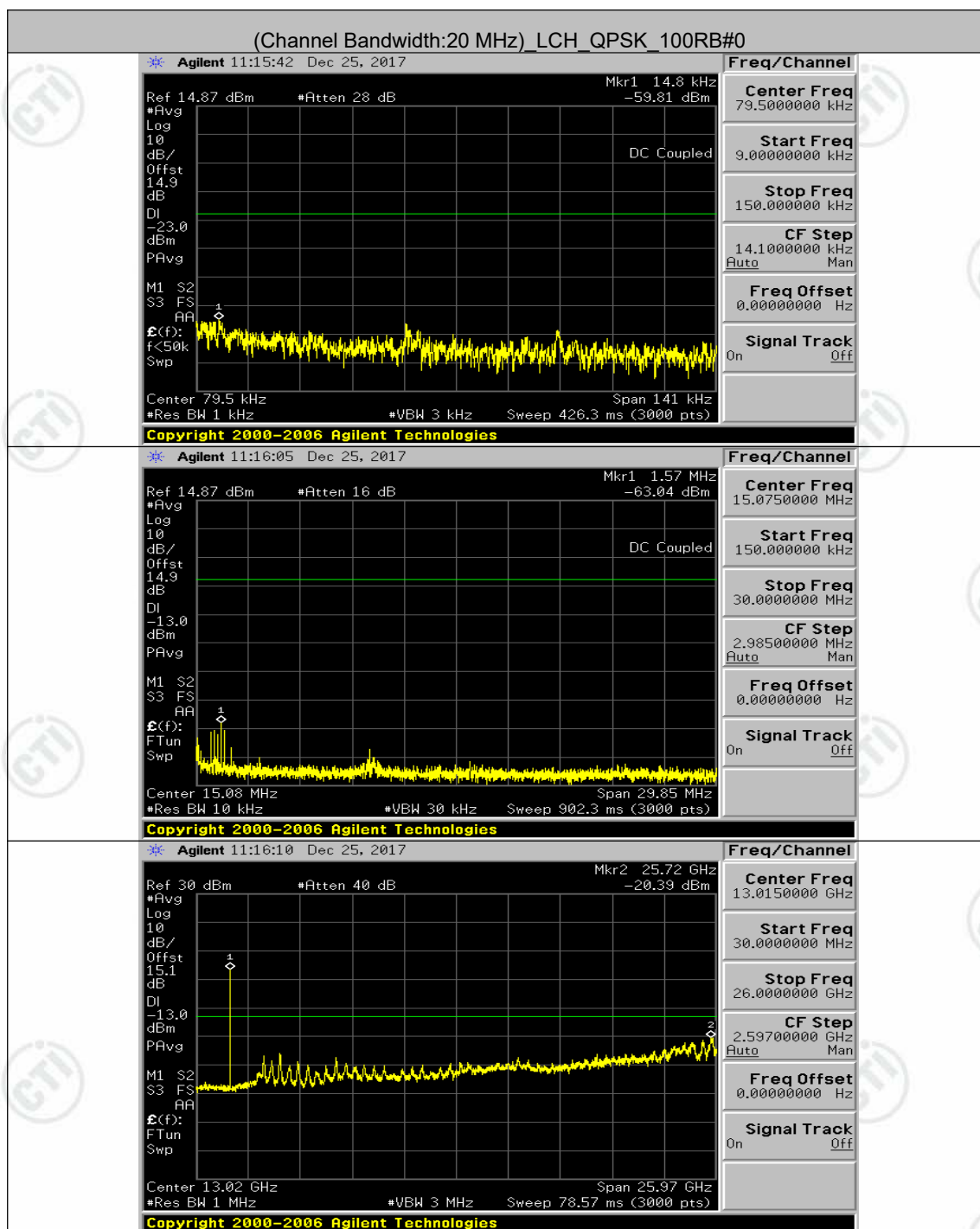


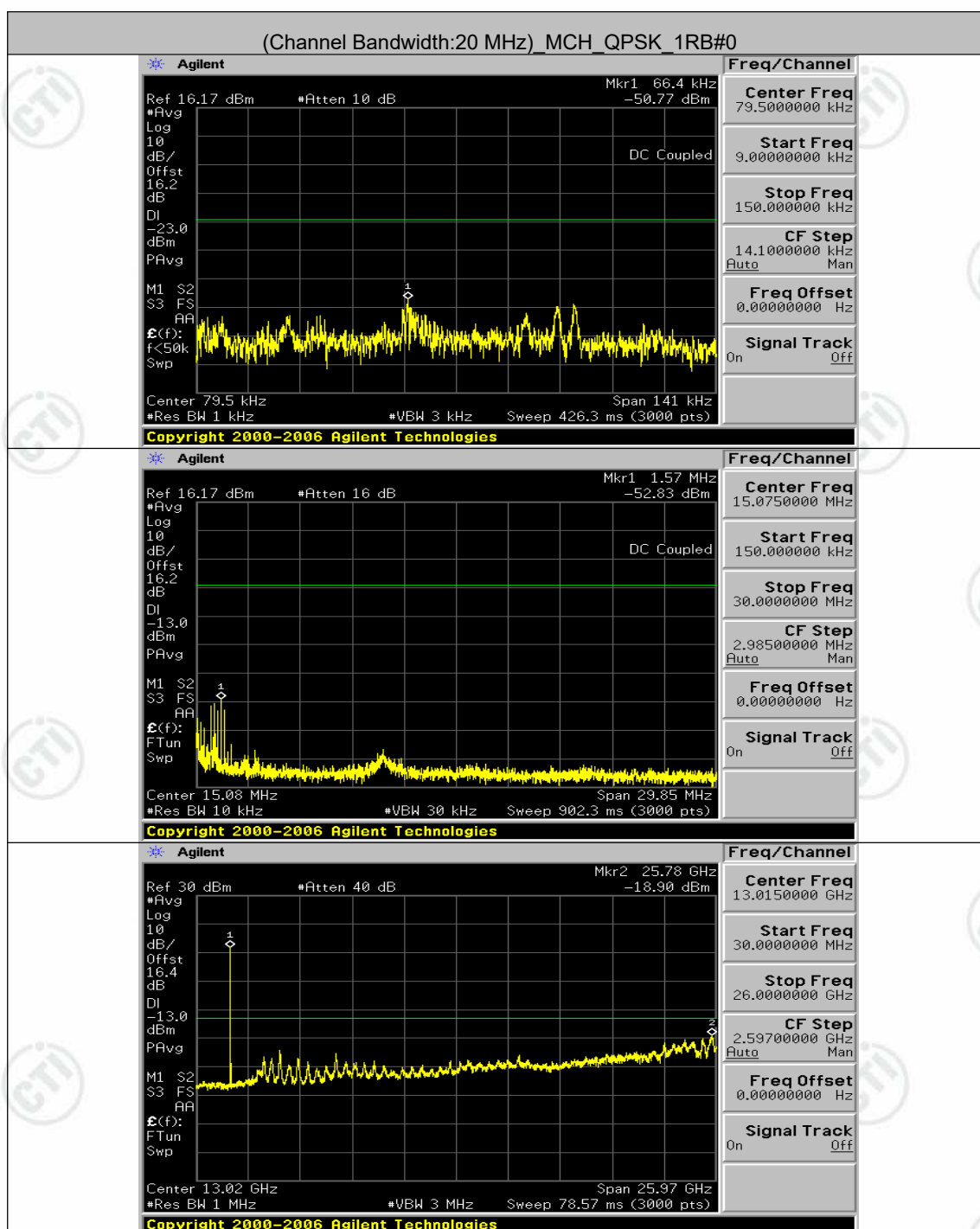


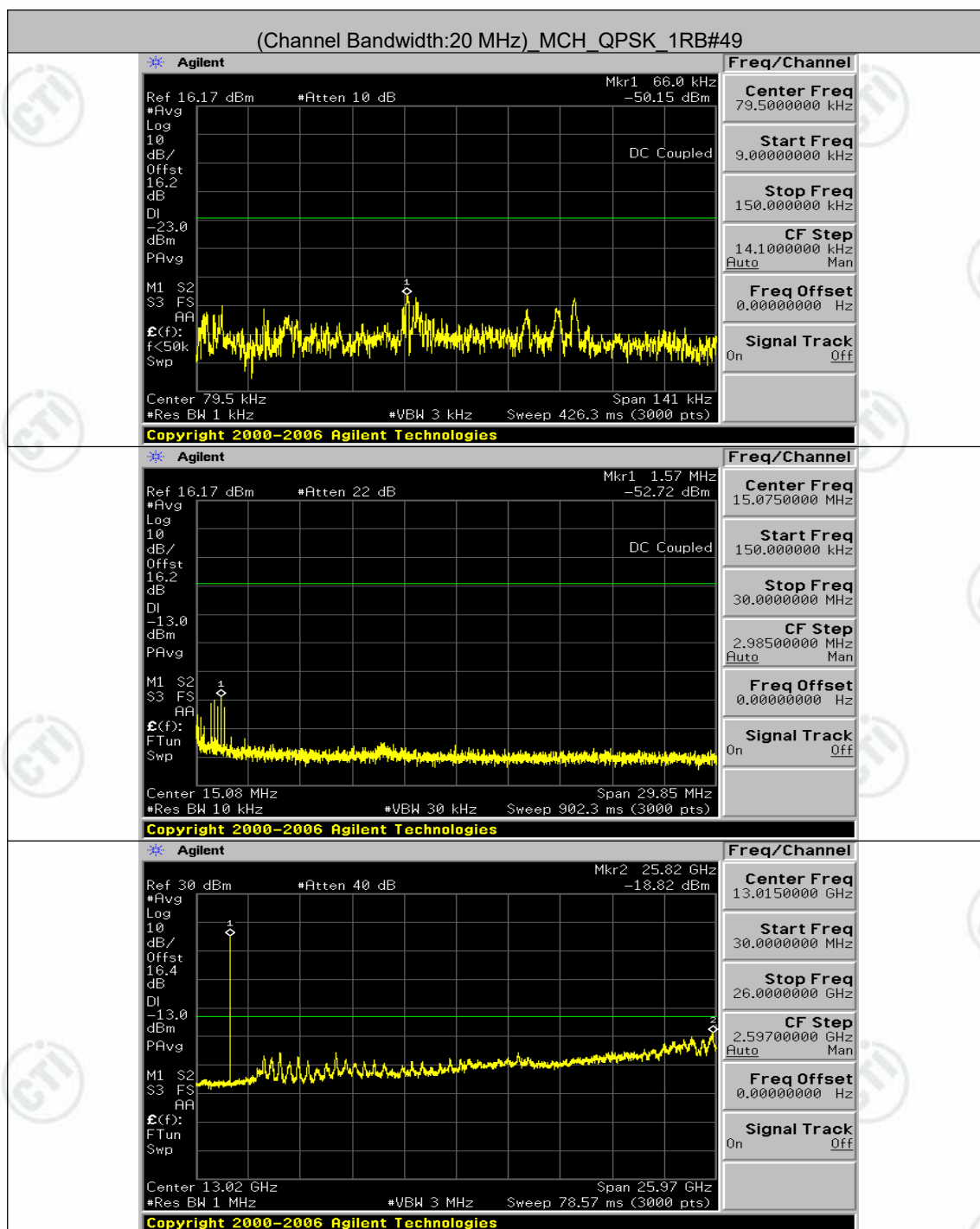


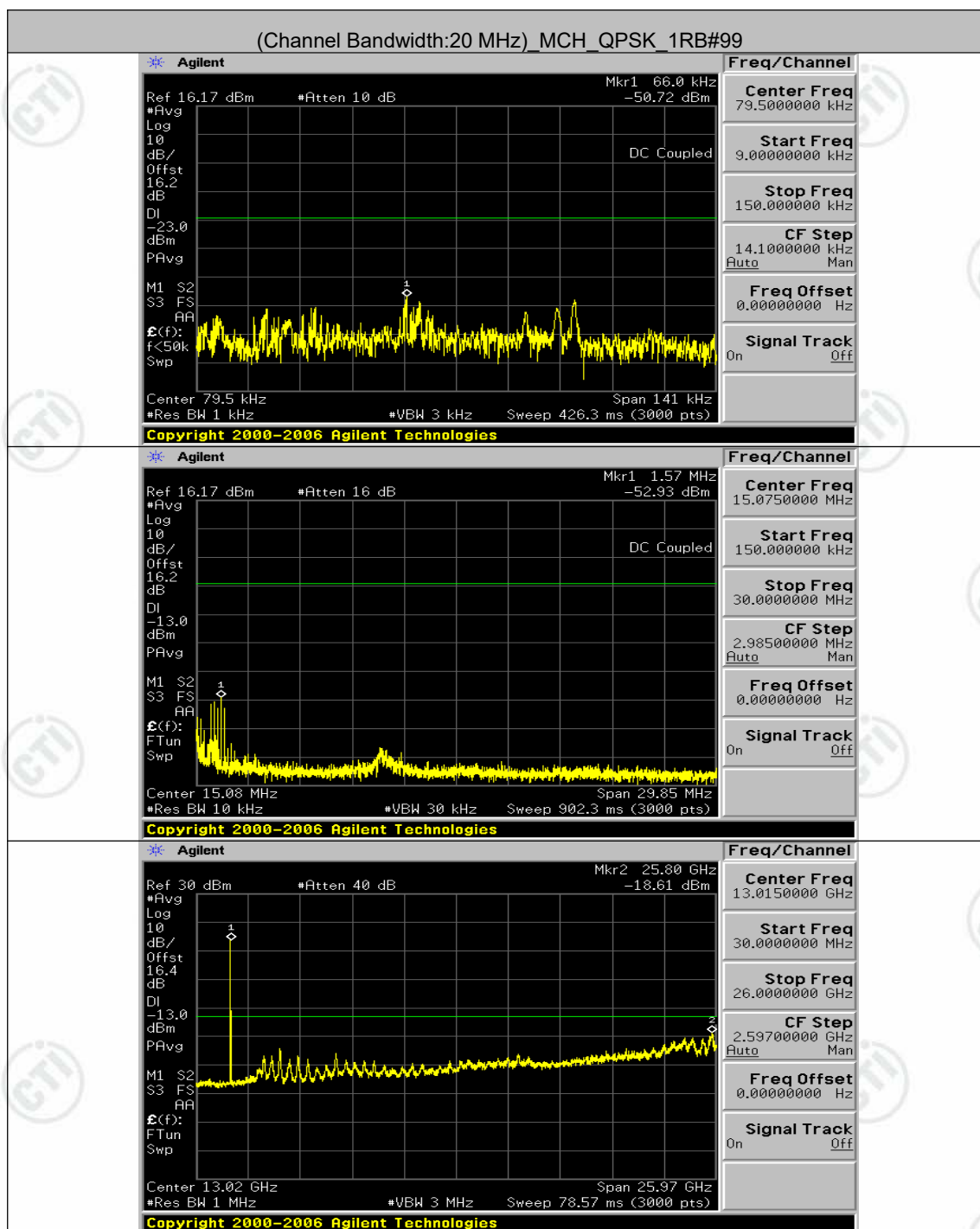


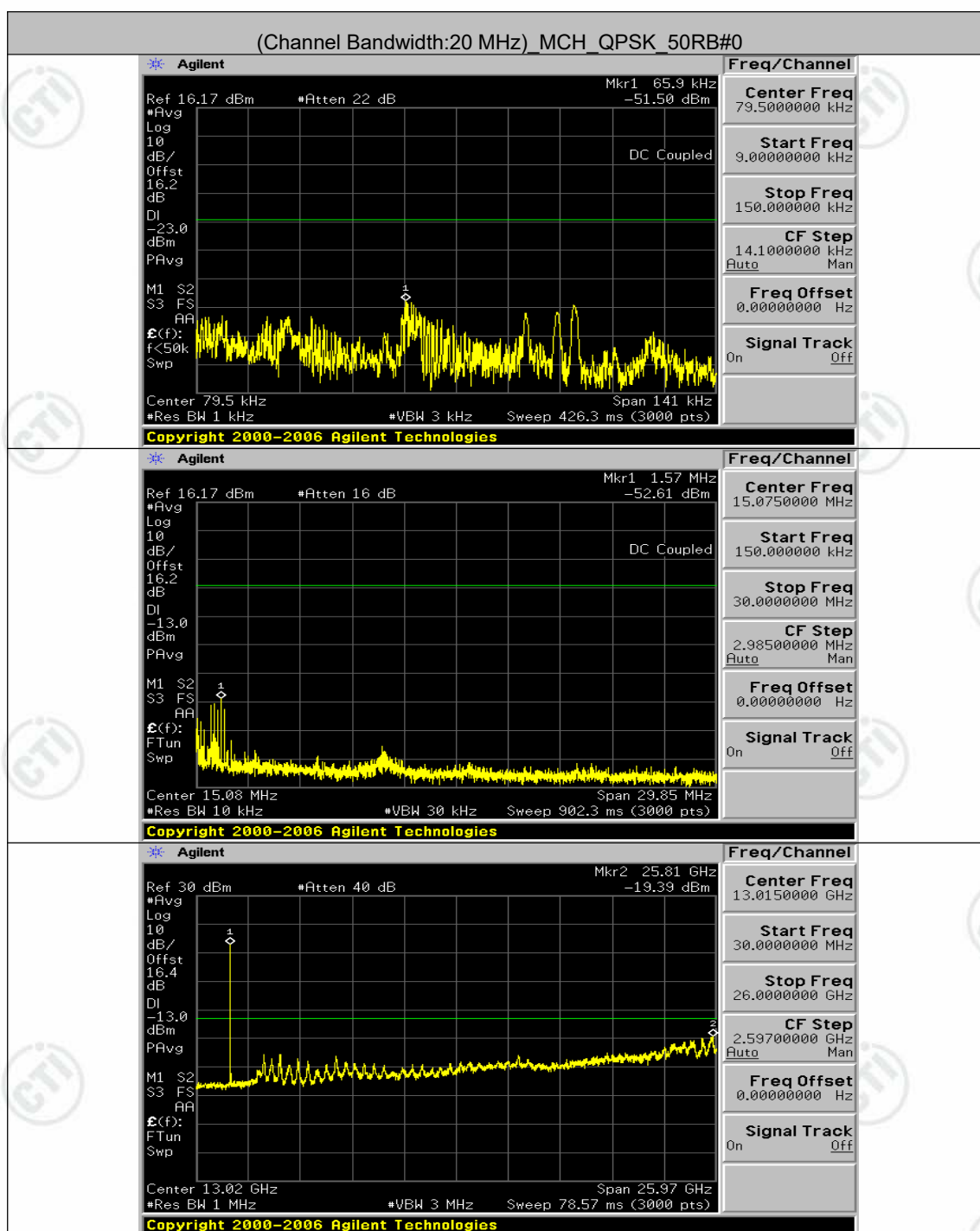


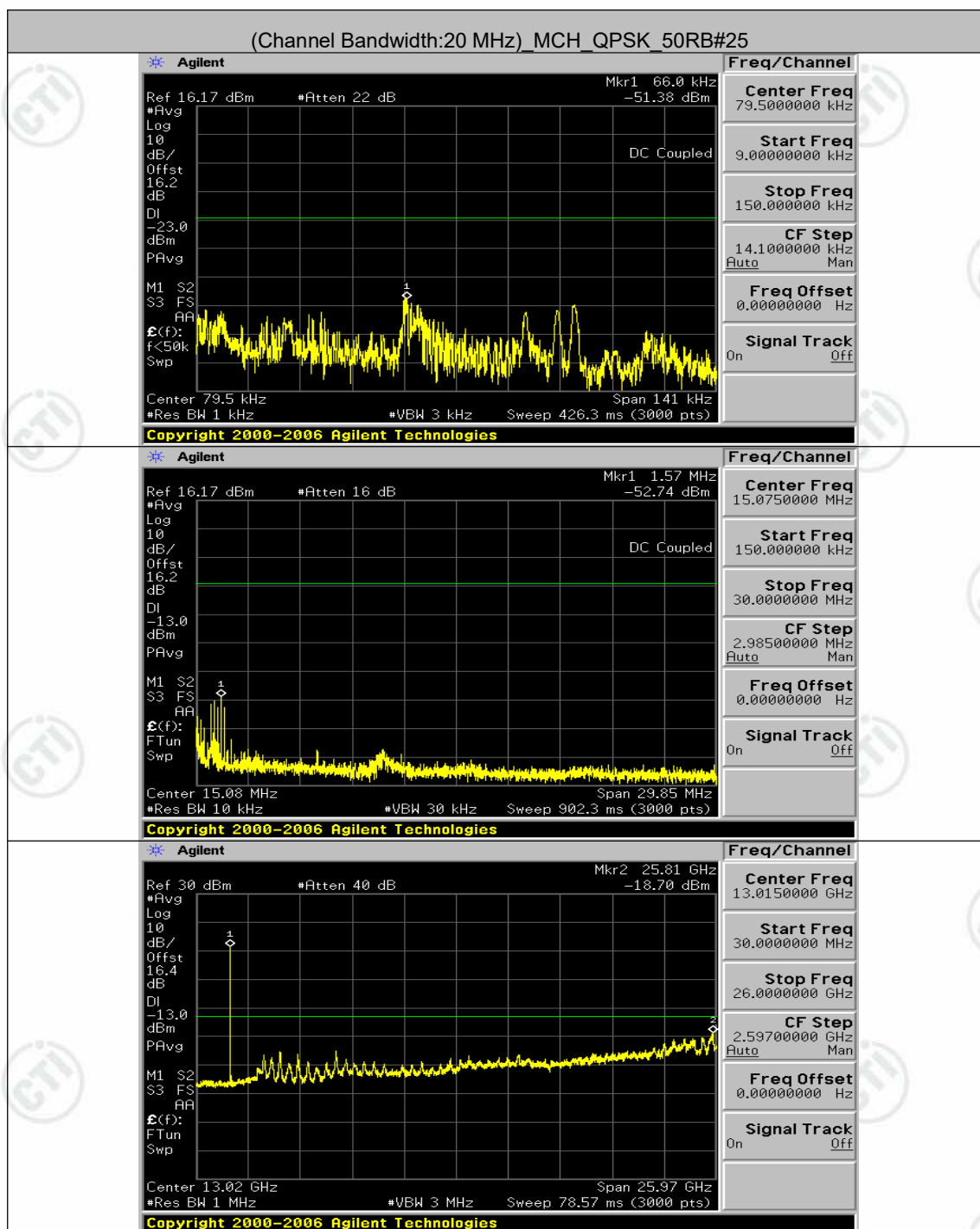


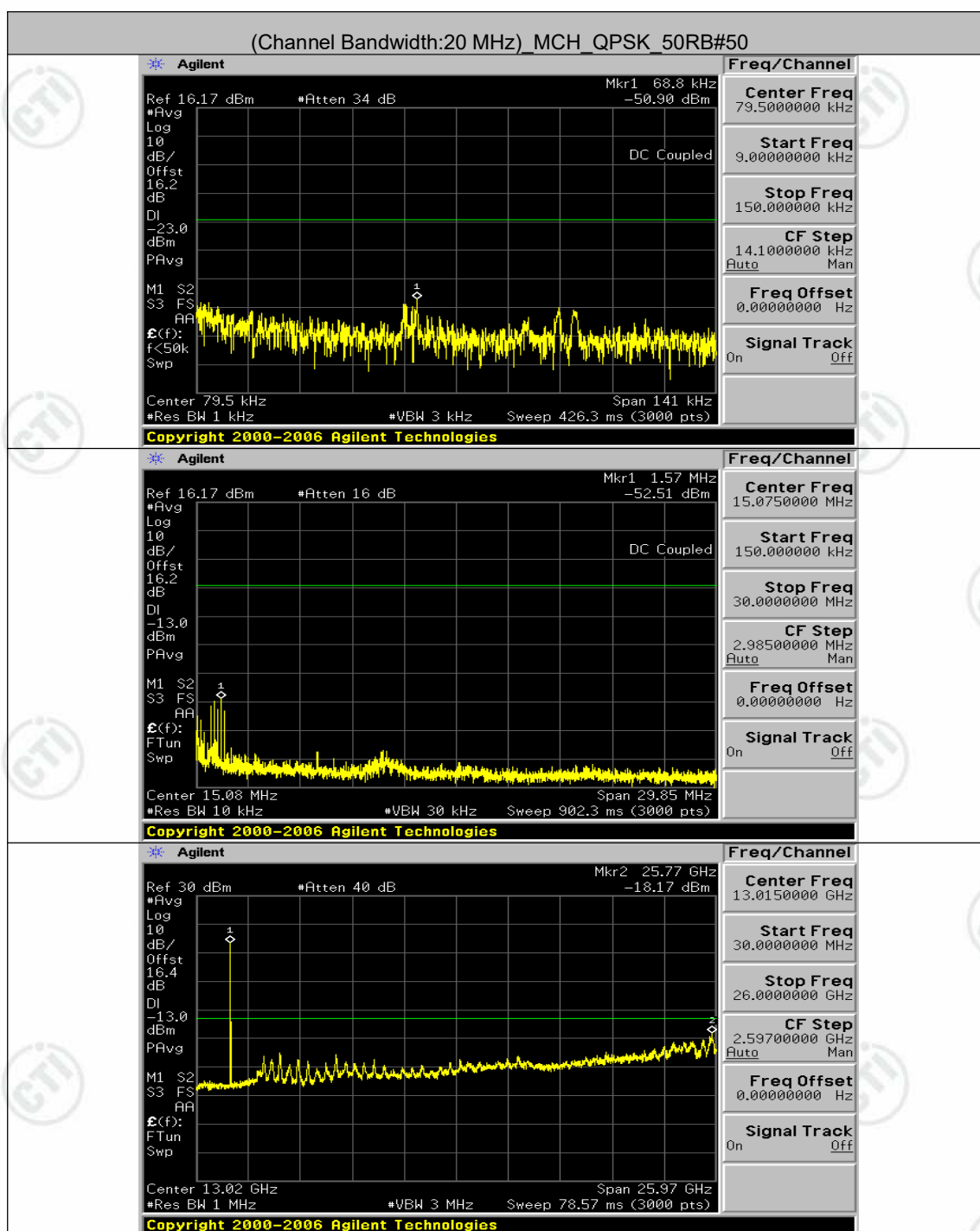


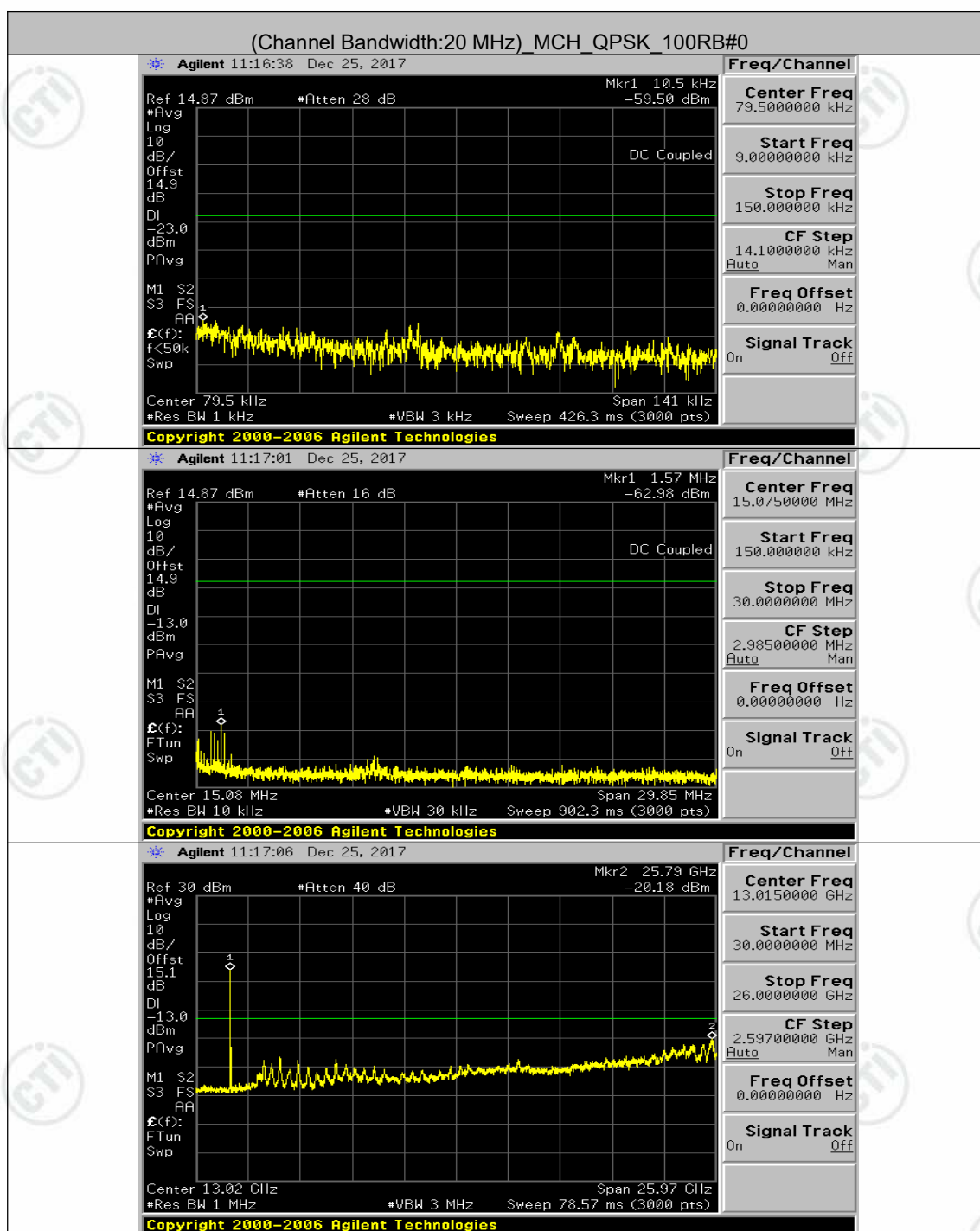


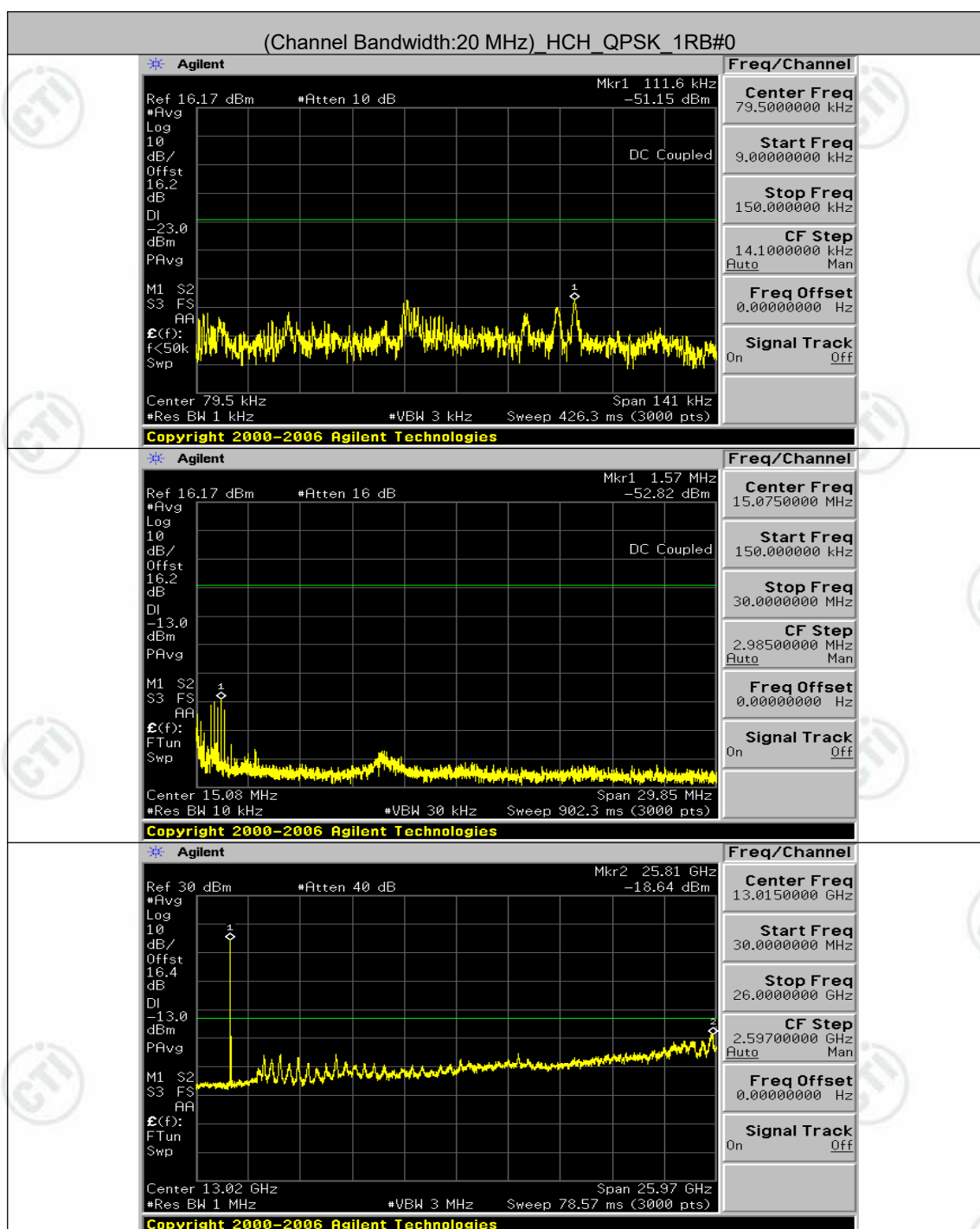


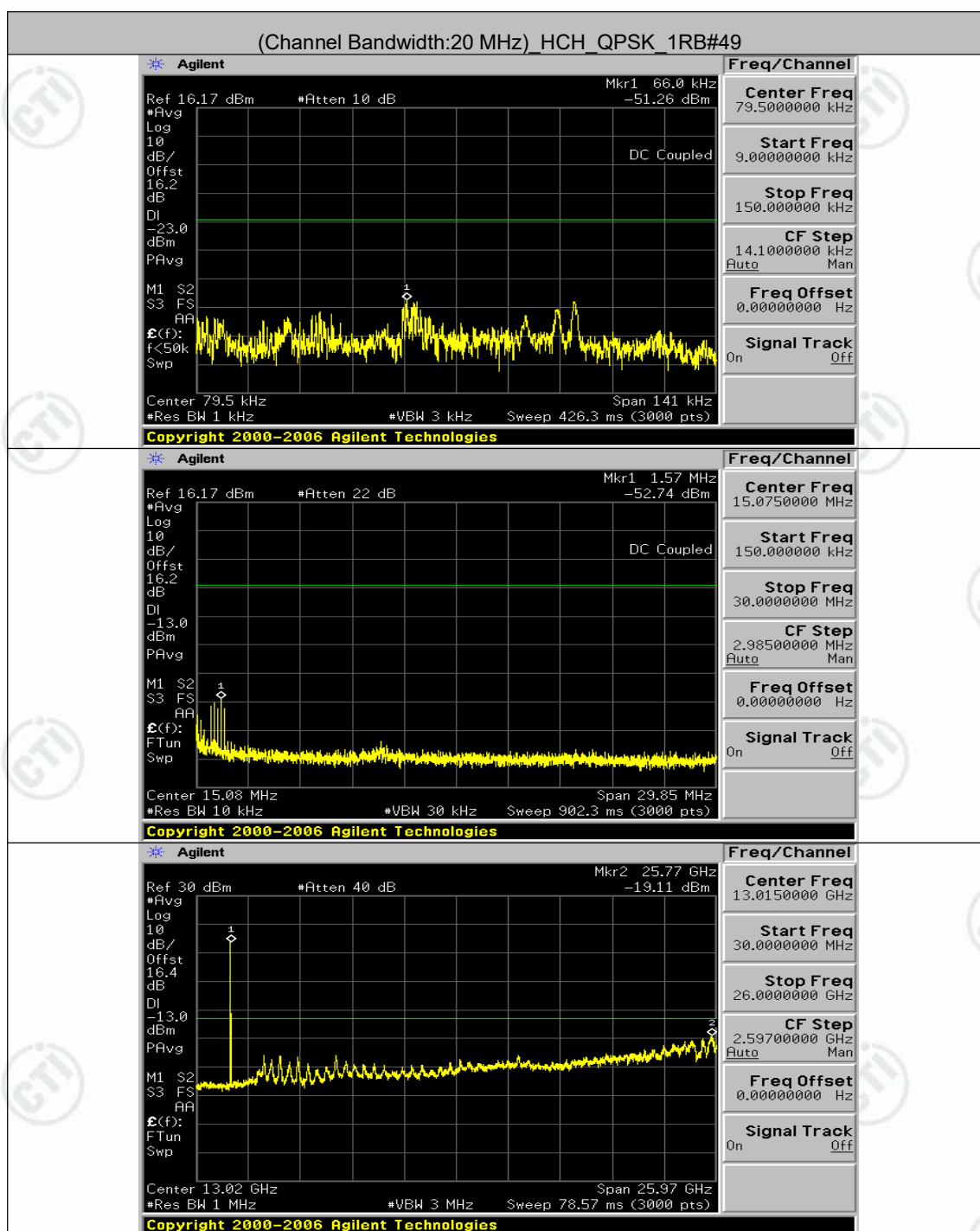


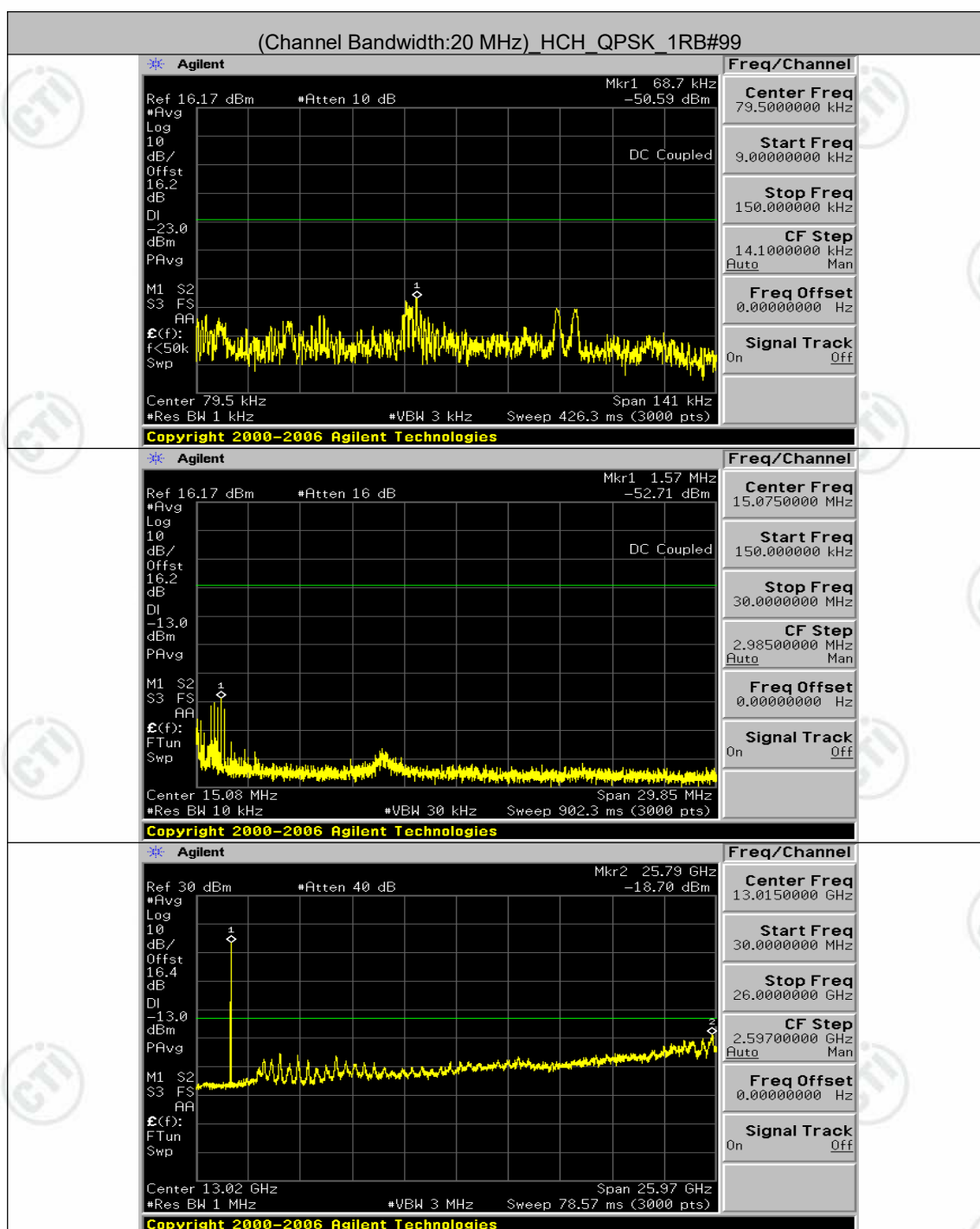


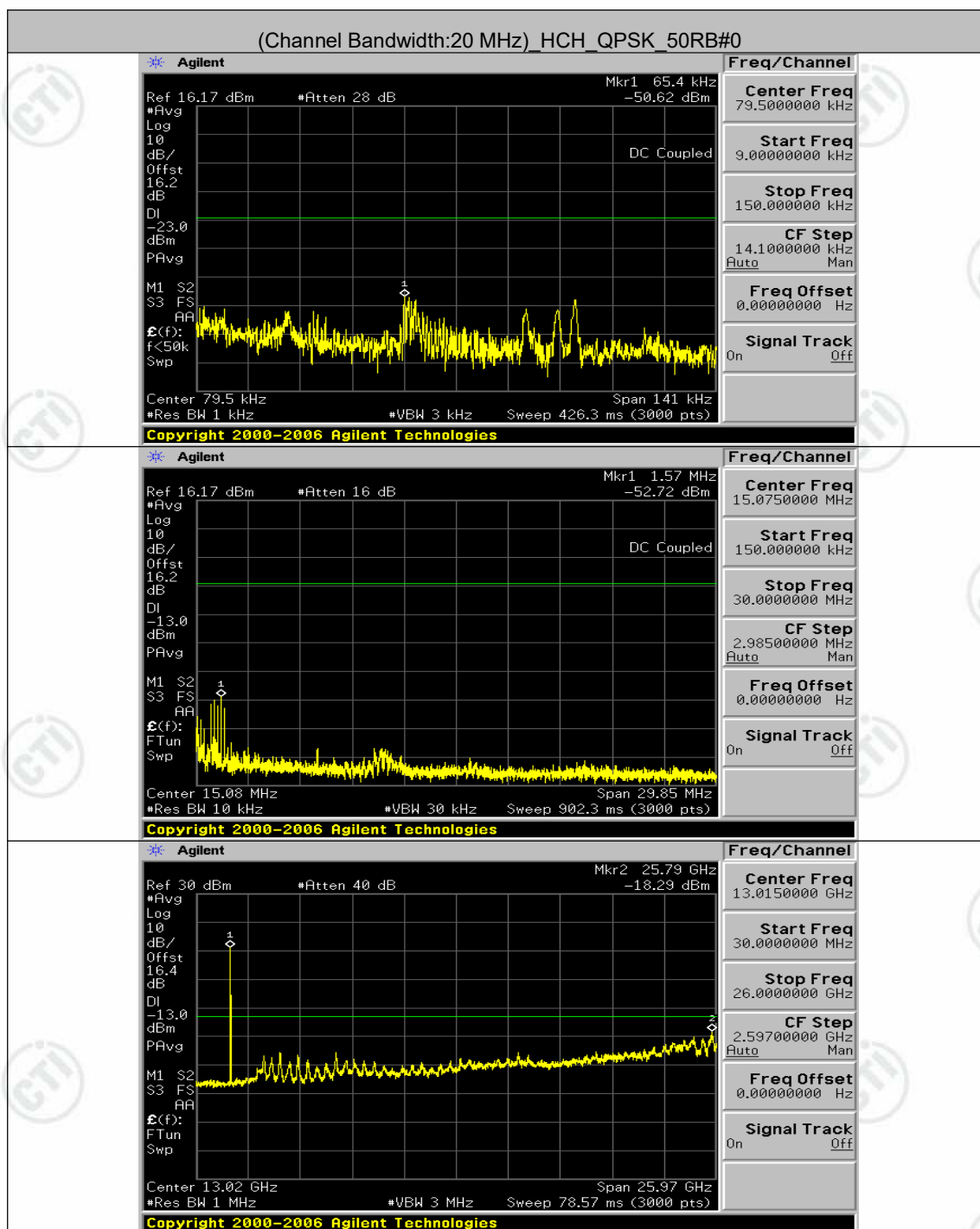


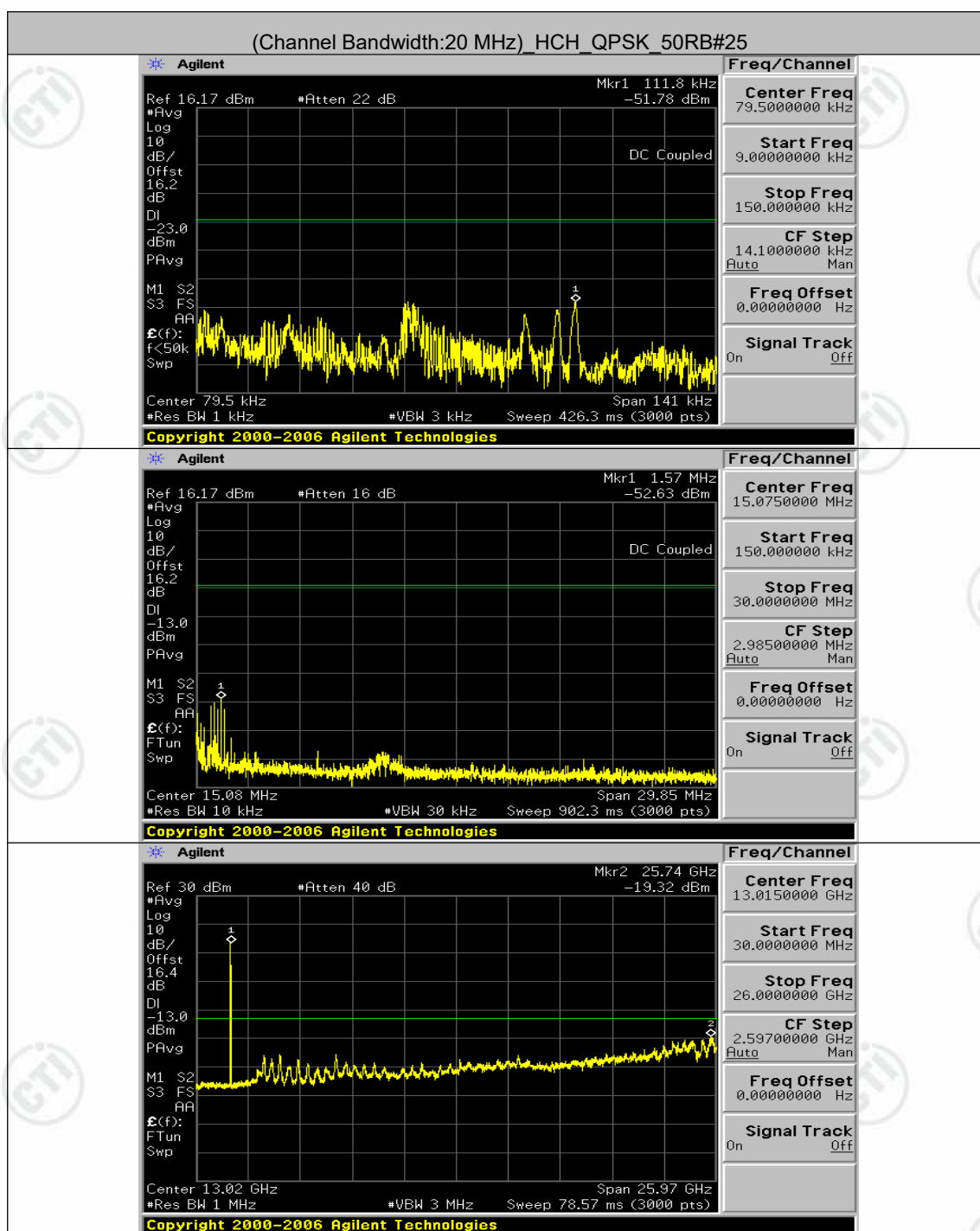


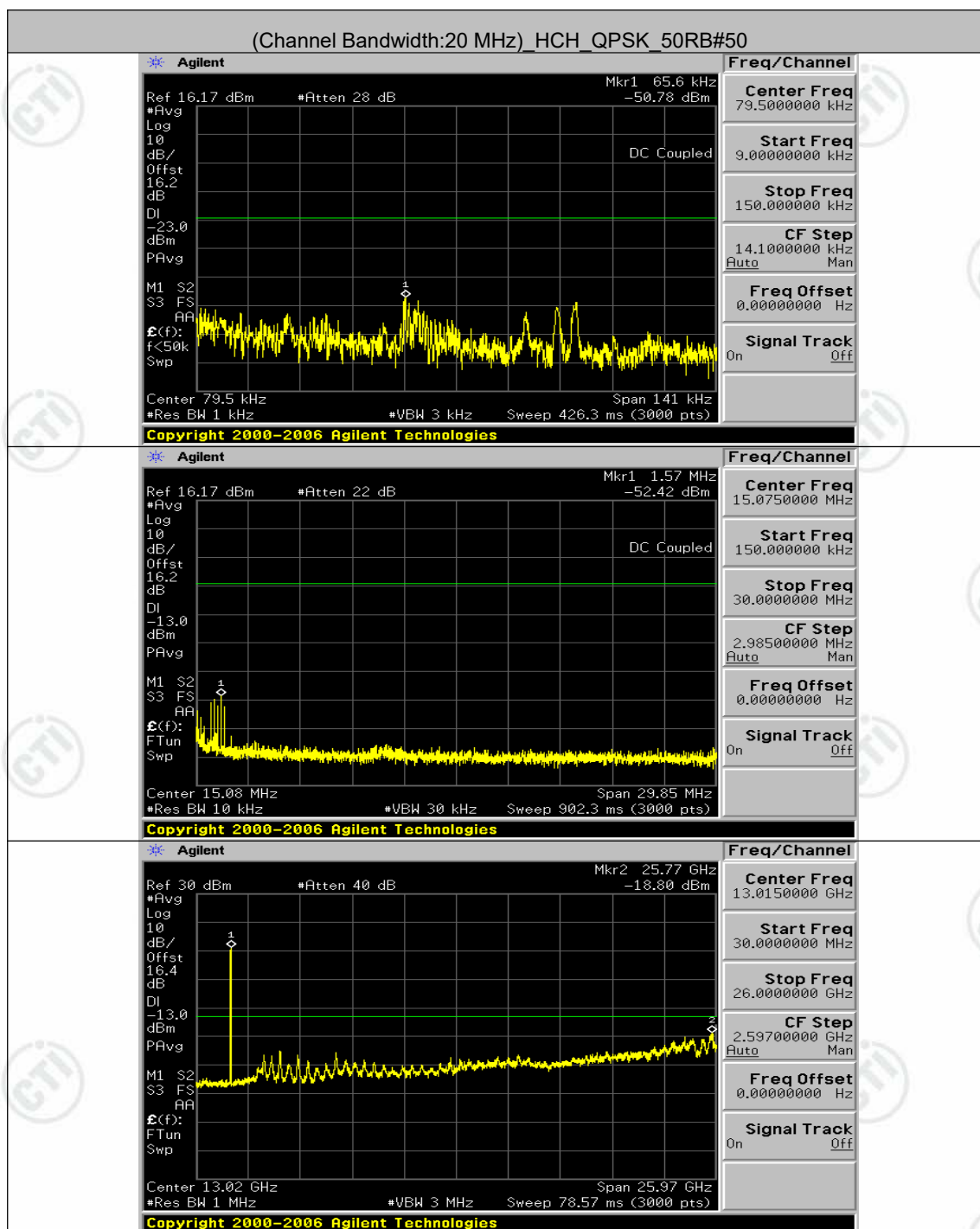


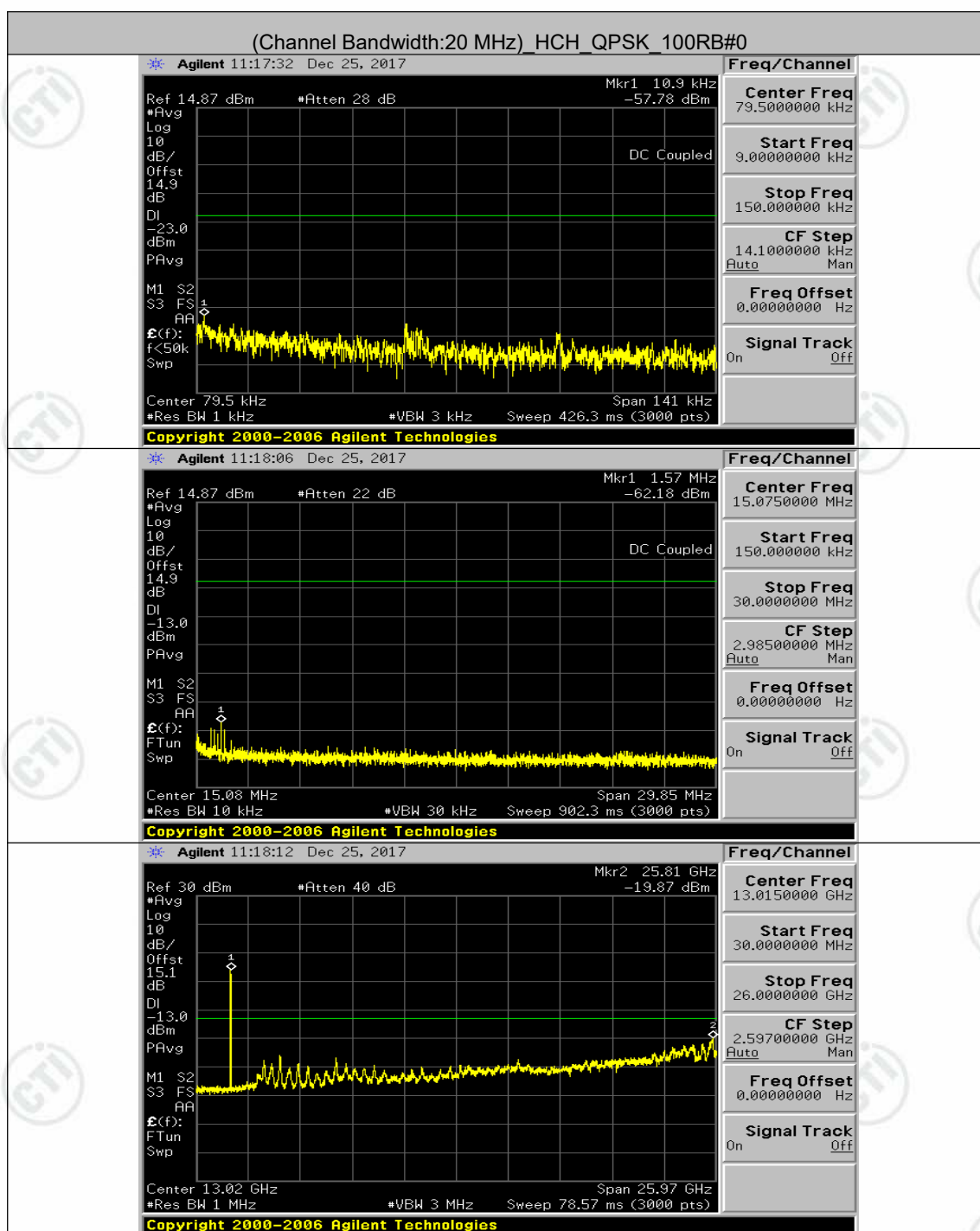






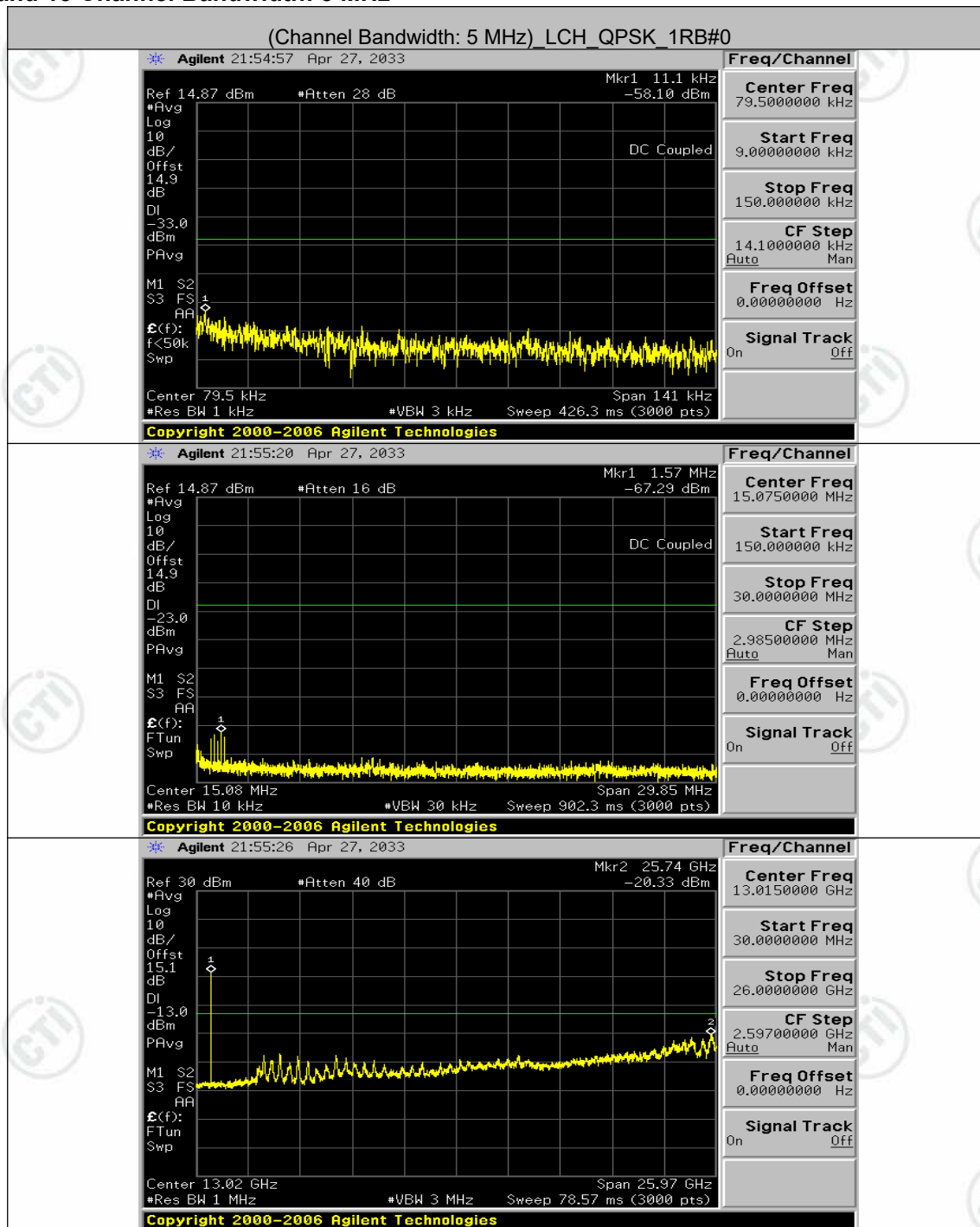


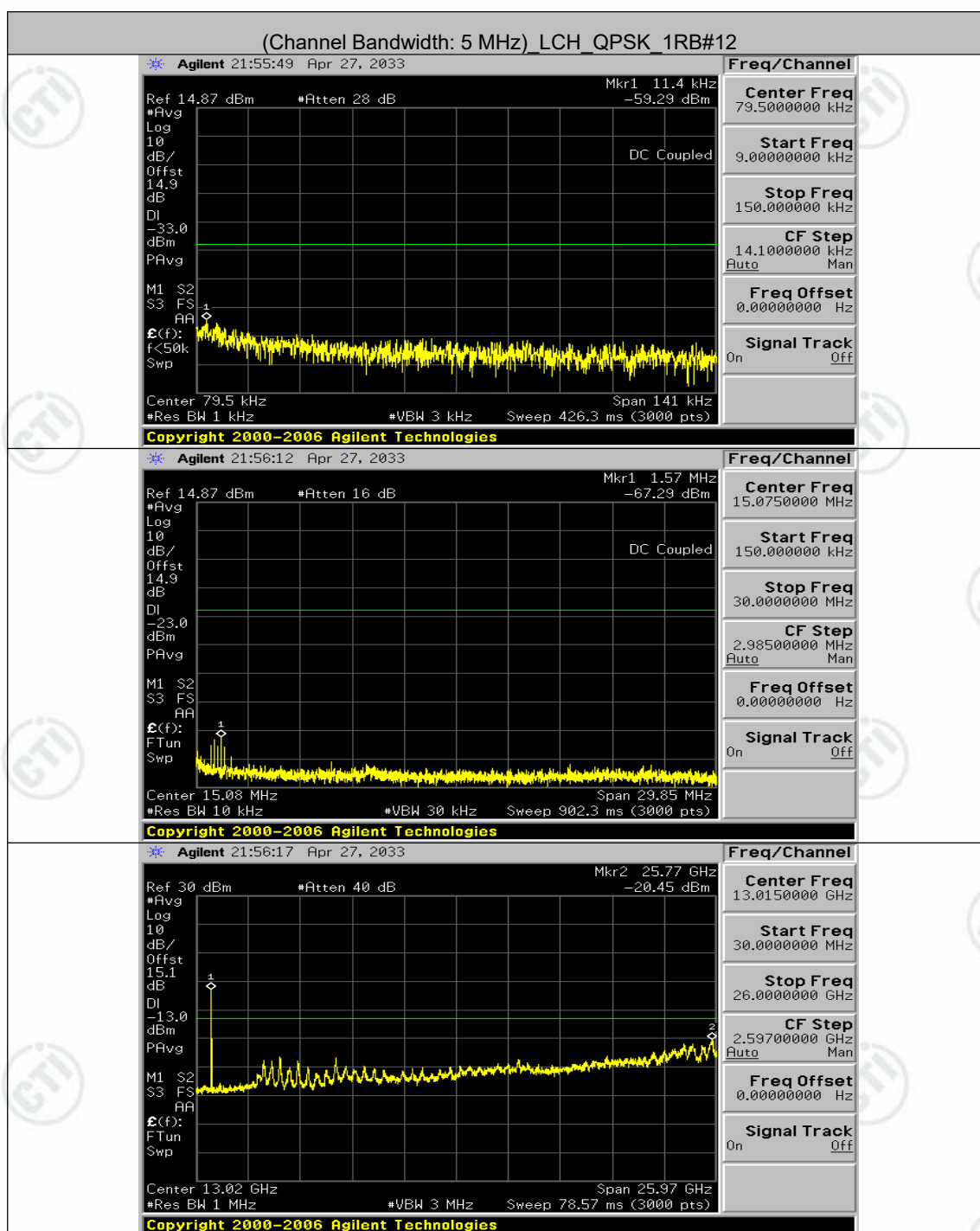


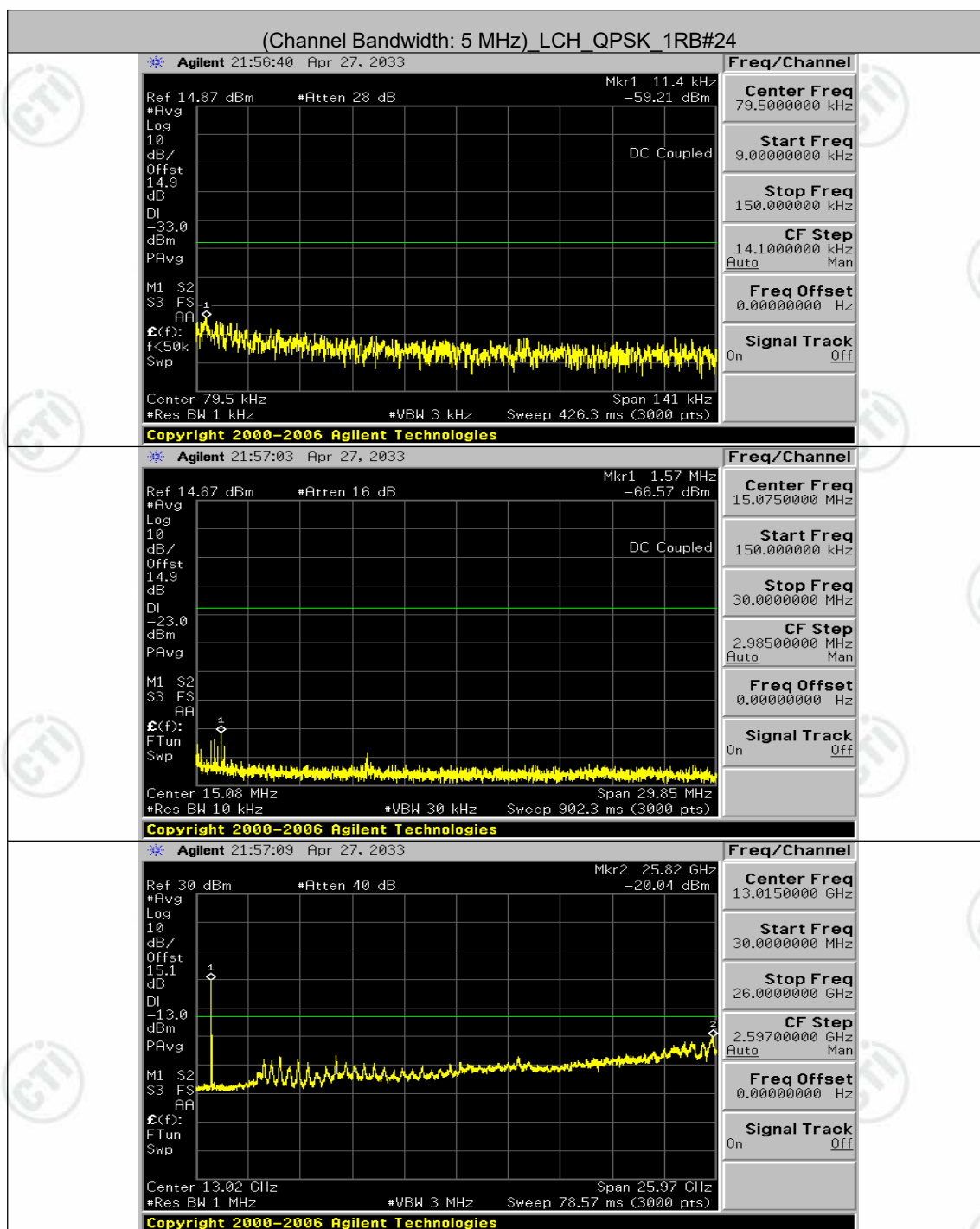


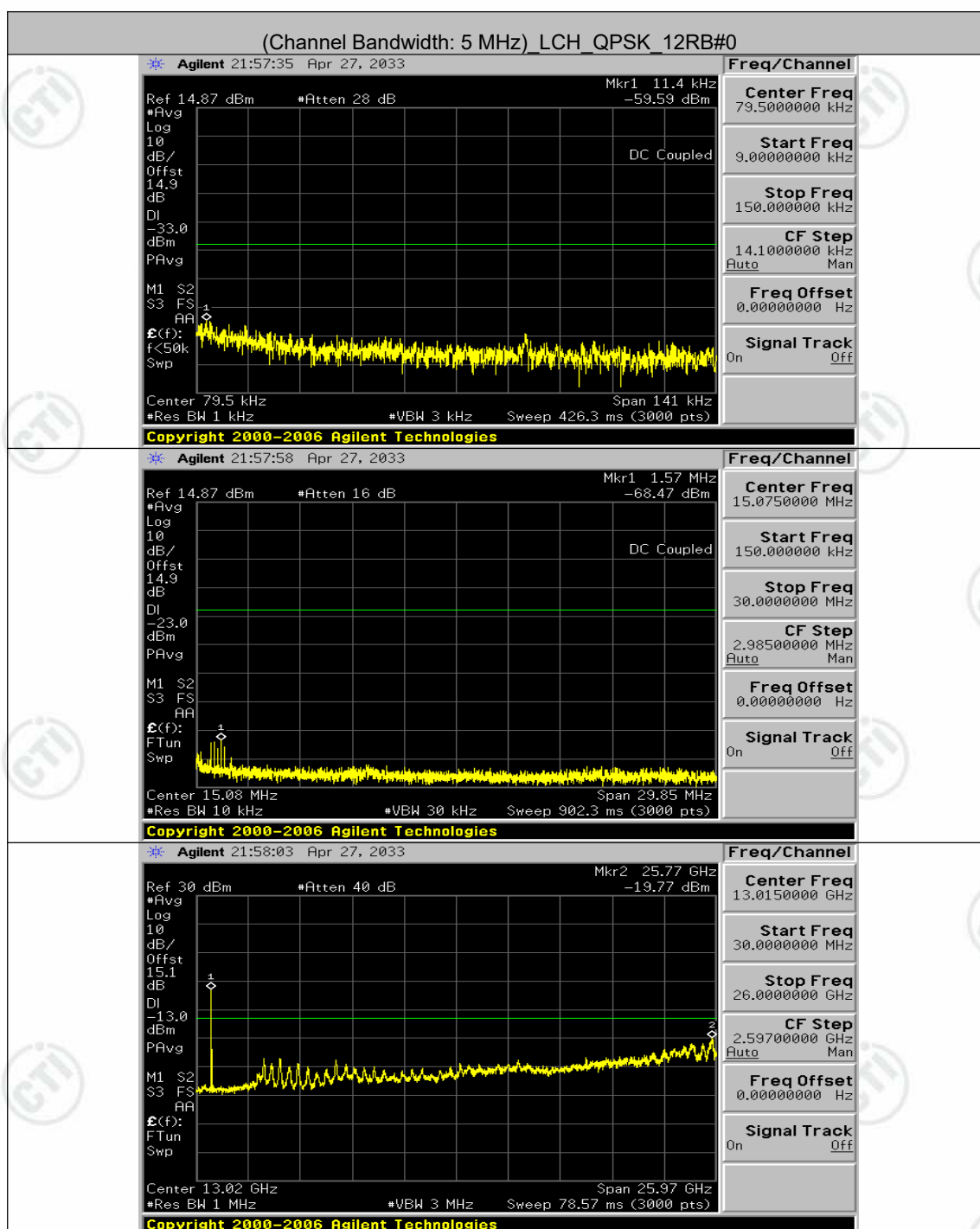
LTE Band 13

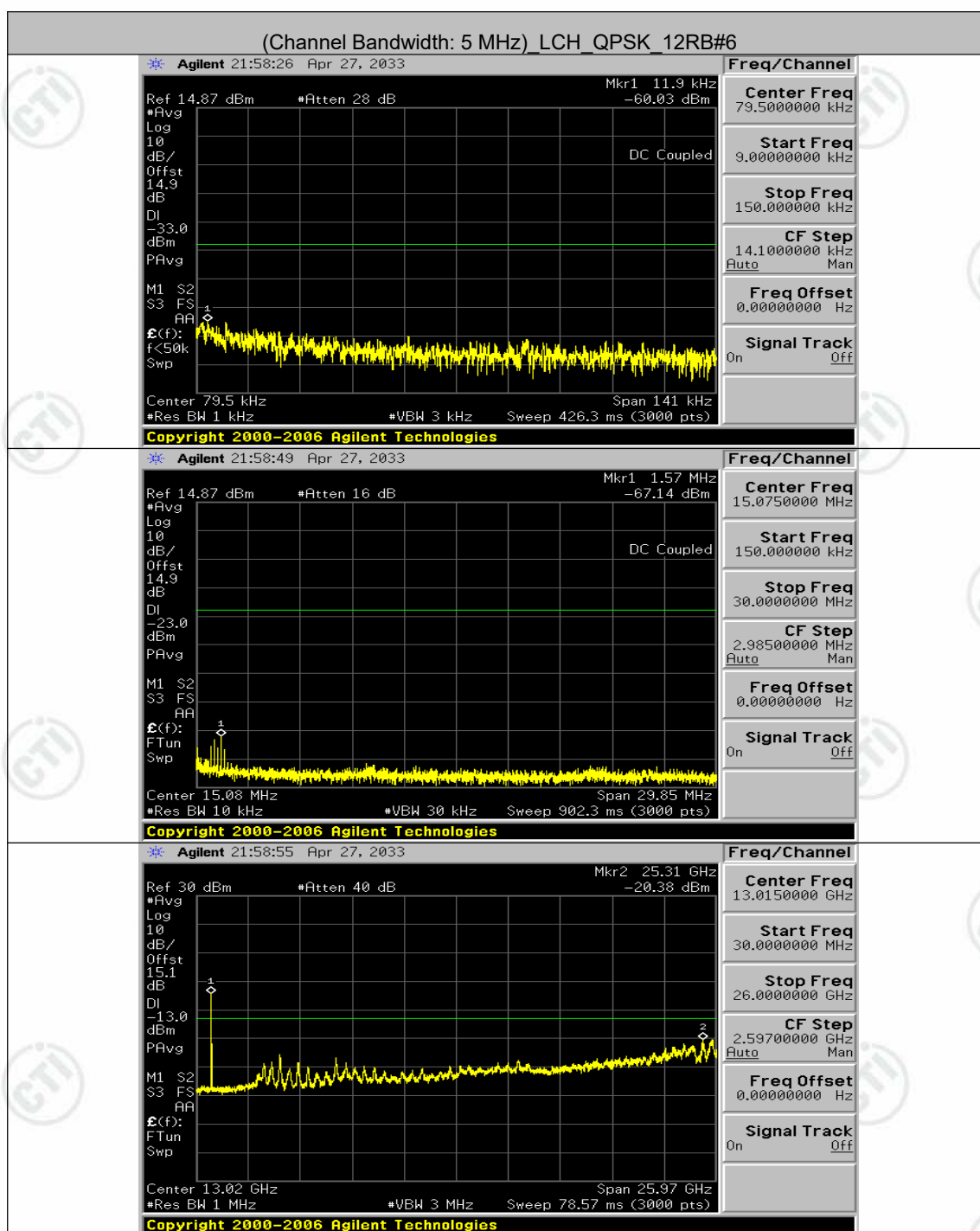
LTE band 13 Channel Bandwidth: 5 MHz

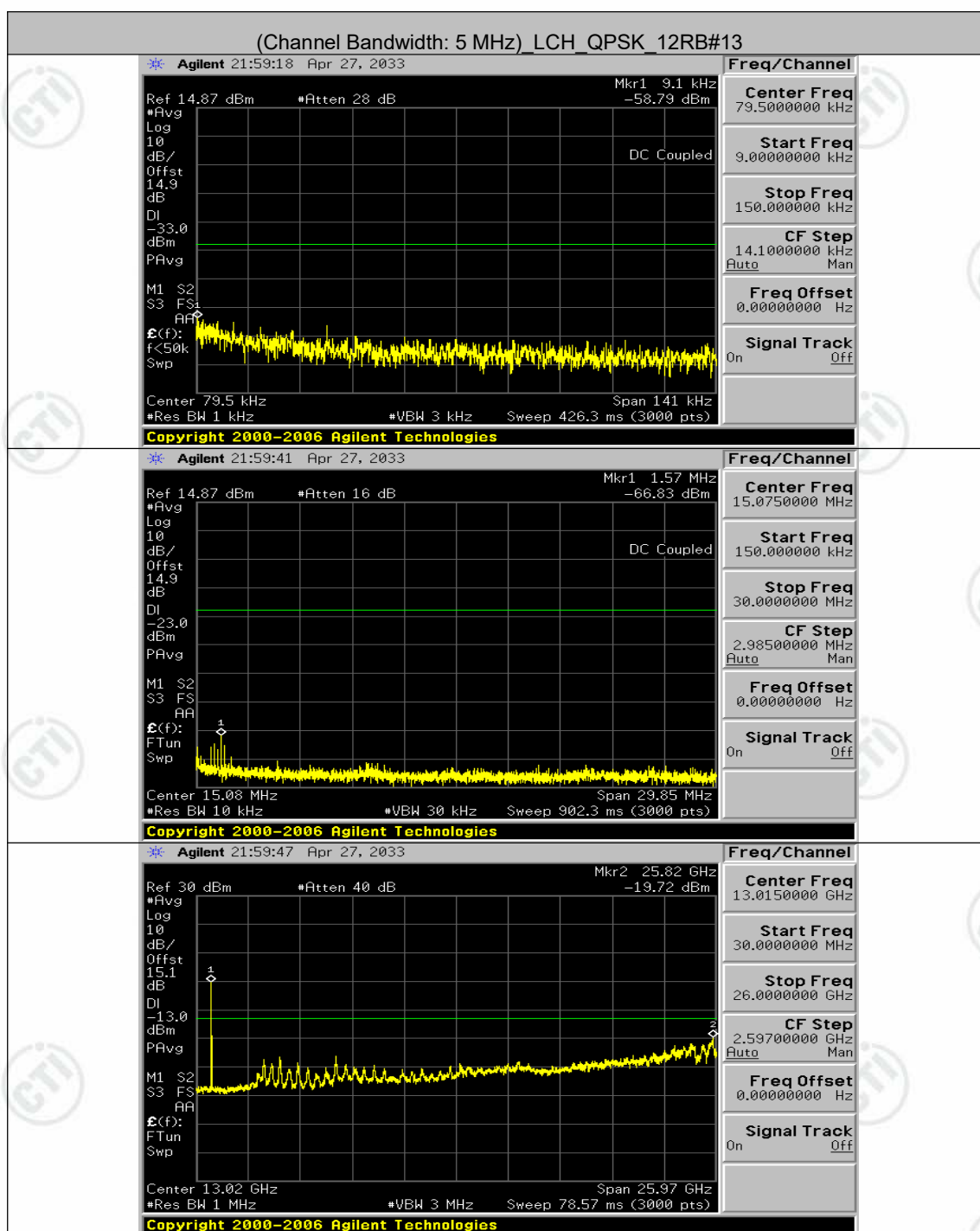


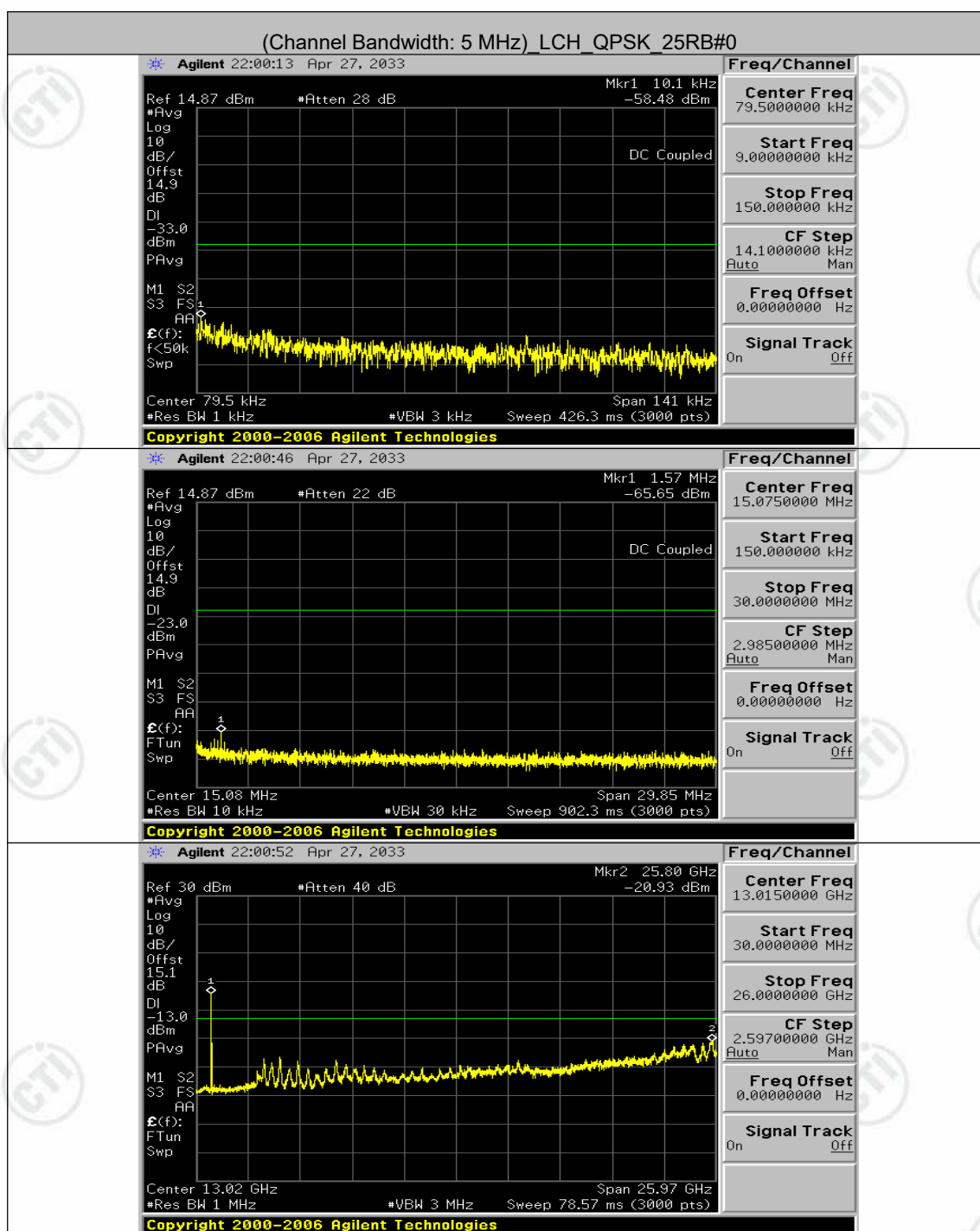


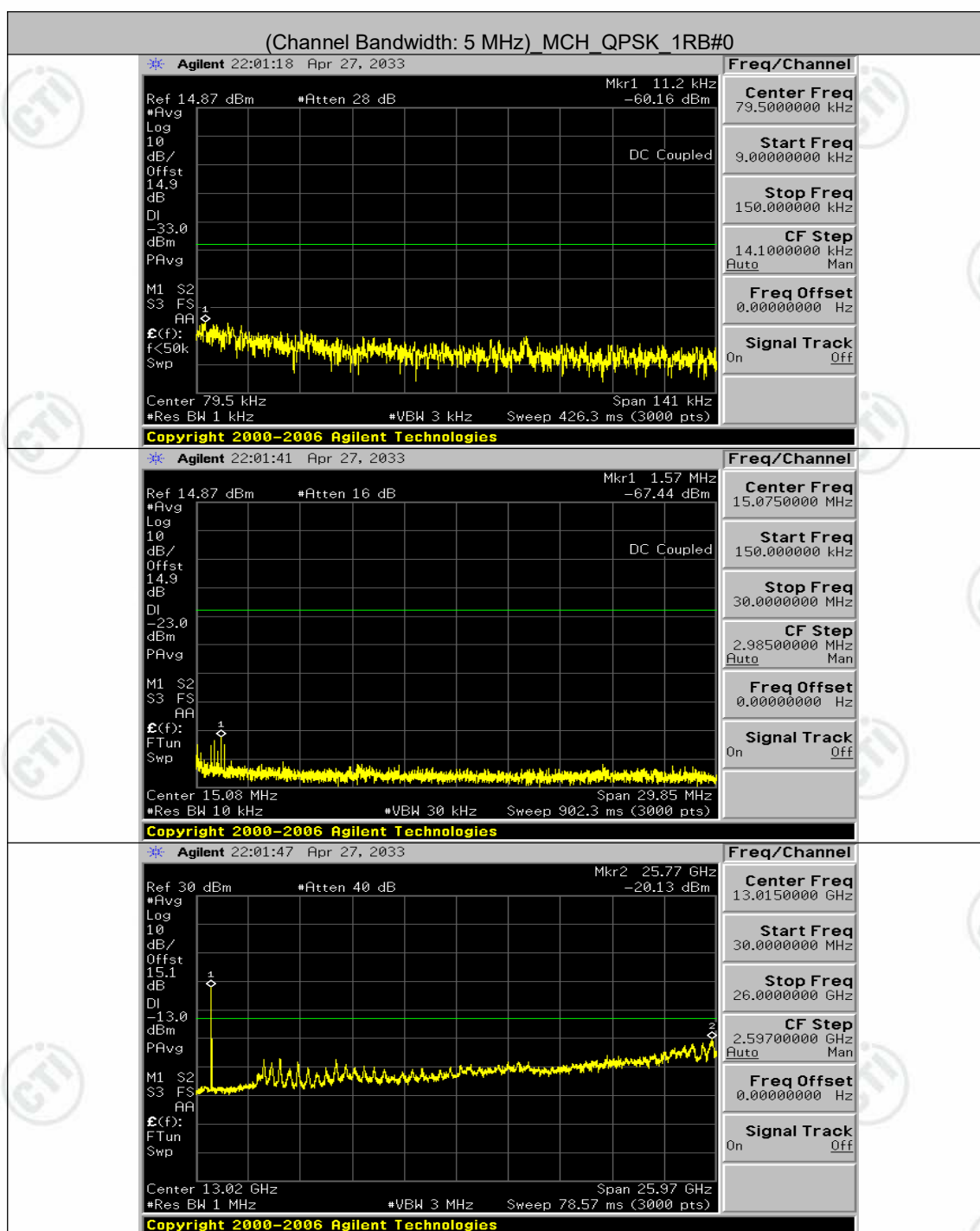


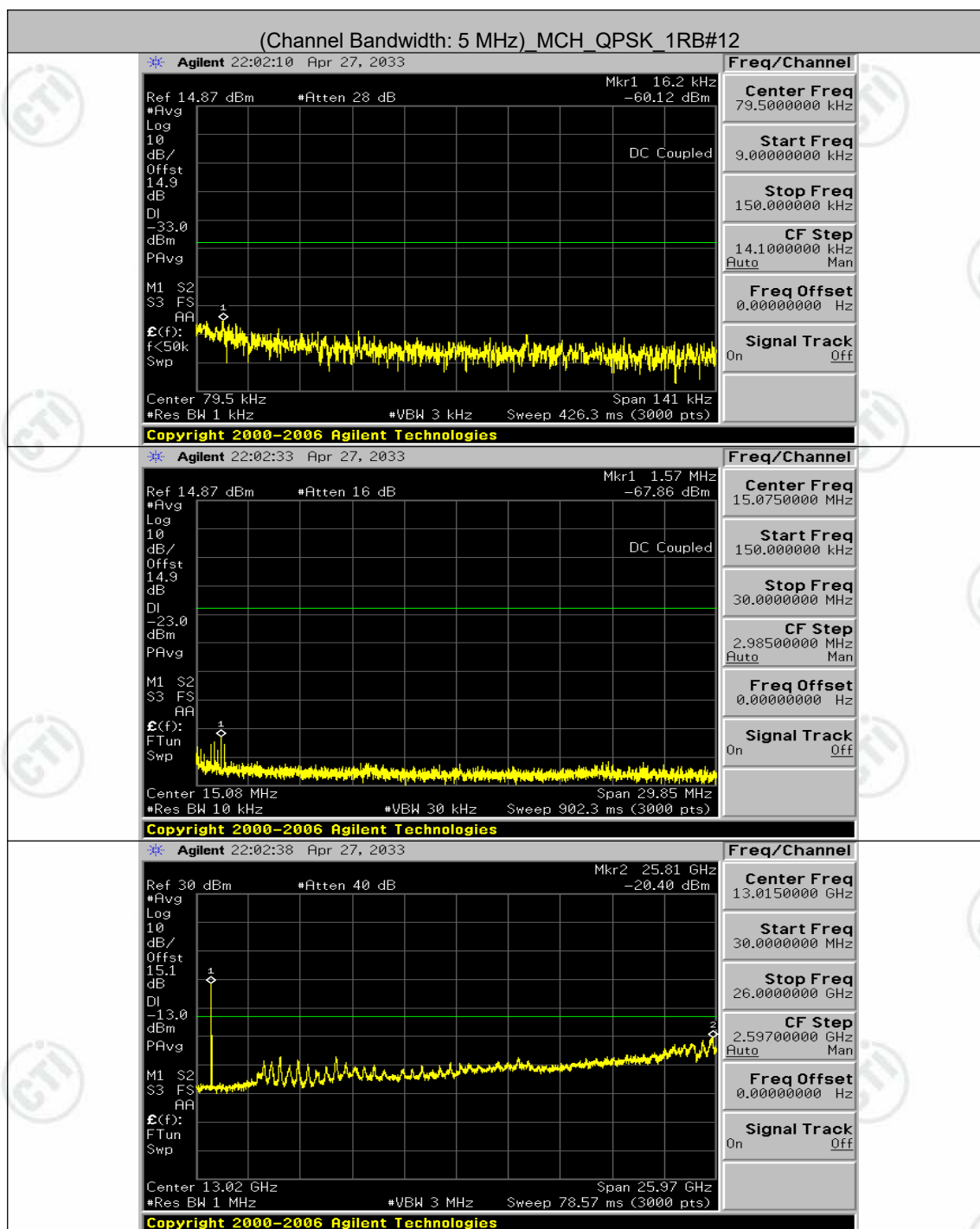


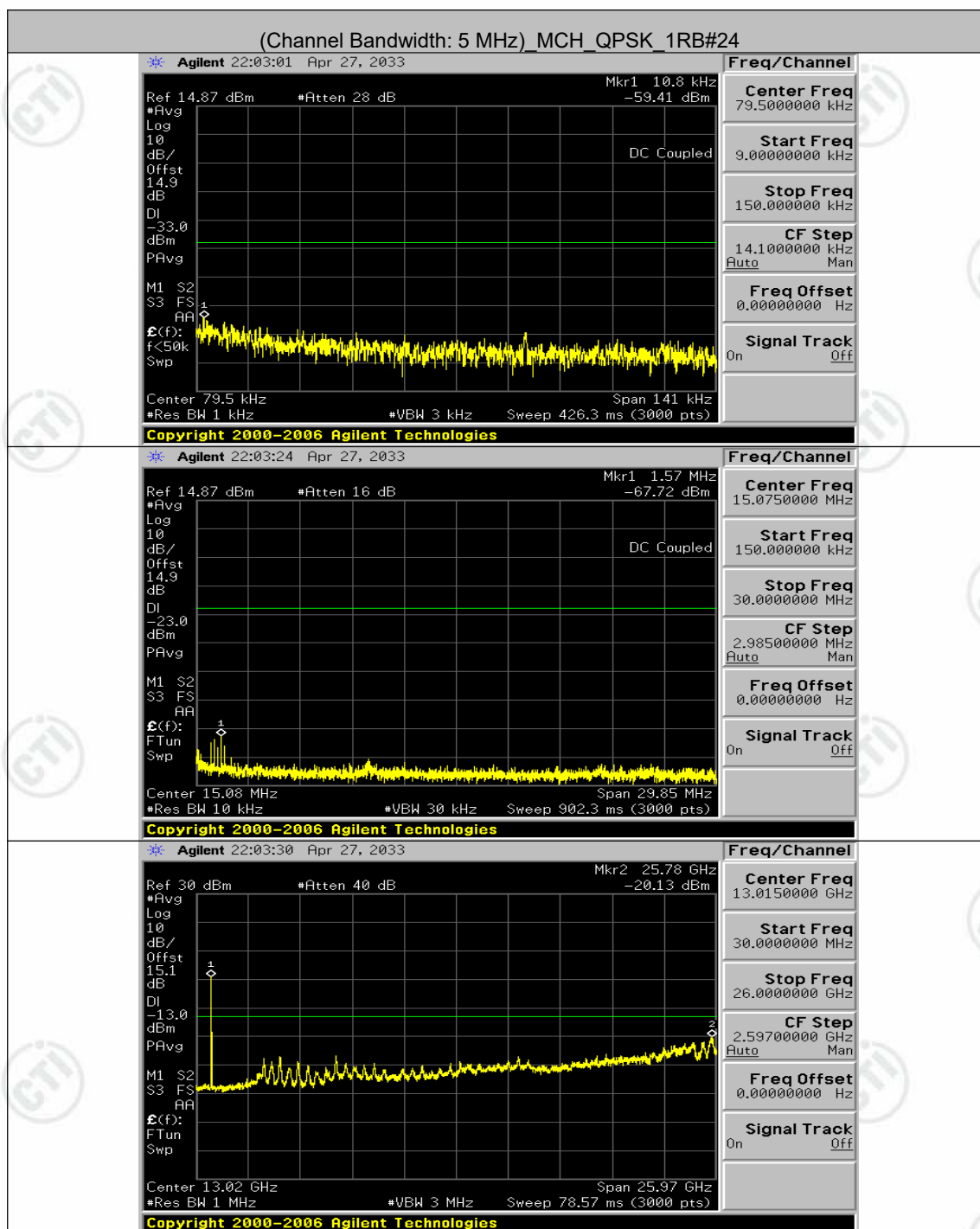


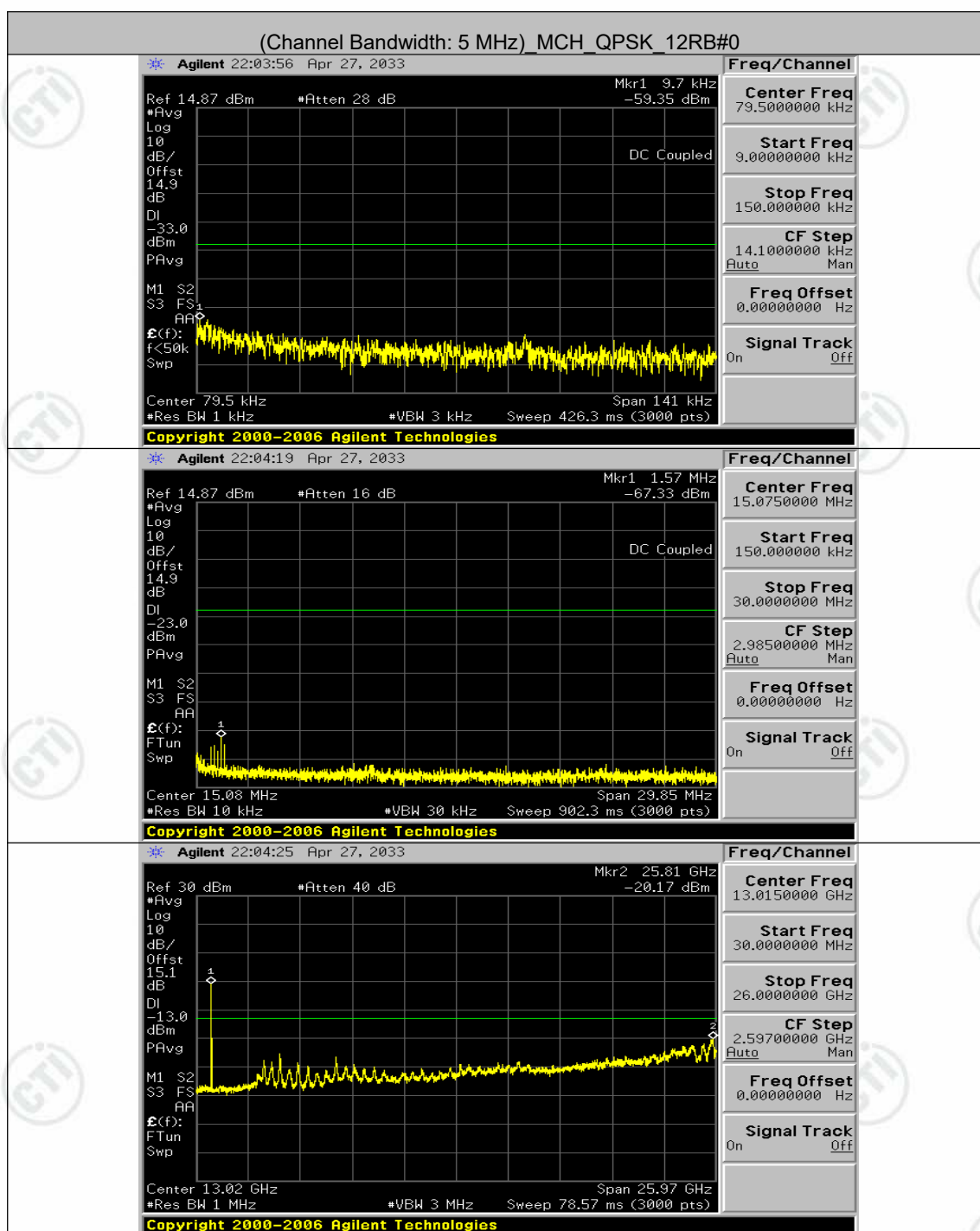


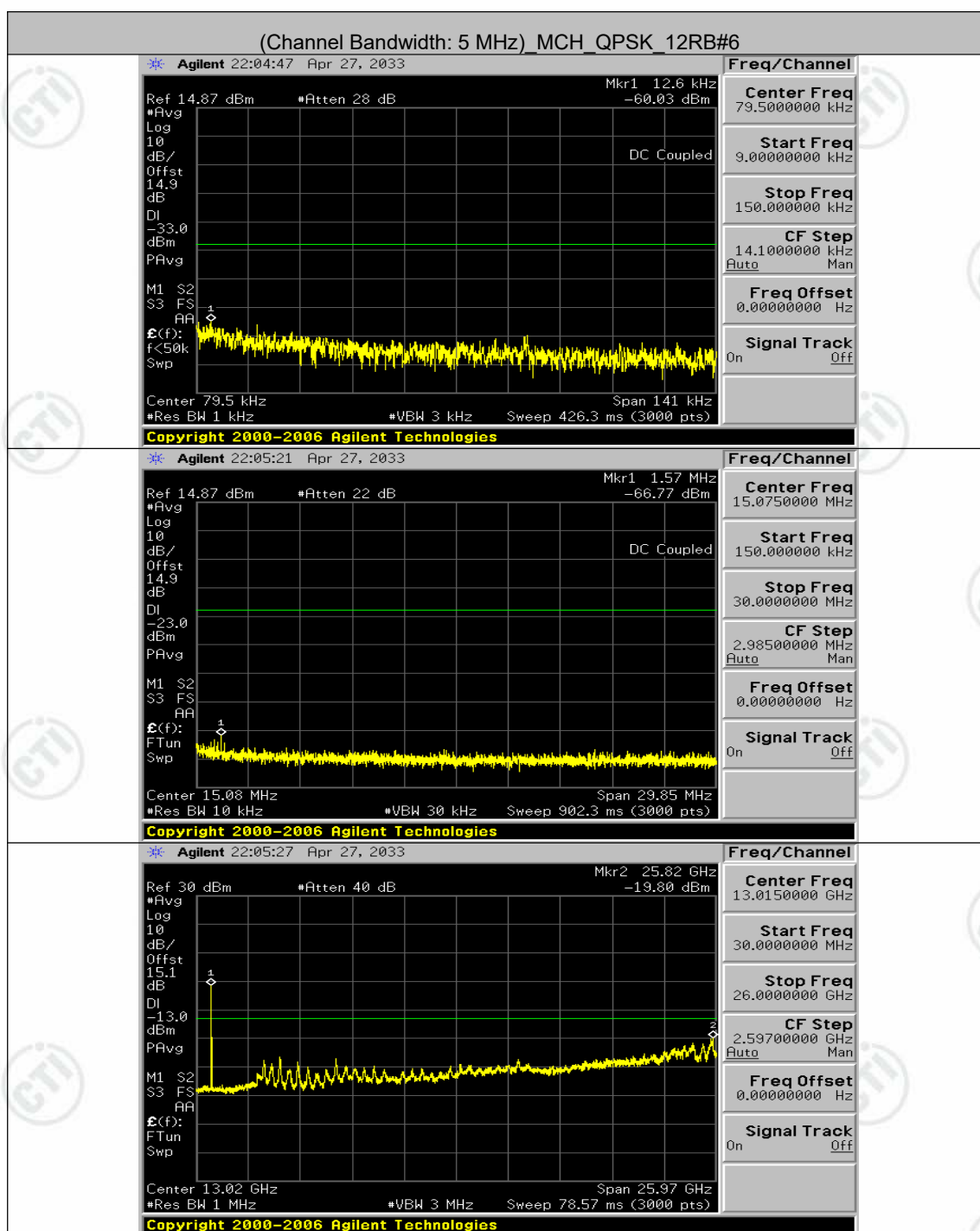


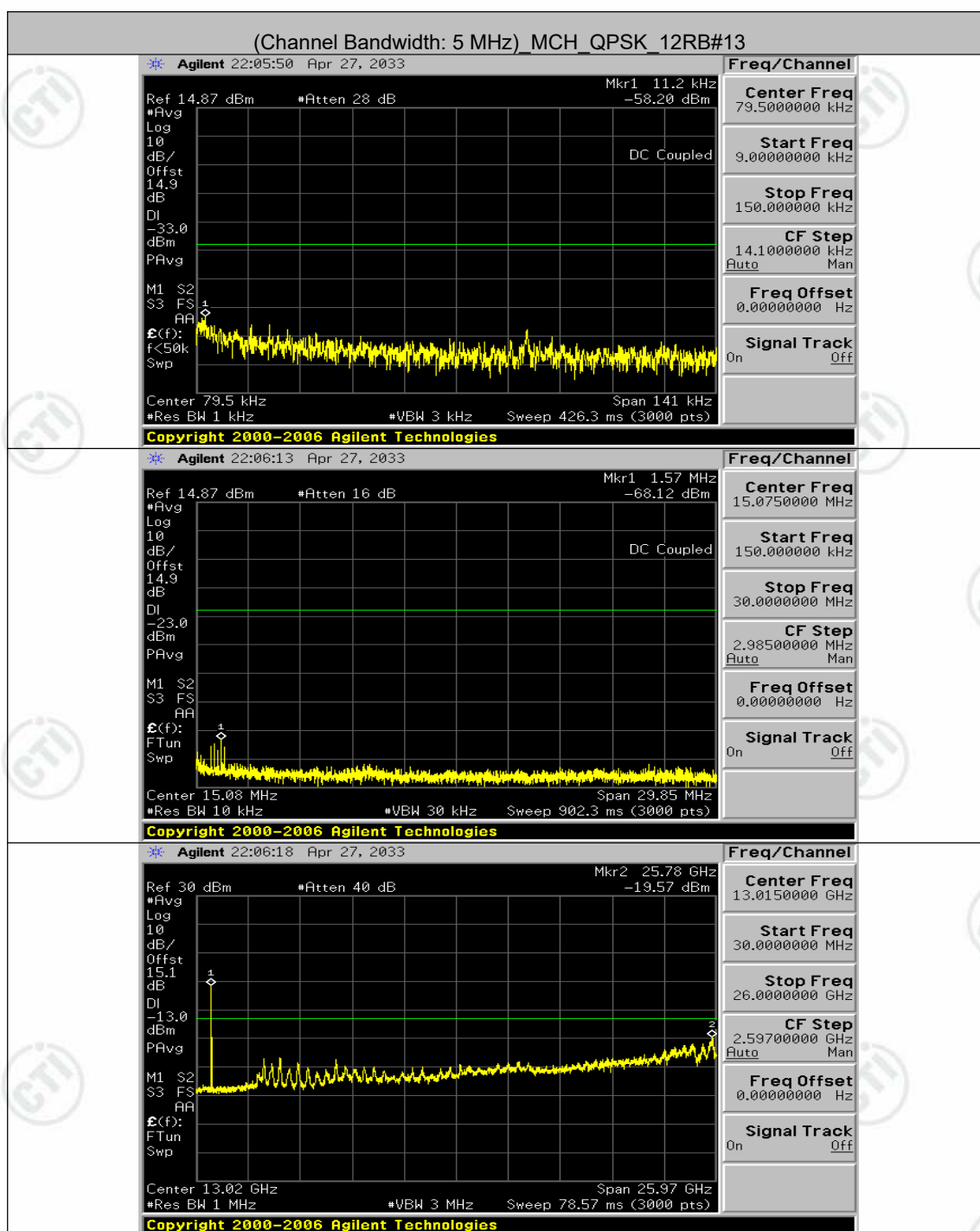


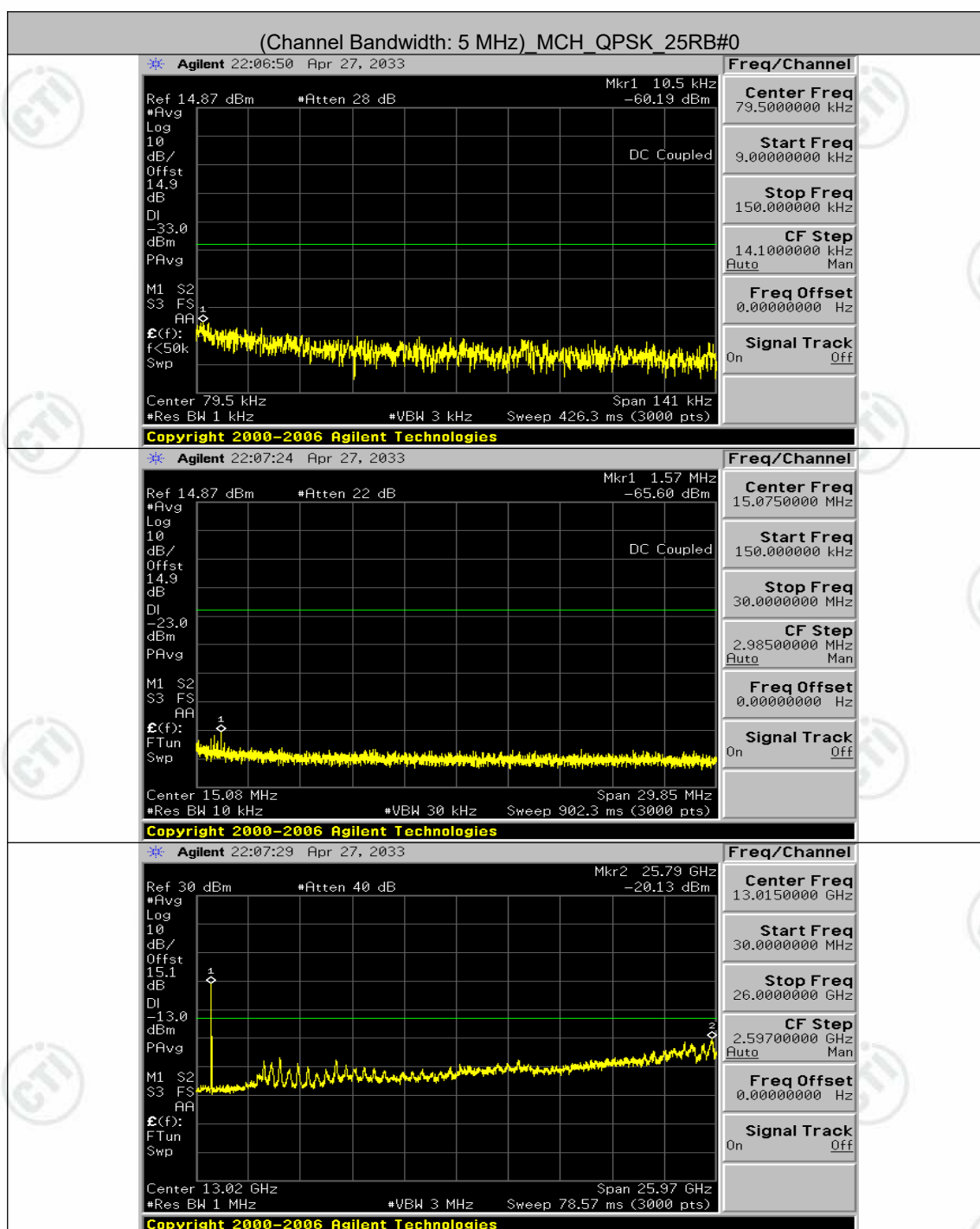


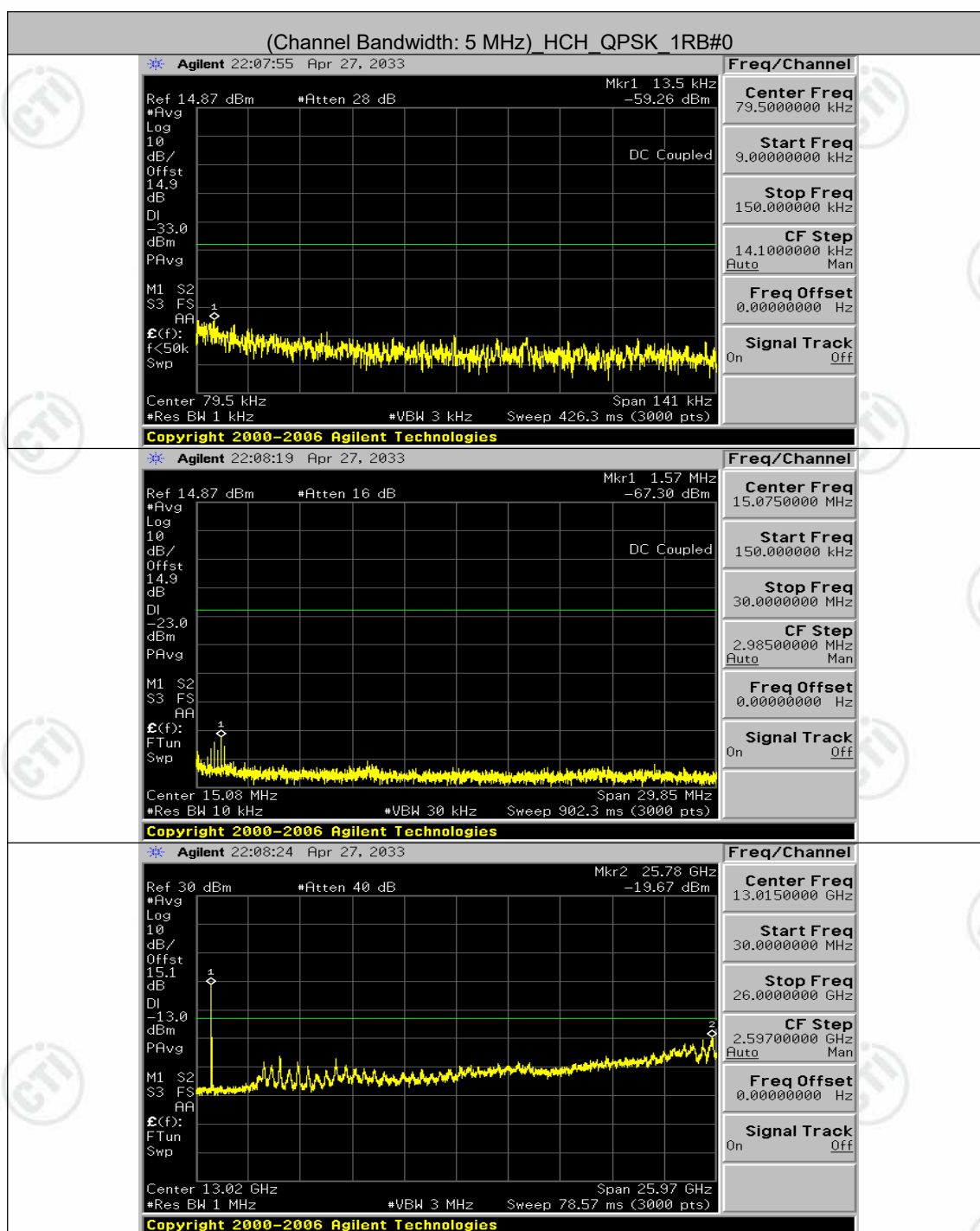


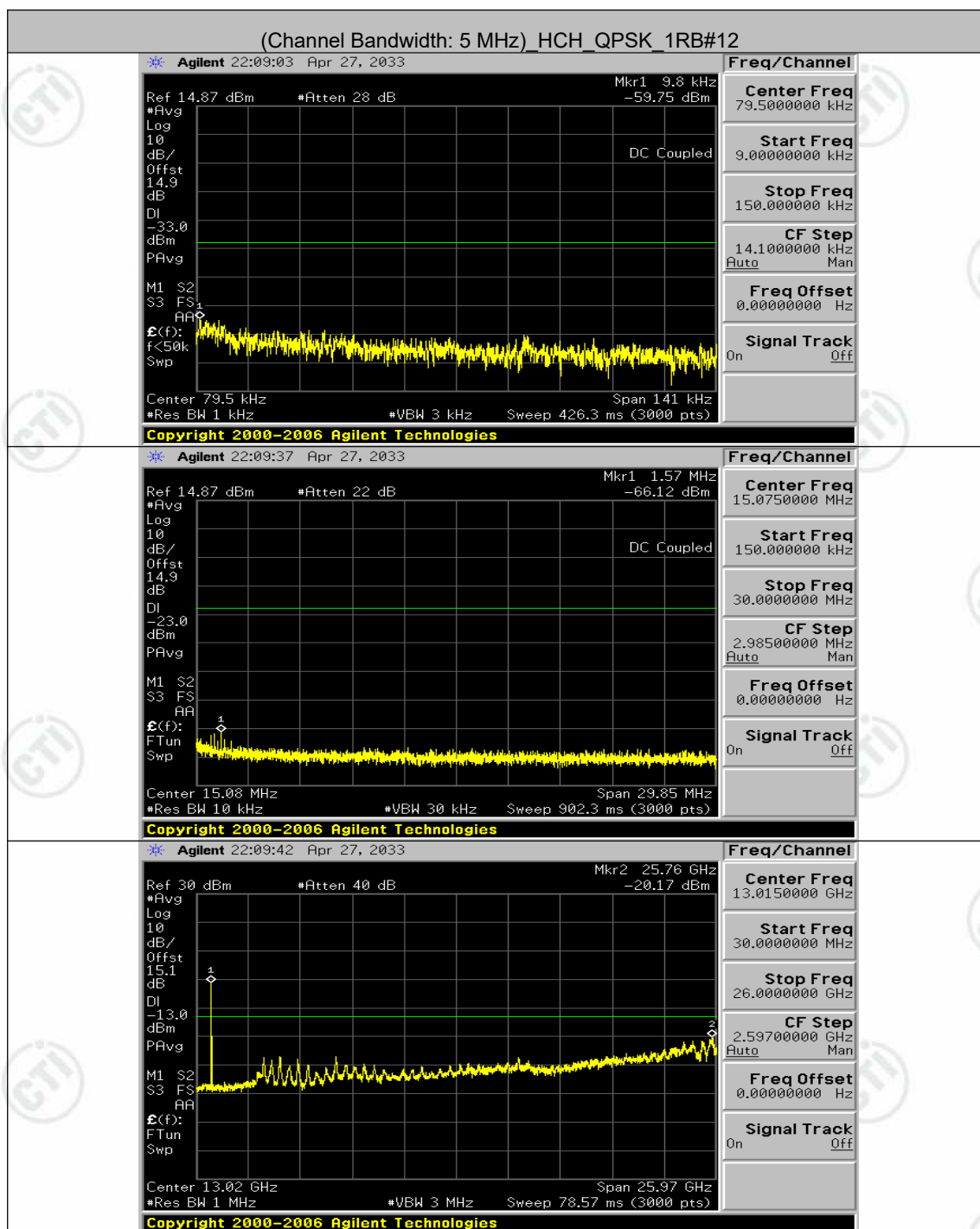


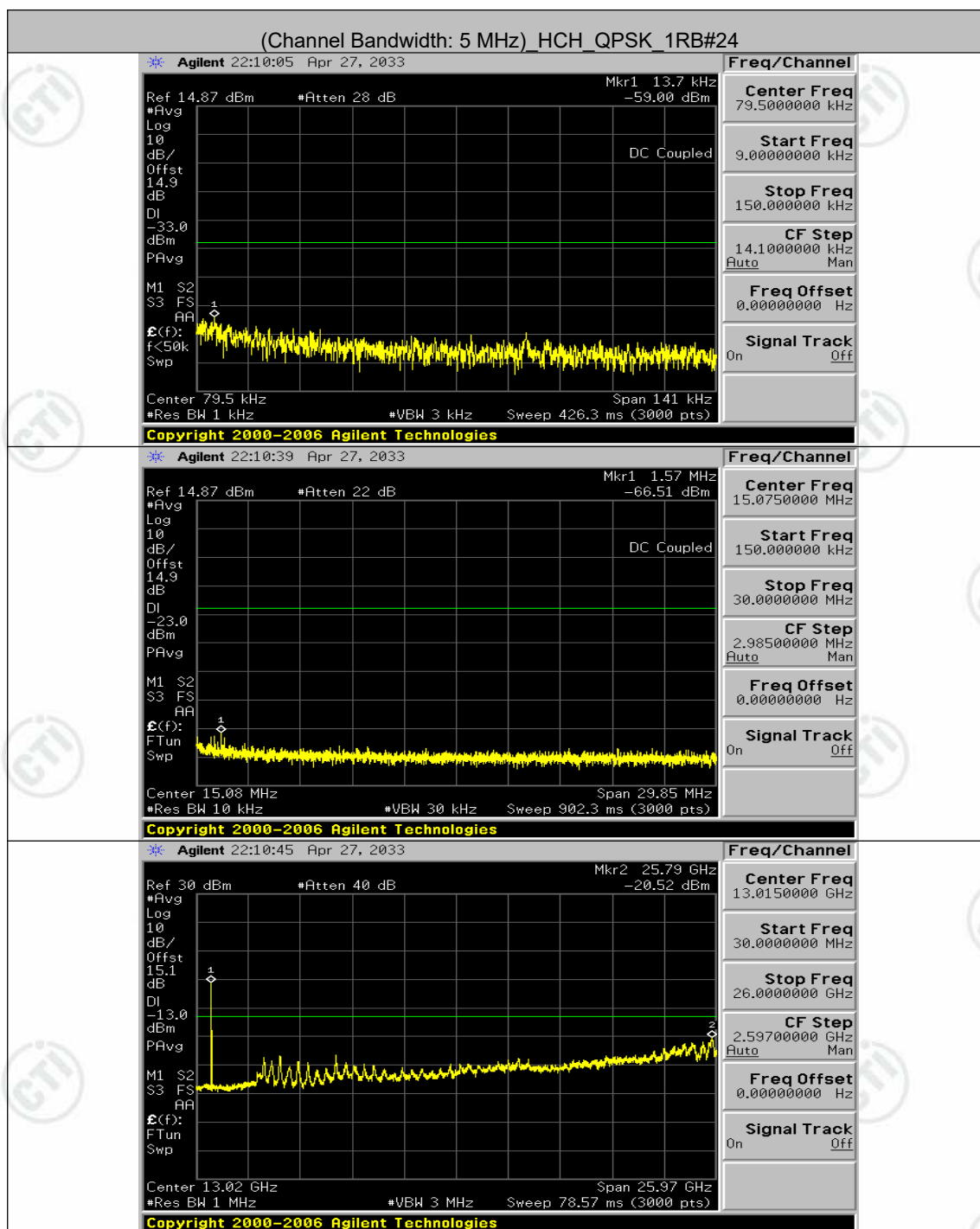


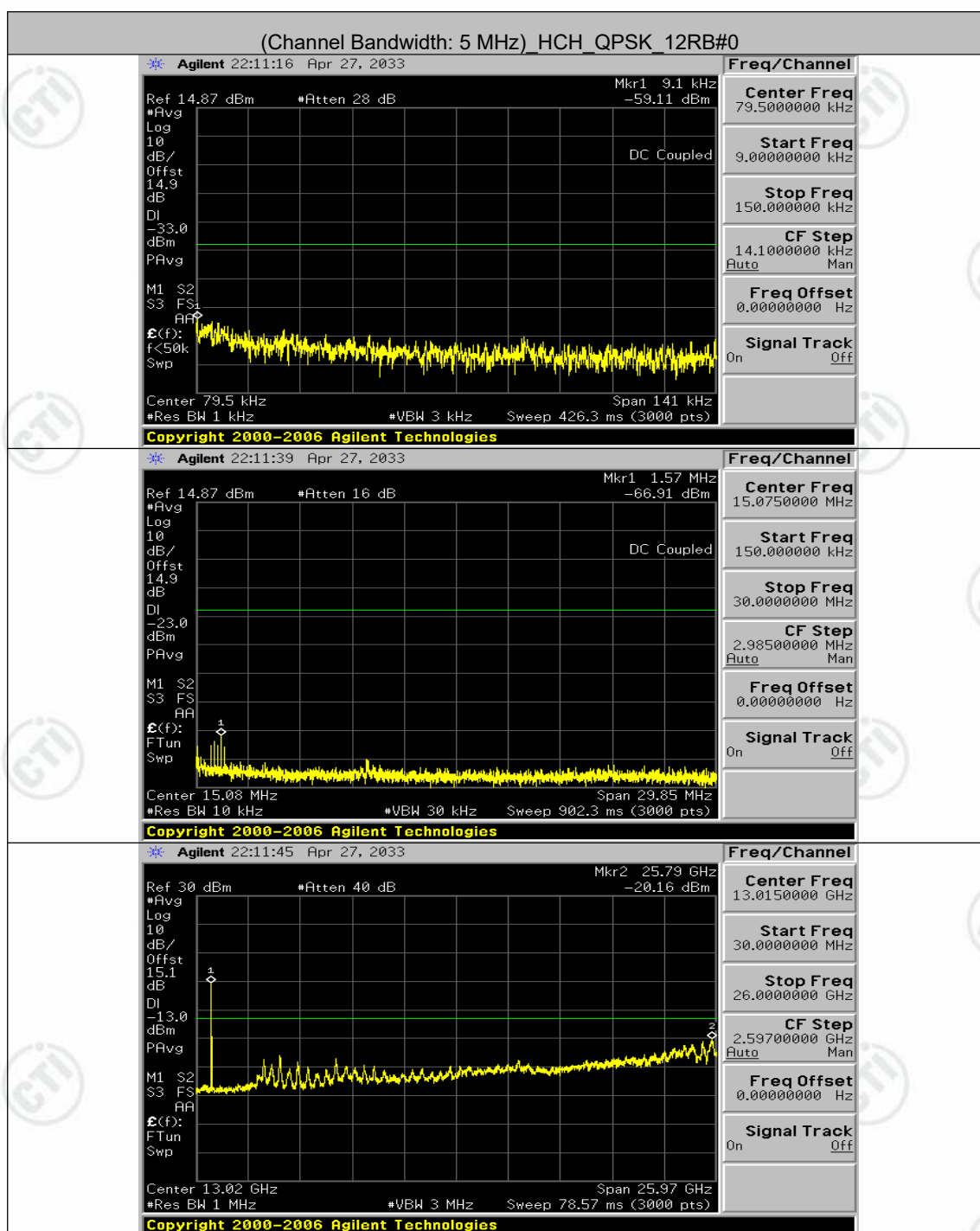


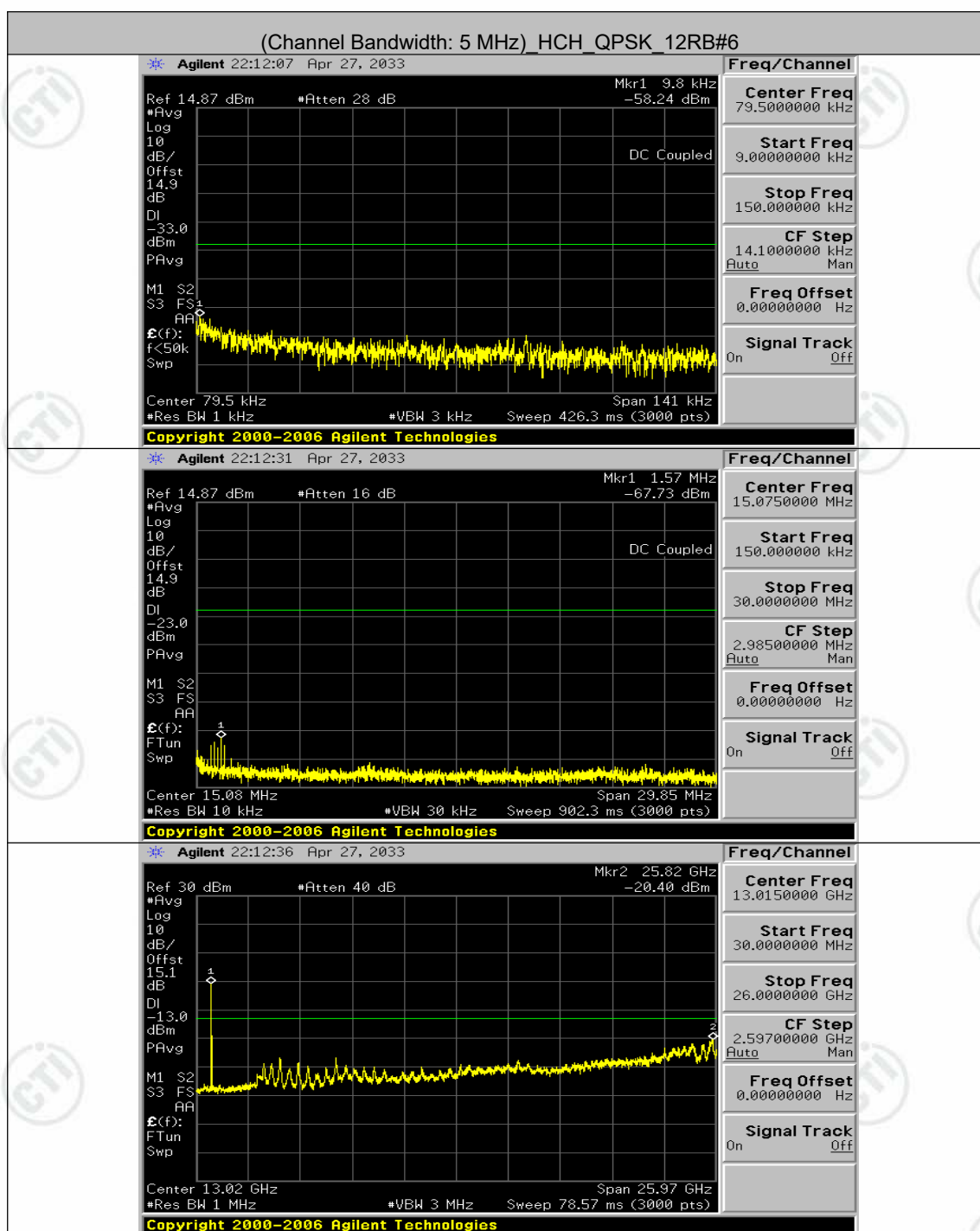


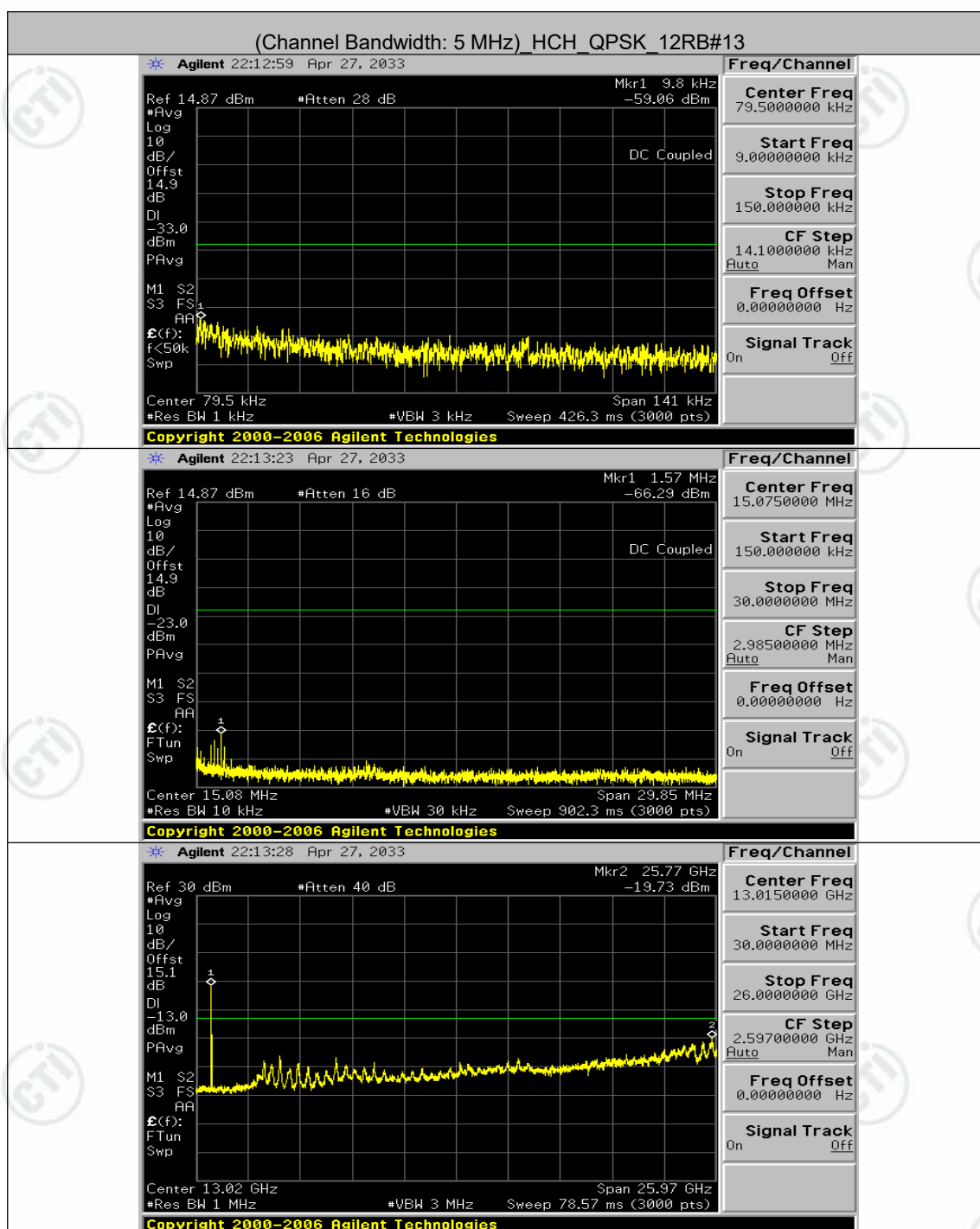


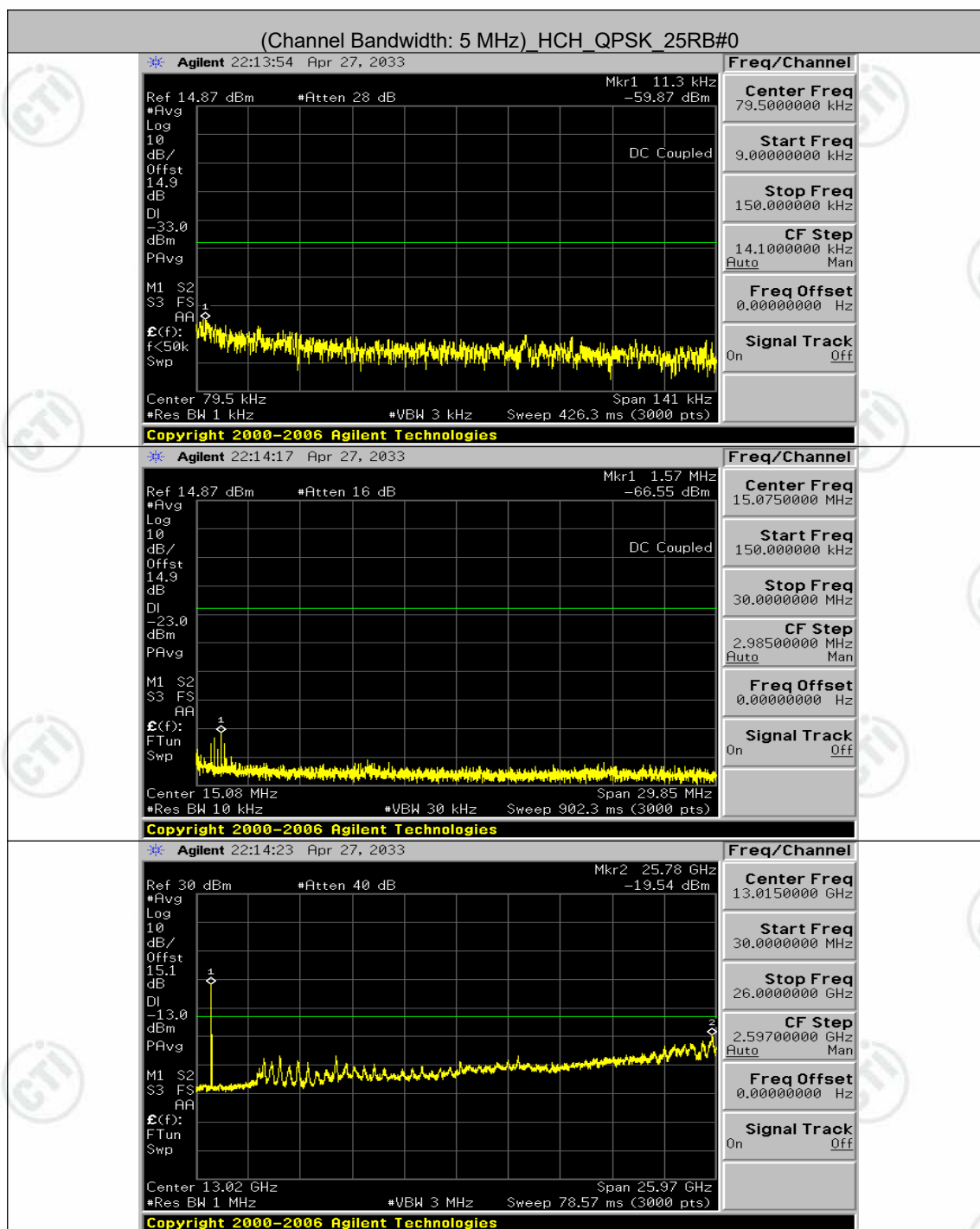


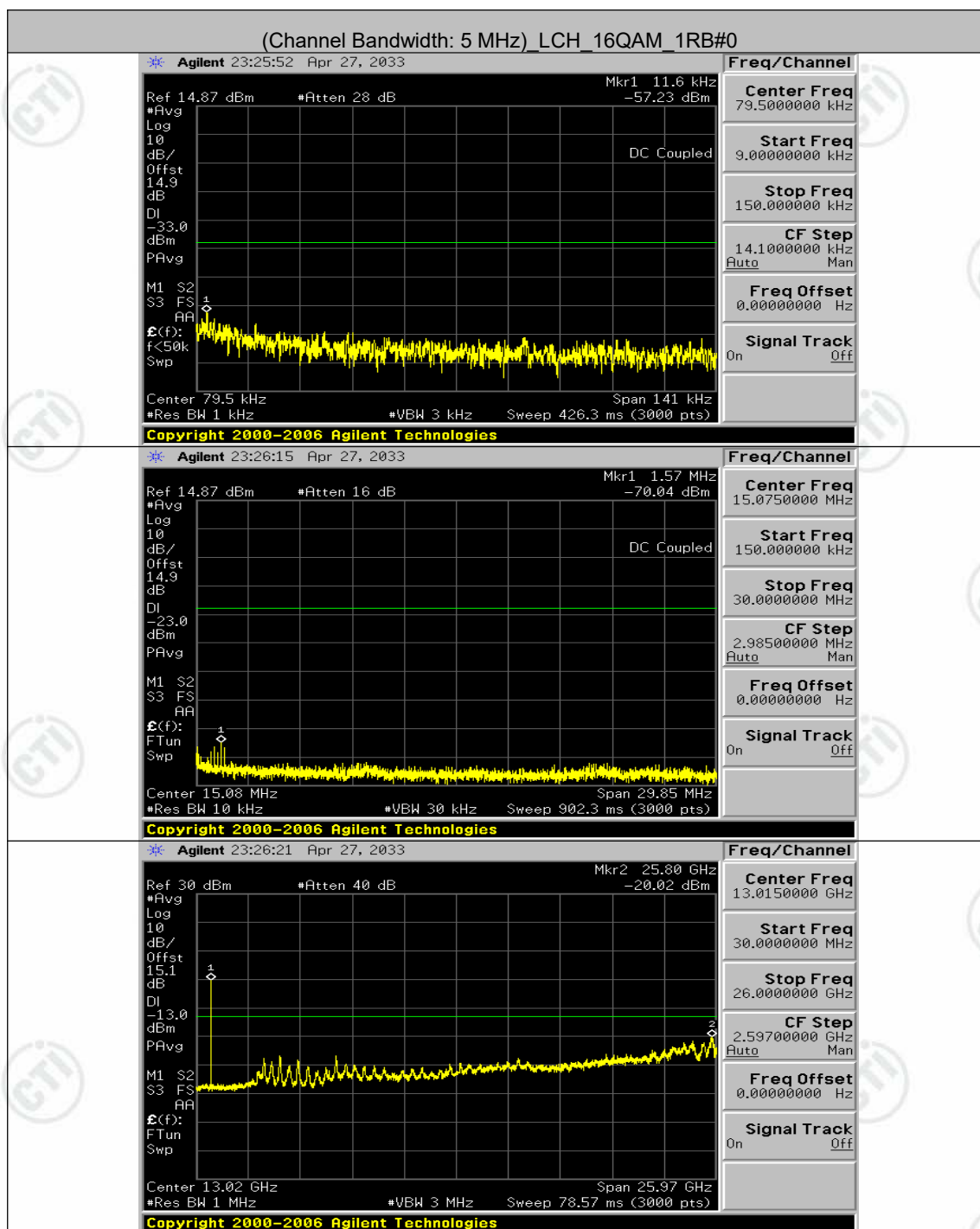


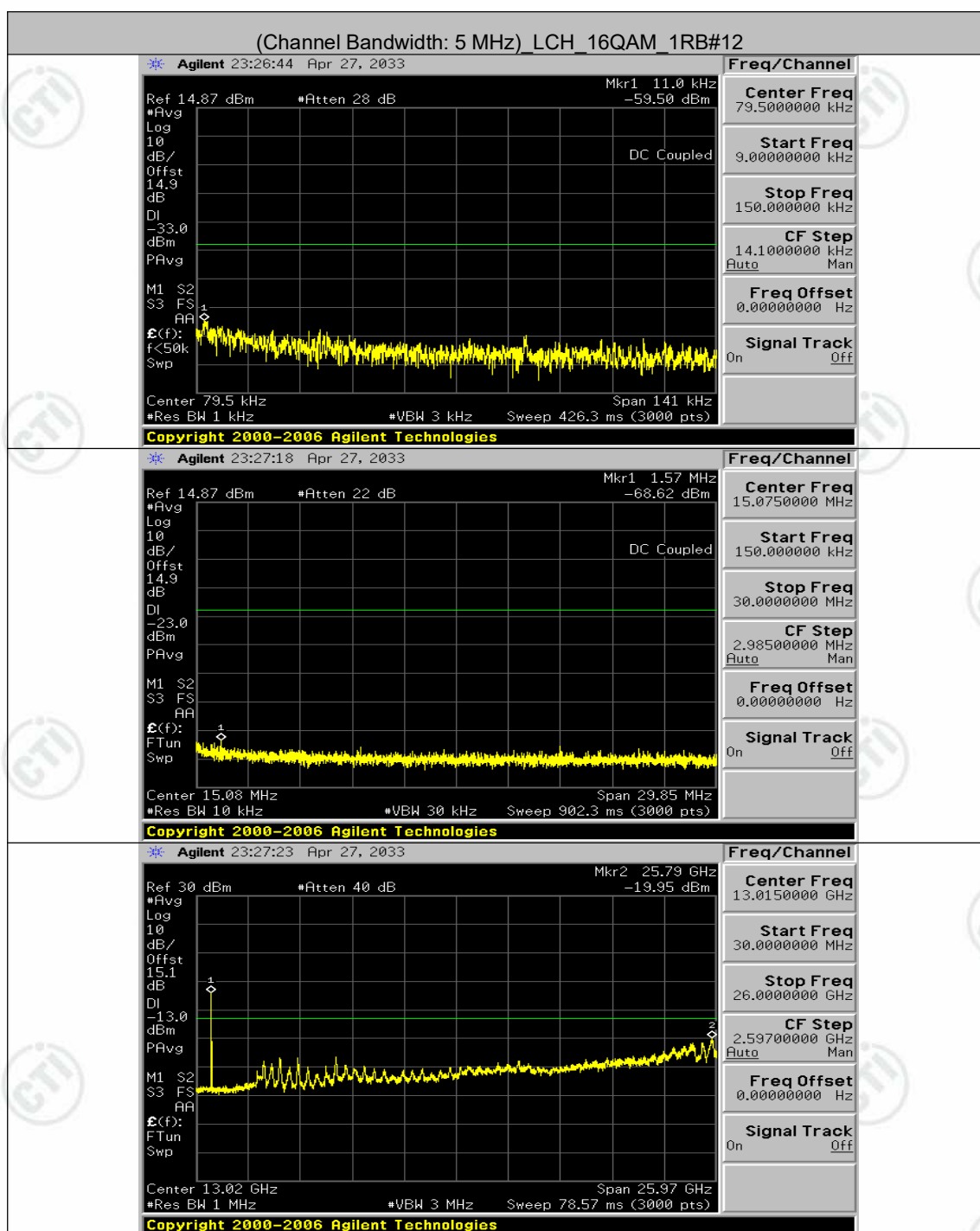


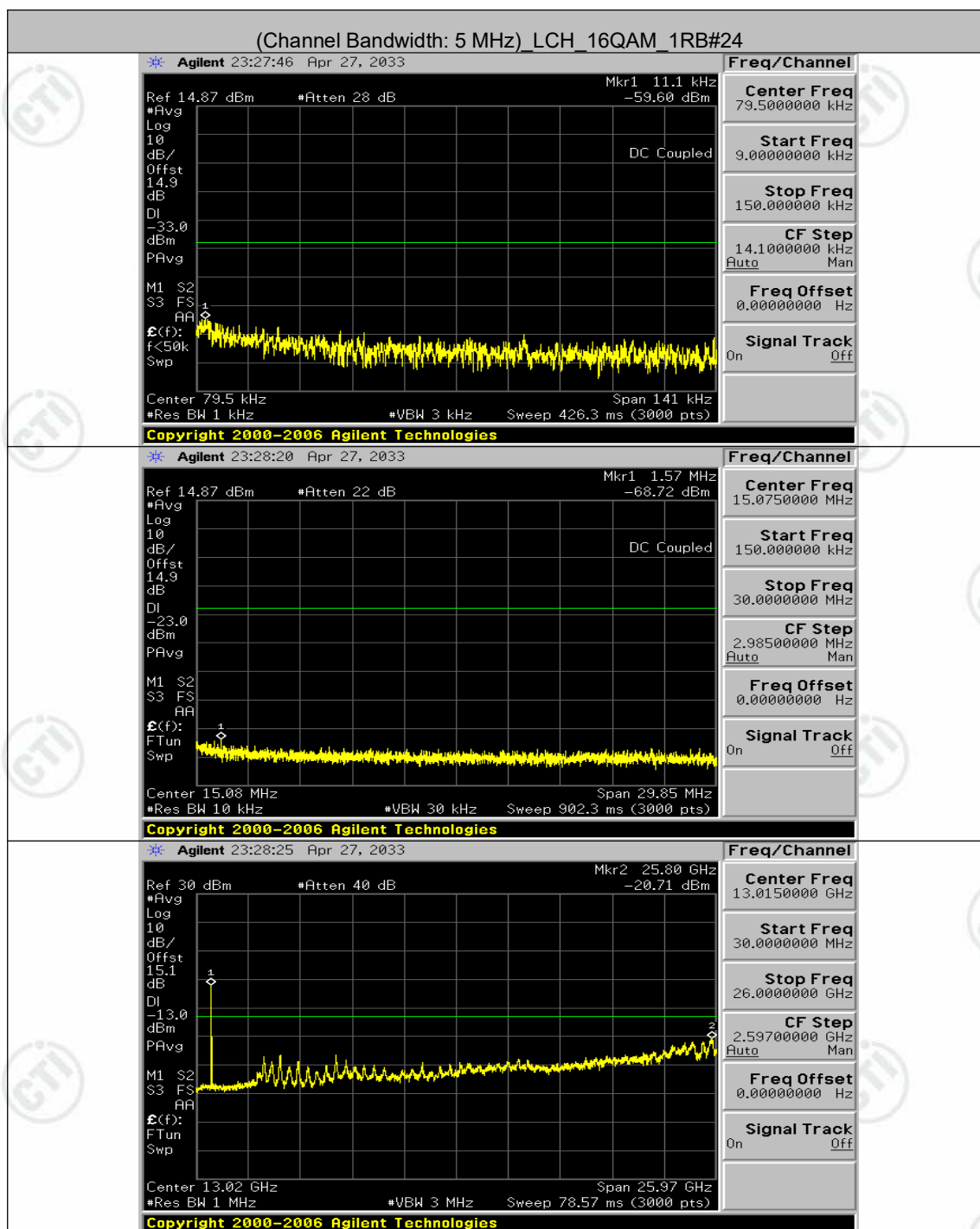


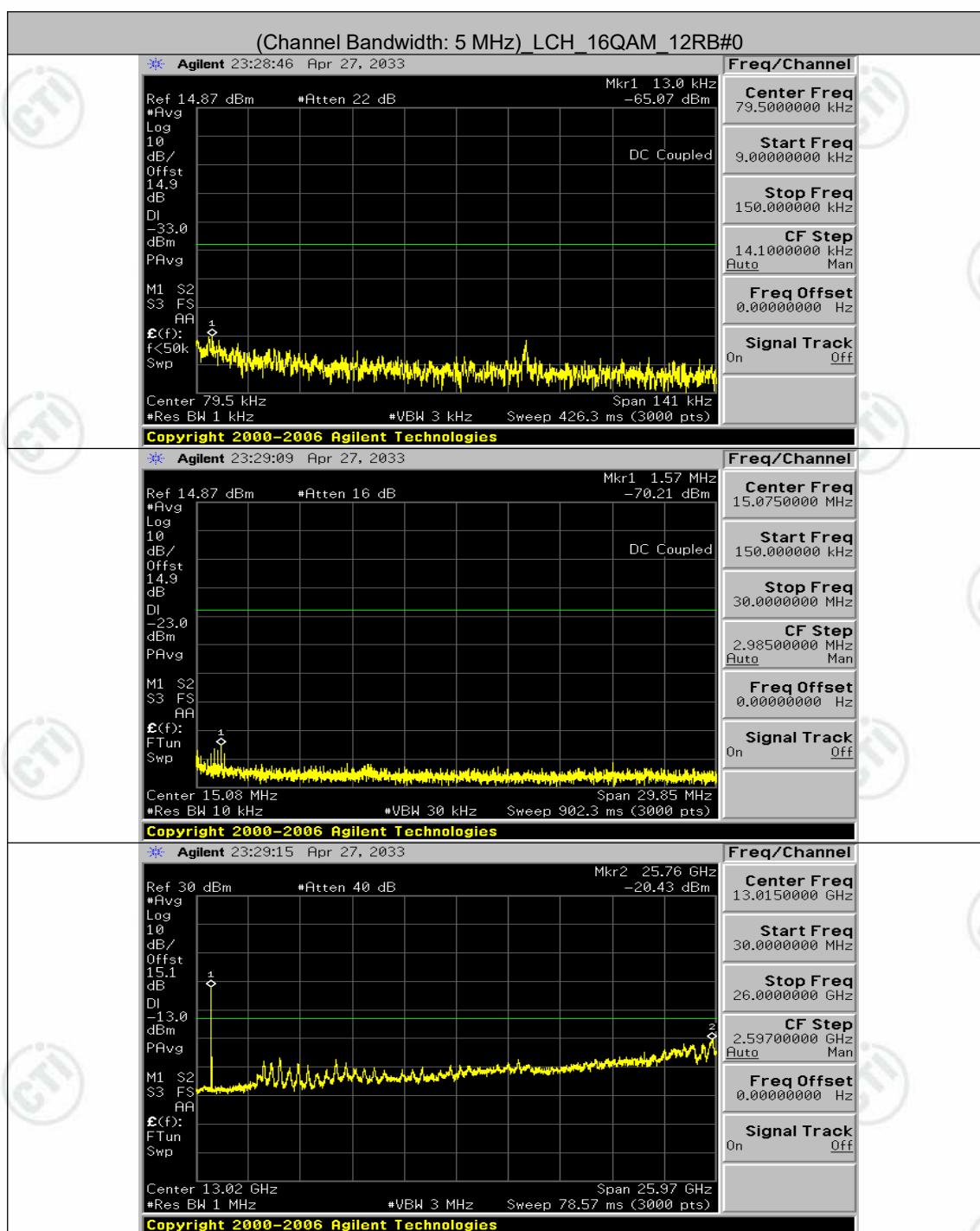


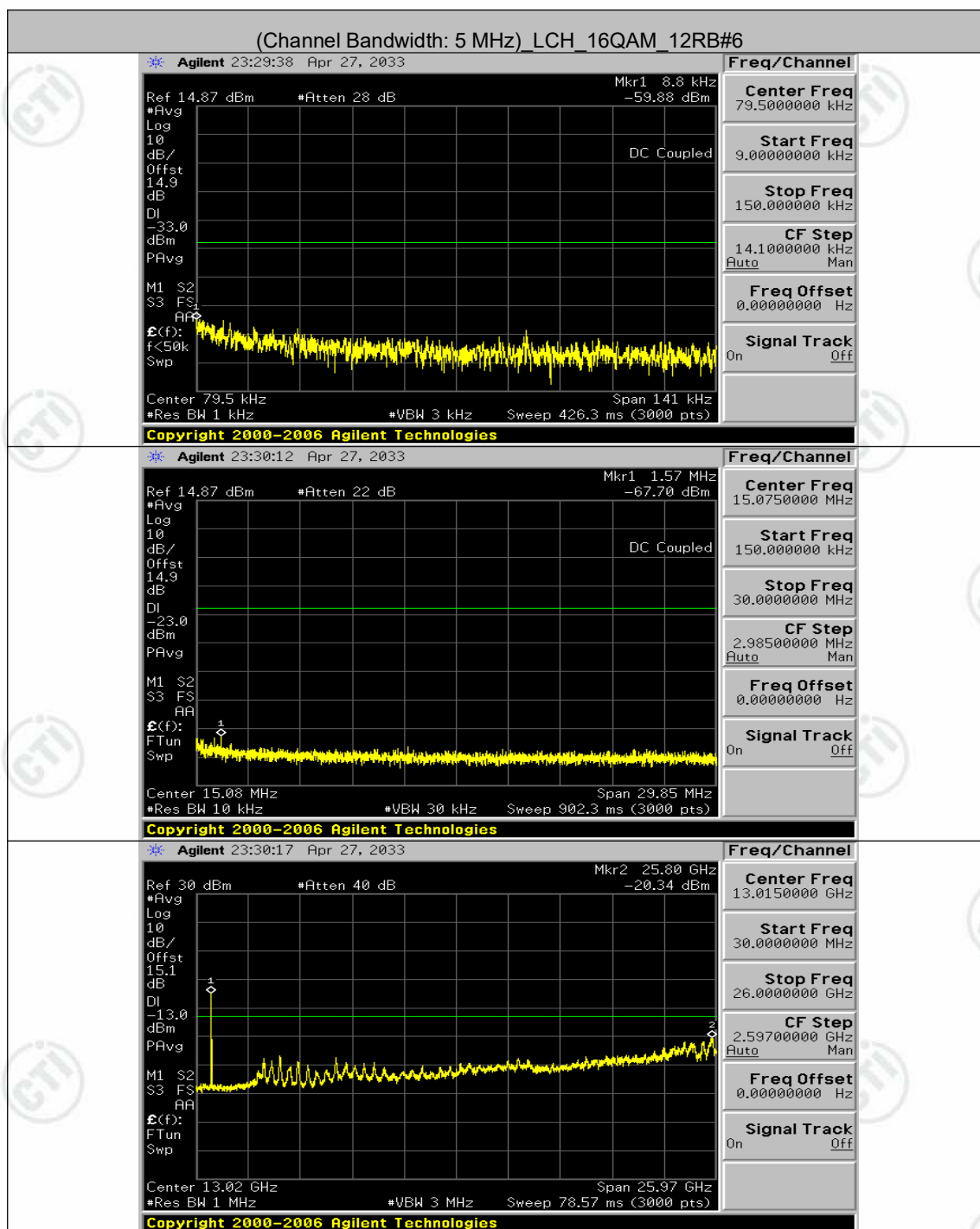


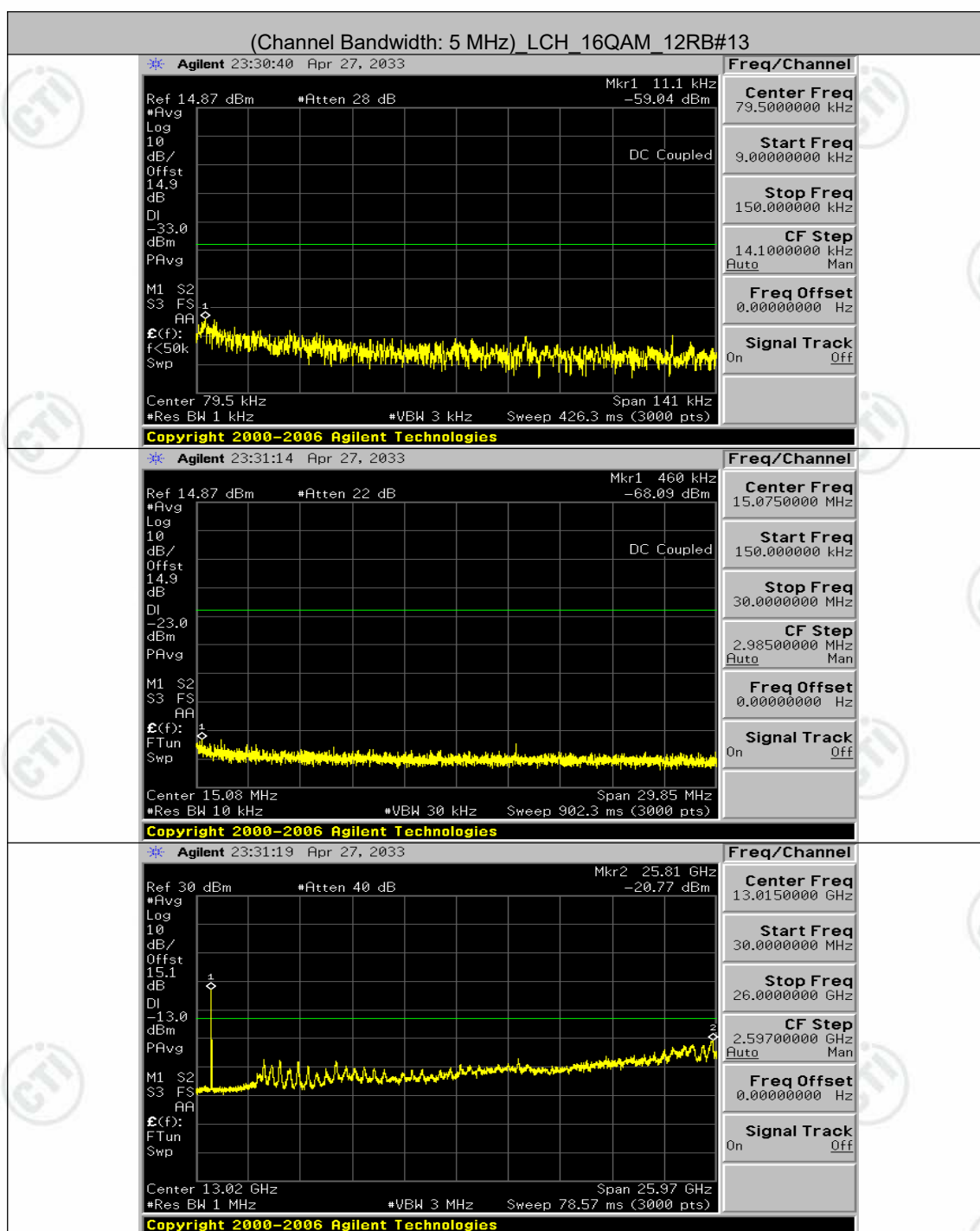


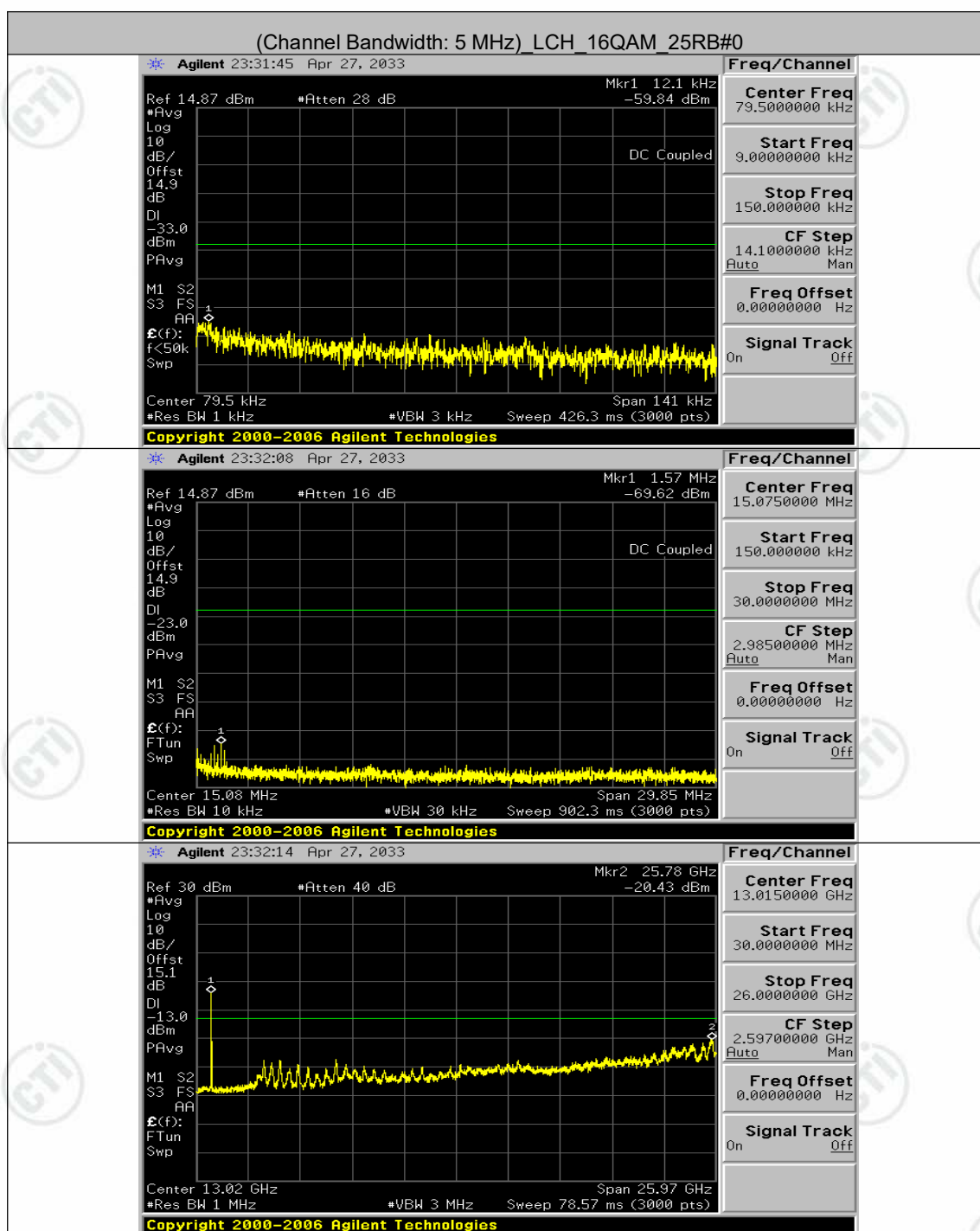


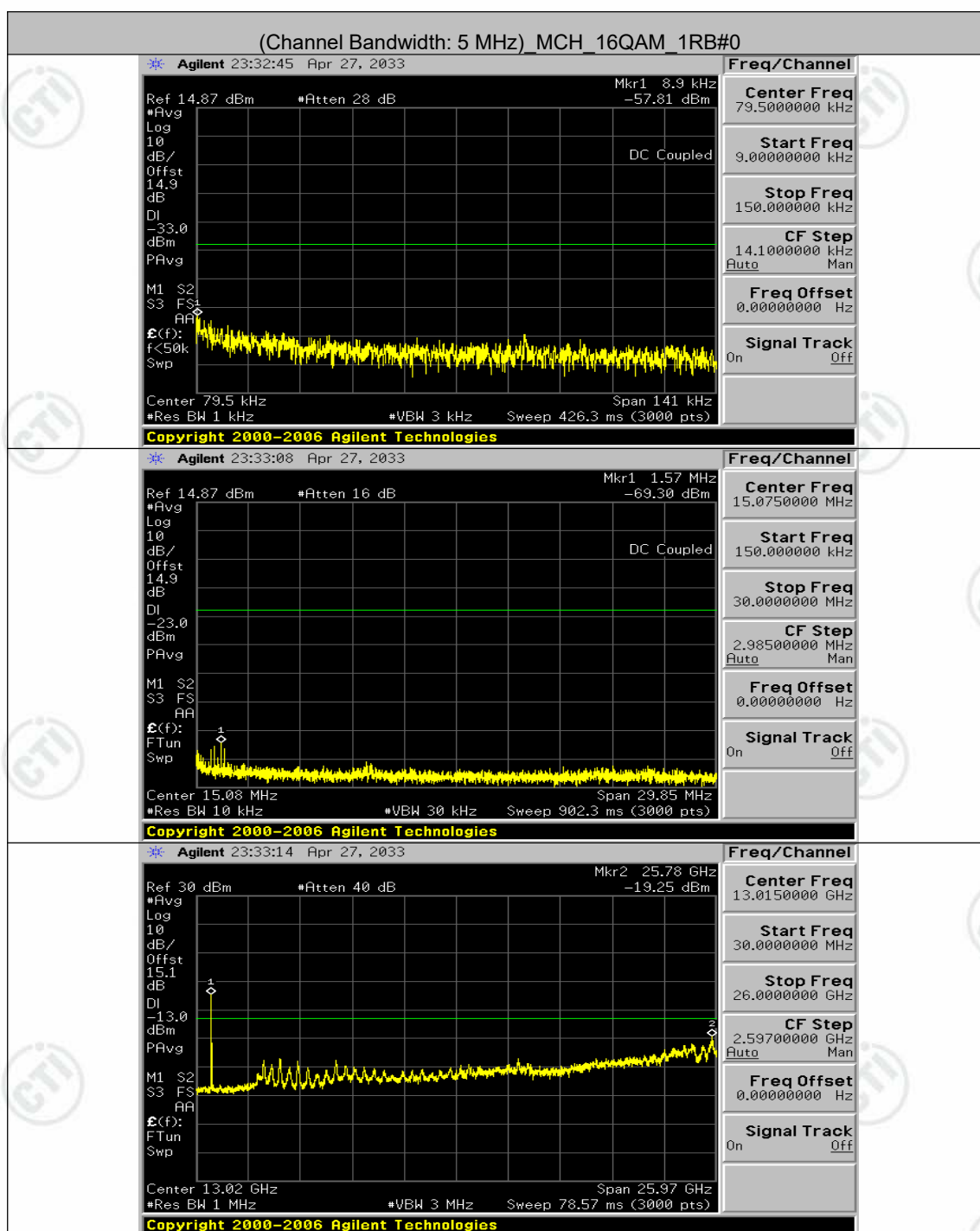


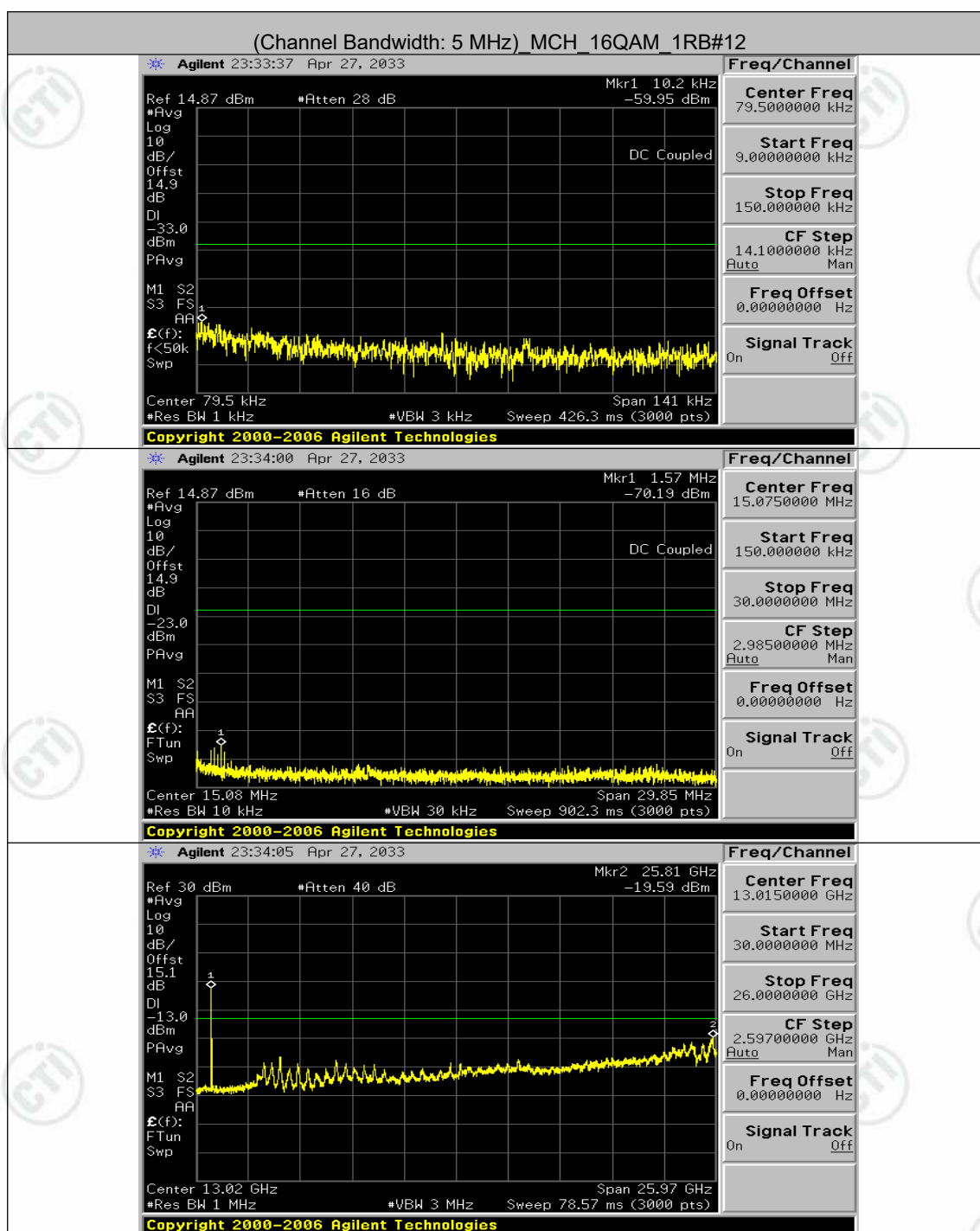


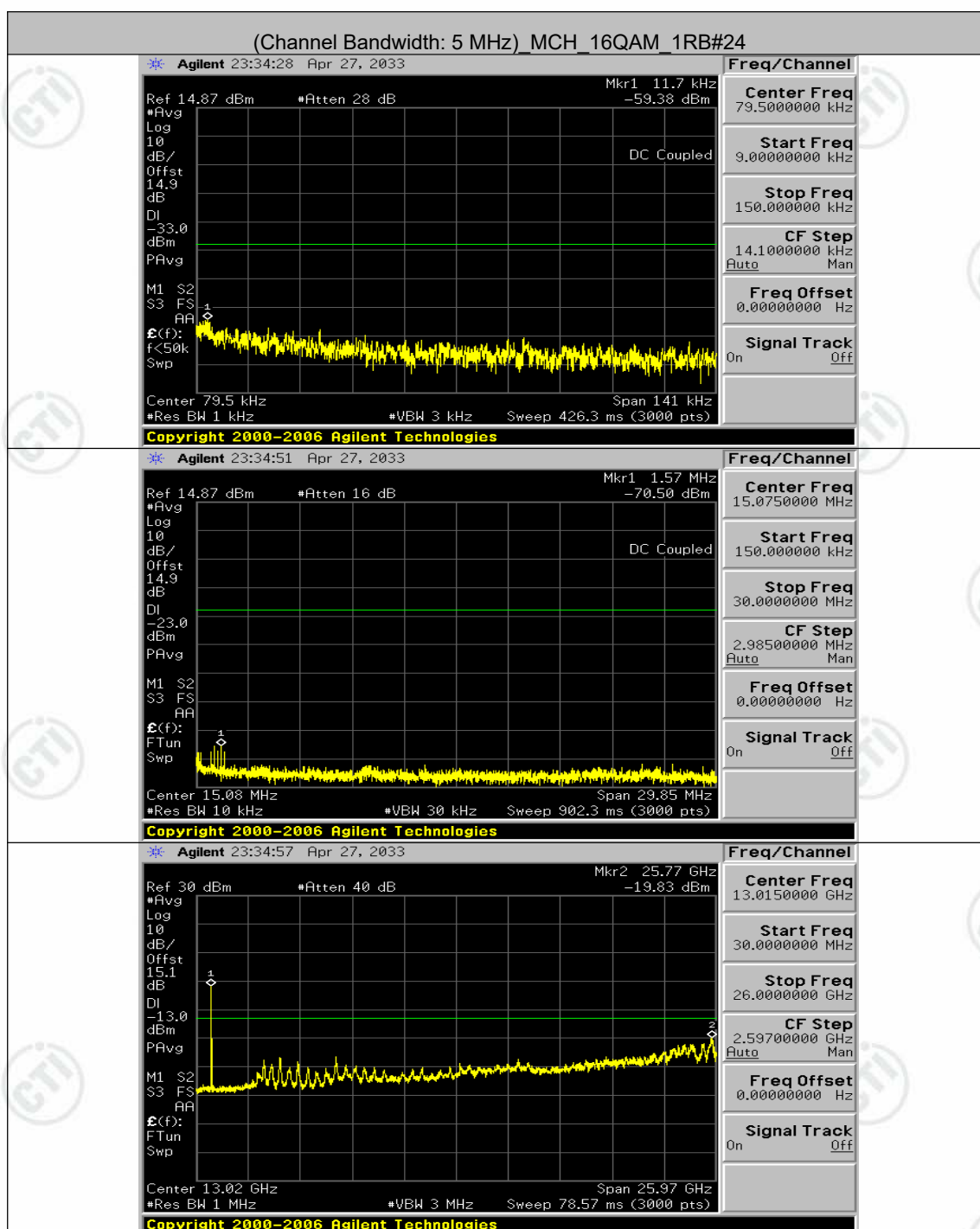


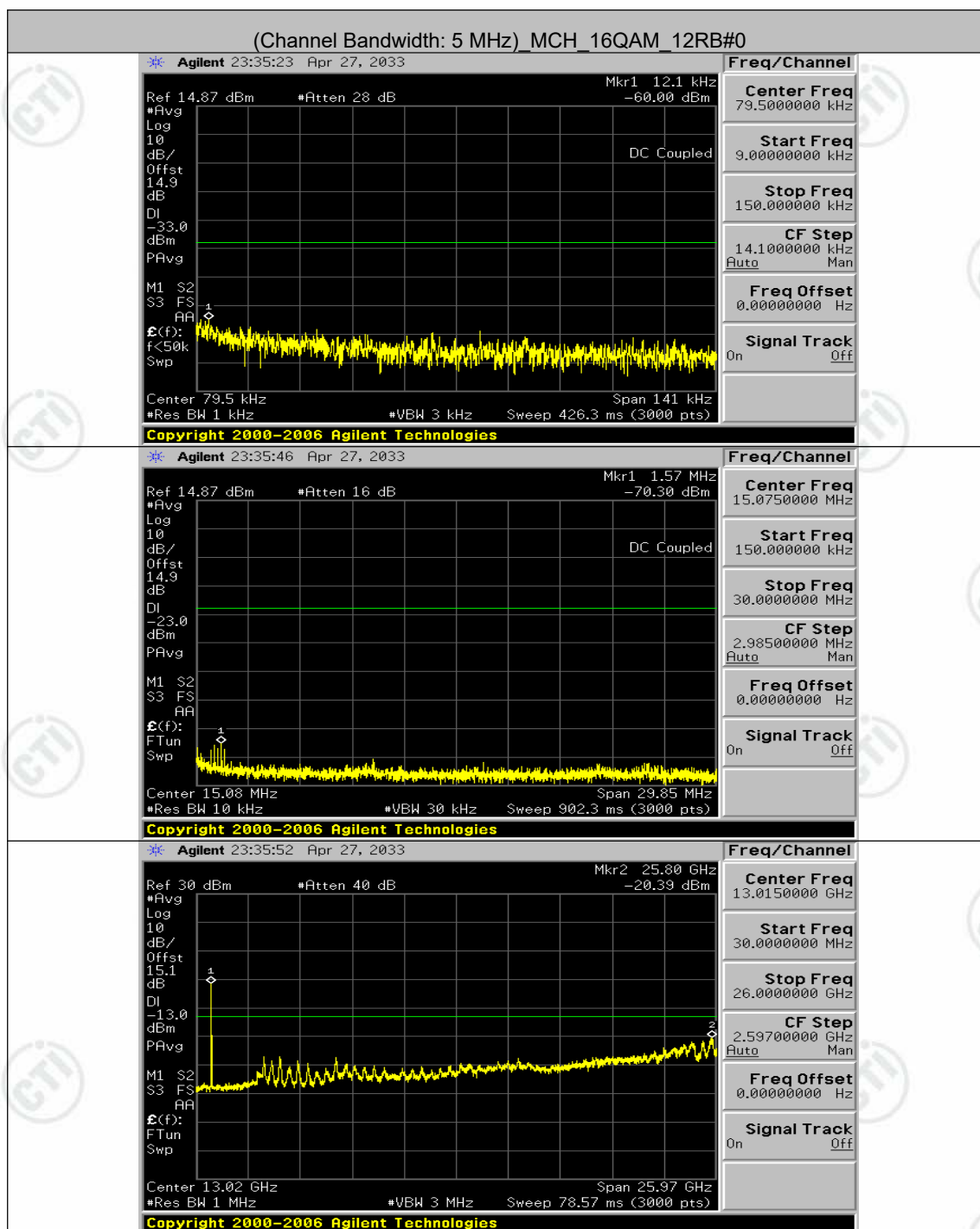


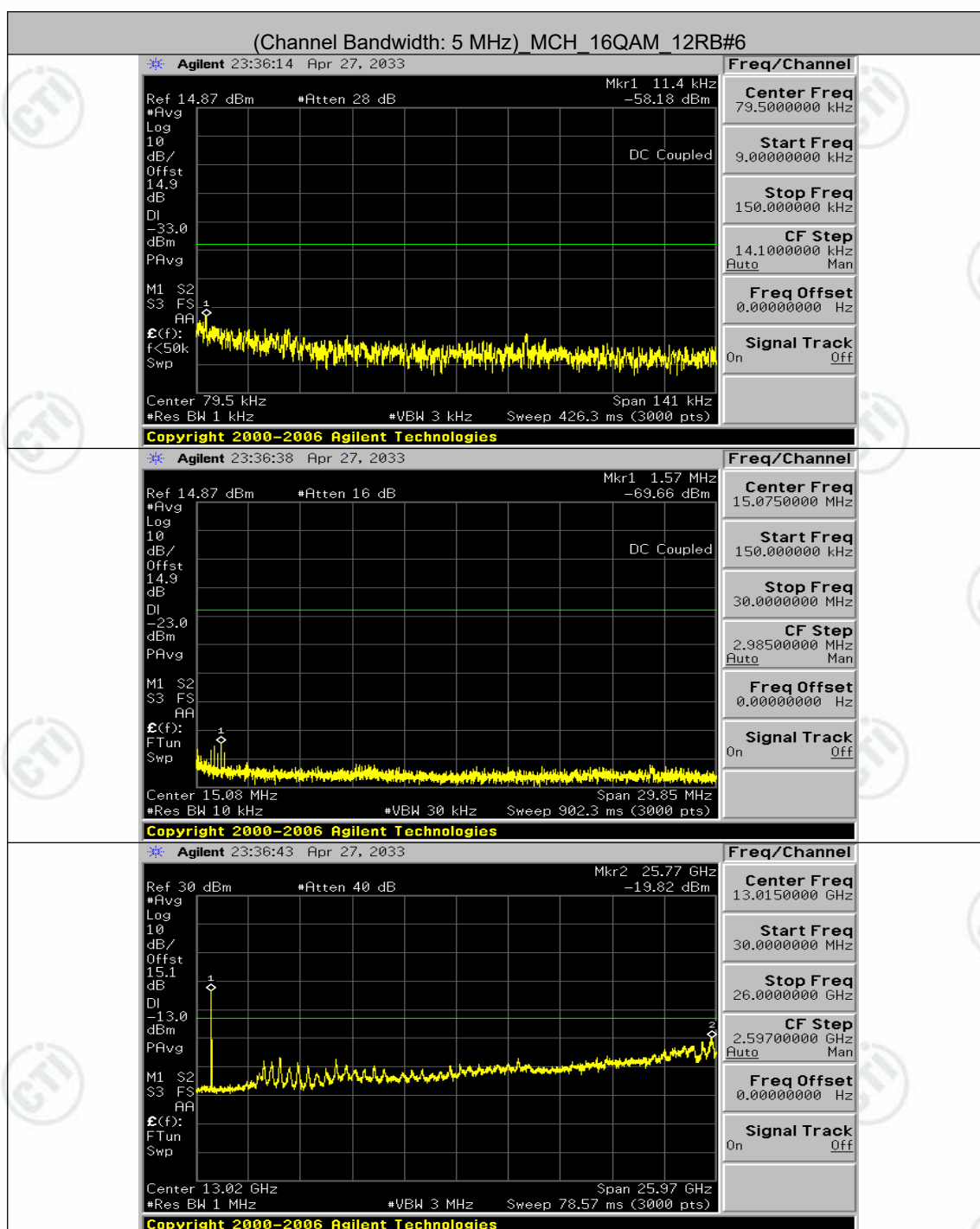


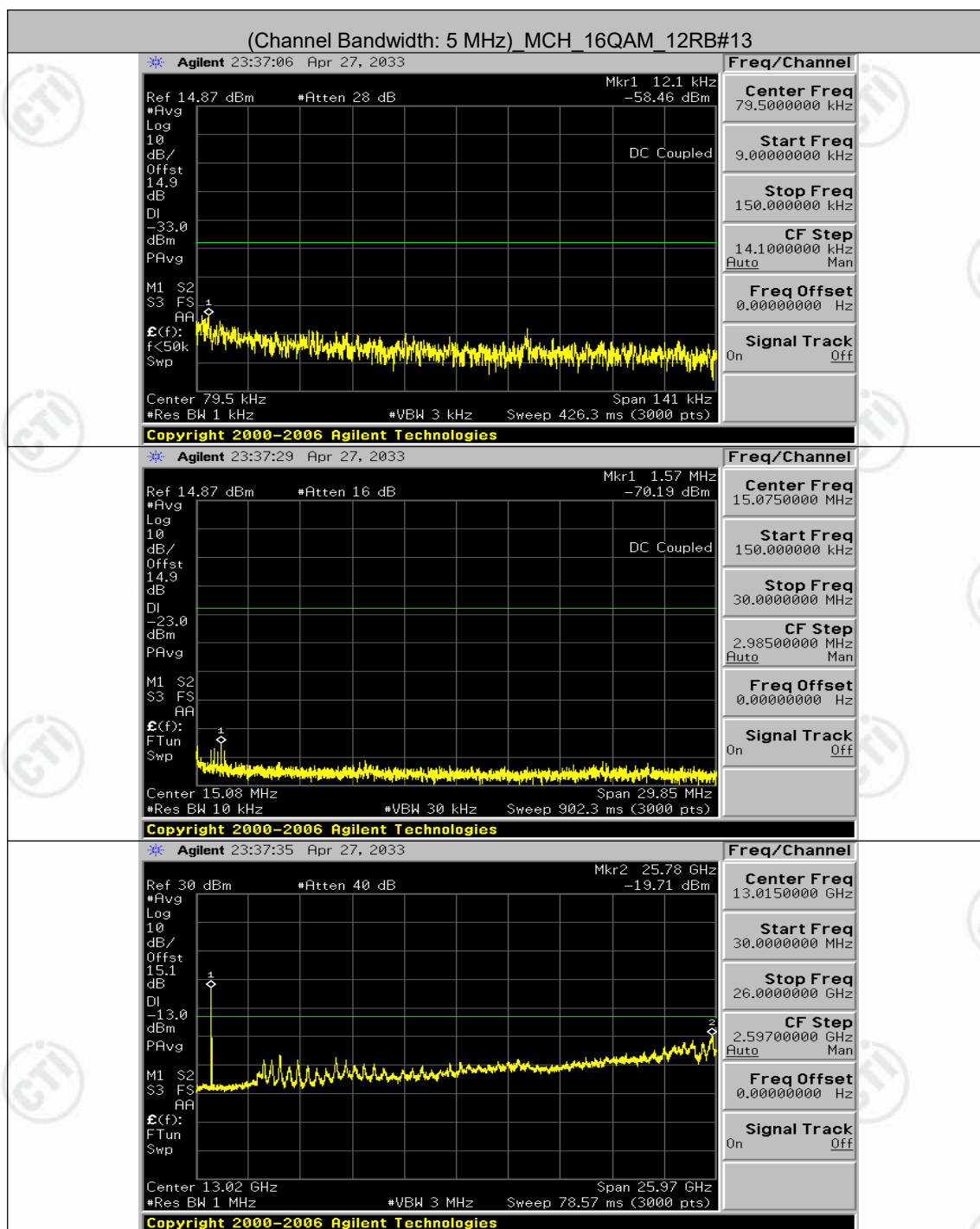


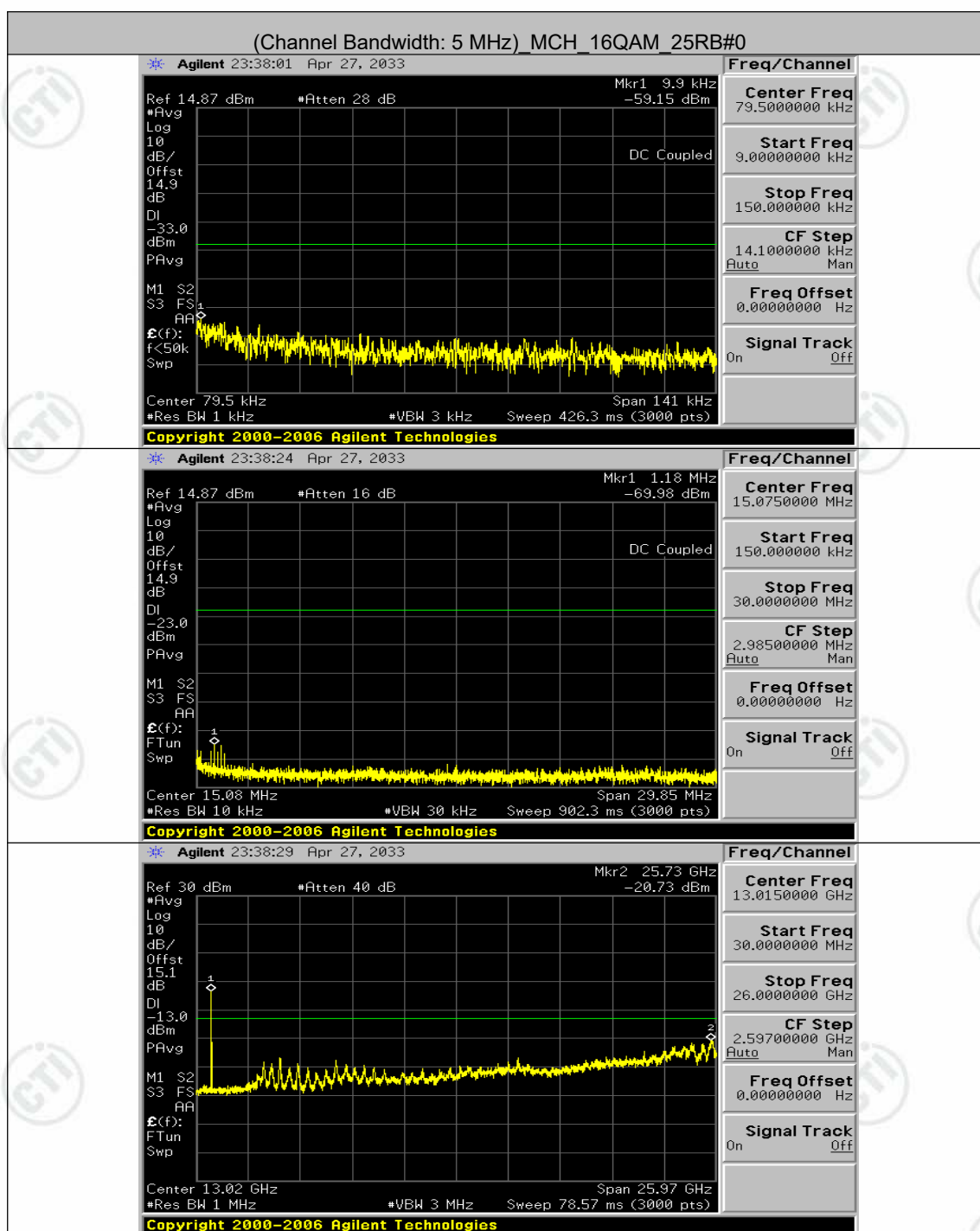


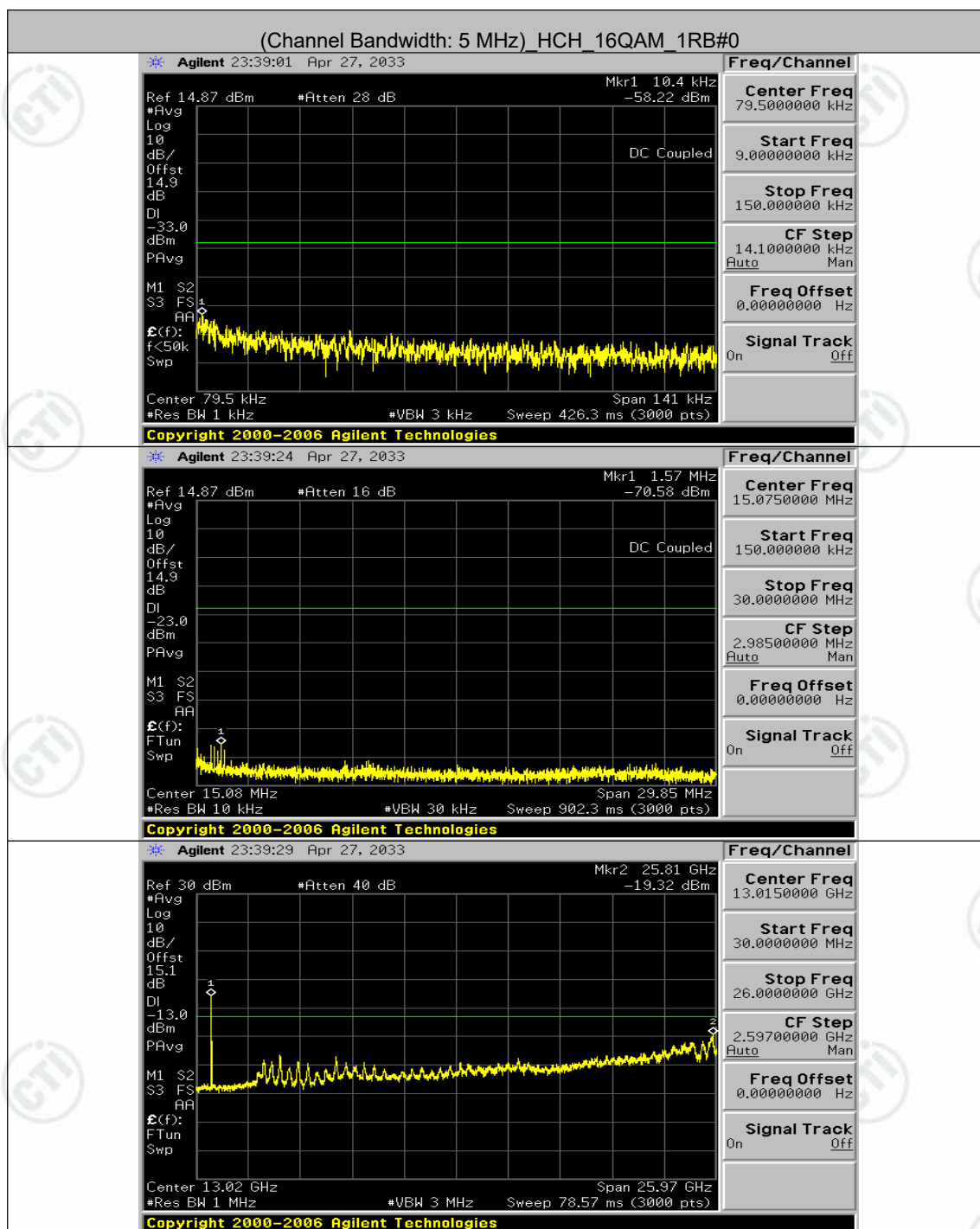


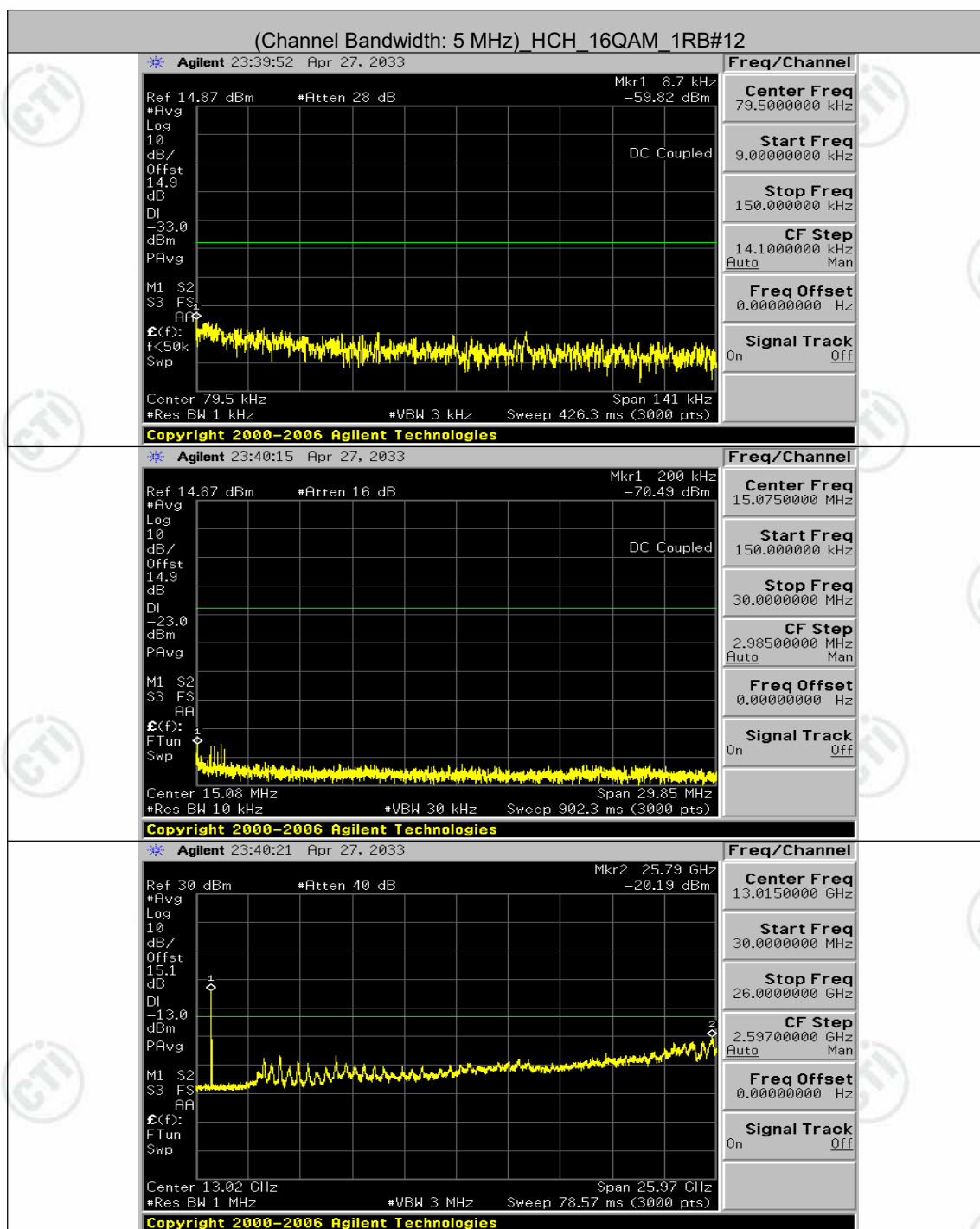


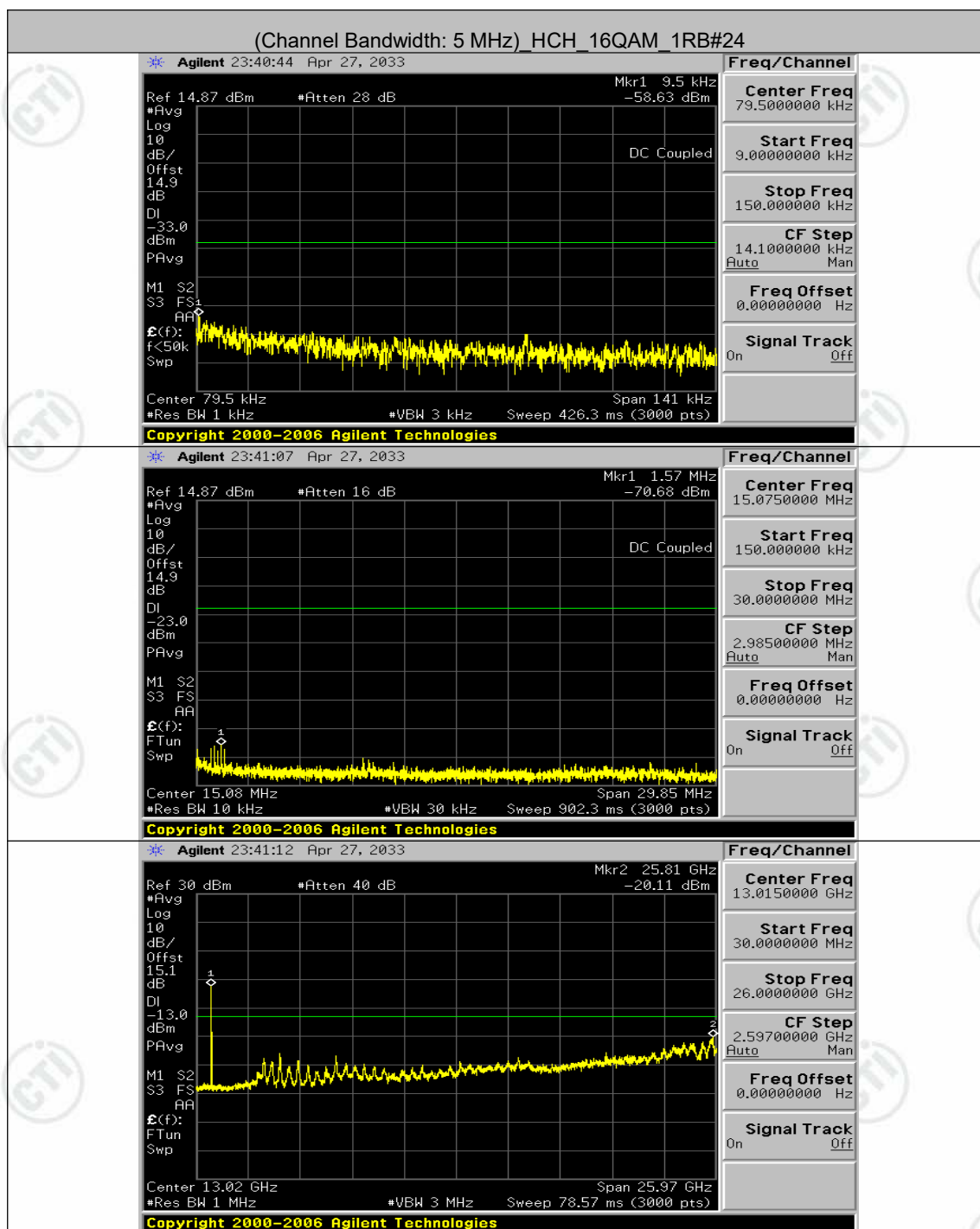


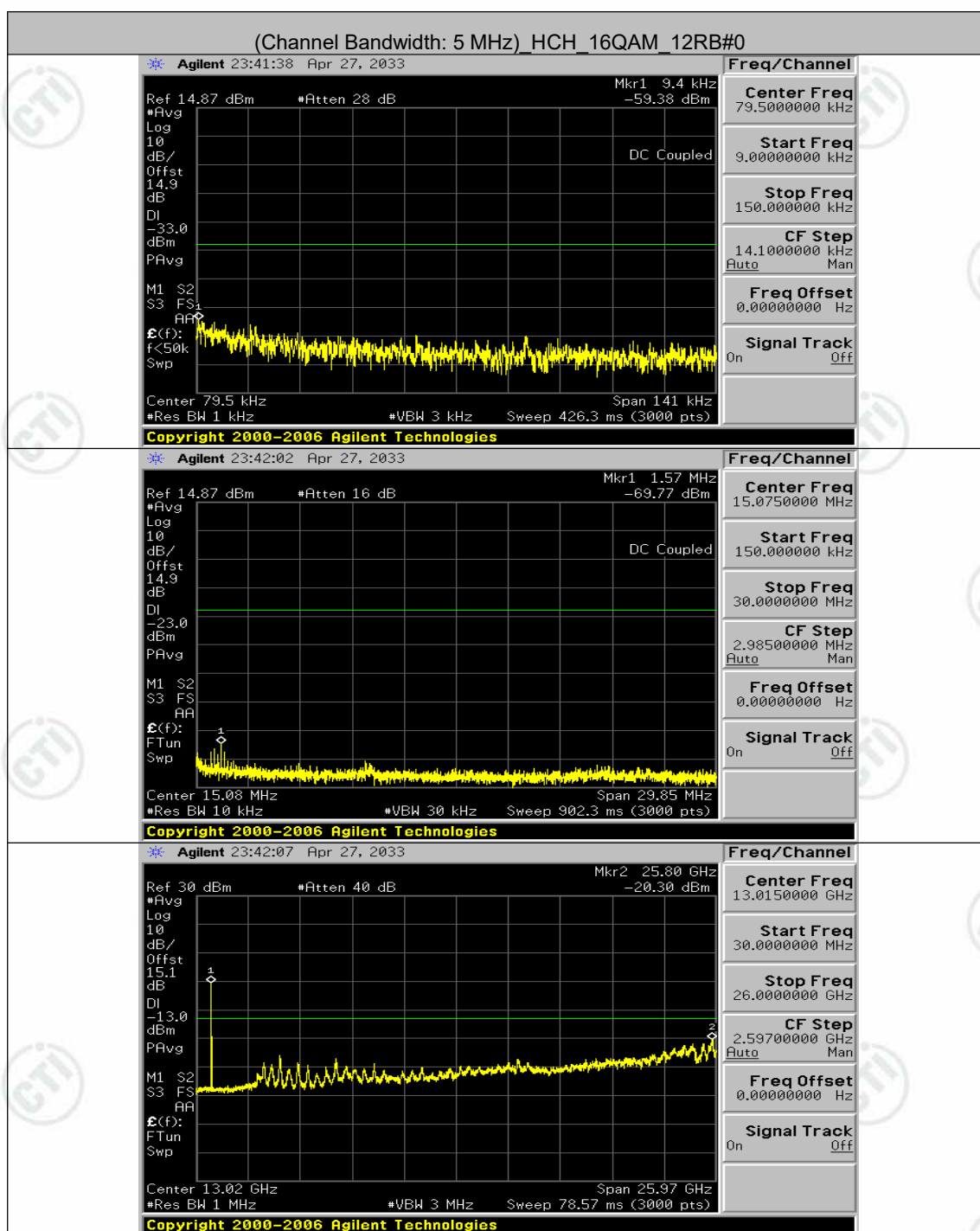


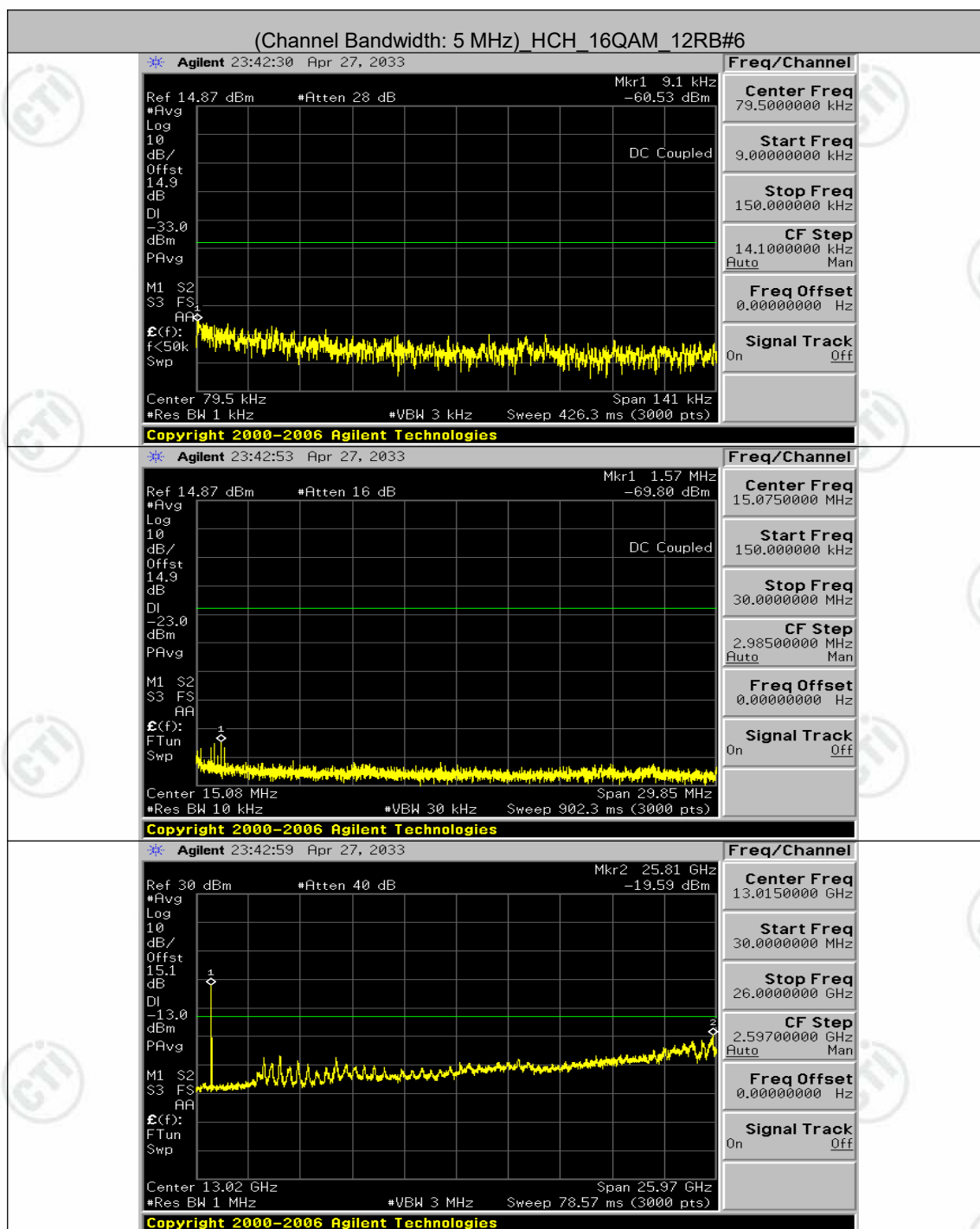


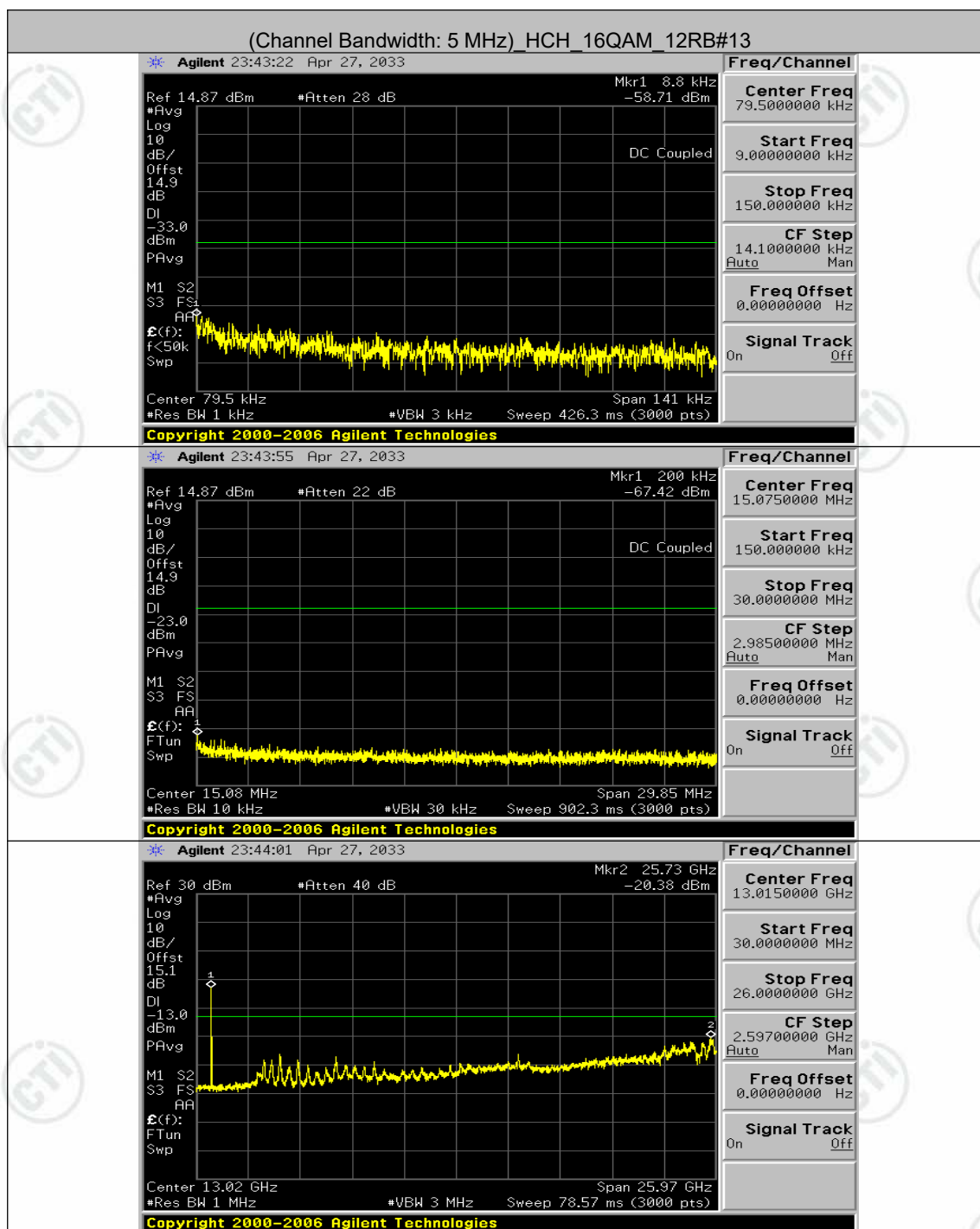


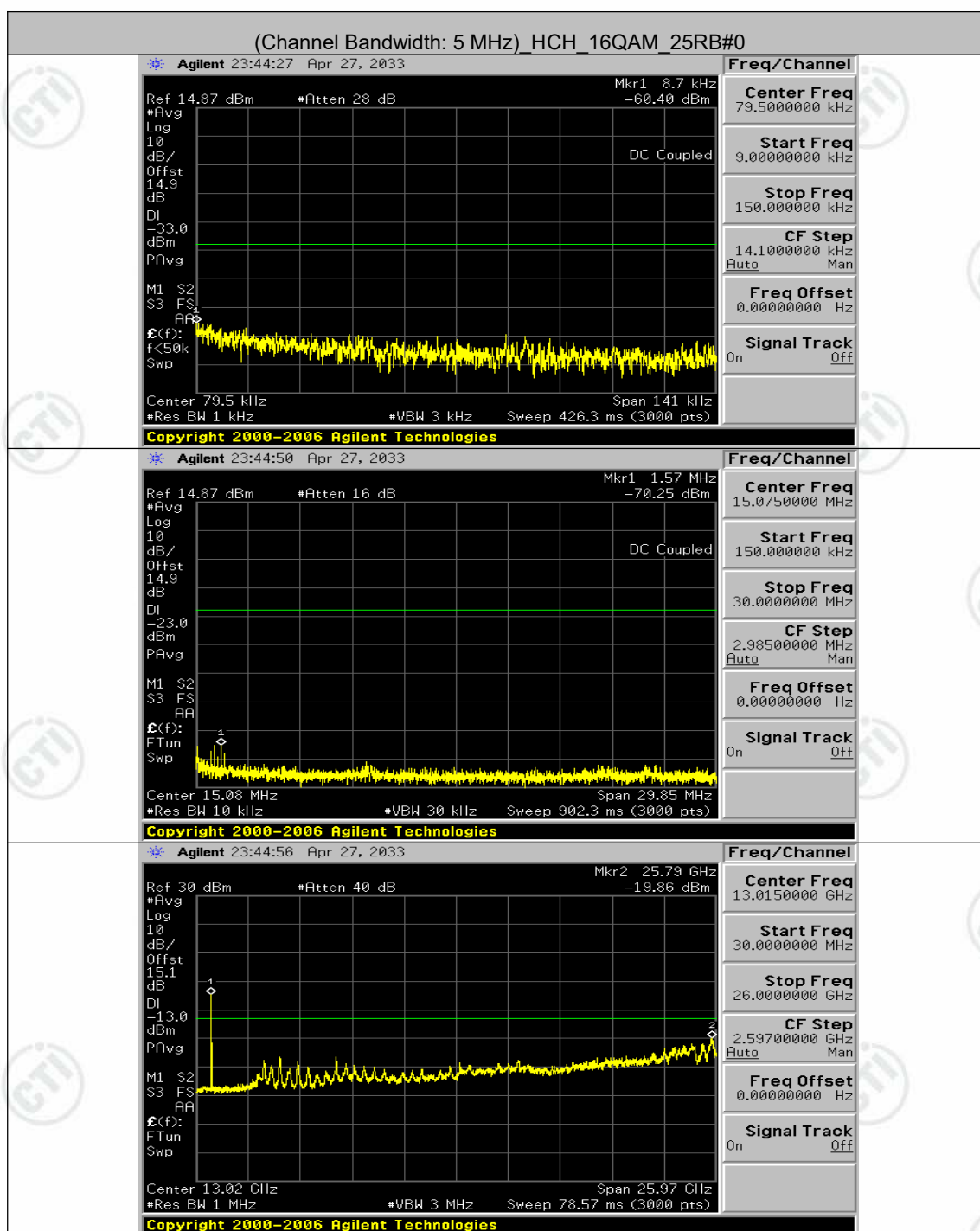




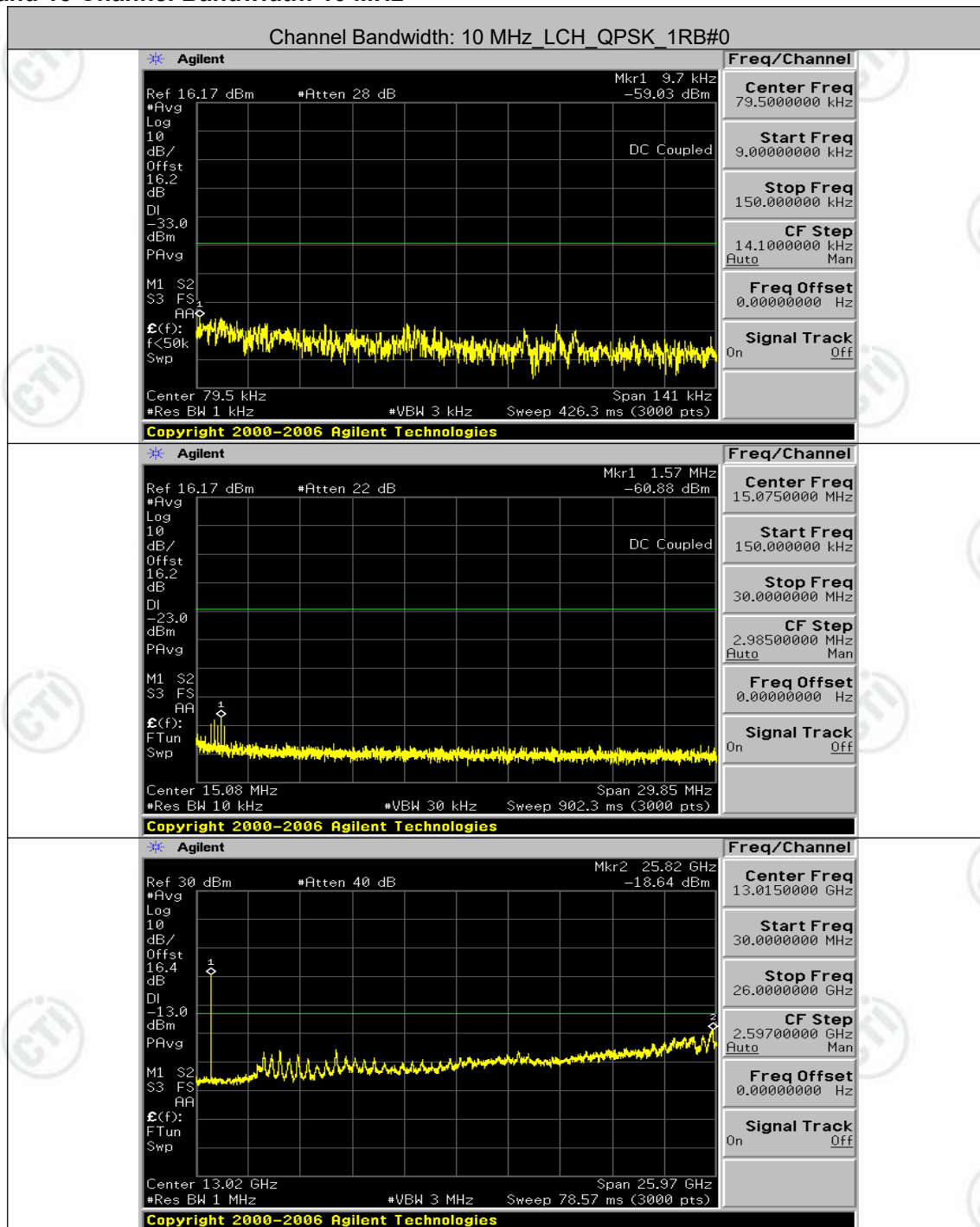


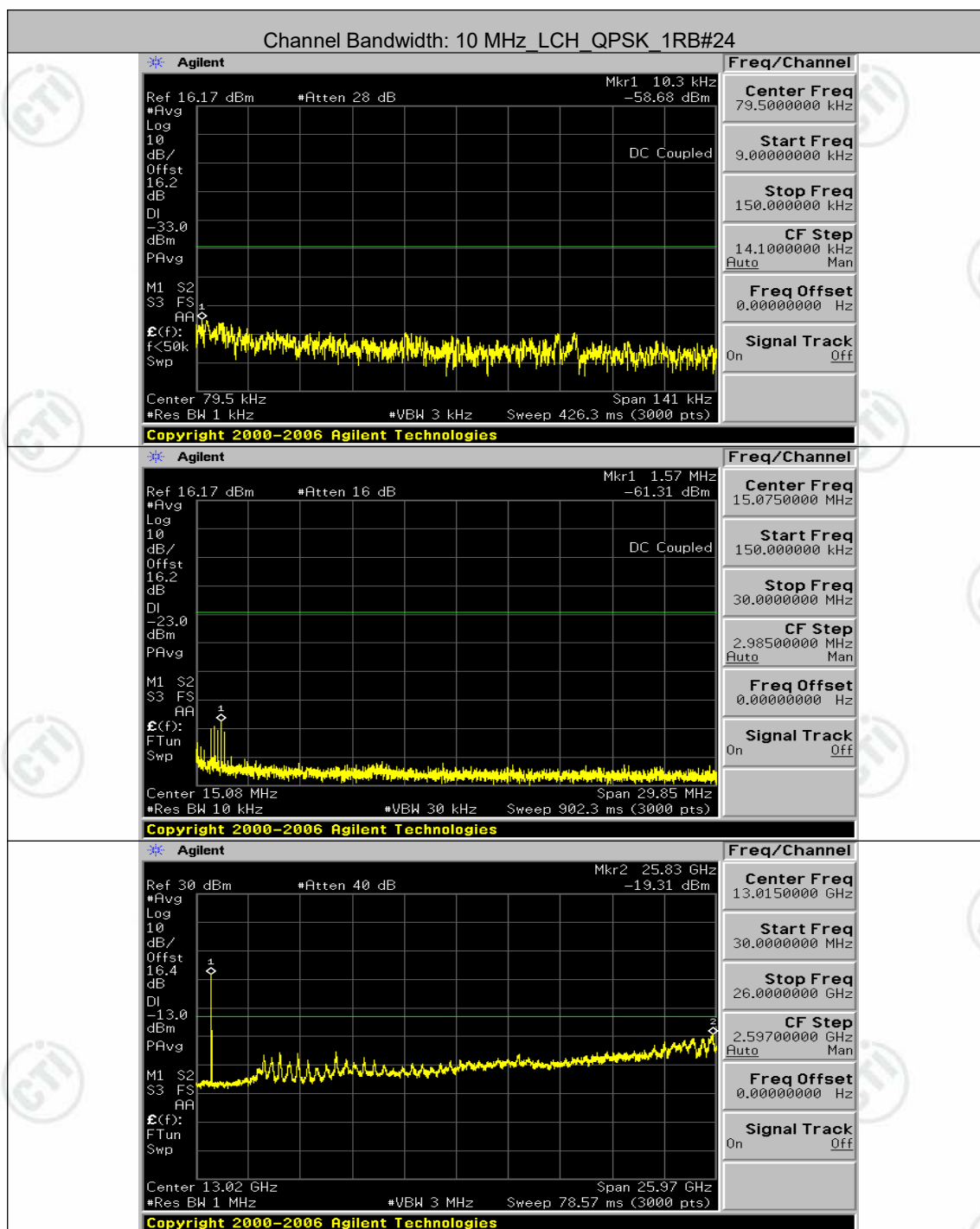


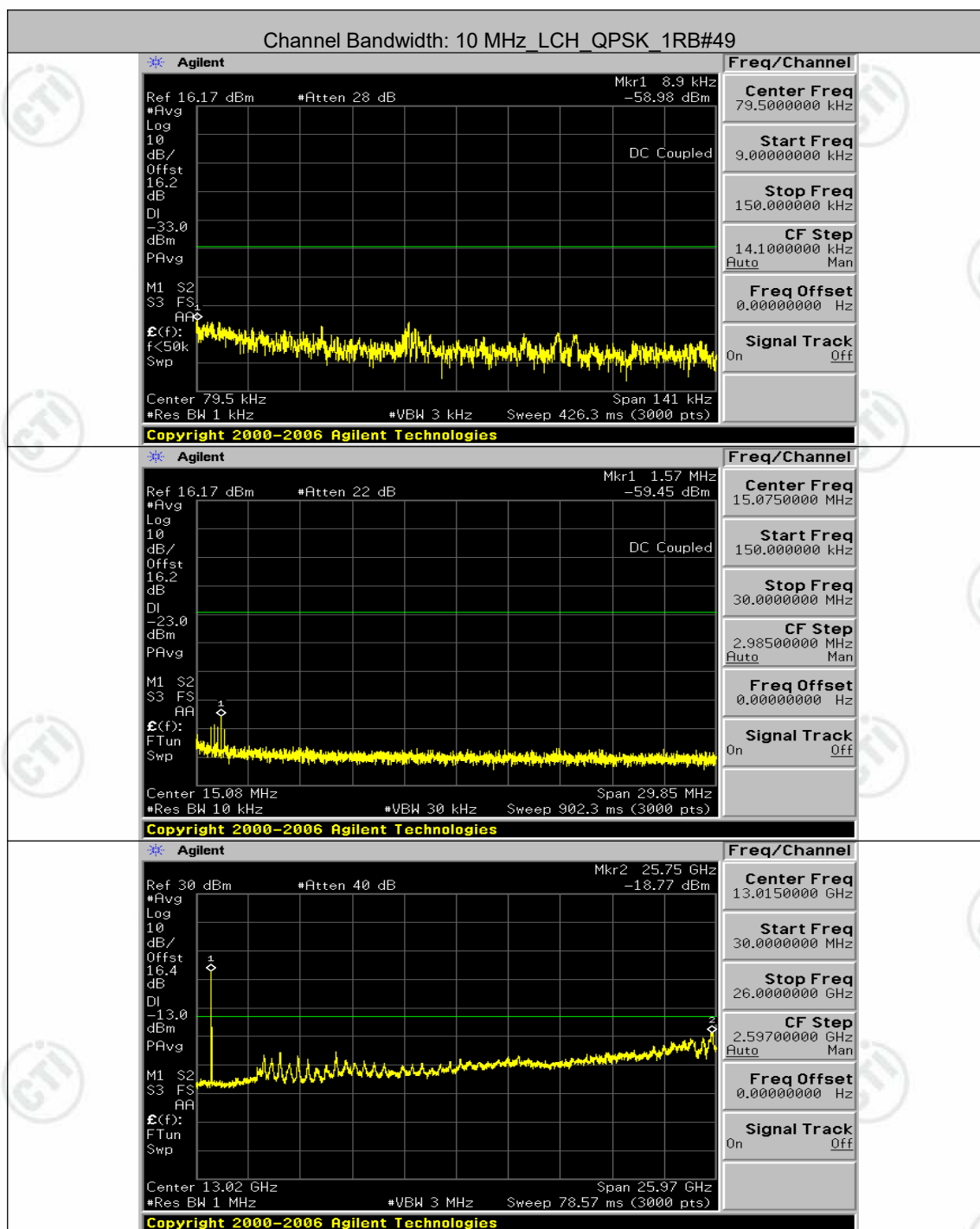


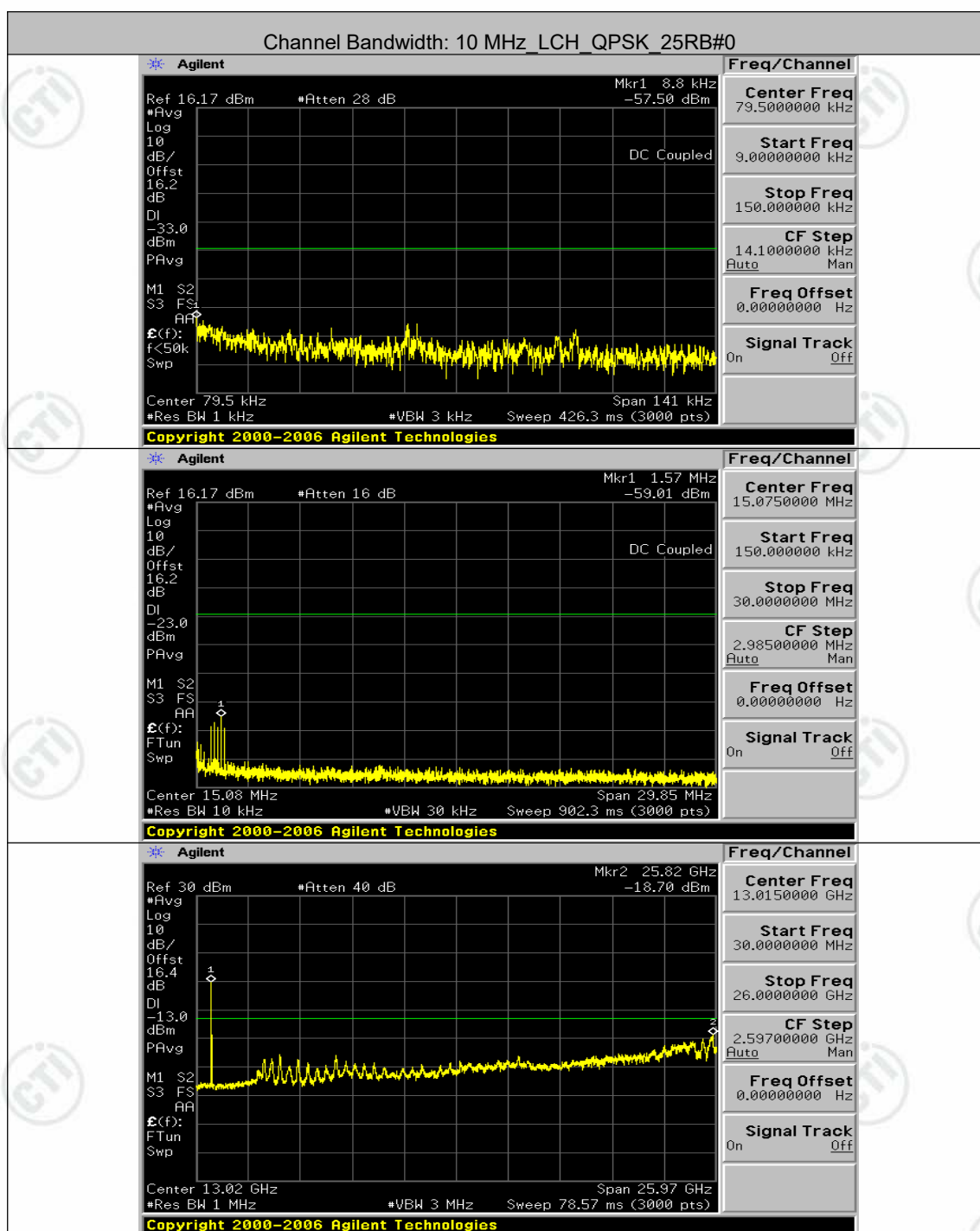


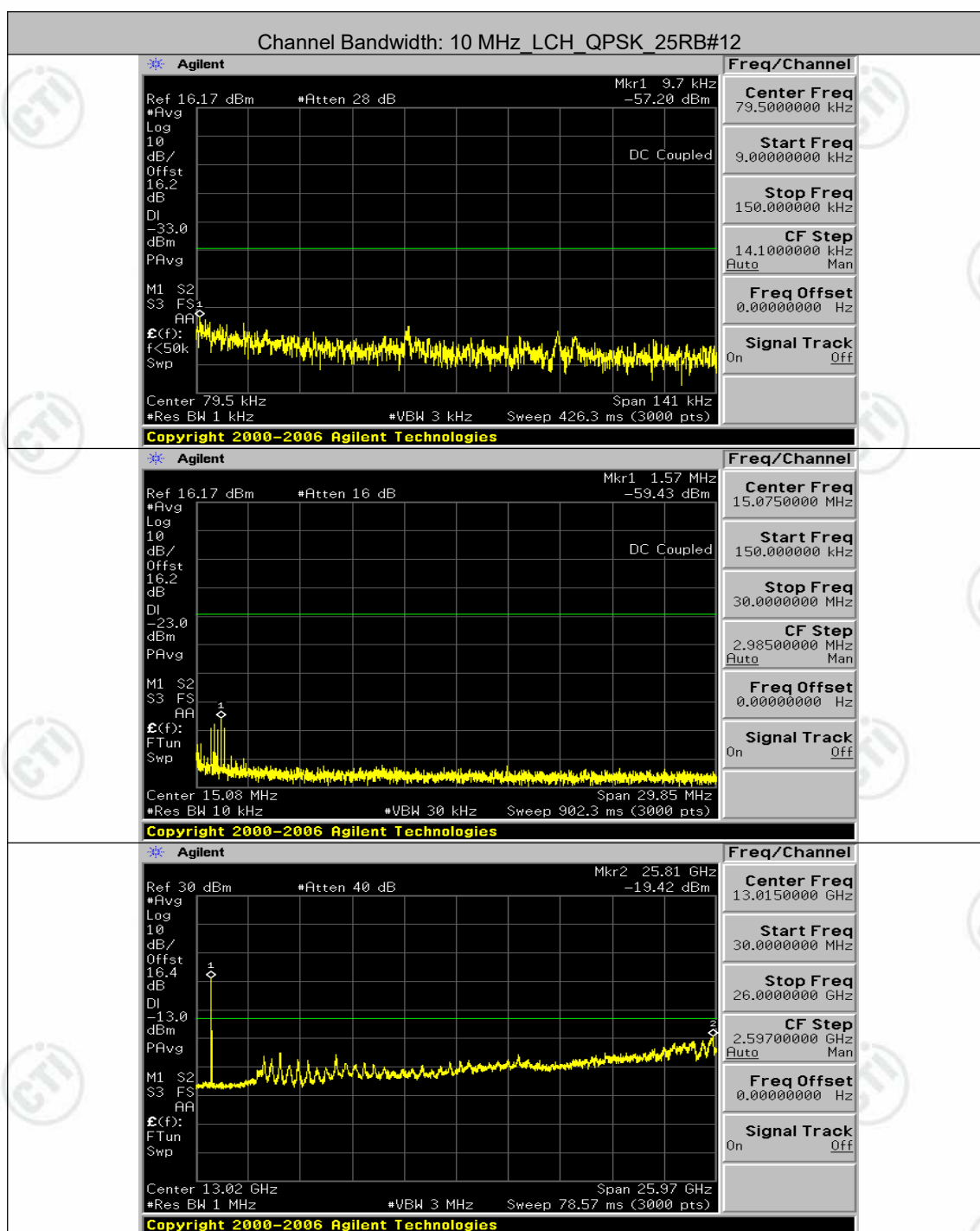
LTE band 13 Channel Bandwidth: 10 MHz

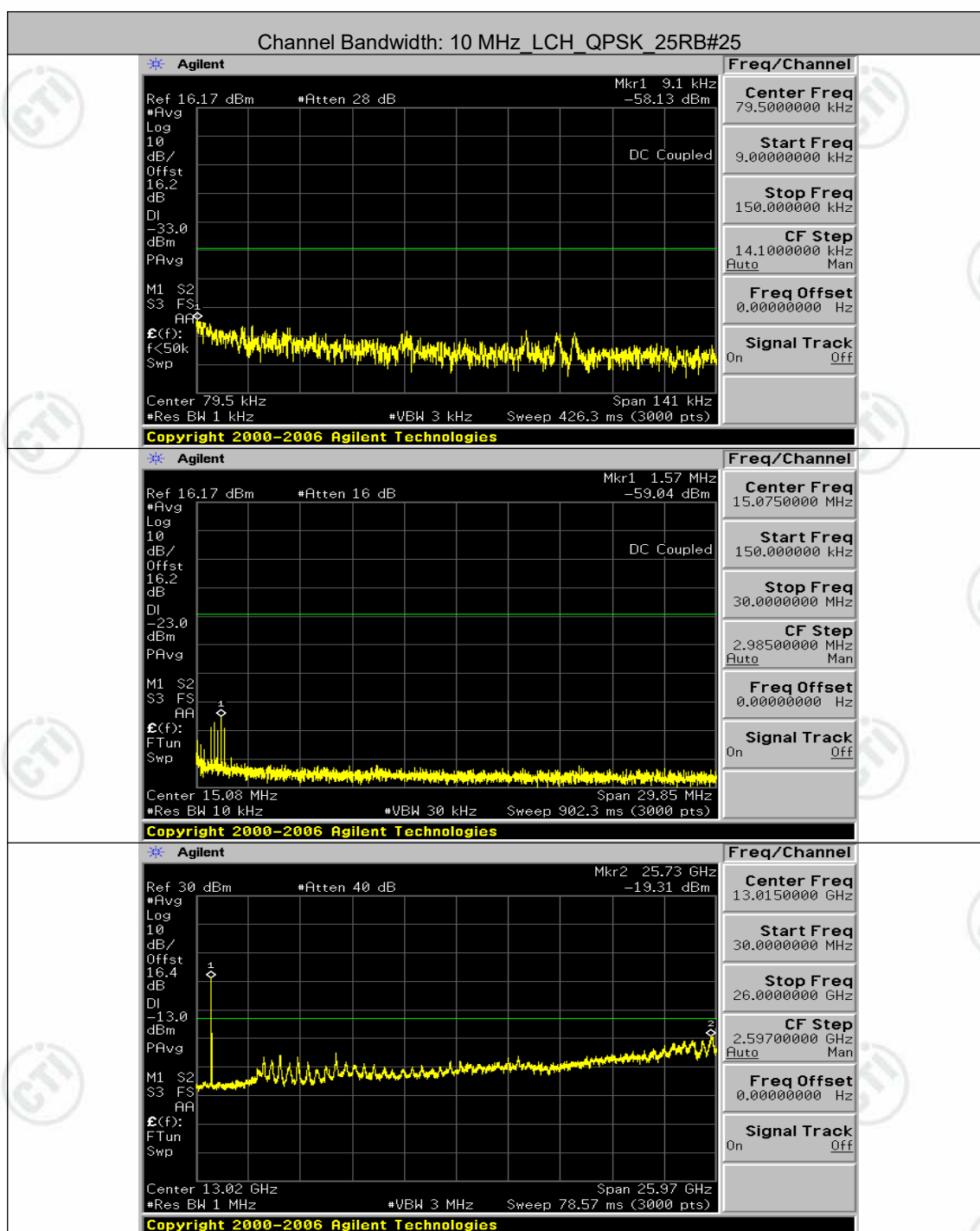


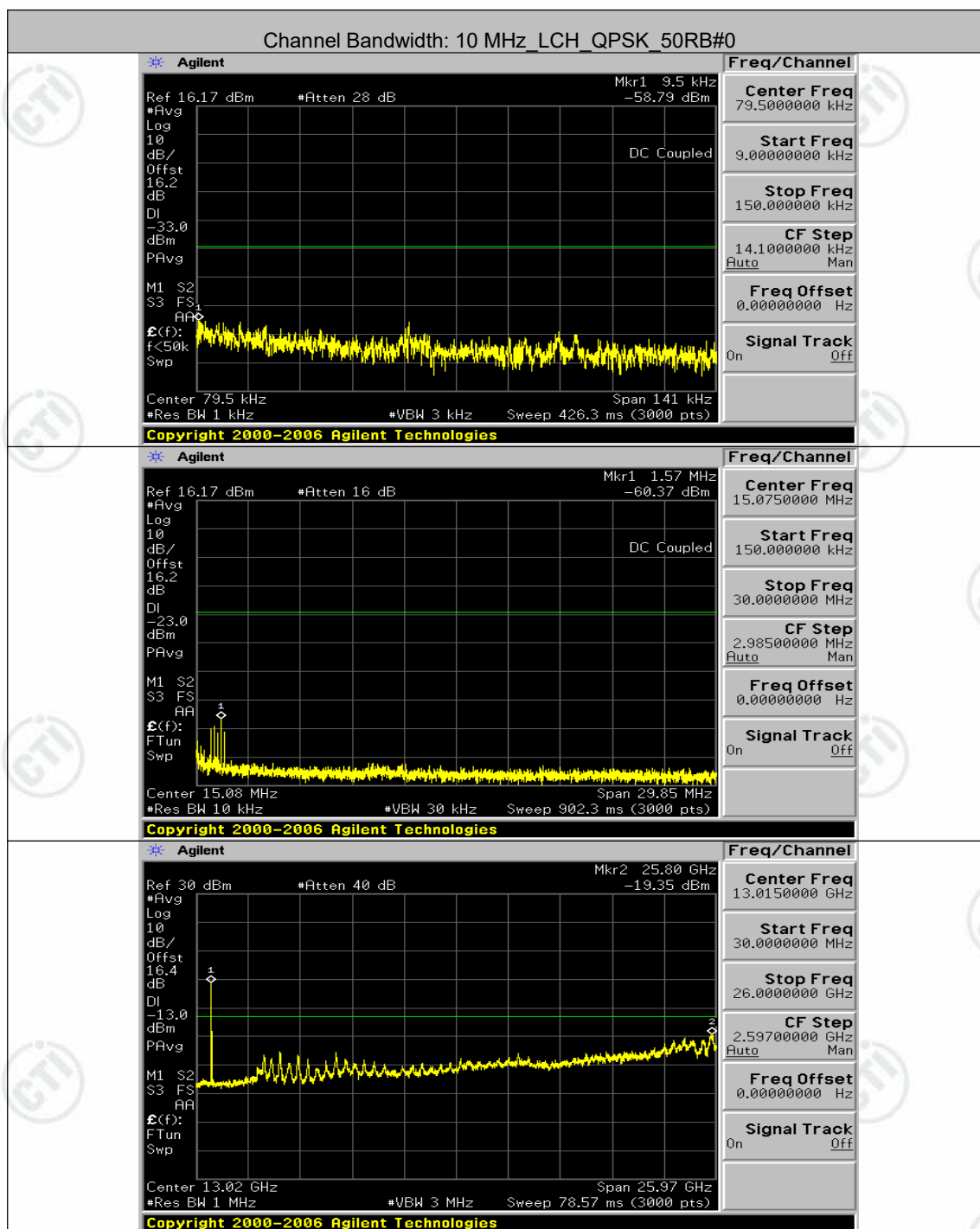


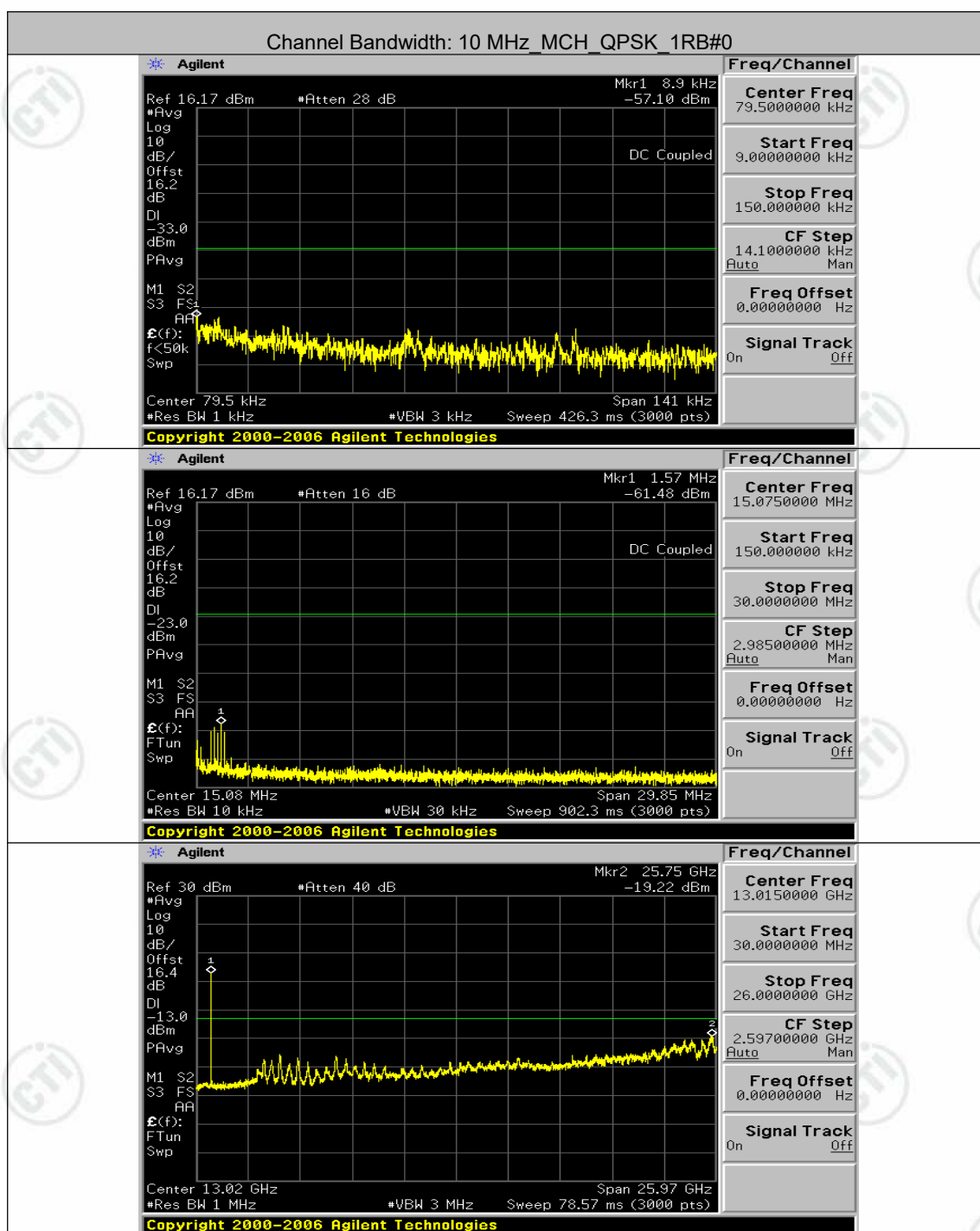


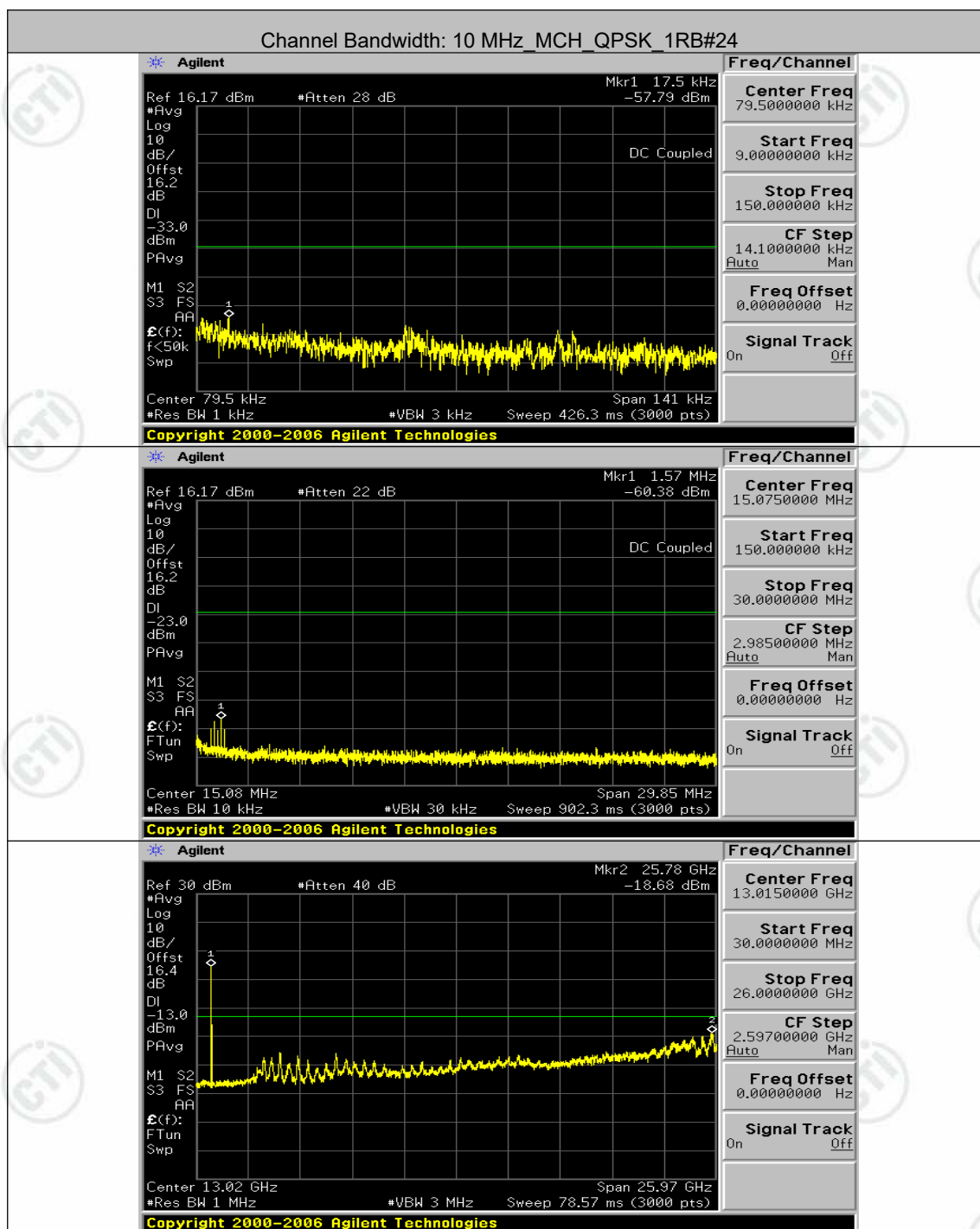


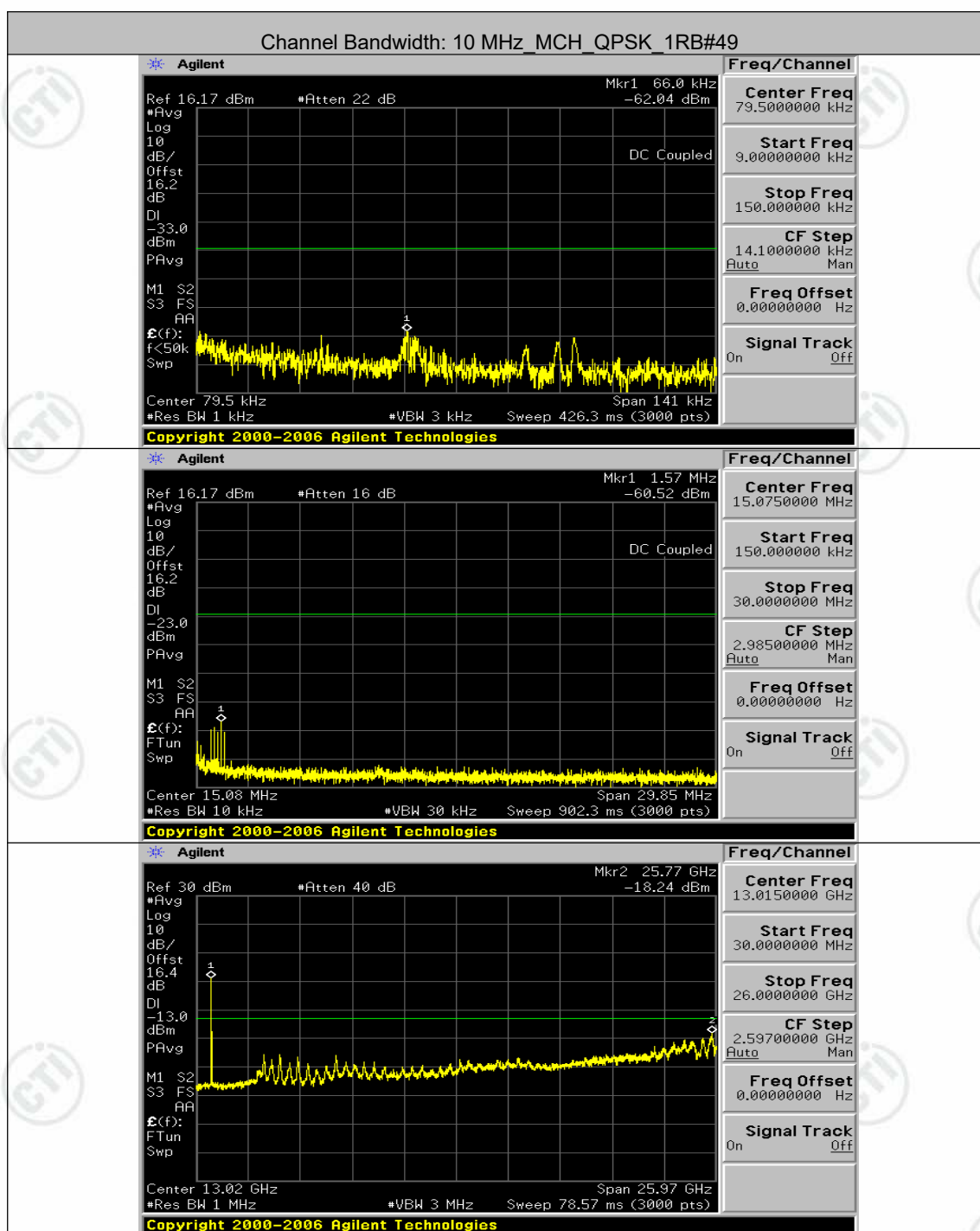


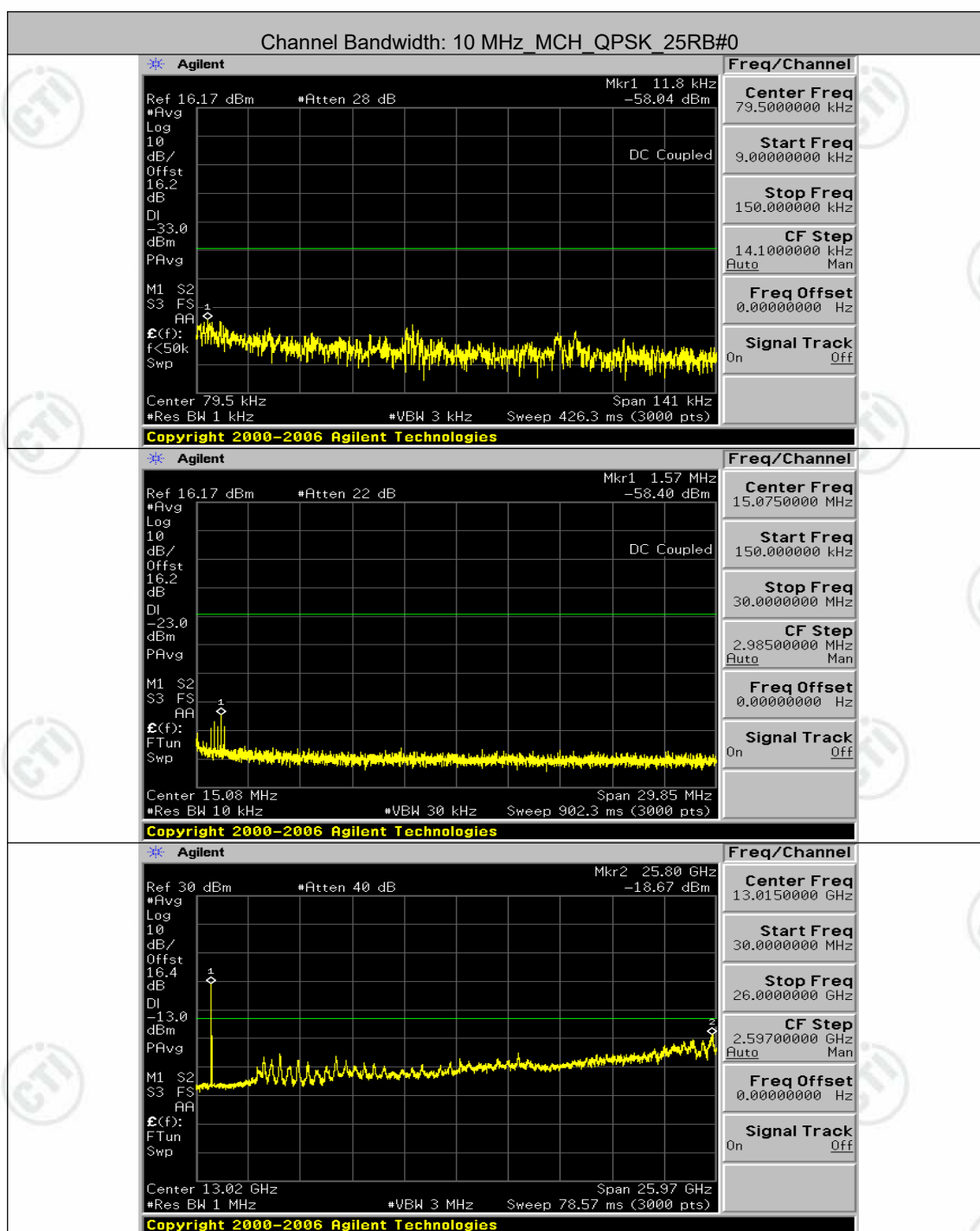


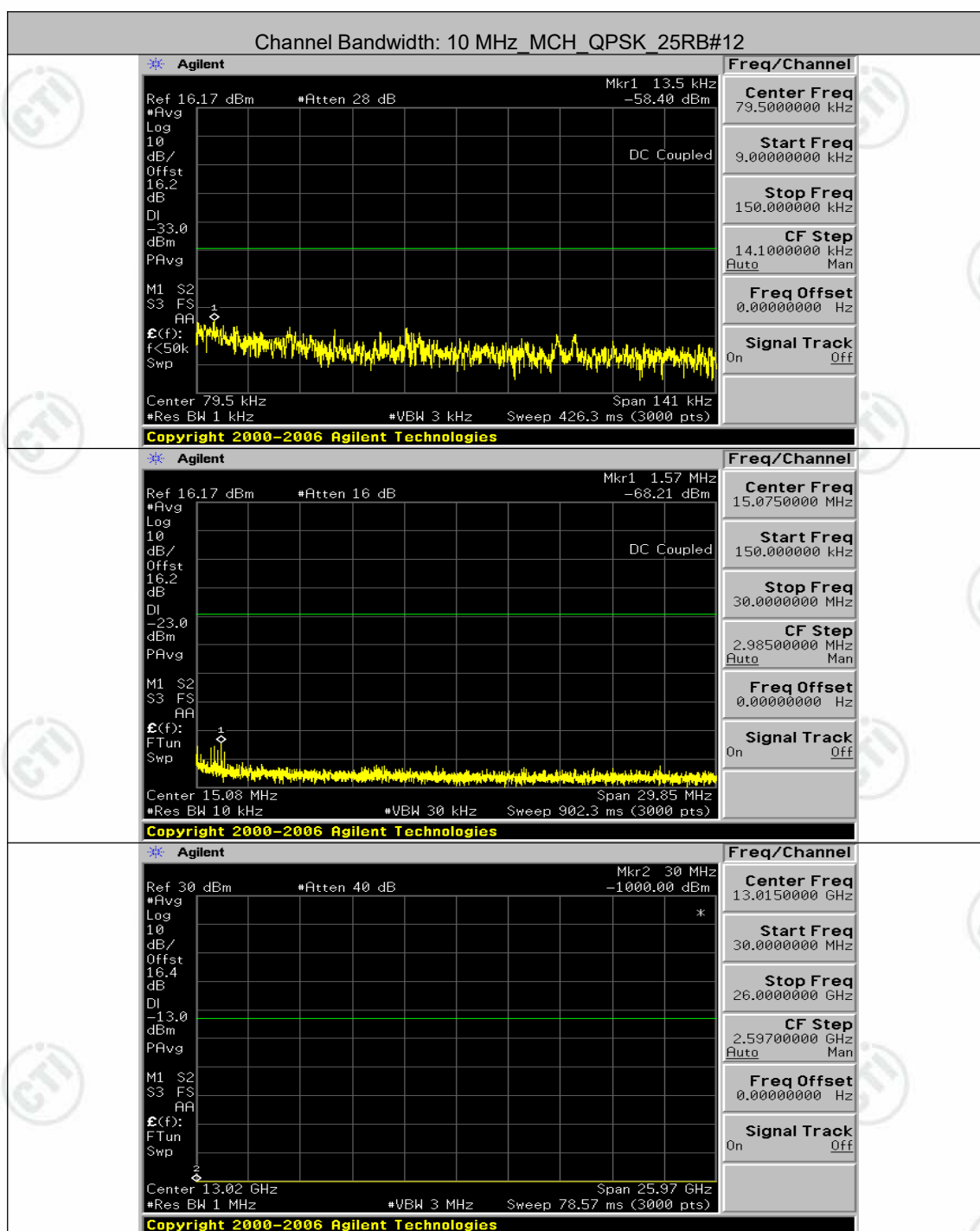


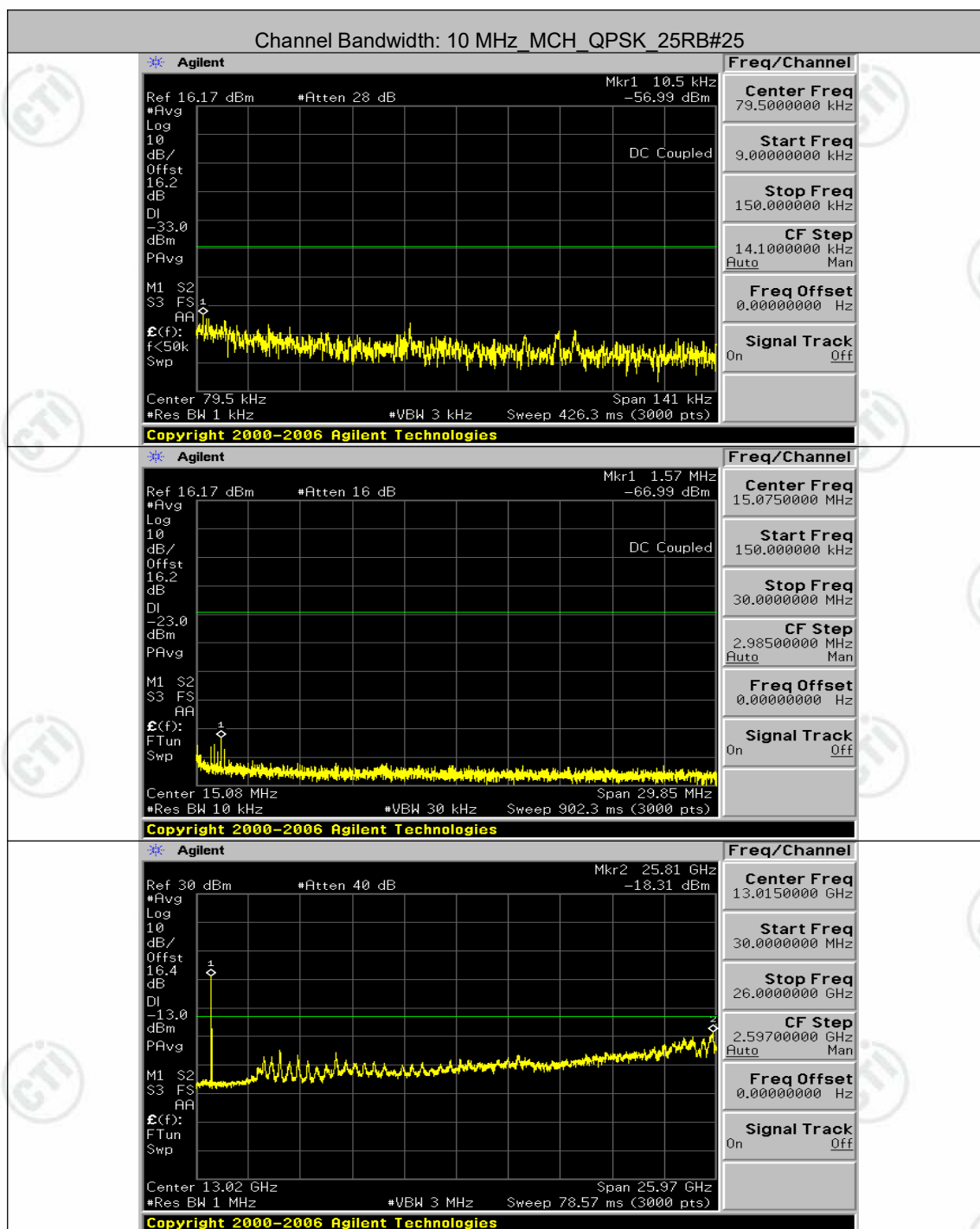


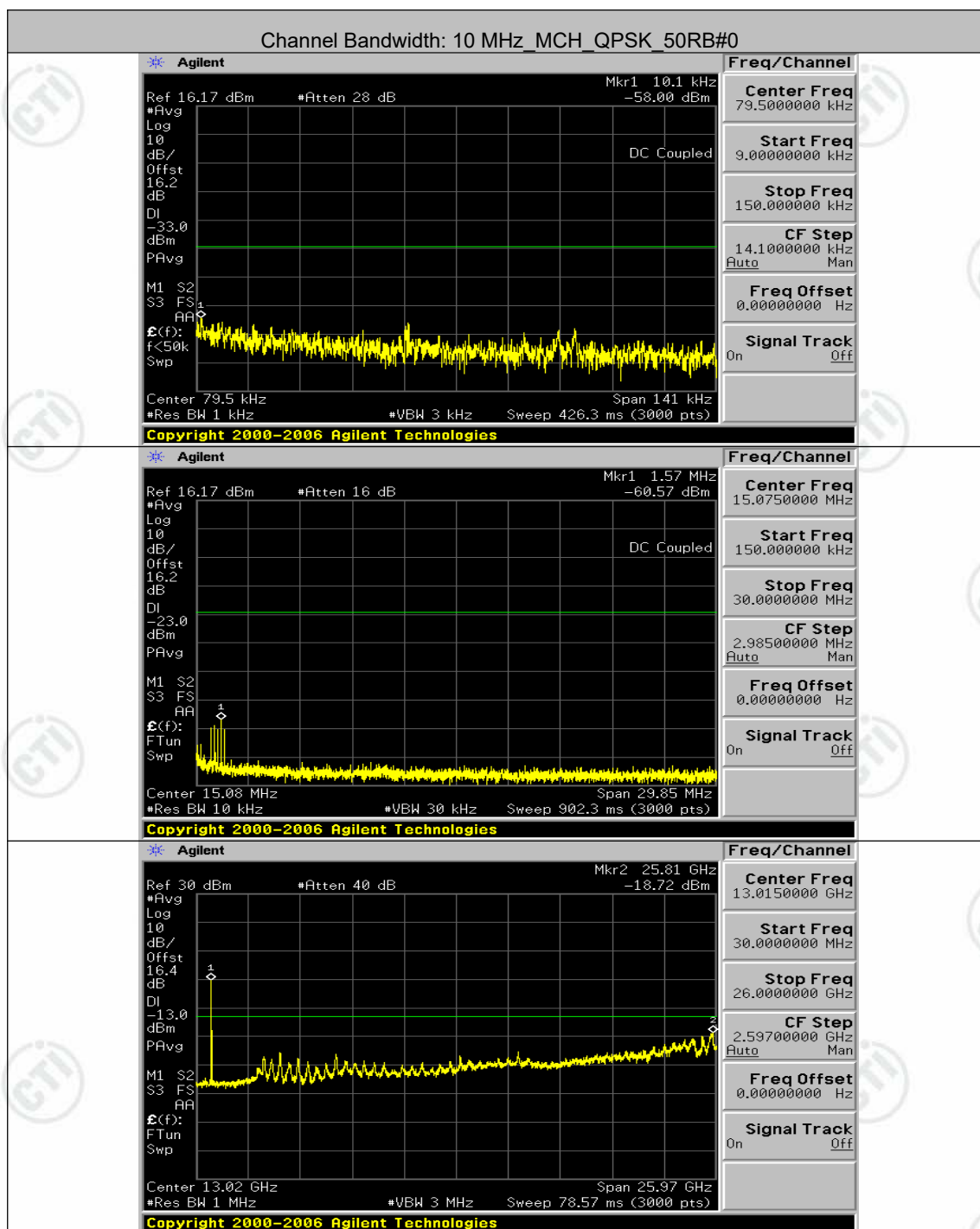


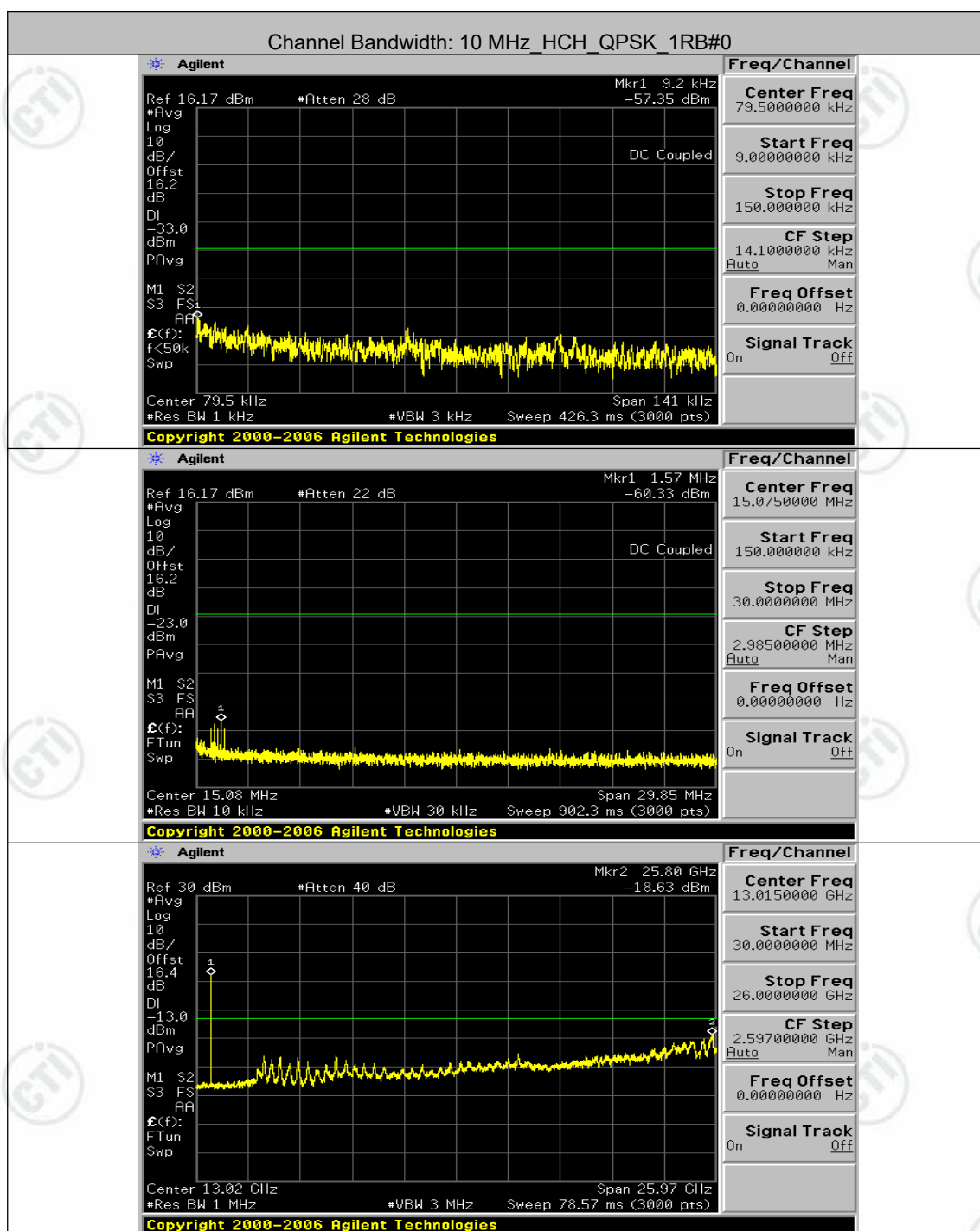


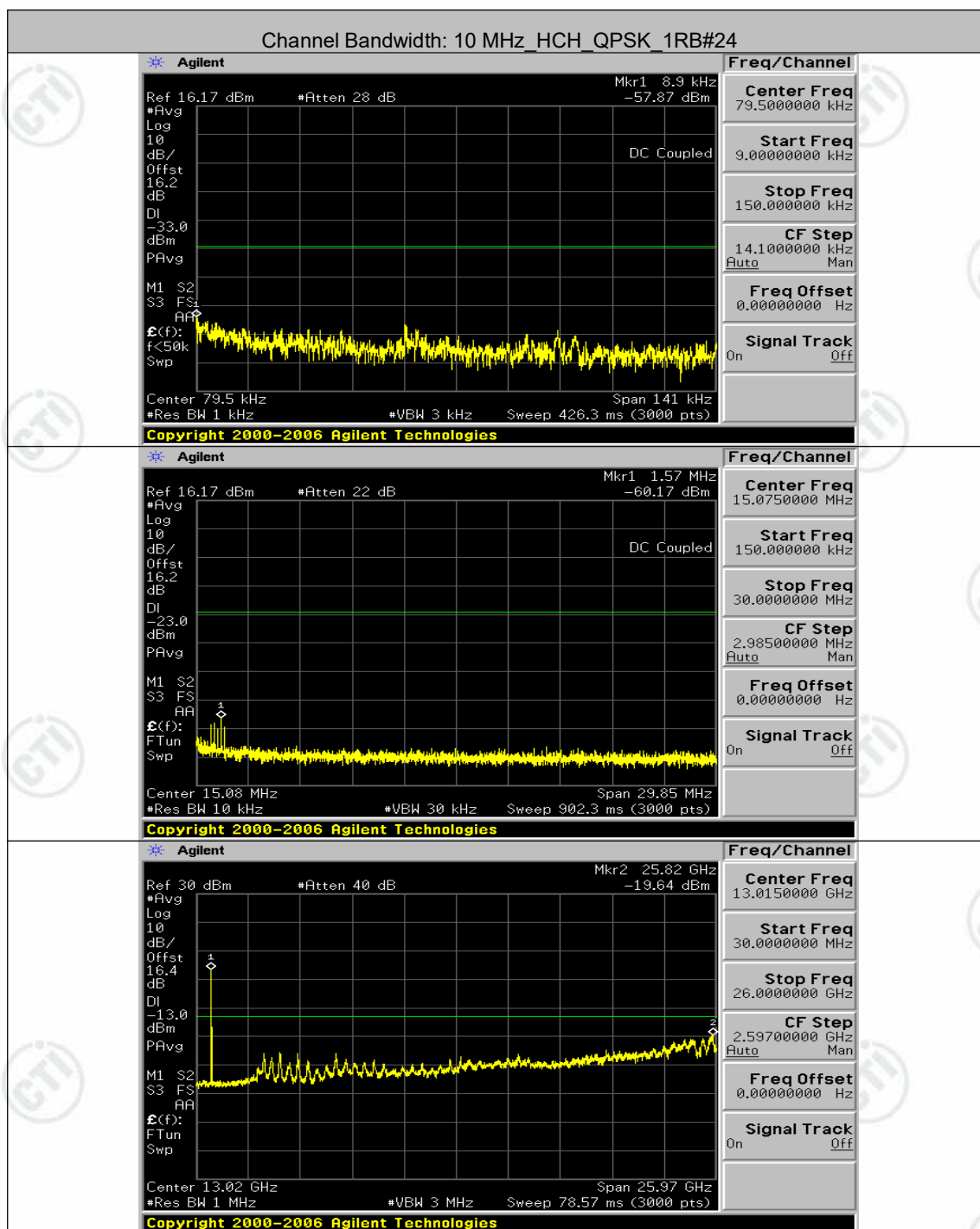


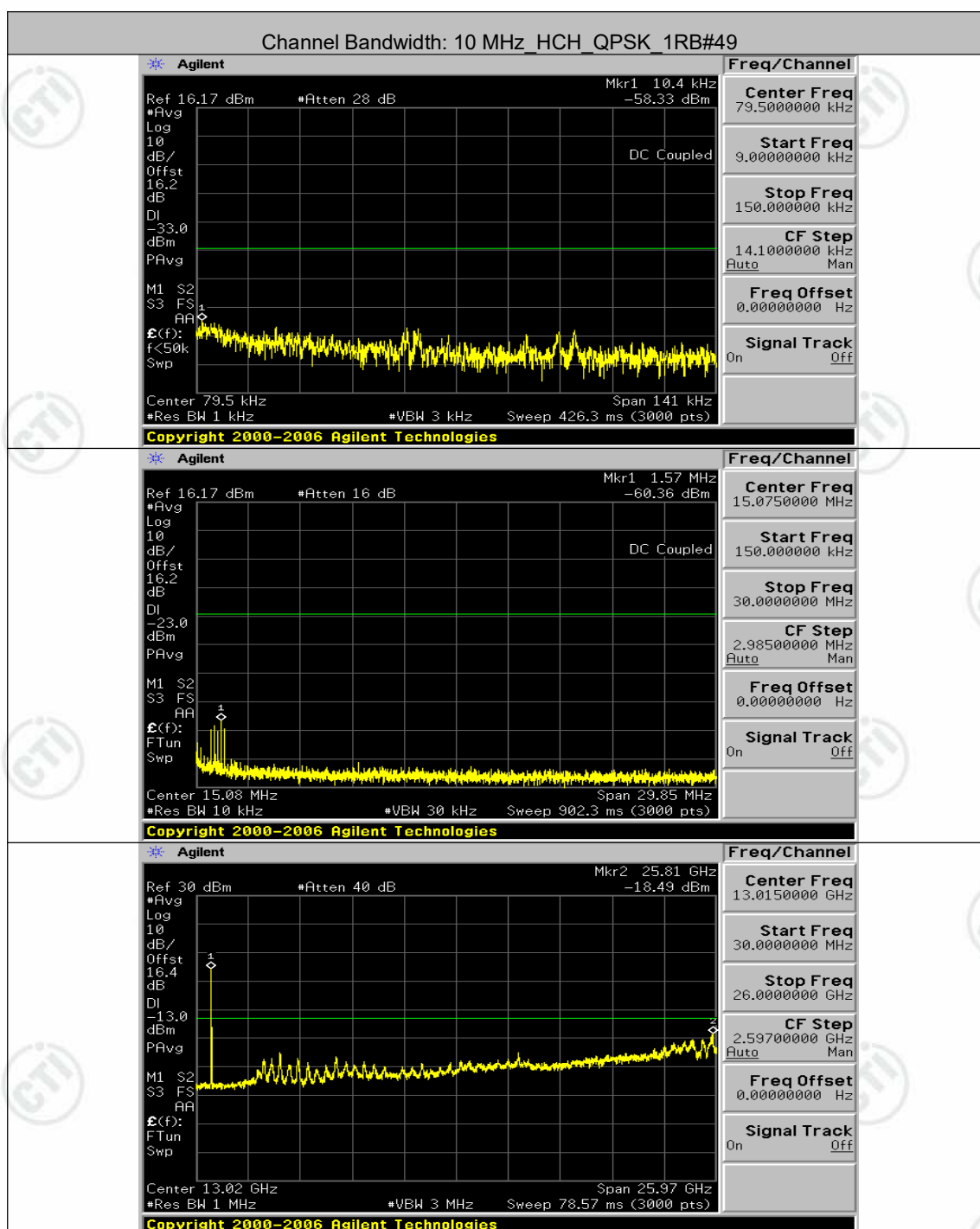


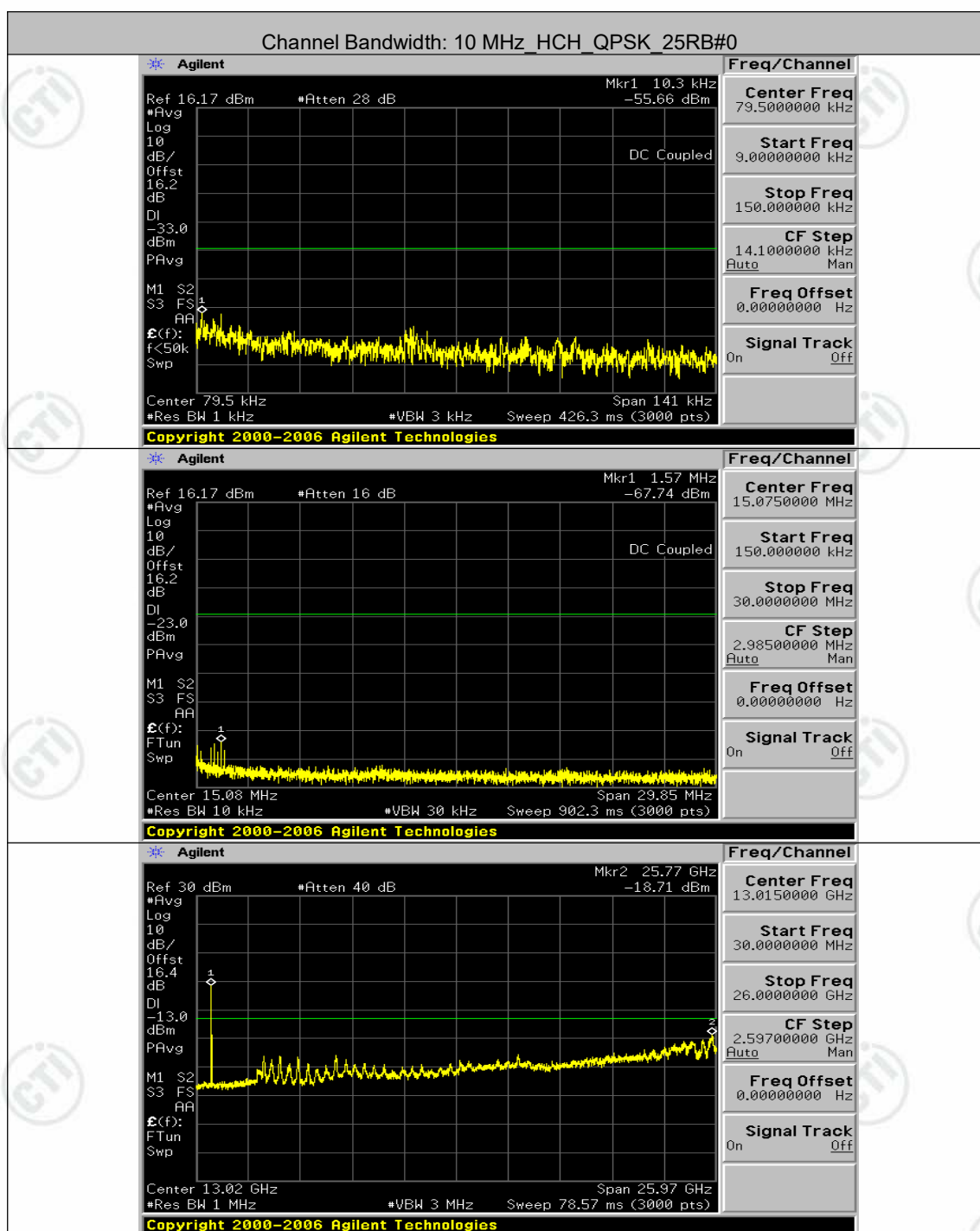


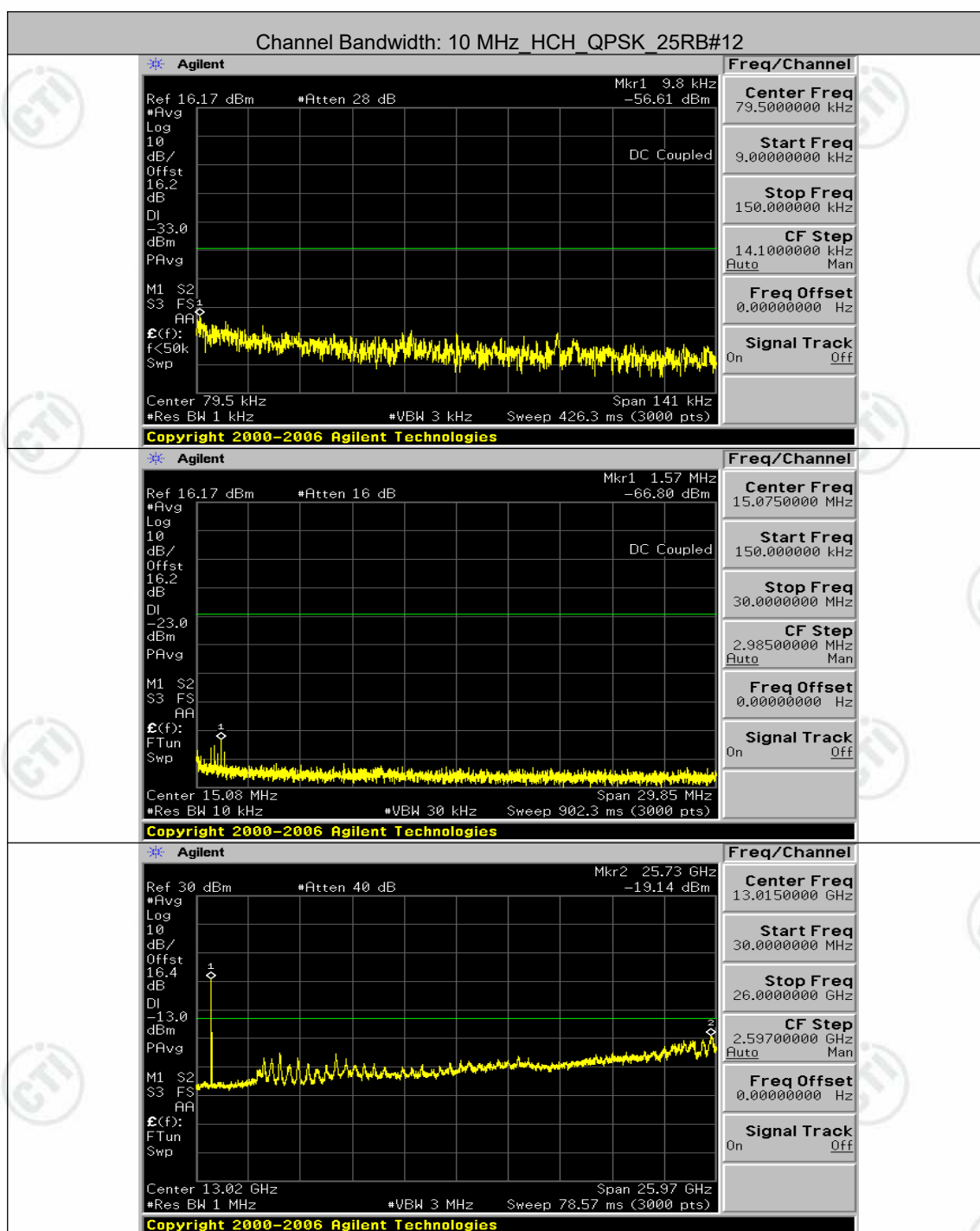


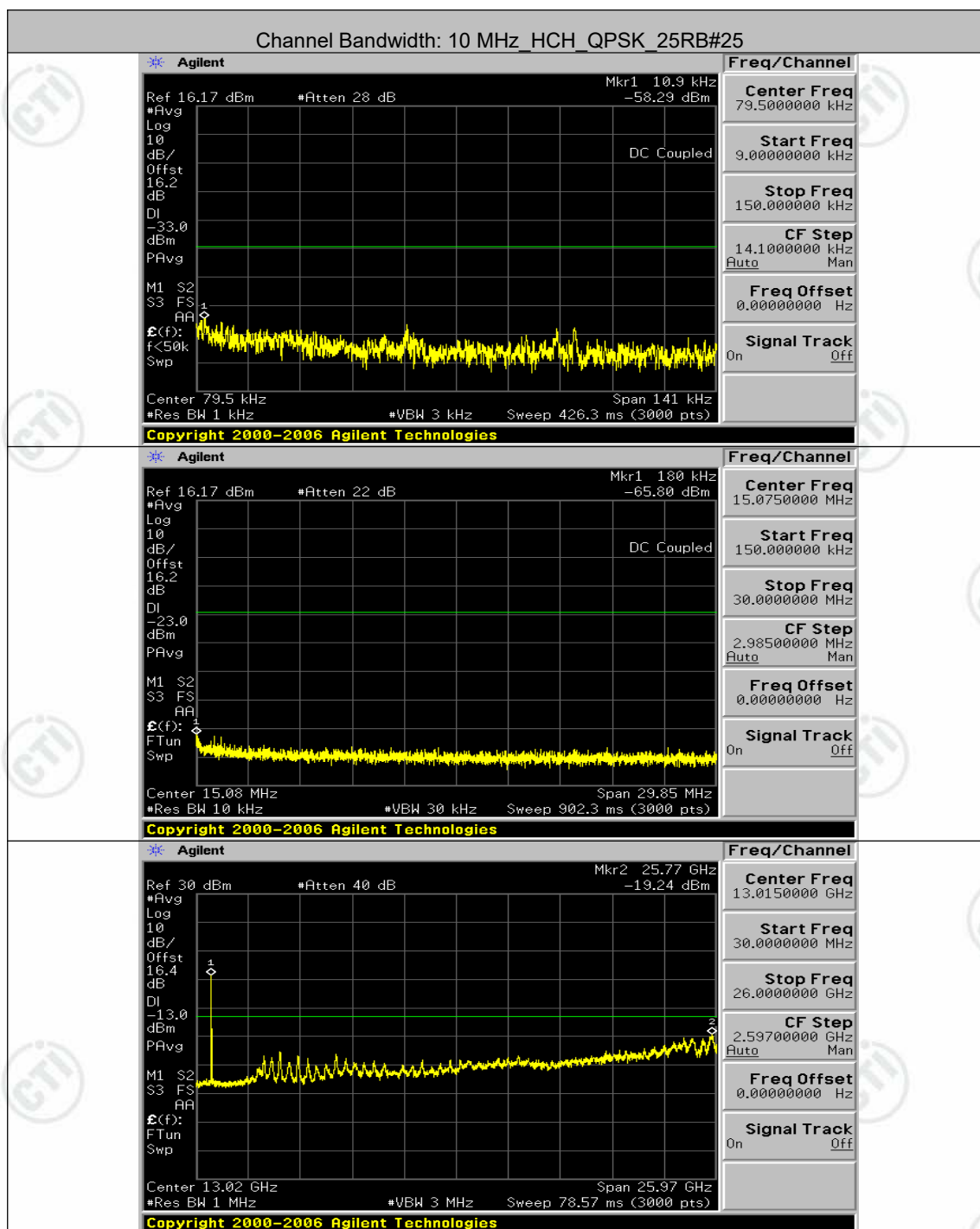


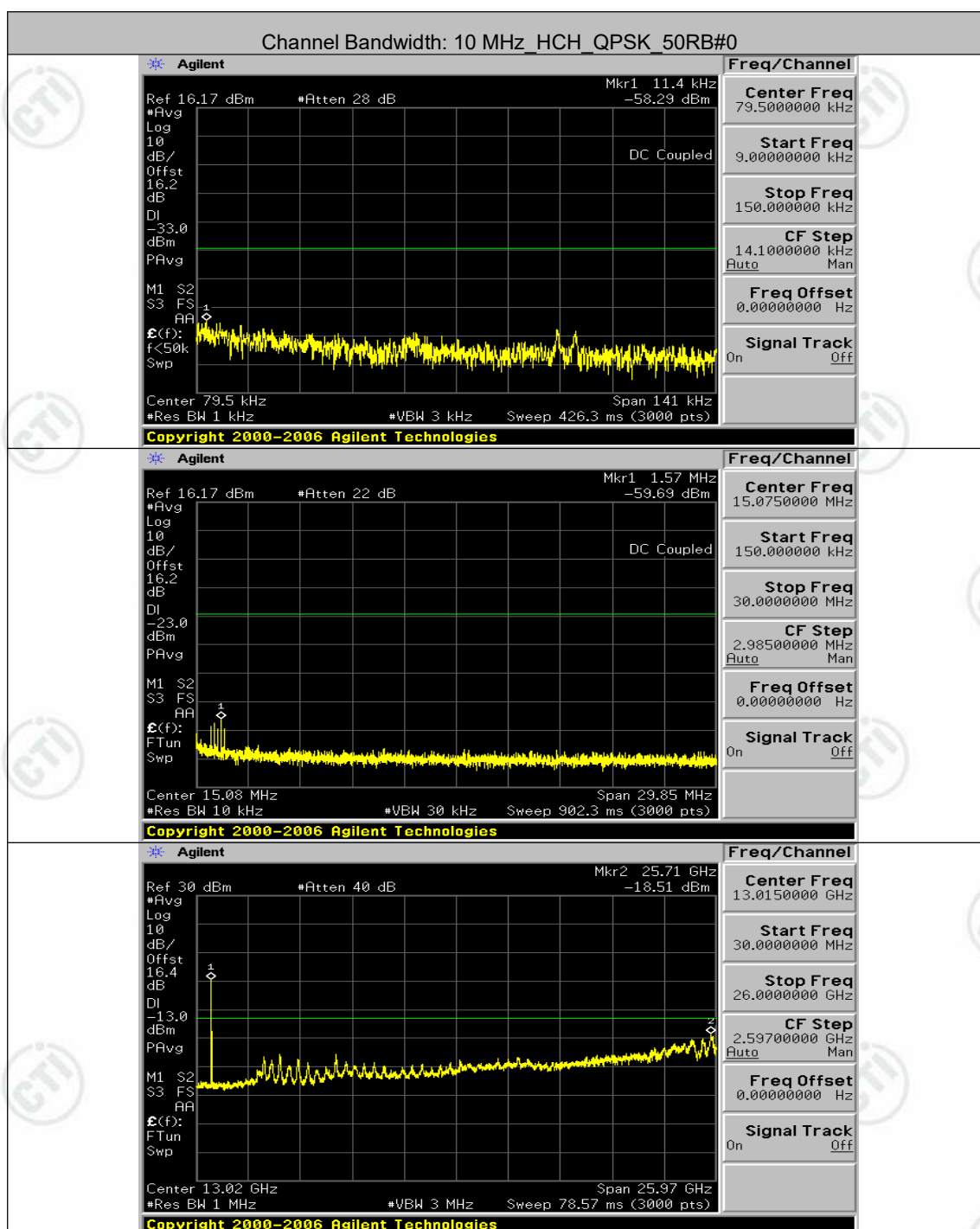












Appendix F: Frequency Stability

Test Requirement:	Part 2.1055	
Test Method:	TIA-603-E	
Test Setup:	Refer to section 5 for details	
Measurement Procedure:	The transmitter output was connected to a calibrated coaxial cable and a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at three frequencies (low channel and high channel).The EUT was place in the temperature chamber, the DC leads and RF output cable exited the chamber though an opening made for that purpose. After Operate the equipment in standby conditions for 15 minutes before proceeding. The temperature was varied from -30°C to +50°C at intervals of not more than 10°C The frequency stability was read from the base station.Since the EUT is hand carried,battery powered equipment,at 25°C the input voltage was reduced from DC18V(primary supply voltage) to DC5V(end point voltage), the frequency stability and input voltage was record.	
Instruments Used:	Refer to section 7 for details	
Limit:	Operation Band	Frequency stability Limit(ppm)
	LTE Band 4/LTE Band 13	±2.5ppm
Test Results:	Pass	

Test Result

LTE Band 4

LTE band 4 Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz							
Voltage (VL is 5V, VN is 12V, VH is 18V)							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	3.50	0.002049	± 2.5	PASS
		VN	TN	1.86	0.001087	± 2.5	PASS
		VH	TN	0.47	0.000276	± 2.5	PASS
	MCH	VL	TN	0.59	0.000339	± 2.5	PASS
		VN	TN	-0.03	-0.000017	± 2.5	PASS
		VH	TN	-1.02	-0.000586	± 2.5	PASS
	HCH	VL	TN	-3.05	-0.001737	± 2.5	PASS
		VN	TN	-3.42	-0.001949	± 2.5	PASS
		VH	TN	-3.43	-0.001957	± 2.5	PASS
16QAM	LCH	VL	TN	2.57	0.001505	± 2.5	PASS
		VN	TN	1.54	0.000903	± 2.5	PASS
		VH	TN	0.30	0.000176	± 2.5	PASS
	MCH	VL	TN	0.86	0.000495	± 2.5	PASS
		VN	TN	-0.64	-0.000372	± 2.5	PASS
		VH	TN	-0.46	-0.000264	± 2.5	PASS
	HCH	VL	TN	-2.26	-0.001288	± 2.5	PASS
		VN	TN	-1.85	-0.001052	± 2.5	PASS
		VH	TN	-2.37	-0.001354	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	1.07	0.000627	± 2.5	PASS
		VN	-20	1.80	0.001054	± 2.5	PASS
		VN	-10	1.93	0.001129	± 2.5	PASS
		VN	0	2.07	0.001213	± 2.5	PASS
		VN	10	0.62	0.000360	± 2.5	PASS
		VN	20	1.10	0.000644	± 2.5	PASS
		VN	30	1.19	0.000694	± 2.5	PASS
		VN	40	2.19	0.001279	± 2.5	PASS
		VN	50	0.84	0.000493	± 2.5	PASS
	MCH	VN	-30	-0.14	-0.000083	± 2.5	PASS
		VN	-20	0.83	0.000479	± 2.5	PASS
		VN	-10	-0.51	-0.000297	± 2.5	PASS
		VN	0	1.60	0.000925	± 2.5	PASS
		VN	10	1.29	0.000743	± 2.5	PASS
		VN	20	-0.53	-0.000306	± 2.5	PASS
		VN	30	1.63	0.000941	± 2.5	PASS
		VN	40	-0.72	-0.000413	± 2.5	PASS
		VN	50	1.87	0.001082	± 2.5	PASS
	HCH	VN	-30	-3.15	-0.001794	± 2.5	PASS
		VN	-20	-1.70	-0.000970	± 2.5	PASS
		VN	-10	-3.03	-0.001729	± 2.5	PASS
		VN	0	-1.19	-0.000677	± 2.5	PASS
		VN	10	-4.21	-0.002397	± 2.5	PASS

16QAM		VN	20	-1.80	-0.001027	± 2.5	PASS
		VN	30	-3.98	-0.002267	± 2.5	PASS
		VN	40	-3.62	-0.002063	± 2.5	PASS
		VN	50	-1.63	-0.000930	± 2.5	PASS
	LCH	VN	-30	0.73	0.000426	± 2.5	PASS
		VN	-20	2.02	0.001179	± 2.5	PASS
		VN	-10	3.39	0.001982	± 2.5	PASS
		VN	0	1.24	0.000728	± 2.5	PASS
		VN	10	2.32	0.001355	± 2.5	PASS
		VN	20	1.14	0.000669	± 2.5	PASS
		VN	30	1.49	0.000870	± 2.5	PASS
		VN	40	1.50	0.000878	± 2.5	PASS
	MCH	VN	50	2.39	0.001396	± 2.5	PASS
		VN	-30	-0.39	-0.000223	± 2.5	PASS
		VN	-20	0.29	0.000165	± 2.5	PASS
		VN	-10	-0.11	-0.000066	± 2.5	PASS
		VN	0	-0.14	-0.000083	± 2.5	PASS
		VN	10	2.35	0.001354	± 2.5	PASS
		VN	20	0.14	0.000083	± 2.5	PASS
		VN	30	-0.27	-0.000157	± 2.5	PASS
	HCH	VN	40	0.64	0.000372	± 2.5	PASS
		VN	50	-0.63	-0.000363	± 2.5	PASS
		VN	-30	-1.79	-0.001019	± 2.5	PASS
		VN	-20	-2.37	-0.001354	± 2.5	PASS
		VN	-10	-1.77	-0.001011	± 2.5	PASS
		VN	0	-3.32	-0.001892	± 2.5	PASS
		VN	10	-2.05	-0.001166	± 2.5	PASS
		VN	20	-3.79	-0.002161	± 2.5	PASS
		VN	30	-2.80	-0.001598	± 2.5	PASS
		VN	40	-0.97	-0.000554	± 2.5	PASS
		VN	50	-1.89	-0.001076	± 2.5	PASS

LTE band 4 Channel Bandwidth: 3 MHz

Channel Bandwidth: 3 MHz+							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	1.97	0.001153	± 2.5	PASS
		VN	TN	1.14	0.000669	± 2.5	PASS
		VH	TN	-0.84	-0.000493	± 2.5	PASS
	MCH	VL	TN	0.21	0.000124	± 2.5	PASS
		VN	TN	-0.24	-0.000140	± 2.5	PASS
		VH	TN	0.60	0.000347	± 2.5	PASS
	HCH	VL	TN	1.66	0.000946	± 2.5	PASS
		VN	TN	-0.14	-0.000082	± 2.5	PASS
		VH	TN	0.70	0.000400	± 2.5	PASS
16QAM	LCH	VL	TN	0.13	0.000075	± 2.5	PASS
		VN	TN	-1.00	-0.000585	± 2.5	PASS
		VH	TN	0.47	0.000276	± 2.5	PASS
	MCH	VL	TN	0.37	0.000215	± 2.5	PASS
		VN	TN	-0.11	-0.000066	± 2.5	PASS

		VH	TN	0.06	0.000033	± 2.5	PASS
	HCH	VL	TN	1.65	0.000938	± 2.5	PASS
		VN	TN	0.31	0.000179	± 2.5	PASS
		VH	TN	0.03	0.000016	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-1.39	-0.000811	± 2.5	PASS
		VN	-20	-0.17	-0.000100	± 2.5	PASS
		VN	-10	1.43	0.000836	± 2.5	PASS
		VN	0	-0.06	-0.000033	± 2.5	PASS
		VN	10	1.00	0.000585	± 2.5	PASS
		VN	20	1.49	0.000869	± 2.5	PASS
		VN	30	0.50	0.000293	± 2.5	PASS
		VN	40	1.23	0.000719	± 2.5	PASS
		VN	50	-0.13	-0.000075	± 2.5	PASS
	MCH	VN	-30	0.73	0.000421	± 2.5	PASS
		VN	-20	-0.37	-0.000215	± 2.5	PASS
		VN	-10	0.11	0.000066	± 2.5	PASS
		VN	0	-0.37	-0.000215	± 2.5	PASS
		VN	10	1.24	0.000718	± 2.5	PASS
		VN	20	-1.33	-0.000768	± 2.5	PASS
		VN	30	0.70	0.000405	± 2.5	PASS
		VN	40	2.07	0.001197	± 2.5	PASS
		VN	50	0.83	0.000479	± 2.5	PASS
	HCH	VN	-30	1.22	0.000693	± 2.5	PASS
		VN	-20	-0.51	-0.000294	± 2.5	PASS
		VN	-10	0.17	0.000098	± 2.5	PASS
		VN	0	-0.92	-0.000522	± 2.5	PASS
		VN	10	0.37	0.000212	± 2.5	PASS
		VN	20	-1.22	-0.000693	± 2.5	PASS
		VN	30	0.87	0.000498	± 2.5	PASS
		VN	40	0.01	0.000008	± 2.5	PASS
		VN	50	0.87	0.000498	± 2.5	PASS
16QAM	LCH	VN	-30	0.83	0.000485	± 2.5	PASS
		VN	-20	0.10	0.000059	± 2.5	PASS
		VN	-10	0.19	0.000109	± 2.5	PASS
		VN	0	1.27	0.000744	± 2.5	PASS
		VN	10	0.19	0.000109	± 2.5	PASS
		VN	20	0.03	0.000017	± 2.5	PASS
		VN	30	1.26	0.000736	± 2.5	PASS
		VN	40	1.83	0.001070	± 2.5	PASS
		VN	50	-0.30	-0.000176	± 2.5	PASS
	MCH	VN	-30	-0.03	-0.000017	± 2.5	PASS
		VN	-20	0.69	0.000396	± 2.5	PASS
		VN	-10	-0.53	-0.000306	± 2.5	PASS
		VN	0	-0.13	-0.000074	± 2.5	PASS
		VN	10	0.24	0.000140	± 2.5	PASS
		VN	20	-1.00	-0.000578	± 2.5	PASS
		VN	30	-0.26	-0.000149	± 2.5	PASS
		VN	40	1.42	0.000817	± 2.5	PASS
		VN	50	-0.20	-0.000116	± 2.5	PASS

	HCH	VN	-30	0.90	0.000514	± 2.5	PASS
		VN	-20	-0.84	-0.000481	± 2.5	PASS
		VN	-10	1.09	0.000620	± 2.5	PASS
		VN	0	0.41	0.000237	± 2.5	PASS
		VN	10	0.10	0.000057	± 2.5	PASS
		VN	20	0.37	0.000212	± 2.5	PASS
		VN	30	0.76	0.000432	± 2.5	PASS
		VN	40	0.74	0.000424	± 2.5	PASS
		VN	50	1.56	0.000889	± 2.5	PASS

LTE band 4 Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	1.37	0.000802	± 2.5	PASS
		VN	TN	0.20	0.000117	± 2.5	PASS
		VH	TN	1.07	0.000627	± 2.5	PASS
	MCH	VL	TN	0.84	0.000487	± 2.5	PASS
		VN	TN	-0.16	-0.000091	± 2.5	PASS
		VH	TN	-0.69	-0.000396	± 2.5	PASS
	HCH	VL	TN	-1.76	-0.001004	± 2.5	PASS
		VN	TN	-2.89	-0.001649	± 2.5	PASS
		VH	TN	-1.83	-0.001045	± 2.5	PASS
16QAM	LCH	VL	TN	2.30	0.001345	± 2.5	PASS
		VN	TN	1.60	0.000936	± 2.5	PASS
		VH	TN	1.89	0.001103	± 2.5	PASS
	MCH	VL	TN	0.09	0.000050	± 2.5	PASS
		VN	TN	0.21	0.000124	± 2.5	PASS
		VH	TN	-0.10	-0.000058	± 2.5	PASS
	HCH	VL	TN	-3.43	-0.001959	± 2.5	PASS
		VN	TN	-3.19	-0.001820	± 2.5	PASS
		VH	TN	-2.96	-0.001690	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	2.56	0.001495	± 2.5	PASS
		VN	-20	1.27	0.000743	± 2.5	PASS
		VN	-10	1.99	0.001161	± 2.5	PASS
		VN	0	0.83	0.000484	± 2.5	PASS
		VN	10	2.39	0.001395	± 2.5	PASS
		VN	20	2.35	0.001370	± 2.5	PASS
		VN	30	1.92	0.001119	± 2.5	PASS
		VN	40	0.87	0.000510	± 2.5	PASS
		VN	50	2.13	0.001245	± 2.5	PASS
	MCH	VN	-30	1.69	0.000974	± 2.5	PASS
		VN	-20	1.04	0.000603	± 2.5	PASS
		VN	-10	0.72	0.000413	± 2.5	PASS
		VN	0	0.69	0.000396	± 2.5	PASS
		VN	10	0.09	0.000050	± 2.5	PASS
		VN	20	0.64	0.000372	± 2.5	PASS

		VN	30	0.87	0.000504	± 2.5	PASS
		VN	40	-0.30	-0.000173	± 2.5	PASS
		VN	50	-0.14	-0.000083	± 2.5	PASS
	HCH	VN	-30	-2.62	-0.001494	± 2.5	PASS
		VN	-20	-2.19	-0.001249	± 2.5	PASS
		VN	-10	-3.88	-0.002212	± 2.5	PASS
		VN	0	-4.18	-0.002384	± 2.5	PASS
		VN	10	-3.49	-0.001992	± 2.5	PASS
		VN	20	-4.95	-0.002824	± 2.5	PASS
		VN	30	-3.82	-0.002179	± 2.5	PASS
		VN	40	-3.55	-0.002024	± 2.5	PASS
		VN	50	-3.36	-0.001918	± 2.5	PASS
16QAM	LCH	VN	-30	0.97	0.000568	± 2.5	PASS
		VN	-20	1.80	0.001053	± 2.5	PASS
		VN	-10	1.30	0.000760	± 2.5	PASS
		VN	0	0.50	0.000292	± 2.5	PASS
		VN	10	2.09	0.001220	± 2.5	PASS
		VN	20	1.95	0.001136	± 2.5	PASS
		VN	30	0.30	0.000175	± 2.5	PASS
		VN	40	1.27	0.000743	± 2.5	PASS
		VN	50	2.30	0.001345	± 2.5	PASS
	MCH	VN	-30	0.54	0.000314	± 2.5	PASS
		VN	-20	0.49	0.000281	± 2.5	PASS
		VN	-10	1.00	0.000578	± 2.5	PASS
		VN	0	0.20	0.000116	± 2.5	PASS
		VN	10	0.87	0.000504	± 2.5	PASS
		VN	20	-0.34	-0.000198	± 2.5	PASS
		VN	30	0.50	0.000289	± 2.5	PASS
		VN	40	0.87	0.000504	± 2.5	PASS
		VN	50	-0.53	-0.000306	± 2.5	PASS
	HCH	VN	-30	-4.46	-0.002547	± 2.5	PASS
		VN	-20	-1.93	-0.001102	± 2.5	PASS
		VN	-10	-3.10	-0.001771	± 2.5	PASS
		VN	0	-3.06	-0.001747	± 2.5	PASS
		VN	10	-2.79	-0.001592	± 2.5	PASS
		VN	20	-2.62	-0.001494	± 2.5	PASS
		VN	30	-2.19	-0.001249	± 2.5	PASS
		VN	40	-4.19	-0.002392	± 2.5	PASS
		VN	50	-3.98	-0.002269	± 2.5	PASS

LTE band 4 Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	-2.57	-0.001501	± 2.5	PASS
		VN	TN	-3.33	-0.001943	± 2.5	PASS
		VH	TN	-3.19	-0.001860	± 2.5	PASS
	MCH	VL	TN	0.06	0.000033	± 2.5	PASS
		VN	TN	-0.24	-0.000140	± 2.5	PASS
		VH	TN	0.31	0.000182	± 2.5	PASS
	HCH	VL	TN	2.46	0.001406	± 2.5	PASS
		VN	TN	3.39	0.001937	± 2.5	PASS
		VH	TN	0.99	0.000564	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-1.67	-0.000976	± 2.5	PASS
		VN	-20	-1.65	-0.000959	± 2.5	PASS
		VN	-10	-1.33	-0.000776	± 2.5	PASS
		VN	0	-2.36	-0.001376	± 2.5	PASS
		VN	10	-3.30	-0.001927	± 2.5	PASS
		VN	20	-1.33	-0.000776	± 2.5	PASS
		VN	30	-2.20	-0.001285	± 2.5	PASS
		VN	40	-0.57	-0.000334	± 2.5	PASS
		VN	50	-1.89	-0.001101	± 2.5	PASS
	MCH	VN	-30	-1.39	-0.000801	± 2.5	PASS
		VN	-20	0.51	0.000297	± 2.5	PASS
		VN	-10	0.24	0.000140	± 2.5	PASS
		VN	0	0.13	0.000074	± 2.5	PASS
		VN	10	1.47	0.000850	± 2.5	PASS
		VN	20	0.53	0.000306	± 2.5	PASS
		VN	30	0.03	0.000017	± 2.5	PASS
		VN	40	-0.77	-0.000446	± 2.5	PASS
		VN	50	1.16	0.000669	± 2.5	PASS
	HCH	VN	-30	0.30	0.000172	± 2.5	PASS
		VN	-20	1.70	0.000973	± 2.5	PASS
		VN	-10	2.42	0.001381	± 2.5	PASS
		VN	0	2.60	0.001488	± 2.5	PASS
		VN	10	2.60	0.001488	± 2.5	PASS
		VN	20	2.42	0.001381	± 2.5	PASS
		VN	30	1.43	0.000817	± 2.5	PASS
		VN	40	1.00	0.000572	± 2.5	PASS
		VN	50	2.19	0.001251	± 2.5	PASS

LTE band 4 Channel Bandwidth: 15 MHz

Channel Bandwidth: 15 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	1.23	0.000716	± 2.5	PASS
		VN	TN	-0.29	-0.000167	± 2.5	PASS
		VH	TN	-0.34	-0.000200	± 2.5	PASS
	MCH	VL	TN	0.63	0.000363	± 2.5	PASS
		VN	TN	-0.74	-0.000429	± 2.5	PASS
		VH	TN	-0.19	-0.000107	± 2.5	PASS
	HCH	VL	TN	-0.77	-0.000442	± 2.5	PASS
		VN	TN	-0.46	-0.000262	± 2.5	PASS
		VH	TN	0.06	0.000033	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	1.36	0.000791	± 2.5	PASS
		VN	-20	0.66	0.000383	± 2.5	PASS
		VN	-10	0.46	0.000267	± 2.5	PASS
		VN	0	0.70	0.000408	± 2.5	PASS
		VN	10	0.74	0.000433	± 2.5	PASS
		VN	20	0.50	0.000292	± 2.5	PASS
		VN	30	0.84	0.000491	± 2.5	PASS
		VN	40	2.22	0.001291	± 2.5	PASS
		VN	50	0.29	0.000167	± 2.5	PASS
	MCH	VN	-30	0.20	0.000116	± 2.5	PASS
		VN	-20	1.43	0.000826	± 2.5	PASS
		VN	-10	0.17	0.000099	± 2.5	PASS
		VN	0	0.93	0.000537	± 2.5	PASS
		VN	10	0.14	0.000083	± 2.5	PASS
		VN	20	-0.59	-0.000339	± 2.5	PASS
		VN	30	0.84	0.000487	± 2.5	PASS
		VN	40	-0.20	-0.000116	± 2.5	PASS
		VN	50	0.41	0.000239	± 2.5	PASS
	HCH	VN	-30	-0.99	-0.000565	± 2.5	PASS
		VN	-20	-0.86	-0.000491	± 2.5	PASS
		VN	-10	-1.50	-0.000860	± 2.5	PASS
		VN	0	-0.74	-0.000426	± 2.5	PASS
		VN	10	-0.90	-0.000516	± 2.5	PASS
		VN	20	-1.33	-0.000761	± 2.5	PASS
		VN	30	-0.76	-0.000434	± 2.5	PASS
		VN	40	-0.51	-0.000295	± 2.5	PASS
		VN	50	0.46	0.000262	± 2.5	PASS
		VN	40	0.26	0.000149	± 2.5	PASS
		VN	50	-0.33	-0.000149	± 2.5	PASS
	HCH	VN	-30	0.79	0.000450	± 2.5	PASS
		VN	-20	1.16	0.000663	± 2.5	PASS
		VN	-10	-0.92	-0.000524	± 2.5	PASS
		VN	0	-0.21	-0.00123	± 2.5	PASS
		VN	10	-0.66	-0.000377	± 2.5	PASS
		VN	20	-0.93	-0.000532	± 2.5	PASS

		VN	30	0.07	0.000041	± 2.5	PASS
		VN	40	-0.47	-0.000270	± 2.5	PASS
		VN	50	0.30	0.000172	± 2.5	PASS

LTE band 4 Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	0.97	0.000566	± 2.5	PASS
		VN	TN	1.22	0.000707	± 2.5	PASS
		VH	TN	1.47	0.000857	± 2.5	PASS
	MCH	VL	TN	-0.13	-0.000074	± 2.5	PASS
		VN	TN	-0.14	-0.000083	± 2.5	PASS
		VH	TN	0.59	0.000339	± 2.5	PASS
	HCH	VL	TN	-3.38	-0.001935	± 2.5	PASS
		VN	TN	-3.19	-0.001828	± 2.5	PASS
		VH	TN	-3.48	-0.001992	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	1.70	0.000990	± 2.5	PASS
		VN	-20	1.67	0.000973	± 2.5	PASS
		VN	-10	0.96	0.000557	± 2.5	PASS
		VN	0	0.76	0.000441	± 2.5	PASS
		VN	10	0.73	0.000424	± 2.5	PASS
		VN	20	1.65	0.000956	± 2.5	PASS
		VN	30	1.09	0.000632	± 2.5	PASS
		VN	40	1.00	0.000582	± 2.5	PASS
		VN	50	1.00	0.000582	± 2.5	PASS
	MCH	VN	-30	-0.51	-0.000297	± 2.5	PASS
		VN	-20	-0.57	-0.000330	± 2.5	PASS
		VN	-10	-0.03	-0.000017	± 2.5	PASS
		VN	0	-0.34	-0.000198	± 2.5	PASS
		VN	10	-0.31	-0.000182	± 2.5	PASS
		VN	20	0.46	0.000264	± 2.5	PASS
		VN	30	0.04	0.000025	± 2.5	PASS
		VN	40	1.12	0.000644	± 2.5	PASS
		VN	50	-1.04	-0.000603	± 2.5	PASS
	HCH	VN	-30	-3.36	-0.001926	± 2.5	PASS
		VN	-20	-3.75	-0.002148	± 2.5	PASS
		VN	-10	-2.55	-0.001459	± 2.5	PASS
		VN	0	-3.16	-0.001812	± 2.5	PASS
		VN	10	-3.68	-0.002107	± 2.5	PASS
		VN	20	-4.35	-0.002492	± 2.5	PASS
		VN	30	-3.00	-0.001722	± 2.5	PASS
		VN	40	-2.98	-0.001705	± 2.5	PASS
		VN	50	-3.72	-0.002131	± 2.5	PASS

LTE Band 13

LTE band 13 Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	-1.97	-0.002533	± 2.5	PASS
		VN	TN	-2.06	-0.002643	± 2.5	PASS
		VH	TN	-1.37	-0.001762	± 2.5	PASS
	MCH	VL	TN	-0.54	-0.000695	± 2.5	PASS
		VN	TN	-1.19	-0.001518	± 2.5	PASS
		VH	TN	-0.03	-0.000037	± 2.5	PASS
	HCH	VL	TN	-0.96	-0.001222	± 2.5	PASS
		VN	TN	-0.44	-0.000565	± 2.5	PASS
		VH	TN	0.23	0.000292	± 2.5	PASS
16QAM	LCH	VL	TN	-2.16	-0.002771	± 2.5	PASS
		VN	TN	-2.06	-0.002643	± 2.5	PASS
		VH	TN	-2.55	-0.003267	± 2.5	PASS
	MCH	VL	TN	-0.06	-0.000073	± 2.5	PASS
		VN	TN	0.37	0.000476	± 2.5	PASS
		VH	TN	-1.85	-0.002360	± 2.5	PASS
	HCH	VL	TN	0.09	0.000109	± 2.5	PASS
		VN	TN	-0.66	-0.000839	± 2.5	PASS
		VH	TN	-0.39	-0.000492	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-1.83	-0.002349	± 2.5	PASS
		VN	-20	-0.69	-0.000881	± 2.5	PASS
		VN	-10	-2.72	-0.003487	± 2.5	PASS
		VN	0	-1.93	-0.002477	± 2.5	PASS
		VN	10	-1.79	-0.002294	± 2.5	PASS
		VN	20	-2.27	-0.002918	± 2.5	PASS
		VN	30	-2.19	-0.002808	± 2.5	PASS
		VN	40	-2.80	-0.003597	± 2.5	PASS
		VN	50	-1.59	-0.002037	± 2.5	PASS
	MCH	VN	-30	-0.07	-0.000091	± 2.5	PASS
		VN	-20	-0.72	-0.000915	± 2.5	PASS
		VN	-10	-0.06	-0.000073	± 2.5	PASS
		VN	0	-0.97	-0.001244	± 2.5	PASS
		VN	10	-1.19	-0.001518	± 2.5	PASS
		VN	20	-1.02	-0.001299	± 2.5	PASS
		VN	30	0.50	0.000640	± 2.5	PASS
		VN	40	-0.99	-0.001262	± 2.5	PASS
		VN	50	-1.02	-0.001299	± 2.5	PASS
	HCH	VN	-30	-0.46	-0.000584	± 2.5	PASS
		VN	-20	-1.07	-0.001368	± 2.5	PASS
		VN	-10	-1.49	-0.001896	± 2.5	PASS
		VN	0	-1.56	-0.001988	± 2.5	PASS
		VN	10	-2.03	-0.002589	± 2.5	PASS
		VN	20	-1.13	-0.001441	± 2.5	PASS

16QAM		VN	30	-2.09	-0.002662	± 2.5	PASS
		VN	40	0.27	0.000346	± 2.5	PASS
		VN	50	-0.27	-0.000346	± 2.5	PASS
	LCH	VN	-30	-2.57	-0.003303	± 2.5	PASS
		VN	-20	-1.54	-0.001982	± 2.5	PASS
		VN	-10	-3.28	-0.004203	± 2.5	PASS
		VN	0	0.03	0.000037	± 2.5	PASS
		VN	10	-2.80	-0.003597	± 2.5	PASS
		VN	20	-2.42	-0.003101	± 2.5	PASS
		VN	30	-2.55	-0.003267	± 2.5	PASS
		VN	40	-2.25	-0.002881	± 2.5	PASS
		VN	50	-1.17	-0.001505	± 2.5	PASS
	MCH	VN	-30	0.83	0.001061	± 2.5	PASS
		VN	-20	-0.49	-0.000622	± 2.5	PASS
		VN	-10	-0.44	-0.000567	± 2.5	PASS
		VN	0	-0.93	-0.001189	± 2.5	PASS
		VN	10	-0.51	-0.000659	± 2.5	PASS
		VN	20	-1.12	-0.001427	± 2.5	PASS
		VN	30	-0.60	-0.000768	± 2.5	PASS
		VN	40	-0.43	-0.000549	± 2.5	PASS
		VN	50	-0.06	-0.000073	± 2.5	PASS
	HCH	VN	-30	-1.12	-0.001422	± 2.5	PASS
		VN	-20	-0.83	-0.001058	± 2.5	PASS
		VN	-10	0.19	0.000237	± 2.5	PASS
		VN	0	-0.27	-0.000346	± 2.5	PASS
		VN	10	-0.82	-0.001039	± 2.5	PASS
		VN	20	-1.12	-0.001422	± 2.5	PASS
		VN	30	-0.44	-0.000565	± 2.5	PASS
		VN	40	-1.03	-0.001313	± 2.5	PASS
		VN	50	0.36	0.000456	± 2.5	PASS

LTE band 13 Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	-0.47	-0.000604	± 2.5	PASS
		VN	TN	-1.22	-0.001555	± 2.5	PASS
		VH	TN	-0.53	-0.000677	± 2.5	PASS
	MCH	VL	TN	-0.11	-0.000146	± 2.5	PASS
		VN	TN	-0.83	-0.001061	± 2.5	PASS
		VH	TN	-0.19	-0.000238	± 2.5	PASS
	HCH	VL	TN	-0.29	-0.000366	± 2.5	PASS
		VN	TN	-0.56	-0.000713	± 2.5	PASS
		VH	TN	-0.34	-0.000439	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.76	-0.000970	± 2.5	PASS
		VN	-20	-0.69	-0.000878	± 2.5	PASS
		VN	-10	0.69	0.000878	± 2.5	PASS

		VN	0	-0.27	-0.000348	± 2.5	PASS
		VN	10	-0.79	-0.001006	± 2.5	PASS
		VN	20	-0.13	-0.000165	± 2.5	PASS
		VN	30	0.96	0.001226	± 2.5	PASS
		VN	40	-0.50	-0.000640	± 2.5	PASS
		VN	50	0.53	0.000677	± 2.5	PASS
	MCH	VN	-30	-0.09	-0.000110	± 2.5	PASS
		VN	-20	0.14	0.000183	± 2.5	PASS
		VN	-10	0.41	0.000530	± 2.5	PASS
		VN	0	-1.30	-0.001665	± 2.5	PASS
		VN	10	-1.06	-0.001354	± 2.5	PASS
		VN	20	-0.20	-0.000256	± 2.5	PASS
		VN	30	-0.97	-0.001244	± 2.5	PASS
		VN	40	-0.67	-0.000860	± 2.5	PASS
	HCH	VN	50	0.29	0.000366	± 2.5	PASS
		VN	-30	-0.21	-0.000274	± 2.5	PASS
		VN	-20	-0.30	-0.000384	± 2.5	PASS
		VN	-10	-1.46	-0.001866	± 2.5	PASS
		VN	0	-0.16	-0.000201	± 2.5	PASS
		VN	10	-0.40	-0.000512	± 2.5	PASS
		VN	20	-1.12	-0.001427	± 2.5	PASS
		VN	30	0.10	0.000128	± 2.5	PASS
		VN	40	-1.34	-0.001720	± 2.5	PASS
		VN	50	-1.12	-0.001427	± 2.5	PASS

Appendix G): Field strength of spurious radiation

Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-30MHz	Peak	10kHz	30kHz	Peak
	30MHz-1GHz	Peak	120kHz	300kHz	Peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
Measurement Procedure:	1. Scan up to 10th harmonic, find the maximum radiation frequency to measure. 2. The technique used to find the Spurious Emissions of the transmitter was the antenna substitution method. Substitution method was performed to determine the actual ERP/EIRP emission levels of the EUT. Test procedure as below: 1) The EUT was powered ON and placed on a 1.5m high table at a 3 meter fully Anechoic Chamber. The antenna of the transmitter was extended to its maximum length. modulation mode and the measuring receiver shall be tuned to the frequency of the transmitter under test. 2) The EUT was set 3 meters(above 18GHz the distance is 1 meter) away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3) The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made. 4) Steps 1) to 3) were performed with the EUT and the receive antenna in both vertical and horizontal polarization. 5) The transmitter was then removed and replaced with another antenna. The center of the antenna was approximately at the same location as the center of the transmitter. 6) A signal at the disturbance was fed to the substitution antenna by means of a non-radiating cable. With both the substitution and the receive antennas horizontally polarized, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver. The level of the signal generator was adjusted until the measured field strength level in step 3) is obtained for this set of conditions. 7) The output power into the substitution antenna was then measured. 8) Steps 6) and 7) were repeated with both antennas polarized. 9) Calculate power in dBm by the following formula: $\text{ERP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBd)}$ $\text{EIRP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}$ $\text{EIRP} = \text{ERP} + 2.15\text{dB}$ where: Pg is the generator output power into the substitution antenna. 10) Test the EUT in the lowest channel, the middle channel the Highest channel 11) The radiation measurements are performed in X, Y, Z axis positioning for EUT operation mode, And found the X axis positioning which it is worse case. 12) Repeat above procedures until all frequencies measured was complete.				
Limit:	Attenuated at least 43+10log(P)				

Test Data:
Above 1GHz

LTE Band 4 (5MHz full RB lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1323.141	149	5	-61.06	-13.00	-48.06	Pass	H
3776.385	150	200	-57.57	-13.00	-44.57	Pass	H
5230.963	150	36	-56.81	-13.00	-43.81	Pass	H
5895.771	156	78	-52.81	-13.00	-39.81	Pass	H
6511.117	149	200	-53.65	-13.00	-40.65	Pass	H
9465.979	149	151	-54.82	-13.00	-41.82	Pass	H
1153.210	150	47	-62.04	-13.00	-49.04	Pass	V
3472.118	150	90	-59.05	-13.00	-46.05	Pass	V
4736.600	152	210	-58.03	-13.00	-45.03	Pass	V
5311.469	150	22	-56.50	-13.00	-43.50	Pass	V
5895.771	150	67	-52.81	-13.00	-39.81	Pass	V
7357.326	151	20	-55.02	-13.00	-42.02	Pass	V

LTE Band 4 (5MHz full RB middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1228.984	150	201	-62.55	-13.00	-49.55	Pass	H
1476.193	151	20	-60.96	-13.00	-47.96	Pass	H
3200.502	150	36	-58.26	-13.00	-45.26	Pass	H
3625.669	151	78	-57.89	-13.00	-44.89	Pass	H
5986.509	149	225	-53.32	-13.00	-40.32	Pass	H
7413.726	149	56	-53.99	-13.00	-40.99	Pass	H
1273.572	150	151	-61.78	-13.00	-48.78	Pass	V
3419.491	152	31	-58.21	-13.00	-45.21	Pass	V
4834.046	150	207	-57.61	-13.00	-44.61	Pass	V
5747.586	151	89	-53.86	-13.00	-40.86	Pass	V
6478.053	150	60	-53.38	-13.00	-40.38	Pass	V
7527.826	149	83	-54.84	-13.00	-41.84	Pass	V

LTE Band 4 (5MHz full RB highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1210.356	151	49	-61.69	-13.00	-48.69	Pass	H
1491.300	151	215	-59.85	-13.00	-46.85	Pass	H
3143.979	150	286	-58.83	-13.00	-45.83	Pass	H
4641.118	149	300	-58.96	-13.00	-45.96	Pass	H
5806.408	155	58	-53.47	-13.00	-40.47	Pass	H
8042.903	152	300	-54.57	-13.00	-41.57	Pass	H
1216.534	153	161	-62.99	-13.00	-49.99	Pass	V
1514.252	150	20	-60.02	-13.00	-47.02	Pass	V
3498.735	149	79	-56.31	-13.00	-43.31	Pass	V
4736.600	152	36	-57.67	-13.00	-44.67	Pass	V
5895.771	150	360	-53.34	-13.00	-40.34	Pass	V
7413.726	150	354	-54.89	-13.00	-41.89	Pass	V

LTE Band 13 (5MHz full RB lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1267.104	151	120	-61.71	-13.00	-48.71	Pass	H
1837.456	150	74	-58.69	-13.00	-45.69	Pass	H
2754.185	150	85	-59.65	-13.00	-46.65	Pass	H
3834.506	153	228	-58.12	-13.00	-45.12	Pass	H
5940.967	150	30	-53.12	-13.00	-40.12	Pass	H
6577.752	150	161	-54.21	-13.00	-41.21	Pass	H
1207.279	149	20	-62.64	-13.00	-49.64	Pass	V
1668.044	151	100	-57.40	-13.00	-44.40	Pass	V
2839.613	150	78	-59.21	-13.00	-46.21	Pass	V
4760.776	151	360	-57.90	-13.00	-44.90	Pass	V
5406.961	152	43	-56.25	-13.00	-43.25	Pass	V
5940.967	150	336	-53.20	-13.00	-40.20	Pass	V

LTE Band 13 (5MHz full RB middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1306.407	150	55	-61.66	-13.00	-48.66	Pass	H
1899.278	149	355	-58.29	-13.00	-45.29	Pass	H
2719.353	152	151	-59.27	-13.00	-46.27	Pass	H
3225.037	150	24	-58.44	-13.00	-45.44	Pass	H
5204.399	150	20	-57.03	-13.00	-44.03	Pass	H
5910.798	149	11	-53.22	-13.00	-40.22	Pass	H
1323.141	150	33	-61.28	-13.00	-48.28	Pass	V
1837.456	151	247	-57.04	-13.00	-44.04	Pass	V
3299.775	151	229	-59.32	-13.00	-46.32	Pass	V
5297.966	153	20	-55.86	-13.00	-42.86	Pass	V
5910.798	149	100	-53.73	-13.00	-40.73	Pass	V
7117.842	150	80	-54.70	-13.00	-41.70	Pass	V

LTE Band 13 (5MHz full RB highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1323.141	151	55	-61.78	-13.00	-48.78	Pass	H
2013.795	149	360	-58.08	-13.00	-45.08	Pass	H
2651.004	150	227	-59.00	-13.00	-46.00	Pass	H
4594.102	152	10	-58.88	-13.00	-45.88	Pass	H
5956.109	151	50	-52.94	-13.00	-39.94	Pass	H
6816.394	149	99	-54.22	-13.00	-41.22	Pass	H
1323.141	152	36	-61.44	-13.00	-48.44	Pass	V
1958.189	150	227	-57.54	-13.00	-44.54	Pass	V
2437.410	150	261	-58.18	-13.00	-45.18	Pass	V
3241.498	151	20	-59.09	-13.00	-46.09	Pass	V
4724.558	150	100	-57.34	-13.00	-44.34	Pass	V
5986.509	151	35	-52.47	-13.00	-39.47	Pass	V

Note:

- 1) Scan from 9kHz to 25GHz, the disturbance above 13GHz and below 1GHz are attenuated more than 20 dB below the applicable limit and not required to be reported, the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.
- 2) Tested with all kind of bandwidth, RB Size and RB Offset, Found the 5MHz with full RB were the worst case; and then Only the worst case is recorded in the report.

PHOTOGRAPHS OF TEST SETUP

Test model No.: 5465



Radiated spurious emission Test Setup-1(Below 1GHz)



Radiated spurious emission Test Setup-2(Above 1GHz)

PHOTOGRAPHS OF EUT Constructional Details

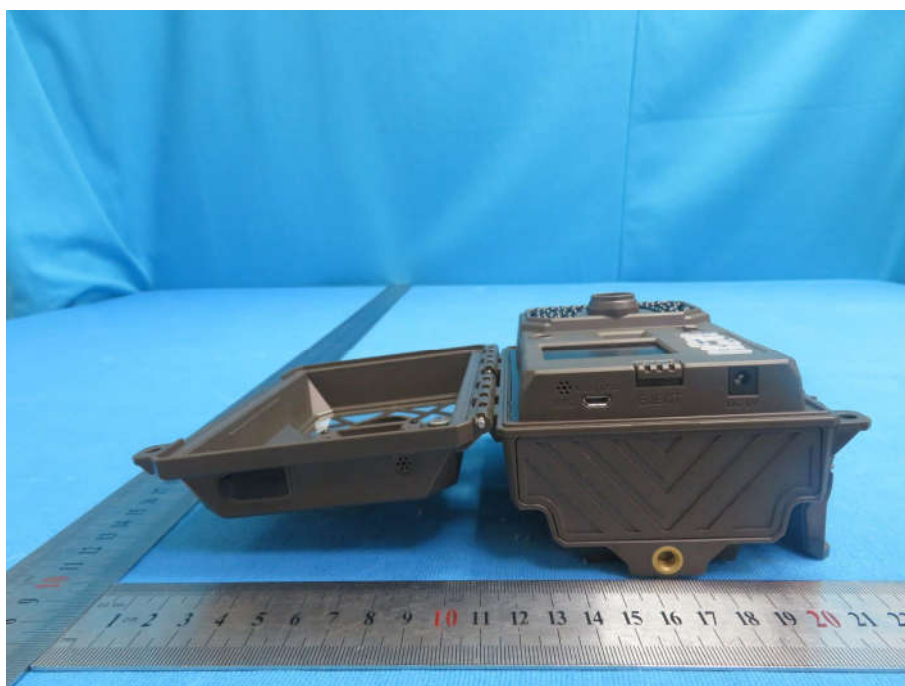
Test model No: 5465



View of Product-1



View of Product-2



View of Product-3



View of Product-4



View of Product-5



View of Product-6



View of Product-7

*** End of Report ***

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